ASSIGNMENT – 4

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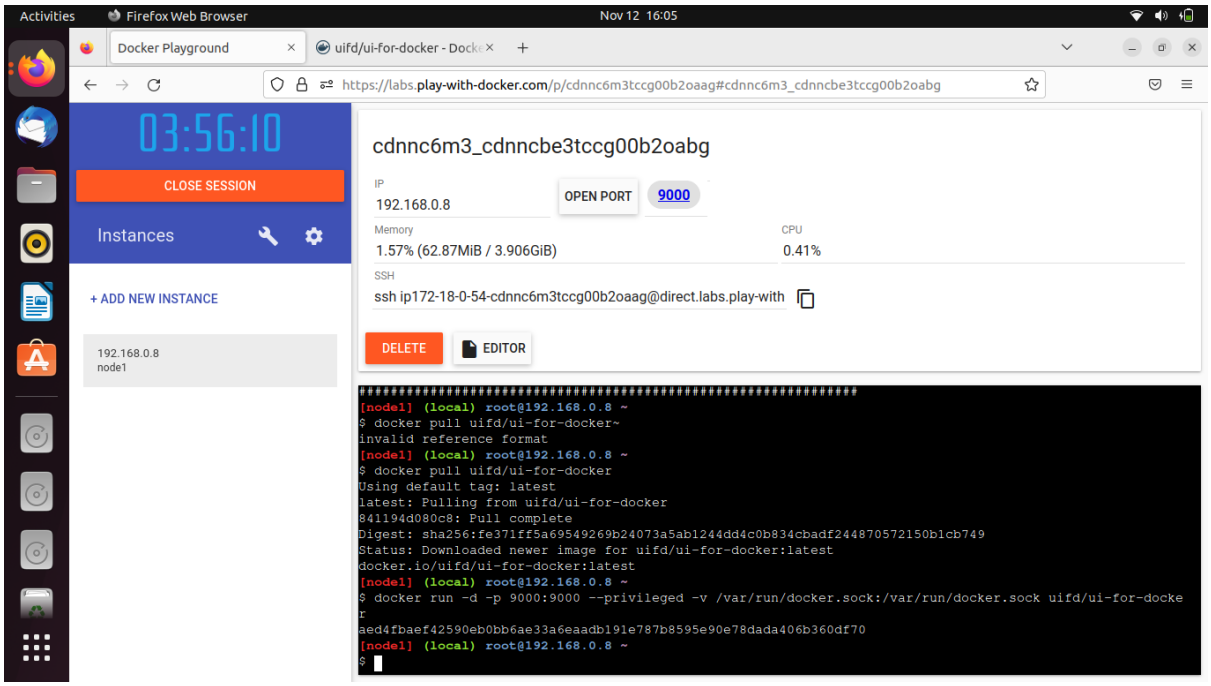
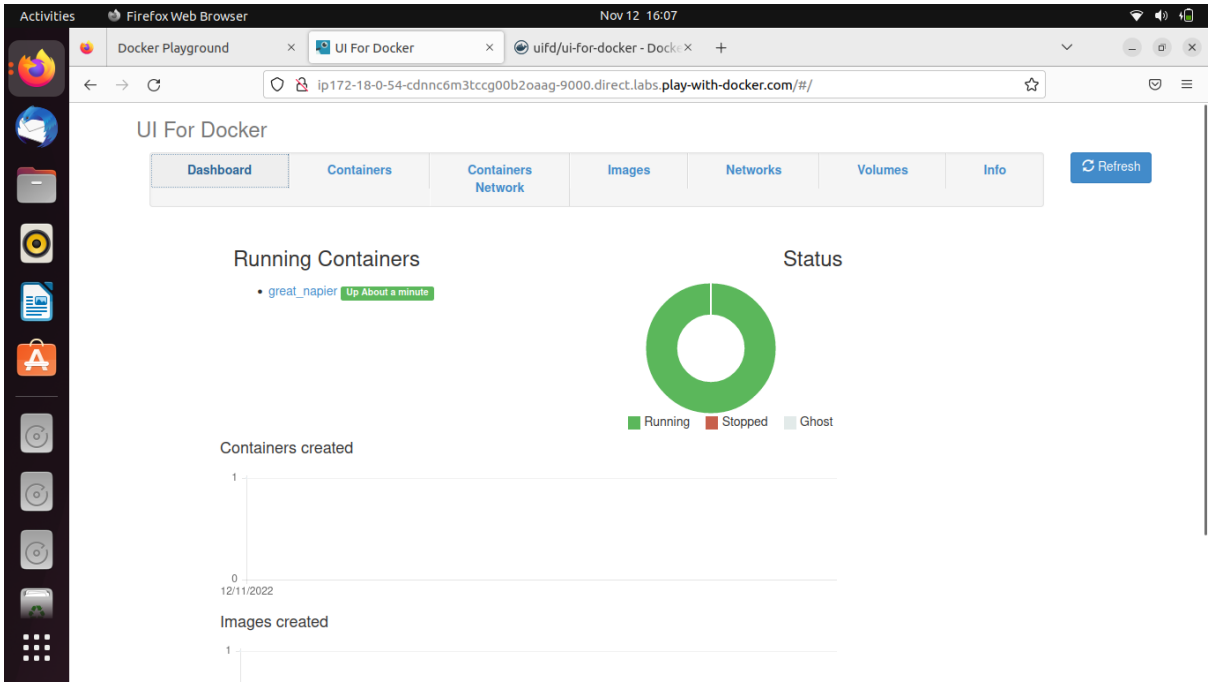
Student Roll number	311519104038
Student team ID	PNT2022TMID27815

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

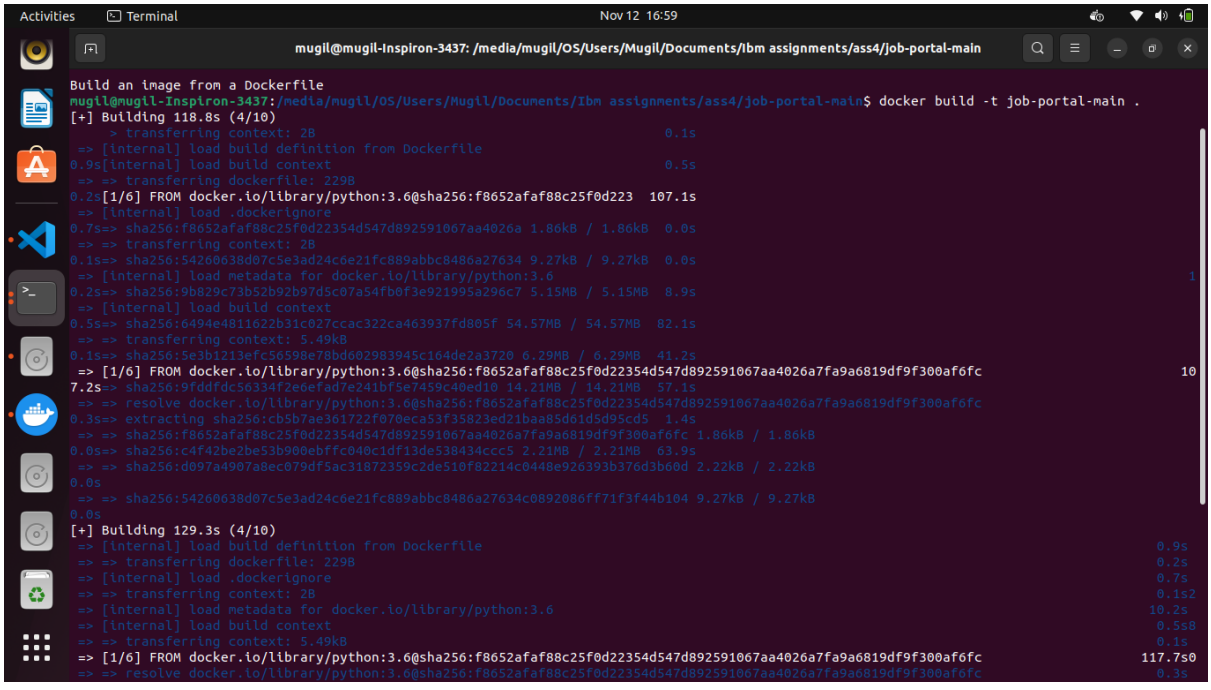


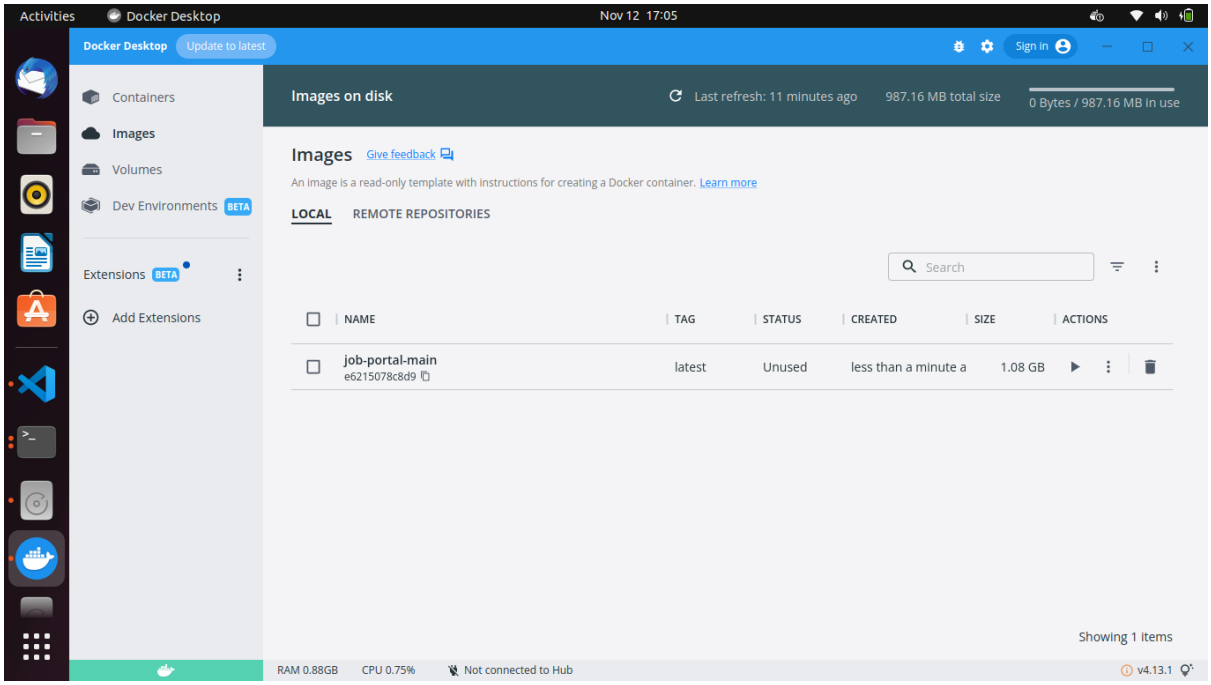


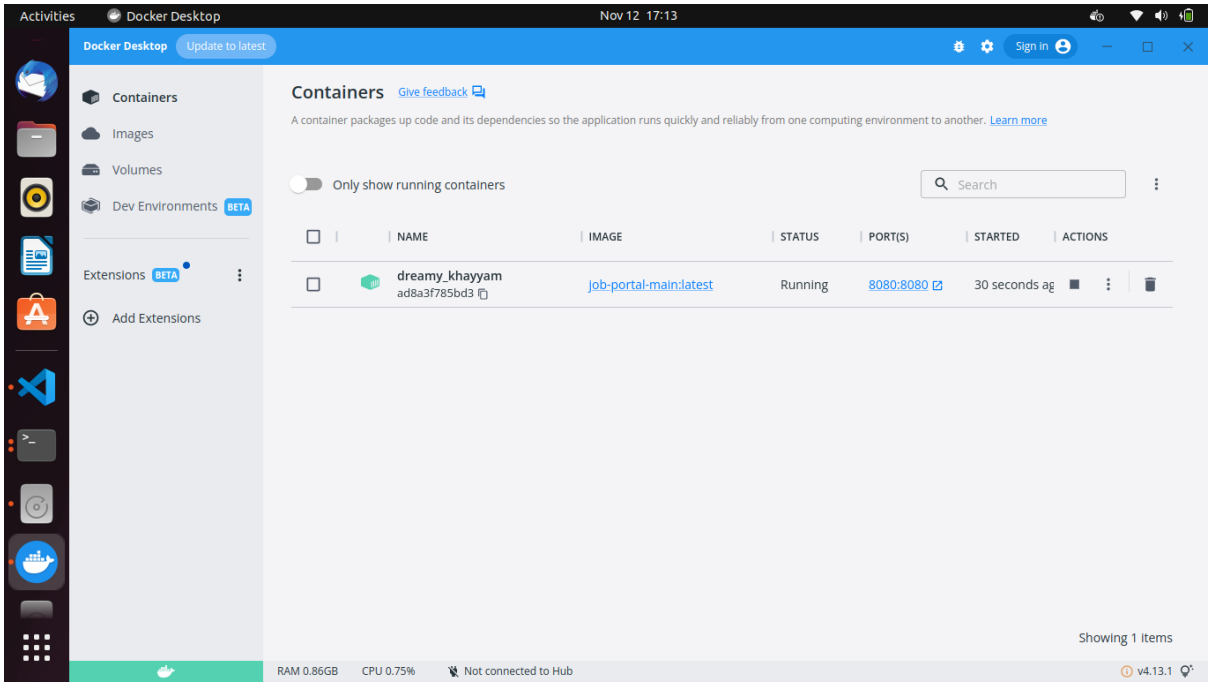
2.Create a docker file for the jobportal application and deploy it in Docker desktop application.

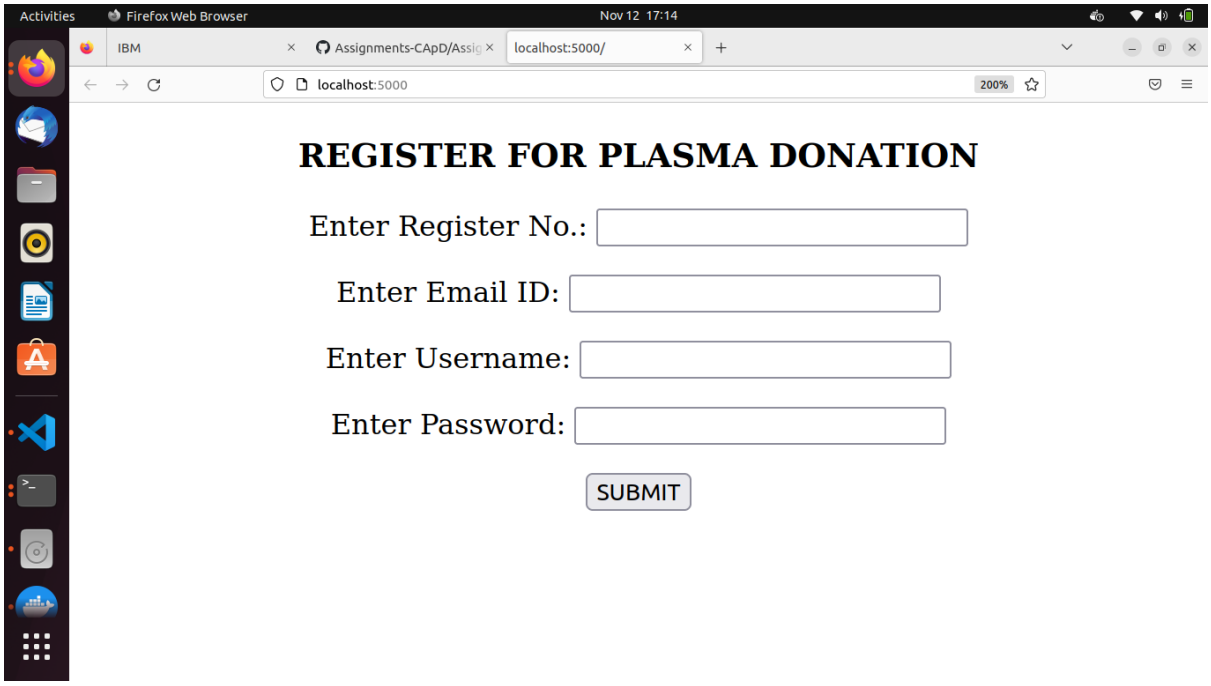
Dockerfile:

```
FROM python:3.6

WORKDIR /app

ADD . /app

COPY requirements.txt /app

RUN python3 -m pip install -r requirements.txt

RUN python3 -m pip install ibm_db

EXPOSE 5000

CMD ["python", "app.py"]
```

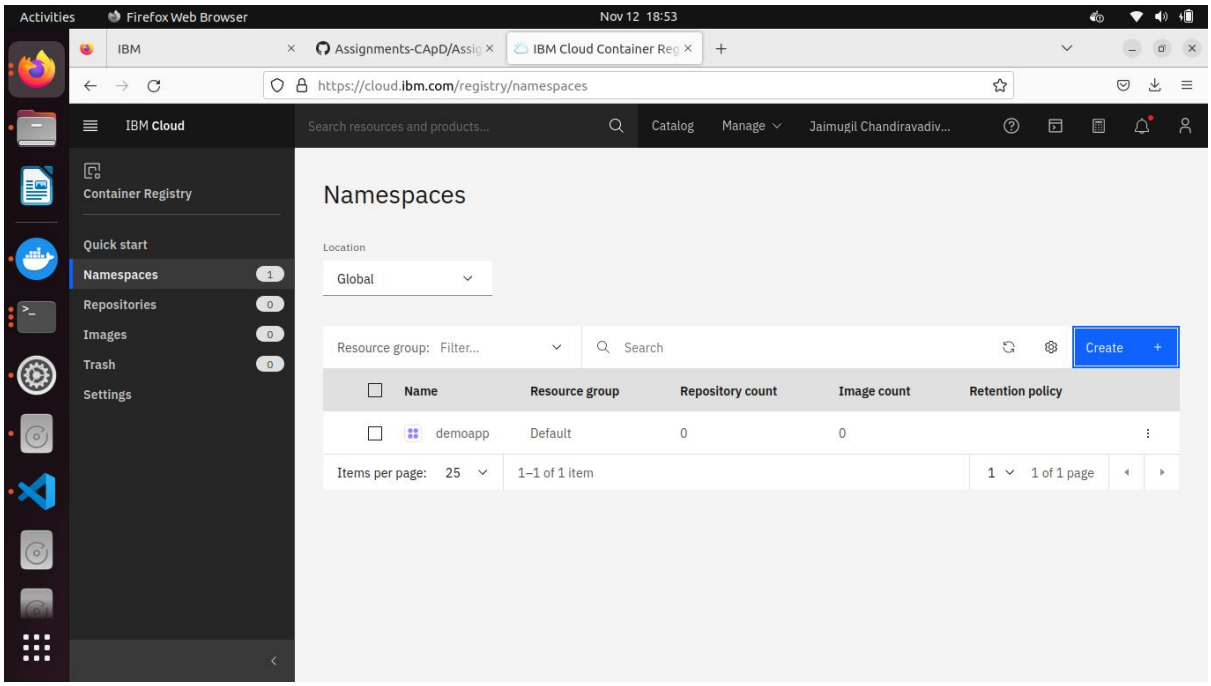


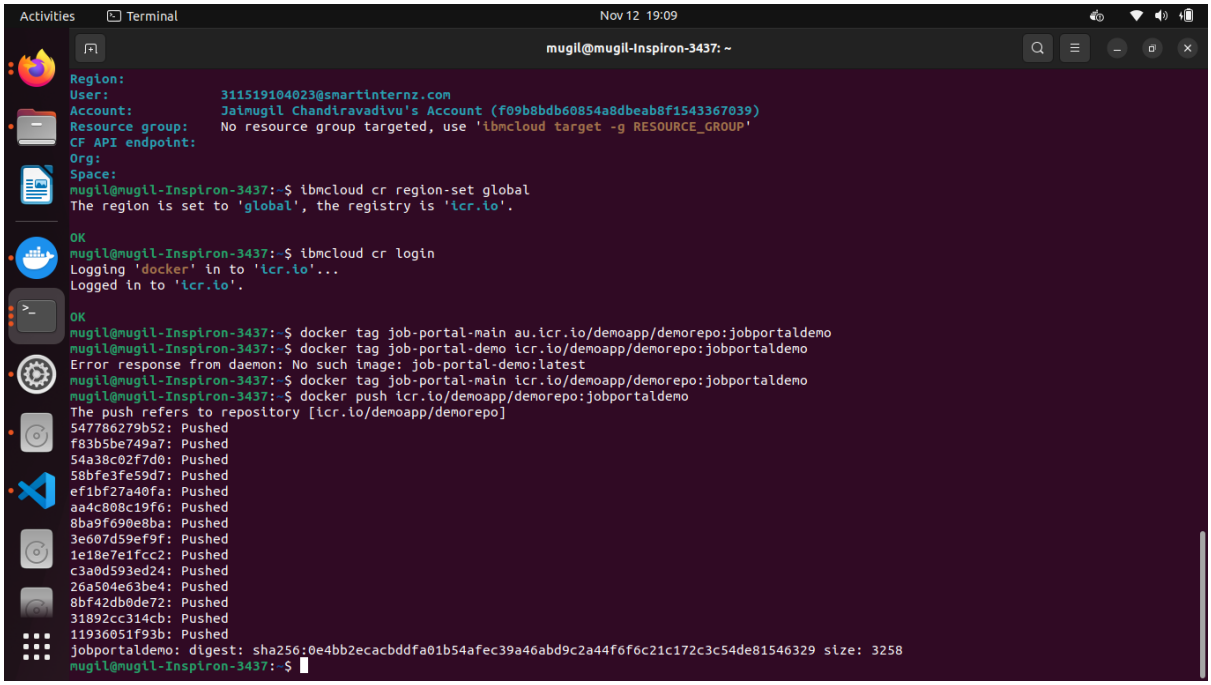

Activities
Docker Desktop
Nov 12 17:05
Docker Desktop
Update to latest
Sign in
Containers
Images
Volumes
Dev Environments
BETA
Extensions
BETA
Add Extensions
Images on disk
Last refresh: 11 minutes ago
987.16 MB total size
0 Bytes / 987.16 MB in use
Images
Give feedback
An image is a read-only template with instructions for creating a Docker container. Learn more
LOCAL
REMOTE REPOSITORIES
Search
NAME
TAG
STATUS
CREATED
SIZE
ACTIONS
job-portal-main
e6215078c8d9
latest
Unused
less than a minute a
1.08 GB
Showing 1 items
RAM 0.88GB
CPU 0.75%
Not connected to Hub
v4.13.1

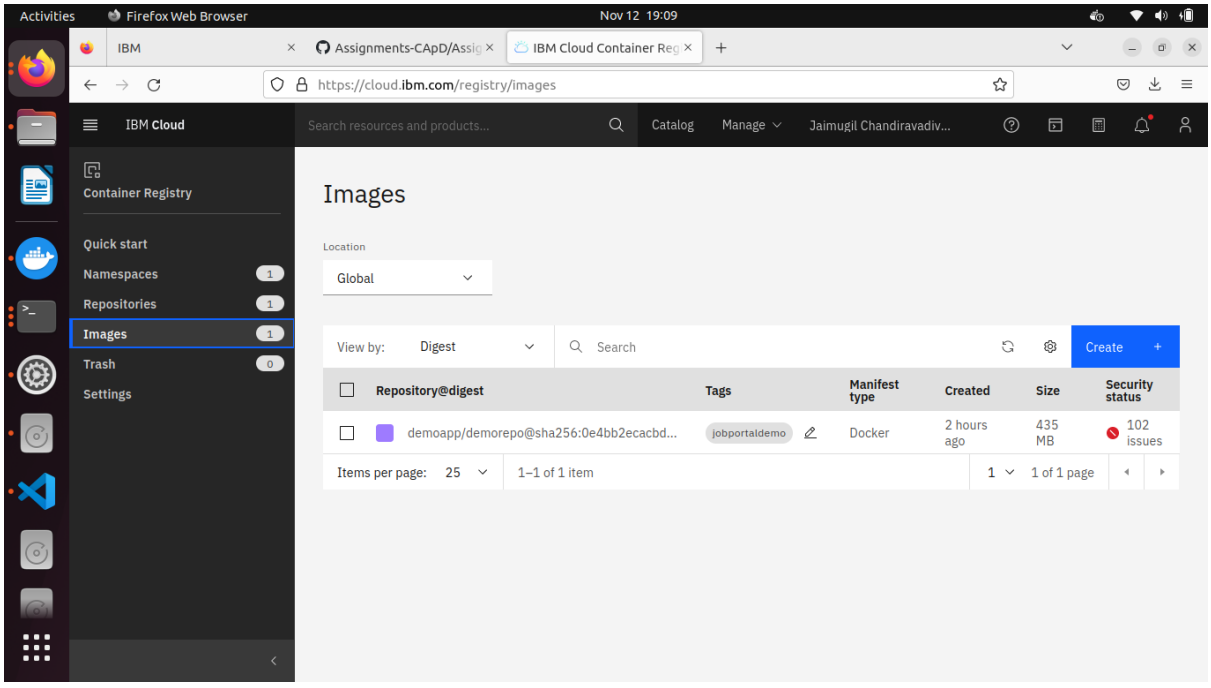

Activities
Docker Desktop
Nov 12 17:13
Docker Desktop
Update to latest
Sign in
Containers
Images
Volumes
Dev Environments
BETA
Extensions
BETA
Add Extensions
Containers
Give feedback
A container packages up code and its dependencies so the application runs quickly and reliably from one computing environment to another. Learn more
Only show running containers
Search
NAME
IMAGE
STATUS
PORT(S)
STARTED
ACTIONS
dreamy_khayyam
ad8a3f785bd3
job-portal-main:latest
Running
8080:8080
30 seconds ag
Showing 1 items
RAM 0.86GB
CPU 0.75%
Not connected to Hub
v4.13.1

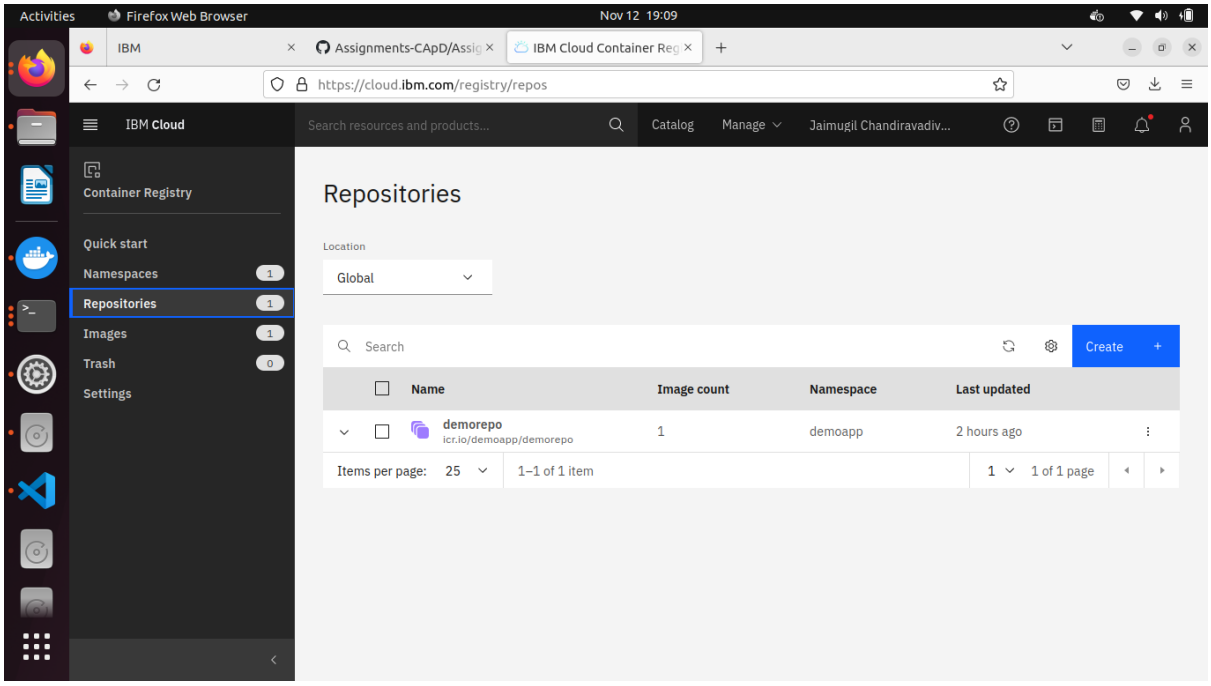


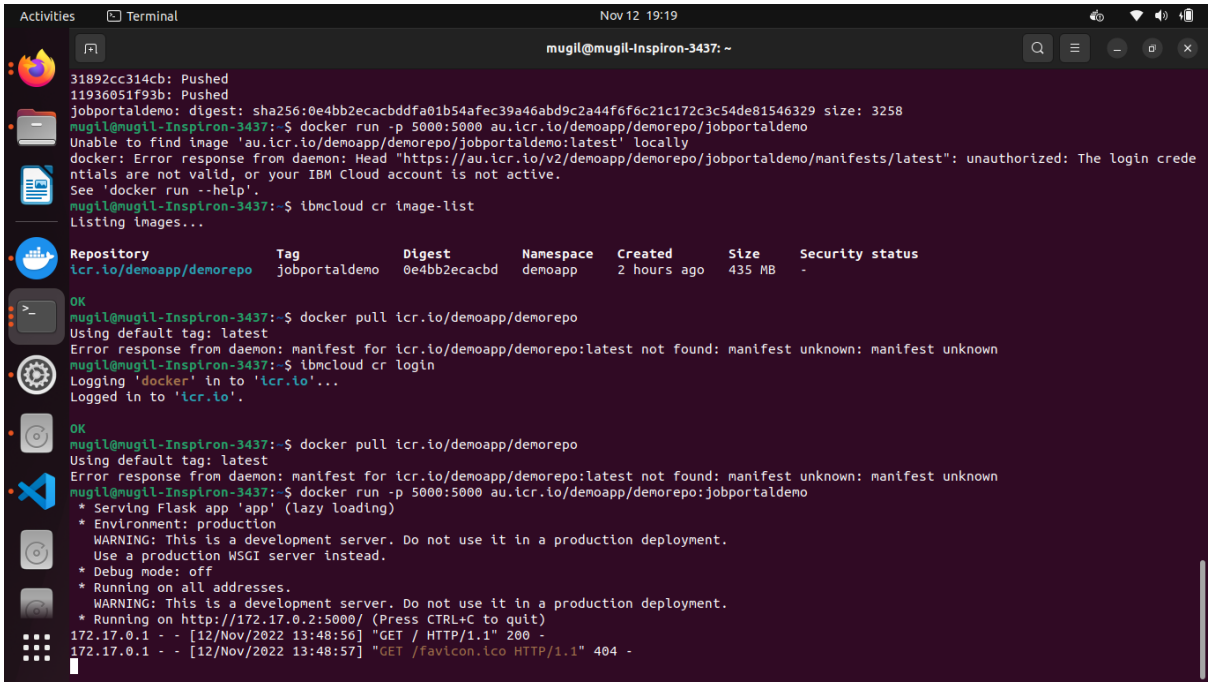
3.Create a IBM container registry and deploy helloworld app or jobportalapp.

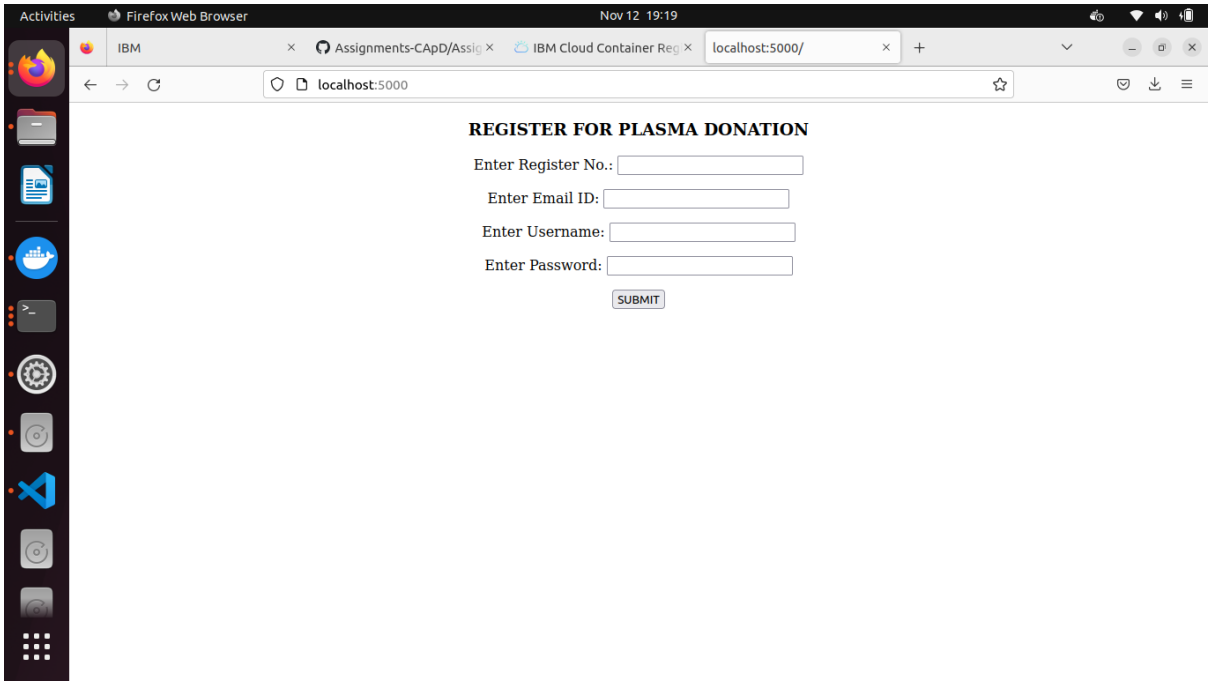



Activities
Terminal
Nov 12 19:09
mugil@mugil-Inspiron-3437: ~
Region:
User: 311519104023@smartinternz.com
Account: Jaimugil Chandiravadivu's Account (f09b8bdb60854a8dbeab8f1543367039)
Resource group: No resource group targeted, use 'ibmcloud target -g RESOURCE_GROUP'
CF API endpoint:
Org:
Space:
mugil@mugil-Inspiron-3437:~$ ibmcloud cr region-set global
The region is set to 'global', the registry is 'icr.io'.
OK
mugil@mugil-Inspiron-3437:~$ ibmcloud cr login
Logging 'docker' in to 'icr.io'...
Logged in to 'icr.io'.
OK
mugil@mugil-Inspiron-3437:~$ docker tag job-portal-main au.icr.io/demoapp/demorepo:jobportaldemo
mugil@mugil-Inspiron-3437:~$ docker tag job-portal-demo icr.io/demoapp/demorepo:jobportaldemo
Error response from daemon: No such image: job-portal-demo:latest
mugil@mugil-Inspiron-3437:~$ docker tag job-portal-main icr.io/demoapp/demorepo:jobportaldemo
mugil@mugil-Inspiron-3437:~$ docker push icr.io/demoapp/demorepo:jobportaldemo
The push refers to repository [icr.io/demoapp/demorepo]
547786279b52: Pushed
f83b5be749a7: Pushed
54a38c02f7d0: Pushed
58bfe3fe59d7: Pushed
ef1bf27a40fa: Pushed
aa4c808c19f6: Pushed
8ba9f690e8ba: Pushed
3e607d59ef9f: Pushed
1e18e7e1fcc2: Pushed
c3a0d593ed24: Pushed
26a504e63be4: Pushed
8bf42db0de72: Pushed
31892cc314cb: Pushed
11936051f93b: Pushed
jobportaldemo: digest: sha256:0e4bb2ecacbddfa01b54afec39a46abd9c2a44f6f6c21c172c3c54de81546329 size: 3258
mugil@mugil-Inspiron-3437:~$

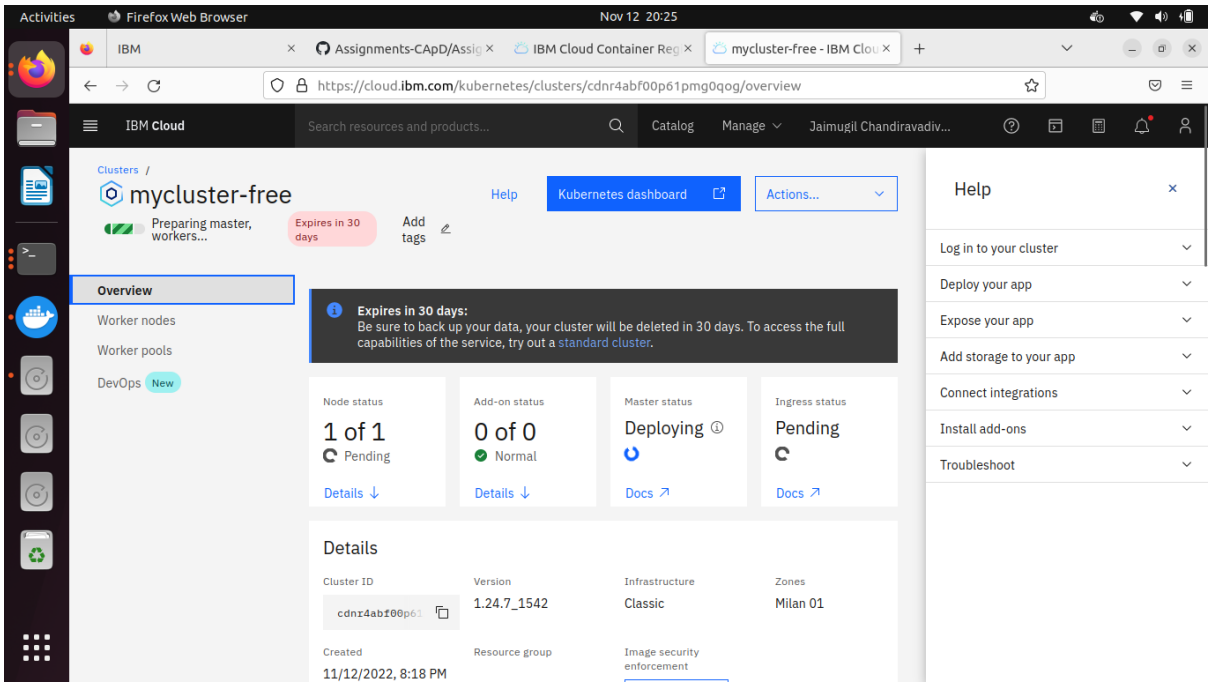

Activities
Firefox Web Browser
Nov 12 19:09
IBM
Assignments-CApD/Assig
IBM Cloud Container Reg
https://cloud.ibm.com/registry/images
IBM Cloud
Search resources and products...
Catalog
Manage
Jaimugil Chandiravadiv...
Container Registry
Quick start
Namespaces 1
Repositories 1
Images 1
Trash 0
Settings
Images
Location
Global
View by: Digest
Search
Create
Repository@digest
Tags
Manifest type
Created
Size
Security status
demoapp/demorepo@sha256:0e4bb2ecacbd...
jobportaldemo
Docker
2 hours ago
435 MB
102 issues
Items per page: 25
1–1 of 1 item
1
1 of 1 page

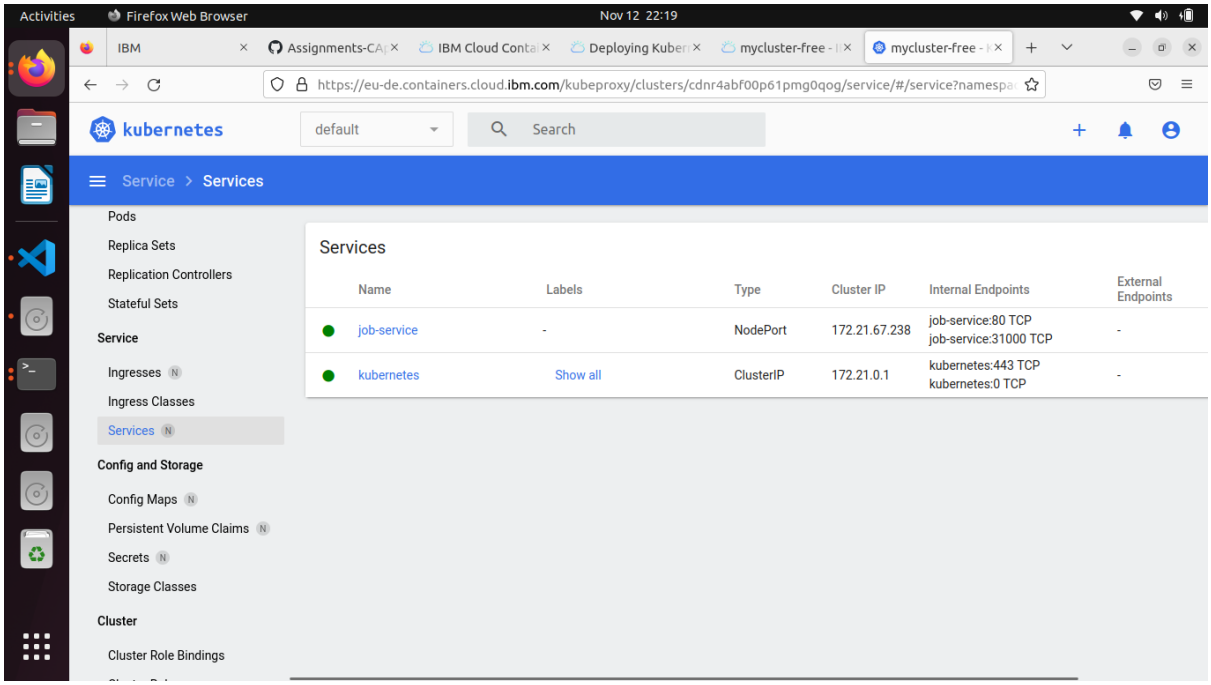

Activities
Firefox Web Browser
Nov 12 19:09
IBM
Assignments-CApD/Assig
IBM Cloud Container Reg
https://cloud.ibm.com/registry/repos
IBM Cloud
Search resources and products...
Catalog
Manage
Jaimugil Chandiravadiv...
Container Registry
Quick start
Namespaces 1
Repositories 1
Images 1
Trash 0
Settings
Repositories
Location
Global
Search
Create
Name
Image count
Namespace
Last updated
demorepo
icr.io/demoapp/demorepo
1
demoapp
2 hours ago
Items per page: 25
1–1 of 1 item
1 of 1 page

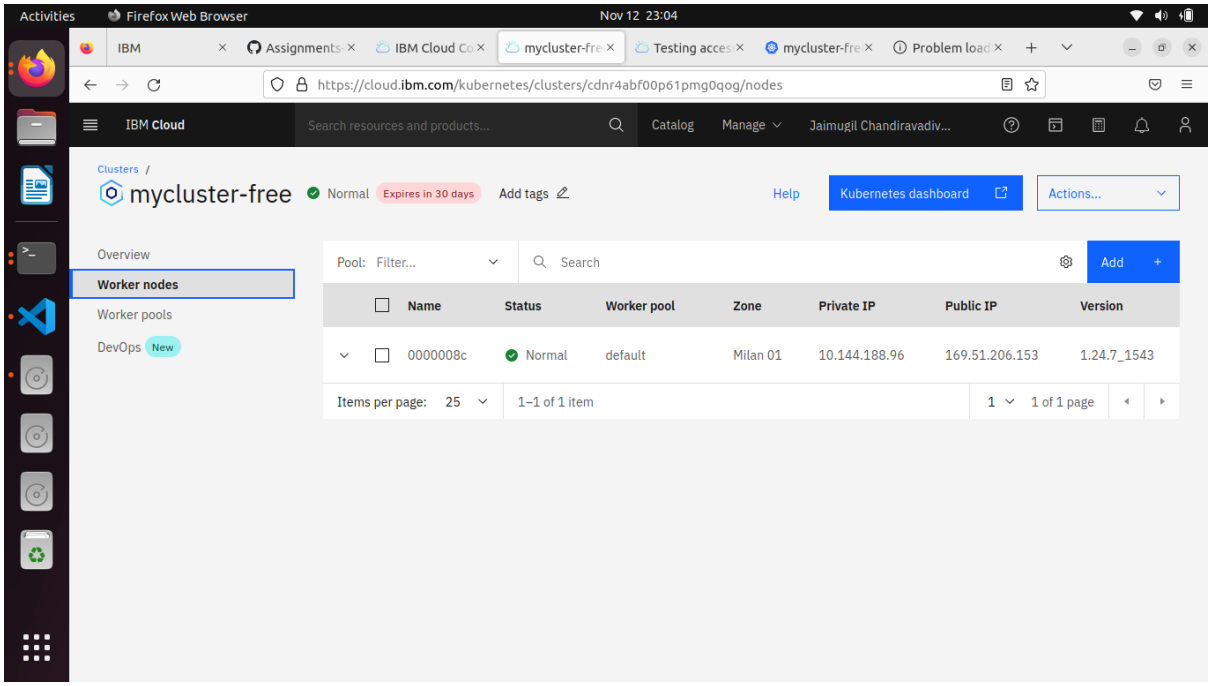

Activities
Terminal
Nov 12 19:19
mugil@mugil-Inspiron-3437: ~
31892cc314cb: Pushed
11936051f93b: Pushed
jobportaldemo: digest: sha256:0e4bb2ecacbddfa01b54afec39a46abd9c2a44f6f6c21c172c3c54de81546329 size: 3258
mugil@mugil-Inspiron-3437:~$ docker run -p 5000:5000 au.icr.io/demoapp/demorepo/jobportaldemo
Unable to find image 'au.icr.io/demoapp/demorepo/jobportaldemo:latest' locally
docker: Error response from daemon: Head "https://au.icr.io/v2/demoapp/demorepo/jobportaldemo/manifests/latest": unauthorized: The login credentials are not valid, or your IBM Cloud account is not active.
See 'docker run --help'.
mugil@mugil-Inspiron-3437:~$ ibmcloud cr image-list
Listing images...
Repository Tag Digest Namespace Created Size Security status
icr.io/demoapp/demorepo jobportaldemo 0e4bb2ecacbd demoapp 2 hours ago 435 MB -
OK
mugil@mugil-Inspiron-3437:~$ docker pull icr.io/demoapp/demorepo
Using default tag: latest
Error response from daemon: manifest for icr.io/demoapp/demorepo:latest not found: manifest unknown: manifest unknown
mugil@mugil-Inspiron-3437:~$ ibmcloud cr login
Logging 'docker' in to 'icr.io'...
Logged in to 'icr.io'.
OK
mugil@mugil-Inspiron-3437:~$ docker pull icr.io/demoapp/demorepo
Using default tag: latest
Error response from daemon: manifest for icr.io/demoapp/demorepo:latest not found: manifest unknown: manifest unknown
mugil@mugil-Inspiron-3437:~$ docker run -p 5000:5000 au.icr.io/demoapp/demorepo:jobportaldemo
* Serving Flask app 'app' (lazy loading)
* Environment: production
WARNING: This is a development server. Do not use it in a production deployment.
Use a production WSGI server instead.
* Debug mode: off
* Running on all addresses.
WARNING: This is a development server. Do not use it in a production deployment.
* Running on http://172.17.0.2:5000/ (Press CTRL+C to quit)
172.17.0.1 - - [12/Nov/2022 13:48:56] "GET / HTTP/1.1" 200 -
172.17.0.1 - - [12/Nov/2022 13:48:57] "GET /favicon.ico HTTP/1.1" 404 -

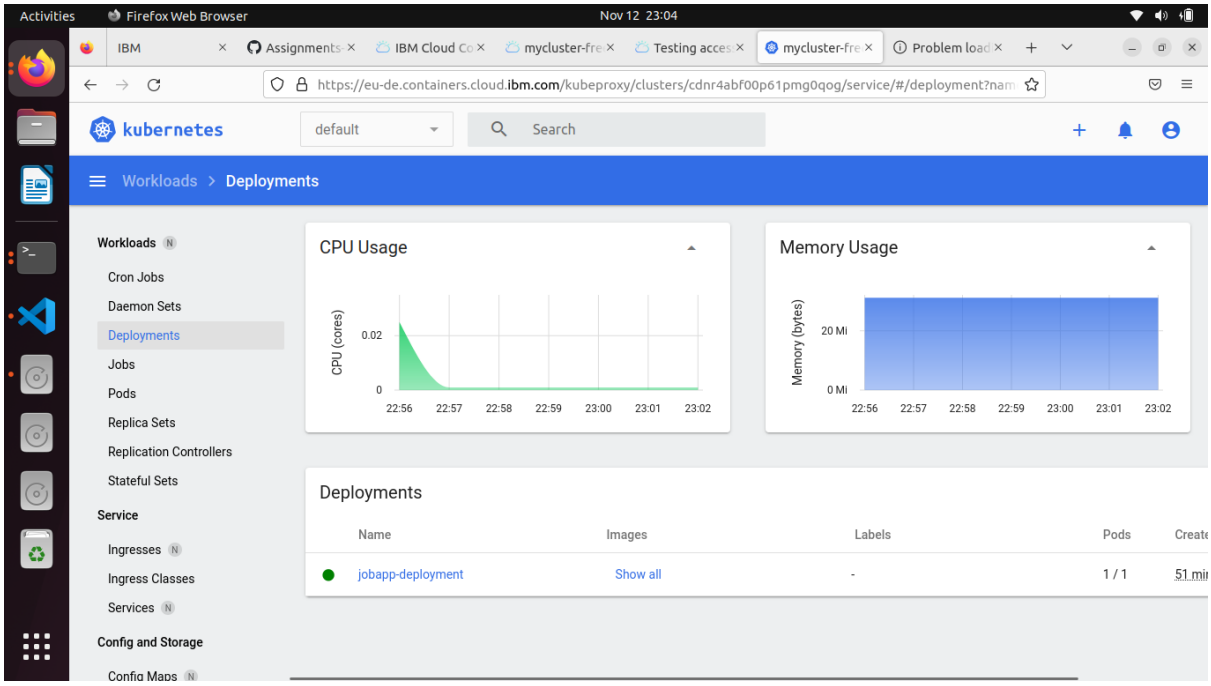


4.Create a Kubernetes cluster in IBM cloud and deploy helloworld image or jobportal image and also expose the same app to run in nodeport.




Activities
Firefox Web Browser
Nov 12 22:19
https://eu-de.containers.cloud.ibm.com/kubeproxy/clusters/cdnr4abf00p61pmg0qog/service/#/service?namespa
kubernetes
default
Search
Service > Services
Pods
Replica Sets
Replication Controllers
Stateful Sets
Service
Ingresses
Ingress Classes
Services
Config and Storage
Config Maps
Persistent Volume Claims
Secrets
Storage Classes
Cluster
Cluster Role Bindings
Services
Name
Labels
Type
Cluster IP
Internal Endpoints
External Endpoints
job-service
-
NodePort
172.21.67.238
job-service:80 TCP
job-service:31000 TCP
-
kubernetes
Show all
ClusterIP
172.21.0.1
kubernetes:443 TCP
kubernetes:0 TCP
-


Activities
Firefox Web Browser
Nov 12 23:04
https://cloud.ibm.com/kubernetes/clusters/cdnr4abf00p61pmg0qog/nodes
IBM Cloud
Search resources and products...
Catalog
Manage
Jaimugil Chandiravadiv...
Clusters /
mycluster-free
Normal
Expires in 30 days
Add tags
Help
Kubernetes dashboard
Actions...
Overview
Worker nodes
Worker pools
DevOps
New
Pool: Filter...
Search
Add
Name
Status
Worker pool
Zone
Private IP
Public IP
Version
0000008c
Normal
default
Milan 01
10.144.188.96
169.51.206.153
1.24.7_1543
Items per page: 25
1–1 of 1 item
1
1 of 1 page



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