

Assignment – 4

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Project Name	Newspaper Tracker Application
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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 shows 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. One instance named 'node1' with IP 192.168.0.8 is listed. The main area shows details for a container named 'cddvksm0_cddvkvm0qau000a07j5g'. It displays the IP 192.168.0.8, memory usage (1.24% / 49.52MiB), and CPU usage (0.31%). Below this, there's an SSH command: `ssh ip172-18-0-22-cddvksm0qau000a07j50@direct.labs.pla`. At the bottom, a terminal window shows 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:c18f0a777aefabe047a671ab3ec3eed05414477c951ab1a6f352a06974245fe7
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 window.

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

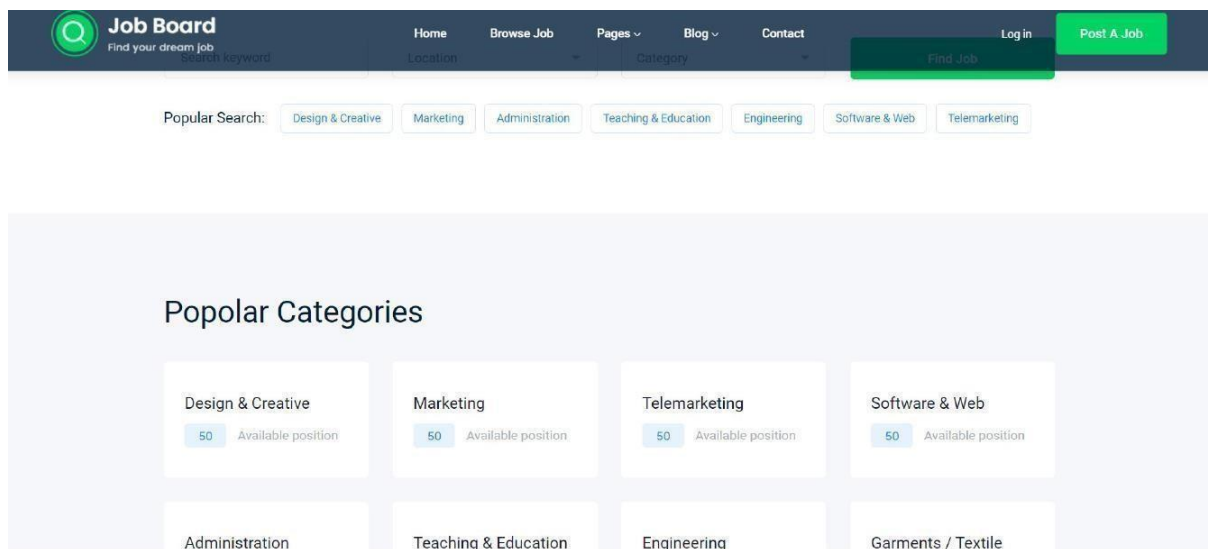
WORKDIR /flaskApp

RUN pip install -r requirements.txt

COPY . /flaskApp

ENTRYPOINT ["python"]

CMD ["app.py"]

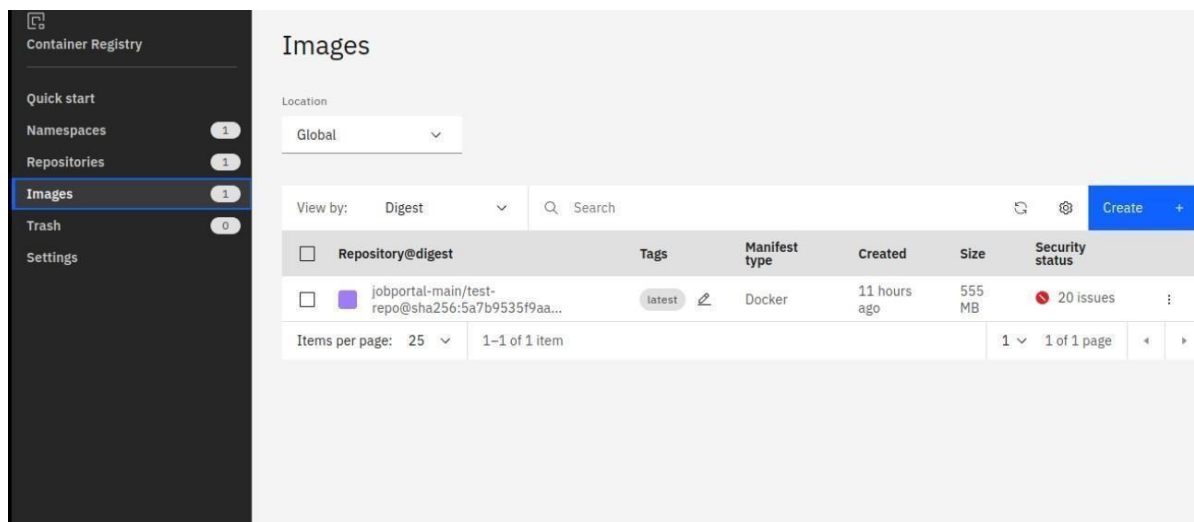


Question-3:

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

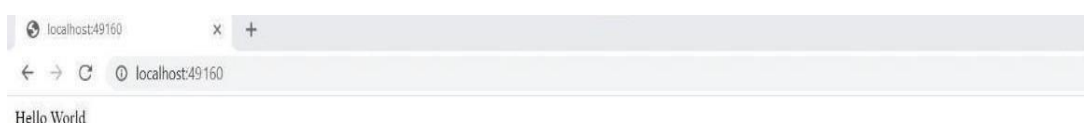
Solution:

- 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

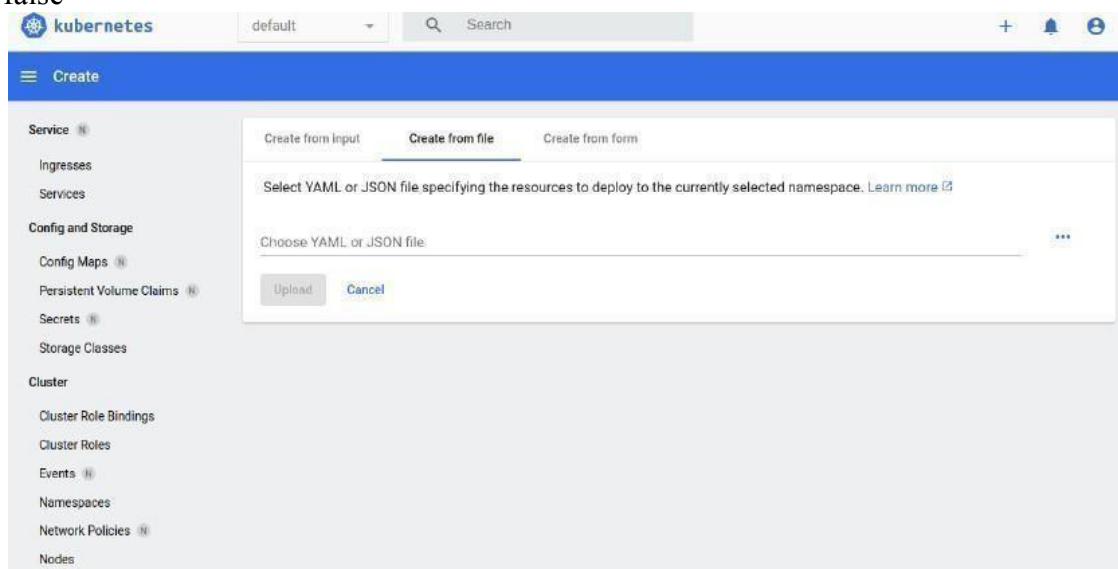
CODE:

```
apiVersion: v1
kind: Service
metadata: name:
job-portal-app
spec: selector:
app:
job-portal-app
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:
template:
metadata:
labels:
app:
job-portal-app
spec: containers:
name:  job-portal-app
image:
image_name ports:
containerPort:5000
env:
name:
DISABLE_WEB_A
PP
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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