Assignment No-5

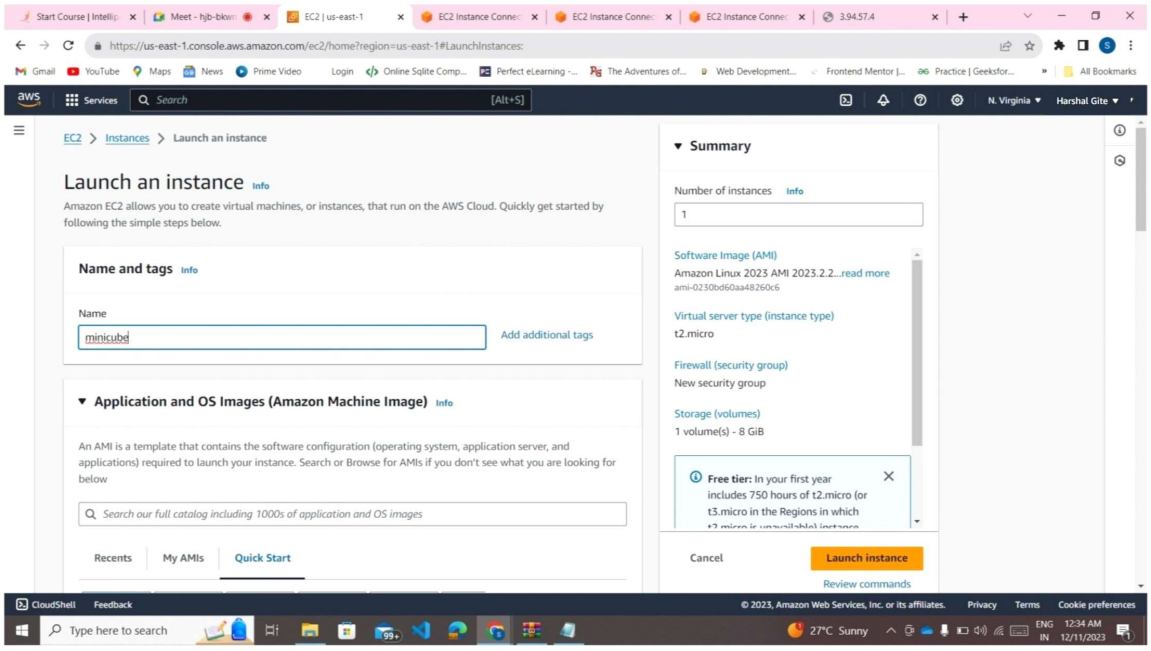
Email: harshalgite888@gmail.com

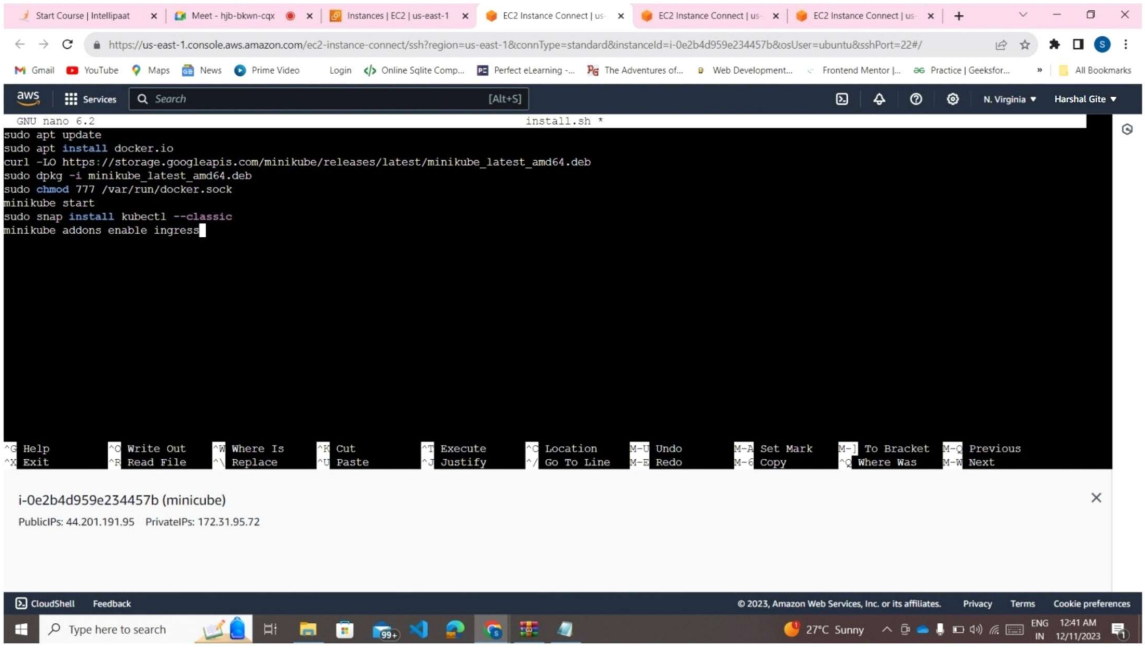
Tasks:

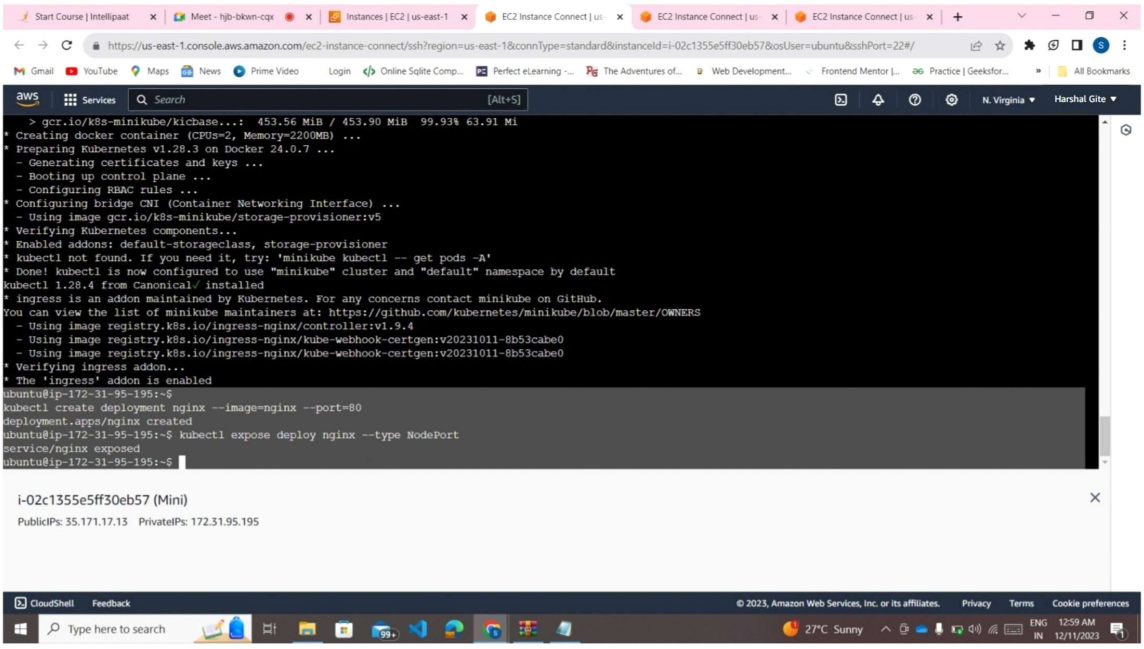
1. Use the previous deployment
2. Deploy an NGINX deployment of 3 replicas
3. Create an NGINX service of type ClusterIP
4. Create an ingress service/ Apache to Apache service/ NGINX to NGINX service

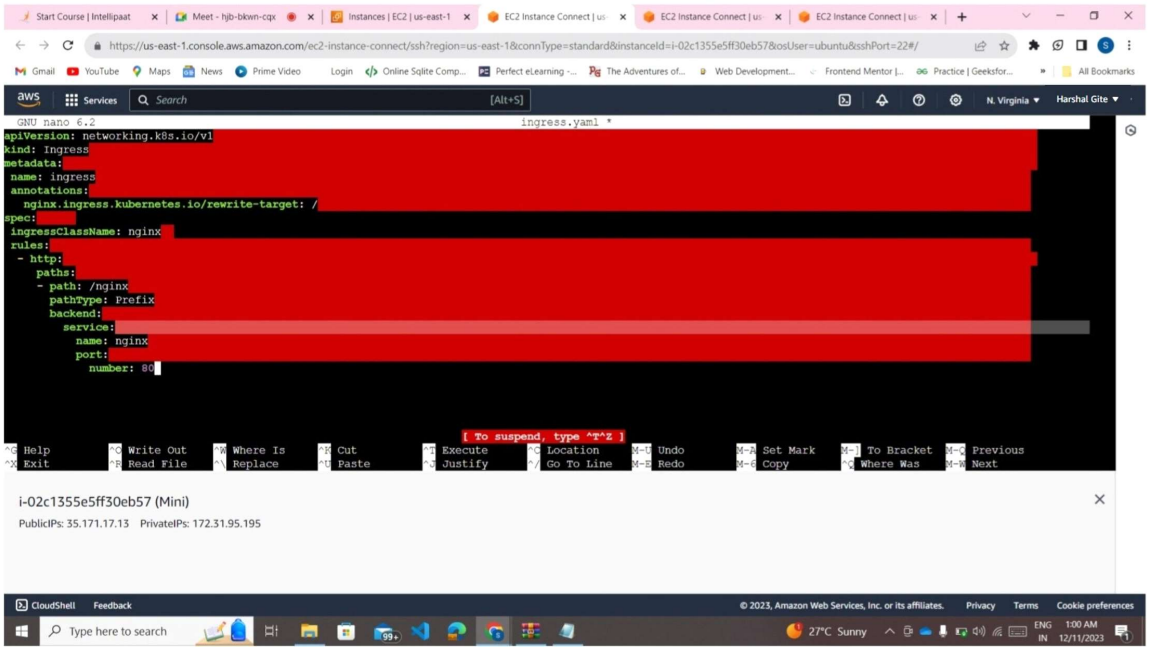
Solution:

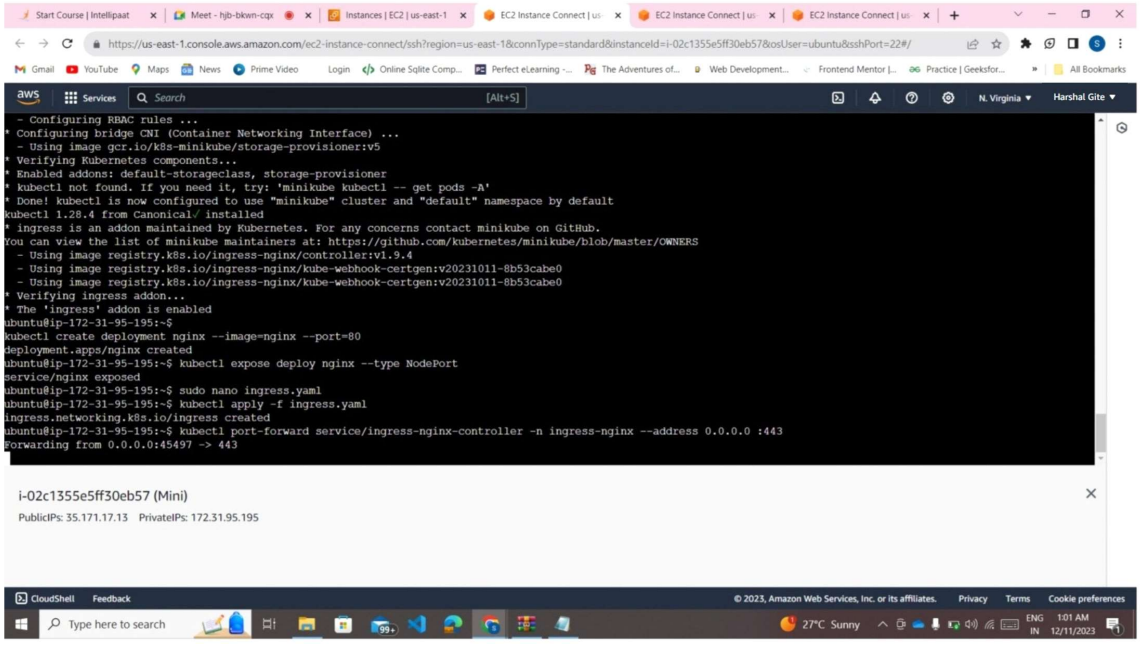
Steps:

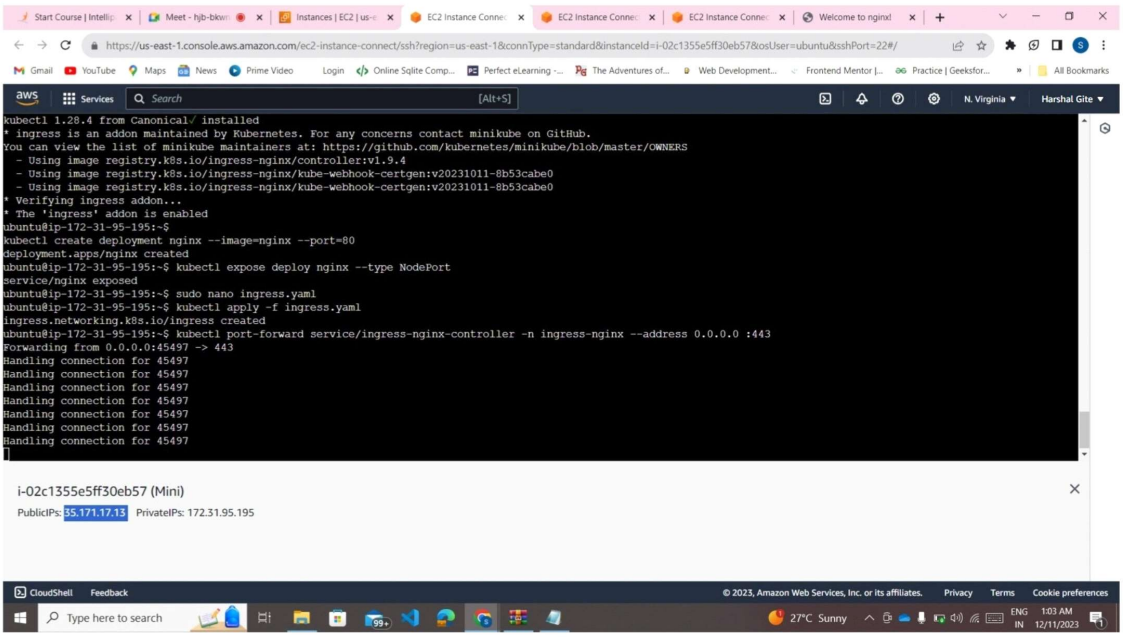


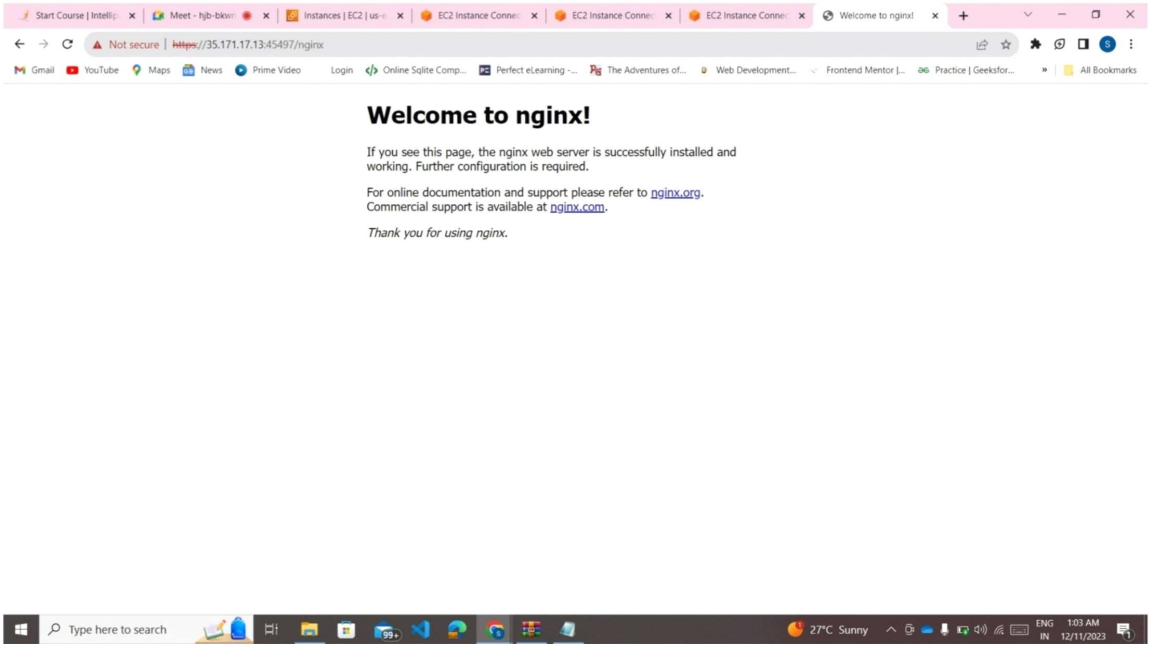

GNU nano 6.2 install.sh *
sudo apt update
sudo apt install docker.io
curl -LO https://storage.googleapis.com/minikube/releases/latest/minikube_latest_amd64.deb
sudo dpkg -i minikube_latest_amd64.deb
sudo chmod 777 /var/run/docker.sock
minikube start
sudo snap install kubectl --classic
minikube addons enable ingress
i-0e2b4d959e234457b (minicube)
PublicIPs: 44.201.191.95 PrivateIPs: 172.31.95.72


> gcr.io/k8s-minikube/kicbase...: 453.56 MiB / 453.90 MiB 99.93% 63.91 Mi
* Creating docker container (CPUs=2, Memory=2200MB) ...
* Preparing Kubernetes v1.28.3 on Docker 24.0.7 ...
- Generating certificates and keys ...
- Booting up control plane ...
- Configuring RBAC rules ...
* Configuring bridge CNI (Container Networking Interface) ...
- Using image gcr.io/k8s-minikube/storage-provisioner:v5
* Verifying Kubernetes components...
* Enabled addons: default-storageclass, storage-provisioner
* kubectl not found. If you need it, try: 'minikube kubectl -- get pods -A'
* Done! kubectl is now configured to use "minikube" cluster and "default" namespace by default
kubectl 1.28.4 from Canonical✓ installed
* ingress is an addon maintained by Kubernetes. For any concerns contact minikube on GitHub.
You can view the list of minikube maintainers at: https://github.com/kubernetes/minikube/blob/master/OWNERS
- Using image registry.k8s.io/ingress-nginx/controller:v1.9.4
- Using image registry.k8s.io/ingress-nginx/kube-webhook-certgen:v20231011-8b53cabe0
- Using image registry.k8s.io/ingress-nginx/kube-webhook-certgen:v20231011-8b53cabe0
* Verifying ingress addon...
* The 'ingress' addon is enabled
ubuntu@ip-172-31-95-195:~$
kubectl create deployment nginx --image=nginx --port=80
deployment.apps/nginx created
ubuntu@ip-172-31-95-195:~$ kubectl expose deploy nginx --type NodePort
service/nginx exposed
ubuntu@ip-172-31-95-195:~$
i-02c1355e5ff30eb57 (Mini)
PublicIPs: 35.171.17.13 PrivateIPs: 172.31.95.195


GNU nano 6.2 ingress.yaml *
apiVersion: networking.k8s.io/v1
kind: Ingress
metadata:
name: ingress
annotations:
nginx.ingress.kubernetes.io/rewrite-target: /
spec:
ingressClassName: nginx
rules:
- http:
paths:
- path: /nginx
pathType: Prefix
backend:
service:
name: nginx
port:
number: 80
[To suspend, type ^T^Z]
^G Help ^O Write Out ^W Where Is ^K Cut ^T Execute ^C Location M-U Undo M-A Set Mark M-] To Bracket M-Q Previous
^X Exit ^R Read File ^\ Replace ^U Paste ^J Justify ^/ Go To Line M-E Redo M-6 Copy ^Q Where Was M-W Next
i-02c1355e5ff30eb57 (Mini)
PublicIPs: 35.171.17.13 PrivateIPs: 172.31.95.195


- Configuring RBAC rules ...
* Configuring bridge CNI (Container Networking Interface) ...
- Using image gcr.io/k8s-minikube/storage-provisioner:v5
* Verifying Kubernetes components...
* Enabled addons: default-storageclass, storage-provisioner
* kubectl not found. If you need it, try: 'minikube kubectl -- get pods -A'
* Done! kubectl is now configured to use "minikube" cluster and "default" namespace by default
kubectl 1.28.4 from Canonical/ installed
* ingress is an addon maintained by Kubernetes. For any concerns contact minikube on GitHub.
You can view the list of minikube maintainers at: https://github.com/kubernetes/minikube/blob/master/OWNERS
- Using image registry.k8s.io/ingress-nginx/controller:v1.9.4
- Using image registry.k8s.io/ingress-nginx/kube-webhook-certgen:v20231011-8b53cabe0
- Using image registry.k8s.io/ingress-nginx/kube-webhook-certgen:v20231011-8b53cabe0
* Verifying ingress addon...
* The 'ingress' addon is enabled
ubuntu@ip-172-31-95-195:~$
kubectl create deployment nginx --image=nginx --port=80
deployment.apps/nginx created
ubuntu@ip-172-31-95-195:~$ kubectl expose deploy nginx --type NodePort
service/nginx exposed
ubuntu@ip-172-31-95-195:~$ sudo nano ingress.yaml
ubuntu@ip-172-31-95-195:~$ kubectl apply -f ingress.yaml
ingress.networking.k8s.io/ingress created
ubuntu@ip-172-31-95-195:~$ kubectl port-forward service/ingress-nginx-controller -n ingress-nginx --address 0.0.0.0 :443
Forwarding from 0.0.0.0:45497 -> 443
i-02c1355e5ff30eb57 (Mini)
PublicIPs: 35.171.17.13 PrivateIPs: 172.31.95.195


kubectl 1.28.4 from Canonical✓ installed
* ingress is an addon maintained by Kubernetes. For any concerns contact minikube on GitHub.
You can view the list of minikube maintainers at: https://github.com/kubernetes/minikube/blob/master/OWNERS
- Using image registry.k8s.io/ingress-nginx/controller:v1.9.4
- Using image registry.k8s.io/ingress-nginx/kube-webhook-certgen:v20231011-8b53cabe0
- Using image registry.k8s.io/ingress-nginx/kube-webhook-certgen:v20231011-8b53cabe0
* Verifying ingress addon...
* The 'ingress' addon is enabled
ubuntu@ip-172-31-95-195:~$
kubectl create deployment nginx --image=nginx --port=80
deployment.apps/nginx created
ubuntu@ip-172-31-95-195:~$ kubectl expose deploy nginx --type NodePort
service/nginx exposed
ubuntu@ip-172-31-95-195:~$ sudo nano ingress.yaml
ubuntu@ip-172-31-95-195:~$ kubectl apply -f ingress.yaml
ingress.networking.k8s.io/ingress created
ubuntu@ip-172-31-95-195:~$ kubectl port-forward service/ingress-nginx-controller -n ingress-nginx --address 0.0.0.0 :443
Forwarding from 0.0.0.0:45497 -> 443
Handling connection for 45497
Handling connection for 45497
Handling connection for 45497
Handling connection for 45497
Handling connection for 45497
Handling connection for 45497
Handling connection for 45497
i-02c1355e5ff30eb57 (Mini)
PublicIPs: 35.171.17.13 PrivateIPs: 172.31.95.195


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.