Assignment -4

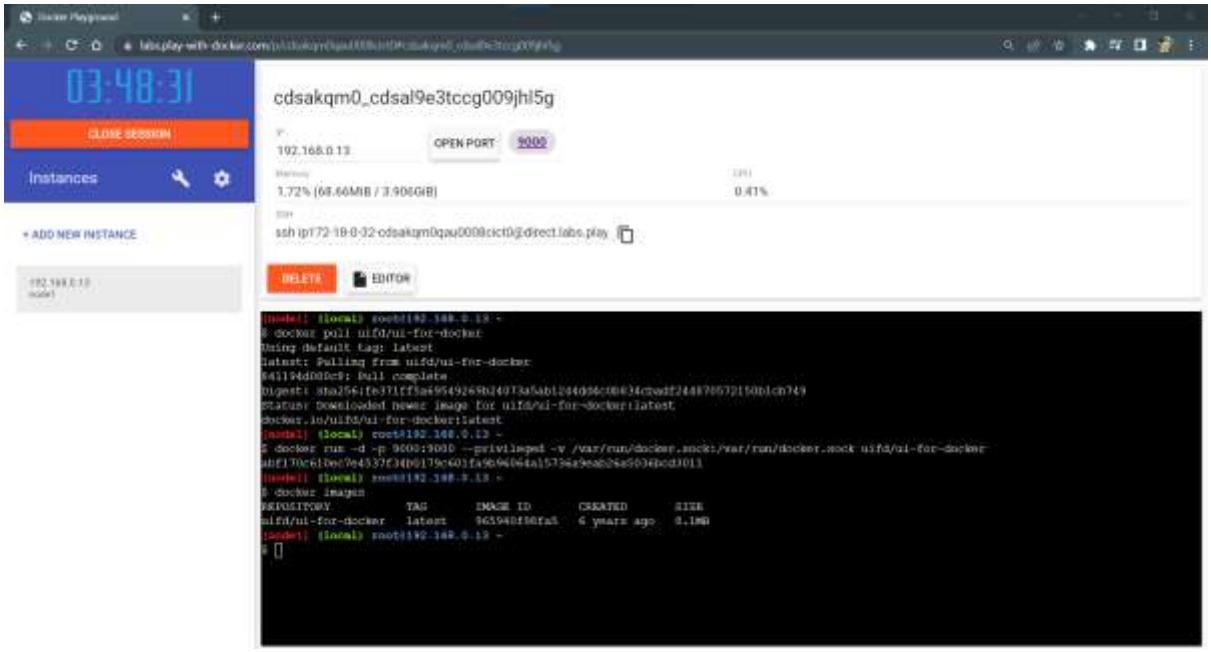
Kubernetes / Docker

Assignment Date	21 November 2022
Student Name	Farlin Deva Binusha D M
Student Roll Number	962219104052
Maximum Marks	2 Marks

Question-1:

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

Solution:

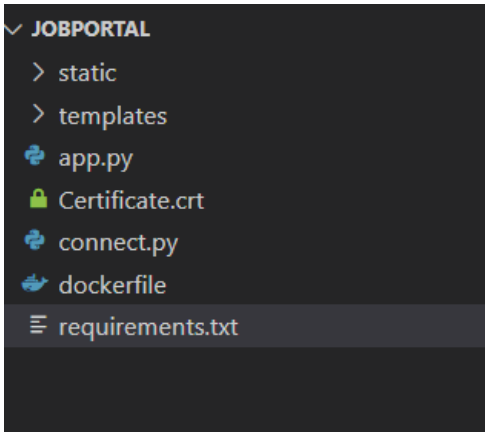


Question-2:

Create a docker file for the jobportal application and deploy it in Docker desktop application

Solution:

File structure



Docker File

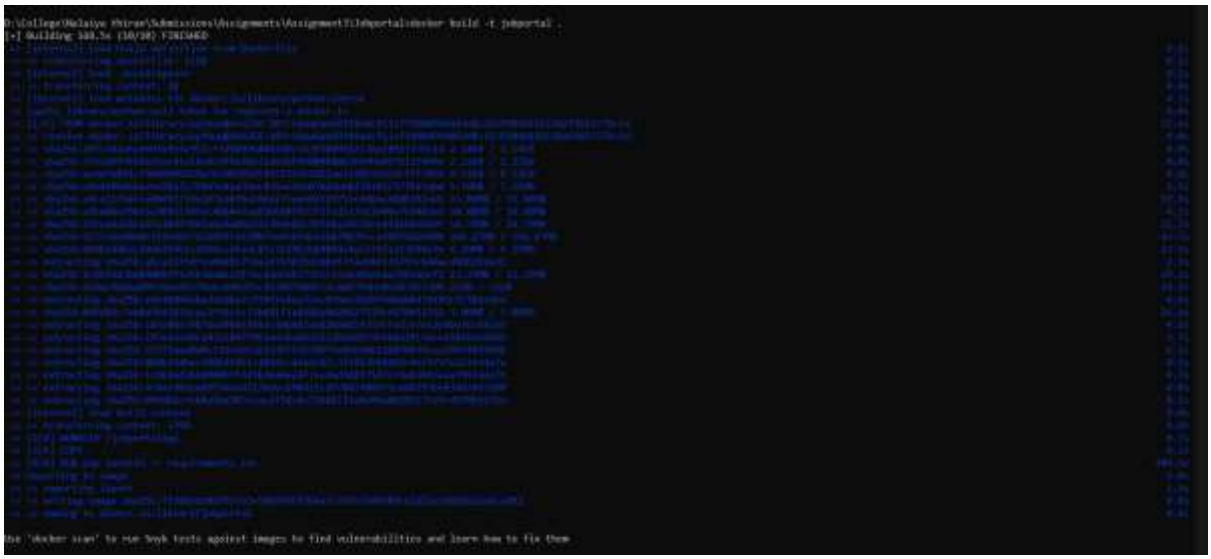
dockerfile

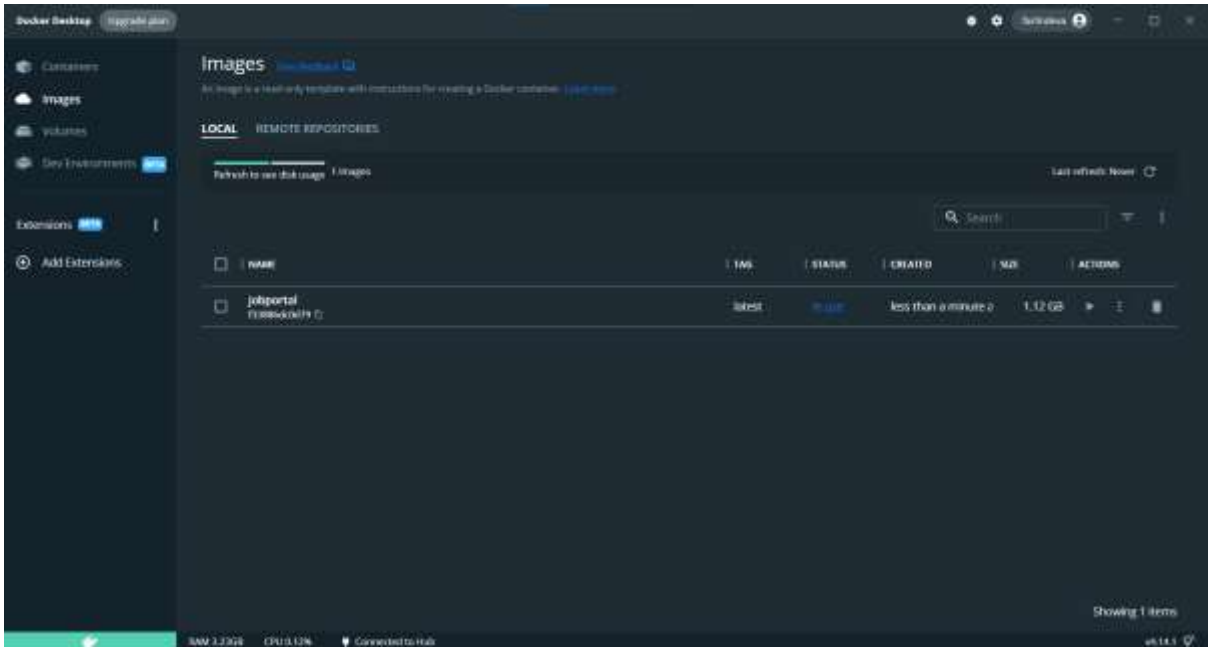
```
FROM python
WORKDIR /jobportalapp
COPY . .
RUN pip install -r requirements.txt
EXPOSE 5000
CMD ["python","app.py"]
```

Requirements file

requirements.txt

```
Flask==2.2.2
ibm-db==3.1.3
```

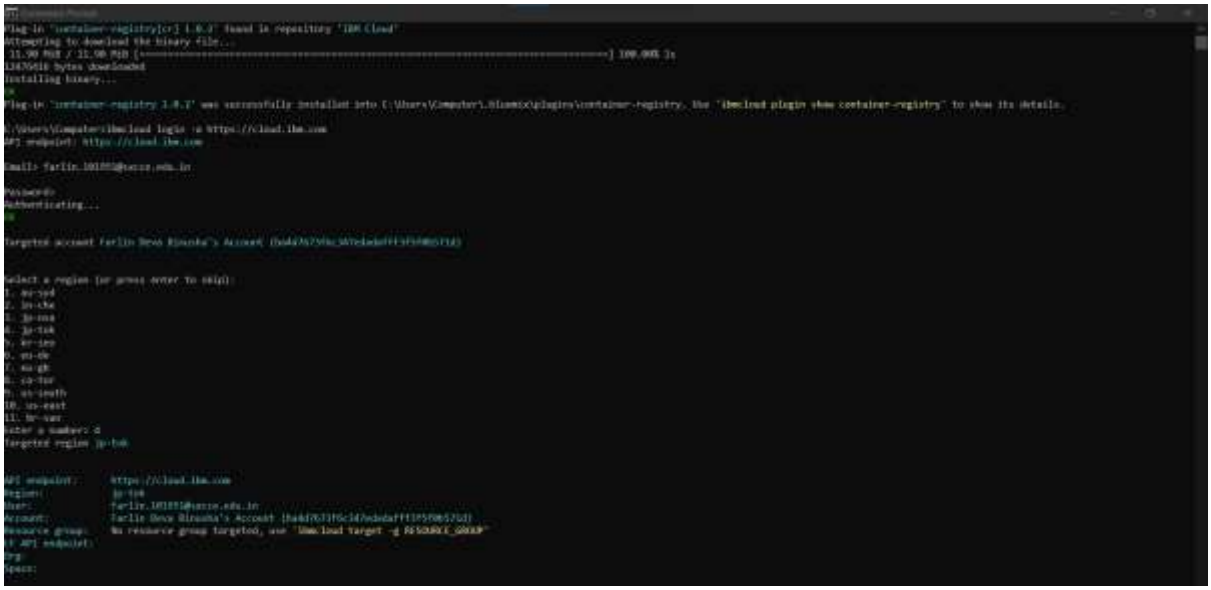


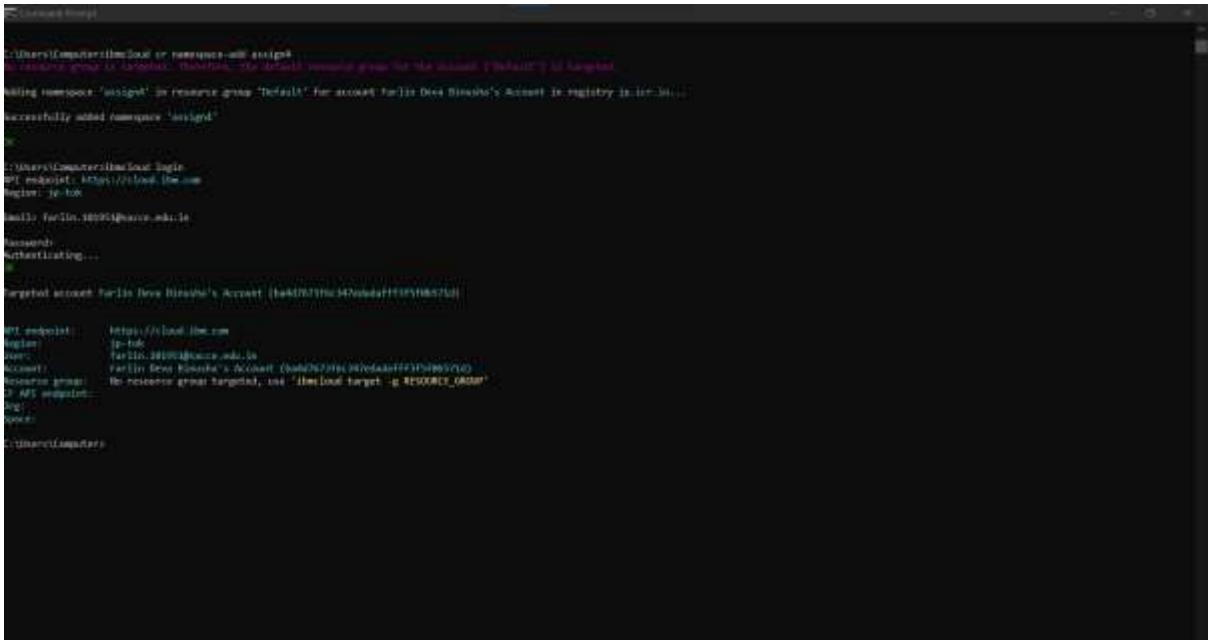


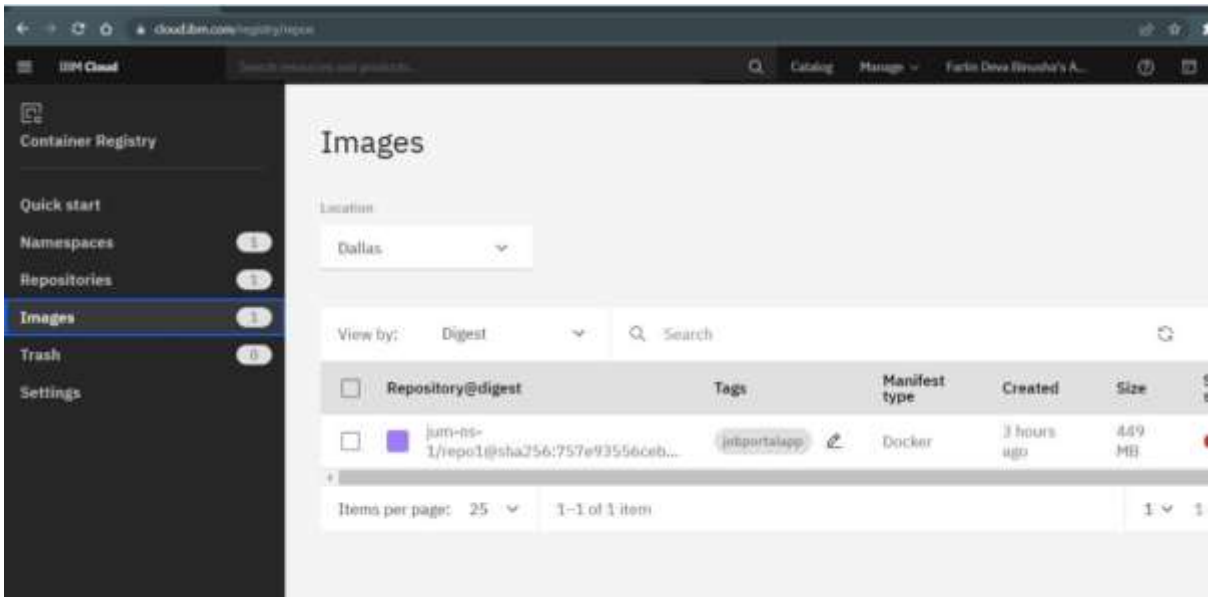
Question-3:

Create a IBM container registry and deploy helloworld app or jobportalapp

Solution:



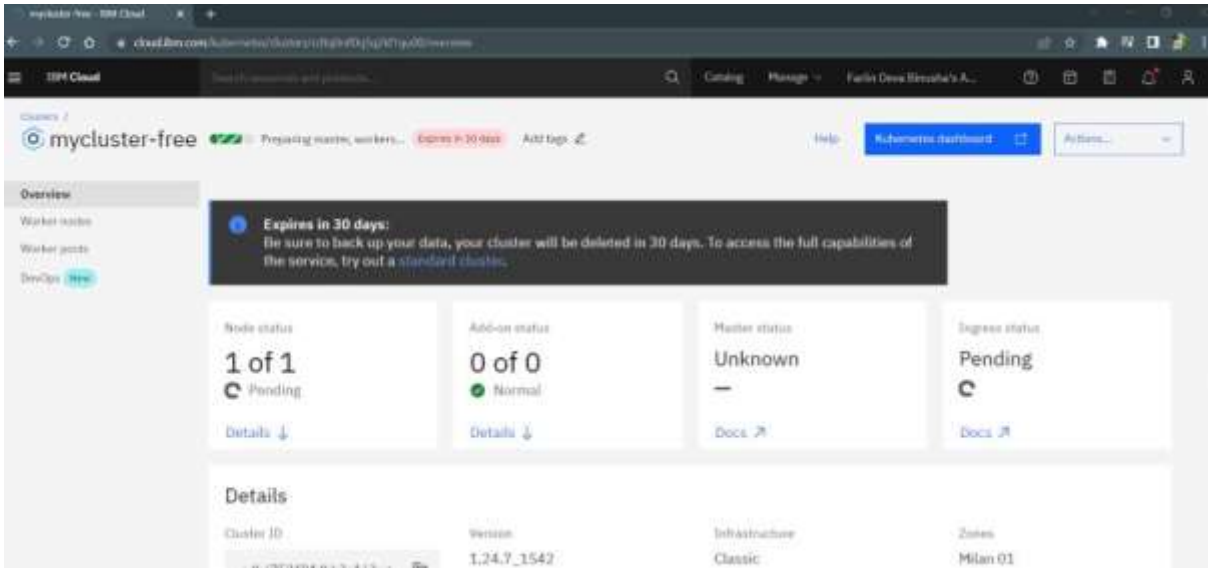


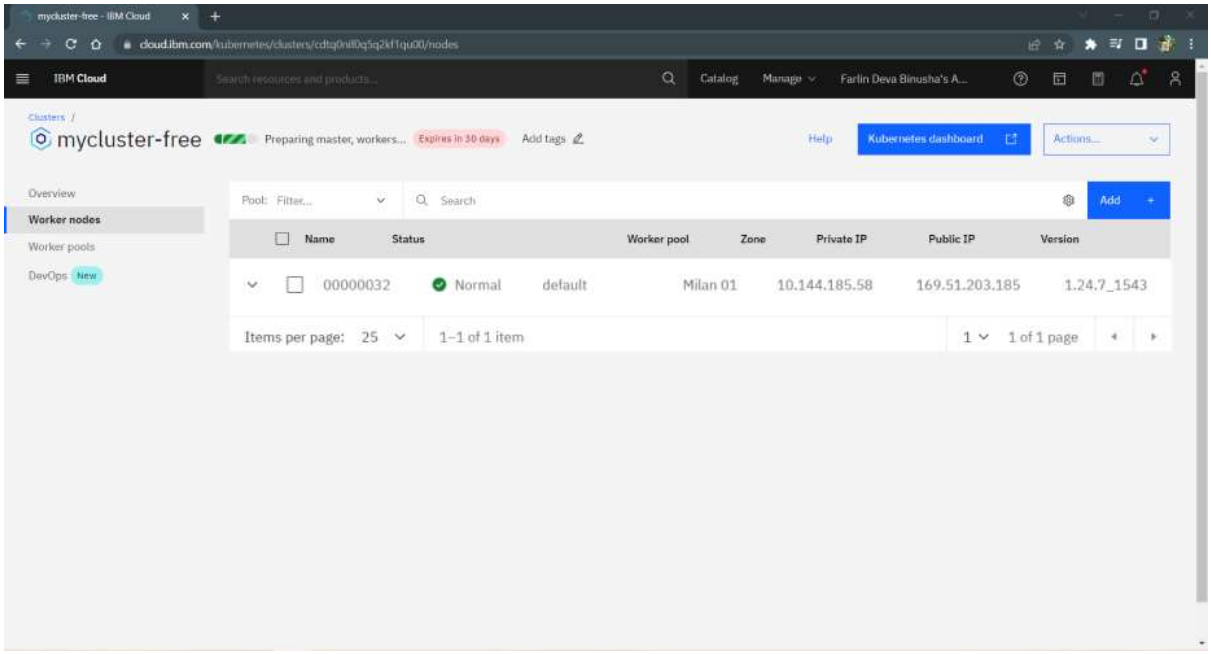


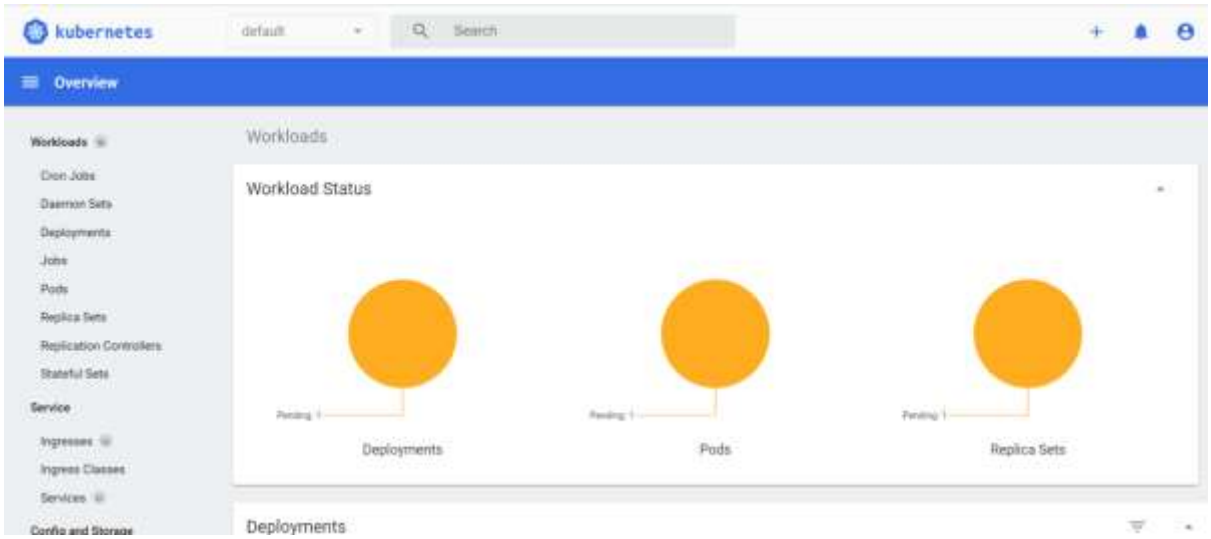
Question-4:

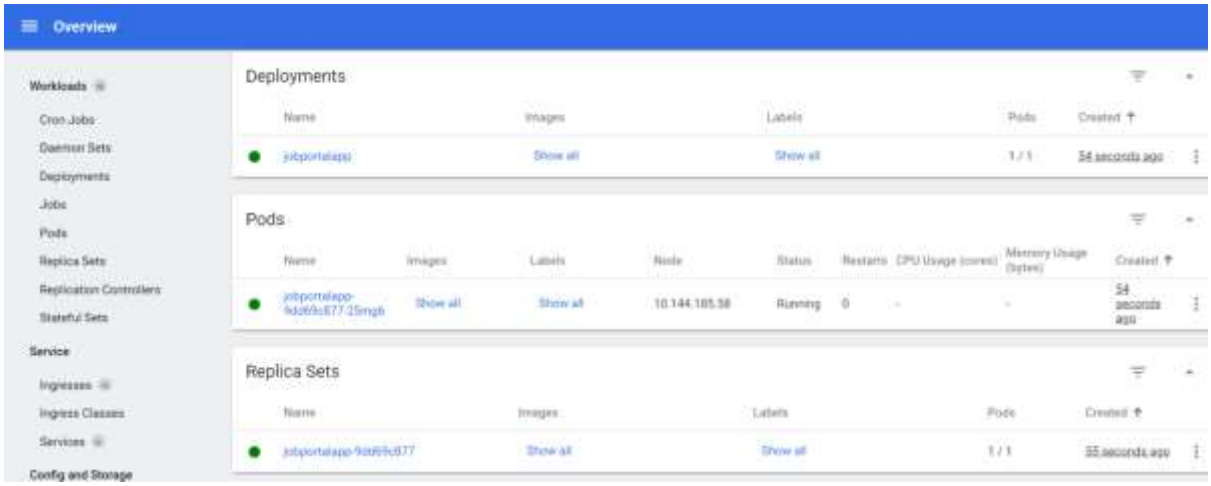
Create a Kubernetes cluster in IBM cloud and deploy helloworld image or jobportal image and also expose the same app to run in nodeport.

Solution:


mycluster-free
Preparing master, workers...
Add tags
Help
Kubernetes dashboard
Actions...
Overview
Worker nodes
Worker pools
DevOps
Expires in 30 days:
Be sure to back up your data, your cluster will be deleted in 30 days. To access the full capabilities of the service, try out a standard cluster.
Node status
1 of 1
Pending
Details
Add-on status
0 of 0
Normal
Details
Master status
Unknown
—
Docs
Ingress status
Pending
Docs
Details
Cluster ID
Version
1.24.7_1542
Infrastructure
Classic
Zones
Milan 01


mycluster-free - IBM Cloud
cloud.ibm.com/kubernetes/clusters/cdtq0nil0q5q2kf1qu00/nodes
IBM Cloud
Catalog
Manage
Farlin Deva Binusha's A...
Clusters /
mycluster-free
Preparing master, workers...
Expires in 30 days
Add tags
Help
Kubernetes dashboard
Actions...
Overview
Worker nodes
Worker pools
DevOps
New
Pool: Filter...
Search
Add
Name
Status
Worker pool
Zone
Private IP
Public IP
Version
00000032
Normal
default
Milan 01
10.144.185.58
169.51.203.185
1.24.7_1543
Items per page: 25
1–1 of 1 item
1
1 of 1 page


kubernetes
default
Search
Overview
Workloads
Cron Jobs
Daemon Sets
Deployments
Jobs
Pods
Replica Sets
Replication Controllers
Stateful Sets
Service
Ingresses
Ingress Classes
Services
Config and Storage
Workloads
Workload Status
Deployments
Pods
Replica Sets
Deployments



Edit a resource

YAML JSON

```
51   ports:
52     - name: tcp-5000-488-ct4tf
53       protocol: TCP
54       port: 5000
55       targetPort: 5000
56       nodePort: 32576
57   selector:
58     k8s-app: jobportalapp
59   clusterIP: 172.21.63.60
60   clusterIPs:
61     - 172.21.63.60
62   type: NodePort
63   sessionAffinity: None
64   externalTrafficPolicy: Cluster
65   ipFamilies:
66     - IPv4
67   ipFamilyPolicy: SingleStack
68   allocateLoadBalancerNodePorts: true
69   internalTrafficPolicy: Cluster
70 status:
71   loadBalancer: {}
72
```

Update Cancel