Assignment -4
Kubernetes /Docker

Assignment Date	22 October 2022
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Maximum Marks	2 Marks

Question:

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

Solution:

```
FROM python:3.10.4
WORKDIR /app
COPY requirements.txt ./
RUN pip install -r requirements.txt
COPY . .
EXPOSE 5000
CMD ["python","./app.py"]
```

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

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

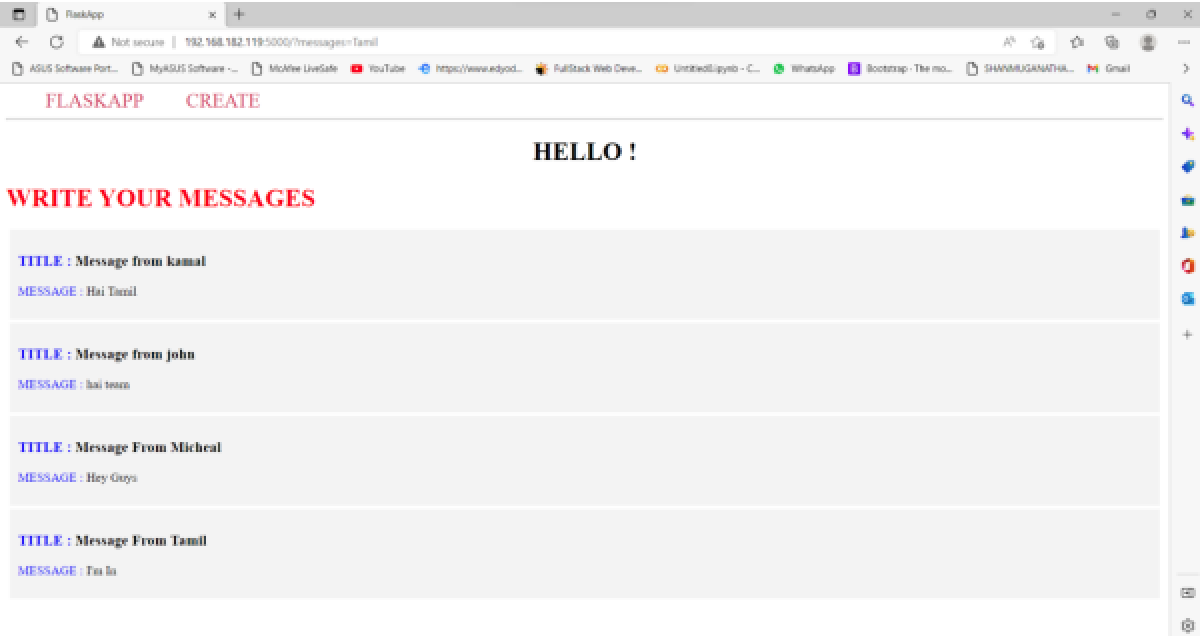
Solution:

```
from flask import Flask, render_template, request,
url_for, flash, redirect
app = Flask(__name__)
app.config['SECRET_KEY'] =
'df0331cefc6c2b9a5d0208a726a5d1c0fd37324feba25506'
@app.route('/create/', methods=('GET', 'POST'))
def create():
 if request.method == 'POST':
 title = request.form['title']
 content = request.form['content']
 if not title:
 flash('Title is required!')
 elif not content:
```

```
 flash('Content is required!')
 else:
 messages.append({'title': title, 'content': content})
 name = "Tamil"
 return redirect(url_for('index', messages=name ))
 return render_template('create.html')
messages = [{'title': 'Message from kamal',
 'content': 'Hai Tamil'},
 {'title': 'Message from john ',
 'content': 'hai team'}


 ]
@app.route('/')
def index():
 return render_template('index.html',
messages=messages)
@app.route('/admin')
def hello_admin():
 return 'Hello Admin'
@app.route('/guest/<guest>')
def hello_guest(guest):
 return 'Hello %s as Guest' % guest
@app.route('/user/<name>')
def hello_user(name):
 if name =='admin':
 return redirect(url_for('hello_admin'))
 else:
 return redirect(url_for('hello_guest',guest = name))
if __name__ == '__main__':
 app.run(host='0.0.0.0', port=5000, debug=True)
```

Output:



FLASKAPP CREATE

HELLO !

WRITE YOUR MESSAGES

TITLE : Message from kamal

MESSAGE : Hai Tamil

TITLE : Message from john

MESSAGE : hai team

TITLE : Message From Micheal

MESSAGE : Hey Guys

TITLE : Message From Tamil

MESSAGE : I'm In

4.Create a Kubernetes cluster in IBM cloud and deploy helloworld image or job portal image and also expose the same app to run in nodeport.

Solution:

Dashboard-admin users.yaml:

```
apiVersion: v1
kind: ServiceAccount
metadata:
  name: admin-user
  namespace: kubernetes-dashboard
---
apiVersion: v1
kind: Secret
metadata:
  name: admin-user-token
  namespace: kubernetes-dashboard
  annotations:
    kubernetes.io/service-account.name: admin-user
type: kubernetes.io/service-account-token

---
apiVersion: rbac.authorization.k8s.io/v1
kind: ClusterRoleBinding
metadata:
  name: admin-user
roleRef:
  apiGroup: rbac.authorization.k8s.io
  kind: ClusterRole
  name: cluster-admin
subjects:
- kind: ServiceAccount
  name: admin-user
  namespace: kubernetes-dashboard
```