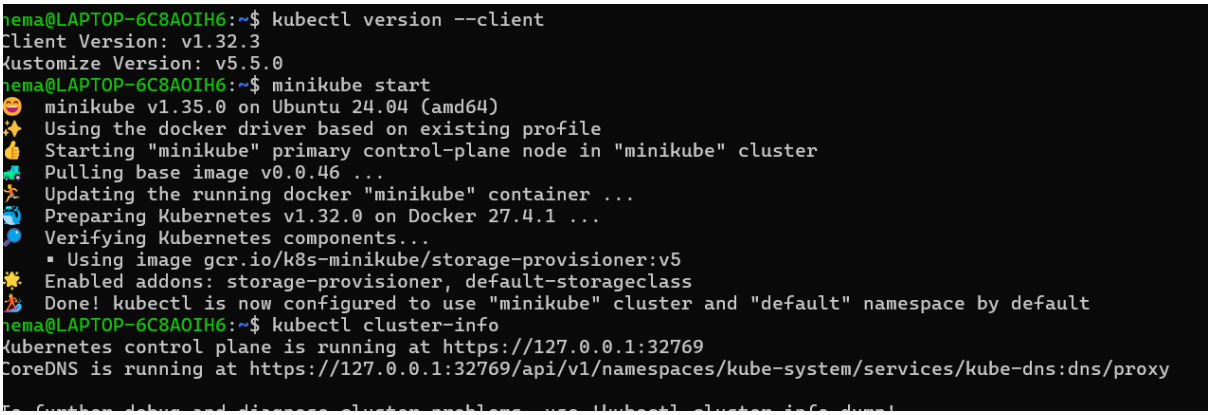
DAY - 3
Deploy an Nginx Container in Kubernetes and expose it with a NodePort Service



sudo nano nginx-deployment.yml

nginx-deployment.yml

```
apiVersion: apps/v1
kind: Deployment
metadata:
  name: nginx-login
spec:
  replicas: 1
  selector:
    matchLabels:
      app: nginx-login
  template:
    metadata:
      labels:
        app: nginx-login
    spec:
      containers:
      - name: nginx-login
        image: nginx:latest # Public Nginx image from Docker Hub
        ports:
        - containerPort: 80
---
apiVersion: v1
kind: Service
metadata:
  name: nginx-login-service
spec:
  type: NodePort
  selector:
```

```
  app: nginx-login
 ports:
  - protocol: TCP
    port: 80
    targetPort: 80
    nodePort: 30008  # NodePort exposes service on this port
```

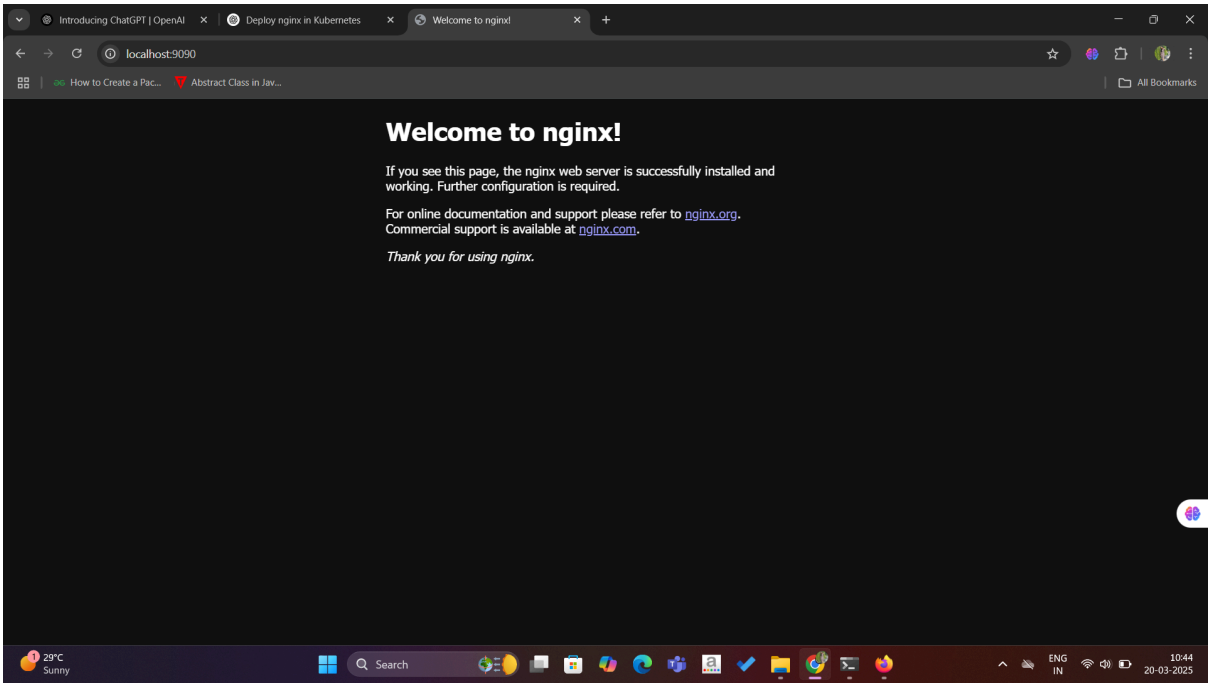
```
hema@LAPTOP-6C8AOIH6:~$ minikube version
minikube version: v1.35.0
commit: dd5d320e41b5451cdf3c01891bc4e13d189586ed-dirty
hema@LAPTOP-6C8AOIH6:~$ minikube status
minikube
type: Control Plane
host: Stopped
kubelet: Stopped
apiserver: Stopped
kubeconfig: Stopped

hema@LAPTOP-6C8AOIH6:~$ minikube start
😄  minikube v1.35.0 on Ubuntu 24.04 (amd64)
✨  Using the docker driver based on existing profile
👍  Starting "minikube" primary control-plane node in "minikube" cluster
🚜  Pulling base image v0.0.46 ...
🔄  Restarting existing docker container for "minikube" ...
🐳  Preparing Kubernetes v1.32.0 on Docker 27.4.1 ...
🔎  Verifying Kubernetes components...
    ▪ Using image gcr.io/k8s-minikube/storage-provisioner:v5
🌟  Enabled addons: default-storageclass, storage-provisioner
🏄  Done! kubectl is now configured to use "minikube" cluster and "default" namespace by default
hema@LAPTOP-6C8AOIH6:~$ minikube status
minikube
type: Control Plane
host: Running
kubelet: Running
apiserver: Running
kubeconfig: Configured
```

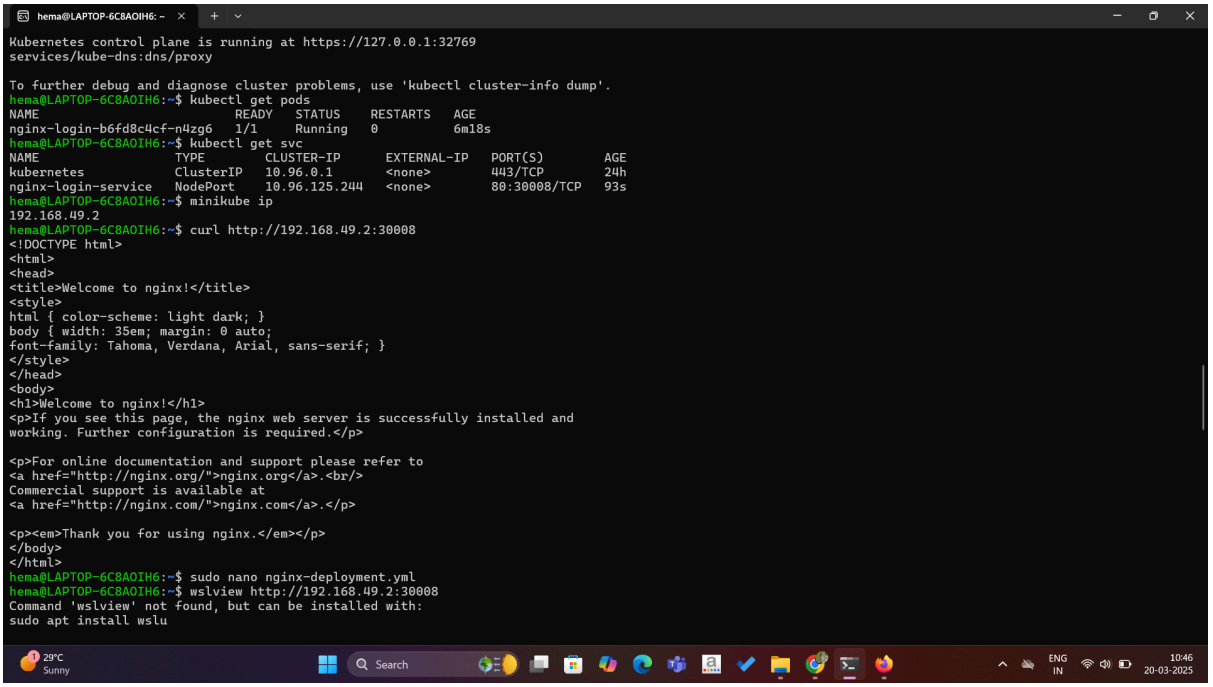
kubectl apply -f nginx-deployment.yml

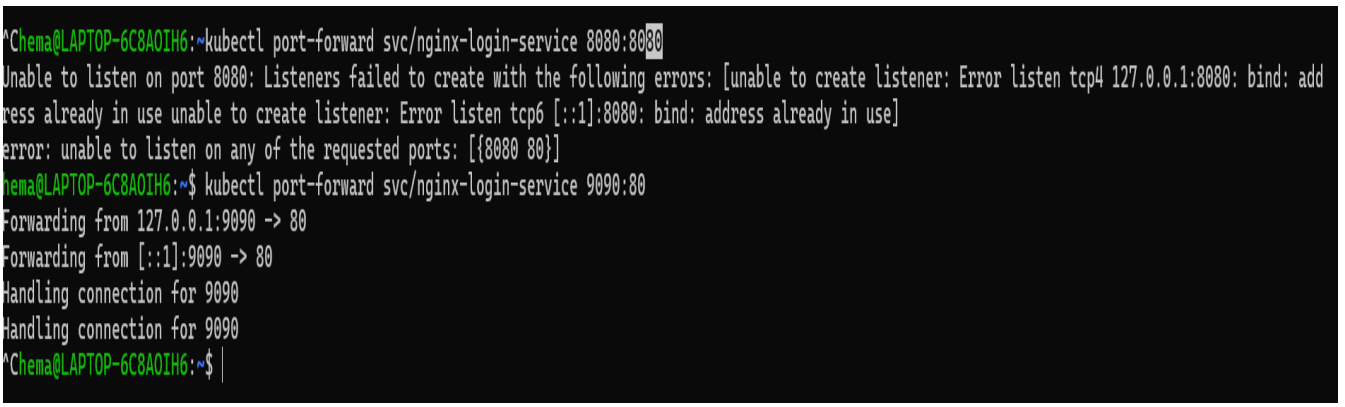
Check if the pods are running:
kubectl get pods

Check if the service is created:
kubectl get svc

Find the ip:
minikube ip


Introducing ChatGPT | OpenAI
Deploy nginx in Kubernetes
Welcome to nginx!
localhost:9090
How to Create a Pac...
Abstract Class in Jav...
All Bookmarks
Welcome to nginx!
If you see this page, the nginx web server is successfully installed and working. Further configuration is required.
For online documentation and support please refer to nginx.org.
Commercial support is available at nginx.com.
Thank you for using nginx.
29°C
Sunny
Search
ENG
IN
10:44
20-03-2025


hema@LAPTOP-6C8AOIH6: ~
Kubernetes control plane is running at https://127.0.0.1:32769
services/kube-dns:dns/proxy
To further debug and diagnose cluster problems, use 'kubectl cluster-info dump'.
hema@LAPTOP-6C8AOIH6:~$ kubectl get pods
NAME READY STATUS RESTARTS AGE
nginx-login-b6fd8c4cf-n4zg6 1/1 Running 0 6m18s
hema@LAPTOP-6C8AOIH6:~$ kubectl get svc
NAME TYPE CLUSTER-IP EXTERNAL-IP PORT(S) AGE
kubernetes ClusterIP 10.96.0.1 <none> 443/TCP 24h
nginx-login-service NodePort 10.96.125.244 <none> 80:30008/TCP 93s
hema@LAPTOP-6C8AOIH6:~$ minikube ip
192.168.49.2
hema@LAPTOP-6C8AOIH6:~$ curl http://192.168.49.2:30008
<!DOCTYPE html>
<html>
<head>
<title>Welcome to nginx!</title>
<style>
html { color-scheme: light dark; }
body { width: 35em; margin: 0 auto;
font-family: Tahoma, Verdana, Arial, sans-serif; }
</style>
</head>
<body>
<h1>Welcome to nginx!</h1>
If you see this page, the nginx web server is successfully installed and
working. Further configuration is required.
For online documentation and support please refer to
nginx.org.
Commercial support is available at
nginx.com.
Thank you for using nginx.
</body>
</html>
hema@LAPTOP-6C8AOIH6:~$ sudo nano nginx-deployment.yml
hema@LAPTOP-6C8AOIH6:~$ wslview http://192.168.49.2:30008
Command 'wslview' not found, but can be installed with:
sudo apt install wslu
29°C
Sunny
Search
ENG
IN
10:46
20-03-2025


^Chema@LAPTOP-6C8AOIH6:~kubectl port-forward svc/nginx-login-service 8080:8080
Unable to listen on port 8080: Listeners failed to create with the following errors: [unable to create listener: Error listen tcp4 127.0.0.1:8080: bind: add
ress already in use unable to create listener: Error listen tcp6 [::1]:8080: bind: address already in use]
error: unable to listen on any of the requested ports: [{8080 80}]
hema@LAPTOP-6C8AOIH6:~$ kubectl port-forward svc/nginx-login-service 9090:80
Forwarding from 127.0.0.1:9090 -> 80
Forwarding from [::1]:9090 -> 80
Handling connection for 9090
Handling connection for 9090
^Chema@LAPTOP-6C8AOIH6:~$