Lab Exercise 7 :- Start and Access Kubernetes Dashboard

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Batch:- DevOps B1

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Objective

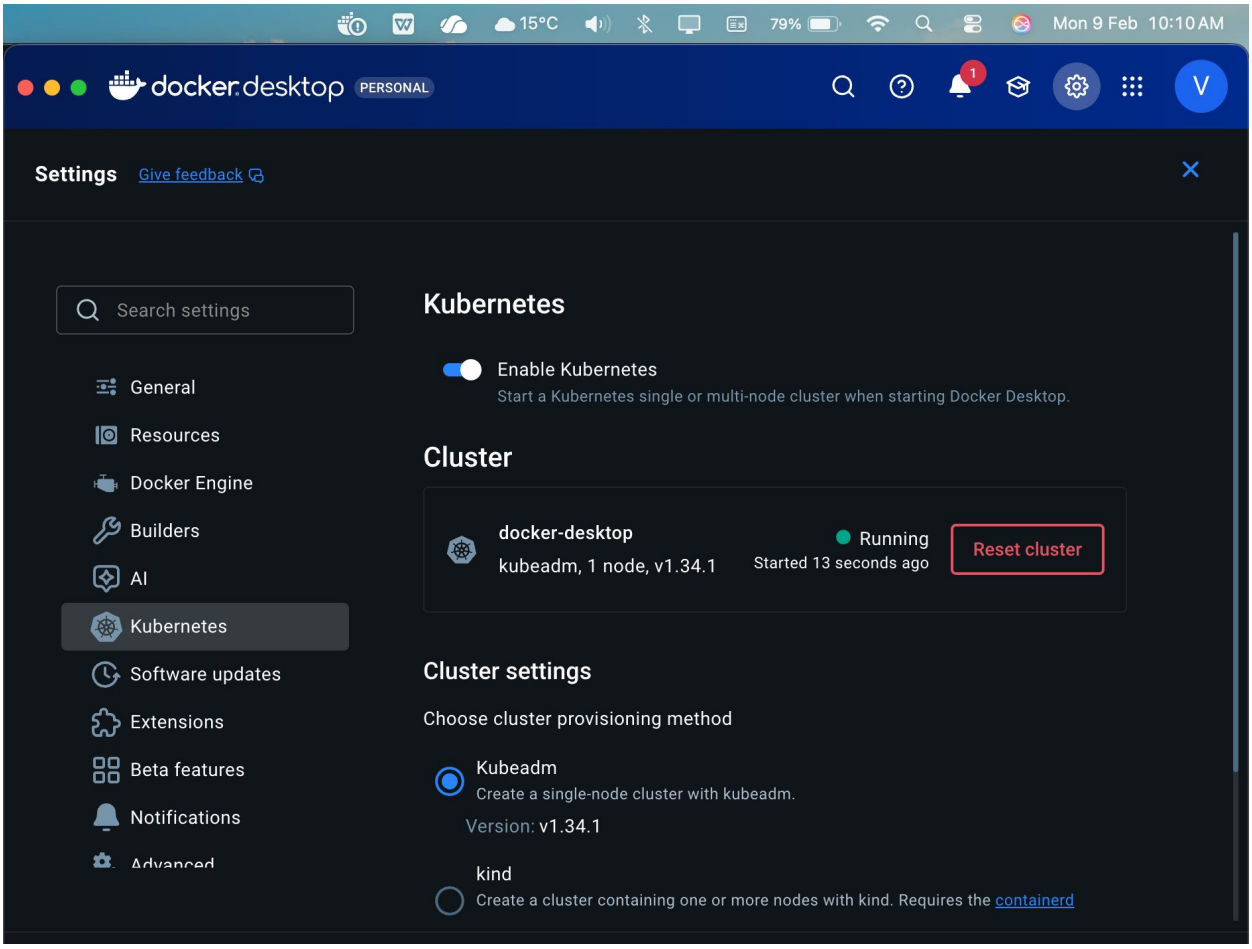
To enable Kubernetes in Docker Desktop, deploy the Kubernetes Dashboard, and access it securely using a web browser on Windows.

Prerequisites

- Windows 10 / 11
- Docker Desktop installed
- Docker Desktop Kubernetes enabled
- Internet connection
- kubectl (comes bundled with Docker Desktop)

Step 1: Enable Kubernetes in Docker Desktop

1. Open **Docker Desktop**
2. Go to **Settings**
3. Select **Kubernetes**
4. Check **Enable Kubernetes**
5. Click **Apply & Restart**

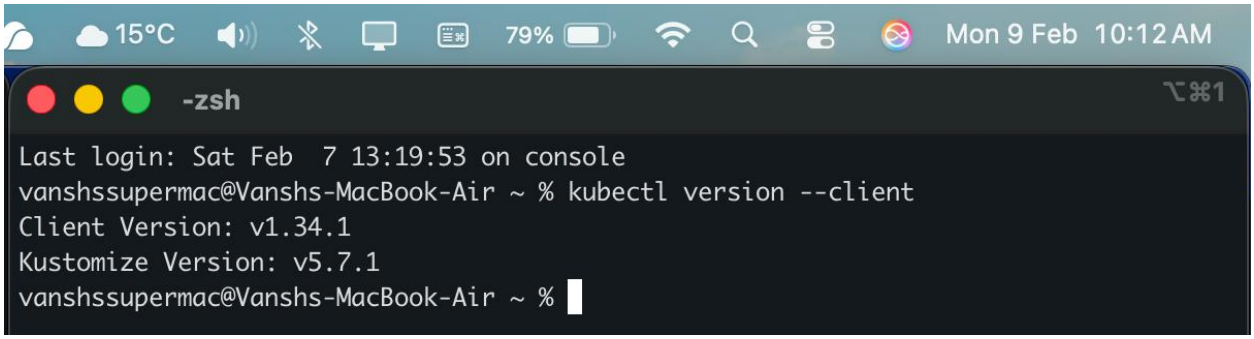


Wait until Kubernetes status shows **Running** (green).

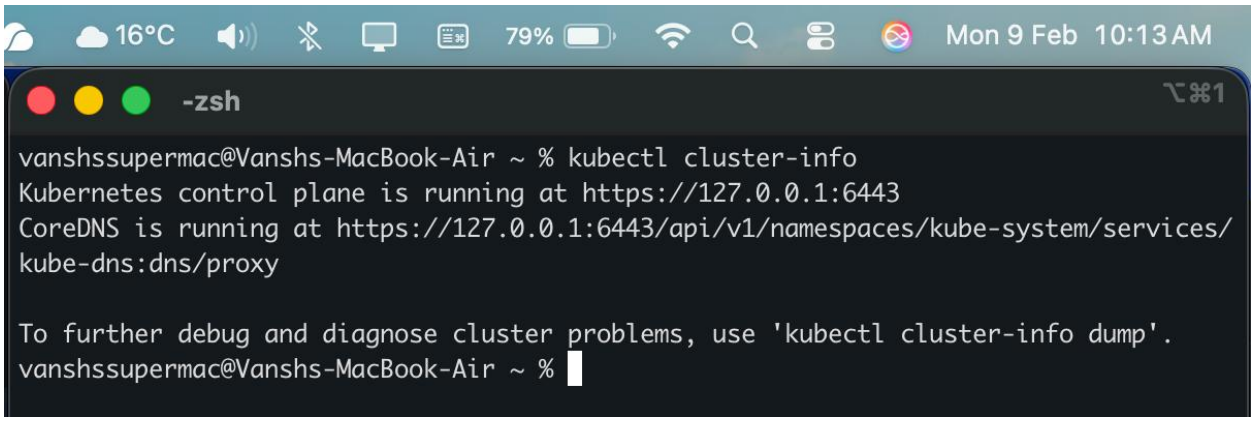
Step 2: Verify Kubernetes Cluster

Open **PowerShell** or **Command Prompt** and run:

- kubectl version --client

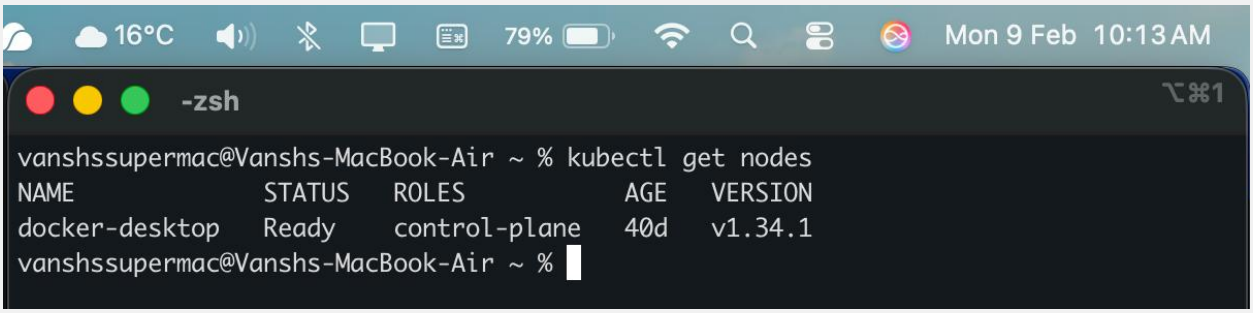


- Check cluster status:
- kubectl cluster-info



Check nodes:

kubectl get nodes



Expected output:

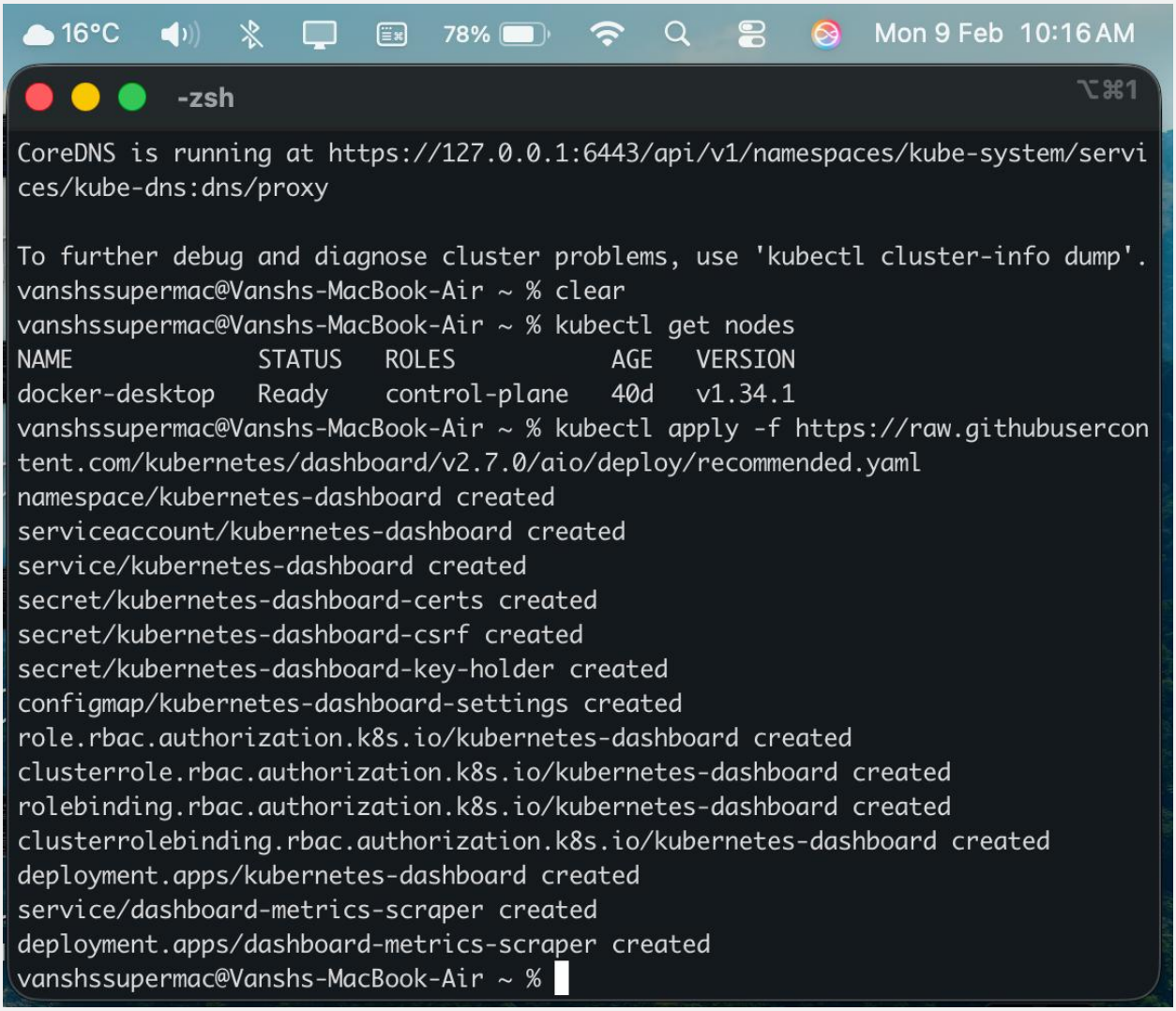
Node status should be **Ready**

Step 3: Deploy Kubernetes Dashboard

Apply the official Kubernetes Dashboard manifest:

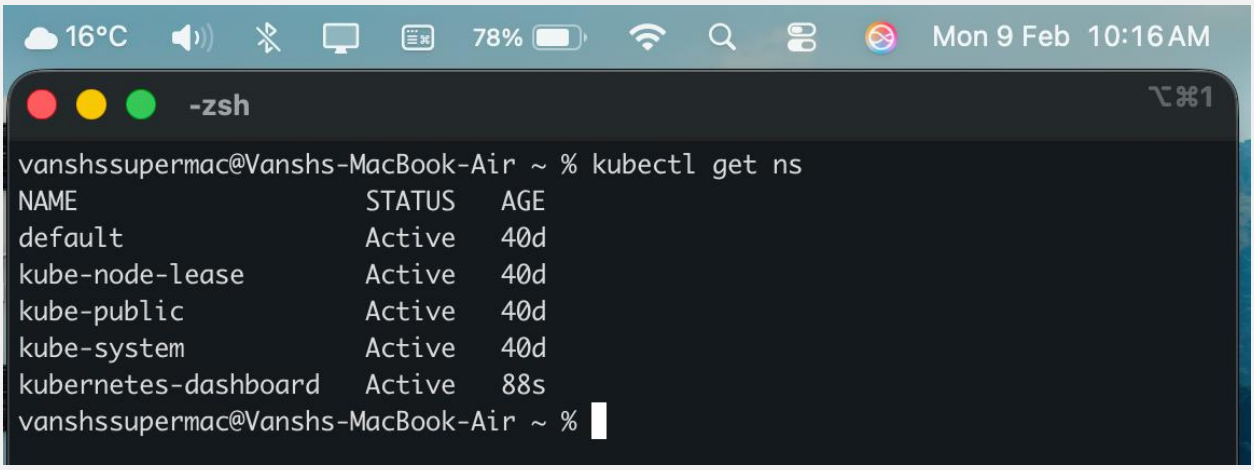
kubectl apply -f

https://raw.githubusercontent.com/kubernetes/dashboard/v2.7.0/aio/deploy/recommended.yaml



Verify namespace creation:

kubectl get ns



You should see:

kubernetes-dashboard

Step 4: Verify Dashboard Pods

Check dashboard pods:

kubectl get pods -n kubernetes-dashboard

```
kubernetes-dashboard   Active   88s
vanshssupermac@Vanshs-MacBook-Air ~ % kubectl get pods -n kubernetes-dashboard
NAME                                         READY   STATUS              RESTART
S   AGE
dashboard-metrics-scraper-5ffb7d645f-w2x6g   0/1     ContainerCreating   0
    2m48s
kubernetes-dashboard-6c7b75ffc-dpfbz         1/1     Running             0
    2m48s
vanshssupermac@Vanshs-MacBook-Air ~ %
```

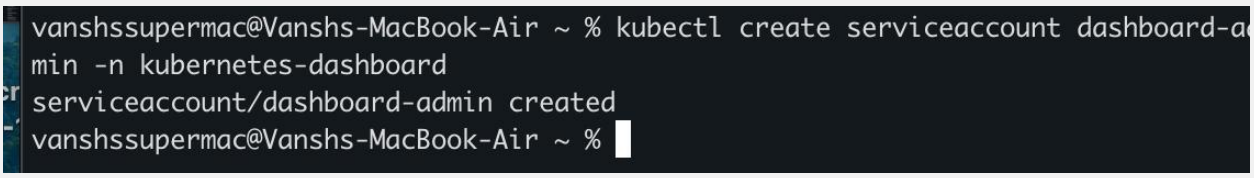
Expected status:

Running

Step 5: Create Admin User for Dashboard Access

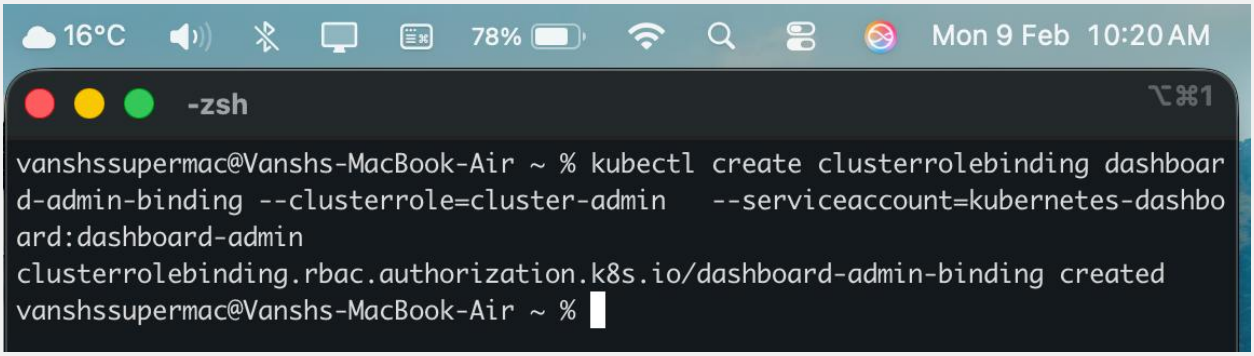
Create a service account:

```
kubectl create serviceaccount dashboard-admin  -n kubernetes-dashboard
```



Create cluster role binding:

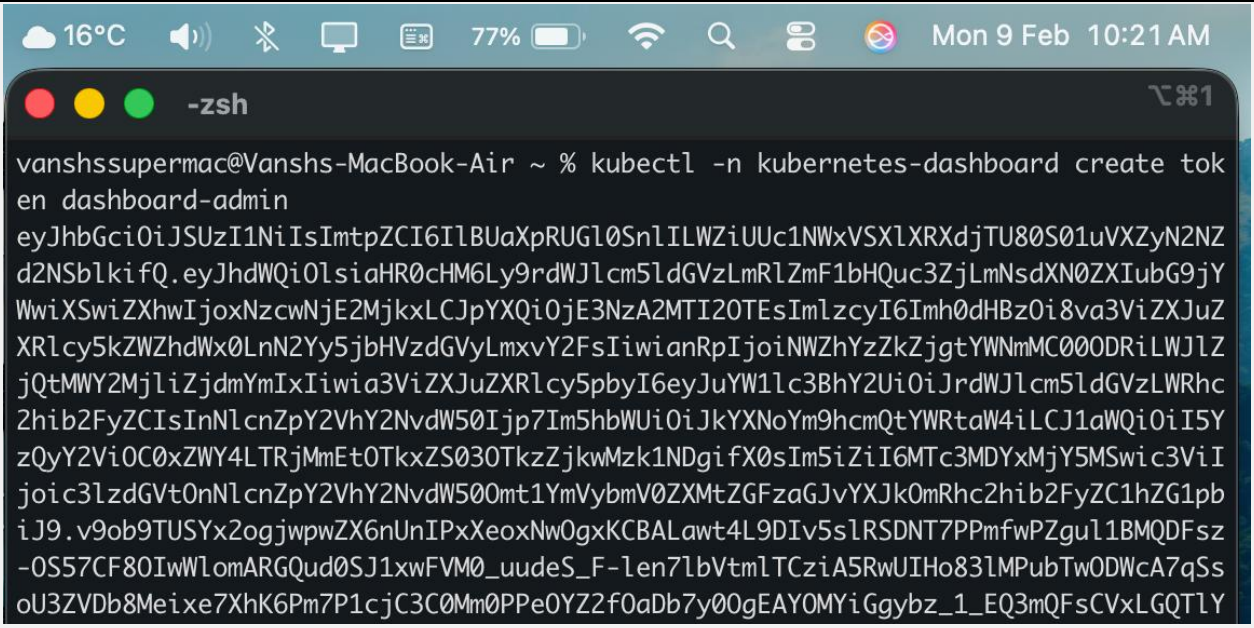
```
kubectl create clusterrolebinding dashboard-admin-binding --clusterrole=cluster-admin --serviceaccount=kubernetes-dashboard:dashboard-admin
```



Step 6: Generate Dashboard Login Token

Run the following command to get the token:

```
kubectl -n kubernetes-dashboard create token dashboard-admin
```



Copy the generated token (you will paste it in the browser later).

Step 7: Start Kubernetes Dashboard

Run the proxy command:

kubectl proxy

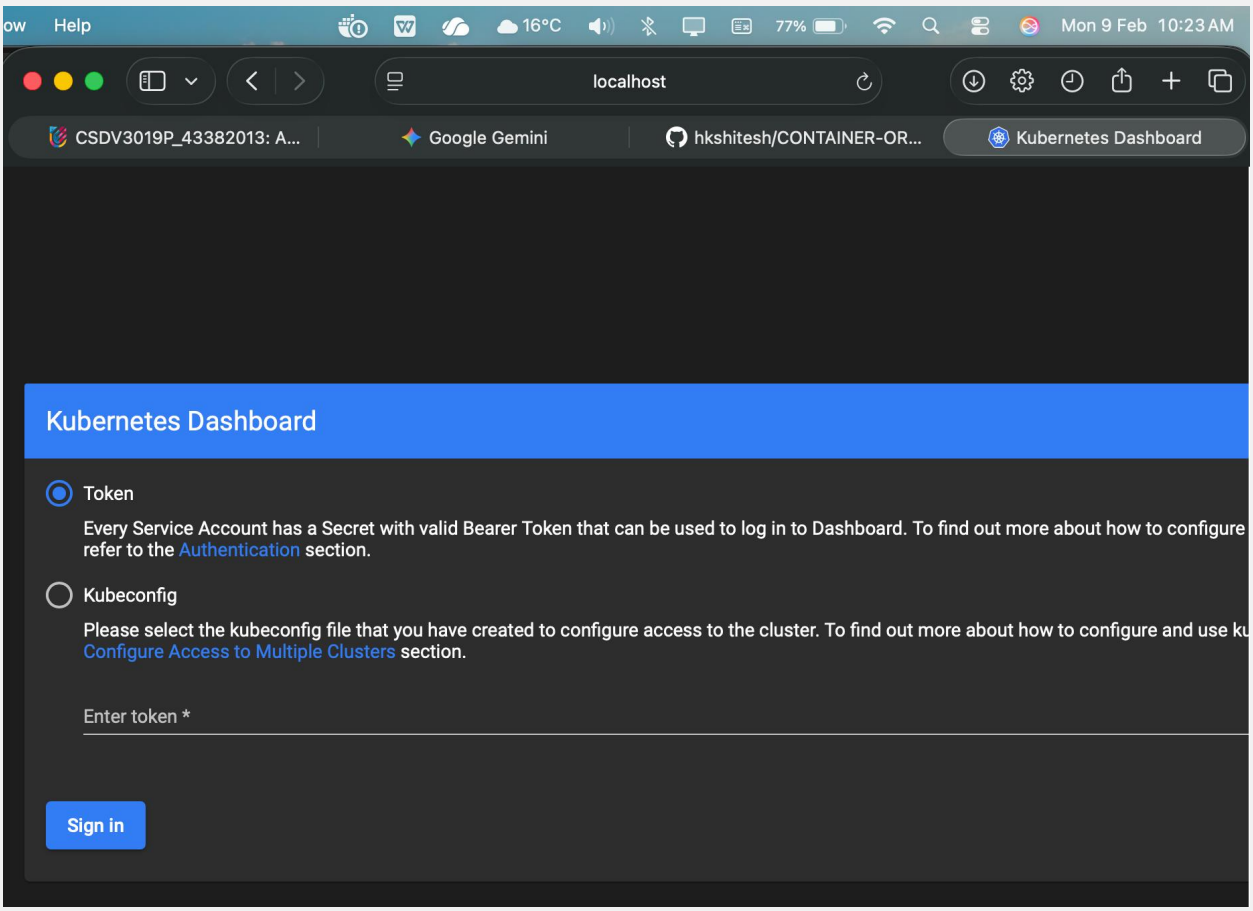
```
vanshssupermac@Vanshs-MacBook-Air ~ % kubectl proxy
Starting to serve on 127.0.0.1:8001
```

Keep this terminal **running**.

Step 8: Access Kubernetes Dashboard in Browser

Open a web browser and paste the following URL:

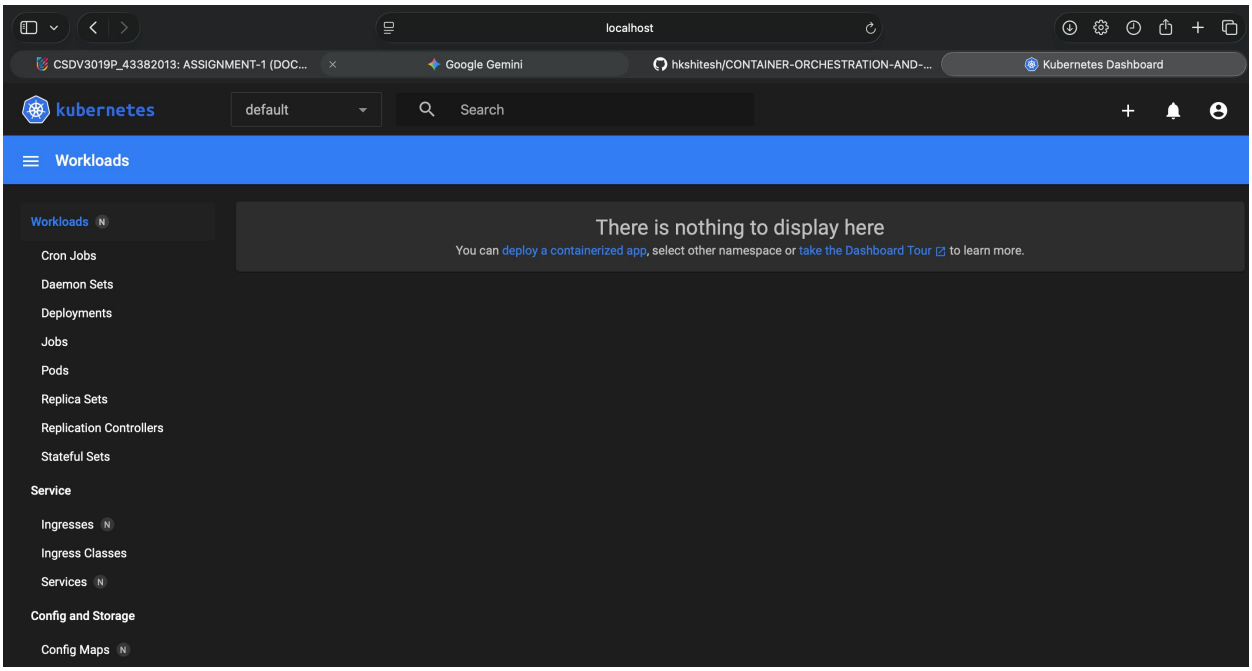
http://localhost:8001/api/v1/namespaces/kubernetes-dashboard/services/https:kubernetes-dashboard:/proxy/



Step 9: Login to Dashboard

1. Select **Token** authentication
2. Paste the token generated earlier
3. Click **Sign In**

You should now see the **Kubernetes Dashboard UI**.



Step 10: Explore Dashboard

You can now view:

- Nodes
- Pods
- Deployments
- Services
- Namespaces
- ConfigMaps and Secrets

Thank You