

## Assignment -4

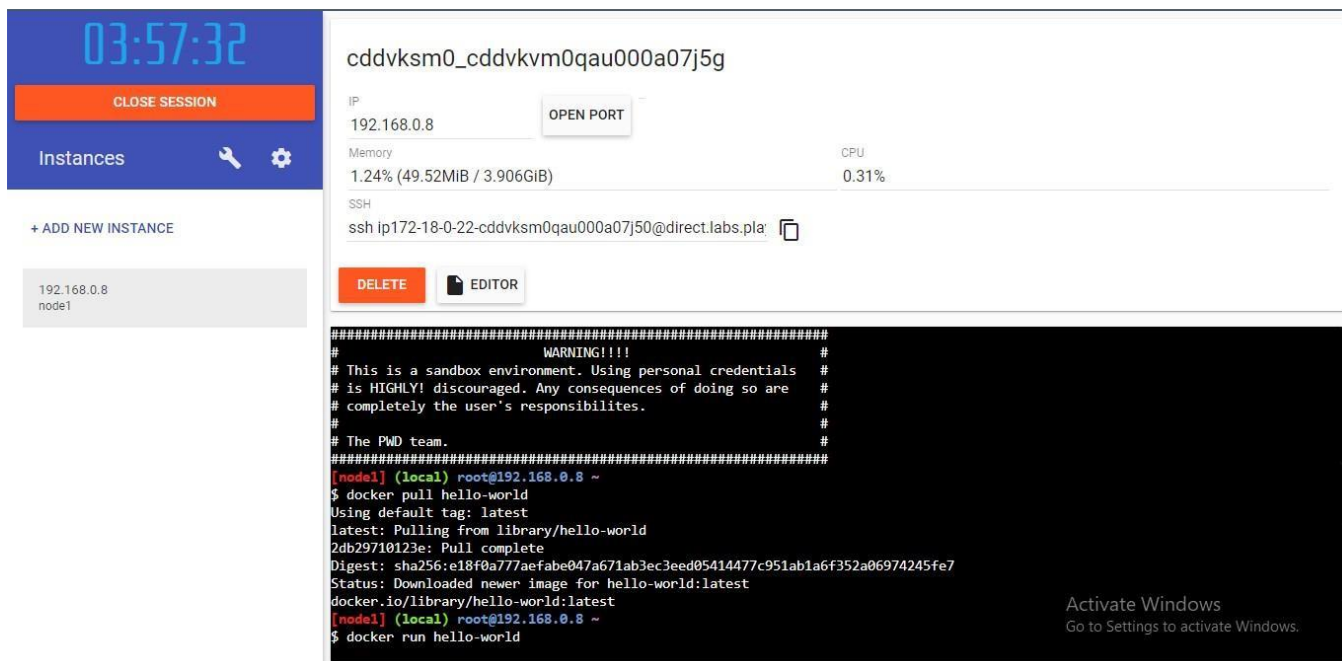
Assignment Date	22 October 2022
Student Name	HEMALATHA V
Role	Team Member 3
Student Roll Number	113119UG04037
Maximum Marks	2 Marks
Team ID	PNT2022TMID22399

### 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, a sidebar shows a clock at 03:57:32, a 'CLOSE SESSION' button, and a list of instances including '192.168.0.8 node1'. The main area shows a container named 'cddvksm0\_cddvkvm0qau000a07j5g' with IP '192.168.0.8', memory usage of 1.24%, and CPU usage of 0.31%. Below this, there are 'DELETE' and 'EDITOR' buttons. The 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: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

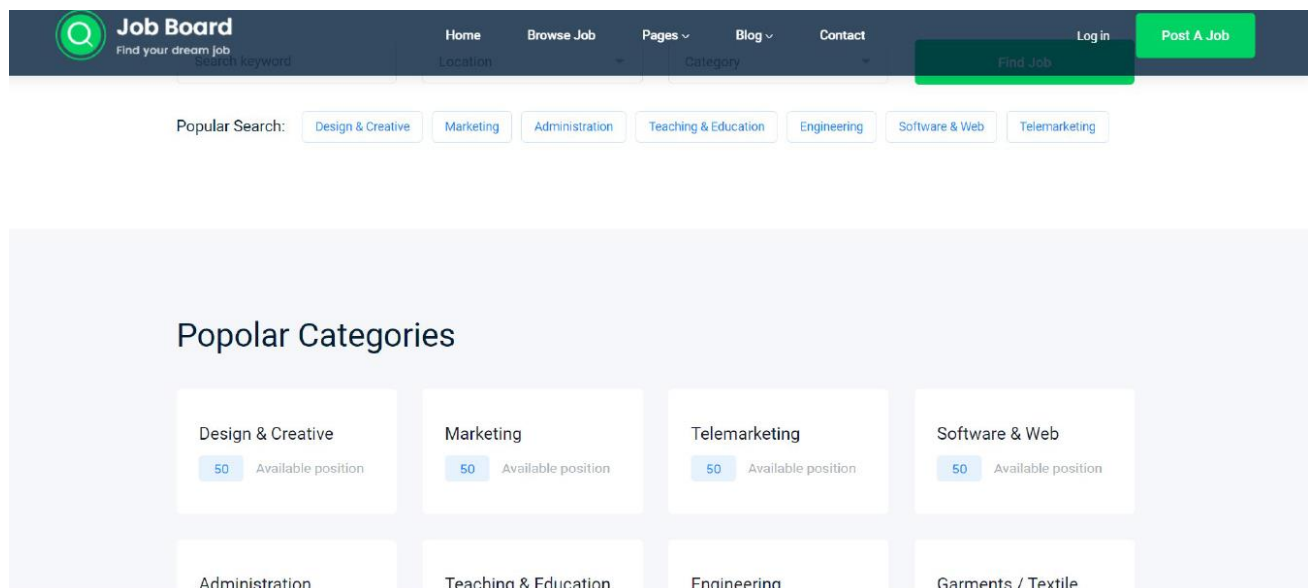
WORKDIR /flaskApp

RUN pip install -r requirements.txt

COPY . /flaskApp

ENTRYPOINT [ "python" ]

CMD ["app.py" ]

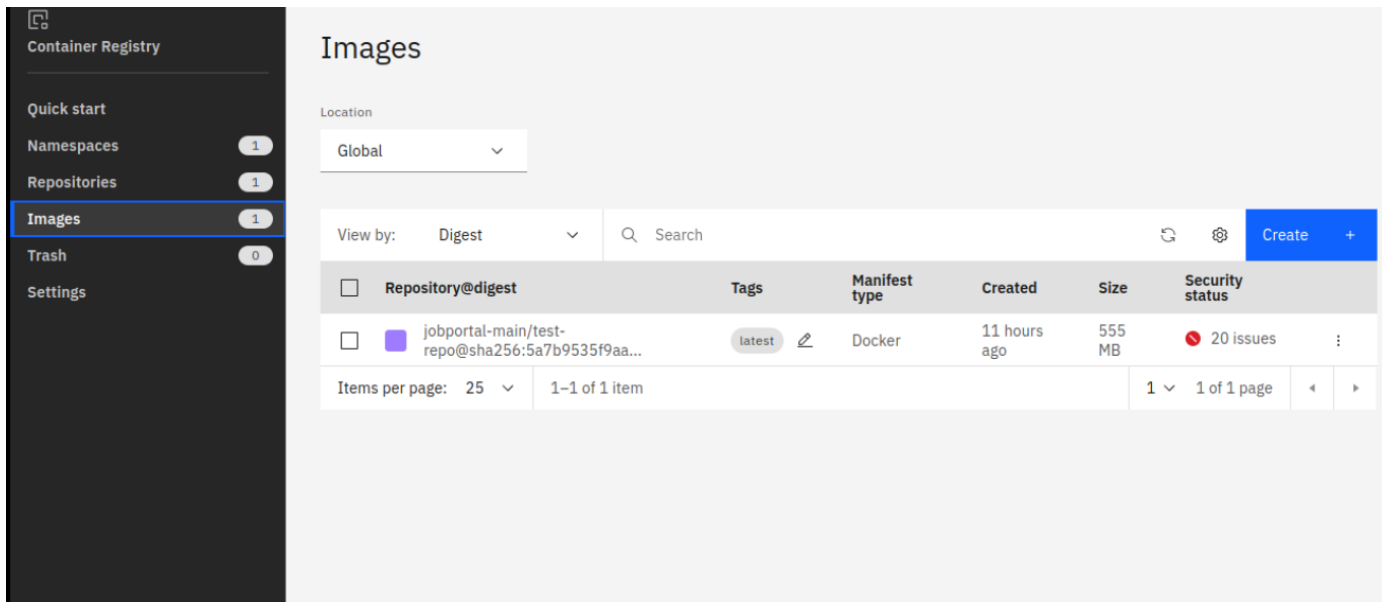


## Question-3:

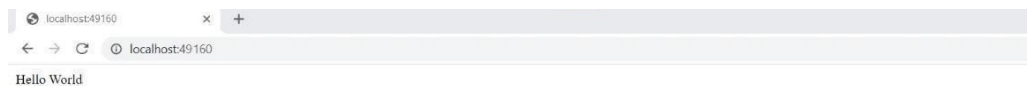
Create a IBM container registry and deploy hello world app or job portal app.

## 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.

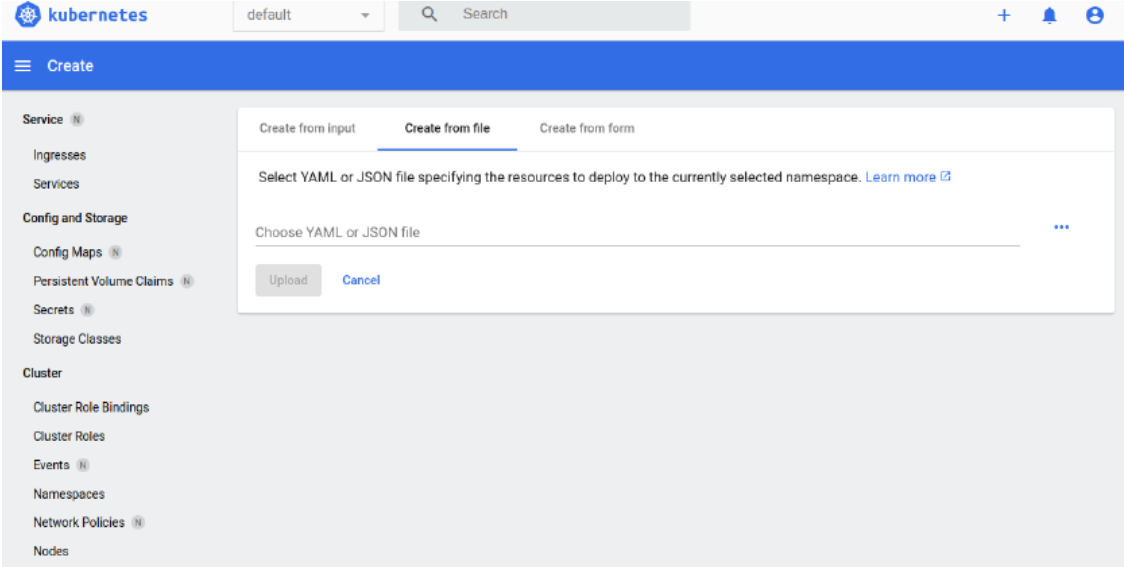
#### Solution:

- 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 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...		Q 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