ASSIGNMENT 4

Kubernetes / Docker

Date	02.11.2022
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Marks	2 marks

QUESTIONS:

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

2.Create a docker file for the job portal 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.

SOLUTIONS: -

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

IMAGE PULLED: PYTHON

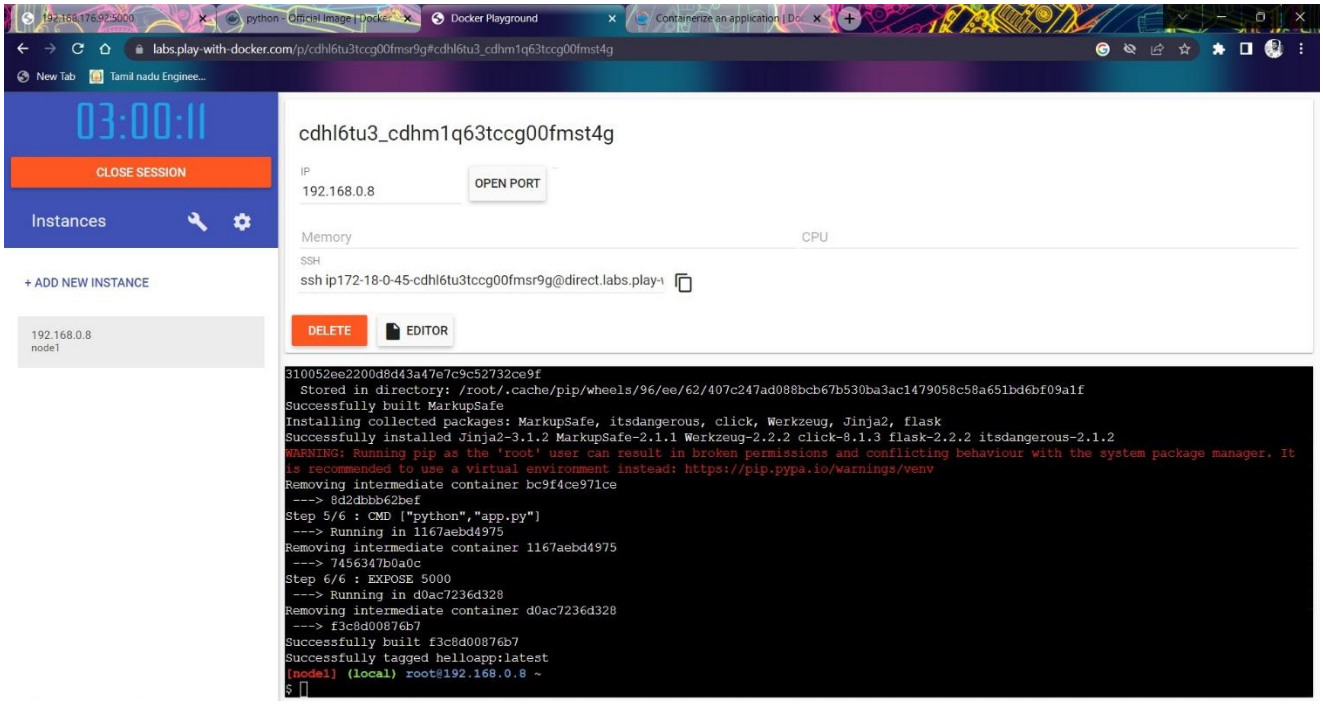
app.py

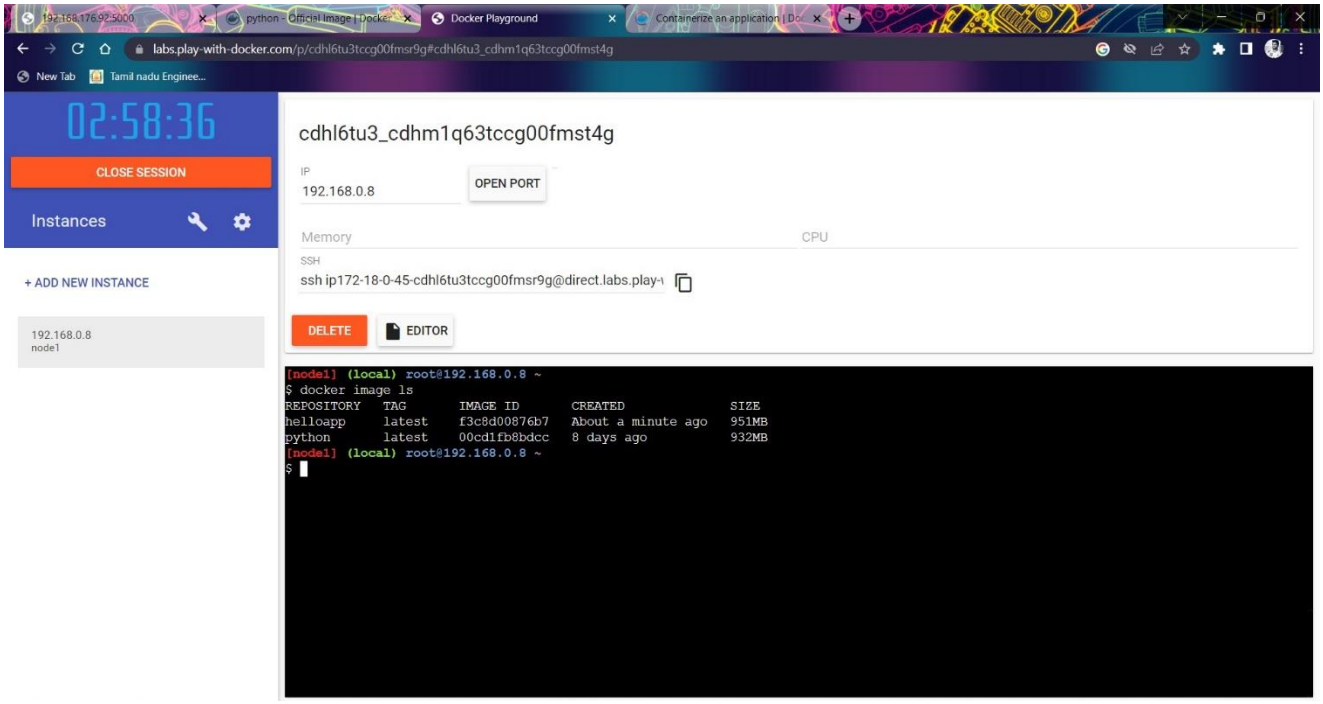
```
from flask import Flask
app=Flask(__name__)
import os
@app.route("/")
def home():
   return "Hello"
```

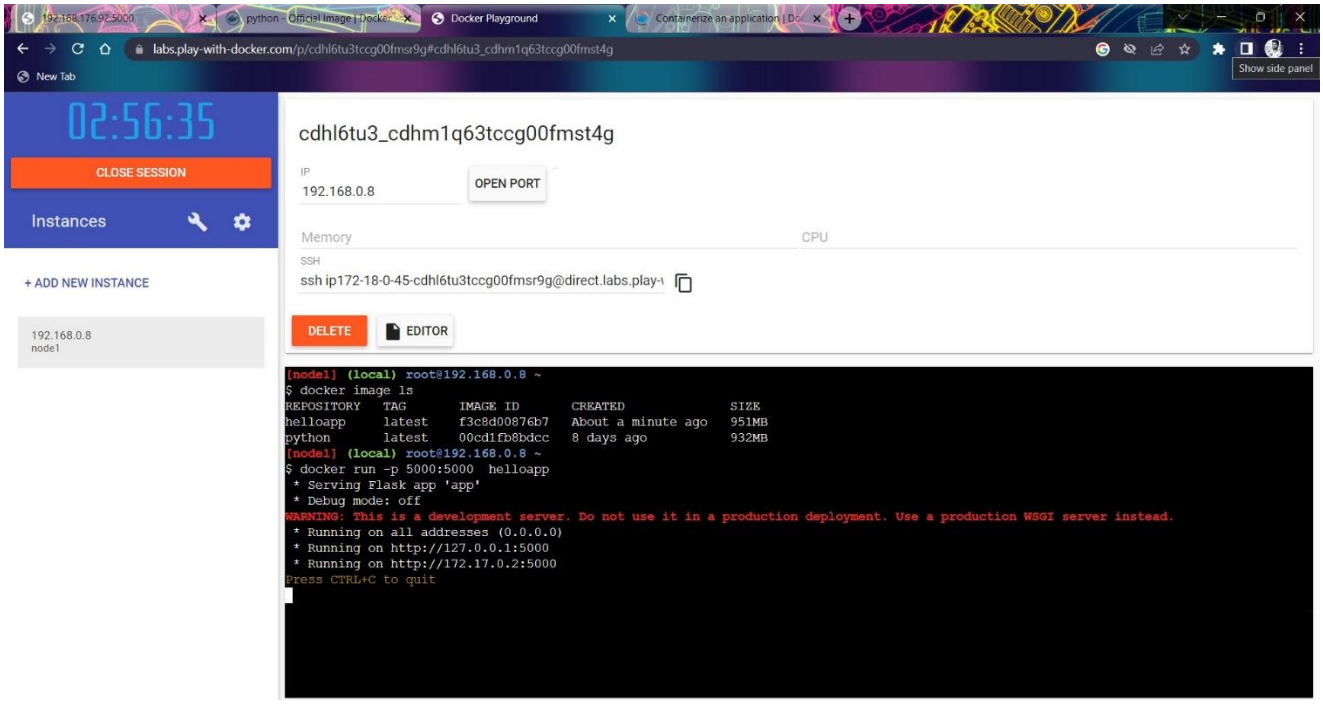
```
if __name__=='__main__':
    port=int(os.environ.get('PORT',5000))
    app.run(host='0.0.0.0',port=port)
```

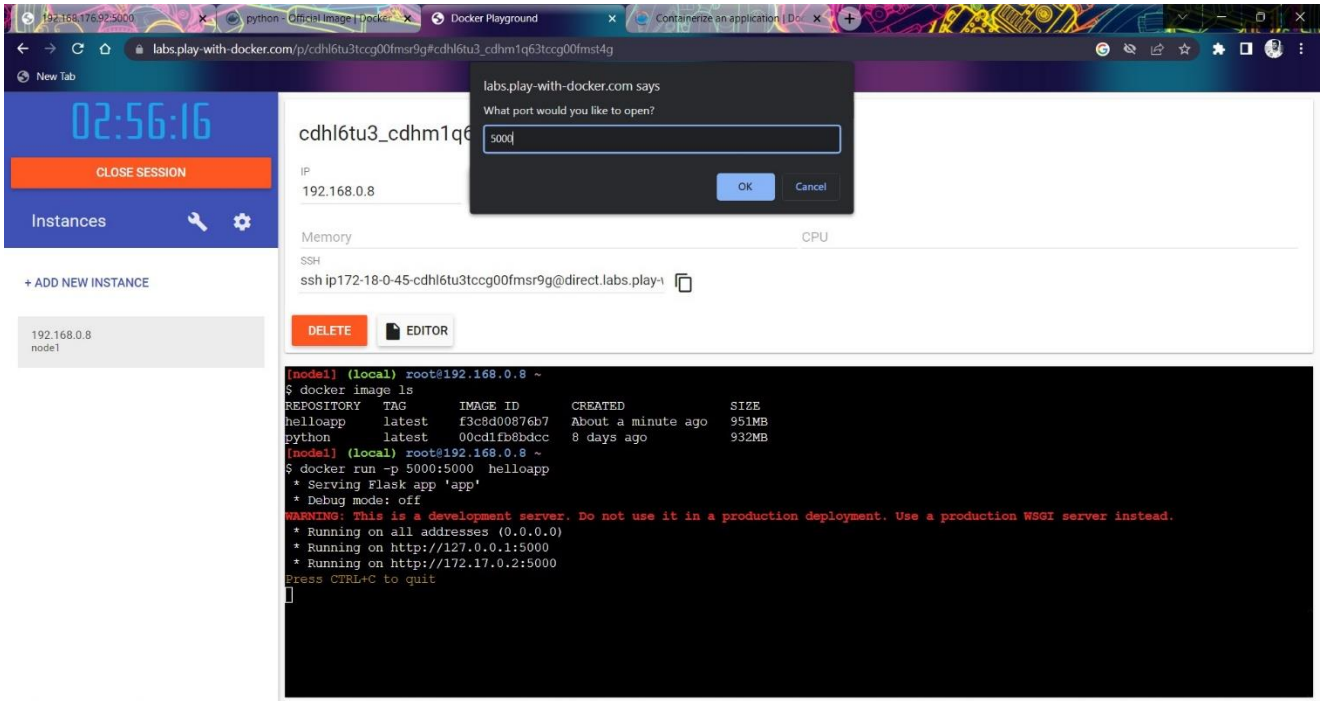
Dockerfile code

```
FROM python
WORKDIR /app
COPY . .
RUN pip install -r requirement.txt
CMD ["python","app.py"]
EXPOSE 5000
```




Docker Playground
labs.play-with-docker.com/p/cdhl6tu3tccg00fmsr9g#cdhl6tu3_cdhm1q63tccg00fmst4g
New Tab
Tamil nadu Enginee...
02:58:36
CLOSE SESSION
Instances
+ ADD NEW INSTANCE
192.168.0.8
node1
cdhl6tu3_cdhm1q63tccg00fmst4g
IP
192.168.0.8
OPEN PORT
Memory
CPU
SSH
ssh ip172-18-0-45-cdhl6tu3tccg00fmsr9g@direct.labs.play-
DELETE
EDITOR
[node1] (local) root@192.168.0.8 ~
$ docker image ls
REPOSITORY TAG IMAGE ID CREATED SIZE
helloapp latest f3c8d00876b7 About a minute ago 951MB
python latest 00cd1fb8bdcc 8 days ago 932MB
[node1] (local) root@192.168.0.8 ~
$


Docker Playground
labs.play-with-docker.com/p/cdhl6tu3tccg00fmsr9g#cdhl6tu3_cdhm1q63tccg00fmst4g
New Tab
Show side panel
02:56:35
CLOSE SESSION
Instances
+ ADD NEW INSTANCE
192.168.0.8
node1
cdhl6tu3_cdhm1q63tccg00fmst4g
IP
192.168.0.8
OPEN PORT
Memory
CPU
SSH
ssh ip172-18-0-45-cdhl6tu3tccg00fmsr9g@direct.labs.play-
DELETE
EDITOR
[node1] (local) root@192.168.0.8 ~
$ docker image ls
REPOSITORY TAG IMAGE ID CREATED SIZE
helloapp latest f3c8d00876b7 About a minute ago 951MB
python latest 00cd1fb8bdcc 8 days ago 932MB
[node1] (local) root@192.168.0.8 ~
$ docker run -p 5000:5000 helloapp
* Serving Flask app 'app'
* Debug mode: off
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
* Running on all addresses (0.0.0.0)
* Running on http://127.0.0.1:5000
* Running on http://172.17.0.2:5000
Press CTRL+C to quit


Docker Playground
labs.play-with-docker.com/p/cdhl6tu3tccg00fmsr9g#cdhl6tu3_cdhm1q63tccg00fmst4g
New Tab
02:56:16
CLOSE SESSION
Instances
+ ADD NEW INSTANCE
192.168.0.8
node1
labs.play-with-docker.com says
What port would you like to open?
5000
OK
Cancel
cdhl6tu3_cdhm1q6
IP
192.168.0.8
Memory
CPU
SSH
ssh ip172-18-0-45-cdhl6tu3tccg00fmsr9g@direct.labs.play-
DELETE
EDITOR
[node1] (local) root@192.168.0.8 ~
$ docker image ls
REPOSITORY TAG IMAGE ID CREATED SIZE
helloapp latest f3c8d00876b7 About a minute ago 951MB
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[node1] (local) root@192.168.0.8 ~
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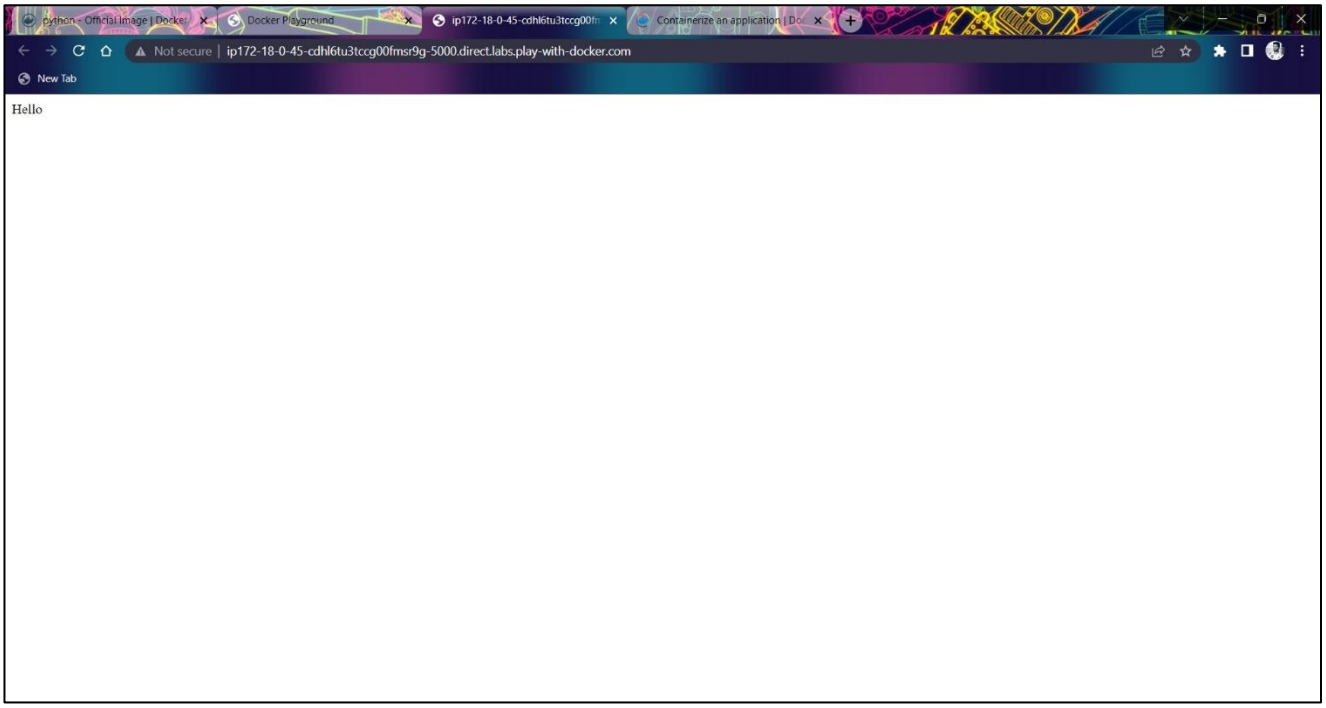
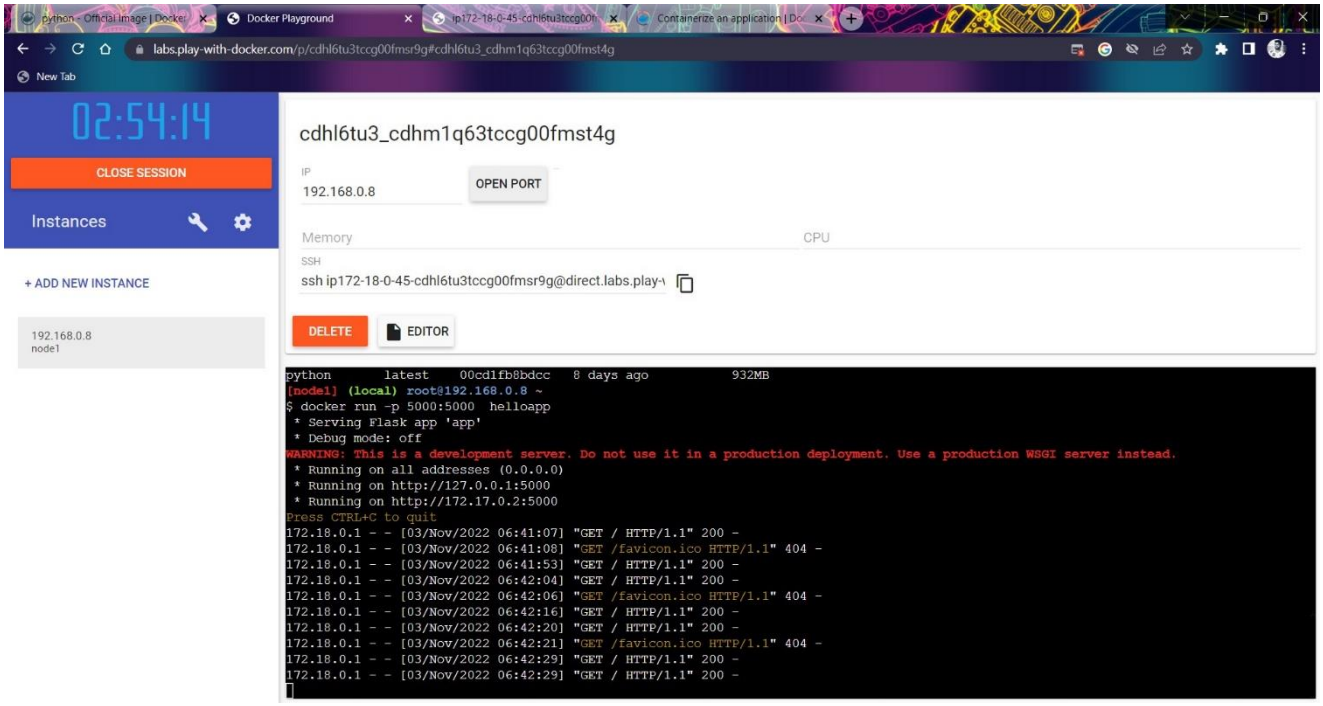
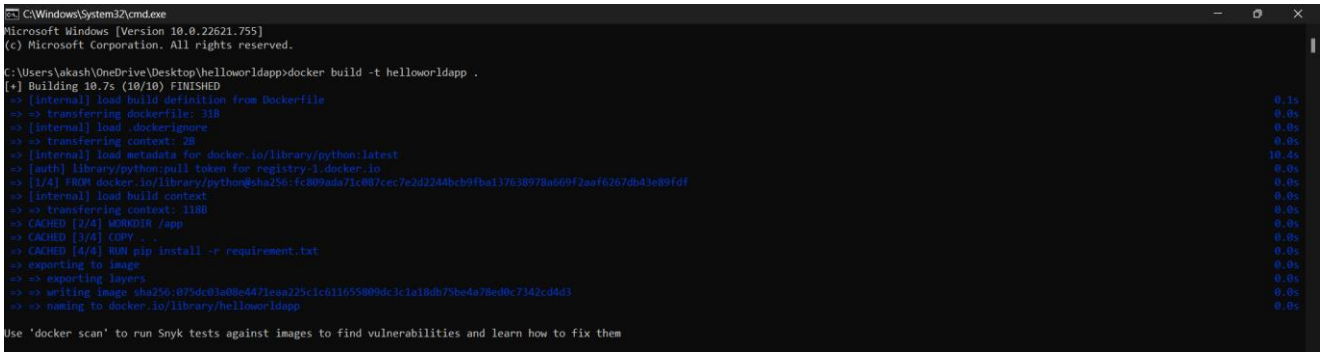
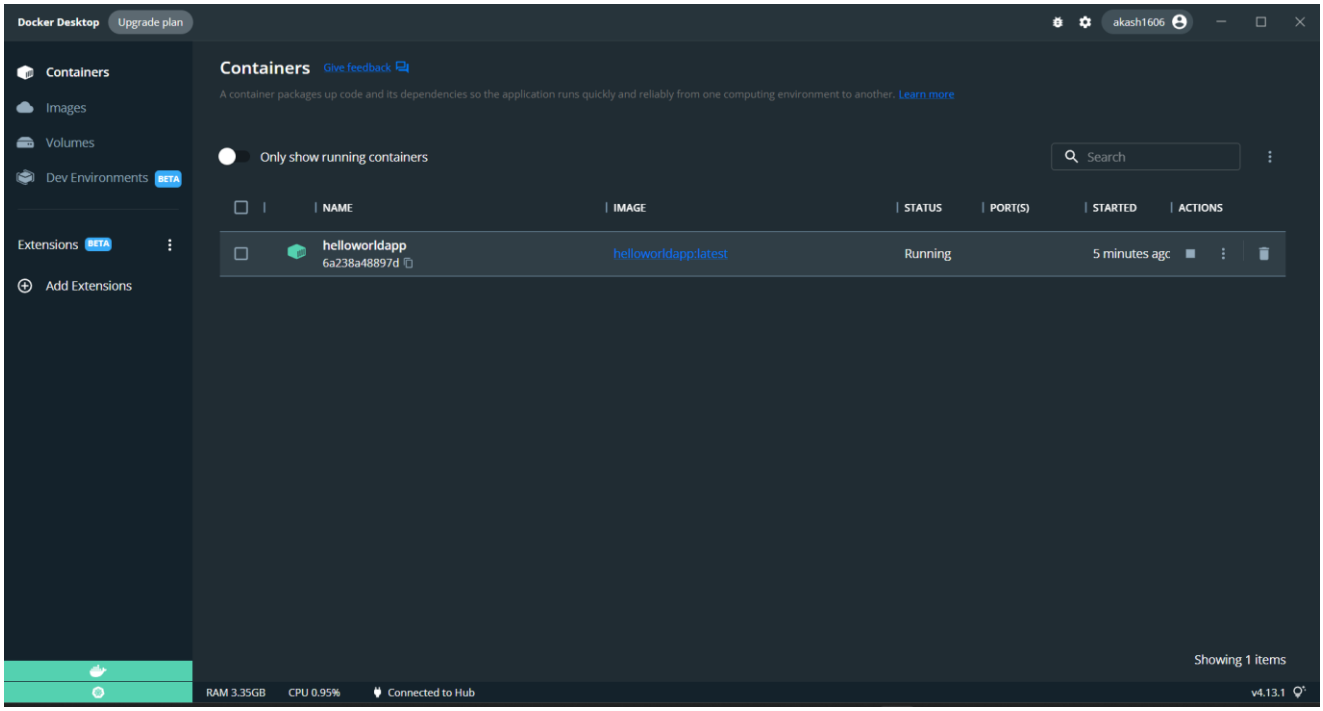
* Running on http://172.17.0.2:5000
Press CTRL+C to quit


Not secure | ip172-18-0-45-cdhl6tu3tccg00fmsr9g-5000.direct.labs.play-with-docker.com
New Tab
Hello



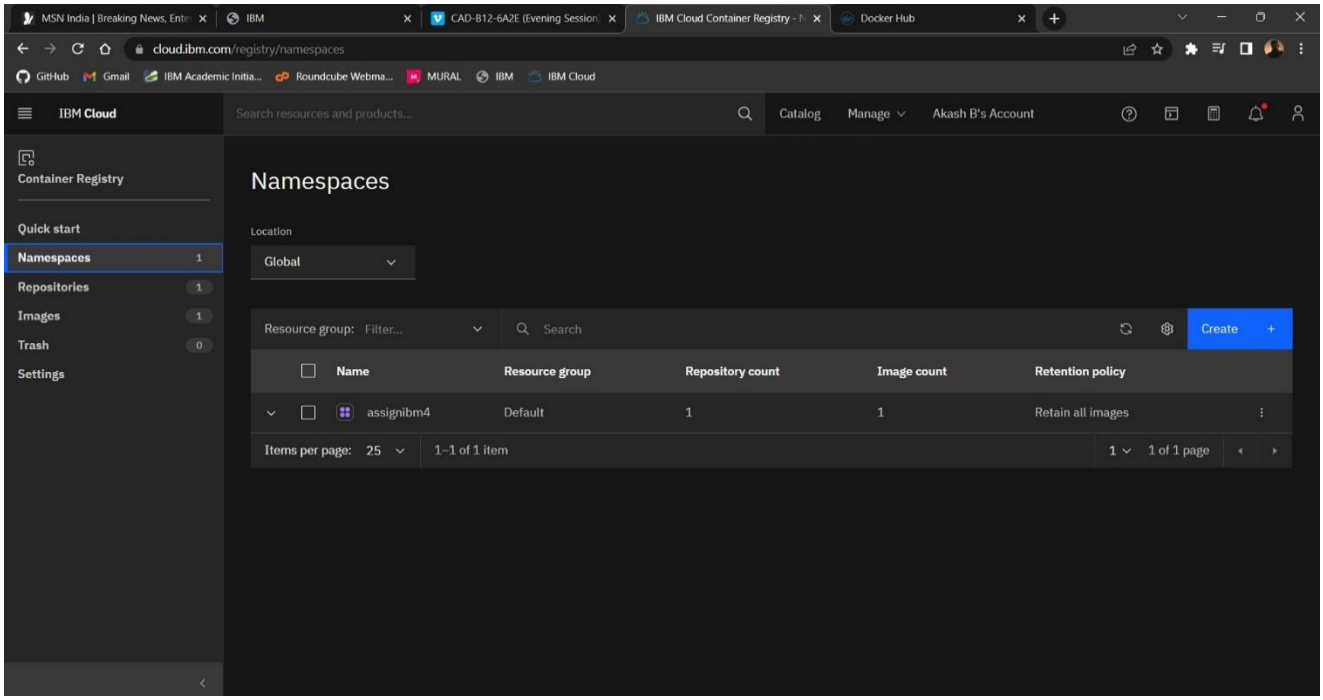
2.Create a docker file for the job portal application and deploy it in Docker desktop application.

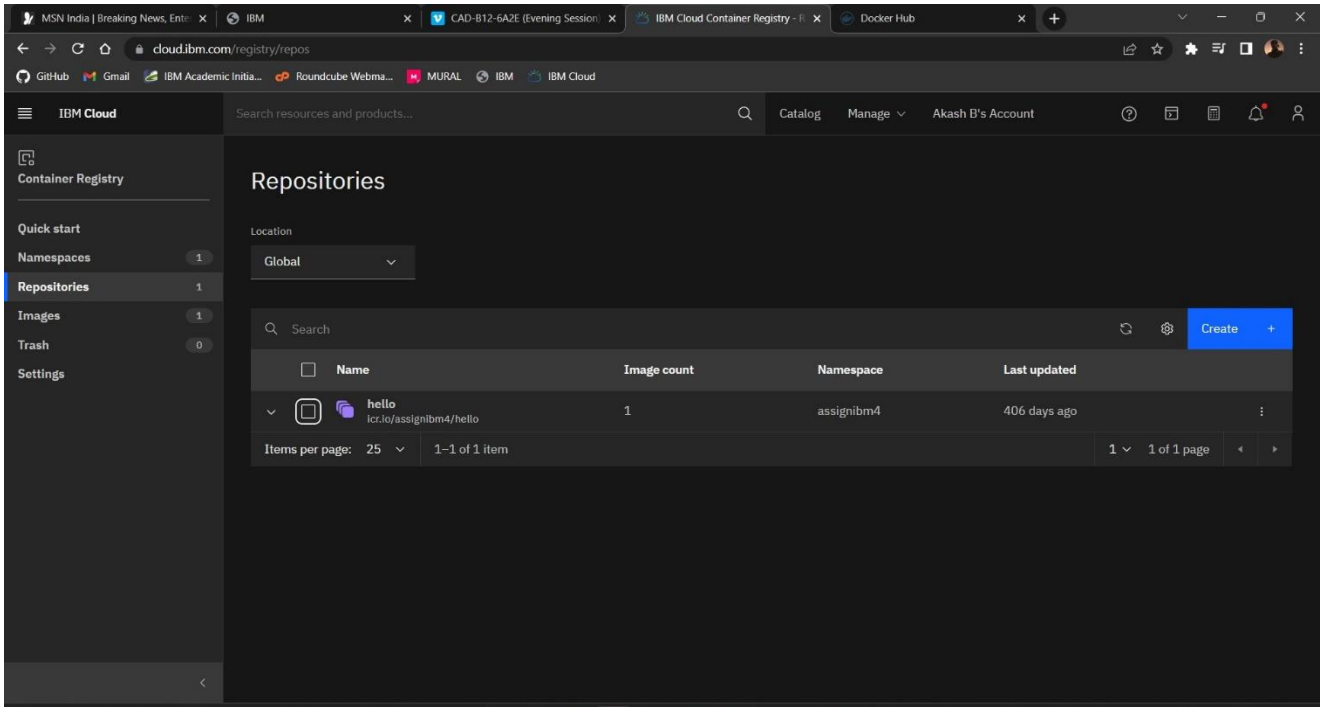


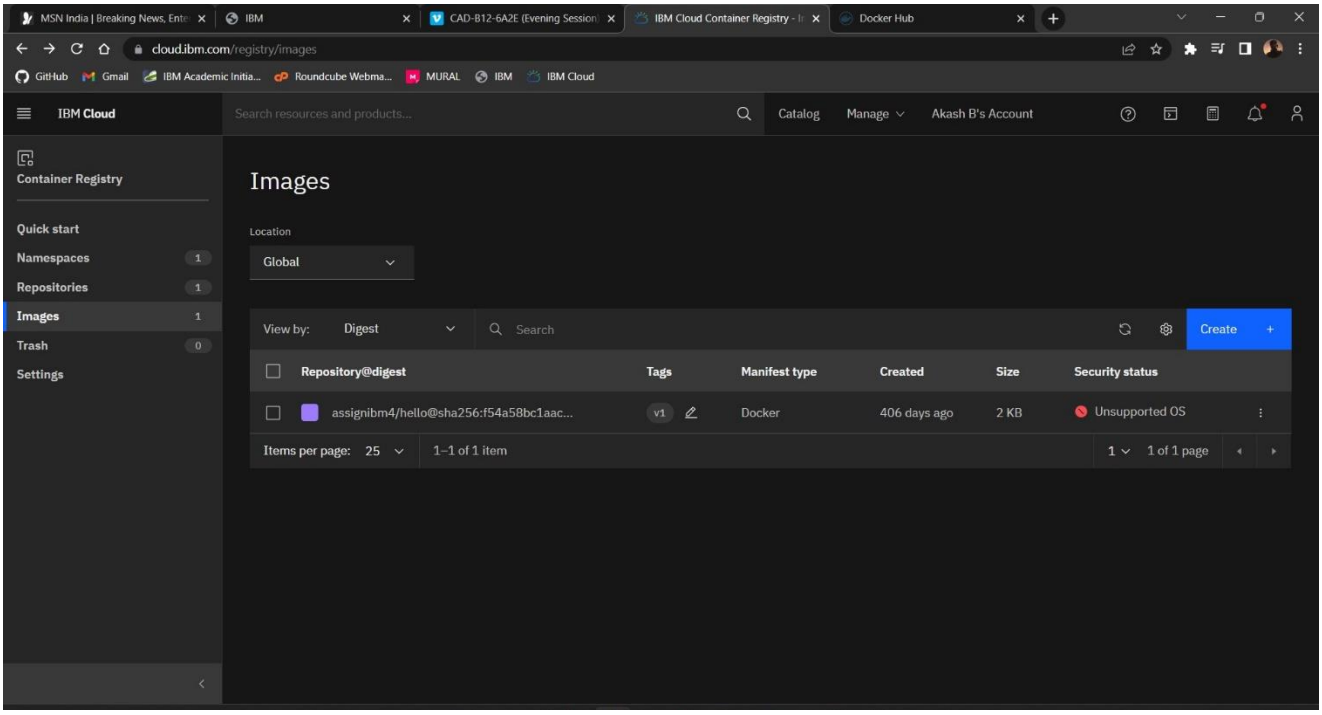


3.Create a IBM container registry and deploy helloworld app or jobportalapp

Deployed: helloworldapp




cloud.ibm.com/registry/repos
IBM Cloud
Search resources and products...
Catalog
Manage
Akash B's Account
Container Registry
Quick start
Namespaces 1
Repositories 1
Images 1
Trash 0
Settings
Repositories
Location
Global
Search
Create
Name
Image count
Namespace
Last updated
hello
icr.io/assignibm4/hello
1
assignibm4
406 days ago
Items per page: 25
1–1 of 1 item
1 of 1 page


cloud.ibm.com/registry/images
IBM Cloud
Search resources and products...
Catalog
Manage
Akash B's Account
Container Registry
Quick start
Namespaces 1
Repositories 1
Images 1
Trash 0
Settings
Images
Location
Global
View by:
Digest
Search
Create
Repository@digest
Tags
Manifest type
Created
Size
Security status
assignibm4/hello@sha256:f54a58bc1aac...
v1
Docker
406 days ago
2 KB
Unsupported OS
Items per page: 25
1–1 of 1 item
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.