Lab Exercise 9- Create Service in Kubernetes

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BATCH 2 DEVOPS

Objective:

- Understand the syntax and structure of a Kubernetes Service definition file (YAML).

Prerequisites

- Kubernetes Cluster: Have a running Kubernetes cluster (locally using Minikube or kind, or a cloud-based service).
- kubectl: Install and configure kubectl to interact with your Kubernetes cluster.
- Basic Knowledge of YAML: Familiarity with YAML format will be helpful for understanding Kubernetes resource definitions.

Step-by-Step Guide

NodePort Service

To expose the Service on a port on each Node in the cluster, modify the Service type to NodePort.

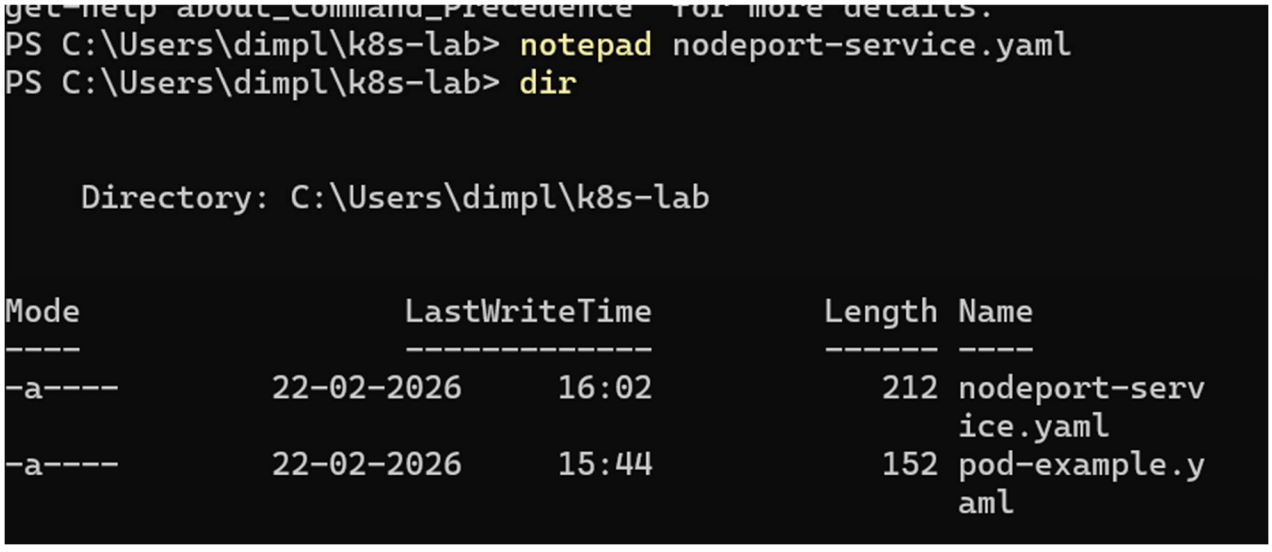
Create a YAML file named ***service.yaml*** with the following content:

service.yaml

```
apiVersion: v1
kind: Service
metadata:
  name: nodeport-service
spec:
  selector:
    app: web
  ports:
    - protocol: TCP
      port: 80
      targetPort: 80
      nodePort: 30007 # A specific port in the range 30000-32767
  type: NodePort
```

Explanation:

- The primary difference from the ClusterIP Service is the addition of nodePort, which specifies the static port on each Node.
- type: Set to NodePort, exposing the Service on a specific port across all Nodes.



Apply this YAML to create the NodePort Service:

```
kubectl apply -f nodeport-service.yaml
```

```
PS C:\Users\dimpl\k8s-lab> kubectl apply -f nodeport-service.yaml
service/nodeport-service created
```

Verify the Service:

```
kubectl get services
```

You should see the nodeport-service listed with a NodePort and details about the port exposed.

```
service/nodeport-service created
PS C:\Users\dimpl\k8s-lab> kubectl get pods
NAME     READY   STATUS    RESTARTS   AGE
my-pod   1/1     Running   0          2m24s
PS C:\Users\dimpl\k8s-lab> minikube service nodeport-service
|-----------|------------------|-------------|---------------------------|
| NAMESPACE |       NAME       | TARGET PORT |            URL            |
|-----------|------------------|-------------|---------------------------|
| default   | nodeport-service | 80          | http://192.168.49.2:30007 |
|-----------|------------------|-------------|---------------------------|
🔗  Starting tunnel for service nodeport-service.
|-----------|------------------|-------------|------------------------|
| NAMESPACE |       NAME       | TARGET PORT |          URL           |
|-----------|------------------|-------------|------------------------|
| default   | nodeport-service |             | http://127.0.0.1:63673 |
|-----------|------------------|-------------|------------------------|
🎉  Opening service default/nodeport-service in default browser...
❗  Because you are using a Docker driver on windows, the terminal needs to be open to run it.
```