

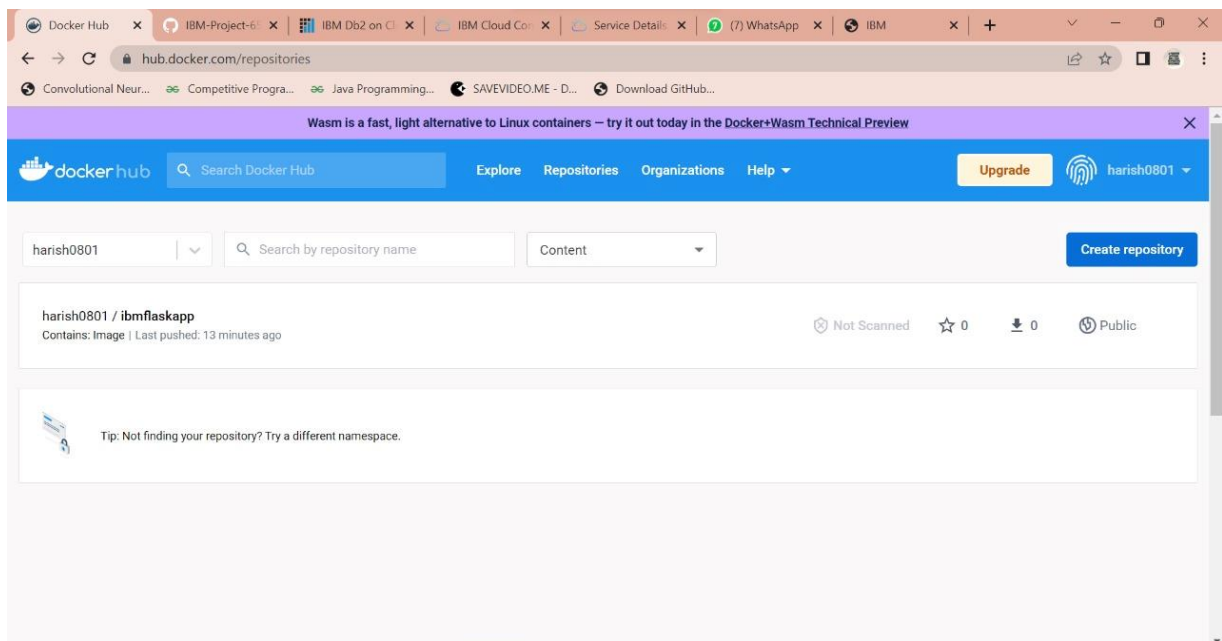
Assignment -4
Inventory Management System for Retailers – Kubernetes / Docker

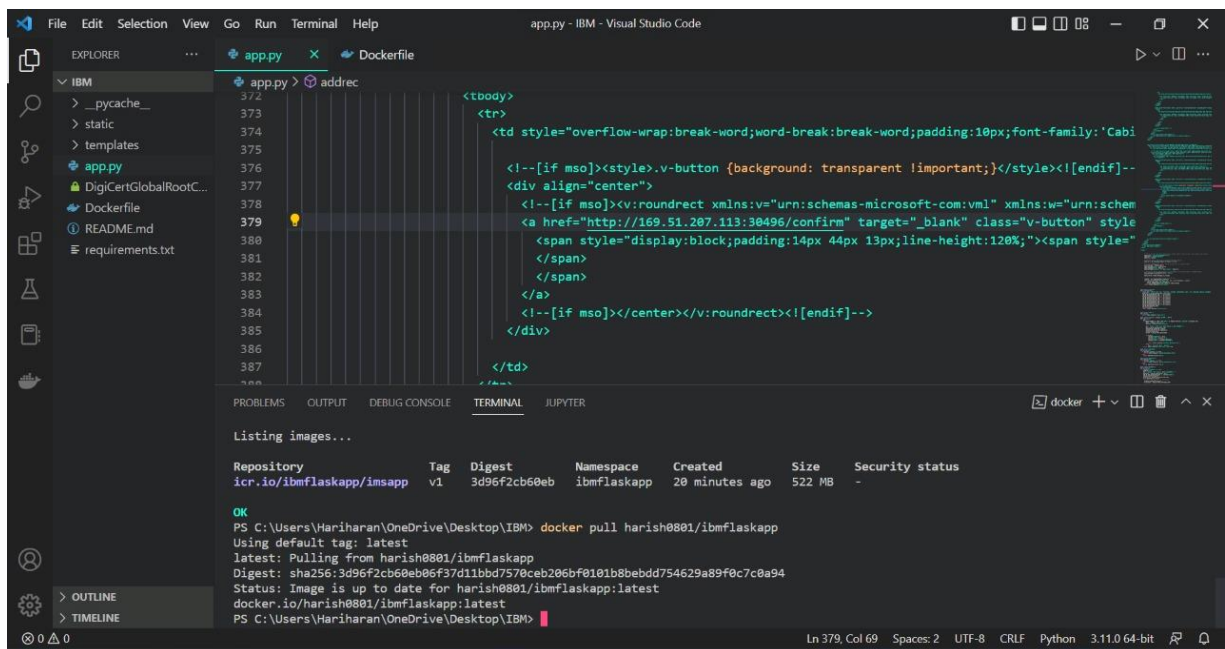
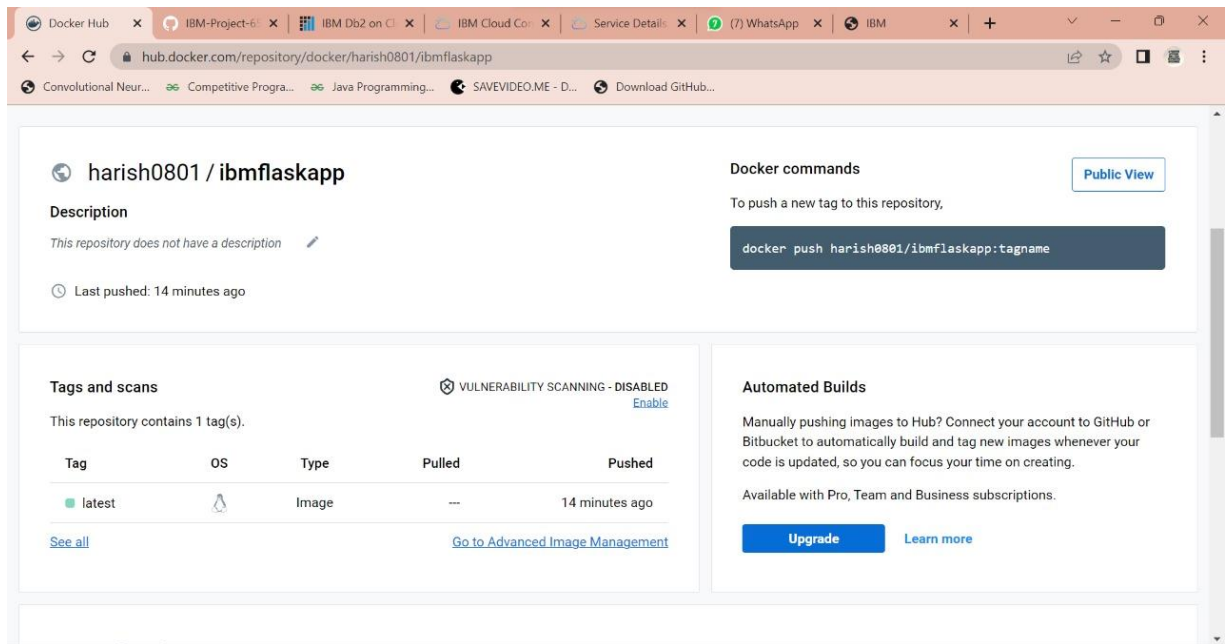
Assignment Date	20 October 2022
Student Name	HEMANTH C
Student Roll Number	142219104040
Maximum Marks	2 Marks

Question-1:

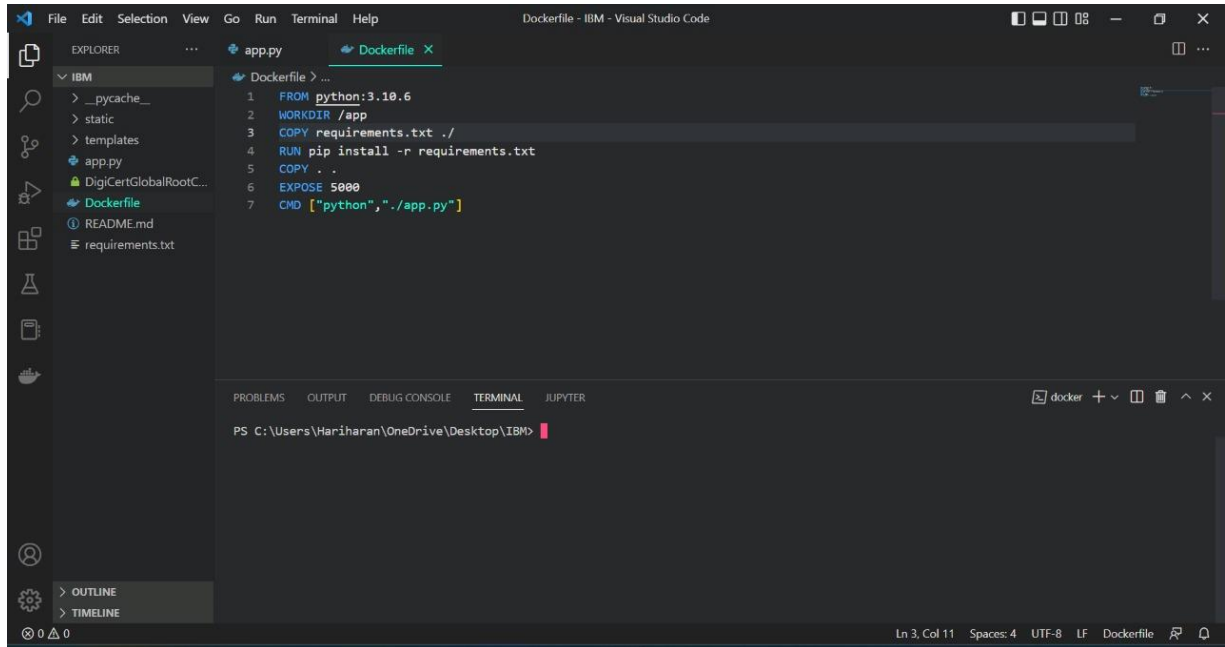
1. Pull an Image from docker hub and run it in docker playground.
2. Create a dockerfile for the job portal / flask application and deploy it in Docker desktop application.
3. Create a IBM container registry and push docker image of flask application or job portal app.
4. Create a Kubernetes cluster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





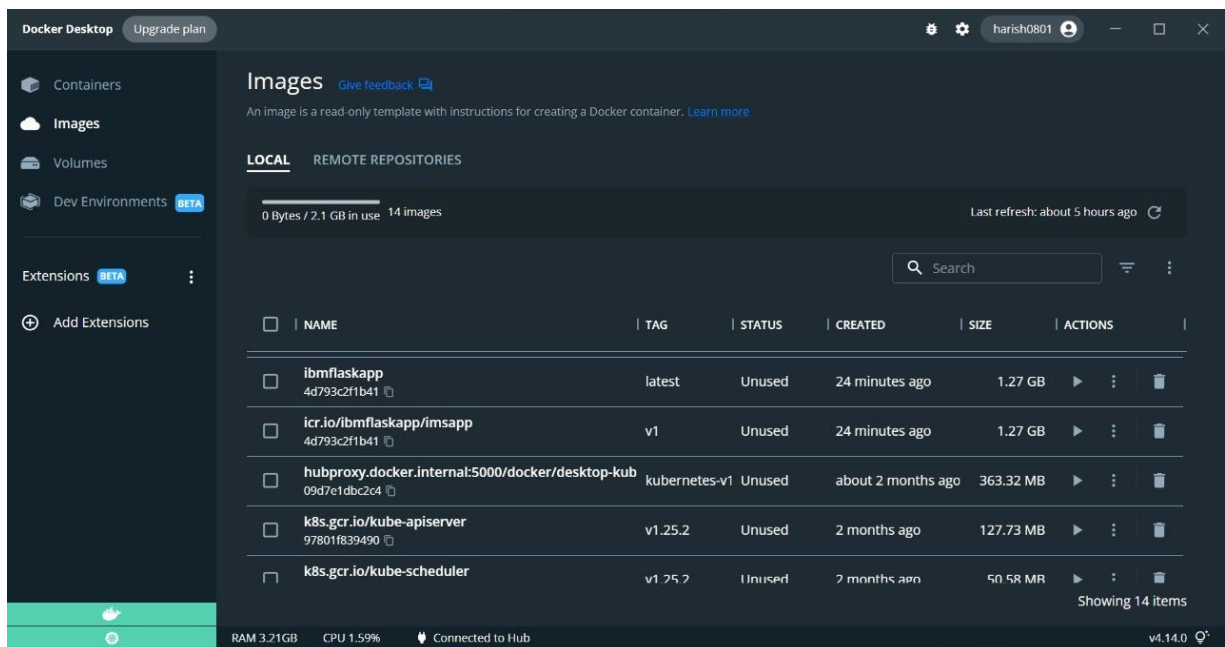
Step 2: Create a dockerfile for the job portal / flask application and deploy it in Docker desktop application.



The screenshot shows the Visual Studio Code interface with a Dockerfile open. The Dockerfile contains the following instructions:

```
1 FROM python:3.10.6
2 WORKDIR /app
3 COPY requirements.txt ./
4 RUN pip install -r requirements.txt
5 COPY . .
6 EXPOSE 5000
7 CMD ["python", "./app.py"]
```

The Explorer sidebar on the left shows the project structure with files like `app.py`, `Dockerfile`, `requirements.txt`, `README.md`, and `static`. The Terminal at the bottom shows the command prompt for the IBM directory.



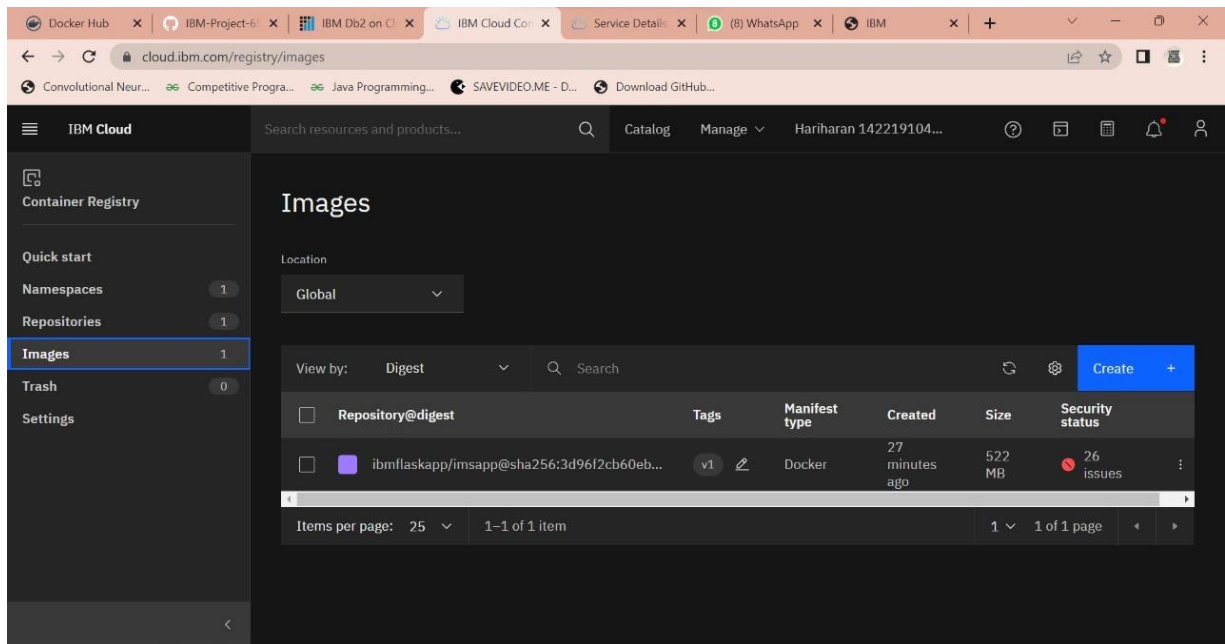
Step 3: Create a IBM container registry and push docker image of flask application or job portal app.

The screenshot shows the IBM Cloud Container Registry interface. The left sidebar has a 'Namespaces' section highlighted. The main content area is titled 'Namespaces' and shows a table with one namespace, 'ibmflaskapp', under the 'Default' resource group. The table columns are Name, Resource group, Repository count, Image count, and Retention policy. The 'Repository count' is 1 and the 'Image count' is 1. The retention policy is 'Retain all images'.

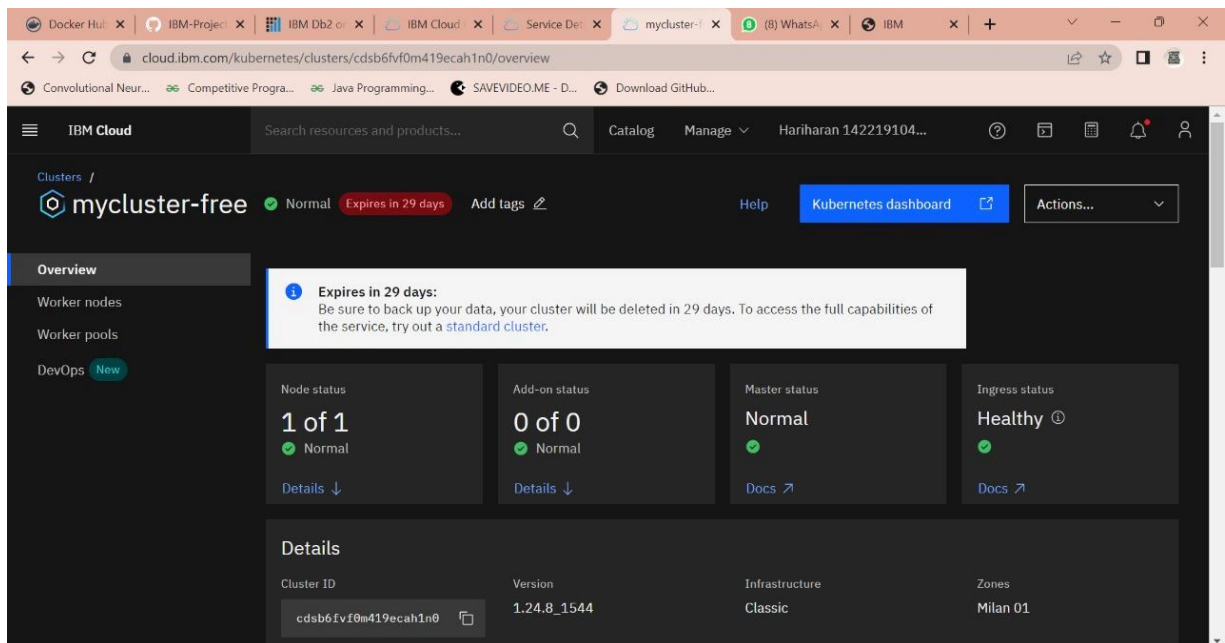
Name	Resource group	Repository count	Image count	Retention policy
ibmflaskapp	Default	1	1	Retain all images

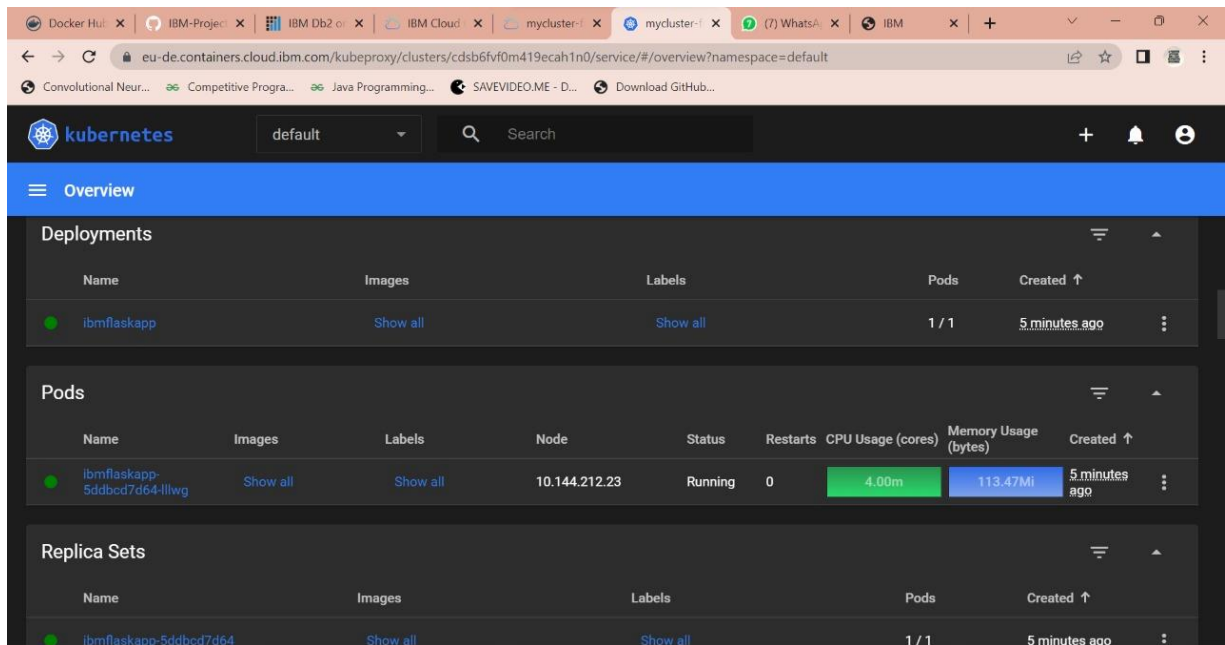
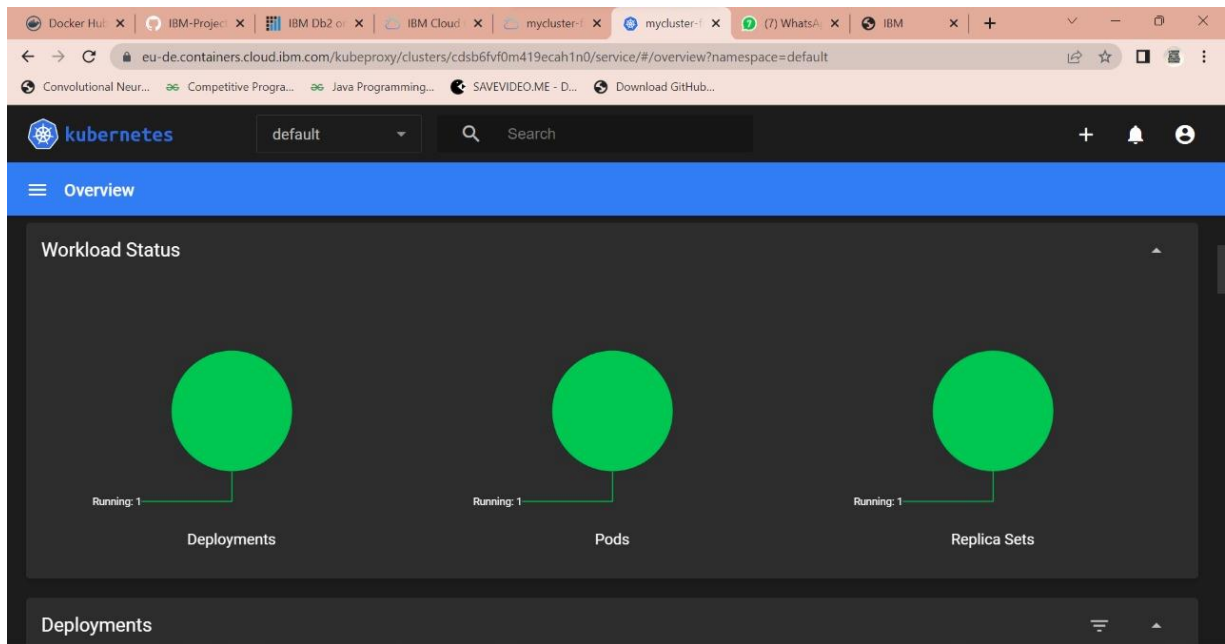
The screenshot shows the IBM Cloud Container Registry interface. The left sidebar has a 'Repositories' section highlighted. The main content area is titled 'Repositories' and shows a table with one repository, 'imsapp', under the 'ibmflaskapp' namespace. The table columns are Name, Image count, Namespace, and Last updated. The 'Image count' is 1 and the 'Last updated' time is '27 minutes ago'.

Name	Image count	Namespace	Last updated
imsapp icr.io/ibmflaskapp/imsapp	1	ibmflaskapp	27 minutes ago



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.





kubernetes

default

Search

Overview

Services

Name	Labels	Type	Cluster IP	Internal Endpoints	External Endpoints	Created ↑
<div><div></div>ibmflaskapp</div>	Show all	LoadBalancer	172.21.127.95	ibmflaskapp:5000 TCP ibmflaskapp:30662 TCP	-	6 minutes ago
<div><div></div>kubernetes</div>	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

kubernetes

default

Search

Overview

Namespaces


Name	Labels	Phase	Created ↑
<div><div></div>ibm-cert-store</div>	Show all	Active	a day ago
<div><div></div>ibm-operators</div>	Show all	Active	a day ago
<div><div></div>ibm-system</div>	Show all	Active	a day ago
<div><div></div>default</div>	Show all	Active	a day ago
<div><div></div>kube-node-lease</div>	Show all	Active	a day ago
<div><div></div>kube-public</div>	Show all	Active	a day ago
<div><div></div>kube-system</div>	Show all	Active	a day ago

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Register

First Name

Last Name

Company Name

State

City

Pincode

Mobile Number

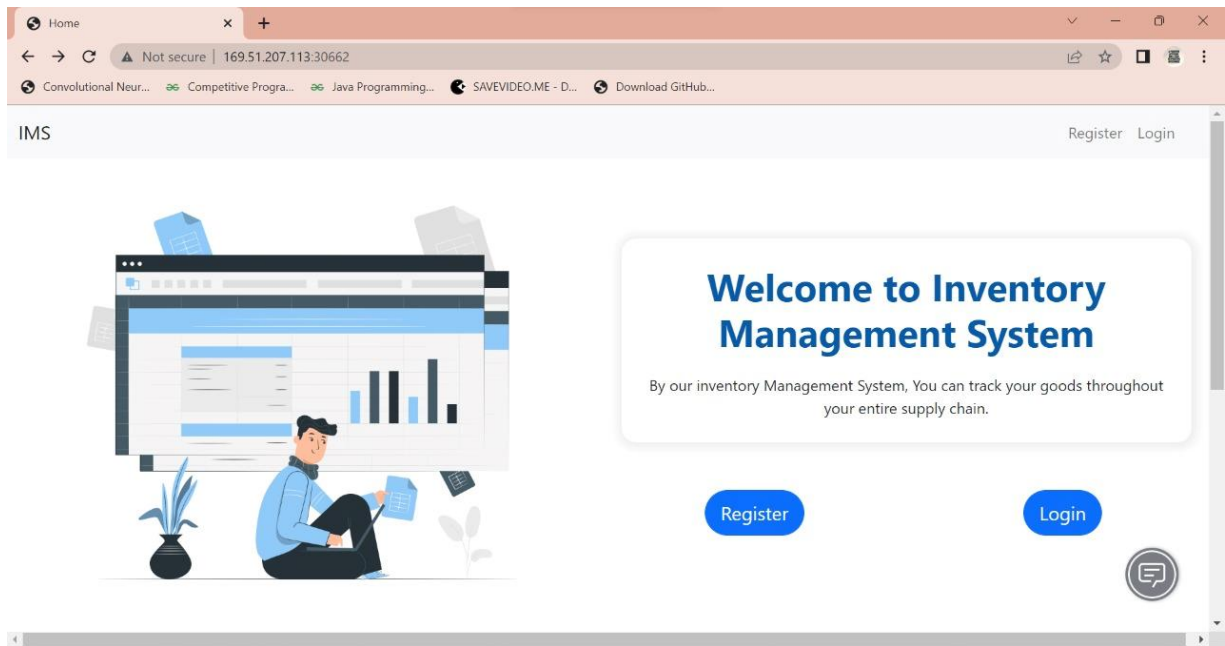
Email ID

Enter Password

Re-type Password

Submit

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

<http://169.51.207.113:30662/>