

## Assignment-4

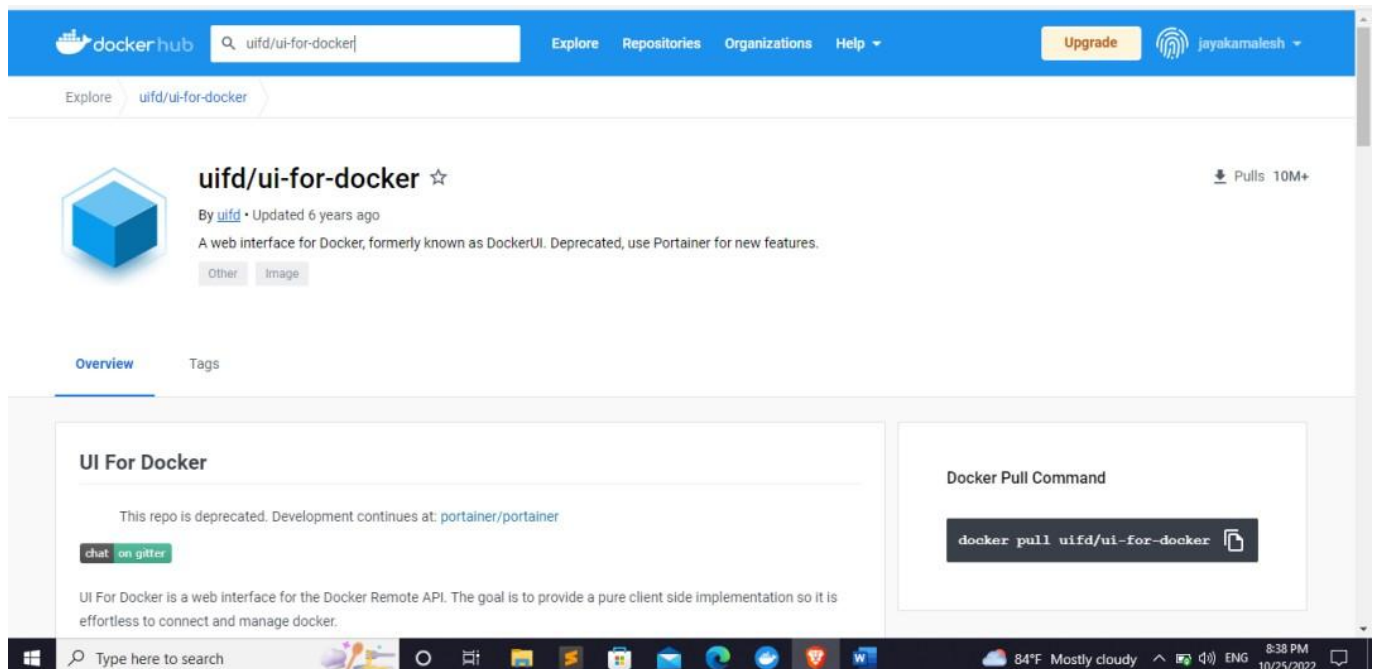
### IBM object storage & IBM Watson

Date	19 September 2022
Team ID	PNT2022TMID32326
Project Name	News Tracker Application
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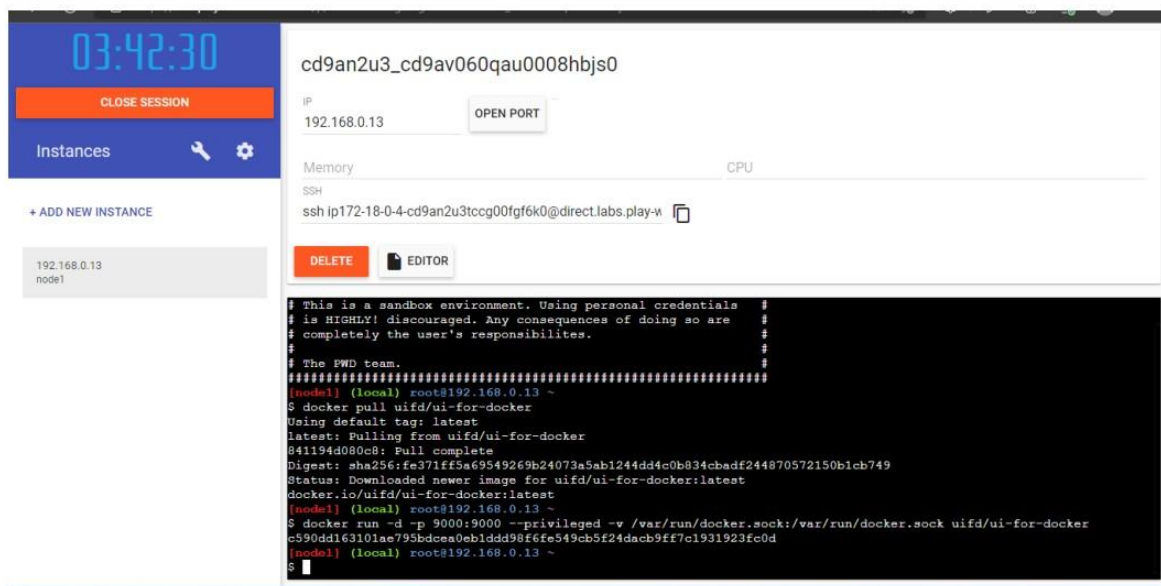
#### Assignment Kubernetes / Docker:

1. Pull an Image from docker hub and run it in docker playground.
2. Create a docker file for the job portal application and deploy it in Docker desktop application.
3. Create an IBM container registry and deploy a hello world app or job portal app.
4. Create a Kubernetes cluster in IBM cloud and deploy hello world image or job portal image and also expose the same app to run in node port.

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



The screenshot shows the Docker Hub repository page for `uifd/ui-for-docker`. The page header includes the Docker Hub logo, a search bar with the text `uifd/ui-for-docker`, and navigation links for Explore, Repositories, Organizations, and Help. A yellow "Upgrade" button and a user profile icon for "jayakamalesh" are also visible. The repository name `uifd/ui-for-docker` is prominently displayed, along with a star icon and a pull count of "10M+". Below the repository name, it says "By uifd • Updated 6 years ago" and "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 description: "This repo is deprecated. Development continues at: portainer/portainer". A "chat on gitter" button is present. A "UI For Docker" section contains a description: "UI For Docker is a web interface for the Docker Remote API. The goal is to provide a pure client side implementation so it is effortless to connect and manage docker." A "Docker Pull Command" box shows the command `docker pull uifd/ui-for-docker`. The Windows taskbar at the bottom shows the time as 8:38 PM on 10/25/2022.



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 a list of instances. The main area displays the details of a selected instance named `cd9an2u3_cd9av060qau0008hbjs0`. It shows the IP address `192.168.0.13` and an "OPEN PORT" button. Below this, there's a section for "Memory" and "CPU" usage, and an "SSH" section with a command: `ssh ip172-18-0-4-cd9an2u3tccg00fgf6k0@direct.labs.play-w`. There are "DELETE" and "EDITOR" buttons. The bottom part of the interface 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. #
#####
[unde1] (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
[unde1] (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
c590dd163101ac795bdcea0eb1ddd98f6fe549cb5f24dacb9ff7c1931923fc0d
[unde1] (local) root@192.168.0.13 ~
$
```



The screenshot shows the Windows taskbar at the bottom of the screen. It includes the Start button, a search bar, and several application icons. The system tray on the right shows the time as 08:46 AM on 31-10-22, along with network, volume, and language indicators.

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



Windows taskbar: 20:13 21-10-2022


UI For Docker

Dashboard Containers Containers Network Images Networks Volumes Info Refresh

Running Containers

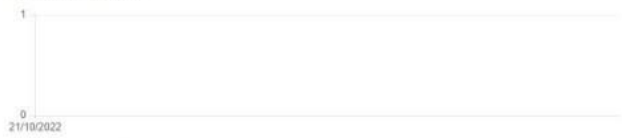
- beautiful\_goldwasser Up About a minute

Status

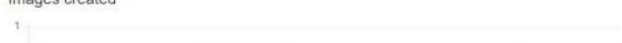


Running Stopped Ghost

Containers created



Images created



Windows taskbar: 20:13 21-10-2022

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

The screenshot shows the Docker Desktop interface. The top panel displays the Docker build process for a Dockerfile. The bottom panel shows the Docker Desktop home screen with the 'Images' tab selected, listing the built images.

**Docker Build Process:**

```
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:f8652afaf88c25f0d22354d547d892591067aa4026a7f9a6819df9f300af6fc
-> resolve docker.io/library/python:3.6@sha256:f8652afaf88c25f0d22354d547d892591067aa4026a7f9a6819df9f300af6fc
-> sha256:f8652afaf88c25f0d22354d547d892591067aa4026a7f9a6819df9f300af6fc 1.86kB / 1.86kB
-> sha256:d997a4967adec879df5ac31872359c2de510f82214c9448e9263930376d3060d 2.22kB / 2.22kB
-> sha256:54268638d07c5e3ad24cde21fc889abb8486a27634c8892006ff71f3f44b104 9.27kB / 9.27kB
-> sha256:0e2954ed541cdd309281d21a73a9d1db78665c1b95b74f32b009e0b77a6e1e3 54.92MB / 54.92MB
-> sha256:9b829c73b52b92b97d5c07a54fb0f3e921995a296c714b53a32ae67d19231fcd 5.15MB / 5.15MB
-> sha256:cbb7ae361722f070eca53f35823ed21baa85d81d5d95cd5a95ab53d740cdd56 10.67MB / 10.67MB
-> sha256:6494e4811622b31c027ccac322ca463937fd88f569a93e0f15c01aade718793 54.57MB / 54.57MB
-> sha256:6f9f74806dfa93fe0172f594faba85e0b4e8a0481a0fed9112efc7e4d3c78f7 196.51MB / 196.51MB
-> sha256:5e3b1213efc56598e78bd602983945c164de2a37205e0a62dada823124dc743 6.20MB / 6.20MB
-> extracting sha256:0e2954ed541cdd309281d21a73a9d1db78665c1b95b74f32b009e0b77a6e1e3 14.21MB / 14.21MB
-> extracting sha256:9b829c73b52b92b97d5c07a54fb0f3e921995a296c714b53a32ae67d19231fcd 2.38 / 2.38
-> extracting sha256:cbb7ae361722f070eca53f35823ed21baa85d81d5d95cd5a95ab53d740cdd56 4.06 / 4.06
-> sha256:404f82044bac0432ca522cb9f254b1c91fcea6800bfeef0be0b243b2f31bab7 235B / 235B
-> sha256:c4f42be2be53b990ebffcc048c1df13de538434ccc5f5d954a56848a0169a3a3f 2.21MB / 2.21MB
-> extracting sha256:6494e4811622b31c027ccac322ca463937fd88f569a93e0f15c01aade718793 27.38 / 27.38
-> extracting sha256:6f9f74806dfa93fe0172f594faba85e0b4e8a0481a0fed9112efc7e4d3c78f7 131.44 / 131.44
-> extracting sha256:5e3b1213efc56598e78bd602983945c164de2a37205e0a62dada823124dc743 8.25 / 8.25
-> extracting sha256:9fddfd56334f2e6efad7e241bf5e7459c40ed105c5478676f41c1244bd06752 11.38 / 11.38
-> extracting sha256:404f82044bac0432ca522cb9f254b1c91fcea6800bfeef0be0b243b2f31bab7 0.05 / 0.05
-> extracting sha256:c4f42be2be53b990ebffcc048c1df13de538434ccc5f5d954a56848a0169a3a3f 2.25 / 2.25
-> [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 sha256:1756719486df002fad5dae305c5221513f2ff2d1b49a8d342b22a28a60379f19
-> 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>
```

**Docker Desktop Images:**

NAME	TAG	IMAGE ID	CREATED	SIZE
au.icr.io/jobportal-mai...	jobportaltesting	e17d7e64dcb0	about 23 hours ago	1.08 GB
hello-world	latest	feb5d9fea6a5	about 1 year ago	13.26 KB
jayakamalesh	latest	e17d7e64dcb0	about 23 hours ago	1.08 GB
jayakamalesh/job-port...	latest	e17d7e64dcb0	about 23 hours ago	1.08 GB
job-portal-main	latest	e17d7e64dcb0	about 23 hours ago	1.08 GB

RAM 2.67GB CPU 1.16% Connected to Hub v4.13.0

### 3. Create an IBM container registry and deploy a hello world app

```
Command Prompt
Microsoft Windows [Version 10.0.19042.1706]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Brins>docker run -d -p 80:80 docker/getting-started
Unable to find image 'docker/getting-started:latest' locally
latest: Pulling from docker/getting-started
df9b9388f04a: Already exists
5867cba5fcbd: Pull complete
4b639e5cb3b: Pull complete
061ed9e2b976: Pull complete
bc19f3e8eeb1: Pull complete
4071be97c256: Pull complete
79b586f1a54b: Pull complete
0c9732f525d6: Pull complete
Digest: sha256:b558be874169471bd4e65bd6eac8c303b271a7ee8553ba47481b73b2bf597aae
Status: Downloaded newer image for docker/getting-started:latest
0acd90a012579d14bf95cb0d8c97b2ea5ce16fa82dc972ddab4b70086c04d88a

C:\Users\Brins>docker container run alpine echo "Hello World"
Unable to find image 'alpine:latest' locally
latest: Pulling from library/alpine
213ec9aee27d: Already exists
Digest: sha256:bc41182d7ef5ffc53a40b044e725193bc10142a1243f395ee852a8d9730fc2ad
Status: Downloaded newer image for alpine:latest
Hello World

C:\Users\Brins>
```

Docker Desktop

Upgrade plan

Sign in

Containers

Images

Volumes

Dev Environments

Extensions

Add Extensions

Images on disk

Last refresh: about 16 hours ago

4 images

43.61 MB total size

292.53 MB / 43.61 MB in use

Clean up

Images

Give feedback

LOCAL

REMOTE REPOSITORIES

Search

In use only

NAME	TAG	IMAGE ID	CREATED	SIZE
alpine	latest	9c6f07244728	3 months ago	5.54 MB
alpine/git	latest	42a1cda0ba24	10 days ago	43.61 MB
docker/getting-started	latest	cb90f98fd791	7 months ago	28.78 MB
mcr.microsoft.com/dotnet/s...	aspnetapp	d5d0540f2260	5 days ago	220.13 MB

Connect to Remote Content

Not connected

Store and backup your images remotely

Collaborate with your team

Unlock vulnerability scanning for greater security

Connect for free

Sign in

RAM 1.51GB

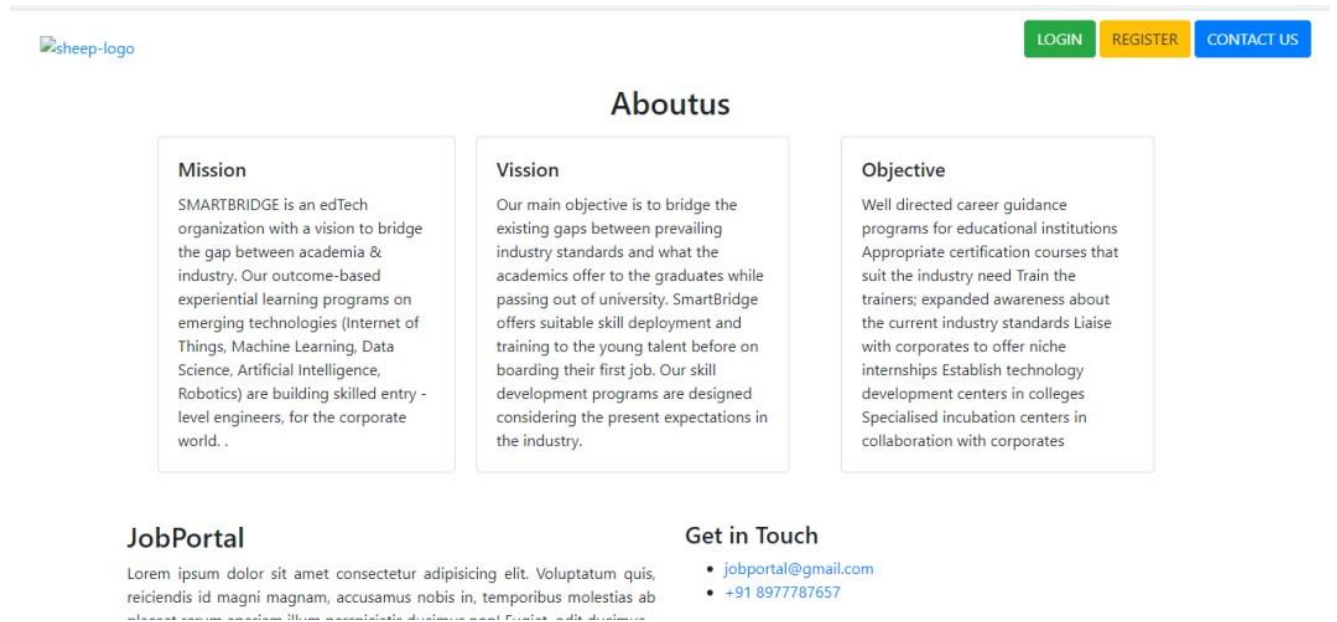
CPU 1.59%

Not connected to Hub

v4.13.0

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

### Job Portal:



IBM Cloud

Search resources and products...

Catalog

Manage

Jayakamalesh k's Acco...

?

Container Registry

Quick start

Namespaces2

Repositories1

Images1

Trash0

Settings

Repositories

Location

Sydney

Search

Create

	Name	Image count	Namespace	Last updated	
	testrepo au.icr.io/jobportal-main/testrepo	1	jobportal-main	1 day ago	

Items per page: 25

1-1 of 1 item

1

1 of 1 page

https://cloud.ibm.com/registry/repos

Type here to search

CAD-B7-1A3E (Evening Session)-Day

uifd/ui-for-docker - Docker Image | D

IBM Cloud Container Registry - R

+

84°F

ENG

8:53 PM

10/25/2022

IBM Cloud

Search resources and products...

Catalog

Manage

Jayakamalesh k's Acco...

?

Container Registry

Quick start

Namespaces2

Repositories1

Images1

Trash0

Settings

Images

Location

Sydney

View by: Digest

Search

Create

	Repository@digest	Tags	Manifest type	Created	Size	Security status	
	jobportal-main/testrepo@sha256:dc6a1d3f8898...	jobportaltesting	Docker	1 day ago	435 MB	99 issues	

Items per page: 25

1-1 of 1 item

1

1 of 1 page

https://cloud.ibm.com/registry/images

Type here to search

CAD-B7-1A3E (Evening Session)-Day

uifd/ui-for-docker - Docker Image | D

IBM Cloud Container Registry - R

+

84°F

ENG

8:53 PM

10/25/2022