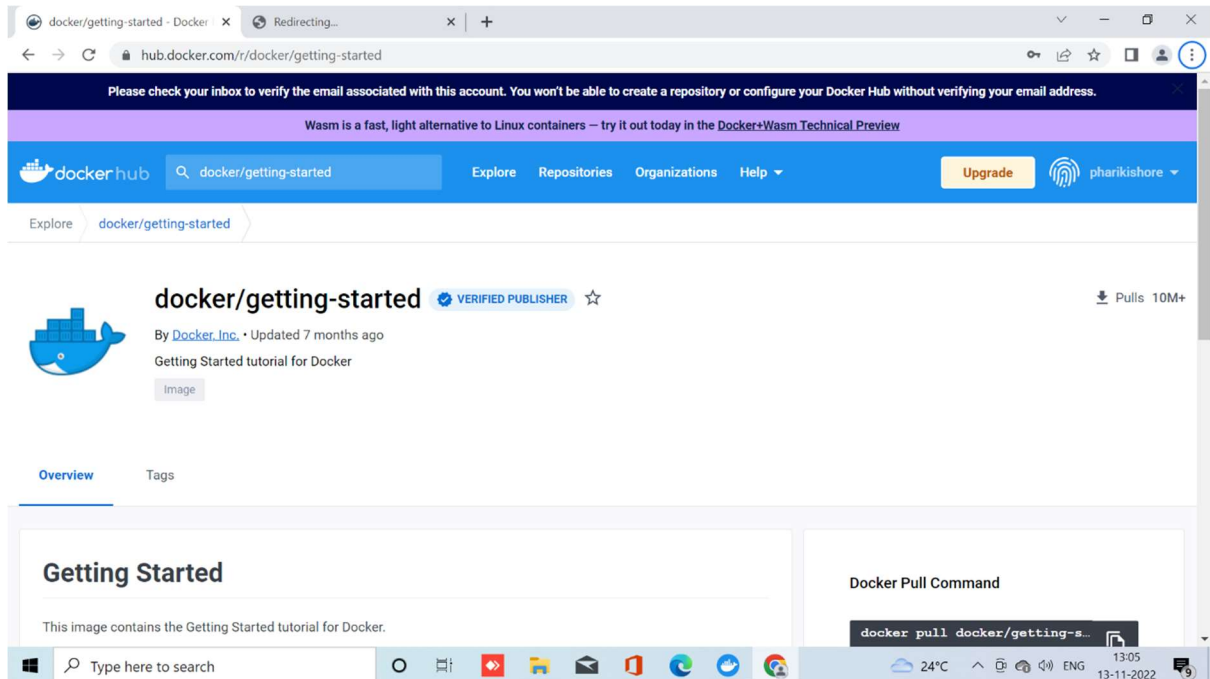


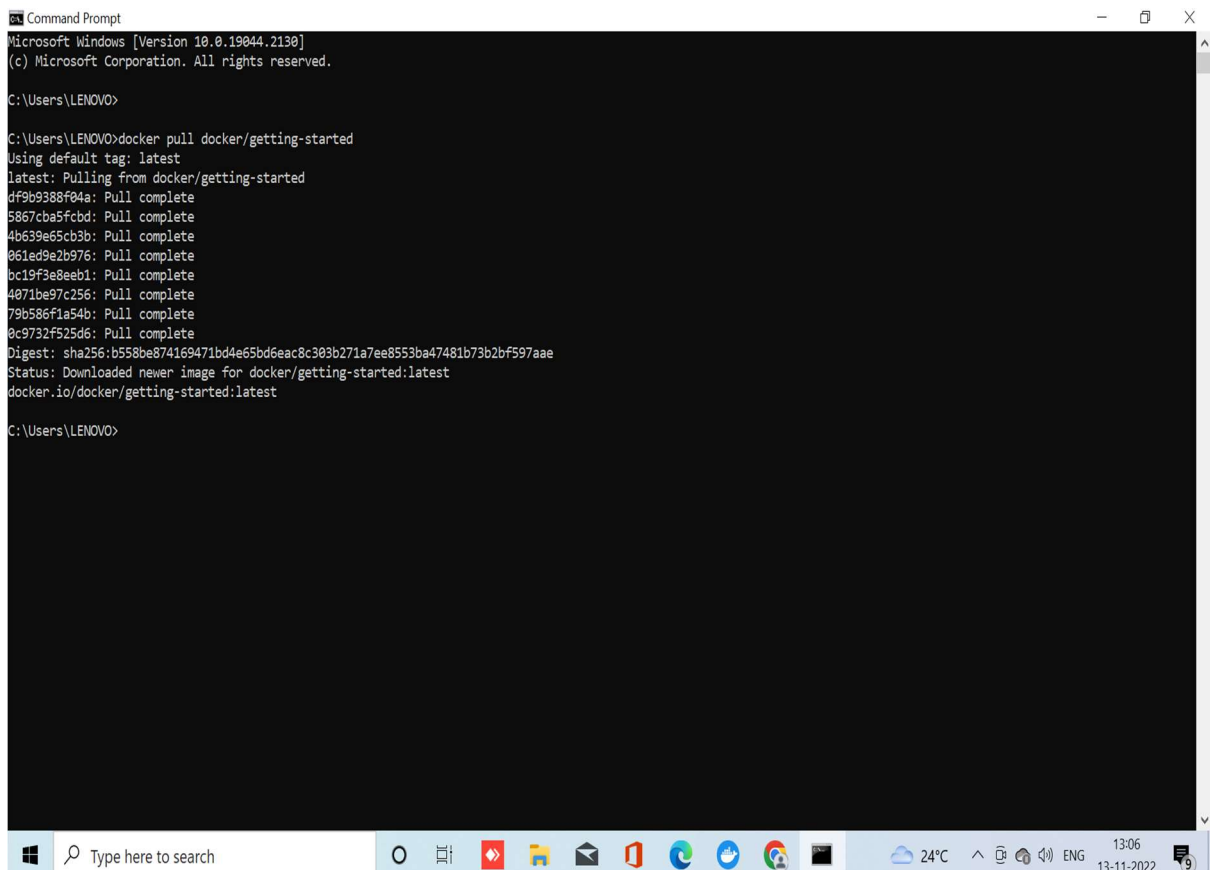
Assignment-4(P. HARIKISHORE-910019106013)

TASK-1) Pull an image from dockerhub and run it in Docker Playground

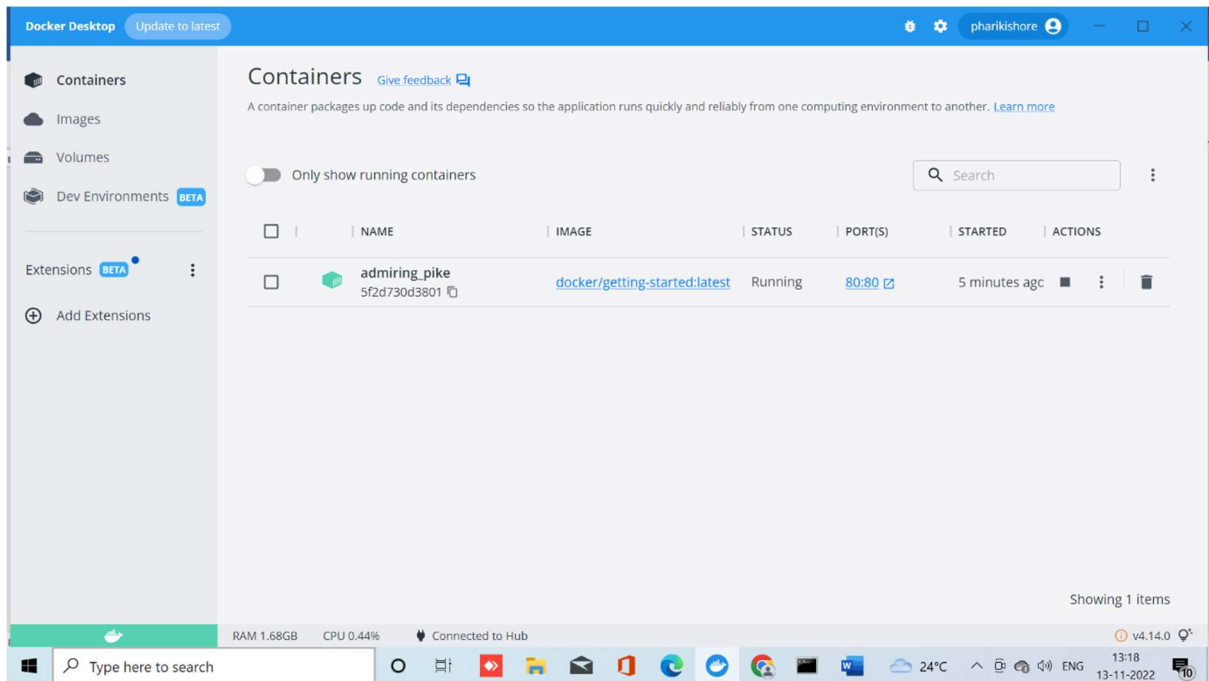
- PULL AN IMAGE FROM DOCKER HUB VIA COPIYING COMMAND**



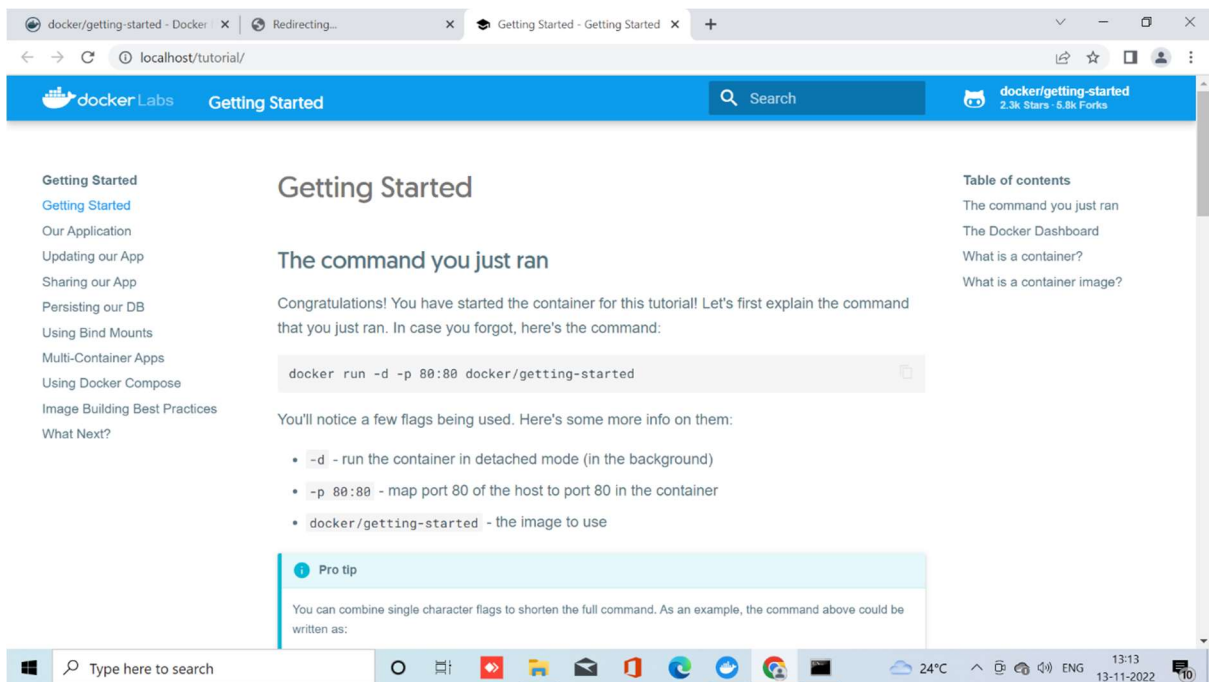
- PASTE AND RUN THE COMMAND IN CMD TO PULL THE IMAGE**



- **IMAGE IS RUNNING IN DOCKER DESKTOP**



- **IMAGE IS RUNNING IN LOCALHOST**

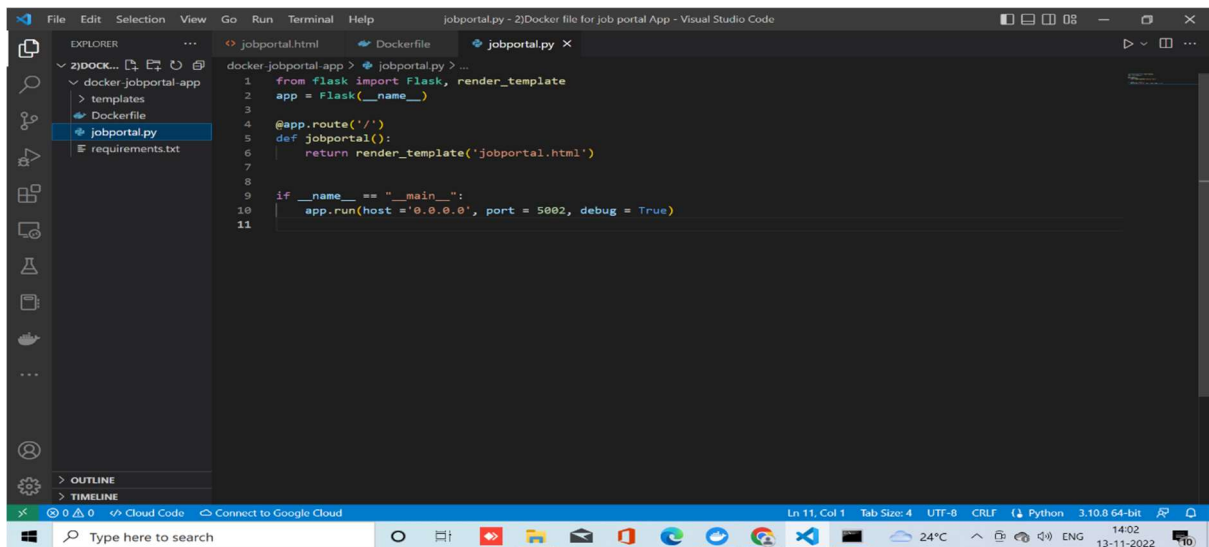


TASK-1 SUCCESSFULLY COMPLETED!

Assignment-4(P.HARIKISHORE-910019106013)

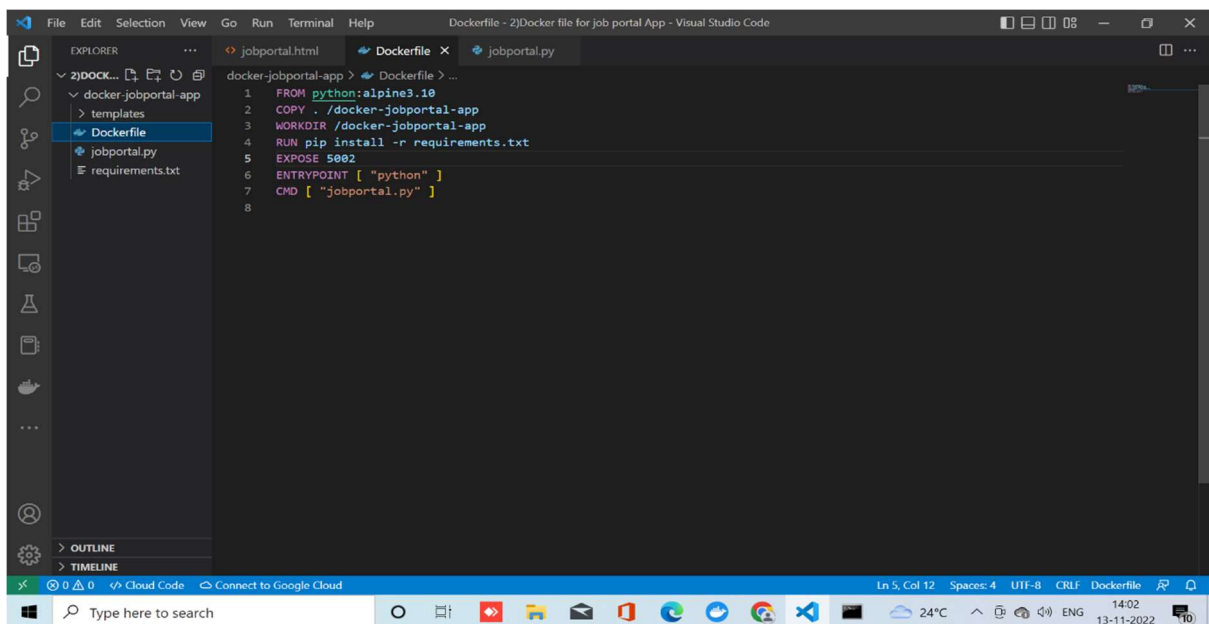
TASK-2) Create a Dockerfile for job portal app and deploy it in docker desktop

- CREATE A FLASK APP FOR JOB PORTAL AND ADD DOCKER FILE AND NECESSARY REQUIREMENTS



The screenshot shows the Visual Studio Code editor with the 'jobportal.py' file open. The file contains a Flask application that renders a template. The Explorer sidebar on the left shows the project structure: '2jdocker-jobportal-app' containing 'templates', 'jobportal.py', and 'requirements.txt'. The Dockerfile is also visible in the Explorer.

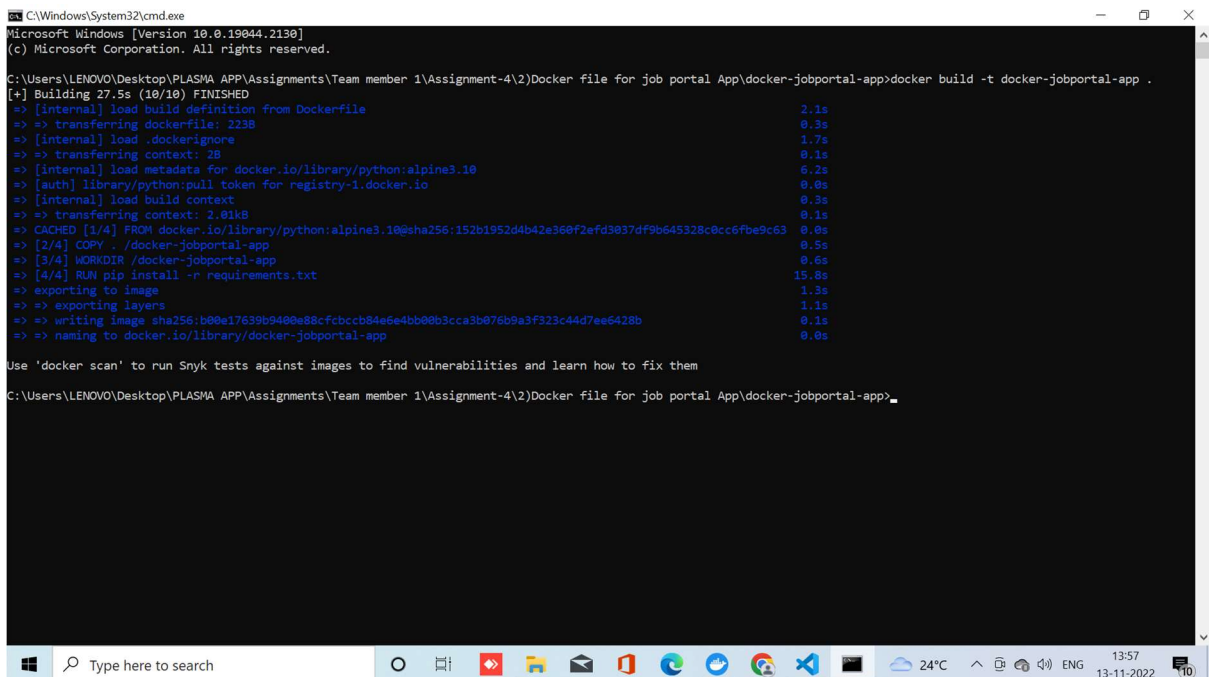
```
1 from flask import Flask, render_template
2 app = Flask(__name__)
3
4 @app.route('/')
5 def jobportal():
6     return render_template('jobportal.html')
7
8
9 if __name__ == '__main__':
10     app.run(host='0.0.0.0', port=5002, debug=True)
11
```



The screenshot shows the Visual Studio Code editor with the 'Dockerfile' file open. The Dockerfile contains instructions to build a Docker image for the job portal app. The Explorer sidebar on the left shows the project structure: '2jdocker-jobportal-app' containing 'templates', 'jobportal.py', and 'requirements.txt'. The Dockerfile is also visible in the Explorer.

```
1 FROM python:alpine3.10
2 COPY . /docker-jobportal-app
3 WORKDIR /docker-jobportal-app
4 RUN pip install -r requirements.txt
5 EXPOSE 5002
6 ENTRYPOINT [ "python" ]
7 CMD [ "jobportal.py" ]
8
```

- BUILD A DOCKER IMAGE IN DOCKER DESKTOP FOR JOB PORTAL APP USING CMD



The screenshot shows a Windows Command Prompt window with the following output:

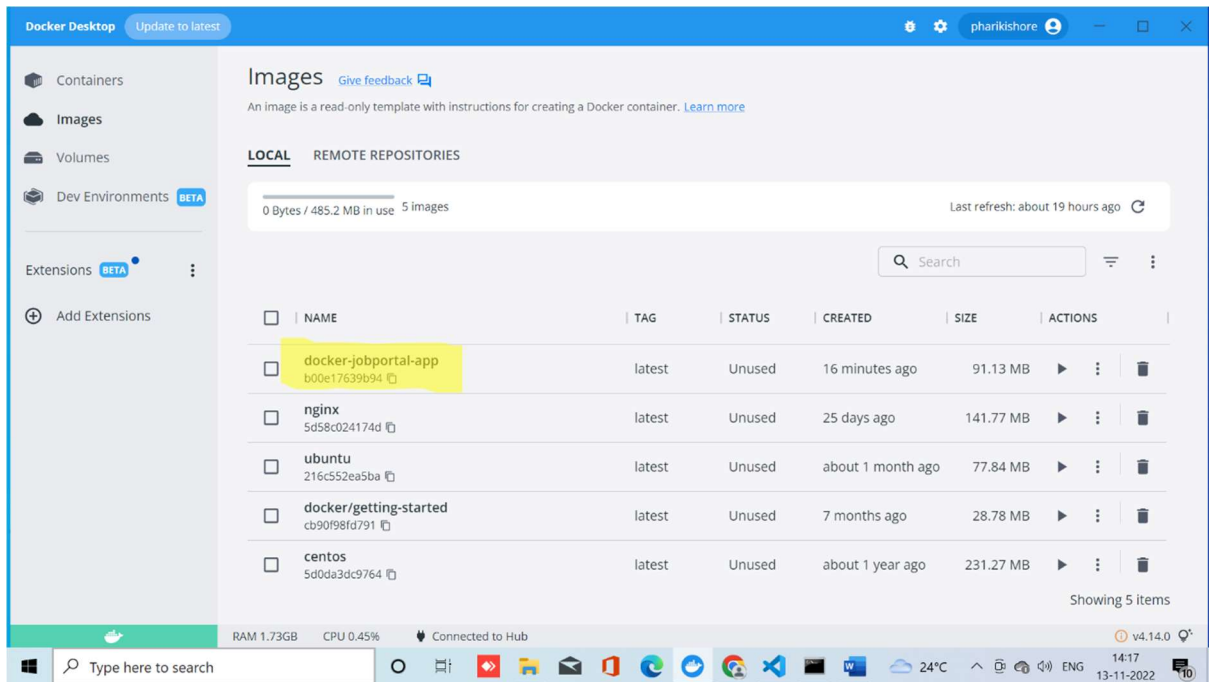
```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.19044.2130]
(c) Microsoft Corporation. All rights reserved.

C:\Users\LENOVO\Desktop\PLASMA APP\Assignments\Team member 1\Assignment-4\2\Docker file for job portal App\docker-jobportal-app>docker build -t docker-jobportal-app .
[+] Building 27.5s (10/10) FINISHED
=> [internal] load build definition from Dockerfile                                2.1s
=> => transferring dockerfile: 223B                                              0.3s
=> [internal] load .dockerignore                                                  1.7s
=> => transferring context: 2B                                                  0.1s
=> [internal] load metadata for docker.io/library/python:alpine3.10             6.2s
=> [auth] library/python:pull token for registry-1.docker.io                   0.0s
=> [internal] load build context                                                 0.3s
=> => transferring context: 2.01kB                                              0.1s
=> CACHED [1/4] FROM docker.io/library/python:alpine3.10@sha256:152b1952d4b42e360f2efd3037df9b645328c0cc6fbc9c63 0.0s
=> [2/4] COPY . /docker-jobportal-app                                           0.5s
=> [3/4] WORKDIR /docker-jobportal-app                                           0.6s
=> [4/4] RUN pip install -r requirements.txt                                    15.8s
=> exporting image                                                              1.3s
=> => exporting layers                                                         1.1s
=> => writing image sha256:b08e17639b940e88cfcbcc84e6e4bb0b3cca3b076b9a3f323c44d7ee6428b 0.1s
=> => naming to docker.io/library/docker-jobportal-app                        0.0s

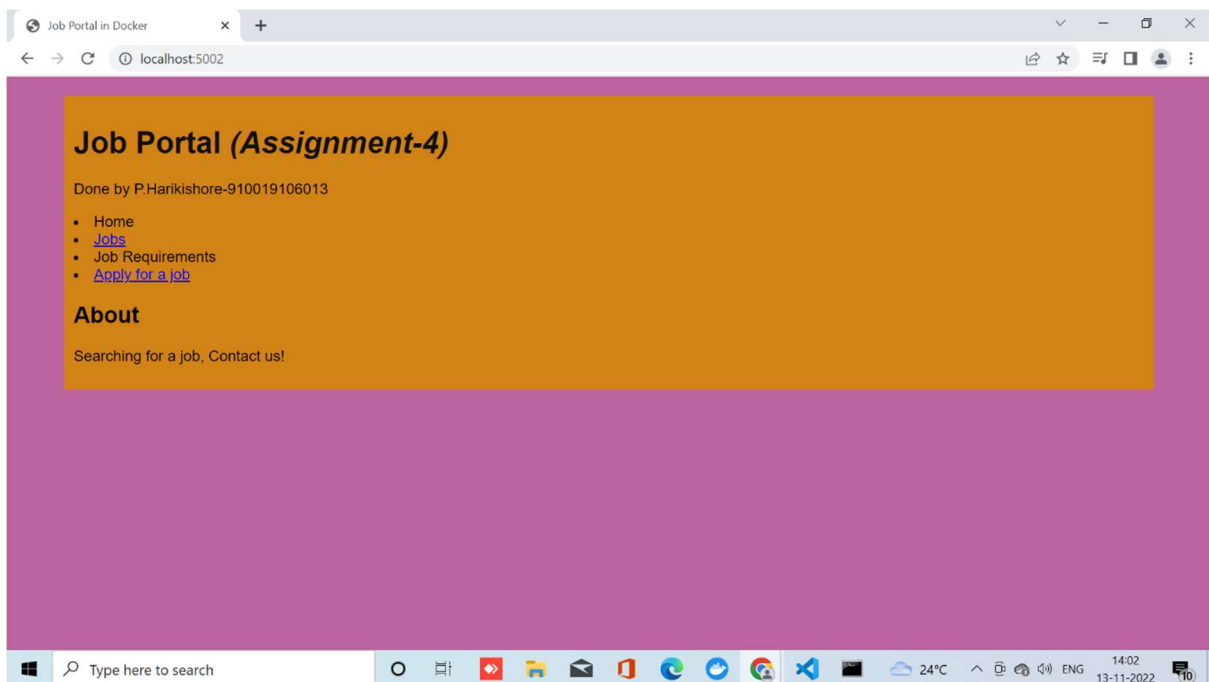
Use 'docker scan' to run Snyk tests against images to find vulnerabilities and learn how to fix them

C:\Users\LENOVO\Desktop\PLASMA APP\Assignments\Team member 1\Assignment-4\2\Docker file for job portal App\docker-jobportal-app>
```

- **RUN THE JOB PORTAL APP DOCKER IMAGE USING CMD**



- **CHECK IN LOCALHOST:5002 FOR JOB PORTAL APP IN DOCKER**

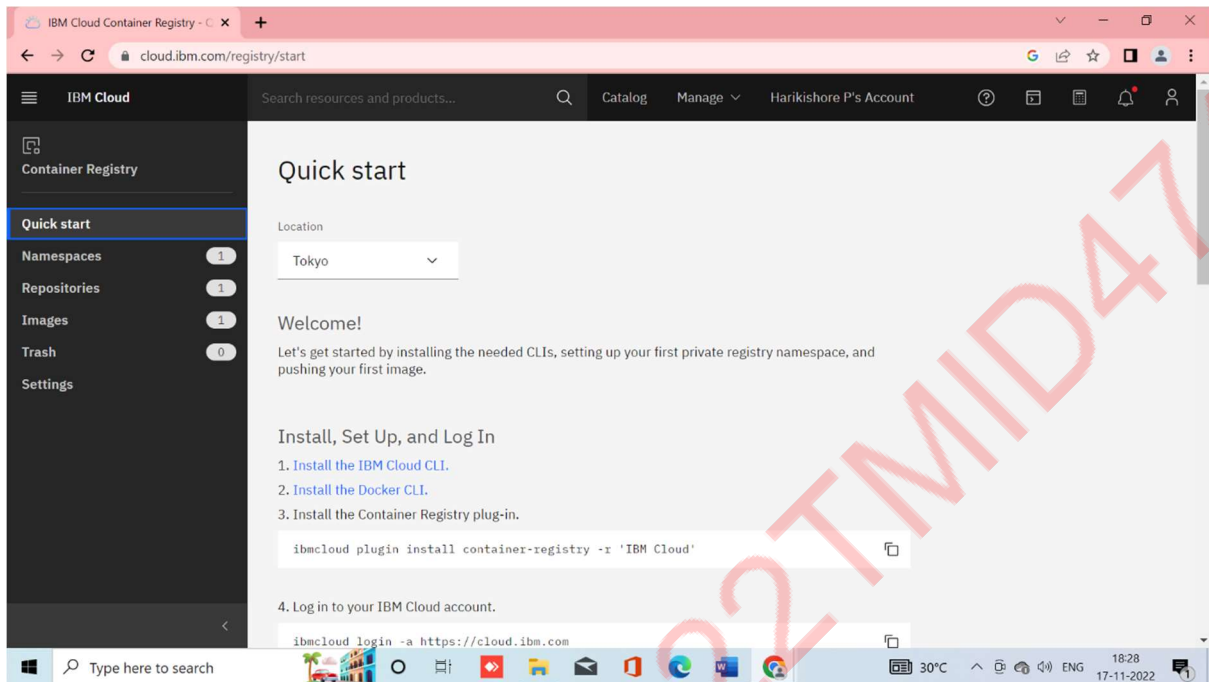


TASK-2 COMPLETED SUCCESSFULLY!

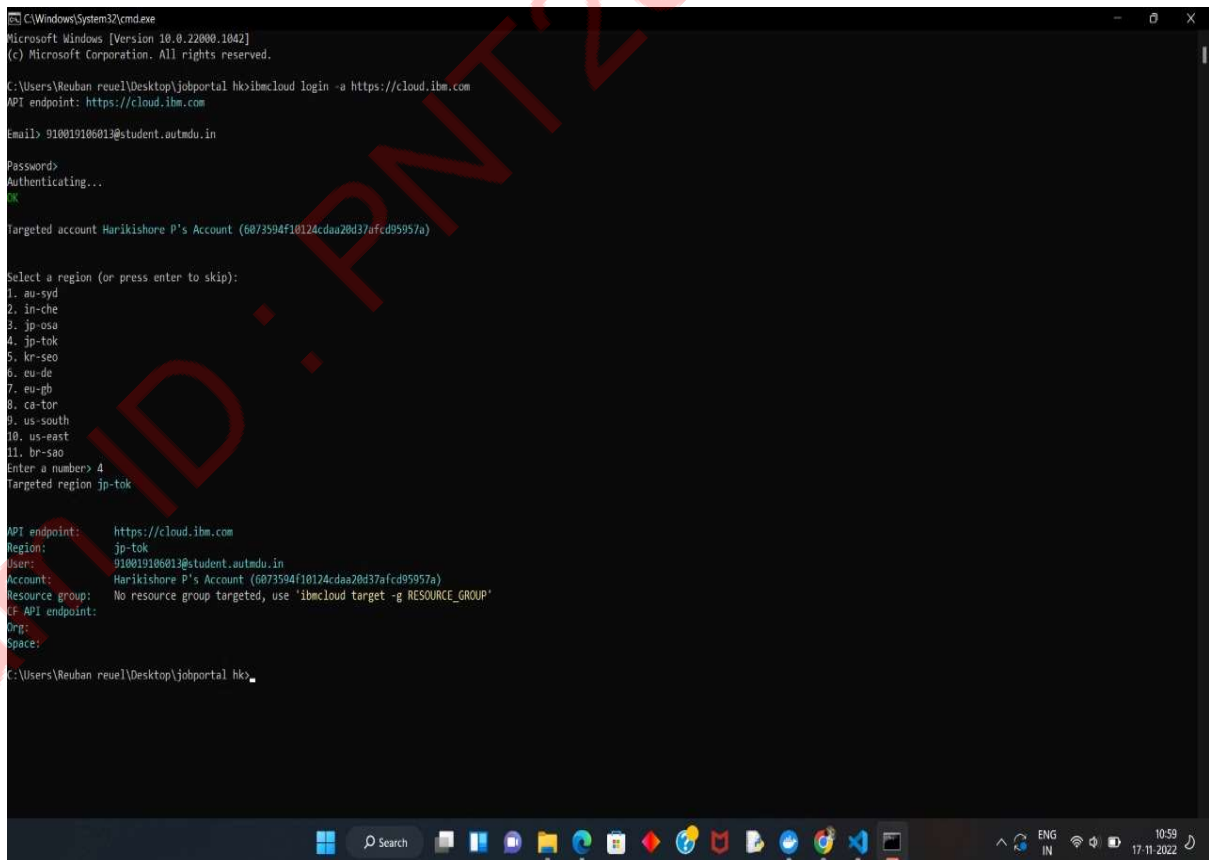
Assignment-4(P.HARIKISHORE-910019106013)

TASK-3) Push the Docker image for job portal app to IBM Container Registry

- **LOGIN TO IBM CLOUD AND CREATE IBM CONTAINER REGISTRY**



- **LOGIN TO IBM CLOUD CLI USING CMD**



- LOGIN TO DOCKER CLI AND PUSH THE IMAGE TO IBM CONTAINER REGISTRY

```
C:\Windows\System32\cmd.exe
C:\Users\Reuban reuel\Desktop\docker-jobportal-app>ibmcloud cr namespace-add harikishore
No resource group is targeted. Therefore, the default resource group for the account ('Default') is targeted.
Adding namespace 'harikishore' in resource group 'Default' for account Harikishore P's Account in registry jp.icr.io...
Successfully added namespace 'harikishore'

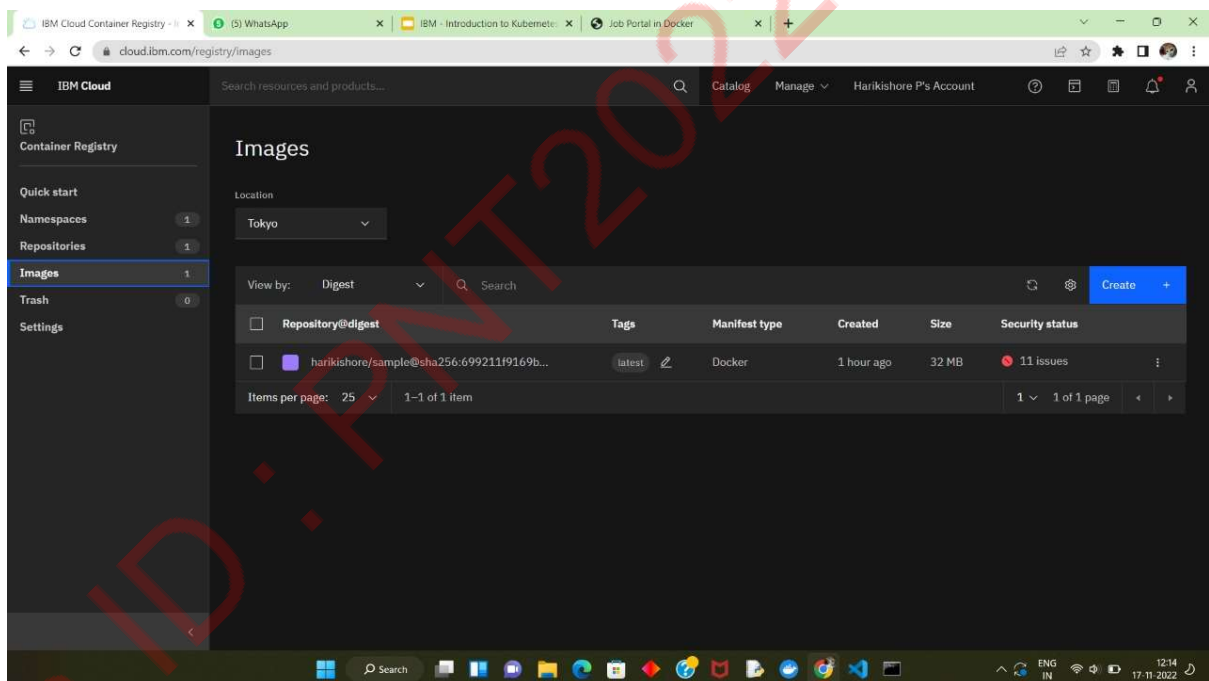
C:\Users\Reuban reuel\Desktop\docker-jobportal-app>ibmcloud cr login
Logging 'docker' in to 'jp.icr.io'...
Logged in to 'jp.icr.io'.

C:\Users\Reuban reuel\Desktop\docker-jobportal-app>docker tag docker-jobportal-app jp.icr.io/harikishore/sample:latest
The push refers to repository [jp.icr.io/harikishore/sample]
e5daeca6eb0e: Pushed
5f70bf18a086: Pushed
ab15e91bf40: Pushed
4e63322489a3: Pushed
798f2b6fd71c: Pushed
e1c1f40b85cc: Pushed
057be770731c: Pushed
1b3ee35aacca: Pushed
latest: digest: sha256:699211f9169beca8ccea7357efcd36975975f5b34cc8b788724b24611cef9957 size: 1993

C:\Users\Reuban reuel\Desktop\docker-jobportal-app>ibmcloud cr image-list
Listing images...

Repository      Tag      Digest      Namespace      Created      Size      Security status
jp.icr.io/harikishore/sample  latest  699211f9169b  harikishore    7 minutes ago  32 MB    -
```

- OUTPUT IN IBM CONTAINER REGISTRY

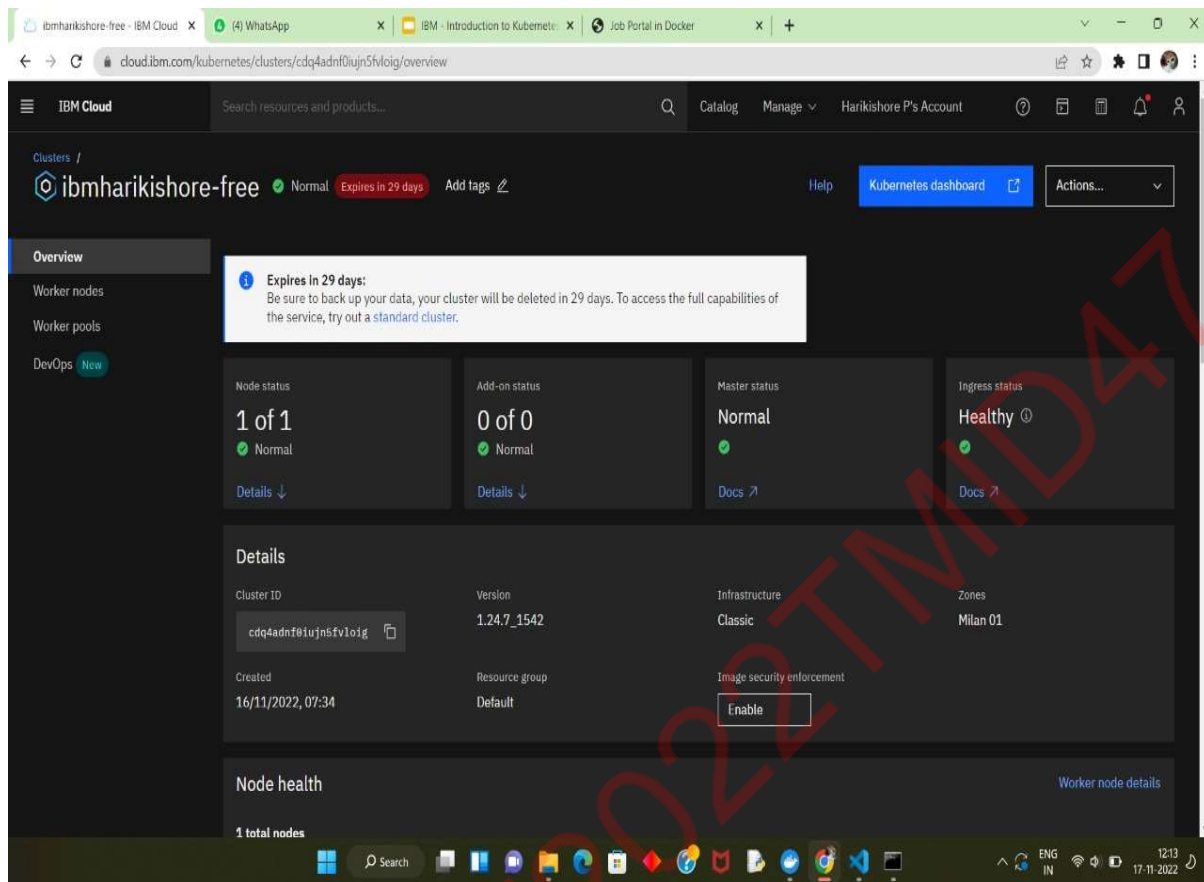


TASK-3) COMPLETED SUCCESSFULLY!

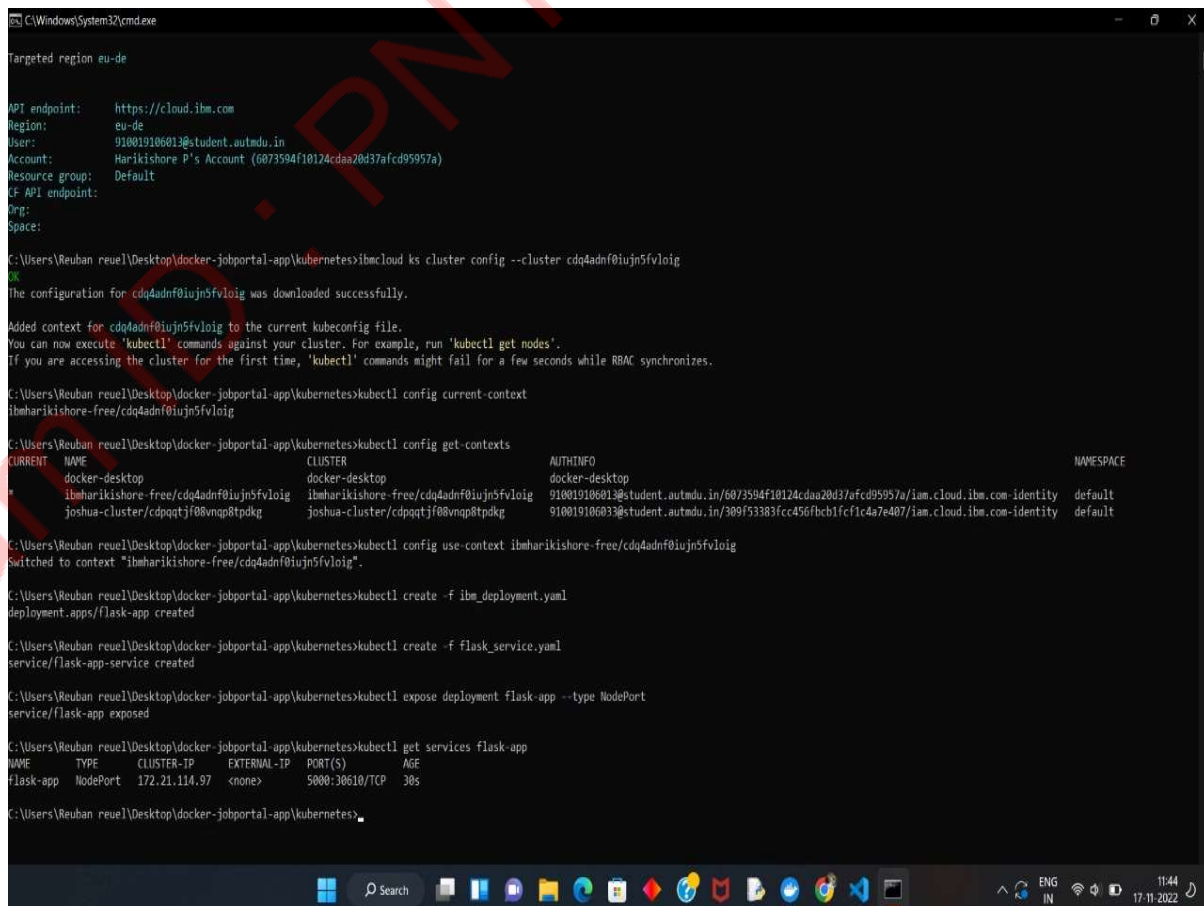
Assignment-4(P.HARIKISHORE-910019106013)

TASK-4): Create Kubernetes cluster in IBM cloud and deploy job portal app in Kubernetes cluster

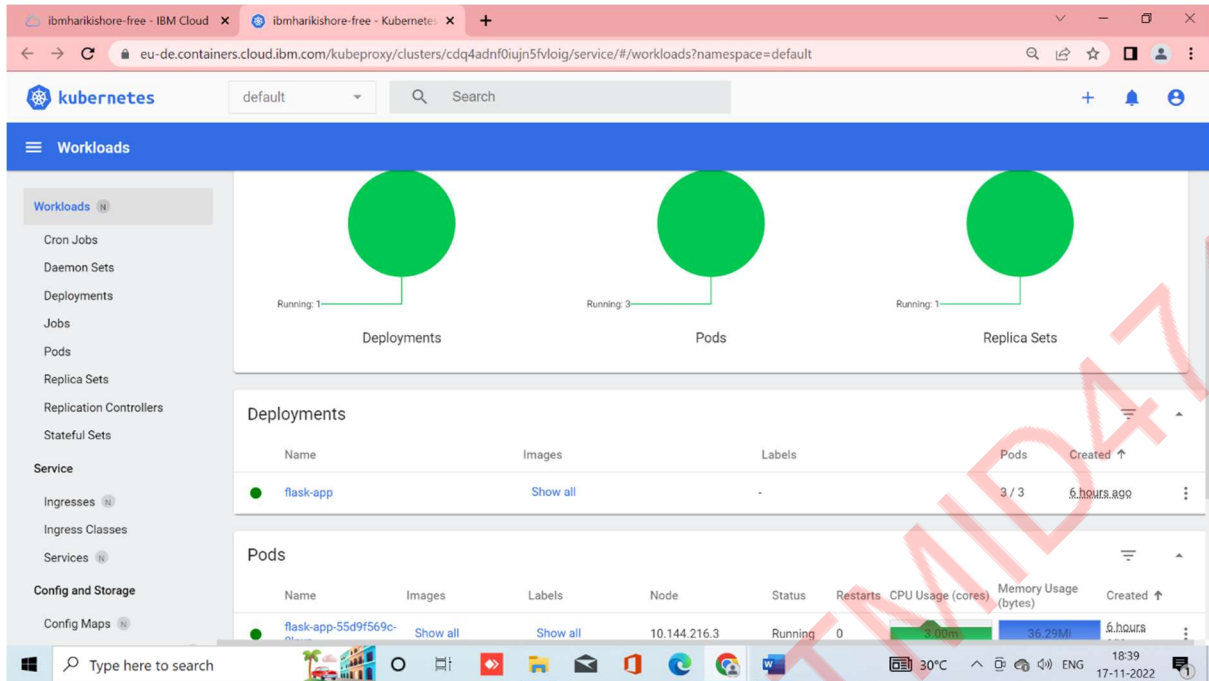
- Create Kubernetes Cluster in IBM Cloud



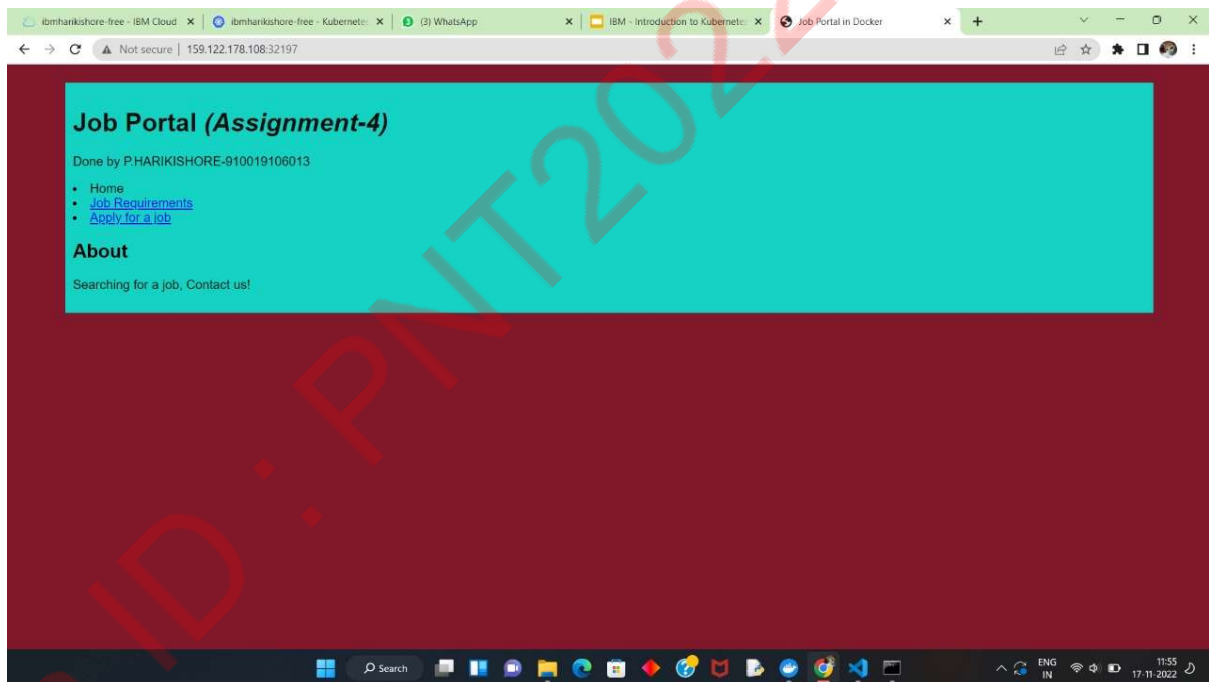
- Deploy job-portal-app in Kubernetes Cluster using CMD



- **Generate NodePort Link and check in IBM Kubernetes Dashboard**



- **Check for job portal in Node Link**



TASK-4) COMPLETED SUCESSFULLY!