TASK – 3

Kubernetes-based React E-Commerce Application

STEP 1: Clone the GitHub Repository using the git clone command

```
root@ubuntu:/home/vboxuser# git clone https://github.com/Jervinjeno/E-Commerce.git
Cloning into 'E-Commerce'...
remote: Enumerating objects: 43, done.
remote: Counting objects: 100% (43/43), done.
remote: Compressing objects: 100% (37/37), done.
remote: Total 43 (delta 10), reused 37 (delta 4), pack-reused 0 (from 0)
Receiving objects: 100% (43/43), 722.22 KiB | 189.00 KiB/s, done.
Resolving deltas: 100% (10/10), done.
root@ubuntu:/home/vboxuser# sudo chown -R $USER:$USER E-Commerce
root@ubuntu:/home/vboxuser# sudo chmod -R 755 E-Commerce
```

STEP 2: Check the Docker file

- ❖ **cat Dockerfile**

STEP 3: Build a Docker image

- ❖ **docker build -t ecommerce: latest .**

STEP 4: Checking Deployment Configuration

- ❖ **cat deployment.yml**

STEP 5: Deploying to Kubernetes

- ❖ **kubectl apply -f deployment.yml**

STEP 6: Loading the Docker Image into Minikube

- ❖ **minikube image load ecommerce:latest**

STEP 7: Deploying a NodePort Service

- ❖ **kubectl apply -f Nodeport.yaml**

STEP 8: Opening the Service in a Browser

- ❖ **minikube service react-ecommerce-service**

root@ubuntu1: /home/vboxuser/E-Commerce

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root@ubuntu1: /opt/kubernrtes   ×   root@ubuntu1: /home/vboxuser/E-Commerce ×

```
root@ubuntu1:/home/vboxuser/E-Commerce# cat Dockerfile
FROM nginx:latest
# Copy the built files from the previous stage
COPY build/ /usr/share/nginx/html
# Export 80 (the default HTTP port)
EXPOSE 80
# Start Nginx and keep it running in the foreground
CMD ["nginx", "-g", "daemon off;"]
root@ubuntu1:/home/vboxuser/E-Commerce# docker build -t ecommerce:latest
ERROR: docker: 'docker buildx build' requires 1 argument

Usage:  docker buildx build [OPTIONS] PATH | URL | -

Run 'docker buildx build --help' for more information
root@ubuntu1:/home/vboxuser/E-Commerce# docker build -t ecommerce:latest .
[+] Building 11.6s (7/7) FINISHED                         docker:default
 => [internal] load build definition from Dockerfile          1.5s
 => => transferring dockerfile: 276B                          0.4s
 => [internal] load metadata for docker.io/library/nginx:latest  0.4s
 => [internal] load .dockerignore                             0.3s
 => => transferring context: 2B                               0.0s
 => [internal] load build context                             2.1s
 => => transferring context: 2.61MB                           1.6s
 => FROM docker.io/library/nginx:latest                       2.4s
 => COPY build/ /usr/share/nginx/html                         1.9s
 => exporting to image                                        1.5s
 => => exporting layers                                       0.9s
 => => writing image sha256:19f9e2314b90e9ca9df2f13e839bd50eef65ad1053fe  0.1s
 => => naming to docker.io/library/ecommerce:latest           0.1s
root@ubuntu1:/home/vboxuser/E-Commerce# docker images
REPOSITORY              TAG       IMAGE ID       CREATED          SIZE
ecommerce               latest    19f9e2314b90   19 seconds ago   195MB
ci-pipeline_app         latest    39755f0d1df8   10 hours ago     145MB
KeerthanaS04/my-app     latest    39755f0d1df8   10 hours ago     145MB
KeerthanaS04/my-app     latest    74af230e9c62   10 hours ago     145MB
```

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root@ubuntu1: /home/vboxuser/E-Commerce

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root@ubuntu1: /opt/kubernrtes   ×   root@ubuntu1: /home/vboxuser/E-Commerce ×

```
root@ubuntu1:/home/vboxuser/E-Commerce# ls -lah
total
drwxr-xr-x  4 vboxuser vboxuser 4.0K Mar 19 13:37 .
drwxr-x---  20 vboxuser vboxuser 4.0K Mar 19 13:07 ..
drwxr-xr-x  3 vboxuser vboxuser 4.0K Mar 19 13:07 build
-rwxr-xr-x  1 vboxuser vboxuser   35 Mar 19 13:07 build.sh
-rw-r--r--  1 root     root     476 Mar 19 13:37 deployment.yml
-rwxr-xr-x  1 vboxuser vboxuser 187 Mar 19 13:07 deploy.sh
-rwxr-xr-x  1 vboxuser vboxuser  86 Mar 19 13:07 docker-compose.yml
-rwxr-xr-x  1 vboxuser vboxuser 237 Mar 19 13:07 Dockerfile
drwxr-xr-x  8 vboxuser vboxuser 4.0K Mar 19 13:37 .git
-rw-r--r--  1 vboxuser vboxuser 364 Mar 19 13:07 Jenkinsfile
-rw-r--r--  1 root     root     412 Mar 19 13:37 Nodeport.yaml
root@ubuntu1:/home/vboxuser/E-Commerce# cat deployment.yml
apiVersion: apps/v1
kind: Deployment
metadata:
  name: react-ecommerce-deployment
  labels:
    app: react-ecommerce
spec:
  replicas: 2
  selector:
    matchLabels:
      app: react-ecommerce
  template:
    metadata:
      labels:
        app: react-ecommerce
    spec:
      containers:
        - name: react-ecommerce
          image: ecommerce:latest
          imagePullPolicy: Never # Added a specific tag for better version control
          ports:
```

root@ubuntu1: /home/vboxuser/E-Commerce

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root@ubuntu1: /opt/kubernrtes   ×   root@ubuntu1: /home/vboxuser/E-Commerce   ×

```
        containerPort: 80
root@ubuntu1:/home/vboxuser/E-Commerce# kubectl apply -f deployment.yml
deployment.apps/react-ecommerce-deployment created
root@ubuntu1:/home/vboxuser/E-Commerce# kubectl get deployments
NAME                        READY   UP-TO-DATE   AVAILABLE   AGE
my-deploy                   2/2     2            2           7h48m
nginx-deploy                1/1     1            1           3h9m
react-ecommerce-deployment  0/2     2            0           44s
root@ubuntu1:/home/vboxuser/E-Commerce# kubectl get pods
NAME                                      READY   STATUS            RESTARTS   AGE
my-deploy-74b6755685-84bft                1/1     Running           0          7h48m
my-deploy-74b6755685-d6tx2                1/1     Running           0          7h47m
nginx-deploy-5c477b75b8-7s6lt             1/1     Running           0          3h9m
react-ecommerce-deployment-849768b4c6-6qxrf   0/1   ErrImageNeverPull 0        69s
react-ecommerce-deployment-849768b4c6-stfvv   0/1   ErrImageNeverPull 0        70s
```

```
root@ubuntu1:/home/vboxuser/E-Commerce# minikube image load ecommerce:latest
 ❗  Executing "docker container inspect minikube --format={{.State.Status}}" took an unusually long time: 13.399463733s
 💡  Restarting the docker service may improve performance.
root@ubuntu1:/home/vboxuser/E-Commerce# kubectl get pods
NAME                                      READY   STATUS    RESTARTS   AGE
my-deploy-74b6755685-84bft                1/1     Running   0          8h
my-deploy-74b6755685-d6tx2                1/1     Running   0          8h
nginx-deploy-5c477b75b8-7s6lt             1/1     Running   0          3h23m
react-ecommerce-deployment-849768b4c6-6qxrf   1/1   Running   0        14m
react-ecommerce-deployment-849768b4c6-stfvv   1/1   Running   0        14m
root@ubuntu1:/home/vboxuser/E-Commerce#
root@ubuntu1:/home/vboxuser/E-Commerce# kubectl apply -f Nodeport.yaml
service/react-ecommerce-service created
root@ubuntu1:/home/vboxuser/E-Commerce# minibuke service react-ecommerce-service
command not found
root@ubuntu1:/home/vboxuser/E-Commerce# minikube service react-ecommerce-service
|-----------|-------------------------|-------------|---------------------------|
| NAMESPACE |          NAME           | TARGET PORT |           URL             |
|-----------|-------------------------|-------------|---------------------------|
| default   | react-ecommerce-service |          80 | http://192.168.49.2:30007 |
|-----------|-------------------------|-------------|---------------------------|
🎉  Opening service default/react-ecommerce-service in default browser...
root@ubuntu1:/home/vboxuser/E-Commerce# 2025/03/19 14:23:57.891092 cmd_run.go:1285: WARNING: cannot start document portal: read uni
x @->/run/user/1000/bus: EOF
touch: cannot touch '/root/snap/firefox/common/.cache/desktop-runtime-date': No such file or directory
mkdir: cannot create directory '/run/user/0': Permission denied
Gtk-Message: 14:24:02.763: Not loading module "atk-bridge": The functionality is provided by GTK natively. Please try to not load i
t.
[196948] Wayland Proxy [0x7f05ae8619b0] Error: CheckWaylandDisplay(): Failed to connect to Wayland display '/run/user/0/snap.firefo
x/wayland-0' error: No such file or directory
Authorization required, but no authorization protocol specified
Error: We don't have any display, WAYLAND_DISPLAY='wayland-0' DISPLAY=':0'
```