

Assignment 4

Assignment date	10 November 2022
Student name	SHANGEETHA J
Student roll no	211419104246
Maximum Marks	2 Marks

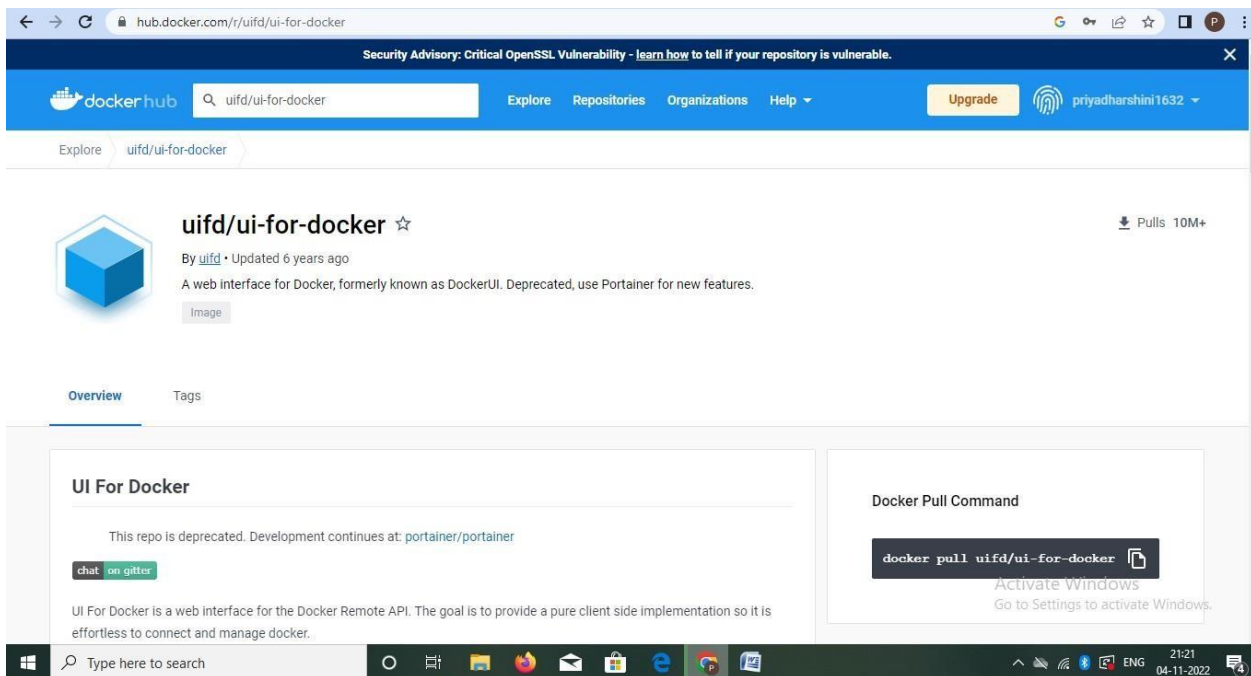
Question 1:

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
```



Security Advisory: Critical OpenSSL Vulnerability - learn how to tell if your repository is vulnerable.

dockerhub

uifd/ui-for-docker

Explore Repositories Organizations Help

Upgrade

priyadharshini1632

Explore uifd/ui-for-docker

uifd/ui-for-docker ☆

By uifd • Updated 6 years ago

A web interface for Docker, formerly known as DockerUI. Depreciated, use Portainer for new features.

Image

Overview Tags

UI For Docker

This repo is deprecated. Development continues at: [portainer/portainer](#)

chat on gitter

UI For Docker is a web interface for the Docker Remote API. The goal is to provide a pure client side implementation so it is effortless to connect and manage docker.

Docker Pull Command

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

Activate Windows
Go to Settings to activate Windows.

Docker playground:

The screenshot shows the Docker Playground interface in a web browser. The browser tabs include IBM, WhatsApp, IBM-Project-22133-1659805, uifd/ui-for-docker - Docker, and Docker Playground. The address bar shows the URL: labs.play-with-docker.com/p/cdijgim3tccg00a7r71g#cdijgim3_cdijhlm3tccg00a7r74g.

On the left sidebar, there is a digital clock showing 03:45:22, a 'CLOSE SESSION' button, an 'Instances' section with a wrench and gear icon, and a '+ ADD NEW INSTANCE' button. Below this, a list of instances shows '192.168.0.18 node1'.

The main panel displays the instance details for 'cdijgim3_cdijhlm3tccg00a7r74g'. It shows the IP address '192.168.0.18', an 'OPEN PORT' button with '9000' entered, and resource usage: 'Memory 1.63% (65.11MiB / 3.906GiB)' and 'CPU 0.51%'. An SSH command is provided: 'ssh ip172-18-0-26-cdijgim3tccg00a7r71g@direct.labs.play-'. There are 'DELETE' and 'EDITOR' buttons.

The terminal window shows the following commands and output:

```
# The FWD team.
#####
[node1] (local) root@192.168.0.18 ~
$ docker pull uifd/ui-for-docker
bash: $: command not found
[node1] (local) root@192.168.0.18 ~
$ 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@192.168.0.18 ~
$ docker run -d -p 9000:9000 --privileged -v /var/run/docker.sock:/var/run/docker.sock uifd/ui-for-docker
unknown flag: --privileged
See 'docker run --help'.
[node1] (local) root@192.168.0.18 ~
$ docker run -d -p 9000:9000 --privileged -v /var/run/docker.sock:/var/run/docker.sock uifd/ui-for-docker
78ab97261cc11c0d591eal7aca7505d9b1538af8f0e882f34eb334ba4657ba04
[node1] (local) root@192.168.0.18 ~
$
```

The Windows taskbar at the bottom shows the search bar, task view, and several application icons. The system tray on the right shows the date and time as 21:50 on 04-11-2022.

Docker UI:

The screenshot shows the Docker UI interface in a web browser. The browser tabs include Docker Hub, Docker Playground, and UI For Docker. The address bar shows the URL: ip172-18-0-40-cdijgim3tccg00a7r71g.direct.labs.play-with-docker.com/#/.

The main panel is titled 'UI For Docker' and has a navigation bar with tabs: Dashboard, Containers, Containers Network, Images, Networks, Volumes, and Info. There is a 'Refresh' button on the right.

The 'Running Containers' section shows a list of containers with the name 'serene_keller' and a status of 'Up 17 seconds'. Below this, there is a 'Containers created' graph showing a single bar at 1 on the y-axis for the date 04/11/2022. There is also an 'Images created' graph showing a single bar at 1 on the y-axis.

The 'Status' section features a donut chart showing the status of containers. The legend indicates: Running (green), Stopped (red), and Ghost (grey). The chart shows that all containers are in the 'Running' state.

The Windows taskbar at the bottom shows the search bar, task view, and several application icons. The system tray on the right shows the date and time as 12:08 AM on 04-11-2022.

Question 2:

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

Solution 2:

DockerFile

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"]
```

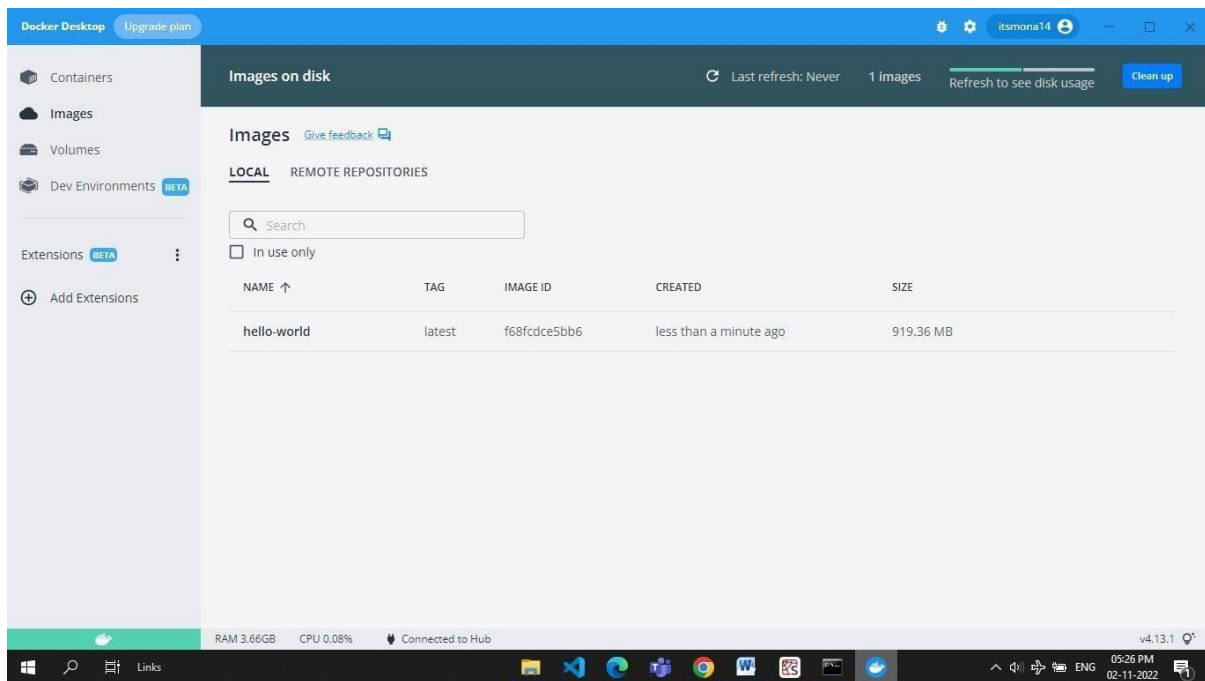
Bulid Docker image

```
C:\Windows\System32\cmd.exe

E:\Study materials\Sem 7\IBM\Exercise\Assignment4>docker build -t hello-world .
[+] Building 160.4s (10/10) FINISHED
-> [internal] load build definition from Dockerfile 0.0s
-> [internal] load dockerfile: 1948 0.0s
-> [internal] load .dockerignore 0.0s
-> [internal] load context: 20 0.0s
-> [internal] load metadata for docker.io/library/python:3.8 5.0s
-> [1/5] FROM docker.io/library/python:3.8@sha256:089d758211770a2dd03ecc4b10a8d851fe77af3f1e3f3620d8519190b8aa1d5 149.9s
-> resolve docker.io/library/python:3.8@sha256:089d758211770a2dd03ecc4b10a8d851fe77af3f1e3f3620d8519190b8aa1d5 0.0s
-> sha256:90e072f7eecd8c17c25b21573681051f092e054f57cc07eb42937a1a47114408 8.56kB / 8.56kB 0.0s
-> sha256:17c9e0141fdb3307ealc07d4f0e4e0ac1489e0e29f3a0e5570d4504f7770 55.05MB / 55.05MB 65.2s
-> sha256:4a4ce0d8587edc18412817019074f5e84a8ede4e3fc89d06af13df3f80a78a70d 10.89MB / 10.89MB 8.7s
-> sha256:089d758211770a2dd03ecc4b10a8d851fe77af3f1e3f3620d8519190b8aa1d5 1.86kB / 1.86kB 0.0s
-> sha256:254101fcf737ef09a912ce9ad7488801a01e0a35bfff1cc5e7d6bb86d0b0e1c3f 2.22kB / 2.22kB 0.0s
-> sha256:de4a4c6ceaa8801bb0b7377e10220e914da403bc93fa79663cbf2dcf1800b6f1 5.16MB / 5.16MB 18.3s
-> sha256:a7069c9f0b4e0ea91291fd70b19ecbe93c03ea4ded0d14842aebc4c0c4211a43 54.59MB / 54.59MB 47.5s
-> sha256:74bfdb0af91271f088f0a1716224dce5c0ebae36099437929c0daa46d3d 106.07MB / 106.07MB 133.3s
-> sha256:16fe51aed899f36017fe42b590b1a622b29eb0c3622e92e13df14578825eb37 6.29MB / 6.29MB 53.8s
-> sha256:2b979a71384cf50dac0fd255d381b70028d67b60b45c1a2b0c3ea10b92636d4 17.39MB / 17.39MB 68.0s
-> sha256:aa3c4359fdb43308609ae8ba78b2eb0713221ef3a3ec97f93590500f1506de1 234B / 234B 67.3s
-> extracting sha256:17c9e0141fdb3387e5alc07d4f9b6a05ac1480e06029f3a0e55470d4504f7770 10.3s
-> sha256:58700bfcfa0c82e5d24a9f76ba7748a194c4fd7312a397860b463772ce91b6 2.89MB / 2.89MB 70.7s
-> extracting sha256:de4a4c6ceaa8801bb0b7377e10220e914da403bc93fa79663cbf2dcf1800b6f1 1.3s
-> extracting sha256:dedced8587e6c18412817019074f5e84a8ede4e3fc89d06af13df3f80a78a70d 1.0s
-> extracting sha256:a7960c9ffb46e6a91291fd70b19ecbe93c03ea4ded0d14842aebc4c0c4211a43 13.1s
-> extracting sha256:74bfdb0af91271f088f0a1716224dce5c0ebae36099437929c0daa46d3d 13.6s
-> extracting sha256:16fe51aed899f36017fe42b590b1a622b29eb0c3622e92e13df14578825eb37 0.4s
-> extracting sha256:2b979a71384cf50dac0fd255d381b70028d67b60b45c1a2b0c3ea10b92636d4 1.1s
-> extracting sha256:aa3c4359fdb43308609ae8ba78b2eb0713221ef3a3ec97f93590500f1506de1 0.4s
-> extracting sha256:58700bfcfa0c82e5d24a9f76ba7748a194c4fd7312a397860b463772ce91b6 0.4s
-> [internal] load build context 0.0s
-> transferring context: 1.15kB 0.0s
-> [2/5] WORKDIR /app 0.4s
-> [3/5] ADD . /app 0.1s
-> [4/5] COPY requirements.txt /app 0.0s
-> [5/5] RUN python3 -m pip install -r requirements.txt 3.0s
-> exporting to image 0.2s
-> exporting layers 0.2s
-> writing image sha256:f68fcdce5bb665f00ebf47bc4d137a4f7e0533348402c5bfdd71121d7d43f63 0.0s
-> naming to docker.io/library/hello-world 0.0s

Use 'docker scan' to run Snyk tests against images to find vulnerabilities and learn how to fix them
```

Deploy it on Docker hub



```
C:\Windows\System32\cmd.exe
Use 'docker scan' to run Snyk tests against images to find vulnerabilities and learn how to fix them

E:\Study materials\Sem 7\IBM\Exercise\Assignment4>docker images
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE
hello-world    latest    f68fcdce5bb6   5 minutes ago  919MB

E:\Study materials\Sem 7\IBM\Exercise\Assignment4>docker login
Authenticating with existing credentials...
Login Succeeded

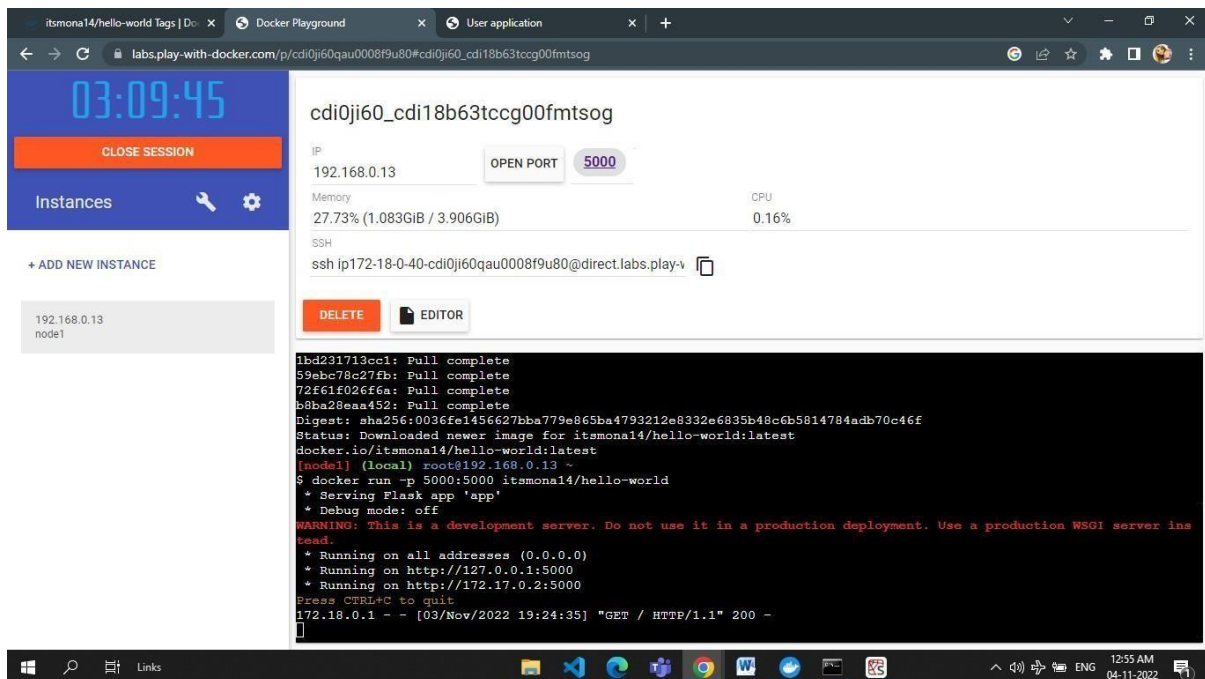
Logging in with your password grants your terminal complete access to your account.
For better security, log in with a limited-privilege personal access token. Learn more at https://docs.docker.com/go/access-tokens/

E:\Study materials\Sem 7\IBM\Exercise\Assignment4>docker tag hello-world itsmona14/hello-world

E:\Study materials\Sem 7\IBM\Exercise\Assignment4>docker push itsmona14/hello-world
Using default tag: latest
The push refers to repository [docker.io/itsmona14/hello-world]
373eb5cf4ceb: Pushed
1e505dc1de5e: Pushed
090c85cb75c5: Pushed
ded8299b8f1a: Pushed
1fa0699af9f7: Mounted from library/python
156568a71809: Mounted from library/python
5fca8a94d542: Mounted from library/python
6b183c62e3d7: Mounted from library/python
882fd36bfd35: Mounted from library/python
d1dec9917839: Mounted from library/python
e38adf39e1dd: Mounted from library/python
4ad121b04369: Mounted from library/python
99d07d703dd5: Mounted from library/python
latest: digest: sha256:46ff91edc98aaa5d7fff51ba708b6498af3c4f64612d9a990bf437497555fd82 size: 3049

E:\Study materials\Sem 7\IBM\Exercise\Assignment4>
```

Tested it using Docker playground

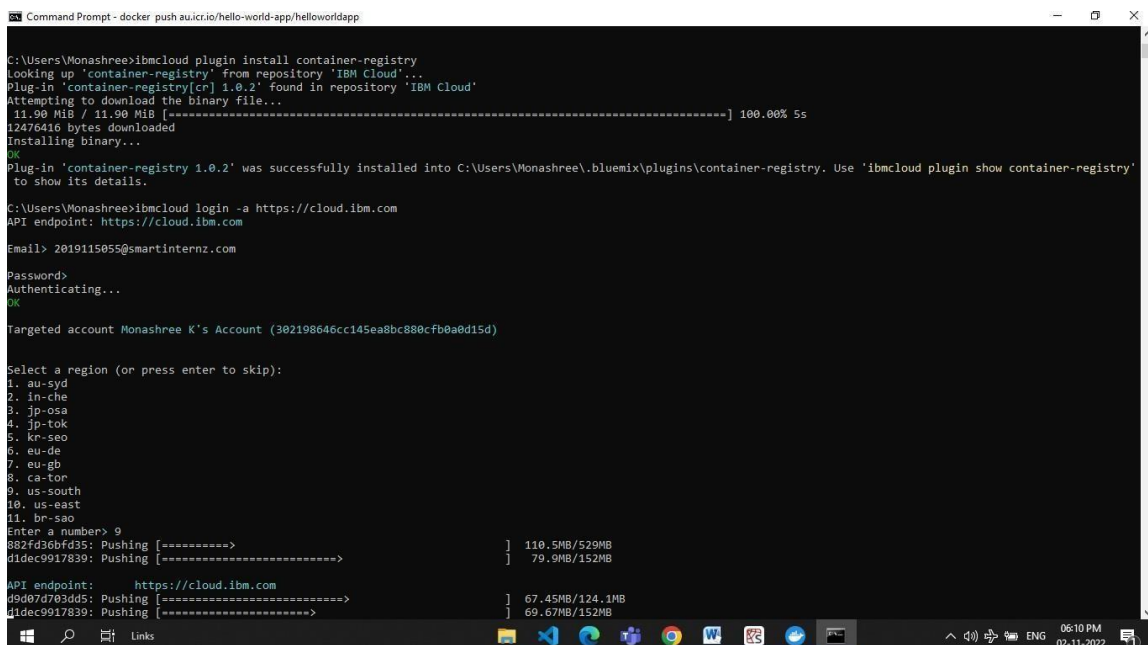


Question 3:

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



```
C:\Windows\System32\cmd.exe - docker run -p 5000:5000 au.icr.io/hello-world-app/hello-world

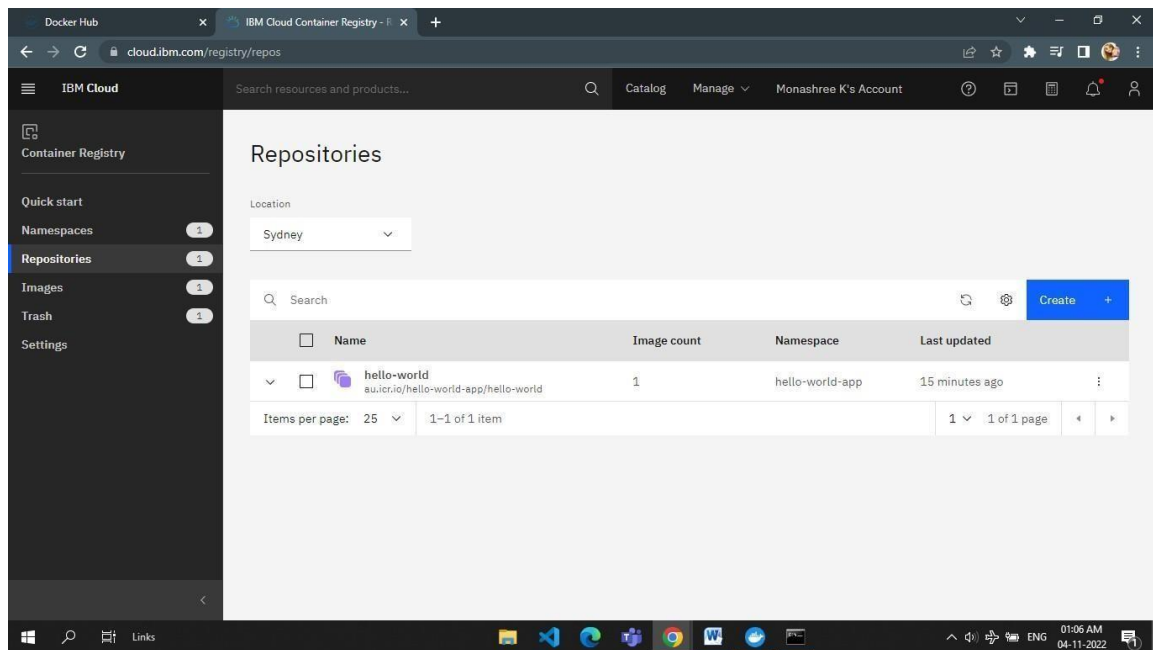
E:\Study materials\Sem 7\IBM\Exercise\Assignment4>docker tag hello-world au.icr.io/hello-world-app/hello-world
E:\Study materials\Sem 7\IBM\Exercise\Assignment4>docker push au.icr.io/hello-world-app/hello-world
Using default tag: latest
The push refers to repository [au.icr.io/hello-world-app/hello-world]
492bcd5cc069: Pushed
006e0938fc5e: Pushed
4bb20ce8724f: Pushed
402dea3c8533: Pushed
f5d161bba139: Pushed
1569e0d95ce6: Pushed
d9e08da15d0c: Pushed
6b183c62e3d7: Mounted from hello-world-app/hello-world-app
882fd36bfd35: Mounted from hello-world-app/hello-world-app
d1dec9917839: Mounted from hello-world-app/hello-world-app
d38adf39e1dd: Mounted from hello-world-app/hello-world-app
4ed121b04368: Mounted from hello-world-app/hello-world-app
09d07d703add: Mounted from hello-world-app/hello-world-app
latest: digest: sha256:0036fe1456627bba779e065ba4793212e8332e6835b48c6b5814784adb70c46f size: 3049

E:\Study materials\Sem 7\IBM\Exercise\Assignment4>ibmcloud cr image-list
listing images...

Repository          Tag      Digest          Namespace        Created      Size      Security status
au.icr.io/hello-world-app/hello-world  latest  0036fe145662    hello-world-app  12 minutes ago  356 MB    -

OK

E:\Study materials\Sem 7\IBM\Exercise\Assignment4>docker run -p 5000:5000 au.icr.io/hello-world-app/hello-world
* 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://172.17.0.2:5000
Press CTRL+C to quit
172.17.0.1 - - [03/Nov/2022 19:35:58] "GET / HTTP/1.1" 200 -
```



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:

<https://raw.githubusercontent.com/itsmona14/IBM-Assignment-cloud/main/deployment.yaml>

```
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:
    matchLabels:
      app: hello-world
  template:
    metadata:
      labels:
        app: hello-world
    spec:
      containers:
        - name: hello-world
          image: au.icr.io/hello-world-app/hello-world
          imagePullPolicy: Always
          ports:
            - containerPort: 5000
```


mycluster-free - IBM Cloud

cloud.ibm.com/kubernetes/clusters/cdi1j33f0a6mchav5kig/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: cdi1j33f0a6mchav5kig

Version: 1.24.7_1542

Infrastructure: Classic

Zones: Milan 01

Created: 04/11/2022, 01:12

Resource group: Default

Image security enforcement: Enable

mycluster-free - Kubernetes Dashboard

eu-de.containers.cloud.ibm.com/kubeproxy/clusters/cdi1j33f0a6mchav5kig/service/#/deployment?namespace=default

kubernetes default Search

Workloads > Deployments

Workloads

Cron Jobs

Daemon Sets

Deployments

Jobs

Pods

Replica Sets

Replication Controllers

Stateful Sets

Service

Ingresses

Ingress Classes

Services

Config and Storage

Config Maps

CPU Usage

Memory Usage

Deployments

Name	Images	Labels	Pods	Created
hello-world-deployment	Show all		1 / 1	34 minutes ago

mycluster-free - Kubernetes Dashboard

eu-de.containers.cloud.ibm.com/kubeproxy/clusters/cd1j33f0a6mchav5kig/service/#/log/default/hello-world-deployment-6c75b9c898-p4ntv/pod?namespace=...

kubernetes default Search

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

Workloads ^N

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

Service

- Ingresses ^N
- Ingress Classes
- Services ^N

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/cd1j33f0a6mchav5kig/ser...

Windows taskbar: 03:49 PM 04-11-2022