

Assignment – 4

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

03:57:32

CLOSE SESSION

Instances

+ ADD NEW INSTANCE

192.168.0.8
node1

cddvkms0_cddvkvm0qau000a07j5g

IP: 192.168.0.8 OPEN PORT

Memory: 1.24% (49.52MiB / 3.906GiB) CPU: 0.31%

SSH: ssh ip172-18-0-22-cddvkms0qau000a07j50@direct.labs.pla

DELETE EDITOR

```
#####
# 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
```

Activate Windows
Go to Settings to activate Windows.

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

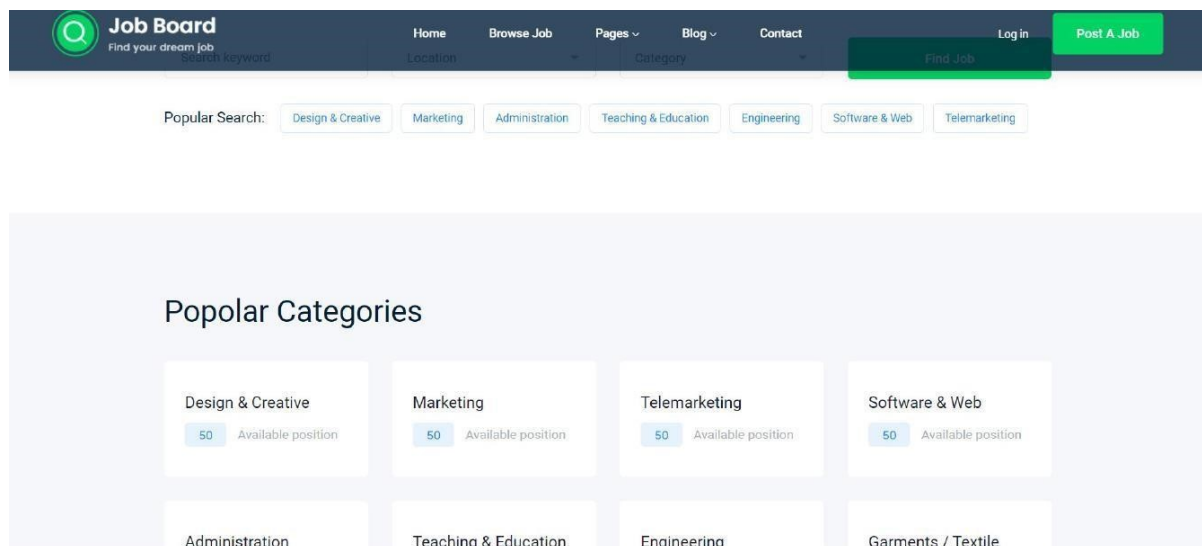
WORKDIR /flaskApp

RUN pip install -r requirements.txt

COPY . /flaskApp

ENTRYPOINT ["python"]

CMD ["app.py"]

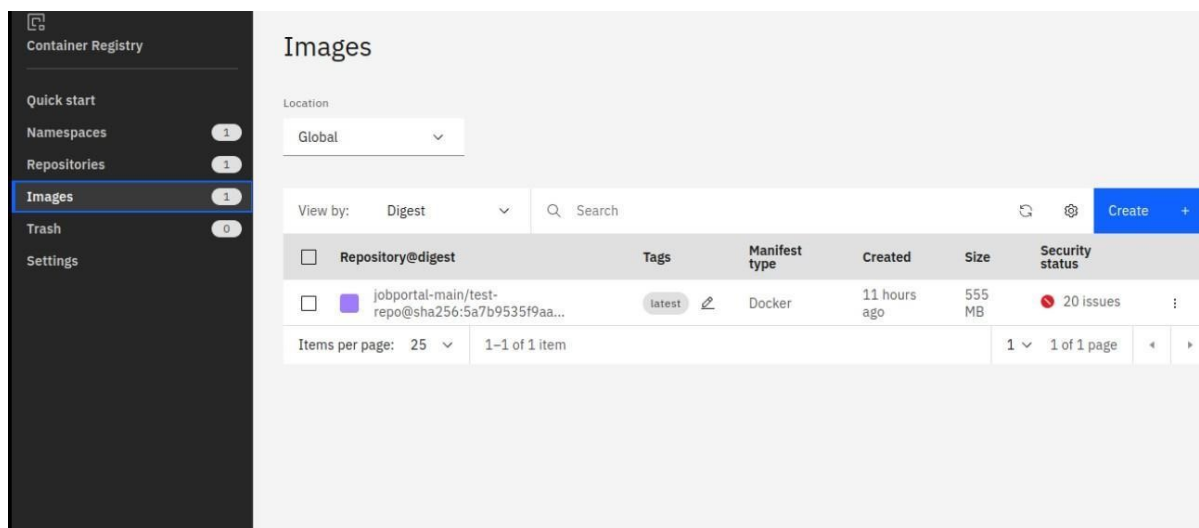


Question-3:

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

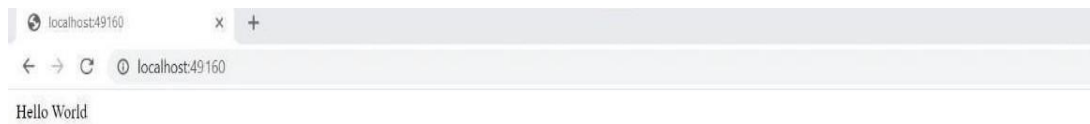
Solution:

- 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:

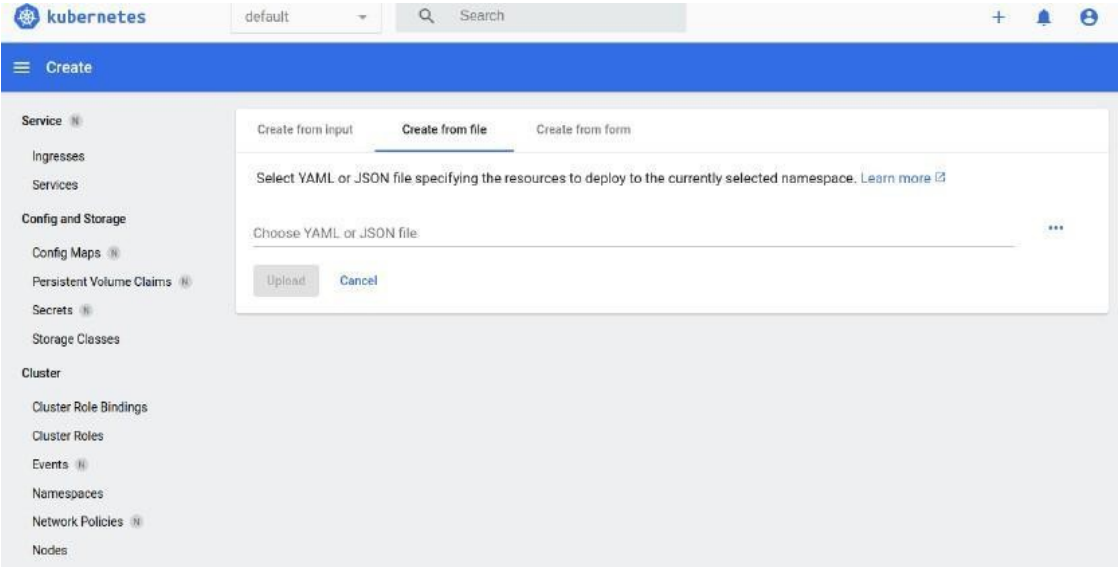
- Log into IBM cloud
- Create a kubernetes
- Using IBM Cloud CLI, install the ks plugin in our system
- Create a cluster in the kubernetes
- Now, go to the kubernetes dashboard where we need to create a service based on a
 - yml file (given below)
- In that file, we have to mention *which image we are 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	<div></div> Normal	Amsterdam 03	1	Expires in 30 days	<div></div> 1.23.12_1546	Classic <div></div>

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