

**Assignment - 4**  
Kubernetes/Docker



Assignment Date	9 September 2022
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Student Roll Number	111519205016
Maximum Marks	2 Marks

## Question 1:

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

03:55:01

CLOSE SESSION

Instances  


+ ADD NEW INSTANCE

192.168.0.18  
node1

cdqjc0m0\_cdqjc360qau0009ecni0

IP  
192.168.0.18 OPEN PORT

Memory CPU

SSH  
ssh ip172-18-0-56-cdqjc0m0qau0009ecnhg@direct.labs.pla 

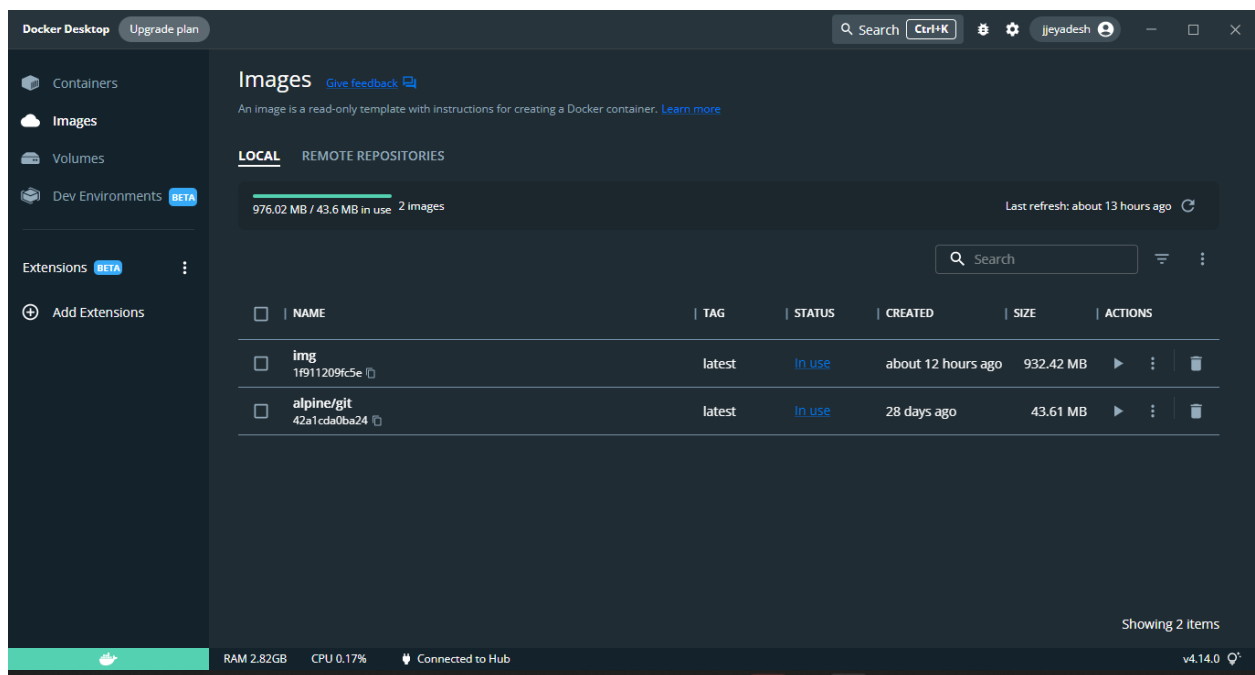
DELETE EDITOR

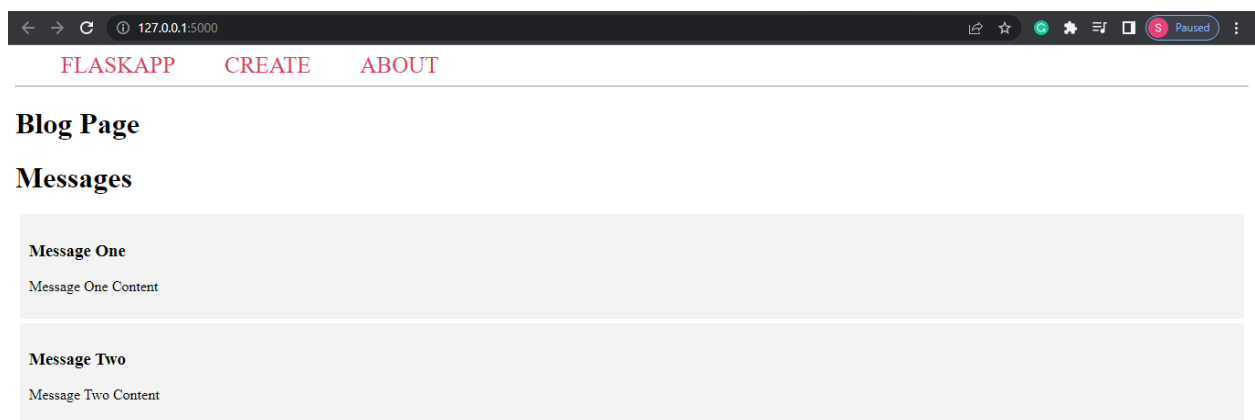
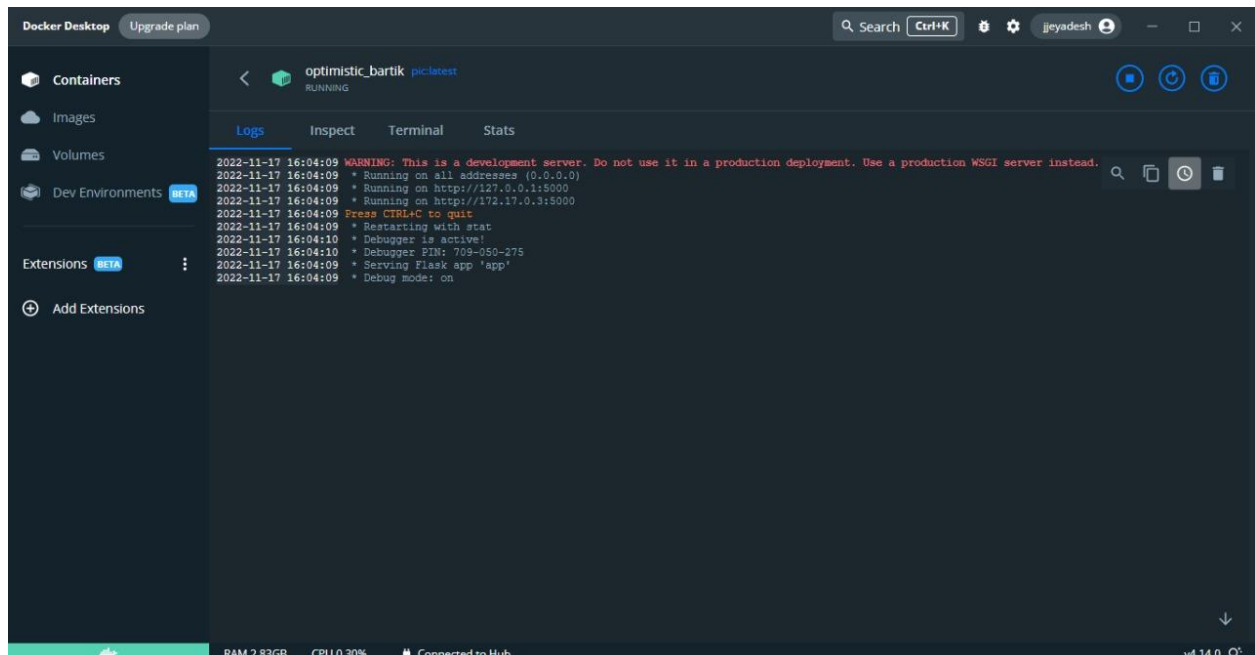
```
#####
[node1] (local) root@192.168.0.18 ~
$ docker run -d -p 80:80 docker/getting-started
Unable to find image 'docker/getting-started:latest' locally
latest: Pulling from docker/getting-started
df9b9388f04a: Pull complete
5867cba5fcbd: Pull complete
4b639e65cb3b: Pull complete
061ed9e2b976: Pull complete
bc19f3e8eeb1: Pull complete
4071be97c256: Pull complete
79b586f1a54b: Pull complete
0c9732f525d6: Pull complete
Digest: sha256:b558be074169471bd4e65bd6eac8c303b271a7ee8553ba47481b73b2bf597aae
Status: Downloaded newer image for docker/getting-started:latest
7dfdefc1ac7004d41ac96127b2c8cc10ff2bab808630c71387aa4de85dd59276
[node1] (local) root@192.168.0.18 ~
$
```

```
C:\Users\Siva\Desktop\flask with form_and_docker-main>docker build -t firstimage .
[+] Building 79.9s (11/11) FINISHED
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 179B
=> [internal] load .dockerignore
=> => transferring context: 2B
=> [internal] load metadata for docker.io/library/python:3.10.6
=> [auth] library/python:pull token for registry-1.docker.io
=> [internal] load build context
=> => transferring context: 10.98kB
=> [1/5] FROM docker.io/library/python:3.10.6@sha256:745efdfb7e4aac9a8422bd8c62d8bc35a693e8979a240d29677cb03e6aa
=> => resolve docker.io/library/python:3.10.6@sha256:745efdfb7e4aac9a8422bd8c62d8bc35a693e8979a240d29677cb03e6aa
=> => sha256:d25a6b390b10283603ff096d777bba5cbb1b9126fb0be7d118b9574946bcf84 8.53kB / 8.53kB
=> => sha256:1671565cc8d0f8c365c9b661d3fbc164e73d01f1b0430c6179588428f99a9da2e 55.01MB / 55.01MB
=> => sha256:3e94d13e55e7a4ef17ff21376f57fb95c7e1706931f8704aa99260968d81f6e4 5.16MB / 5.16MB
=> => sha256:fa9c7528c685216129e8e67bf362a7702e7b1daa585ab85546a41508830657d6 10.88MB / 10.88MB
=> => sha256:745efdfb7e4aac9a8422bd8c62d8bc35a693e8979a240d29677cb03e6aa91052 2.35kB / 2.35kB
=> => sha256:8d1f943ceaa9f3b3ce05df5c0926e7058836b048b700176bf9c56d8f37ac13fca 2.22kB / 2.22kB
=> => sha256:53ad072f9cd16fc8eb93b182b20e758e11acc0ef60babe9f0bf1043c08de1901a 54.58MB / 54.58MB
=> => sha256:d6b983117533b718374f1701ef593dd2afa6613c7908c6553be8e2a150e6448a 196.79MB / 196.79MB
=> => sha256:d8092d56ded5476fe7c302256eb4dc6ff495ae8fb4dd28aa18dbcb7581e24a6c 6.29MB / 6.29MB
=> => extracting sha256:1671565cc8d0f8c365c9b661d3fbc164e73d01f1b0430c6179588428f99a9da2e 3.3s
=> => sha256:c71afc637d59ddc44c5fd3c348504df283b0b204f0857ea22c6ac8a1d285a5 20.02MB / 20.02MB
=> => extracting sha256:3e94d13e55e7a4ef17ff21376f57fb95c7e1706931f8704aa99260968d81f6e4 0.4s
=> => sha256:864a10b3c704553e08cb5fcd12fbaee1c07048f6365f0fa35e84a285413da40b 234B / 234B
=> => sha256:4334b2fe8293d19ddc1c3559093aae88f21601a7c85a31c6da6c0dc48fb6ed3c 3.04MB / 3.04MB
=> => extracting sha256:fa9c7528c685216129e8e67bf362a7702e7b1daa585ab85546a41508830657d6 0.4s
=> => extracting sha256:53ad072f9cd16fc8eb93b182b20e758e11acc0ef60babe9f0bf1043c08de1901a 3.3s
=> => extracting sha256:d6b983117533b718374f1701ef593dd2afa6613c7908c6553be8e2a150e6448a 7.5s
=> => extracting sha256:d8092d56ded5476fe7c302256eb4dc6ff495ae8fb4dd28aa18dbcb7581e24a6c 0.7s
=> => extracting sha256:c71afc637d59ddc44c5fd3c348504df283b0b204f0857ea22c6ac8a1d285a5 1.2s
=> => extracting sha256:864a10b3c704553e08cb5fcd12fbaee1c07048f6365f0fa35e84a285413da40b 0.0s
=> => extracting sha256:4334b2fe8293d19ddc1c3559093aae88f21601a7c85a31c6da6c0dc48fb6ed3c 0.5s
=> [2/5] WORKDIR /app
=> [3/5] COPY requirements.txt .
=> [4/5] RUN pip install -r requirements.txt
=> [5/5] COPY . .
=> exporting to image
=> => exporting layers
=> => writing image sha256:1f911209fc5ebdbfa750060822493b74978629379178f5f0239a3006f322314f
=> => naming to docker.io/library/firstimage
0.0s
```

# Question 2:

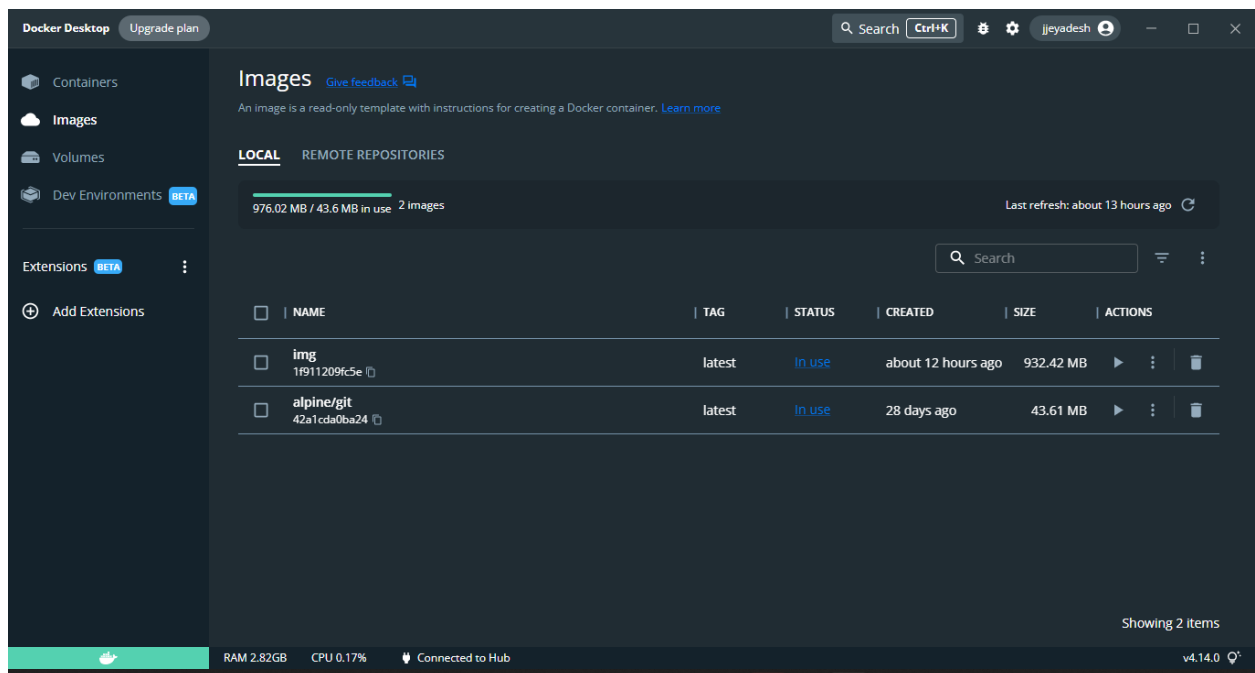
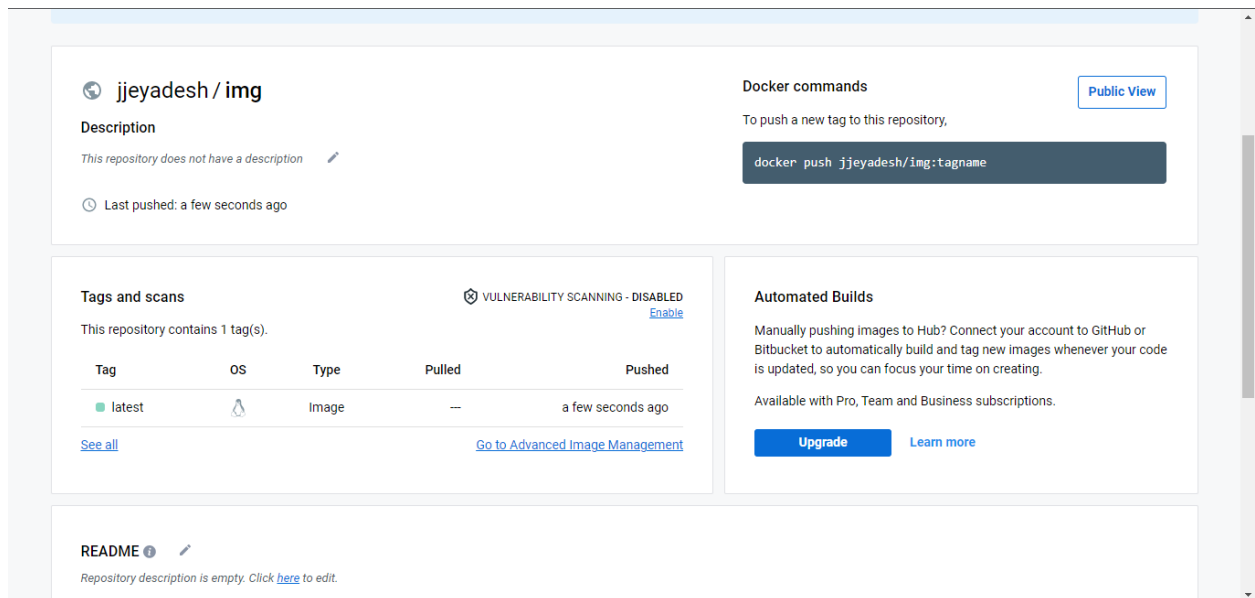
Create a docker file for the job portal application and deploy it in Docker desktop application.





## Question 3:

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



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Container Registry

Quick start

Namespaces1

Repositories0

Images0

Trash0

Settings

# Namespaces

LocationTokyo

Resource group: Filter...SearchCreate +

Name	Resource group	Repository count	Image count	Retention policy
repo1	Default	0	0	Retain all images

Items per page: 251-1 of 1 item11 of 1 page

IBM Cloud

Search resources and products...

CatalogManageJeyadesh J's Account

Container Registry

Quick start

Namespaces1

Repositories1

Images1

Trash0

Settings

# Repositories

LocationTokyo

SearchCreate +

Name	Image count	Namespace	Last updated
latest jp.icr.io/repo1/latest	1	repo1	1 day ago

Items per page: 251-1 of 1 item11 of 1 page

## Question 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 nodeport.

The screenshot shows the Kubernetes dashboard interface. The left sidebar contains a navigation menu with categories: Workloads, Service, and Config and Storage. Under Workloads, 'Deployments' is selected. The main panel displays the details for the 'sample-app' deployment in the 'default' namespace. The 'Metadata' section shows the deployment was created on Oct 27, 2022, and has a UID of 9699564b-f097-4168-be80-31f40116a0fc. The 'Resource information' section shows a RollingUpdate strategy with a selector 'app: sample-app'. The 'Rolling update strategy' section shows a max surge of 25% and a max unavailable of 25%.

Name	Namespace	Created	Age	UID
sample-app	default	Oct 27, 2022	a day ago	9699564b-f097-4168-be80-31f40116a0fc

Strategy	Min ready seconds	Revision history limit
RollingUpdate	0	10

Max surge	Max unavailable
25%	25%

The screenshot shows the Kubernetes dashboard interface. The left sidebar contains a navigation menu with categories: Workloads, Service, and Config and Storage. Under Workloads, 'Pods' is selected. The main panel displays the details for the 'sample-app-d9bfd84d9-fp74z' pod in the 'default' namespace. The 'Metadata' section shows the pod was created on Oct 27, 2022, and has a UID of 3f3b4ff6-4fa6-4f07-9454-35acb2c91631. The 'Resource information' section shows the pod is running on a 'docker-desktop' node with a status of 'ImagePullBackOff'. The 'Conditions' section shows the pod is in a 'Ready' state with a reason of 'ContainersNotReady'.

Name	Namespace	Created	Age	UID
sample-app-d9bfd84d9-fp74z	default	Oct 27, 2022	a day ago	3f3b4ff6-4fa6-4f07-9454-35acb2c91631

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

Type	Status	Last probe time	Last transition time	Reason	Message
Initialized	True	:	a day ago	-	-
Ready	False	:	a day ago	ContainersNotReady	containers with unready status: [sample-app-container]

