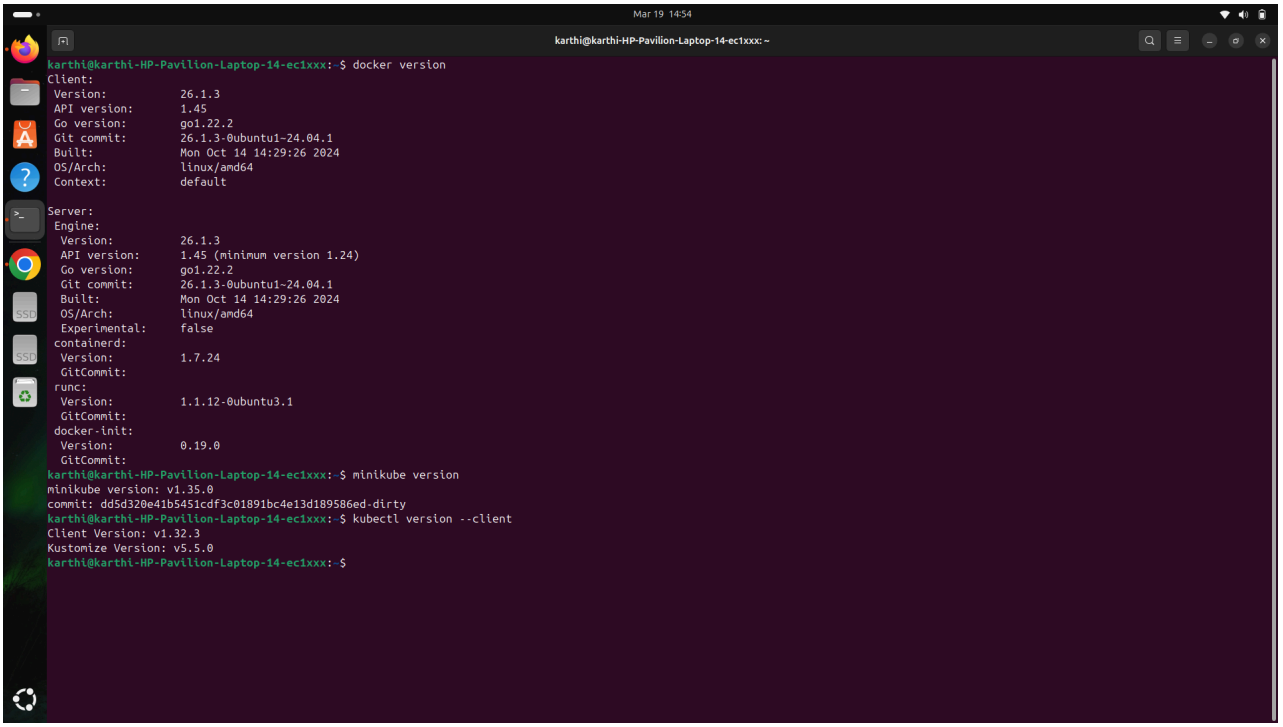
DAY - 3
Deploy an Nginx Container in Kubernetes and expose it with a NodePort Service



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
```

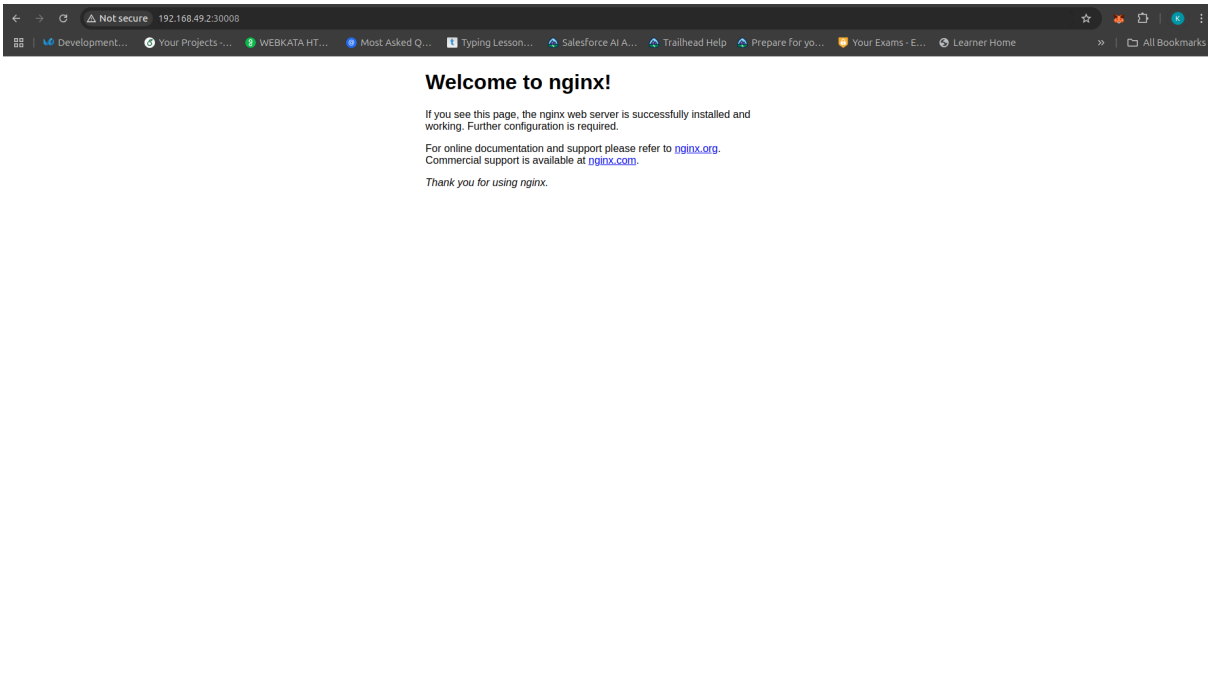
```
karthi@karthi-HP-Pavilion-Laptop-14-ec1xxx:~$ minikube start
😄  minikube v1.35.0 on Ubuntu 24.04
✨  Using the docker driver based on existing profile
👍  Starting "minikube" primary control-plane node in "minikube" cluster
🚜  Pulling base image v0.0.46 ...
🔄  Restarting existing docker container for "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
karthi@karthi-HP-Pavilion-Laptop-14-ec1xxx:~$ kubectl cluster-info
Kubernetes control plane is running at https://192.168.49.2:8443
CoreDNS is running at https://192.168.49.2:8443/api/v1/namespaces/kube-system/services/kube-dns:dns/proxy

To further debug and diagnose cluster problems, use 'kubectl cluster-info dump'.
karthi@karthi-HP-Pavilion-Laptop-14-ec1xxx:~$ kubectl apply -f nginx-deployment.yml
deployment.apps/nginx-login created
service/nginx-login-service created
karthi@karthi-HP-Pavilion-Laptop-14-ec1xxx:~$ kubectl get pods
NAME                           READY   STATUS              RESTARTS   AGE
nginx-login-b6fd8c4cf-8dbnh    0/1     ContainerCreating   0          14s
karthi@karthi-HP-Pavilion-Laptop-14-ec1xxx:~$ 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    10.99.136.215   <none>        80:30008/TCP   22s
karthi@karthi-HP-Pavilion-Laptop-14-ec1xxx:~$ minikube ip
192.168.49.2
karthi@karthi-HP-Pavilion-Laptop-14-ec1xxx:~$
```

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




```
karthi@karthi-HP-Pavilion-Laptop-14-ec1xxx:~$ 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>
<p>If you see this page, the nginx web server is successfully installed and
working. Further configuration is required.</p>

<p>For online documentation and support please refer to
<a href="http://nginx.org/">nginx.org</a>.<br/>
Commercial support is available at
<a href="http://nginx.com/">nginx.com</a>.</p>

<p><em>Thank you for using nginx.</em></p>
</body>
</html>
karthi@karthi-HP-Pavilion-Laptop-14-ec1xxx:~$
```