Java Application Minikube Deployment

Minikube deployment of java:

Minikube Command:

- Minikube start
- Minikube status
- Sudo nano deploy.yaml
- Sudo nano pod.yaml
- Kubectl apply -f pod.yaml
- Kubectl apply -f deploy.yaml
- Minikube service my-service
- For permission to, sudo visudo
- Kubectl get node
- Configuring config file in ~/.kube, Sudo vi config

Sudo visudo: update this, jenkins ALL=(ALL) NOPASSWD: ALL

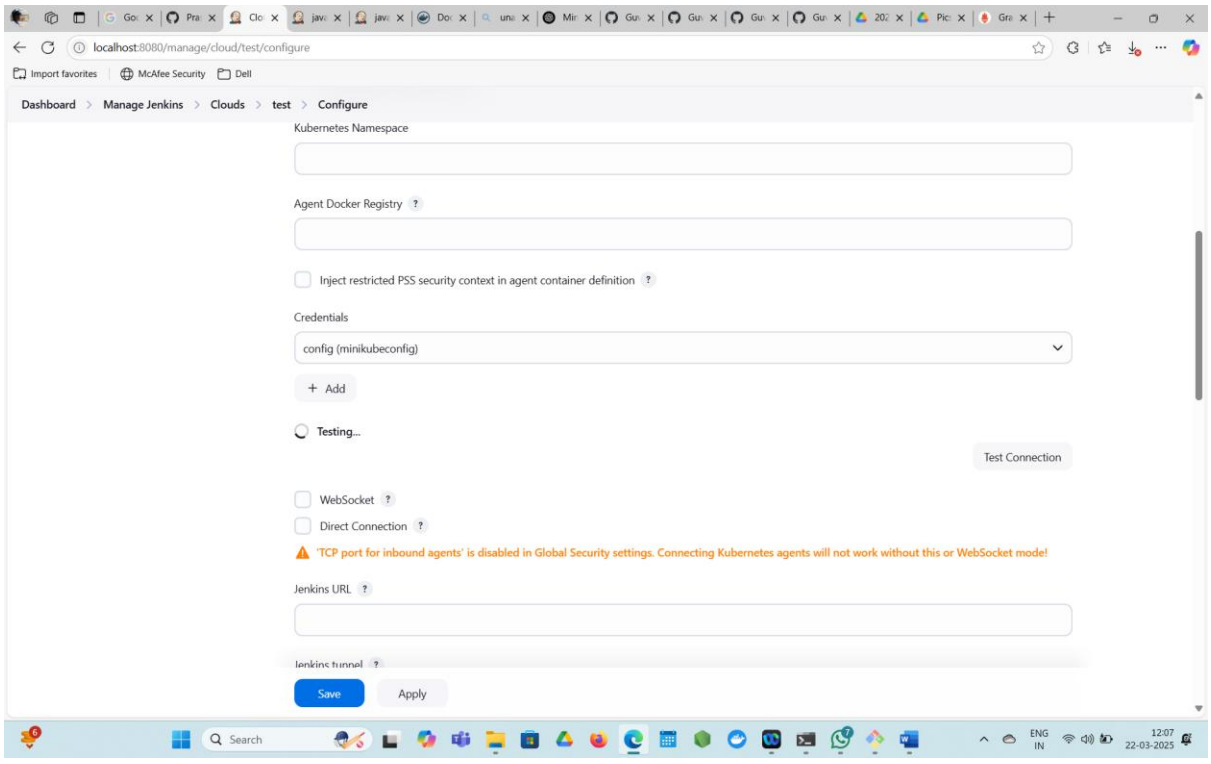
Data updation in config file:

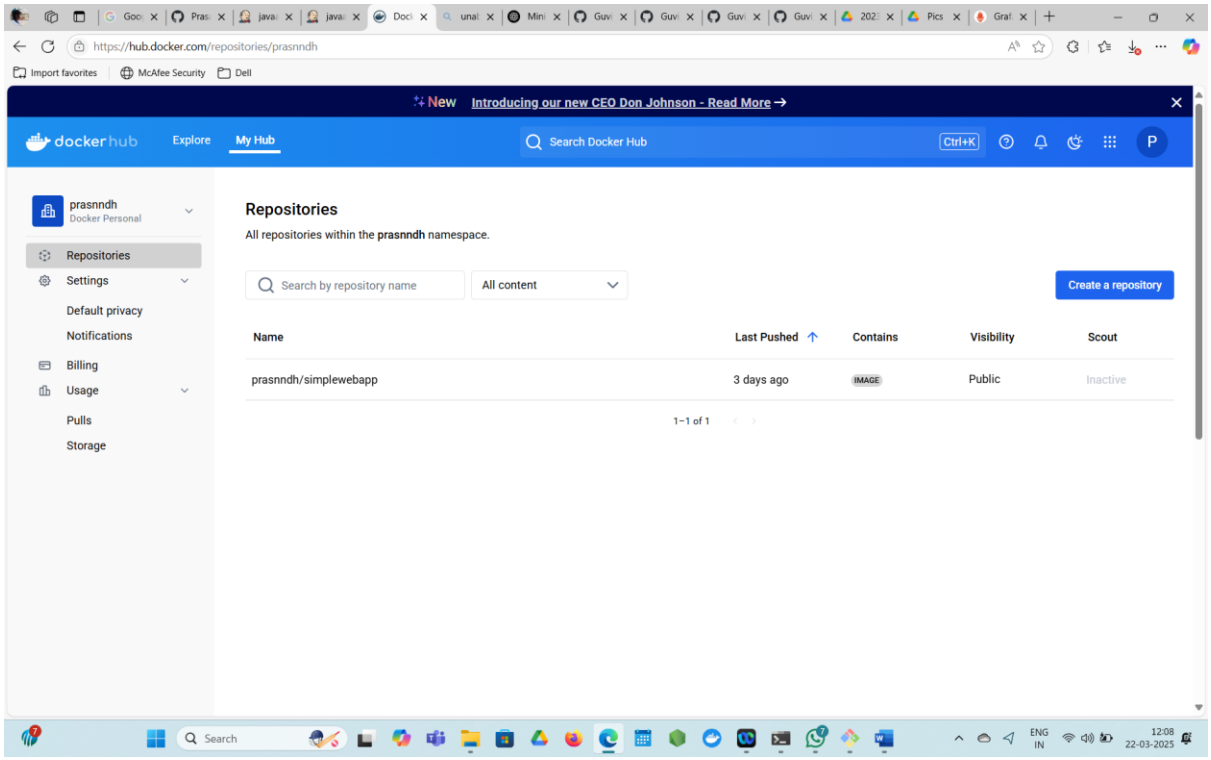
- sudo cat /home/prasanndh_raaju/.minikube/ca.crt
- sudo cat /home/prasanndh_raaju/.minikube/ca.crt | base64 -w 0; echo
- sudo cat /home/prasanndh_raaju/.minikube/profiles/minikube/client.crt | base64 -w 0; echo
- sudo cat /home/prasanndh_raaju/.minikube/profiles/minikube/client.key | base64 -w 0; echo

Deployment.yaml:

```
apiVersion: apps/v1
kind: Deployment
metadata:
  name: my-deploy
  labels:
    app: my-deploy
spec:
  replicas: 1
  selector:
    matchLabels:
      apptype: web-backend
  strategy:
    type: RollingUpdate
  template:
    metadata:
      labels:
        apptype: web-backend
    spec:
```

```
      containers:
      - name: my-app
        image: prasanndh_raaju/warimage-jenkins1:latest
        ports:
        - containerPort: 8080  # Change to 8080
---
apiVersion: v1
kind: Service
metadata:
  name: my-service
  labels:
    app: my-service
spec:
  type: NodePort
  ports:
    - targetPort: 8080  # Change to 8080
      port: 8080
      nodePort: 30078
  selector:
    apptype: web-backend
```



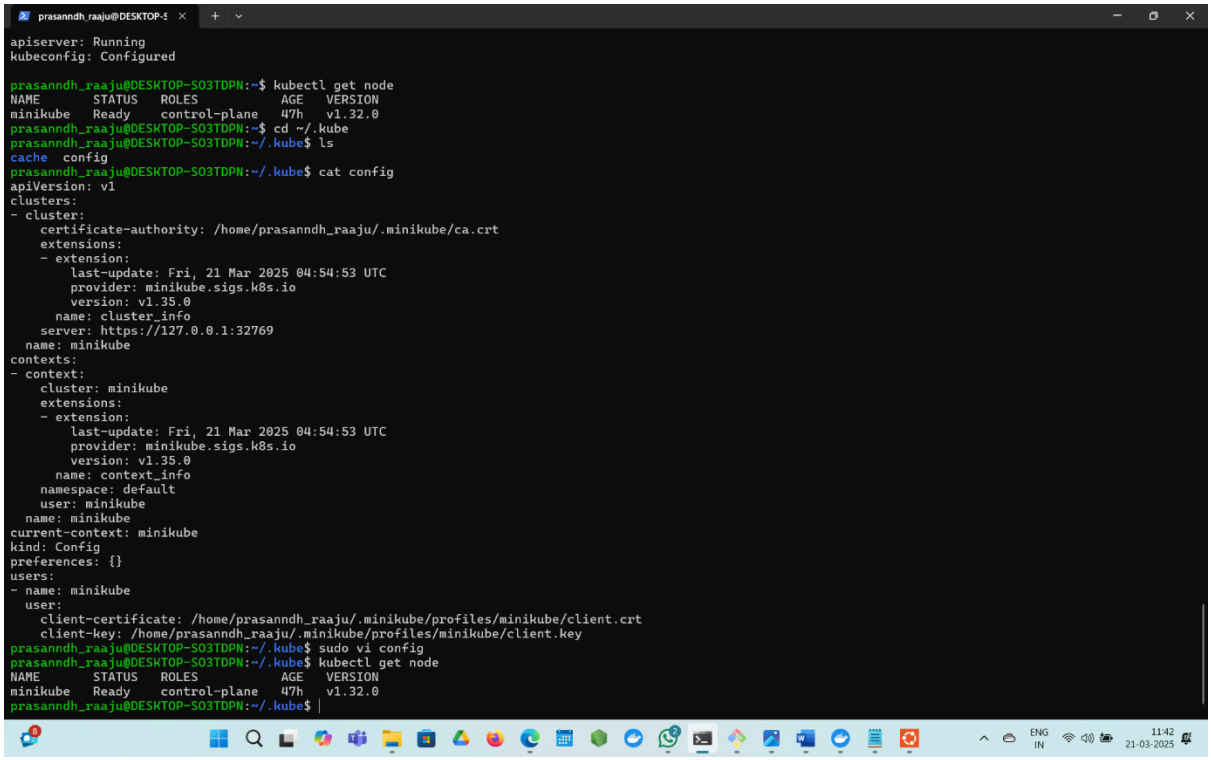


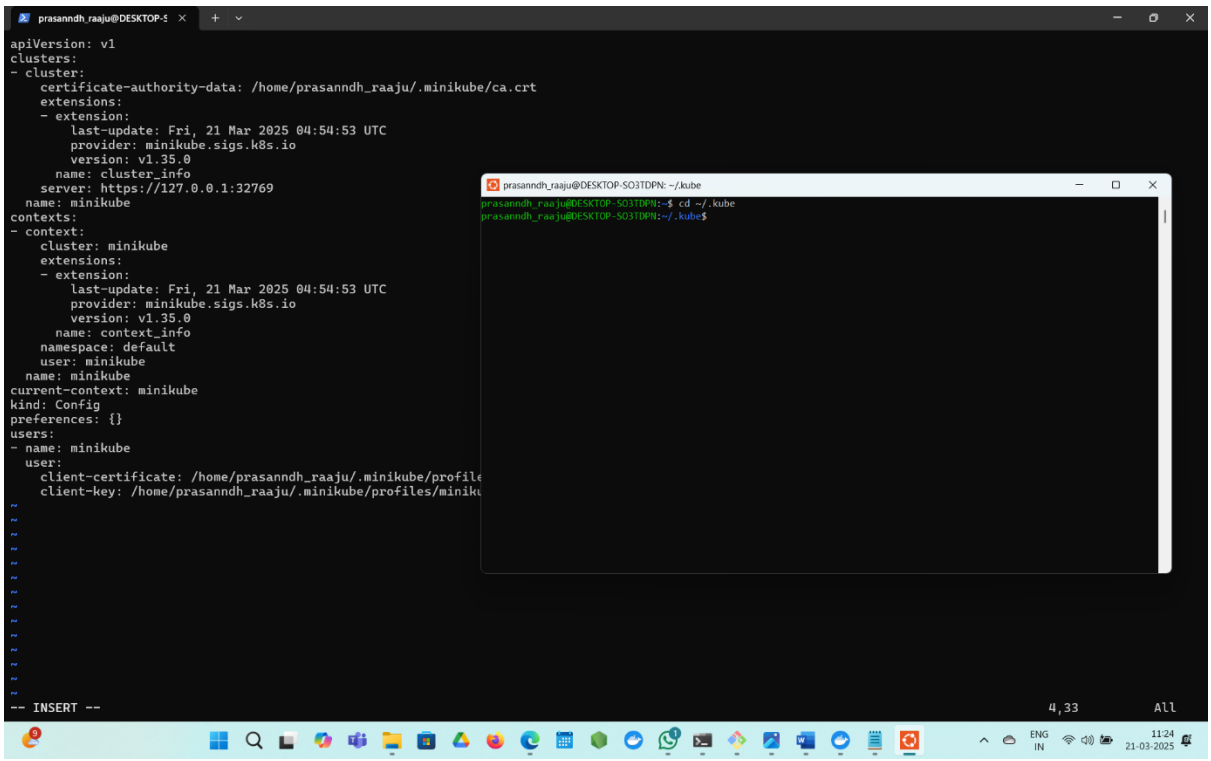
jenkins ALL=(ALL) NOPASSWD: ALL

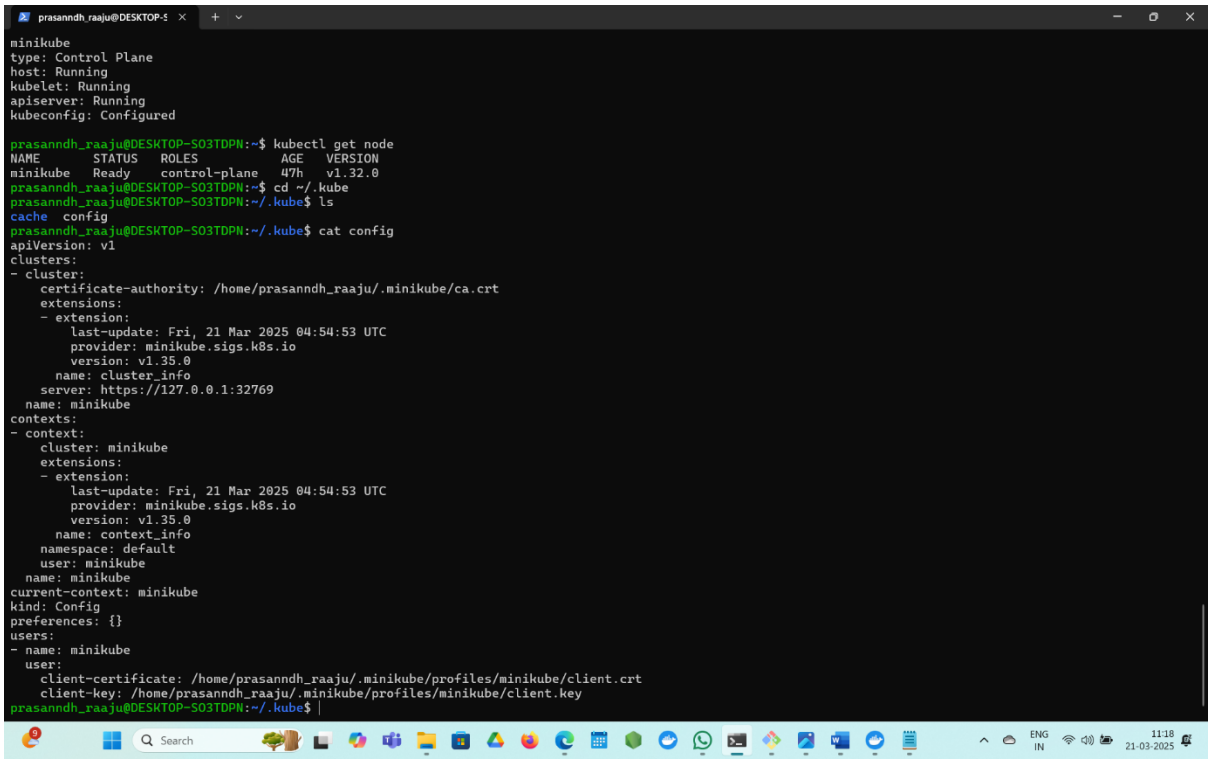
sudo systemctl restart ssh.service
sudo systemctl restart sshd.service

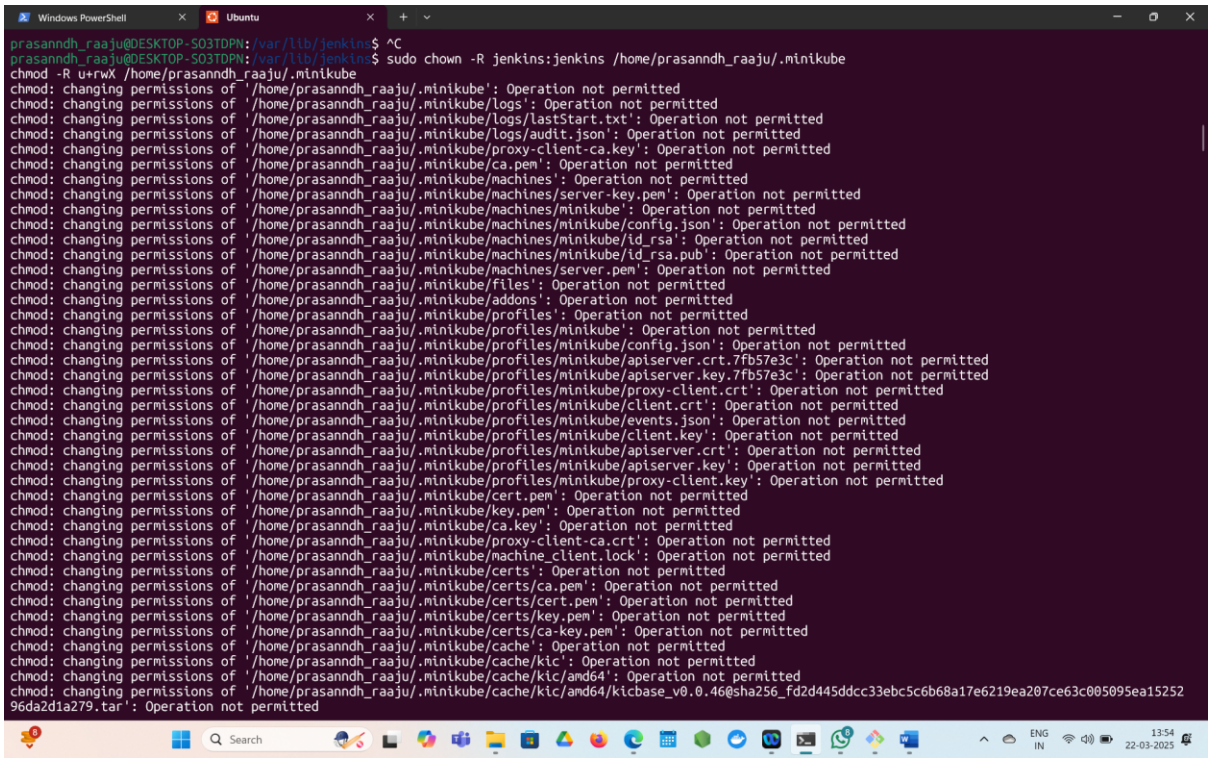
sudo apt update
#Installing SSH key
sudo apt install openssh-server
sudo systemctl restart ssh
sudo systemctl status ssh
ls /etc/systemd/system/sshd.service or ls /usr/lib/systemd/system/sshd.service

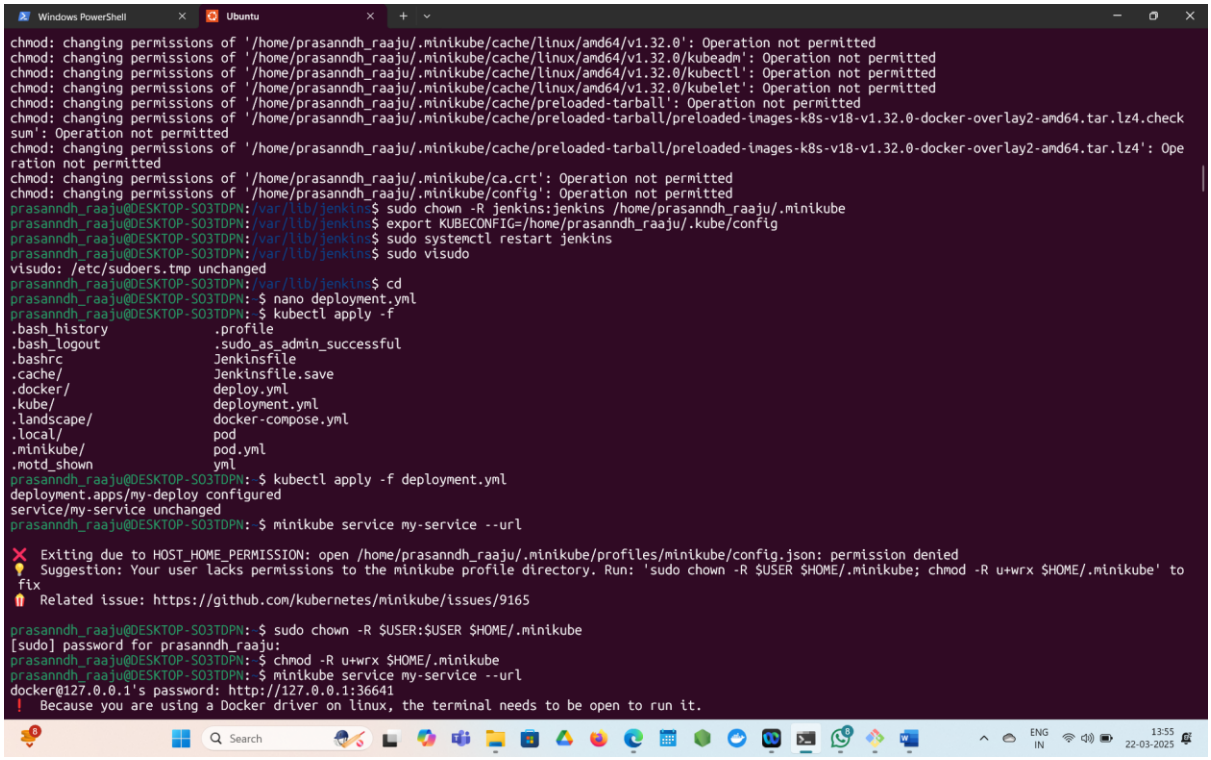
sudo systemctl daemon-reload
sudo systemctl status ssh
sudo systemctl restart ssh.service
cat /home/david/.minikube/ca.crt | base64 -w 0; echo
sudo chmod 666 /var/run/docker.sock
https://192.168.39.226:8443
sh 'kubectl apply -f deployment.yml --validate=false'
minikube service my-service --url | xargs curl

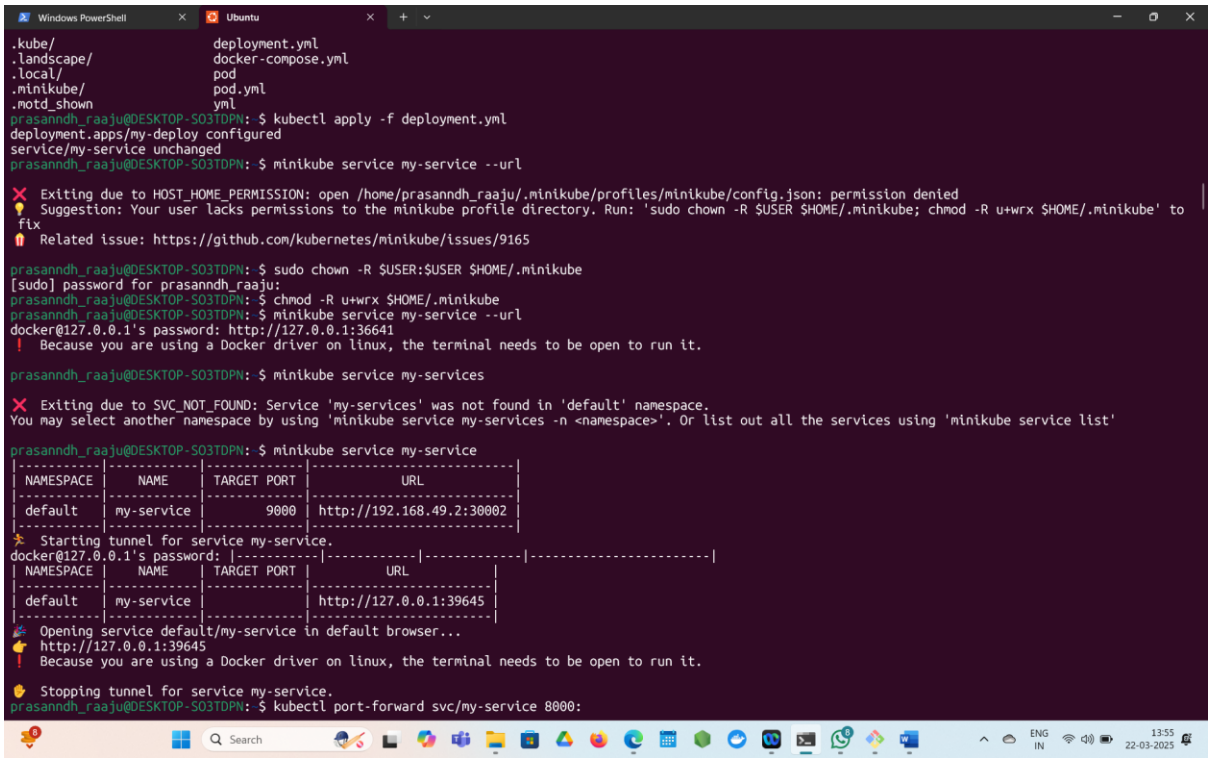

prasanndh_raaju@DESKTOP-S
apiserver: Running
kubeconfig: Configured
prasanndh_raaju@DESKTOP-SO3TDPN:~$ kubectl get node
NAME STATUS ROLES AGE VERSION
minikube Ready control-plane 47h v1.32.0
prasanndh_raaju@DESKTOP-SO3TDPN:~$ cd ~/.kube
prasanndh_raaju@DESKTOP-SO3TDPN:~/.kube$ ls
cache config
prasanndh_raaju@DESKTOP-SO3TDPN:~/.kube$ cat config
apiVersion: v1
clusters:
- cluster:
certificate-authority: /home/prasanndh_raaju/.minikube/ca.crt
extensions:
- extension:
last-update: Fri, 21 Mar 2025 04:54:53 UTC
provider: minikube.sigs.k8s.io
version: v1.35.0
name: cluster_info
server: https://127.0.0.1:32769
name: minikube
contexts:
- context:
cluster: minikube
extensions:
- extension:
last-update: Fri, 21 Mar 2025 04:54:53 UTC
provider: minikube.sigs.k8s.io
version: v1.35.0
name: context_info
namespace: default
user: minikube
name: minikube
current-context: minikube
kind: Config
preferences: {}
users:
- name: minikube
user:
client-certificate: /home/prasanndh_raaju/.minikube/profiles/minikube/client.crt
client-key: /home/prasanndh_raaju/.minikube/profiles/minikube/client.key
prasanndh_raaju@DESKTOP-SO3TDPN:~/.kube$ sudo vi config
prasanndh_raaju@DESKTOP-SO3TDPN:~/.kube$ kubectl get node
NAME STATUS ROLES AGE VERSION
minikube Ready control-plane 47h v1.32.0
prasanndh_raaju@DESKTOP-SO3TDPN:~/.kube$
ENG
IN
11:42
21-03-2025


prasanndh_raaju@DESKTOP-S
apiVersion: v1
clusters:
- cluster:
certificate-authority-data: /home/prasanndh_raaju/.minikube/ca.crt
extensions:
- extension:
last-update: Fri, 21 Mar 2025 04:54:53 UTC
provider: minikube.sigs.k8s.io
version: v1.35.0
name: cluster_info
server: https://127.0.0.1:32769
name: minikube
contexts:
- context:
cluster: minikube
extensions:
- extension:
last-update: Fri, 21 Mar 2025 04:54:53 UTC
provider: minikube.sigs.k8s.io
version: v1.35.0
name: context_info
namespace: default
user: minikube
name: minikube
current-context: minikube
kind: Config
preferences: {}
users:
- name: minikube
user:
client-certificate: /home/prasanndh_raaju/.minikube/profile
client-key: /home/prasanndh_raaju/.minikube/profiles/miniku
prasanndh_raaju@DESKTOP-SO3TDPN: ~/.kube
prasanndh_raaju@DESKTOP-SO3TDPN:~$ cd ~/.kube
prasanndh_raaju@DESKTOP-SO3TDPN:~/.kube$
-- INSERT --
4,33
All
ENG
IN
11:24
21-03-2025

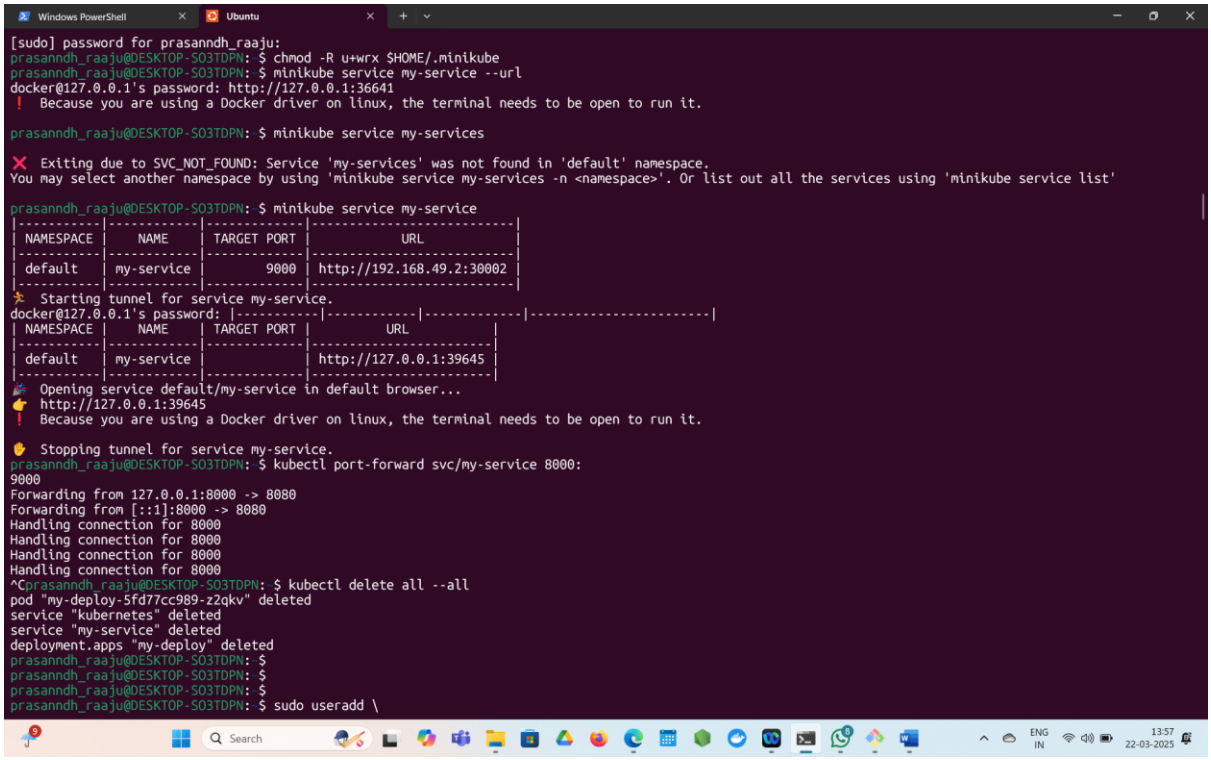

minikube
type: Control Plane
host: Running
kubelet: Running
apiserver: Running
kubeconfig: Configured
prasanndh_raaju@DESKTOP-SO3TDPN:~$ kubectl get node
NAME STATUS ROLES AGE VERSION
minikube Ready control-plane 47h v1.32.0
prasanndh_raaju@DESKTOP-SO3TDPN:~$ cd ~/.kube
prasanndh_raaju@DESKTOP-SO3TDPN:~/.kube$ ls
cache config
prasanndh_raaju@DESKTOP-SO3TDPN:~/.kube$ cat config
apiVersion: v1
clusters:
- cluster:
certificate-authority: /home/prasanndh_raaju/.minikube/ca.crt
extensions:
- extension:
last-update: Fri, 21 Mar 2025 04:54:53 UTC
provider: minikube.sigs.k8s.io
version: v1.35.0
name: cluster_info
server: https://127.0.0.1:32769
name: minikube
contexts:
- context:
cluster: minikube
extensions:
- extension:
last-update: Fri, 21 Mar 2025 04:54:53 UTC
provider: minikube.sigs.k8s.io
version: v1.35.0
name: context_info
namespace: default
user: minikube
name: minikube
current-context: minikube
kind: Config
preferences: {}
users:
- name: minikube
user:
client-certificate: /home/prasanndh_raaju/.minikube/profiles/minikube/client.crt
client-key: /home/prasanndh_raaju/.minikube/profiles/minikube/client.key
prasanndh_raaju@DESKTOP-SO3TDPN:~/.kube$
Search
ENG
IN
11:18
21-03-2025


Windows PowerShell
Ubuntu
prasanndh_raaju@DESKTOP-SO3TDPN:/var/lib/jenkins$ ^C
prasanndh_raaju@DESKTOP-SO3TDPN:/var/lib/jenkins$ sudo chown -R jenkins:jenkins /home/prasanndh_raaju/.minikube
chmod -R u+rwX /home/prasanndh_raaju/.minikube
chmod: changing permissions of '/home/prasanndh_raaju/.minikube': Operation not permitted
chmod: changing permissions of '/home/prasanndh_raaju/.minikube/logs': Operation not permitted
chmod: changing permissions of '/home/prasanndh_raaju/.minikube/logs/lastStart.txt': Operation not permitted
chmod: changing permissions of '/home/prasanndh_raaju/.minikube/logs/audit.json': Operation not permitted
chmod: changing permissions of '/home/prasanndh_raaju/.minikube/proxy-client-ca.key': Operation not permitted
chmod: changing permissions of '/home/prasanndh_raaju/.minikube/ca.pem': Operation not permitted
chmod: changing permissions of '/home/prasanndh_raaju/.minikube/machines': Operation not permitted
chmod: changing permissions of '/home/prasanndh_raaju/.minikube/machines/server-key.pem': Operation not permitted
chmod: changing permissions of '/home/prasanndh_raaju/.minikube/machines/minikube': Operation not permitted
chmod: changing permissions of '/home/prasanndh_raaju/.minikube/machines/minikube/config.json': Operation not permitted
chmod: changing permissions of '/home/prasanndh_raaju/.minikube/machines/minikube/id_rsa': Operation not permitted
chmod: changing permissions of '/home/prasanndh_raaju/.minikube/machines/minikube/id_rsa.pub': Operation not permitted
chmod: changing permissions of '/home/prasanndh_raaju/.minikube/machines/server.pem': Operation not permitted
chmod: changing permissions of '/home/prasanndh_raaju/.minikube/files': Operation not permitted
chmod: changing permissions of '/home/prasanndh_raaju/.minikube/addons': Operation not permitted
chmod: changing permissions of '/home/prasanndh_raaju/.minikube/profiles': Operation not permitted
chmod: changing permissions of '/home/prasanndh_raaju/.minikube/profiles/minikube': Operation not permitted
chmod: changing permissions of '/home/prasanndh_raaju/.minikube/profiles/minikube/config.json': Operation not permitted
chmod: changing permissions of '/home/prasanndh_raaju/.minikube/profiles/minikube/apiserver.crt.7fb57e3c': Operation not permitted
chmod: changing permissions of '/home/prasanndh_raaju/.minikube/profiles/minikube/apiserver.key.7fb57e3c': Operation not permitted
chmod: changing permissions of '/home/prasanndh_raaju/.minikube/profiles/minikube/proxy-client.crt': Operation not permitted
chmod: changing permissions of '/home/prasanndh_raaju/.minikube/profiles/minikube/client.crt': Operation not permitted
chmod: changing permissions of '/home/prasanndh_raaju/.minikube/profiles/minikube/events.json': Operation not permitted
chmod: changing permissions of '/home/prasanndh_raaju/.minikube/profiles/minikube/client.key': Operation not permitted
chmod: changing permissions of '/home/prasanndh_raaju/.minikube/profiles/minikube/apiserver.crt': Operation not permitted
chmod: changing permissions of '/home/prasanndh_raaju/.minikube/profiles/minikube/apiserver.key': Operation not permitted
chmod: changing permissions of '/home/prasanndh_raaju/.minikube/profiles/minikube/proxy-client.key': Operation not permitted
chmod: changing permissions of '/home/prasanndh_raaju/.minikube/cert.pem': Operation not permitted
chmod: changing permissions of '/home/prasanndh_raaju/.minikube/key.pem': Operation not permitted
chmod: changing permissions of '/home/prasanndh_raaju/.minikube/ca.key': Operation not permitted
chmod: changing permissions of '/home/prasanndh_raaju/.minikube/proxy-client-ca.crt': Operation not permitted
chmod: changing permissions of '/home/prasanndh_raaju/.minikube/machine_client.lock': Operation not permitted
chmod: changing permissions of '/home/prasanndh_raaju/.minikube/certs': Operation not permitted
chmod: changing permissions of '/home/prasanndh_raaju/.minikube/certs/ca.pem': Operation not permitted
chmod: changing permissions of '/home/prasanndh_raaju/.minikube/certs/cert.pem': Operation not permitted
chmod: changing permissions of '/home/prasanndh_raaju/.minikube/certs/key.pem': Operation not permitted
chmod: changing permissions of '/home/prasanndh_raaju/.minikube/certs/ca-key.pem': Operation not permitted
chmod: changing permissions of '/home/prasanndh_raaju/.minikube/cache': Operation not permitted
chmod: changing permissions of '/home/prasanndh_raaju/.minikube/cache/kic': Operation not permitted
chmod: changing permissions of '/home/prasanndh_raaju/.minikube/cache/kic/amd64': Operation not permitted
chmod: changing permissions of '/home/prasanndh_raaju/.minikube/cache/kic/amd64/kicbase_v0.0.46@sha256_fd2d445ddcc33ebc5c6b68a17e6219ea207ce63c005095ea1525296da2d1a279.tar': Operation not permitted
Search
ENG
IN
13:54
22-03-2025

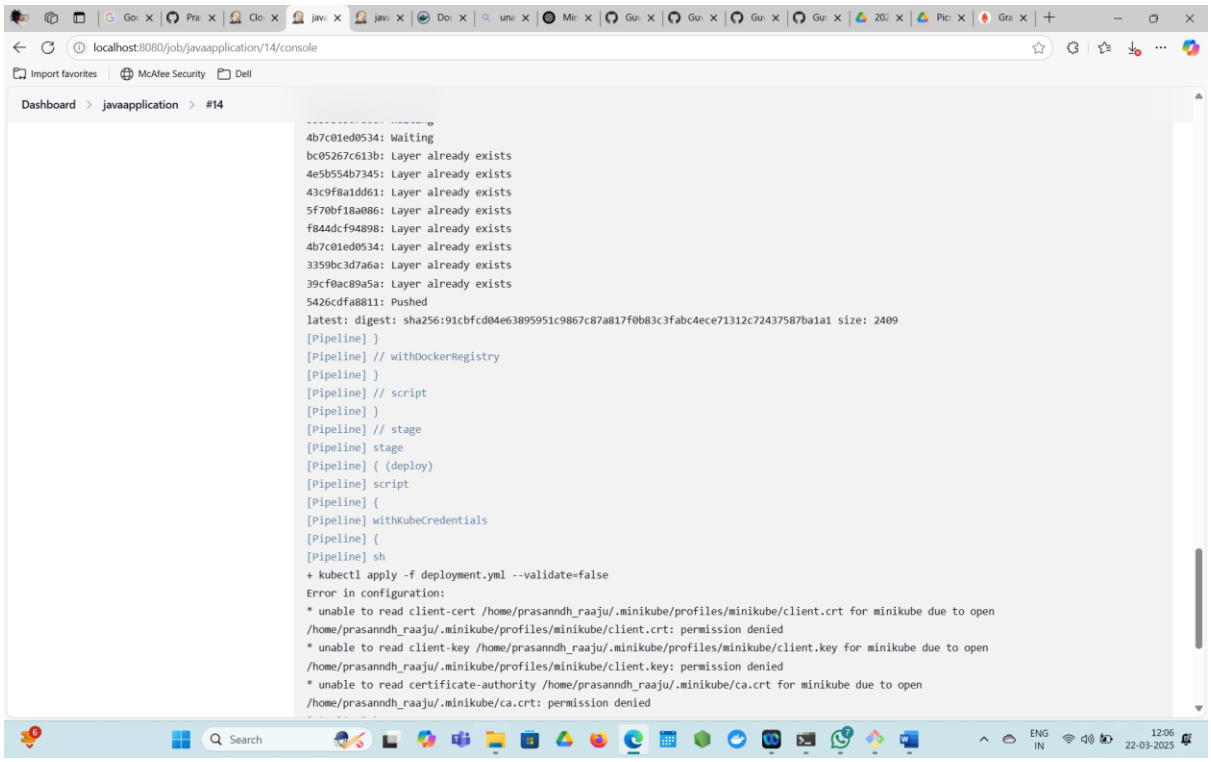


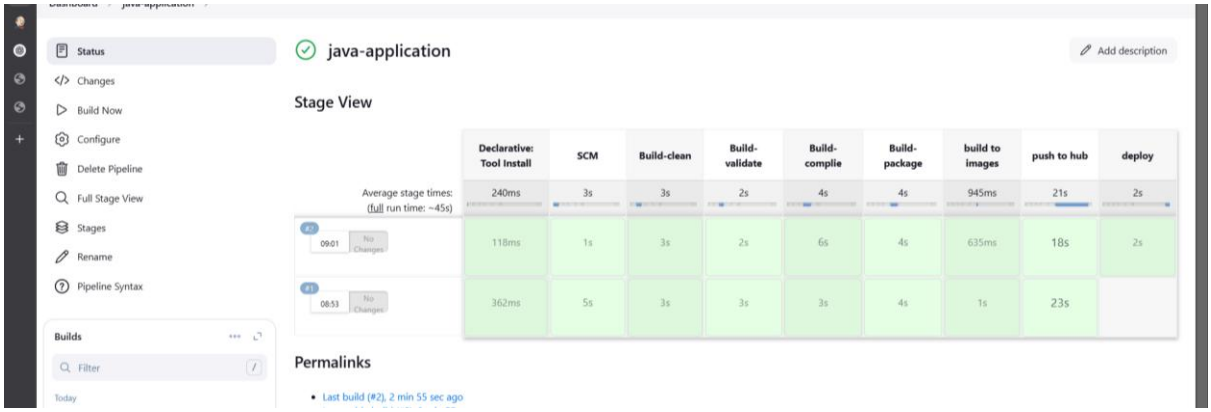


- minikube service my-service
- curl http://192.168.49.2:30002/my-web/
- chmod -R u+wrx $HOME/.minikube
- minikube service my-services
- kubectl port-forward svc/my-service 8000:9000



Pipeline Stages:



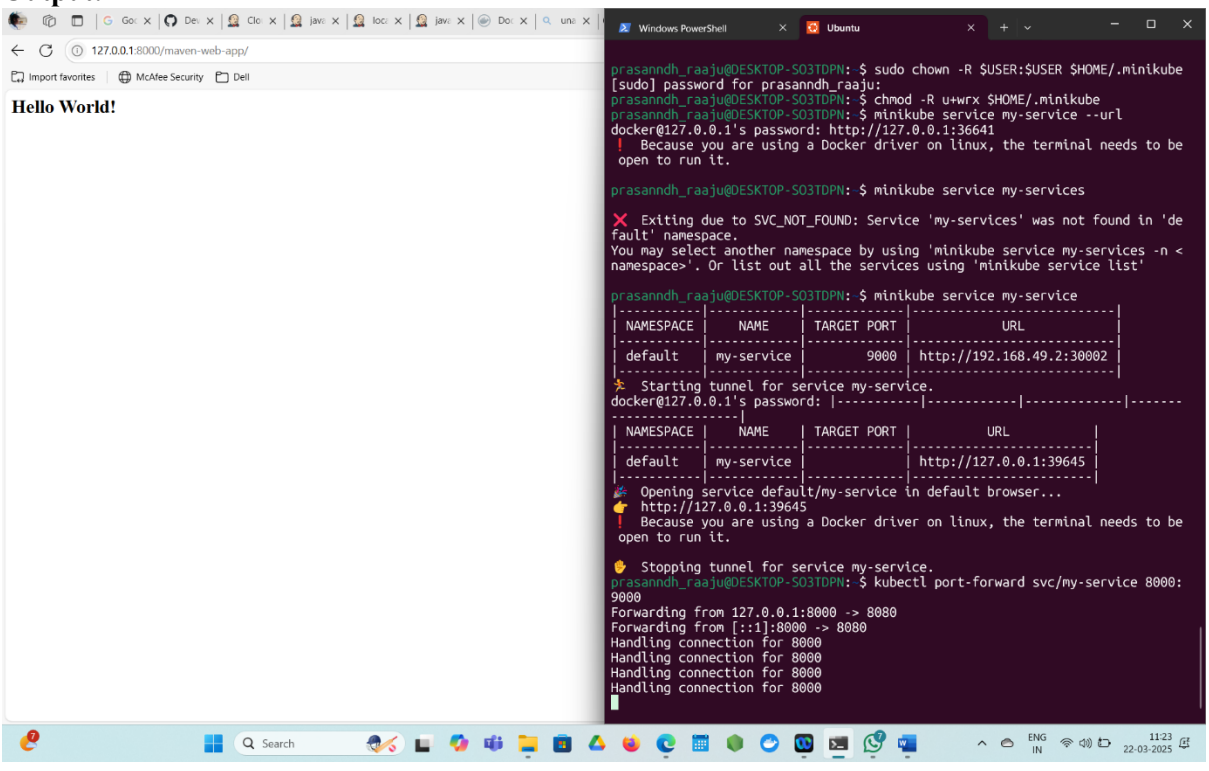


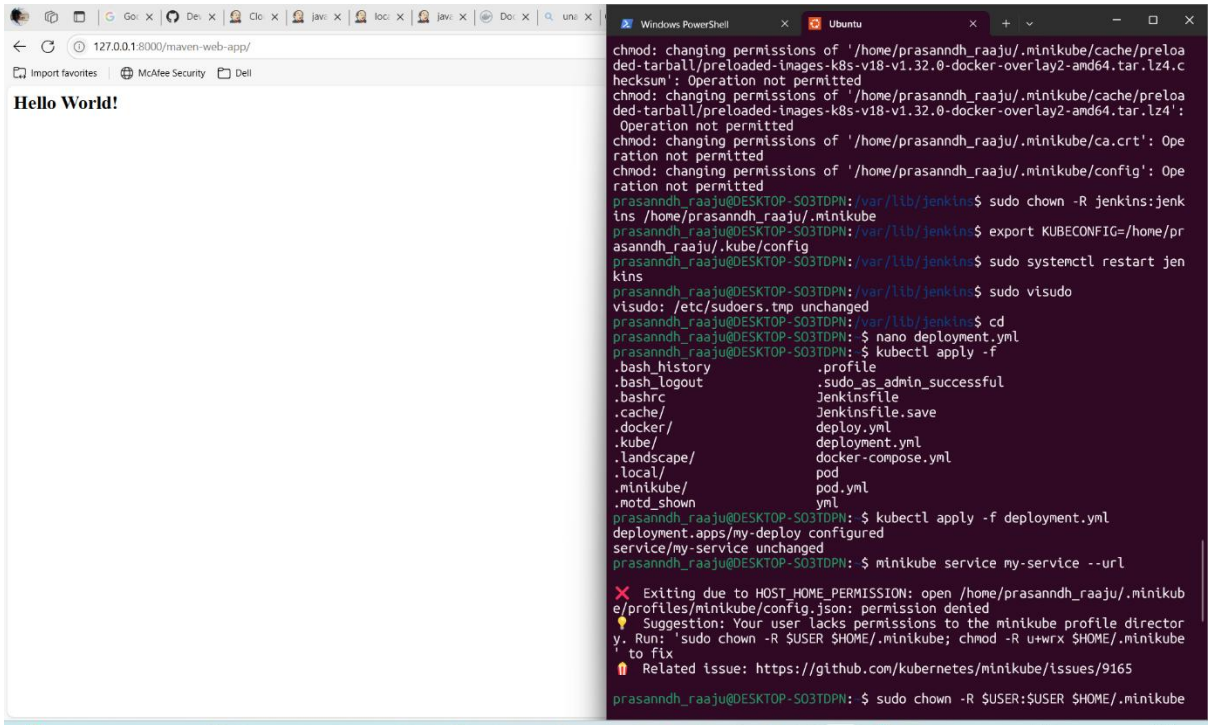
JenkinsFile :

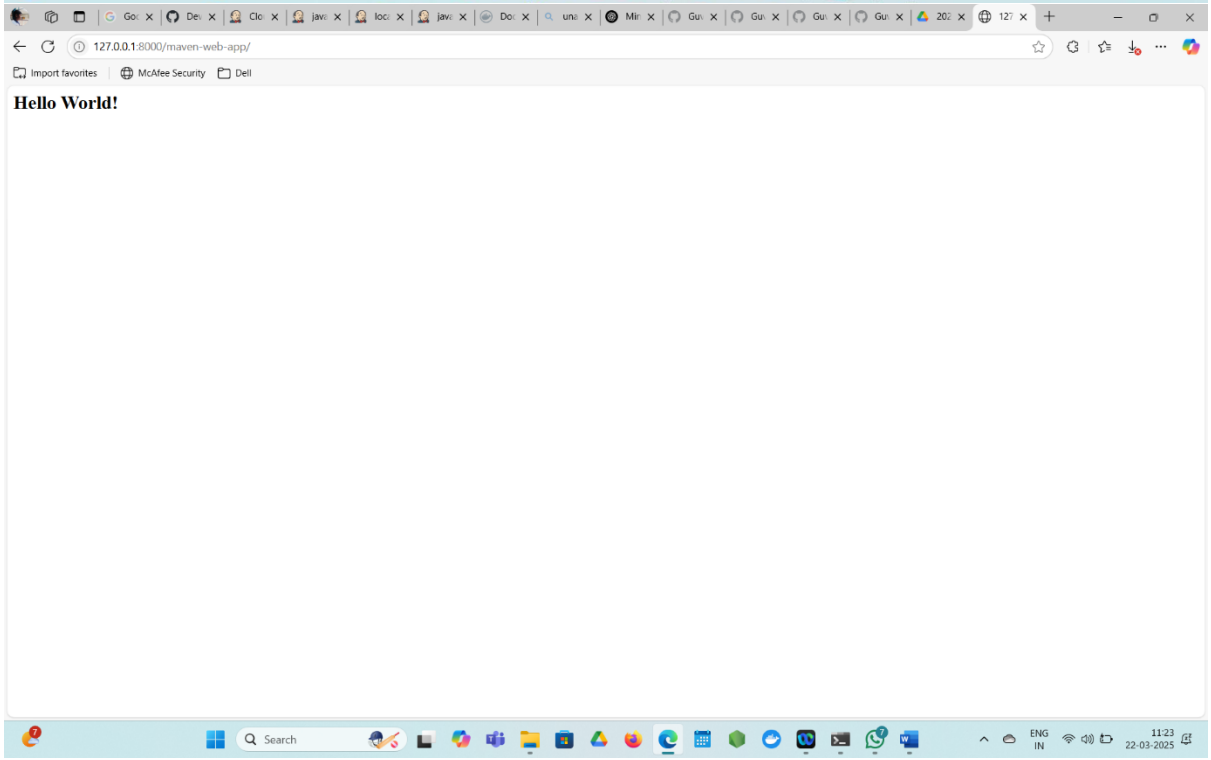
```
pipeline {
    agent any

    stages {
        stage('Clone Git Repository') {
            steps {
                git 'https://github.com/PrasanndhRaaju-MR/Devops_Guvi_WAR.git'
            }
        }

        stage('Build WAR File') {
            steps {
                sh 'mvn clean package'  // Build WAR file using Maven
            }
        }

        stage('Build Docker Image') {
            steps {
                script {
                    sh 'docker build -t warimage-jenkins .'
                    sh 'docker tag warimage-jenkins prasanndh_raaju/warimage-jenkins1'
                }
            }
        }

        // stage('Run Docker Container') {  // Optional stage to test the container
        //     steps {
        //         script {
        //             sh 'docker run -d -p 8888:8080 --name war-container-jenkins warimage-jenkins'
        //         }
        //     }
        // }

        stage('Push to Docker Hub') {
            steps {
                script {
                    withDockerRegistry(credentialsId: 'dockerhub_token', url: 'https://index.docker.io/v1/') {
                        sh 'docker push prasnndh/warimage-jenkins1'
                    }
```

```
            }
        }
    }


    stage('Deploy with deployment.yml') {
      steps {
          withKubeConfig(caCertificate: '', clusterName: 'minikube ', contextName: 'minikube',
credentialsId: 'MiniKube_ID', namespace: '', restrictKubeConfigAccess: false, serverUrl:
'https://192.168.49.2:8443') {
                sh 'kubectl apply -f deployment.yml'
          }
      }
    }


    // stage('Test') {
    //     steps {
    //         withKubeConfig(caCertificate: '', clusterName: 'minikube ', contextName: 'minikube',
credentialsId: 'MiniKube_ID', namespace: '', restrictKubeConfigAccess: false, serverUrl:
'https://192.168.49.2:32274') {
    //             sh ''
    //         }
    //     }
    // }


  }
}
```

Output:




127.0.0.1:8000/maven-web-app/
Import favorites
McAfee Security
Dell
Hello World!
Windows PowerShell
Ubuntu
chmod: changing permissions of '/home/prasanndh_raaju/.minikube/cache/preloaded-tarball/preloaded-images-k8s-v18-v1.32.0-docker-overlay2-amd64.tar.lz4.checksum': Operation not permitted
chmod: changing permissions of '/home/prasanndh_raaju/.minikube/cache/preloaded-tarball/preloaded-images-k8s-v18-v1.32.0-docker-overlay2-amd64.tar.lz4': Operation not permitted
chmod: changing permissions of '/home/prasanndh_raaju/.minikube/ca.crt': Operation not permitted
chmod: changing permissions of '/home/prasanndh_raaju/.minikube/config': Operation not permitted
prasanndh_raaju@DESKTOP-SO3TDPN:/var/lib/jenkins$ sudo chown -R jenkins:jenkins /home/prasanndh_raaju/.minikube
prasanndh_raaju@DESKTOP-SO3TDPN:/var/lib/jenkins$ export KUBECONFIG=/home/prasanndh_raaju/.kube/config
prasanndh_raaju@DESKTOP-SO3TDPN:/var/lib/jenkins$ sudo systemctl restart jenkins
prasanndh_raaju@DESKTOP-SO3TDPN:/var/lib/jenkins$ sudo visudo
visudo: /etc/sudoers.tmp unchanged
prasanndh_raaju@DESKTOP-SO3TDPN:/var/lib/jenkins$ cd
prasanndh_raaju@DESKTOP-SO3TDPN: $ nano deployment.yml
prasanndh_raaju@DESKTOP-SO3TDPN: $ kubectl apply -f
.bash_history
.bash_logout
.bashrc
.cache/
.docker/
.kube/
.landscape/
.local/
.minikube/
.motd_shown
.profile
.sudo_as_admin_successful
Jenkinsfile
Jenkinsfile.save
deploy.yml
deployment.yml
docker-compose.yml
pod
pod.yml
yml
prasanndh_raaju@DESKTOP-SO3TDPN: $ kubectl apply -f deployment.yml
deployment.apps/my-deploy configured
service/my-service unchanged
prasanndh_raaju@DESKTOP-SO3TDPN: $ minikube service my-service --url
Exiting due to HOST_HOME_PERMISSION: open /home/prasanndh_raaju/.minikube/profiles/minikube/config.json: permission denied
Suggestion: Your user lacks permissions to the minikube profile directory. Run: 'sudo chown -R $USER $HOME/.minikube; chmod -R u+wrx $HOME/.minikube' to fix
Related issue: https://github.com/kubernetes/minikube/issues/9165
prasanndh_raaju@DESKTOP-SO3TDPN: $ sudo chown -R $USER:$USER $HOME/.minikube
Search
ENG
IN
11:23
22-03-2025


127.0.0.1:8000/maven-web-app/
Import favorites
McAfee Security
Dell
Hello World!
Search
ENG
IN
11:23
22-03-2025