Assignment – 4

Assignment Date	22 October 2022
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Student Roll Number	311019104016
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

Question-2:

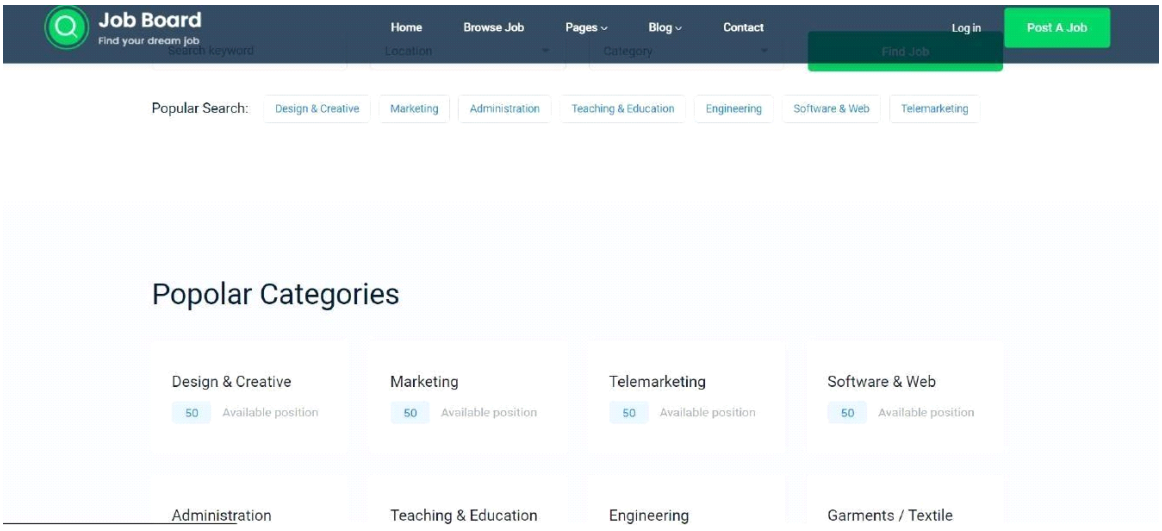
Create a docker file for the job portal application and deploy it in Docker desktop application.

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" ]
```

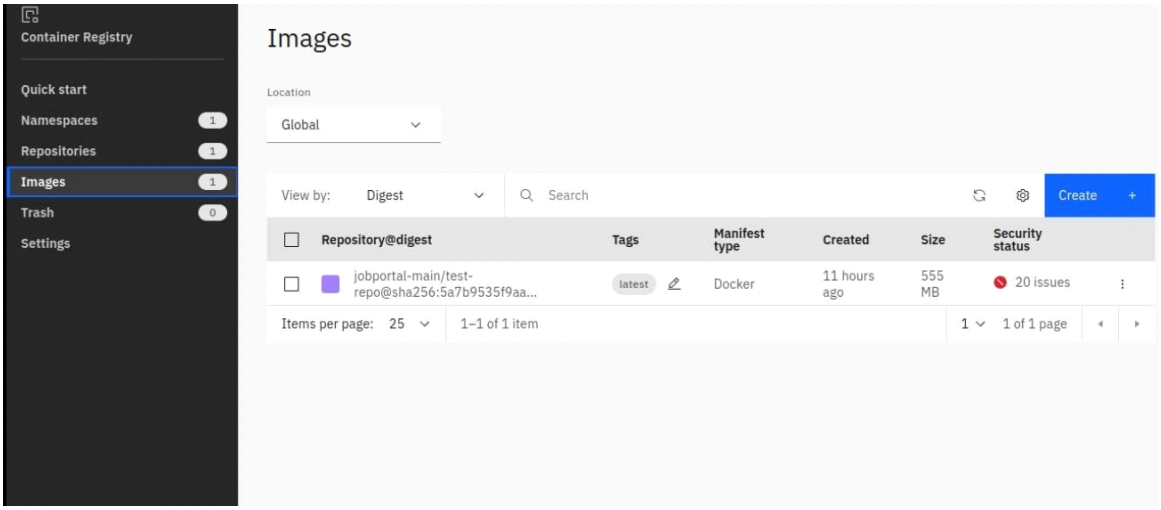


Question-3:

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 kubernete
- 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:

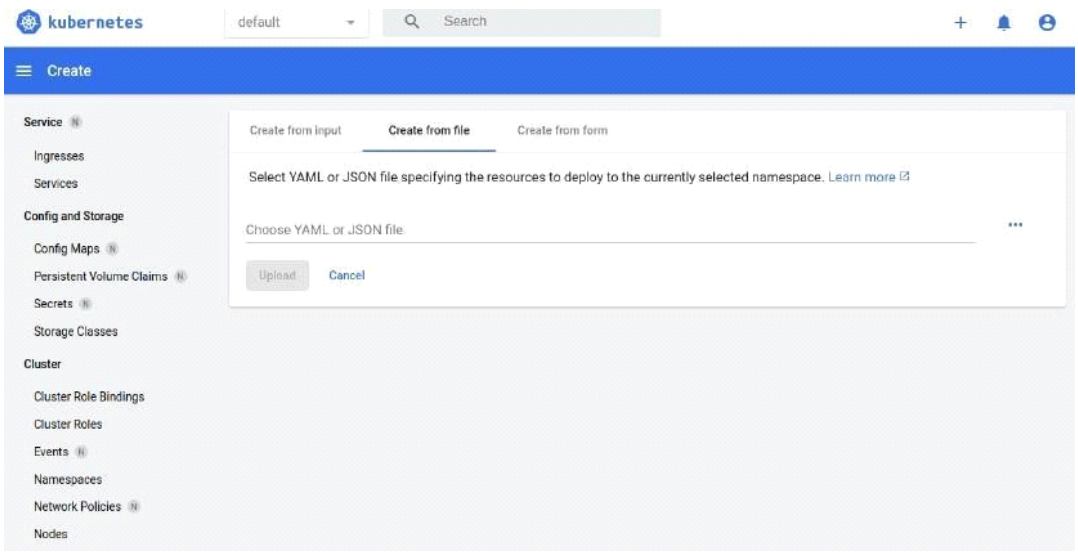
```
apiVersi
on:     v1
kind:
Service
metadata
:   name:
job-
portal-
app
spec:
selector:
app:
job-
portal-
app
ports: -
port:
5000
type:
NodeP
ort
---
apiVersion:
apps/v1
kind:
Deployment


metadata:
name:       job-
portal-app
labels:
```

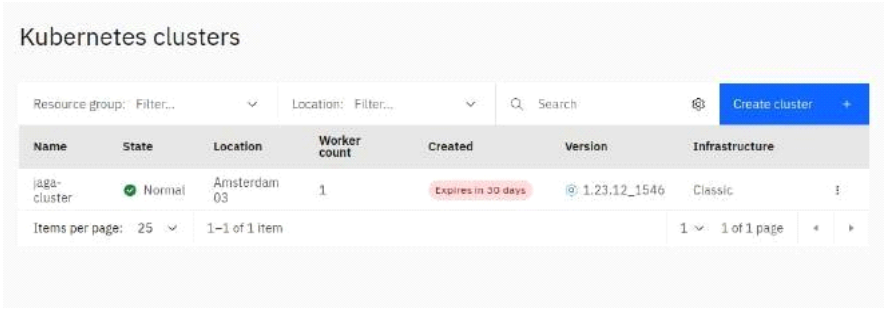
app:
job-
portal-
app
spec:
selecto
r:
match
Labels
: app:
job-
portal-
app
repli
cas:
1
tem
plate
:
meta
data:
label
s:
app:
job-
portal-
app
spec:
contai
ners:

- name:
job-portal-
app image:
image_name
ports:

- container
Port: 5000
env:

- name:
DISABLE_W
EB_APP
value: "false"


kubernetes
default
Search
Create
Service
Ingresses
Services
Config and Storage
Config Maps
Persistent Volume Claims
Secrets
Storage Classes
Cluster
Cluster Role Bindings
Cluster Roles
Events
Namespaces
Network Policies
Nodes
Create from input
Create from file
Create from form
Select YAML or JSON file specifying the resources to deploy to the currently selected namespace. Learn more
Choose YAML or JSON file
Upload
Cancel


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 of 1 page