ASSIGNMENT-4

DOCKER AND KUBERNETES

Assignment Date	30 October 2022
Student Name	HARISH B
Student Roll Number	820419104024
Maximum Marks	2 Marks

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

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

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

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.

```
C:\Users\Admin>ibmcloud cr region
You are targeting region 'global', the registry is 'icr.io'.

OK

C:\Users\Admin>docker tag hello-world:latest uk.icr.io/namespace1/hw_repo:1

C:\Users\Admin>docker tag hello-world:latest icr.io/elizabeth/helloworld:1

C:\Users\Admin>docker push icr.io/elizabeth/helloworld:1
The push refers to repository [icr.io/elizabeth/helloworld]
e07ee1baac5f: Preparing
unauthorized: The login credentials are not valid, or your IBM Cloud account is not active.

C:\Users\Admin>ibmcloud cr login --client docker
Logging 'docker' in to 'icr.io'...
Logged in to 'icr.io'.

OK

C:\Users\Admin>docker push icr.io/elizabeth/helloworld:1
The push refers to repository [icr.io/elizabeth/helloworld]
e07ee1baac5f: Pushed
1: digest: sha256:f54a58bc1aac5ea1a25d796ae155dc228b3f0e11d046ae276b39c4bf2f13d8c4 size: 525

C:\Users\Admin>_
```

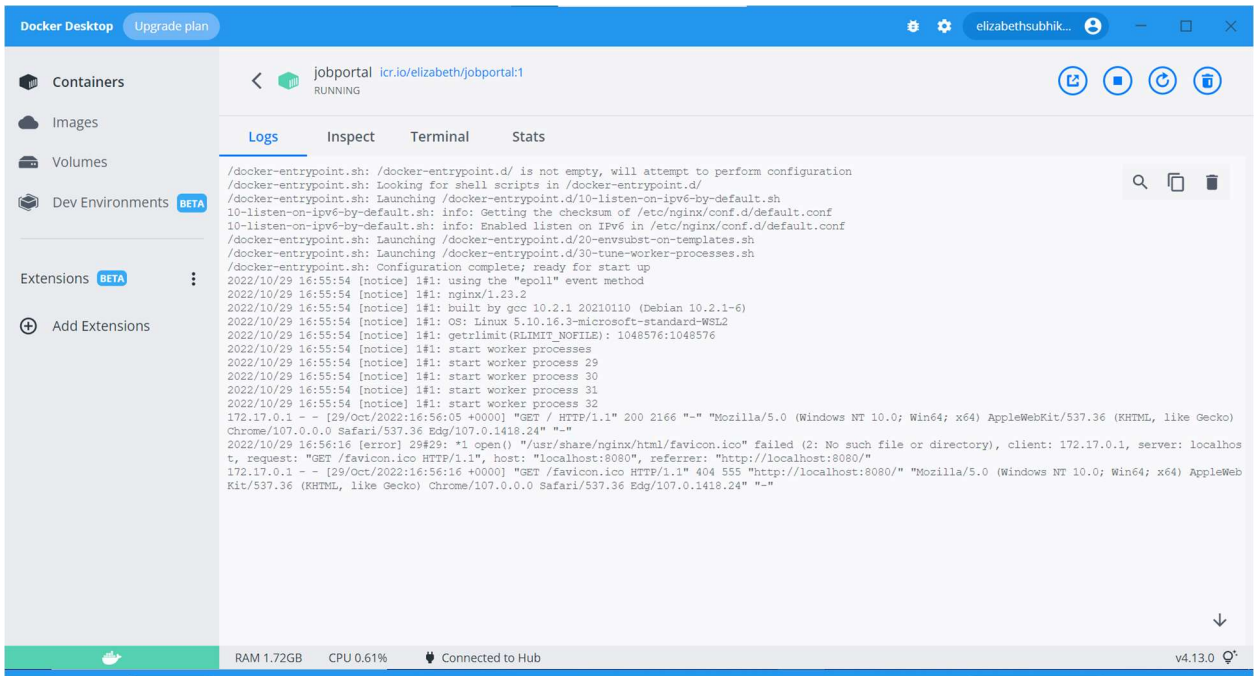
```
[node1] (local) root@192.168.0.8 ~
$ docker pull hello-world:latest
latest: Pulling from library/hello-world
2db29710123e: Pull complete
Digest: sha256:e18f0a777aefabe047a671ab3ec3eed05414477c951ab1a6f352a06974245fe7
Status: Downloaded newer image for hello-world:latest
docker.io/library/hello-world:latest
[node1] (local) root@192.168.0.8 ~
$ 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.
    (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.
```

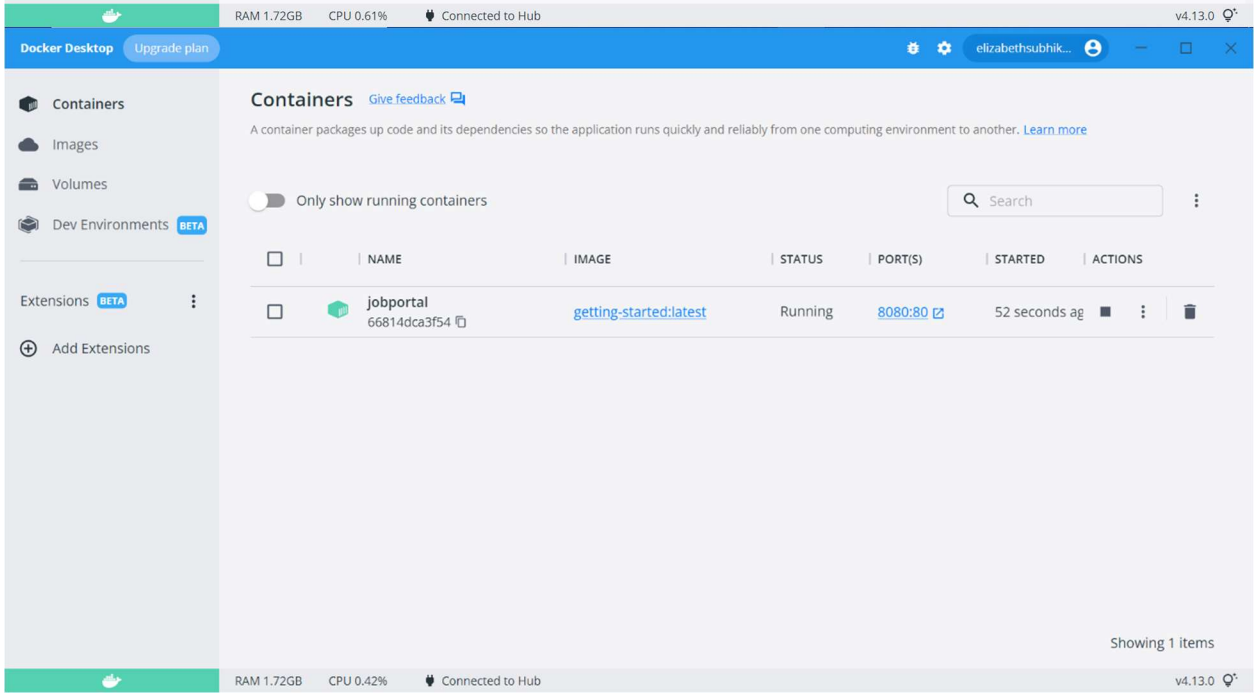
```
    to your terminal.

To try something more ambitious, you can run an Ubuntu container with:
 $ docker run -it ubuntu bash

Share images, automate workflows, and more with a free Docker ID:
 https://hub.docker.com/

For more examples and ideas, visit:
 https://docs.docker.com/get-started/

[node1] (local) root@192.168.0.8 ~
$
```

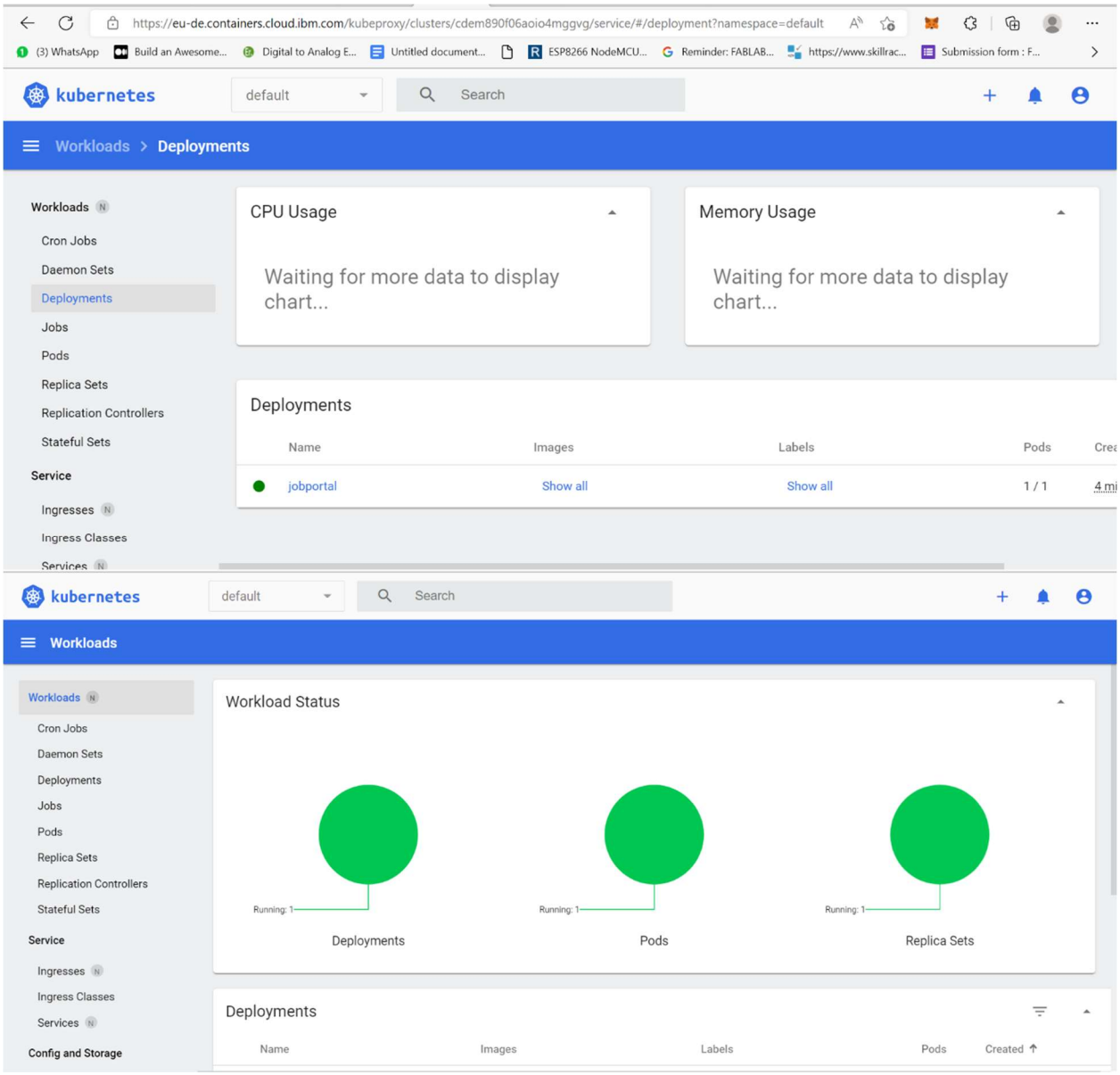
```
##################################################################
#                          WARNING!!!!                           #
# This is a sandbox environment. Using personal credentials      #
# is HIGHLY! discouraged. Any consequences of doing so are       #
# completely the user's responsibilites.                         #
#                                                                #
# The PWD team.                                                  #
##################################################################
[node1] (local) root@192.168.0.8 ~
$ docker pull hello-world: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
[node1] (local) root@192.168.0.8 ~
$ docker run hello-world

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

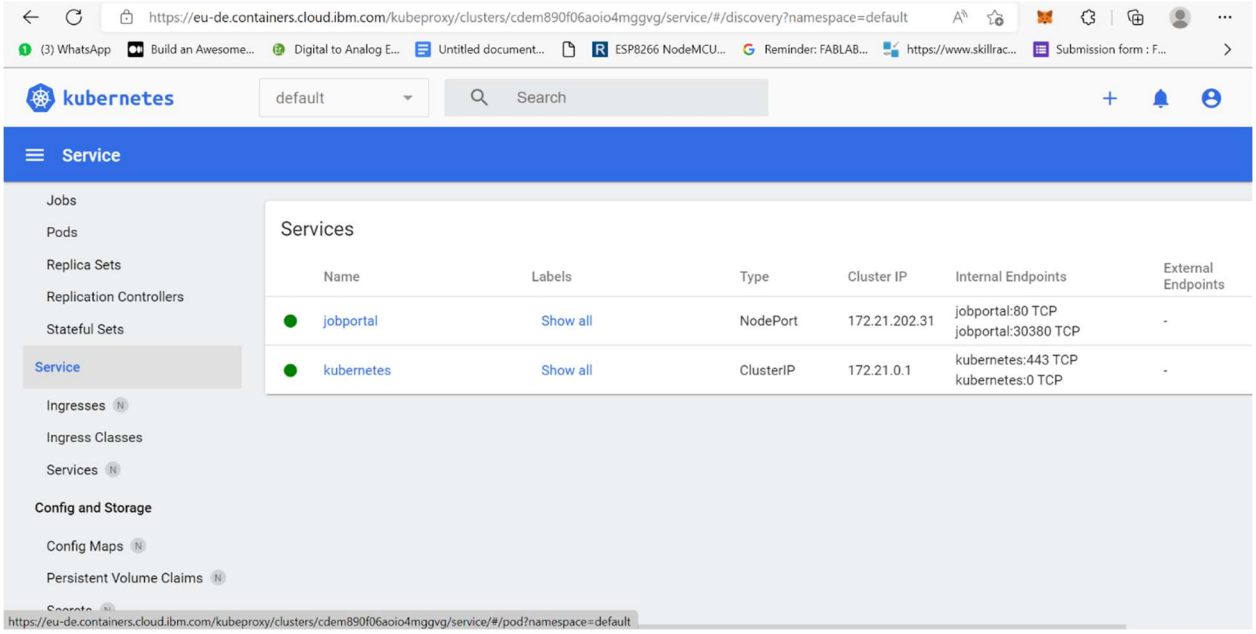
DOCKER FILE:

```
FROM nginx
COPY . /usr/share/nginx/html
EXPOSE 80
```






https://eu-de.containers.cloud.ibm.com/kubeproxy/clusters/cdem890f06aoio4mggvg/service/#/deployment?namespace=default
kubernetes
default
Search
Workloads > Deployments
Workloads
Cron Jobs
Daemon Sets
Deployments
Jobs
Pods
Replica Sets
Replication Controllers
Stateful Sets
Service
Ingresses
Ingress Classes
Services
CPU Usage
Waiting for more data to display chart...
Memory Usage
Waiting for more data to display chart...
Deployments
Name
Images
Labels
Pods
jobportal
Show all
Show all
1 / 1
Workloads
Workload Status
Running: 1
Deployments
Pods
Replica Sets
Config and Storage


https://eu-de.containers.cloud.ibm.com/kubeproxy/clusters/cdem890f06aoio4mggvg/service/#/discovery?namespace=default
(3) WhatsApp
Build an Awesome...
Digital to Analog E...
Untitled document...
ESP8266 NodeMCU...
Reminder: FABLAB...
https://www.skillrac...
Submission form : F...
kubernetes
default
Search
Service
Jobs
Pods
Replica Sets
Replication Controllers
Stateful Sets
Service
Ingresses
Ingress Classes
Services
Config and Storage
Config Maps
Persistent Volume Claims
Services
Name
Labels
Type
Cluster IP
Internal Endpoints
External Endpoints
jobportal
Show all
NodePort
172.21.202.31
jobportal:80 TCP
jobportal:30380 TCP
-
kubernetes
Show all
ClusterIP
172.21.0.1
kubernetes:443 TCP
kubernetes:0 TCP
-
https://eu-de.containers.cloud.ibm.com/kubeproxy/clusters/cdem890f06aoio4mggvg/service/#/pod?namespace=default