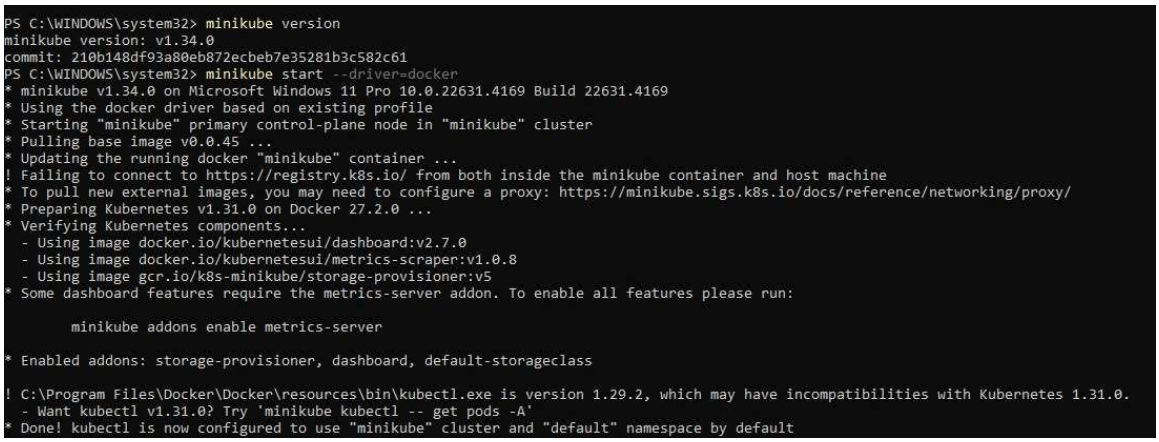
Name:Jyoti Fabiyani
Class: D15B/14

install minikube and run following command

minikube version

Start minikube cluster :minikube start --driver=docker



Verify Minikube status

minikube status install

kubectl

curl -LO "https://storage.googleapis.com/kubernetes-release/release/$(curl -s

https://storage.googleapis.com/kubernetesrelease/release/stable.txt)/bin/windo

ws/amd64/kubectl.exe" Verify installation kubectl version --client

Deploy an Application on Kubernetes create a Deployment

kubectl create deployment nginx --image=nginx Expose the

Deployment kubectl expose deployment nginx --

type=NodePort --port=80

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```
Administrator: Windows PowerShell
PS C:\WINDOWS\system32> minikube status
minikube
type: Control Plane
host: Running
kubelet: Running
apiserver: Running
kubeconfig: Configured

PS C:\WINDOWS\system32> kubectl version --client
Client Version: v1.29.2
Kustomize Version: v5.0.4-0.20230601165947-6ce0bf390ce3
PS C:\WINDOWS\system32> kubectl create deployment nginx --image=nginx
deployment.apps/nginx created
PS C:\WINDOWS\system32> kubectl expose deployment nginx --type=NodePort --port=80
service/nginx exposed
```

Get the URL minikube

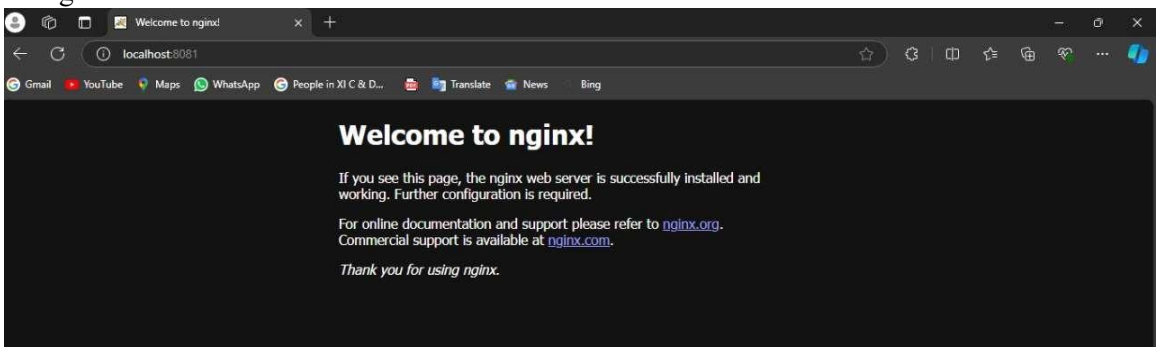
service nginx --url

Manage Kubernetes Cluster

To see running pods: kubectl get pods

To check services:kubectl get services

```
PS C:\WINDOWS\system32> minikube service nginx --url
E1013 03:23:35.337908   11528 service_tunnel.go:66] error starting ssh tunnel: exec: "ssh": executable file not found in %PATH%
http://127.0.0.1:62356
! Because you are using a Docker driver on windows, the terminal needs to be open to run it.
PS C:\WINDOWS\system32> minikube status
minikube
type: Control Plane
host: Running
kubelet: Running
apiserver: Running
kubeconfig: Configured

PS C:\WINDOWS\system32> kubectl get services
NAME         TYPE        CLUSTER-IP     EXTERNAL-IP   PORT(S)        AGE
kubernetes   ClusterIP   10.96.0.1      <none>        443/TCP        5m45s
nginx        NodePort    10.100.9.32    <none>        80:32598/TCP   4m15s
PS C:\WINDOWS\system32> kubectl get pods
NAME                     READY   STATUS    RESTARTS   AGE
nginx-676b6c5bbc-bch7t   1/1     Running   0          4m38s
PS C:\WINDOWS\system32> kubectl port-forward service/nginx 8080:80
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: An attempt was
made to access a socket in a way forbidden by its access permissions. unable to create listener: Error listen tcp6 [::1]:8080: bind: An attempt was made to access a soc
ket in a way forbidden by its access permissions.]
error: unable to listen on any of the requested ports: [{8080 80}]
PS C:\WINDOWS\system32> kubectl port-forward service/nginx 8081:80
Forwarding from 127.0.0.1:8081 -> 80
Forwarding from [::1]:8081 -> 80
Handling connection for 8081
Handling connection for 8081
```

Navigate to localhost