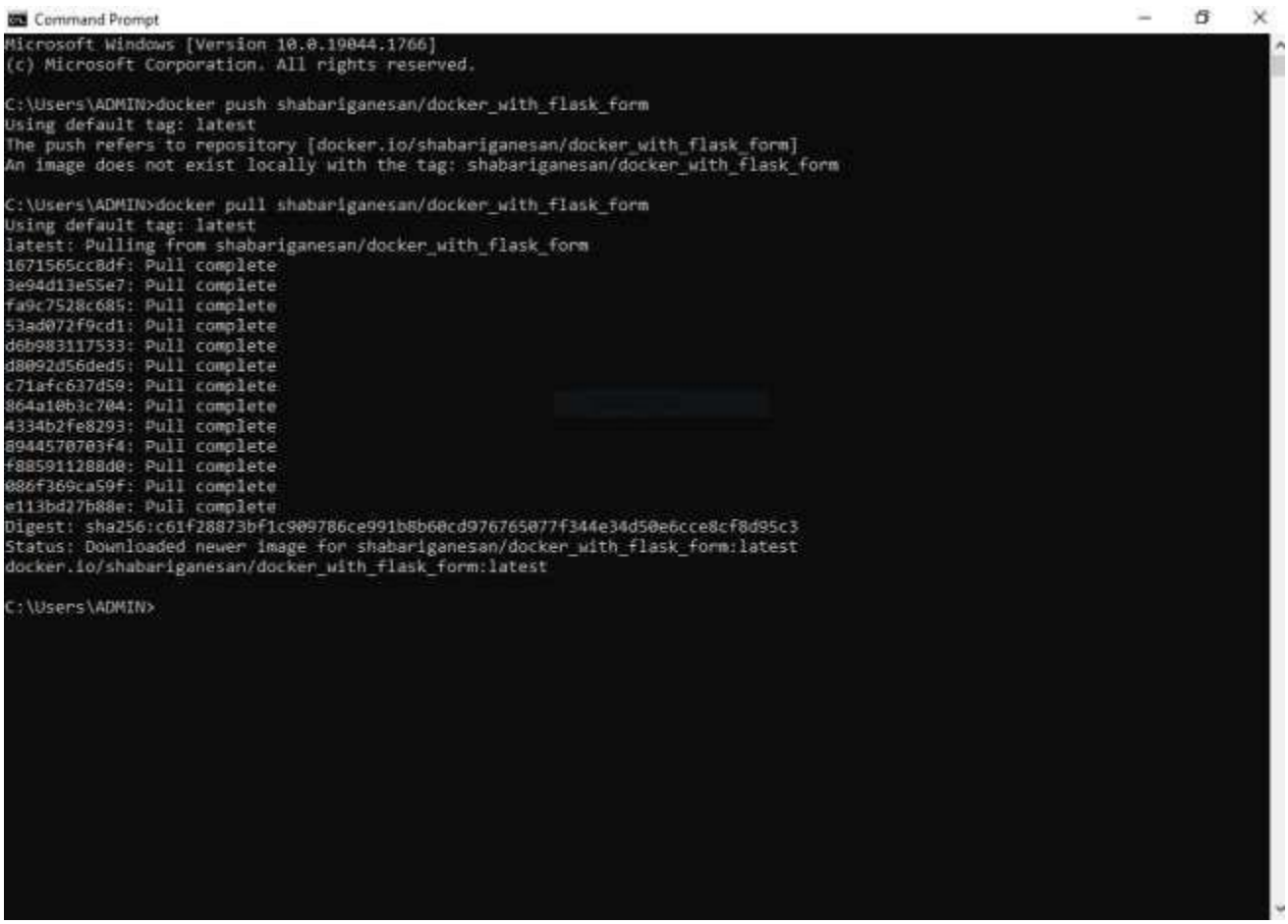
Assignment -4
Docker and Kubernetes

Assignment Date	10 October 2022
Student Name	Prateep NS
Student Roll Number	2127190501091
Maximum Marks	2 Marks

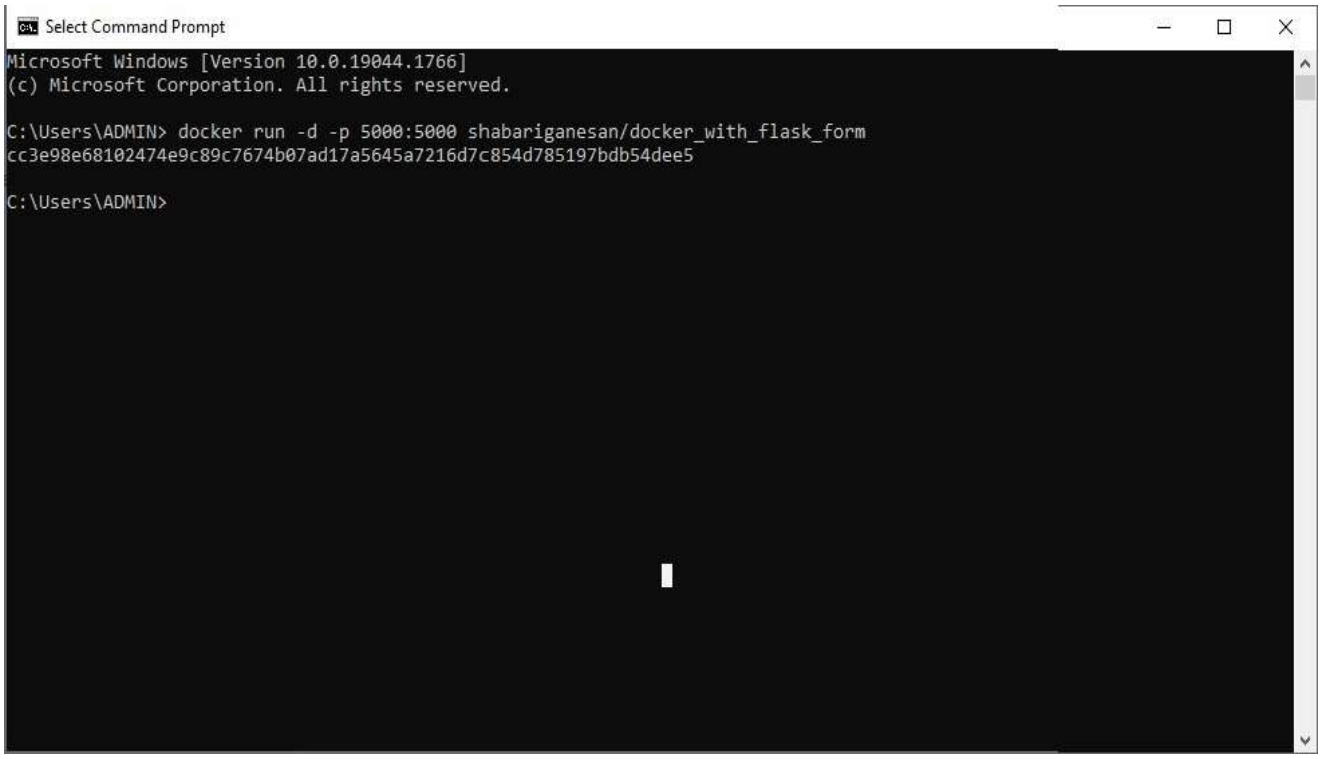
Question-1:

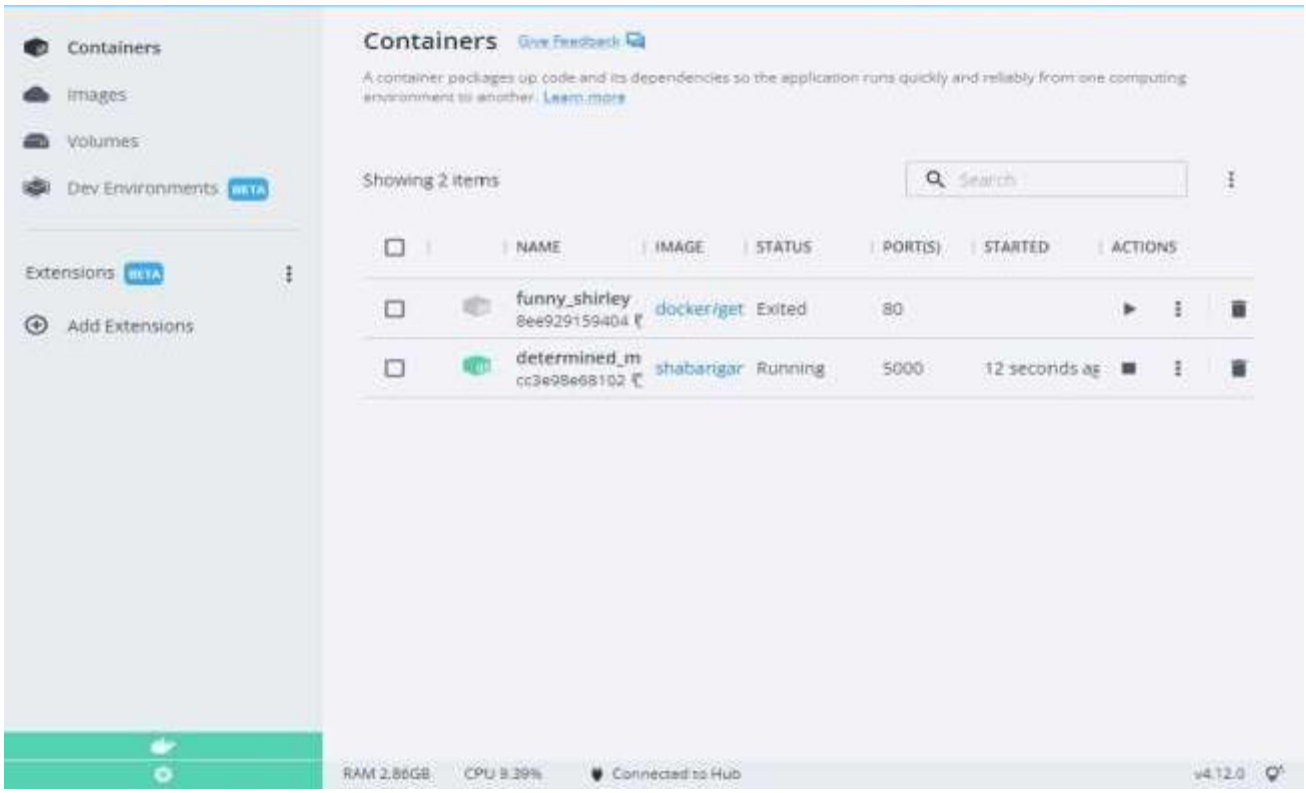
pull an image from docker hub and run it in docker playground.

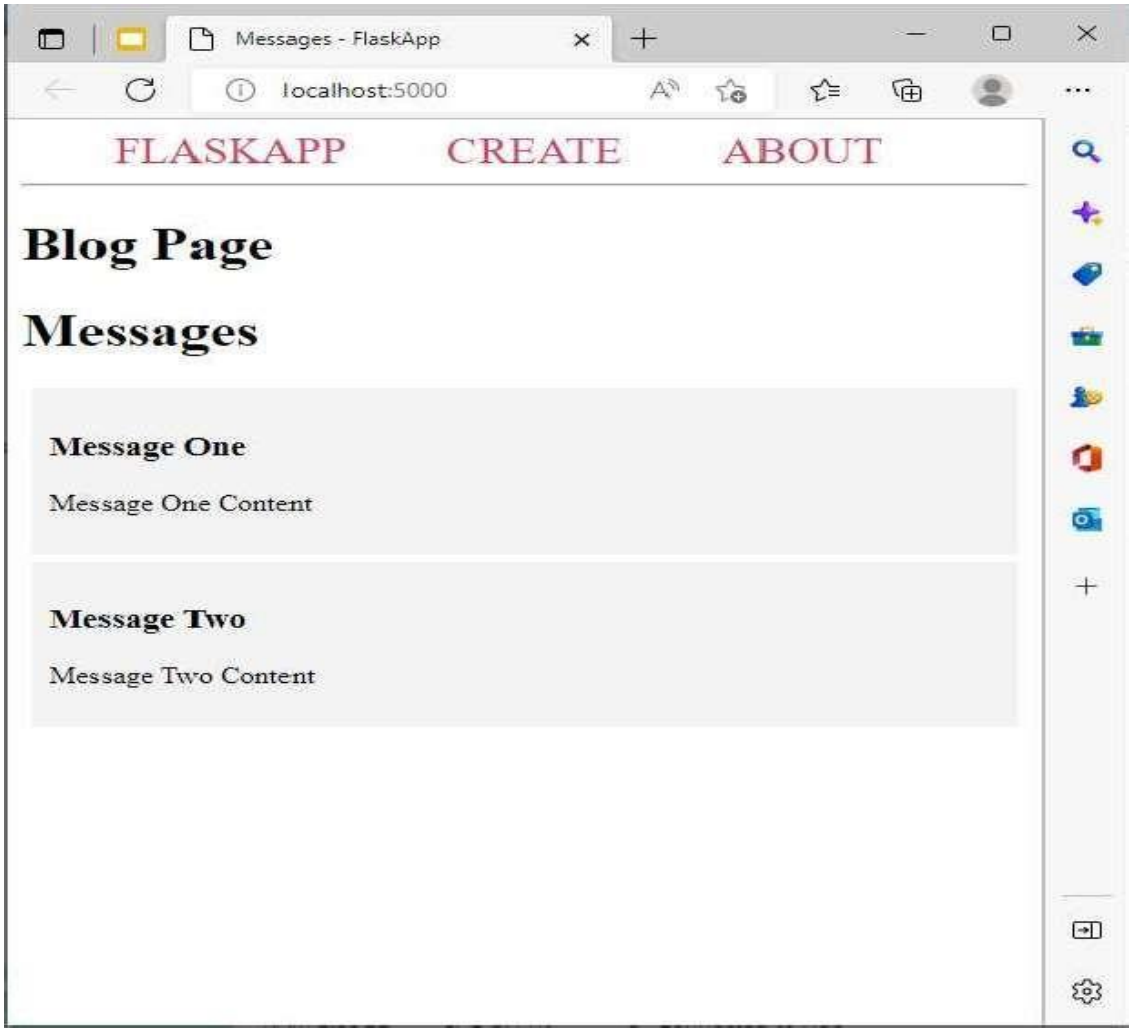
1) pull an image form docker hub



2) runt it in docker playground



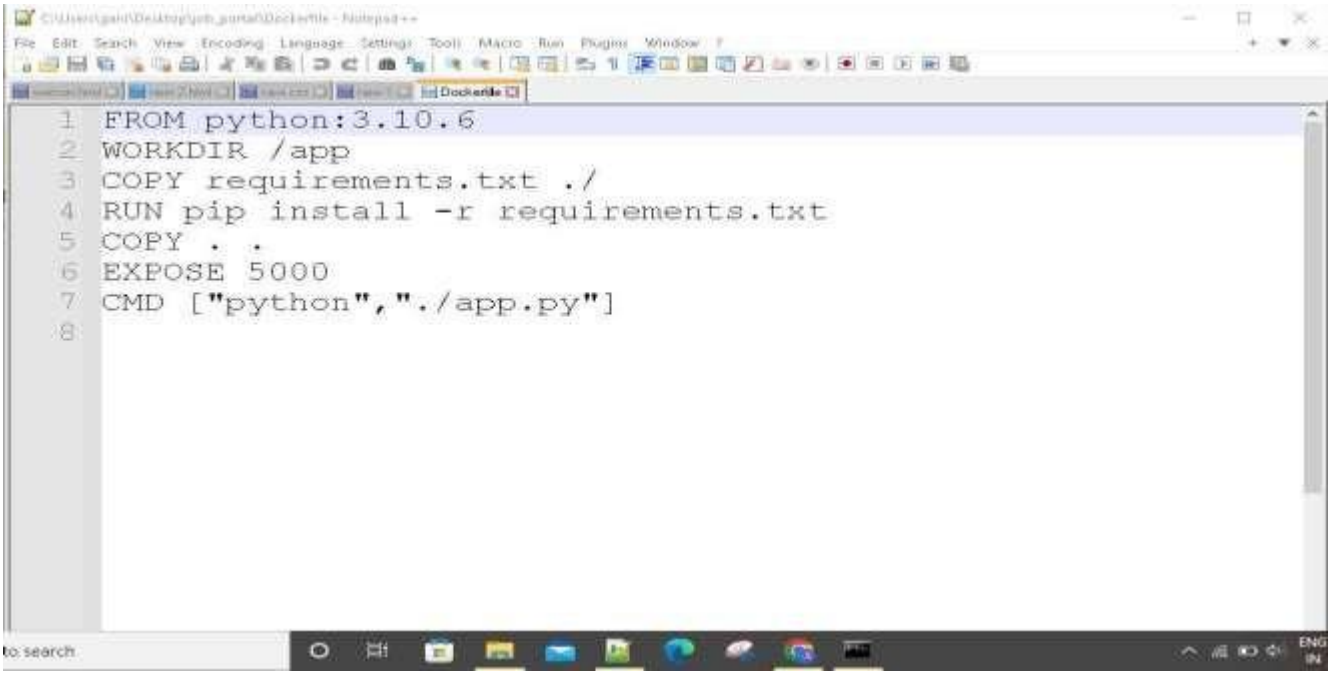



Messages - FlaskApp
localhost:5000
FLASKAPP
CREATE
ABOUT
Blog Page
Messages
Message One
Message One Content
Message Two
Message Two Content

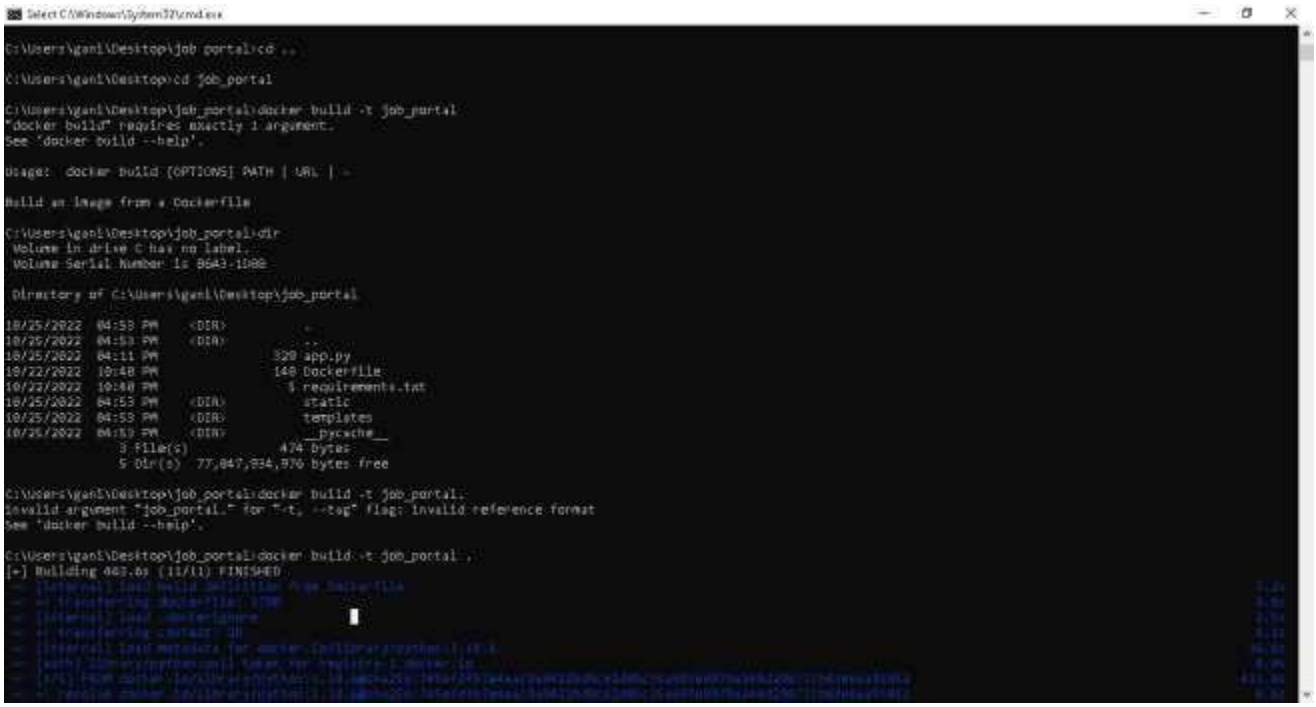
Question-2:

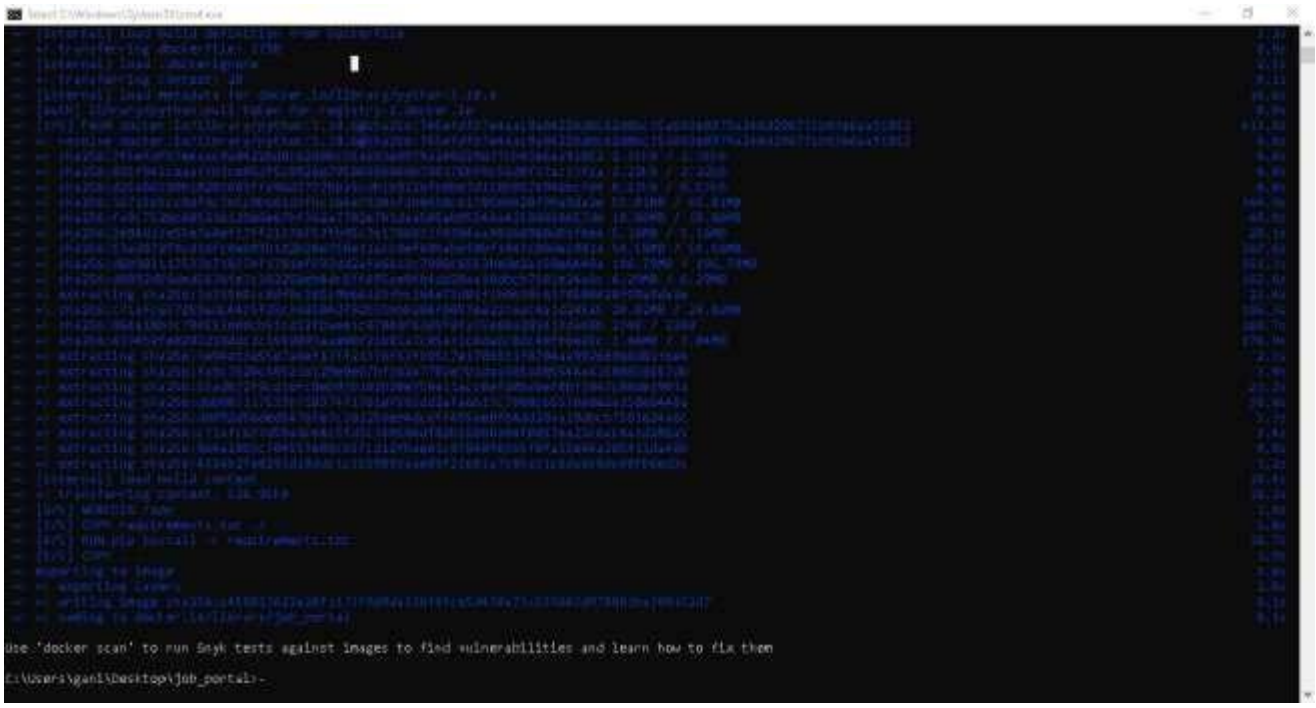
Create a docker file for the jobportal application and deploy it in docker application.

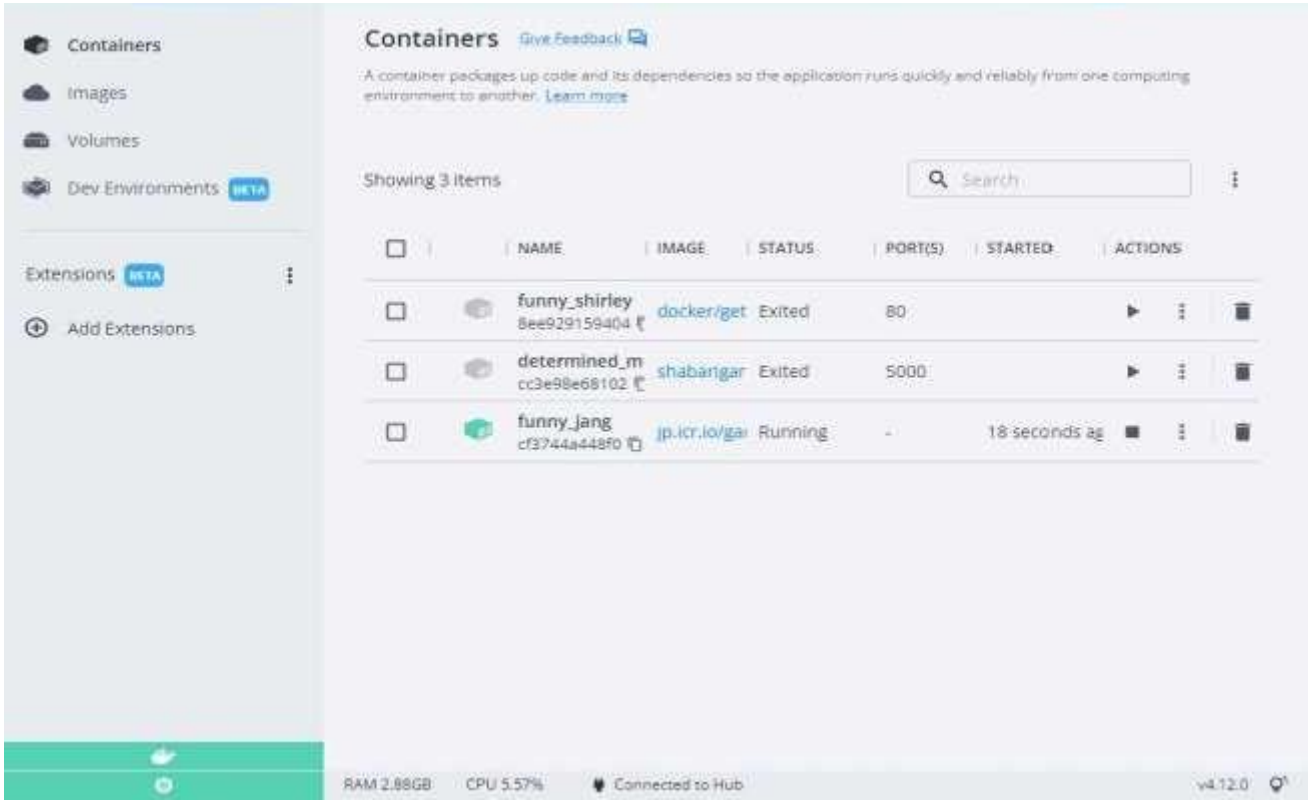
1) Creating a docker file for the jobportal application

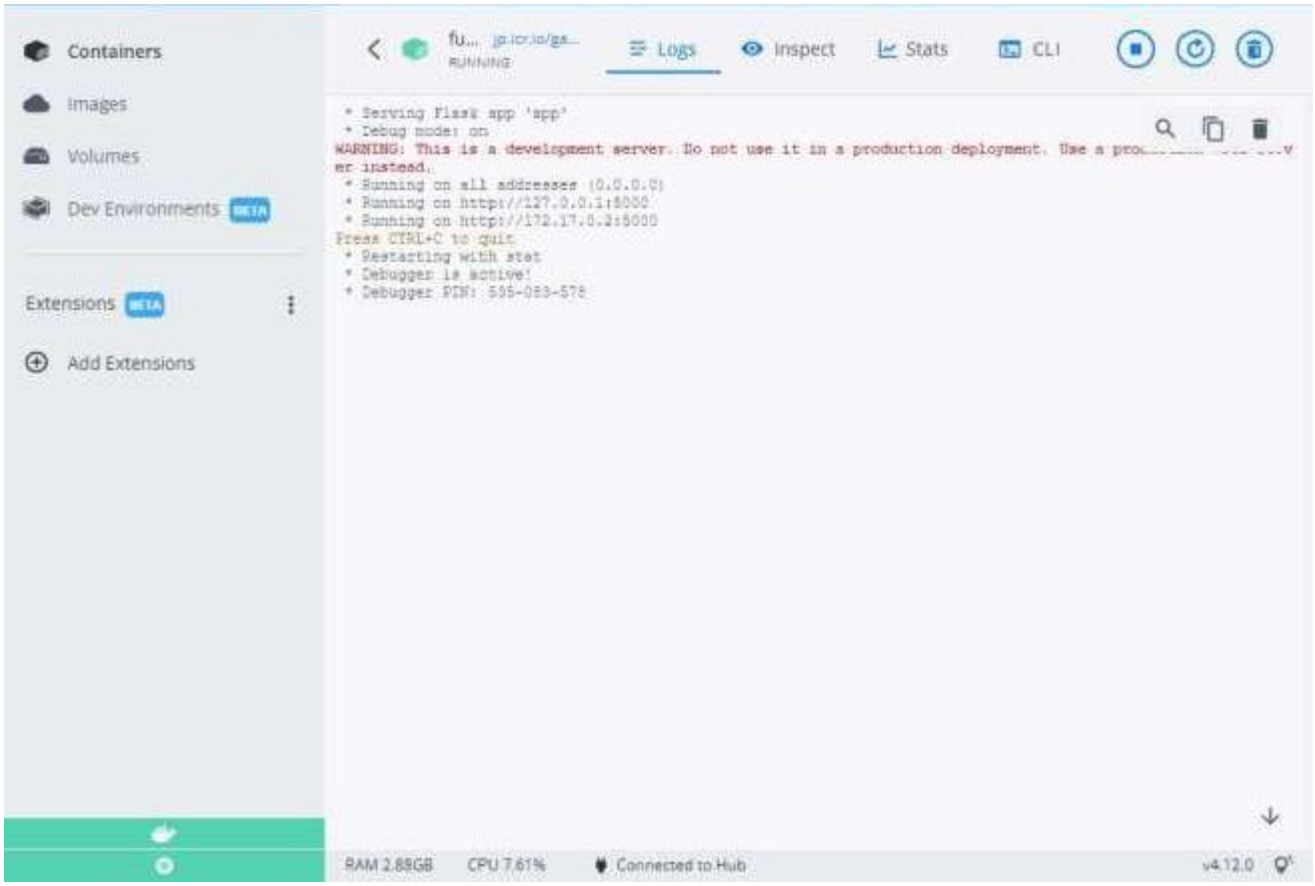


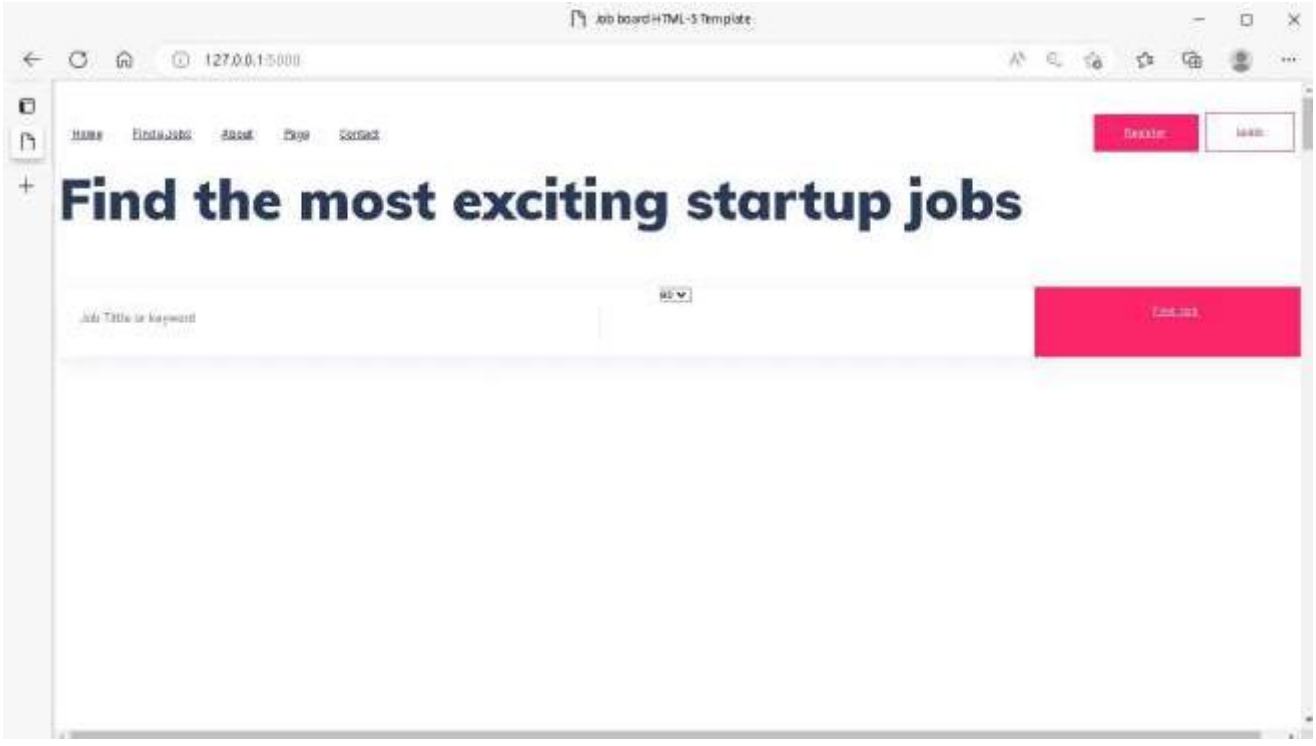
2) deploy in in dokcer application




Use 'docker scan' to run Snyk tests against images to find vulnerabilities and learn how to fix them
C:\Users\ganl\Desktop\job_portal>


Containers
Images
Volumes
Dev Environments BETA
Extensions BETA
Add Extensions
Containers
Give Feedback
A container packages up code and its dependencies so the application runs quickly and reliably from one computing environment to another. Learn more
Showing 3 items
Search
NAME
IMAGE
STATUS
PORT(S)
STARTED
ACTIONS
funny_shirley
8ee929159404
docker/get
Exited
80
determined_m
cc3e98e68102
shabarigar
Exited
5000
funny_jang
cf3744a448f0
jp.icr.io/ga
Running
-
18 seconds ag
RAM 2.88GB
CPU 5.57%
Connected to Hub
v4.12.0

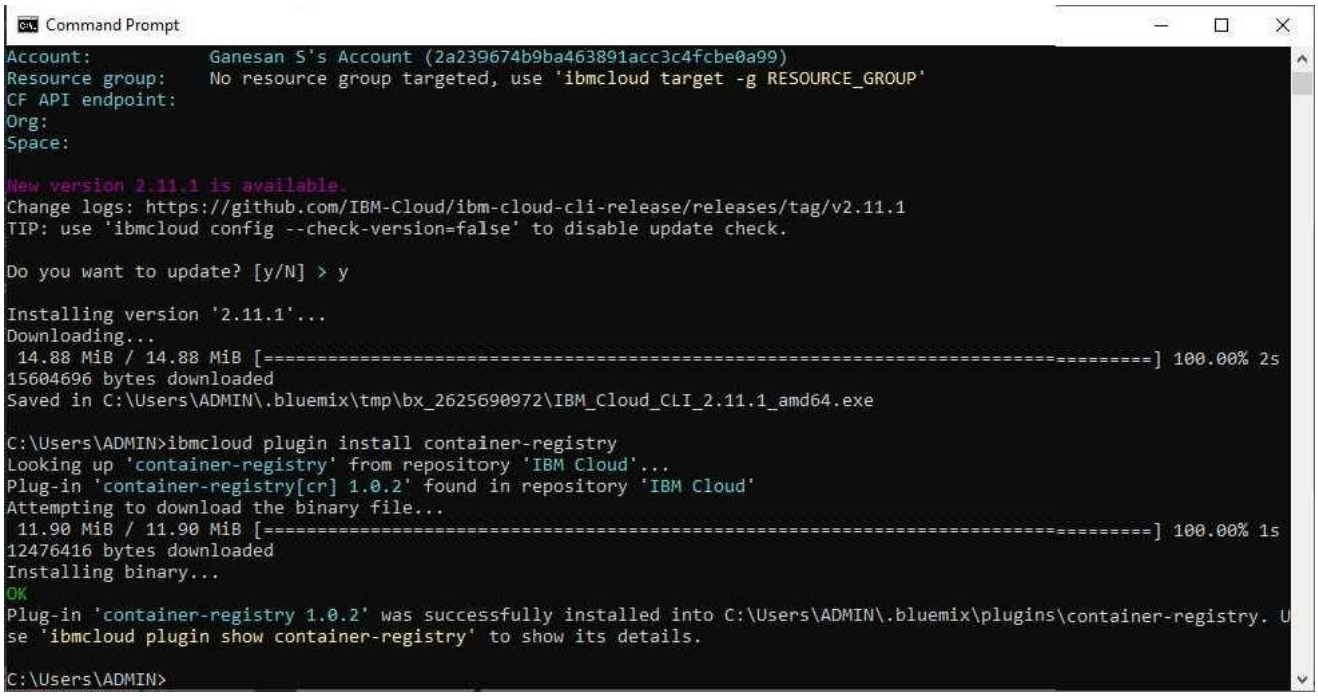




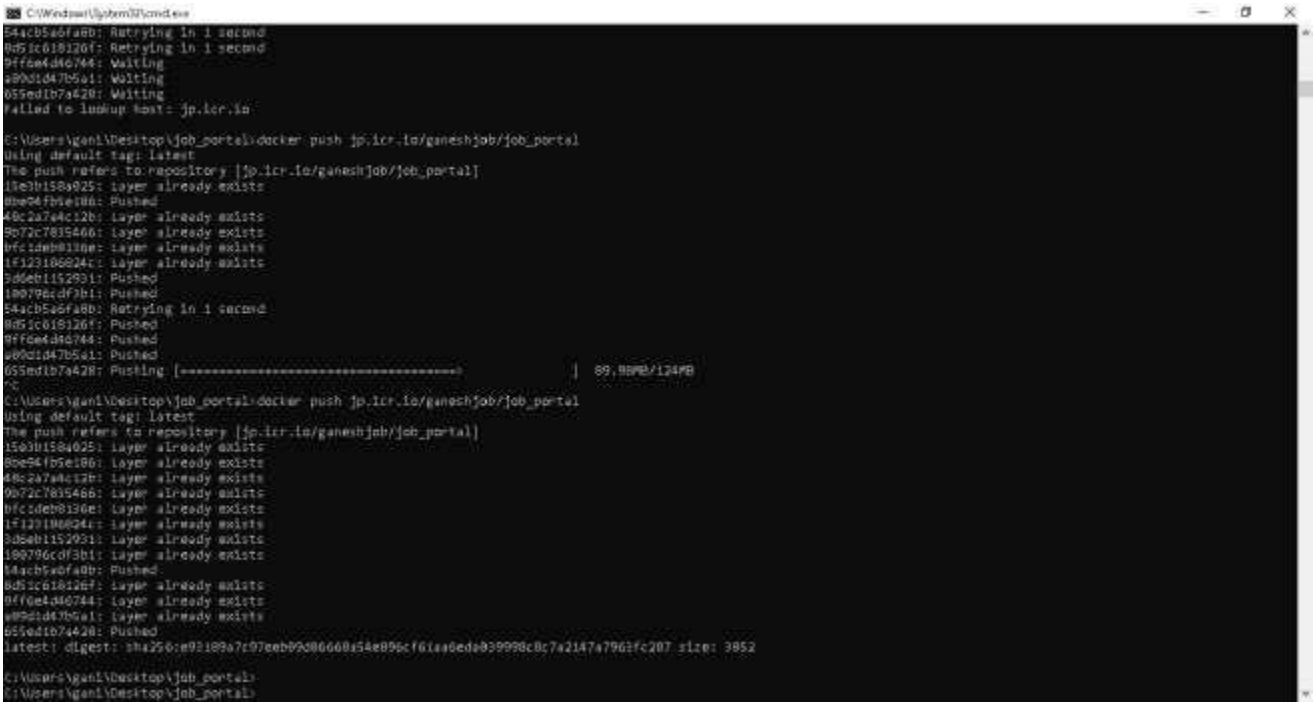
running in docker desktop 1

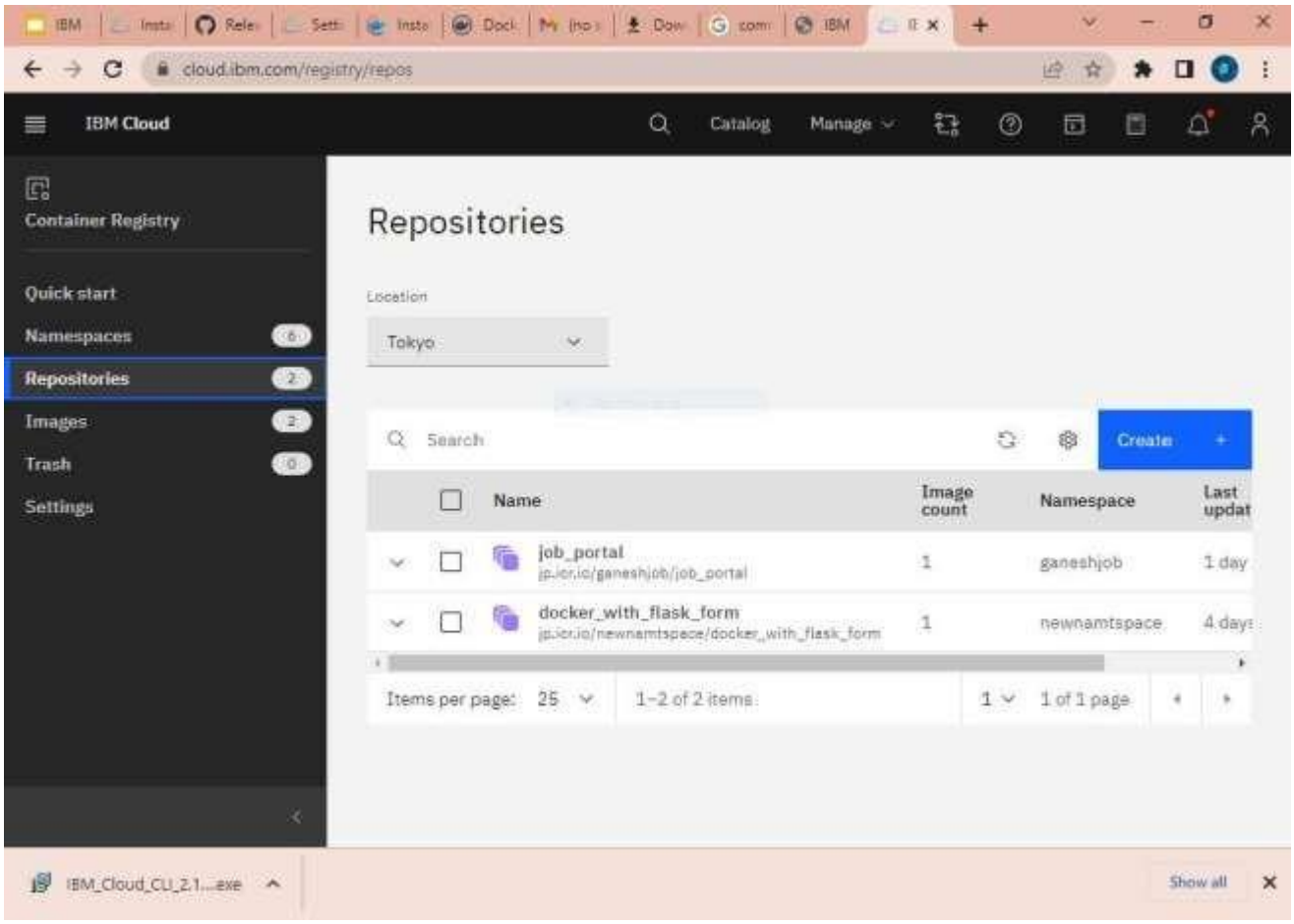
Question-3:Create aIbm container registry and deploy helloworld app or jobportalapp

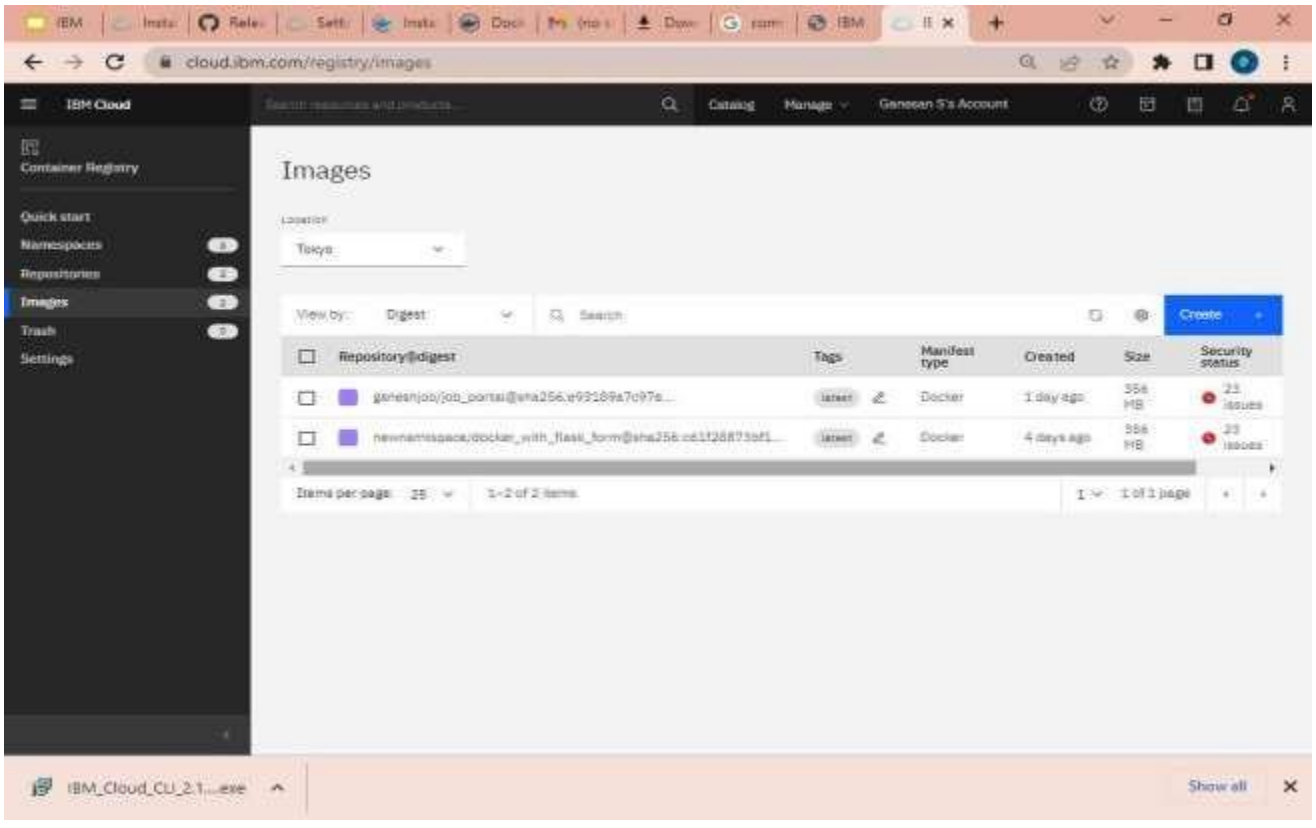
1) create a ibm container registry



2) deployhelloworld or jobportal

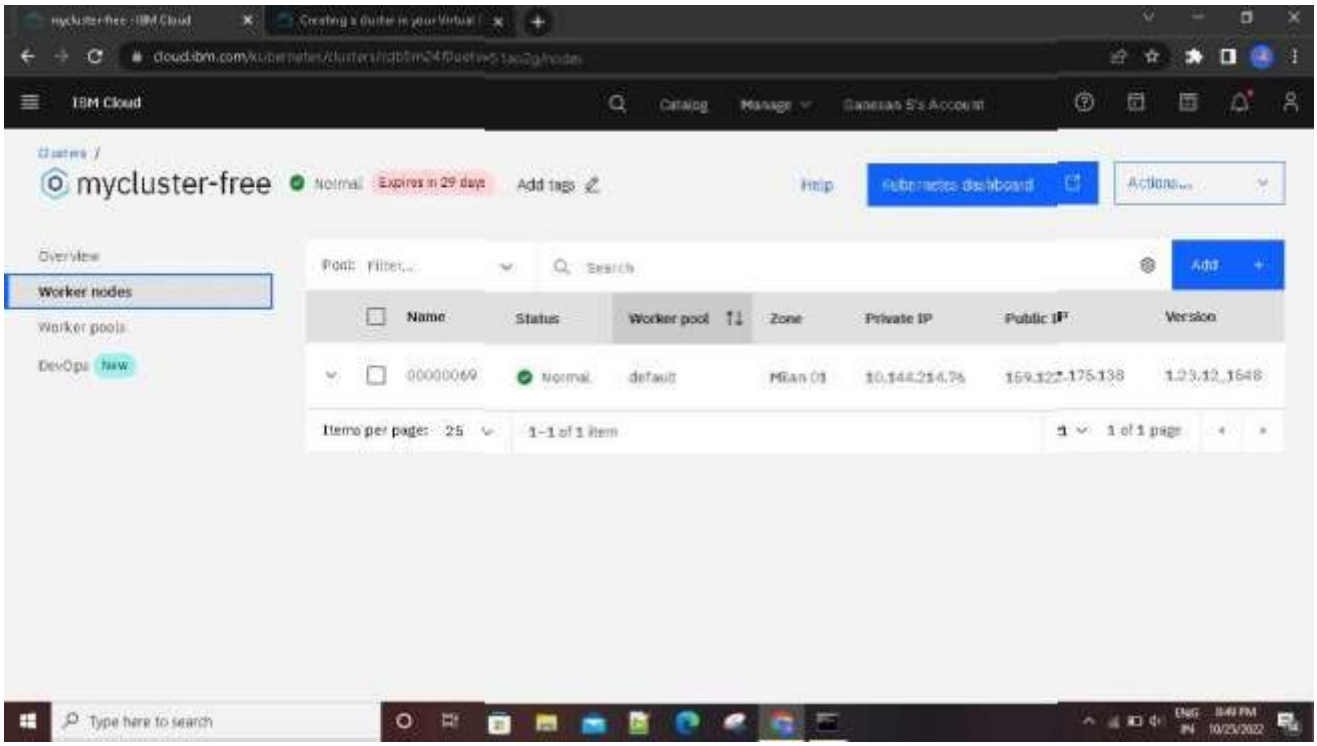



cloud.ibm.com/registry/repos
IBM Cloud
Catalog
Manage
Container Registry
Quick start
Namespaces 6
Repositories 2
Images 2
Trash 0
Settings
Repositories
Location
Tokyo
Search
Create
Name
Image count
Namespace
Last updat
job_portal
jp.icr.io/ganeshjob/job_portal
1
ganeshjob
1 day
docker_with_flask_form
jp.icr.io/newnamtspace/docker_with_flask_form
1
newnamtspace
4 days
Items per page: 25
1–2 of 2 items
1 of 1 page
IBM_Cloud_CLI_2.1...exe
Show all


cloud.ibm.com/registry/images
IBM Cloud
Catalog
Manage
Ganesan S's Account
Container Registry
Quick start
Namespaces
Repositories
Images
Trash
Settings
Images
Location
Tokyo
View by:
Digest
Search
Create
Repository@digest
Tags
Manifest type
Created
Size
Security status
Docker
Items per page: 25
1 of 1 page
IBM_Cloud_CLI_2.1...exe
Show all

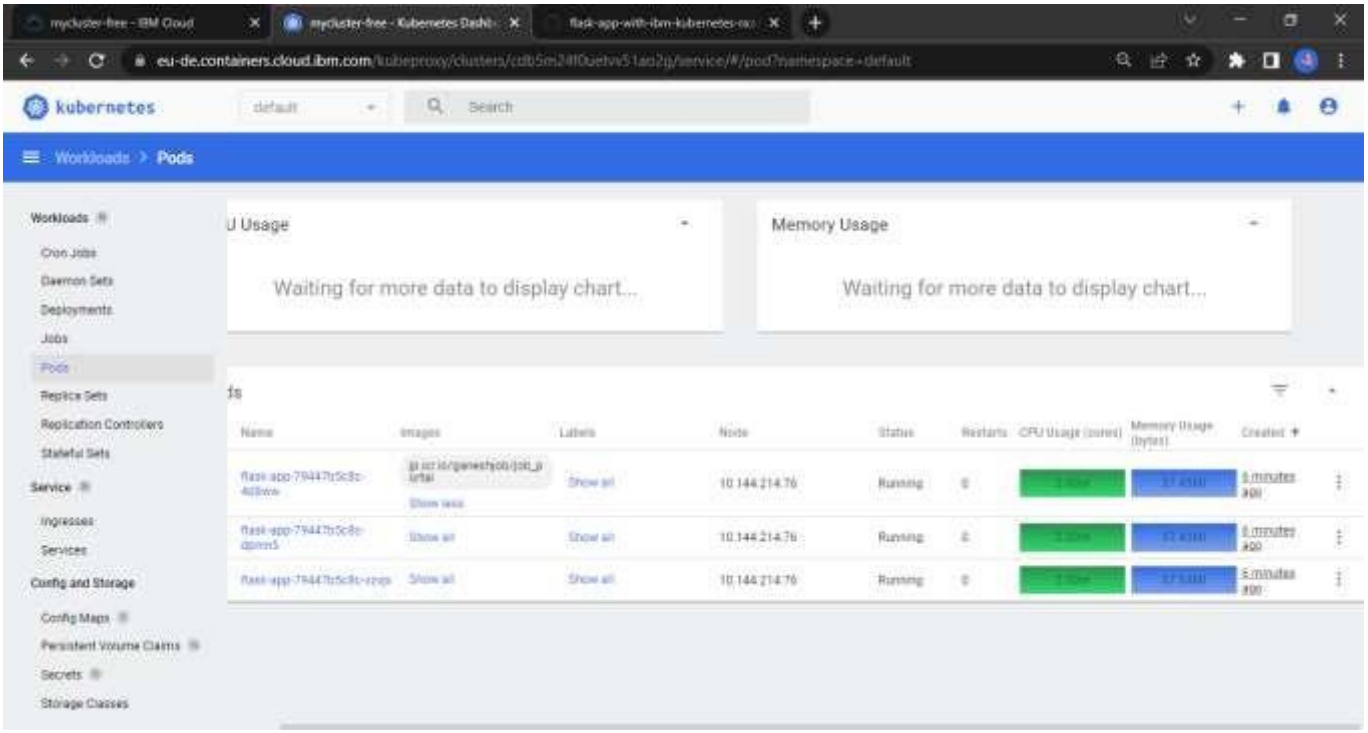
Question-4: Create a kubernetes cluster in ibm cloud and deploy helloworld image or jobportal image and also expose the same app to run in noteport

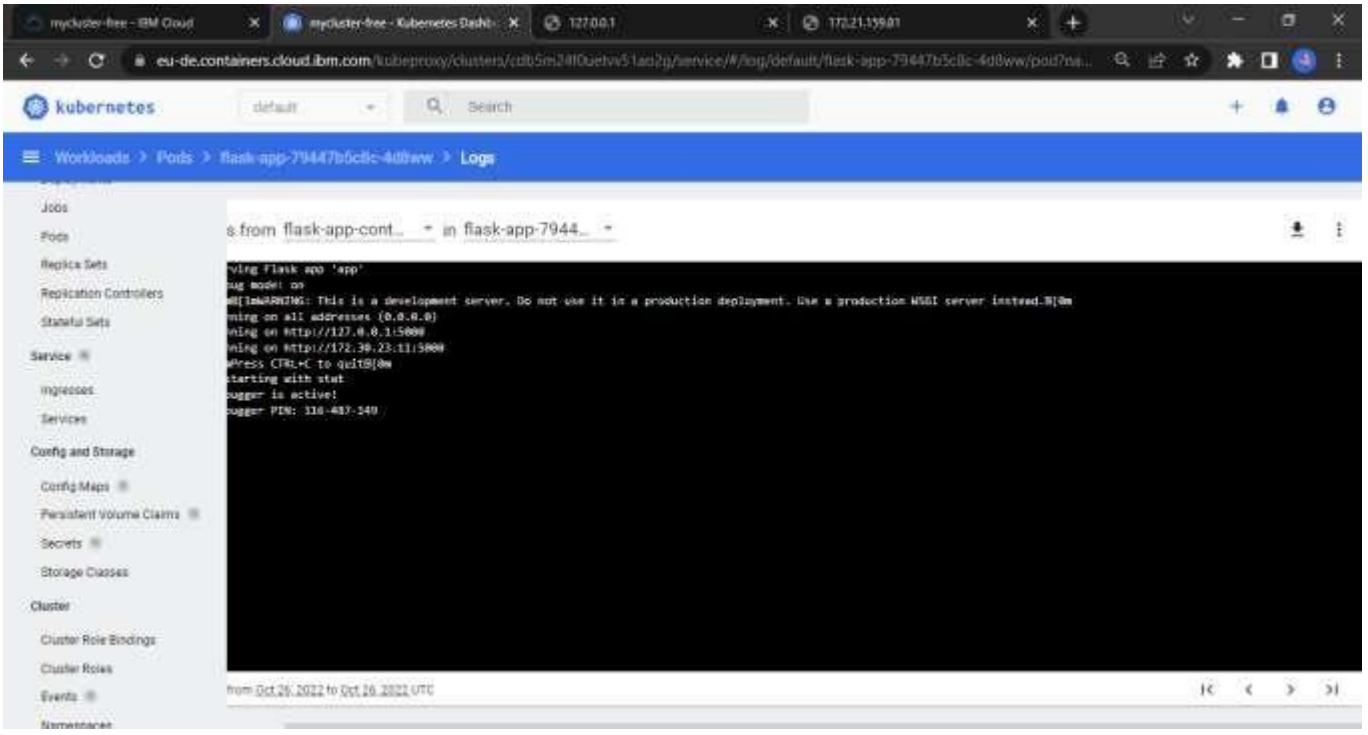
1) Creating a kubernetes cluster in ibm cloud

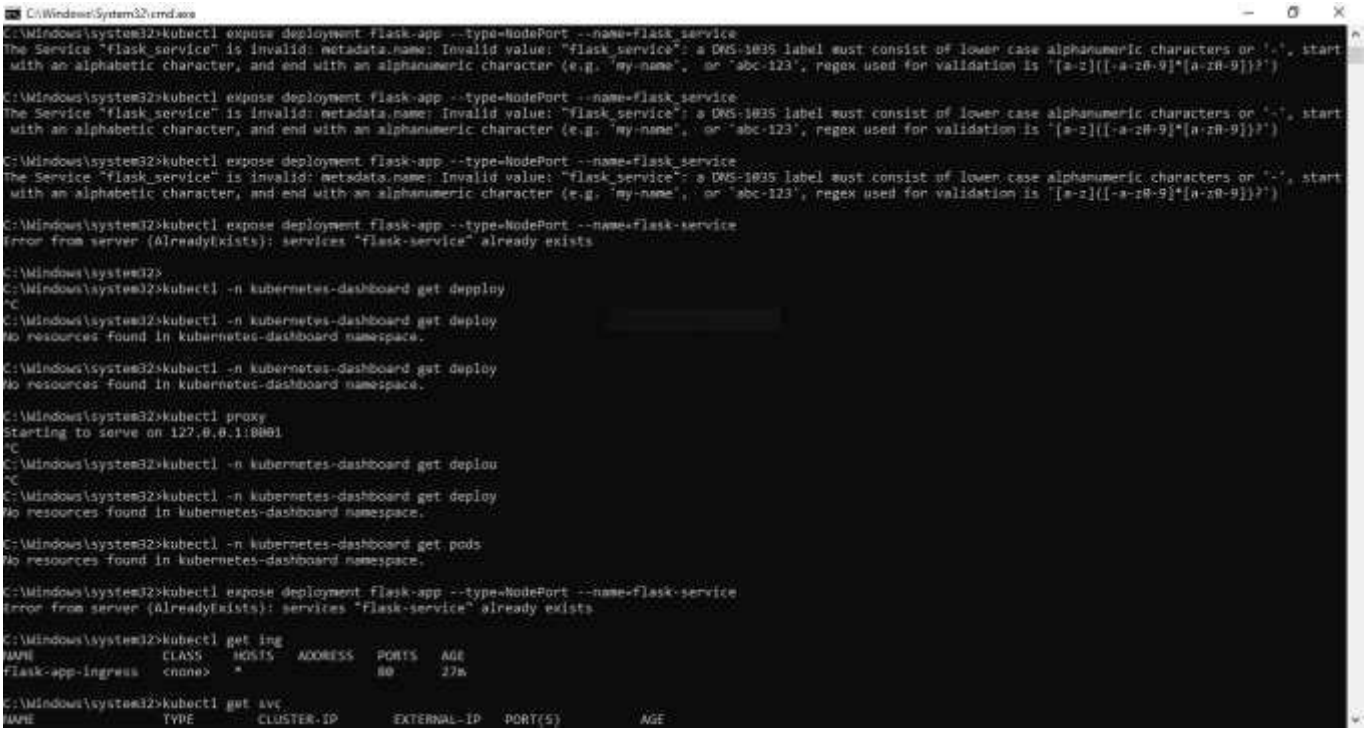


2) deploy helloworld image or jobportal image and also expose the same app to run in noteport

```
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>
```


mycluster-free - IBM Cloud
mycluster-free - Kubernetes Dashb
flask-app-with-ibm-kubernetes-ru
eu-de.containers.cloud.ibm.com/kubeproxy/clusters/cdb5m24f0uetvv51ao2g/service/#/pod?namespace=default
kubernetes
default
Search
Workloads > Pods
Workloads
Cron Jobs
Daemon Sets
Deployments
Jobs
Pods
Replica Sets
Replication Controllers
Stateful Sets
Service
Ingresses
Services
Config and Storage
Config Maps
Persistent Volume Claims
Secrets
Storage Classes
U Usage
Waiting for more data to display chart...
Memory Usage
Waiting for more data to display chart...
Name
Images
Labels
Node
Status
Restarts
CPU Usage (cores)
Memory Usage (bytes)
Created
flask-app-79447b5c8c-4d8ww
Show all
10.144.214.76
Running
0
6 minutes ago
flask-app-79447b5c8c-dpmn5
Show all
Show all
10.144.214.76
Running
0
6 minutes ago
flask-app-79447b5c8c-zzqs
Show all
Show all
10.144.214.76
Running
0
6 minutes ago


mycluster-free - IBM Cloud
mycluster-free - Kubernetes Dashb
127.0.0.1
172.21.159.81
eu-de.containers.cloud.ibm.com/kubeproxy/clusters/cdb5m24f0uetvv51ao2g/service/#/log/default/flask-app-79447b5c8c-4d8ww/pod?na...
kubernetes
default
Search
Workloads > Pods > flask-app-79447b5c8c-4d8ww > Logs
Jobs
Pods
Replica Sets
Replication Controllers
Stateful Sets
Service
Ingresses
Services
Config and Storage
Config Maps
Persistent Volume Claims
Secrets
Storage Classes
Cluster
Cluster Role Bindings
Cluster Roles
Events
Namespaces
s from flask-app-cont...
in flask-app-7944...
ving Flask app 'app'
ug mode: on
8[1mWARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.8[0m
ning on all addresses (0.0.0.0)
ning on http://127.0.0.1:5000
ning on http://172.30.23.11:5000
Press CTRL+C to quit8[0m
tarting with stat
ugger is active!
ugger PIN: 116-487-149
from Oct 26, 2022 to Oct 26, 2022 UTC


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 depploy
^C
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
C:\Windows\system32>kubectl -n kubernetes-dashboard get deplou
^C
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