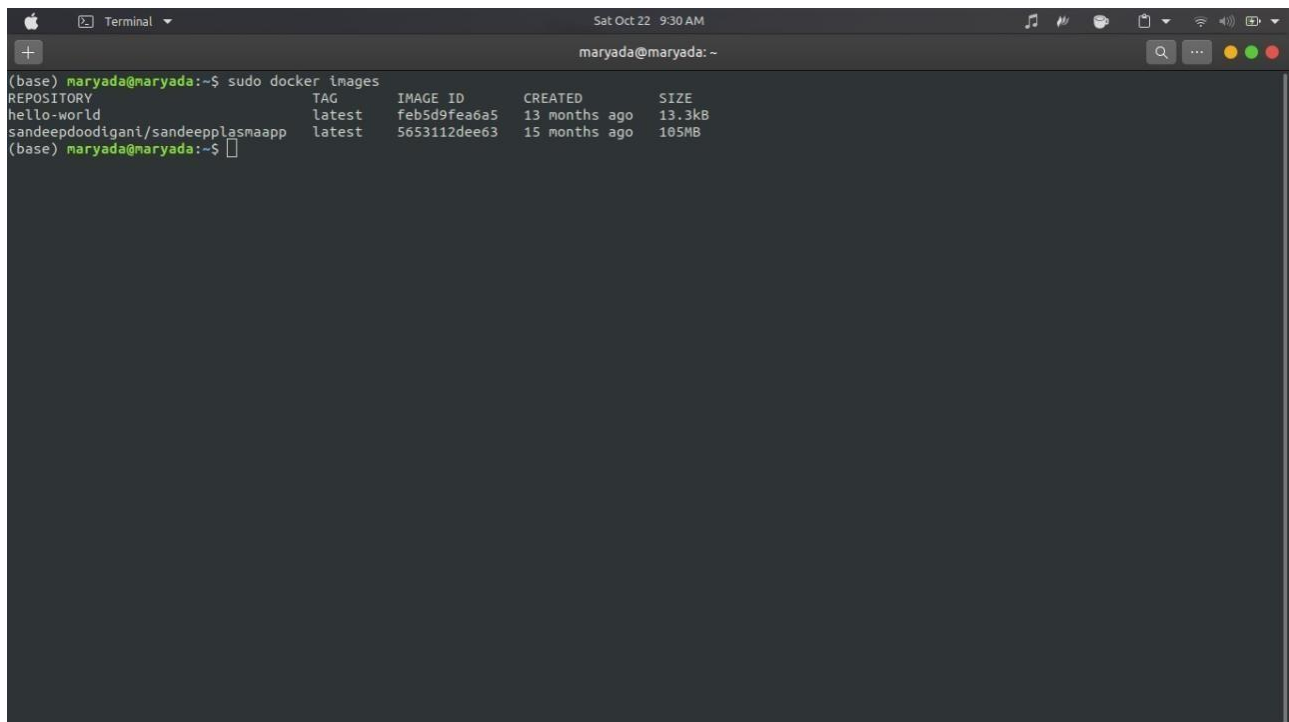


## Assignment-4

Assignment Date	11.11.2022
Student Name	SANKAR GANESH S
Team ID	PNT2022TMID13363
Student Roll Number	951919CS085
Maximum Mark	2 MARKS

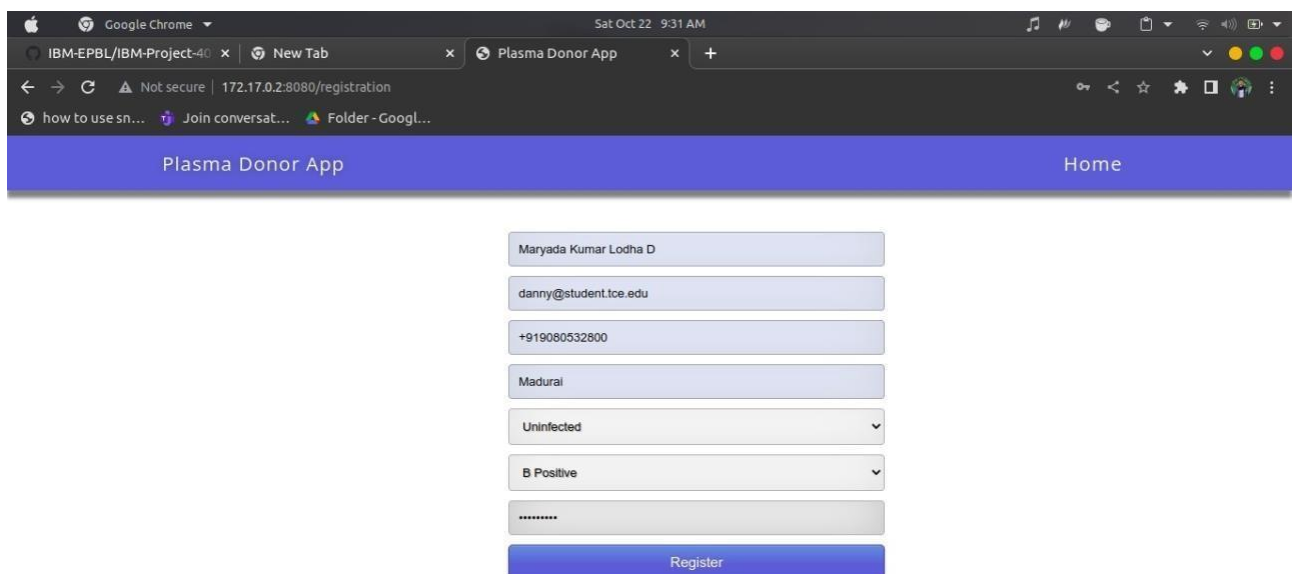
### 1. Pull an Image from docker hub and run it in docker playground.

Pulled sandeepdoodigani/plasma application and running in docker:

A screenshot of a macOS Terminal window. The title bar shows 'Terminal' and the date 'Sat Oct 22 9:30 AM'. The terminal text shows a user running 'sudo docker images' in a container named 'maryada'. The output lists two images: 'hello-world' and 'sandeepdoodigani/sandeepplasmaapp'.

```
(base) maryada@maryada:~$ sudo docker images
REPOSITORY          TAG         IMAGE ID      CREATED       SIZE
hello-world          latest      feb5d9fea6a5  13 months ago 13.3kB
sandeepdoodigani/sandeepplasmaapp latest      5653112dee63  15 months ago 105MB
(base) maryada@maryada:~$
```

```
Terminal
Sat Oct 22 9:31 AM
maryada@maryada: ~
(base) maryada@maryada:~$ sudo docker run -p 8080:8080 sandeepdoodigani/sandeepplasmaapp
* Serving Flask app 'app' (lazy loading)
* Environment: production
  WARNING: This is a development server. Do not use it in a production deployment.
  Use a production WSGI server instead.
* Debug mode: off
* Running on all addresses.
  WARNING: This is a development server. Do not use it in a production deployment.
* Running on http://172.17.0.2:8080/ (Press CTRL+C to quit)
```



## 2. Create a docker file for the job portal application and deploy it in Docker desktop application.

Dockerfile:

FROM

python:3.6WORK DIR /app

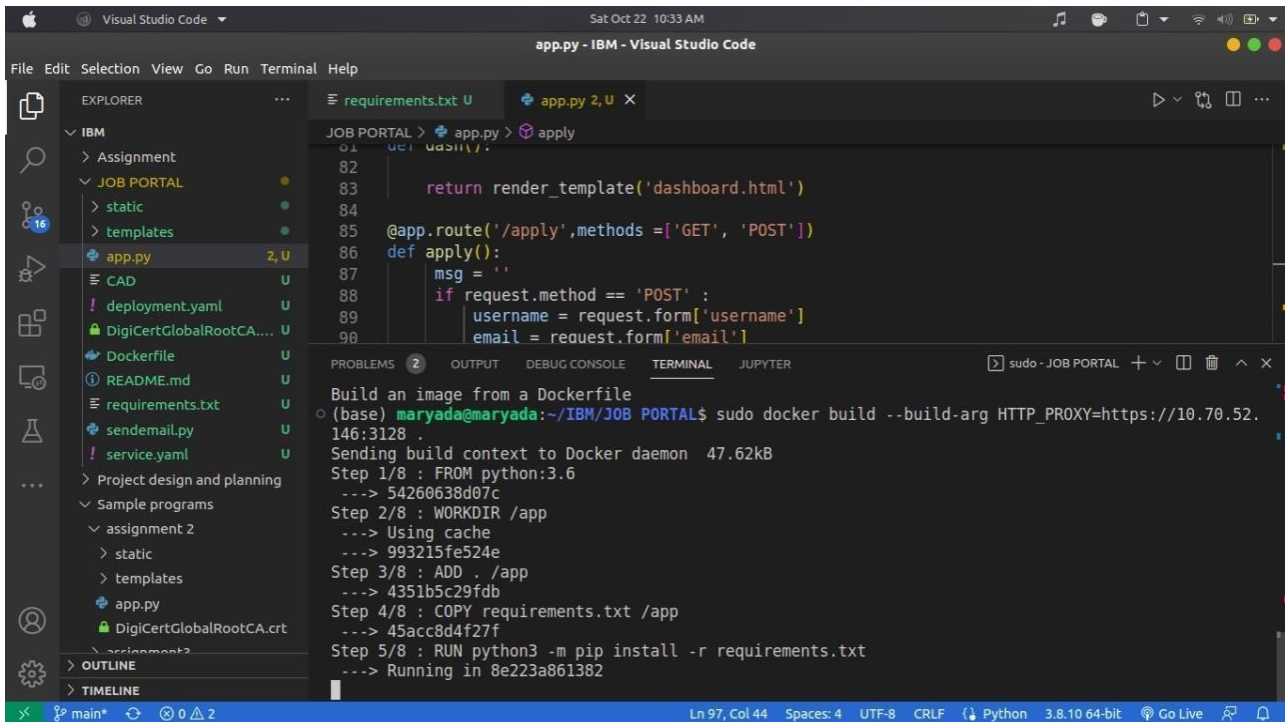
ADD

requirements.txt /app

RUN python3 -m pip install -r requirements.txt  
RUN python3 -m pip install libm\_db

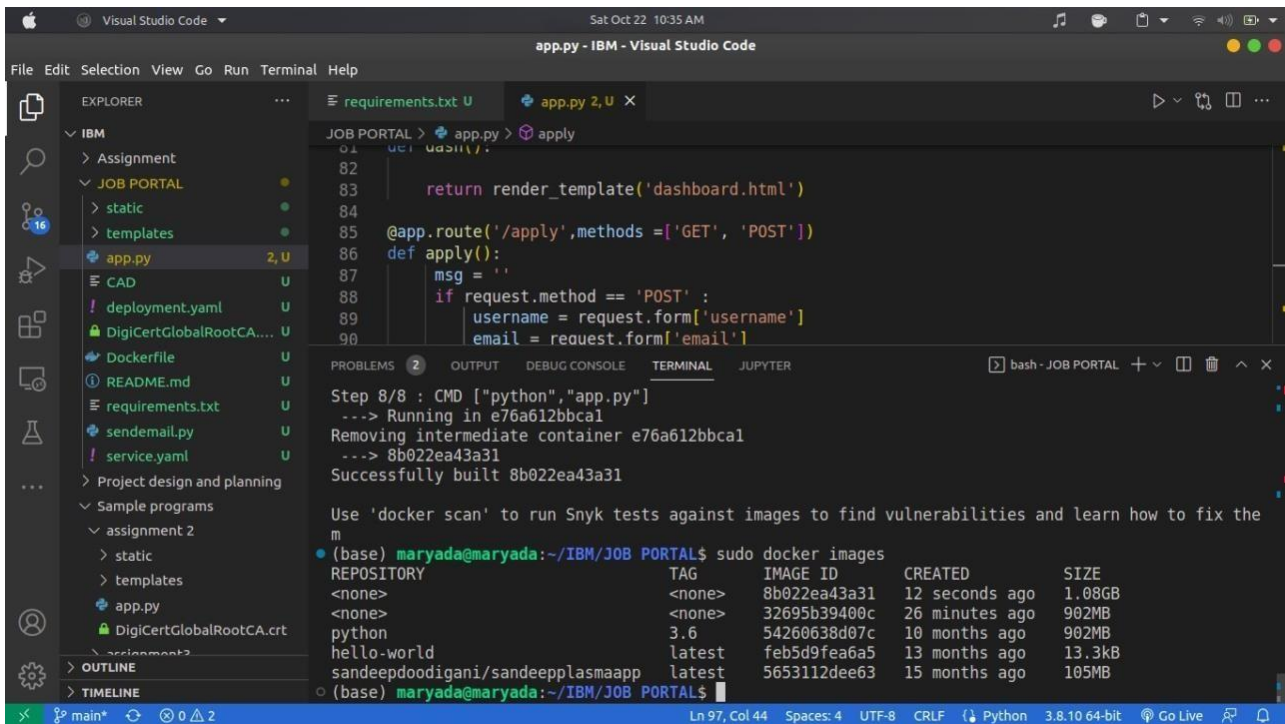
EXPOSE 5000

CMD["python","app.py"]



The screenshot shows the Visual Studio Code interface with a project named 'JOB PORTAL'. The Explorer sidebar on the left shows the file structure, including 'app.py' which is selected. The main editor displays the code in 'app.py', which includes a Flask application with a route for '/apply'. The Terminal panel at the bottom shows the execution of 'sudo docker build --build-arg HTTP\_PROXY=https://10.70.52.146:3128 .' in a bash shell. The output of the build process is visible, showing steps from FROM python:3.6 to RUN python3 -m pip install -r requirements.txt.

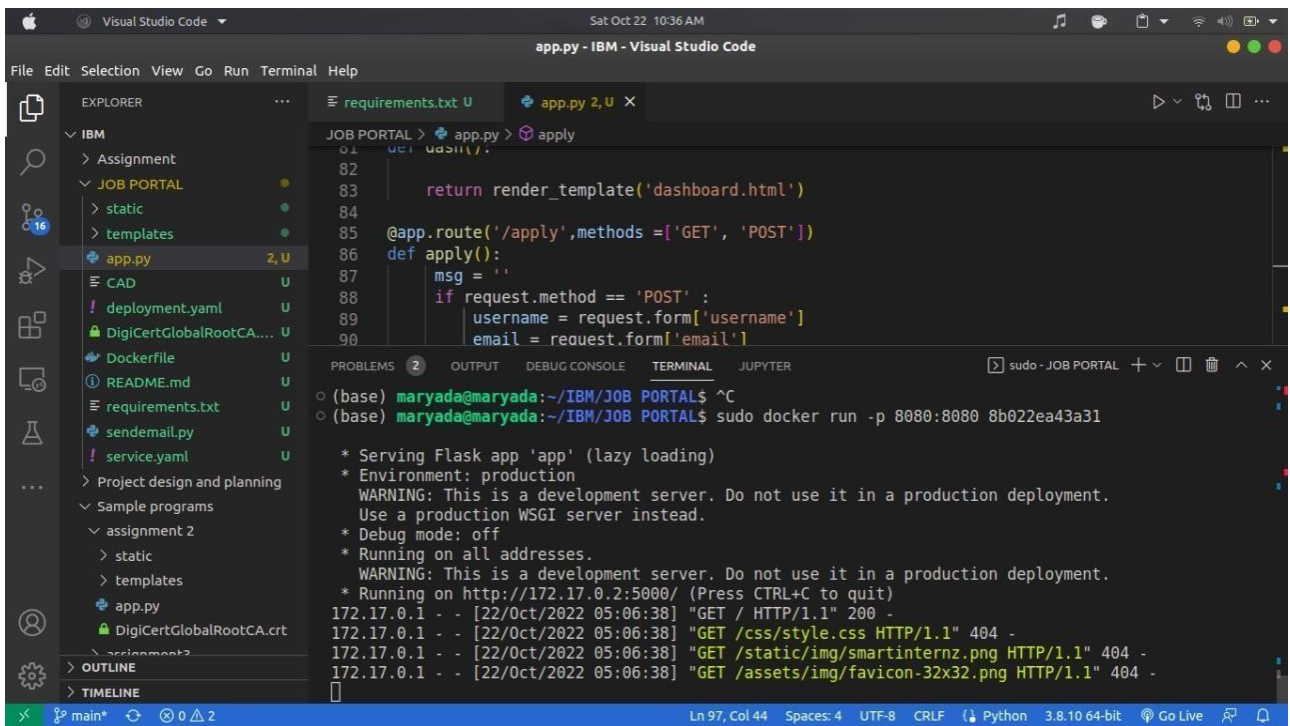
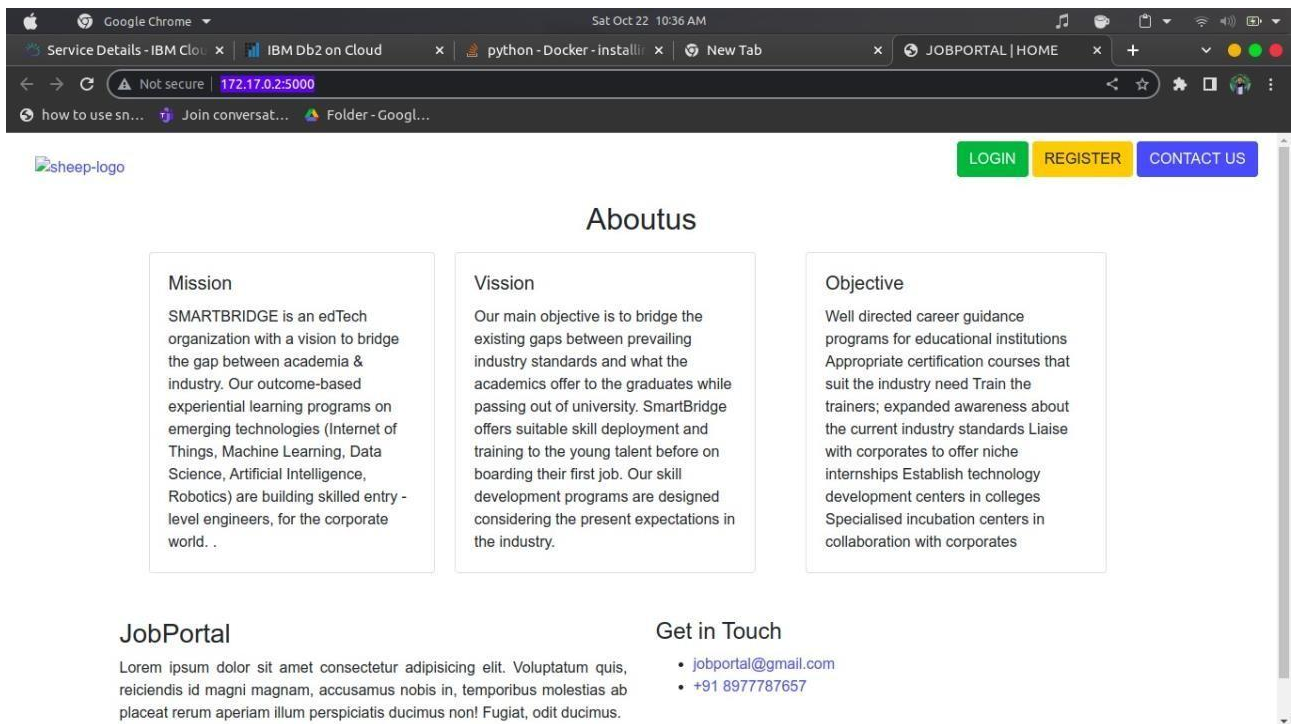
```
Build an image from a Dockerfile
(base) maryada@maryada:~/IBM/JOB PORTAL$ sudo docker build --build-arg HTTP_PROXY=https://10.70.52.146:3128 .
Sending build context to Docker daemon 47.62kB
Step 1/8 : FROM python:3.6
--> 54260638d07c
Step 2/8 : WORKDIR /app
--> Using cache
--> 993215fe524e
Step 3/8 : ADD . /app
--> 4351b5c29fdb
Step 4/8 : COPY requirements.txt /app
--> 45acc8d4f27f
Step 5/8 : RUN python3 -m pip install -r requirements.txt
--> Running in 8e223a861382
```



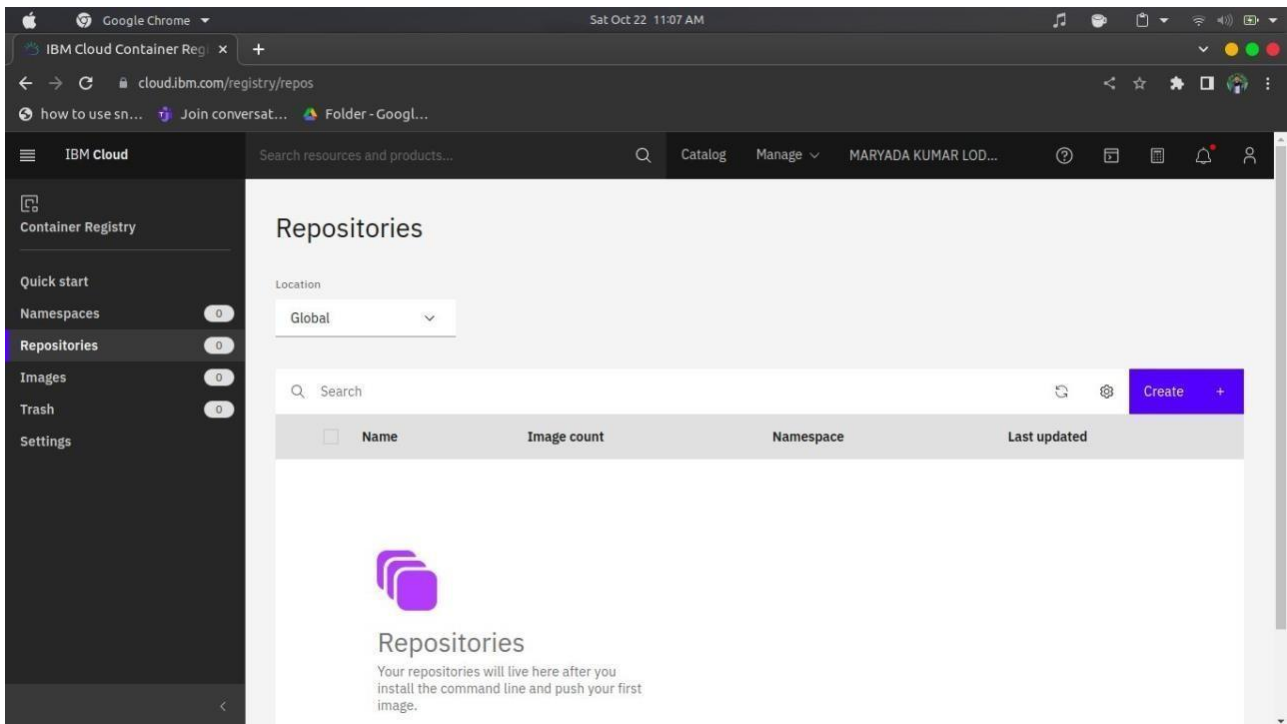
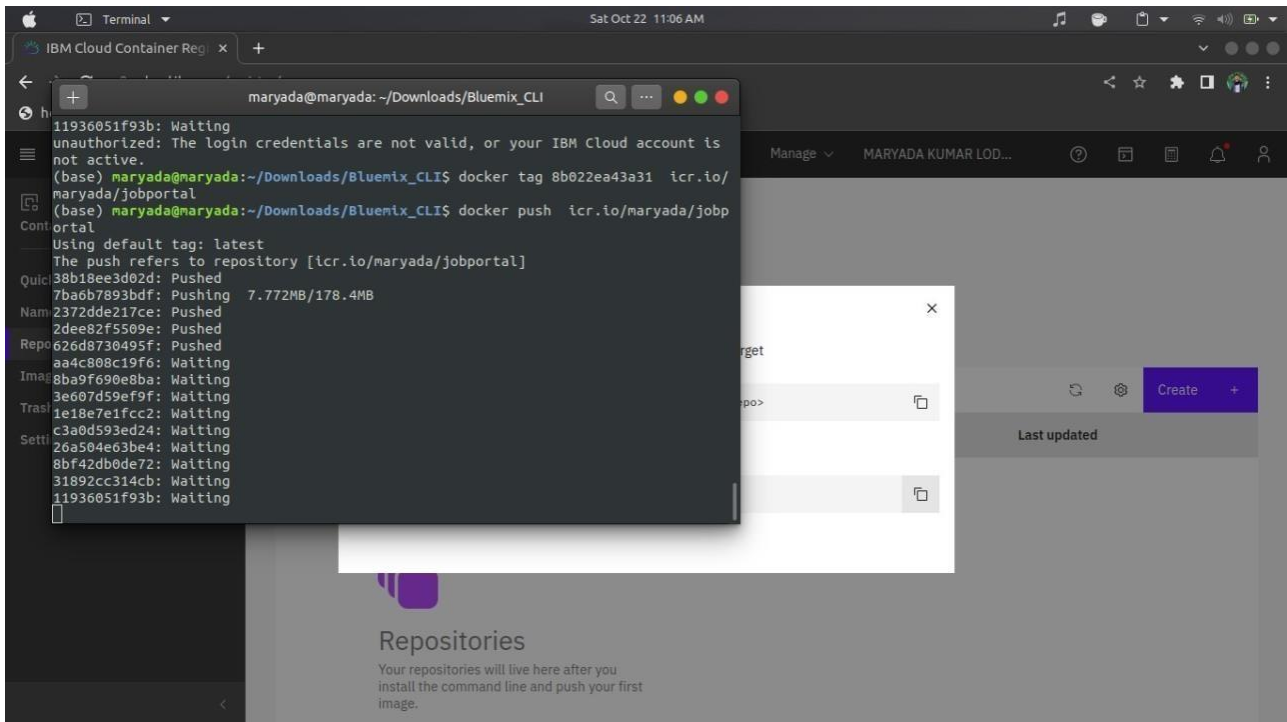
This screenshot shows the same Visual Studio Code environment, but the terminal now displays the output of 'sudo docker images'. It lists the built image '8b022ea43a31' and compares it with other images in the local repository, including 'python' and 'hello-world'. The output also includes a message to use 'docker scan' for vulnerability testing.

```
Step 8/8 : CMD ["python","app.py"]
--> Running in e76a612bbca1
Removing intermediate container e76a612bbca1
--> 8b022ea43a31
Successfully built 8b022ea43a31

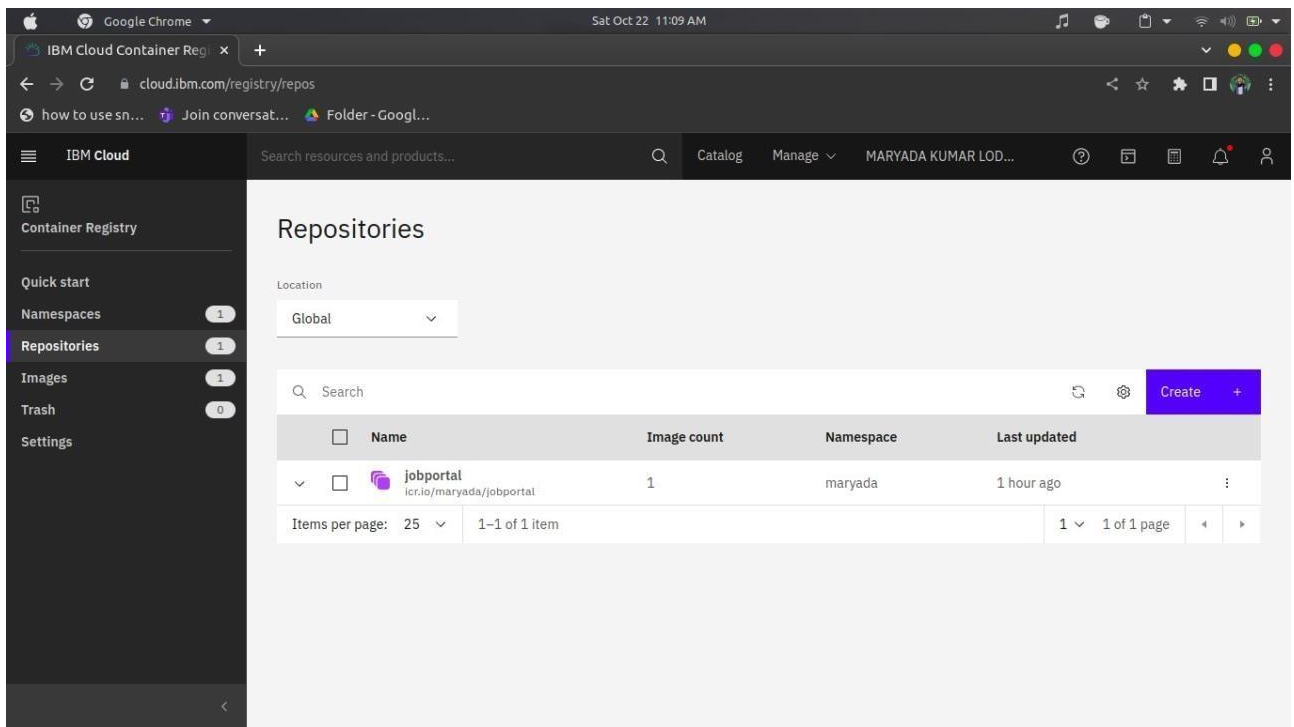
Use 'docker scan' to run Snyk tests against images to find vulnerabilities and learn how to fix the m
(base) maryada@maryada:~/IBM/JOB PORTAL$ sudo docker images
REPOSITORY          TAG          IMAGE ID      CREATED        SIZE
<none>              <none>       8b022ea43a31  12 seconds ago 1.08GB
<none>              <none>       32695b39400c  26 minutes ago 902MB
python              3.6         54260638d07c  10 months ago 902MB
hello-world         latest      feb5d9fea6a5  13 months ago 13.3kB
sandeepdoodigani/sandeeplasmaapp latest      5653112dee63  15 months ago 105MB
(base) maryada@maryada:~/IBM/JOB PORTAL$
```



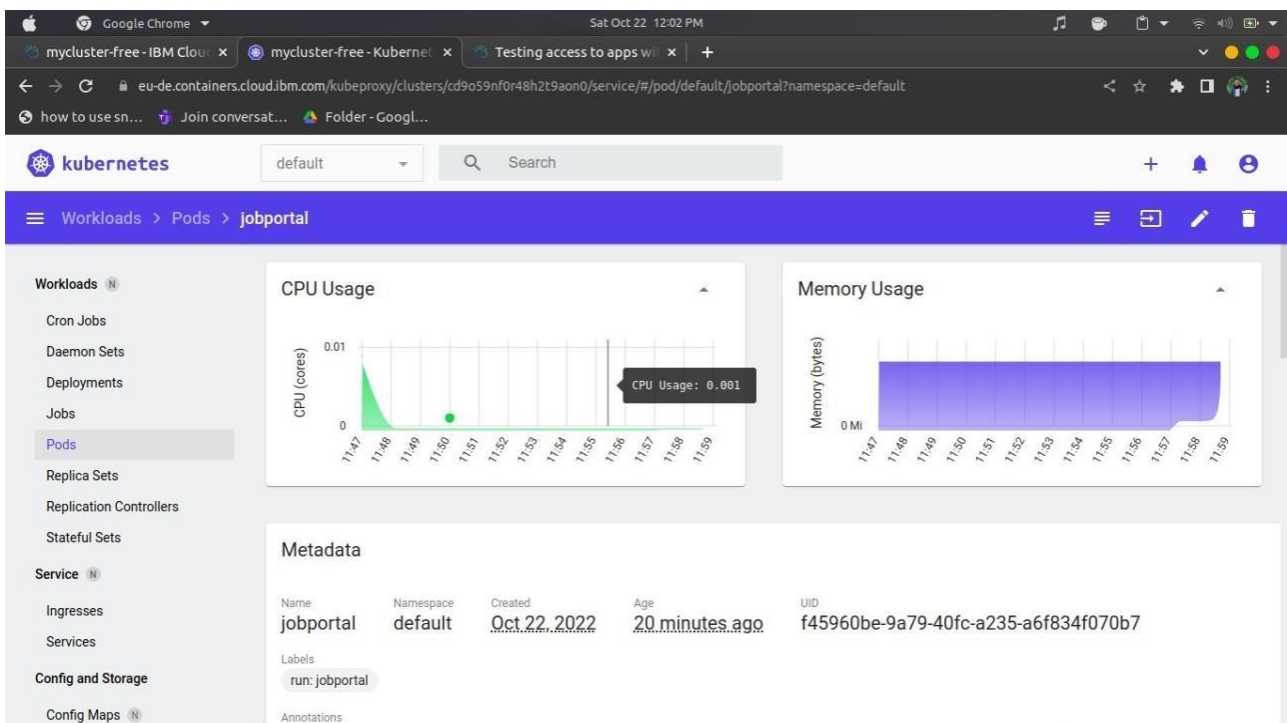
### 3. Create a IBM container registry and deploy helloworld appor job portal app.











**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

default

Search



Workloads > Pods

Workloads N

Cron Jobs

Daemon Sets

Deployments

Jobs

**Pods**

Replica Sets

Replication Controllers

Stateful Sets

Service N


Ingresses

Services

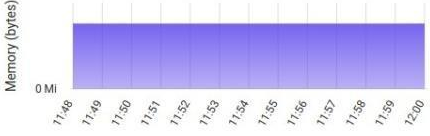
Config and Storage

Config Maps N



CPU Usage



Memory Usage



Pods

Name	Images	Labels	Node	Status	Restarts	CPU Usage (cores)
 jobportal	<a href="#">Show all</a>	<a href="#">Show all</a>	10.144.216.52	Running	0	1.00m
 lb4-simple-web-app-deployment	<a href="#">Show all</a>	<a href="#">Show all</a>	10.144.216.52	ImagePullBack 0	-	