

TASK – 3 MINIKUBE DEPLOYMENT TASK

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STEP 1: Start Minikube

Start the Minikube cluster using the following command:

minikube start

```
snehith@snehith:~$ minikube start
minikube v1.35.0 on Ubuntu 24.04 (amd64)
🔗 Using the docker driver based on existing profile
🔗 Starting "minikube" primary control-plane node in "minikube" cluster
🔗 Pulling base image v0.0.46 ...
🔗 docker "minikube" container is missing, will recreate.
🔗 Creating docker container (CPUs=2, Memory=2200MB) ...
🔗 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
🔗 kubectl not found. If you need it, try: 'minikube kubectl -- get pods -A'
🔗 Done! kubectl is now configured to use "minikube" cluster and "default" namespace by default
snehith@snehith:~$ kubectl get nodes
Command 'kubectl' not found, but can be installed with:
sudo snap install kubectl
snehith@snehith:~$ sudo snap install kubectl --classic
[sudo] password for snehith:
kubectl 1.32.3 from Canonical✓ installed
snehith@snehith:~$ sudo apt update
Ign:1 https://pkg.jenkins.io/debian-stable binary/ InRelease
Hit:2 https://pkg.jenkins.io/debian-stable binary/ Release
Hit:3 https://download.docker.com/linux/ubuntu noble InRelease
Hit:5 http://security.ubuntu.com/ubuntu noble-security InRelease
Hit:6 http://archive.ubuntu.com/ubuntu noble InRelease
Get:7 http://archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:8 http://archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:9 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 Packages [922 kB]
Get:10 http://archive.ubuntu.com/ubuntu noble-backports/main Translation-en [2588 B]
Get:11 http://archive.ubuntu.com/ubuntu noble-backports/universe Translation-en [14.6 kB]
Fetched 1191 kB in 5s (249 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
1 package can be upgraded, Run 'apt list --upgradable' to see it.
```

This initializes the Minikube cluster using Docker as the driver.

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 `r1` with the image `sumithaapvr/newrepo1`:

kubectl create deployment r1 --image=sumithaapvr/newrepo1 --port=80

```
snehith@snehith:~$ kubectl create deployment y --image=snehith507/capstone --port=80
deployment.apps/y created
```

STEP 5: Expose the Deployment

Expose the deployment as a NodePort service:

kubectl expose deployment r1 --port=80 --type=NodePort

```
snehith@snehith:~$ kubectl expose deployment y --port=80 --type=NodePort
service/y exposed
snehith@snehith:~$ minikube service y
```

STEP 6: Verify the Pod

Check the running pods:

`kubectl get pods`

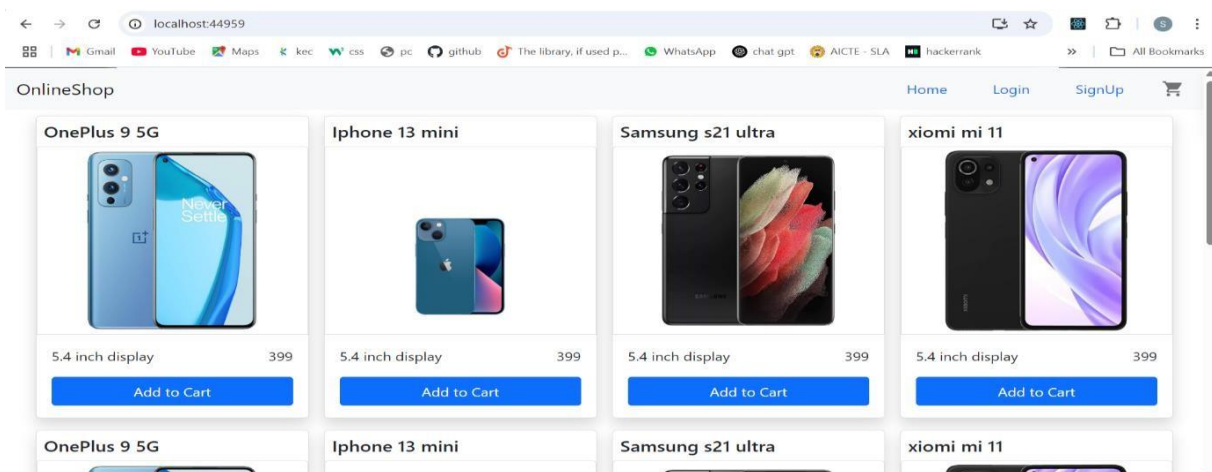
Step 7: Access the Service

Expose the service using Minikube and get the URL:

`minikube service r1`

```
snehith@snehith:~$ minikube service y
+-----+-----+-----+-----+
| NAMESPACE | NAME | TARGET PORT | URL |
+-----+-----+-----+-----+
| default   | y    | 80           | http://192.168.49.2:31087 |
+-----+-----+-----+-----+
X Exiting due to SVC_UNREACHABLE: service not available: no running pod for service y found
```

STEP 8: Output in the Web Browser



Docker Hub:

