

ASSIGNMENT 4

Kubernetes / Doctor

Assignment Date	4 October 2022
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Student Roll Number	210519205054
Maximum Marks	2 Marks

Question 1:

Pull an image from docker hub and run it on docker playground.

Solution:

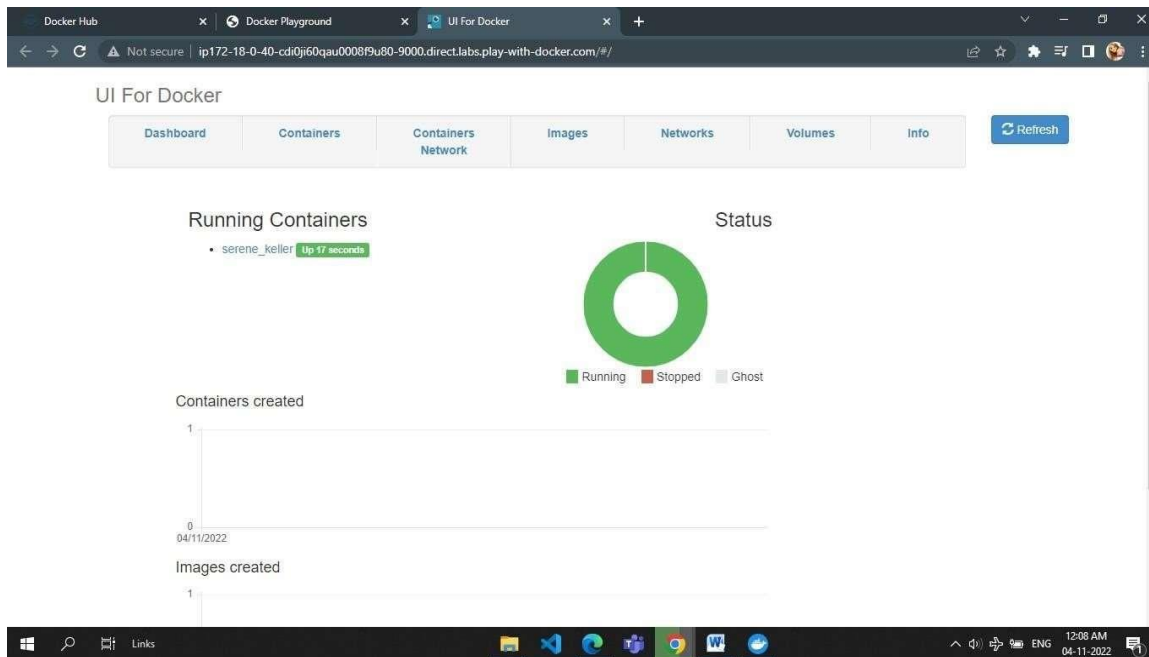
```
docker pull uifd/ui-for-docker
```

```
docker run -d -p 9000:9000 --privileged -v
```

```
/var/run/docker.sock:/var/run/docker.sock uifd/ui-for-docker
```

The screenshot displays the Docker Playground interface in a web browser. The top navigation bar includes 'Docker Hub' and 'Docker Playground'. The main content area shows a container named 'cdi0ji60_cdi0jpe0qau0008f9u8g' with IP '192.168.0.13' and port '9000' open. The container's memory usage is 1.59% (63.77MiB / 3.906GiB) and CPU usage is 0.45%. The terminal window shows the following commands and output:

```
# This is a sandbox environment. Using personal credentials #
# is HIGHLY! discouraged. Any consequences of doing so are #
# completely the user's responsibilities. #
# The FWD team. #
#####
[node1] (local) root@192.168.0.13 ~
$ docker pull uifd/ui-for-docker
Using default tag: latest
latest: Pulling from uifd/ui-for-docker
841194d080c8: Full complete
Digest: sha256:fe371ff5a69549269b24073a5ab1244dd4c0b834cbadf244870572150b1cb749
Status: Downloaded newer image for uifd/ui-for-docker:latest
docker.io/uifd/ui-for-docker:latest
[node1] (local) root@192.168.0.13 ~
$ docker run -d -p 9000:9000 --privileged -v /var/run/docker.sock:/var/run/docker.sock uifd/ui-for-docker
c2537355d58010b2607d19372fd954a94b3f2c922d1c5377d8458ff941cb2cab
[node1] (local) root@192.168.0.13 ~
$
```



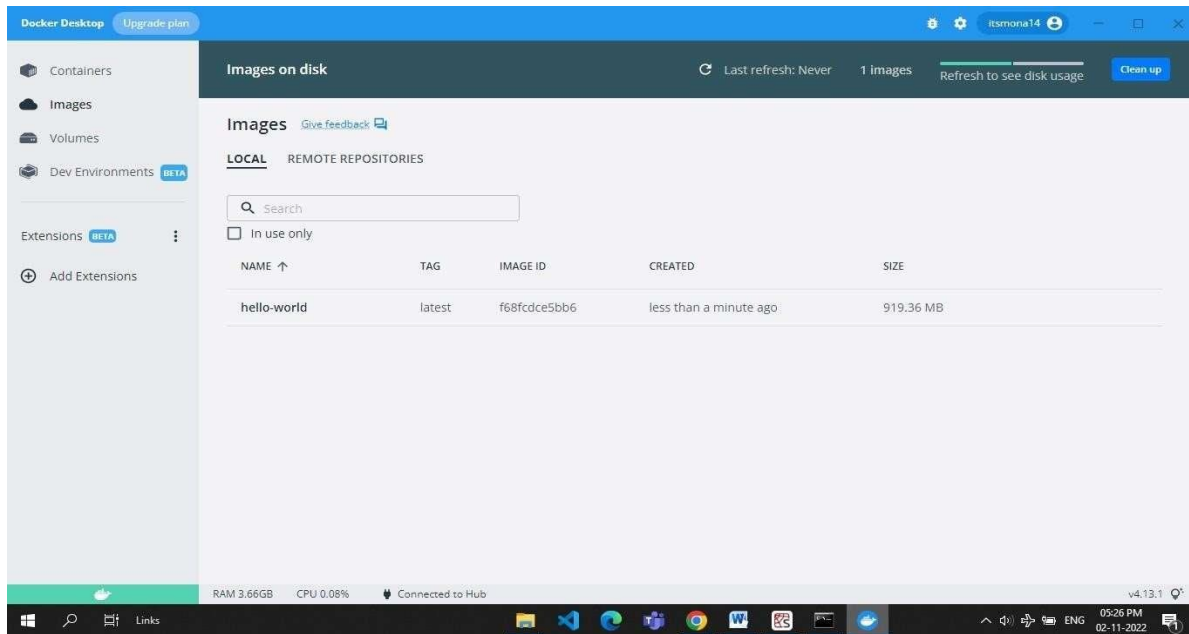
Question 2:

Create a docker file for the job portal app or hello world app and deploy it in docker desktop app.

Solution :

Docker file

```
Dockerfile - Notepad
File Edit Format View Help
FROM python:3.8
WORKDIR /app
ADD . /app
COPY requirements.txt /app
RUN python3 -m pip install -r requirements.txt
EXPOSE 5000
CMD ["python", "app.py"]
```

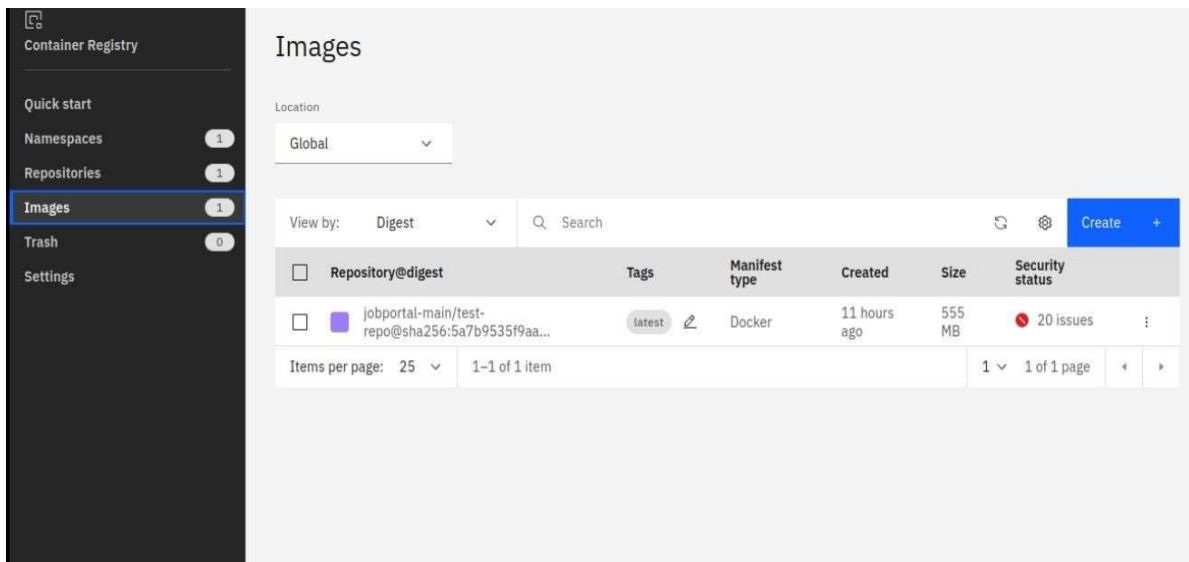


Question 3:

Create an IBM container registry and deploy helloworld app or job portalapp.

Solution:

My image link: au.icr.io/hello-world-app/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:

```
apiVersion:
v1 kind:
Service metadata:
  name: hello-world-deployment
spec:
  ports:
    - port: 5000
  targetPort: 5000 selector:
    app: hello-world
---
apiVersion: apps/v1
kind: Deployment
metadata:
  name: hello-world-deployment
spec:
  replicas: 1 selector:
    or:
      matchLabels: app: helloworld
  template: meta
    data
      :
    labels
      :
      app: hello-world spec:
  containers:
    - name: hello-world image: au.icr.io/hello-world-
      app/helloworld imagePullPolicy: Always ports:
    - containerPort: 5000
```

mycluster-free - IBM Cloud

cloud.ibm.com/kubernetes/clusters/cd11j33f0a6mchav5kig/overview

IBM Cloud Search resources and products... Catalog Manage Monashree K's Account

Clusters / mycluster-free Normal Expires in 29 days Add tags Help Kubernetes dashboard Actions...

Overview

Worker nodes

Worker pools

DevOps New

Expires in 29 days:
Be sure to back up your data, your cluster will be deleted in 29 days. To access the full capabilities of the service, try out a [standard cluster](#).

Node status: 1 of 1 Normal Details ↓

Add-on status: 0 of 0 Normal Details ↓

Master status: Normal Docs ↗

Ingress status: Unknown Docs ↗

Details

Cluster ID: cd11j33f0a6mchav5kig	Version: 1.24.7_1542	Infrastructure: Classic	Zones: Milan 01
Created: 04/11/2022, 01:12	Resource group: Default	Image security enforcement: <input type="button" value="Enable"/>	

mycluster-free - Kubernetes Dashboard

eu-de.containers.cloud.ibm.com/kubeproxy/clusters/cd11j33f0a6mchav5kig/service/#/log/default/hello-world-deployment-6c75b9c898-p4ntv?namespace=...

kubernetes default Search

Workloads > Pods > hello-world-deployment-6c75b9c898-p4ntv > Logs

Workloads

- Cron Jobs
- Daemon Sets
- Deployments
- Jobs
- Pods
- Replica Sets
- Replication Controllers
- Stateful Sets

Service

- Ingresses
- Ingress Classes
- Services

Config and Storage

Logs from hello-world in hello-world-dep...

```
* Serving Flask app 'app'
* Debug mode: off
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
* Running on all addresses (0.0.0.0)
* Running on http://127.0.0.1:5000
* Running on http://172.30.82.142:5000
Press CTRL+C to quit
```

Logs from Nov 4, 2022 to Nov 4, 2022, UTC