

## Assignment – 4

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:

- 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 the details of an instance named 'cddvksm0\_cddvksm0qau000a07j5g' with IP 192.168.0.8. Below the instance details, 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. #
#####
[redel] (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:c18f0e777aefabe047a671ab3ec3eed95414477c951ab1a6f352a06974245fe7
Status: Downloaded newer image for hello-world:latest
docker.io/library/hello-world:latest
[redel] (local) root@192.168.0.8 ~
$ docker run hello-world
```

### Question-2:

Create a docker file for the job portal 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
```

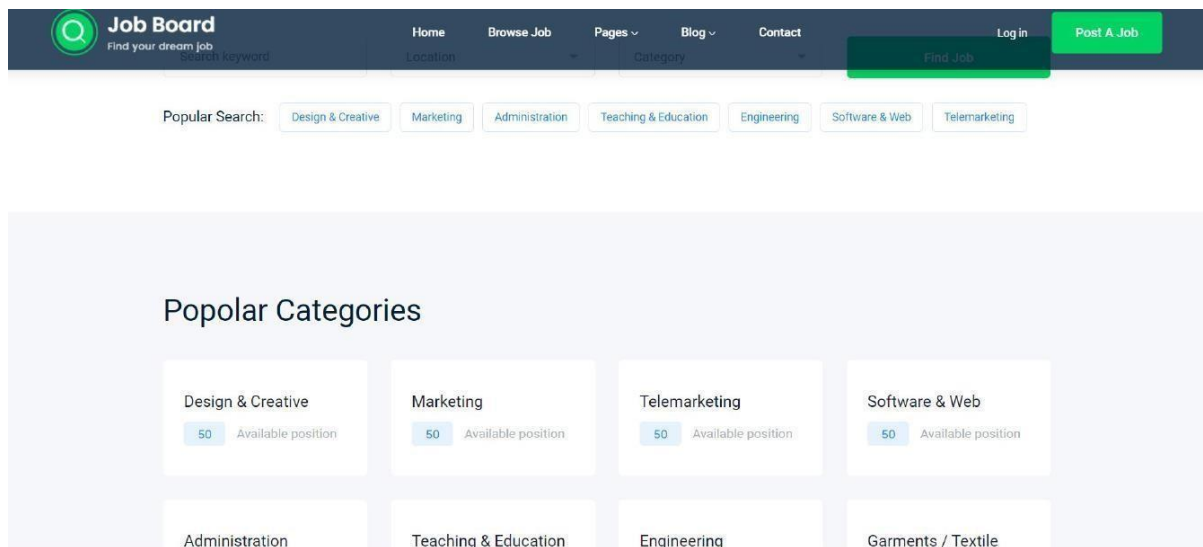
```
WORKDIR /flaskApp
```

```
RUN pip install -r requirements.txt
```

```
COPY . /flaskApp
```

```
ENTRYPOINT [ "python" ]
```

```
CMD ["app.py" ]
```

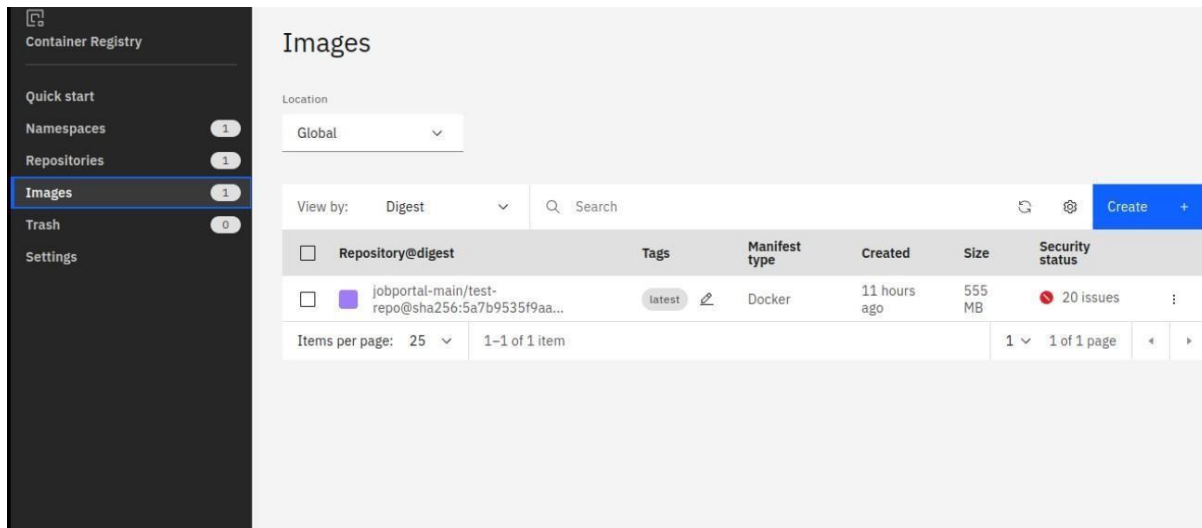


### Question-3:

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 hello world image or job portal image and also expose the same app to run in node port.

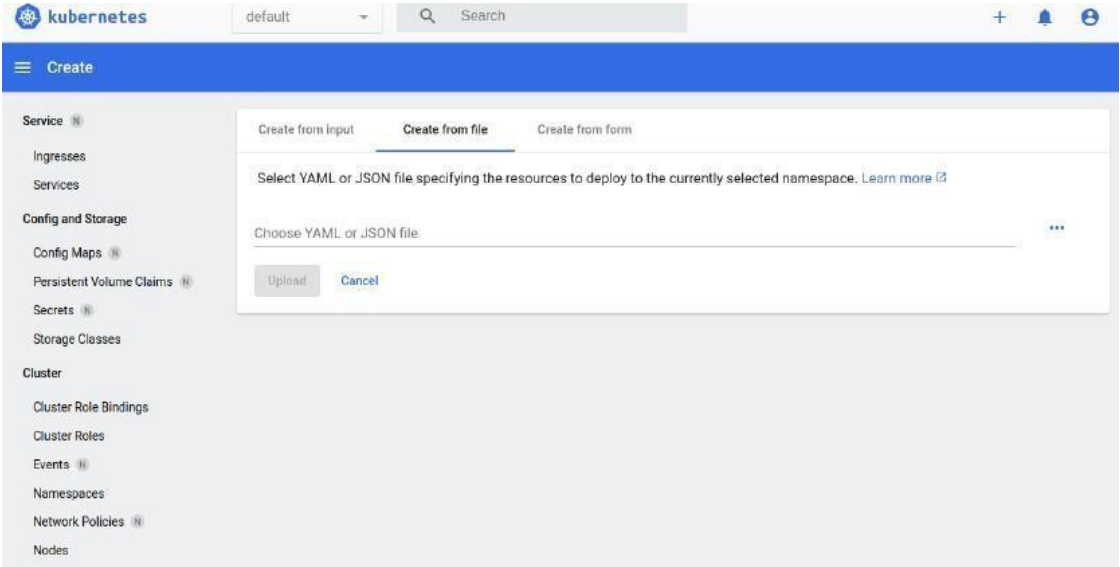
#### Solution:

- 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	Normal	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	

