

## TASK-4

```
keerthana@KEERTHU:~$ cd capstone
keerthana@KEERTHU:~/capstone$ docker images
REPOSITORY          TAG         IMAGE ID      CREATED       SIZE
hello-world         latest     74cc54e27dc4  8 weeks ago  10.1kB
gcr.io/k8s-minikube/kicbase v0.0.46    e72c4cbe9b29  2 months ago 1.31GB
keerthana@KEERTHU:~/capstone$ git pull
fatal: unable to access 'https://github.com/kannancloud001/capstone.git/': Recv failure: Connection reset by peer
keerthana@KEERTHU:~/capstone$ ls
Dockerfile Jenkinsfile build build.sh deploy.sh docker-compose.yml
keerthana@KEERTHU:~/capstone$ git pull
remote: Enumerating objects: 4, done.
remote: Counting objects: 100% (4/4), done.
remote: Compressing objects: 100% (3/3), done.
remote: Total 3 (delta 1), reused 0 (delta 0), pack-reused 0 (from 0)
Unpacking objects: 100% (3/3), 1.16 KiB | 148.00 KiB/s, done.
From https://github.com/kannancloud001/capstone
 221ba5b..6bf238e  main    -> origin/main
Updating 221ba5b..6bf238e
Fast-forward
 deployment.yml | 37 ++++++
 1 file changed, 37 insertions(+)
 create mode 100644 deployment.yml
keerthana@KEERTHU:~/capstone$ ls
Dockerfile Jenkinsfile build build.sh deploy.sh deployment.yml docker-compose.yml
keerthana@KEERTHU:~/capstone$ cat Dockerfile
FROM nginx:latest
# Copy the built files from the previous stage
COPY build/ /usr/share/nginx/html
# Expose port 80 (the default HTTP port)
EXPOSE 80
# Start Nginx and keep it running in the foreground
CMD ["nginx", "-g", "daemon off;"]
keerthana@KEERTHU:~/capstone$ docker build -t keerthana2005/ecommerce
failed to fetch metadata: fork/exec /usr/local/lib/docker/cli-plugins/docker-buildx: no such file or directory

DEPRECATED: The legacy builder is deprecated and will be removed in a future release.
Install the buildx component to build images with BuildKit:
https://docs.docker.com/go/buildx/
```

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"docker build" requires exactly 1 argument.
See 'docker build --help'.

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

Build an image from a Dockerfile
keerthana@KEERTHU:~/capstone$ ls
Dockerfile Jenkinsfile build build.sh deploy.sh deployment.yml docker-compose.yml
keerthana@KEERTHU:~/capstone$ docker build -t keerthana2005/ecommerce
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```

```
name: react-ecommerce-service
spec:
  selector:
    app: react-ecommerce
  ports:
    - protocol: TCP
      port: 80
      targetPort: 80
      nodePort: 30007
  type: NodePort

keerthana@KEERTHU:~/capstone$ nano deployment.yml
keerthana@KEERTHU:~/capstone$ kubectl apply -f deployment.yml
Warning: resource services/react-ecommerce-service is missing the kubectrl.kubernetes.io/last-applied-configuration annotation which is required
by kubectl apply. kubectl apply should only be used on resources created declaratively by either kubectl create --save-config or kubectl apply.
The missing annotation will be patched automatically.
service/react-ecommerce-service configured
keerthana@KEERTHU:~/capstone$ 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 ...
Updating the running docker "minikube" container ...
Preparing Kubernetes v1.32.0 on Docker 27.4.1 ...
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
keerthana@KEERTHU:~/capstone$ kubectl apply -f deployment.yml
service/react-ecommerce-service unchanged
keerthana@KEERTHU:~/capstone$ kubectl create deployment reat-ecommerce --image=keerthana2005/ecommerce:latest
--replicas=2
deployment.apps/reat-ecommerce created
--replicas=2: command not found
keerthana@KEERTHU:~/capstone$ kubectl create deployment reat-ecommerce --image=keerthana2005/ecommerce:latest
-- replicas=2
error: failed to create deployment: deployments.apps "reat-ecommerce" already exists
keerthana@KEERTHU:~/capstone$ kubectl delete deployment reat-ecommerce
```

```
2df26f4d162b: Pushed
03d9365bc5dc: Mounted from library/nginx
d26dc06ef910: Mounted from library/nginx
aa82c57cd9fe: Mounted from library/nginx
d98dc720ae0: Mounted from library/nginx
ad2f08e39a9d: Mounted from library/nginx
135f786ad046: Mounted from library/nginx
1287fbecd4cc: Mounted from library/nginx
latest: digest: sha256:92957406135da89a6e2f1e31573f3a8b3082b48f33837f1ccb93a22e8255f3ed size: 1989
keerthana@KEERTHU:~/capstone$ ls
Dockerfile Jenkinsfile build build.sh deploy.sh deployment.yml docker-compose.yml
keerthana@KEERTHU:~/capstone$ docker ps
CONTAINER ID   IMAGE     COMMAND                  CREATED        STATUS        PORTS          NAMES
keerthana@KEERTHU:~/capstone$ nano deployment.yml
keerthana@KEERTHU:~/capstone$ nano deployment.yml
keerthana@KEERTHU:~/capstone$ nano deployment.yml
keerthana@KEERTHU:~/capstone$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet 10.255.255.254/32 brd 10.255.255.254 scope global lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1400 qdisc mq state UP group default qlen 1000
    link/ether 00:15:5d:40:58:de brd ff:ff:ff:ff:ff:ff
    inet 192.168.122.59/20 brd 192.168.127.255 scope global eth0
        valid_lft forever preferred_lft forever
    inet6 fe80::215:5dff:fe40:58de/64 scope link
        valid_lft forever preferred_lft forever
3: docker0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue state UP group default
    link/ether 02:42:35:a4:5c:3a brd ff:ff:ff:ff:ff:ff
    inet 172.17.0.1/16 brd 172.17.255.255 scope global docker0
        valid_lft forever preferred_lft forever
    inet6 fe80::42:35ff:fea4:5c3a/64 scope link
        valid_lft forever preferred_lft forever
```

```
keerthana@KEERTHU: ~  
The push refers to repository [docker.io/keerthana2005/docker]  
tag does not exist: keerthana2005/docker:latest  
keerthana@KEERTHU: ~/capstone$ docker login  
Authenticating with existing credentials...  
Login Succeeded  
keerthana@KEERTHU: ~/capstone$ docker push keerthana2005/docker  
Using default tag: latest  
The push refers to repository [docker.io/keerthana2005/docker]  
tag does not exist: keerthana2005/docker:latest  
keerthana@KEERTHU: ~/capstone$ docker images  
REPOSITORY          TAG         IMAGE ID      CREATED       SIZE  
keerthana2005/ecommerce   latest      6a46250fd40f  22 hours ago  282MB  
keerthana2005/task2      3          fce22d77d1a2  29 hours ago  220MB  
keerthana2005/keerthana  2          d53b0f6c6fb34  29 hours ago  220MB  
keerthana2005/project1   4          776d1aa248e0  29 hours ago  220MB  
gcr.io/k8s-minikube/kicbase   v0.0.46    cef9f3c2e399  2 months ago  1.86GB  
gcr.io/k8s-minikube/kicbase   <none>     fd2d445d5ddc3  2 months ago  1.86GB  
keerthana@KEERTHU: ~/capstone$ docker push keerthana2005/ecommerce  
Using default tag: latest  
The push refers to repository [docker.io/keerthana2005/ecommerce]  
373f654e984: Layer already exists  
e7e0ca015e55: Layer already exists  
97f5c0f51d43: Layer already exists  
5eaa344f5b9c2: Layer already exists  
eec9065f86e8: Pushed  
a60f3c0d0d36: Pushed  
417c4bccf534: Layer already exists  
6e909acdb790: Layer already exists  
c22eb46e871a: Layer already exists  
latest: digest: sha256:6a46250fd40fbc344003bea588124bcfde20f447d5cd4b2608a57a215d625ec2 size: 856  
keerthana@KEERTHU: ~/capstone$ kubectl get nodes  
NAME        STATUS    ROLES    AGE     VERSION  
minikube    Ready     control-plane  103m   v1.32.0  
keerthana@KEERTHU: ~/capstone$ kubectl apply -f deployment.yaml  
error: the path "deployment.yaml" does not exist  
keerthana@KEERTHU: ~/capstone$ kubectl create deployment react-ecommerce --image=keerthana2005/ecommerce:latest  
--replicas=2  
deployment.apps/react-ecommerce created
```

```
keerthana@KEERTHU: ~  
NAME                TYPE        CLUSTER-IP      EXTERNAL-IP      PORT(S)          AGE  
kubernetes           ClusterIP   10.96.0.1        <none>            443/TCP           132m  
react-ecommerce-service NodePort    10.104.6.123    <none>            80:30007/TCP      132m  
keerthana@KEERTHU: ~/capstone$ kubectl get pods  
NAME                READY   STATUS    RESTARTS   AGE  
react-ecommerce-6c9b47d7cf-jxbj7  1/1     Running   1 (17m ago)  27m  
react-ecommerce-6c9b47d7cf-nqrwn  1/1     Running   1 (17m ago)  27m  
keerthana@KEERTHU: ~/capstone$ kubectl describe svc react-ecommerce-service  
Name:                 react-ecommerce-service  
Namespace:            default  
Labels:                <none>  
Annotations:           <none>  
Selector:              app=react-ecommerce  
Type:                  NodePort  
IP Family Policy:      SingleStack  
IP Families:           IPv4  
IP:                    10.104.6.123  
IPs:                   10.104.6.123  
Port:                  <unset> 80/TCP  
TargetPort:            80/TCP  
NodePort:              <unset> 30007/TCP  
Endpoints:             10.244.0.7:80,10.244.0.9:80  
Session Affinity:      None  
External Traffic Policy: Cluster  
Internal Traffic Policy: Cluster  
Events:  
Type      Reason              Age   From      Message  
-----  
Warning   FailedToUpdateEndpointSlices 27m   endpoint-slice-controller Error updating Endpoint Slices for Service default/react-ecommerce-ser  
vice: failed to update react-ecommerce-service-fv5vp EndpointSlice for Service default/react-ecommerce-service: Unauthorized  
keerthana@KEERTHU: ~/capstone$ kubectl get pods -o wide  
NAME                READY   STATUS    RESTARTS   AGE   IP           NODE     NOMINATED NODE   READINESS GATES  
react-ecommerce-6c9b47d7cf-jxbj7  1/1     Running   1 (18m ago)  28m   10.244.0.7   minikube <none>           <none>  
react-ecommerce-6c9b47d7cf-nqrwn  1/1     Running   1 (18m ago)  28m   10.244.0.9   minikube <none>           <none>  
keerthana@KEERTHU: ~/capstone$ kubectl delete svc react-ecommerce-service  
service "react-ecommerce-service" deleted  
service/react-ecommerce-service created
```

```
keerthana@KEERTHU: ~  
keerthana@KEERTHU:~$ kubectl set image deployment/nginx-deployment nginx-container=nginx:1.19  
deployment.apps/nginx-deployment image updated  
keerthana@KEERTHU:~$ kubectl expose deployment nginx-deployment --type=NodePort --port=80  
service/nginx-deployment exposed  
keerthana@KEERTHU:~$ kubectl get services  
NAME          TYPE          CLUSTER-IP      EXTERNAL-IP      PORT(S)          AGE  
kubernetes    ClusterIP     10.96.0.1       <none>           443/TCP          3h30m  
nginx-deployment NodePort      10.102.99.148   <none>           80:32489/TCP     11s  
react-ecommerce-service NodePort      10.96.241.50    <none>           80:30007/TCP     76m  
keerthana@KEERTHU:~$ minikube ip  
192.168.58.2  
keerthana@KEERTHU:~$ curl 192.168.58.2:32489  
curl: (7) Failed to connect to 192.168.58.2 port 32489 after 14317 ms: Couldn't connect to server  
keerthana@KEERTHU:~$ curl 192.168.58.2:32489  
curl: (7) Failed to connect to 192.168.58.2 port 32489 after 13252 ms: Couldn't connect to server  
keerthana@KEERTHU:~$ kubectl get pods  
NAME                                READY   STATUS    RESTARTS   AGE  
nginx-deployment-58cdc7b878-6cg9x  1/1     Running   0           7m2s  
nginx-deployment-58cdc7b878-kq996  1/1     Running   0           7m48s  
nginx-deployment-58cdc7b878-vj5ps  1/1     Running   0           73m  
nginx-deployment-58cdc7b878-xtpzz  1/1     Running   0           73m  
nginx-deployment-5db9468-7z42z     0/1     ImagePullBackOff 0           5m32s  
nginx-deployment-5db9468-gmsfx     0/1     ContainerCreating 0           5m32s  
nginx-deployment-5db9468-nvhtl     0/1     ImagePullBackOff 0           5m32s  
react-ecommerce-6c9b47d7cf-jxbj7  1/1     Running    1 (99m ago) 109m  
react-ecommerce-6c9b47d7cf-nqrwn  1/1     Running    1 (99m ago) 109m  
keerthana@KEERTHU:~$ kubectl get pods  
NAME                                READY   STATUS    RESTARTS   AGE  
nginx-deployment-58cdc7b878-6cg9x  1/1     Running   0           7m15s  
nginx-deployment-58cdc7b878-kq996  1/1     Running   0           8m1s  
nginx-deployment-58cdc7b878-vj5ps  1/1     Running   0           73m  
nginx-deployment-58cdc7b878-xtpzz  1/1     Running   0           73m  
nginx-deployment-5db9468-7z42z     0/1     ImagePullBackOff 0           5m45s  
nginx-deployment-5db9468-gmsfx     0/1     ContainerCreating 0           5m45s  
nginx-deployment-5db9468-nvhtl     0/1     ImagePullBackOff 0           5m45s  
react-ecommerce-6c9b47d7cf-jxbj7  1/1     Running    1 (99m ago) 110m  
react-ecommerce-6c9b47d7cf-nqrwn  1/1     Running    1 (99m ago) 110m  
keerthana@KEERTHU:~$
```

```
keerthana@KEERTHU: ~  
Unable to listen on port 8080: Listeners failed to create with the following errors: [unable to create listener: Error listen tcp4 127.0.0.1:8080: bind: address already in use unable to create listener: Error listen tcp6 [::]:8080: bind: address already in use]  
error: unable to listen on any of the requested ports: [{8080 80}]  
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NAME                                READY   STATUS    RESTARTS   AGE  
react-ecommerce-6c9b47d7cf-jxbj7  1/1     Running    1 (21m ago) 31m  
react-ecommerce-6c9b47d7cf-nqrwn  1/1     Running    1 (21m ago) 31m  
keerthana@KEERTHU:~/capstone$ cd  
keerthana@KEERTHU:~$ ls  
capstone minikube-linux-amd64 snap  
keerthana@KEERTHU:~$ nano deployment.yml  
keerthana@KEERTHU:~$ sudo nano deployment.yml  
keerthana@KEERTHU:~$ sudo nano deployment.yml  
keerthana@KEERTHU:~$ kubectl apply -f deployment.yml  
deployment.apps/nginx-deployment created  
keerthana@KEERTHU:~$ kubectl get deployments  
NAME          READY   UP-TO-DATE   AVAILABLE   AGE  
nginx-deployment 3/3      3            3           22s  
react-ecommerce 2/2      2            2           37m  
keerthana@KEERTHU:~$ kubectl create deployment react-ecommerce --image=keerthana2005/ecommerce:latest --replicas=2  
error: failed to create deployment: deployments.apps "react-ecommerce" already exists  
keerthana@KEERTHU:~$ kubectl get pods  
NAME                                READY   STATUS    RESTARTS   AGE  
nginx-deployment-58cdc7b878-7786n  1/1     Running   0           2m2s  
nginx-deployment-58cdc7b878-vj5ps  1/1     Running   0           2m2s  
nginx-deployment-58cdc7b878-xtpzz  1/1     Running   0           2m2s  
react-ecommerce-6c9b47d7cf-jxbj7  1/1     Running    1 (28m ago) 38m  
react-ecommerce-6c9b47d7cf-nqrwn  1/1     Running    1 (28m ago) 38m  
keerthana@KEERTHU:~$ minikube ip  
192.168.58.2  
keerthana@KEERTHU:~$ curl localhost:30007  
curl: (7) Failed to connect to localhost port 30007 after 0 ms: Couldn't connect to server  
keerthana@KEERTHU:~$ curl 192.168.58.2:30007
```