Assignment -4

News Tracker Application – Kubernetes / Docker

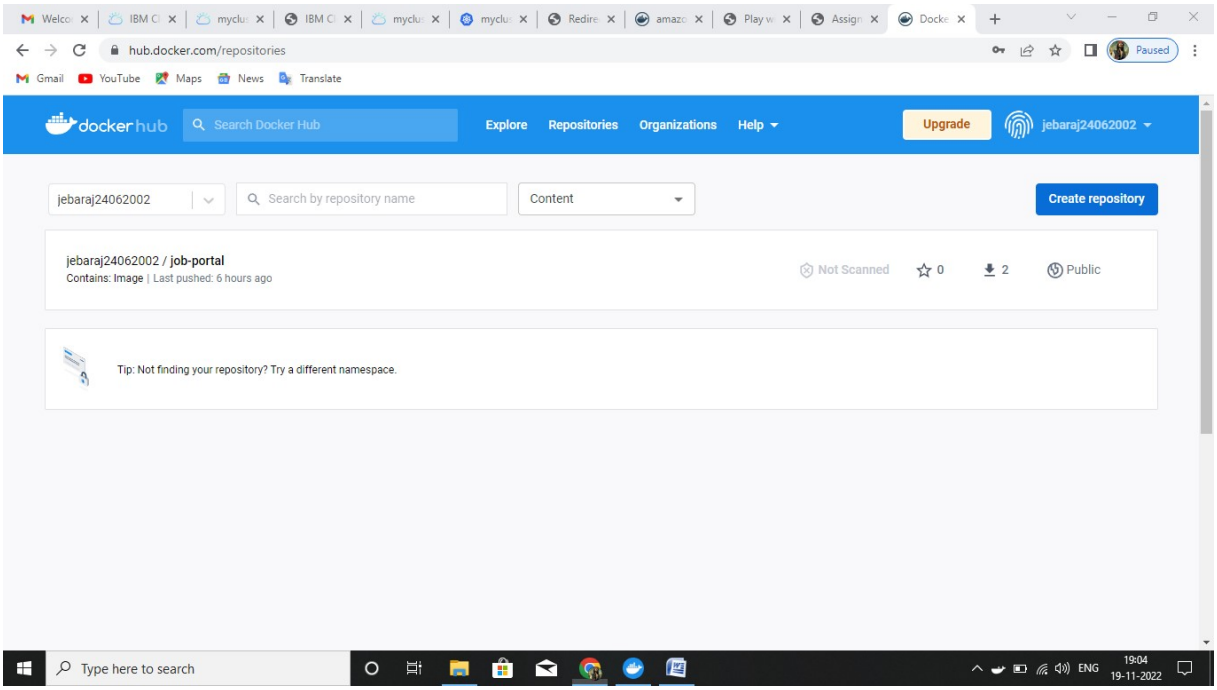
Assignment Date	20 October 2022
Student Name	NAVEENKUMAR G
Student Roll Number	953719104036
Maximum Marks	2 Marks

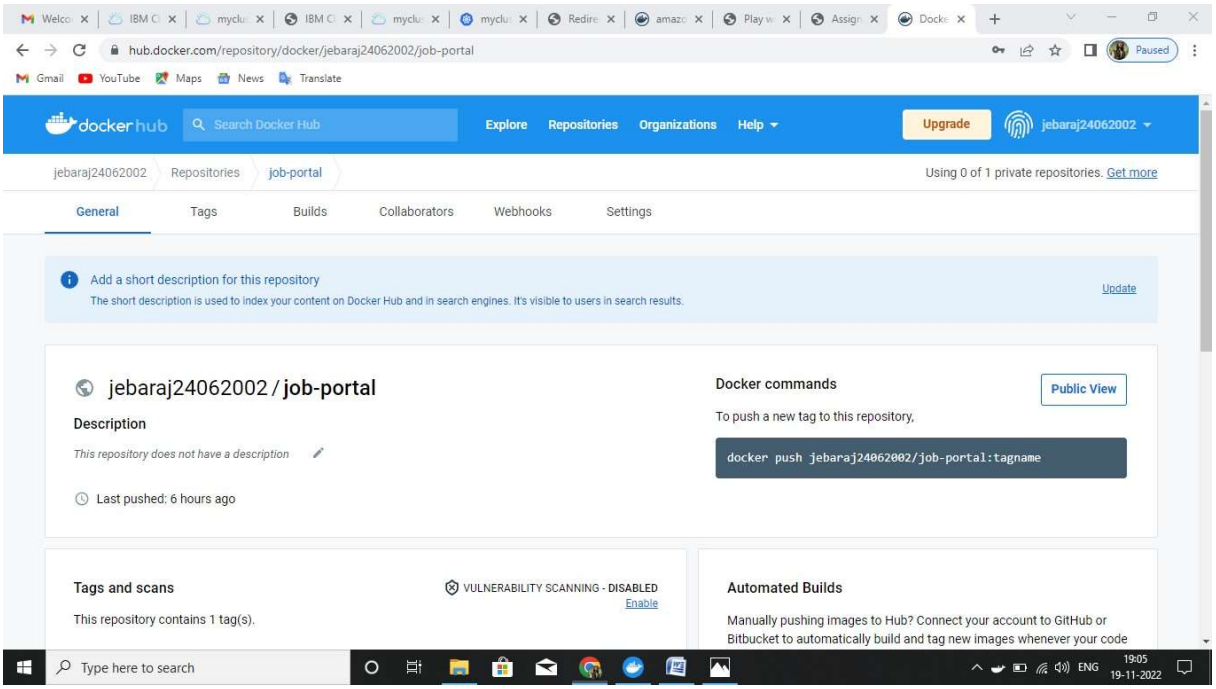
Question-1:

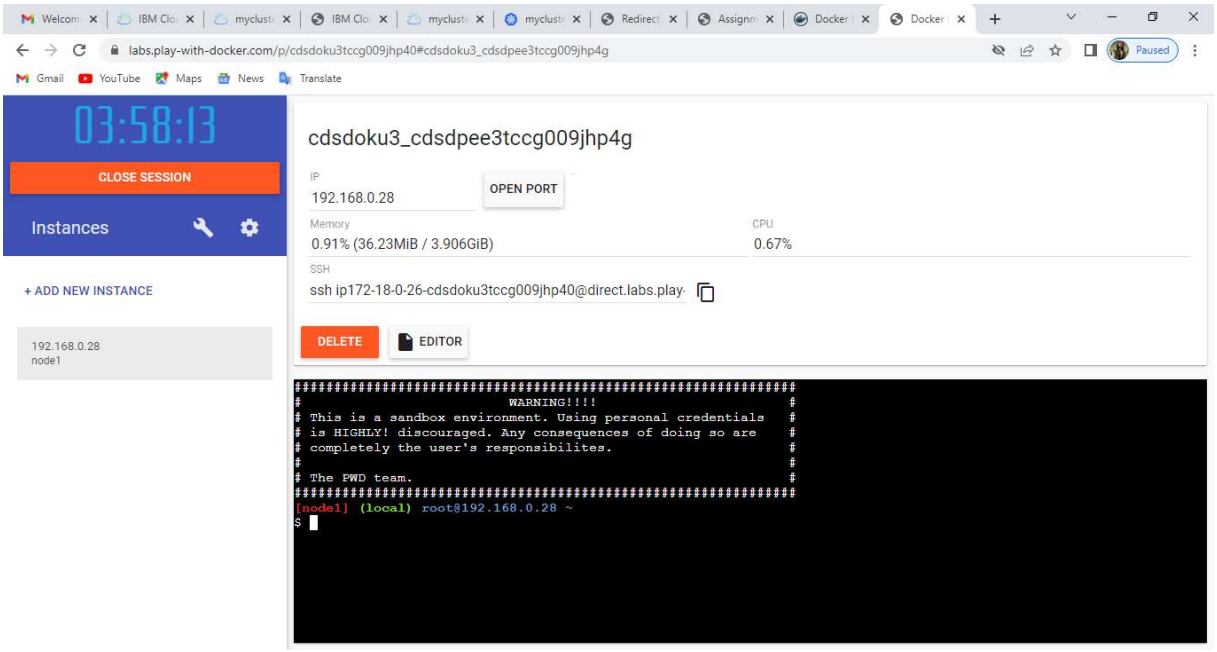
1. Pull an Image from docker hub and run it in docker playground.
2. Create a dockerfile for the job portal / flask application and deploy it in Docker desktop application.
3. Create a IBM container registry and push docker image of flask application or job portal app.
4. Create a Kubernetes cluster in IBM cloud and deploy flask application image or job portal image and also expose the same app to run in Nodeport.

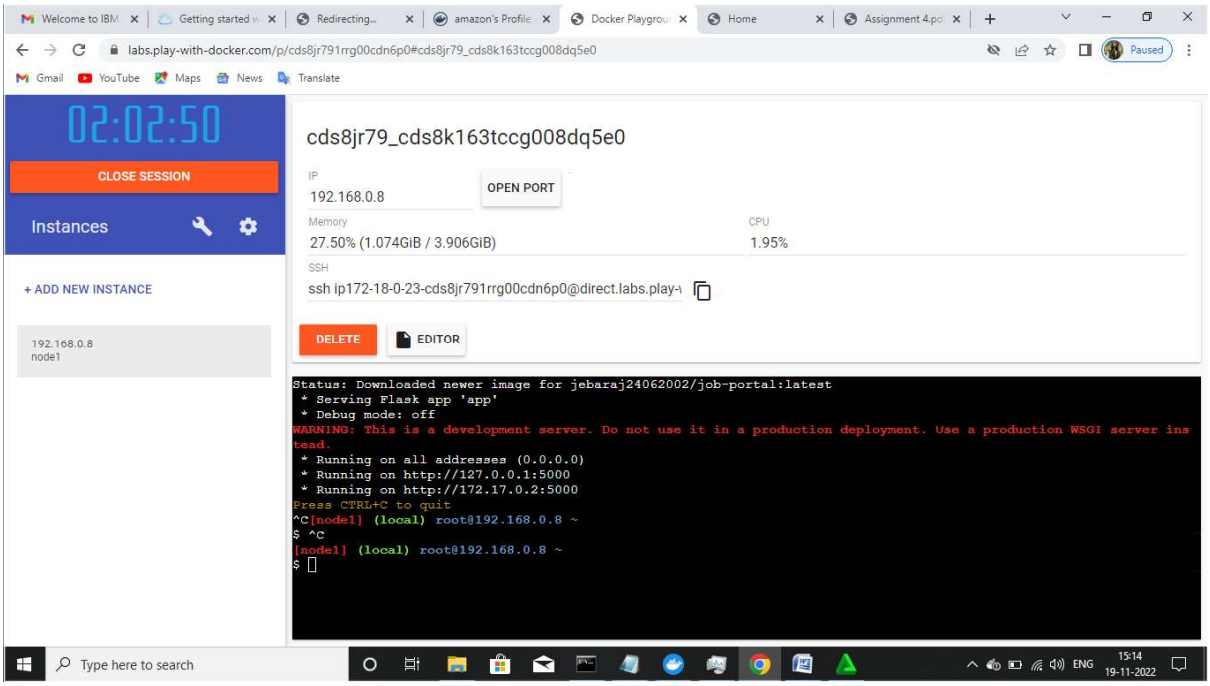
Solution: **All the required files are uploaded in the Assignments/Prince Vasantharaj R (Team Lead)/Assignment 4 folder in the Git repo. Please verify it sir/mam.

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

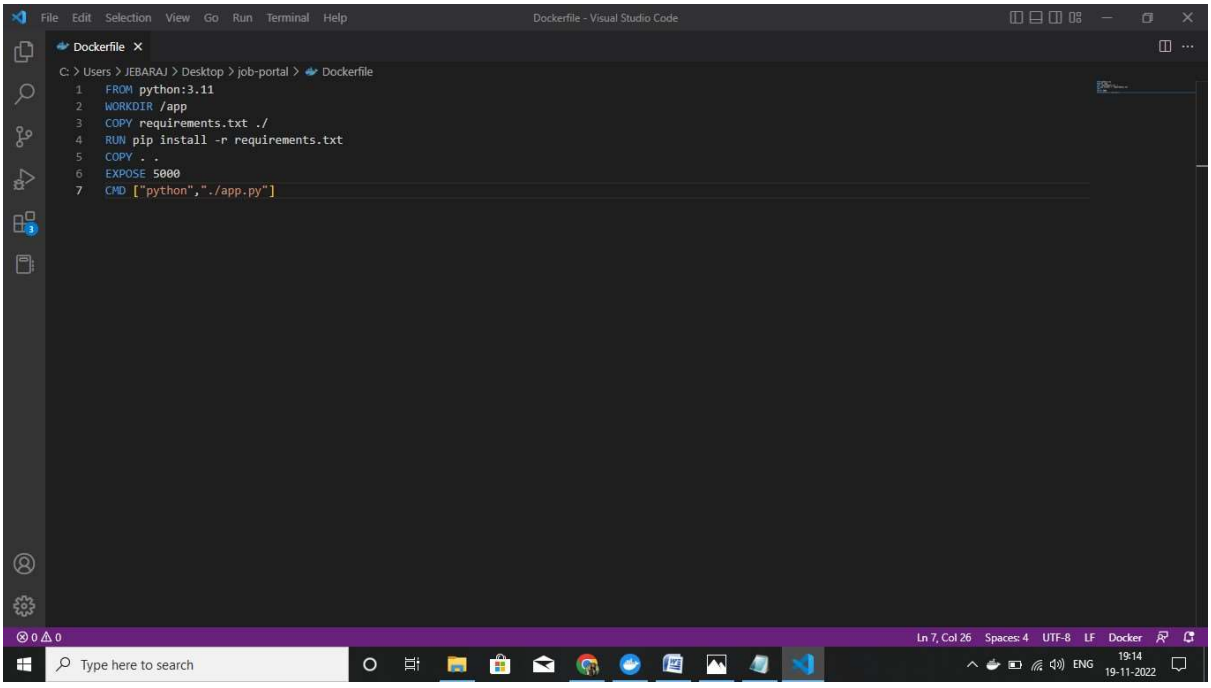


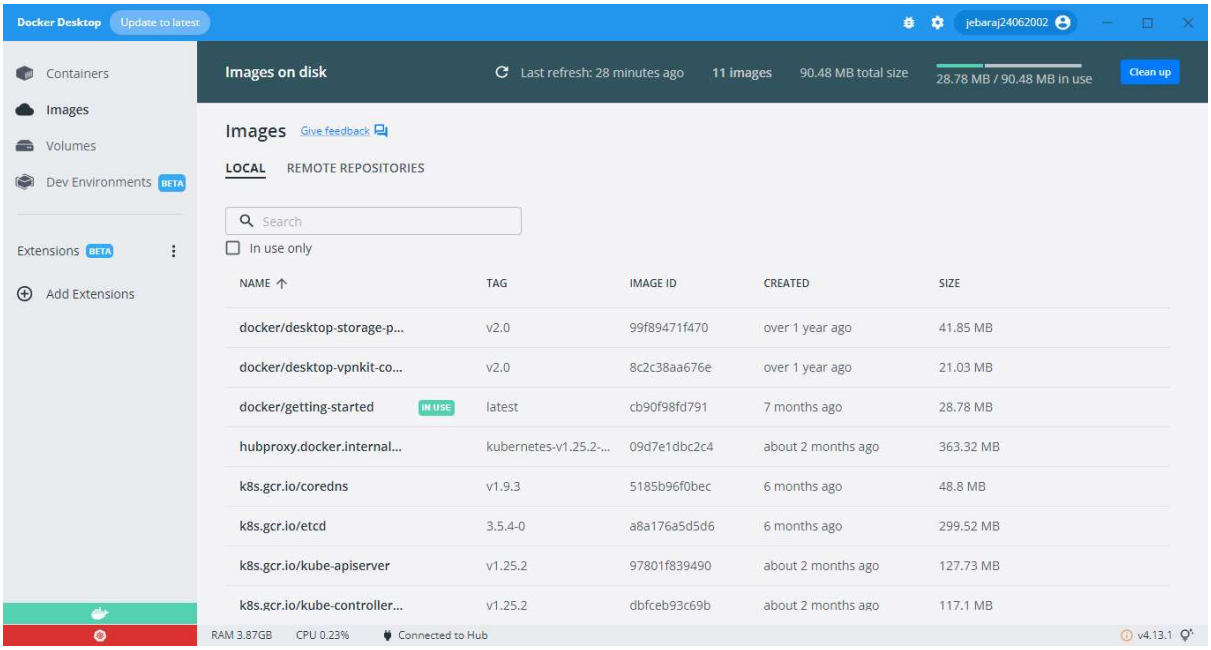

hub.docker.com/repository/docker/jebaraj24062002/job-portal
docker hub
Search Docker Hub
Explore
Repositories
Organizations
Help
Upgrade
jebaraj24062002
jebaraj24062002 / Repositories / job-portal
Using 0 of 1 private repositories. Get more
General
Tags
Builds
Collaborators
Webhooks
Settings
Add a short description for this repository
The short description is used to index your content on Docker Hub and in search engines. It's visible to users in search results.
Update
jebaraj24062002 / job-portal
Description
This repository does not have a description
Last pushed: 6 hours ago
Docker commands
Public View
To push a new tag to this repository,
docker push jebaraj24062002/job-portal:tagname
Tags and scans
VULNERABILITY SCANNING - DISABLED
Enable
This repository contains 1 tag(s).
Automated Builds
Manually pushing images to Hub? Connect your account to GitHub or Bitbucket to automatically build and tag new images whenever your code
Type here to search
ENG
19:05
19-11-2022

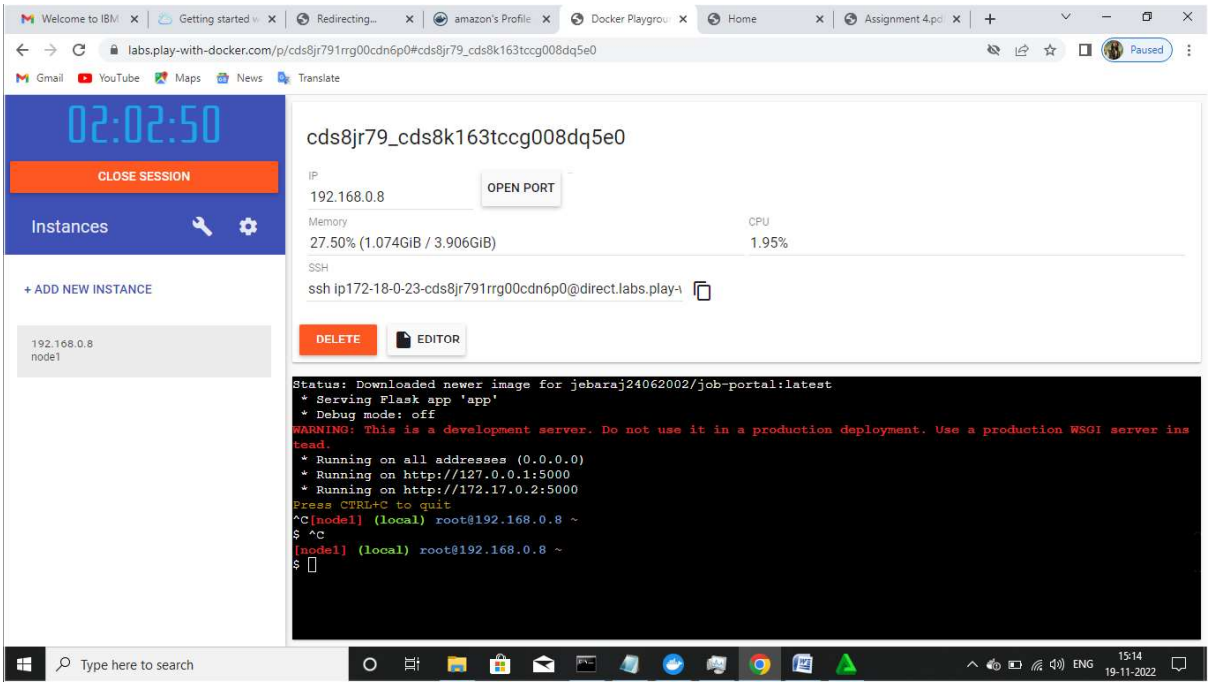

labs.play-with-docker.com/p/cdsdoku3tccg009jhp40#cdsdoku3_cdsdpee3tccg009jhp4g
03:58:13
CLOSE SESSION
Instances
+ ADD NEW INSTANCE
192.168.0.28
node1
cdsdoku3_cdsdpee3tccg009jhp4g
IP
192.168.0.28
OPEN PORT
Memory
0.91% (36.23MiB / 3.906GiB)
CPU
0.67%
SSH
ssh ip172-18-0-26-cdsdoku3tccg009jhp40@direct.labs.play
DELETE
EDITOR
WARNING!!!!
This is a sandbox environment. Using personal credentials
is HIGHLY! discouraged. Any consequences of doing so are
completely the user's responsibilites.
The PWD team.
[node1] (local) root@192.168.0.28 ~
$



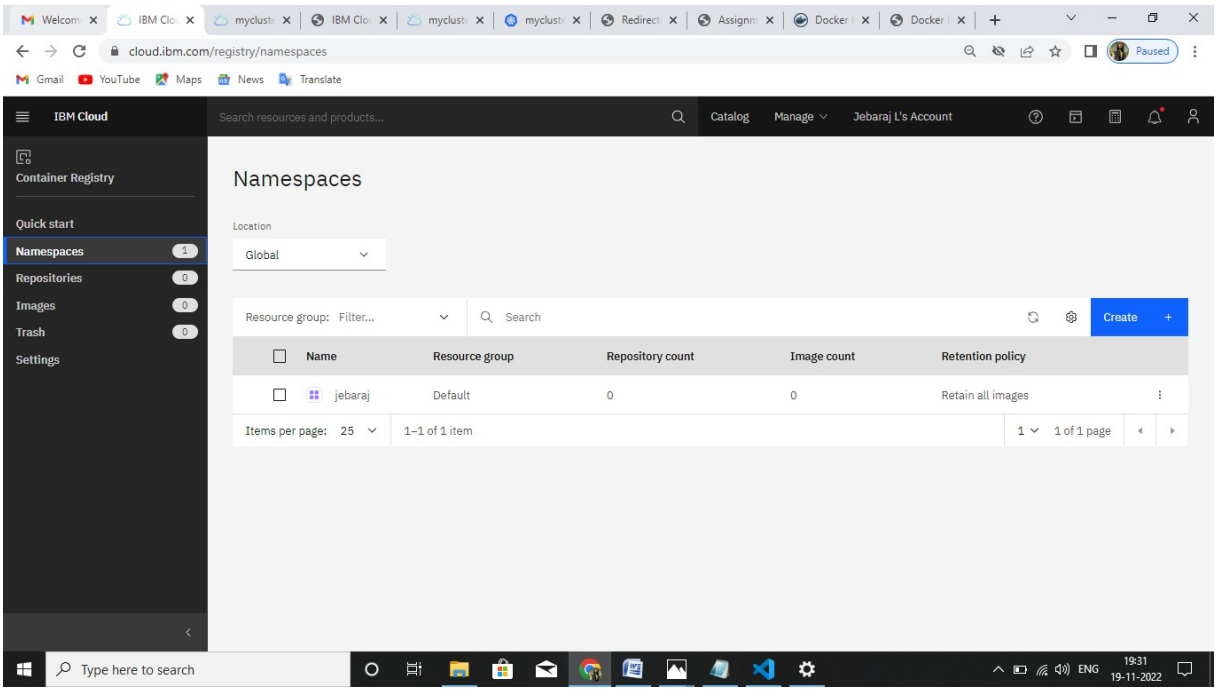
Step 2: Create a dockerfile for the job portal / flask application and deploy it in Docker desktop application.



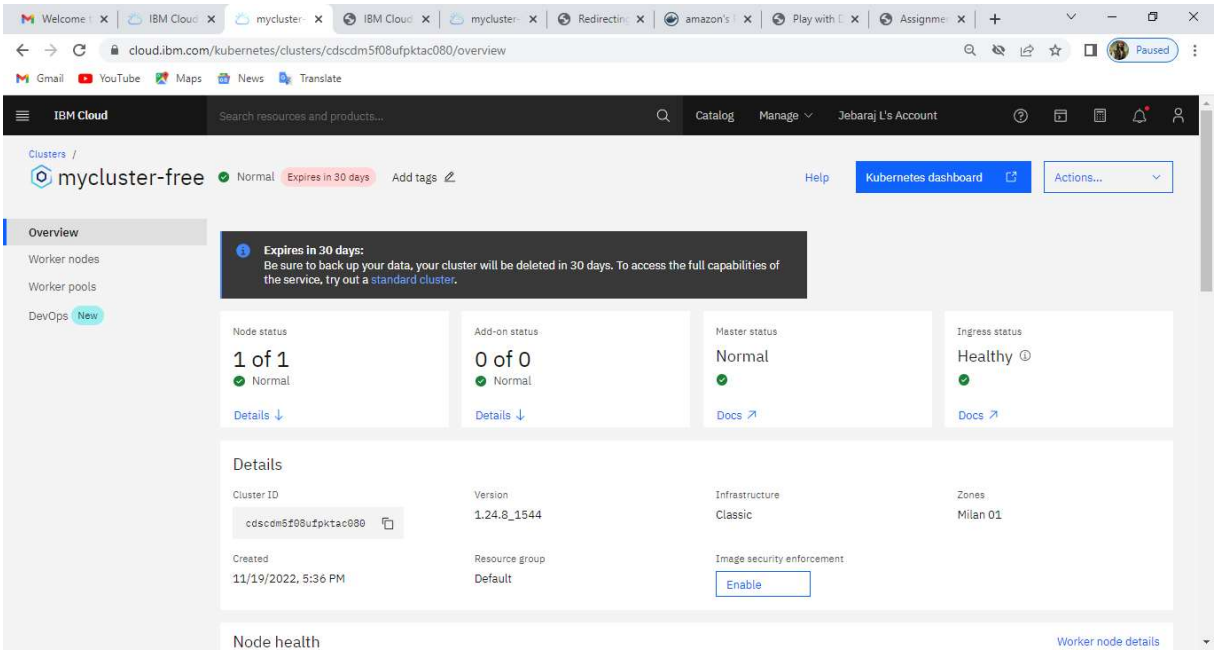

Docker Desktop
Update to latest
jebaraj24062002
Containers
Images
Volumes
Dev Environments
BETA
Extensions
BETA
Add Extensions
Images on disk
Last refresh: 28 minutes ago
11 images
90.48 MB total size
28.78 MB / 90.48 MB in use
Clean up
Images
Give feedback
LOCAL
REMOTE REPOSITORIES
Search
In use only
NAME
TAG
IMAGE ID
CREATED
SIZE
docker/desktop-storage-p... v2.0 99f89471f470 over 1 year ago 41.85 MB
docker/desktop-vpnkit-co... v2.0 8c2c38aa676e over 1 year ago 21.03 MB
docker/getting-started IN USE latest cb90f98fd791 7 months ago 28.78 MB
hubproxy.docker.internal... kubernetes-v1.25.2-... 09d7e1dbc2c4 about 2 months ago 363.32 MB
k8s.gcr.io/coredns v1.9.3 5185b96f0bec 6 months ago 48.8 MB
k8s.gcr.io/etcd 3.5.4-0 a8a176a5d5d6 6 months ago 299.52 MB
k8s.gcr.io/kube-apiserver v1.25.2 97801f839490 about 2 months ago 127.73 MB
k8s.gcr.io/kube-controller... v1.25.2 dbfceb93c69b about 2 months ago 117.1 MB
RAM 3.87GB
CPU 0.23%
Connected to Hub
v4.13.1

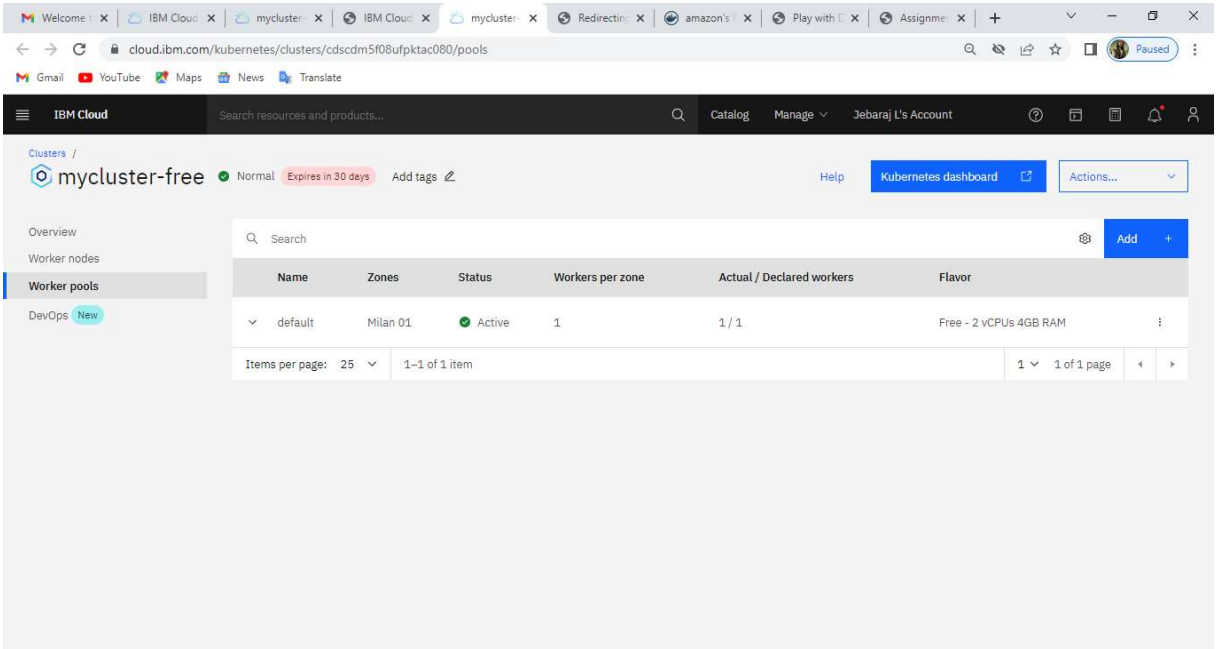

labs.play-with-docker.com/p/cds8jr791rrg00cdn6p0#cds8jr79_cds8k163tccg008dq5e0
Paused
02:02:50
CLOSE SESSION
Instances
+ ADD NEW INSTANCE
192.168.0.8
node1
cds8jr79_cds8k163tccg008dq5e0
IP
192.168.0.8
OPEN PORT
Memory
27.50% (1.074GiB / 3.906GiB)
CPU
1.95%
SSH
ssh ip172-18-0-23-cds8jr791rrg00cdn6p0@direct.labs.play-
DELETE
EDITOR
Status: Downloaded newer image for jebaraj24062002/job-portal:latest
* 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
^C[node1] (local) root@192.168.0.8 ~
$ ^C
[node1] (local) root@192.168.0.8 ~
$
Type here to search
ENG
15:14
19-11-2022

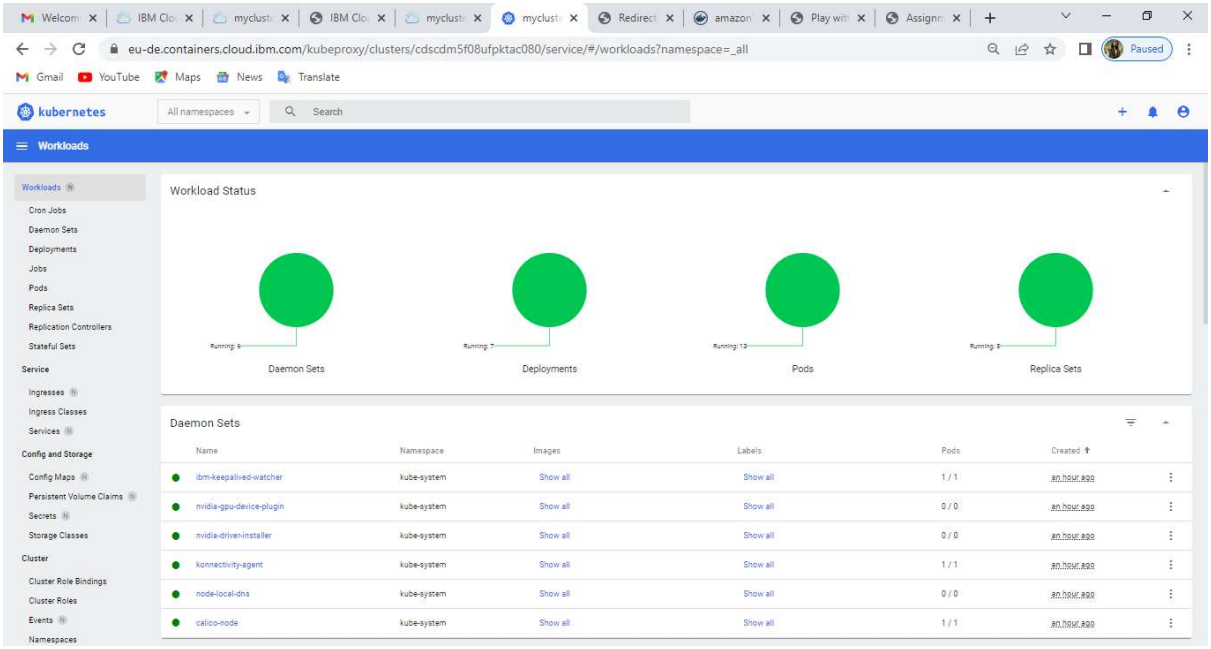
Step 3: Create a IBM container registry and push docker image of flask application or job portal app.

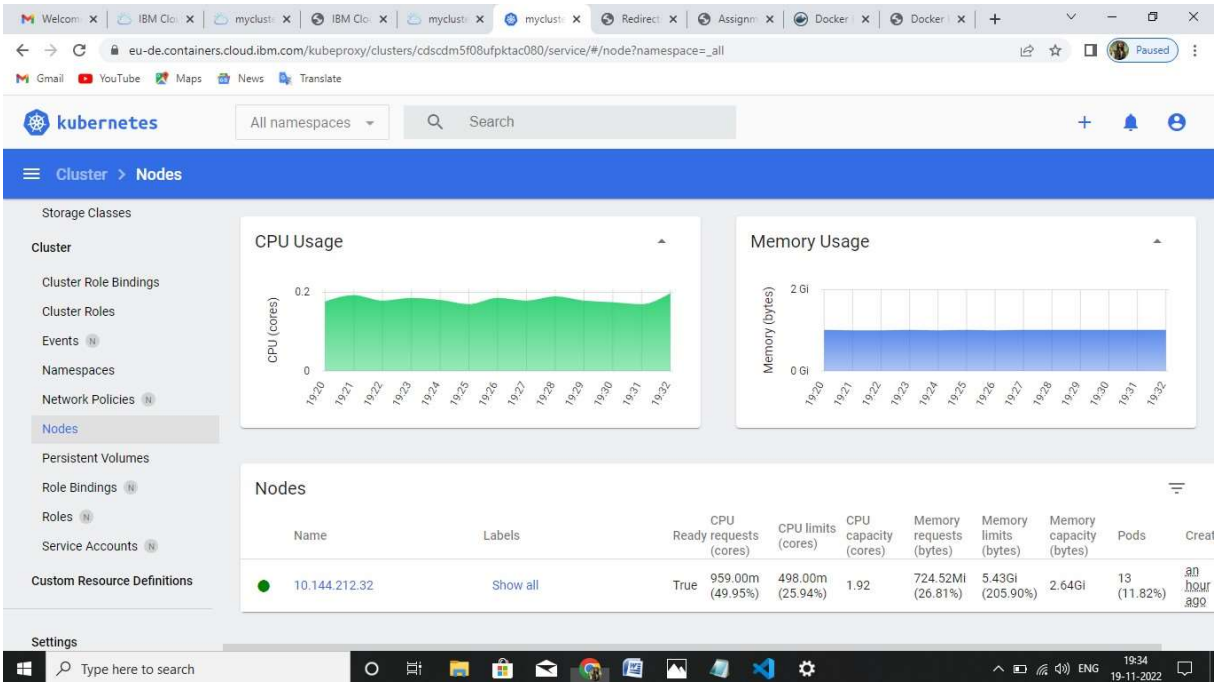


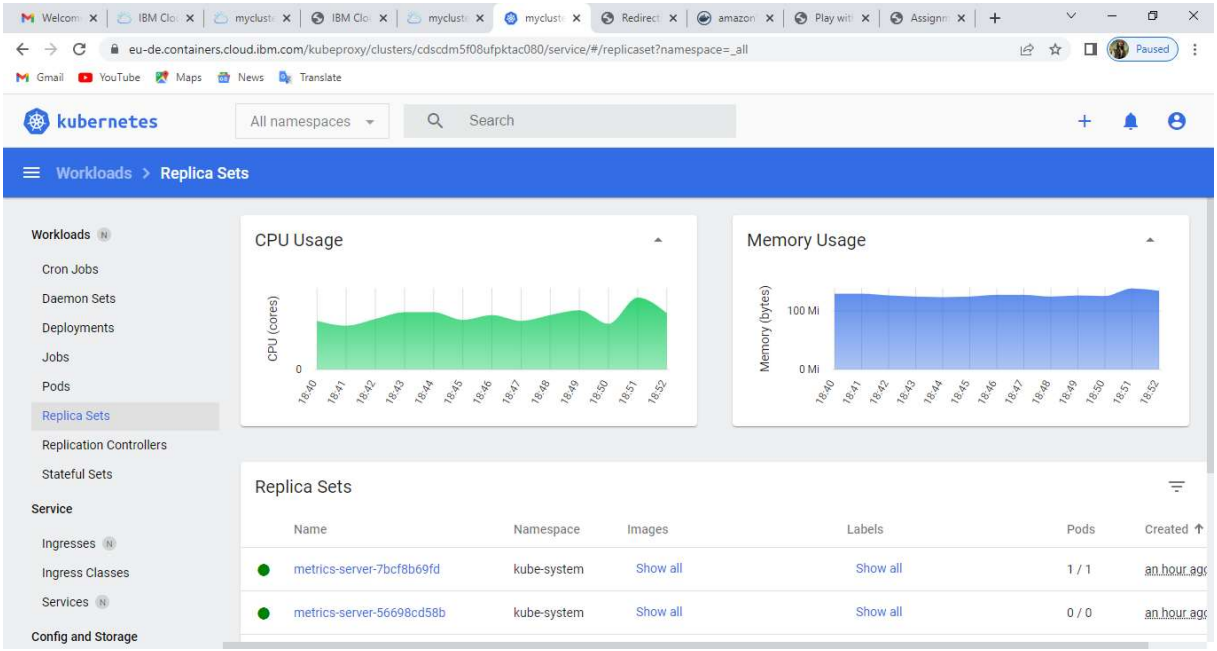
Step 4: Create a Kubernetes cluster in IBM cloud and deploy flask application image or job portal image and also expose the same app to run in Nodeport.

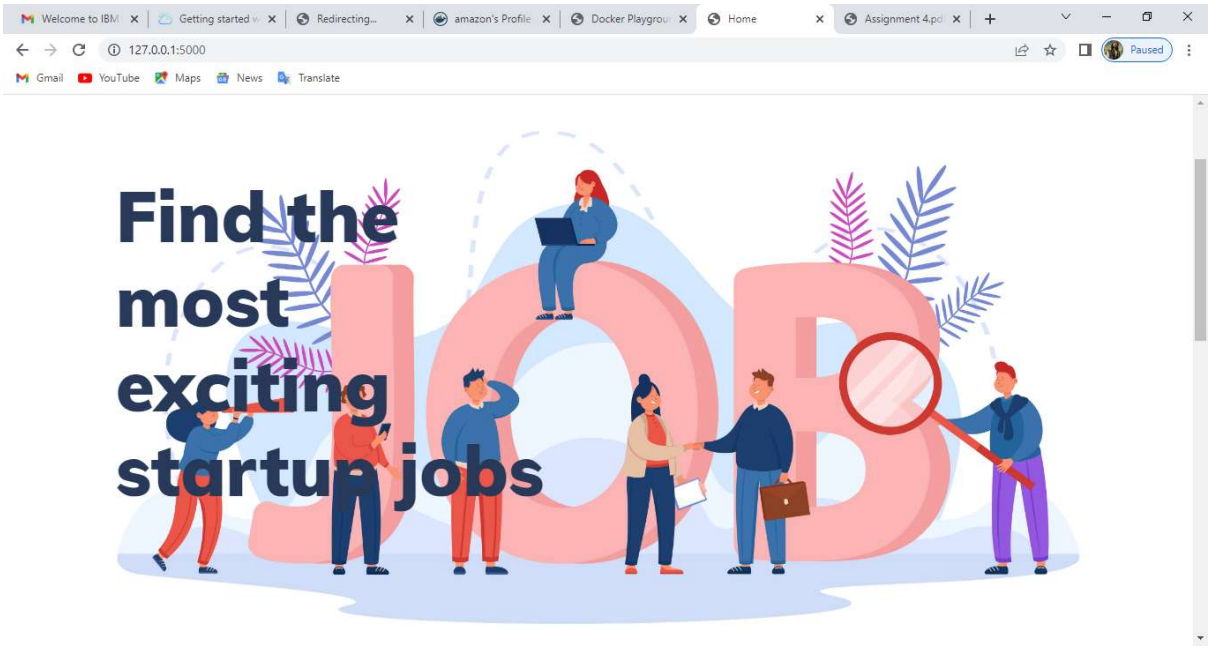


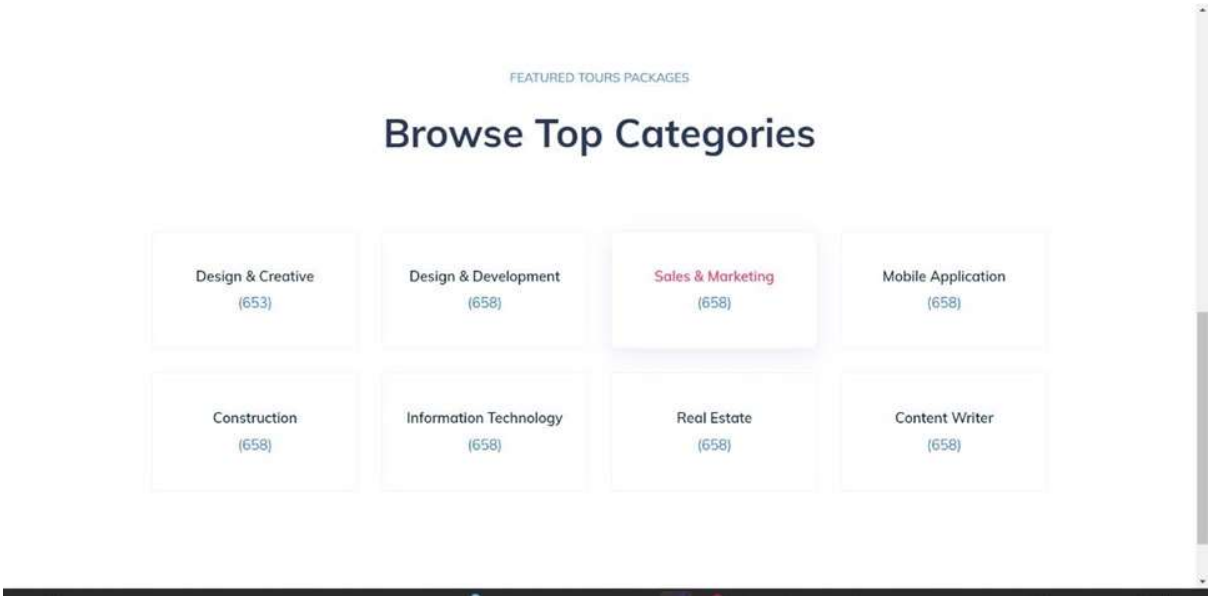


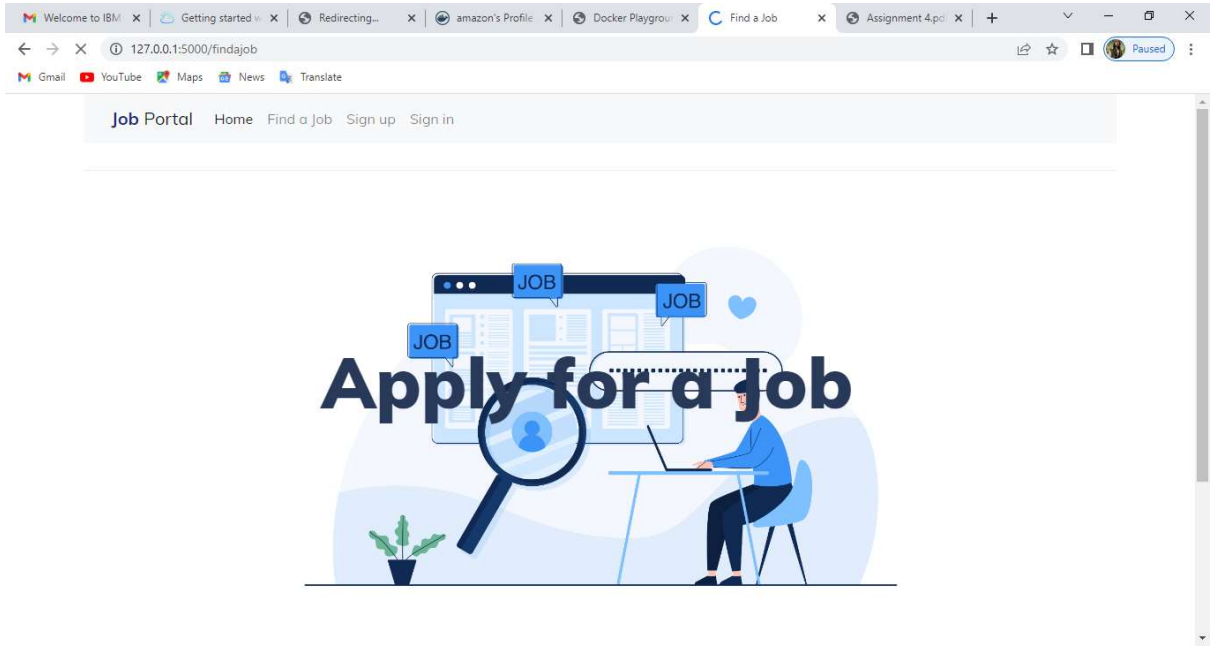

eu-de.containers.cloud.ibm.com/kubeproxy/clusters/cdscdm5f08ufpktac080/service/#/workloads?namespace=_all
kubernetes
All namespaces
Search
Workloads
Workload Status
Daemon Sets
Deployments
Pods
Replica Sets
Daemon Sets
Name
Namespace
Images
Labels
Pods
Created
ibm-keepalived-watcher
nvidia-gpu-device-plugin
nvidia-driver-installer
konnectivity-agent
node-local-dns
calico-node
kube-system
Show all
an hour ago

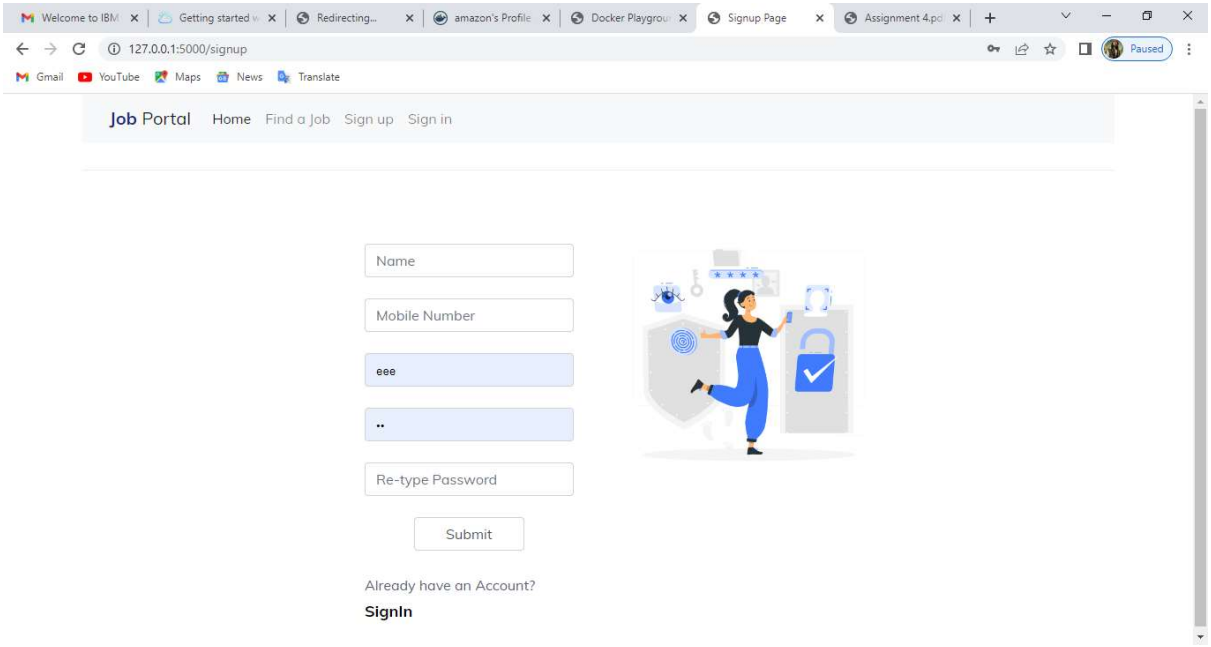

eu-de.containers.cloud.ibm.com/kubeproxy/clusters/cdscdm5f08ufpktac080/service/#/node?namespace=_all
kubernetes
All namespaces
Search
Cluster > Nodes
Storage Classes
Cluster
Cluster Role Bindings
Cluster Roles
Events
Namespaces
Network Policies
Nodes
Persistent Volumes
Role Bindings
Roles
Service Accounts
Custom Resource Definitions
Settings
CPU Usage
CPU (cores)
Memory Usage
Memory (bytes)
Nodes
Name
Labels
Ready
CPU requests (cores)
CPU limits (cores)
CPU capacity (cores)
Memory requests (bytes)
Memory limits (bytes)
Memory capacity (bytes)
Pods
10.144.212.32
Show all
True
959.00m (49.95%)
498.00m (25.94%)
1.92
724.52Mi (26.81%)
5.43Gi (205.90%)
2.64Gi
13 (11.82%)
an hour ago
Type here to search
ENG
19:34
19-11-2022

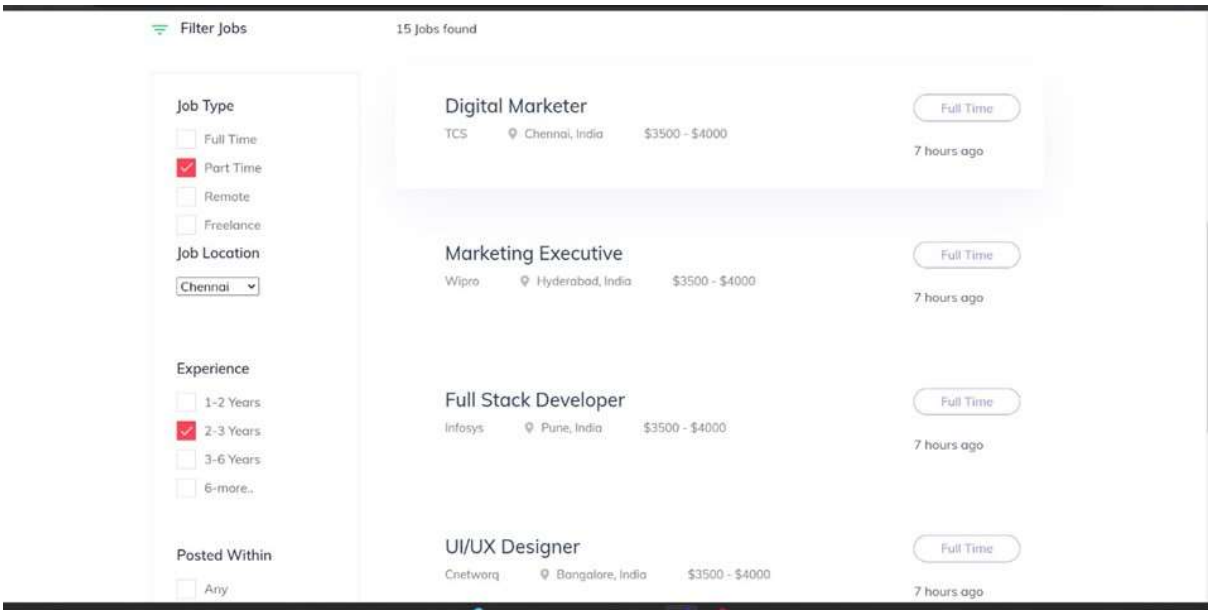

eu-de.containers.cloud.ibm.com/kubeproxy/clusters/cdscdm5f08ufpktac080/service/#/replicaset?namespace=_all
kubernetes
All namespaces
Search
Workloads > Replica Sets
Workloads
Cron Jobs
Daemon Sets
Deployments
Jobs
Pods
Replica Sets
Replication Controllers
Stateful Sets
Service
Ingresses
Ingress Classes
Services
Config and Storage
CPU Usage
CPU (cores)
Memory Usage
Memory (bytes)
100 Mi
0 Mi
Replica Sets
Name
Namespace
Images
Labels
Pods
Created
metrics-server-7bcf8b69fd
kube-system
Show all
1 / 1
metrics-server-56698cd58b
0 / 0

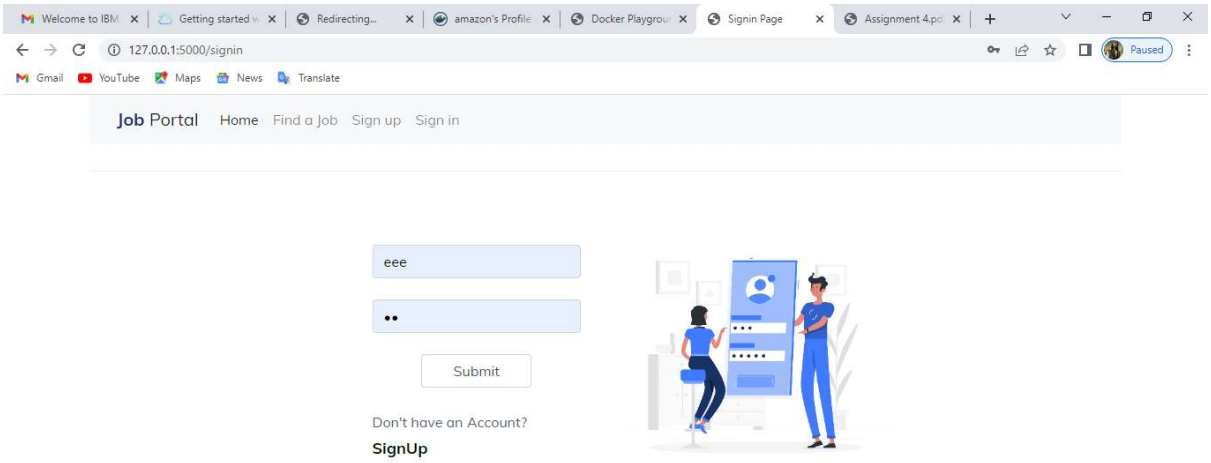

127.0.0.1:5000
Find the most exciting startup jobs
JOB


FEATURED TOURS PACKAGES
Browse Top Categories
Design & Creative
(653)
Design & Development
(658)
Sales & Marketing
(658)
Mobile Application
(658)
Construction
(658)
Information Technology
(658)
Real Estate
(658)
Content Writer
(658)


127.0.0.1:5000/findajob
Gmail
YouTube
Maps
News
Translate
Job Portal
Home
Find a Job
Sign up
Sign in
JOB
JOB
JOB
Apply for a Job


Welcome to IBM
Getting started
Redirecting...
amazon's Profile
Docker Playgrou
Signup Page
Assignment 4.pd
127.0.0.1:5000/signup
Paused
Gmail
YouTube
Maps
News
Translate
Job Portal
Home
Find a Job
Sign up
Sign in
Name
Mobile Number
eee
..
Re-type Password
Submit
Already have an Account?
SignIn


Filter Jobs
15 Jobs found
Job Type
Full Time
Part Time
Remote
Freelance
Job Location
Chennai
Experience
1-2 Years
2-3 Years
3-6 Years
6-more..
Posted Within
Any
Digital Marketer
TCS
Chennai, India
$3500 - $4000
Full Time
7 hours ago
Marketing Executive
Wipro
Hyderabad, India
$3500 - $4000
Full Time
7 hours ago
Full Stack Developer
Infosys
Pune, India
$3500 - $4000
Full Time
7 hours ago
UI/UX Designer
Cnetworq
Bangalore, India
$3500 - $4000
Full Time
7 hours ago



View the deployed Job-portal flask application by clicking the below link:

http://159.122.178.141:30614/