MAKANESHA V

22ISR023

The process automates the steps to:

1. **Build** a Java app using Maven.
2. **Create** a Docker image containing the app.
3. **Push** the image to a container registry (like DockerHub).
4. **Deploy** the image to a Kubernetes cluster.

Required Files

- **Dockerfile**: Defines how the Docker image is built.
- **deploymentservice.yaml**: Kubernetes deployment configuration.
- **Jenkinsfile**: Automates the CI/CD pipeline.

Jenkins Pipeline Steps

Checkout Code → Clone the GitHub repository.

Build with Maven → Run `mvn clean package -DskipTests`.

Build Docker Image `docker build -t ekartimage -f docker/Dockerfile .`

Push Image to DockerHub → Authenticate and push using

```
>> docker login -u makanesha -p <token>

>> docker tag ekartimage makanesha/guvi:latest

>> docker push makanesha/guvi:latest
```

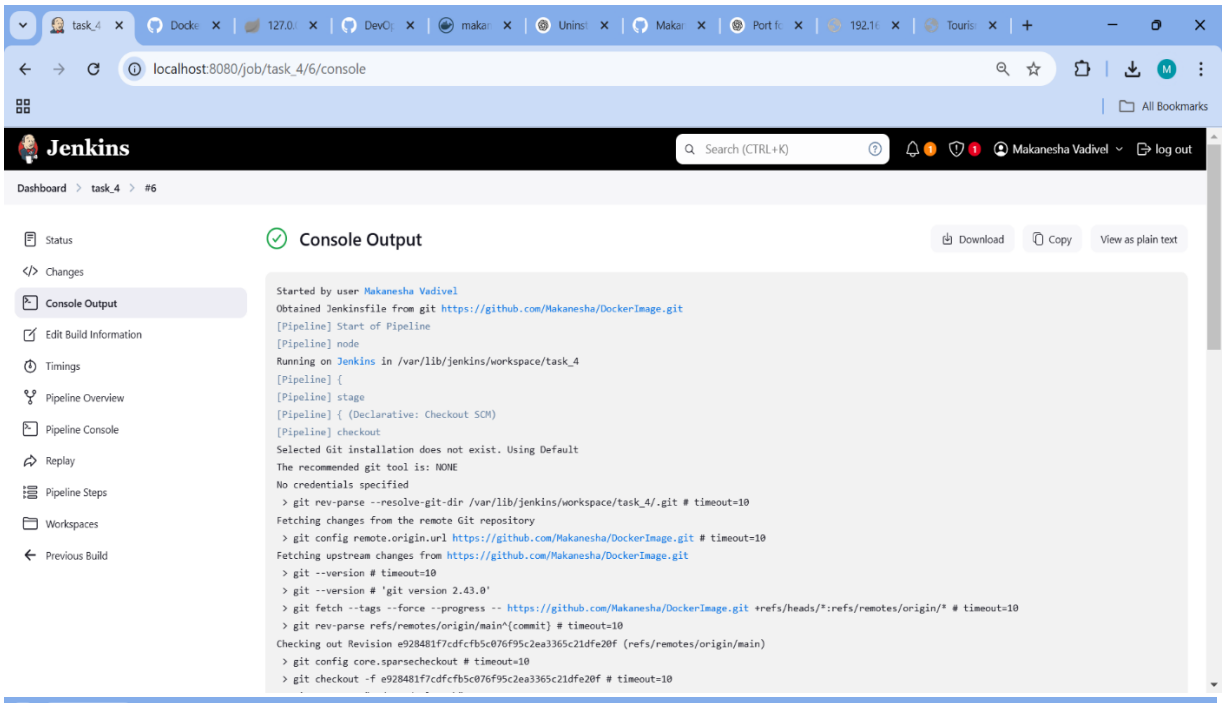
Deploy to Kubernetes Run

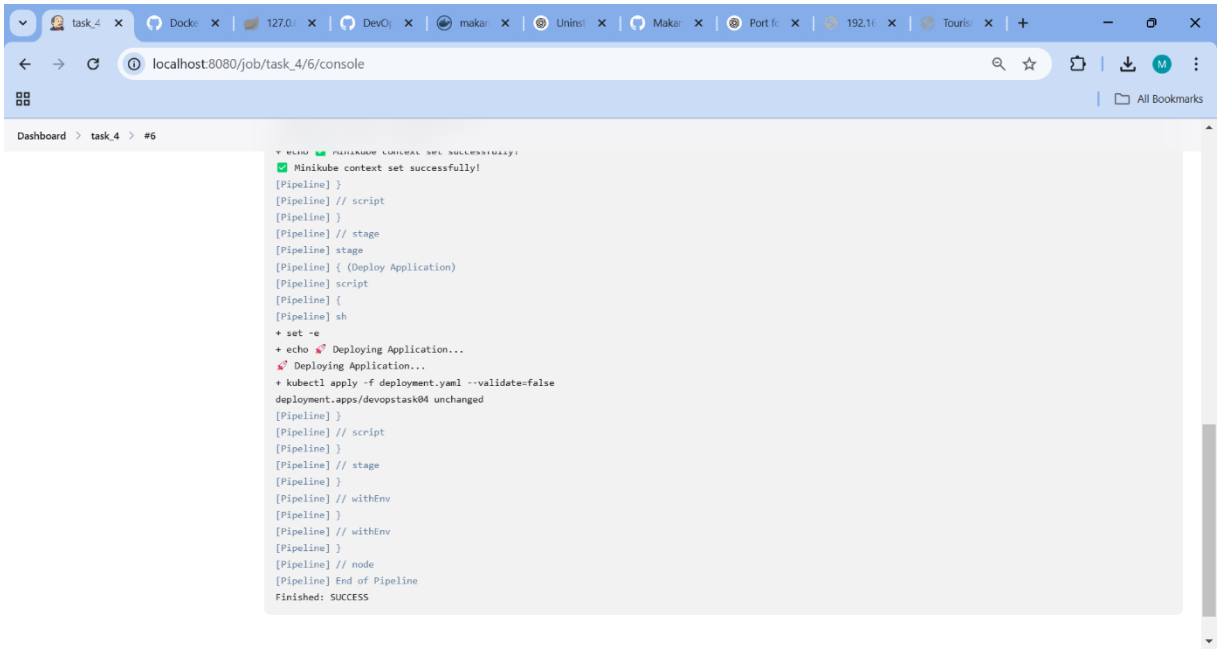
```
>> minikube start

>> kubectl create deployment ekartdep2 -image=
makanesha/guvi:latest --port=8070

>> kubectl expose deployment ekartdep2 --type=NodePort -
port=8070

>> kubectl get pods
```

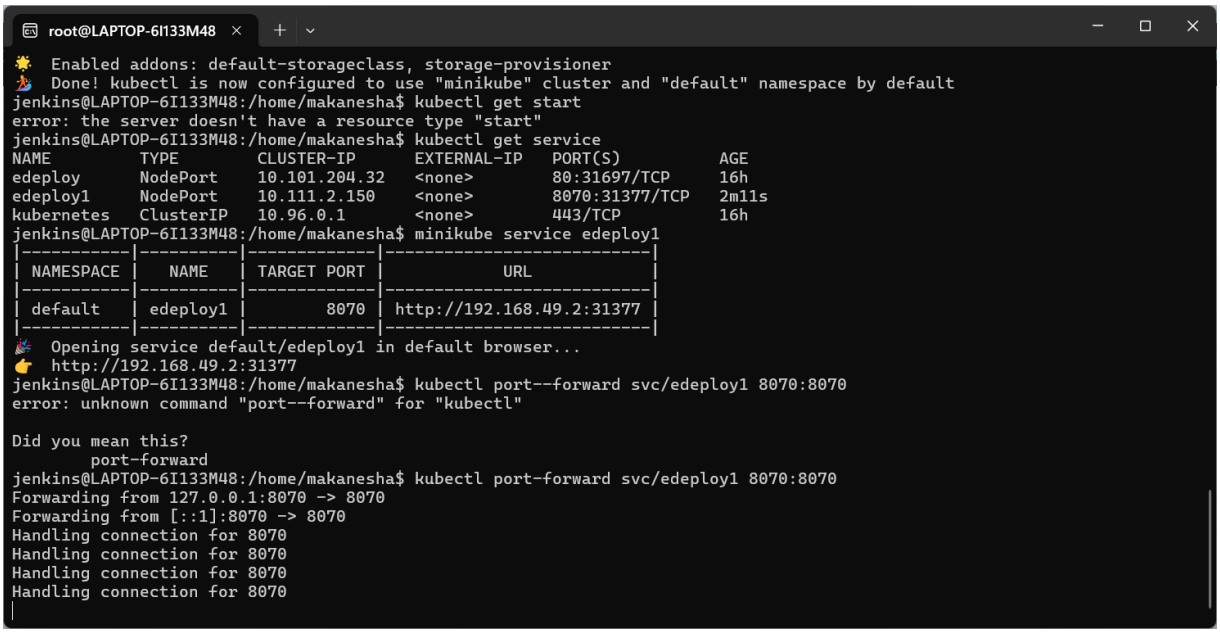
Get service details:

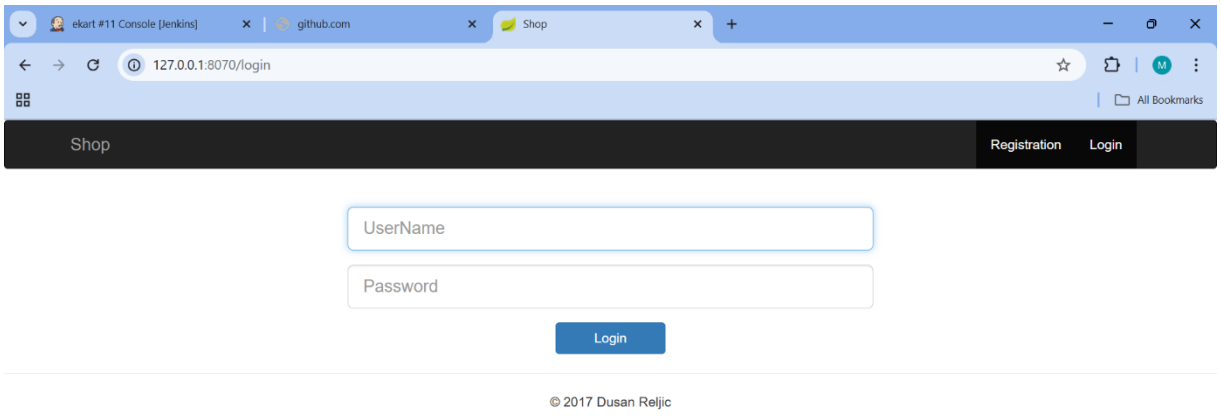
```
>>kubectl get svc my-java-app-service
```

i. Jenkins






root@LAPTOP-6I133M48
Enabled addons: default-storageclass, storage-provisioner
Done! kubectl is now configured to use "minikube" cluster and "default" namespace by default
jenkins@LAPTOP-6I133M48:/home/makanesha$ kubectl get start
error: the server doesn't have a resource type "start"
jenkins@LAPTOP-6I133M48:/home/makanesha$ kubectl get service
NAME TYPE CLUSTER-IP EXTERNAL-IP PORT(S) AGE
edeploy NodePort 10.101.204.32 <none> 80:31697/TCP 16h
edeploy1 NodePort 10.111.2.150 <none> 8070:31377/TCP 2m11s
kubernetes ClusterIP 10.96.0.1 <none> 443/TCP 16h
jenkins@LAPTOP-6I133M48:/home/makanesha$ minikube service edeploy1
| NAMESPACE | NAME | TARGET PORT | URL |
| default | edeploy1 | 8070 | http://192.168.49.2:31377 |
Opening service default/edeploy1 in default browser...
http://192.168.49.2:31377
jenkins@LAPTOP-6I133M48:/home/makanesha$ kubectl port--forward svc/edeploy1 8070:8070
error: unknown command "port--forward" for "kubectl"
Did you mean this?
port-forward
jenkins@LAPTOP-6I133M48:/home/makanesha$ kubectl port-forward svc/edeploy1 8070:8070
Forwarding from 127.0.0.1:8070 -> 8070
Forwarding from [::1]:8070 -> 8070
Handling connection for 8070
Handling connection for 8070
Handling connection for 8070
Handling connection for 8070


ekart #11 Console [Jenkins]
github.com
Shop
127.0.0.1:8070/login
All Bookmarks
Shop
Registration
Login
UserName
Password
Login
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