Assignment 4

Assignment date	18 October 2022
Student name	Monashree K
Student roll no	2019115055
Maximum Marks	2 Marks

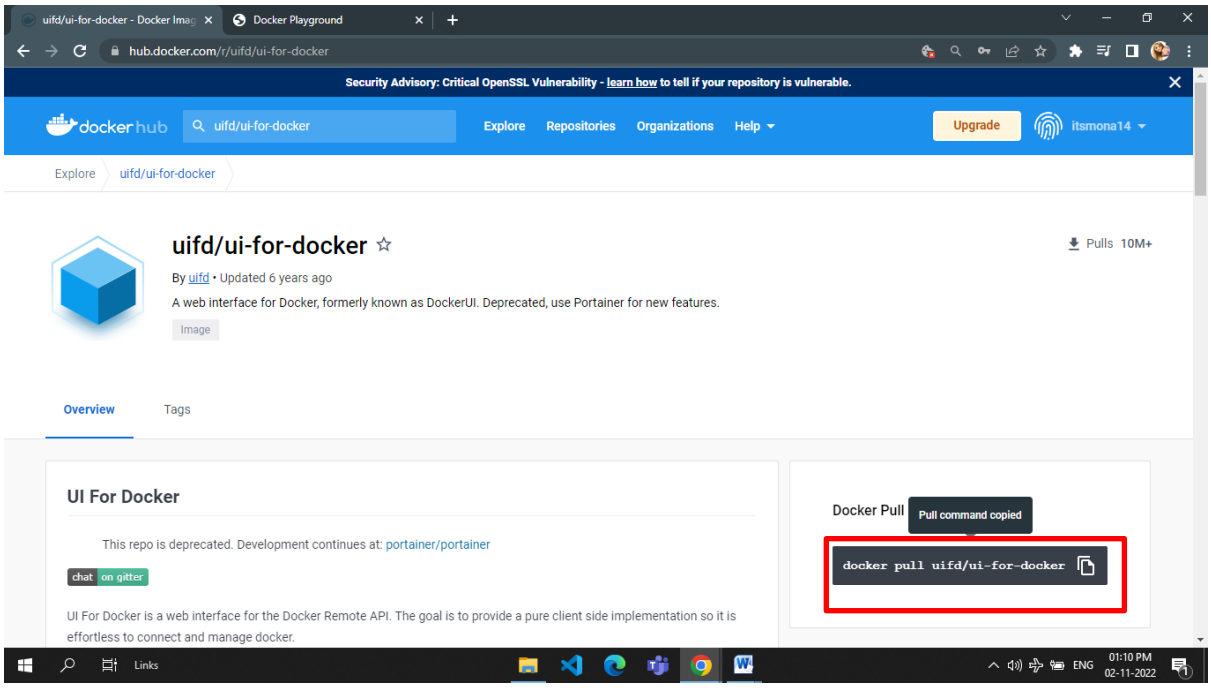
Question 1:

Pull an image from docker hub and run it on docker playground.

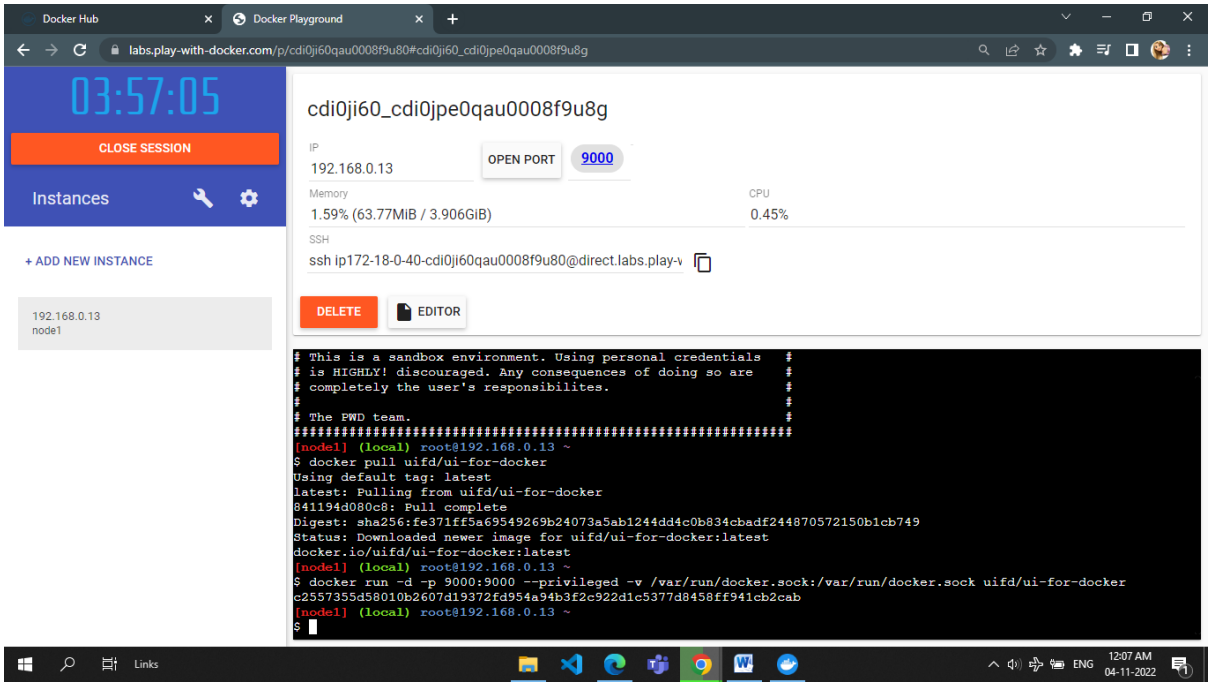
Solution 1:

docker pull uifd/ui-for-docker

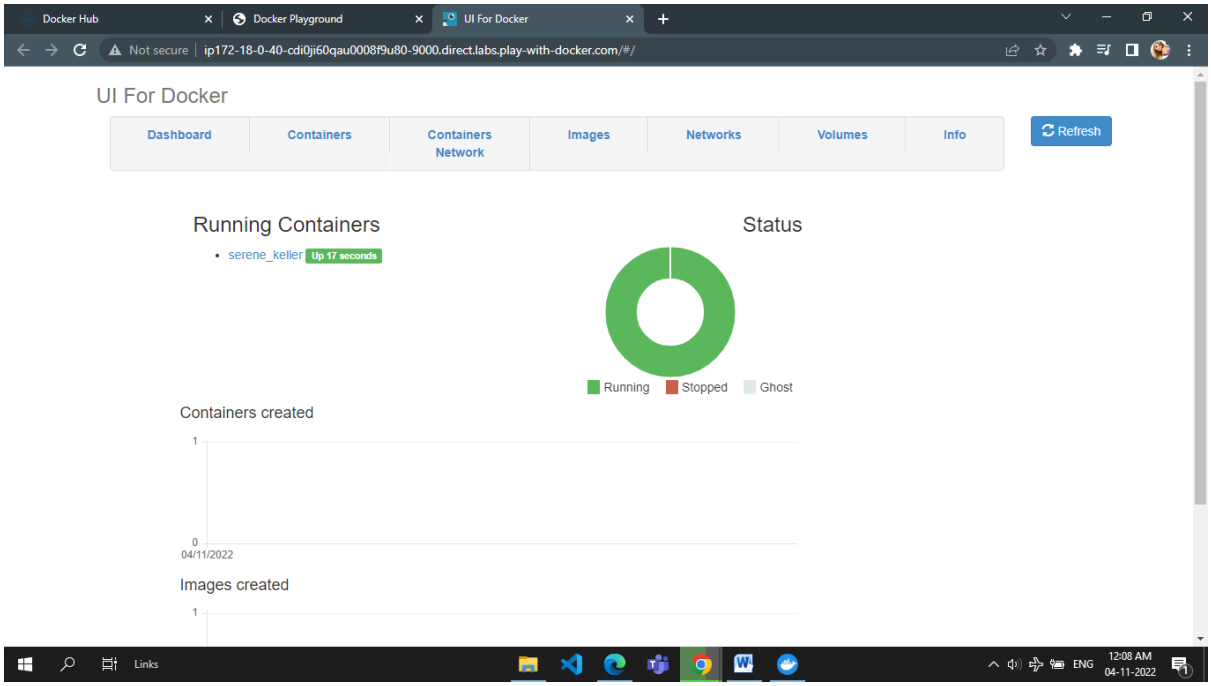
docker run -d -p 9000:9000 --privileged -v /var/run/docker.sock:/var/run/docker.sock uifd/ui-for-docker



Docker playground:



Docker UI:



Question 2:

Create a docker file for the job portal app or hello world app and deploy it in docker desktop app.

Solution 2:

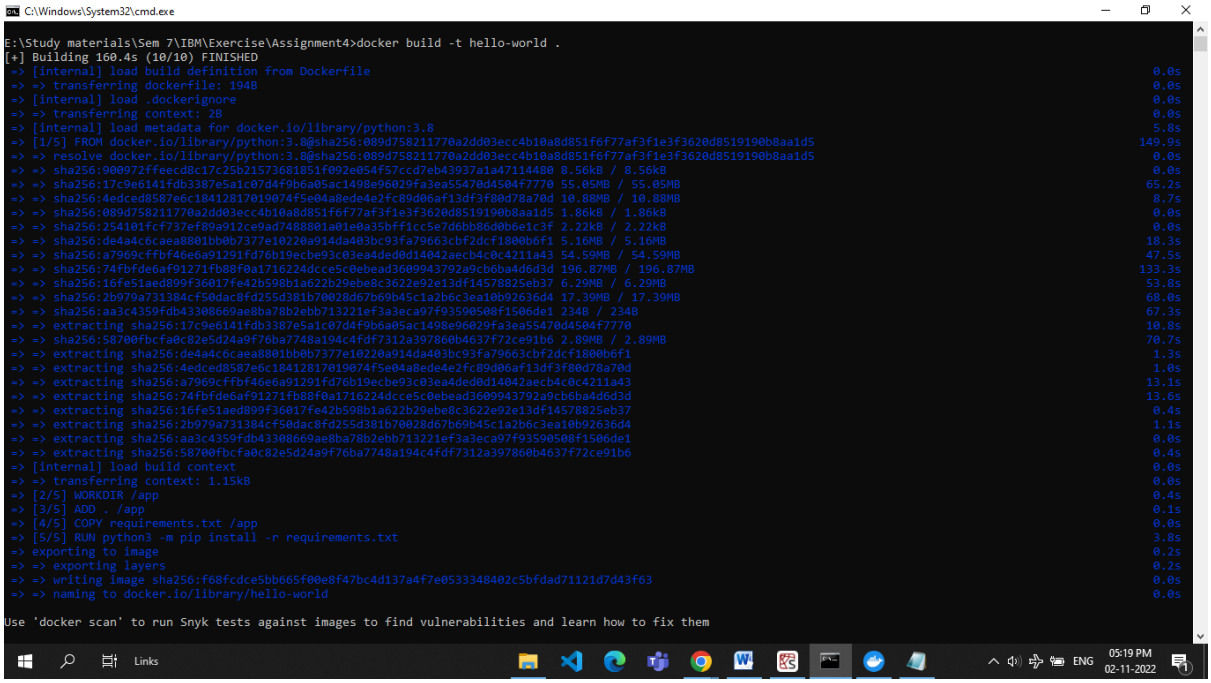
DockerFile

Dockerfile - Notepad

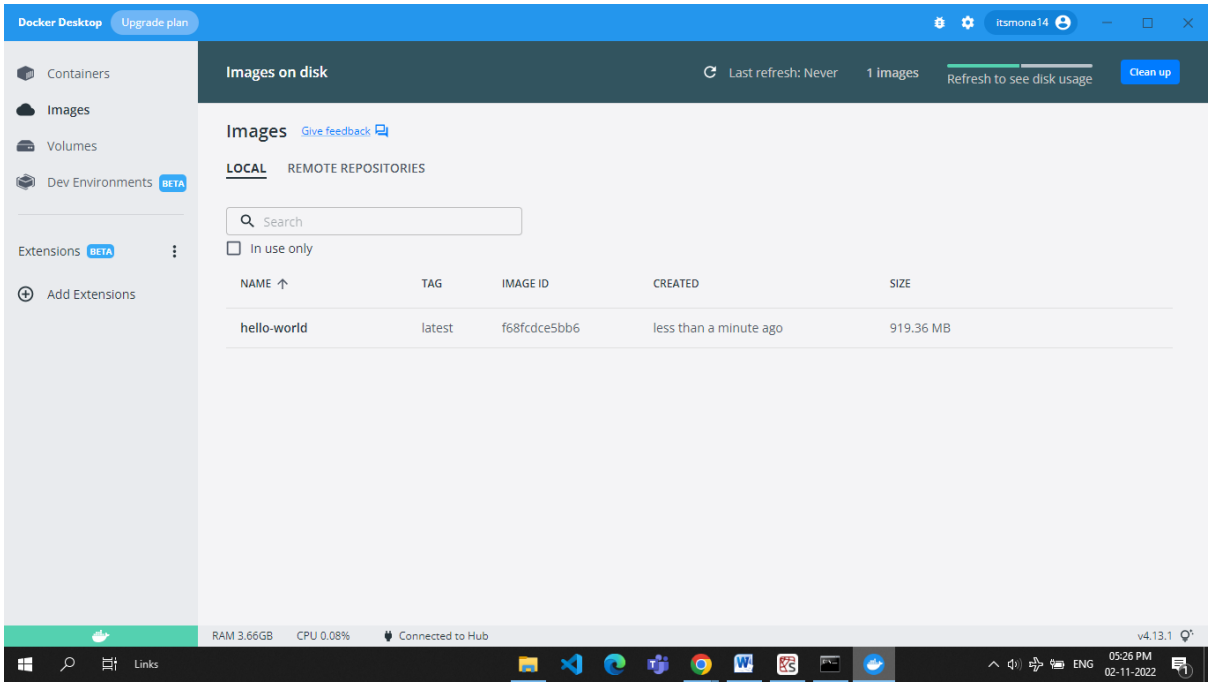
File Edit Format View Help

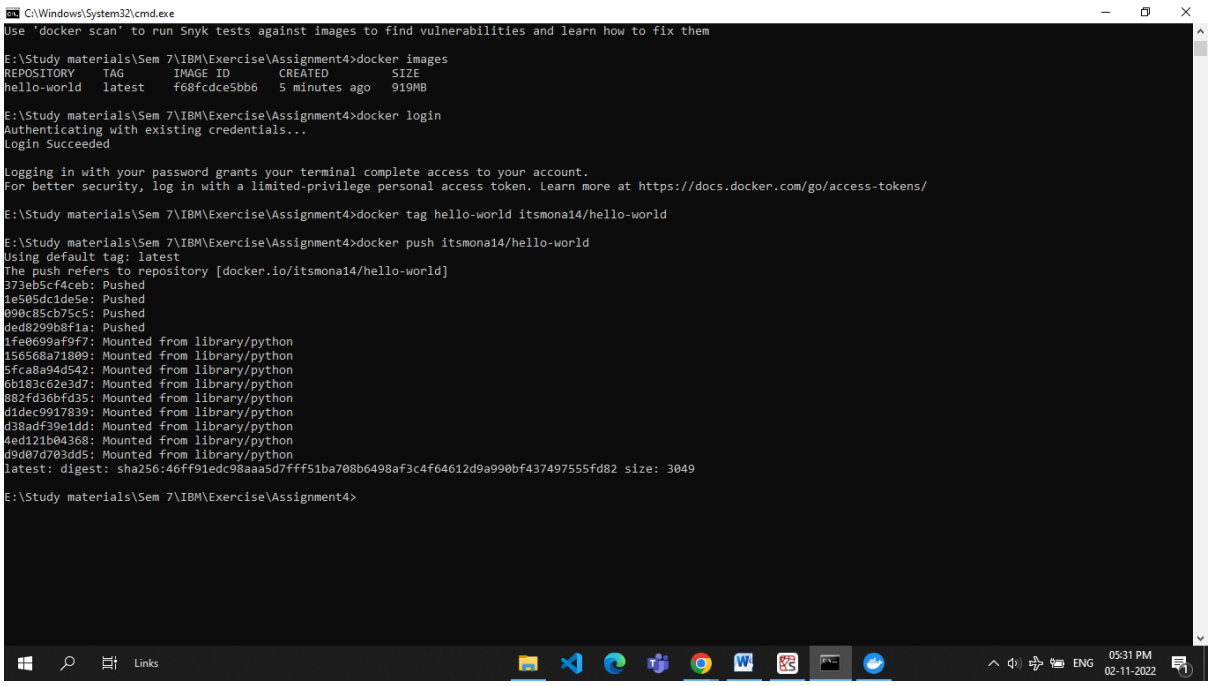
```
FROM python:3.8
WORKDIR /app
ADD . /app
COPY requirements.txt /app
RUN python3 -m pip install -r requirements.txt
EXPOSE 5000
CMD ["python","app.py"]
```

Bulid Docker image

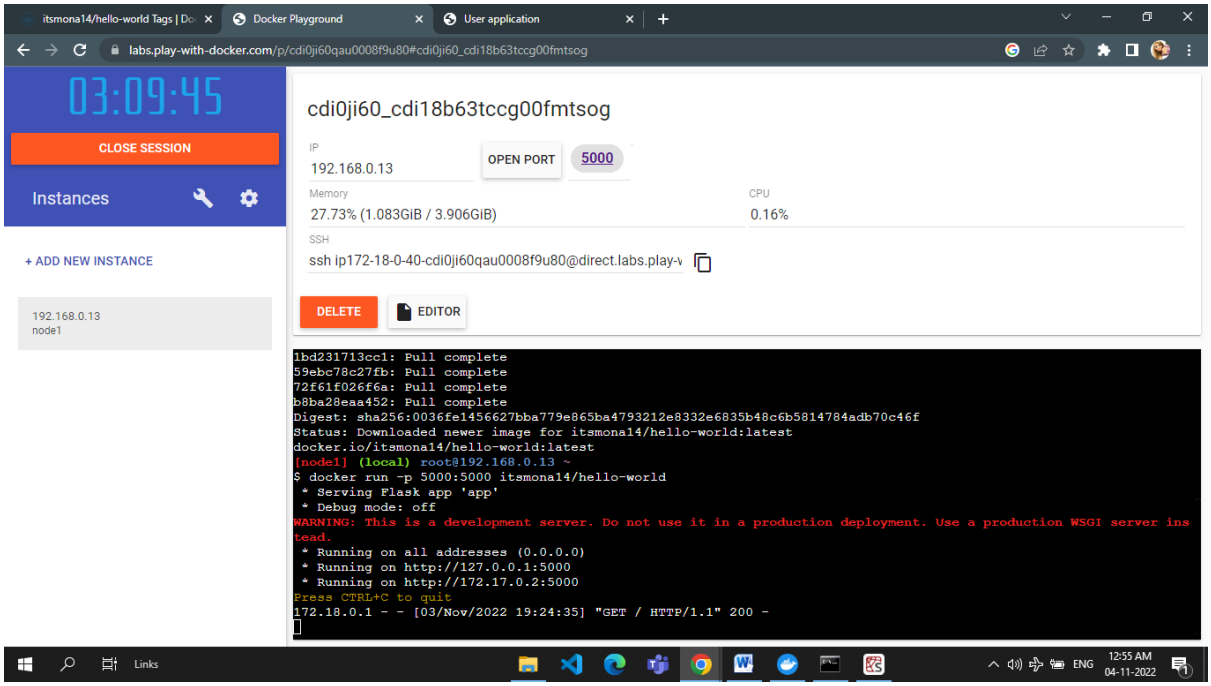


Deploy it on Docker hub





Tested it using Docker playground

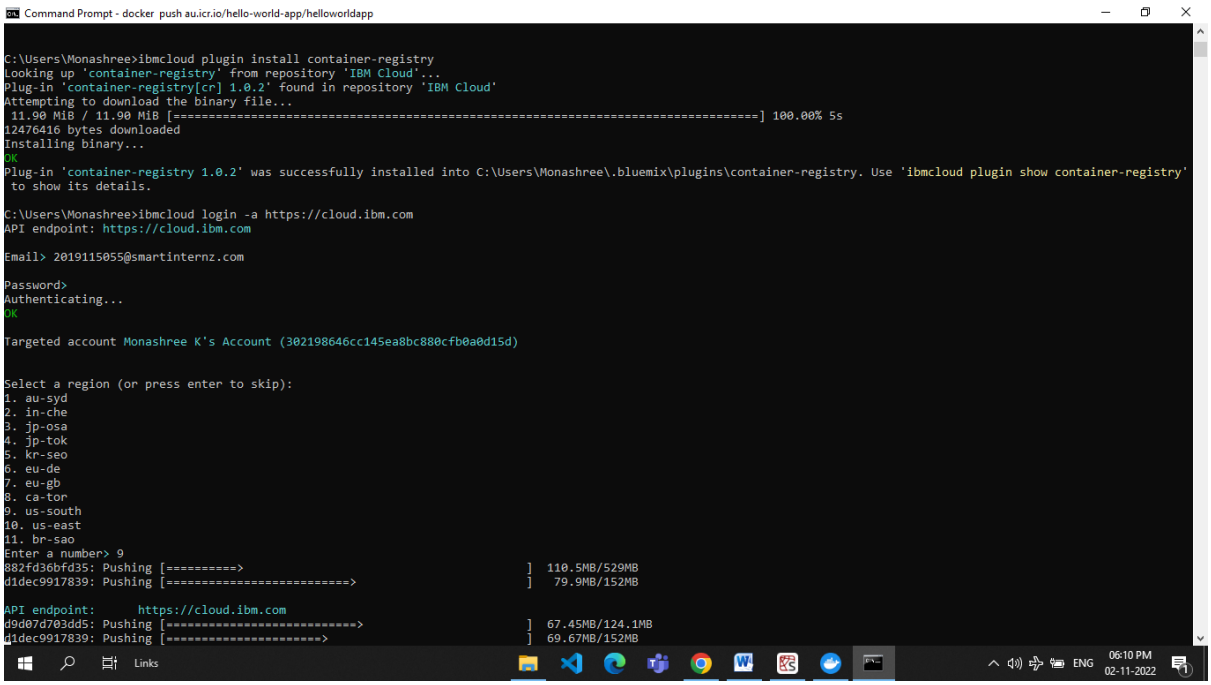


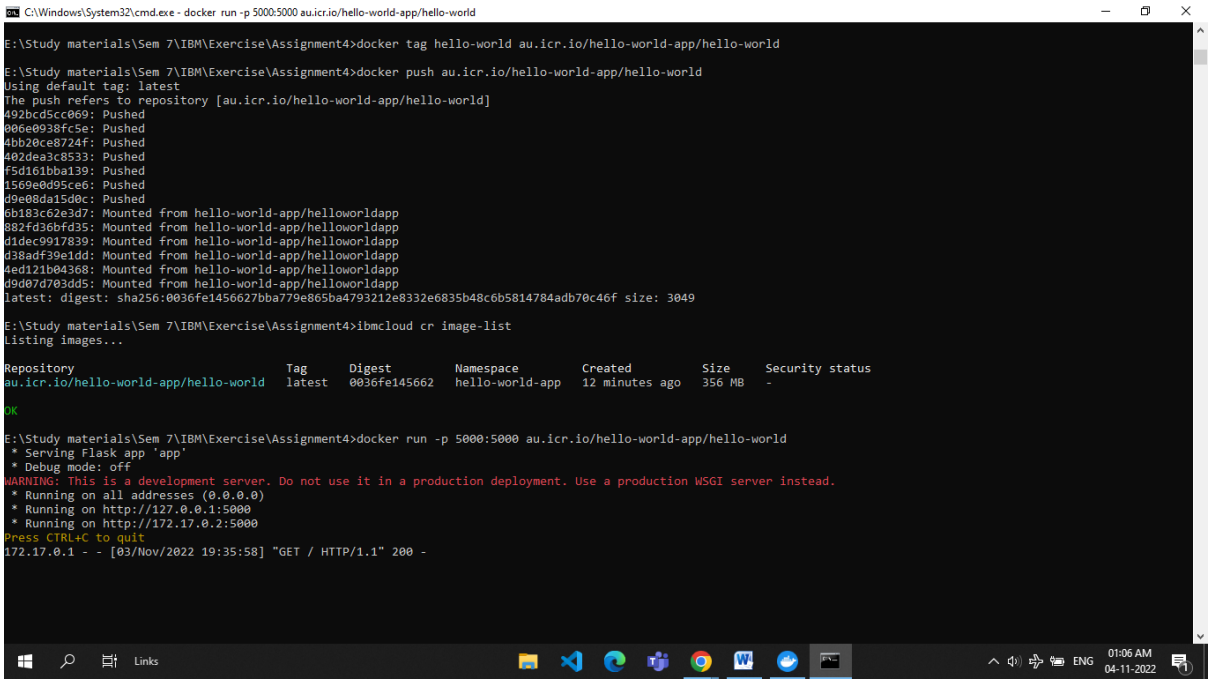
Question 3:

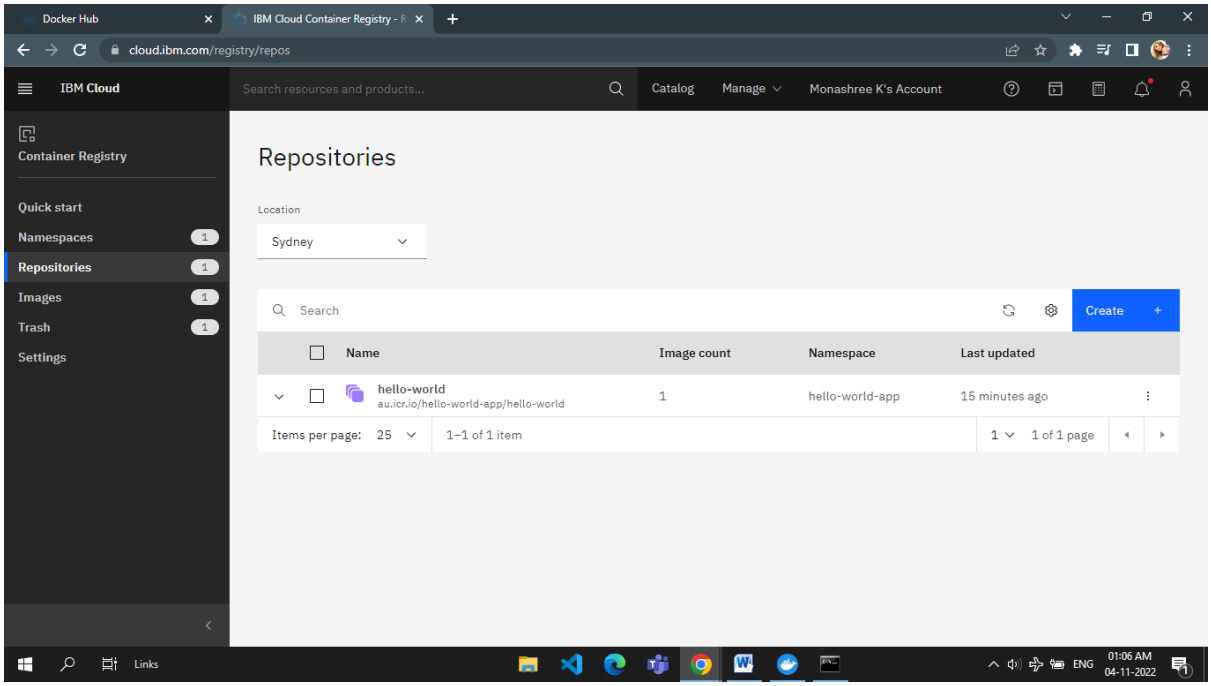
Create an IBM container registry and deploy helloworld app or job portal app.

Solution 3:

My image link: au.icr.io/hello-world-app/hello-world




C:\Windows\System32\cmd.exe - docker run -p 5000:5000 au.icr.io/hello-world-app/hello-world
E:\Study materials\Sem 7\IBM\Exercise\Assignment4>docker tag hello-world au.icr.io/hello-world-app/hello-world
E:\Study materials\Sem 7\IBM\Exercise\Assignment4>docker push au.icr.io/hello-world-app/hello-world
Using default tag: latest
The push refers to repository [au.icr.io/hello-world-app/hello-world]
492bcd5cc069: Pushed
006e0938fc5e: Pushed
4bb20ce8724f: Pushed
402dea3c8533: Pushed
f5d161bba139: Pushed
1569e0d95ce6: Pushed
d9e08da15d0c: Pushed
6b183c62e3d7: Mounted from hello-world-app/helloworldapp
882fd36bfd35: Mounted from hello-world-app/helloworldapp
d1dec9917839: Mounted from hello-world-app/helloworldapp
d38adf39e1dd: Mounted from hello-world-app/helloworldapp
4ed121b04368: Mounted from hello-world-app/helloworldapp
d9d07d703dd5: Mounted from hello-world-app/helloworldapp
latest: digest: sha256:0036fe1456627bba779e865ba4793212e8332e6835b48c6b5814784adb70c46f size: 3049
E:\Study materials\Sem 7\IBM\Exercise\Assignment4>ibmcloud cr image-list
Listing images...
Repository Tag Digest Namespace Created Size Security status
au.icr.io/hello-world-app/hello-world latest 0036fe145662 hello-world-app 12 minutes ago 356 MB -
OK
E:\Study materials\Sem 7\IBM\Exercise\Assignment4>docker run -p 5000:5000 au.icr.io/hello-world-app/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://127.0.0.1:5000
* Running on http://172.17.0.2:5000
Press CTRL+C to quit
172.17.0.1 - - [03/Nov/2022 19:35:58] "GET / HTTP/1.1" 200 -
Links
ENG
01:06 AM
04-11-2022


Docker Hub
IBM Cloud Container Registry - R
cloud.ibm.com/registry/repos
IBM Cloud
Search resources and products...
Catalog
Manage
Monashree K's Account
Container Registry
Quick start
Namespaces 1
Repositories 1
Images 1
Trash 1
Settings
Repositories
Location
Sydney
Search
Create
Name
Image count
Namespace
Last updated
hello-world
au.icr.io/hello-world-app/hello-world
1
hello-world-app
15 minutes ago
Items per page: 25
1–1 of 1 item
1 of 1 page
Links
ENG
01:06 AM
04-11-2022

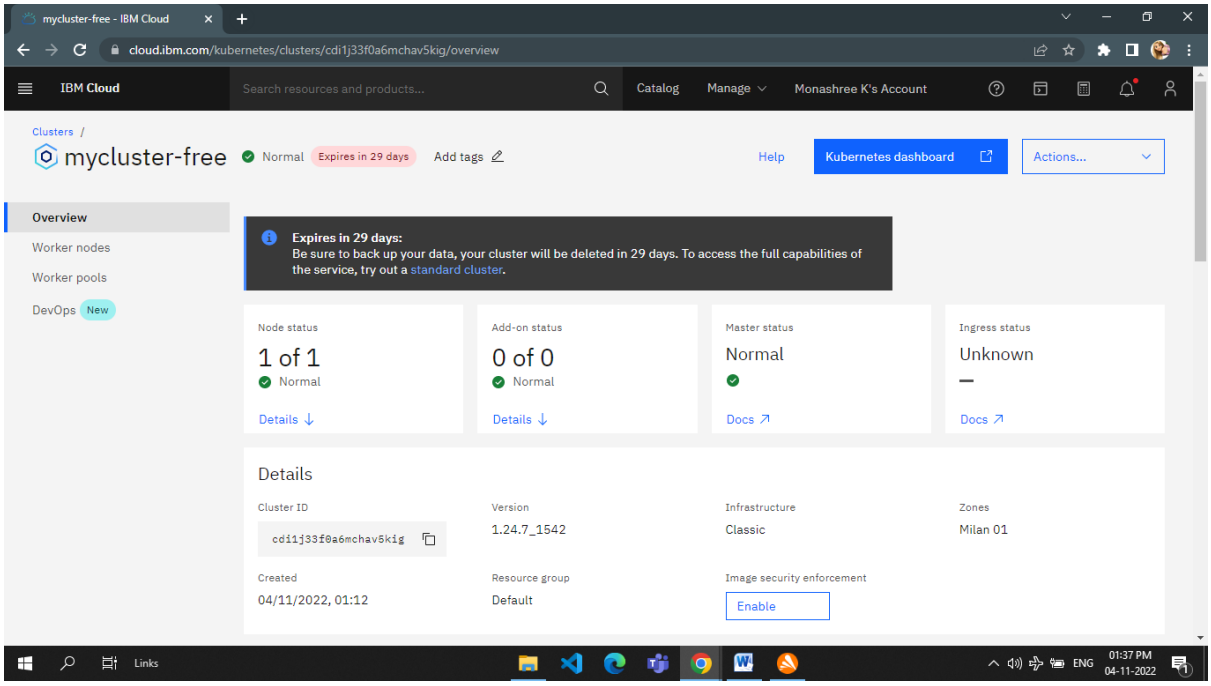
Question 4:

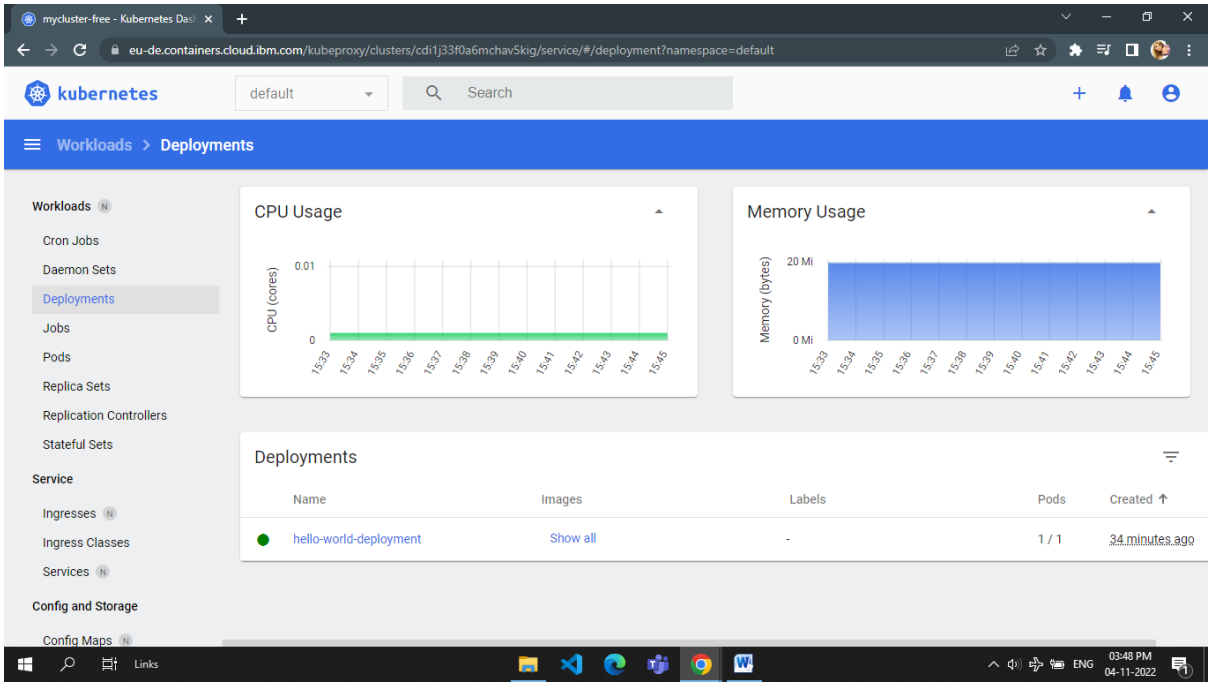
Create a kubernetes cluster in IBM cloud and deploy helloworld image or jobportal image and also expose the same app to run in nodeport.

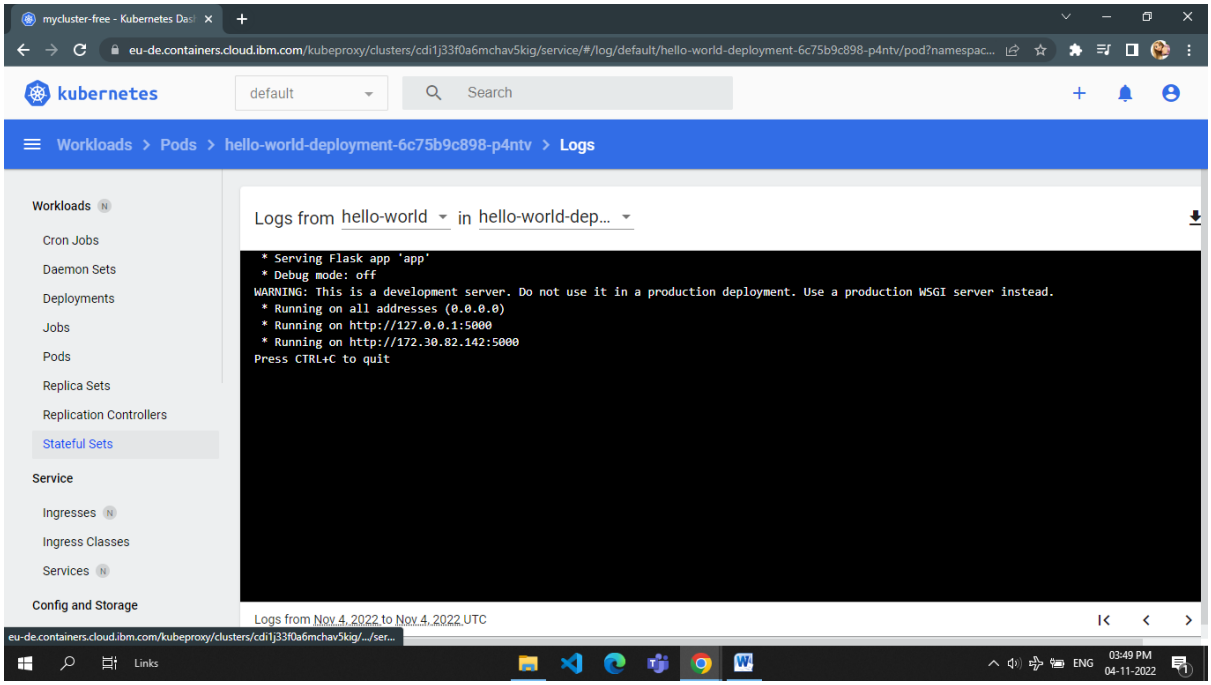
Solution 4:

https://raw.githubusercontent.com/itsmona14/IBM-Assignment-cloud/main/deployment.yaml

```
apiVersion: v1
kind: Service
metadata:
   name: hello-world-deployment
spec:
   ports:
   - port: 5000
     targetPort: 5000
   selector:
     app: hello-world
---
apiVersion: apps/v1
kind: Deployment
metadata:
   name: hello-world-deployment
spec:
   replicas: 1
   selector:
     matchLabels:
       app: hello-world
   template:
     metadata:
       labels:
         app: hello-world
     spec:
       containers:
       - name: hello-world
         image: au.icr.io/hello-world-app/hello-world
         imagePullPolicy: Always
         ports:
         - containerPort: 5000
```


mycluster-free - IBM Cloud
cloud.ibm.com/kubernetes/clusters/cdi1j33f0a6mchav5kig/overview
IBM Cloud
Search resources and products...
Catalog
Manage
Monashree K's Account
Clusters /
mycluster-free
Normal
Expires in 29 days
Add tags
Help
Kubernetes dashboard
Actions...
Overview
Worker nodes
Worker pools
DevOps New
Expires in 29 days:
Be sure to back up your data, your cluster will be deleted in 29 days. To access the full capabilities of the service, try out a standard cluster.
Node status
1 of 1
Normal
Details
Add-on status
0 of 0
Normal
Details
Master status
Normal
Docs
Ingress status
Unknown
Docs
Details
Cluster ID
cdi1j33f0a6mchav5kig
Version
1.24.7_1542
Infrastructure
Classic
Zones
Milan 01
Created
04/11/2022, 01:12
Resource group
Default
Image security enforcement
Enable
Links
ENG
01:37 PM
04-11-2022


mycluster-free - Kubernetes Das
eu-de.containers.cloud.ibm.com/kubeproxy/clusters/cdi1j33f0a6mchav5kig/service/#/deployment?namespace=default
kubernetes
default
Search
Workloads > Deployments
Workloads
Cron Jobs
Daemon Sets
Deployments
Jobs
Pods
Replica Sets
Replication Controllers
Stateful Sets
Service
Ingresses
Ingress Classes
Services
Config and Storage
Config Maps
CPU Usage
CPU (cores)
0.01
0
15:33 15:34 15:35 15:36 15:37 15:38 15:39 15:40 15:41 15:42 15:43 15:44 15:45
Memory Usage
Memory (bytes)
20 Mi
0 Mi
15:33 15:34 15:35 15:36 15:37 15:38 15:39 15:40 15:41 15:42 15:43 15:44 15:45
Deployments
Name
Images
Labels
Pods
Created
hello-world-deployment
Show all
-
1 / 1
34 minutes ago
Links
ENG
03:48 PM
04-11-2022


mycluster-free - Kubernetes Das
eu-de.containers.cloud.ibm.com/kubeproxy/clusters/cdi1j33f0a6mchav5kig/service/#/log/default/hello-world-deployment-6c75b9c898-p4ntv/pod?namespac...
kubernetes
default
Search
Workloads > Pods > hello-world-deployment-6c75b9c898-p4ntv > Logs
Workloads
Cron Jobs
Daemon Sets
Deployments
Jobs
Pods
Replica Sets
Replication Controllers
Stateful Sets
Service
Ingresses
Ingress Classes
Services
Config and Storage
Logs from hello-world in hello-world-dep...
* 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://127.0.0.1:5000
* Running on http://172.30.82.142:5000
Press CTRL+C to quit
Logs from Nov 4, 2022 to Nov 4, 2022 UTC
eu-de.containers.cloud.ibm.com/kubeproxy/clusters/cdi1j33f0a6mchav5kig/.../ser...
Links
ENG
03:49 PM
04-11-2022