TASK 3-Minikube Deployment Task

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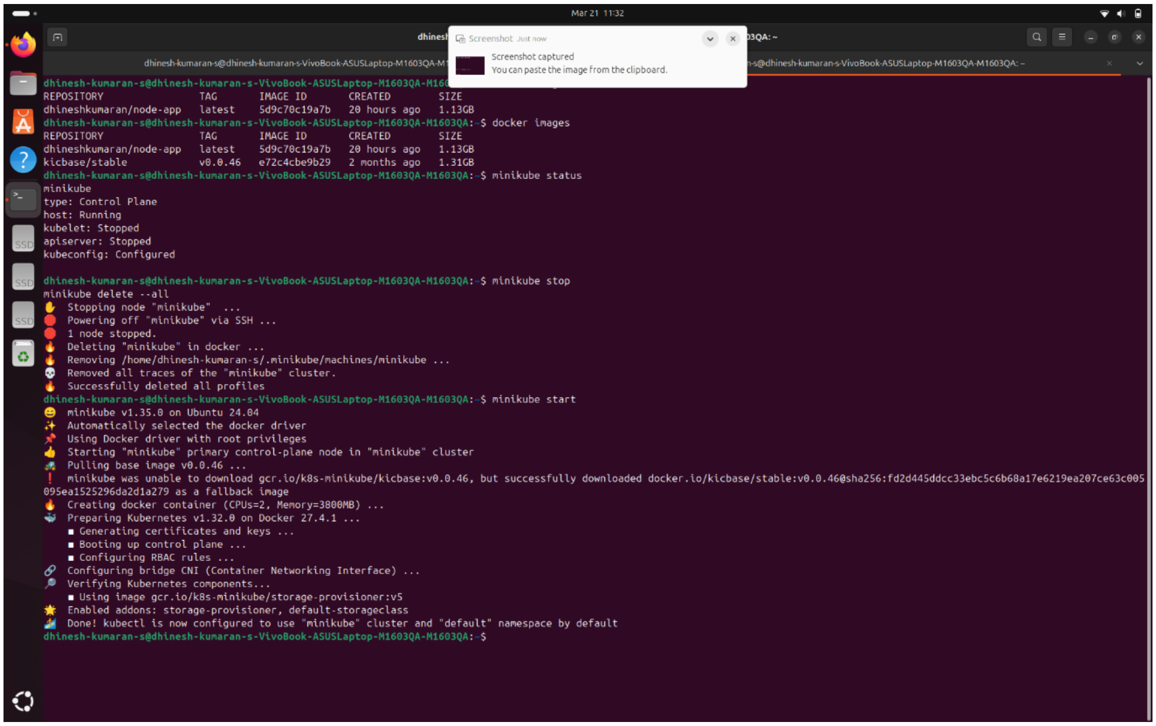
Step 1: Start Minikube

Start the Minikube cluster using the following command:

minikube start

This initializes the Minikube cluster using Docker as the driver.



Mar 21 11:32
dhinesh
03QA: ~
dhinesh-kumaran-s@dhinesh-kumaran-s-VivoBook-ASUSLaptop-M1603QA-M1
n-s@dhinesh-kumaran-s-VivoBook-ASUSLaptop-M1603QA-M1603QA: ~
Screenshot Just now
Screenshot captured
You can paste the image from the clipboard.

```
dhinesh-kumaran-s@dhinesh-kumaran-s-VivoBook-ASUSLaptop-M160
REPOSITORY             TAG       IMAGE ID       CREATED        SIZE
dhineshkumaran/node-app   latest    5d9c70c19a7b   20 hours ago   1.13GB
dhinesh-kumaran-s@dhinesh-kumaran-s-VivoBook-ASUSLaptop-M1603QA-M1603QA:~$ docker images
REPOSITORY             TAG       IMAGE ID       CREATED        SIZE
dhineshkumaran/node-app   latest    5d9c70c19a7b   20 hours ago   1.13GB
kicbase/stable            v0.0.46   e72c4cbe9b29   2 months ago   1.31GB
dhinesh-kumaran-s@dhinesh-kumaran-s-VivoBook-ASUSLaptop-M1603QA-M1603QA:~$ minikube status
minikube
type: Control Plane
host: Running
kubelet: Stopped
apiserver: Stopped
kubeconfig: Configured

dhinesh-kumaran-s@dhinesh-kumaran-s-VivoBook-ASUSLaptop-M1603QA-M1603QA:~$ minikube stop
minikube delete --all
✋  Stopping node "minikube"  ...
🔴  Powering off "minikube" via SSH ...
🔴  1 node stopped.
🔥  Deleting "minikube" in docker ...
🔥  Removing /home/dhinesh-kumaran-s/.minikube/machines/minikube ...
💀  Removed all traces of the "minikube" cluster.
🔥  Successfully deleted all profiles
dhinesh-kumaran-s@dhinesh-kumaran-s-VivoBook-ASUSLaptop-M1603QA-M1603QA:~$ minikube start
😄  minikube v1.35.0 on Ubuntu 24.04
✨  Automatically selected the docker driver
📌  Using Docker driver with root privileges
👍  Starting "minikube" primary control-plane node in "minikube" cluster
🚜  Pulling base image v0.0.46 ...
❗  minikube was unable to download gcr.io/k8s-minikube/kicbase:v0.0.46, but successfully downloaded docker.io/kicbase/stable:v0.0.46@sha256:fd2d445ddcc33ebc5c6b68a17e6219ea207ce63c005
095ea1525296da2d1a279 as a fallback image
🔥  Creating docker container (CPUs=2, Memory=3800MB) ...
🐳  Preparing Kubernetes v1.32.0 on Docker 27.4.1 ...
    ▪ Generating certificates and keys ...
    ▪ Booting up control plane ...
    ▪ Configuring RBAC rules ...
🔗  Configuring bridge CNI (Container Networking Interface) ...
🔎  Verifying Kubernetes components...
    ▪ Using image gcr.io/k8s-minikube/storage-provisioner:v5
🌟  Enabled addons: storage-provisioner, default-storageclass
🏄  Done! kubectl is now configured to use "minikube" cluster and "default" namespace by default
dhinesh-kumaran-s@dhinesh-kumaran-s-VivoBook-ASUSLaptop-M1603QA-M1603QA:~$
```

Step 2: Install Kubectl

Since Kubectl is not found, install it with the following command:

sudo snap install kubectl --classic

Alternatively, you can download it using curl:

curl -LO "https://dl.k8s.io/release/$(curl -L -s
https://dl.k8s.io/release/stable.txt)/bin/linux/amd64/kubectl"
sudo install -o root -g root -m 0755 kubectl /usr/local/bin/kubectl

Step 3: Verify Kubectl Installation

Check the client version to confirm successful installation:

kubectl version –client

Step 4: Create a Deployment

Create a deployment named `pod1` with the image `dhineshkumaran/spring-petshop`

kubectl create deployment pod1 --image= dhineshkumaran/spring-petshop --port=8080

Step 5: Expose the Deployment

Expose the deployment as a NodePort service:

kubectl expose deployment pod1 --port=8080 --type=NodePort

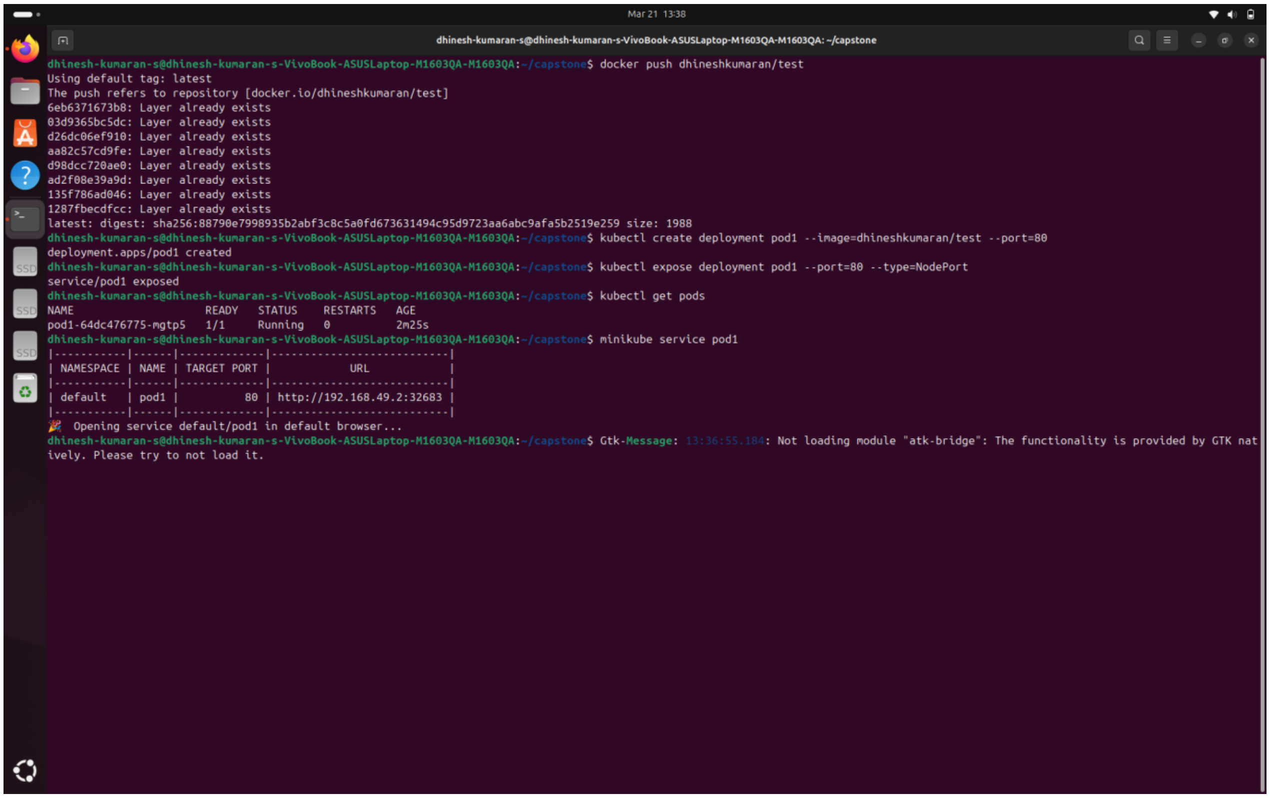
Step 6: Verify the Pod

Check the running pods:

kubectl get pods

Step 7: Access the Service

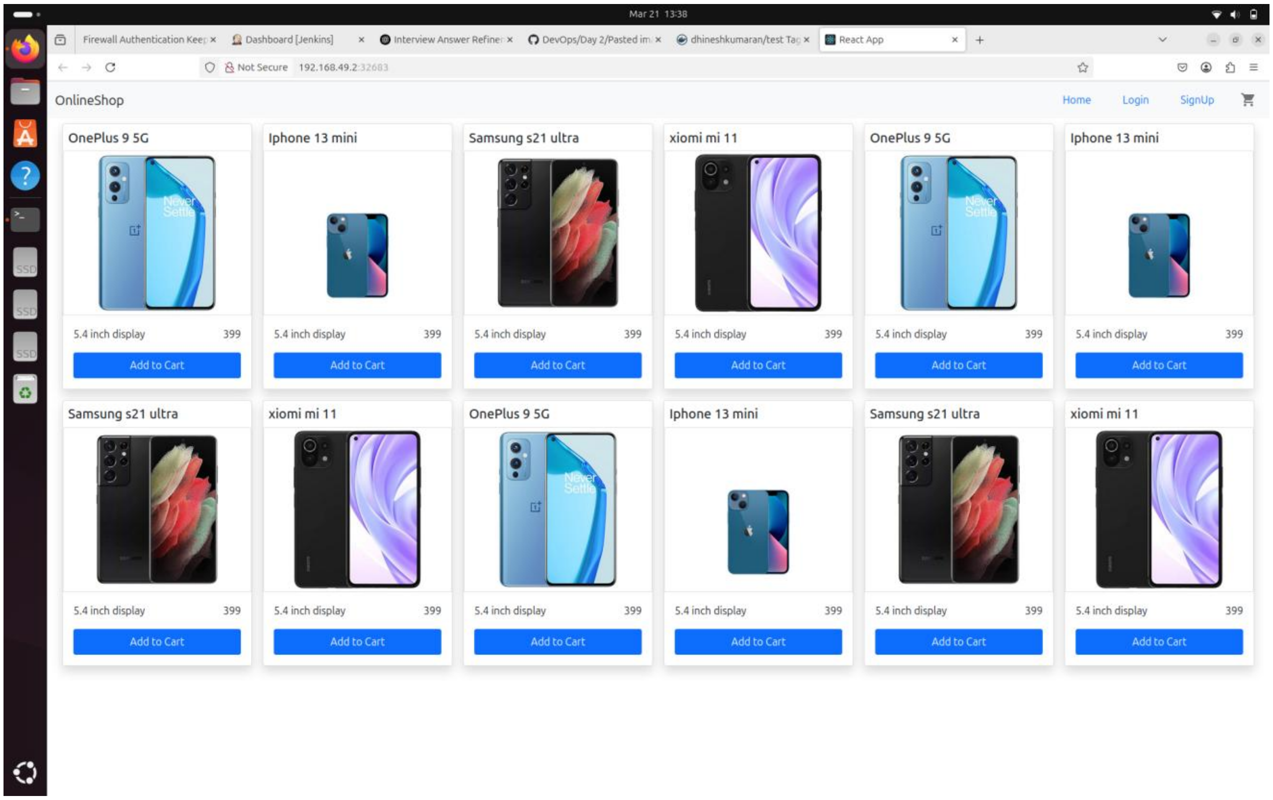
Expose the service using Minikube and get the URL:
minikube service pod1



Mar 21 13:38
dhinesh-kumaran-s@dhinesh-kumaran-s-VivoBook-ASUSLaptop-M1603QA-M1603QA: ~/capstone

```
dhinesh-kumaran-s@dhinesh-kumaran-s-VivoBook-ASUSLaptop-M1603QA-M1603QA:~/capstone$ docker push dhineshkumaran/test
Using default tag: latest
The push refers to repository [docker.io/dhineshkumaran/test]
6eb6371673b8: Layer already exists
03d9365bc5dc: Layer already exists
d26dc06ef910: Layer already exists
aa82c57cd9fe: Layer already exists
d98dcc720ae0: Layer already exists
ad2f08e39a9d: Layer already exists
135f786ad046: Layer already exists
1287fbecdfcc: Layer already exists
latest: digest: sha256:88790e7998935b2abf3c8c5a0fd673631494c95d9723aa6abc9afa5b2519e259 size: 1988
dhinesh-kumaran-s@dhinesh-kumaran-s-VivoBook-ASUSLaptop-M1603QA-M1603QA:~/capstone$ kubectl create deployment pod1 --image=dhineshkumaran/test --port=80
deployment.apps/pod1 created
dhinesh-kumaran-s@dhinesh-kumaran-s-VivoBook-ASUSLaptop-M1603QA-M1603QA:~/capstone$ kubectl expose deployment pod1 --port=80 --type=NodePort
service/pod1 exposed
dhinesh-kumaran-s@dhinesh-kumaran-s-VivoBook-ASUSLaptop-M1603QA-M1603QA:~/capstone$ kubectl get pods
NAME                   READY   STATUS    RESTARTS   AGE
pod1-64dc476775-mgtp5   1/1     Running   0          2m25s
dhinesh-kumaran-s@dhinesh-kumaran-s-VivoBook-ASUSLaptop-M1603QA-M1603QA:~/capstone$ minikube service pod1
|-----------|------|-------------|---------------------------|
| NAMESPACE | NAME | TARGET PORT |            URL            |
|-----------|------|-------------|---------------------------|
| default   | pod1 |          80 | http://192.168.49.2:32683 |
|-----------|------|-------------|---------------------------|
🎉  Opening service default/pod1 in default browser...
dhinesh-kumaran-s@dhinesh-kumaran-s-VivoBook-ASUSLaptop-M1603QA-M1603QA:~/capstone$ Gtk-Message: 13:36:55.184: Not loading module "atk-bridge": The functionality is provided by GTK nat
ively. Please try to not load it.
```

Step 8: Output in the Web Browser


Mar 21 13:38
Firewall Authentication Keep
Dashboard [Jenkins]
Interview Answer Refine
DevOps/Day 2/Pasted im
dhineshkumaran/test Tag
React App
Not Secure
192.168.49.2:32683
OnlineShop
Home
Login
SignUp
OnePlus 9 5G
5.4 inch display
399
Add to Cart
Iphone 13 mini
5.4 inch display
399
Add to Cart
Samsung s21 ultra
5.4 inch display
399
Add to Cart
xiomi mi 11
5.4 inch display
399
Add to Cart
OnePlus 9 5G
5.4 inch display
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Add to Cart
Iphone 13 mini
5.4 inch display
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Add to Cart
Samsung s21 ultra
5.4 inch display
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Add to Cart
xiomi mi 11
5.4 inch display
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Add to Cart