

ASSIGNMENT -4 : DOCKER DESKTOP (Kubernetes)

Assignment date	10 November 2022
Team Id	PNT2022TMID21852
Maximum Marks	2 Marks

Question 1:

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

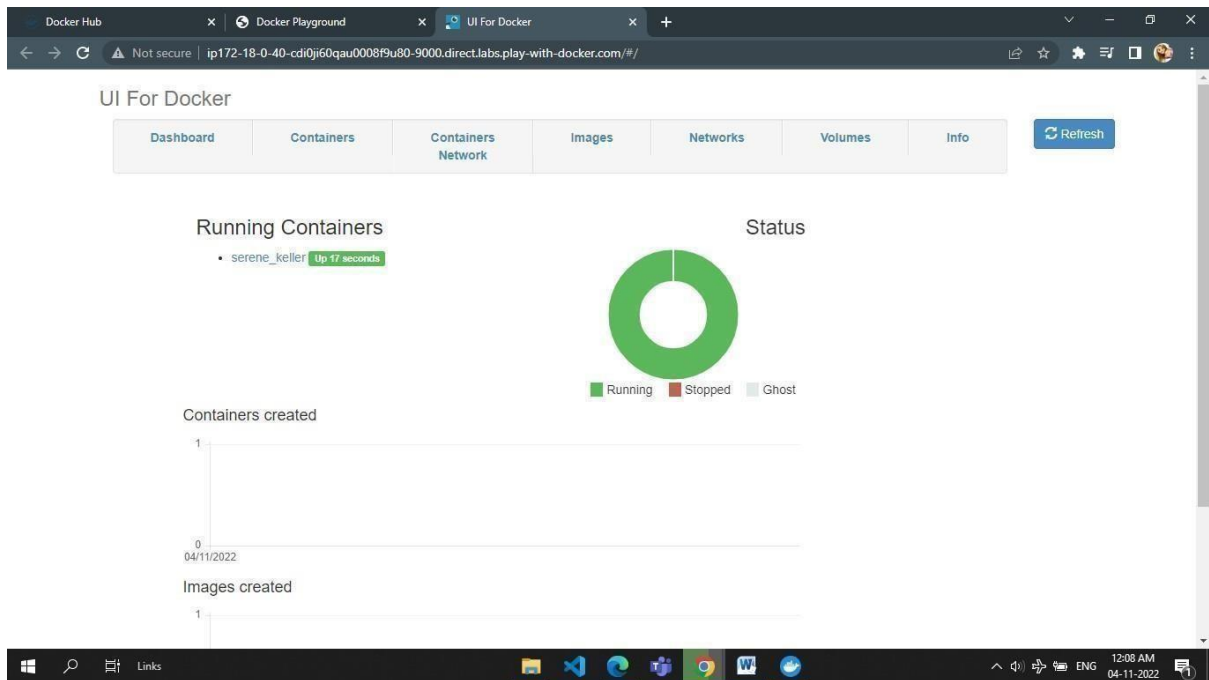
Solution 1:

```
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 shows the Docker Playground interface. On the left, there's a sidebar with a timer at 03:57:05, a 'CLOSE SESSION' button, and an 'Instances' section showing one instance with IP 192.168.0.13 and name 'node1'. The main area displays details for the container 'cdi0ji60_cdi0jpe0qau0008f9u8g', including its IP (192.168.0.13), memory usage (1.59%), CPU usage (0.45%), and an SSH command. Below this, there's a terminal window showing the execution of the following commands:

```
# 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@192.168.0.13 ~  
$ docker pull uifd/ui-for-docker  
Using default tag: latest  
latest: Pulling from uifd/ui-for-docker  
841194d080c8: Pull 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  
c2557355d58010b2607d19372fd954a94b3f2c922d1c5377d8458ff941cb2cab  
(node1) (local) root@192.168.0.13 ~  
$
```

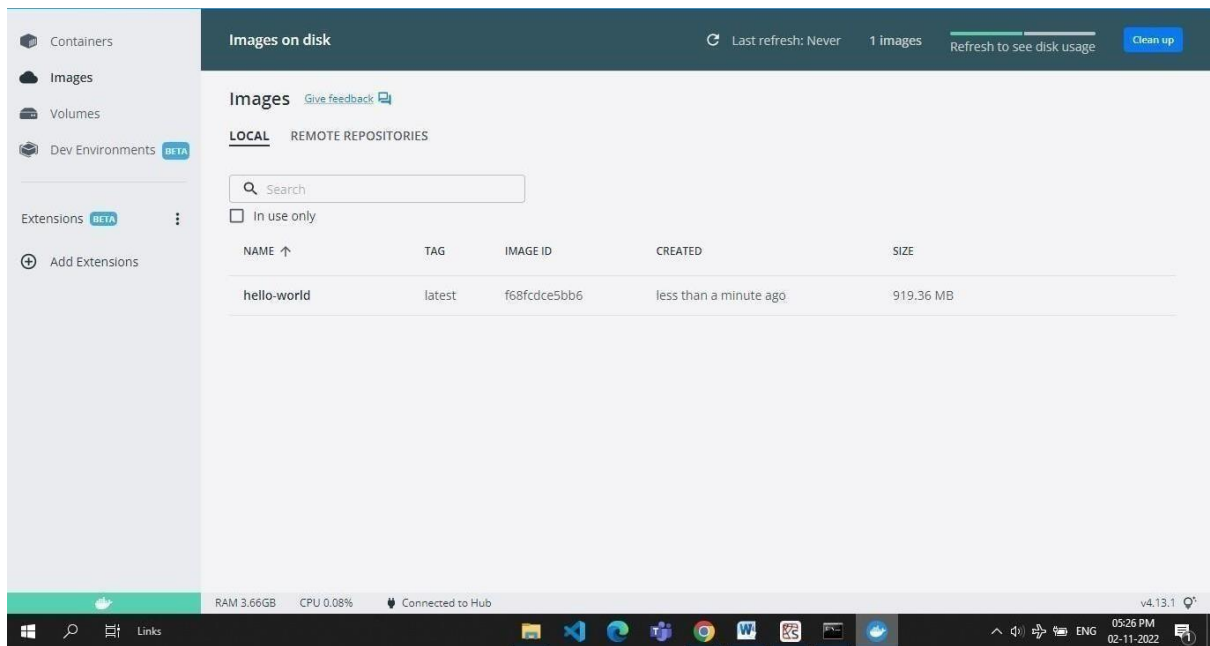


Question 2:

Create a docker file for the job portal app or hello world app and deploy it in docker desktop app. **Solution 2:**

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"]
```

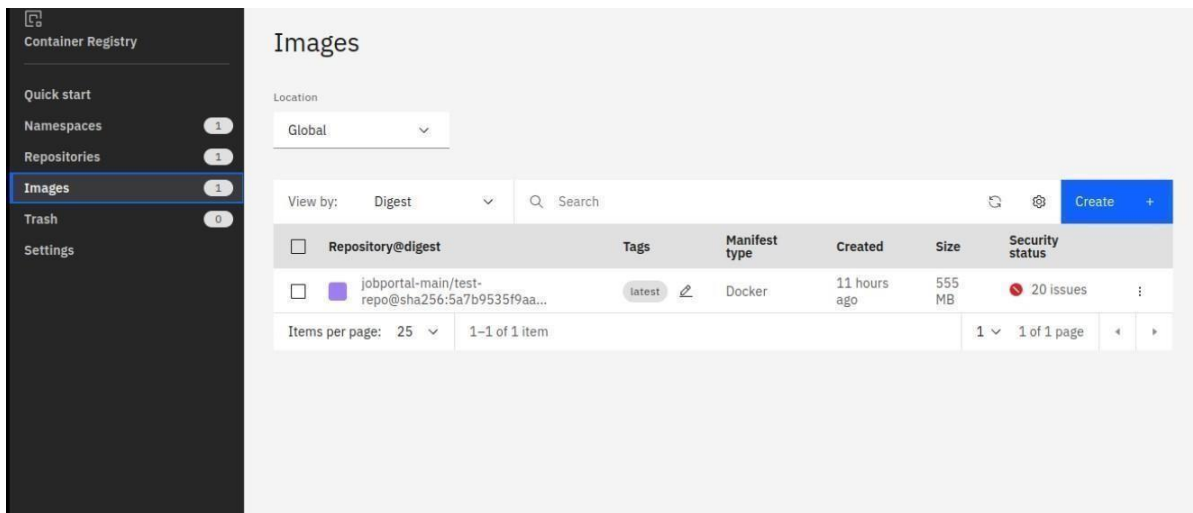


Question 3:

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

Solution 3:

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 4:

```
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:
  replic as: 1 select or:
    matchLabels: app:
      helloworld
  template: meta da
    ta : la be ls :
      app: hello-
world spec:
  containers:
    - name: hello-world image: au.icr.io/hello-worldapp/helloworld
      imagePullPolicy: Always ports:
    - containerPort: 5000
```

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

cd11j33f0a6mchav5k1g

Version

1.24.7_1542

Infrastructure

Classic

Zones

Milan 01

Created

04/11/2022, 01:12

Resource group

Default

Image security enforcement

Enable

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

eu-de.containers.cloud.ibm.com/kubeproxy/clusters/cd11j33f0a6mchav5k1g/_ser...

03:49 PM 04-11-2022