

Assignment -4

Assignment Date	22 October 2022
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Role	Team Member 1
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 a warning about the sandbox environment and the successful execution of the following commands:

```
[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

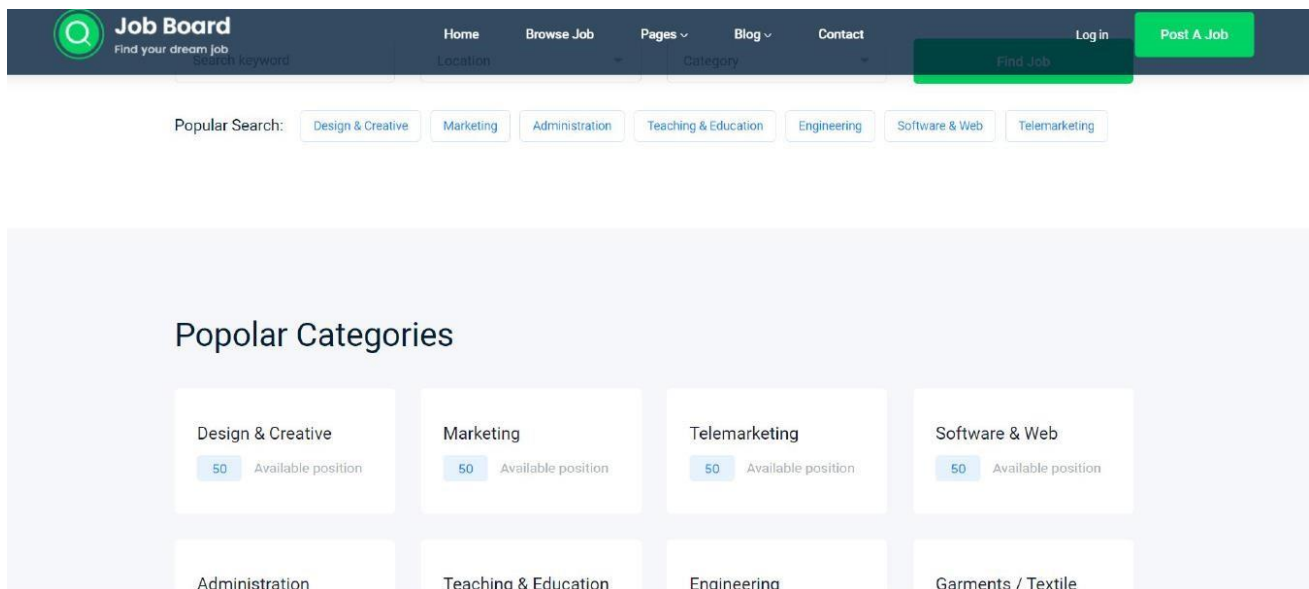
WORKDIR /flaskApp

RUN pip install -r requirements.txt

COPY . /flaskApp

ENTRYPOINT ["python"]

CMD ["app.py"]

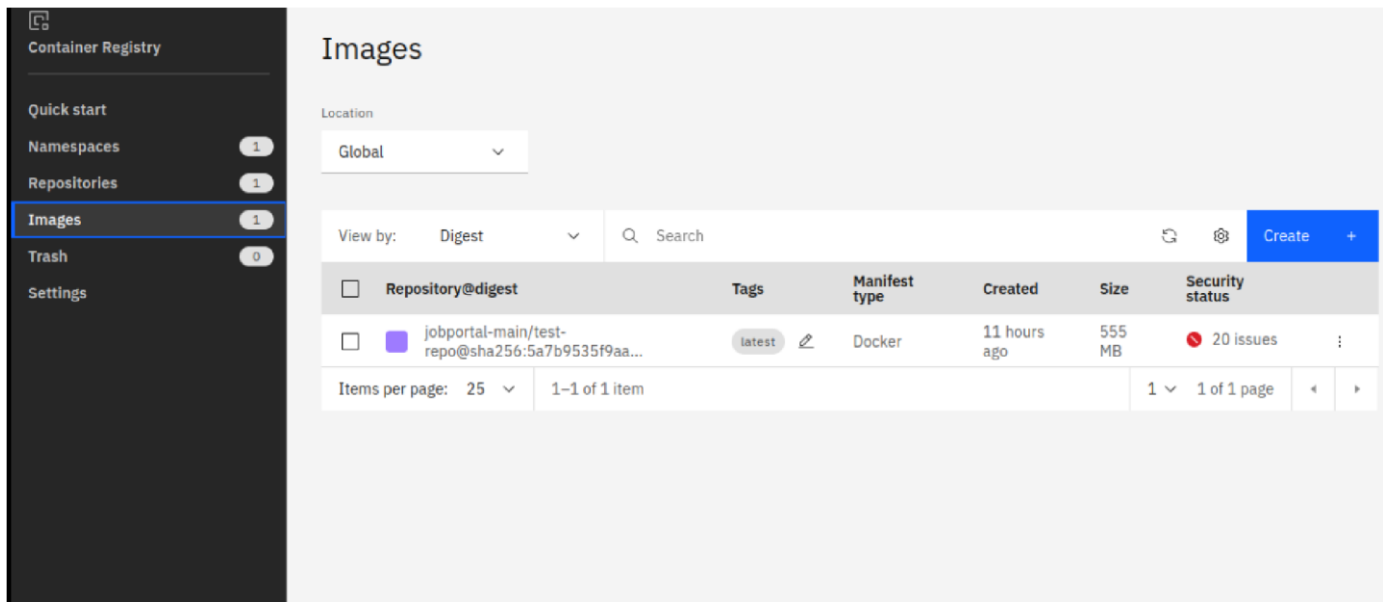


Question-3:

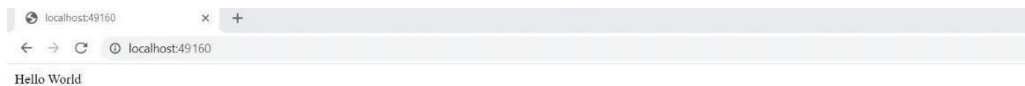
Create a IBM container registry and deploy hello world app or job portal app.

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

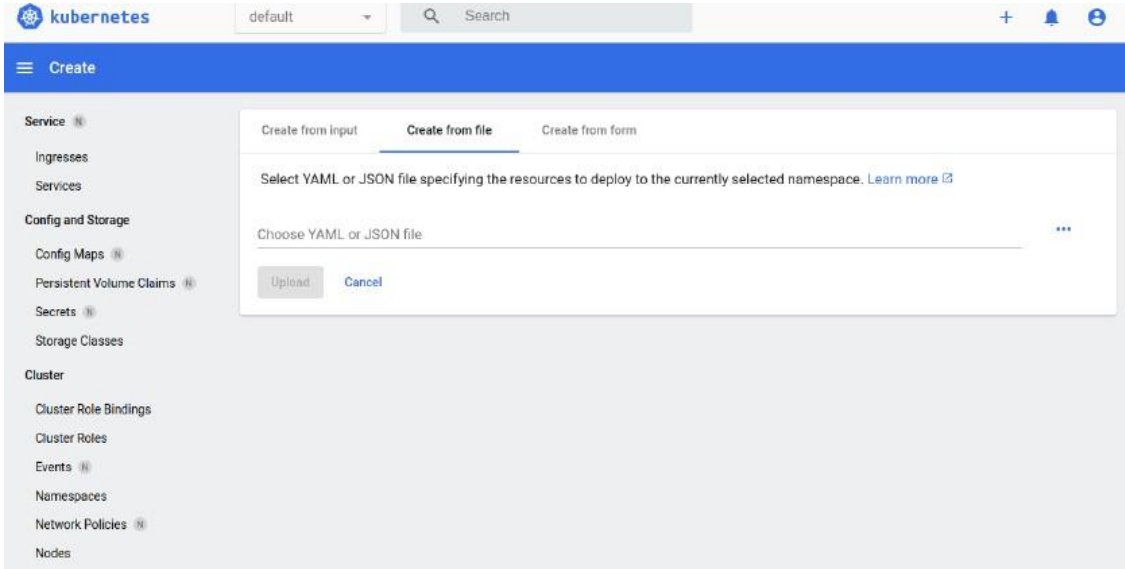
ports: - port: 5000

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	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	