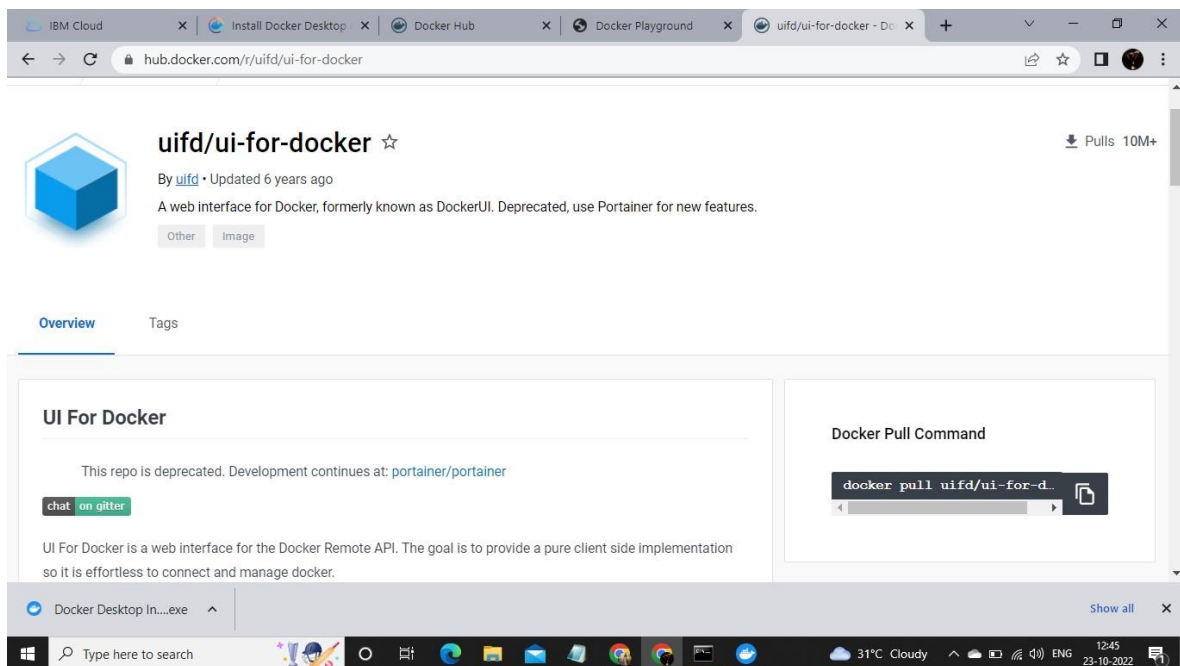


DOCKER AND KUBERNETES

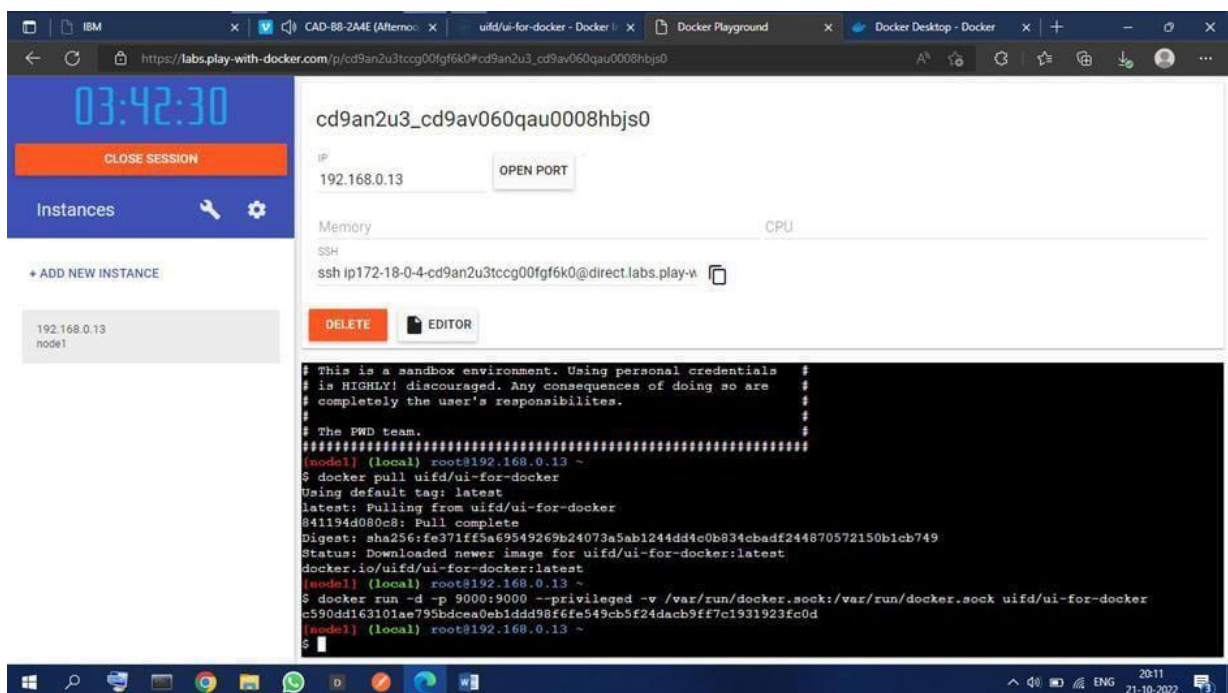
Assignment Date	21 October 2022
Student Name	AKSHAYA R
Student Roll Number	613019104003
Team ID	PNT2022TMID30531
Maximum Marks	2 Marks

Question 1:

Pull an Image from docker hub and run it in docker playground.



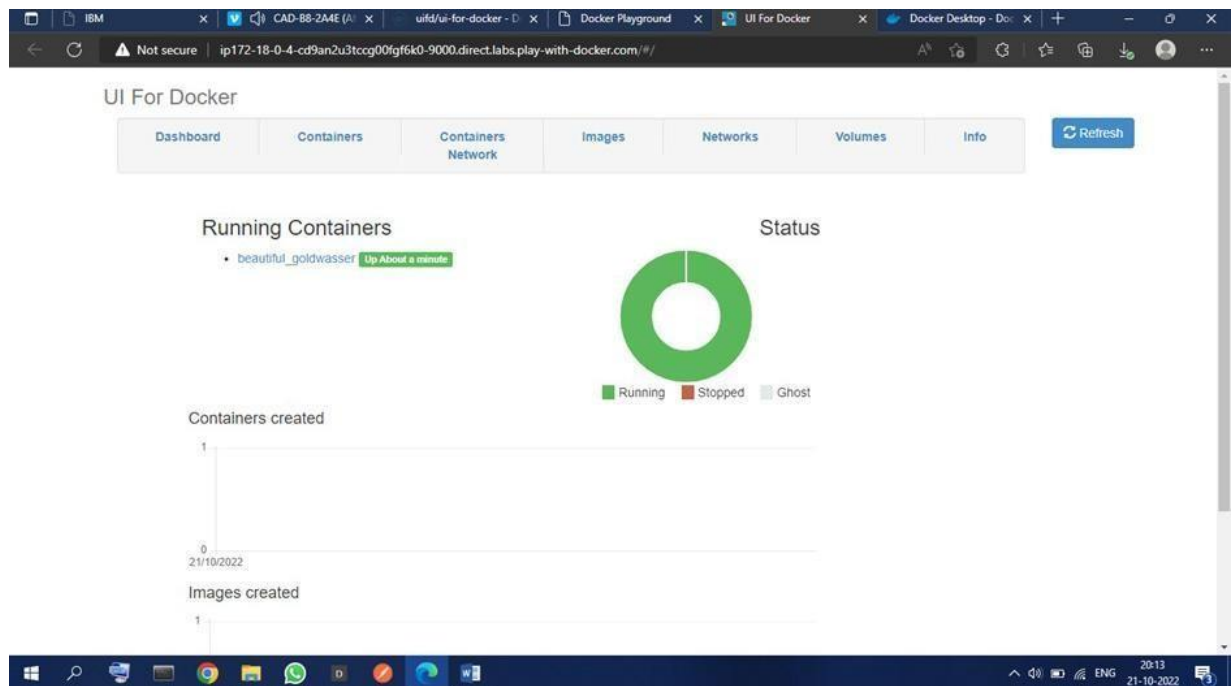
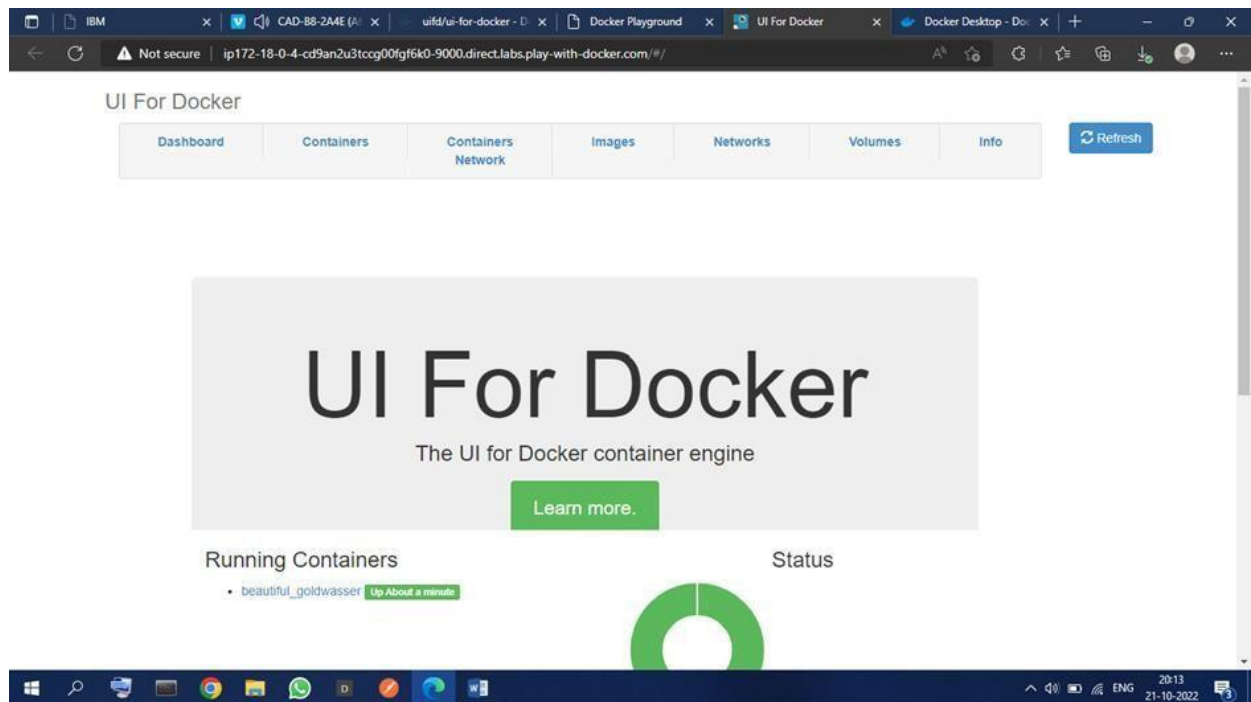
The screenshot shows a web browser window with the Docker Hub page for the repository `uifd/ui-for-docker`. The page header includes the repository name, a star icon, and a pull count of 10M+. Below the header, there is a description: "A web interface for Docker, formerly known as DockerUI. Deprecated, use Portainer for new features." The page has tabs for "Overview" and "Tags". The "Overview" tab is active, showing a "UI For Docker" section with a note that the repo is deprecated and development continues at `portainer/portainer`. There is a "chat on github" button. A "Docker Pull Command" box shows the command `docker pull uifd/ui-for-d...`. The browser's taskbar at the bottom shows "Docker Desktop In...exe" and the system clock indicates 12:45 on 23-10-2022.



The screenshot shows the Docker Playground interface. On the left, there is a sidebar with a clock showing 03:42:30, a "CLOSE SESSION" button, and a list of instances. One instance is listed with IP 192.168.0.13 and name "node1". The main area displays the details for the selected instance, including its IP (192.168.0.13), memory, CPU, and an SSH command: `ssh ip172-18-0-4-cd9an2u3tccg00fgf6k0@direct.labs.play-w`. Below this, there are "DELETE" and "EDITOR" buttons. The bottom section shows a terminal window with the following commands and output:

```
# 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: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
c590dd163101ae795bdcea0eb1ddd98f6fe549cb5f24dcb9ff7c1931923fc0d
(node1) (local) root@192.168.0.13 ~
$
```

The browser's taskbar at the bottom shows the system clock indicating 20:11 on 21-10-2022.



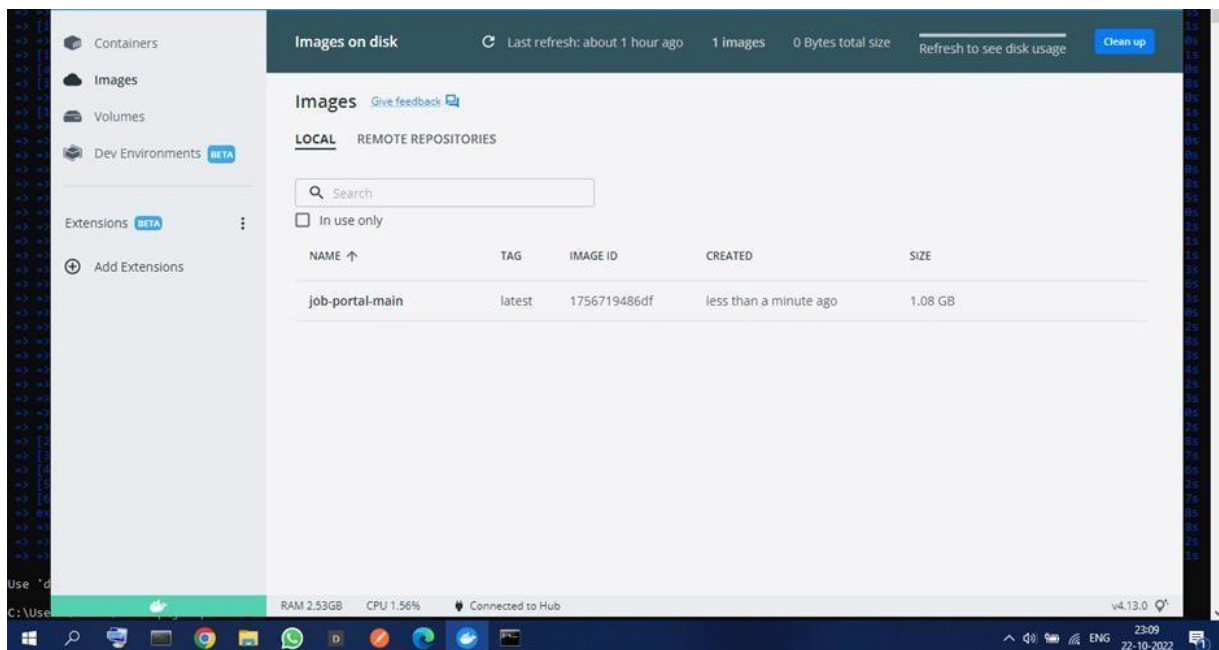
Question 2:

Create a docker file for the job portal application and deploy it in Docker Desktop Application

```
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:3.8
[auth] library/python:pull token for registry-1.docker.io
[Internal] load build context
-> transferring context: 68B
[1/6] FROM docker.io/library/python:3.8@sha256:f863afef88c25f6d22354d547d892591067aa4026a7f6a6019df9f300afefc
-> resolve docker.io/library/python:3.8@sha256:f863afef88c25f6d22354d547d892591067aa4026a7f6a6019df9f300afefc
-> sha256:f863afef88c25f6d22354d547d892591067aa4026a7f6a6019df9f300afefc 1.86kB / 1.86kB
-> sha256:8097a087aee079d75ac31b72359c3de510f82214c0448a926393b376d3b60d 2.22kB / 2.22kB
-> sha256:54260638007c5e3ad24c6e21f3809abbc8488a27634c809208eff71f344b104 9.27kB / 9.27kB
-> sha256:0e25546d543c8d369201d21a73add1d07865c1b95b74f32b009e0b77a6e1e3 54.92MB / 54.92MB
-> sha256:90820c73b52b02b97d5c07a54fb0f3e921995a296c714b53a32ae07019231fcd 5.15MB / 5.15MB
-> sha256:c5b7ae361722f07beca53f35823ed21baad506165d95cd5a95ab53d740cdd56 10.87MB / 10.87MB
-> sha256:649e481162201c027cac322ca40937f4080f569a93eeff15c01aed0710793 34.57MB / 34.57MB
-> sha256:0f977489d4f03f6172f594f4ba85e084eab481a0fef01110fc7e445c78f7 156.51MB / 156.51MB
-> sha256:5e301213efc56598e78bd602983945c164de2a37285e06a63dad823124dc743 6.29MB / 6.29MB
-> extracting sha256:0e25546d543c8d369201d21a73add1d07865c1b95b74f32b009e0b77a6e1e3
-> sha256:9fd8f4c5633472e6fad7e241bf5e7459c40ed105c5478e76f41c1244bd96752 14.21MB / 14.21MB
-> extracting sha256:9b820c73b52b02b97d5c07a54fb0f3e921995a296c714b53a32ae07019231fcd 2.35 / 2.35
-> extracting sha256:c5b7ae361722f07beca53f35823ed21baad506165d95cd5a95ab53d740cdd56 4.05 / 4.05
-> sha256:404f02044bac0432ca522cb9f254b1c91fcea6080bfeef0be0b243b2f31bab7 235B / 235B
-> sha256:c4f42be2be53b900ebff040c1d0f13de53843ccc5f5d954a10848ac109a3a3f 2.21MB / 2.21MB
-> extracting sha256:649e481162201c027cac322ca40937f4080f569a93eeff15c01aed0710793 27.34 / 27.34
-> extracting sha256:0f977489d4f03f6172f594f4ba85e084eab481a0fef01110fc7e445c78f7 131.45 / 131.45
-> extracting sha256:5e301213efc56598e78bd602983945c164de2a37285e06a63dad823124dc743 9.28 / 9.28
-> extracting sha256:9fd8f4c5633472e6fad7e241bf5e7459c40ed105c5478e76f41c1244bd96752 11.35 / 11.35
-> extracting sha256:404f02044bac0432ca522cb9f254b1c91fcea6080bfeef0be0b243b2f31bab7 0.05 / 0.05
-> extracting sha256:c4f42be2be53b900ebff040c1d0f13de53843ccc5f5d954a10848ac109a3a3f 2.28 / 2.28
[2/6] WORKDIR /app
-> [2/6] WORKDIR /app
[3/6] RUN . /app
-> [3/6] RUN . /app
[4/6] COPY requirements.txt /app
-> [4/6] COPY requirements.txt /app
[5/6] RUN python3 -m pip install -r requirements.txt
-> [5/6] RUN python3 -m pip install -r requirements.txt
[6/6] RUN python3 -m pip install lmw_db
-> [6/6] RUN python3 -m pip install lmw_db
-> exporting to image
-> exporting layers
-> exporting image sha256:1756719486df003fad5dae305c5221513f2ff2d1b49a0d242b22a28af0379f19
-> 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

C:\Users\VK-PC\Desktop\job-portal-main>
```



Question 3:

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

```
PS C:\Users\HP> docker tag hello-world icr.io/0034ns/helloworld
PS C:\Users\HP> docker push icr.io/0034ns/helloworld
Using default tag: latest
The push refers to repository [icr.io/0034ns/helloworld]
e07ee1baac5f: Pushed
latest: digest: sha256:f54a58bc1aac5ea1a25d796ae155dc228b3f0e11d046ae276b39c4bf2f13d8c4 size: 525
```

Question 4:

Create a Kubernetes cluster in IBM cloud and deploy helloworld image or job portal image and also expose the same app to run in node port.

