

Day 6 Task: Final Java Project Minikube Deployment

Minikube output images

```
deepakp@Deepak: ~$ minikube service my-service
NAMESPACE | NAME | TARGET PORT | URL
-----
default | my-service | 9000 | http://192.168.49.2:30002

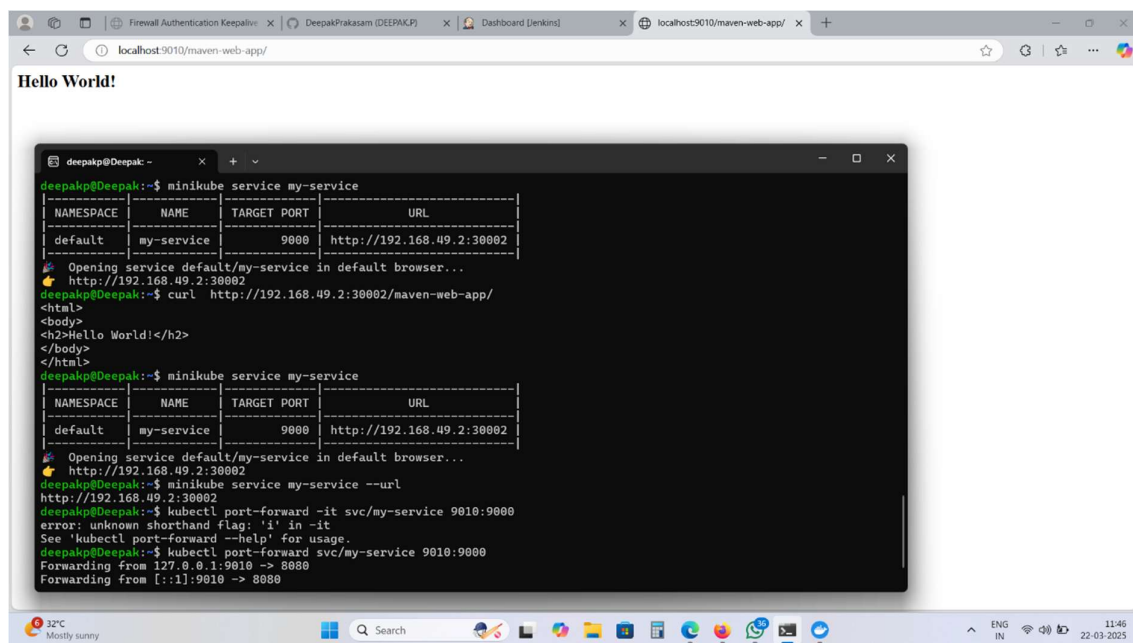
Opening service default/my-service in default browser...
http://192.168.49.2:30002
deepakp@Deepak: ~$ kubectl get pod
NAME | READY | STATUS | RESTARTS | AGE
my-deploy-d555f5bb4-mhwh | 1/1 | Running | 0 | 4m13s
deepakp@Deepak: ~$ minikube service my-service
NAMESPACE | NAME | TARGET PORT | URL
-----
default | my-service | 9000 | http://192.168.49.2:30002

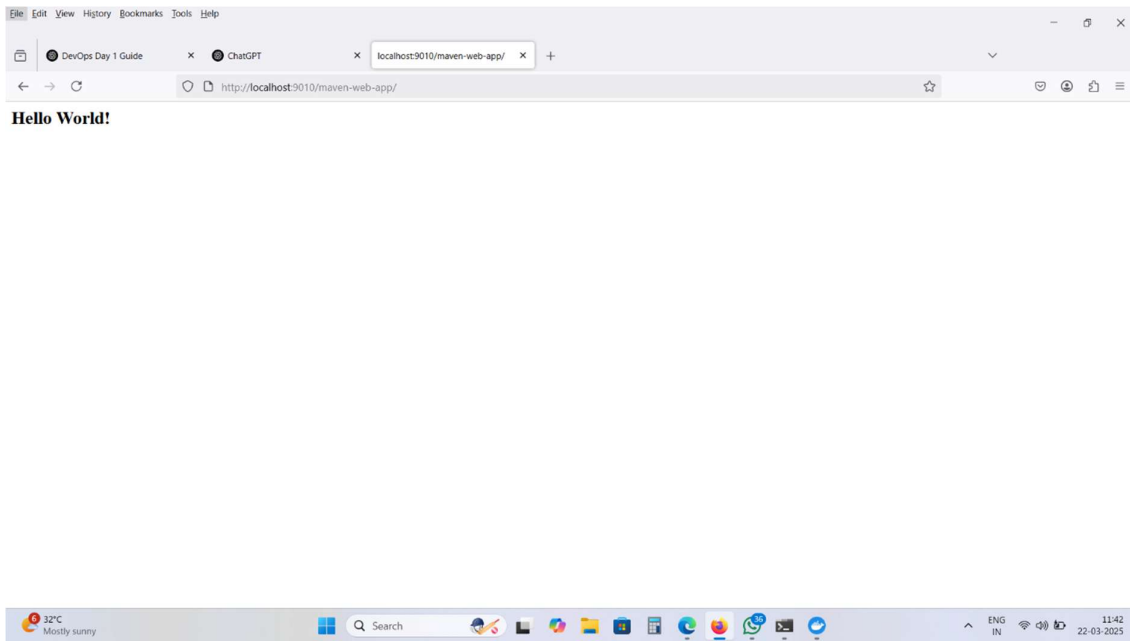
Opening service default/my-service in default browser...
http://192.168.49.2:30002
deepakp@Deepak: ~$ curl http://192.168.49.2:30002/maven-web-app/
<html>
<body>
<h2>Hello World!</h2>
</body>
</html>
deepakp@Deepak: ~$ minikube service my-service
NAMESPACE | NAME | TARGET PORT | URL
-----
default | my-service | 9000 | http://192.168.49.2:30002

Opening service default/my-service in default browser...
http://192.168.49.2:30002
deepakp@Deepak: ~$ minikube service my-service --url
http://192.168.49.2:30002
deepakp@Deepak: ~$ kubectl port-forward -it svc/my-service 9010:9000
error: unknown shorthand flag: 'i' in -it
See 'kubectl port-forward --help' for usage.
deepakp@Deepak: ~$ kubectl port-forward svc/my-service 9010:9000
Forwarding from 127.0.0.1:9010 -> 8080
Forwarding from [::1]:9010 -> 8080
```

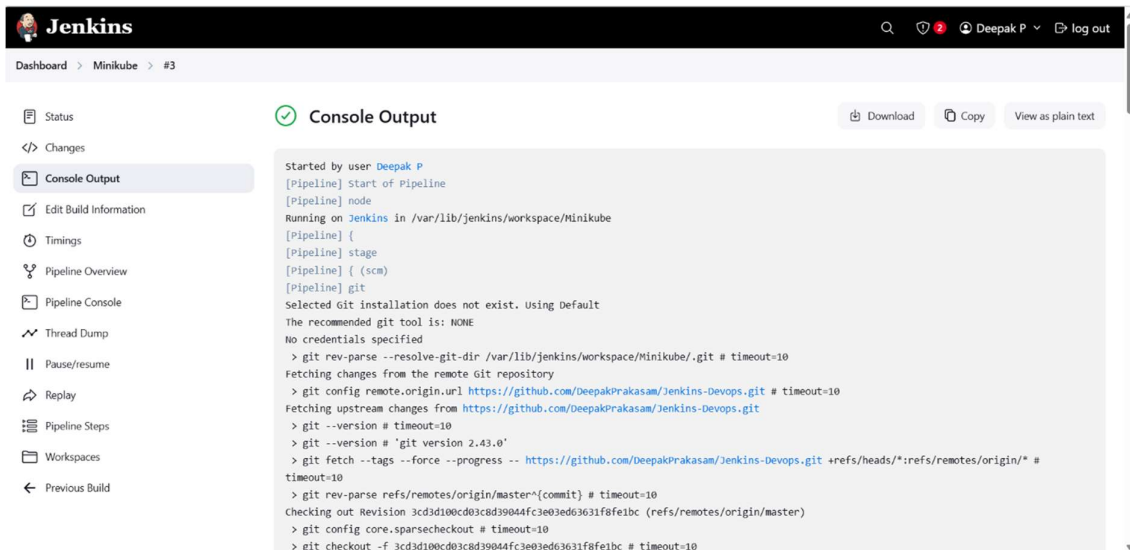
```
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http://192.168.49.2:30002
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<body>
<h2>Hello World!</h2>
</body>
</html>
```





Minikube console output



Minikube stage view output



SSH-service output

```
deepakp@Deepak:~$ ls /etc/systemd/system/ssh.service
ls: cannot access '/etc/systemd/system/ssh.service': No such file or directory
deepakp@Deepak:~$ ls /usr/lib/systemd/system/ssh.service
/usr/lib/systemd/system/ssh.service
deepakp@Deepak:~$ sudo systemctl daemon-reload
deepakp@Deepak:~$ sudo systemctl status ssh.service
● 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 06:17:03 UTC; 4min 4s ago
  TriggeredBy: ● ssh.socket
             Docs: man:sshd(8)
                  man:sshd_config(5)
   Main PID: 12192 (sshd)
      Tasks: 1 (limit: 4362)
     Memory: 2.3M ( )
    CGroup: /system.slice/ssh.service
            └─12192 "sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups"

Mar 21 06:17:03 Deepak systemd[1]: Starting ssh.service - OpenBSD Secure Shell server...
Mar 21 06:17:03 Deepak sshd[12192]: Server listening on :: port 22.
Mar 21 06:17:03 Deepak systemd[1]: Started ssh.service - OpenBSD Secure Shell server.
deepakp@Deepak:~$ sudo systemctl restart ssh.service
deepakp@Deepak:~$ cat /home/deepak/.minikube/ca.crt | base64 -w 0; echo
base64: invalid wrap size: '0'
Command 'echo' not found, did you mean:
  command 'echo' from deb coreutils (9.4-2ubuntu2)
Try: sudo apt install -deb coreutils
deepakp@Deepak:~$ cat /home/deepak/.minikube/ca.crt | base64 -w 0; echo
LSBtLS1CRUdJTiBDRVRJUSU2JQ08FURS0tLS0tCk1JSURCaNDQWU2Z0F3SUJBZ0lCQVBRBTRkZna3Foa2lHOXcwQkFRc0ZBREFTVjNld0VRWURWUWVFRXZkdmdGFHNSXAKYTNWapVpVTkzJmQjYRFRJMU1ETXhpPREE0
TXpnmE1sb1hEVE0xTURNeE56QTRNemcwTWxvd0ZURVRNQGhVQTFVRQpBeE1YLlYsdmFXdDF2bVZEUVRDQ0FTSXdEUVLKS29aSWh2Y095BUUVCQlFRGdnRVB8BRENDQVFcQ2dnRUJBtMwCLZFeS5Ym9aZ08x
NzJzV2NjWGLLR090ckxpTGvqYTZ1SVZwd0VEL1Nqa3hLUGJjNzNVTkZETZETCtYlZFNmE1L3R2MkRKRIRrNCTMS1g3Wmd1WU5qcHNlcLh3U1c2YXYzOEZEdzVIMFNBD0FEdFJb2M1dFFLLA45SHBhQLLsdTc0YVnhF
cgpQZEx1aklhcFBpGw0RDN3MWh6M3N1b3x3a0x2WTVhcm1000HEmNJoUWNUeJaTktZSeTJMME0nTmLaM3dFNHE1CmFRWVxdno3WDZPOMV1VUpBeEdlcWLBetZwaHRFOHdvD3o1RzhMMDgzWFF1Y1t0a2JY
Rf0zekhUcJgTJRk1bmktbS9y6V0U2dFYxc25FhJA3eLVxSmJnd0pHcKVRKkJUD253K21wRtdJNVBBWLE3TdickSVL0LSOFY2REp4U1LnQ0pXOTZhak1CaGFEaGLDdXV1UkwWQ0F3RUFYUsoTUy4d8RnWURW
UjBQ0VFLL3JRUURB20eTUIwR0EaVWRWUWVFXClCUUd03MhQVFRk33TUNC22ayQndFRkRjY0R0RVEFQmd0Vh5TU0BzjhfQlBBREFRSE9hQjBhQTfVZERmUvckQKJrEdE8S00YUxLkoeLjVtFZTXBhdzcz
eGpJHitiEQUSC2ZtxaGtpz13ME3BUWNGQUFQ0FRRUeWaa2pFRj1wbApLnJ2ZRExLIE52YTVZckIrODUuRXRa0aEZBeJe3RU13eTUrclZzTVVRVb1FWaannNUNMF3h4YU0hQ0hwaUxrsnFvCLJRkVnUnz4MTVn
dVBxRmapnayszeR1Chdnd2QbVl0bUwNzcVLE0yWDEyN0RHNmJzbnxhM1JhNk44d3g5b0YMTgVvGylytIamR3Vmp1dFFxZ3NSczp3UndhQ3RocnJQSUW5cGyxZDRQbU5nbkFJk0tmMnZWN29wZ0x8Q1U3
QwPpFUFVNaE96cEllbHU0bWpYR0xtYdERUMMhoeVpBdjdY2ZU5aEJucLh0cGYxy19tbfJFNZDdYm01mK0RrsNgrR1B0CkxKUCtCN2hLQ3hBVTNKc1kxdFLEdTOyQnRTTmt1ZU1icm9qRUNDdzNvQUFyeHNBaUJz
UknZQkpBd0p6V30tNyKdVhKZDA2dFUBRzV1cXc9PQotLS0tLUVORCBDRVJUSU2JQ08FURS0tLS0tCg==
deepakp@Deepak:~$
```

Deployment and Service yaml code

apiVersion: apps/v1

kind: Deployment

metadata:

name: my-deploy

labels:

name: my-deploy

spec:

replicas: 1

selector:

matchLabels:

apptype: web-backend

strategy:

type: RollingUpdate

template:

metadata:

labels:

apptype: web-backend

spec:

containers:

- name: maven-web-app

*image: deepakp2003/simplewebapp:latest # <-- Fixed: Added
valid image name*

ports:

- containerPort: 9000 # <-- This should match `targetPort` in the service

apiVersion: v1

kind: Service

metadata:

name: my-service

labels:

app: my-service

spec:

type: NodePort

ports:

- port: 9000

targetPort: 8080 # <-- Fixed: Matching the Deployment's `containerPort`

nodePort: 30002

selector:

apptype: web-backend

Jenkins Pipeline Script and Breakdown:

pipeline {

agent any

stages {

// SCM Stage: Checkout the code from the Git repository

```
stage('scm') {  
    steps {  
        git url: 'https://github.com/DeepakPrakasam/Jenkins-Devops.git'  
    }  
}
```

// Build Stage: Maven build steps

```
stage('build') {  
    steps {  
        sh "mvn clean"  
        sh "mvn install"  
    }  
}
```

// Docker Image Build Stage

```
stage('build to images') {  
    steps {  
        script {  
            sh 'docker build -t deepakp2003/simpleapplication .'  
        }  
    }  
}
```

// Push Docker Image to Docker Hub

```
stage('push to hub') {  
    steps {
```

```

    script {
        withDockerRegistry(credentialsId: 'Deepak_Docker_Cred', url:
'https://index.docker.io/v1/') {
            sh 'docker push deepakp2003/simpleapplication'
        }
    }
}

// Test/Deploy Stage (Uncommented)
stage('test') {
    steps {
        withKubeConfig(caCertificate: "", clusterName: "", contextName: "",
credentialsId: 'minikube', namespace: "", restrictKubeConfigAccess: false,
serverUrl: 'https://192.168.39.226:8443') {
            sh 'kubectl apply -f deployment.yml --validate=false'
        }
    }
}
}
}

```