

ASSIGNMENT - 4

ROLL NUMBER	2019503036
NAME	RAGUL B
TEAM ID	PNT2022TMID35705

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

03:52:39

CLOSE SESSION

Instances

+ ADD NEW INSTANCE

192.168.0.7
manager1

192.168.0.8
worker1

cdls18n9_cdls36u0qau000cghio0

IP
192.168.0.7

OPEN PORT

Memory
1.72% (68.75MiB / 3.906GiB)

CPU
1.08%

SSH
ssh ip172-18-0-65-cdls18n91rrg00bt1deg@direct.labs.play-with-dc

DELETE

EDITOR

```
$ docker run -it hello-world
Hello from Docker!
[manager1] (local) root@192.168.0.7 ~
$ docker pull hello-world
Using default tag: latest
latest: Pulling from library/hello-world
Digest: sha256:faa03e786c97f07ef34423fccceec2398ec8a5759259f94d99078f264e9d7af
Status: Image is up to date for hello-world:latest
docker.io/library/hello-world:latest
[manager1] (local) root@192.168.0.7 ~
$ docker images
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE
hello-world   latest   feb5d9fea6a5  13 months ago  13.3kB
[manager1] (local) root@192.168.0.7 ~
$ docker run -it 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.
   (amd64)
3. The Docker daemon created a new container from that image which runs the
   executable that produces the output you are currently reading.
4. The Docker daemon streamed that output to the Docker client, which sent it
   to your terminal.
```

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

FROM ubuntu

RUN apt-get update

RUN apt-get apache2 -y

ADD ./index.html /var/www/html

CMD apachectl -D FOREGROUND

```
ubuntu@ip-172-31-28-246:~$ docker build . -t apache2
Sending build context to Docker daemon 15.87kB
Step 1/5 : FROM ubuntu
--> a8780b506fa4
Step 2/5 : RUN apt-get update
--> Using cache
--> 981b376d63ad
Step 3/5 : RUN apt install apache2 -y
--> Using cache
--> e6dc16c6e4bc
Step 4/5 : ADD ./index.html /var/www/html
--> 7c2be22cde03
Step 5/5 : CMD apachectl -D FOREGROUND
--> Running in ad83f7238a24
Removing intermediate container ad83f7238a24
--> f874c46d2056
Successfully built f874c46d2056
Successfully tagged apache2:latest
```

```
ubuntu@ip-172-31-28-246:~$ docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS                               NAMES
4c5680e607f2   apache2       "/bin/sh -c 'apachec..." 2 minutes ago  Up 2 minutes  0.0.0.0:80->80/tcp, :::80->80/tcp  thirsty_dubinsky
ubuntu@ip-172-31-28-246:~$
```

IBM project Assignment 4

54.158.9.171

Welcome form team: PNT2022TMID35705

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

```
(siva@kali)-[~]
$ docker tag hello-world icr.io/ibm-cloud-project/helo-wrld:v1

(siva@kali)-[~]
$ docker images
REPOSITORY          TAG          IMAGE ID          CREATED          SIZE
hello-world         latest       feb5d9fea6a5     13 months ago   13.3kB
icr.io/ibm-cloud-project/hello-world-repo   latest       feb5d9fea6a5     13 months ago   13.3kB
icr.io/ibm-cloud-project/helo-wrld         v1          feb5d9fea6a5     13 months ago   13.3kB



(siva@kali)-[~]
$ ibmcloud cr login
Logging 'docker' in to 'icr.io' ...
Logged in to 'icr.io'.

OK

(siva@kali)-[~]
$ docker push icr.io/ibm-cloud-project/helo-wrld:v1
The push refers to repository [icr.io/ibm-cloud-project/helo-wrld]
e07ee1baac5f: Mounted from ibm-cloud-project/hello-world-repo
v1: digest: sha256:f54a58bclaac5ea1a25d796ae155dc228b3f0e11d046ae276b39c4bf2f13d8c4 size: 525
```

Search

Create +

<input type="checkbox"/>	Name	Image count	Namespace	Last updated	
<input checked="" type="checkbox"/>	 hello-world-repo icr.io/ibm-cloud-project/hello-world-repo	1	ibm-cloud-project	413 days ago	:
<input checked="" type="checkbox"/>	 helo-wrld icr.io/ibm-cloud-project/helo-wrld	1	ibm-cloud-project	413 days ago	:
Items per page: 25		1-2 of 2 items		1 1 of 1 page	

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

Kubernetes clusters

Resource group: Filter...

▼

Location: Filter...

▼

🔍

 Search

⚙️

 Create cluster

+

Name	State	Location	Worker count	Created	Version	Infrastructure	
myk8cluster	<div>🟢</div> Normal	Paris 01	1	Expires in 29 days	🔗 1.24.7_1542	Classic	<div>⋮</div>

Items per page: 25

▼

1-1 of 1 item

1

▼

1 of 1 page

◀

▶

```
ubuntu@ip-172-31-28-246:~$ kubectl config current-context myk8cluster/cdls28cf0rjkfc1fiuag
ubuntu@ip-172-31-28-246:~$
```

```
ubuntu@ip-172-31-28-246:~/assignment4/jobportal$ kubectl create -f deployment.yaml
deployment.apps/flask-node-deployment created
ubuntu@ip-172-31-28-246:~/assignment4/jobportal$ kubectl create -f service.yaml
service/flask-node-deployment created
```

```
ubuntu@ip-172-31-28-246:~/assignment4/jobportal$ kubectl get pods
NAME                                READY   STATUS    RESTARTS   AGE
flask-node-deployment-668f76c67-zwzv5 1/1     Running   0           14m
ubuntu@ip-172-31-28-246:~/assignment4/jobportal$
```

```
ubuntu@ip-172-31-28-246:~/assignment4/jobportal$ kubectl get service
NAME                TYPE          CLUSTER-IP      EXTERNAL-IP   PORT(S)    AGE
flask-node-deployment ClusterIP      172.21.160.114  <none>        5000/TCP   21m
kubernetes           ClusterIP      172.21.0.1      <none>        443/TCP    26h
ubuntu@ip-172-31-28-246:~/assignment4/jobportal$
```

Workloads > Deployments

Workloads

N

Cron Jobs

Daemon Sets

Deployments

Jobs

Pods

Replica Sets

Replication Controllers

Stateful Sets

Service

Ingresses

N

Ingress Classes

CPU Usage

Memory Usage

Deployments

Name	Images	Labels	Pods	Created ↑
<div>🟢</div> flask-node-deployment	Show all	-	1 / 1	24 minutes ago

Service > Services

Workloads

N

Cron Jobs

Daemon Sets

Deployments

Jobs

Pods

Replica Sets

Services

Name	Labels	Type	Cluster IP	Internal Endpoints	External Endpoints	Created ↑
<div>🟢</div> flask-node-deployment	-	ClusterIP	172.21.160.114	flask-node-deployment:5000 TCP flask-node-deployment:0 TCP	-	25 minutes ago
<div>🟢</div> kubernetes	Show all	ClusterIP	172.21.0.1	kubernetes:443 TCP kubernetes:0 TCP	-	a day ago