Step 1: Start Minikube

If Minikube is not running, start it:

```
bash
CopyEdit
minikube start --driver=docker --force
```

Step 2: Create a Namespace

Create a namespace called `webservers`:

```
bash
CopyEdit
kubectl create namespace webservers
```

Step 3: Set the Current Context to the Namespace

```
bash
CopyEdit
kubectl config set-context --current --namespace=webservers
```

Step 4: Create a Deployment File

Create a `deployment.yml` file using a text editor:

```
bash
CopyEdit
nano deployment.yml
```

Add the following YAML configuration:

```
yaml
CopyEdit
apiVersion: apps/v1
kind: Deployment
metadata:
  name: nginx-deployment
spec:
  replicas: 1
  selector:
    matchLabels:
      app: nginx
  template:
    metadata:
      labels:
        app: nginx
    spec:
      containers:
        - name: nginx
          image: nginx:latest
```

```
        ports:
          - containerPort: 80
```

Save and exit (`CTRL + X`, then `Y`, then `Enter`).

Step 5: Apply the Deployment

Apply the deployment:

```
bash
CopyEdit
kubectl apply -f deployment.yml
```

Step 6: Verify the Deployment

Check the created pods:

```
bash
CopyEdit
kubectl get pods
```

Step 7: Scale the Deployment

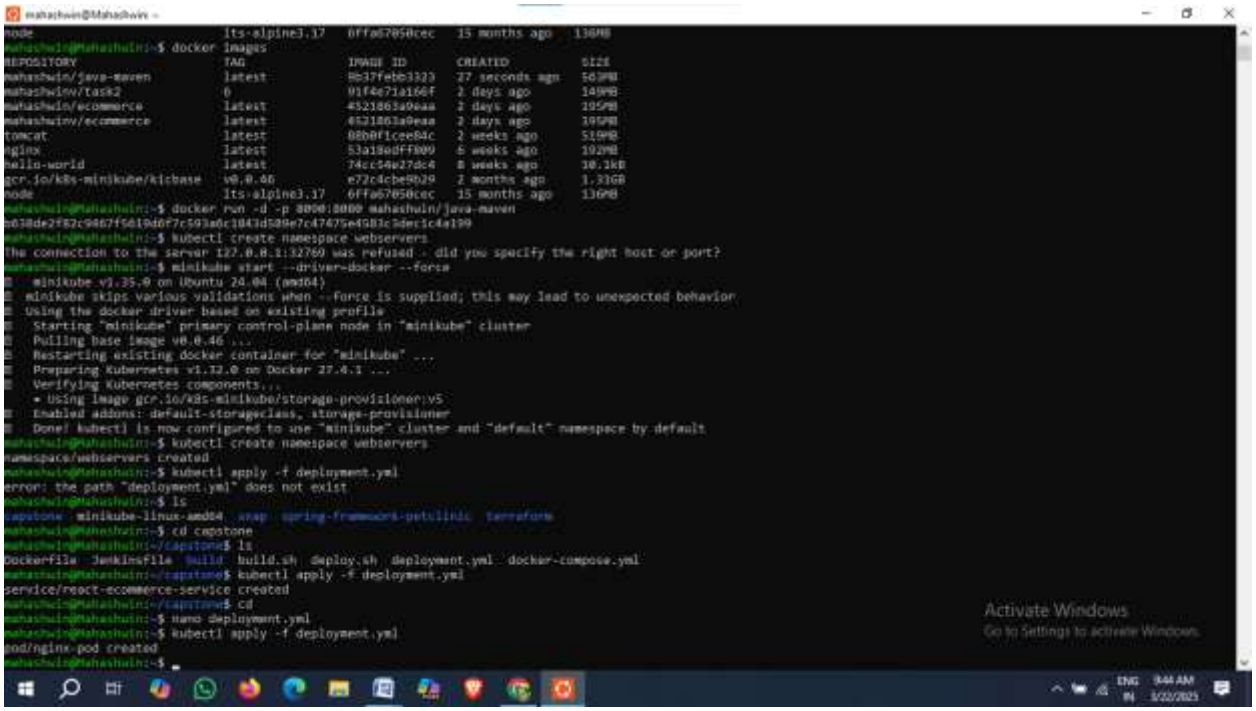
Scale the deployment to 5 replicas:

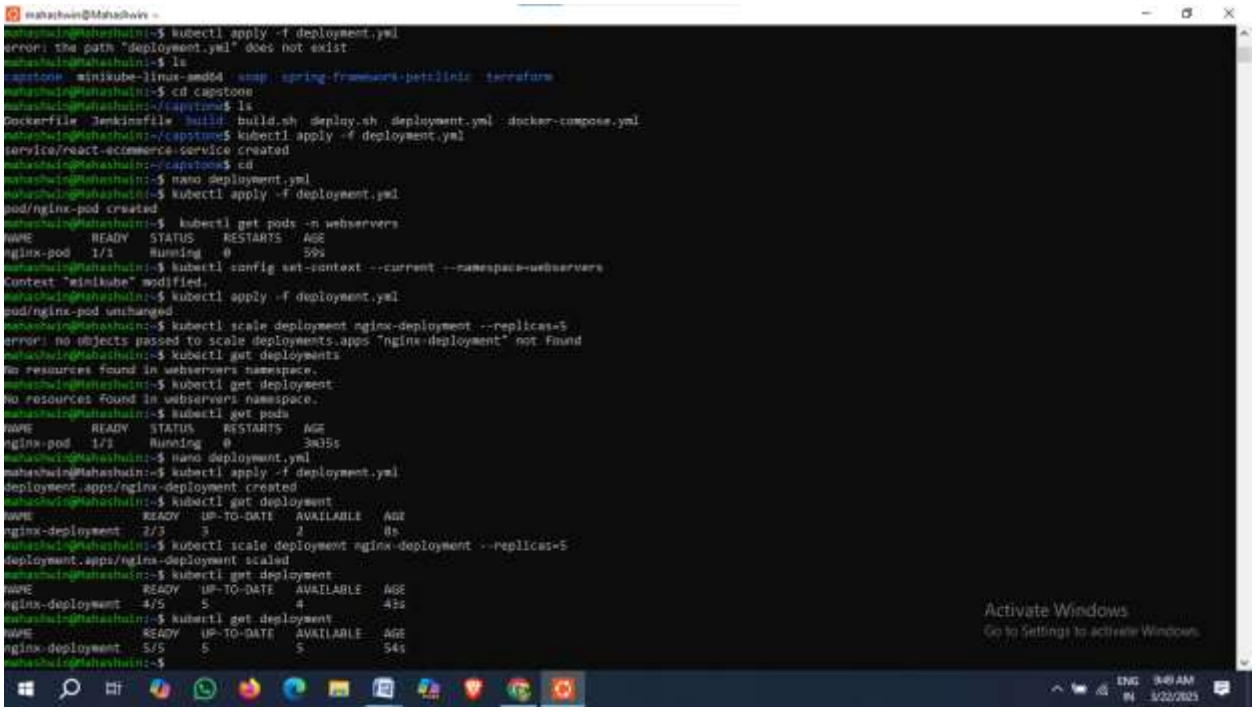
```
bash
CopyEdit
kubectl scale deployment nginx-deployment --replicas=5
```

Step 8: Verify Scaling

Check if the replicas have been created:

```
bash
CopyEdit
kubectl get deployment
```


mahashwin@Mahashwin: ~
lts-alpine3.17 6ffa67050cec 15 months ago 136MB
mahashwin@Mahashwin:~$ docker images
REPOSITORY TAG IMAGE ID CREATED SIZE
mahashwin/java-maven latest 8b37febb3323 27 seconds ago 563MB
mahashwin/task2 0 01f4e71a166f 2 days ago 149MB
mahashwin/ecommerce latest 4521863a0eaa 2 days ago 195MB
mahashwinv/ecommerce latest 4521863a0eaa 2 days ago 195MB
tomcat latest 08b0f1cee84c 2 weeks ago 519MB
nginx latest 53a18edff809 6 weeks ago 192MB
hello-world latest 74cc54e27dc4 8 weeks ago 10.1kB
gcr.io/k8s-minikube/kicbase v0.0.46 e72c4cbe9b29 2 months ago 1.31GB
node lts-alpine3.17 6ffa67050cec 15 months ago 136MB
mahashwin@Mahashwin:~$ docker run -d -p 8000:8080 mahashwin/java-maven
b618de2f82c9867f5019d6f7c593a0c1043d500e7c47475e4583c3dec1c4a199
mahashwin@Mahashwin:~$ kubectl create namespace webservers
The connection to the server 127.0.0.1:32769 was refused - did you specify the right host or port?
mahashwin@Mahashwin:~$ minikube start --driver=docker --force
minikube v1.35.0 on Ubuntu 24.04 (amd64)
minikube skips various validations when --force is supplied; this may lead to unexpected behavior
Using the docker driver based on existing profile
Starting "minikube" primary control-plane node in "minikube" cluster
Pulling base image v0.0.46 ...
Restarting existing docker container for "minikube" ...
Preparing Kubernetes v1.32.0 on Docker 27.4.1 ...
Verifying Kubernetes components...
• Using image gcr.io/k8s-minikube/storage-provisioner:v5
Enabled addons: default-storageclass, storage-provisioner
Done! kubectl is now configured to use "minikube" cluster and "default" namespace by default
mahashwin@Mahashwin:~$ kubectl create namespace webservers
namespace/webservers created
mahashwin@Mahashwin:~$ kubectl apply -f deployment.yml
error: the path "deployment.yml" does not exist
mahashwin@Mahashwin:~$ ls
capstone minikube-linux-amd64 snap spring-framework-petclinic terraform
mahashwin@Mahashwin:~$ cd capstone
mahashwin@Mahashwin:~/capstone$ ls
Dockerfile Jenkinsfile build build.sh deploy.sh deployment.yml docker-compose.yml
mahashwin@Mahashwin:~/capstone$ kubectl apply -f deployment.yml
service/react-ecommerce-service created
mahashwin@Mahashwin:~/capstone$ cd
mahashwin@Mahashwin:~$ nano deployment.yml
mahashwin@Mahashwin:~$ kubectl apply -f deployment.yml
pod/nginx-pod created
mahashwin@Mahashwin:~$
Activate Windows
Go to Settings to activate Windows.
ENG IN 9:44 AM 3/22/2025


mahashwin@Mahashwin: ~
mahashwin@Mahashwin:~$ kubectl apply -f deployment.yml
error: the path "deployment.yml" does not exist
mahashwin@Mahashwin:~$ ls
capstone minikube-linux-amd64 snap spring-framework-petclinic terraform
mahashwin@Mahashwin:~$ cd capstone
mahashwin@Mahashwin:~/capstone$ ls
Dockerfile Jenkinsfile build build.sh deploy.sh deployment.yml docker-compose.yml
mahashwin@Mahashwin:~/capstone$ kubectl apply -f deployment.yml
service/react-ecommerce-service created
mahashwin@Mahashwin:~/capstone$ cd
mahashwin@Mahashwin:~$ nano deployment.yml
mahashwin@Mahashwin:~$ kubectl apply -f deployment.yml
pod/nginx-pod created
mahashwin@Mahashwin:~$ kubectl get pods -n webservers
NAME READY STATUS RESTARTS AGE
nginx-pod 1/1 Running 0 59s
mahashwin@Mahashwin:~$ kubectl config set-context --current --namespace=webservers
Context "minikube" modified.
mahashwin@Mahashwin:~$ kubectl apply -f deployment.yml
pod/nginx-pod unchanged
mahashwin@Mahashwin:~$ kubectl scale deployment nginx-deployment --replicas=5
error: no objects passed to scale deployments.apps "nginx-deployment" not found
mahashwin@Mahashwin:~$ kubectl get deployments
No resources found in webservers namespace.
mahashwin@Mahashwin:~$ kubectl get deployment
No resources found in webservers namespace.
mahashwin@Mahashwin:~$ kubectl get pods
NAME READY STATUS RESTARTS AGE
nginx-pod 1/1 Running 0 3m35s
mahashwin@Mahashwin:~$ nano deployment.yml
mahashwin@Mahashwin:~$ kubectl apply -f deployment.yml
deployment.apps/nginx-deployment created
mahashwin@Mahashwin:~$ kubectl get deployment
NAME READY UP-TO-DATE AVAILABLE AGE
nginx-deployment 2/3 3 2 8s
mahashwin@Mahashwin:~$ kubectl scale deployment nginx-deployment --replicas=5
deployment.apps/nginx-deployment scaled
mahashwin@Mahashwin:~$ kubectl get deployment
NAME READY UP-TO-DATE AVAILABLE AGE
nginx-deployment 4/5 5 4 43s
mahashwin@Mahashwin:~$ kubectl get deployment
NAME READY UP-TO-DATE AVAILABLE AGE
nginx-deployment 5/5 5 5 54s
mahashwin@Mahashwin:~$
Activate Windows
Go to Settings to activate Windows.
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