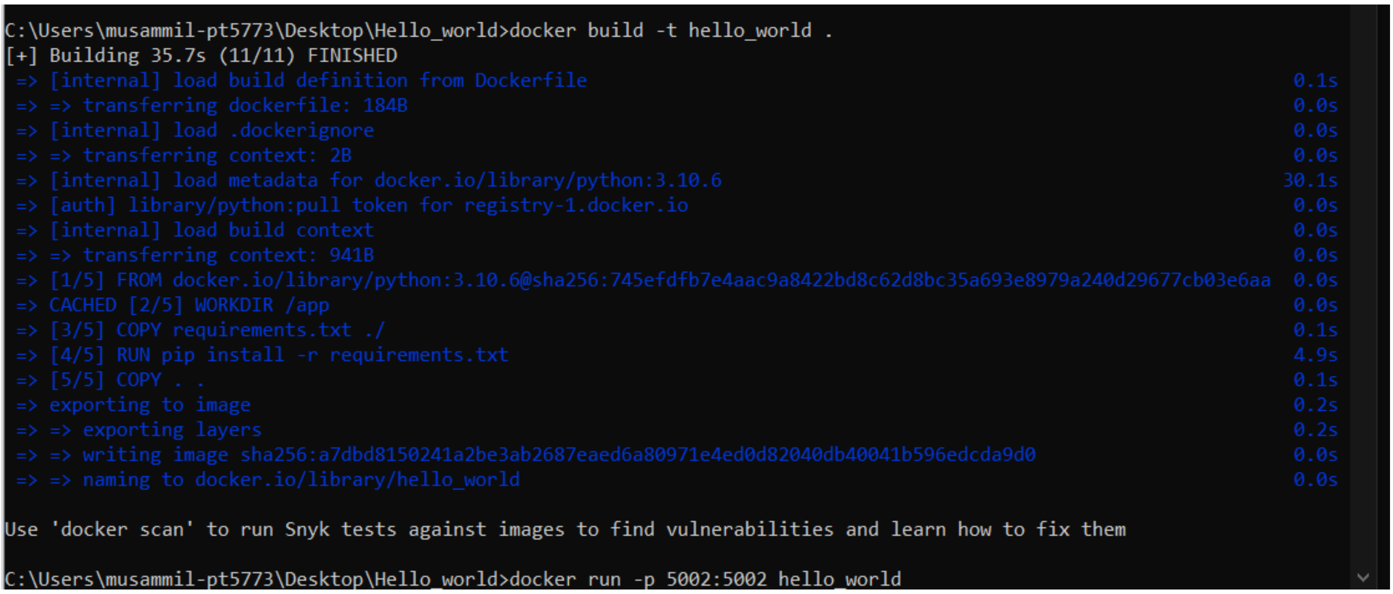
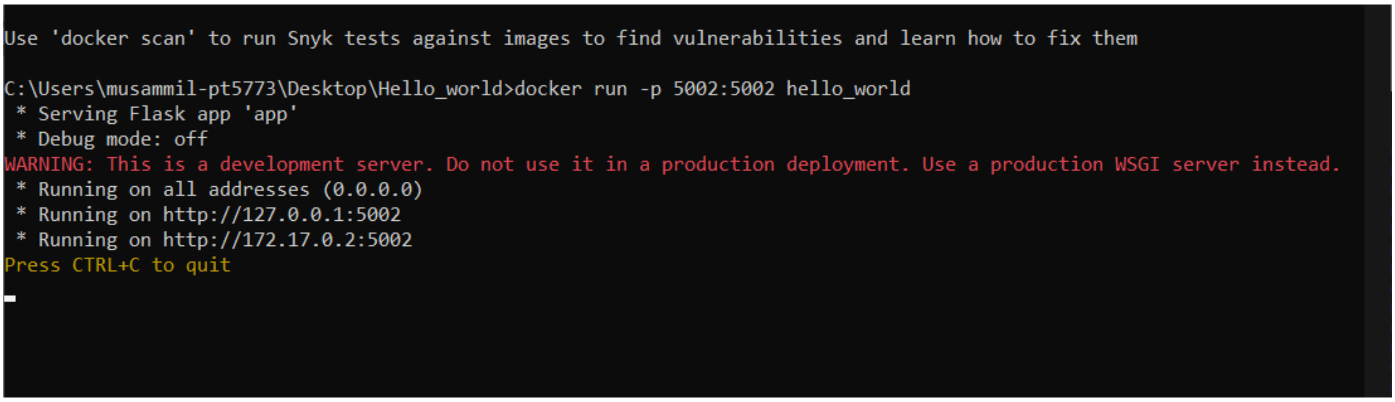
ASSIGNMENT-4

1.Pull an Image from docker hub and run it in docker playground.

BUILT AN DOCKER IMAGE

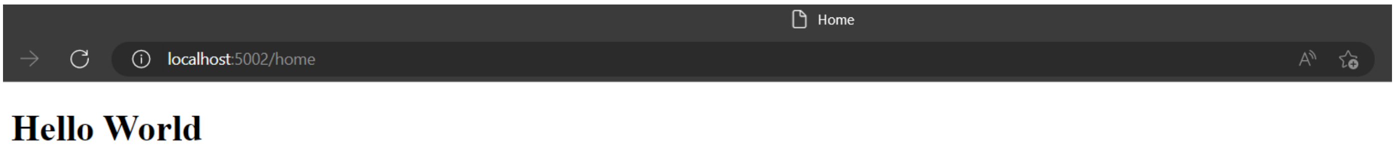


```
C:\Users\musammil-pt5773\Desktop\Hello_world>docker build -t hello_world .
[+] Building 35.7s (11/11) FINISHED
 => [internal] load build definition from Dockerfile                                                 0.1s
 => => transferring dockerfile: 184B                                                                 0.0s
 => [internal] load .dockerignore                                                                    0.0s
 => => transferring context: 2B                                                                      0.0s
 => [internal] load metadata for docker.io/library/python:3.10.6                                    30.1s
 => [auth] library/python:pull token for registry-1.docker.io                                        0.0s
 => [internal] load build context                                                                    0.0s
 => => transferring context: 941B                                                                    0.0s
 => [1/5] FROM docker.io/library/python:3.10.6@sha256:745efdfb7e4aac9a8422bd8c62d8bc35a693e8979a240d29677cb03e6aa  0.0s
 => CACHED [2/5] WORKDIR /app                                                                        0.0s
 => [3/5] COPY requirements.txt ./                                                                   0.1s
 => [4/5] RUN pip install -r requirements.txt                                                        4.9s
 => [5/5] COPY . .                                                                                   0.1s
 => exporting to image                                                                               0.2s
 => => exporting layers                                                                              0.2s
 => => writing image sha256:a7dbd8150241a2be3ab2687eaed6a80971e4ed0d82040db40041b596edcda9d0         0.0s
 => => naming to docker.io/library/hello_world                                                       0.0s

Use 'docker scan' to run Snyk tests against images to find vulnerabilities and learn how to fix them

C:\Users\musammil-pt5773\Desktop\Hello_world>docker run -p 5002:5002 hello_world
```



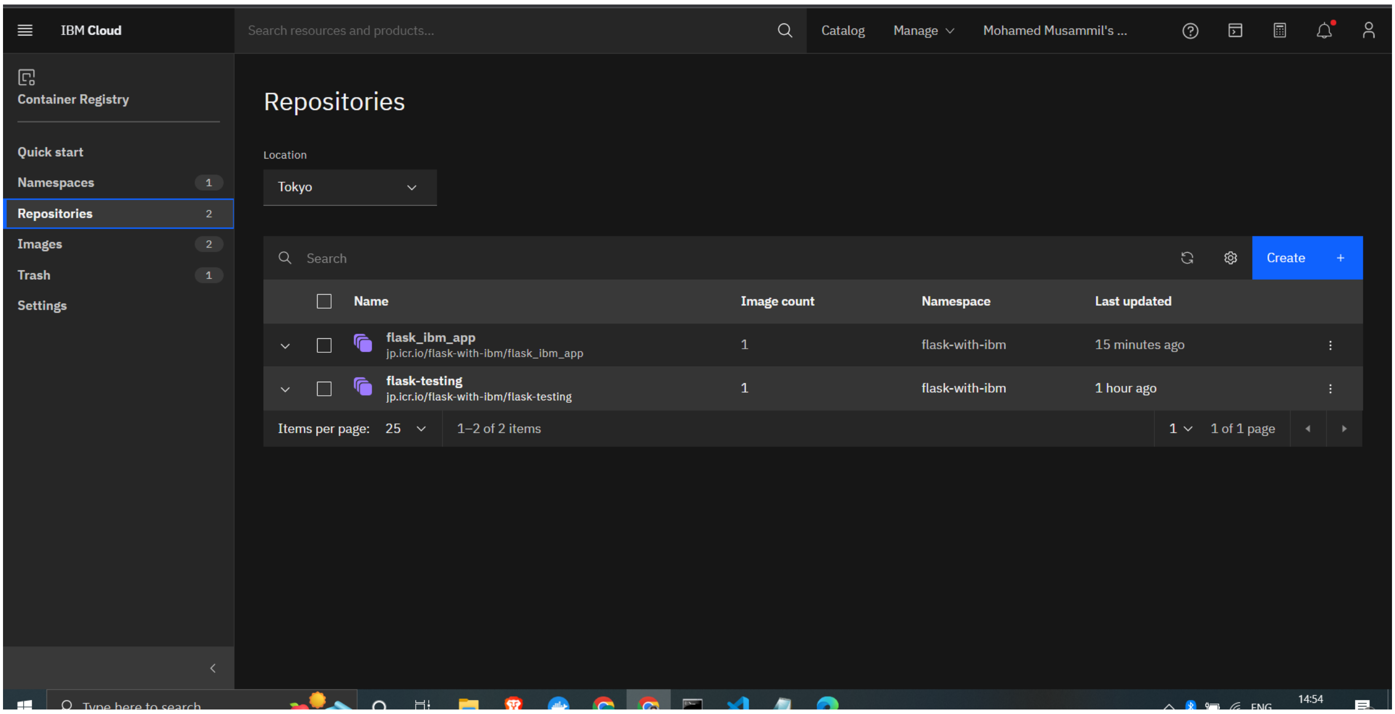
```
Use 'docker scan' to run Snyk tests against images to find vulnerabilities and learn how to fix them

C:\Users\musammil-pt5773\Desktop\Hello_world>docker run -p 5002:5002 hello_world
 * Serving Flask app 'app'
 * Debug mode: off
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
 * Running on all addresses (0.0.0.0)
 * Running on http://127.0.0.1:5002
 * Running on http://172.17.0.2:5002
Press CTRL+C to quit
```

RUNNING IN DOCKER:



Hello World

2. CREATE AN IBM CONTAINER REGISTRY AND DEPLOY



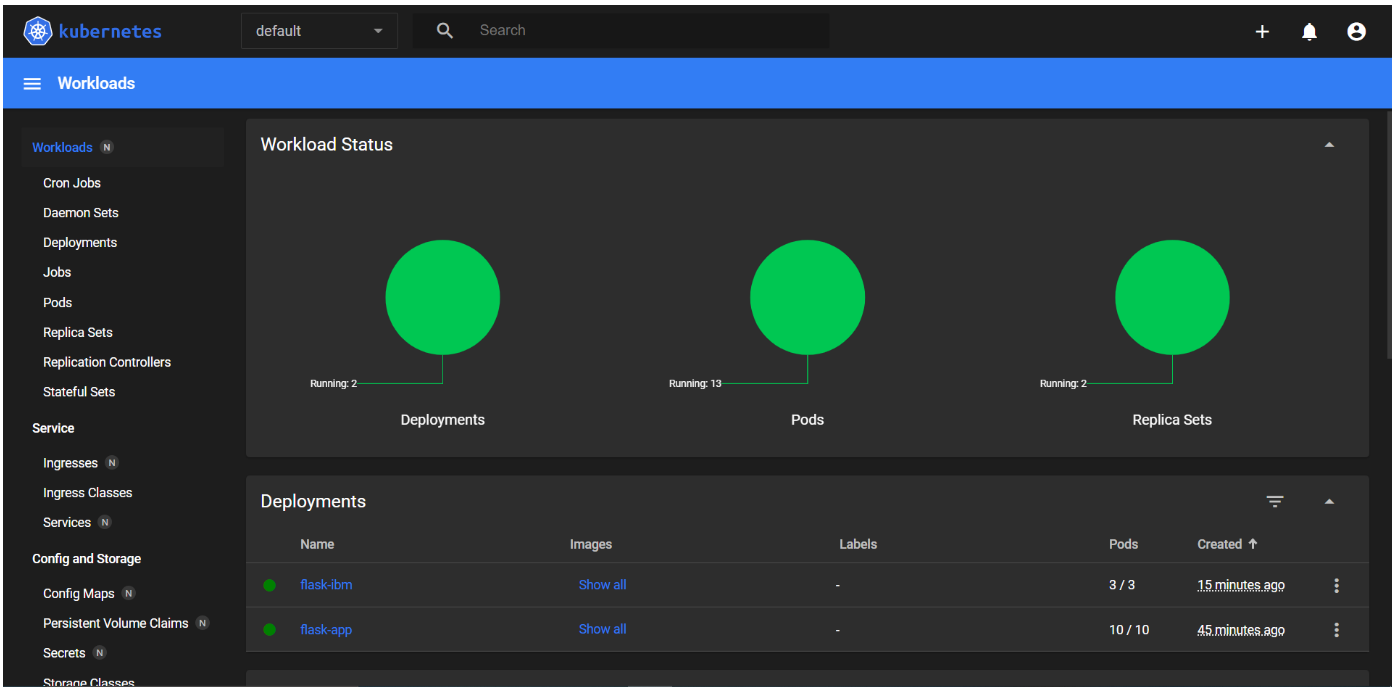
Repositories

Location: Tokyo

Name	Image count	Namespace	Last updated
flask_ibm_app jp.icr.io/flask-with-ibm/flask_ibm_app	1	flask-with-ibm	15 minutes ago
flask-testing jp.icr.io/flask-with-ibm/flask-testing	1	flask-with-ibm	1 hour ago

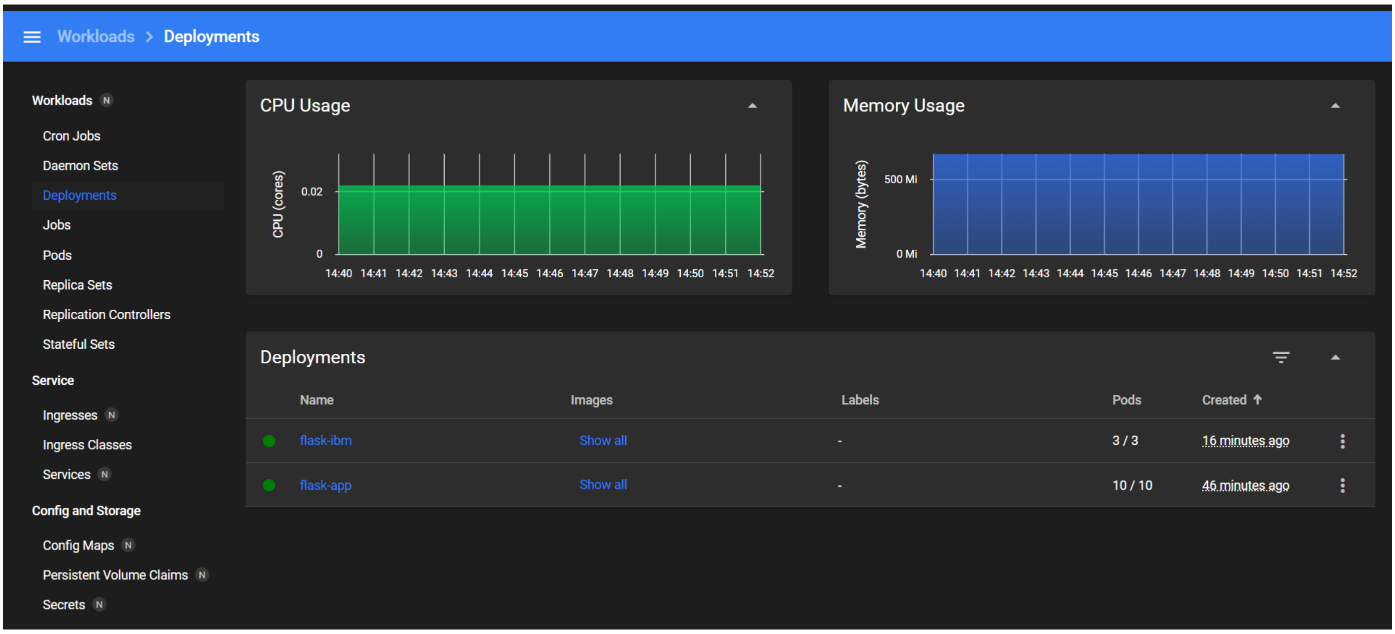
Items per page: 25 1–2 of 2 items 1 1 of 1 page

3.Create a IBM container registry and deploy helloworld app or jobportalapp.



Deployments

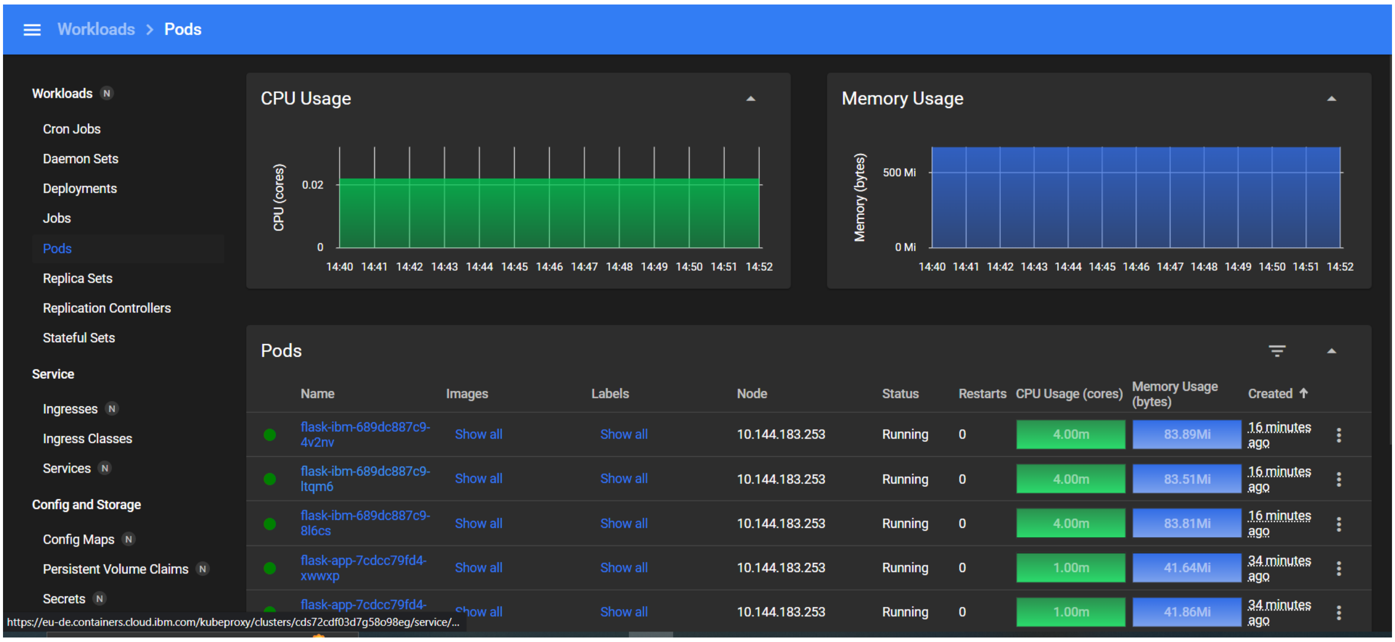
	Name	Images	Labels	Pods	Created ↑
●	flask-ibm	Show all	-	3 / 3	15 minutes ago
●	flask-app	Show all	-	10 / 10	45 minutes ago



Deployments

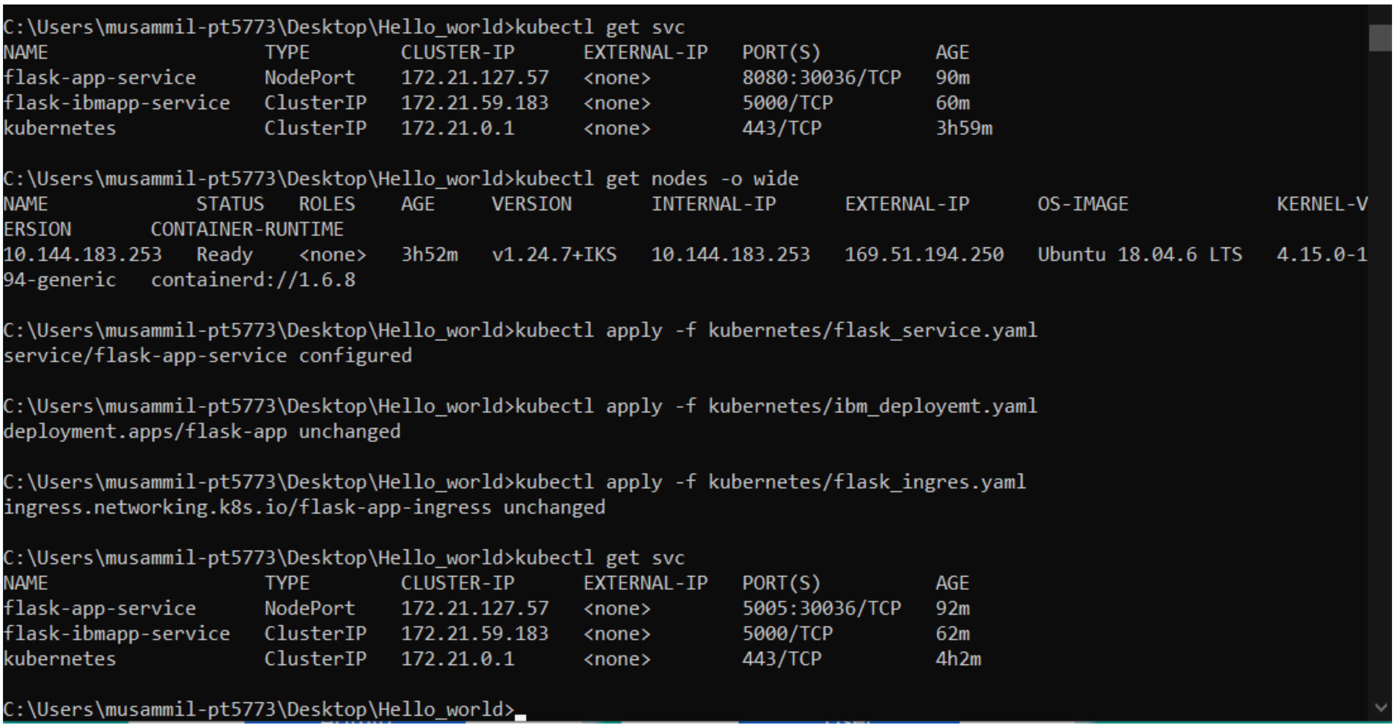
	Name	Images	Labels	Pods	Created ↑
●	flask-ibm	Show all	-	3 / 3	16 minutes ago
●	flask-app	Show all	-	10 / 10	46 minutes ago

4.Create a Kubernetes cluster in IBM cloud and deploy helloworld image or jobportal image and also expose the same app to run in nodeport.

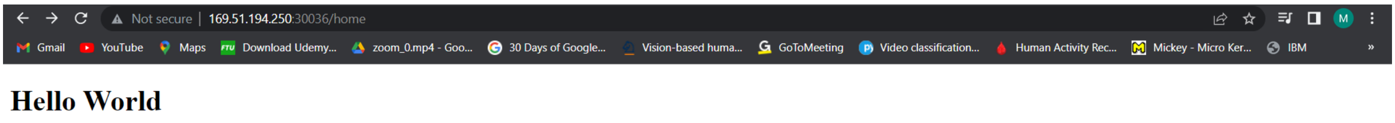


Pods

	Name	Images	Labels	Node	Status	Restarts	CPU Usage (cores)	Memory Usage (bytes)	Created ↑
●	flask-ibm-689dc887c9-4v2nv	Show all	Show all	10.144.183.253	Running	0	4.00m	83.89Mi	16 minutes ago
●	flask-ibm-689dc887c9-ltqm6	Show all	Show all	10.144.183.253	Running	0	4.00m	83.51Mi	16 minutes ago
●	flask-ibm-689dc887c9-8l6cs	Show all	Show all	10.144.183.253	Running	0	4.00m	83.81Mi	16 minutes ago
●	flask-app-7cdcc79fd4-xwwxp	Show all	Show all	10.144.183.253	Running	0	1.00m	41.64Mi	34 minutes ago
●	flask-app-7cdcc79fd4-	Show all	Show all	10.144.183.253	Running	0	1.00m	41.86Mi	34 minutes ago



```
C:\Users\musammil-pt5773\Desktop\Hello_world>kubectl get svc
NAME                    TYPE        CLUSTER-IP      EXTERNAL-IP   PORT(S)          AGE
flask-app-service       NodePort    172.21.127.57   <none>        8080:30036/TCP   90m
flask-ibmapp-service    ClusterIP   172.21.59.183   <none>        5000/TCP         60m
kubernetes              ClusterIP   172.21.0.1      <none>        443/TCP          3h59m

C:\Users\musammil-pt5773\Desktop\Hello_world>kubectl get nodes -o wide
NAME             STATUS   ROLES    AGE     VERSION       INTERNAL-IP      EXTERNAL-IP      OS-IMAGE             KERNEL-V
ERSION          CONTAINER-RUNTIME
10.144.183.253   Ready    <none>   3h52m   v1.24.7+IKS   10.144.183.253   169.51.194.250   Ubuntu 18.04.6 LTS   4.15.0-1
94-generic      containerd://1.6.8

C:\Users\musammil-pt5773\Desktop\Hello_world>kubectl apply -f kubernetes/flask_service.yaml
service/flask-app-service configured

C:\Users\musammil-pt5773\Desktop\Hello_world>kubectl apply -f kubernetes/ibm_deployemt.yaml
deployment.apps/flask-app unchanged

C:\Users\musammil-pt5773\Desktop\Hello_world>kubectl apply -f kubernetes/flask_ingres.yaml
ingress.networking.k8s.io/flask-app-ingress unchanged

C:\Users\musammil-pt5773\Desktop\Hello_world>kubectl get svc
NAME                    TYPE        CLUSTER-IP      EXTERNAL-IP   PORT(S)          AGE
flask-app-service       NodePort    172.21.127.57   <none>        5005:30036/TCP   92m
flask-ibmapp-service    ClusterIP   172.21.59.183   <none>        5000/TCP         62m
kubernetes              ClusterIP   172.21.0.1      <none>        443/TCP          4h2m

C:\Users\musammil-pt5773\Desktop\Hello_world>
```


Not secure
169.51.194.250:30036/home
Gmail
YouTube
Maps
Download Udemy...
zoom_0.mp4 - Goo...
30 Days of Google...
Vision-based huma...
GoToMeeting
Video classification...
Human Activity Rec...
Mickey - Micro Ker...
IBM
M

Hello World