# Module-9: Kubernetes Assignment - 4

You have been asked to:

- Use the previous deployment
- Deploy a nginx deployment of 3 replicas
- Create a nginx service of type clusterip
- Create an ingress service /apache to apache service /nginx to nginx service

# Solution:

1) We already have a deployment for Nginx. Let's modify it to ensure it has 3 replicas:

```
ubuntu@ip-172-31-37-166:~$ kubectl scale deployment nginx-deployment --replicas=3
deployment.apps/nginx-deployment scaled
ubuntu@ip-172-31-37-166:~$
```

**i-02bdb761a108eaf72 (k8-master)**

PublicIPs: 43.205.203.129 PrivateIPs: 172.31.37.166

```
ubuntu@ip-172-31-37-166:~$ kubectl get deployments nginx-deployment
NAME               READY   UP-TO-DATE   AVAILABLE   AGE
nginx-deployment   3/3     3            3           24m
ubuntu@ip-172-31-37-166:~$
```

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2) Create an Nginx Service of Type ClusterIP: nginx-cluster-service.yml

```
apiVersion: v1
kind: Service
metadata:
  name: nginx-cluster-service
  labels:
    app: nginx
spec:
  type: ClusterIP
  selector:
    app: nginx
  ports:
  - port: 80
    targetPort: 80
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
-- INSERT --
```

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```
ubuntu@ip-172-31-37-166:~$ sudo vi nginix-cluster-service.yml
ubuntu@ip-172-31-37-166:~$ sudo vi my-ingress.yml
ubuntu@ip-172-31-37-166:~$
```

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3) Define an ingress resource to route traffic to both the Apache and Nginx services:

```yaml
apiVersion: networking.k8s.io/v1
kind: Ingress
metadata:
  name: my-ingress
  annotations:
    nginx.ingress.kubernetes.io/rewrite-target: /
spec:
  rules:
  - http:
      paths:
      - path: /apache
        pathType: Prefix
        backend:
          service:
            name: apache-service
            port:
              number: 80
      - path: /nginx
        pathType: Prefix
        backend:
          service:
            name: nginx-cluster-service
            port:
              number: 80

~
~
~
~
-- INSERT --
```

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4) Apply the YAML Files:

kubectl apply -f nginix-cluster-service.yml

```
ubuntu@ip-172-31-37-166:~$ kubectl apply -f nginix-cluster-service.yml
service/nginx-cluster-service created
ubuntu@ip-172-31-37-166:~$
```

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kubectl apply -f my-ingress.yml

```
ubuntu@ip-172-31-37-166:~$ kubectl apply -f my-ingress.yml
ingress.networking.k8s.io/my-ingress created
ubuntu@ip-172-31-37-166:~$
```

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5) Verify :

kubectl get deployments

```
ubuntu@ip-172-31-37-166:~$ kubectl get deployments
NAME               READY   UP-TO-DATE   AVAILABLE   AGE
nginx-deployment   3/3     3            3           35m
ubuntu@ip-172-31-37-166:~$
```

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kubectl get services

```
ubuntu@ip-172-31-37-166:~$ kubectl get services
NAME                    TYPE        CLUSTER-IP       EXTERNAL-IP   PORT(S)        AGE
kubernetes              ClusterIP   10.96.0.1        <none>        443/TCP        69m
nginx-cluster-service   ClusterIP   10.104.183.48    <none>        80/TCP         2m
nginx-service           NodePort    10.111.109.185   <none>        80:30000/TCP   29m
ubuntu@ip-172-31-37-166:~$
```

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kubectl get ingress

```
ubuntu@ip-172-31-37-166:~$ kubectl get ingress
NAME         CLASS    HOSTS   ADDRESS   PORTS   AGE
my-ingress   <none>   *                 80      114s
ubuntu@ip-172-31-37-166:~$
```

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