

## Assignment -4

Assignment Date	15 November 2022
Student Name	NIRANJAN S
Student Roll Number	212219040096
Maximum Marks	2 Marks

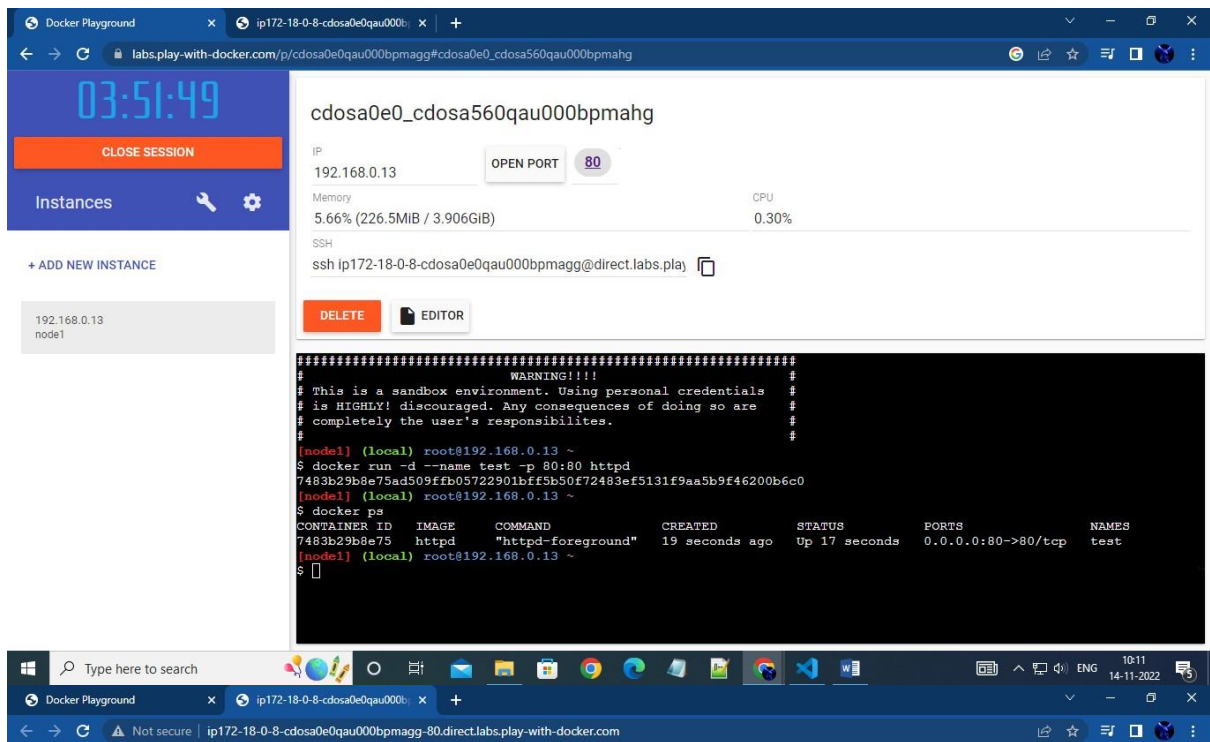
### 1.Pull an Image from docker hub and run it in docker playground

The image shows two screenshots of the Docker Playground interface, demonstrating the process of pulling a Docker image from Docker Hub.

**Top Screenshot:** The interface shows the instance name "cdosa0e0\_cdosa560qau000bpmahg" with IP "192.168.0.13". The memory usage is 5.44% (217.6MiB / 3.906GiB) and CPU usage is 0.43%. The SSH command is "ssh ip172-18-0-8-cdosa0e0qau000bpmagg@direct.labs.play". The terminal output shows the command "docker pull httpd:latest" being executed, resulting in a successful pull of the "httpd:latest" image from the Docker Hub library.

**Bottom Screenshot:** The interface shows the same instance name and IP. The memory usage is 5.32% (212.8MiB / 3.906GiB) and CPU usage is 0.23%. The terminal output shows the command "docker images" being executed, displaying the list of images on the local system:

```
[node1] (local) root@192.168.0.13 ~
$ docker images
REPOSITORY TAG IMAGE ID CREATED SIZE
httpd latest fe8735c23ec5 2 weeks ago 145MB
```



It works!



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

```

PS C:\Users\RIT\Desktop\job-portal-master> docker run -d -it --rm --name jp-mongodb -p 27017:27017 -e MONGO_INITDB_ROOT_USERNAME="root" -e MONGO_I
NITDB_ROOT_PASSWORD="root-rusteez" mongo
Unable to find image 'mongo:latest' locally
latest: Pulling from library/mongo
eaead16dc43b: Pull complete
8a00eb9f68a0: Pull complete
f683956749c5: Pull complete
b33b2f05ea20: Pull complete
3a342bea915a: Pull complete
fa956ab1c2f0: Pull complete
138a8542a624: Pull complete
acab179a7f07: Pull complete
f88335710e84: Pull complete
Digest: sha256:71a63fc2438e45714f6c8a2505968ee0beeb94ec77a88ef12190f7cee9b95f32
Status: Downloaded newer image for mongo:latest
01adeb5492af8323e5d62299c7a1372f34e2583891bdefae268f95f74a76a80c

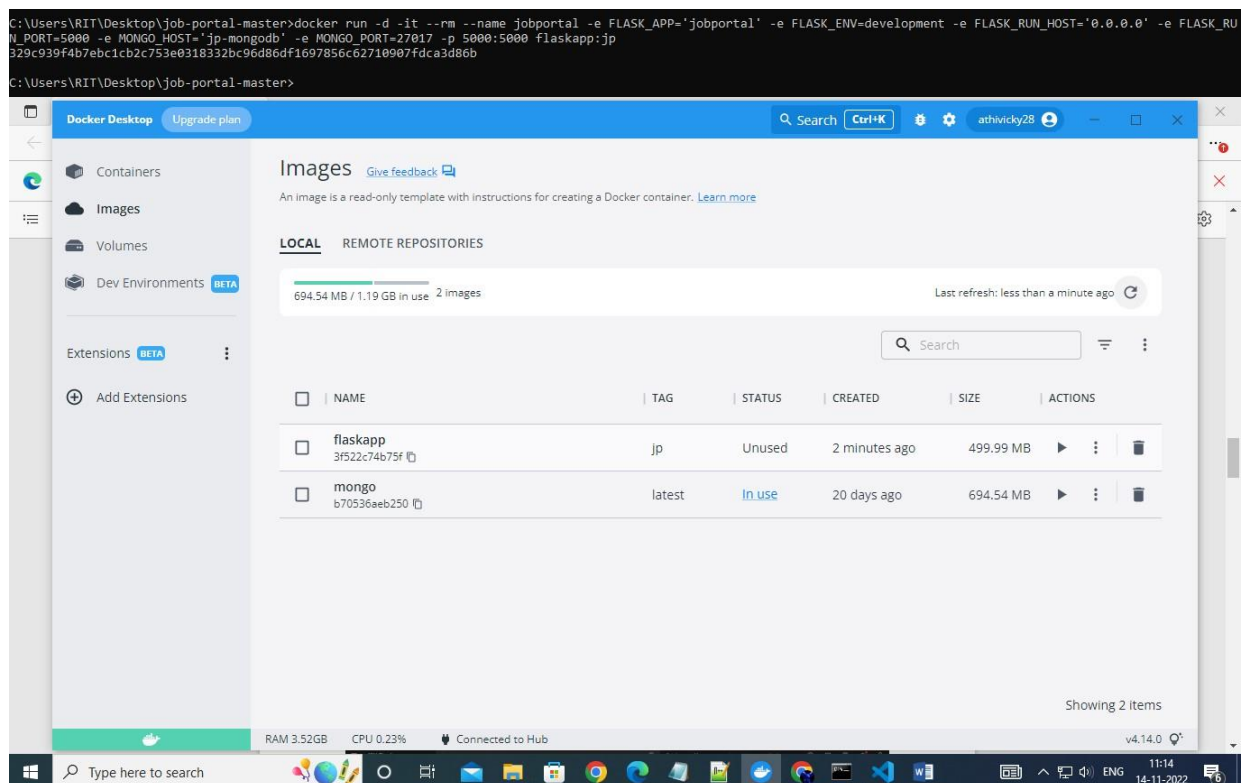
```

```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.19043.2006]
(c) Microsoft Corporation. All rights reserved.

C:\Users\RIT\Desktop\job-portal-master>code .

C:\Users\RIT\Desktop\job-portal-master>docker build -t flaskapp:jp --build-arg requirements="requirements.txt" --build-arg workspace="jobPortal" -f Dockerfile .
[+] Building 750.9s (13/13) FINISHED
=> [internal] load build definition from Dockerfile 0.3s
=> => transferring dockerfile: 32B 0.0s
=> [internal] load .dockerignore 0.3s
=> => transferring context: 2B 0.0s
=> [internal] load metadata for docker.io/library/ubuntu:latest 3.2s
=> [auth] library/ubuntu:pull token for registry-1.docker.io 0.0s
=> CACHED [1/7] FROM docker.io/library/ubuntu:latest@sha256:4b1d0c4a2d2aaf63b3711f34eb9fa89fa1bf53dd6e4ca954d47 0.0s
=> [internal] load build context 0.3s
=> => transferring context: 325B 0.0s
=> [2/7] RUN apt-get update 177.0s
=> [3/7] RUN apt-get install -y python3 python3-pip 541.5s
=> [4/7] RUN mkdir jobPortal 1.5s
=> [5/7] COPY . /jobPortal 0.7s
=> [6/7] RUN pip3 install -r /jobPortal/requirements.txt 20.6s
=> [7/7] WORKDIR jobPortal 0.9s
=> exporting to image 4.4s
=> => exporting layers 4.3s
=> => writing image sha256:3f522c74b75f46d1b99c47ffe3f7fe4fbf05a1cc357e341b242bf25aa4df6257 0.0s
=> => naming to docker.io/library/flaskapp:jp 0.0s

Use 'docker scan' to run Snyk tests against images to find vulnerabilities and learn how to fix them
```



3. Create a IBM container registry and deploy helloworld app or jobportalapp.

My IBM x IBM Cloud Container Registry - 1 x Reset your IBMid password - 95 x +

cloud.ibm.com/registry/namespaces

IBM Cloud

Search resources and products...

Container Registry

Quick start

**Namespaces** 1

Repositories 1

Images 1

Trash 0

Settings

## Namespaces

Location

Tokyo

Resource group: Filter... Search Create +

<input type="checkbox"/>	Name	Resource group	Repository count	Image count	Retention policy	
<input checked="" type="checkbox"/>	test-app-002	Default	1	1	Retain all images	

Items per page: 25 1-1 of 1 item 1 1 of 1 page

Type here to search

My IBM x IBM Cloud Container Registry - 1 x Reset your IBMid password - 95 x +

cloud.ibm.com/registry/repos

IBM Cloud

Search resources and products...

Container Registry

Quick start

Namespaces 1

**Repositories** 1

Images 1

Trash 0

Settings

## Repositories

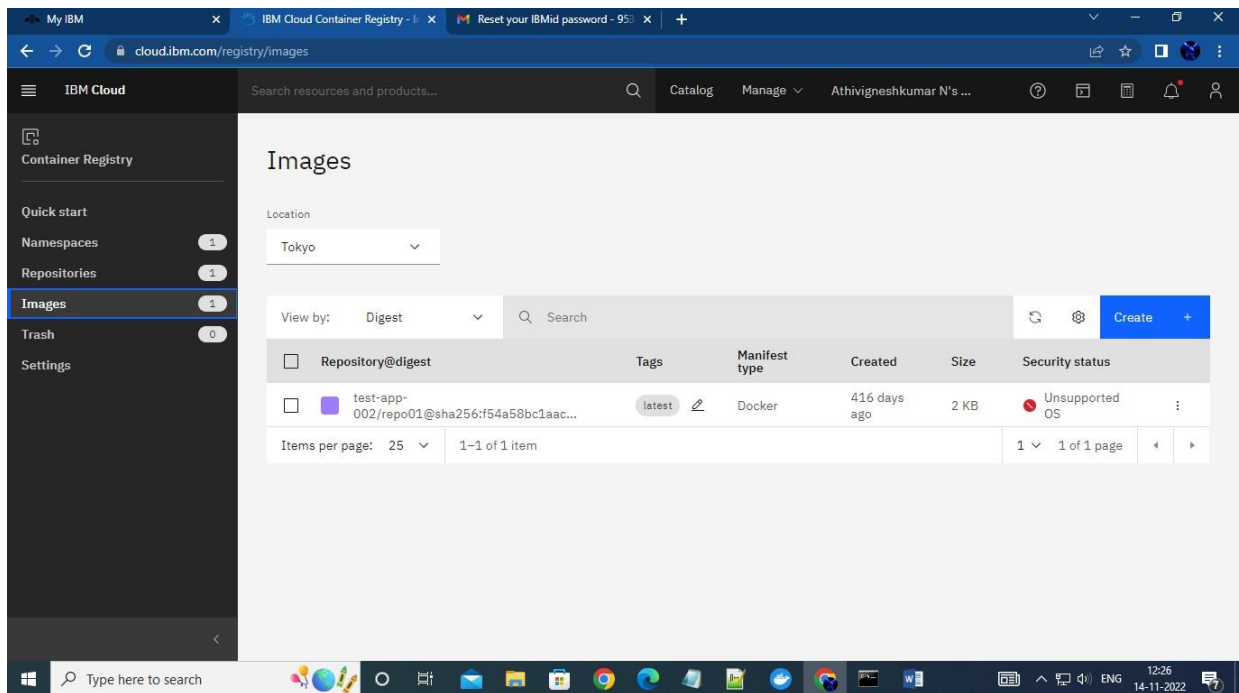
Location

Tokyo

Search Create +

<input type="checkbox"/>	Name	Image count	Namespace	Last updated	
<input checked="" type="checkbox"/>	repo01 jp.icr.io/test-app-002/repo01	1	test-app-002	416 days ago	

Items per page: 25 1-1 of 1 item 1 1 of 1 page



```
C:\Users\RIT>ibmcloud login
API endpoint: https://cloud.ibm.com
Region: jp-tok

Email> 953619104006

Password>
C:\Users\RIT>ibmcloud login
API endpoint: https://cloud.ibm.com
Region: jp-tok

Email> 953619104006@ritrjpm.ac.in

Password>
Authenticating...
OK

Targeted account Athivigneshkumar N's Account (331b915ecbfc4e7290278776aa39995b)

API endpoint: https://cloud.ibm.com
Region: jp-tok
User: 953619104006@ritrjpm.ac.in
Account: Athivigneshkumar N's Account (331b915ecbfc4e7290278776aa39995b)
Resource group: No resource group targeted, use 'ibmcloud target -g RESOURCE_GROUP'
CF API endpoint:
Org:
Space:

C:\Users\RIT>ibmcloud target -g Default
C:\Users\RIT>ibmcloud cr login --client docker
Logging 'docker' in to 'jp.icr.io'...
Logged in to 'jp.icr.io'.

OK

C:\Users\RIT>docker push jp.icr.io/test-app-002/repo01
Using default tag: latest
The push refers to repository [jp.icr.io/test-app-002/repo01]
e07ee1baac5f: Pushed
latest: digest: sha256:f54a58bc1aac5ea1a25d796ae155dc228b3f0e11d046ae276b39c4bf2f13d8c4 size: 525

C:\Users\RIT>ibmcloud cr image-list
Listing images...

Repository          Tag    Digest          Namespace      Created      Size      Security status
jp.icr.io/test-app-002/repo01  latest  f54a58bc1aac    test-app-002   1 year ago   2.5 kB    -

OK

C:\Users\RIT>
```



4. Create a Kubernetes cluster in IBM cloud and deploy helloworld image or jobportal image and also expose the same app to run in nodepor

The screenshot shows the IBM Cloud Kubernetes cluster overview page for 'mycluster-01'. The cluster is in a 'Normal' state and expires in 30 days. The overview includes a sidebar with links to Overview, Worker nodes, Worker pools, and DevOps (marked as 'New'). The main content area displays a warning about the 30-day expiration and four status cards: Node status (1 of 1, Normal), Add-on status (0 of 0, Normal), Master status (Normal), and Ingress status (Unknown). Below these is a 'Details' section with a table of cluster information.

Cluster ID	Version	Infrastructure	Zones
cdouf2ef09uaonn60h60	1.24.7_1542	Classic	Milan 01

Created	Resource group	Image security enforcement
11/14/2022, 12:30 PM	Default	<button>Disable</button>

The screenshot shows the Kubernetes Deployments page for 'app: sample-app'. The left sidebar lists various Kubernetes resources. The main content area shows annotations, resource information, and the rolling update strategy.

Annotations: deployment.kubernetes.io/revision: 1, kubectrl.kubernetes.io/last-applied-configuration

Resource information:

Strategy	Min ready seconds	Revision history limit
RollingUpdate	0	10

Selector: app: sample-app

Rolling update strategy:

Max surge	Max unavailable
25%	25%

The screenshot shows the Kubernetes Pods page for 'app: sample-app'. The left sidebar lists various Kubernetes resources. The main content area shows labels and resource information for the pods.

Labels: app: sample-app, pod-template-hash: d9bfd84d9

Resource information:

Node	Status	IP	QoS Class	Restarts	Service Account
docker-desktop	ImagePullBackOff	10.1.0.48	BestEffort	0	default