

## Assignment -4

Assignment Date	22 October 2022
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Maximum Marks	2 Marks
Team ID	PNT2022TMID48024

### 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 including '192.168.0.8 node1'. The main area shows details for instance 'cddvksm0\_cddvkvm0qau000a07j5g' with IP 192.168.0.8, memory usage of 1.24%, and CPU usage of 0.31%. Below this, there's a terminal window showing the following commands and 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
```

An 'Activate Windows' watermark is visible in the bottom right corner of the terminal area.

### 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

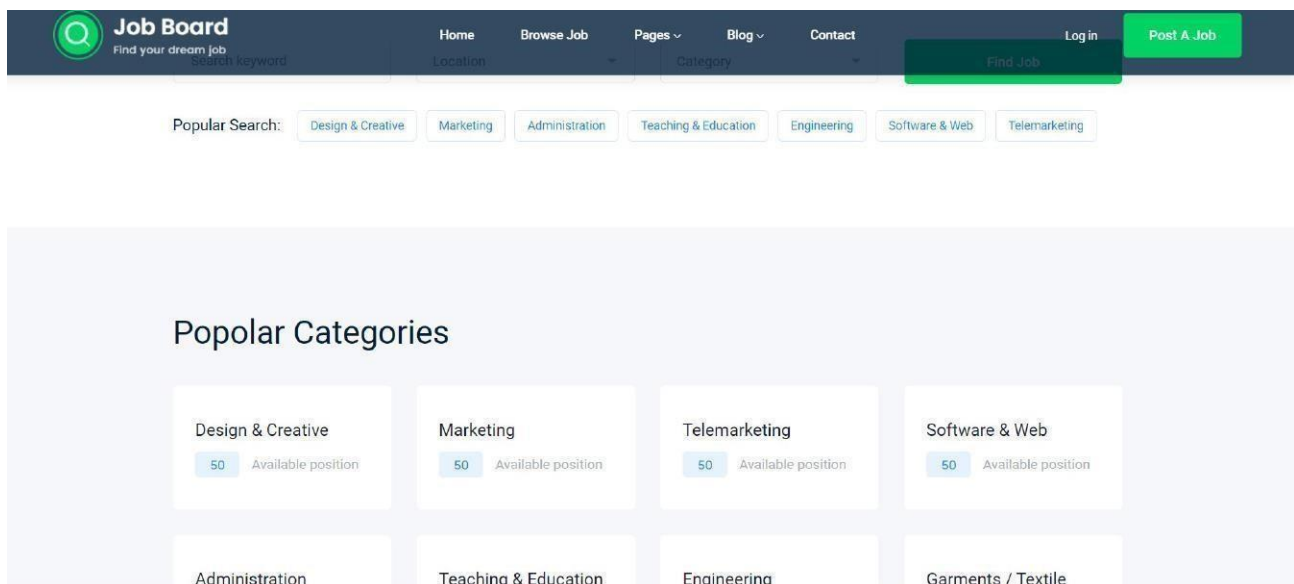
WORKDIR /flaskApp

RUN pip install -r requirements.txt

COPY . /flaskApp

ENTRYPOINT [ "python" ]

CMD ["app.py" ]

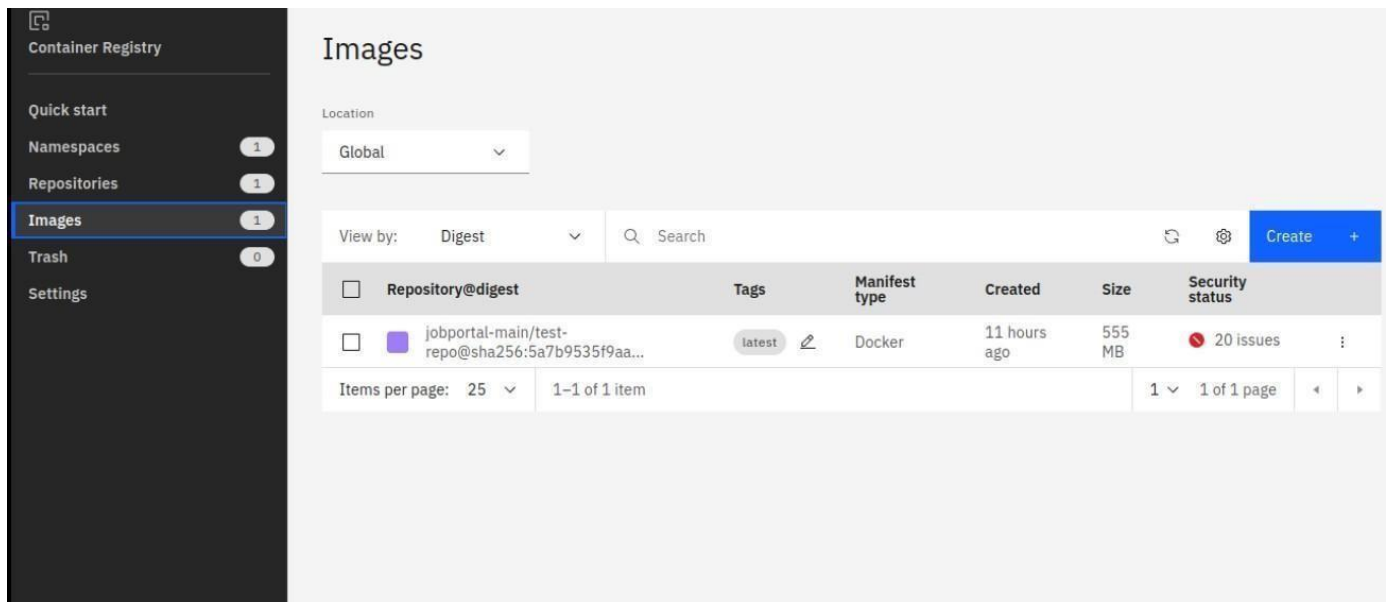


### Question-3:

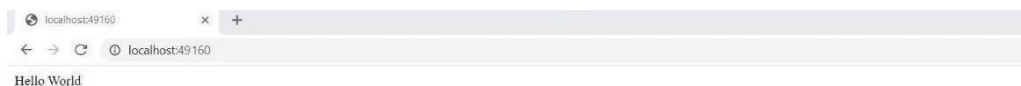
Create a IBM container registry and deploy hello world app or job portal app.

### 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 ● yml 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

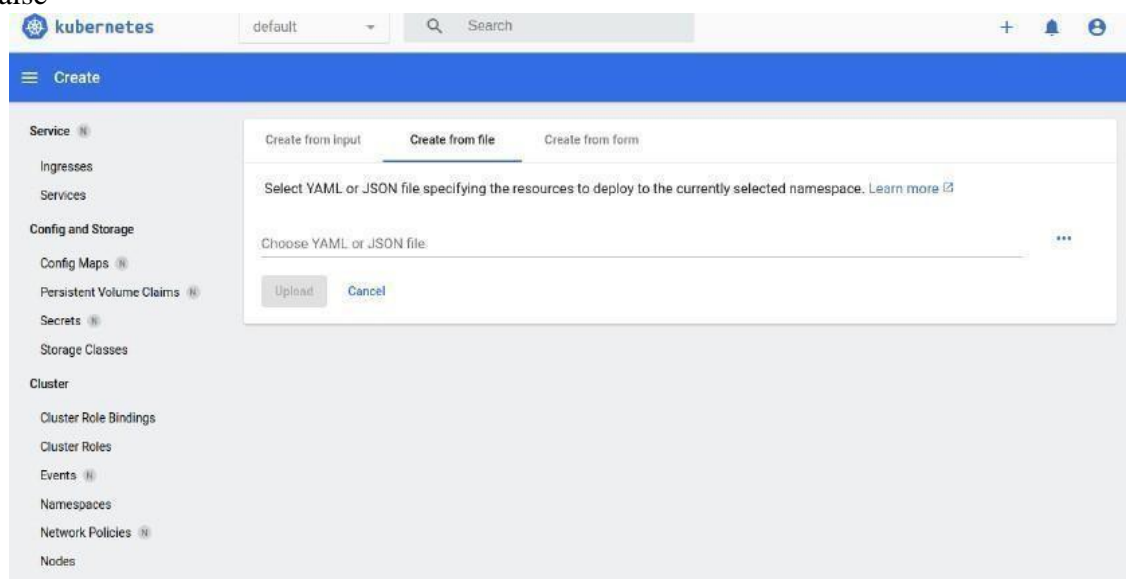
---

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