

Kubernetes Lab 4

1-How many Services exist on the system?

```
nathan@nathan-G3-3500:~$ kubectl get service
NAME          TYPE          CLUSTER-IP    EXTERNAL-IP    PORT(S)    AGE
kubernetes    ClusterIP     10.96.0.1     <none>         443/TCP    13h
nathan@nathan-G3-3500:~$
```

2-What is the type of the default kubernetes service?

```
nathan@nathan-G3-3500:~$ kubectl get service
NAME          TYPE          CLUSTER-IP    EXTERNAL-IP    PORT(S)    AGE
kubernetes    ClusterIP     10.96.0.1     <none>         443/TCP    13h
nathan@nathan-G3-3500:~$
```

ClusterIp

3-What is the targetPort configured on the kubernetes service?

```
nathan@nathan-G3-3500:~$ kubectl describe service kubernetes
Name:          kubernetes
Namespace:     default
Labels:        component=apiserver
               provider=kubernetes
Annotations:    <none>
Selector:      <none>
Type:          ClusterIP
IP Family Policy: SingleStack
IP Families:   IPv4
IP:            10.96.0.1
IPs:           10.96.0.1
Port:          https 443/TCP
TargetPort:    8443/TCP
Endpoints:     192.168.49.2:8443
Session Affinity: None
Events:        <none>
nathan@nathan-G3-3500:~$
```

TargetPort: 8443

4-How many labels are configured on the kubernetes service?

```
nathan@nathan-G3-3500:~$ kubectl describe service kubernetes
Name: kubernetes
Namespace: default
Labels: component=apiserver
        provider=kubernetes
Annotations: <none>
Selector: <none>
Type: ClusterIP
IP Family Policy: SingleStack
IP Families: IPv4
IP: 10.96.0.1
IPs: 10.96.0.1
Port: https 443/TCP
TargetPort: 8443/TCP
Endpoints: 192.168.49.2:8443
Session Affinity: None
Events: <none>
nathan@nathan-G3-3500:~$
```

Two

5-How many Endpoints are attached on the kubernetes service?

```
nathan@nathan-G3-3500:~$ kubectl describe service kubernetes
Name: kubernetes
Namespace: default
Labels: component=apiserver
        provider=kubernetes
Annotations: <none>
Selector: <none>
Type: ClusterIP
IP Family Policy: SingleStack
IP Families: IPv4
IP: 10.96.0.1
IPs: 10.96.0.1
Port: https 443/TCP
TargetPort: 8443/TCP
Endpoints: 192.168.49.2:8443
Session Affinity: None
Events: <none>
nathan@nathan-G3-3500:~$
```

One

6-Create a Deployment using the below yaml

```
apiVersion: apps/v1
kind: Deployment
metadata:
  name: simple-webapp-deployment
  namespace: default
spec:
  replicas: 4
  selector:
    matchLabels:
      name: simple-webapp
  strategy:
    rollingUpdate:
      maxSurge: 25%
      maxUnavailable: 25%
    type: RollingUpdate
  template:
    metadata:
      creationTimestamp: null
      labels:
        name: simple-webapp
    spec:
      containers:
        - image: kodekloud/simple-webapp:red
          imagePullPolicy: IfNotPresent
          name: simple-webapp
          ports:
            - containerPort: 8080
              protocol: TCP
```

```
nathan@nathan-G3-3500:~$ vi simple-webapp-deployment.yaml
nathan@nathan-G3-3500:~$ kubectl apply -f simple-webapp-deployment.yaml
deployment.apps/simple-webapp-deployment created
nathan@nathan-G3-3500:~$ kubectl get deployment
NAME                    READY   UP-TO-DATE   AVAILABLE   AGE
simple-webapp-deployment 3/4     4            3           19s
nathan@nathan-G3-3500:~$ kubectl get deployment
NAME                    READY   UP-TO-DATE   AVAILABLE   AGE
simple-webapp-deployment 4/4     4            4           25s
nathan@nathan-G3-3500:~$
```

7-What is the image used to create the pods in the deployment?

```
nathan@nathan-G3-3500:~$ kubectl describe pod simple-webapp-deployment-6b9bc8847b-dzbfp
Name:          simple-webapp-deployment-6b9bc8847b-dzbfp
Namespace:     default
Priority:       0
Service Account: default
Node:          minikube/192.168.49.2
Start Time:    Tue, 03 Jan 2023 12:49:51 +0200
Labels:        name=simple-webapp
               pod-template-hash=6b9bc8847b
Annotations:   <none>
Status:        Running
IP:            172.17.0.6
IPs:
  IP:          172.17.0.6
Controlled By: ReplicaSet/simple-webapp-deployment-6b9bc8847b
Containers:
  simple-webapp:
    Container ID:  docker://bb75fa15768e3a14420c6f7bb8448dd5dcba83adb6f0564322ede76354cc8c
6f
    Image:         kodekloud/simple-webapp:red
    Image ID:      docker-pullable://kodekloud/simple-webapp@sha256:175ba08b8986076df14c40
db45c4cc1fbbb16ffff031a646d6bc98f20fb5d902
    Port:         8080/TCP
    Host Port:    0/TCP
    State:        Running
      Started:    Tue, 03 Jan 2023 12:50:06 +0200
    Ready:        True
    Restart Count: 0
    Environment:  <none>
    Mounts:
      /var/run/secrets/kubernetes.io/serviceaccount from kube-api-access-hsxvj (ro)
```

kodekloud/simple-webapp:red

8-Create a new service to access the web application using the the below

```
apiVersion: v1
kind: Service
metadata:
  name: webapp-service
spec:
  type: NodePort
  selector:
    name: simple-webapp
  ports:
    - protocol: TCP
      port: 8080
      targetPort: 8080
      nodePort: 30080
```

```
nathan@nathan-G3-3500:~$ vi service.yaml
nathan@nathan-G3-3500:~$ kubectl apply -f service.yaml
service/webapp-service created
nathan@nathan-G3-3500:~$ kubectl get service
NAME                TYPE        CLUSTER-IP    EXTERNAL-IP    PORT(S)          AGE
kubernetes           ClusterIP   10.96.0.1     <none>         443/TCP          14h
webapp-service       NodePort    10.106.222.156 <none>         8080:30080/TCP   12s
nathan@nathan-G3-3500:~$
```

```
nathan@nathan-G3-3500:~$ minikube service webapp-service --url
http://192.168.49.2:30080
```

