

## Assignment -4

Assignment Date	22 October 2022
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Student Roll Number	113119UG07075
Maximum Marks	2 Marks
Team ID	PNT2022TMID22527

### Question-1:

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

#### Solution:

- Pull an image *uifd/ui-for-docker* from the docker hub
- This image is used for viewing and managing the docker engine
- Use `docker pull image_name` and `docker run -it image_name` commands to
- run the above image in the Docker Playground

The screenshot displays the Docker Playground interface. On the left, there's a sidebar with a clock showing 03:57:32, a 'CLOSE SESSION' button, and a list of instances. The main area shows details for an instance named 'cddvksm0\_cddvkv0qau000a07j5g' with IP 192.168.0.8. Below this, the terminal output is visible, showing the execution of 'docker pull hello-world' and 'docker run hello-world' commands. The output indicates that the 'hello-world' image was pulled from the library and the container was run successfully. A warning message is also displayed at the top of the terminal output.

```
#####  
# WARNING!!!!  
# This is a sandbox environment. Using personal credentials  
# is HIGHLY discouraged. Any consequences of doing so are  
# completely the user's responsibilities.  
#  
# The PwD team.  
#####  
[node1] (local) root@192.168.0.8 ~  
$ docker pull hello-world  
Using default tag: latest  
latest: Pulling from library/hello-world  
2db29710123e: Pull complete  
Digest: sha256:e18f0a777aefabe047a671ab3ec3eed05414477c951ab1a6f352a06974245fe7  
Status: Downloaded newer image for hello-world:latest  
docker.io/library/hello-world:latest  
[node1] (local) root@192.168.0.8 ~  
$ docker run hello-world
```

### Question-2:

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

#### Solution:

- Create a docker file for build and deploy flask app.

- Use docker build -t image\_name . in the current directory to start building the
- docker image and deploy in our local docker
- Use docker run -p 5000:5000 image\_name to run in local system

## CODE

FROM ubuntu/apache2

FROM python

COPY ./requirements.txt /flaskApp/requirements.txt

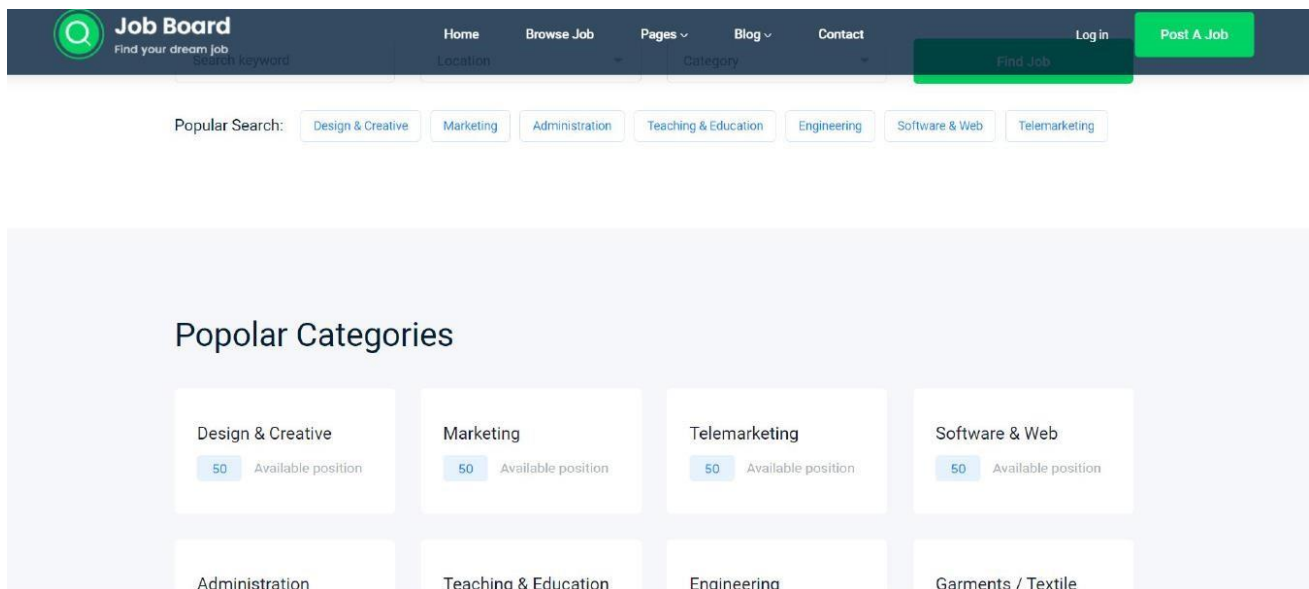
WORKDIR /flaskApp

RUN pip install -r requirements.txt

COPY . /flaskApp

ENTRYPOINT [ "python" ]

CMD ["app.py" ]

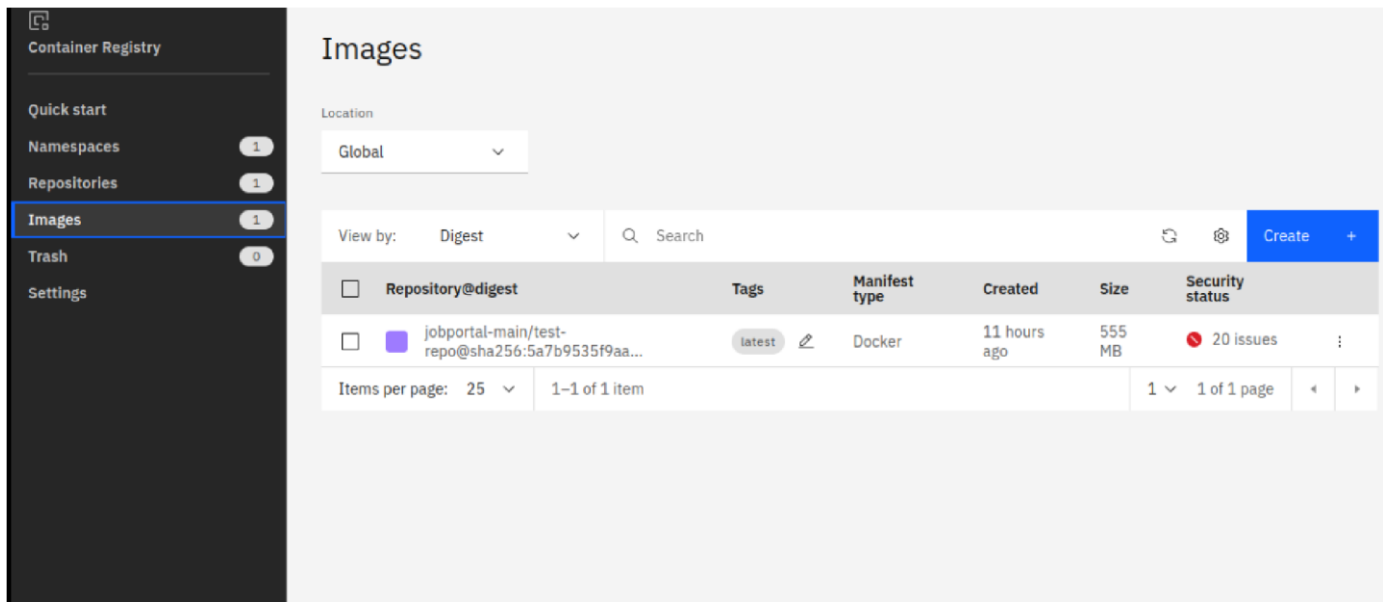


## Question-3:

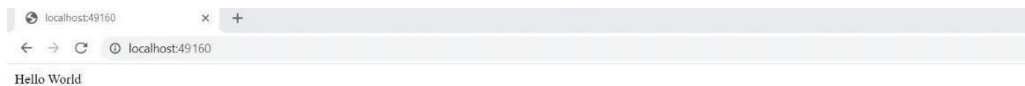
Create a IBM container registry and deploy hello world app or job portal app.

### Solution:

- Log into IBM cloud
- Create a container registry
- Using IBM Cloud CLI, install the container registry plugin in our system
- Push our docker image into the created container registry using docker push
- So, our job portal app is deployed in the IBM container registry



OUTPUT: “HELLO  
WORLD”



#### Question-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.

#### Solution:

- Log into IBM cloud
- Create a kubernetes
- Using IBM Cloud CLI, install the ks plugin in our system
- Create a cluster in the kubernetes
- Now, go to the kubernetes dashboard where we need to create a service based on a
- yaml file (given below)
- In that file, we have to mention *which image we are going to use* and the *app name*
- Take the public IP address and Nodeport since we exposed the *flask app in nodeport*
- Finally, we got the url address where our flask app is hosted

#### CODE:

apiVersion: v1 kind:

Service metadata:

name: job-portal-app

spec:

selector:

app: job-portal-app

ports: - port: 5000

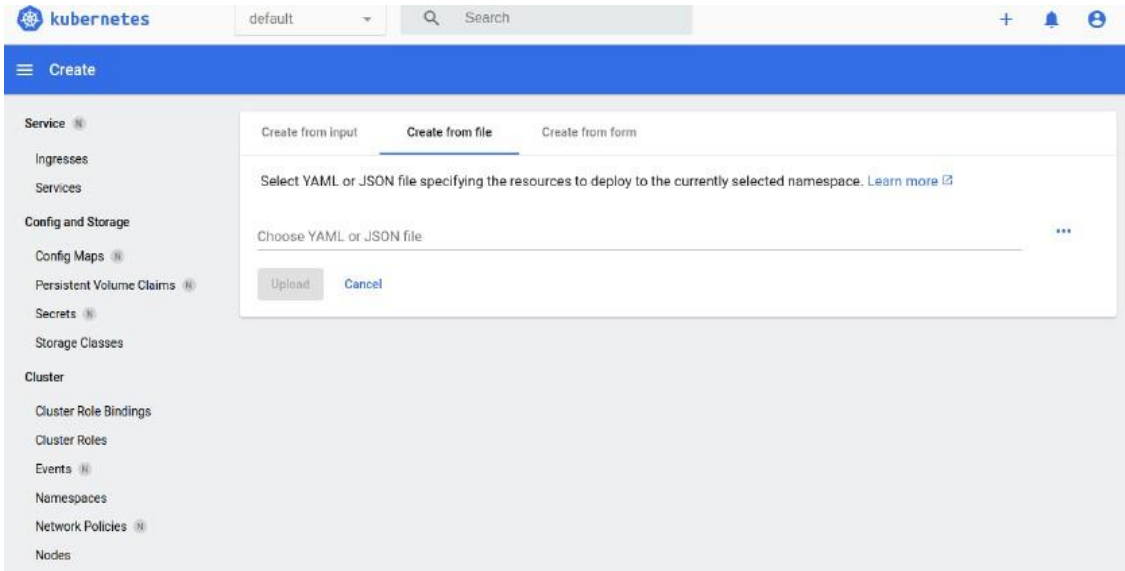
type: NodePort

---

apiVersion: apps/v1 kind:

Deployment metadata:

name: job-portal-app labels:  
app: job-portal-app  
spec: selector:  
matchLabels: app:  
job-portal-app  
replicas: 1  
template:  
metadata: labels:  
app: job-portal-app  
spec: containers:  
- name: job-portal-app  
  image: image\_name  
  ports:  
- containerPort: 5000 env:  
- name:  
  DISABLE\_WEB\_APP  
value: "false"



Kubernetes clusters						
Resource group: Filter...		Location: Filter...		Search	Create cluster +	
Name	State	Location	Worker count	Created	Version	Infrastructure
jaga-cluster	<span>Normal</span>	Amsterdam 03	1	Expires in 30 days	1.23.12_1546	Classic
Items per page: 25		1-1 of 1 item			1	1 of 1 page