

Assignment 4

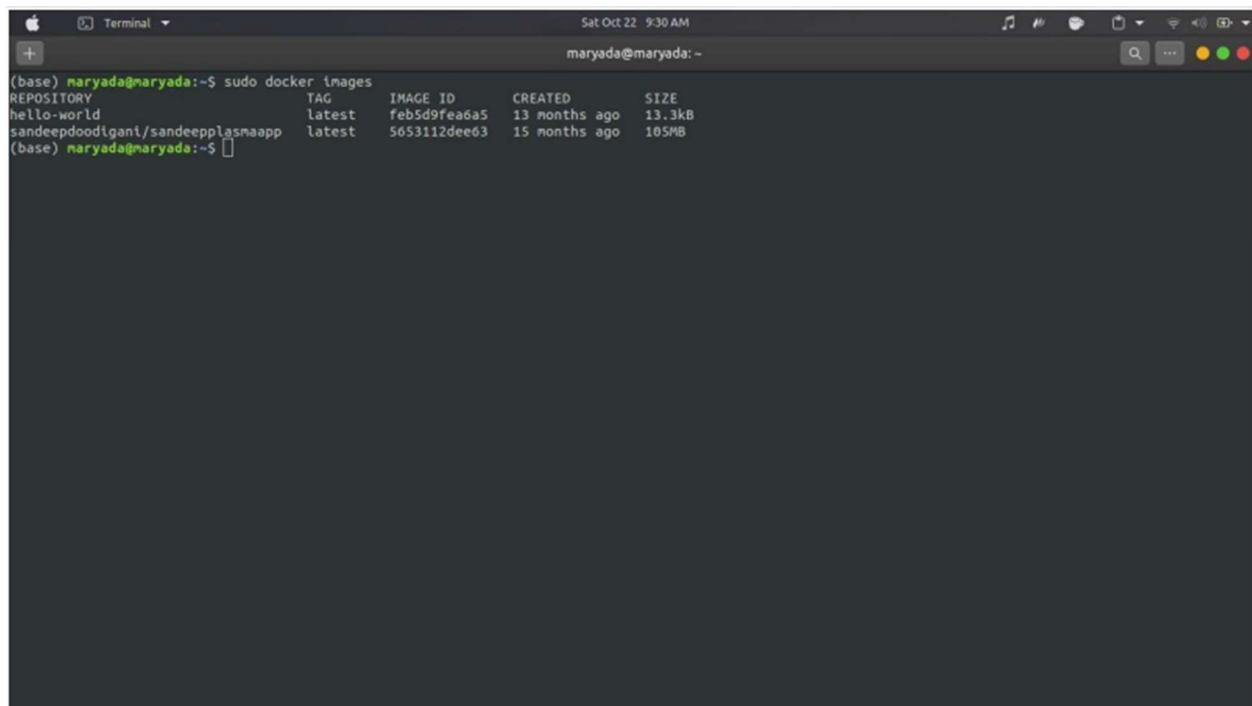
Kubernetes / Docker

Plasma doner Application:

Team ID : PNT2022TMID05643

Name : Ranjith M

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

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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

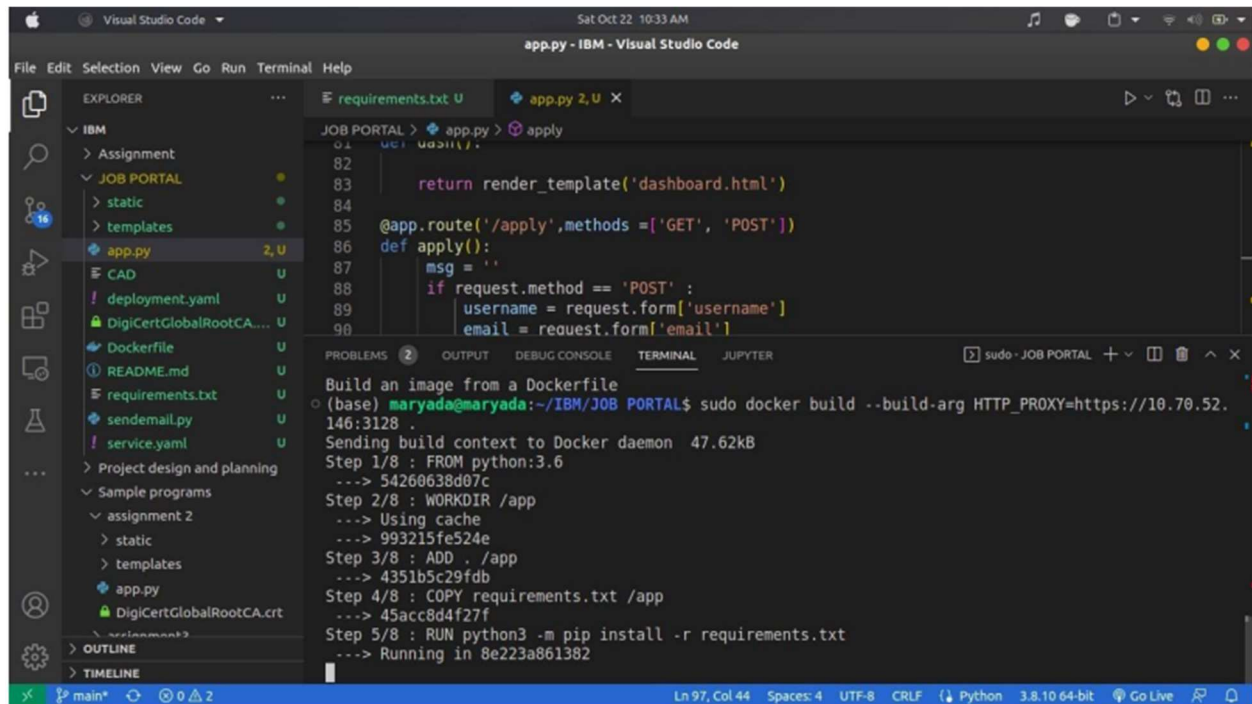
COPY requirements.txt /app

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 view on the left displaying the project structure. The main editor shows the `app.py` file with the following code:

```
82     return render_template('dashboard.html')
83
84
85 @app.route('/apply', methods = ['GET', 'POST'])
86 def apply():
87     msg = ''
88     if request.method == 'POST':
89         username = request.form['username']
90         email = request.form['email']
```

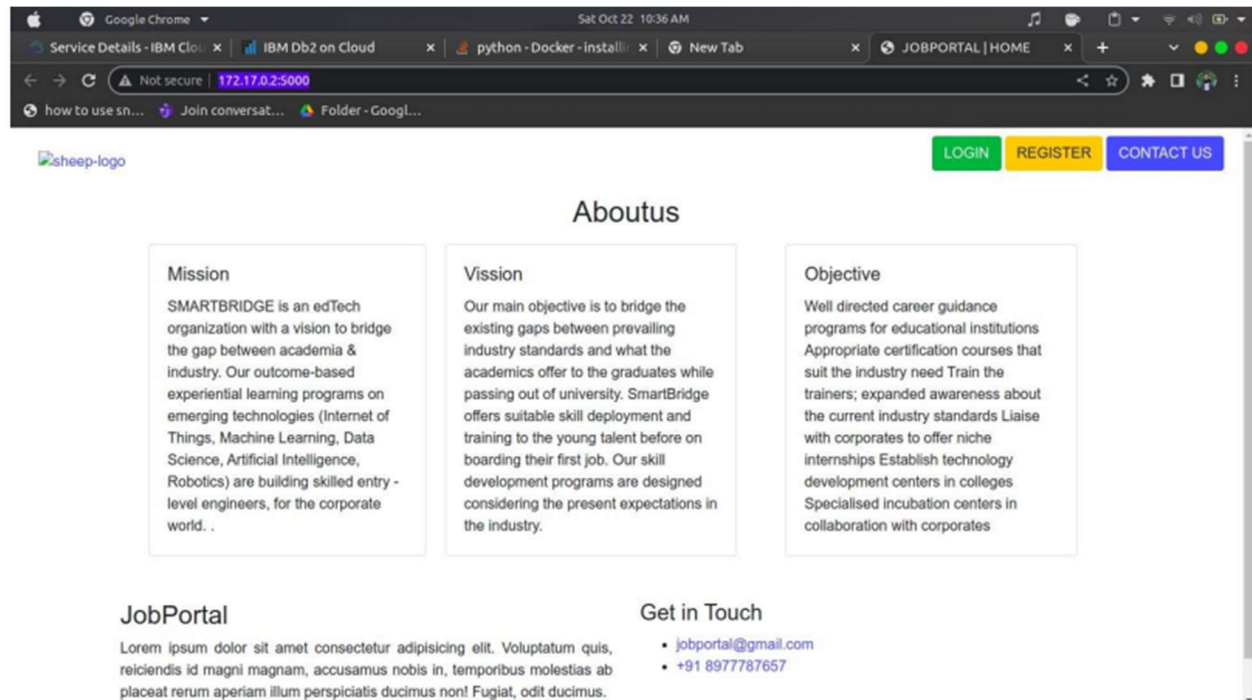
The TERMINAL view at the bottom shows the command `sudo docker build --build-arg HTTP_PROXY=https://10.70.52.146:3128 .` and the output of the build process:

```
(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
```

```
requirements.txt U app.py 2, U X
JOB PORTAL > app.py > apply
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85 @app.route('/apply', methods = ['GET', 'POST'])
86 def apply():
87     msg = ''
88     if request.method == 'POST':
89         username = request.form['username']
90         email = request.form['email']

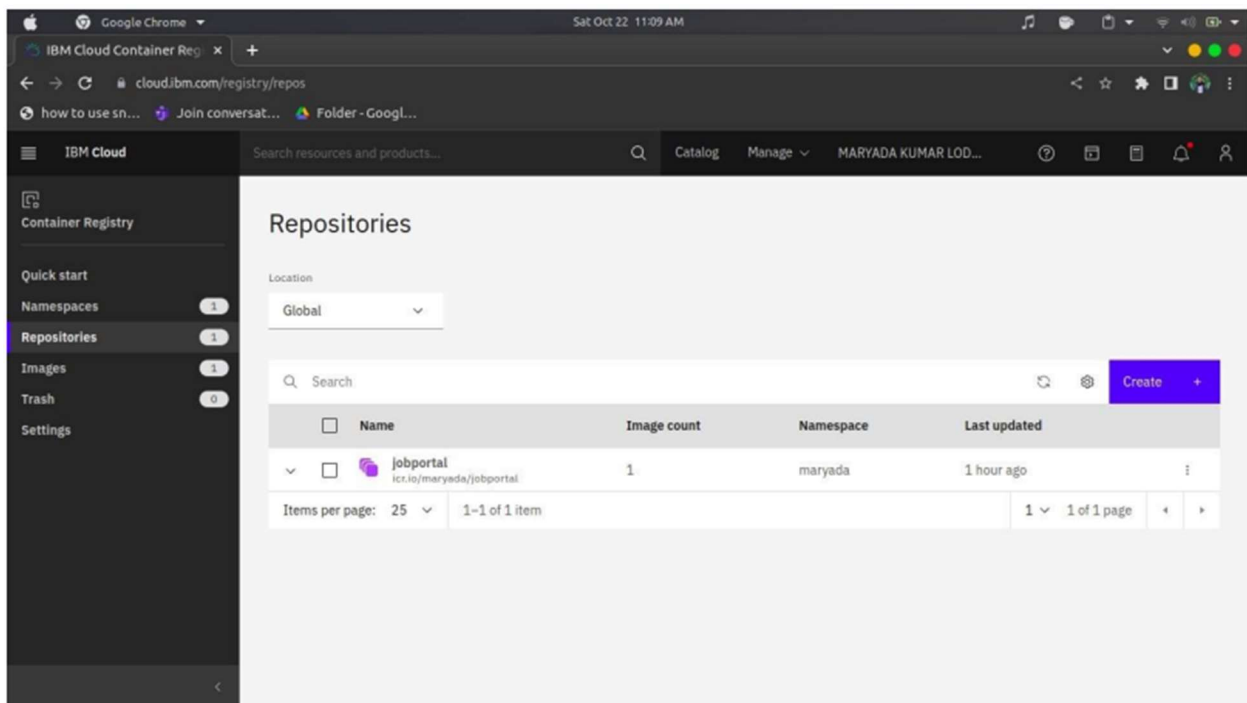
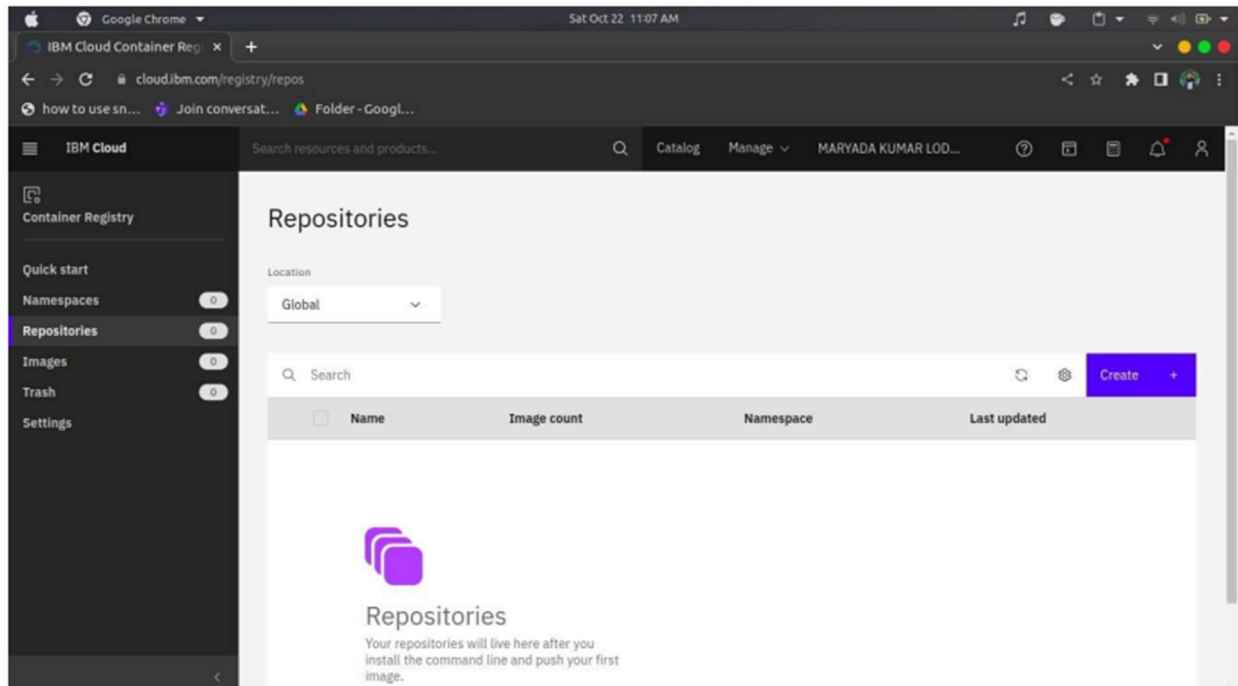
Step 8/8 : CMD ["python","app.py"]
--> Running in e76a612bbca1
Removing intermediate container e76a612bbca1
--> 8b022ea43a31
Successfully built 8b022ea43a31

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
(base) maryada@maryada:~/IBM/JOB PORTAL$
```



```

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.

