

Assignment -4

Inventory Management System for Retailers – Kubernetes / Docker

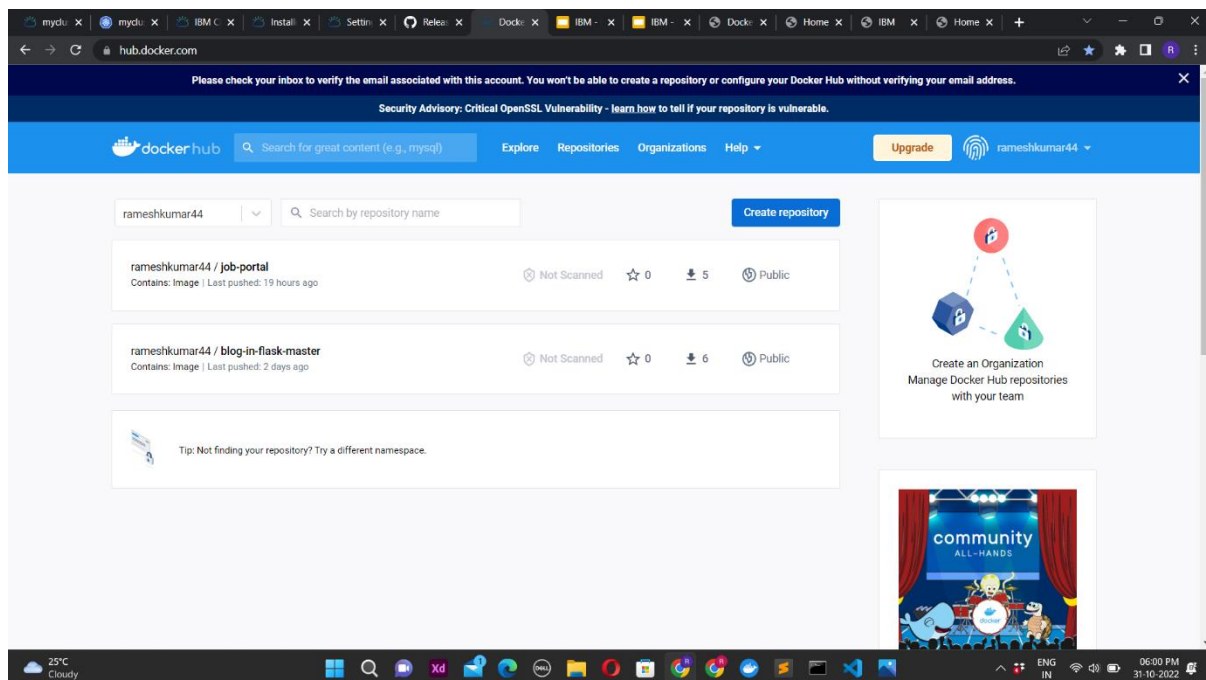
Assignment Date	20 October 2022
Student Name	RAMESH KUMAR M
Student Roll Number	953719104044
Maximum Marks	2 Marks

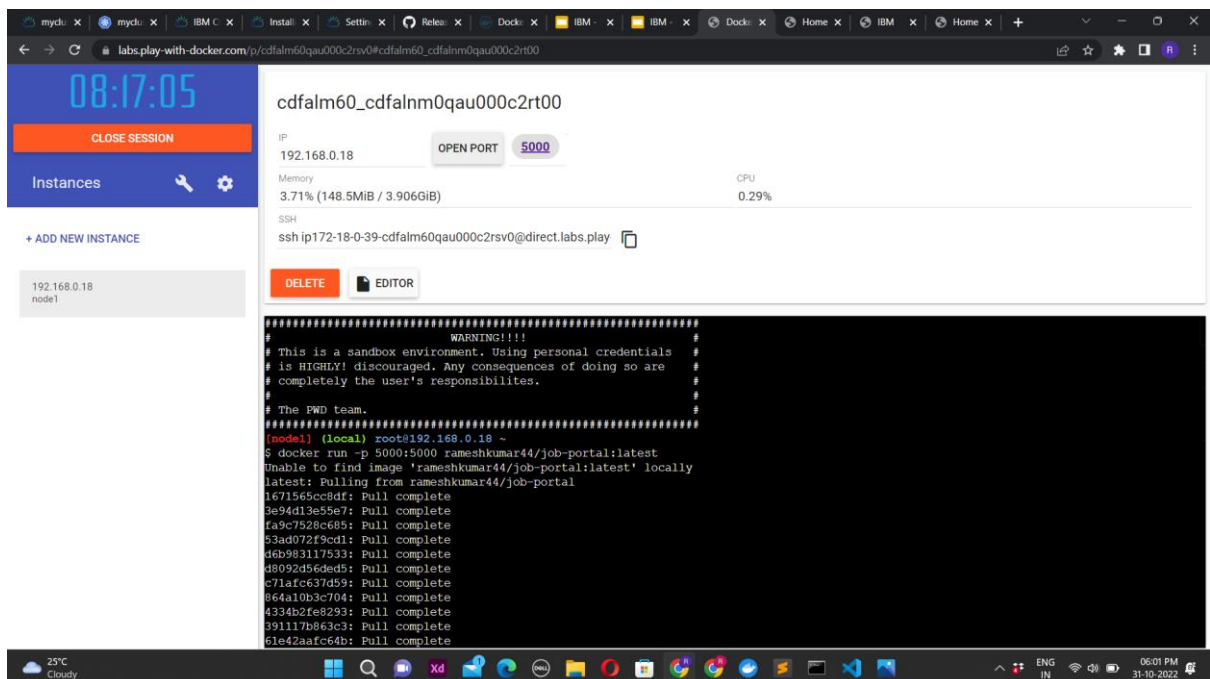
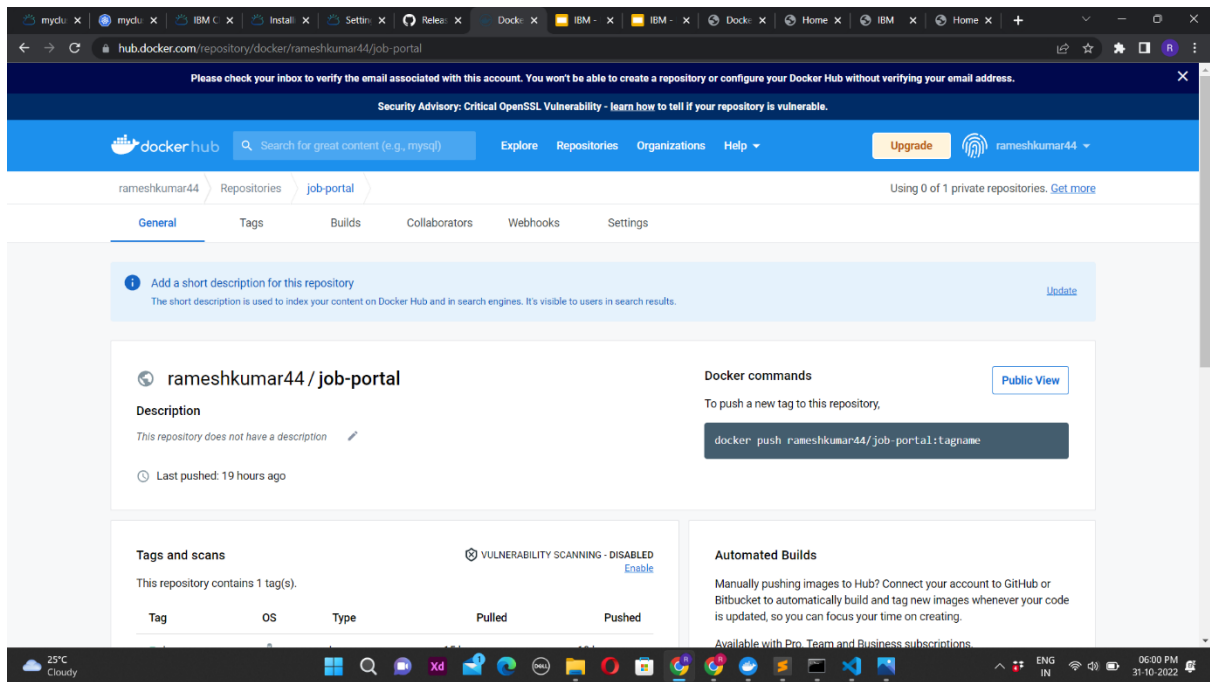
Question-1:

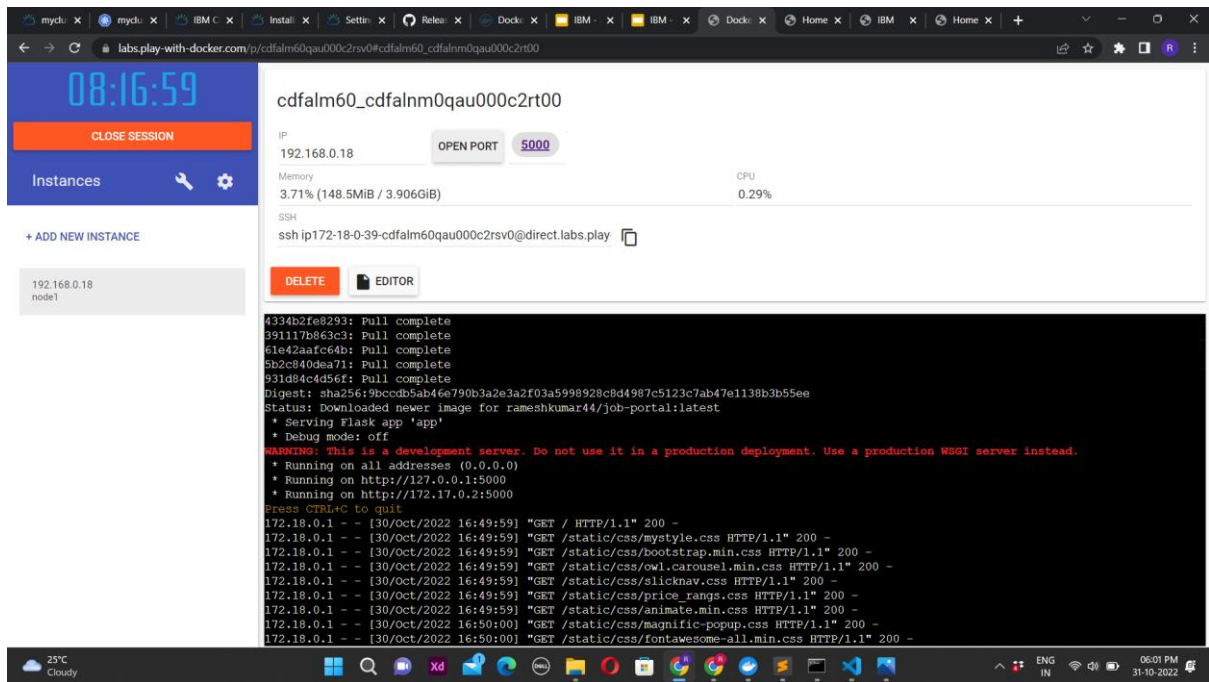
1. Pull an Image from docker hub and run it in docker playground.
2. Create a dockerfile for the job portal / flask application and deploy it in Docker desktop application.
3. Create a IBM container registry and push docker image of flask application or job portal app.
4. Create a Kubernetes cluster 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/RAMESH KUMAR M (TEAM MEMBER)/ASSIGNMENT 4 folder in the Git repo. Please verify it sir/mam.

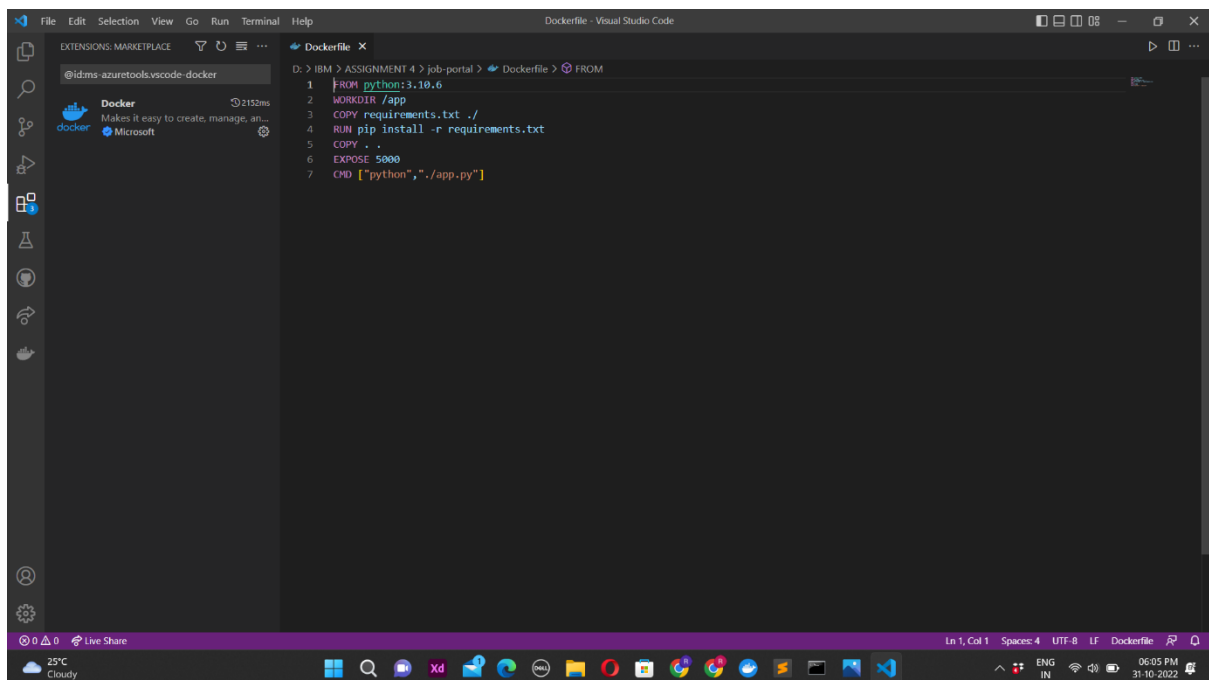
Step 1: Pull an Image from docker hub and run it in docker playground.

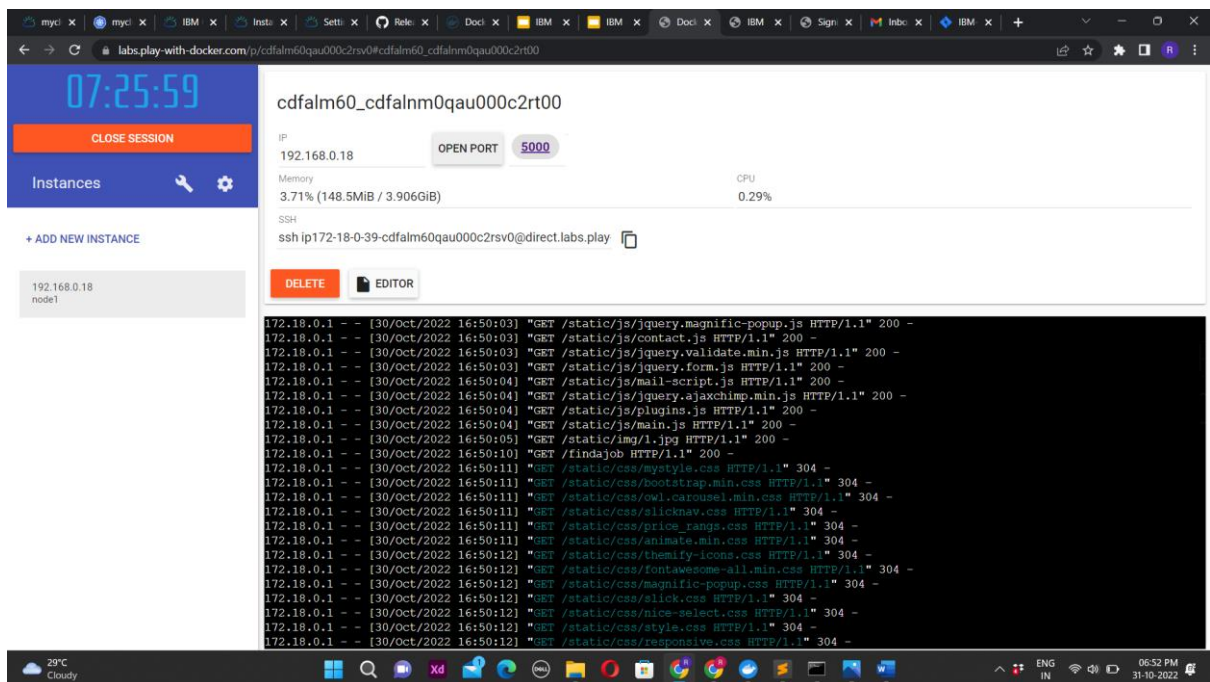
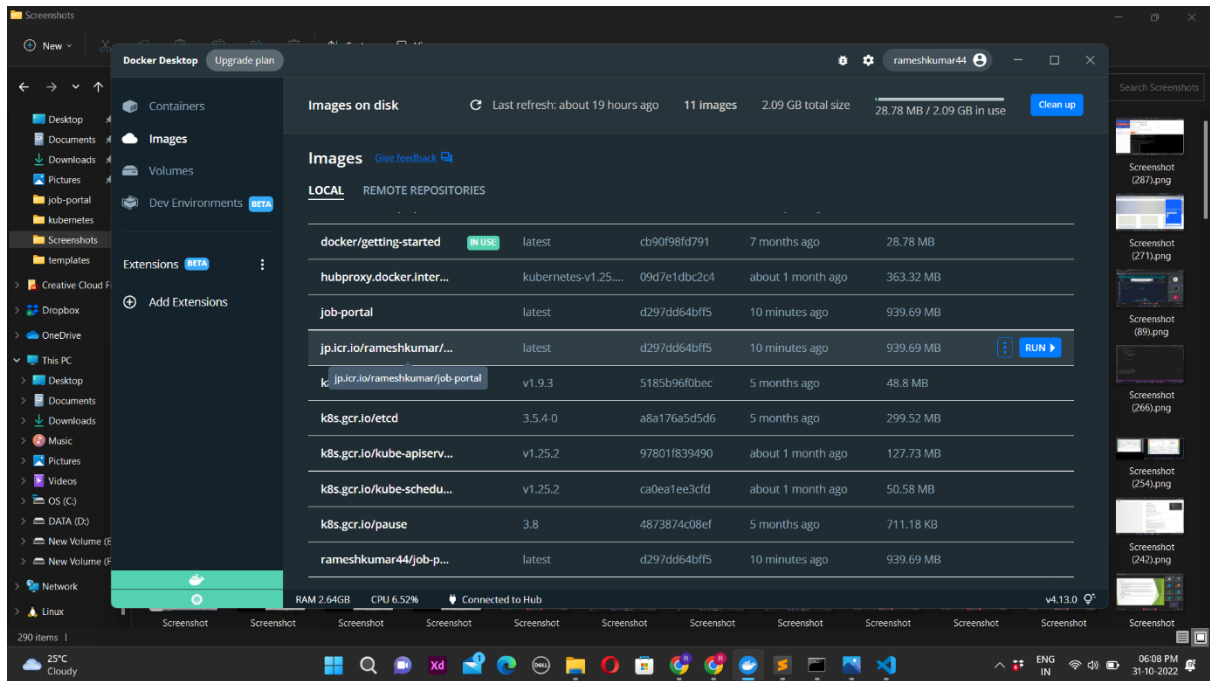




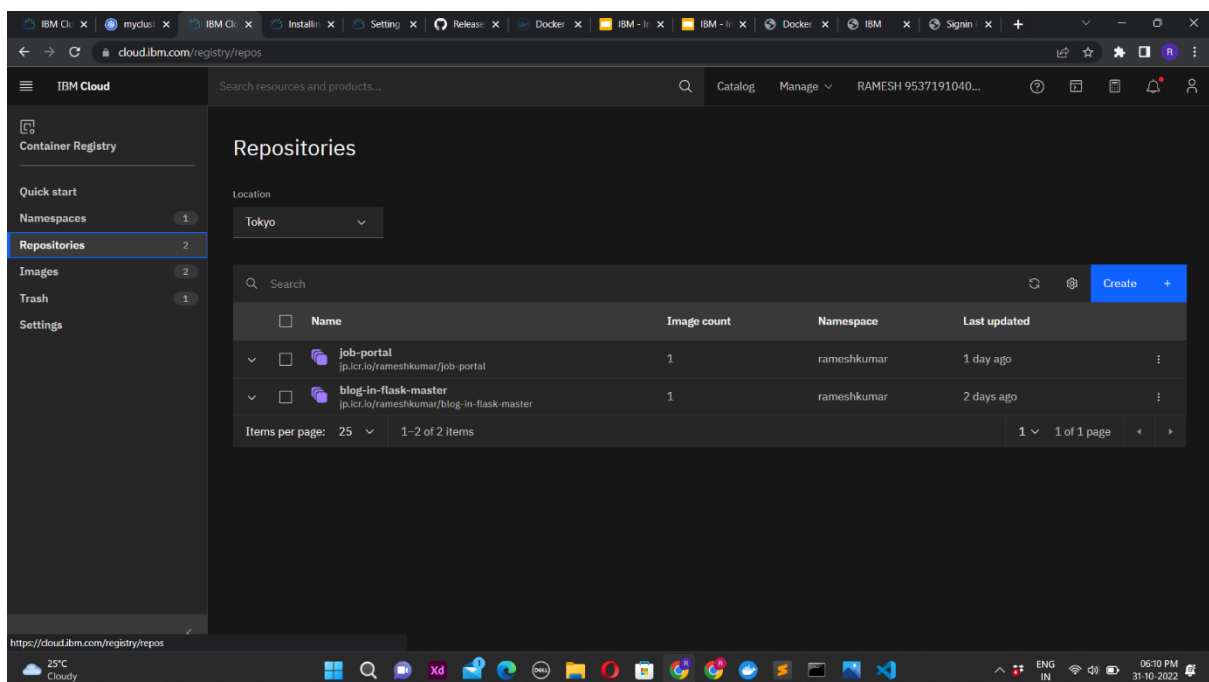
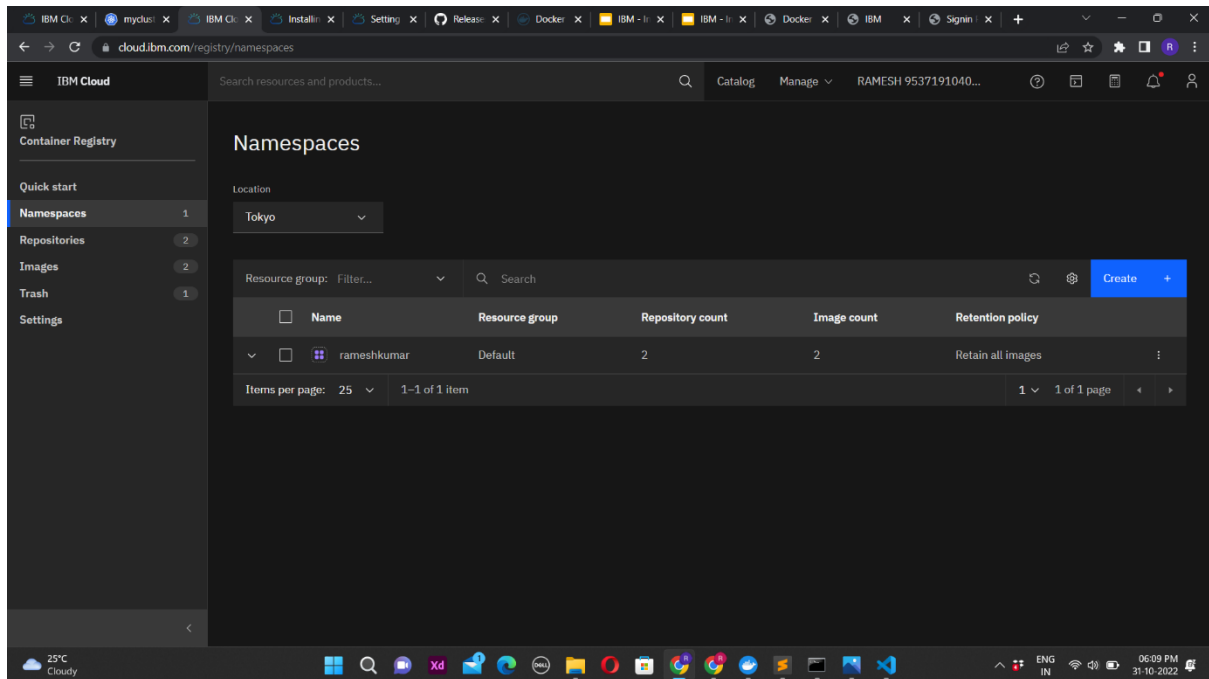


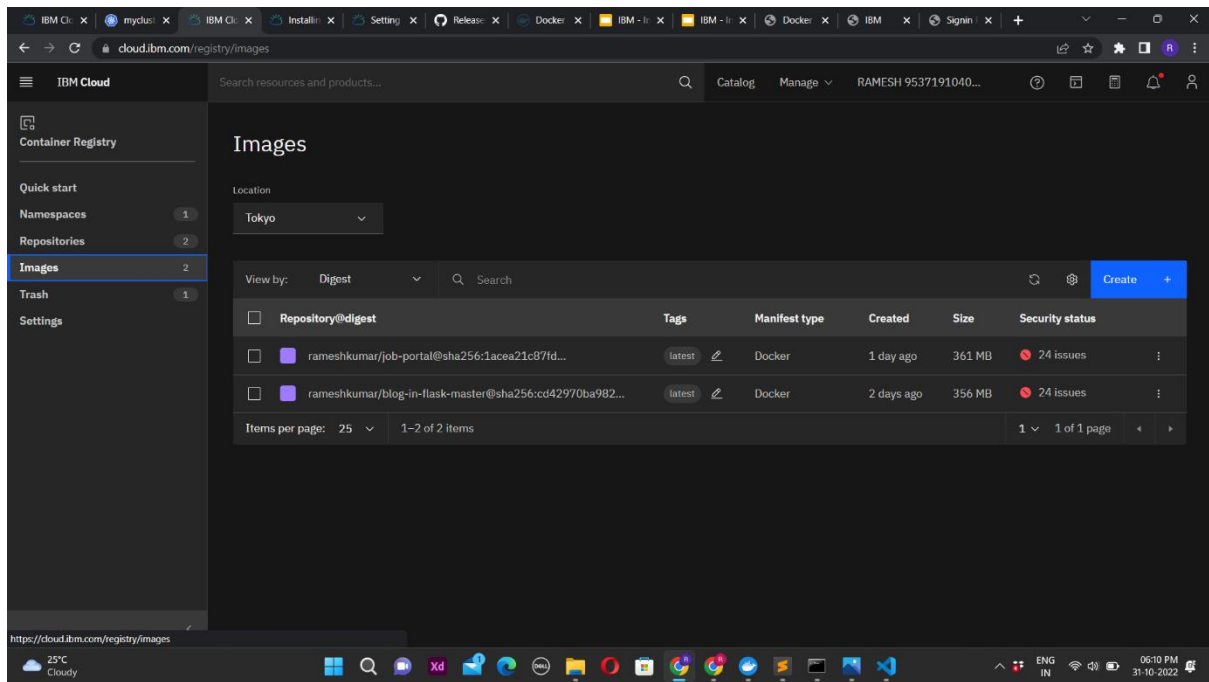
Step 2: Create a dockerfile for the job portal / flask application and deploy it in Docker desktop application.



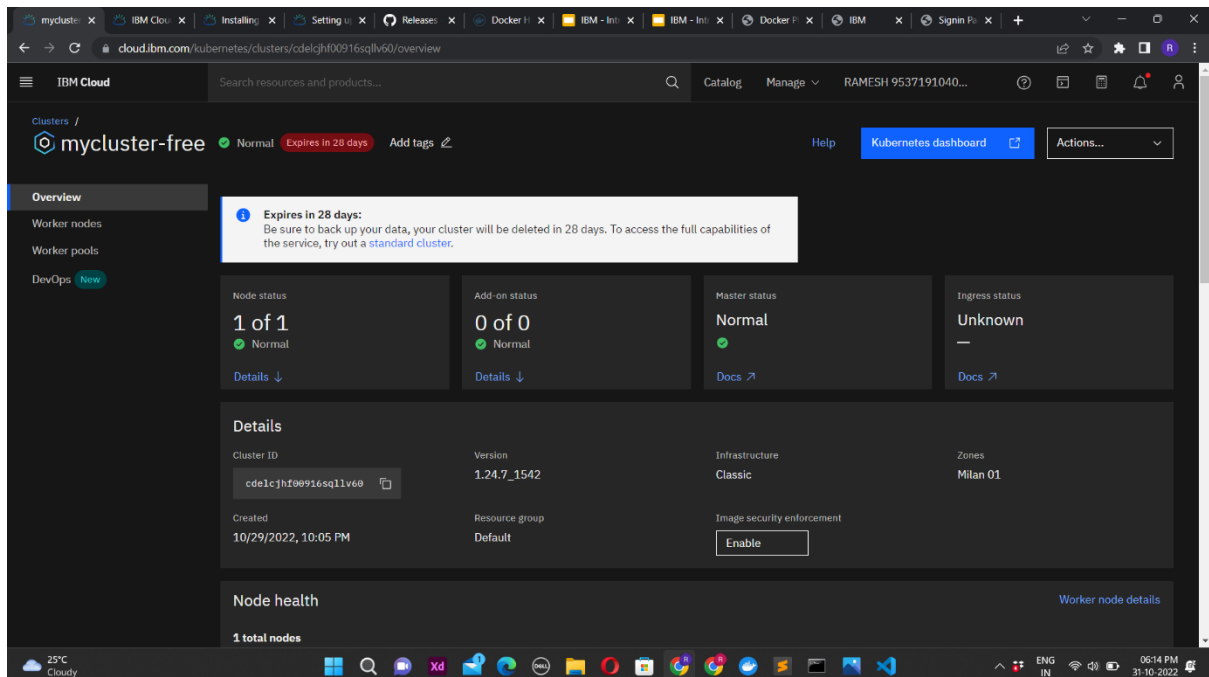


3: Create a IBM container registry and push docker image of flask application or job portal app.





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.



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Overview

Worker nodes

Worker pools

DevOps New

Node status

1 of 1

Normal

[Details](#)

Details

Cluster ID: cdelcjh9...

Created: 10/29/2022

Node health: 1 total nodes

```
C:\Windows\System32\cmd.exe
Be sure the source image: docker tag SOURCE_IMAGE[:TAG] TARGET_IMAGE[:TAG]
Create a tag TARGET_IMAGE that refers to SOURCE_IMAGE
D:\IBM\ASSIGNMENT 4\job-portal>docker tag job-portal rameshkumar44/job-portal:latest
D:\IBM\ASSIGNMENT 4\job-portal>ibmcloud login
API endpoint: https://cloud.ibm.com
Region: jp-tok
Email: 953719104044@smartinternz.com
Password:
Authenticating...
OK
Targeted account RAMESH 953719104044@smartinternz.com's Account (a23b914be20346fa83a3da7951decc98)
API endpoint: https://cloud.ibm.com
Region: jp-tok
User: 953719104044@smartinternz.com
Account: RAMESH 953719104044@smartinternz.com's Account (a23b914be20346fa83a3da7951decc98)
Resource group: No resource group targeted, use 'ibmcloud target -g RESOURCE_GROUP'
CF API endpoint:
Org:
Space:
D:\IBM\ASSIGNMENT 4\job-portal>ibmcloud cr login
```

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Overview

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Normal

[Details](#)

Details

Cluster ID: cdelcjh9...

Created: 10/29/2022

Node health: 1 total nodes

```
C:\Windows\System32\cmd.exe
space:
D:\IBM\ASSIGNMENT 4\job-portal>ibmcloud cr login
Logging 'docker' in to 'jp.icr.io'...
Logged in to 'jp.icr.io'.
D:\IBM\ASSIGNMENT 4\job-portal>kubectl config current-context
error: unknown command "current-context"
See 'kubectl config -h' for help and examples
D:\IBM\ASSIGNMENT 4\job-portal>kubectl config current-context
mycluster-free/cdelcjh9f00916sqlv60
D:\IBM\ASSIGNMENT 4\job-portal>docker tag job-portal jp.icr.io/rameshkumar/job-portal
The push refers to repository [jp.icr.io/rameshkumar/job-portal]
162dd568abf0: Pushed
28d1aeb3825: Layer already exists
28bc35883d47: Layer already exists
8eebc9a09350: Layer already exists
bfc1deb8136e: Layer already exists
1f123186824c: Layer already exists
3d6eb1152931: Layer already exists
100799c6df3b1: Layer already exists
54acb5a6fa0b: Layer already exists
8d51c618126f: Layer already exists
8ffce4d46744: Layer already exists
```


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Overview

Worker nodes

Worker pools

DevOps New

Node status

1 of 1

Normal

Details

Cluster ID

cdelcjh00916sqllv60

Created

10/29/2022

Node health

1 total nodes

```
C:\Windows\System32\cmd.exe
D:\IBM\ASSIGNMENT 4\job-portal>ibmcloud ks cluster config --cluster cdelcjh00916sqllv60
The configuration for cdelcjh00916sqllv60 was downloaded successfully.
Added context for cdelcjh00916sqllv60 to the current kubeconfig file.
You can now execute 'kubectl' commands against your cluster. For example, run 'kubectl get nodes'.
If you are accessing the cluster for the first time, 'kubectl' commands might fail for a few seconds while RBAC synchronizes.
D:\IBM\ASSIGNMENT 4\job-portal>kubectl config current-context
mycluster-free/cdelcjh00916sqllv60
D:\IBM\ASSIGNMENT 4\job-portal>kubectl apply -f kubernetes/ibm_deployment.yaml
deployment.apps/job-portal created
D:\IBM\ASSIGNMENT 4\job-portal>kubectl apply -f kubernetes/flask_service.yaml
service/flask-app-service configured
D:\IBM\ASSIGNMENT 4\job-portal>kubectl apply -f kubernetes/flask_ingress.yaml
ingress.networking.k8s.io/flask-app-ingress unchanged
D:\IBM\ASSIGNMENT 4\job-portal>kubectl describe svc flask-app-service
Name: flask-app-service
Namespace: default
Labels: <none>
Annotations: <none>
Selector: app=job-portal
Type: NodePort
IP Family Policy: SingleStack
IP Families: IPv4
IP: 172.21.14.27
IPs: 172.21.14.27
Port: <unset> 5000/TCP
TargetPort: 5000/TCP
NodePort: <unset> 32767/TCP
Endpoints: 172.30.249.208:5000,172.30.249.209:5000,172.30.249.210:5000
Session Affinity: None
External Traffic Policy: Cluster
Events: <none>
```

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Overview

Worker nodes

Worker pools

DevOps New

Node status

1 of 1

Normal

Details

Cluster ID

cdelcjh00916sqllv60

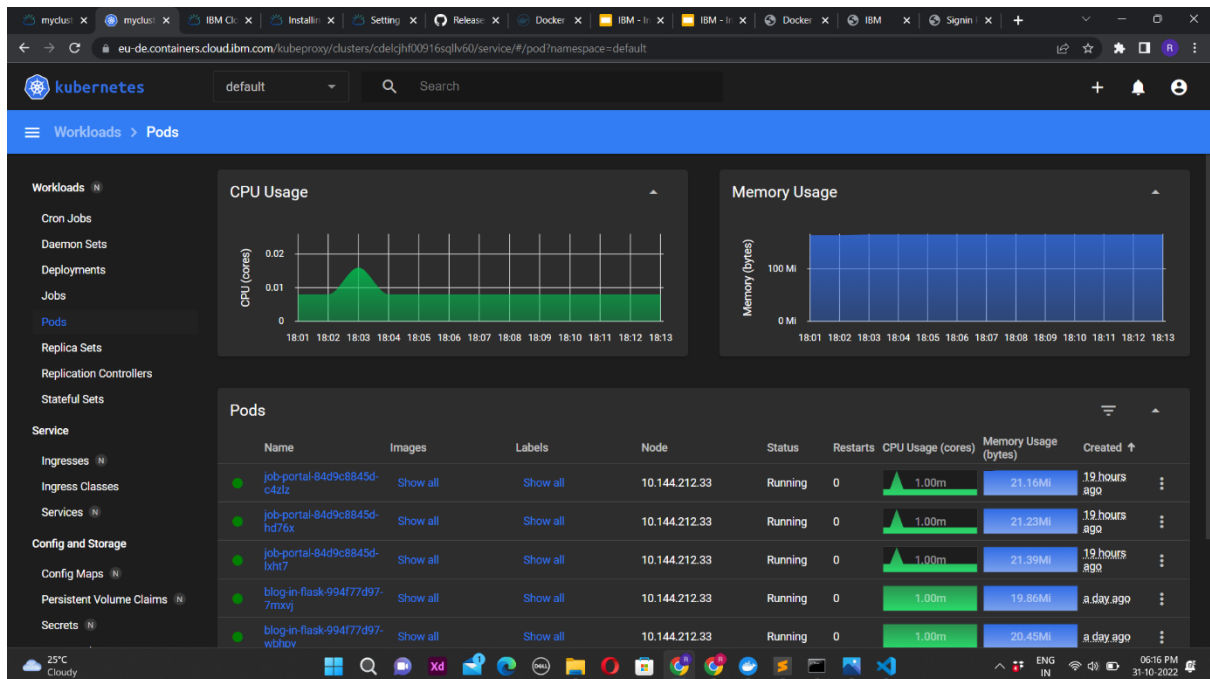
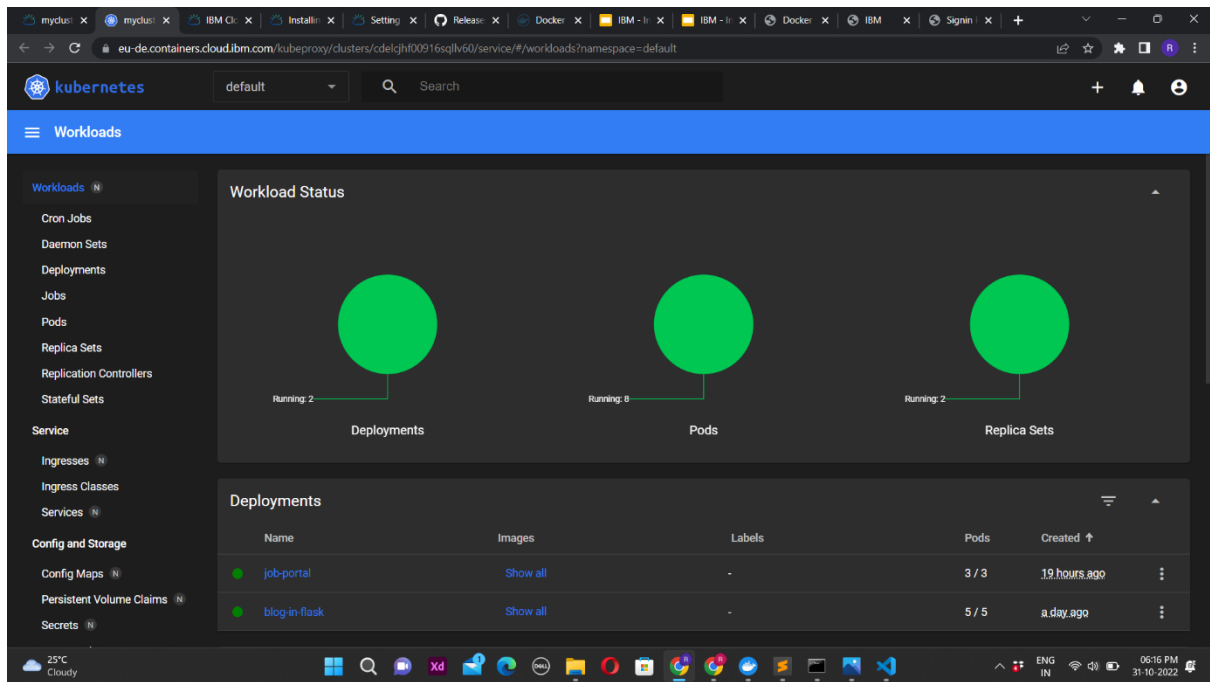
Created

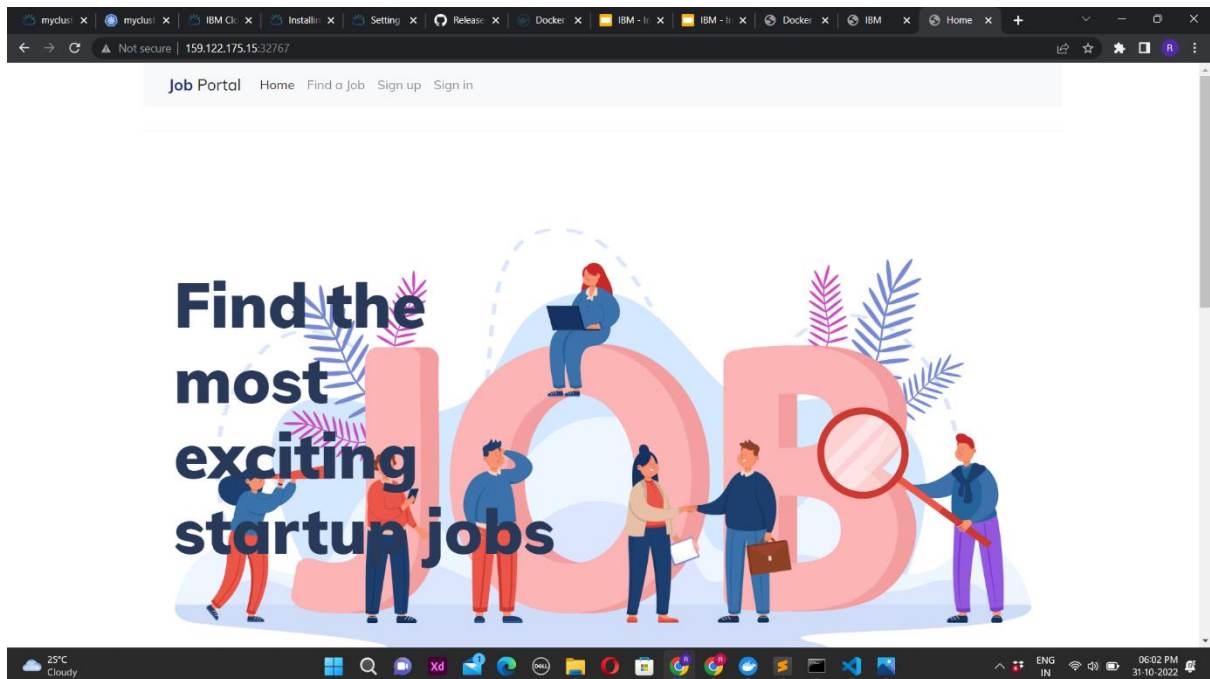
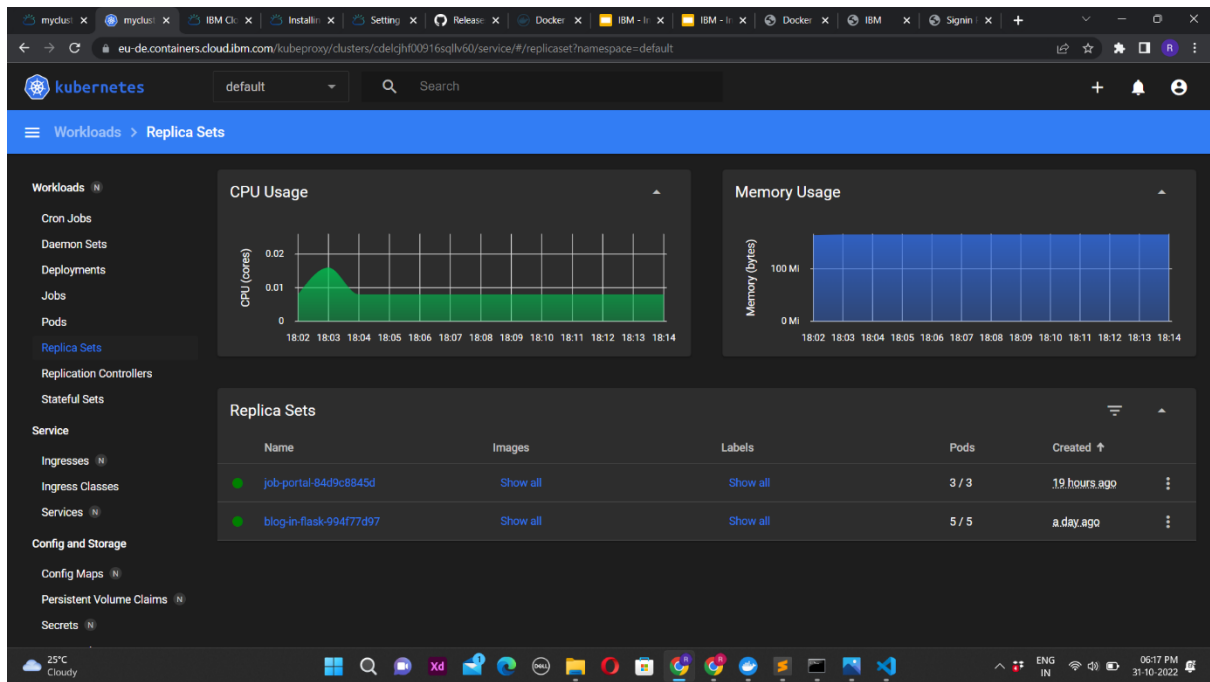
10/29/2022

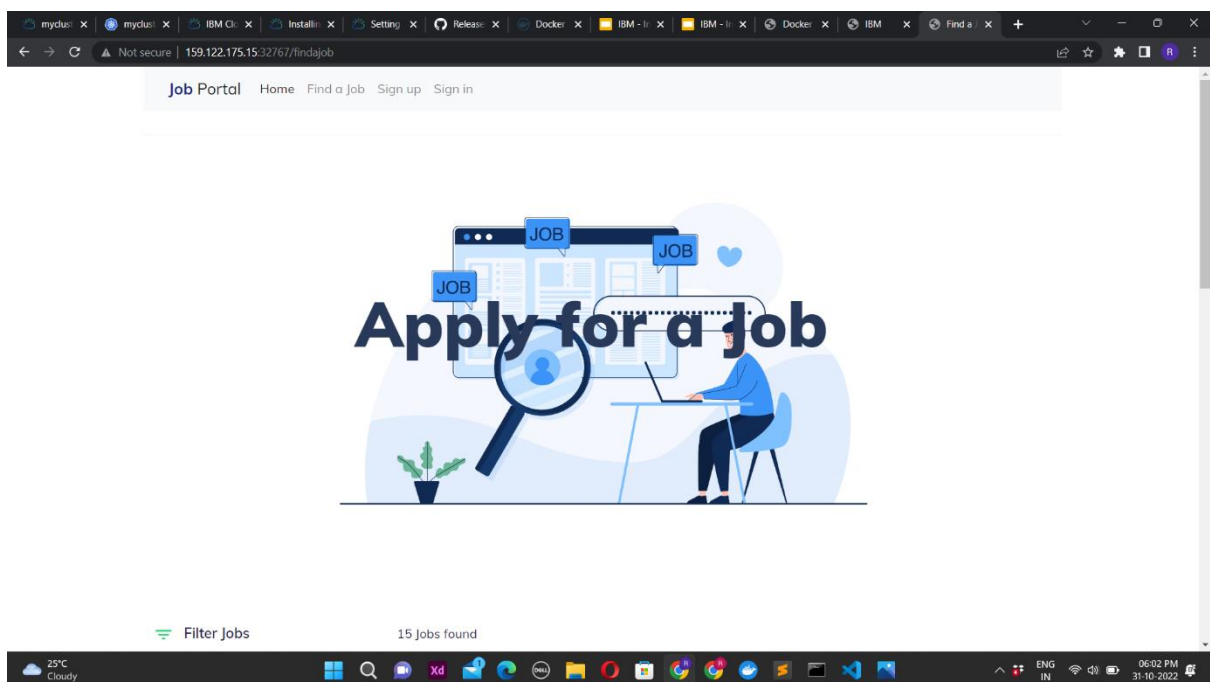
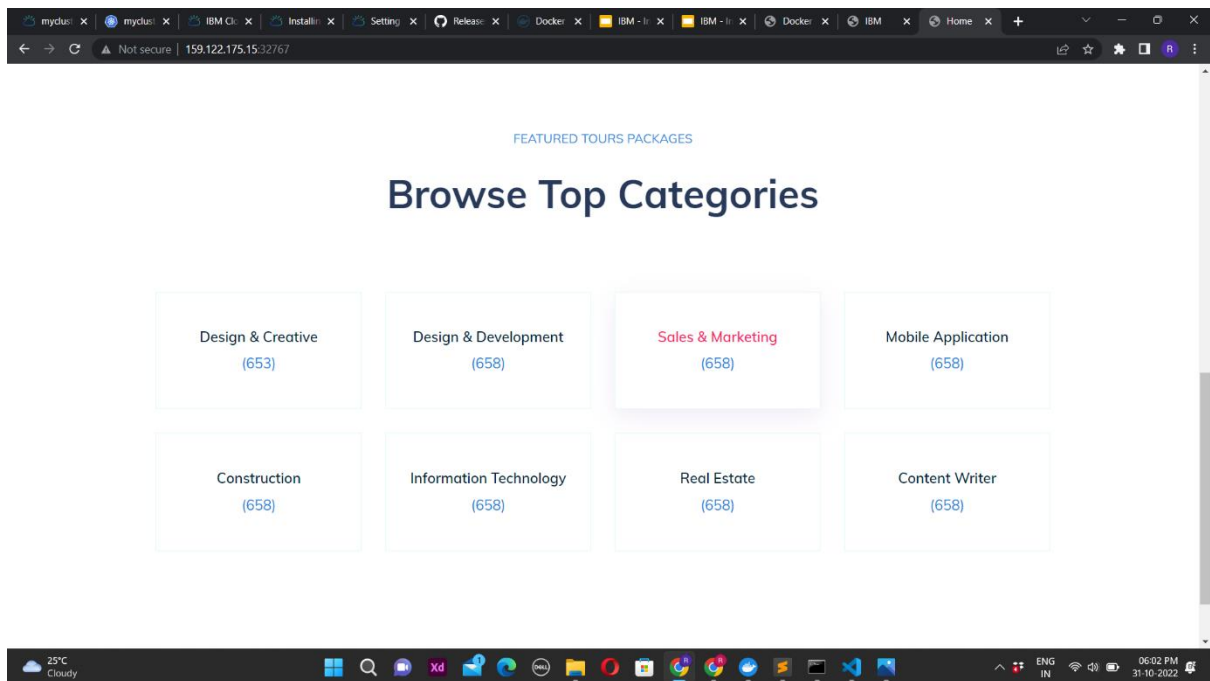
Node health

1 total nodes

```
C:\Windows\System32\cmd.exe
D:\IBM\ASSIGNMENT 4\job-portal>kubectl apply -f kubernetes/flask_ingress.yaml
ingress.networking.k8s.io/flask-app-ingress unchanged
D:\IBM\ASSIGNMENT 4\job-portal>kubectl describe svc flask-app-service
Name: flask-app-service
Namespace: default
Labels: <none>
Annotations: <none>
Selector: app=job-portal
Type: NodePort
IP Family Policy: SingleStack
IP Families: IPv4
IP: 172.21.14.27
IPs: 172.21.14.27
Port: <unset> 5000/TCP
TargetPort: 5000/TCP
NodePort: <unset> 32767/TCP
Endpoints: 172.30.249.208:5000,172.30.249.209:5000,172.30.249.210:5000
Session Affinity: None
External Traffic Policy: Cluster
Events: <none>
```





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Job Portal Home Find a Job Sign up Sign in

Name

Mobile Number

Email ID

Enter Password

Re-type Password

Submit

Already have an Account?
SignIn

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☒ Part Time

☐ Remote

☐ Freelance

Job Location

Chennai

Experience

☐ 1-2 Years

☒ 2-3 Years

☐ 3-6 Years

☐ 6-more..

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☐ Any

Digital Marketer Full Time

TCS Chennai, India \$3500 - \$4000 7 hours ago

Marketing Executive Full Time

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Full Stack Developer Full Time

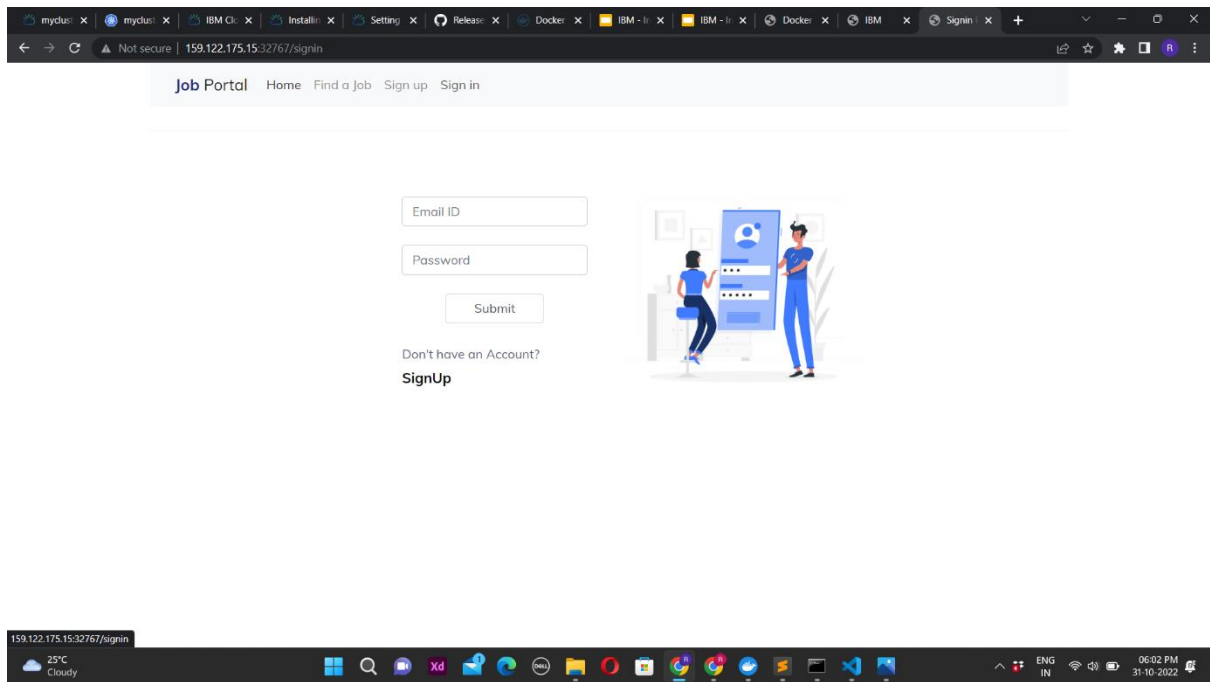
Infosys Pune, India \$3500 - \$4000 7 hours ago

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

<http://http://159.122.175.15:32767/>