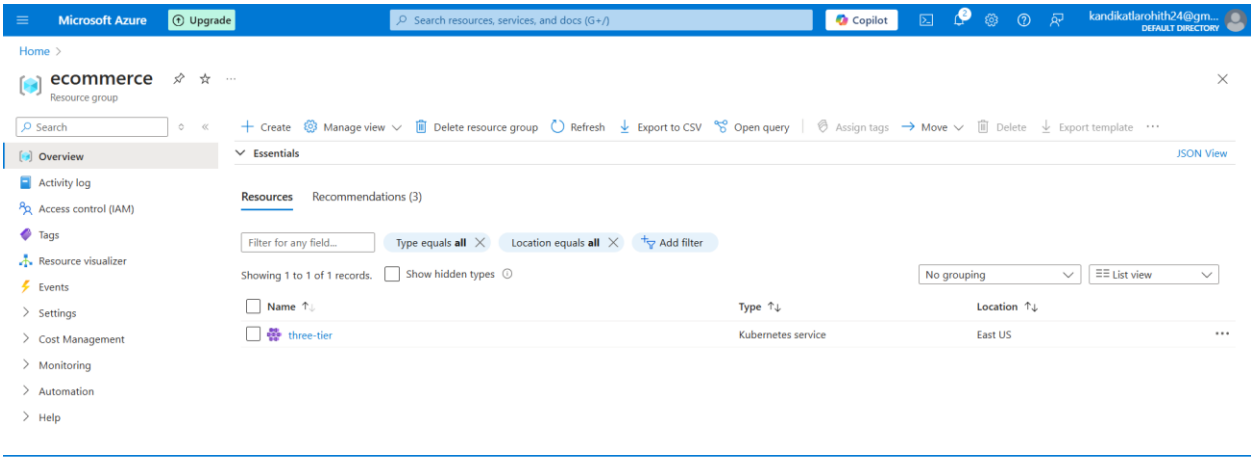
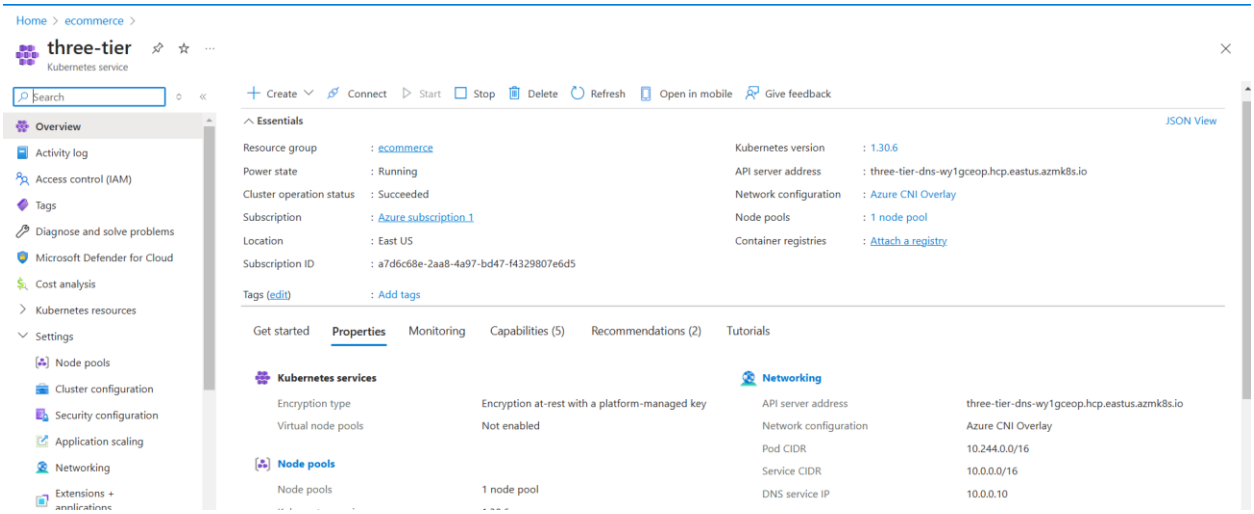
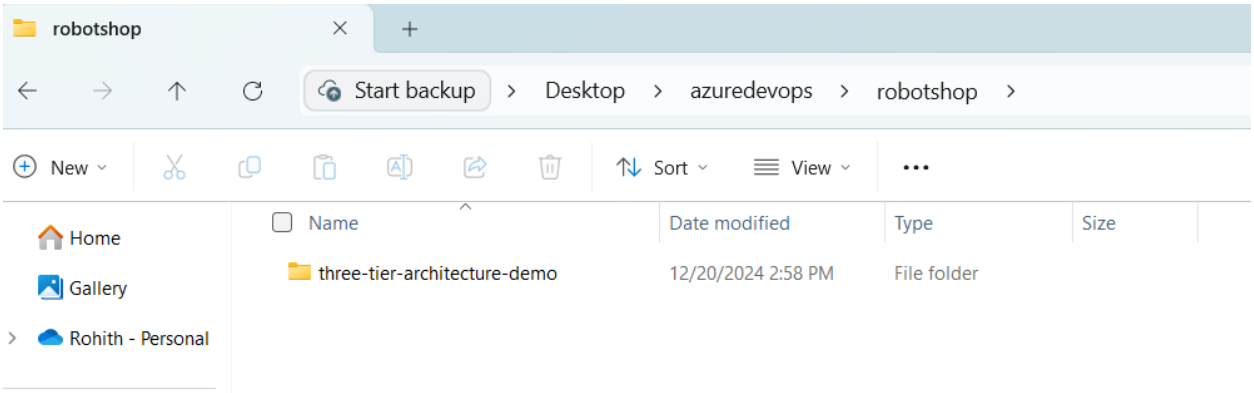
1. Created a Kubernetes cluster by creating new resource group ecommerce and Kubernetes service name as three-tier



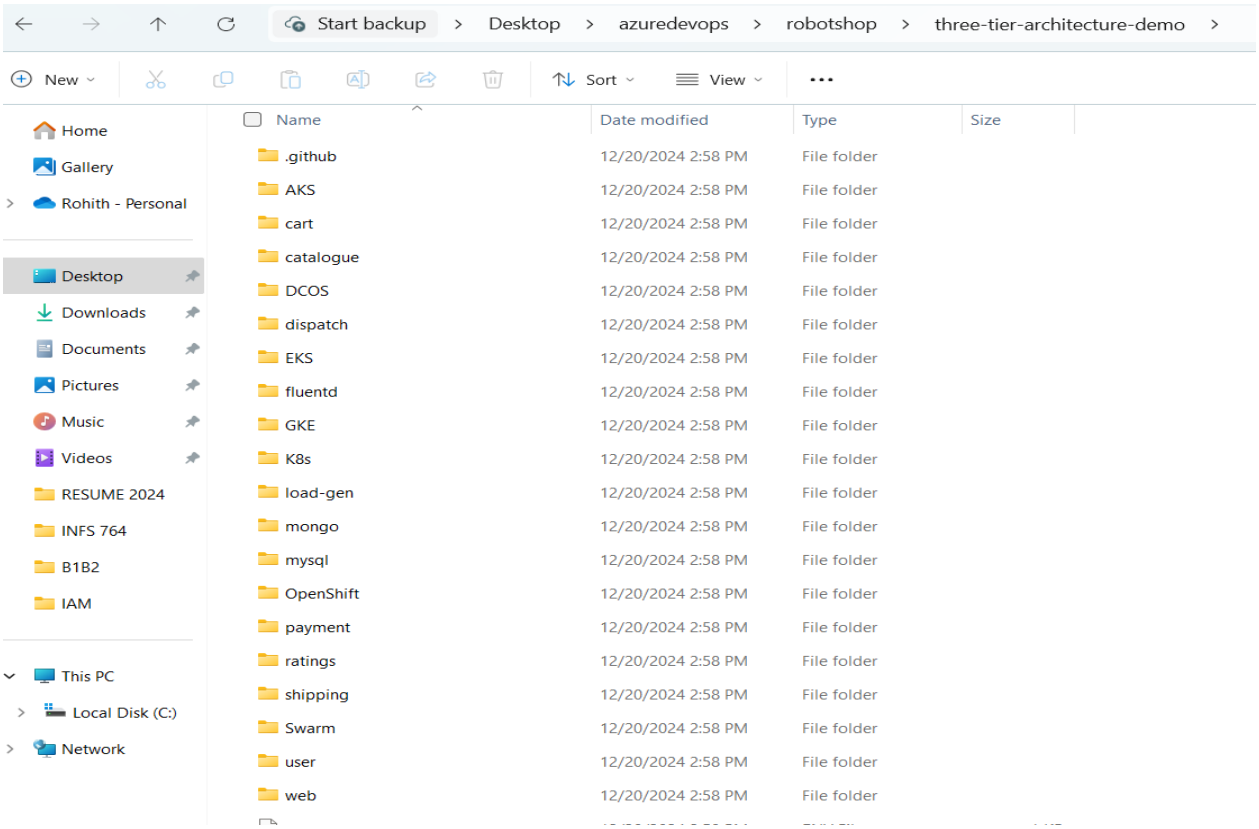


2. Created a folder for robotshop application



3. Cloned the git repository into the local folder
   git clone https://github.com/rohith200/three-tier-architecture-demo/tree/master

```
Rohith Kandikatla@DESKTOP-KJOVULU MINGW64 ~ (master)
$ cd Desktop/

Rohith Kandikatla@DESKTOP-KJOVULU MINGW64 ~/Desktop (master)
$ cd azuredevops/

Rohith Kandikatla@DESKTOP-KJOVULU MINGW64 ~/Desktop/azuredevops (master)
$ ls
ARM/  IAM/  robotshop/

Rohith Kandikatla@DESKTOP-KJOVULU MINGW64 ~/Desktop/azuredevops (master)
$ cd robotshop/

Rohith Kandikatla@DESKTOP-KJOVULU MINGW64 ~/Desktop/azuredevops/robotshop (master)
$ ls

Rohith Kandikatla@DESKTOP-KJOVULU MINGW64 ~/Desktop/azuredevops/robotshop (master)
$ git clone https://github.com/rohith200/three-tier-architecture-demo
Cloning into 'three-tier-architecture-demo'...
remote: Enumerating objects: 2678, done.
remote: Total 2678 (delta 0), reused 0 (delta 0), pack-reused 2678 (from 1)
Receiving objects: 100% (2678/2678), 81.45 MiB | 2.28 MiB/s, done.
Resolving deltas: 100% (1412/1412), done.

Rohith Kandikatla@DESKTOP-KJOVULU MINGW64 ~/Desktop/azuredevops/robotshop (master)
$ ls
three-tier-architecture-demo/

Rohith Kandikatla@DESKTOP-KJOVULU MINGW64 ~/Desktop/azuredevops/robotshop (master)
$ cd three-tier-architecture-demo/

Rohith Kandikatla@DESKTOP-KJOVULU MINGW64 ~/Desktop/azuredevops/robotshop/three-tier-architecture-demo (master)
$ ls
AKS/        DCOS/               docker-compose-load.yaml  GKE/     load-gen/  OpenShift/          ratings/   Swarm/
cart/       dispatch/           EKS/                      K8s/     mongo/     payment/            README.md  user/
catalogue/  docker-compose.yaml fluentd/                  LICENSE  mysql/     pullbaseimages.sh*  shipping/  web/
```



4. The command az aks get-credentials is used to fetch the access credentials for an Azure Kubernetes Service (AKS) cluster so that you can interact with it using tools like kubectl.

```
Rohith Kandikatla@DESKTOP-KJOVULU MINGW64 ~/Desktop/azuredevops/robotshop/three-tier-architecture-demo (master)
$ az aks get-credentials --resource-group ecommerce --name three-tier
Merged "three-tier" as current context in C:\Users\Rohith Kandikatla\.kube\config

Rohith Kandikatla@DESKTOP-KJOVULU MINGW64 ~/Desktop/azuredevops/robotshop/three-tier-architecture-demo (master)
$ ls
AKS/                    fluentd/    payment/
cart/                   GKE/        pullbaseimages.sh*
catalogue/              K8s/        ratings/
DCOS/                   LICENSE     README.md
dispatch/               load-gen/   shipping/
docker-compose.yaml     mongo/      Swarm/
docker-compose-load.yaml mysql/     user/
EKS/                    OpenShift/  web/

Rohith Kandikatla@DESKTOP-KJOVULU MINGW64 ~/Desktop/azuredevops/robotshop/three-tier-architecture-demo (master)
$ kubectl get pods
No resources found in default namespace.

Rohith Kandikatla@DESKTOP-KJOVULU MINGW64 ~/Desktop/azuredevops/robotshop/three-tier-architecture-demo (master)
$ kubectl config current-context
three-tier

Rohith Kandikatla@DESKTOP-KJOVULU MINGW64 ~/Desktop/azuredevops/robotshop/three-tier-architecture-demo (master)
$ cd AKS/

Rohith Kandikatla@DESKTOP-KJOVULU MINGW64 ~/Desktop/azuredevops/robotshop/three-tier-architecture-demo/AKS (master)
$ cd helm

Rohith Kandikatla@DESKTOP-KJOVULU MINGW64 ~/Desktop/azuredevops/robotshop/three-tier-architecture-demo/AKS/helm (master)
$ ls
Chart.yaml  ingress.yaml  README.md  templates/  values.yaml
```

5. Created a namespace robot-shop that is used to deploy a Helm chart to a Kubernetes cluster.

```
Rohith Kandikatla@DESKTOP-KJOVULU MINGW64 ~/Desktop/azuredevops/robotshop/three-tier-architecture-demo/AKS/helm (master)
$ kubectl create ns robot-shop
namespace/robot-shop created

Rohith Kandikatla@DESKTOP-KJOVULU MINGW64 ~/Desktop/azuredevops/robotshop/three-tier-architecture-demo/AKS/helm (master)
$ helm install robot-shop --namespace robot-shop .
NAME: robot-shop
LAST DEPLOYED: Fri Dec 20 16:06:57 2024
NAMESPACE: robot-shop
STATUS: deployed
REVISION: 1
TEST SUITE: None
```

```
Rohith Kandikatla@DESKTOP-KJOVULU MINGW64 ~/Desktop/azuredevops/robotshop/three-tier-architecture-demo/AKS/helm (master)
$  kubectl get pods -n robot-shop
NAME                        READY   STATUS    RESTARTS   AGE
cart-78dbff49b-hmjv5        1/1     Running   0          7m50s
catalogue-7b4b777975-j6g78  1/1     Running   0          7m50s
dispatch-7d4ff989d7-c8h52   1/1     Running   0          7m50s
mongodb-b487b86b6-h7sx6     1/1     Running   0          7m50s
mysql-7c9bcd9464-tw7l5      1/1     Running   0          7m50s
payment-7474f4f69f-78h26    1/1     Running   0          7m50s
rabbitmq-7bc96449444-zqf6t  1/1     Running   0          7m50s
ratings-8c68dd6c5-q5wjw     1/1     Running   0          7m50s
redis-0                     1/1     Running   0          7m50s
shipping-5c899bdb6c-gxg5s   1/1     Running   0          7m50s
user-596968bd87-jtmxv       1/1     Running   0          7m50s
web-6545b6c677-b64sh        1/1     Running   0          7m50s
```

```
Rohith Kandikatla@DESKTOP-KJOVULU MINGW64 ~/Desktop/azuredevops/robotshop/three-tier-architecture-demo/AKS/helm (master)
$ kubectl get pods -n robot-shop
NAME                           READY   STATUS    RESTARTS   AGE
cart-78dbff49b-hmjv5           1/1     Running   0          18m
catalogue-7b4b777975-j6g78     1/1     Running   0          18m
dispatch-7d4ff989d7-c8h52      1/1     Running   0          18m
mongodb-b487b86b6-h7sx6        1/1     Running   0          18m
mysql-7c9bcd9464-tw7l5         1/1     Running   0          18m
payment-7474f4f69f-78h26       1/1     Running   0          18m
rabbitmq-7bc9649444-zqf6t      1/1     Running   0          18m
ratings-8c68dd6c5-q5wjw        1/1     Running   0          18m
redis-0                        1/1     Running   0          18m
shipping-5c899bdb6c-gxg5s      1/1     Running   0          18m
user-596968bd87-jtmxv          1/1     Running   0          18m
web-6545b6c677-b64sh           1/1     Running   0          18m
```

6. kubectl get svc -n robot-shop is used to retrieve information about the services running in the robot-shop namespace in a Kubernetes cluster.

```
Rohith Kandikatla@DESKTOP-KJOVULU MINGW64 ~/Desktop/azuredevops/robotshop/three-tier-architecture-demo/AKS/helm (master)
$ kubectl get svc -n robot-shop
NAME        TYPE           CLUSTER-IP     EXTERNAL-IP     PORT(S)
            AGE
cart        ClusterIP      10.0.190.123   <none>          8080/TCP
            20m
catalogue   ClusterIP      10.0.79.90     <none>          8080/TCP
            20m
dispatch    ClusterIP      None           <none>          55555/TCP
            20m
mongodb     ClusterIP      10.0.239.73    <none>          27017/TCP
            20m
mysql       ClusterIP      10.0.17.38     <none>          3306/TCP
            20m
payment     ClusterIP      10.0.135.186   <none>          8080/TCP
            20m
rabbitmq    ClusterIP      10.0.65.250    <none>          5672/TCP,15672/TCP,4369/TCP   20m
ratings     ClusterIP      10.0.216.16    <none>          80/TCP
            20m
redis       ClusterIP      10.0.144.80    <none>          6379/TCP
$
shipping    ClusterIP      10.0.121.131   <none>          8080/TCP
            20m
user        ClusterIP      10.0.173.112   <none>          8080/TCP
            20m
web         LoadBalancer   10.0.196.24    4.157.155.245   8080:32698/TCP                20m
```

7. Using the IP address and port of web http://4.157.155.245:8080/
   Successfully the stan's Robot Shop application is deployed on Kubernetes cluster and accessed through web.