

## DOCKER AND KUBERNETES

Assignment Date	27 October 2022
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Maximum Marks	2 Marks

1. Pull an image from docker hub and run it in docker Playground and
2. Create a docker file for the job portal application and deploy it in Docker desktop application

The screenshot displays two overlapping windows from a Linux desktop environment. The top window is a web browser showing the Docker Hub page for the repository `uifd/ui-for-docker`. The page indicates that the repository is deprecated and suggests using Portainer instead. It provides a Docker pull command: `docker pull uifd/ui-for-docker`.

The bottom window is the Docker Playground interface. It shows a session titled `cd9an2u3_cd9av060qau0008hbjs0` with an IP address of `192.168.0.13`. The interface includes a terminal where the following commands were executed:

```
# 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: Pull complete
Digest: sha256:fe371ff3a69549269b24073a5ab1244dd4c0b834cbad244870572150b1cb749
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
c590dd163101ae795bdcea0eb1dd98f6fe549cb5f24dacb9ff7c1931923fc0d
(node1) (local) root@192.168.0.13 ~
$
```

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

The screenshot displays the UI For Docker web interface in a browser. The browser's address bar shows the URL `ip172-18-0-4-cd9an2u3tccg00fgf6k0-9000.direct.labs.play-with-docker.com/#/`. The dashboard includes a navigation bar with tabs for Dashboard, Containers, Containers Network, Images, Networks, Volumes, and Info, along with a Refresh button. The main content area features a large 'UI For Docker' header with the tagline 'The UI for Docker container engine' and a 'Learn more.' button. Below this, the 'Running Containers' section lists a single container named 'beautiful\_goldwasser' with a status of 'Up About a minute'. To the right, a 'Status' donut chart shows 100% running containers. At the bottom, two empty line graphs are labeled 'Containers created' and 'Images created', both showing a count of 1 on the y-axis and a date of 21/10/2022 on the x-axis. A legend for the status chart indicates 'Running' (green), 'Stopped' (red), and 'Ghost' (grey).

UI For Docker

Dashboard Containers Containers Network Images Networks Volumes Info Refresh

# UI For Docker

The UI for Docker container engine

Learn more.

Running Containers

- beautiful\_goldwasser Up About a minute

Status

Containers created

1

0

21/10/2022

Images created

1

Running Stopped Ghost

#### 4. Create a Kubernetes cluster in IBM cloud and deploy helloworld image or jobportal app image and also expose the same app to run in nodeport.

The image shows a Windows command prompt window with the following output:

```
C:\Windows\System32\cmd.exe
-> [internal] load build definition from Dockerfile
-> ==> transferring dockerfile: 32B
-> [internal] load .dockerignore
-> ==> transferring context: 2B
-> [internal] load metadata for docker.io/library/python:3.6
-> [auth] library/python:pull token for registry-1.docker.io
-> [internal] load build context
-> ==> transferring context: 687B
-> [1/6] FROM docker.io/library/python:3.6@sha256:f8652afaf88c25f0d22354d547d892591067aa4026a7fa9a6819df9f300af6fc
-> resolve docker.io/library/python:3.6@sha256:f8652afaf88c25f0d22354d547d892591067aa4026a7fa9a6819df9f300af6fc
-> sha256:f8652afaf88c25f0d22354d547d892591067aa4026a7fa9a6819df9f300af6fc 1.80kB / 1.80kB
-> sha256:d0974a97abec079df5ac31872359c2de510f82214c0448e926393b376d3b6d0 2.22kB / 2.22kB
-> sha256:5426863807c5e3ad24c6e21fc809abbcb486a27634c0092806ff71f3f44b104 9.27kB / 9.27kB
-> sha256:0e29546d541cddb309281d21a73a9d1db78665c1b95b74f32b00e0b77a6e1e3 54.92MB / 54.92MB
-> sha256:9b829c73b52b92b07d5c07e54fb0f3e921995a296c714b53a32ae67d19231fcd 5.15MB / 5.15MB
-> sha256:cb5b7ae3b1722f07eca53f35823ed21baa85d61d5d95cd5a95ab53d740cdd56 10.87MB / 10.87MB
-> sha256:6494e4811622b31c027ccac322ca463937fd805f569a93e6f15c01aade718793 54.57MB / 54.57MB
-> sha256:6f9f74806df93fe0172f594fab85e0b4e8a0481a0fefd9112efc7e4d3c78f7 196.51MB / 196.51MB
-> sha256:5e3b1213efc56598e78bd06083945c164de2a37285e96a02dada023124dc743 6.29MB / 6.29MB
-> extracting sha256:0e29546d541cddb309281d21a73a9d1db78665c1b95b74f32b00e0b77a6e1e3
-> sha256:9fddfd4c5633af2aeefad7e241bf5e7459c48ed185c5478676f41c1244bd96752 14.21MB / 14.21MB
-> extracting sha256:9b829c73b52b92b07d5c07e54fb0f3e921995a296c714b53a32ae67d19231fcd
-> extracting sha256:cb5b7ae3b1722f07eca53f35823ed21baa85d61d5d95cd5a95ab53d740cdd56
-> sha256:484f02044bac0432ca522cbb9f254b1c91fcea6808bfeef0be0b243b2f31bab7 235B / 235B
-> sha256:c4f42be2be53b900ebffcc048c1df13de53843ccc5f5d954a56848a6169a3a3f 2.21MB / 2.21MB
-> extracting sha256:6494e4811622b31c027ccac322ca463937fd805f569a93e6f15c01aade718793
-> sha256:6f9f74806df93fe0172f594fab85e0b4e8a0481a0fefd9112efc7e4d3c78f7
-> extracting sha256:5e3b1213efc56598e78bd06083945c164de2a37285e96a02dada023124dc743
-> extracting sha256:9fddfd4c5633af2aeefad7e241bf5e7459c48ed185c5478676f41c1244bd96752
-> extracting sha256:484f02044bac0432ca522cbb9f254b1c91fcea6808bfeef0be0b243b2f31bab7
-> extracting sha256:c4f42be2be53b900ebffcc048c1df13de53843ccc5f5d954a56848a6169a3a3f
-> [2/6] WORKDIR /app
-> [3/6] ADD ./app
-> [4/6] COPY requirements.txt /app
-> [5/6] RUN python3 -m pip install -r requirements.txt
-> [6/6] RUN python3 -m pip install ibm_db
-> exporting to image
-> exporting layers
-> writing image sha256:1756719486df002fad5dae305c5221513f2ff7d1b49a8d242b22a28af0379f19
-> naming to docker.io/library/job-portal-main

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

The Docker Desktop interface shows the following information:

- Containers: 0
- Images: 1 (job-portal-main)
- Volumes: 0
- Dev Environments: 0
- Extensions: 0

NAME	TAG	IMAGE ID	CREATED	SIZE
job-portal-main	latest	1756719486df	less than a minute ago	1.08 GB

System status: RAM 2.53GB, CPU 1.56%, Connected to Hub, v4.13.0

#### 1. Create a IBM container registry and deploy hello word app