```
  GNU nano 7.2                                    deployment.yml
apiVersion: apps/v1
kind: Deployment
metadata:
  name: nginx-deployment
spec:
  replicas: 3
  selector:
    matchLabels:
      app: nginx
  template:
    metadata:
      labels:
        app: nginx
    spec:
      containers:
        - name: nginx-container
          image: nginx:latest
```

```
                                          [ Read 17 lines ]
^G Help       ^O Write Out   ^W Where Is    ^T Execute    ^C Location    M-U Undo    M-A Set Mark   M-] To Bracket
^X Exit       ^R Read File   ^\ Replace     ^J Justify     ^/ Go To Line  M-E Redo    M-6 Copy       ^Q Where Was
```

```
dharani@DharaniDharanPC:~/capstone$ nano deployment.yml
dharani@DharaniDharanPC:~/capstone$ kubectl apply -f deployment.yml
service/react-ecommerce-service created
dharani@DharaniDharanPC:~/capstone$ kubectl get deployment
NAME              READY   UP-TO-DATE   AVAILABLE   AGE
nginx-deployment  3/3     3            3           5h13m
react-ecommerce   0/2     2            0           4h44m
dharani@DharaniDharanPC:~/capstone$ kubectl get pods
NAME                              READY   STATUS           RESTARTS   AGE
nginx-deployment-58cdc7b878-scxt6  1/1    Running          0          3h42m
nginx-deployment-58cdc7b878-sd5lt  1/1    Running          0          5h13m
nginx-deployment-58cdc7b878-sr8pm  1/1    Running          0          32m
react-ecommerce-bcf7566b4-847qd    0/1    ImagePullBackOff 0          4h44m
react-ecommerce-bcf7566b4-hsf5v    0/1    ImagePullBackOff 0          4h44m
dharani@DharaniDharanPC:~/capstone$ kubectl delete pods nginx-deployment-58cdc7b878-sd5lt
pod "nginx-deployment-58cdc7b878-sd5lt" deleted
dharani@DharaniDharanPC:~/capstone$ kubectl get pods
NAME                              READY   STATUS           RESTARTS   AGE
nginx-deployment-58cdc7b878-qj756  1/1    Running          0          6s
nginx-deployment-58cdc7b878-scxt6  1/1    Running          0          3h43m
nginx-deployment-58cdc7b878-sr8pm  1/1    Running          0          33m
react-ecommerce-bcf7566b4-847qd    0/1    ImagePullBackOff 0          4h45m
react-ecommerce-bcf7566b4-hsf5v    0/1    ImagePullBackOff 0          4h45m
dharani@DharaniDharanPC:~/capstone$ kubectl get services
NAME                     TYPE        CLUSTER-IP      EXTERNAL-IP   PORT(S)        AGE
kubernetes               ClusterIP   10.96.0.1       <none>        443/TCP        5h49m
nginx-deployment         NodePort    10.104.186.233  <none>        80:31452/TCP   172m
react-ecommerce-service  NodePort    10.96.203.48    <none>        80:30007/TCP   108s
dharani@DharaniDharanPC:~/capstone$ kubectl get pods
NAME                              READY   STATUS           RESTARTS   AGE
nginx-deployment-58cdc7b878-qj756  1/1    Running          0          41s
nginx-deployment-58cdc7b878-scxt6  1/1    Running          0          3h43m
nginx-deployment-58cdc7b878-sr8pm  1/1    Running          0          33m
react-ecommerce-bcf7566b4-847qd    0/1    ImagePullBackOff 0          4h45m
react-ecommerce-bcf7566b4-hsf5v    0/1    ImagePullBackOff 0          4h45m
dharani@DharaniDharanPC:~/capstone$ sudo ufw status
[sudo] password for dharani:
Status: active

To              Action      From
--              ------      ----
8080            ALLOW       Anywhere
8080/tcp        ALLOW       Anywhere
80/tcp          ALLOW       Anywhere
8080 (v6)       ALLOW       Anywhere (v6)
8080/tcp (v6)   ALLOW       Anywhere (v6)
80/tcp (v6)     ALLOW       Anywhere (v6)

dharani@DharaniDharanPC:~/capstone$ minikube ip
192.168.58.2
```

```
dharani@DharaniDharanPC:~$ kubectl delete pods nginx-deployment-58cdc7b878-qj756
pod "nginx-deployment-58cdc7b878-qj756" deleted
dharani@DharaniDharanPC:~$ kubectl get pods
NAME                              READY   STATUS             RESTARTS         AGE
deployment-5b9576578-6mgkt        1/1     Running            1 (4m28s ago)    15m
deployment-5b9576578-k7sbd        1/1     Running            1 (4m27s ago)    15m
deployment-5b9576578-s7qxs        1/1     Running            1 (4m27s ago)    15m
deployment-5b9576578-zpft4        1/1     Running            1 (4m28s ago)    15m
nginx-deployment-58cdc7b878-c7svw 1/1     Running            0                17s
nginx-deployment-58cdc7b878-scxt6 1/1     Running            2 (4m27s ago)    5h54m
nginx-deployment-58cdc7b878-sr8pm 1/1     Running            2 (4m27s ago)    164m
react-ecommerce-bcf7566b4-847qd   0/1     ImagePullBackOff   0                6h56m
react-ecommerce-bcf7566b4-hsf5v   0/1     ImagePullBackOff   0                6h56m
dharani@DharaniDharanPC:~$ kubectl scale deployment nginx-deployment --replicas=6
deployment.apps/nginx-deployment scaled
dharani@DharaniDharanPC:~$ kubectl get deployment
NAME              READY   UP-TO-DATE   AVAILABLE   AGE
deployment        4/4     4            4           17m
nginx-deployment  6/6     6            6           7h27m
react-ecommerce   0/2     2            0           6h58m
dharani@DharaniDharanPC:~$ kubectl expose deployment nginx-deployment --type=NodPort --port=80
The Service "nginx-deployment" is invalid: spec.type: Unsupported value: "NodPort": supported values: "ClusterIP", "ExternalName", "LoadBalancer
", "NodePort"
dharani@DharaniDharanPC:~$ kubectl get services
NAME                      TYPE        CLUSTER-IP      EXTERNAL-IP   PORT(S)         AGE
kubernetes                ClusterIP   10.96.0.1       <none>        443/TCP         8h
nginx-deployment          NodePort    10.104.186.233  <none>        80:31452/TCP    5h7m
react-ecommerce-service   NodePort    10.96.203.48    <none>        80:30007/TCP    136m
dharani@DharaniDharanPC:~$ minikube ip
192.168.58.2
dharani@DharaniDharanPC:~$ curl 192.168.58.2:30007
curl: (28) Failed to connect to 192.168.58.2 port 30007 after 132204 ms: Couldn't connect to server
dharani@DharaniDharanPC:~$
```

```
dharani@DharaniDharanPC: -    ×    +   ∨                                                                                  —   □   ×

dharani@DharaniDharanPC:~$ minikube service list
|-------------|-------------------------|--------------|-----|
| NAMESPACE   |          NAME           | TARGET PORT  | URL |
|-------------|-------------------------|--------------|-----|
| default     | kubernetes              | No node port |     |
| default     | nginx-deployment        |           80 |     |
| default     | react-ecommerce-service |           80 |     |
| kube-system | kube-dns                | No node port |     |
|-------------|-------------------------|--------------|-----|
dharani@DharaniDharanPC:~$ 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: default-storageclass, storage-provisioner
🏄 Done! kubectl is now configured to use "minikube" cluster and "default" namespace by default
dharani@DharaniDharanPC:~$ nano deployment.yml
dharani@DharaniDharanPC:~$ kubectl apply -f deployment.yml
deployment.apps/nginx-deployment unchanged
dharani@DharaniDharanPC:~$ kubectl get deployment
NAME              READY   UP-TO-DATE   AVAILABLE   AGE
deployment        4/4     4            4           14m
nginx-deployment  3/3     3            3           7h24m
react-ecommerce   0/2     2            0           6h55m
dharani@DharaniDharanPC:~$ kubectl get pods
NAME                              READY   STATUS             RESTARTS         AGE
deployment-5b9576578-6mgkt        1/1     Running            1 (3m35s ago)    15m
deployment-5b9576578-k7sbd        1/1     Running            1 (3m34s ago)    15m
deployment-5b9576578-s7qxs        1/1     Running            1 (3m34s ago)    15m
deployment-5b9576578-zpft4        1/1     Running            1 (3m35s ago)    15m
nginx-deployment-58cdc7b878-qj756 1/1     Running            2 (3m34s ago)    130m
nginx-deployment-58cdc7b878-scxt6 1/1     Running            2 (3m34s ago)    5h53m
nginx-deployment-58cdc7b878-sr8pm 1/1     Running            2 (3m34s ago)    163m
react-ecommerce-bcf7566b4-847qd   0/1     ImagePullBackOff   0                6h55m
react-ecommerce-bcf7566b4-hsf5v   0/1     ImagePullBackOff   0                6h55m
dharani@DharaniDharanPC:~$ kubectl delete pods nginx-deployment-58cdc7b878-qj756
pod "nginx-deployment-58cdc7b878-qj756" deleted
dharani@DharaniDharanPC:~$ kubectl get pods
NAME                              READY   STATUS             RESTARTS         AGE
deployment-5b9576578-6mgkt        1/1     Running            1 (4m28s ago)    15m
deployment-5b9576578-k7sbd        1/1     Running            1 (4m27s ago)    15m
deployment-5b9576578-s7qxs        1/1     Running            1 (4m27s ago)    15m
deployment-5b9576578-zpft4        1/1     Running            1 (4m28s ago)    15m
nginx-deployment-58cdc7b878-c7svw 1/1     Running            0                17s
nginx-deployment-58cdc7b878-scxt6 1/1     Running            2 (4m27s ago)    5h54m
nginx-deployment-58cdc7b878-sr8pm 1/1     Running            2 (4m27s ago)    164m
react-ecommerce-bcf7566b4-847qd   0/1     ImagePullBackOff   0                6h56m
```

```
dharani@DharaniDharanPC:~$ nano deployment.yml
dharani@DharaniDharanPC:~$ kubectl apply -f deployment.yml
deployment.apps/nginx-deployment created
dharani@DharaniDharanPC:~$ kubectl get deployment
NAME               READY   UP-TO-DATE   AVAILABLE   AGE
nginx-deployment   3/3     3            3           114s
dharani@DharaniDharanPC:~$ kubectl get pods
NAME                                READY   STATUS            RESTARTS   AGE
nginx-deployment-58cdc7b878-h5xnt   1/1     Running           0          73m
nginx-deployment-58cdc7b878-m7thn   1/1     Running           0          73m
nginx-deployment-58cdc7b878-sd5lt   1/1     Running           0          73m
react-ecommerce-bcf7566b4-847qd     0/1     ImagePullBackOff  0          44m
react-ecommerce-bcf7566b4-hsf5v     0/1     ImagePullBackOff  0          44m
dharani@DharaniDharanPC:~$ kubectl delete pods nginx-deployment-58cdc7b878-h5xnt
pod "nginx-deployment-58cdc7b878-h5xnt" deleted
dharani@DharaniDharanPC:~$ kubectl get pods
NAME                                READY   STATUS            RESTARTS   AGE
nginx-deployment-58cdc7b878-m7thn   1/1     Running           0          75m
nginx-deployment-58cdc7b878-sd5lt   1/1     Running           0          75m
nginx-deployment-58cdc7b878-wb5vc   1/1     Running           0          22s
react-ecommerce-bcf7566b4-847qd     0/1     ImagePullBackOff  0          46m
react-ecommerce-bcf7566b4-hsf5v     0/1     ImagePullBackOff  0          46m
dharani@DharaniDharanPC:~$ kubectl scale deployment nginx-deployment --replicas=5
deployment.apps/nginx-deployment scaled
dharani@DharaniDharanPC:~$ kubectl get deployment
NAME               READY   UP-TO-DATE   AVAILABLE   AGE
nginx-deployment   5/5     5            5           91m
react-ecommerce    0/2     2            0           62m
dharani@DharaniDharanPC:~$ kubectl set image deployment/nginx-deployment ngin x-container=ngix:1.19
error: there is no need to specify a resource type as a separate argument when passing arguments in resource/name form (e.g. 'kubectl get resource/<resource
_name>' instead of 'kubectl get resource resource/<resource_name>'
dharani@DharaniDharanPC:~$ kubectl expose deployment nginx-deployment --type=NodePort --port=80
service/nginx-deployment exposed
dharani@DharaniDharanPC:~$ kubectl get services
NAME               TYPE        CLUSTER-IP       EXTERNAL-IP   PORT(S)        AGE
kubernetes         ClusterIP   10.96.0.1        <none>        443/TCP        3h2m
nginx-deployment   NodePort    10.104.186.233   <none>        80:31452/TCP   5m13s
dharani@DharaniDharanPC:~$ minikube ip
192.168.58.2
dharani@DharaniDharanPC:~$ curl 192.168.58.2:31452


^C
dharani@DharaniDharanPC:~$ curl 192.168.58.2:31452
```

<!doctype html><html lang="en"><head><title>HTTP Status 404 – Not Found</title><style type="text/css">body {font-family:Tahoma,Arial,sans-serif;} h1, h2, h3, b {color:white;background-color:#525D76
;} h1 {font-size:22px;} h2 {font-size:16px;} h3 {font-size:14px;} p {font-size:12px;} a {color:black;} .line {height:1px;background-color:#525D76;border:none;}</style></head><body><h1>HTTP Status 4
04 – Not Found</h1><hr class="line" /><p>Type Status Report</p><p>Description The origin server did not find a current representation for the target resource or is not willing to disc