

## Assignment -4

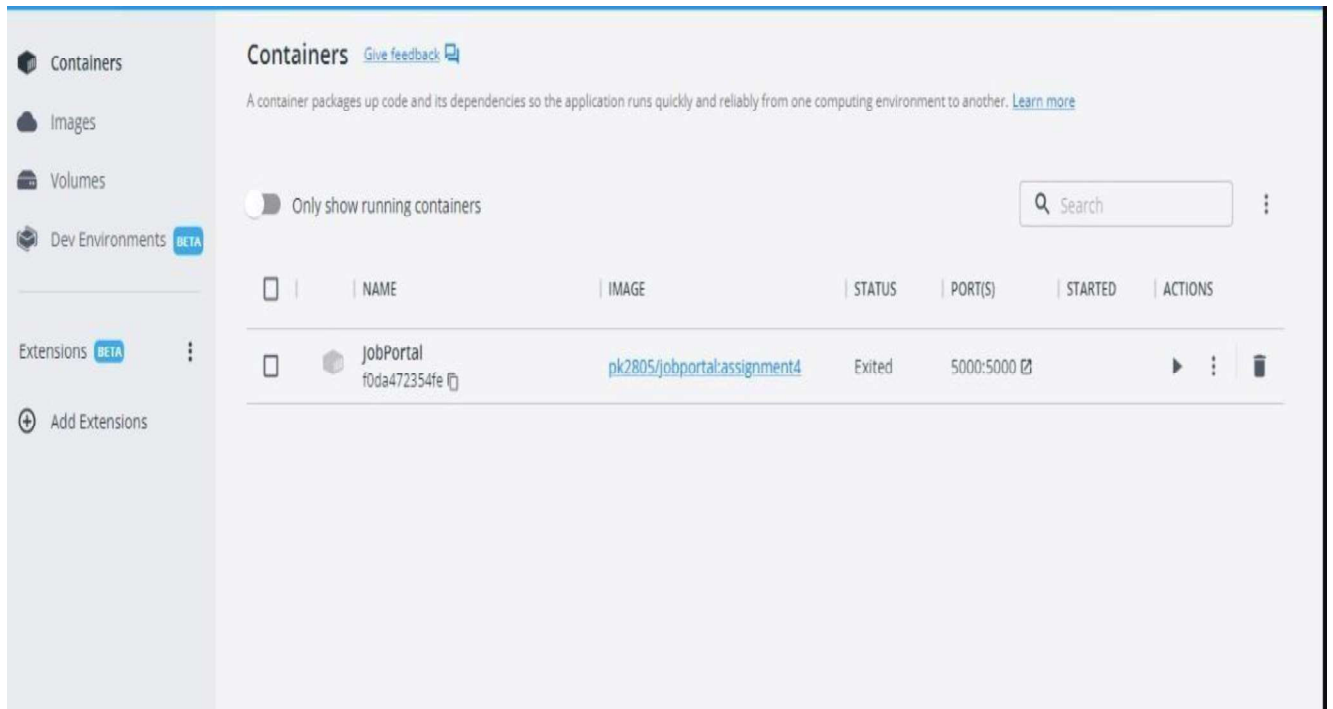
### Inventory Management System for Retailers – Kubernetes / Docker

Assignment Date	07 November 2022
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Student Roll Number	61771921016
Maximum Marks	2 Marks

#### Question-1:

1. Pull an Image from docker hub and run it in docker playground.
2. Create a dockerfile for the job portal / flask application and deploy it in Docker desktop application.
3. Create a IBM container registry and push docker image of flask application or job portal app.
4. Create a Kubernetes cluster in IBM cloud and deploy flask application image or job portal image and also expose the same app to run in Nodeport.

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



Containers

Images

Volumes

Dev Environments BETA

Extensions BETA

Add Extensions

Images on disk

Last refresh: about 3 hours ago1 images1.1 GB total size1.1 GB / 1.1 GB in useClean up

Images [Give feedback](#)

LOCALREMOTE REPOSITORIES

☐ In use only

NAME ↑		TAG	IMAGE ID	CREATED	SIZE
pk2805/jobportal	<span>IN USE</span>	assignment4	12e675fcb16f	about 3 hours ago	1.1 GB

03:57:38

CLOSE SESSION

Instances

+ ADD NEW INSTANCE

192.168.0.13  
node1

cd8i6se3\_cd8i6ue3tccg00fgc8sg

IP  
192.168.0.13OPEN PORT

Memory  
1.17% (46.91MiB / 3.906GiB)

CPU  
0.63%

SSH  
ssh ip172-18-0-79-cd8i6se3tccg00fgc8s0@direct.labs.play-  
DELETEEDITOR

```
# The PWD team.
#####
[node1] (local) root@192.168.0.13 ~
$ docker pull hello-world
Using default tag: latest
latest: Pulling from library/hello-world
2db29710123e: Pull complete
Digest: sha256:18a657d0cc1c7d0678a3fba8b7eb4918bba25968d3e1b0adebfa71caddbc346
Status: Downloaded newer image for hello-world:latest
docker.io/library/hello-world:latest
[node1] (local) root@192.168.0.13 ~
$ docker run hello-world

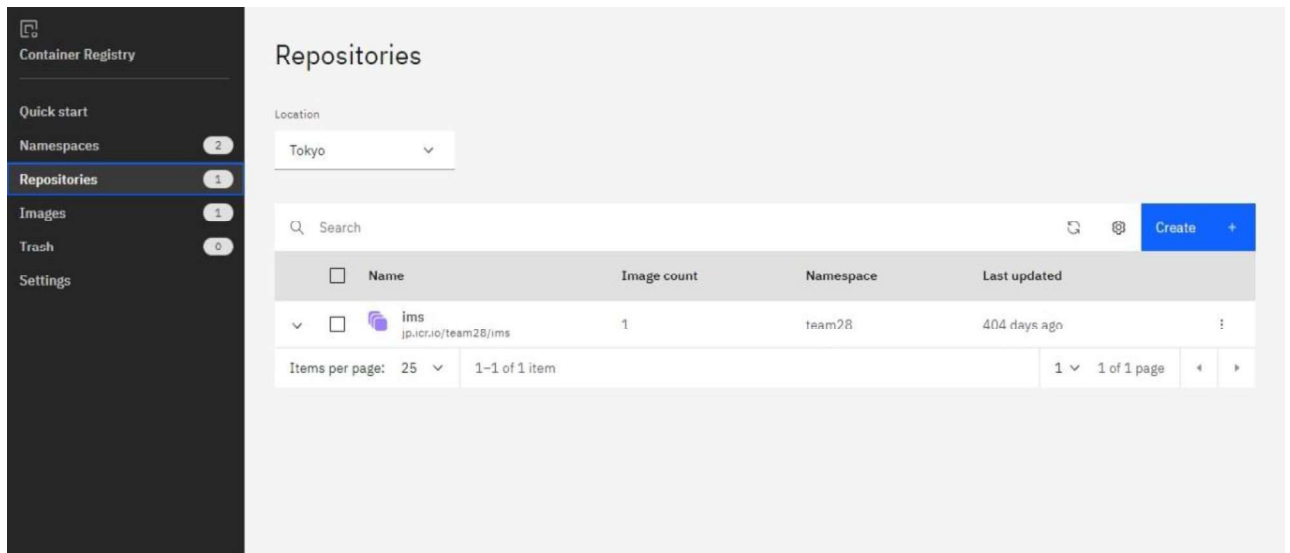
Hello from Docker!
This message shows that your installation appears to be working correctly.

To generate this message, Docker took the following steps:
 1. The Docker client contacted the Docker daemon.
 2. The Docker daemon pulled the "hello-world" image from the Docker Hub.
```

**Step 2:** Create a dockerfile for the job portal / flask application and deploy it in Docker desktop application.

```
Dockerfile > FROM
1 FROM python:3.10.6
2 WORKDIR /app
3 COPY requirements.txt ./
4 RUN pip install -r requirements.txt
5 COPY . .
6 EXPOSE 5000
7 CMD ["python", "-u/app.py"]
```

**Step 3:** Create a IBM container registry and push docker image of flask application or job portal app.




```
cmd Select C:\WINDOWS\system32\cmd.exe

Successfully added namespace 'team28'
OK
C:\Users\asus>ibmcloud cr login
Logging 'docker' in to 'jp.icr.io'...
Logged in to 'jp.icr.io'.
OK
C:\Users\asus>docker pull hello-world
Using default tag: latest
latest: Pulling from library/hello-world
2db29710123e: Pull complete
Digest: sha256:e18f0a777aefabe047a671ab3ec3eed05414477c951ab1a6f352a06974245fe7
Status: Downloaded newer image for hello-world:latest
docker.io/library/hello-world:latest
C:\Users\asus>docker tag hello-world jp.icr.io/team28/ims:latest
C:\Users\asus>docker push jp.icr.io/team28/ims:latest
The push refers to repository [jp.icr.io/team28/ims]
e07ee1baac5f: Pushed
latest: digest: sha256:f54a58bc1aac5ea1a25d796ae155dc228b3f0e11d046ae276b39c4bf2f13d8c4 size: 525
C:\Users\asus>ibmcloud cr image-list
Listing images...
Repository      Tag      Digest      Namespace    Created      Size      Security status
jp.icr.io/team28/ims  latest  f54a58bc1aac  team28       1 year ago   2.5 kB    -
OK
C:\Users\asus>_
```

**Step 4:** Create a Kubernetes cluster in IBM cloud and deploy flask application image or job portal image and also expose the same app to run in Nodeport.

Clusters /

 team28-cluster Normal Expires in 30 days [Add tags](#)


[Help](#) [Kubernetes dashboard](#) [Actions...](#)

Overview

Worker nodes

Worker pools

DevOps New

 **Expires in 30 days:**  
Be sure to back up your data, your cluster will be deleted in 30 days. To access the full capabilities of the service, try out a [standard cluster](#).

Node status

1 of 1

Normal

[Details](#)

Add-on status

0 of 0

Normal

[Details](#)

Master status

Normal

[Docs](#)

Ingress status

Unknown

[Docs](#)

Details

Cluster ID

cdh1969f0a4g94jp135g

Version

1.24.7\_1542

Infrastructure

Classic

Zones

Milan 01

Created

11/2/2022, 12:26 PM

Resource group

Default

Image security enforcement

[Enable](#)