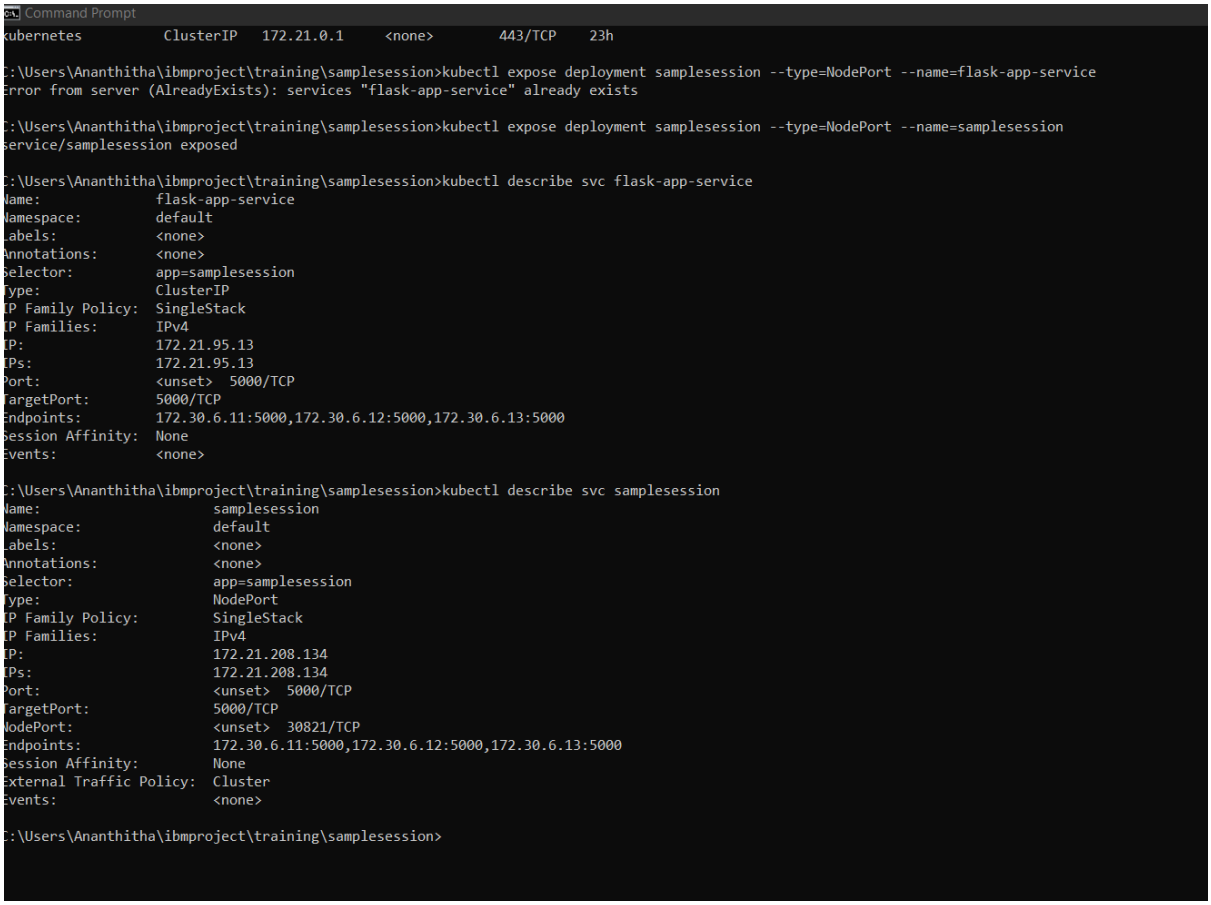
DEPLOY IN KUBERNETES CLUSTER

```
Command Prompt
bfc1deb8136e: Mounted from kub_ns/flask-app-t1
1f123186824c: Mounted from kub_ns/flask-app-t1
3d6eb1152931: Mounted from kub_ns/flask-app-t1
100796cdf3b1: Mounted from kub_ns/flask-app-t1
54acb5a6fa0b: Mounted from kub_ns/flask-app-t1
8d51c618126f: Mounted from kub_ns/flask-app-t1
9ff6e4d46744: Mounted from kub_ns/flask-app-t1
a89d1d47b5a1: Mounted from kub_ns/flask-app-t1
655ed1b7a428: Mounted from kub_ns/flask-app-t1
latest: digest: sha256:de289e6640a926beabd644fc871ad7ba2fa8e694f35ef1b824e0274d45a0fa66 size: 3051

C:\Users\Ananthitha\ibmproject\training\samplesession>kubectl config get-contexts
CURRENT   NAME             CLUSTER          AUTHINFO         NAMESPACE
*         docker-desktop   docker-desktop   docker-desktop

C:\Users\Ananthitha\ibmproject\training\samplesession>ibmcloud ks cluster config -c cdqfjfef07ur391kgthg
OK
The configuration for cdqfjfef07ur391kgthg was downloaded successfully.

Added context for cdqfjfef07ur391kgthg to the current kubeconfig file.
You can now execute 'kubectl' commands against your cluster. For example, run 'kubectl get nodes'.
If you are accessing the cluster for the first time, 'kubectl' commands might fail for a few seconds while RBAC synchronizes.

C:\Users\Ananthitha\ibmproject\training\samplesession>kubectl config get-contexts
CURRENT   NAME                                CLUSTER                             AUTHINFO                                                                                  NAMESPACE
          docker-desktop                      docker-desktop                      docker-desktop
*         mycluster-free/cdqfjfef07ur391kgthg   mycluster-free/cdqfjfef07ur391kgthg   anan19110.cs@rmkec.ac.in/d8d7bf47ea3c4175adb1c62d138fca79/iam.cloud.ibm.com-identity   default

C:\Users\Ananthitha\ibmproject\training\samplesession>kubectl apply -f kubernetes/ibm_deployment.yaml
deployment.apps/samplesession created

C:\Users\Ananthitha\ibmproject\training\samplesession>kubectl apply -f kubernetes/flask_service.yaml
service/flask-app-service created

C:\Users\Ananthitha\ibmproject\training\samplesession>kubectl apply -f kubernetes/flask_ingress.yaml
ingress.networking.k8s.io/flask-app-ingress created

C:\Users\Ananthitha\ibmproject\training\samplesession>kubectl get ing
NAME              CLASS    HOSTS   ADDRESS   PORTS   AGE
flask-app-ingress   <none>   *               80      36s

C:\Users\Ananthitha\ibmproject\training\samplesession>kubectl get nodes -o wide
NAME            STATUS   ROLES    AGE   VERSION       INTERNAL-IP     EXTERNAL-IP     OS-IMAGE             KERNEL-VERSION       CONTAINER-RUNTIME
10.144.188.15   Ready    <none>   23h   v1.24.7+IKS   10.144.188.15   169.51.206.11   Ubuntu 18.04.6 LTS   4.15.0-194-generic   containerd://1.6.8

C:\Users\Ananthitha\ibmproject\training\samplesession>kubectl get svc
NAME              TYPE        CLUSTER-IP     EXTERNAL-IP   PORT(S)    AGE
flask-app-service   ClusterIP   172.21.95.13   <none>        5000/TCP   10m
kubernetes          ClusterIP   172.21.0.1     <none>        443/TCP    23h
```

```
Command Prompt
C:\Users\Ananthitha\ibmproject\training\samplesession>kubectl get svc
NAME              TYPE        CLUSTER-IP     EXTERNAL-IP   PORT(S)    AGE
flask-app-service   ClusterIP   172.21.95.13   <none>        5000/TCP   10m
kubernetes          ClusterIP   172.21.0.1     <none>        443/TCP    23h

C:\Users\Ananthitha\ibmproject\training\samplesession>kubectl expose deployment samplesession --type=NodePort --name=flask-app-service
Error from server (AlreadyExists): services "flask-app-service" already exists

C:\Users\Ananthitha\ibmproject\training\samplesession>kubectl expose deployment samplesession --type=NodePort --name=samplesession
service/samplesession exposed

C:\Users\Ananthitha\ibmproject\training\samplesession>kubectl describe svc flask-app-service
Name:              flask-app-service
Namespace:         default
Labels:            <none>
Annotations:       <none>
Selector:          app=samplesession
Type:              ClusterIP
IP Family Policy:  SingleStack
IP Families:       IPv4
IP:                172.21.95.13
IPs:               172.21.95.13
Port:              <unset>  5000/TCP
TargetPort:        5000/TCP
Endpoints:         172.30.6.11:5000,172.30.6.12:5000,172.30.6.13:5000
Session Affinity:  None
Events:            <none>

C:\Users\Ananthitha\ibmproject\training\samplesession>kubectl describe svc samplesession
Name:                     samplesession
Namespace:                default
Labels:                   <none>
Annotations:              <none>
Selector:                 app=samplesession
Type:                     NodePort
IP Family Policy:         SingleStack
IP Families:              IPv4
IP:                       172.21.208.134
IPs:                      172.21.208.134
Port:                     <unset>  5000/TCP
TargetPort:               5000/TCP
NodePort:                 <unset>  30821/TCP
Endpoints:                172.30.6.11:5000,172.30.6.12:5000,172.30.6.13:5000
Session Affinity:         None
External Traffic Policy:  Cluster
Events:                   <none>

C:\Users\Ananthitha\ibmproject\training\samplesession>
```


Command Prompt
kubernetes ClusterIP 172.21.0.1 <none> 443/TCP 23h
I:\Users\Ananthitha\ibmproject\training\samplesession>kubectl expose deployment samplesession --type=NodePort --name=flask-app-service
Error from server (AlreadyExists): services "flask-app-service" already exists
I:\Users\Ananthitha\ibmproject\training\samplesession>kubectl expose deployment samplesession --type=NodePort --name=samplesession
service/samplesession exposed
I:\Users\Ananthitha\ibmproject\training\samplesession>kubectl describe svc flask-app-service
Name: flask-app-service
Namespace: default
Labels: <none>
Annotations: <none>
Selector: app=samplesession
Type: ClusterIP
IP Family Policy: SingleStack
IP Families: IPv4
IP: 172.21.95.13
IPs: 172.21.95.13
Port: <unset> 5000/TCP
TargetPort: 5000/TCP
Endpoints: 172.30.6.11:5000,172.30.6.12:5000,172.30.6.13:5000
Session Affinity: None
Events: <none>
I:\Users\Ananthitha\ibmproject\training\samplesession>kubectl describe svc samplesession
Name: samplesession
Namespace: default
Labels: <none>
Annotations: <none>
Selector: app=samplesession
Type: NodePort
IP Family Policy: SingleStack
IP Families: IPv4
IP: 172.21.208.134
IPs: 172.21.208.134
Port: <unset> 5000/TCP
TargetPort: 5000/TCP
NodePort: <unset> 30821/TCP
Endpoints: 172.30.6.11:5000,172.30.6.12:5000,172.30.6.13:5000
Session Affinity: None
External Traffic Policy: Cluster
Events: <none>
I:\Users\Ananthitha\ibmproject\training\samplesession>