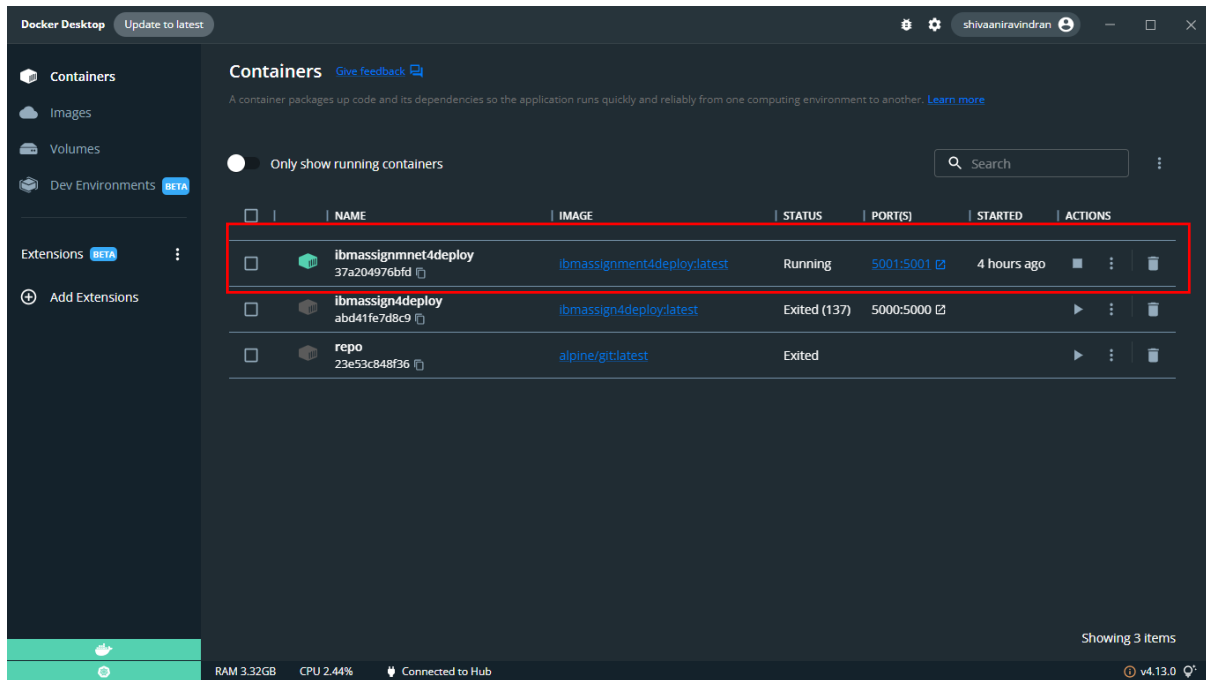


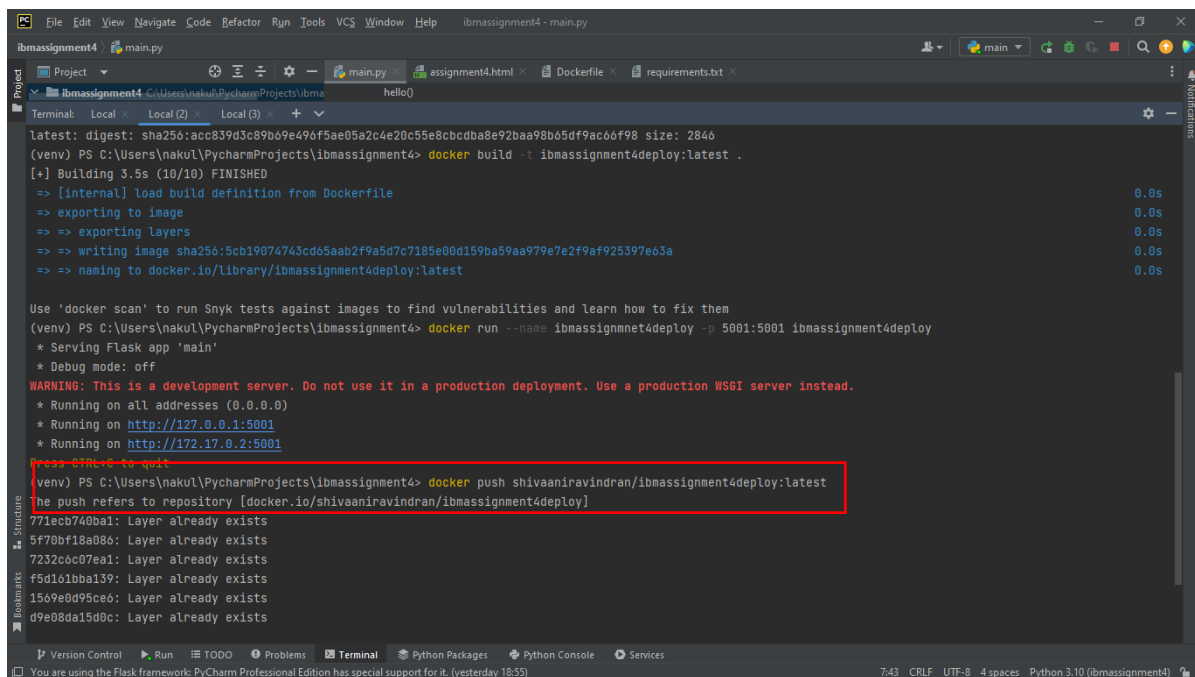
## ASSIGNMENT 4

Student Name	Shivaani.R
Roll Number	813819104092
Maximum Marks	2 Marks

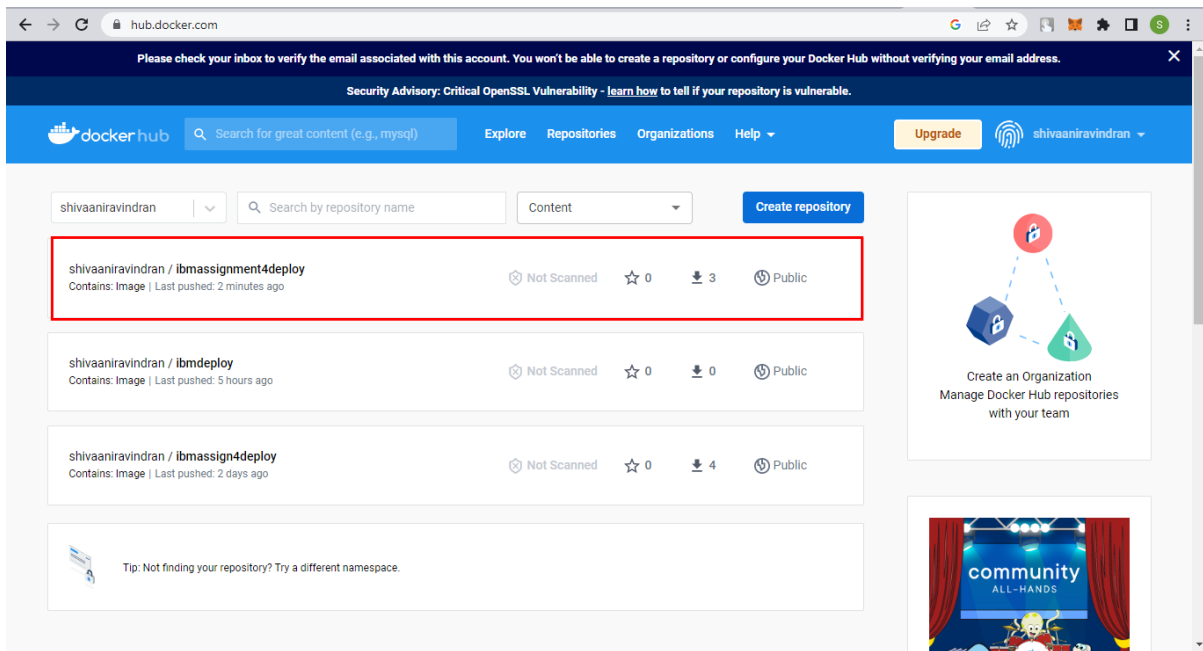
1. Pull an Image from docker hub and run it in docker playground.



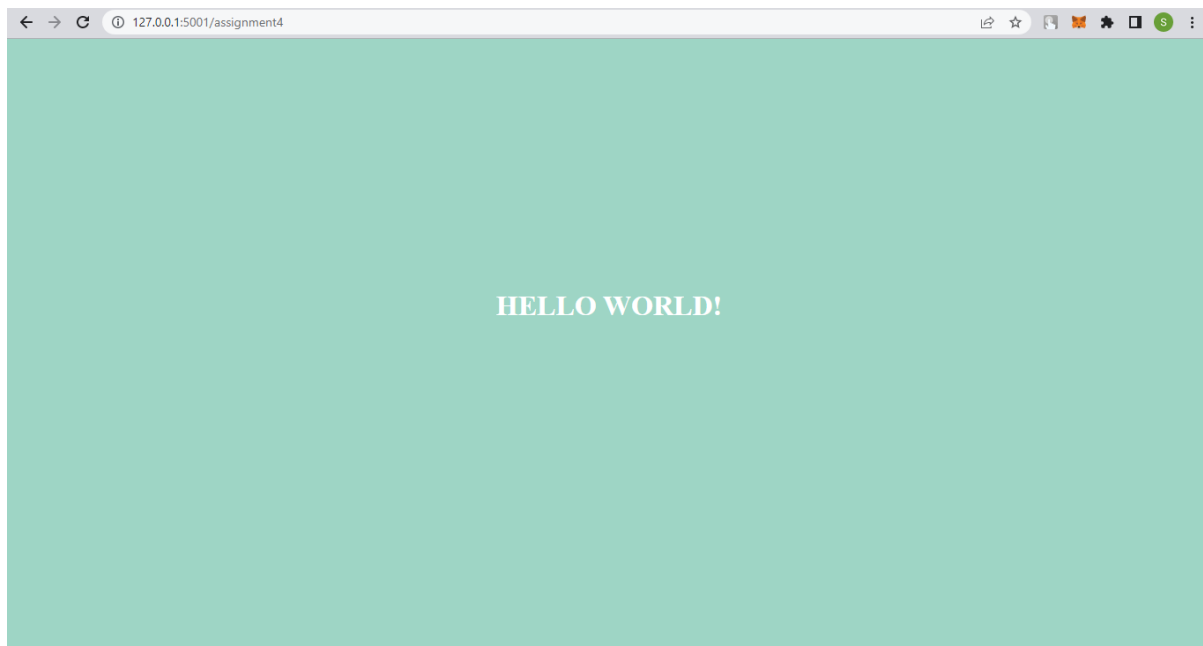
The image is built in Docker Desktop.



The same image is pushed to docker hub using the command



Here image name is ibmassignment4deploy. Thus it is pushed in docker hub.

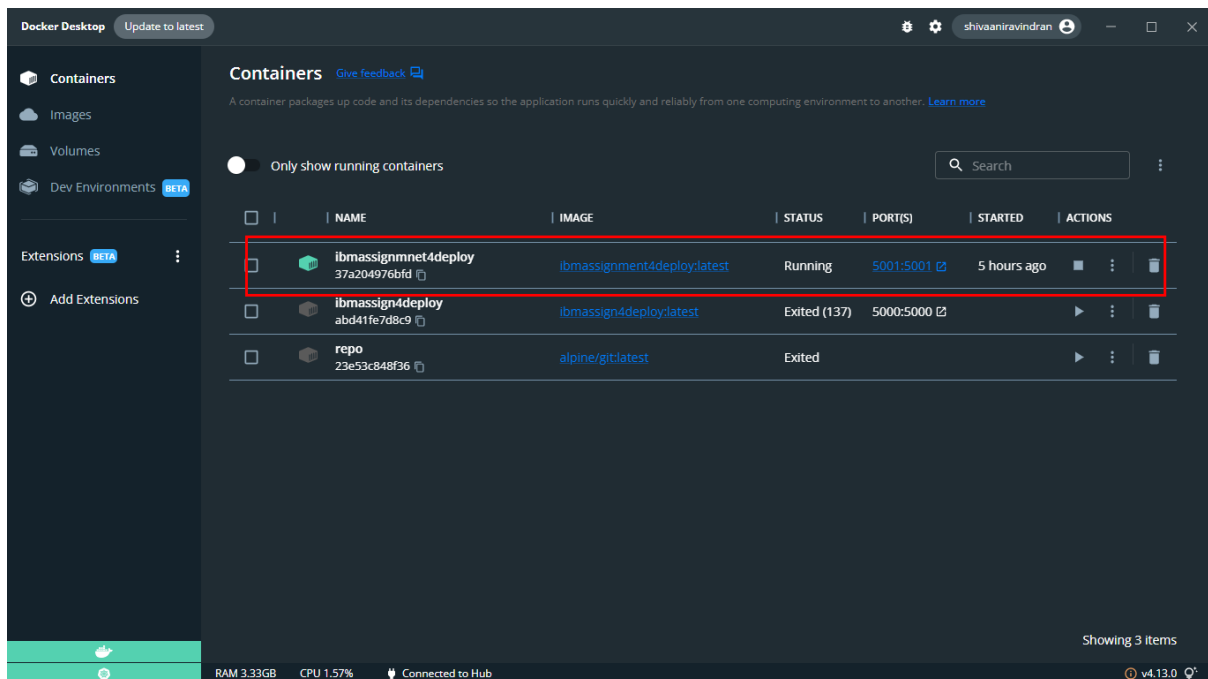


The app is running at the specified port.

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

Dockerfile:

```
FROM python:3.10
COPY . /app
WORKDIR /app
RUN pip install -r requirements.txt
EXPOSE 5001
ENTRYPOINT [ "python" ]
CMD [ "main.py" ]
```



Thus a docker file is created and deployed in docker desktop.

3. Create a IBM container registry and deploy hello world app.

Container registry is created by

```
ibmassignment4 - main.py
Project: ibmassignment4
main.py
assignment4.html
Dockerfile
requirements.txt
Terminal: Local (2)
Local (3)
(venv) PS C:\Users\nakul\PycharmProjects\ibmassignment4> docker pull shivaaniravindran/ibmassignment4deploy:latest
latest: Pulling from shivaaniravindran/ibmassignment4deploy
Digest: sha256:acc839d3c89b69e496f5ae05a2c4e26c55e8cbcd8a8e92baa98b65df9ac66f98
Status: Image is up to date for shivaaniravindran/ibmassignment4deploy:latestdocker.io/shivaaniravindran/ibmassignment4deploy:latest
(venv) PS C:\Users\nakul\PycharmProjects\ibmassignment4> docker tag shivaaniravindran/ibmassignment4deploy:latest icr.io/assignment4/ibmassignment4repo:latest
(venv) PS C:\Users\nakul\PycharmProjects\ibmassignment4> docker push icr.io/assignment4/ibmassignment4repo:latest
The push refers to repository [icr.io/assignment4/ibmassignment4repo]
771ecb740ba1: Preparing
5f70bf18a086: Preparing
7232c0c07ea1: Preparing
f5d161bb139: Preparing
1569e0d95ce6: Preparing
d9e08da15d0c: Waiting
6b183c02e3d7: Waiting
882fd30bfdf35: Waiting
d1dec9917839: Waiting
d38adf39e1dd: Waiting
4ed121b04368: Waiting
d9d07d703dd5: Waiting
```

IBM Cloud

cloud.ibm.com/registry/namespaces

Container Registry

Quick start

Namespaces 2

Repositories 2

Images 2

Trash 0



Settings

Namespaces

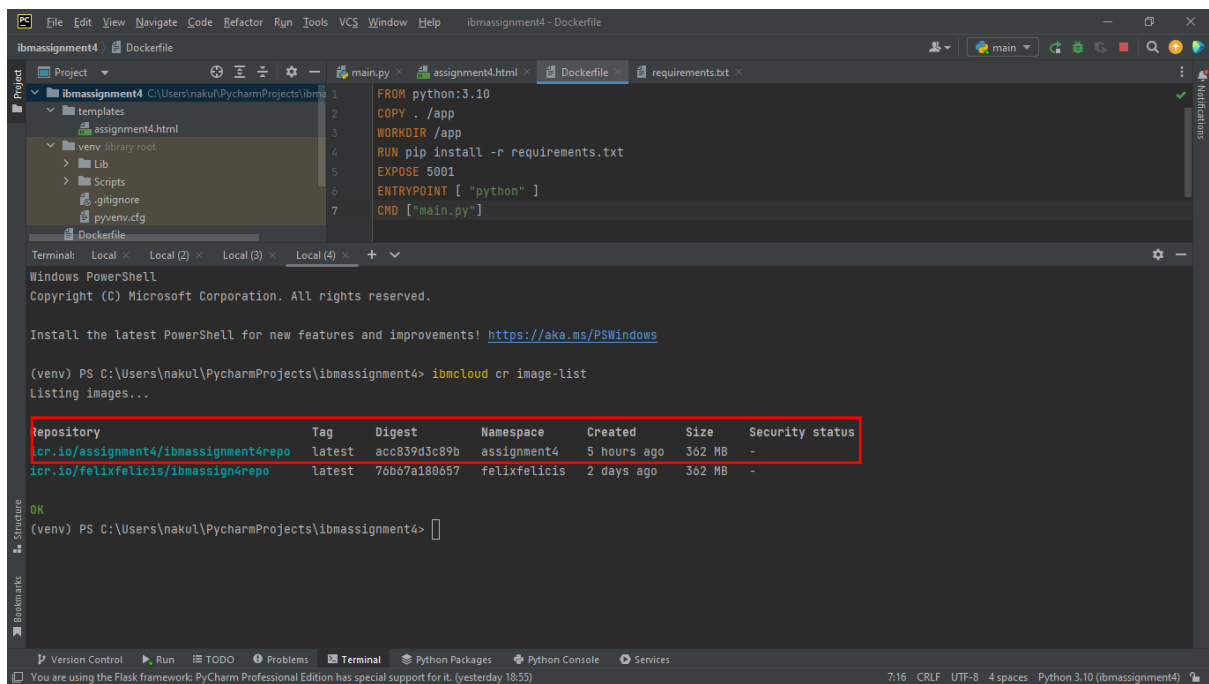
Location: Global

Resource group: Filter... Search

Create +

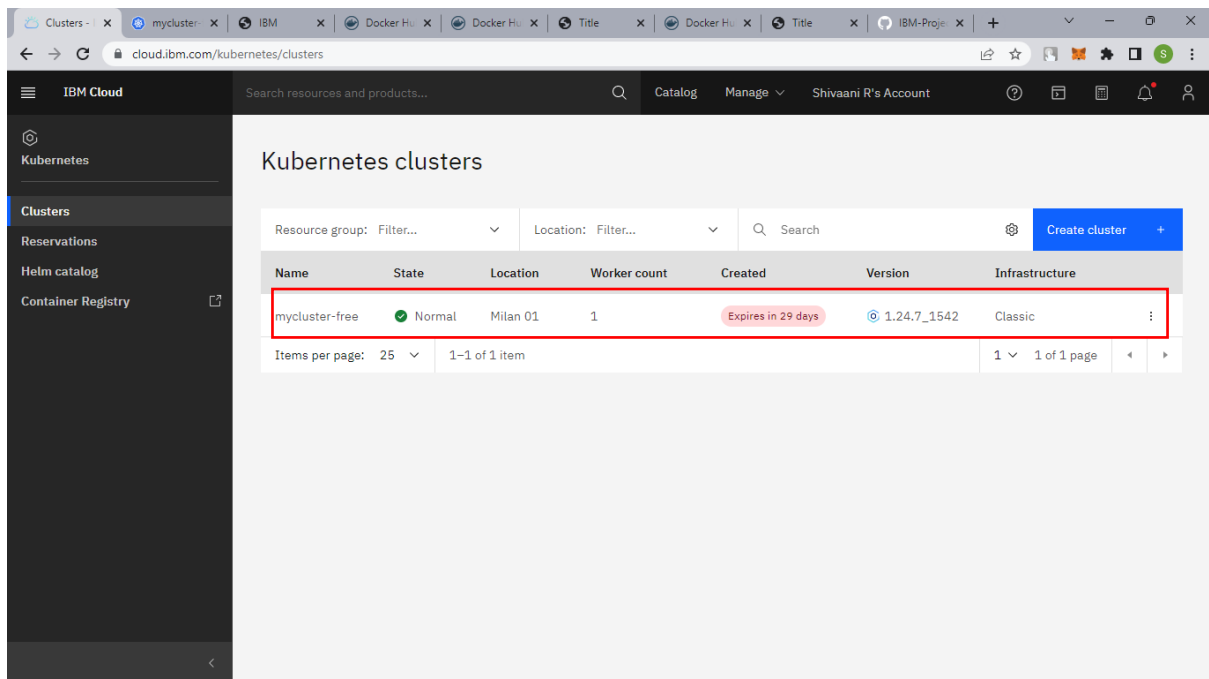
<input type="checkbox"/>	Name	Resource group	Repository count	Image count	Retention policy
<input checked="" type="checkbox"/>	 assignment4	Default	1	1	Retain all images
<input checked="" type="checkbox"/>	 felixfelicis	Default	1	1	Retain all images

Items per page: 25 1-2 of 2 items 1 1 of 1 page



Thus, images in container registry are listed.

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 node port.



Thus, a cluster is created.

eu-de.containers.cloud.ibm.com/kubeproxy/clusters/cdgukm0f0odjauq66q50/service/#/service?namespace=default

kubernetes default Search

Service > Services

Workloads <sup>N</sup>

- Cron Jobs
- Daemon Sets
- Deployments
- Jobs
- Pods
- Replica Sets
- Replication Controllers
- Stateful Sets

Service

- Ingresses <sup>N</sup>
- Ingress Classes
- Services <sup>N</sup>

Config and Storage

- Config Maps <sup>N</sup>
- Persistent Volume Claims <sup>N</sup>

Services

Name	Labels	Type	Cluster IP	Internal Endpoints	External Endpoints	Created ↑
ibmassign4	<a href="#">Show all</a>	LoadBalancer	172.21.88.252	ibmassign4:5001 TCP ibmassign4:31831 TCP	-	38 minutes ago
ibm	<a href="#">Show all</a>	LoadBalancer	172.21.168.9	ibm:5000 TCP ibm:31875 TCP	-	14 hours ago
kubernetes	<a href="#">Show all</a>	ClusterIP	172.21.0.1	kubernetes:443 TCP kubernetes:0 TCP	-	14 hours ago

App is live at <http://169.51.200.210:31831/assignment4>