

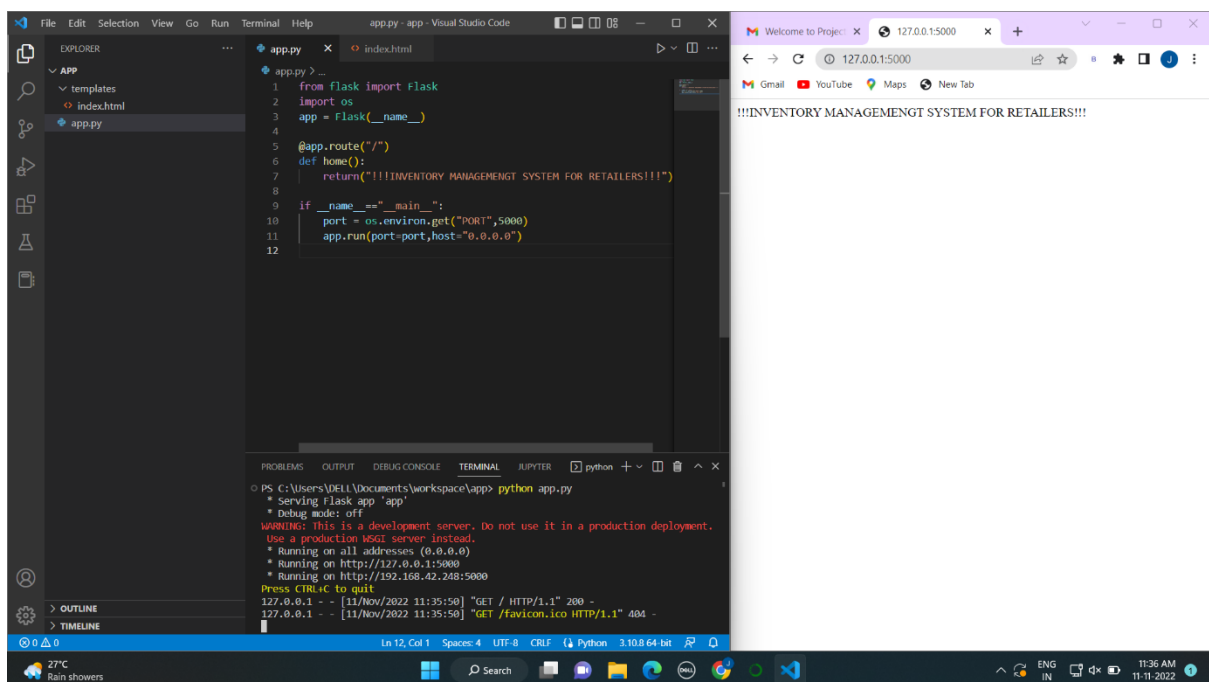
# ASSIGNMENT – 4

## DOCKER & KUBERNETES

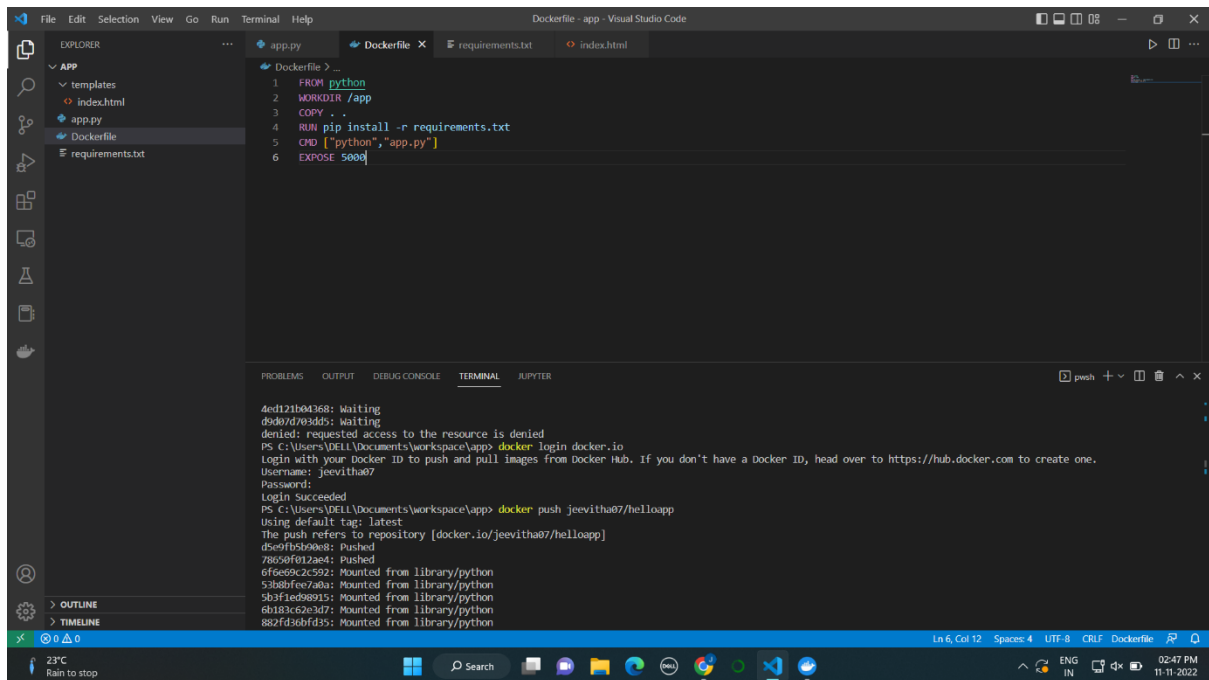
Student Name	Jeevitha K
Student Roll Number	731719205007
Maximum Marks	2 Marks

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

app.py



# Dockerfile



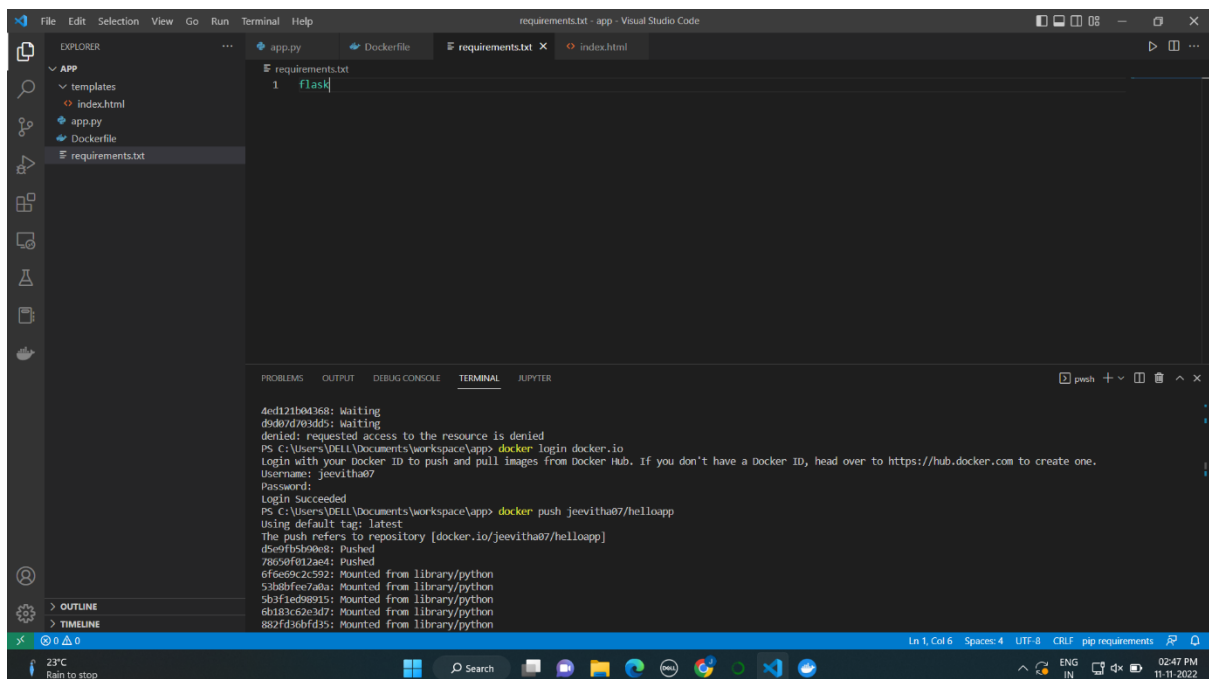
The screenshot shows the Visual Studio Code interface with a Dockerfile open in the editor. The Dockerfile contains the following instructions:

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

The terminal at the bottom shows the output of the Docker build process, including the login to Docker Hub and the push of the image to the repository.

```
4ed121b04368: Waiting
09d07d703dd5: Waiting
denied: requested access to the resource is denied
PS C:\Users\DELL\Documents\workspace\app> docker login docker.io
Login with your Docker ID to push and pull images from Docker Hub. If you don't have a Docker ID, head over to https://hub.docker.com to create one.
Username: jeevitha07
Password:
Login Succeeded
PS C:\Users\DELL\Documents\workspace\app> docker push jeevitha07/helloapp
Using default tag: latest
The push refers to repository [docker.io/jeevitha07/helloapp]
d5e9fb5b9a08: Pushed
78059f012ae4: Pushed
6f6e9c2c592: Mounted from library/python
53b8bfce7aba: Mounted from library/python
5b3f1ed9e915: Mounted from library/python
6b183c62e3d7: Mounted from library/python
882fd36bfd35: Mounted from library/python
```

# requirements.txt



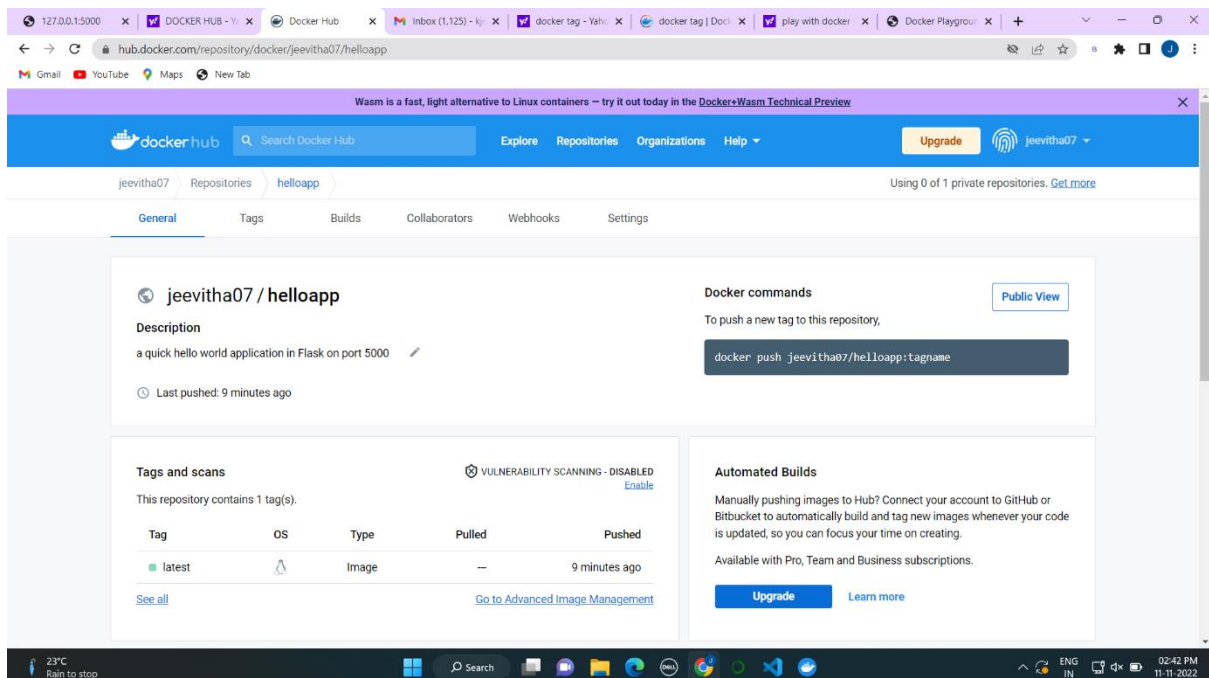
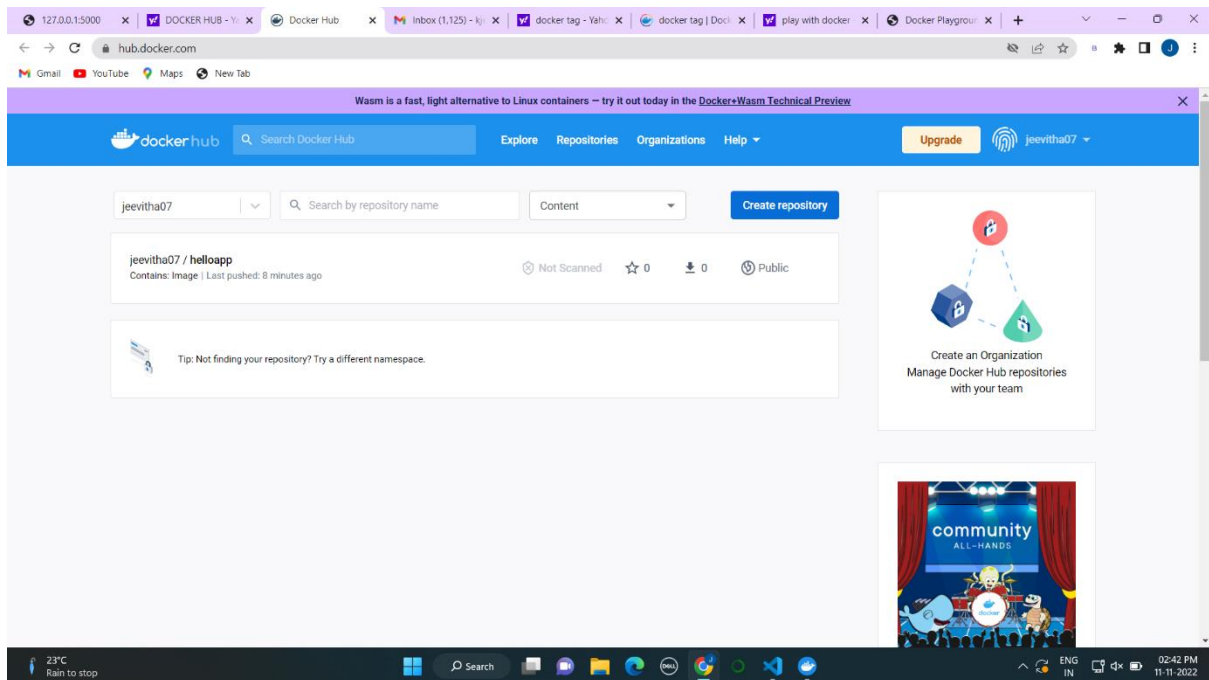
The screenshot shows the Visual Studio Code interface with a requirements.txt file open in the editor. The requirements.txt file contains the following instruction:

```
1 flask
```

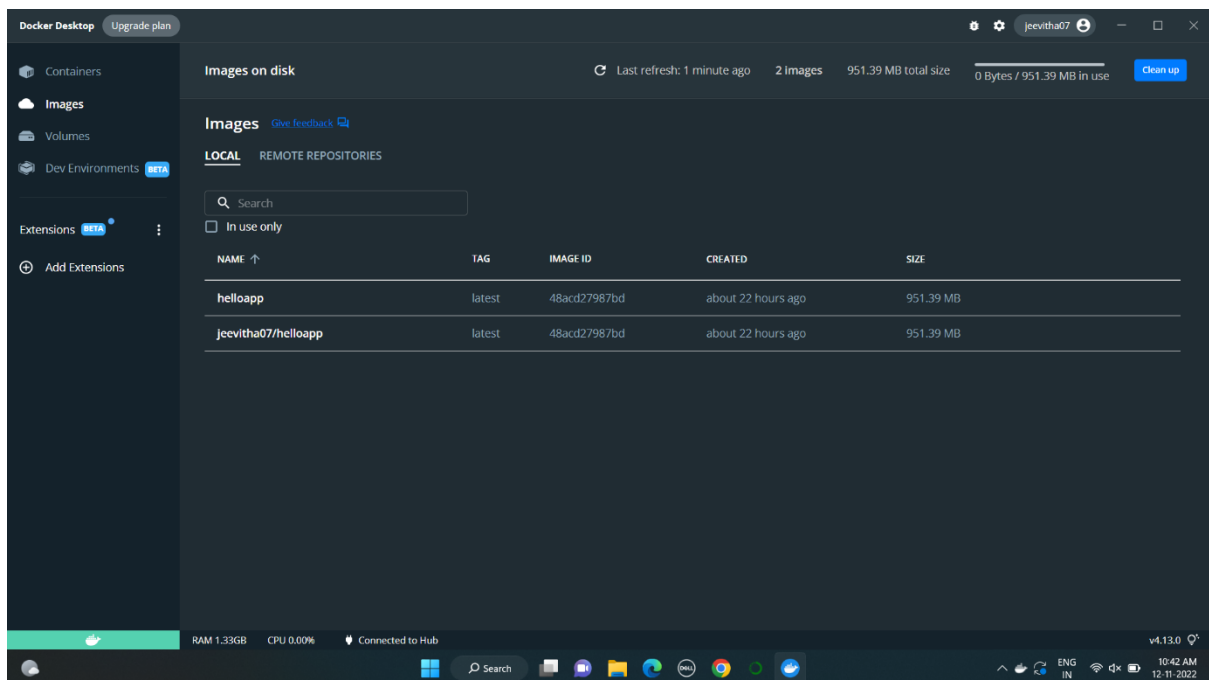
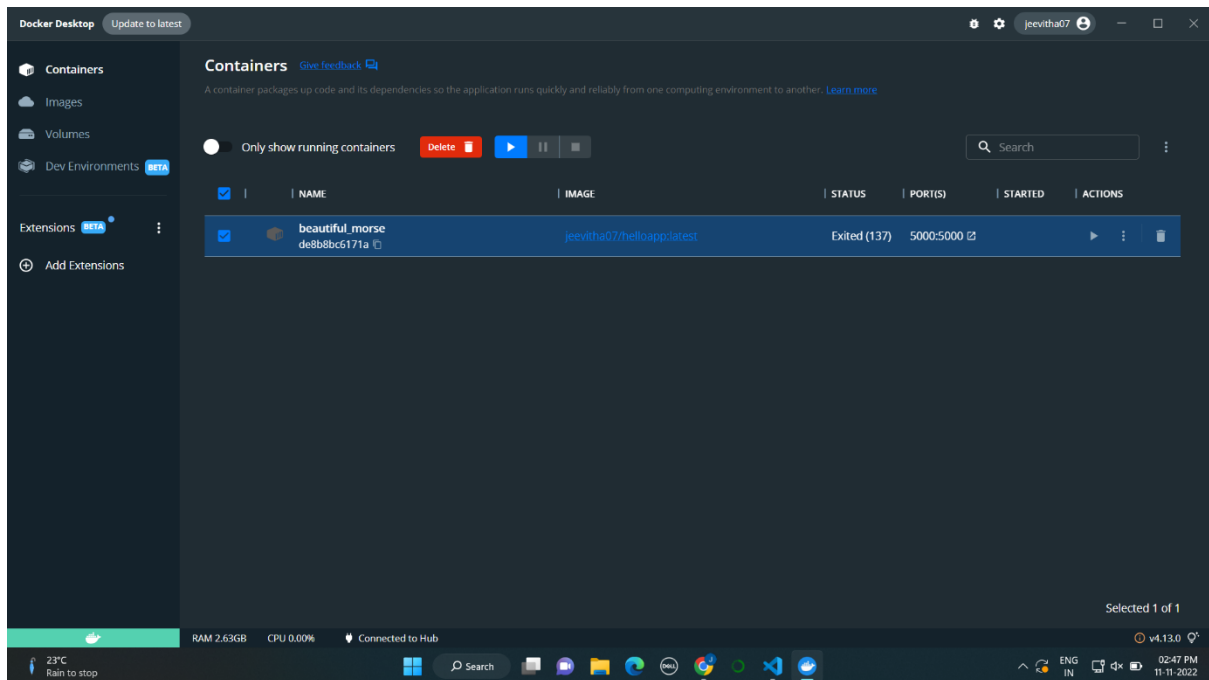
The terminal at the bottom shows the output of the Docker build process, including the login to Docker Hub and the push of the image to the repository.

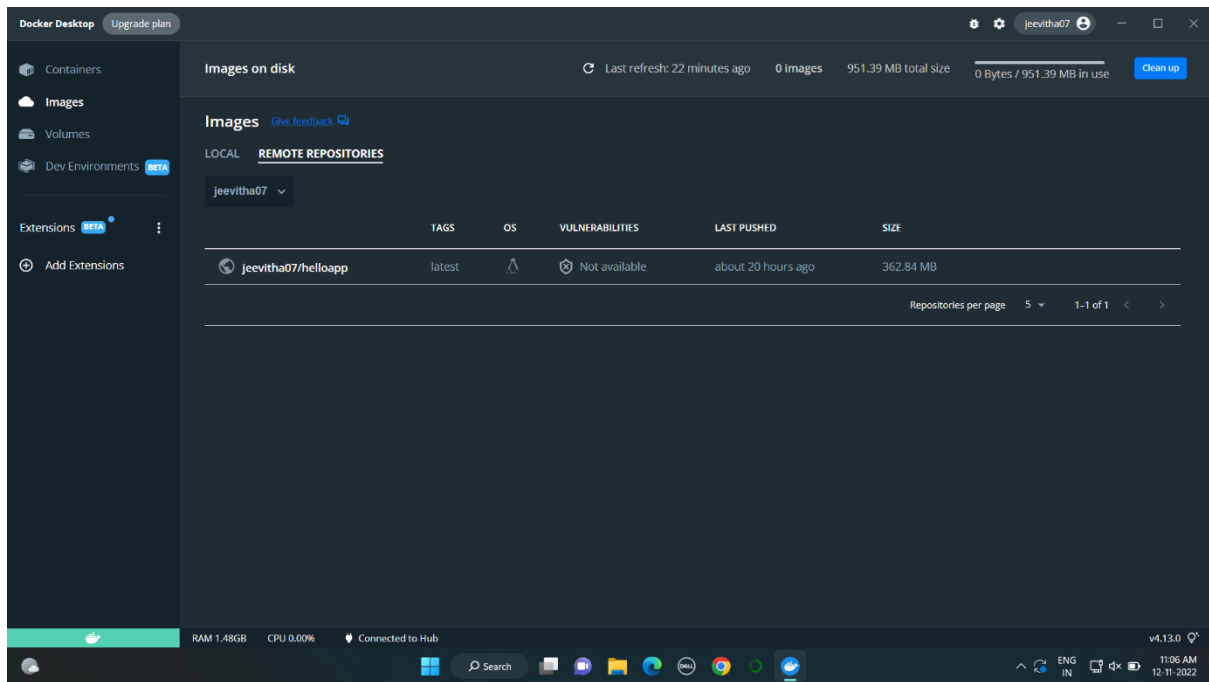
```
4ed121b04368: Waiting
09d07d703dd5: Waiting
denied: requested access to the resource is denied
PS C:\Users\DELL\Documents\workspace\app> docker login docker.io
Login with your Docker ID to push and pull images from Docker Hub. If you don't have a Docker ID, head over to https://hub.docker.com to create one.
Username: jeevitha07
Password:
Login Succeeded
PS C:\Users\DELL\Documents\workspace\app> docker push jeevitha07/helloapp
Using default tag: latest
The push refers to repository [docker.io/jeevitha07/helloapp]
d5e9fb5b9a08: Pushed
78059f012ae4: Pushed
6f6e9c2c592: Mounted from library/python
53b8bfce7aba: Mounted from library/python
5b3f1ed9e915: Mounted from library/python
6b183c62e3d7: Mounted from library/python
882fd36bfd35: Mounted from library/python
```

# Docker hub

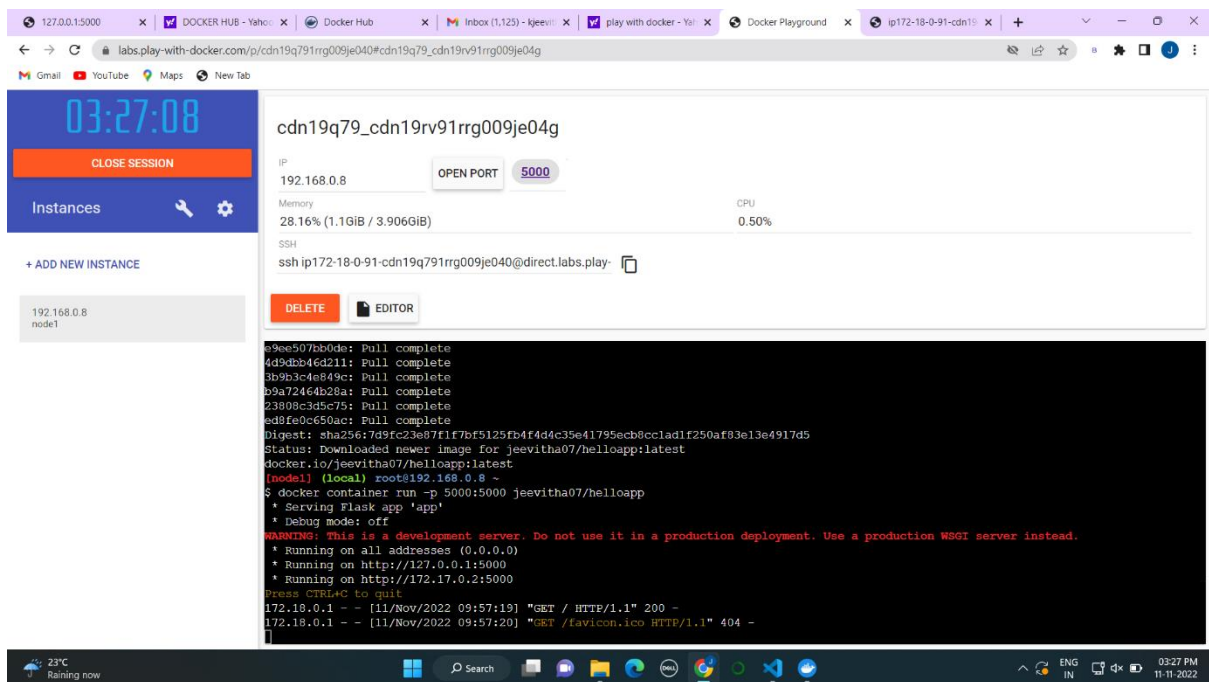


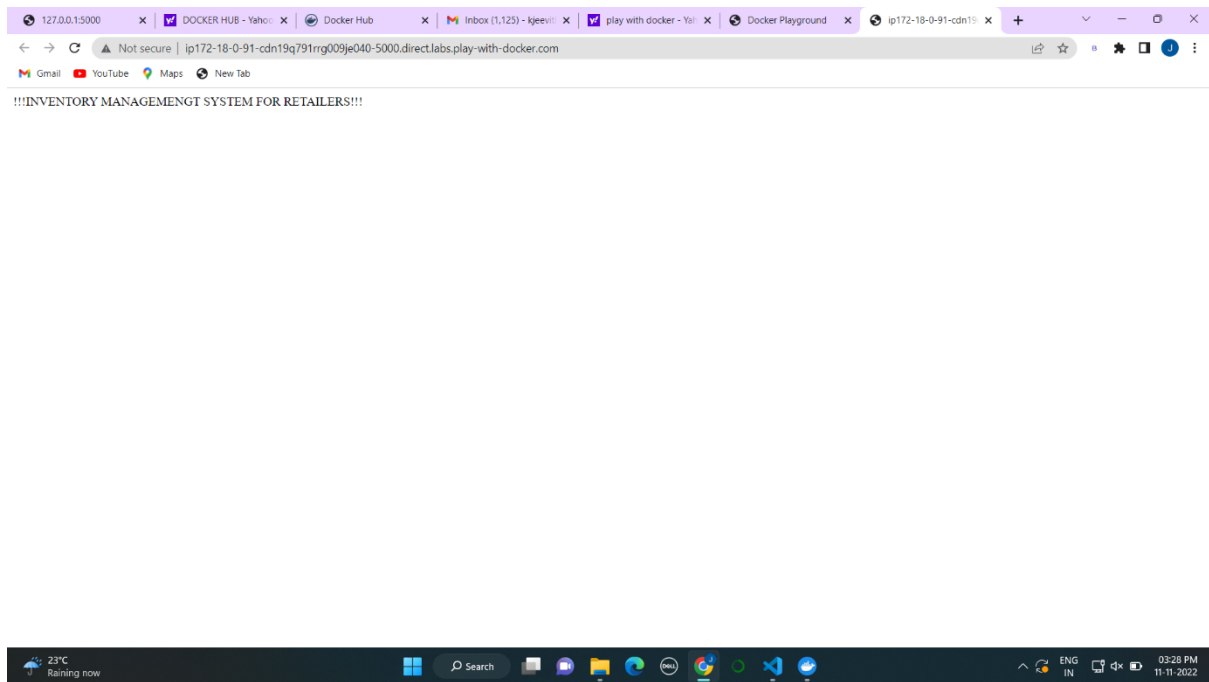
# Docker



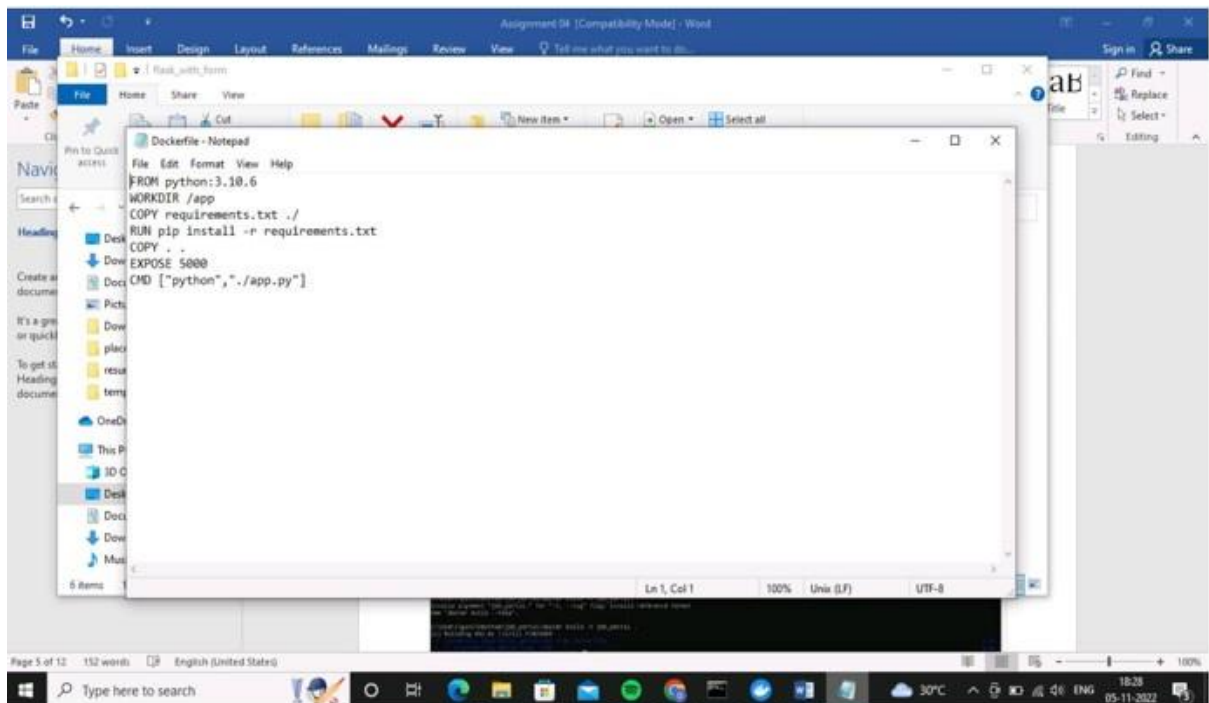


## Docker Playground



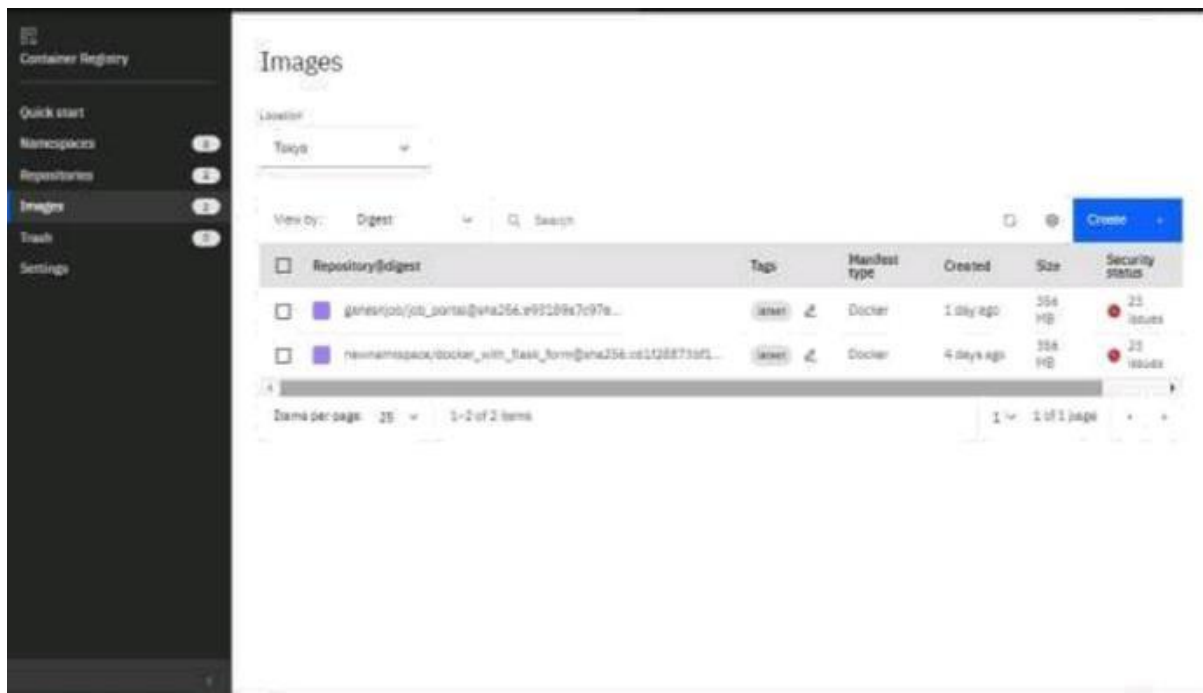
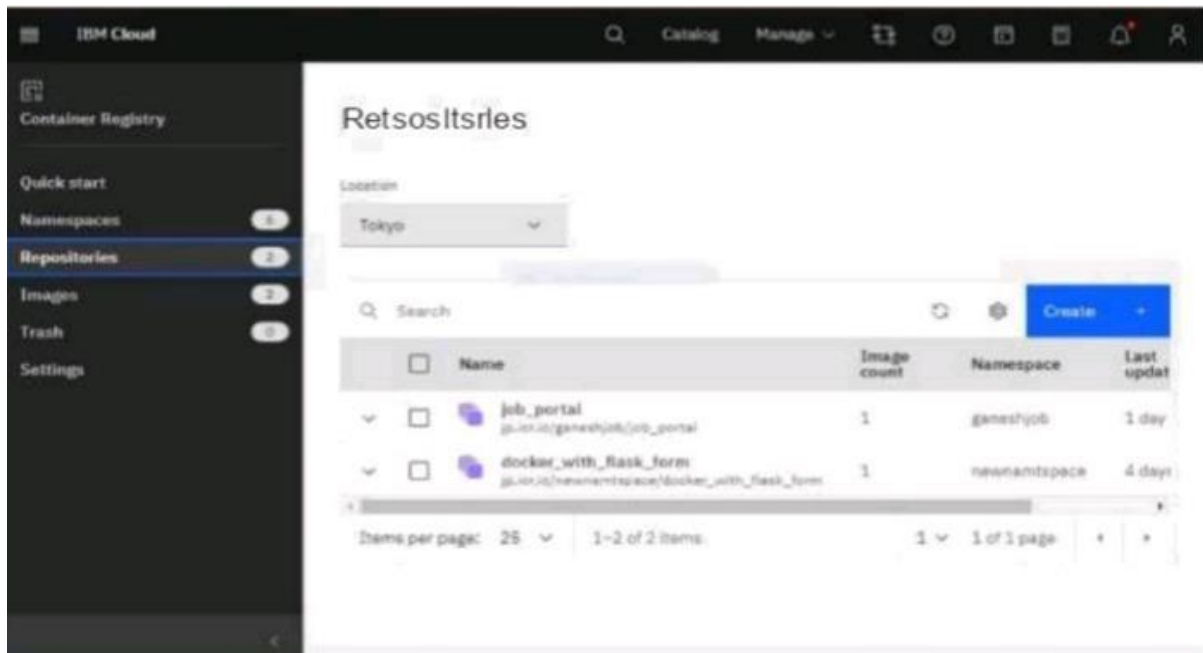


2. Create a dockerfile for the jobportal application and deploy it in docker desktop application.





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





```

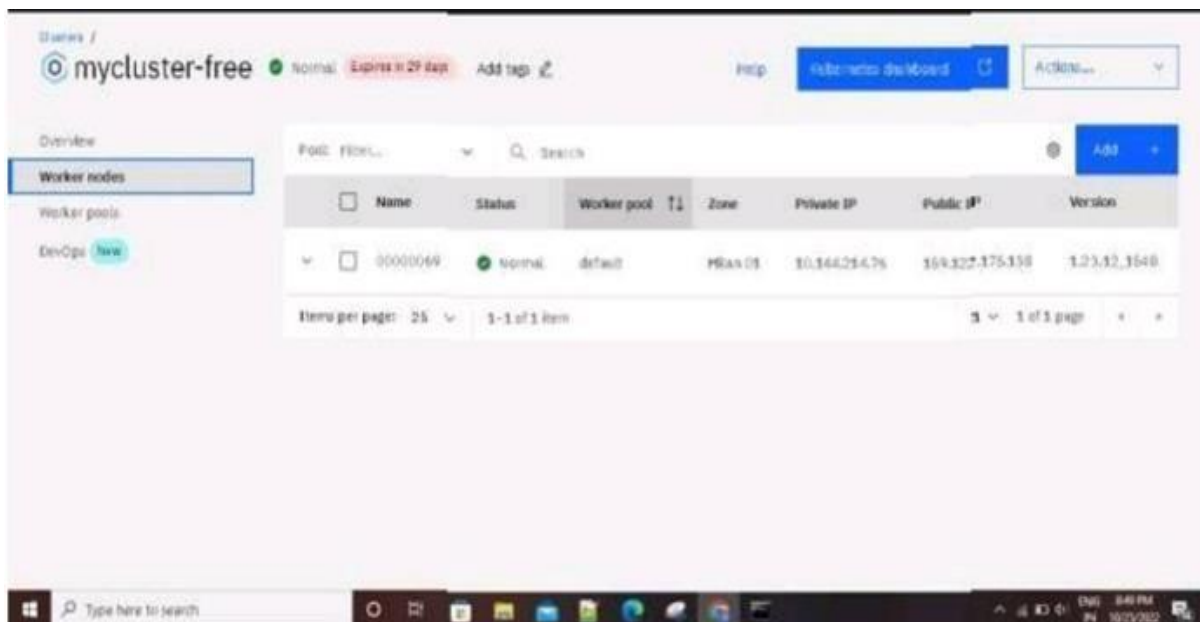
C:\Windows\system32\cmd.exe
64cb546f48b: Retrying in 1 second
8d51c610120f: Retrying in 1 second
9ff6e4d6744: Waiting
a99d1047b6a1: Waiting
a55ed1074428: Waiting
Failed to lookup host: jp.lcr.in

C:\Users\gan1\Desktop\job_portal>docker push jp.lcr.in/ganeshjob/job_portal
Using default tag: latest
The push refers to repository [jp.lcr.in/ganeshjob/job_portal]
15eb158a025: Layer already exists
8ae941b5e186: Pushed
8bc2a7a4c12b: Layer already exists
8b72c7815466: Layer already exists
8fc1de90116e: Layer already exists
17127186024c: Layer already exists
3d6eb1152931: Pushed
180796cd73b1: Pushed
64cb546f48b: Retrying in 1 second
8d51c610120f: Pushed
9ff6e4d6744: Pushed
a99d1047b6a1: Pushed
a55ed1074428: Pushing [-----] | 99.80MB/124MB
^C
C:\Users\gan1\Desktop\job_portal>docker push jp.lcr.in/ganeshjob/job_portal
Using default tag: latest
The push refers to repository [jp.lcr.in/ganeshjob/job_portal]
15eb158a025: Layer already exists
8ae941b5e186: Layer already exists
8bc2a7a4c12b: Layer already exists
8b72c7815466: Layer already exists
8fc1de90116e: Layer already exists
17127186024c: Layer already exists
3d6eb1152931: Layer already exists
180796cd73b1: Layer already exists
64cb546f48b: Pushed
8d51c610120f: Layer already exists
9ff6e4d6744: Layer already exists
a99d1047b6a1: Layer already exists
a55ed1074428: Pushed
latest: digest: sha256:e91189a7c97eeb99086668a54e899c161eadeda39998cb7a2147e7961fc207 size: 3952

C:\Users\gan1\Desktop\job_portal>
C:\Users\gan1\Desktop\job_portal>

```

#### 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:\Windows\System32\cmd.exe
10/16/2022 12:28 PM 3,721 windows shortcut.txt
08/25/2022 08:40 PM 2,897 YouTube.lnk
24 File(s) 804,677,196 bytes
9 Dir(s) 79,221,886,976 bytes free

C:\Users\gani\Desktop>cd deploy
The system cannot find the path specified.

C:\Users\gani\Desktop>kubectl apply -f kubernetes/depoly.yaml
error: the path "kubernetes/depoly.yaml" does not exist

C:\Users\gani\Desktop>kubectl apply -f depoly.yaml
error: the path "depoly.yaml" does not exist

C:\Users\gani\Desktop>kubectl apply -f C:\Users\gani\Desktop\deploy.yaml
deployment.apps/flask-app created

C:\Users\gani\Desktop>
```

```
C:\Windows\System32\cmd.exe
C:\Windows\system32>kubectl expose deployment flask-app --type=NodePort --name=flask-service
The Service "flask-service" is invalid: metadata.name: Invalid value: "flask-service": a DNS-1035 label must consist of lower case alphanumeric characters or '-', start with an alphabetic character, and end with an alphanumeric character (e.g. "my-name", or "abc-123", regex used for validation is "[a-z]([-a-z0-9]*[a-z0-9])?")

C:\Windows\system32>kubectl expose deployment flask-app --type=NodePort --name=flask-service
The Service "flask-service" is invalid: metadata.name: Invalid value: "flask-service": a DNS-1035 label must consist of lower case alphanumeric characters or '-', start with an alphabetic character, and end with an alphanumeric character (e.g. "my-name", or "abc-123", regex used for validation is "[a-z]([-a-z0-9]*[a-z0-9])?")

C:\Windows\system32>kubectl expose deployment flask-app --type=NodePort --name=flask-service
The Service "flask-service" is invalid: metadata.name: Invalid value: "flask-service": a DNS-1035 label must consist of lower case alphanumeric characters or '-', start with an alphabetic character, and end with an alphanumeric character (e.g. "my-name", or "abc-123", regex used for validation is "[a-z]([-a-z0-9]*[a-z0-9])?")

C:\Windows\system32>kubectl expose deployment flask-app --type=NodePort --name=flask-service
Error from server (AlreadyExists): services "flask-service" already exists

C:\Windows\system32>
C:\Windows\system32>kubectl -n kubernetes-dashboard get deploy
No resources found in kubernetes-dashboard namespace.

C:\Windows\system32>kubectl -n kubernetes-dashboard get deploy
No resources found in kubernetes-dashboard namespace.

C:\Windows\system32>kubectl proxy
Starting to serve on 127.0.0.1:8001

C:\Windows\system32>kubectl -n kubernetes-dashboard get deploy
No resources found in kubernetes-dashboard namespace.

C:\Windows\system32>kubectl -n kubernetes-dashboard get pods
No resources found in kubernetes-dashboard namespace.

C:\Windows\system32>kubectl expose deployment flask-app --type=NodePort --name=flask-service
Error from server (AlreadyExists): services "flask-service" already exists

C:\Windows\system32>kubectl get ing
NAME          CLASS    HOSTS          ADDRESS          PORTS          AGE
flask-app-ingress  <none>   *              *                80            27m

C:\Windows\system32>kubectl get svc
NAME          TYPE          CLUSTER-IP      EXTERNAL-IP      PORT(S)          AGE
```

