

## ASSIGNMENT – 4

Student name	Narendranath R S
Student Roll number	311519104038
Student team ID	PNT2022TMID27815

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

The screenshot shows the Docker Playground interface in a Firefox browser. The instance name is `cdnnc6m3_cdnncbe3tccg00b2oabg`. The IP address is `192.168.0.8` and the port is `9000`. The memory usage is `1.57% (62.87MiB / 3.906GiB)` and the CPU usage is `0.41%`. The SSH command is `ssh ip172-18-0-54-cdnnc6m3tccg00b2oabg@direct.labs.play-with-docker`. The terminal output shows the following commands and results:

```
[node1] (local) root@192.168.0.8 ~
$ docker pull uifd/ui-for-docker
invalid reference format
[node1] (local) root@192.168.0.8 ~
$ docker pull uifd/ui-for-docker
Using default tag: latest
latest: Pulling from uifd/ui-for-docker
841194d080c8: Pull complete
Digest: sha256:fe371ff5a69549269b24073a5ab1244dd4e0b834cbadf244870572150b1cb749
Status: Downloaded newer image for uifd/ui-for-docker:latest
docker.io/uifd/ui-for-docker:latest
[node1] (local) root@192.168.0.8 ~
$ docker run -d -p 9000:9000 --privileged -v /var/run/docker.sock:/var/run/docker.sock uifd/ui-for-docker
aed4fbaef42590eb0bb6ae33a6eadb191e787b8595e90e78dada406b360df70
[node1] (local) root@192.168.0.8 ~
$
```

The screenshot shows the UI For Docker dashboard. The top navigation bar includes `Dashboard`, `Containers`, `Containers Network`, `Images`, `Networks`, `Volumes`, and `Info`. The `Containers` tab is selected. The `Running Containers` section shows a single container named `great_napier` with a status of `Up About a minute`. The `Status` section shows a donut chart with a green segment representing `Running` containers. The `Containers created` section shows a line graph with a single data point at `1` on `12/11/2022`. The `Images created` section shows a line graph with a single data point at `1`.

## 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

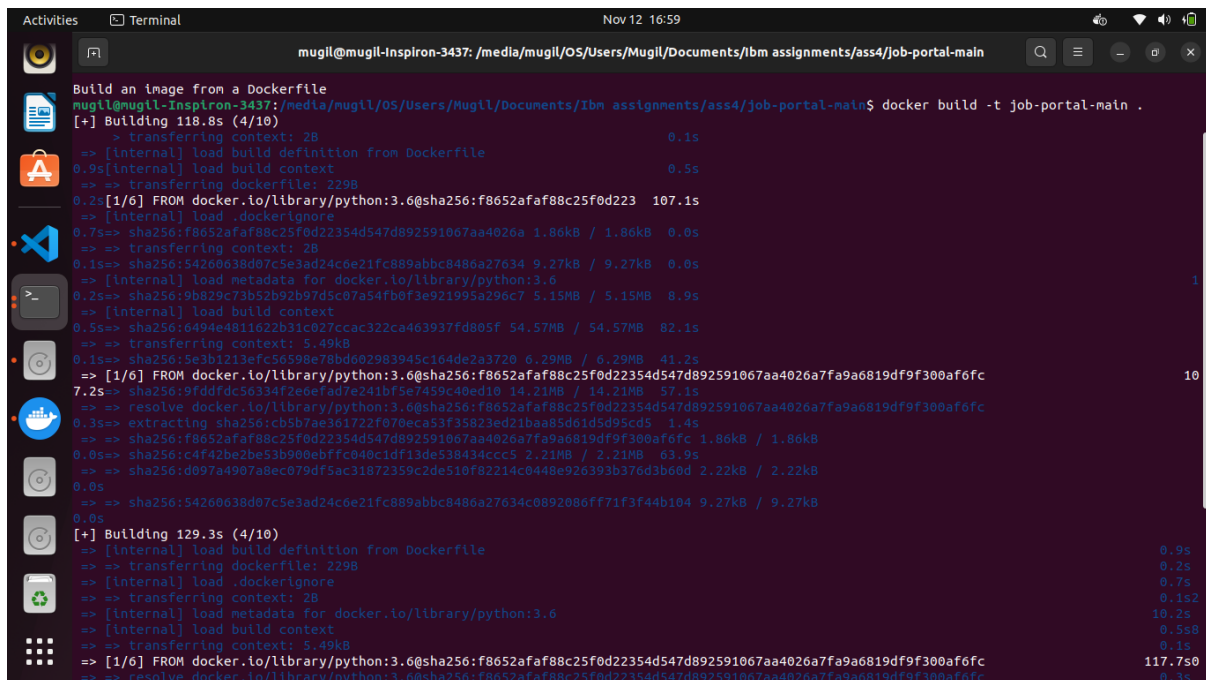
COPY requirements.txt /app

RUN python3 -m pip install -r requirements.txt

RUN python3 -m pip install ibm\_db

EXPOSE 5000

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



```
Build an image from a Dockerfile
mugil@mugil-Inspiron-3437:/media/mugil/OS/Users/Mugil/Documents/Ibm assignments/ass4/job-portal-main$ docker build -t job-portal-main .
[+] Building 118.8s (4/10)
=> transferring context: 28 0.1s
=> [internal] load build definition from Dockerfile
0.9s[internal] load build context
=> transferring dockerfile: 229B 0.5s
0.2s[1/6] FROM docker.io/library/python:3.6@sha256:f8652afaf88c25f0d22354d547d892591067aa4026a7fa9a6819df9f300af6fc 107.1s
=> [internal] load .dockerignore
0.7s=> sha256:f8652afaf88c25f0d22354d547d892591067aa4026a7fa9a6819df9f300af6fc 1.86kB / 1.86kB 0.0s
=> transferring context: 28 0.1s
=> sha256:54260638d07c5e3ad24c0e21fc889abbc8486a27634 9.27kB / 9.27kB 0.0s
=> [internal] load metadata for docker.io/library/python:3.6 10.2s
0.2s=> sha256:9b829c73b52b92b97d5c07a54fb0f3e921995a296c7 5.15MB / 5.15MB 8.9s
=> [internal] load build context
0.5s=> sha256:6494e4811622b31c027ccac322ca463937fd805f 54.57MB / 54.57MB 82.1s
=> transferring context: 5.49kB 0.1s
=> sha256:5e3b1213efc56598e78bd602983945c164de2a3720 6.29MB / 6.29MB 41.2s
=> [1/6] FROM docker.io/library/python:3.6@sha256:f8652afaf88c25f0d22354d547d892591067aa4026a7fa9a6819df9f300af6fc 10
7.2s=> sha256:9fddfd56334f2e0efad7e241bf5e7459c40ed10 14.21MB / 14.21MB 57.1s
=> resolve docker.io/library/python:3.6@sha256:f8652afaf88c25f0d22354d547d892591067aa4026a7fa9a6819df9f300af6fc 0.3s
=> extracting sha256:cb5b7ae361722f070eca53f35823ed21baa85d61d5d95cd5 1.4s
=> sha256:f8652afaf88c25f0d22354d547d892591067aa4026a7fa9a6819df9f300af6fc 1.86kB / 1.86kB
0.0s=> sha256:c4f42be2be53b900ebff040c1d13de538434ccc5 2.21MB / 2.21MB 63.9s
=> sha256:d097a4907a8ec079df5ac31872359c2de510f82214c0448e926393b376d3b60d 2.22kB / 2.22kB
0.0s
=> sha256:54260638d07c5e3ad24c0e21fc889abbc8486a27634c0892080ff71f3f44b104 9.27kB / 9.27kB
0.0s
[+] Building 129.3s (4/10)
=> [internal] load build definition from Dockerfile 0.9s
=> transferring dockerfile: 229B 0.2s
=> [internal] load .dockerignore 0.7s
=> transferring context: 28 0.1s2
=> [internal] load metadata for docker.io/library/python:3.6 10.2s
=> [internal] load build context 0.5s8
=> transferring context: 5.49kB 0.1s
=> [1/6] FROM docker.io/library/python:3.6@sha256:f8652afaf88c25f0d22354d547d892591067aa4026a7fa9a6819df9f300af6fc 117.7s0
=> resolve docker.io/library/python:3.6@sha256:f8652afaf88c25f0d22354d547d892591067aa4026a7fa9a6819df9f300af6fc 0.3s
```

Activities

Docker Desktop

Nov 12 17:05

Docker Desktop

Update to latest

Containers

Images

Volumes

Dev Environments

Extensions

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

Q Search

	NAME	TAG	STATUS	CREATED	SIZE	ACTIONS
<input type="checkbox"/>	job-portal-main e6215078c8d9	latest	Unused	less than a minute a	1.08 GB	<div></div> <div></div> <div></div>

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

Containers

Images

Volumes

Dev Environments

Extensions

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

Q Search

	NAME	IMAGE	STATUS	PORT(S)	STARTED	ACTIONS
<input type="checkbox"/>	dreamy_khayyam ad8a3f785bd3	job-portal-main:latest	Running	8080:8080	30 seconds ag	<div></div> <div></div> <div></div>

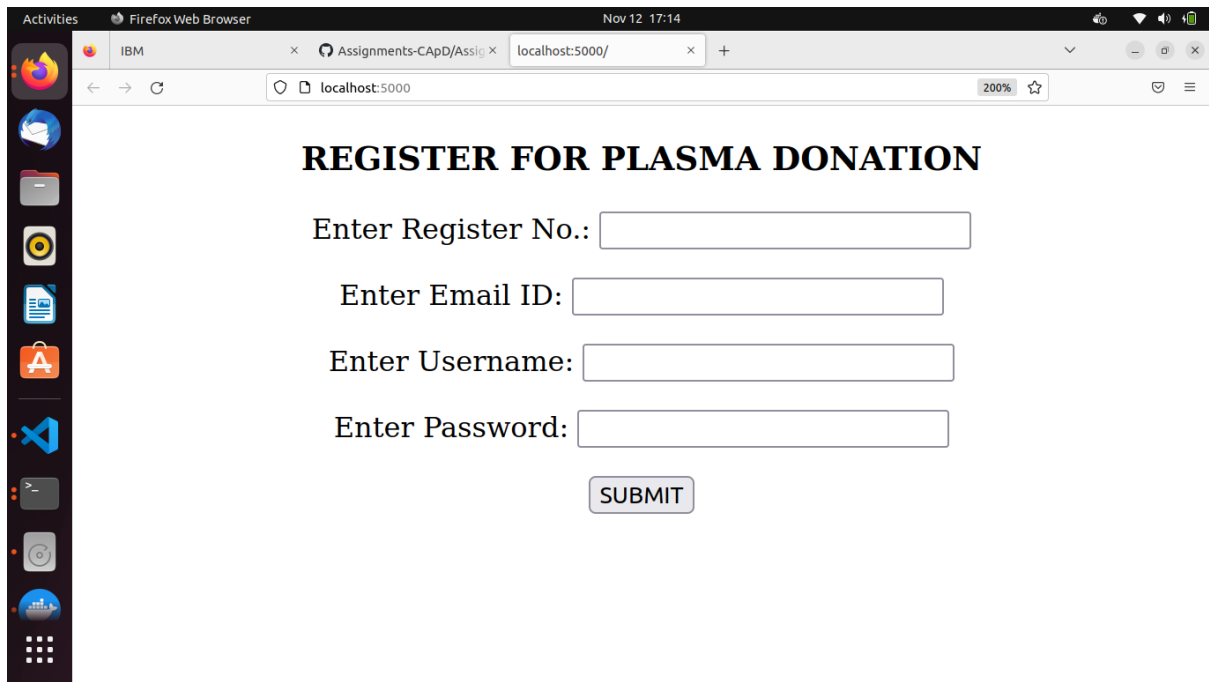
Showing 1 Items

RAM 0.86GB

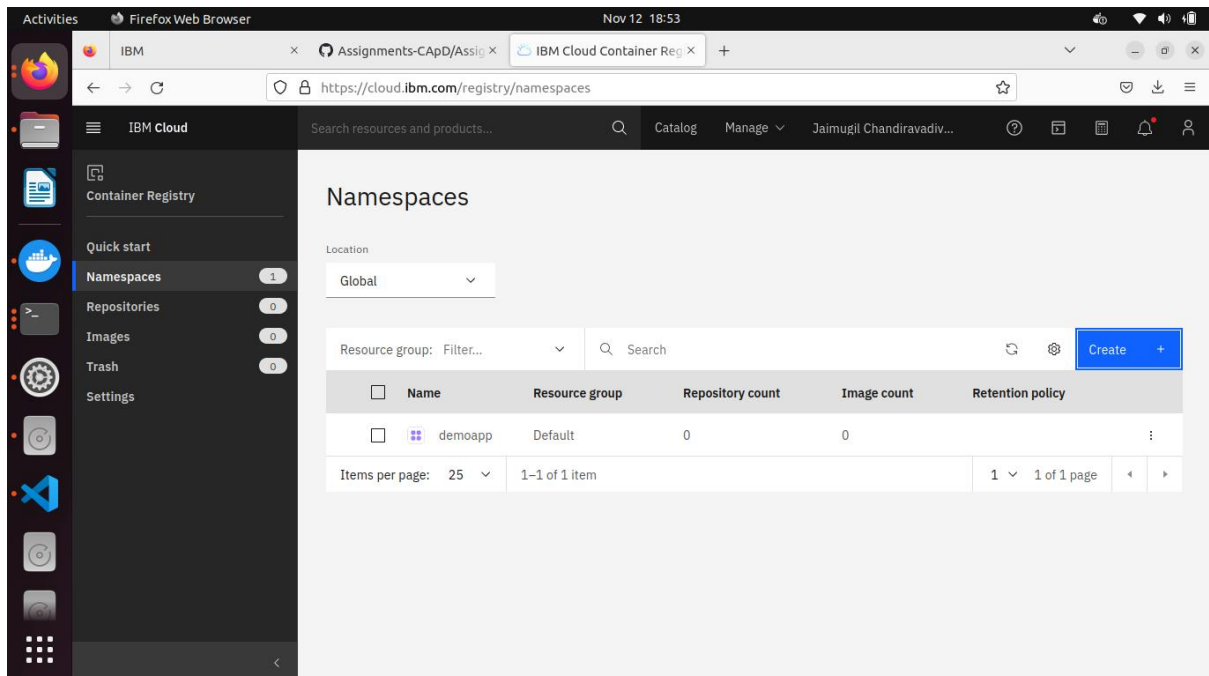
CPU 0.75%

Not connected to Hub

v4.13.1



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

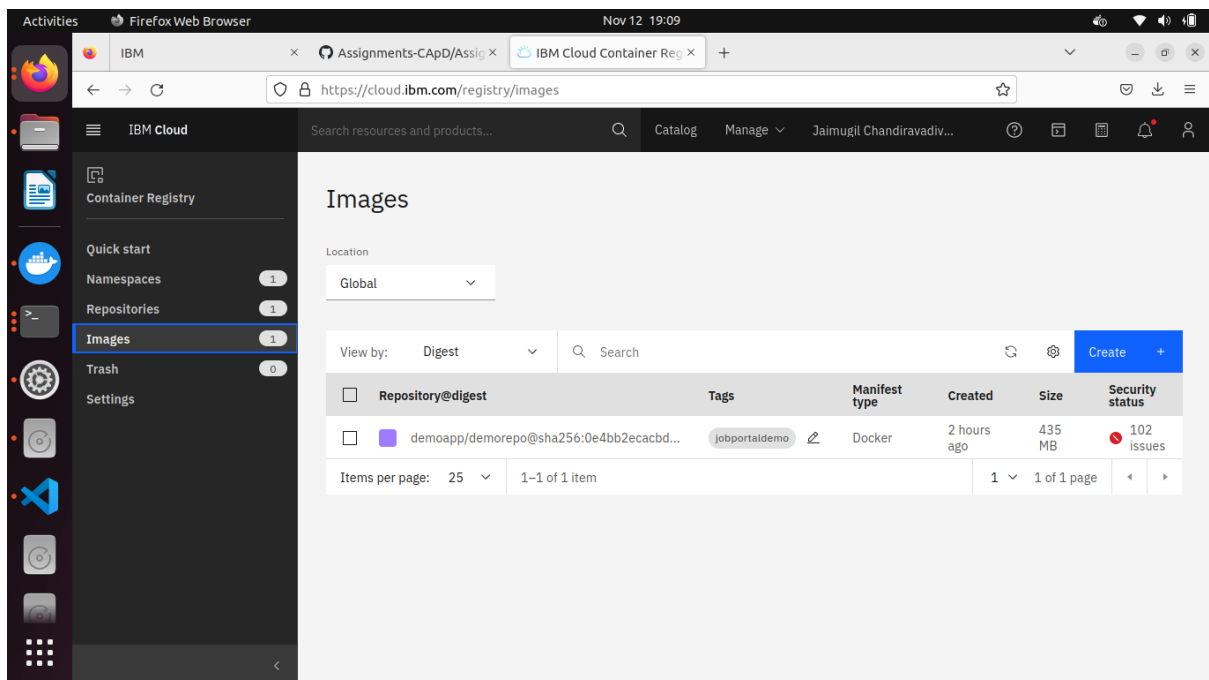


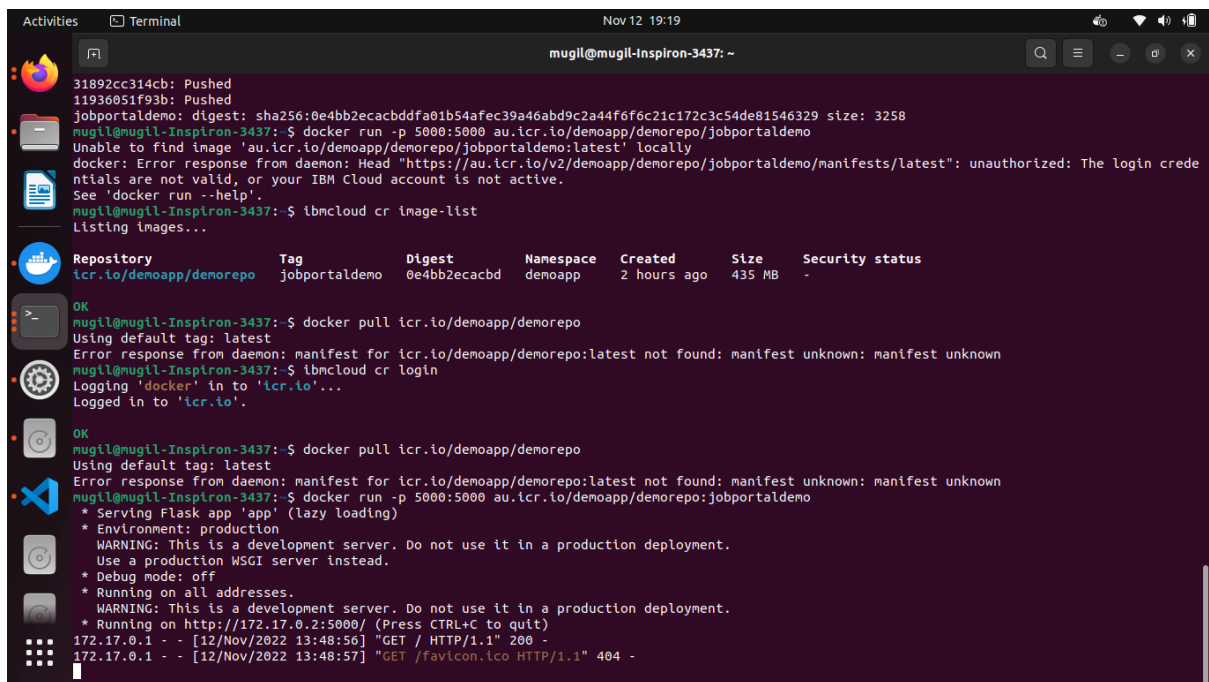
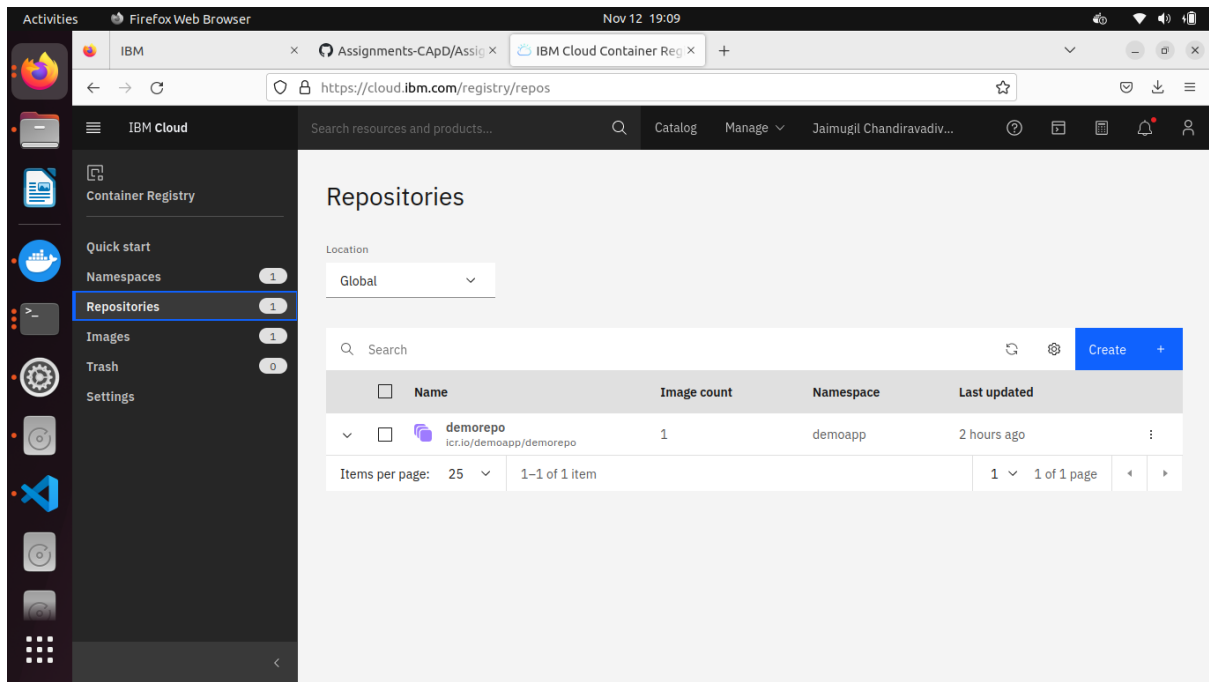
```
Activities Terminal Nov 12 19:09 mugil@mugil-Inspiron-3437: ~

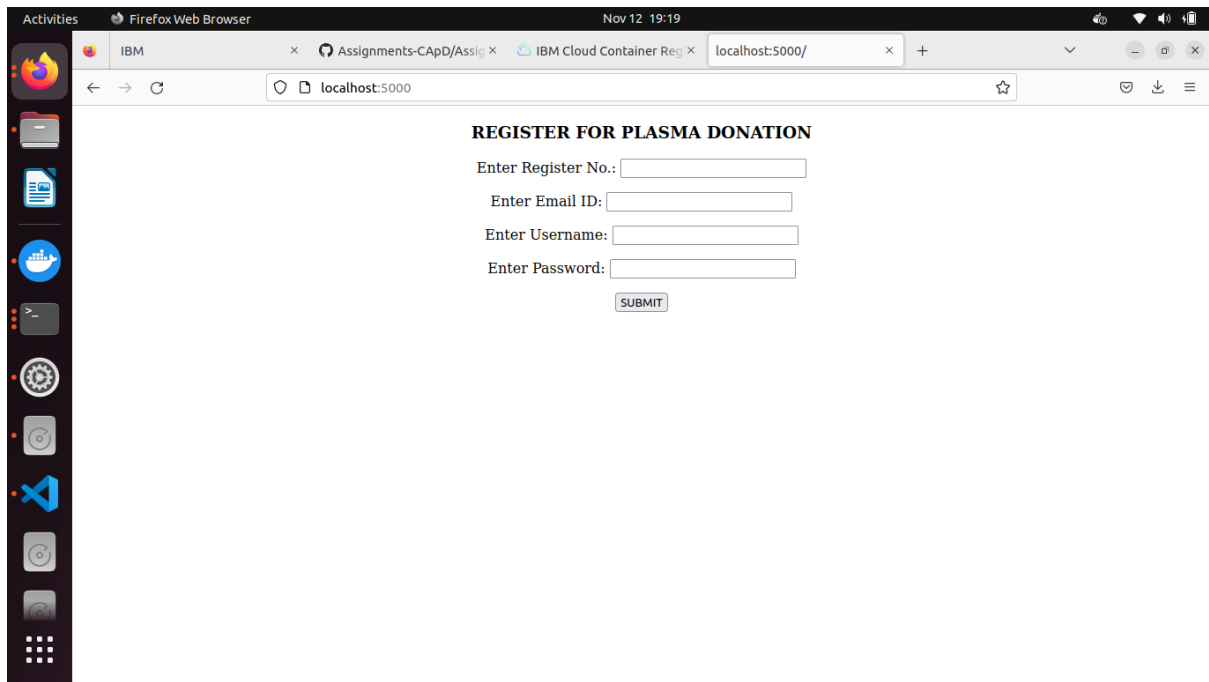
Region:
User: 311519104023@smartinternz.com
Account: Jaimugil Chandiravadivu's Account (f09b8bdb60854a8dbeab8f1543367039)
Resource group: No resource group targeted, use 'ibmcloud target -g RESOURCE_GROUP'
CF API endpoint:
Org:
Space:
mugil@mugil-Inspiron-3437:~$ ibmcloud cr region-set global
The region 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'.

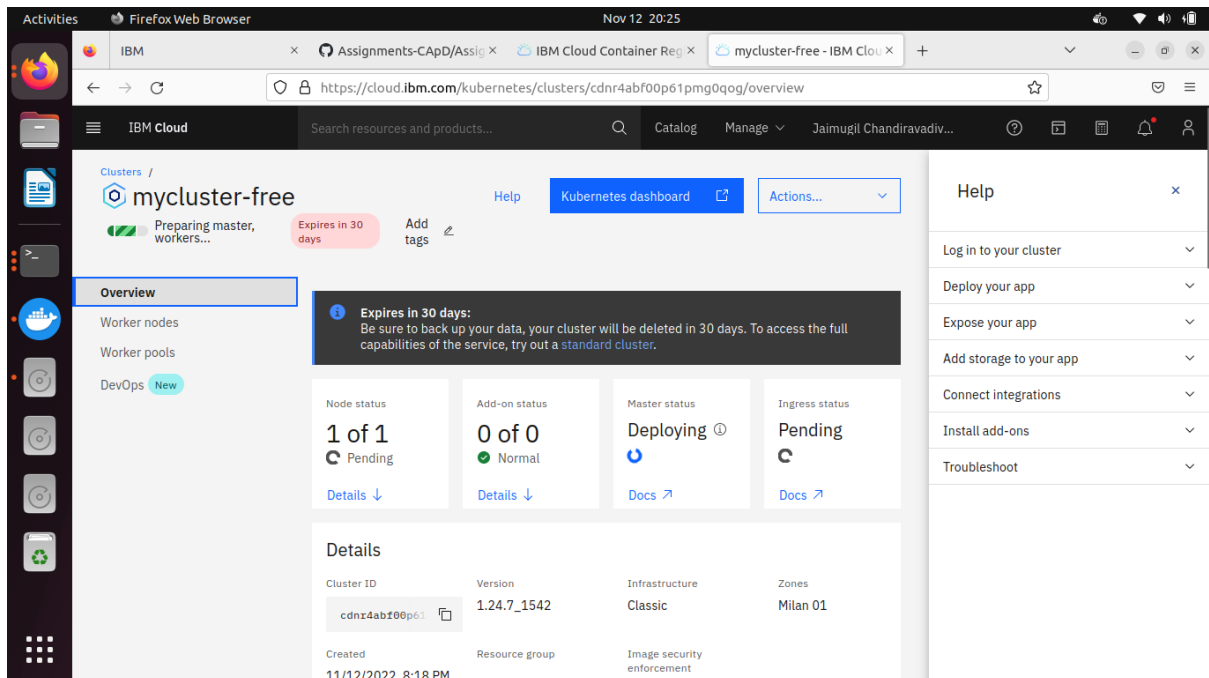
OK
mugil@mugil-Inspiron-3437:~$ docker tag job-portal-main au.icr.io/demoapp/demorepo:jobportaldemo
mugil@mugil-Inspiron-3437:~$ docker tag job-portal-demo icr.io/demoapp/demorepo:jobportaldemo
Error response from daemon: No such image: job-portal-demo:latest
mugil@mugil-Inspiron-3437:~$ docker tag job-portal-main 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:~$
```







**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

IBM | Assignments-CA | IBM Cloud Cont | Deploying Kuber | mycluster-free - | mycluster-free -

https://eu-de.containers.cloud.ibm.com/kubeproxy/clusters/cdnr4abf00p61pmg0qog/service/#/service?namespace=

kubernetes | default | Search

Service > Services

Pods  
Replica Sets  
Replication Controllers  
Stateful Sets  
Service  
Ingresses (N)  
Ingress Classes  
Services (N)  
Config and Storage  
Config Maps (N)  
Persistent Volume Claims (N)  
Secrets (N)  
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

IBM | Assignments-CA | IBM Cloud Co | mycluster-free | Testing acces | mycluster-free | Problem load

https://cloud.ibm.com/kubernetes/clusters/cdnr4abf00p61pmg0qog/nodes

IBM Cloud | Search resources and products... | Catalog | Manage | Jaimugil Chandiravadiv... | Help | Kubernetes dashboard | Actions...

Clusters / mycluster-free | Normal | Expires in 30 days | Add tags | Help

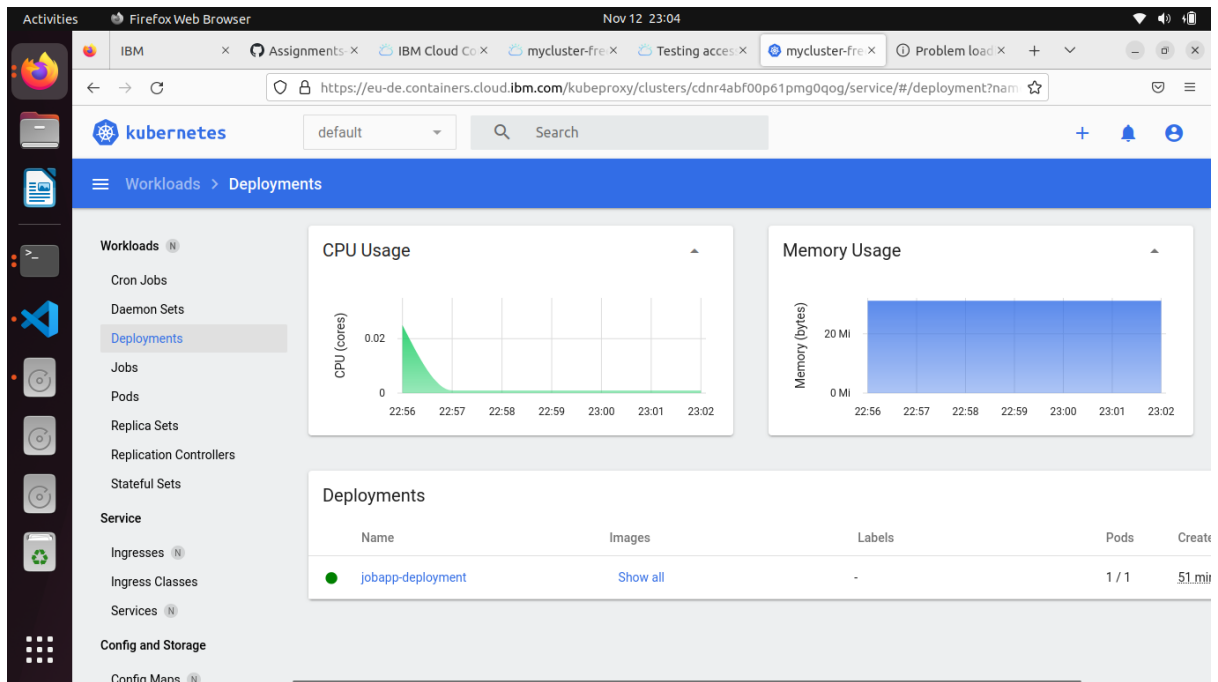
Overview  
Worker nodes  
Worker pools  
DevOps New

Pool: Filter... | Search

<input type="checkbox"/>	Name	Status	Worker pool	Zone	Private IP	Public IP	Version
<input checked="" type="checkbox"/>	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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