**Q1. Kubernetes Operations :-**

**Write a Kubernetes Deployment, Service and Ingress to run nginx server along with the**

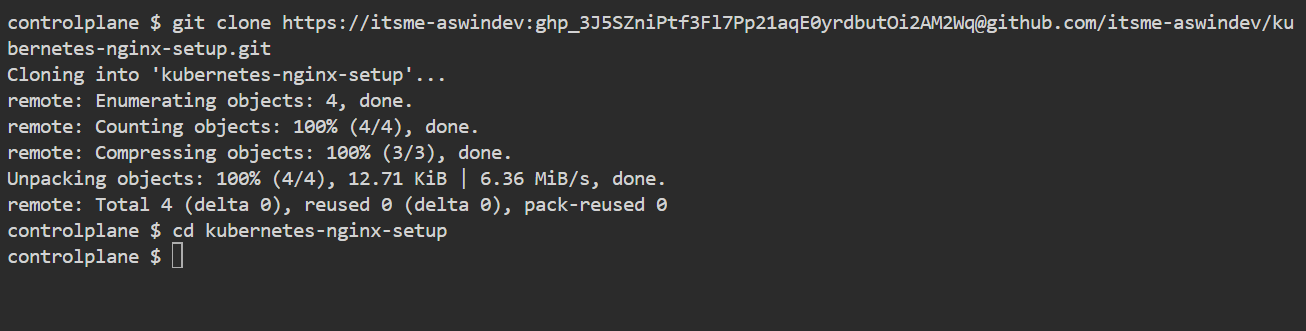
**Kubernetes cli commands to perform the operation.**

**Share the code and snippets in a Git repository.**

1. **Creating a Repository on GitHub -** kubernetes-nginx-setup
2. **Clone the Repository Using the PAT –**

**git clone https://itsme-aswindev:ghp\_3J5SZniPtf3Fl7Pp21aqE0yrdbutOi2AM2Wq@github.com/itsme-aswindev/kubernetes-nginx-setup.git**

**cd kubernetes-nginx-setup**

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1. **Create YAML Files Locally**:
2. Create the deployment.yaml file:

cat <<EOF > deployment.yaml

apiVersion: apps/v1

kind: Deployment

metadata:

name: nginx-deployment

spec:

replicas: 2

selector:

matchLabels:

app: nginx

template:

metadata:

labels:

app: nginx

spec:

containers:

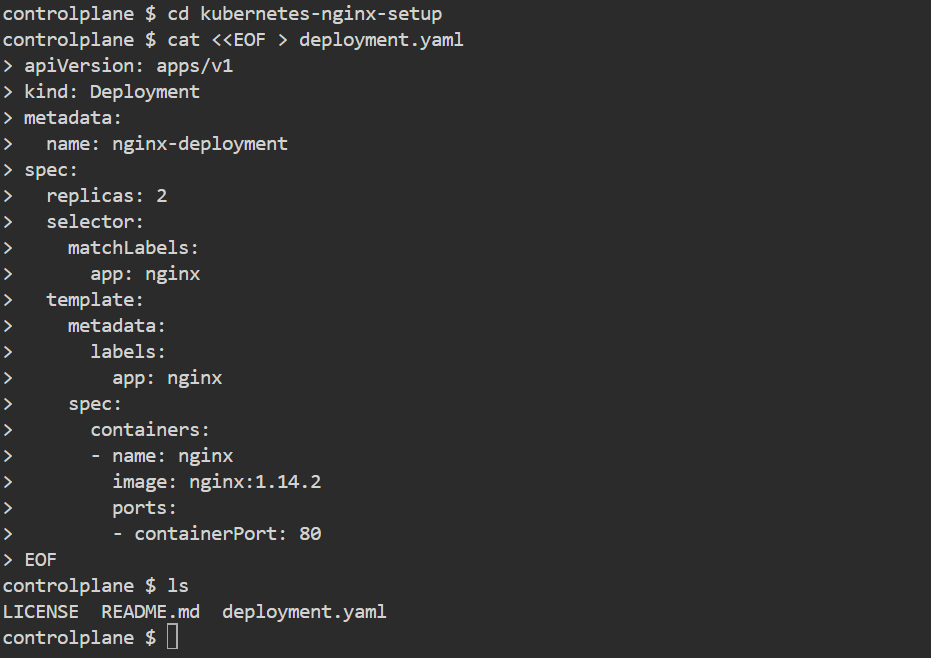
- name: nginx

image: nginx:1.14.2

ports:

- containerPort: 80

EOF



1. Create the service.yaml file:

cat <<EOF > service.yaml

apiVersion: v1

kind: Service

metadata:

name: nginx-service

spec:

selector:

app: nginx

ports:

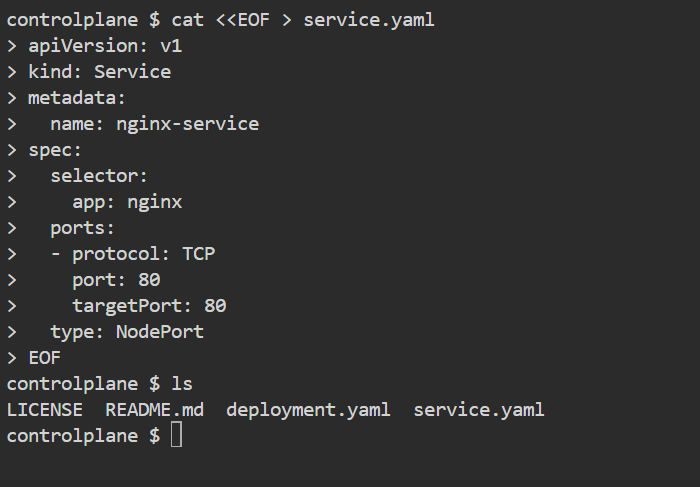
- protocol: TCP

port: 80

targetPort: 80

type: NodePort

EOF



1. Create the ingress.yaml file:

cat <<EOF > ingress.yaml

apiVersion: networking.k8s.io/v1

kind: Ingress

metadata:

name: nginx-ingress

annotations:

nginx.ingress.kubernetes.io/rewrite-target: /

spec:

rules:

- http:

paths:

- path: /

pathType: Prefix

backend:

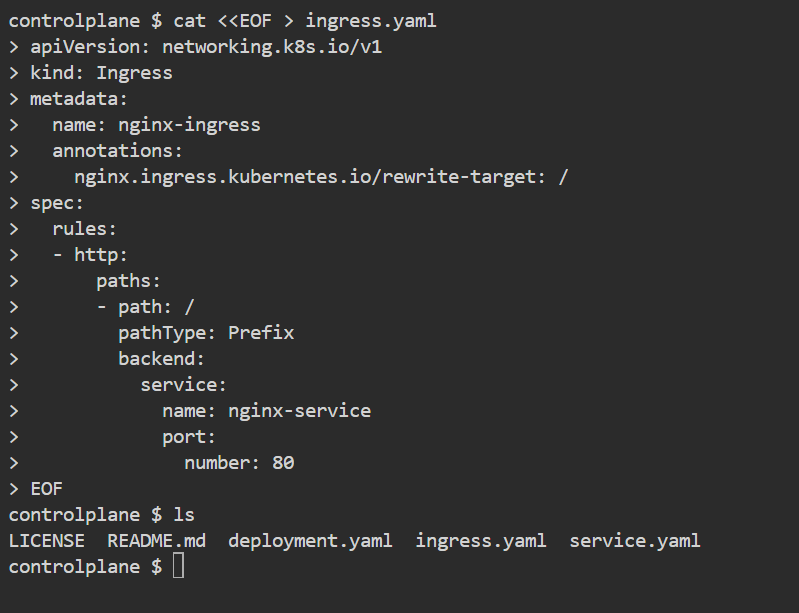
service:

name: nginx-service

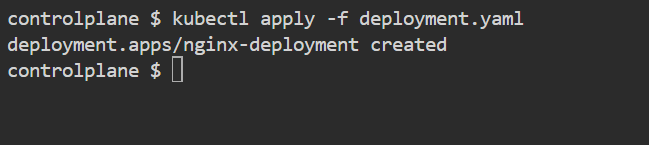
port:

number: 80

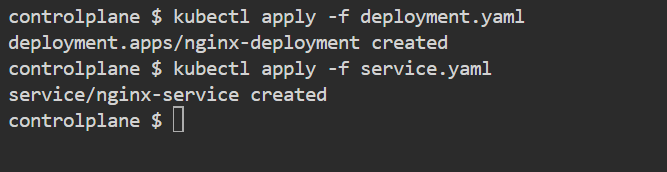
EOF



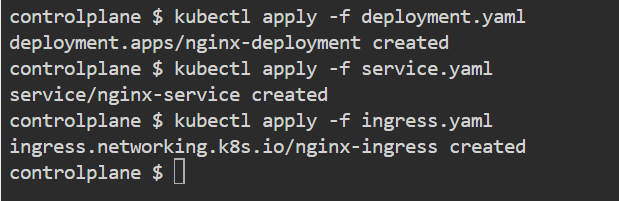
1. **Apply Kubernetes**
2. **Apply Deployment**: kubectl apply -f deployment.yaml

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1. **Apply Service**: kubectl apply -f service.yaml

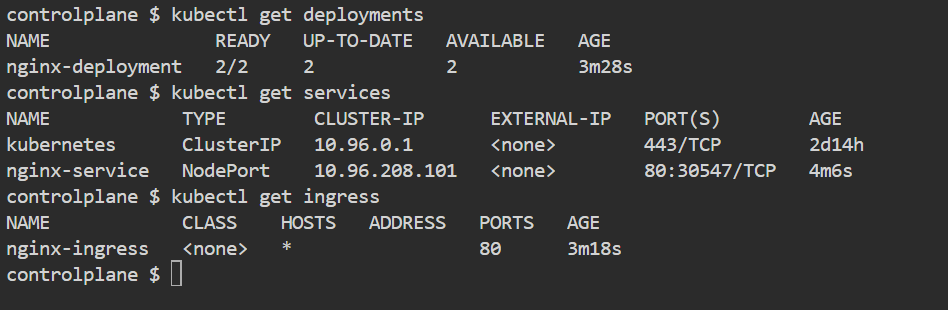
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1. **Apply Ingress**: kubectl apply -f ingress.yaml

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1. **Verify Resources**:

* kubectl get deployments
* kubectl get services
* kubectl get ingress



1. **Commit and Push the Changes**:

git add .

git commit -m "Add Kubernetes Deployment, Service, and Ingress"

git push origin main

