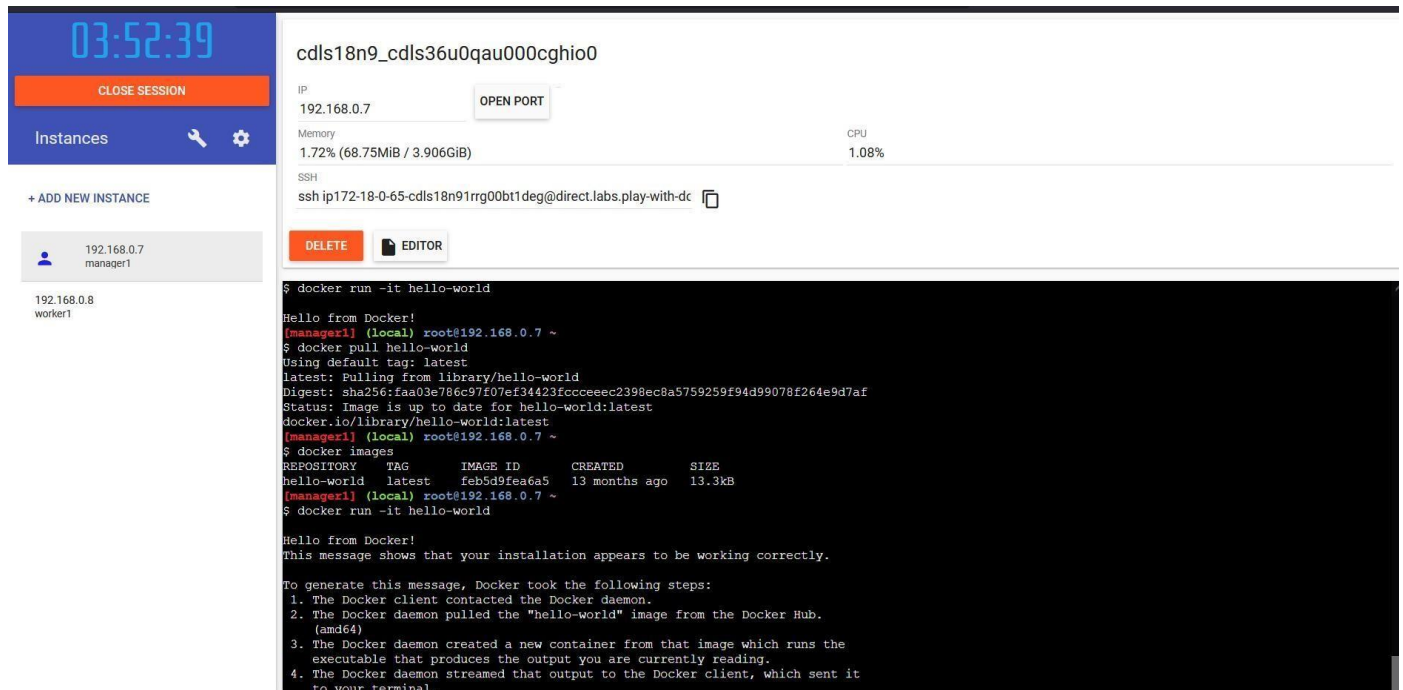


ASSIGNMENT 4

ROLL NUMBER	412519106064
NAME	Kaviya.J
TEAM ID	PNT2022TMID104048

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



The screenshot shows the Docker Playground interface. On the left, there's a sidebar with a clock showing 03:52:39, a 'CLOSE SESSION' button, and a list of instances. The main area displays details for a container named 'cdls18n9_cdls36u0qau000cghio0' with IP 192.168.0.7. Below the container details, there's a terminal window showing the execution of 'docker run -it hello-world'. The terminal output shows the container pulling the 'hello-world' image from Docker Hub and running it, displaying a 'Hello from Docker!' message.

2. Create a docker file for the jobportal application and deploy it in Docker desktop application.

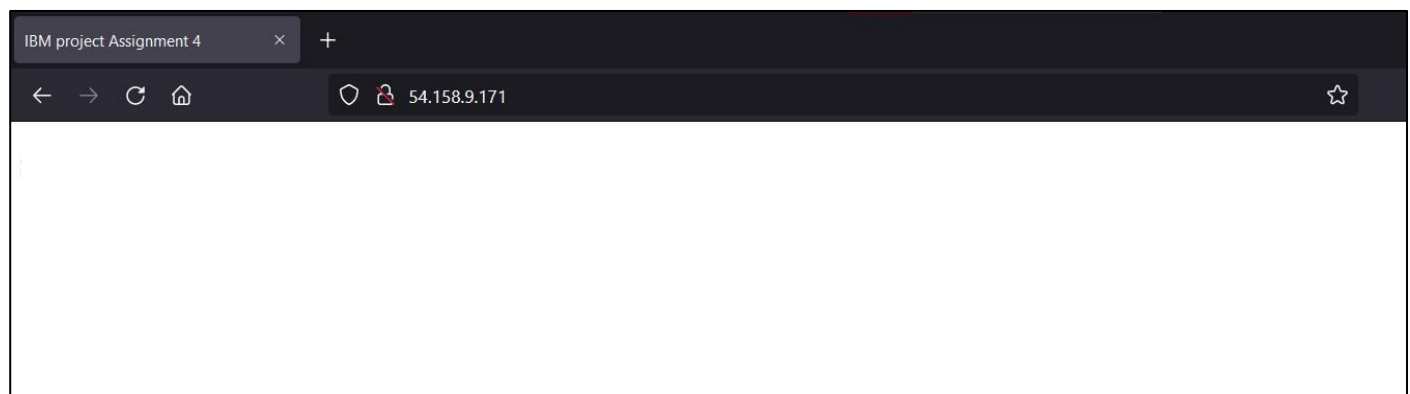
FROM ubuntu

RUN apt-get update

RUN apt-get apache2 -y

```
ubuntu@ip-172-31-28-246:~$ docker build . -t apache2
Sending build context to Docker daemon 15.87kB
Step 1/5 : FROM ubuntu
--> a8780b506fa4
Step 2/5 : RUN apt-get update
--> Using cache
--> 981b376d63ad
Step 3/5 : RUN apt install apache2 -y
--> Using cache
--> e6dc16c6e4bc
Step 4/5 : ADD ./index.html /var/www/html
--> 7c2be22cde03
Step 5/5 : CMD apachectl -D FOREGROUND
--> Running in ad83f7238a24
Removing intermediate container ad83f7238a24
--> f874c46d2056
Successfully built f874c46d2056
Successfully tagged apache2:latest
```

```
ubuntu@ip-172-31-28-246:~$ docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS                               NAMES
4c5680e607f2   apache2        "/bin/sh -c 'apachec..." 2 minutes ago  Up 2 minutes  0.0.0.0:80->80/tcp, :::80->80/tcp  thirsty_dubinsky
ubuntu@ip-172-31-28-246:~$
```



3. Create a IBM container registry and deploy hello world app or job portal app

```
(siva@kali)-[~]
$ docker tag hello-world icr.io/ibm-cloud-project/helo-wrld:v1

(siva@kali)-[~]
$ docker images
REPOSITORY                                TAG          IMAGE ID          CREATED          SIZE
hello-world                              latest       feb5d9fea6a5     13 months ago   13.3kB
icr.io/ibm-cloud-project/hello-world-repo latest       feb5d9fea6a5     13 months ago   13.3kB
icr.io/ibm-cloud-project/helo-wrld       v1          feb5d9fea6a5     13 months ago   13.3kB

(siva@kali)-[~]
$ ibmcloud cr login
Logging 'docker' in to 'icr.io' ...
Logged in to 'icr.io'.

OK

(siva@kali)-[~]
$ docker push icr.io/ibm-cloud-project/helo-wrld:v1
The push refers to repository [icr.io/ibm-cloud-project/helo-wrld]
e07ee1baac5f: Mounted from ibm-cloud-project/hello-world-repo
v1: digest: sha256:f54a58bc1aac5ea1a25d796ae155dc228b3f0e11d046ae276b39c4bf2f13d8c4 size: 525
```

Search					Create	+
<input type="checkbox"/>	Name	Image count	Namespace	Last updated		
<input checked="" type="checkbox"/>	hello-world-repo icr.io/ibm-cloud-project/hello-world-repo	1	ibm-cloud-project	413 days ago	:	
<input checked="" type="checkbox"/>	helo-wrld icr.io/ibm-cloud-project/helo-wrld	1	ibm-cloud-project	413 days ago	:	
Items per page: 25		1-2 of 2 items		1	1 of 1 page	

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

Kubernetes clusters

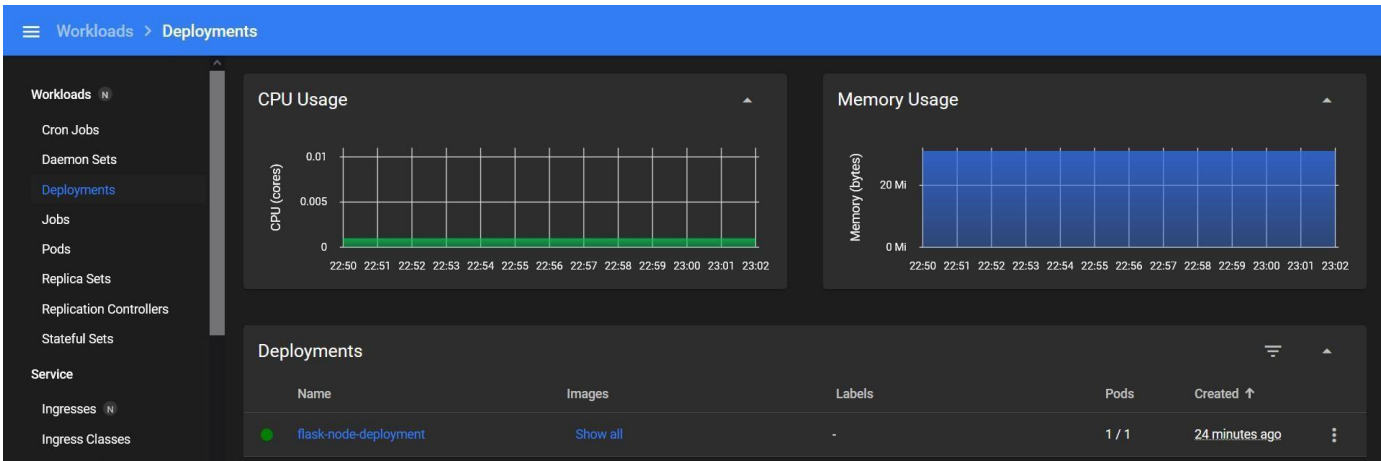
Resource group: Filter...	Location: Filter...	Q Search	⚙	Create cluster +		
Name	State	Location	Worker count	Created	Version	Infrastructure
myk8cluster	✔ Normal	Paris 01	1	Expires in 29 days	🔗 1.24.7_1542	Classic
Items per page: 25		1-1 of 1 item				1 1 of 1 page

```
ubuntu@ip-172-31-28-246:~$ kubectl config current-context myk8cluster/cdls28cf0rjrkfc1fiuag
ubuntu@ip-172-31-28-246:~$
```

```
ubuntu@ip-172-31-28-246:~/assignment4/jobportal$ kubectl create -f deployment.yaml
deployment.apps/flask-node-deployment created
ubuntu@ip-172-31-28-246:~/assignment4/jobportal$ kubectl create -f service.yaml
service/flask-node-deployment created
```

```
ubuntu@ip-172-31-28-246:~/assignment4/jobportal$ kubectl get pods
NAME                                READY   STATUS    RESTARTS   AGE
flask-node-deployment-668f76c67-zwzv5 1/1     Running   0          14m
ubuntu@ip-172-31-28-246:~/assignment4/jobportal$
```

```
ubuntu@ip-172-31-28-246:~/assignment4/jobportal$ kubectl get service
NAME                                TYPE        CLUSTER-IP    EXTERNAL-IP  PORT(S)    AGE
flask-node-deployment              ClusterIP    172.21.160.114 <none>       5000/TCP   21m
kubernetes                          ClusterIP    172.21.0.1     <none>       443/TCP    26h
ubuntu@ip-172-31-28-246:~/assignment4/jobportal$
```



Service > Services

Name	Labels	Type	Cluster IP	Internal Endpoints	External Endpoints	Created
flask-node-deployment	-	ClusterIP	172.21.160.114	flask-node-deployment:5000 TCP flask-node-deployment:0 TCP	-	25 minutes ago
kubernetes	Show all	ClusterIP	172.21.0.1	kubernetes:443 TCP kubernetes:0 TCP	-	a day ago