

ASSIGNMENT – 4

DIKSHA KRISHNAN
PNT2022TMID27807

dikshakrish5@gmail.com

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

The screenshot shows the Docker Playground interface in a Firefox Web Browser. The browser address bar displays the URL: `https://labs.play-with-docker.com/p/cdnnc6m3tccg00b2oaag#cdnnc6m3_cdnncbe3tccg00b2oabg`. The interface includes a sidebar with a clock showing 03:56:10, a 'CLOSE SESSION' button, and a list of instances. The main panel displays details for the instance 'cdnnc6m3_cdnncbe3tccg00b2oabg', including its IP (192.168.0.8), memory usage (1.57% / 62.87MiB / 3.906GiB), CPU usage (0.41%), and an SSH command: `ssh ip172-18-0-54-cdnnc6m3tccg00b2oaag@direct.labs.play-with-docker.com`. Below this, a terminal window shows the following commands and output:

```
[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:fe371ff5a69549269b24073a5ab1244dd4c0b834cbadf244870572150b1cb749
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
aed4fbaef42590eb0bb6ae33a6eaadb191e787b8595e90e78dada406b360df70
[node1] (local) root@192.168.0.8 ~
```

The screenshot shows the 'UI For Docker' dashboard in a Firefox Web Browser. The browser address bar displays the URL: `ip172-18-0-54-cdnnc6m3tccg00b2oaag-9000.direct.labs.play-with-docker.com/#/`. The dashboard includes a navigation bar with tabs: Dashboard, Containers, Containers Network, Images, Networks, Volumes, and Info. A 'Refresh' button is located on the right. The main content area is divided into two sections: 'Running Containers' and 'Status'. The 'Running Containers' section shows a single container named 'great_napier' with a status of 'Up About a minute'. The 'Status' section features a donut chart showing the status of containers: Running (green), Stopped (red), and Ghost (grey). Below the chart, there are two line graphs: 'Containers created' and 'Images created', both showing a count of 1 over time.

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 Terminal Nov 12 16:59
mugil@mugil-Inspiron-3437: /media/mugil/OS/Users/Mugil/Documents/ibm assignments/ass4/job-portal-main

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 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
  => sha256:54260638d07c5e3ad24c6e21fc889abbc8486a27634 9.27kB / 9.27kB 0.0s
  => [internal] load metadata for docker.io/library/python:3.6 1
  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=> sha256:9fddfdcc56334f2e6efad7e241bf5e7459c40ed10 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:c4f42be2be53b900ebffc040c1df13de538434ccc5 2.21MB / 2.21MB 63.9s
  => sha256:d097a4907a8ec079df5ac31872359c2de510f82214c0448e926393b376d3b60d 2.22kB / 2.22kB
  0.0s
  => sha256:54260638d07c5e3ad24c6e21fc889abbc8486a27634c0892086ff71f3f44b104 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

An image is a read-only template with instructions for creating a Docker container.

LOCAL

REMOTE REPOSITORIES

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

A container packages up code and its dependencies so the application runs quickly and reliably from one computing environment to another.

Only show running containers

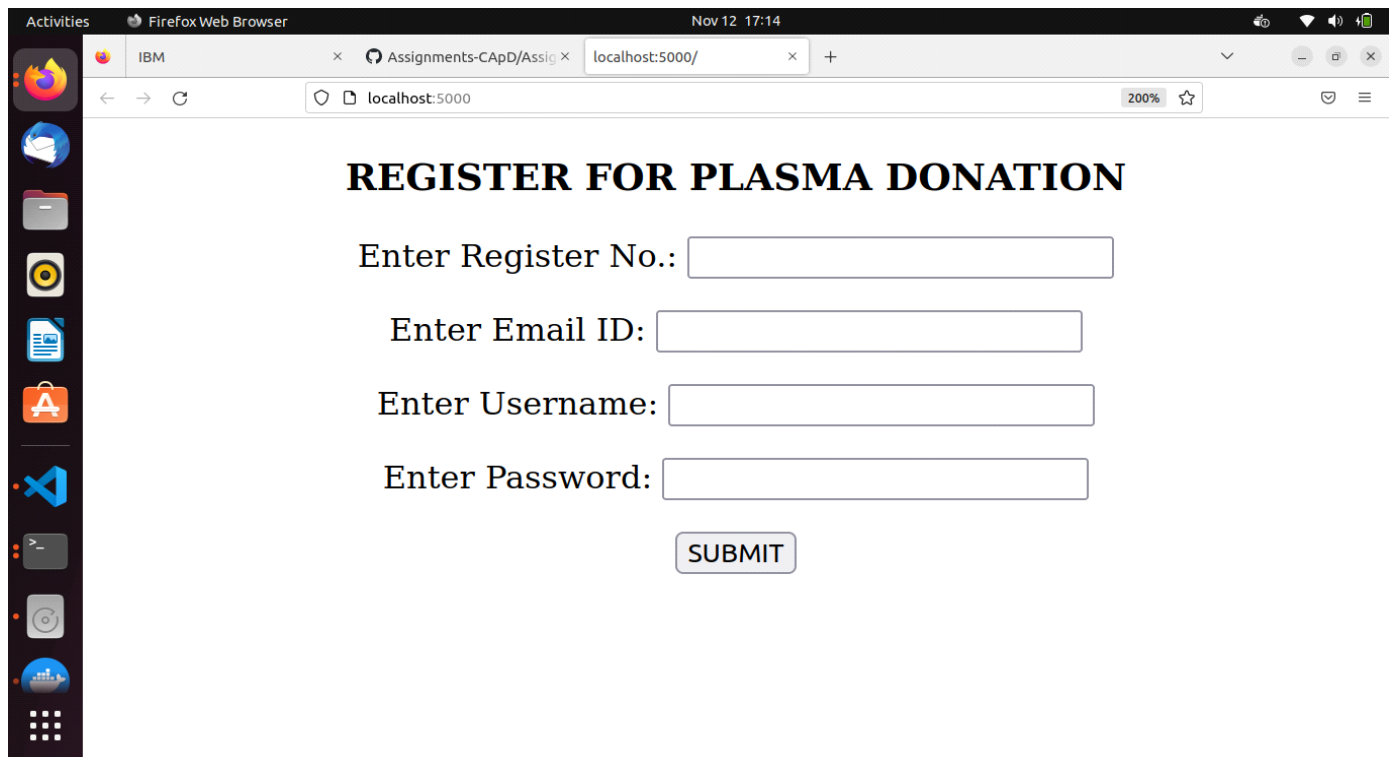
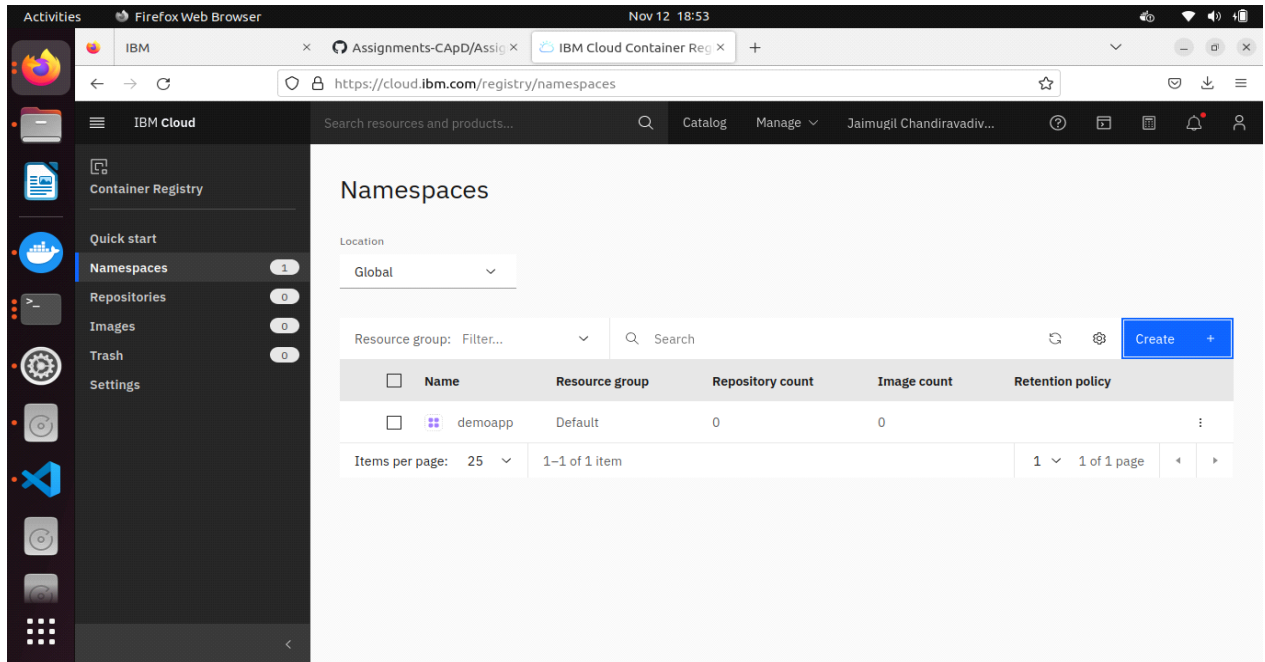
Search

	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
aa4e000c19f6: Pushed
8ba9f690e8ba: Pushed
3e007d59ef9f: 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/Assign 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

<input type="checkbox"/>	Repository@digest	Tags	Manifest type	Created	Size	Security status
<input type="checkbox"/>	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 Cloud Container Registry

Repositories

Location: Global

Search

Name	Image count	Namespace	Last updated
 demoapp icr.io/demoapp/demoapp	1	demoapp	2 hours ago

Items per page: 25 1-1 of 1 item

Create +

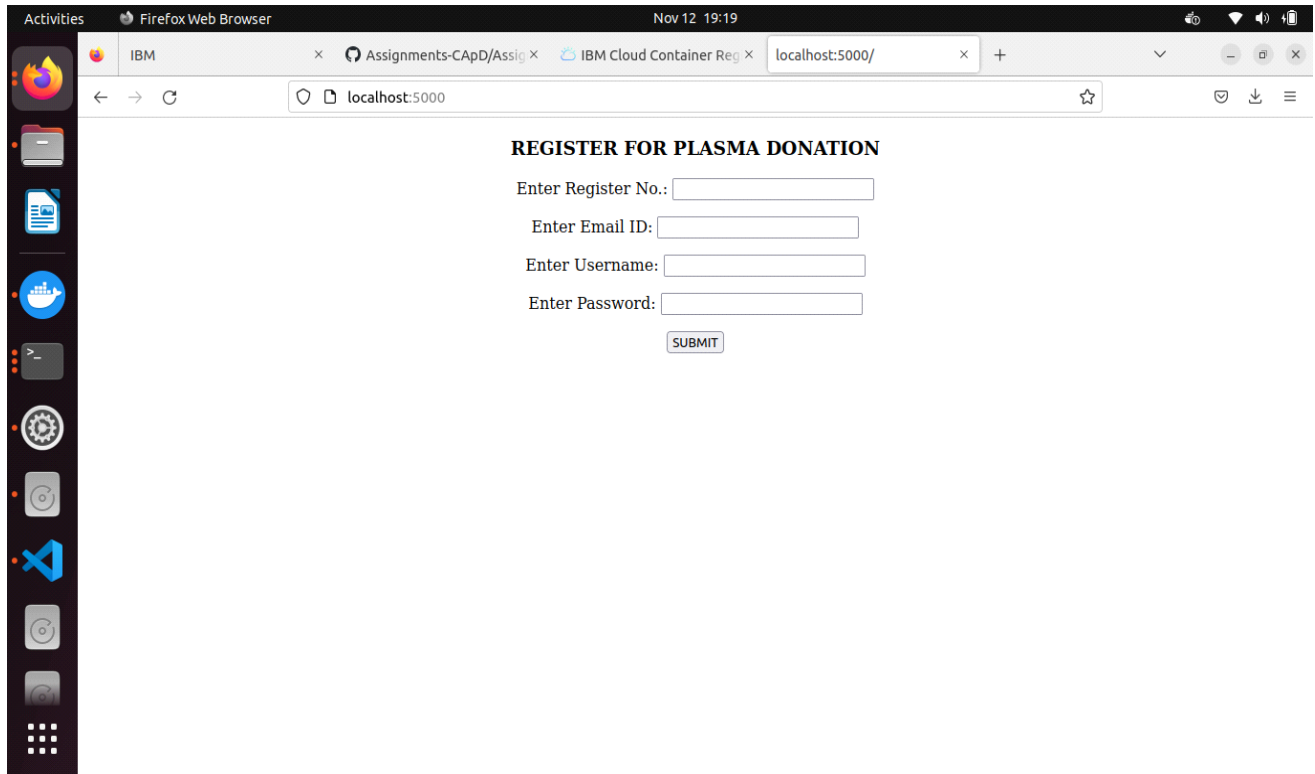
```
Activities Terminal Nov 12 19:19
mugil@mugil-Inspiron-3437: ~

31892cc314cb: Pushed
11936051f93b: Pushed
jobportaldemo: digest: sha256:0e4bb2ecacbddfa01b54afec39a46abd9c2a44f6f6c21c172c3c54de81546329 size: 3258
mugil@mugil-Inspiron-3437:~$ docker run -p 5000:5000 au.icr.io/demoapp/demoapp/jobportaldemo
Unable to find image 'au.icr.io/demoapp/demoapp/jobportaldemo:latest' locally
docker: Error response from daemon: Head "https://au.icr.io/v2/demoapp/demoapp/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...

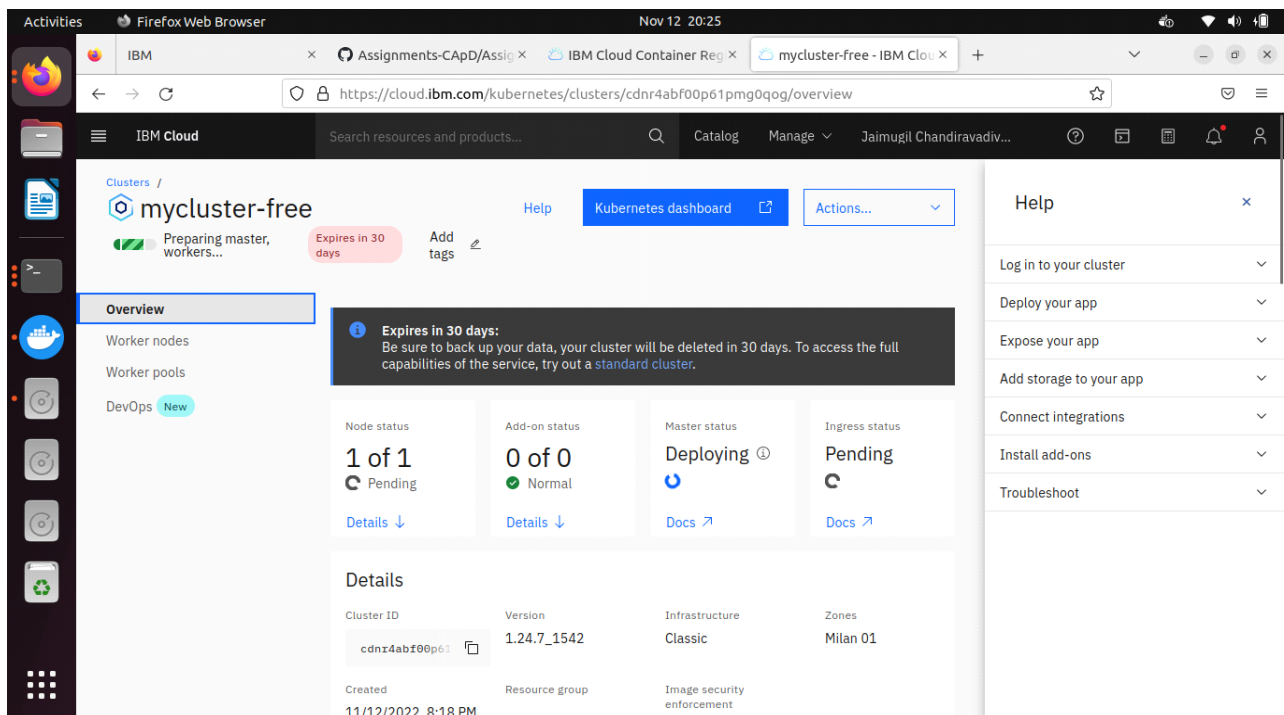
Repository          Tag          Digest          Namespace      Created        Size        Security status
icr.io/demoapp/demoapp jobportaldemo 0e4bb2ecacbd     demoapp        2 hours ago    435 MB      -

OK
mugil@mugil-Inspiron-3437:~$ docker pull icr.io/demoapp/demoapp
Using default tag: latest
Error response from daemon: manifest for icr.io/demoapp/demoapp: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/demoapp
Using default tag: latest
Error response from daemon: manifest for icr.io/demoapp/demoapp:latest not found: manifest unknown: manifest unknown
mugil@mugil-Inspiron-3437:~$ docker run -p 5000:5000 au.icr.io/demoapp/demoapp/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

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
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

IBM Assignments- 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...

Clusters / mycluster-free

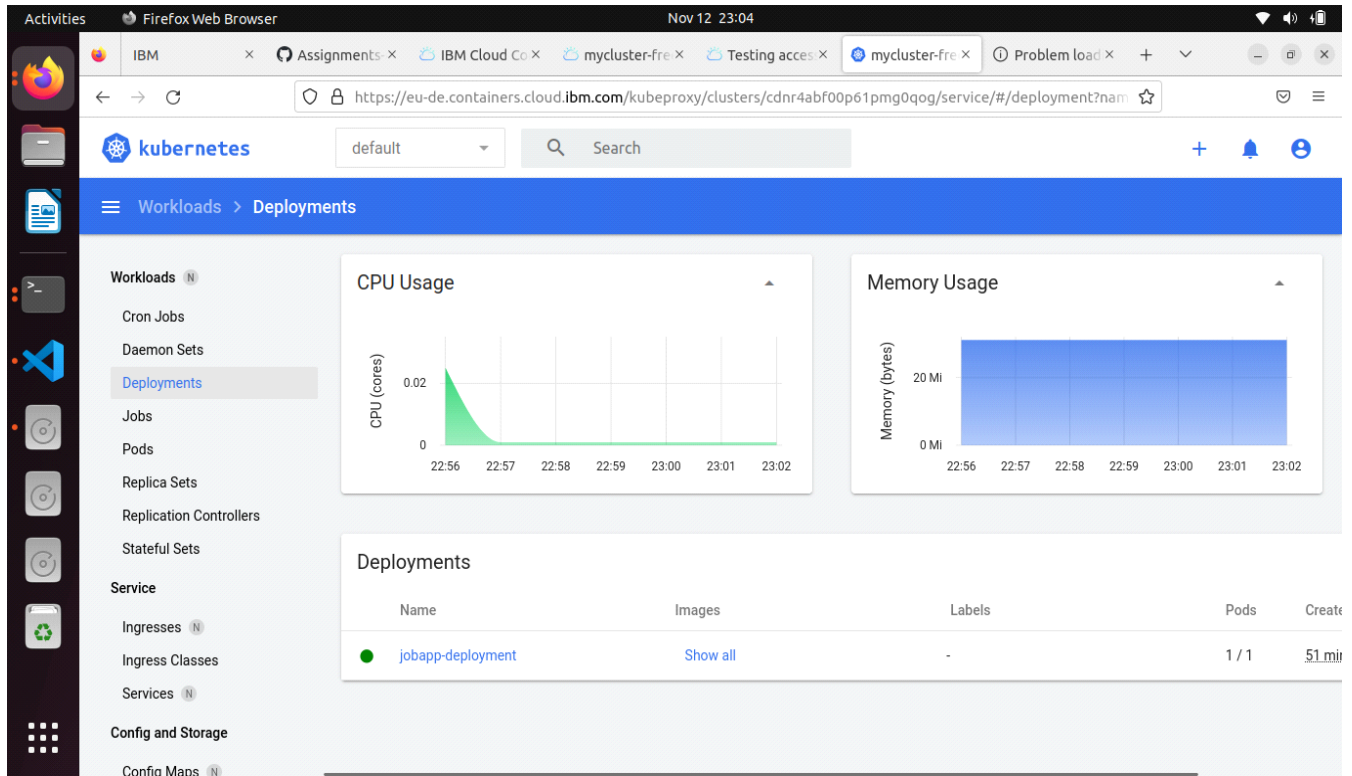
Normal Expires in 30 days Add tags Help Kubernetes dashboard Actions...

Overview
Worker nodes
Worker pools
DevOps New

Pool: Filter... Search Add

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



Activities Firefox Web Browser Nov 12 17:15

IBM Assignments-CAPD/Assign localhost:5000/ +

← → ↻ localhost:5000 ☆

REGISTER FOR PLASMA DONATION

Enter Register No.:

Enter Email ID:

Enter Username:

Enter Password: