

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 the Docker Hub page for the repository `uifd/ui-for-docker`. It shows the repository is deprecated, with a note that development continues at `portainer/portainer`. The page includes a 'Docker Pull Command' box with the 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 terminal output shows the following commands and results:

```
# 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. #
#####
[model] (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
[model] (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
c590dd163101ae795bdcea0eb1dd98f6fe549cb5f24dcb9ff7c1931923fc0d
[model] (local) root@192.168.0.13 ~
```

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

The image displays two screenshots of the 'UI For Docker' web application, which is accessed via a browser at the URL `ip172-18-0-4-cd9an2u3tccg00fgf6k0-9000.direct.labs.play-with-docker.com/#/`. The browser's address bar shows the site is 'Not secure'.

Top Screenshot: The interface features a navigation bar with tabs: Dashboard, Containers, Containers Network, Images, Networks, Volumes, and Info. A 'Refresh' button is located on the right. The main content area has a large header 'UI For Docker' with the subtitle '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'. The 'Status' section shows a green donut chart representing the container's state.

Bottom Screenshot: This screenshot shows the same interface but with additional metrics. The 'Containers created' section displays a line graph with a value of 1 on the y-axis and the date '21/10/2022' on the x-axis. The 'Images created' section also shows a line graph with a value of 1 on the y-axis. The 'Running Containers' section remains the same. The 'Status' section now includes a legend for the donut chart: 'Running' (green), 'Stopped' (red), and 'Ghost' (grey).

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.

```
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:f8652afaf88c25f0d22354d547d892591067aa4026a7fa9e6819df9f300af6fc
-> resolve docker.io/library/python:3.6@sha256:f8652afaf88c25f0d22354d547d892591067aa4026a7fa9e6819df9f300af6fc
-> sha256:f8652afaf88c25f0d22354d547d892591067aa4026a7fa9e6819df9f300af6fc 1.86kB / 1.86kB
-> sha256:d997a4007a8ec979df5ac31872359c2de510f02214c0448e926393b376d3b60d 2.22kB / 2.22kB
-> sha256:5426063807c5e3ad24c6e21fc889abbcb486a27634c0892006ff71f3f44b104 0.27kB / 0.27kB
-> sha256:0e29546d541cddb309281d21a73a9d1db78665c1b95b74f32b00e0b77a6e1e3 54.92MB / 54.92MB
-> sha256:9b829c73b52b92b97d5c07a54fb0f3e921995a296c714b53a32ae67d19231fcd 5.15MB / 5.15MB
-> sha256:cb5b7ae361722f07eca53f35823ed21baa85d61d5d95cd5a95ab53d740cdd56 10.87MB / 10.87MB
-> sha256:6404e4811622b31c027ccac322ca463937fd085f509a93e6f15c01aade710793 54.57MB / 54.57MB
-> sha256:69f74086df093f0172f304fba05e004e0e0481a0ef09112ef7c44d3c70f7 196.51MB / 196.51MB
-> sha256:5e3b1213efc56598b78bd062983945c164da2a37205e06a62dada821124dc743 6.29MB / 6.29MB
-> extracting sha256:0e29546d541cddb309281d21a73a9d1db78665c1b95b74f32b00e0b77a6e1e3
-> sha256:9fd0dfdc5633af2e6efad7e241bf5e7459c40ed105c5478676f41c1244bd96752 14.21MB / 14.21MB
-> extracting sha256:9b829c73b52b92b97d5c07a54fb0f3e921995a296c714b53a32ae67d19231fcd
-> extracting sha256:cb5b7ae361722f07eca53f35823ed21baa85d61d5d95cd5a95ab53d740cdd56
-> sha256:404f02044bac0432ca522cbb9f254b1c91fcea6800bfeef0be0b243b2f31bab7 235B / 235B
-> sha256:c4f42be2b53b900ebffcc040c1df13de538434ccc5f5d954a56848a6169a3a3f 2.21MB / 2.21MB
-> extracting sha256:6404e4811622b31c027ccac322ca463937fd085f509a93e6f15c01aade710793
-> extracting sha256:69f74086df093f0172f304fba05e004e0e0481a0ef09112ef7c44d3c70f7
-> extracting sha256:5e3b1213efc56598b78bd062983945c164da2a37205e06a62dada821124dc743
-> extracting sha256:9fd0dfdc5633af2e6efad7e241bf5e7459c40ed105c5478676f41c1244bd96752
-> extracting sha256:404f02044bac0432ca522cbb9f254b1c91fcea6800bfeef0be0b243b2f31bab7
-> extracting sha256:c4f42be2b53b900ebffcc040c1df13de538434ccc5f5d954a56848a6169a3a3f
-> [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 sha256:1756719486df002fad5dae305c5221513f2ff2d1b49a8d242022a28af0379f19
-> naming to docker.io/library/job-portal-main
0.1s

Use 'docker scan' to run Snyk tests against images to find vulnerabilities and learn how to fix them
C:\Users\VK-PC\Desktop\job-portal-main>
```

Docker Desktop interface showing the 'Images on disk' section. The 'job-portal-main' image is listed with the tag 'latest', image ID '1756719486df', and size '1.08 GB'.

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