Assignment -4

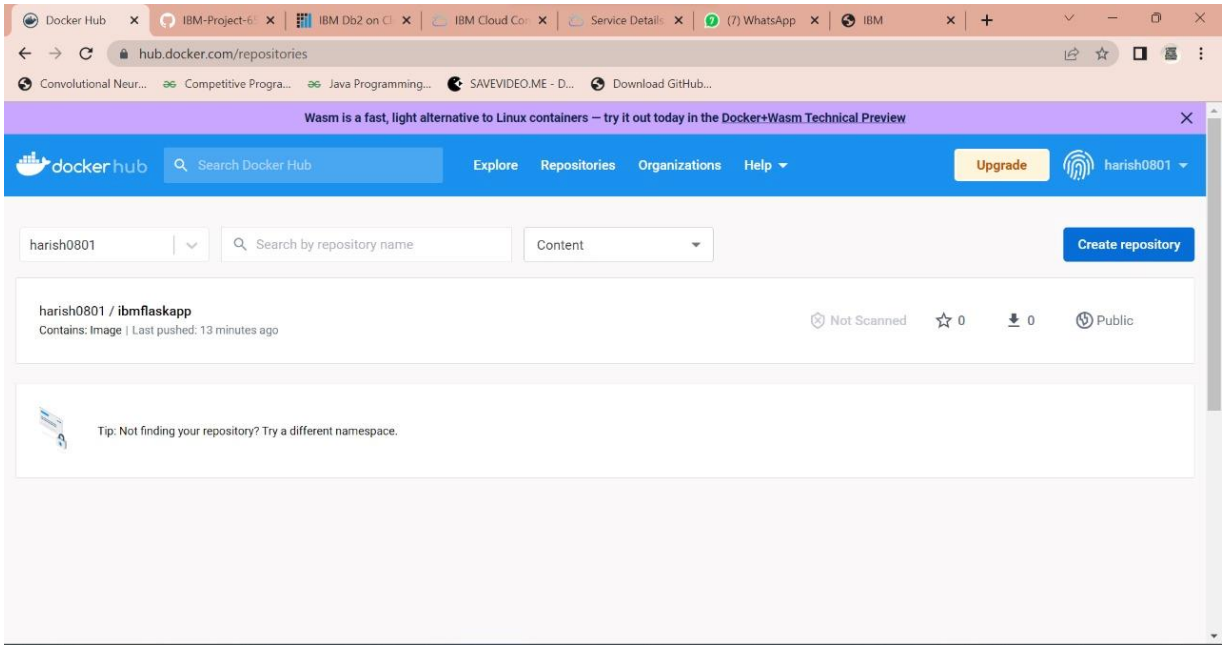
Inventory Management System for Retailers – Kubernetes / Docker

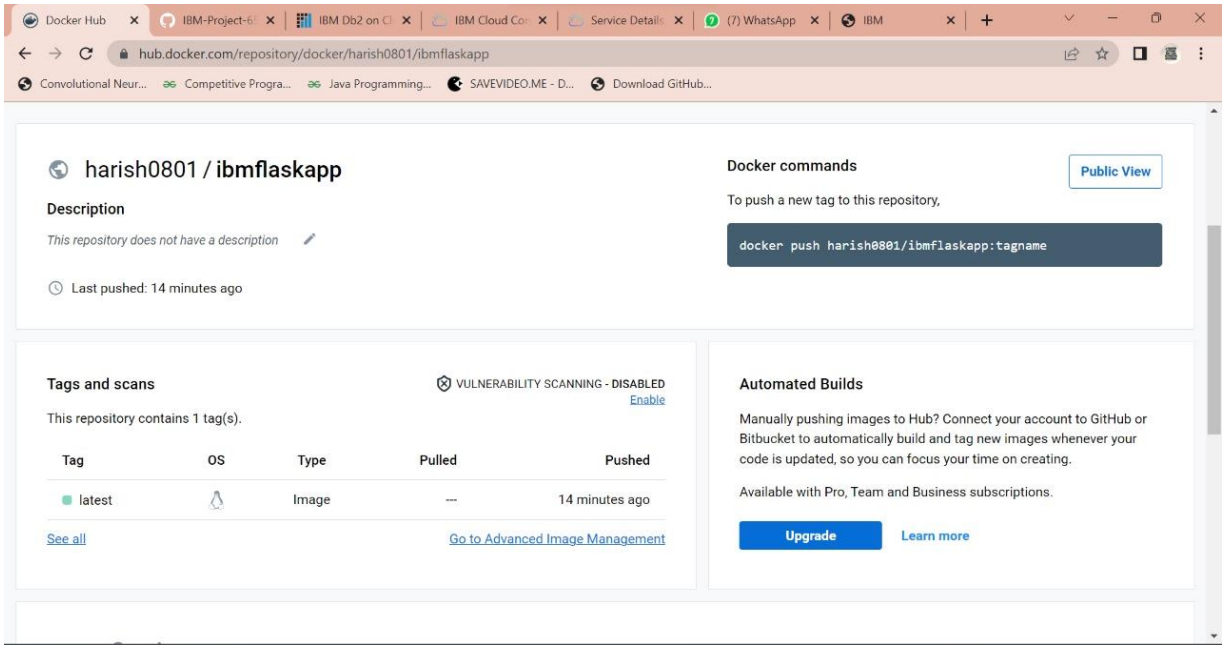
Assignment Date	20 October 2022
Student Name	KABILESH K
Student Roll Number	142219104047
Maximum Marks	2 Marks

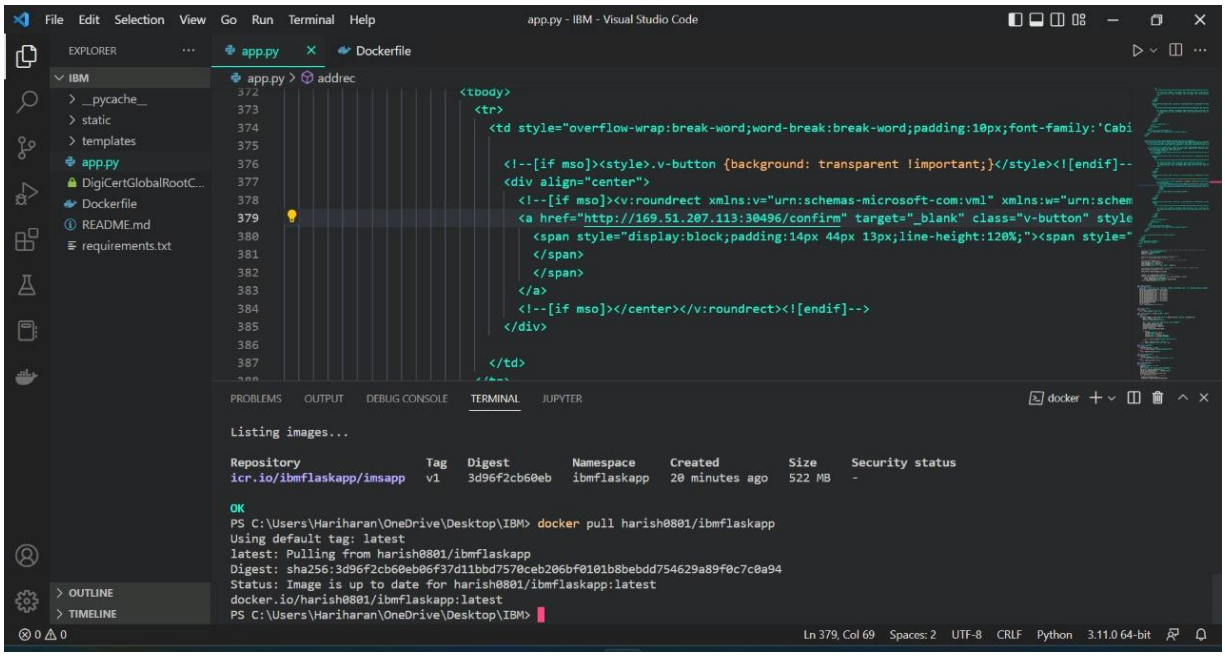
Question-1:

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.

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



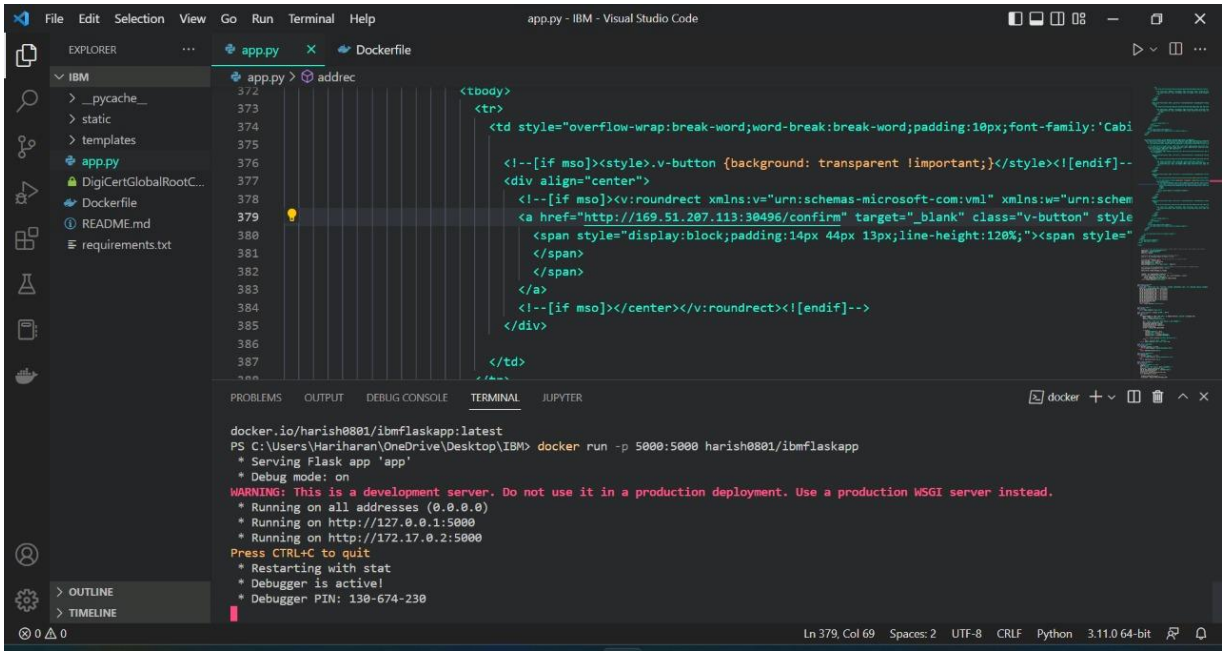

Docker Hub
IBM-Project-6
IBM Db2 on C
IBM Cloud Co
Service Details
(7) WhatsApp
IBM
hub.docker.com/repository/docker/harish0801/ibmflaskapp
Convolutional Neur...
Competitive Progra...
Java Programming...
SAVEVIDEO.ME - D...
Download GitHub...
harish0801 / ibmflaskapp
Description
This repository does not have a description
Last pushed: 14 minutes ago
Docker commands
Public View
To push a new tag to this repository,
docker push harish0801/ibmflaskapp:tagname
Tags and scans
VULNERABILITY SCANNING - DISABLED
Enable
This repository contains 1 tag(s).
Tag
OS
Type
Pulled
Pushed
latest
Image
---
14 minutes ago
See all
Go to Advanced Image Management
Automated Builds
Manually pushing images to Hub? Connect your account to GitHub or Bitbucket to automatically build and tag new images whenever your code is updated, so you can focus your time on creating.
Available with Pro, Team and Business subscriptions.
Upgrade
Learn more


File Edit Selection View Go Run Terminal Help
app.py - IBM - Visual Studio Code
EXPLORER
IBM
__pycache__
static
templates
app.py
DigiCertGlobalRootC...
Dockerfile
README.md
requirements.txt
app.py
Dockerfile
app.py > addrec
<tbody>
<tr>
<td style="overflow-wrap:break-word;word-break:break-word;padding:10px;font-family:'Cabi
<!--[if mso]><style>.v-button {background: transparent !important;}</style><![endif]--

<!--[if mso]><v:roundrect xmlns:v="urn:schemas-microsoft-com:vml" xmlns:w="urn:schem
<a href="http://169.51.207.113:30496/confirm" target="_blank" class="v-button" style
<span style="

<!--[if mso]> </v:roundrect><![endif]-->

</td>
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
JUPYTER
docker
Listing images...
Repository
Tag
Digest
Namespace
Created
Size
Security status
icr.io/ibmflaskapp/imsapp
v1
3d96f2cb60eb
ibmflaskapp
20 minutes ago
522 MB
-
OK
PS C:\Users\Hariharan\OneDrive\Desktop\IBM> docker pull harish0801/ibmflaskapp
Using default tag: latest
latest: Pulling from harish0801/ibmflaskapp
Digest: sha256:3d96f2cb60eb06f37d11bbd7570ceb206bf0101b8bebdd754629a89f0c7c0a94
Status: Image is up to date for harish0801/ibmflaskapp:latest
docker.io/harish0801/ibmflaskapp:latest
PS C:\Users\Hariharan\OneDrive\Desktop\IBM>
OUTLINE
TIMELINE
Ln 379, Col 69
Spaces: 2
UTF-8
CRLF
Python
3.11.0 64-bit


File Edit Selection View Go Run Terminal Help
app.py - IBM - Visual Studio Code
EXPLORER
app.py
Dockerfile
IBM
__pycache__
static
templates
app.py
DigiCertGlobalRootC...
Dockerfile
README.md
requirements.txt
<tbody>
<tr>
<td style="overflow-wrap:break-word;word-break:break-word;padding:10px;font-family:'Cabi
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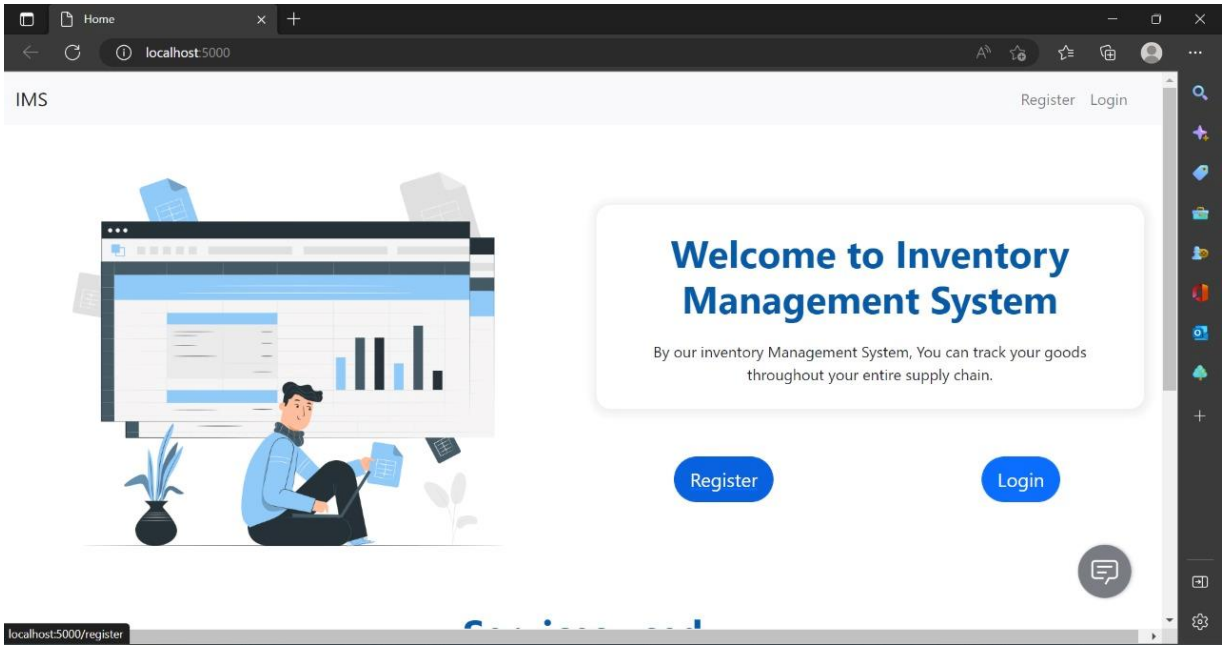
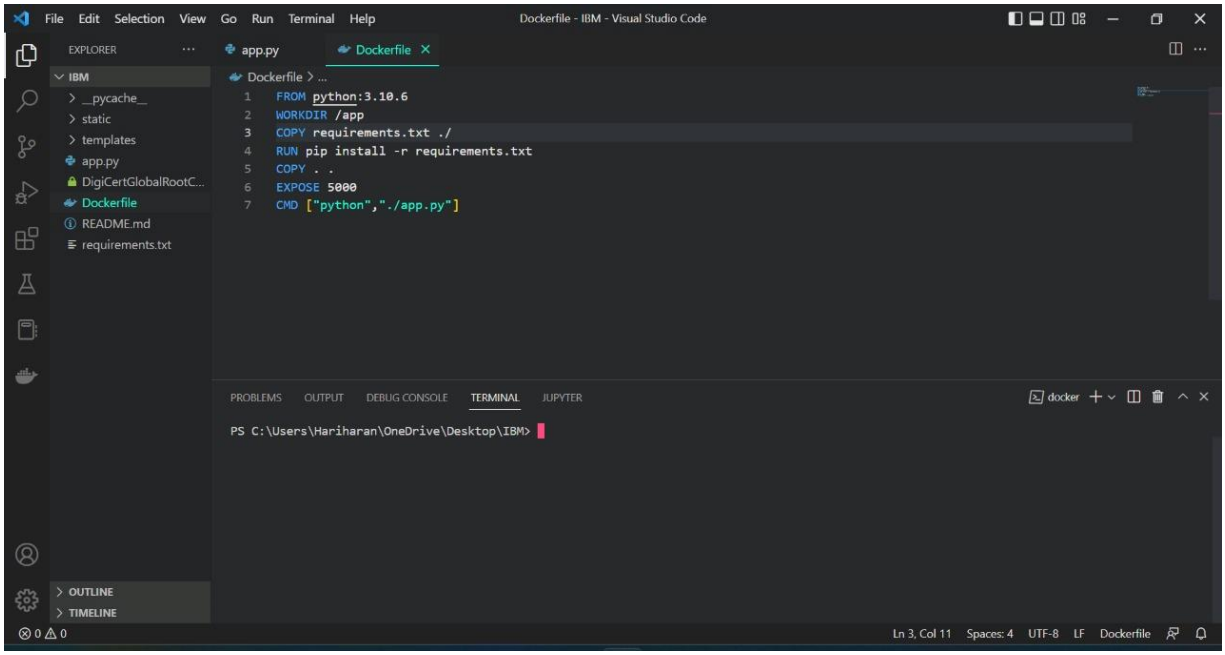
<!--[if mso]><v:roundrect xmlns:v="urn:schemas-microsoft-com:vml" xmlns:w="urn:schem
<a href="http://169.51.207.113:30496/confirm" target="_blank" class="v-button" style
<span style="

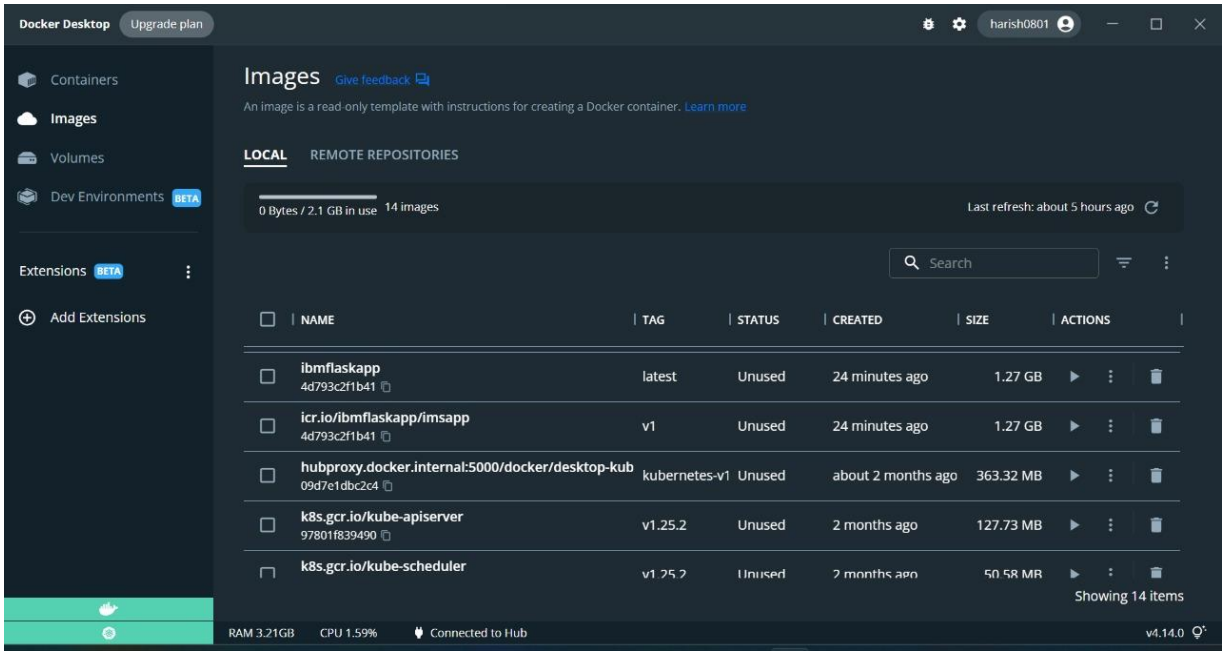
<!--[if mso]> </v:roundrect><![endif]-->

</td>
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL JUPYTER
docker
docker.io/harish0801/ibmflaskapp:latest
PS C:\Users\Hariharan\OneDrive\Desktop\IBM> docker run -p 5000:5000 harish0801/ibmflaskapp
* Serving Flask app 'app'
* Debug mode: on
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
* Restarting with stat
* Debugger is active!
* Debugger PIN: 130-674-230
OUTLINE
TIMELINE
Ln 379, Col 69 Spaces: 2 UTF-8 CRLF Python 3.11.0 64-bit

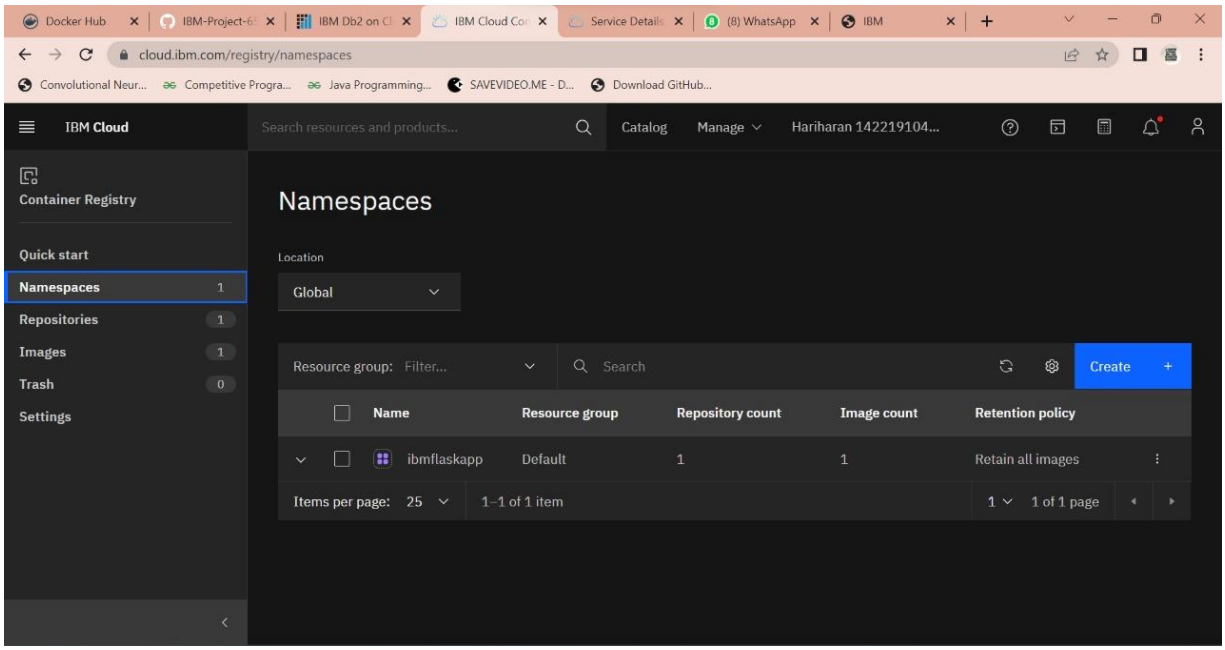

Home
localhost:5000
IMS
Register Login
Welcome to Inventory Management System
By our inventory Management System, You can track your goods throughout your entire supply chain.
Register
Login
localhost:5000/register

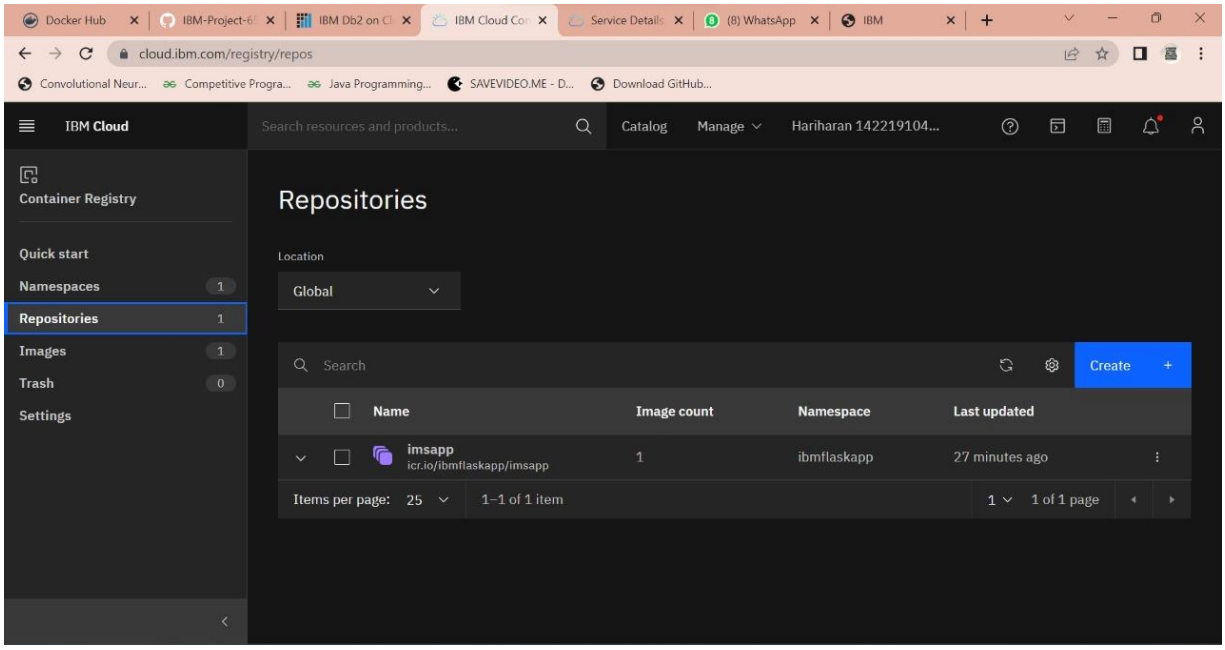
Step 2: Create a dockerfile for the job portal / flask application and deploy it in Docker desktop application.

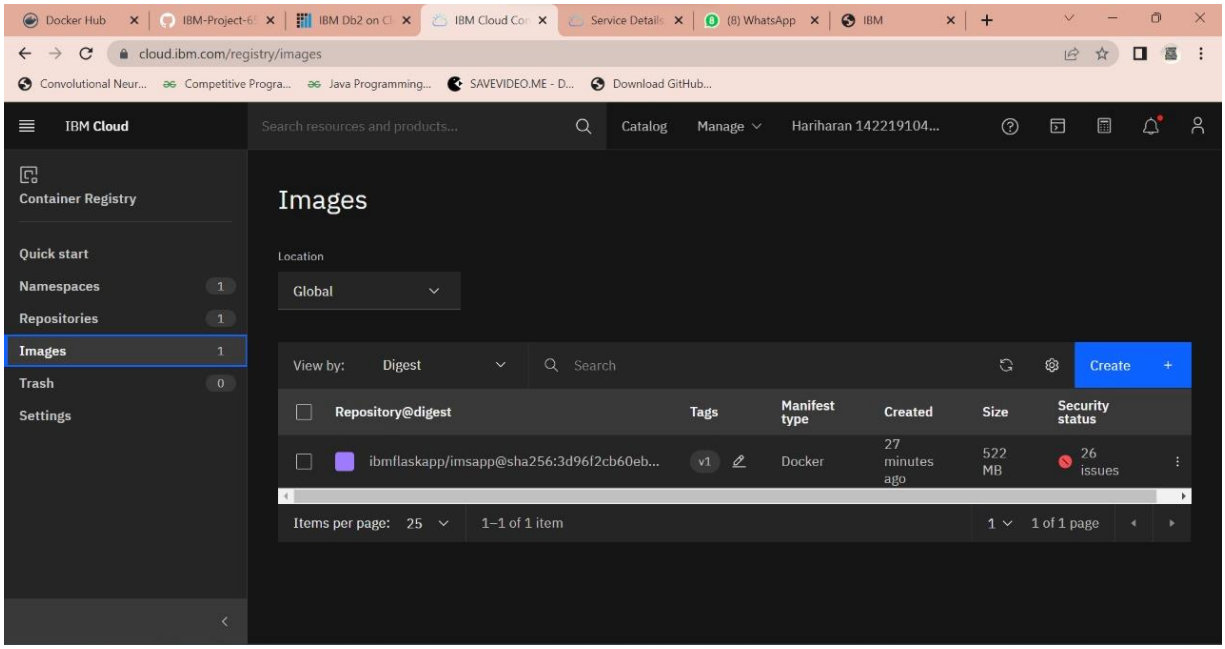




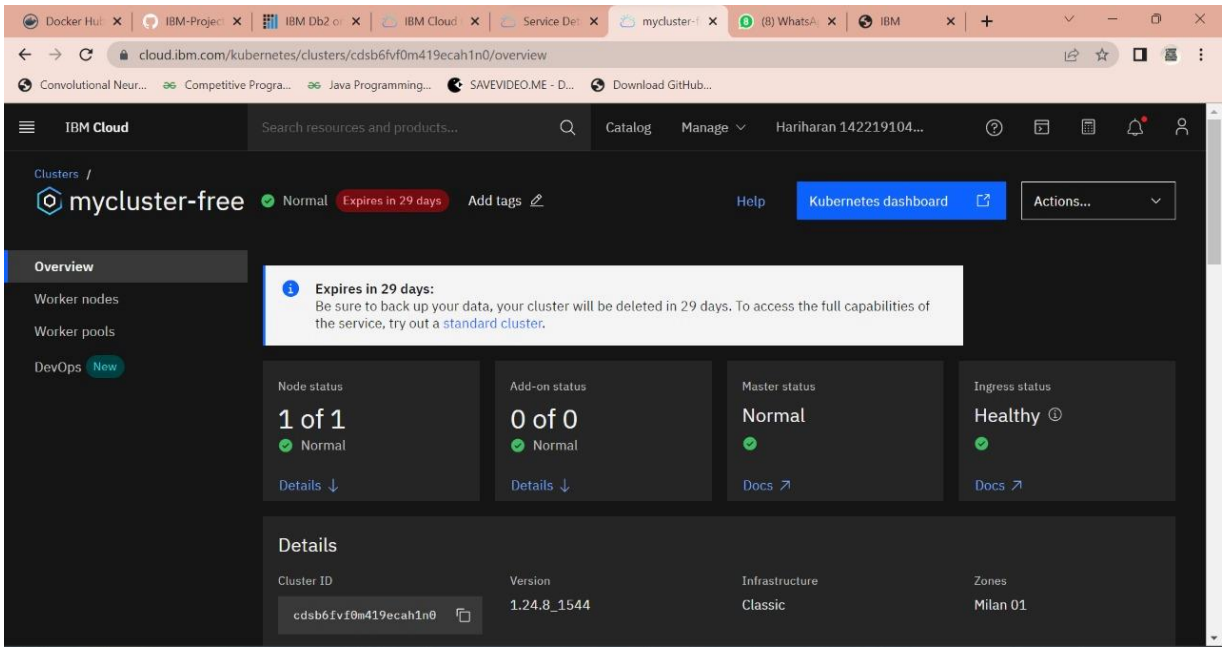
Step 3: Create a IBM container registry and push docker image of flask application or job portal app.

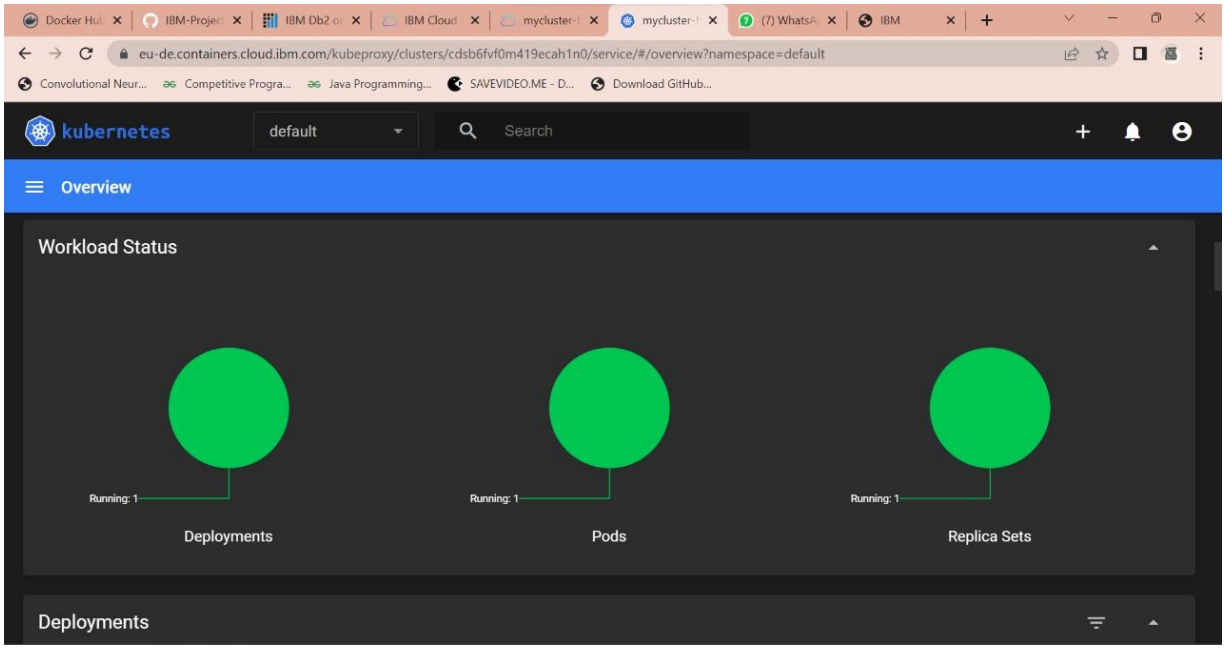


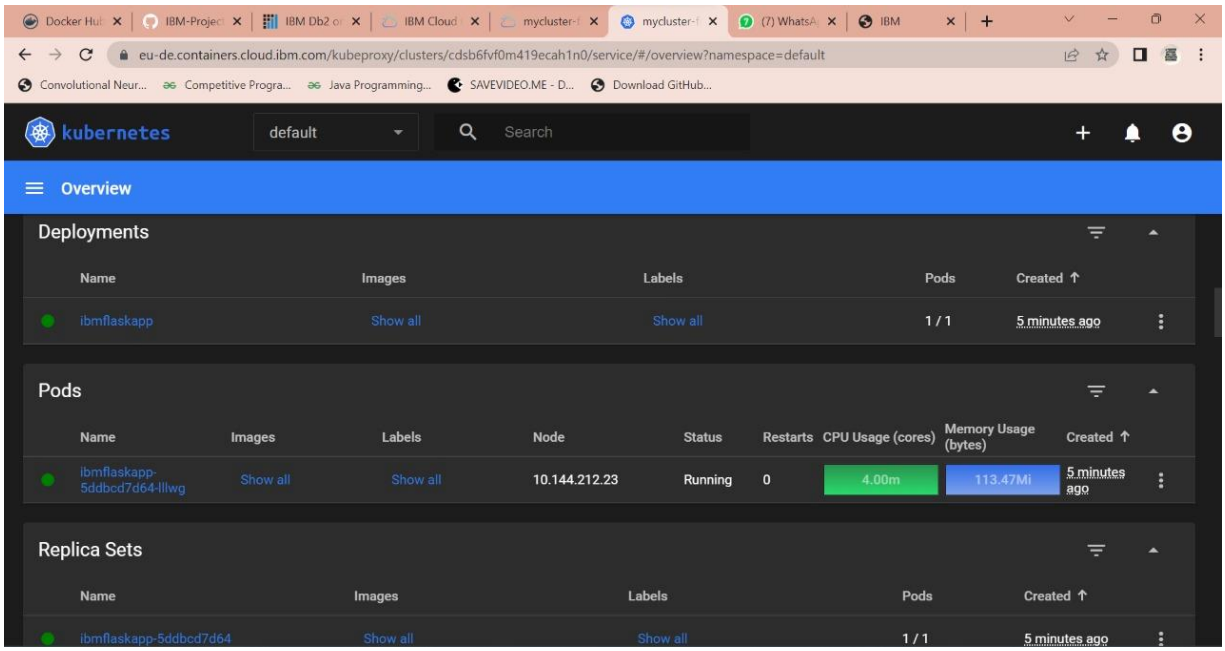


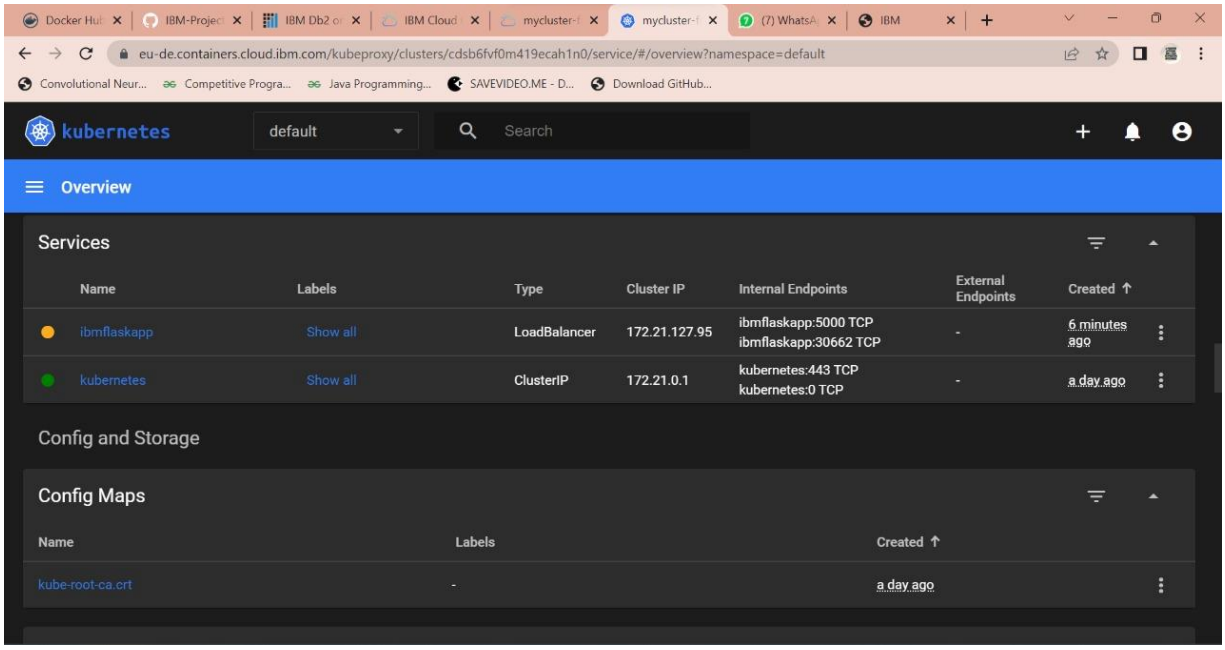


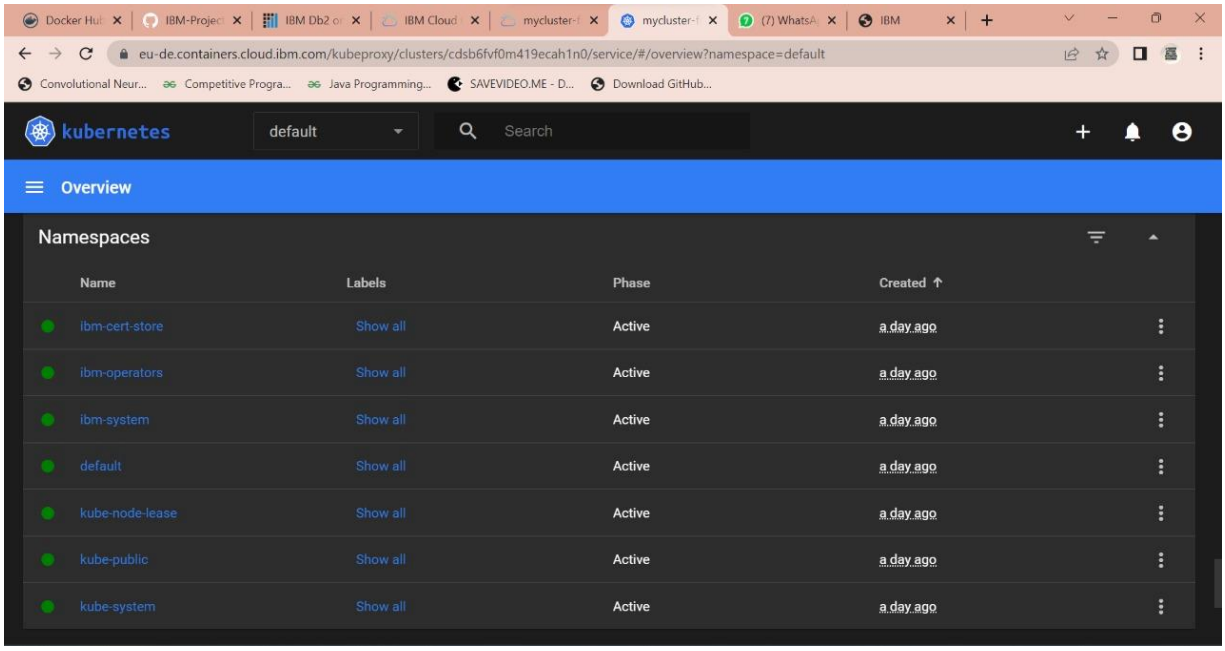
Step 4: Create a Kubernetes cluster in IBM cloud and deploy flask application image or job portal image and also expose the same app to run in Nodeport.

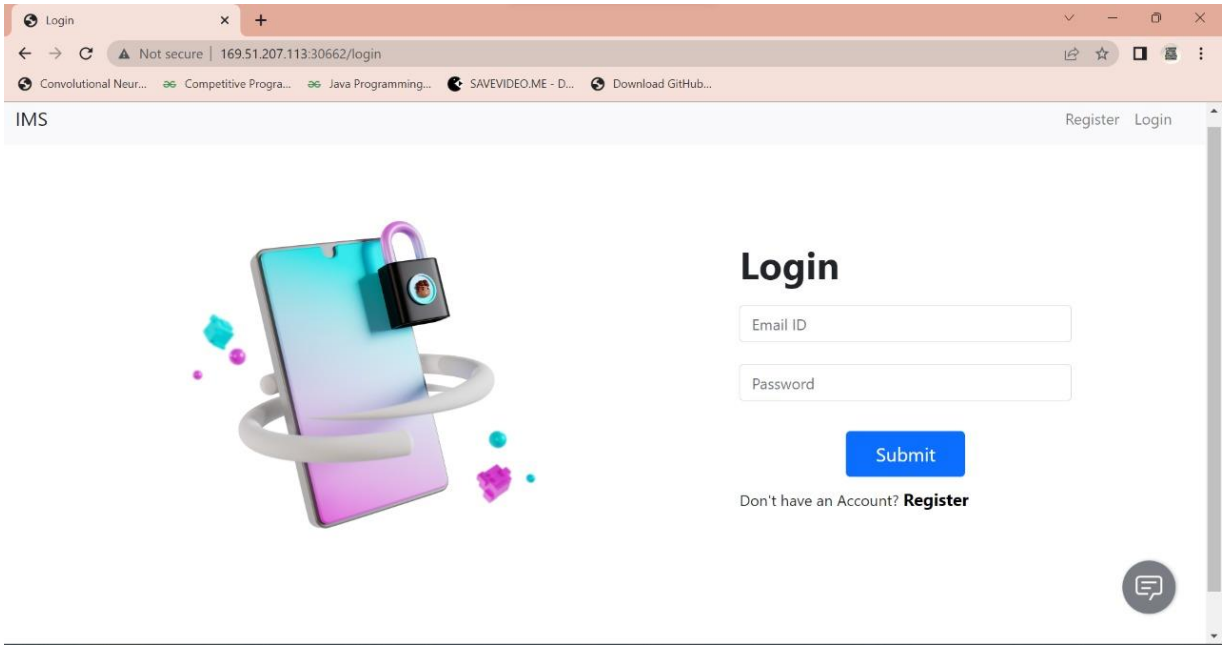


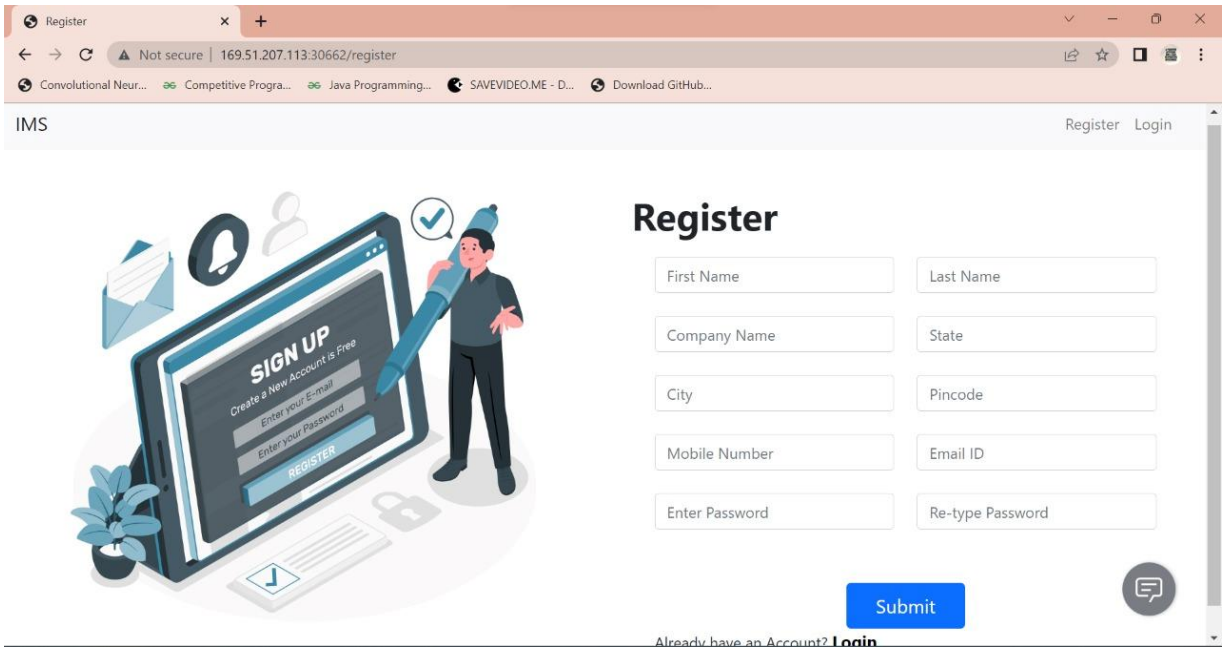

eu-de.containers.cloud.ibm.com/kubeproxy/clusters/cdsb6fvf0m419ecah1n0/service/#/overview?namespace=default
kubernetes
default
Search
Overview
Workload Status
Running: 1
Deployments
Running: 1
Pods
Running: 1
Replica Sets
Deployments

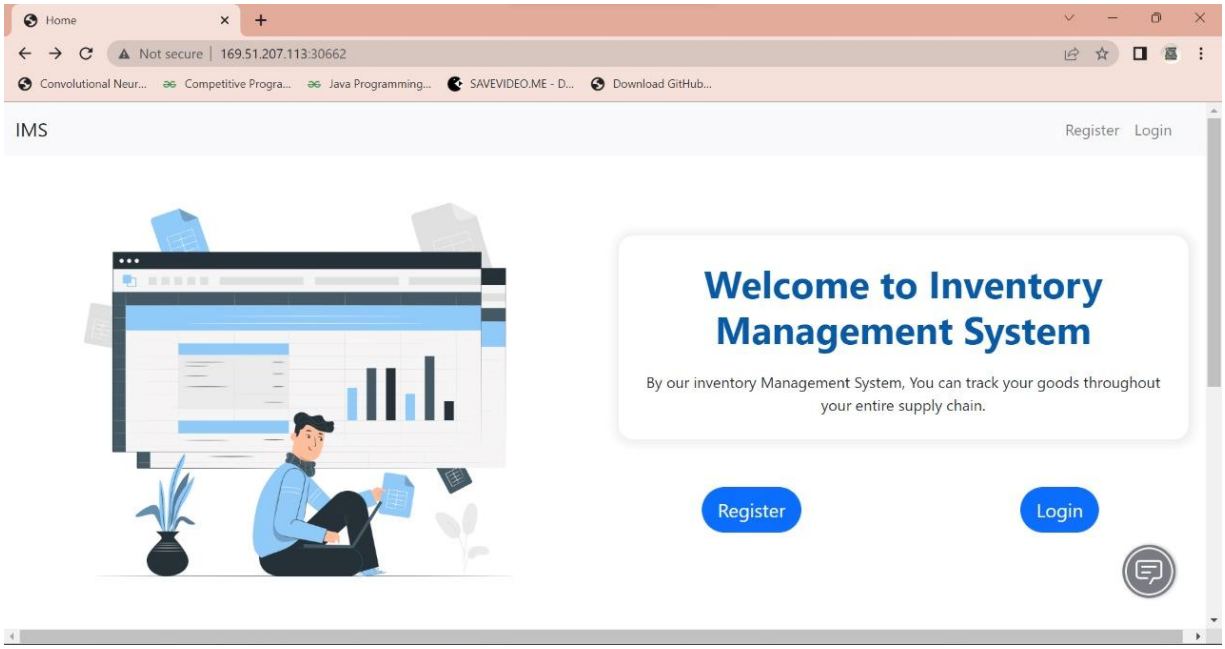

eu-de.containers.cloud.ibm.com/kubeproxy/clusters/cdsb6fvf0m419ecah1n0/service/#/overview?namespace=default
kubernetes
default
Search
Overview
Deployments
Name
Images
Labels
Pods
Created
ibmflaskapp
Show all
Show all
1 / 1
5 minutes ago
Pods
Name
Images
Labels
Node
Status
Restarts
CPU Usage (cores)
Memory Usage (bytes)
Created
ibmflaskapp-5ddbcd7d64-lllwg
Show all
Show all
10.144.212.23
Running
0
4.00m
113.47Mi
5 minutes ago
Replica Sets
Name
Images
Labels
Pods
Created
ibmflaskapp-5ddbcd7d64
Show all
Show all
1 / 1
5 minutes ago


eu-de.containers.cloud.ibm.com/kubeproxy/clusters/cdsb6fvf0m419ecah1n0/service/#/overview?namespace=default
kubernetes
default
Search
Overview
Services
Name
Labels
Type
Cluster IP
Internal Endpoints
External Endpoints
Created
ibmflaskapp
Show all
LoadBalancer
172.21.127.95
ibmflaskapp:5000 TCP
ibmflaskapp:30662 TCP
-
6 minutes ago
kubernetes
Show all
ClusterIP
172.21.0.1
kubernetes:443 TCP
kubernetes:0 TCP
-
a day ago
Config and Storage
Config Maps
Name
Labels
Created
kube-root-ca.crt
-
a day ago


eu-de.containers.cloud.ibm.com/kubeproxy/clusters/cdsb6fvf0m419ecah1n0/service/#/overview?namespace=default
kubernetes
default
Search
Overview
Namespaces
Name
Labels
Phase
Created
ibm-cert-store
Show all
Active
a day ago
ibm-operators
Show all
Active
a day ago
ibm-system
Show all
Active
a day ago
default
Show all
Active
a day ago
kube-node-lease
Show all
Active
a day ago
kube-public
Show all
Active
a day ago
kube-system
Show all
Active
a day ago


Login
Not secure | 169.51.207.113:30662/login
Convolutional Neur...
Competitive Progra...
Java Programming...
SAVEVIDEO.ME - D...
Download GitHub...
IMS
Register
Login
Login
Email ID
Password
Submit
Don't have an Account? Register


Register
Not secure | 169.51.207.113:30662/register
Convolutional Neur...
Competitive Progra...
Java Programming...
SAVEVIDEO.ME - D...
Download GitHub...
IMS
Register
Login
SIGN UP
Create a New Account is Free
Enter your E-mail
Enter your Password
REGISTER
Register
First Name
Last Name
Company Name
State
City
Pincode
Mobile Number
Email ID
Enter Password
Re-type Password
Submit
Already have an Account? Login



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

http://169.51.207.113:30662/