

Assignment 4

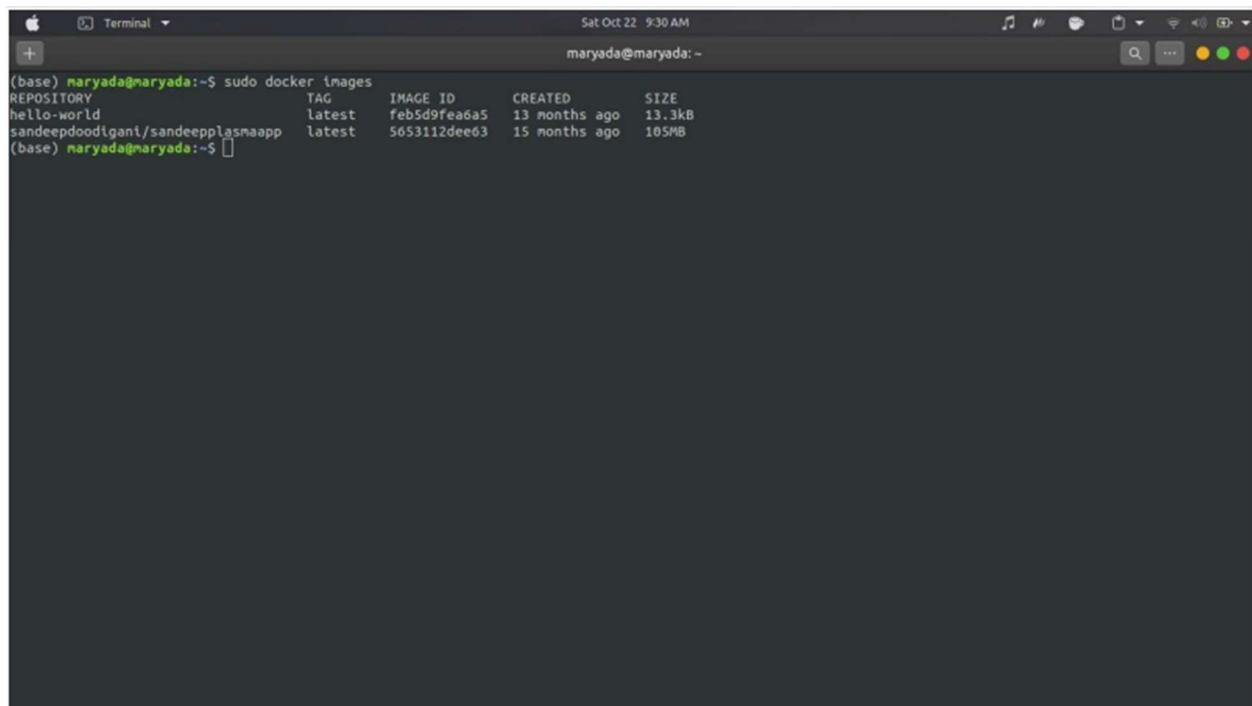
Kubernetes / Docker

Plasma doner Application:

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Name : Kishor Kumar D

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

A screenshot of a macOS Terminal window. The title bar shows 'Terminal' and the date 'Sat Oct 22 9:30 AM'. The prompt is 'maryada@maryada: ~'. The user has entered the command 'sudo docker images'. The output is a table with 5 columns: REPOSITORY, TAG, IMAGE ID, CREATED, and SIZE. There are two rows of data: 'hello-world' with tag 'latest', image ID 'feb5d9fea6a5', created '13 months ago', and size '13.3kB'; and 'sandeepdoodigani/sandeepplasmaapp' with tag 'latest', image ID '5653112dee63', created '15 months ago', and size '105MB'.

```
(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)
```

Plasma Donor App Home

127.0.0.1:8080/registration

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

Dockerfile:

FROM python:3.6

WORKDIR /app

ADD . /app

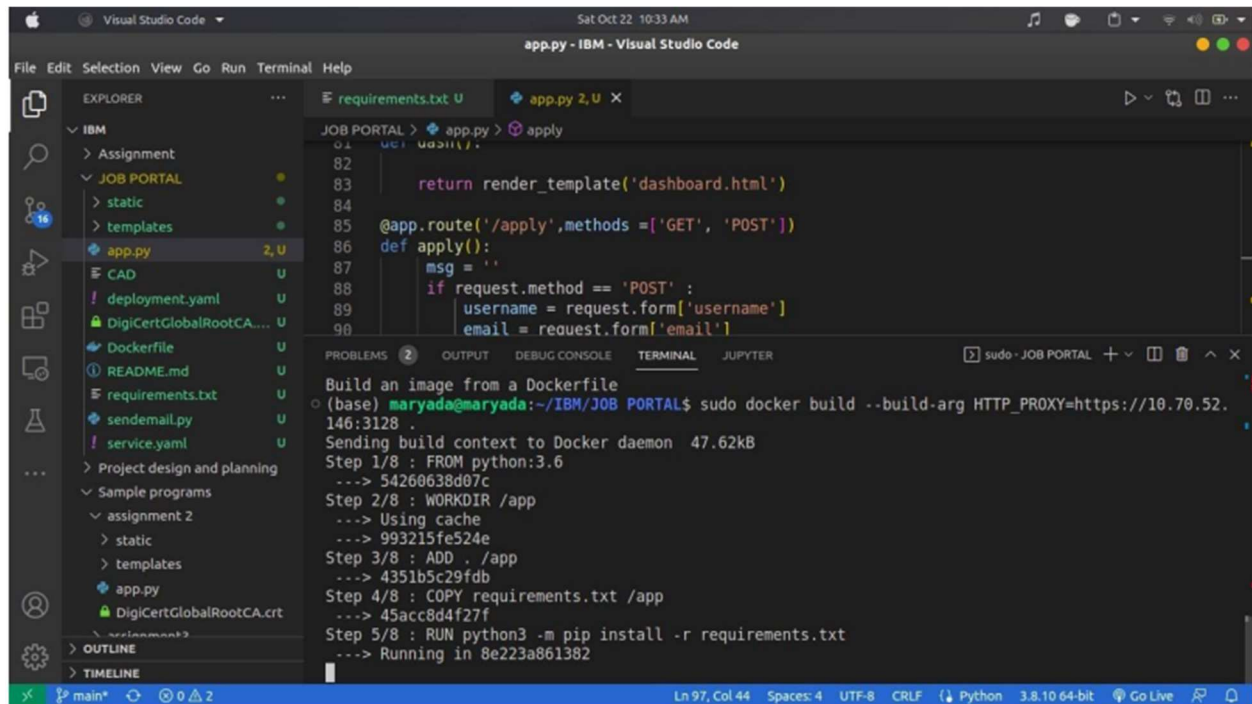
COPY requirements.txt /app

RUN python3 -m pip install -r requirements.txt

RUN python3 -m pip install ibm_db

EXPOSE 5000

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

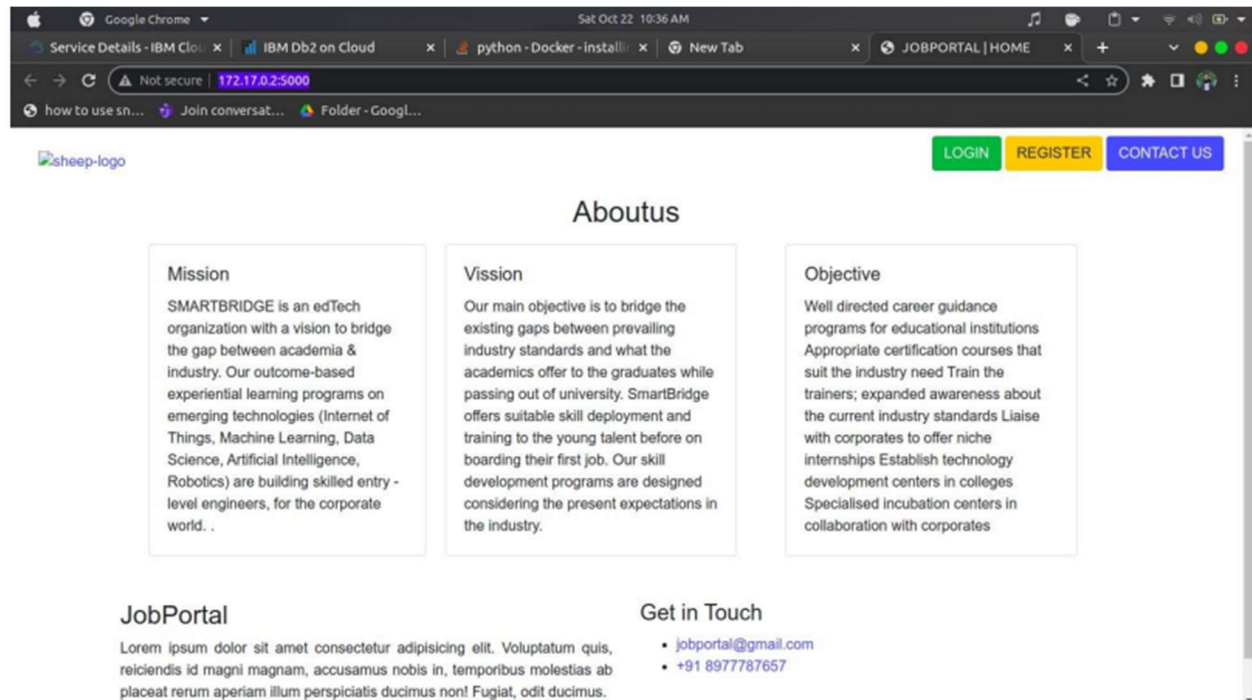


The screenshot shows the Visual Studio Code interface with the Explorer, Search, and Run and Debug panels. The Explorer panel shows the project structure with files like requirements.txt, app.py, and Dockerfile. The Search panel shows the contents of requirements.txt. The Run and Debug panel shows the output of the Docker build command, which includes the steps: FROM python:3.6, WORKDIR /app, ADD . /app, COPY requirements.txt /app, and RUN python3 -m pip install -r requirements.txt. The output also shows the build context being sent to the Docker daemon and the final image being built.

```
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
```

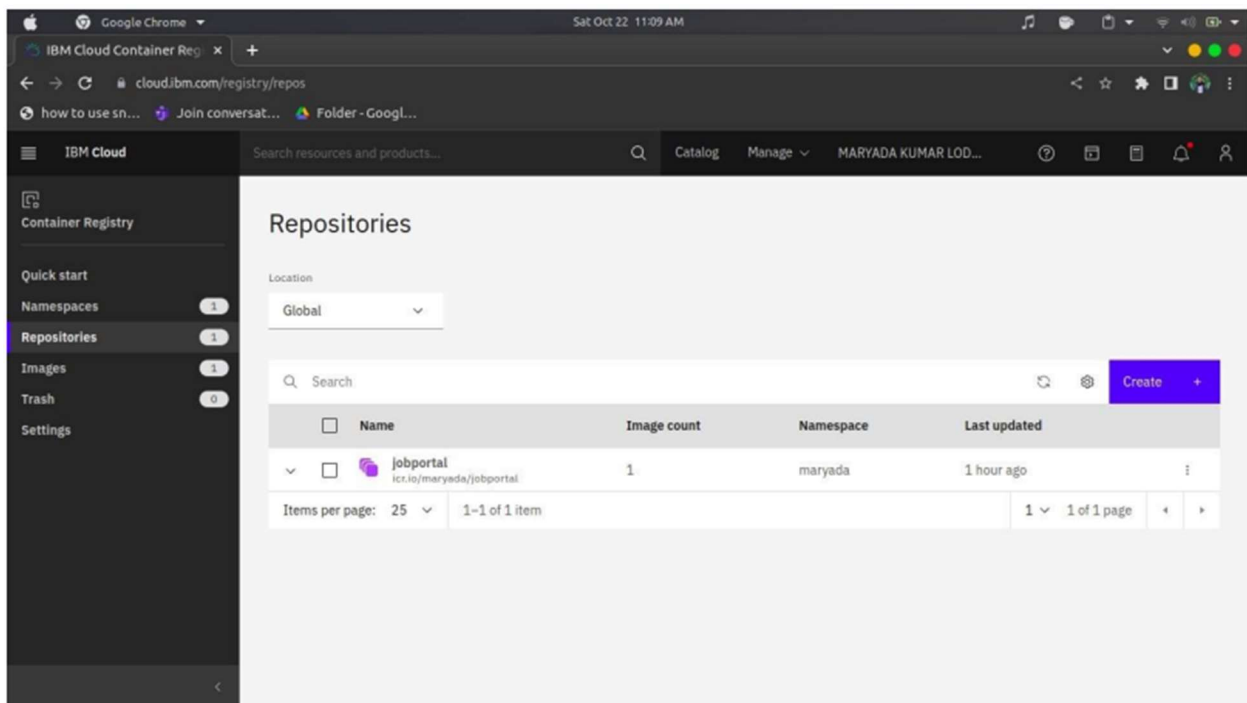
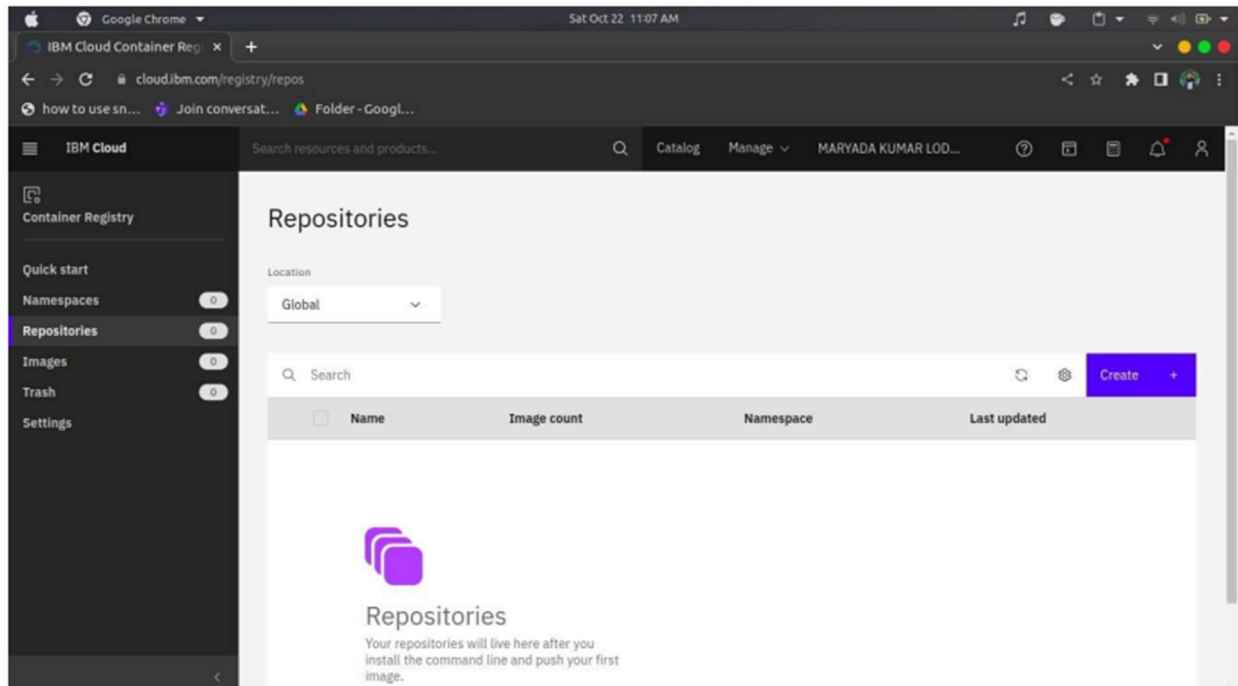
```
def apply():  
    msg = ''  
    if request.method == 'POST':  
        username = request.form['username']  
        email = request.form['email']
```

```
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/sandeepplasmaapp latest      5653112dee63  15 months ago  105MB
```



```

app.py - IBM - Visual Studio Code
...
JOB PORTAL > app.py > apply
81 def apply():
82     return render_template('dashboard.html')
83
84 @app.route('/apply', methods = ['GET', 'POST'])
85 def apply():
86     msg = ''
87     if request.method == 'POST':
88         username = request.form['username']
89         email = request.form['email']
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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.

