

Lab Exercise 9 :- Create Service in Kubernetes

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Batch:- DevOps B1

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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

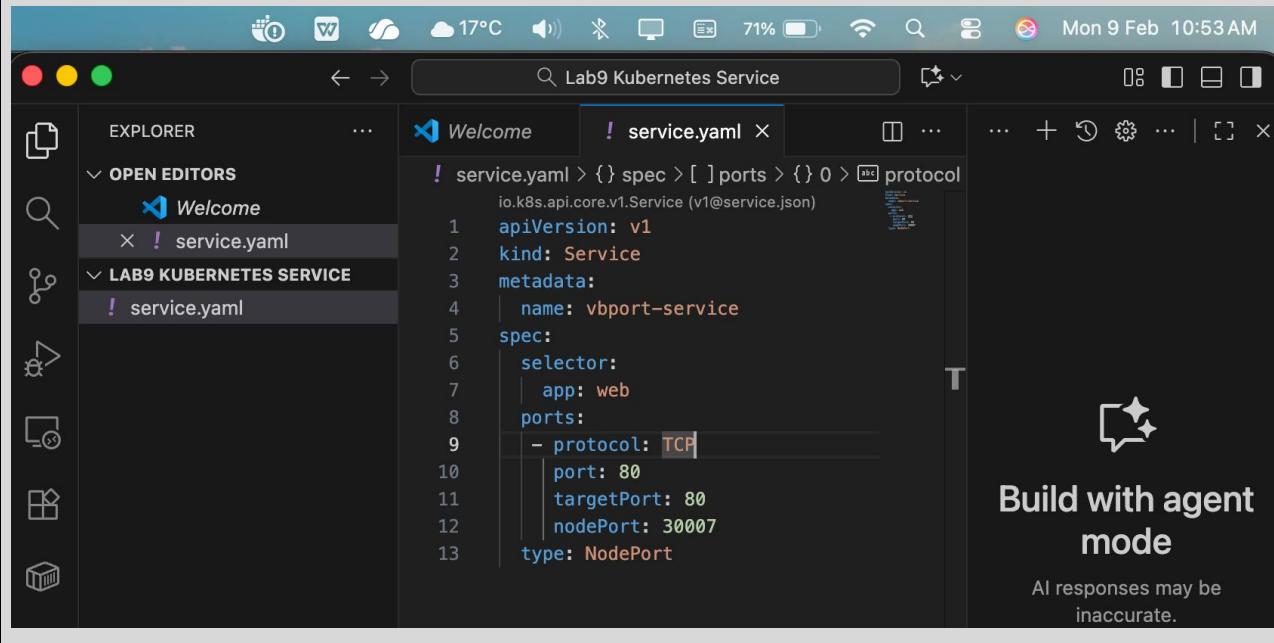
NodePort Service

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
```



```
! service.yaml > {} spec > [ ] ports > {} 0 >  protocol
io.k8s.api.core.v1.Service (v1@service.json)
1  apiVersion: v1
2  kind: Service
3  metadata:
4    name: vbport-service
5  spec:
6    selector:
7      app: web
8    ports:
9      - protocol: TCP
10     | port: 80
11     | targetPort: 80
12     | nodePort: 30007
13   type: NodePort
```

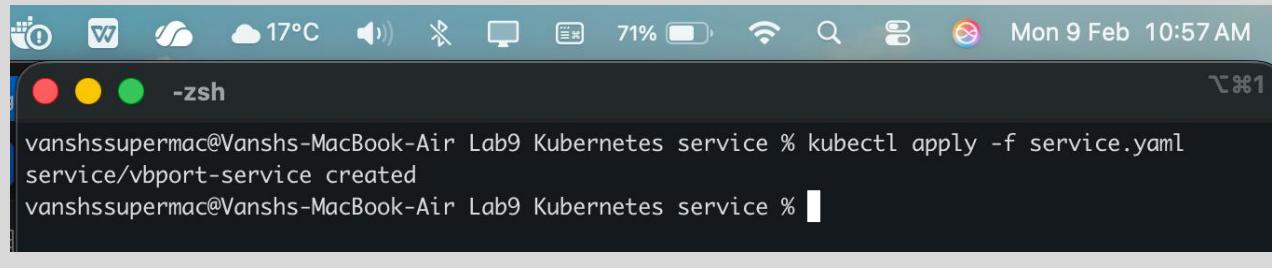
Build with agent mode
AI responses may be inaccurate.

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:

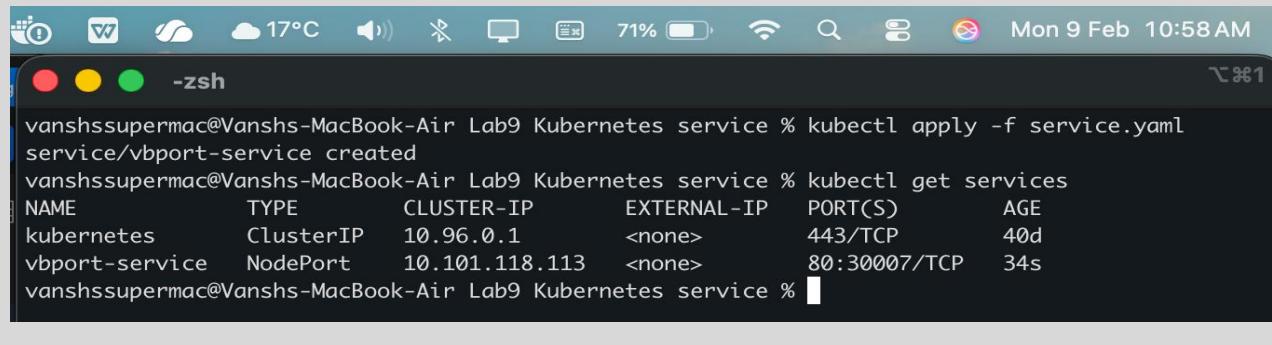
```
kubectl apply -f service.yaml
```



```
vanshssupermac@Vanshs-MacBook-Air Lab9 Kubernetes service % kubectl apply -f service.yaml
service/vbport-service created
vanshssupermac@Vanshs-MacBook-Air Lab9 Kubernetes service %
```

Verify the Service:

```
kubectl get services
```



```
vanshssupermac@Vanshs-MacBook-Air Lab9 Kubernetes service % kubectl apply -f service.yaml
service/vbport-service created
vanshssupermac@Vanshs-MacBook-Air Lab9 Kubernetes service % kubectl get services
NAME         TYPE      CLUSTER-IP   EXTERNAL-IP  PORT(S)        AGE
kubernetes   ClusterIP  10.96.0.1    <none>       443/TCP       40d
vbport-service  NodePort   10.101.118.113  <none>       80:30007/TCP  34s
vanshssupermac@Vanshs-MacBook-Air Lab9 Kubernetes service %
```

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

Thank You