

Assignment -4

Assignment Date	14 November 2022
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Maximum Marks	2 Marks

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

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

Top Screenshot:

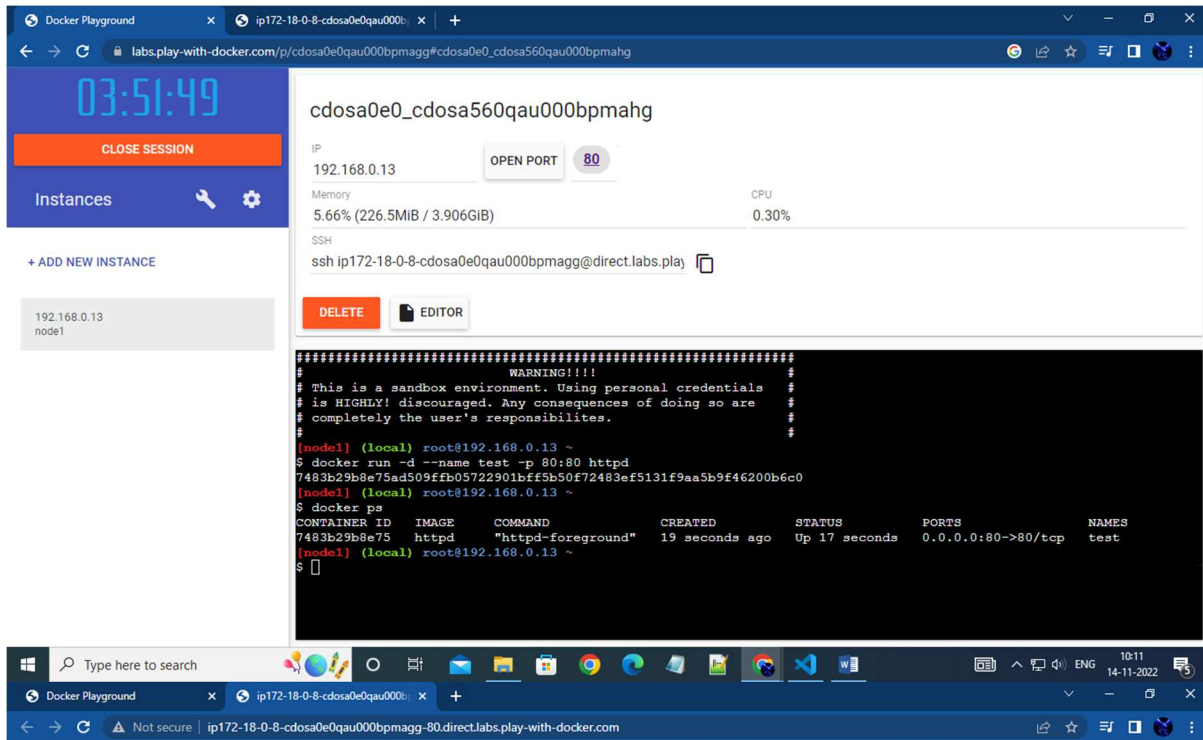
- The interface shows a session titled "cdosa0e0_cdosa560qau000bpmahg" with IP 192.168.0.13. The memory usage is 5.44% (217.6MiB / 3.906GiB) and CPU usage is 0.43%.
- The terminal output shows the following commands and results:

```
# The FWD team.#####[node1] (local) root@192.168.0.13 ~$ docker pull httpd:docimagesError response from daemon: manifest for httpd:docimages not found: manifest unknown: manifest unknown[node1] (local) root@192.168.0.13 ~$ docker pull httpd:latestlatest: Pulling from library/httpd999326b091: Pull completeee56cc48c8f: Pull completebe66bea7efe: Pull complete5d0f83143c0b: Pull completee559e5380898: Pull completeDigest: sha256:5fa96551b61359de5dfb7fd8c9e97e4153232eb520a8e883e2f47fc80dbfc33eStatus: Downloaded newer image for httpd:latestdocker.io/library/httpd:latest[node1] (local) root@192.168.0.13 ~$
```

Bottom Screenshot:

- The interface shows the same session with IP 192.168.0.13. The memory usage is 5.32% (212.8MiB / 3.906GiB) and CPU usage is 0.23%.
- The terminal output shows the following commands and results:

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



It works!



2. Job portal application and deploy it in Docker desktop application.

```
PS C:\Users\VRIT\Desktop\job-portal-master> docker run -d --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: sha256:71a63fc2438e45714f6c8a2505968ee0bbeb94ec77a88ef12190f7cee9b95f32
Status: Downloaded newer image for mongo:latest
01adeb5492af8323e5d62299c7a1372f34e2583891bdefae268f95f74a76a80c
```

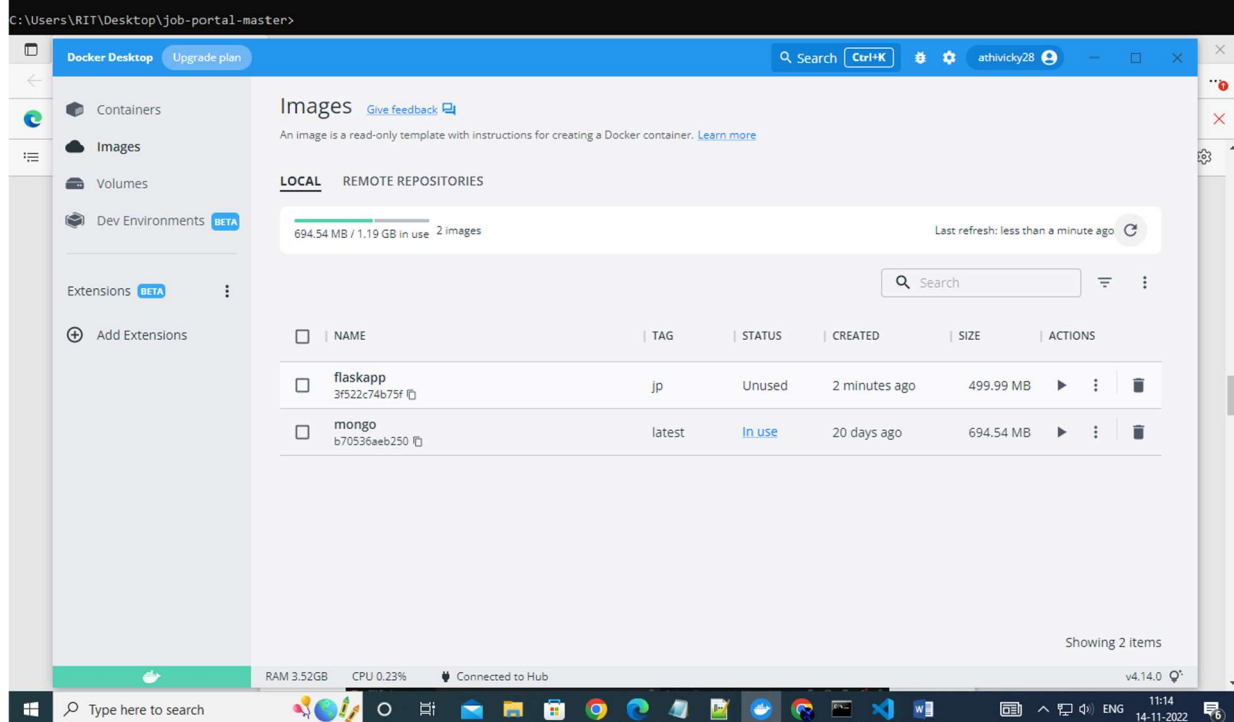
```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.19043.2006]
(c) Microsoft Corporation. All rights reserved.

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
```

```
C:\Users\RIT\Desktop\job-portal-master>docker run -d -it --rm --name jobportal -e FLASK_APP="jobportal" -e FLASK_ENV=development -e FLASK_RUN_HOST="0.0.0.0" -e FLASK_RUN_PORT=5000 -e MONGO_HOST="jp-mongodb" -e MONGO_PORT=27017 -p 5000:5000 flaskapp:jp
329c939f4b7ebc1cb2c753e0318332bc96d86df1697856c62710907fdca3d86b
```



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

The image displays two screenshots of the IBM Cloud Container Registry web interface, showing the configuration of a namespace and its repository.

Top Screenshot: Namespaces

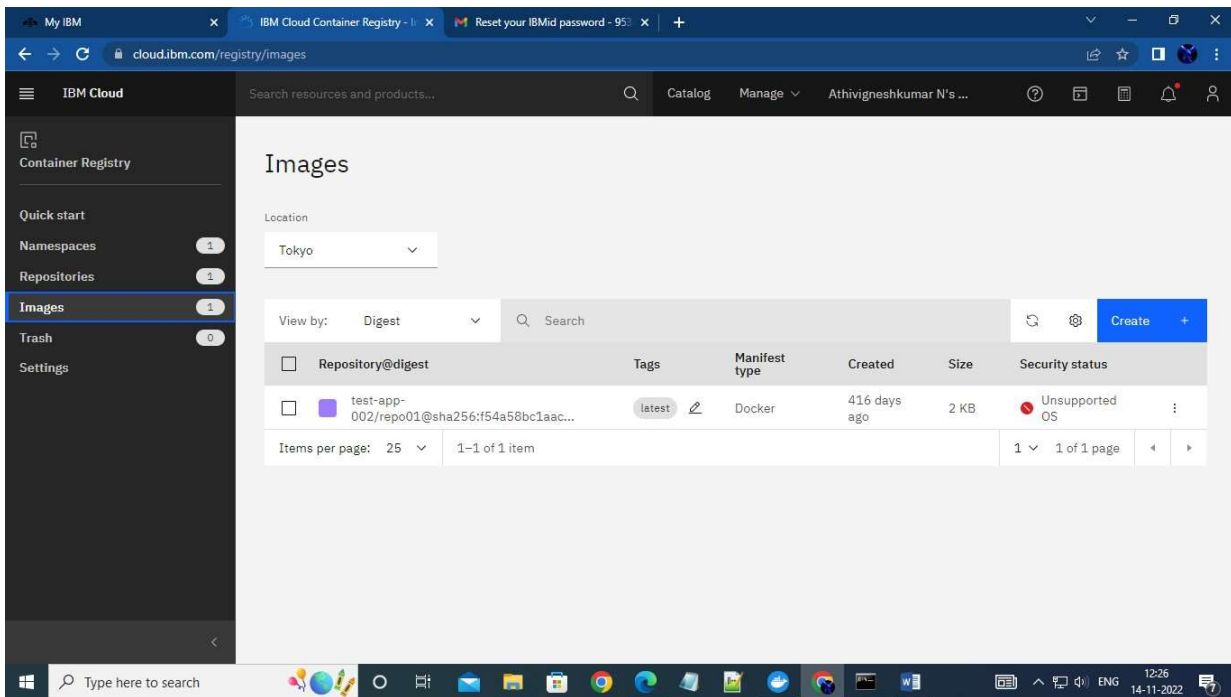
The interface shows the 'Namespaces' page for the 'Tokyo' location. A table lists the existing namespaces:

Name	Resource group	Repository count	Image count	Retention policy
test-app-002	Default	1	1	Retain all images

Bottom Screenshot: Repositories

The interface shows the 'Repositories' page for the 'Tokyo' location. A table lists the existing repositories:

Name	Image count	Namespace	Last updated
repo01 jp.icr.io/test-app-002/repo01	1	test-app-002	416 days ago



```
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 node

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. A warning banner indicates that the cluster will be deleted in 30 days and advises backing up data. The overview includes 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 the following information:

Field	Value
Cluster ID	cdouf2ef09uaonn50h60
Version	1.24.7_1542
Infrastructure	Classic
Zones	Milan 01
Created	11/14/2022, 12:30 PM
Resource group	Default
Image security enforcement	Disable

The screenshot shows the Kubernetes deployment details page for 'sample-app'. The left sidebar contains a navigation menu with options like Jobs, Pods, Replica Sets, Replication Controllers, Stateful Sets, Service, Ingresses, Deployments, and Config and Storage. The main content area displays the following information:

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

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%