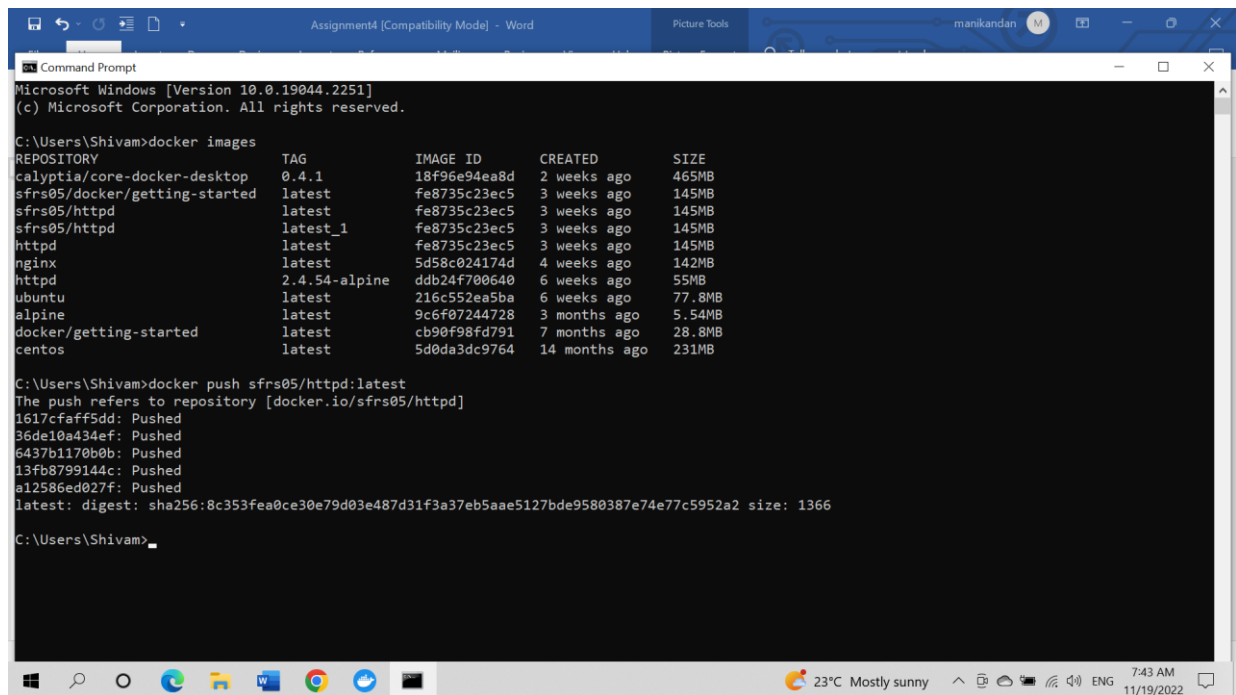


Assignment -4

Assignment Date	17 November 2022
Student Name	Ezhilarasan C
Student Roll Number	422419205011
Maximum Marks	2 Marks

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

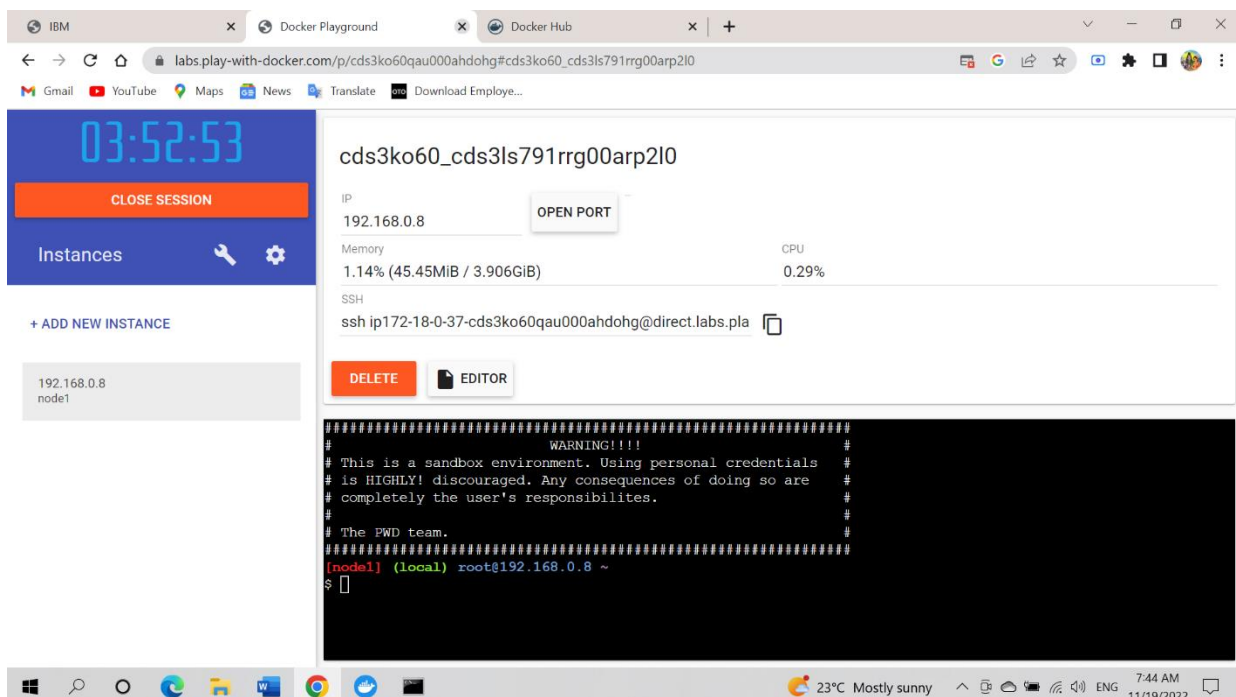


```
Microsoft Windows [Version 10.0.19044.2251]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Shivam>docker images
REPOSITORY              TAG                IMAGE ID           CREATED            SIZE
calyptia/core-docker-desktop 0.4.1             18f96e94ea8d      2 weeks ago       465MB
sfrs05/docker/getting-started latest            fe8735c23ec5      3 weeks ago       145MB
sfrs05/httpd              latest            fe8735c23ec5      3 weeks ago       145MB
sfrs05/httpd              latest_1          fe8735c23ec5      3 weeks ago       145MB
httpd                     latest            fe8735c23ec5      3 weeks ago       145MB
nginx                     latest            5d58c024174d      4 weeks ago       142MB
httpd                     2.4.54-alpine     ddb24f700640      6 weeks ago       55MB
ubuntu                    latest            216c552ea5ba      6 weeks ago       77.8MB
alpine                    latest            9c6f07244728      3 months ago      5.54MB
docker/getting-started     latest            cb90f98fd791      7 months ago      28.8MB
centos                     latest            5d0da3dc9764      14 months ago     231MB

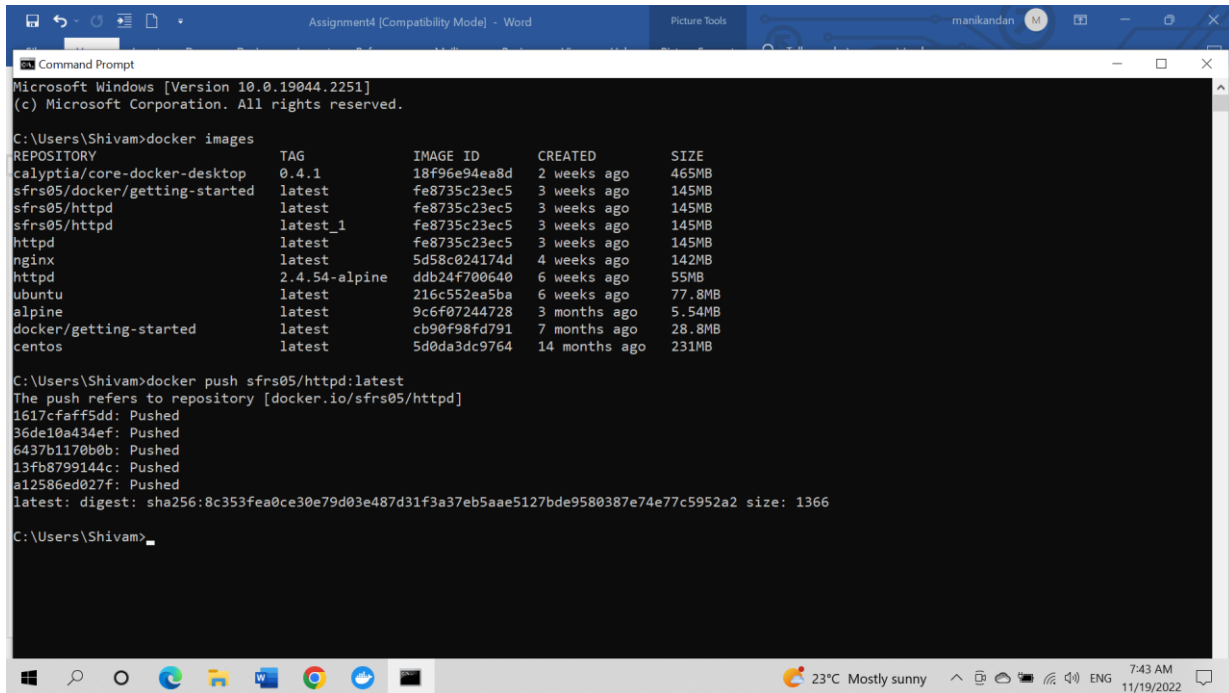
C:\Users\Shivam>docker push sfrs05/httpd:latest
The push refers to repository [docker.io/sfrs05/httpd]
1617cfaff5dd: Pushed
36de10a434ef: Pushed
6437b1170b0b: Pushed
13fb8799144c: Pushed
a12586ed027f: Pushed
latest: digest: sha256:8c353fea0ce30e79d03e487d31f3a37eb5aae5127bde9580387e74e77c5952a2 size: 1366

C:\Users\Shivam>
```



The screenshot shows the Docker Playground interface in a web browser. On the left, there's a sidebar with a clock showing 03:52:53, a 'CLOSE SESSION' button, and an 'Instances' section. Below 'Instances', there's a list of instances with one instance named 'node1' at IP 192.168.0.8. The main area displays details for the selected instance 'cds3ko60_cds3ls791rrg00arp2l0'. It shows the IP address 192.168.0.8, memory usage at 1.14% (45.45MiB / 3.906GiB), and CPU usage at 0.29%. There's an 'OPEN PORT' button and an SSH command: 'ssh ip172-18-0-37-cds3ko60qau000ahdohg@direct.labs.pla'. Below this are 'DELETE' and 'EDITOR' buttons. At the bottom, there's a terminal window showing a warning message and a shell prompt: '[node1] (local) root@192.168.0.8 ~\$'.

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

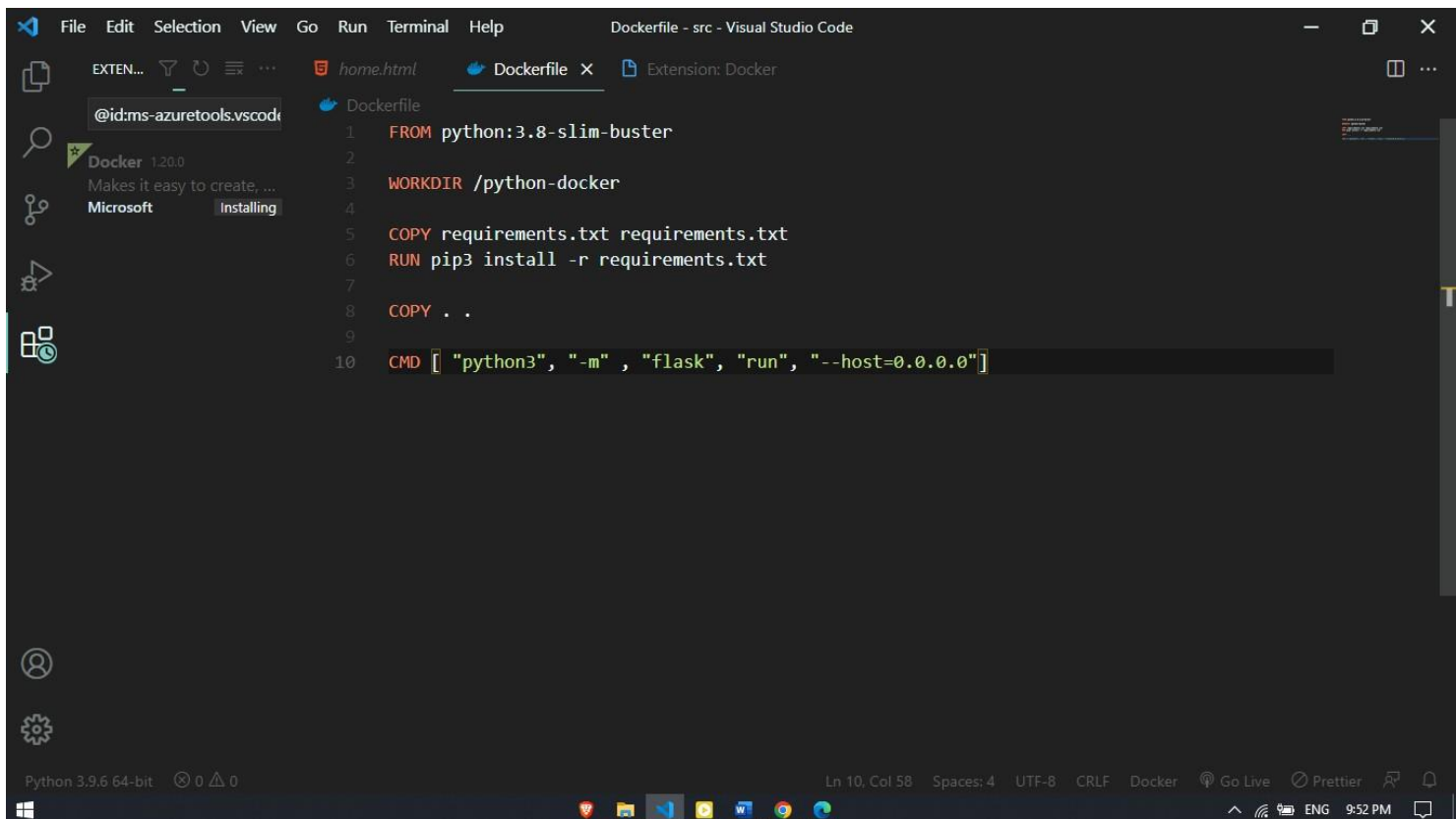


```
C:\Users\Shivam>docker images
REPOSITORY          TAG                 IMAGE ID            CREATED             SIZE
calyptia/core-docker-desktop  0.4.1              18f96e94ea8d       2 weeks ago        465MB
sfrs05/docker/getting-started  latest             fe8735c23ec5       3 weeks ago        145MB
sfrs05/httpd         latest             fe8735c23ec5       3 weeks ago        145MB
sfrs05/httpd         latest_1           fe8735c23ec5       3 weeks ago        145MB
httpd                latest             fe8735c23ec5       3 weeks ago        145MB
nginx                latest             5d58c024174d       4 weeks ago        142MB
httpd                2.4.54-alpine     ddb24f700640       6 weeks ago        55MB
ubuntu               latest             216c552ea5ba       6 weeks ago        77.8MB
alpine               latest             9c6f07244728       3 months ago       5.54MB
docker/getting-started  latest             cb90f98fd791       7 months ago       28.8MB
centos                latest             5d0da3dc9764       14 months ago      231MB

C:\Users\Shivam>docker push sfrs05/httpd:latest
The push refers to repository [docker.io/sfrs05/httpd]
1617cfa5f5dd: Pushed
36de10a434ef: Pushed
6437b1170b0b: Pushed
13fb8799144c: Pushed
a12586ed027f: Pushed
latest: digest: sha256:8c353fea0ce30e79d03e487d31f3a37eb5aae5127bde9580387e74e77c5952a2 size: 1366

C:\Users\Shivam>
```

Dockerfile



```
Dockerfile
1 FROM python:3.8-slim-buster
2
3 WORKDIR /python-docker
4
5 COPY requirements.txt requirements.txt
6 RUN pip3 install -r requirements.txt
7
8 COPY . .
9
10 CMD ["python3", "-m", "flask", "run", "--host=0.0.0.0"]
```

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3. Create a IBM container registry and deploy hello world app or job portal app.

```
C:\Windows\System32\cmd.exe - docker build.
Microsoft Windows [Version 10.0.19044.2130]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Rakesh\Downloads\flask_hello_docker-master\flask_hello_docker-master>docker build .
[+] Building 66.3s (7/10)
-> [internal] load build definition from Dockerfile 2.9s
-> => transferring dockerfile: 199B 0.5s
-> [internal] load .dockerignore 3.1s
-> => transferring context: 2B 0.1s
-> [internal] load metadata for docker.io/library/python:3.7-alpine 14.3s
-> [auth] library/python:pull token for registry-1.docker.io 0.9s
-> [1/5] FROM docker.io/library/python:3.7-alpine@sha256:6e24a81708ff08a4a99c1f4c357a96190b7efe47230c3bed184b8f4ad368fb9f 30.4s
-> => resolve docker.io/library/python:3.7-alpine@sha256:6e24a81708ff08a4a99c1f4c357a96190b7efe47230c3bed184b8f4ad368fb9f 0.6s
-> => sha256:6e24a81708ff08a4a99c1f4c357a96190b7efe47230c3bed184b8f4ad368fb9f 1.65kB / 1.65kB 0.8s
-> => sha256:c7f521e75ec40f0260cb22ee68c13d0337a1aafefb724e015c4629347152c01bf 1.37kB / 1.37kB 0.8s
-> => sha256:caace8aee1d1c9f31120c0a96a2ee9bbb257daab97791c86780712ed7e30948 7.71kB / 7.71kB 0.8s
-> => sha256:47858aee13bf9c7c2b62cfaccd9ce2524efef339df0c0ed8935c6587a376d00 673.19kB / 673.19kB 2.7s
-> => sha256:21d1eb95d7074516ee447cc3067020af49c4fb512abc36162c174c0d0c22bf50 11.16MB / 11.16MB 16.8s
-> => sha256:17ac4101fac6ced0416dec3e04584d013e58bdf5a585dff62f684807d10ac77e 230B / 230B 3.1s
-> => extracting sha256:47858aee13bf9c7c2b62cfaccd9ce2524efef339df0c0ed8935c6587a376d00 5.3s
-> => sha256:a4cc00d82d4786274c2a21d71815bfc13e37a86d9fbd0d08fde8abe21971d18b 2.89MB / 2.89MB 9.5s
-> => extracting sha256:21d1eb95d7074516ee447cc3067020af49c4fb512abc36162c174c0d0c22bf50 2.6s
-> => extracting sha256:17ac4101fac6ced0416dec3e04584d013e58bdf5a585dff62f684807d10ac77e 0.8s
-> => extracting sha256:a4cc00d82d4786274c2a21d71815bfc13e37a86d9fbd0d08fde8abe21971d18b 1.8s
-> [internal] load build context 1.9s
-> => transferring context: 5.65kB 0.3s
-> [2/5] WORKDIR /app 2.5s
-> [3/5] RUN pip install pipenv 13.7s
```

```
C:\Windows\System32\cmd.exe - docker push icr.io/smartfashionapp/ibm
Space:

C:\Users\Rakesh\Downloads\flask_hello_docker-master\flask_hello_docker-master>ibmcloud cr region-set global
The region is set to 'global', the registry is 'icr.io'.

OK

C:\Users\Rakesh\Downloads\flask_hello_docker-master\flask_hello_docker-master>ibmcloud cr login
Logging 'docker' in to 'icr.io'...
Logged in to 'icr.io'.

OK

C:\Users\Rakesh\Downloads\flask_hello_docker-master\flask_hello_docker-master>docker images
REPOSITORY          TAG                 IMAGE ID            CREATED             SIZE
myapp                1.0-recovere       95232a1151f8       18 minutes ago     97.9MB
myapp                1.0-recovered      95232a1151f8       18 minutes ago     97.9MB
icr.io/smartfashionapp/app  ibm                95232a1151f8       18 minutes ago     97.9MB
saravanan0310/alpine latest             9c6f07244728       3 months ago       5.54MB
ibm/alpine           latest             9c6f07244728       3 months ago       5.54MB
alpine               latest             9c6f07244728       3 months ago       5.54MB
saravanan/alpine     latest             9c6f07244728       3 months ago       5.54MB

C:\Users\Rakesh\Downloads\flask_hello_docker-master\flask_hello_docker-master>docker tag myapp icr.io/smartfashionapp/ibm:
Error parsing reference: "icr.io/smartfashionapp/ibm:" is not a valid repository/tag: invalid reference format

C:\Users\Rakesh\Downloads\flask_hello_docker-master\flask_hello_docker-master>docker tag myapp icr.io/smartfashionapp/ibm
Error response from daemon: No such image: myapp:latest

C:\Users\Rakesh\Downloads\flask_hello_docker-master\flask_hello_docker-master>docker tag 95232a1151f8 icr.io/smartfashionapp/ibm

C:\Users\Rakesh\Downloads\flask_hello_docker-master\flask_hello_docker-master>docker push icr.io/smartfashionapp/ibm
Using default tag: latest
The push refers to repository [icr.io/smartfashionapp/ibm]
879dc0a7d13a: Preparing
45ca0a7778a1: Preparing
420a6604882f: Preparing
c49c12d42c1e: Preparing
ed37f306c964: Preparing
31e0f81c5bec: Waiting
03aede2981e3: Waiting
0666686122fd: Waiting
994393dc58e7: Waiting
```

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.

The screenshot shows the IBM Cloud Container Registry interface. The left sidebar contains navigation links: Container Registry, Quick start, Namespaces (1), Repositories (0), Images (0), Trash (0), and Settings. The main content area is titled 'Namespaces' and shows a table with one namespace named 'sfrs05' in the 'Default' resource group. The table has columns for Name, Resource group, Repository count, Image count, and Retention policy. A 'Create' button is visible in the top right corner of the namespace list.

Name	Resource group	Repository count	Image count	Retention policy
sfrs05	Default	0	0	

The screenshot shows the IBM Cloud Kubernetes cluster overview page for a cluster named 'mycluster'. The cluster is in a 'Normal' state and expires in 18 days. The page displays various status metrics and details.

Cluster Status: mycluster (Normal) Expires in 18 days

Overview Metrics:

- Node status: 1 of 1 (Normal)
- Add-on status: 0 of 0 (Normal)
- Master status: Normal
- Ingress status: Healthy

Details:

Cluster ID	Version	Infrastructure	Zones
cdkachmf0em2vcdffjphg	1.24.7_1542	Classic	Milan 01