

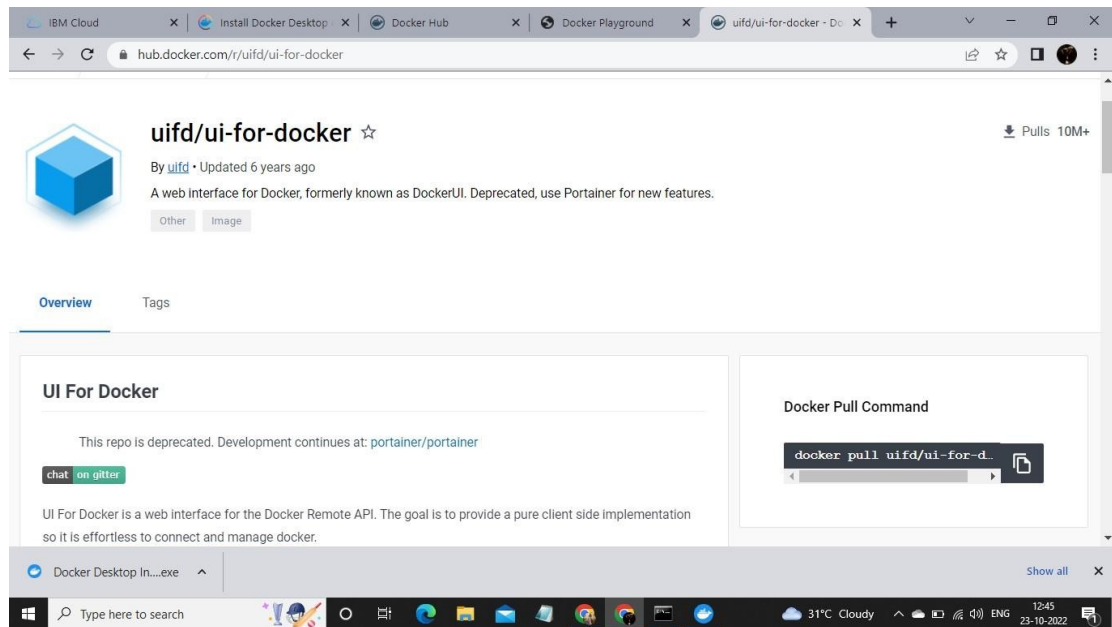
## Assignment – 4

### DOCKER AND KUBERNETES

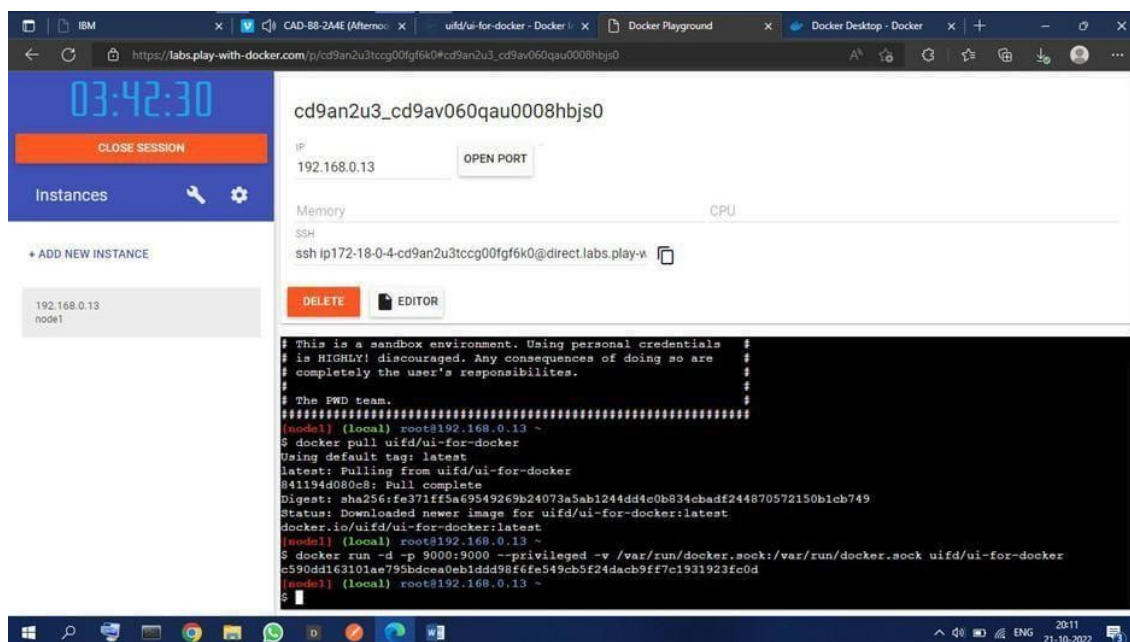
Assignment Date	21 October 2022
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Student Roll Number	319UEC034
Team ID	PNT2022TMID17475
Maximum Marks	2 Marks

### Question 1:

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

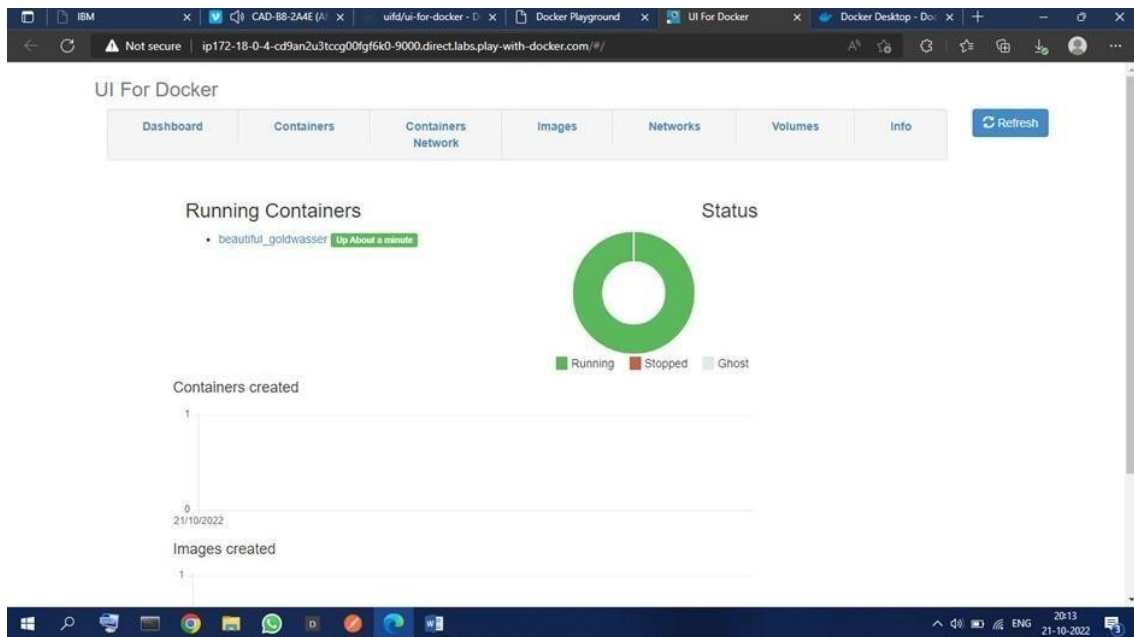
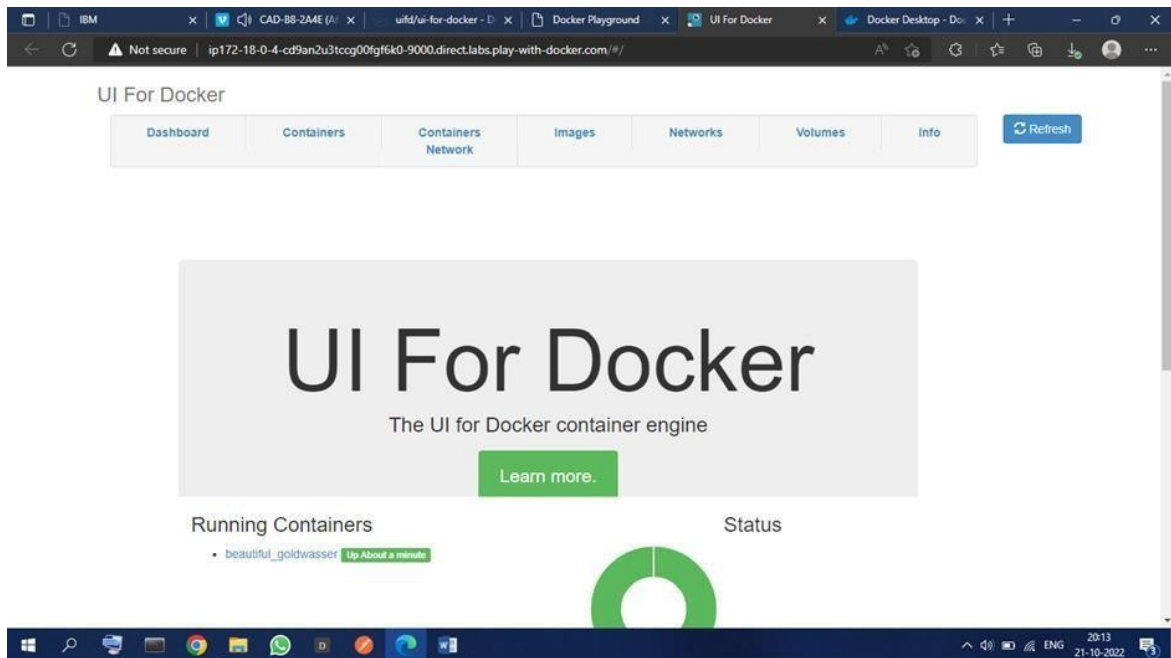


The screenshot shows the Docker Hub page for the repository `uifd/ui-for-docker`. The page includes the repository name, a star icon, and a pull count of 10M+. Below this, there's a description: "By uifd · Updated 6 years ago. A web interface for Docker, formerly known as DockerUI. Deprecated, use Portainer for new features." There are tabs for "Overview" and "Tags". The "Overview" tab is active, showing a section titled "UI For Docker" with a note that the repo is deprecated and development continues at `portainer/portainer`. A "chat on github" button is also present. To the right, there's a "Docker Pull Command" section with a code block showing `docker pull uifd/ui-for-d...`. The bottom of the page shows a Windows taskbar with various icons and a system tray displaying the date and time.



The screenshot shows the Docker Playground interface. On the left, there's a sidebar with a clock showing 03:42:30, a "CLOSE SESSION" button, and an "Instances" section. Below this, there's a button to "ADD NEW INSTANCE". The main area displays the details of a specific instance, including its ID, IP address (192.168.0.13), and a terminal window. The terminal shows the following commands and output:

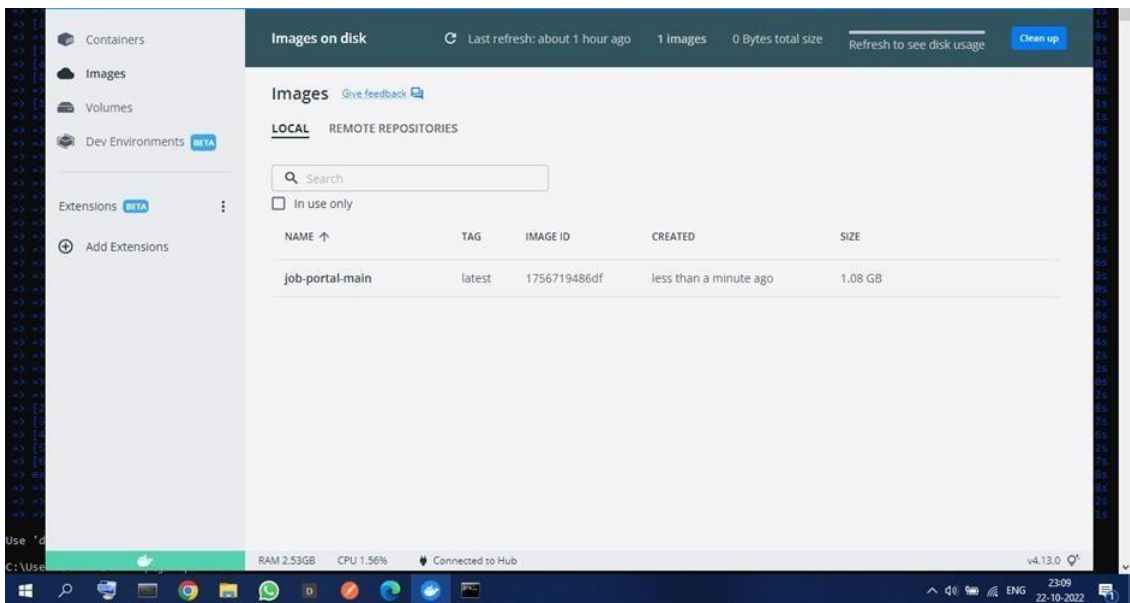
```
# This is a sandbox environment. Using personal credentials is HIGHLY discouraged. Any consequences of doing so are completely the user's responsibilities.
# The FWD team.
#####
[models] (local) root@192.168.0.13 ~
$ docker pull uifd/ui-for-docker
Using default tag: latest
latest: Pulling from uifd/ui-for-docker
841194d080c8: Pull complete
Digest: sha256:fe371ff5a69549269b24073a5ab1244dd4c0b834cbadf244870572150b1cb749
Status: Downloaded newer image for uifd/ui-for-docker:latest
docker.io/uifd/ui-for-docker:latest
[models] (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
c590dd163101ae795bdcea0eb1dd498f6fe549cb5f24dab9ff7c1931923fc0d
[models] (local) root@192.168.0.13 ~
$
```



## 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: 607B
-> [1/6] FROM docker.io/library/python:3.8@sha256:f8b22afaf8bc25f0d22354d547d802591b07aad036a7faa6019d9f380aefdc
-> resolve docker.io/library/python:3.8@sha256:f8b22afaf8bc25f0d22354d547d802591b07aad036a7faa6019d9f380aefdc
-> sha256:f8b22afaf8bc25f0d22354d547d802591b07aad036a7faa6019d9f380aefdc 1.86kB / 1.86kB
-> sha256:d807fa907a8ec879d5ac31872350c2de510f82214c844be826303b370d3b60d 2.22kB / 2.22kB
-> sha256:5420638007c5d3d24c6e31fc809abbc8480a27634c0802086ff71f3f44b104 9.27kB / 9.27kB
-> sha256:0e25546d541cdd309201d11a73a0d1db7065c1b9507af33b009e0b77ade1e3 54.92MB / 54.92MB
-> sha256:90829c7305209207d5c07a24f0f3e921995a296c714053a32ae67010231fcd 5.15MB / 5.15MB
-> sha256:cb507a92617221970eac3730220e21baa5061d509cd5d95ab25d748cdd50 10.87MB / 10.87MB
-> sha256:64054011622b31c027ccac322ca40937fd805f560a9306f15c01aad718793 54.57MB / 54.57MB
-> sha256:6f974090df93f0e172f54faba5e0b4e8a481a0fef9d1120fc7a4d3c78f7 190.51MB / 190.51MB
-> sha256:5e3b2130fc56508e78bd007003945c164de2a37205e08ae2dad823126dc743 6.20MB / 6.20MB
-> -- extracting sha256:0e25546d541cdd309201d11a73a0d1db7065c1b9507af33b009e0b77ade1e3
-> sha256:9f3d8dc56324f2e6e7a241d7f67459c0d0d105c5470676f41c124ab090752 14.21MB / 14.21MB
-> -- extracting sha256:90829c7305209207d5c07a24f0f3e921995a296c714053a32ae67010231fcd
-> -- extracting sha256:cb507a92617221970eac3730220e21baa5061d509cd5d95ab25d748cdd50
-> sha256:404f02044bac0432ca522cb9f254b1c9fcaad080bfef9b0e243b2f31bab7 235B / 235B
-> sha256:c4f42be2be53b00ebffcb04c1df13de53843acc5f5d954a5084a6109a3a3f 2.21MB / 2.21MB
-> -- extracting sha256:64054011622b31c027ccac322ca40937fd805f560a9306f15c01aad718793
-> sha256:6f974090df93f0e172f54faba5e0b4e8a481a0fef9d1120fc7a4d3c78f7 27.39 / 131.40
-> -- extracting sha256:5e3b2130fc56508e78bd007003945c164de2a37205e08ae2dad823126dc743
-> -- extracting sha256:9f3d8dc56324f2e6e7a241d7f67459c0d0d105c5470676f41c124ab090752
-> -- extracting sha256:404f02044bac0432ca522cb9f254b1c9fcaad080bfef9b0e243b2f31bab7
-> -- extracting sha256:c4f42be2be53b00ebffcb04c1df13de53843acc5f5d954a5084a6109a3a3f
-> [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 lm_db
-> exporting image
-> -- exporting layers
-> -- writing image sha256:1756719486df02f4f5dae305c5221513f2ff2d1b40a0242b22a20af0379f19
-> -- 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.

