

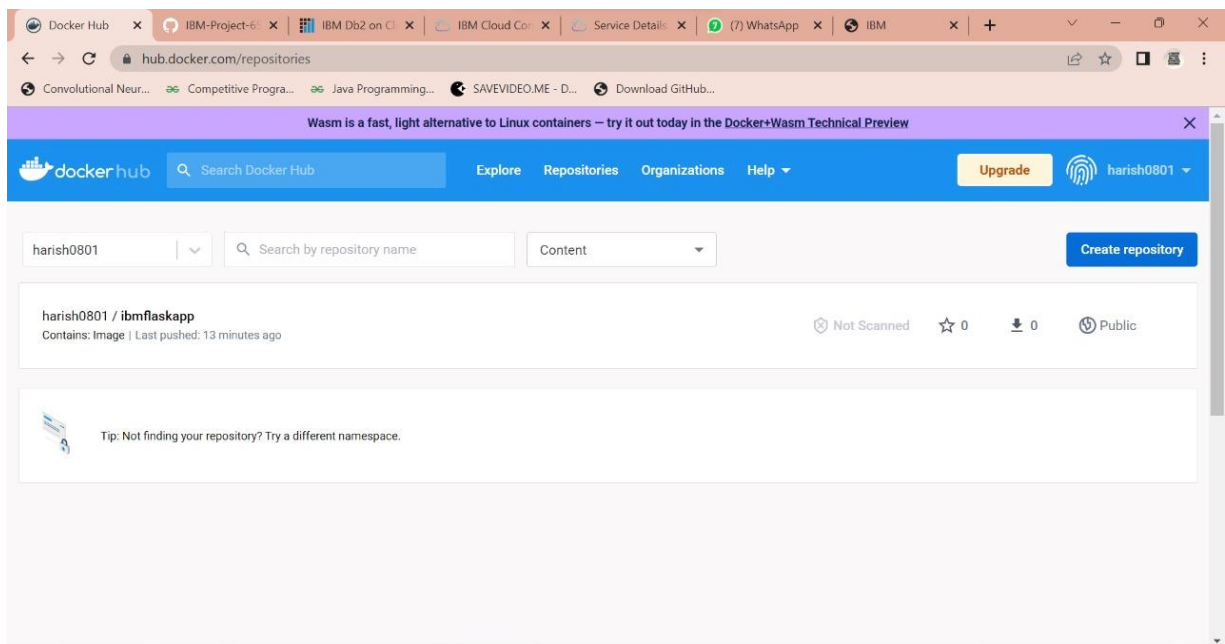
Assignment -4
Inventory Management System for Retailers – Kubernetes / Docker

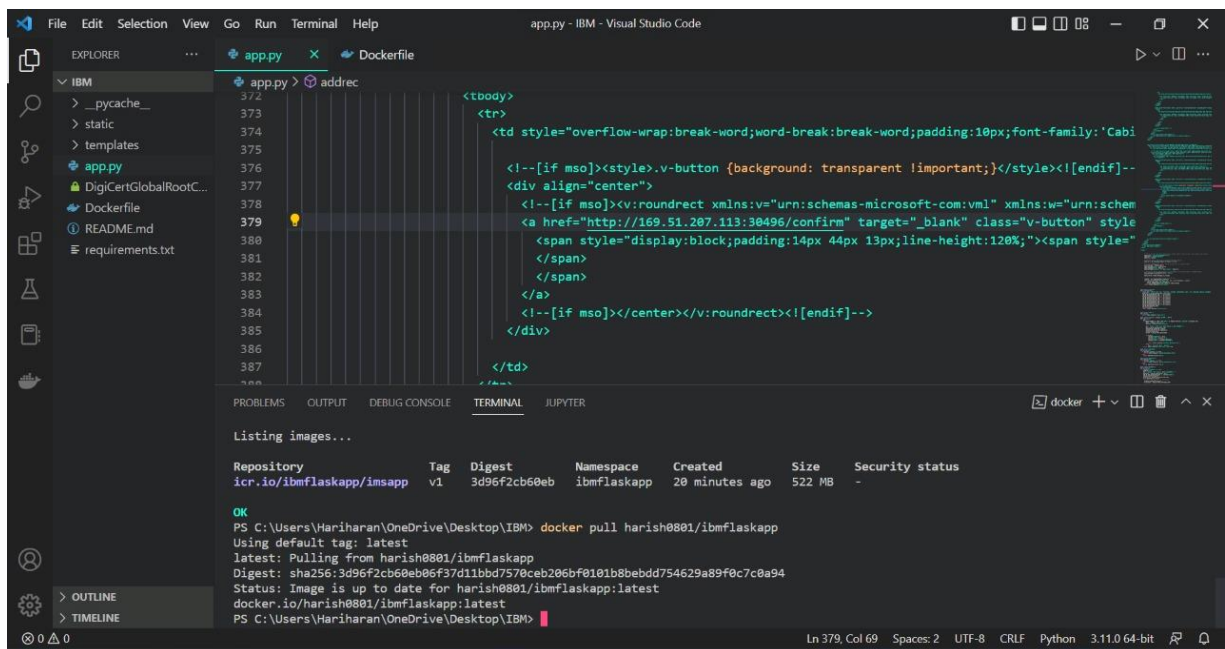
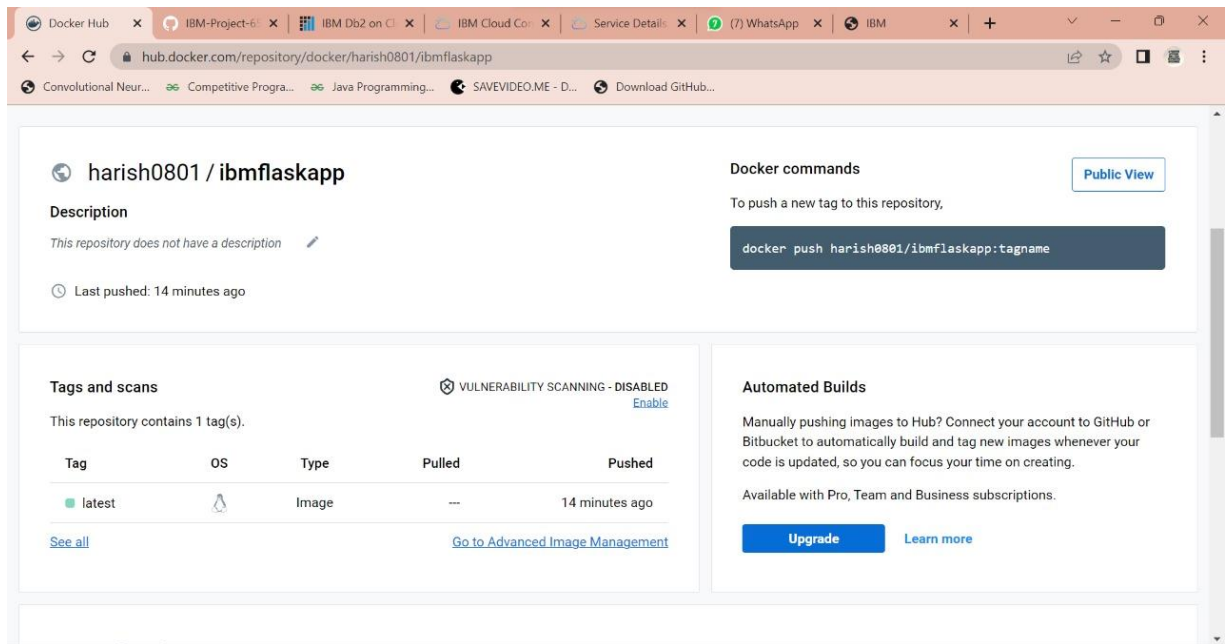
Assignment Date	20 October 2022
Student Name	HARIHARAN S
Student Roll Number	142219104036
Maximum Marks	2 Marks

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.

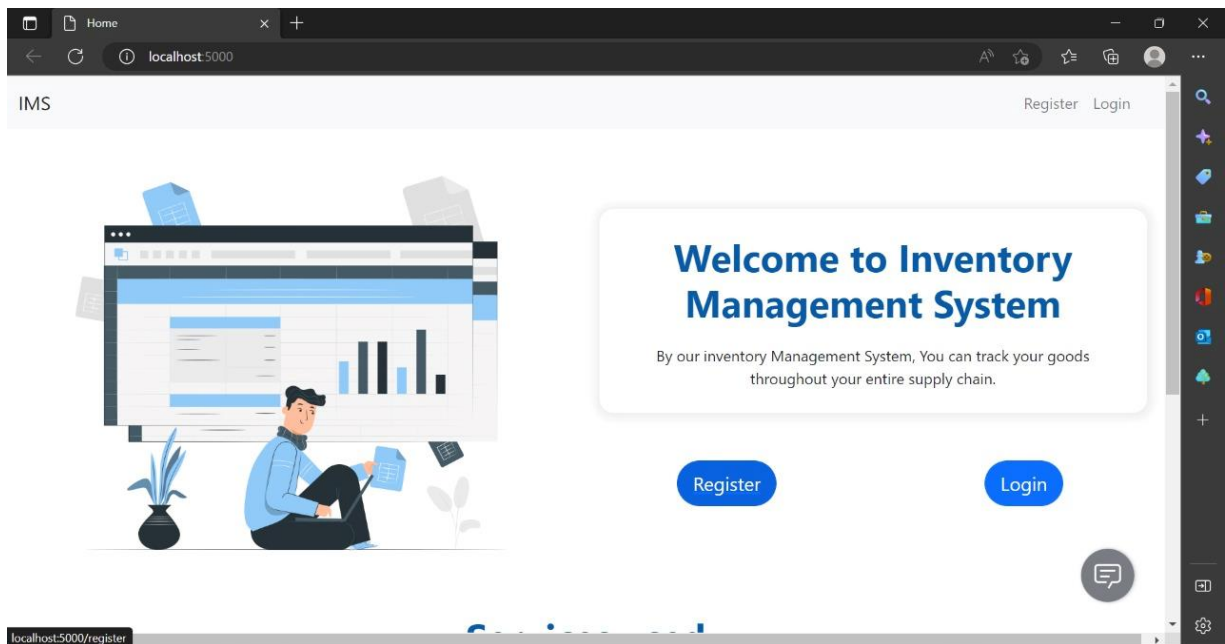
Step 1: Pull an Image from docker hub and run it in docker playground.



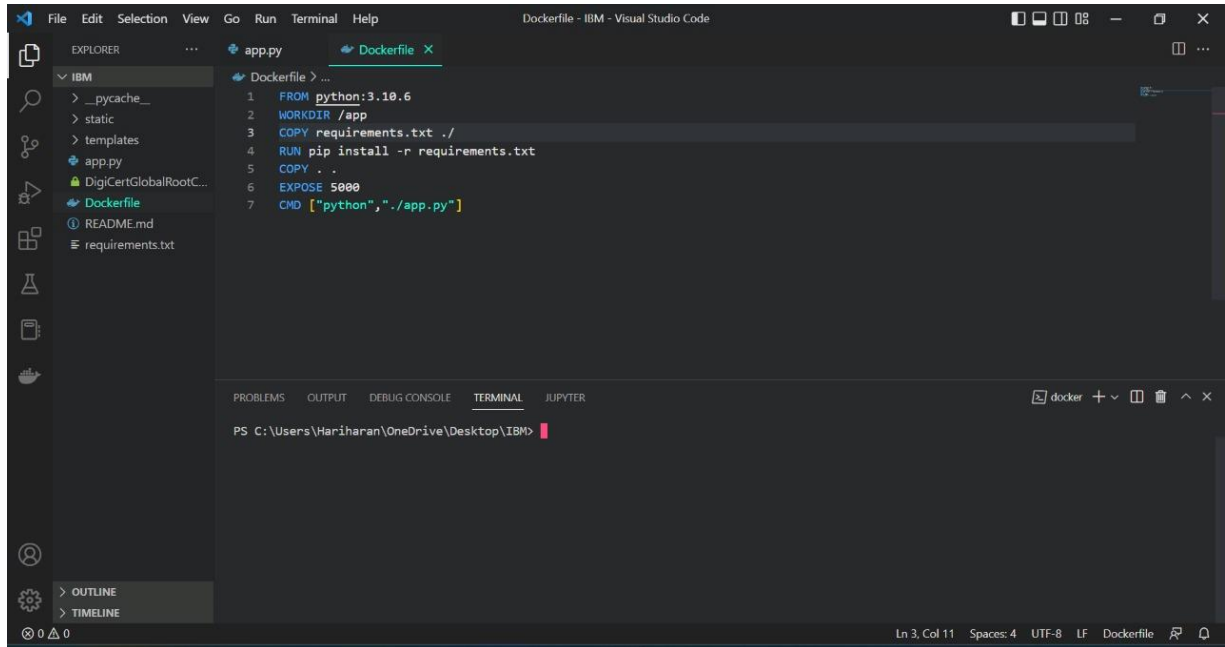


The screenshot shows the Visual Studio Code interface with a Python file named `app.py` open. The file contains a Flask application with a single route `/confirm` that renders an HTML page. The HTML page has a title `Inventory Management System` and a button labeled `Confirm` that links to `http://169.51.207.113:30496/confirm`. The button has a blue background and white text. The application is running in a Docker container, and the terminal shows the following output:

```
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
```



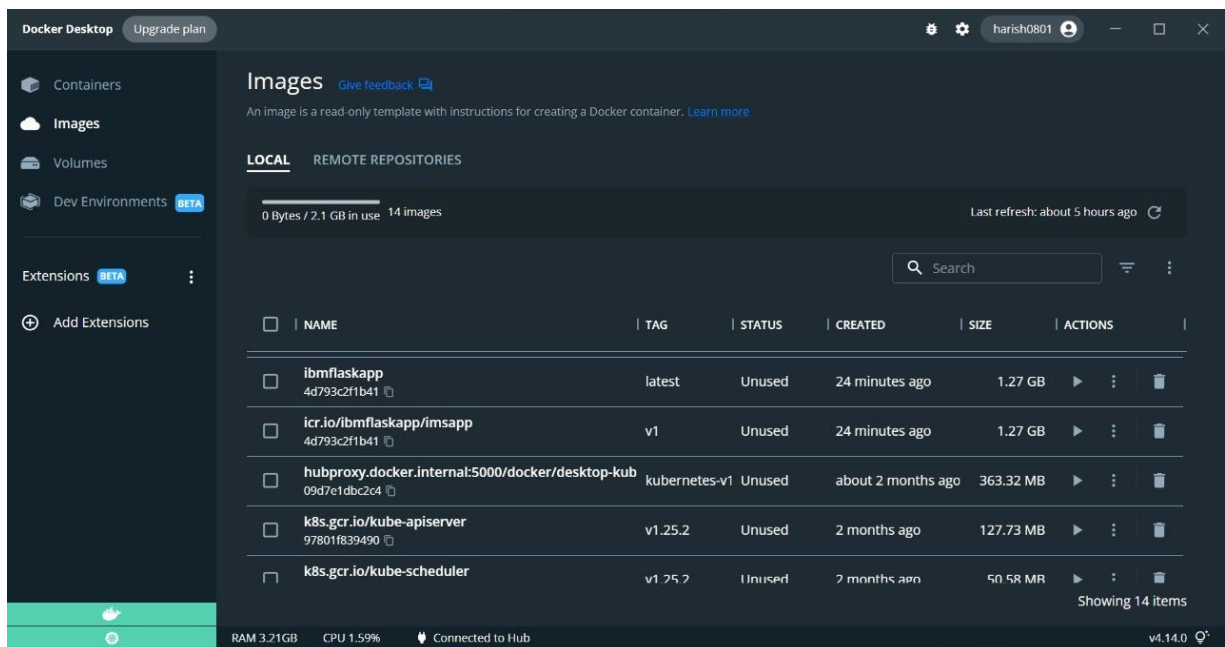
Step 2: Create a dockerfile for the job portal / flask application and deploy it in Docker desktop application.



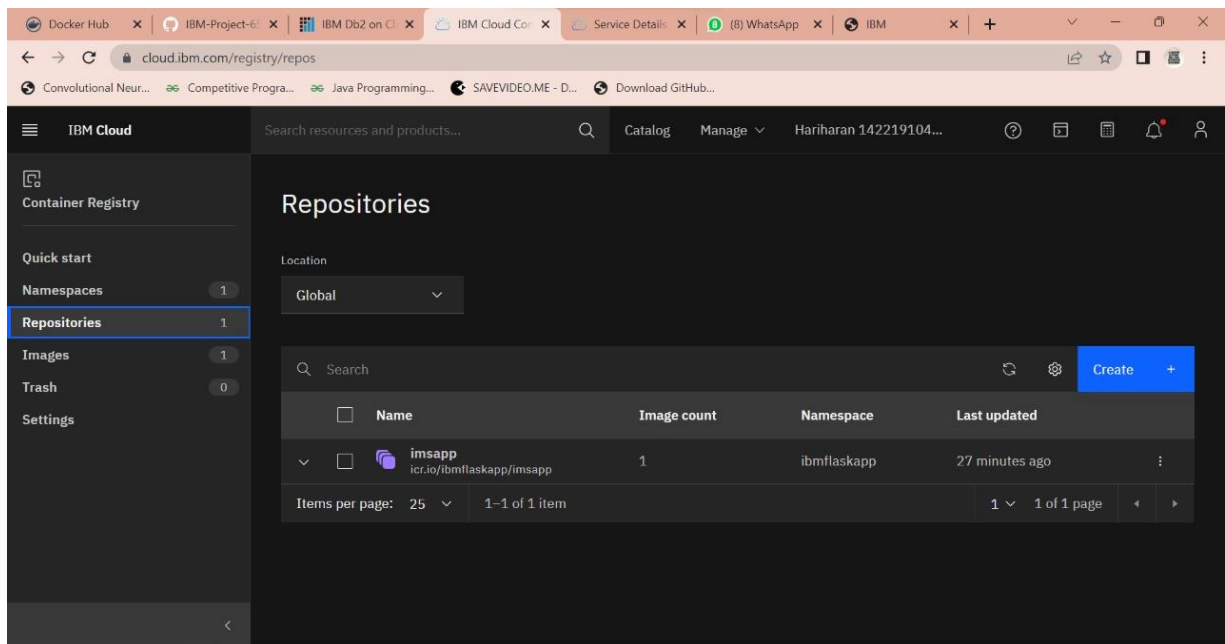
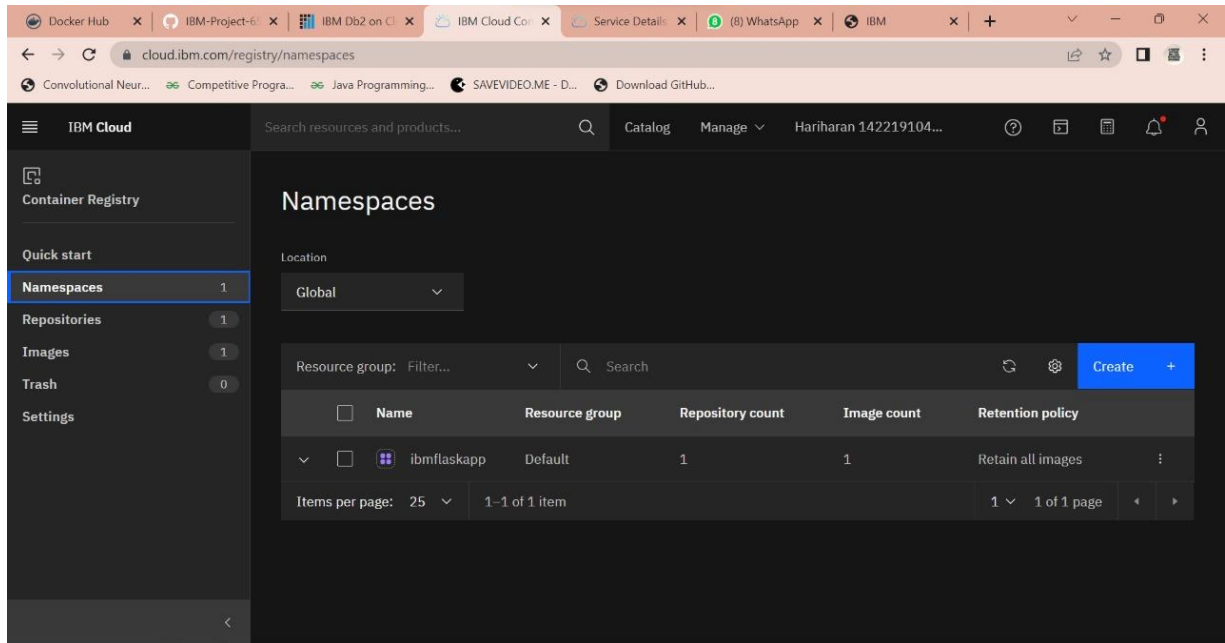
The screenshot shows the Visual Studio Code interface with a Dockerfile open in the editor. The Dockerfile contains the following instructions:

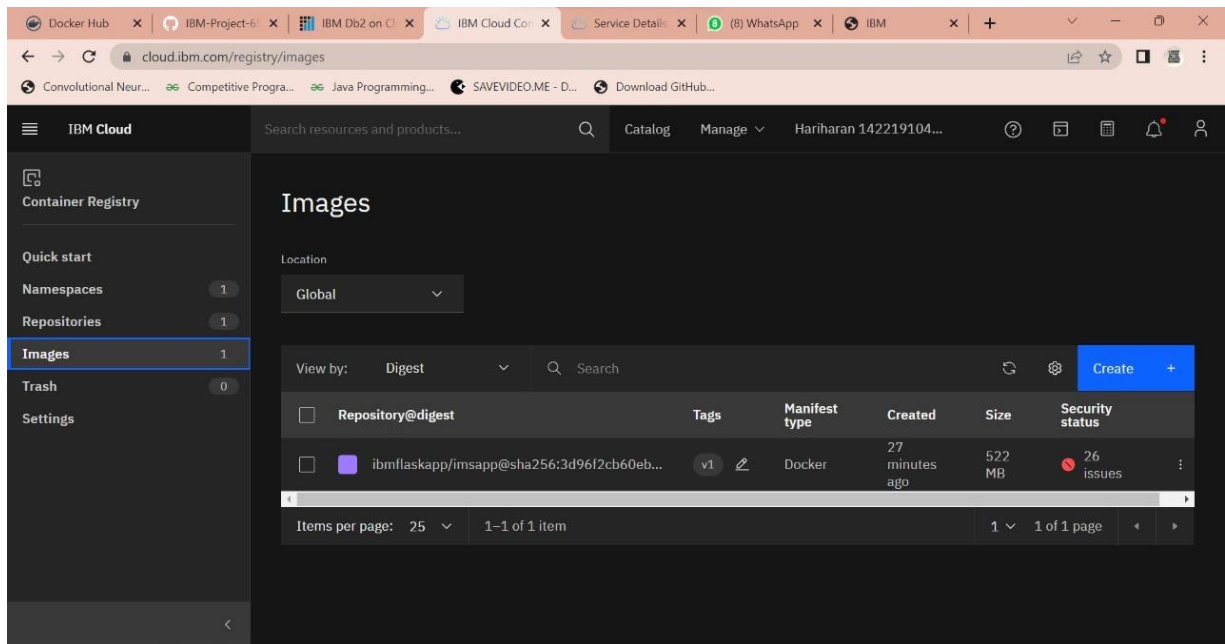
```
1 FROM python:3.10.6
2 WORKDIR /app
3 COPY requirements.txt ./
4 RUN pip install -r requirements.txt
5 COPY . .
6 EXPOSE 5000
7 CMD ["python", "./app.py"]
```

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.

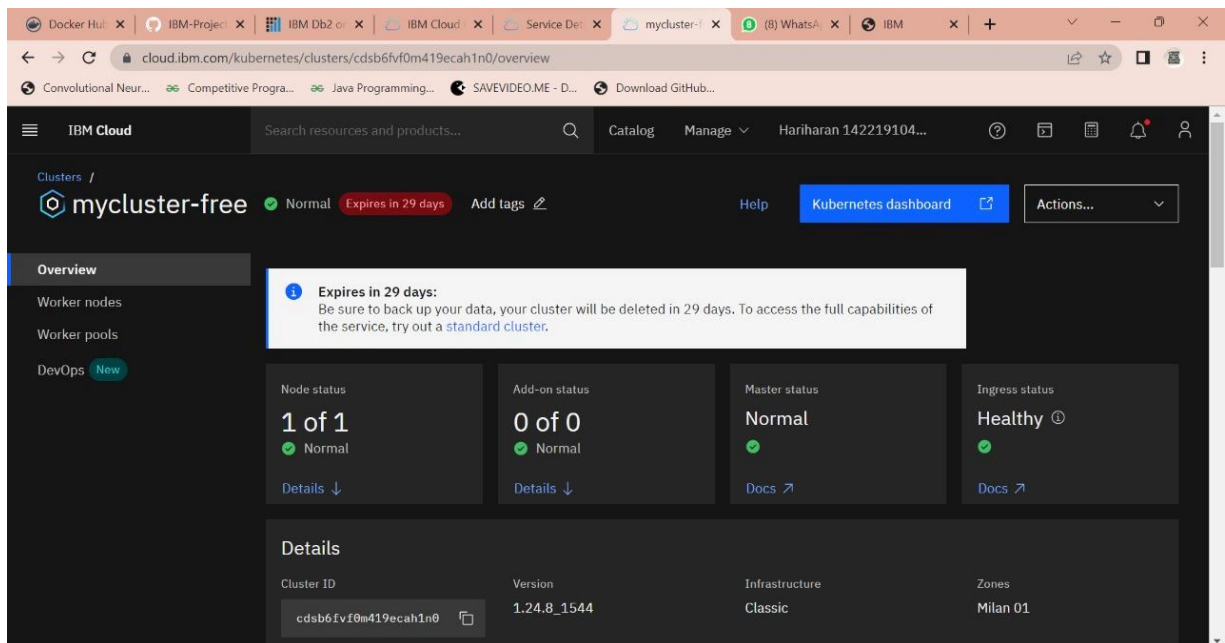


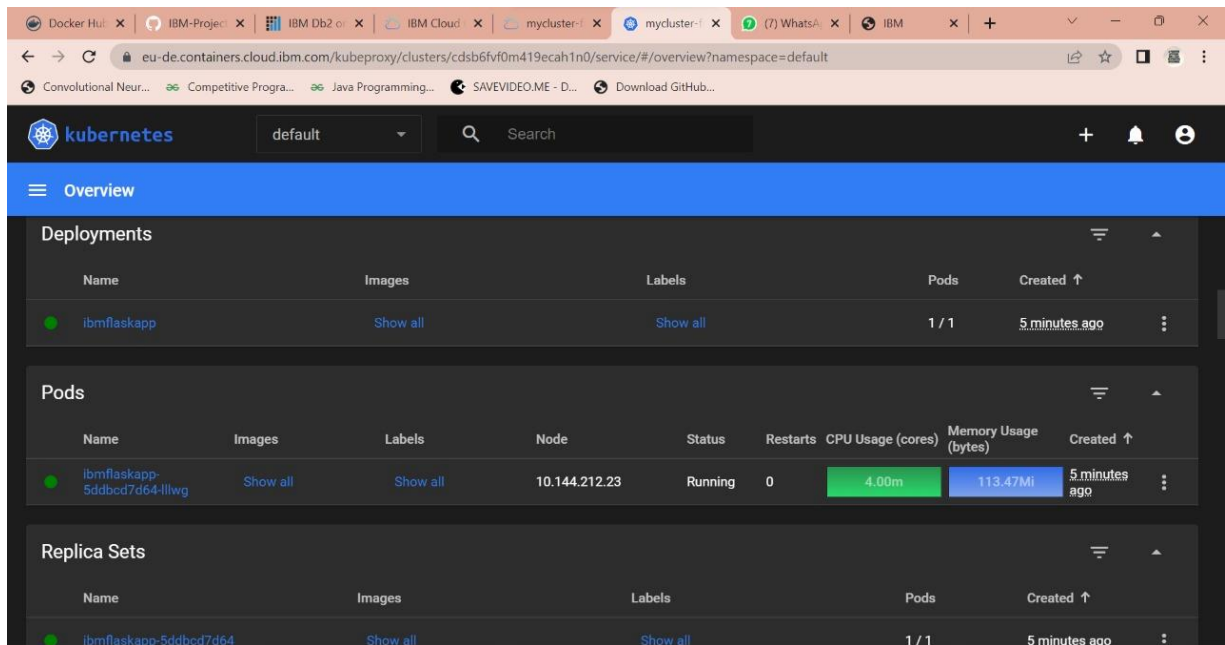
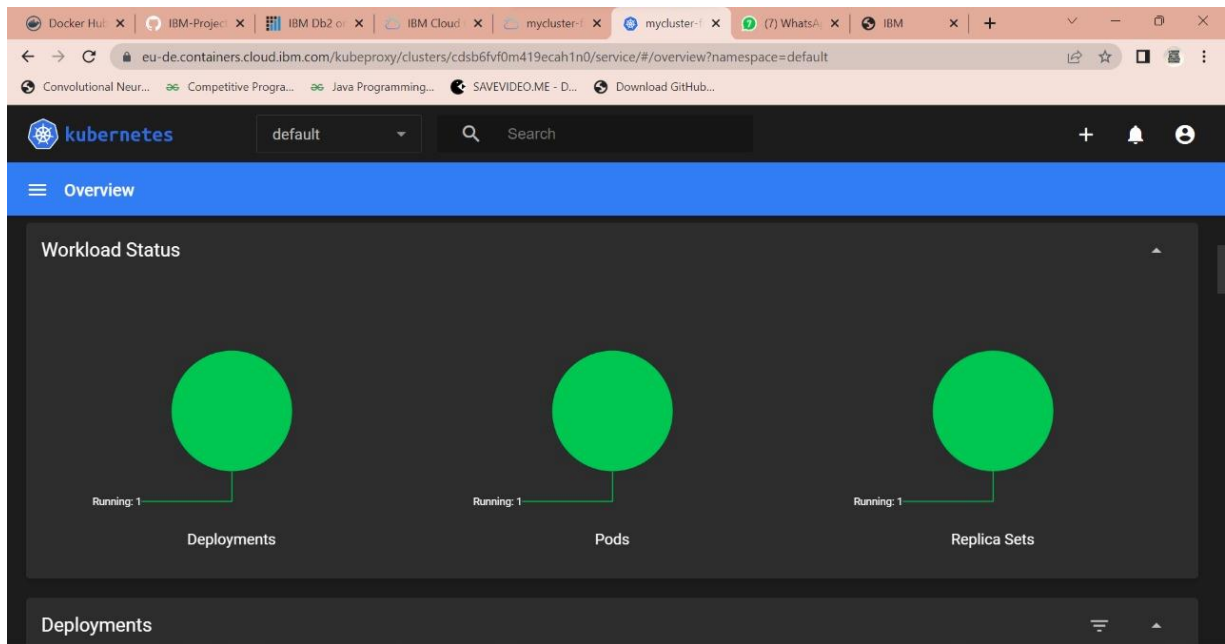
Step 3: Create a IBM container registry and push docker image of flask application or job portal app.





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

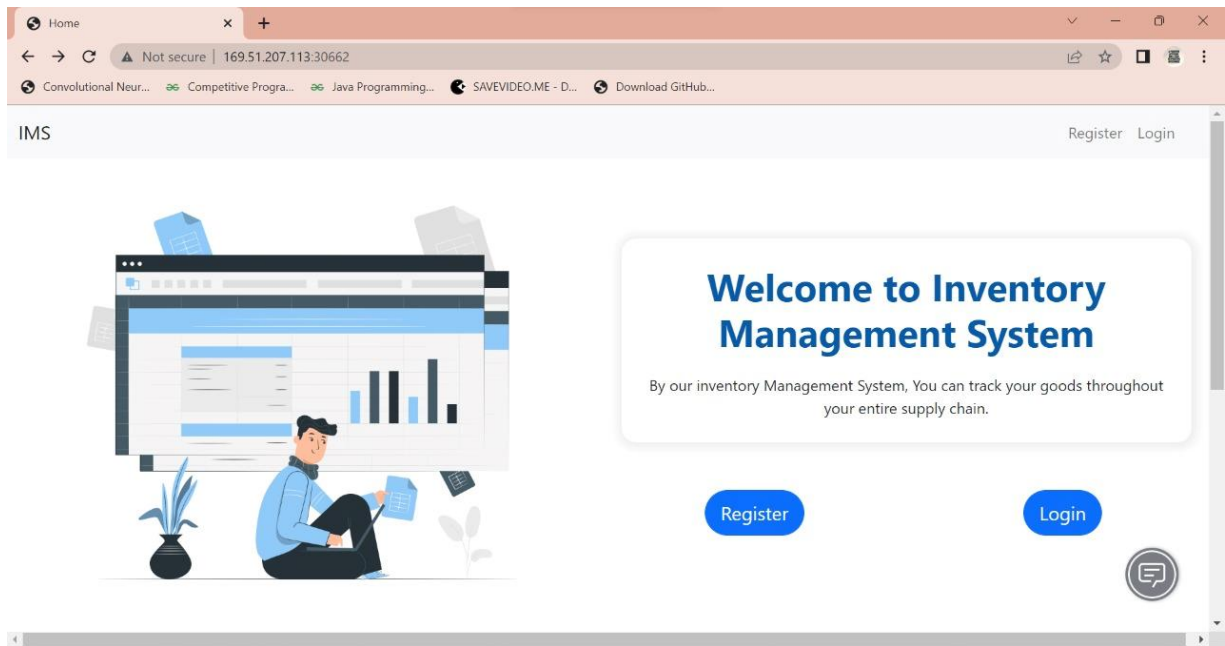
Email ID

Enter Password

Re-type Password

Submit

Already have an Account? **Login**



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

<http://169.51.207.113:30662/>