

Assignment 4

Question

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

Code

FROM python:3.10

COPY requirements.txt ./app/requirements.txt

WORKDIR /app

RUN pip install -r requirements.txt

COPY . .

EXPOSE 5000

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

Output

```
e5ae68f74026: Pull complete
bc36ee1127ec: Pull complete
d3576f2b6317: Pull complete
flaa5f54b226: Pull complete
aa379c0cedc2: Pull complete
Digest: sha256:fba8a9f4290180ceee5c74638bb85ff21fd15961e6dfa4def48e18820512bb1
```

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

Code

FROM python:3.10

COPY requirements.txt ./app/requirements.txt

WORKDIR /app

RUN pip install -r requirements.txt

COPY ..

EXPOSE 5000

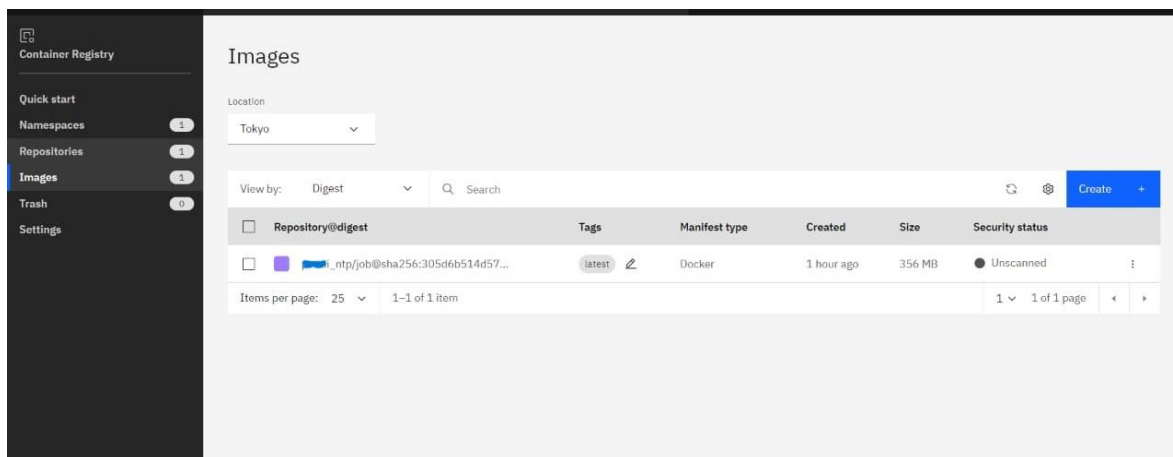
CMD ["python", "./app.py"]

Output

```
root@ip-172-31-86-229:/home/ec2-user/website
[root@ip-172-31-86-229 website]# cd spourmo/
[root@ip-172-31-86-229 spourmo]# ls
images index.html layout licence.txt pages
[root@ip-172-31-86-229 spourmo]# cp -R * ../
[root@ip-172-31-86-229 spourmo]# cd ..
[root@ip-172-31-86-229 website]# ls
images index.html layout licence.txt pages spourmo spourmo.zip
[root@ip-172-31-86-229 website]# rm -Rf spourmo.zip spourmo
[root@ip-172-31-86-229 website]# ls
images index.html layout licence.txt pages
[root@ip-172-31-86-229 website]# vim Dockerfile
[root@ip-172-31-86-229 website]# docker build -t website .
Sending build context to Docker daemon 2.8MB
Step 1/2 : FROM httpd
latest: Pulling from library/httpd
e5ae68f74026: Pull complete
bc36ee1127ec: Pull complete
d3576f2b6317: Pull complete
flaa5f54b226: Pull complete
aa379c0cedc2: Pull complete
Digest: sha256:fba8a9f4290180ceee5c74638bb85ff21fd15961e6fdfa4def48e18820512bb1
Status: Downloaded newer image for httpd:latest
--> ea28e1b82f31
Step 2/2 : COPY ./usr/local/apache2/htdocs/
--> 11e6bbcf1b56
Successfully built 11e6bbcf1b56
Successfully tagged website:latest
[root@ip-172-31-86-229 website]#
```

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

Output



4. Create a Kubernetes cluster in IBM cloud and deploy hello world image or job portal image and also expose the same app to run in node port

Code

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta http-equiv="X-UA-Compatible" content="IE=edge">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Document</title>
  <style type="text/css">
    body{
      background-image: -webkit-linear-gradient(rgb(226, 60, 60),rgb(223, 223, 98));
    }
    .box1,.box2,.box3{
      width: 60vw;
      text-align: center;
      font-size: 20px;
      border-style: solid;
      border-radius: 10px;
      background-color: rgb(127, 164, 197);
      margin: 20px 200px;
      padding: 20px;
    }

    .btn{
      background-color: #090909; /* Green */
      border: solid green 3px;
      border-radius: 9px;
      color: white;
      padding: 16px 32px;
      text-align: center;
      text-decoration: none;
      display: inline-block;
      font-size: 16px;
      margin: 4px 2px;
      transition-duration: 0.4s;
      cursor: pointer;
      size: 30px;
    }
  </style>
</head>
<body>
  <div class="box1">
    <h1>Hello World</h1>
  </div>
  <div class="box2">
    <h2>Job Portal</h2>
  </div>
  <div class="box3">
    <h3>Kubernetes</h3>
  </div>
  <div class="btn">
    <button>Click Me</button>
  </div>
</body>
</html>
```

```

}
    </style>
</head>
<body>
    <h2><center>Job Portal</center></h2>
    <h1><center>Apply For Requirement</center></h1>
    <div class="box1">
        Front End Developer<br><hr>
        Location:Chennai, TamilNadu.<br>
        From Rs.40,000 a month<br>
        Front End Developement Knowledge with HTML,CSS,JS and React
js<br><br>
        <button class="btn">Apply Now</button>
    </div>
    <div class="box2">
        Java Developer<br><hr>
        Location:Chennai, Tamil Nadu.<br>
        From Rs.1,60,000 a month<br>
        A Java Developer is a programmer who designs, develops, and manages
Java-based applications and software. With most large organizations using Java to
implement software systems and backend services, a Java developer is one of the
most sought-after jobs today.<br><br>
        <button class="btn">Apply Now</button>
    </div>
    <div class="box3">
        Full Stack Developer<br><hr>
        Location:Bengaluru, Karnataka.<br>
        From Rs90,000 a month<br>
        Front-End developers create and manage the client-facing and server
sides of websites and applications. Understanding the "full stack" requires a
broad skill set and high-level knowledge of how front-end and back-end
development work together, communicate, and connect.<br><br>
        <button class="btn">Apply Now</button>
    </div>
</body>
</html>

```

Flask file

```

Flask file
from flask import Flask, render_template

app = Flask(__name__)

```

```
app.config['SECRET_KEY'] =
'df3asd24sfasd4asd26@45tas0331cefc6c2b9a5d0208a726a5d1c0fd37324feba25506'

@app.route("/")
def home():
    return render_template("home.html")

if __name__ == '__main__':
    app.run(host='0.0.0.0', port=5000, debug=True)
```

Output

```

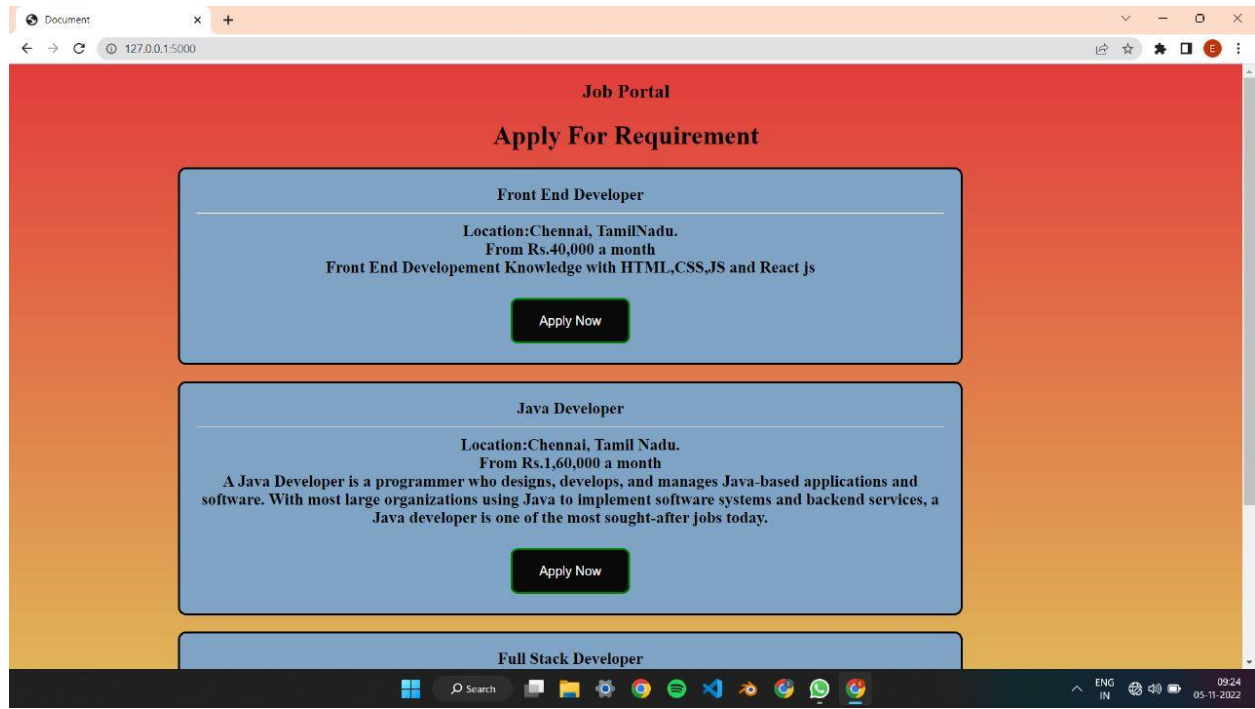
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL JUPYTER
from flask import Flask, render_template
IndentationError: unexpected indent
PS C:\Users\Deepak Santhosh\Desktop\ASSIGNMENT\Assignment 3\flask> python "app.py"
* Serving Flask app 'app'
* Debug mode: on
WARNING: This is a development server. Do not use it 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://127.0.0.1:5000
Press CTRL+C to quit
* Restarting with stat
* Debugger is active!
* Debugger PIN: 831-514-859

```

```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL JUPYTER
from flask import Flask, render_template
IndentationError: unexpected indent
PS C:\Users\Deepak Santhosh\Desktop\ASSIGNMENT\Assignment 3\flask> python "app.py"
* Serving Flask app 'app'
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Press CTRL+C to quit
* Restarting with stat
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* Debugger PIN: 831-514-859

```



```
Command Prompt
C:\Users\hp\OneDrive\Desktop\New folder\JobPortal>kubectl apply -f kubernetes/flask_deployment.yaml
deployment.apps/flask-app configured

C:\Users\hp\OneDrive\Desktop\New folder\JobPortal>kubectl expose deployment flask-app --type=NodePort --name=job-portal-1
Error from server (AlreadyExists): services "job-portal-1" already exists

C:\Users\hp\OneDrive\Desktop\New folder\JobPortal>kubectl expose deployment flask-app --type=NodePort --name=job-portal
service/job-portal exposed

C:\Users\hp\OneDrive\Desktop\New folder\JobPortal>kubectl describe svc job-portal
Name:                job-portal
Namespace:           default
Labels:              <none>
Annotations:         <none>
Selector:            app=flask-app
Type:                NodePort
IP Family Policy:    SingleStack
IP Families:         IPv4
IP:                  172.21.218.151
IPs:                 172.21.218.151
Port:                <unset> 5000/TCP
TargetPort:          5000/TCP
NodePort:            <unset> 30542/TCP
Endpoints:           <none>
Session Affinity:    None
External Traffic Policy: Cluster
Events:              <none>

C:\Users\hp\OneDrive\Desktop\New folder\JobPortal>
```