

Assignment - 4

Docker and Kubernetes

Assignment Date	01 November 2022
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Maximum Marks	2 Marks

1. Pull an image from docker hub and run it in docker Playground

The screenshot shows a web browser with two tabs. The first tab is Docker Hub, displaying the repository page for `uifd/ui-for-docker`. The repository is marked as deprecated, with a note stating: "This repo is deprecated. Development continues at: [portainer/portainer](#)". The Docker Pull Command is shown as `docker pull uifd/ui-for-docker`.

The second tab is Docker Playground, showing a new instance named `cd9an2u3_cd9av060qau0008hbjs0` with IP `192.168.0.13`. The instance is running on a node with IP `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.
#####
[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:fe371ff3a69549269b24073a5ab1244dd4c0b834cbadf244870572150b1cb749
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
c590dd163101ae795bdca0eb1dd498f6fe549cb5f24dab9ff7c1931923Fc0d
[node1] (local) root@192.168.0.13 ~
```

2. Create a docker file for the job portal application and deploy it in Docker desktop application.

The image displays two screenshots of the 'UI For Docker' web application interface, accessed via a browser. The browser's address bar shows the URL: `ip172-18-0-4-cd9an2u3tccg00fgf6k0-9000.direct.labs.play-with-docker.com/#/`.

Top Screenshot:

- Navigation Bar:** Includes tabs for Dashboard, Containers, Containers Network, Images, Networks, Volumes, and Info. A 'Refresh' button is on the right.
- Header:** 'UI For Docker' with the subtitle 'The UI for Docker container engine' and a 'Learn more.' button.
- Running Containers:** A list showing one container named 'beautiful_goldwasser' with a status of 'Up About a minute'.
- Status:** A large green donut chart indicating the system is running.

Bottom Screenshot:

- Running Containers:** Same as the top screenshot, showing 'beautiful_goldwasser' is running.
- Status:** A large green donut chart with a legend below it: 'Running' (green square), 'Stopped' (red square), and 'Ghost' (grey square).
- Containers created:** A line graph showing a count of 1 container created on 21/10/2022.
- Images created:** A line graph showing a count of 1 image created.

3. Create an IBM Container registry and deploy

The image shows a Windows command prompt window running a Docker build process. The output shows the build steps, including pulling the base image, installing dependencies, and building the application. The final image is named 'job-portal-main' and is pushed to the Docker Hub.

```
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:f8652aaf88c25f8d22354d547d892591067aad026a7f9a9a810df9f308af6fc
-> resolve docker.io/library/python:3.6@sha256:f8652aaf88c25f8d22354d547d892591067aad026a7f9a9a810df9f308af6fc
639.15
-> sha256:f8652aaf88c25f8d22354d547d892591067aad026a7f9a9a810df9f308af6fc: 1.86kB / 1.86kB
-> sha256:d807a4097a8ec079df5ac31872359c2de510f82214c0448e926393b376d3b6d4d: 2.22kB / 2.22kB
-> sha256:5420863b097c5e3ad24c0e21fc889abbc8486a27634c0892088ff71f3f44b104: 0.27kB / 0.27kB
-> sha256:0e29546d541cd8d309281d21a73a9d1db70665c1b05b74f32b009e0b77a6e1e3: 54.92MB / 54.92MB
120.85
-> sha256:98829c73b52b92b97d5c07a54fb0f3e921995a296c714b53a32ae67d19231fcd: 5.15MB / 5.15MB
28.55
-> sha256:cb5b7ae361722f070eca53f35823aed21baa85d01d5d95cd5a95ab53d748cdd56: 10.87MB / 10.87MB
86.05
-> sha256:6494e481162b31c097c9e322ca403073f4885f560b03af1515aade710793: 54.57MB / 54.57MB
253.25
-> sha256:6f9f74890df93fe0172f594f4ba5e04e0481a0fe0112efc7e4d3c7877: 196.51MB / 196.51MB
446.15
-> sha256:5a3b1213efc56598e78bd602081945c164de2a37205e06a62dad823124dc743: 6.29MB / 6.29MB
138.15
-> extracting sha256:0e29546d541cd8d309281d21a73a9d1db70665c1b05b74f32b009e0b77a6e1e3: 27.3s
-> extracting sha256:9fd0fd56334f2e6efad7e241bf5e7459c40ed105c5478676f41c1244bd96752: 14.21MB / 14.21MB
187.06
-> extracting sha256:98829c73b52b92b97d5c07a54fb0f3e921995a296c714b53a32ae67d19231fcd: 2.3s
-> extracting sha256:cb5b7ae361722f070eca53f35823aed21baa85d01d5d95cd5a95ab53d748cdd56: 4.0s
-> sha256:404f02044bac0432ca522cbb9f254b1c91fcea8080bfeef80e0b243b2f31bab7: 235B / 235B
104.25
-> sha256:c4f42be2b53b00ebfffc040c16f13de538434ccc5f5d954a56048a6169a3af: 2.21MB / 2.21MB
203.86
-> extracting sha256:6494e481162b31c097c9e322ca403073f4885f560b03af1515aade710793: 27.3s
-> extracting sha256:6f9f74890df93fe0172f594f4ba5e04e0481a0fe0112efc7e4d3c7877: 131.4s
-> extracting sha256:5a3b1213efc56598e78bd602081945c164de2a37205e06a62dad823124dc743: 8.2s
-> extracting sha256:9fd0fd56334f2e6efad7e241bf5e7459c40ed105c5478676f41c1244bd96752: 11.3s
-> extracting sha256:404f02044bac0432ca522cbb9f254b1c91fcea8080bfeef80e0b243b2f31bab7: 0.0s
-> extracting sha256:c4f42be2b53b00ebfffc040c16f13de538434ccc5f5d954a56048a6169a3af: 2.2s
-> [2/6] WORKDIR /app
2.85
-> [3/6] ADD . /app
2.75
-> [4/6] COPY requirements.txt /app
2.65
-> [5/6] RUN python3 -m pip install -r requirements.txt
372.25
-> [6/6] RUN python3 -m pip install ibm_db
9.75
-> exporting to image
7.85
-> exporting layers
6.0s
-> writing image sha256:1756719486df002fad5dae305c5221513f2ff2d1b49a8d242b22a28af0379f19
0.2s
-> 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>
```

The Docker Desktop interface shows the 'Images on disk' section with a table of local images:

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

The bottom status bar shows the system is connected to the Docker Hub, with RAM usage at 2.53GB and CPU usage at 1.56%.