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Lab Exercise 7- Create Service in Kubernetes

# Objective:

* Understand the syntax and structure of a Kubernetes Service definition file (YAML).
* Learn to create different types of Services: ClusterIP, NodePort, and

LoadBalancer.

* Comprehend how Services operate independently of specific Pods.

# 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 **nodeport-service.yaml** with the following content:

apiVersion: v1 kind: Service metadata:

name: nodeport-service spec:

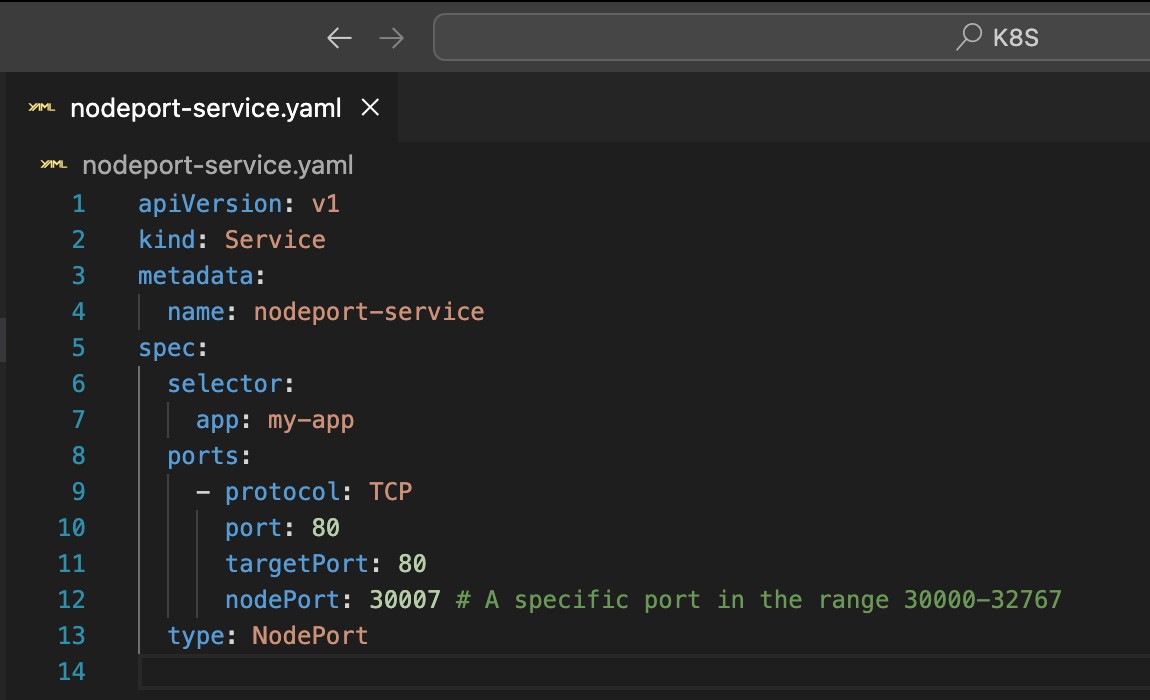
selector:

app: my-app 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

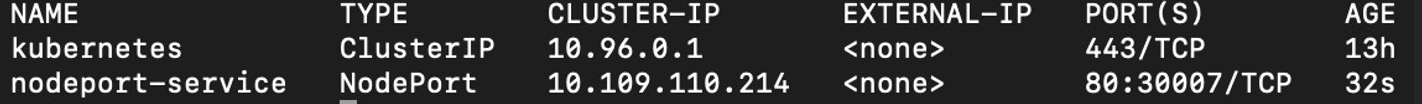
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**Verify the Service:**

kubectl get services

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