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

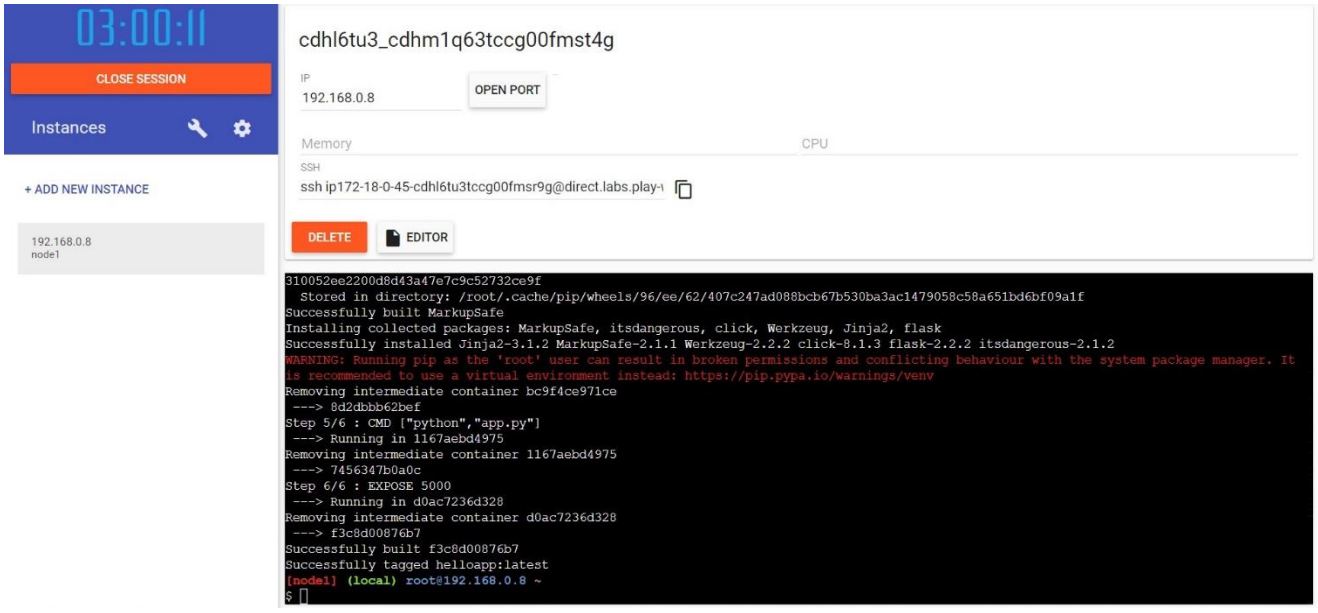
app.py

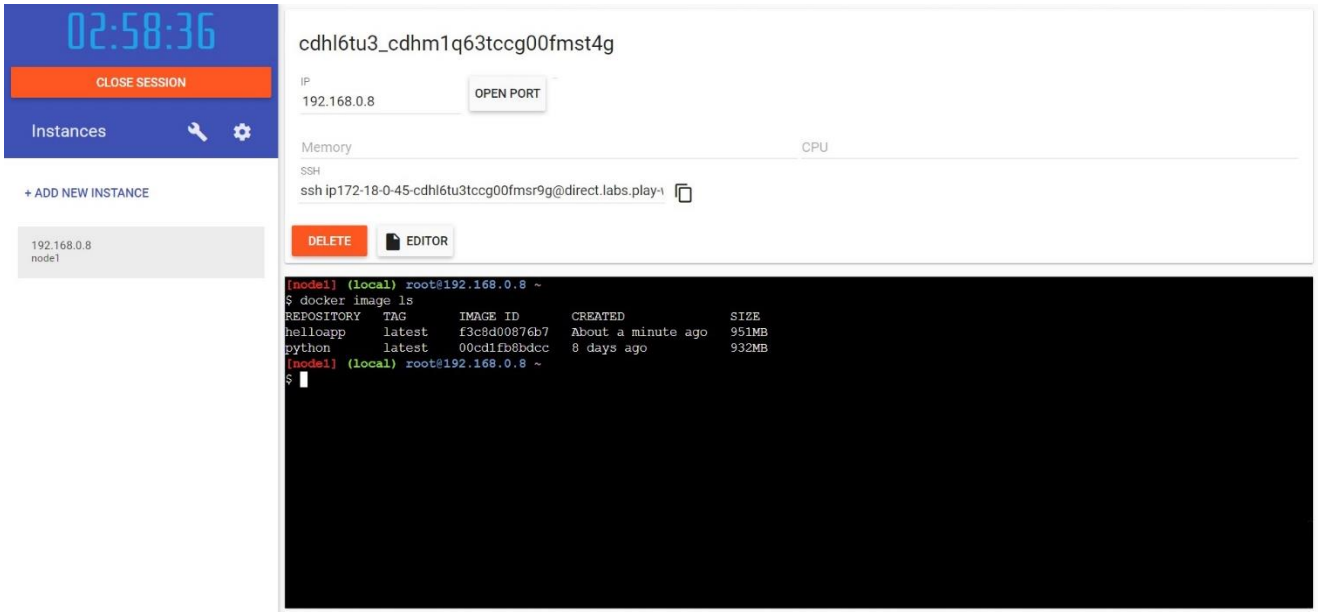
```
from flask import Flask
app=Flask(__name__)
import os
@app.route("/")
def home():
   return "Hello"
```

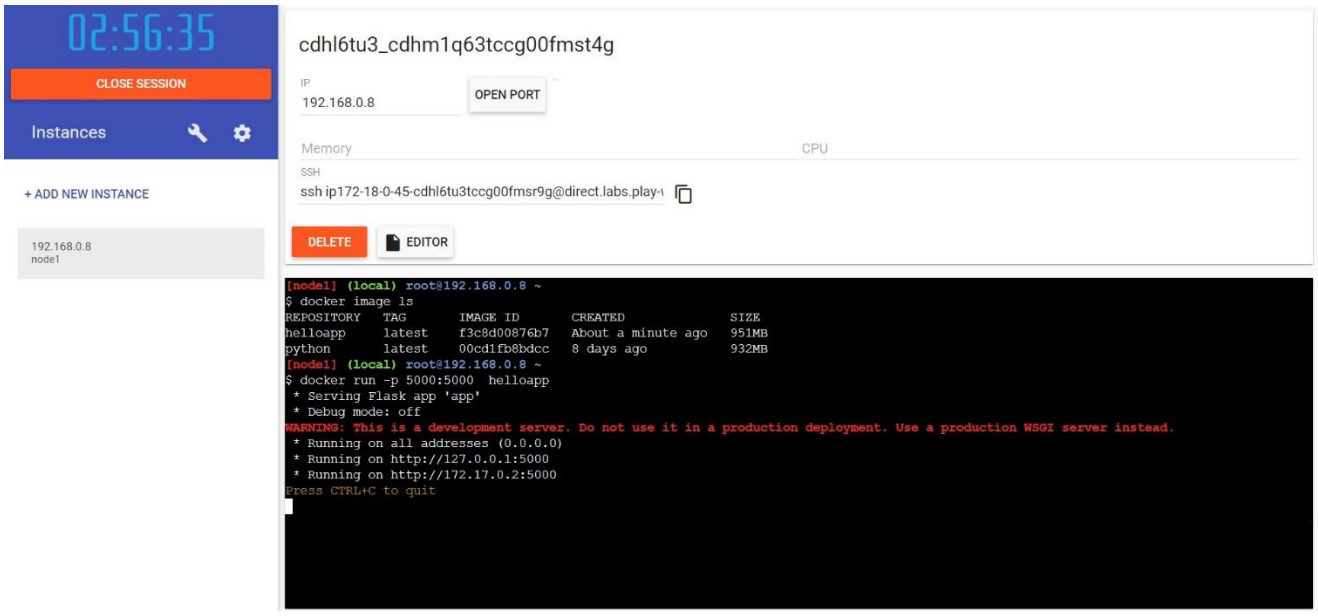
```
if __name__=="__main__":
    port=int(os.environ.get('PORT',5000))
    app.run(host='0.0.0.0',port=port)
```

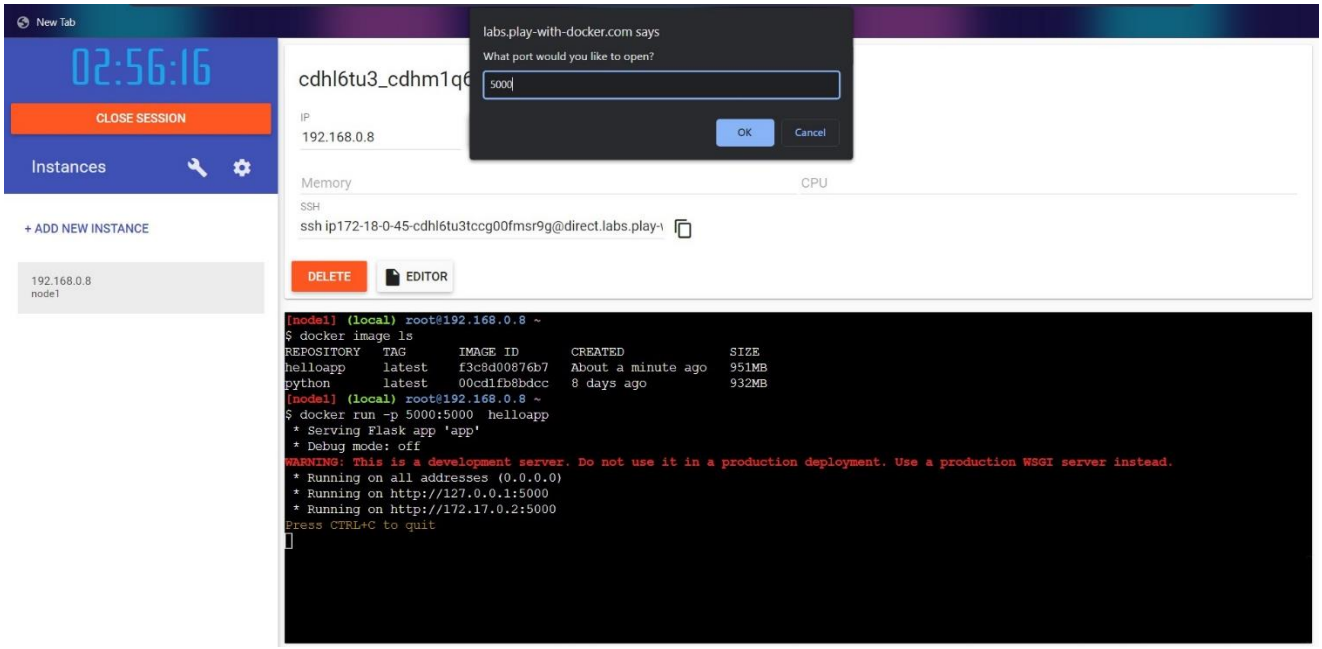
Dockerfile code

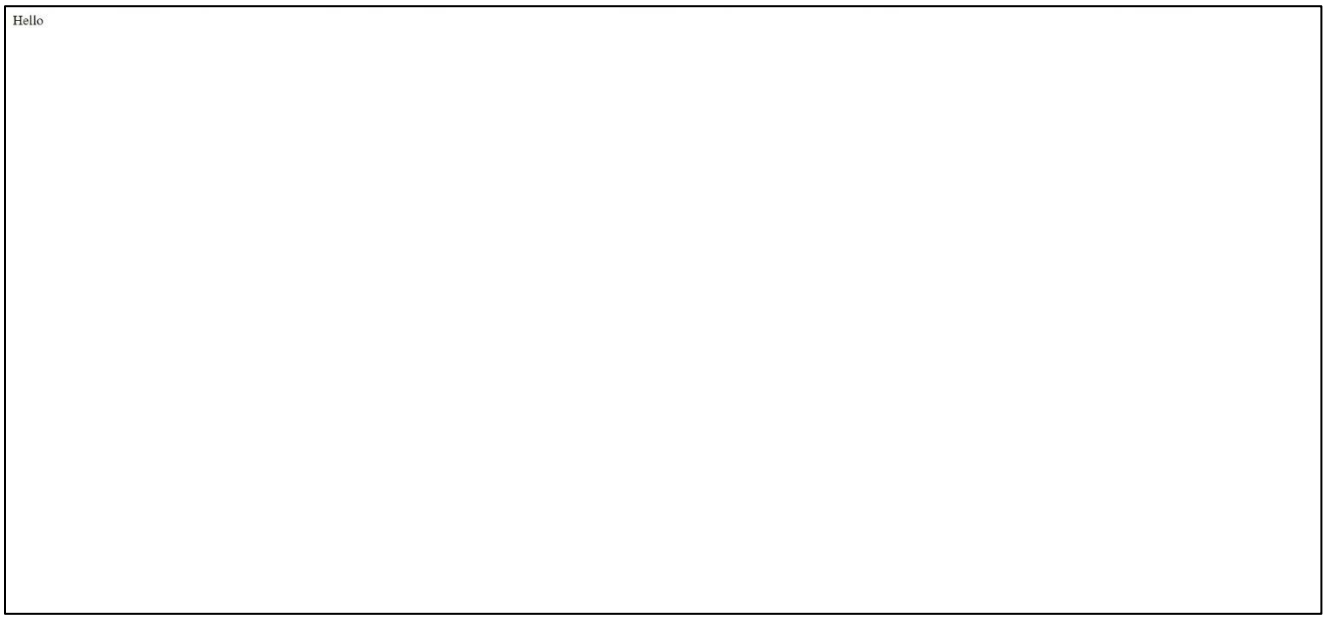
```
FROM python
WORKDIR /app
COPY . .
RUN pip install -r requirement.txt
CMD ["python","app.py"]
EXPOSE 5000
```

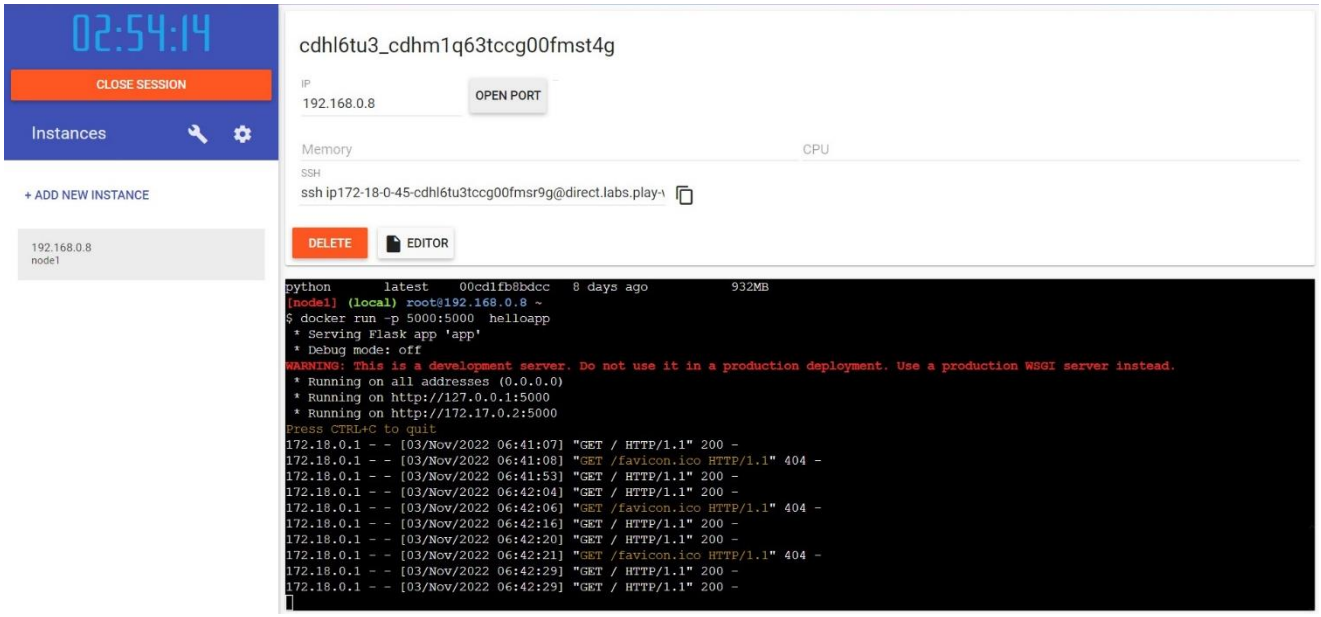



02:58:36
CLOSE SESSION
Instances
+ ADD NEW INSTANCE
192.168.0.8
node1
cdhl6tu3_cdhm1q63tccg00fmst4g
IP
192.168.0.8
OPEN PORT
Memory
CPU
SSH
ssh ip172-18-0-45-cdhl6tu3tccg00fmsr9g@direct.labs.play-
DELETE
EDITOR
[node1] (local) root@192.168.0.8 ~
$ docker image ls
REPOSITORY TAG IMAGE ID CREATED SIZE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

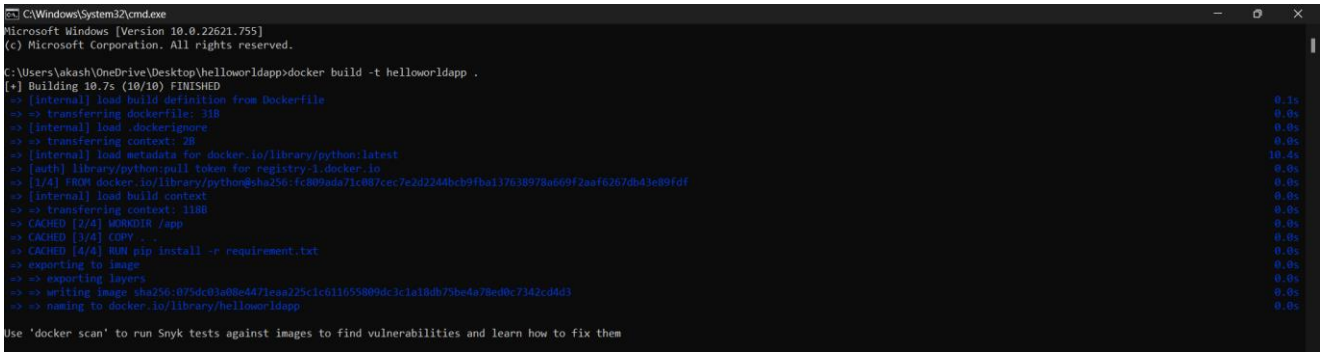

02:56:35
CLOSE SESSION
Instances
+ ADD NEW INSTANCE
192.168.0.8
node1
cdhl6tu3_cdhm1q63tccg00fmst4g
IP
192.168.0.8
OPEN PORT
Memory
CPU
SSH
ssh ip172-18-0-45-cdhl6tu3tccg00fmsr9g@direct.labs.play-
DELETE
EDITOR
[node1] (local) root@192.168.0.8 ~
$ docker image ls
REPOSITORY TAG IMAGE ID CREATED SIZE
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

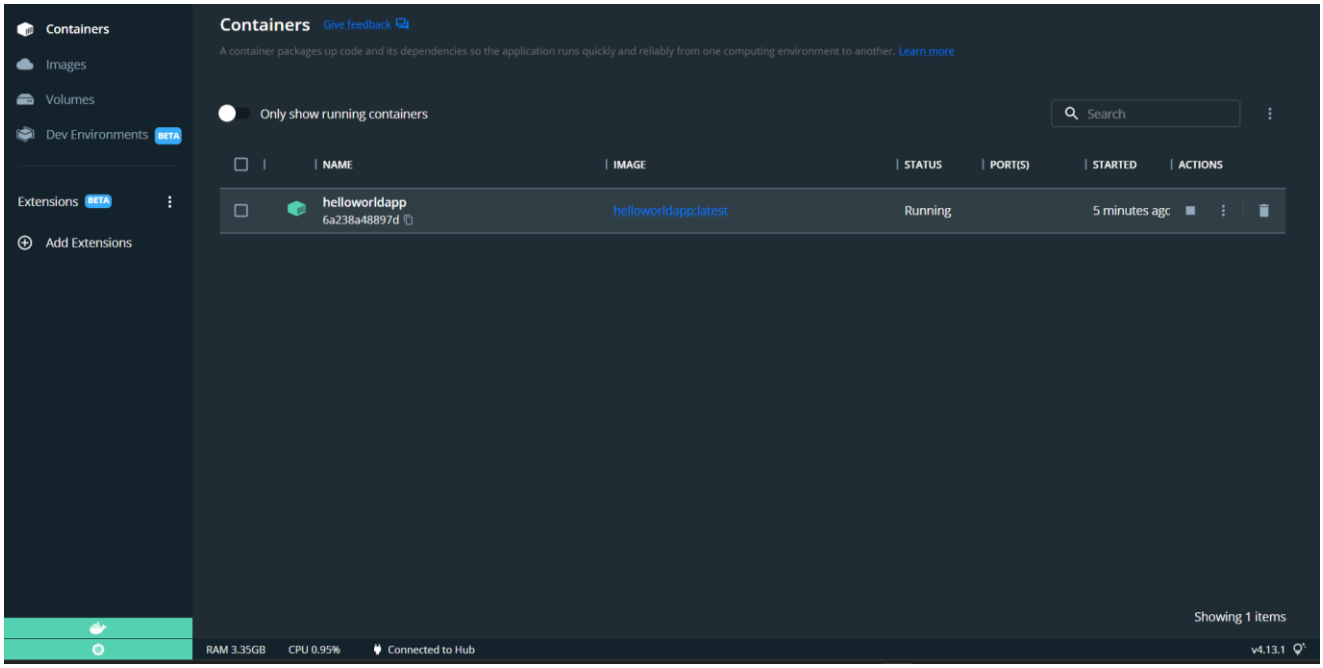

New Tab
02:56:16
CLOSE SESSION
Instances
+ ADD NEW INSTANCE
192.168.0.8
node1
labs.play-with-docker.com says
What port would you like to open?
5000
OK
Cancel
cdhl6tu3_cdhm1q6
IP
192.168.0.8
Memory
CPU
SSH
ssh ip172-18-0-45-cdhl6tu3tccg00fmsr9g@direct.labs.play-
DELETE
EDITOR
[node1] (local) root@192.168.0.8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


Hello



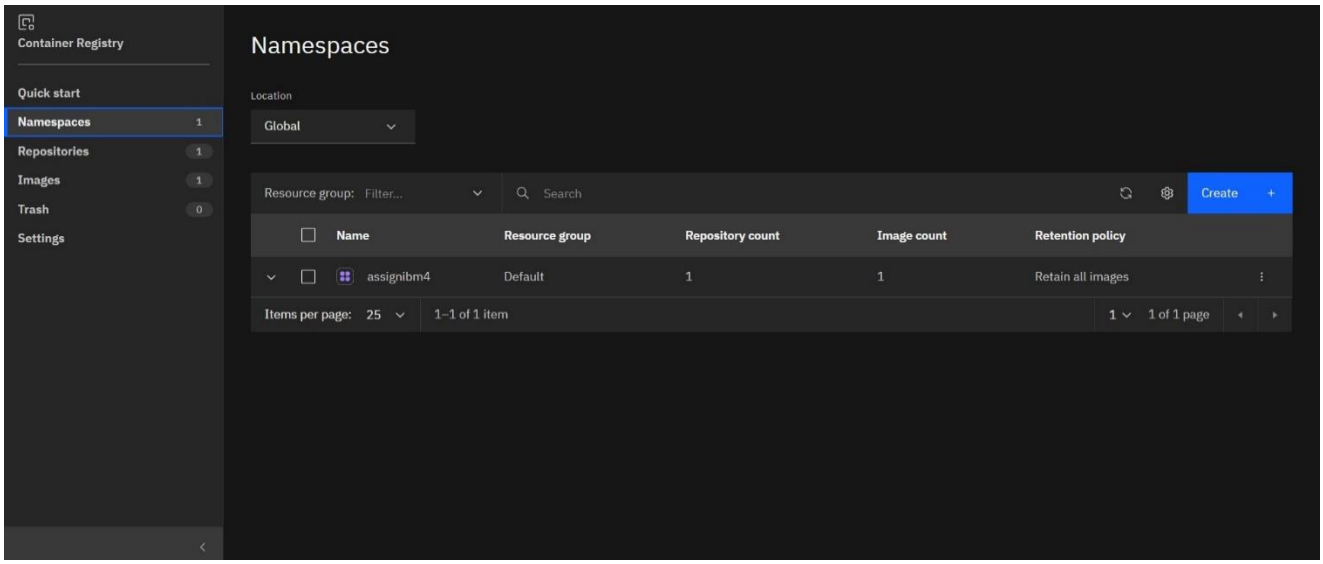
2.Create a docker file for the job portal application and deploy it in Docker desktop application.

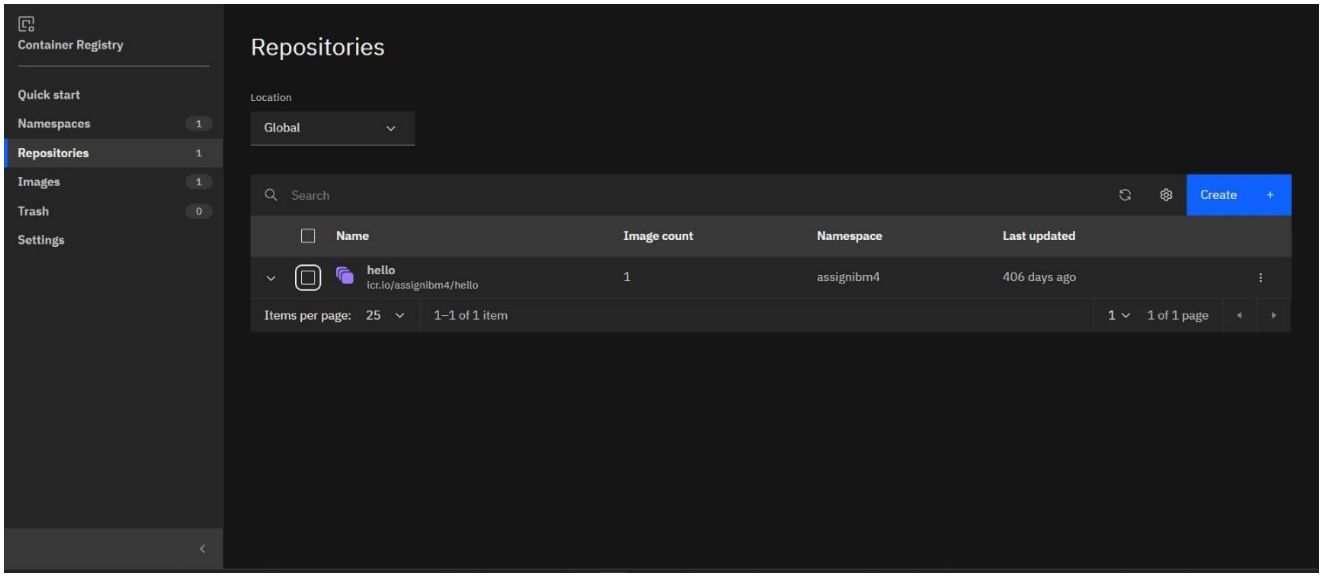


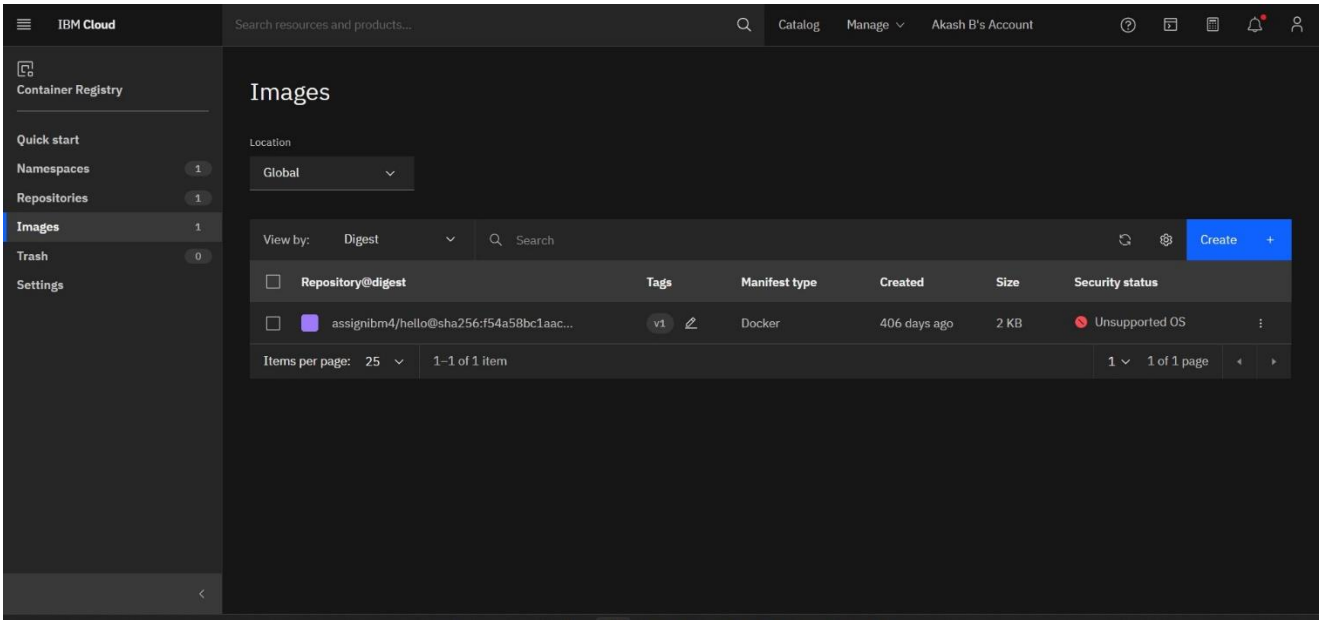


3.Create a IBM container registry and deploy helloworld app or jobportalapp

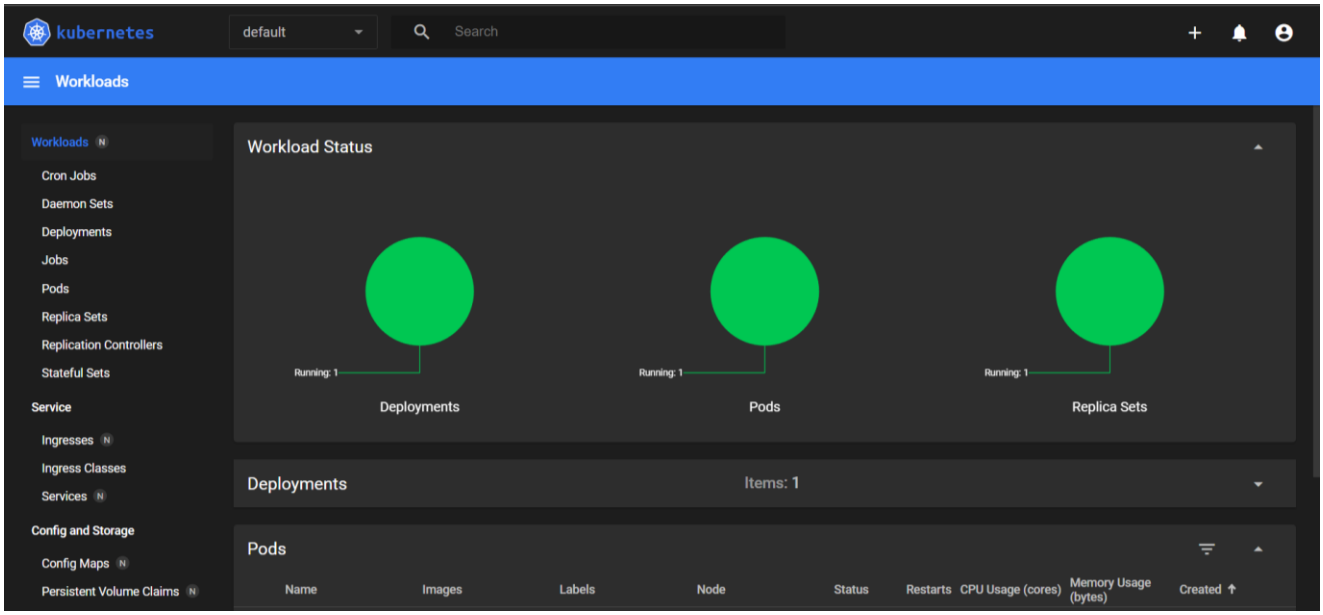
Deployed: helloworldapp







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.


kubernetes
default
Search
Workloads
Workloads
Cron Jobs
Daemon Sets
Deployments
Jobs
Pods
Replica Sets
Replication Controllers
Stateful Sets
Service
Ingresses
Ingress Classes
Services
Config and Storage
Config Maps
Persistent Volume Claims
Workload Status
Running: 1
Deployments
Running: 1
Pods
Running: 1
Replica Sets
Deployments
Items: 1
Pods
Name
Images
Labels
Node
Status
Restarts
CPU Usage (cores)
Memory Usage (bytes)
Created