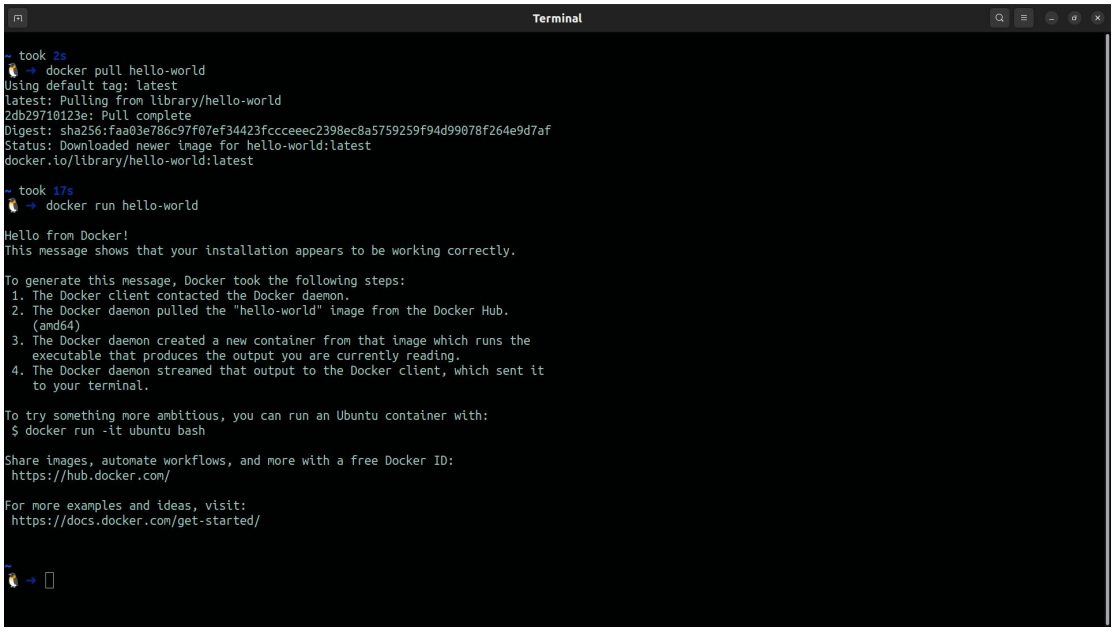
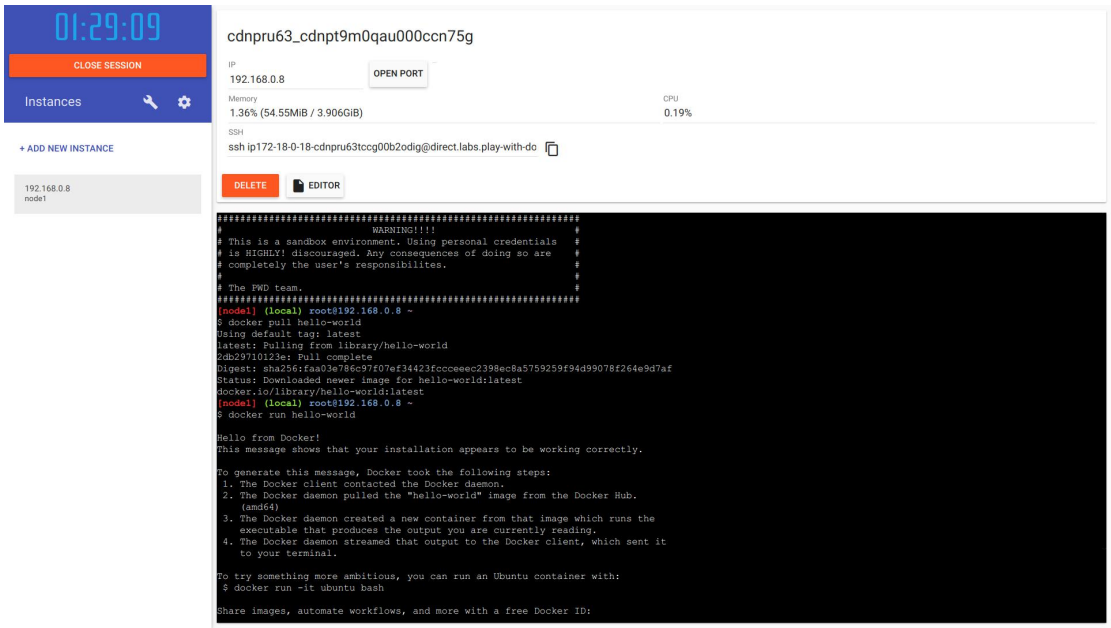
Assignment -4 Docker and kubernetes

Assignment Date	12 November2022
Student Name	Santhosh K
Student Roll Number	412519104115
Maximum Marks	2 Marks

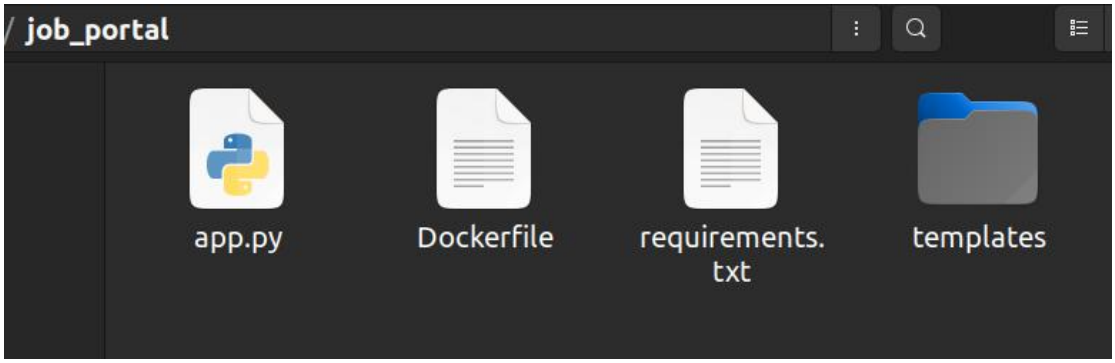
1. Pull an image from docker hub:



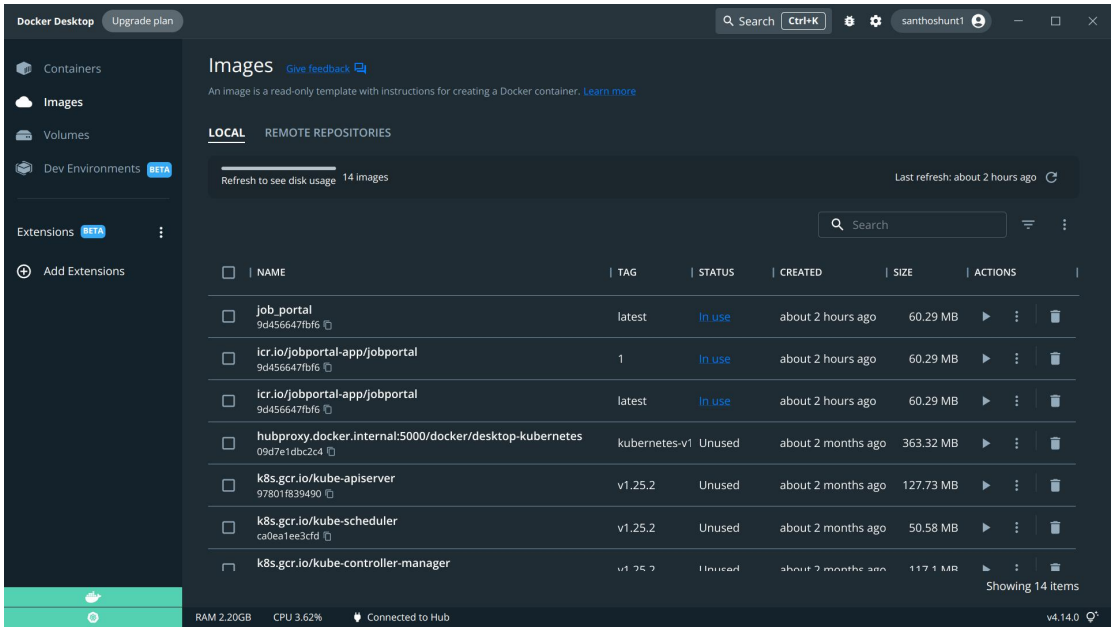
Run in docker playground

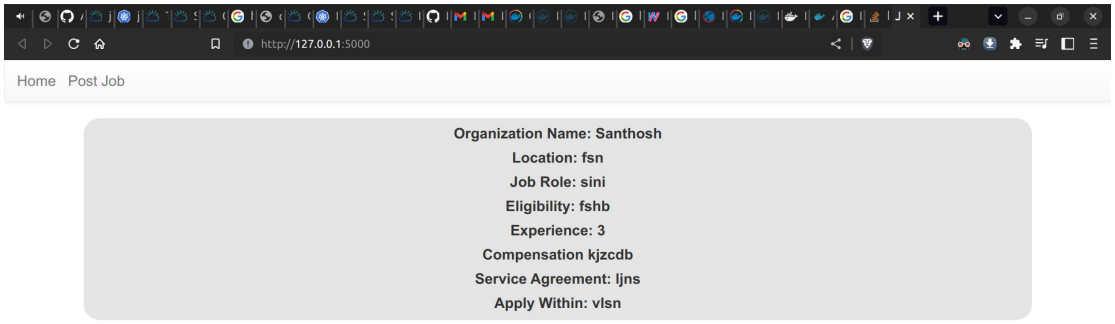


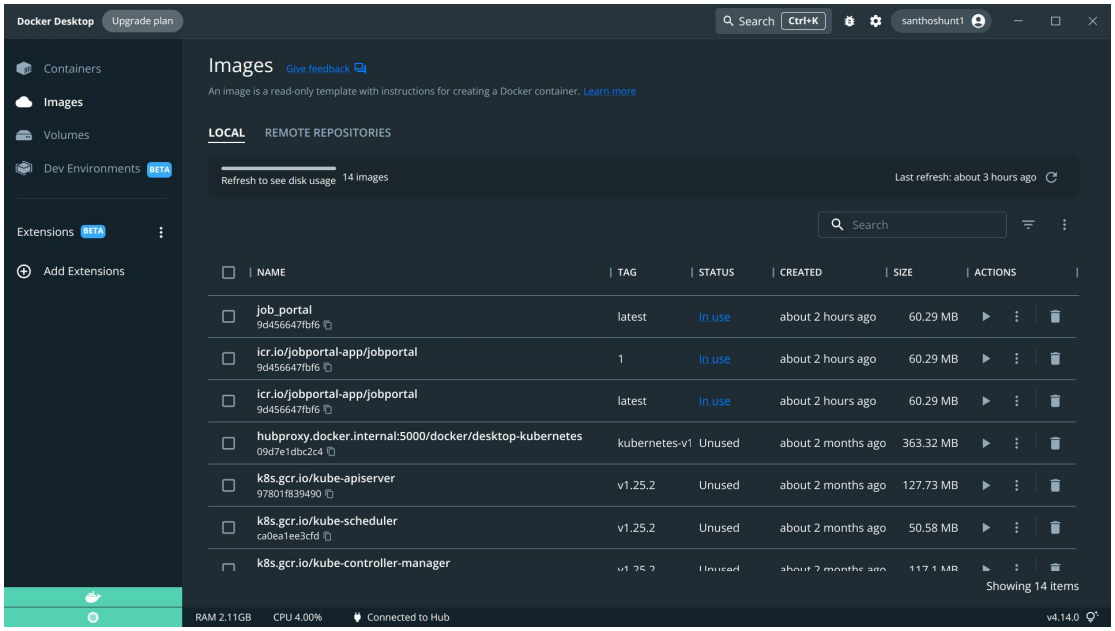
2. create job portal application and deploy in desktop application



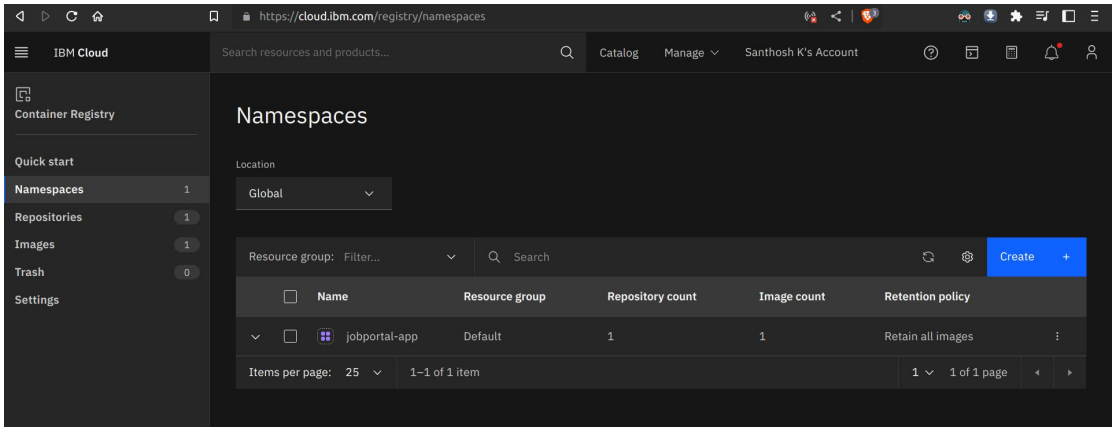
Dockerfile:
FROM python:3.10-alpine
WORKDIR /Job_Portal
ADD . /Job_Portal
COPY requirements.txt .
RUN pip install -r requirements.txt
CMD ["python","app.py"]

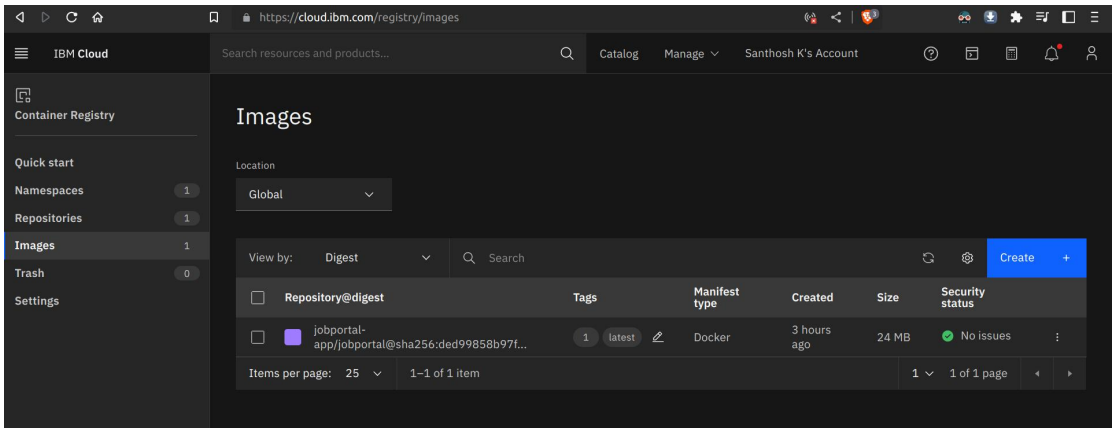


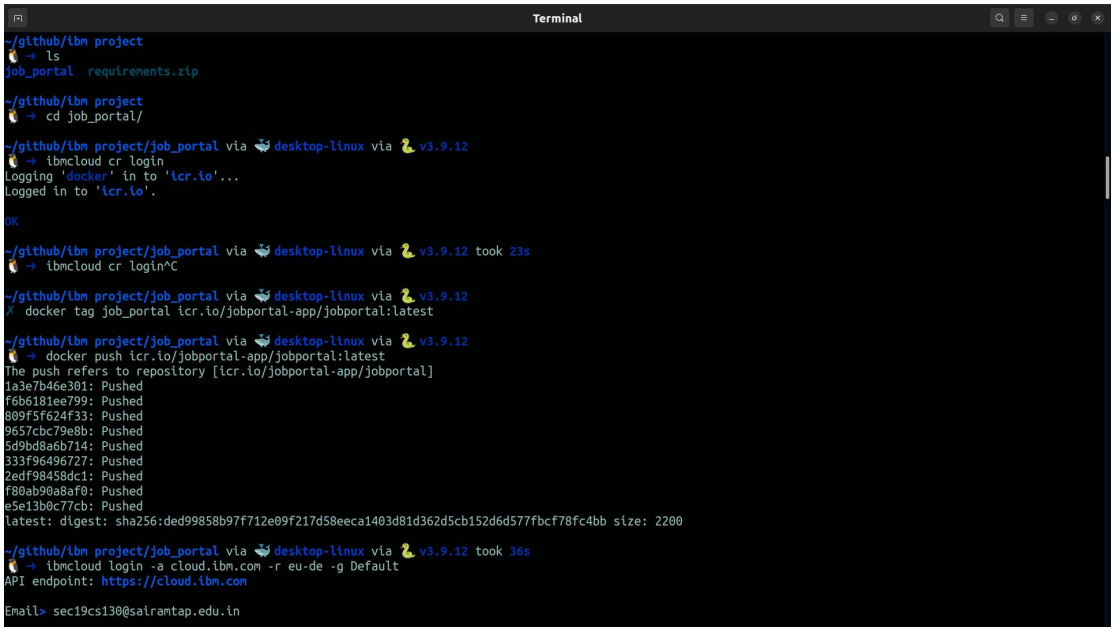




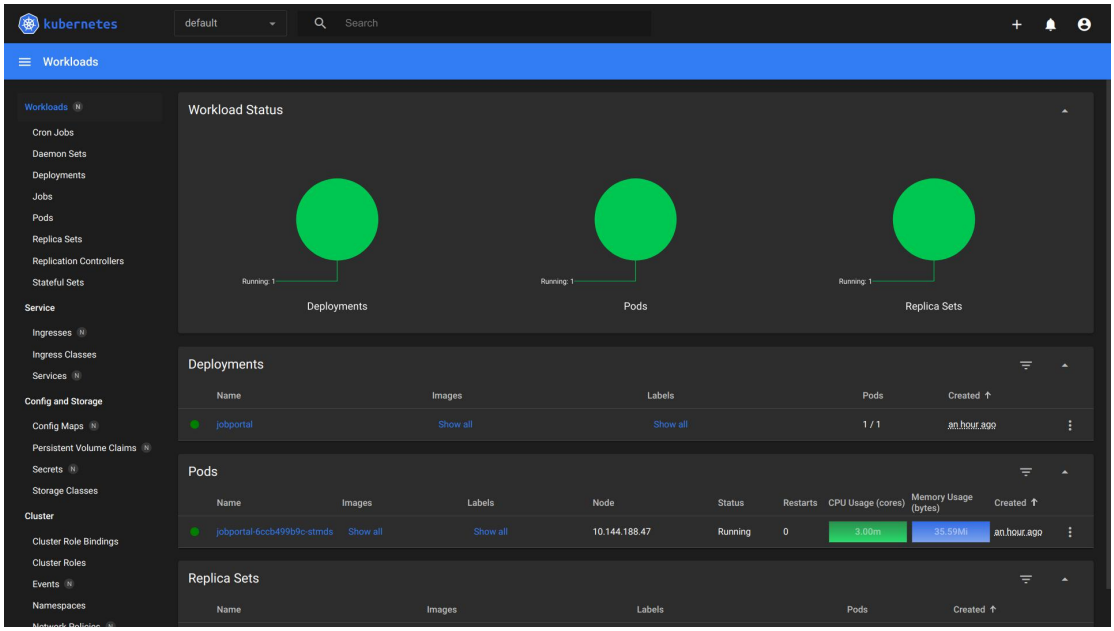
3. Create a IBM container registry and deploy helloworld app or jobportalapp.

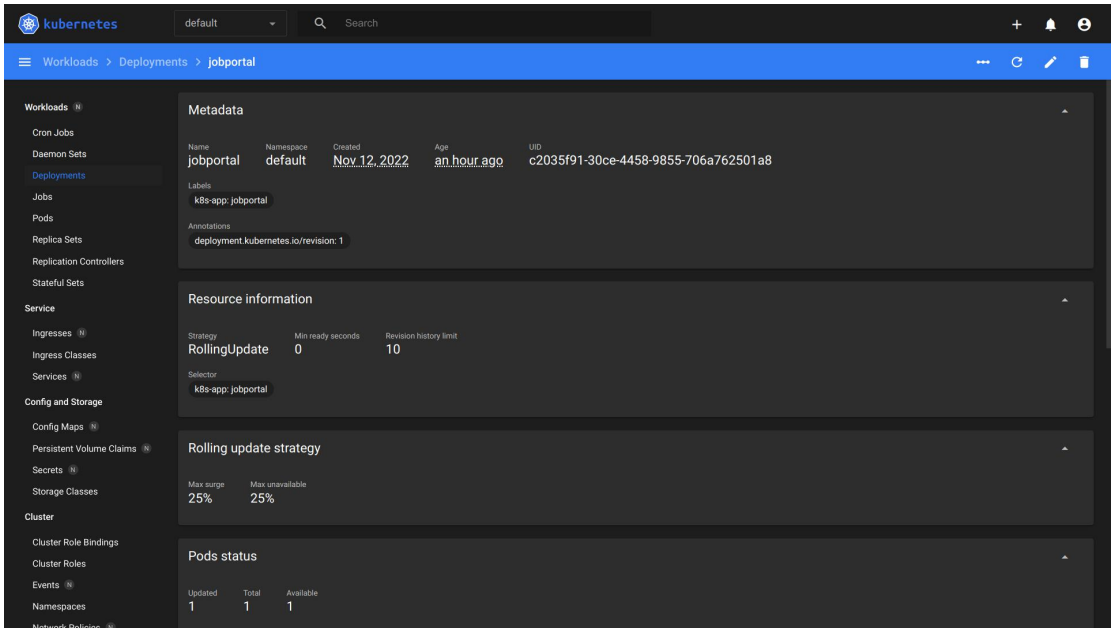


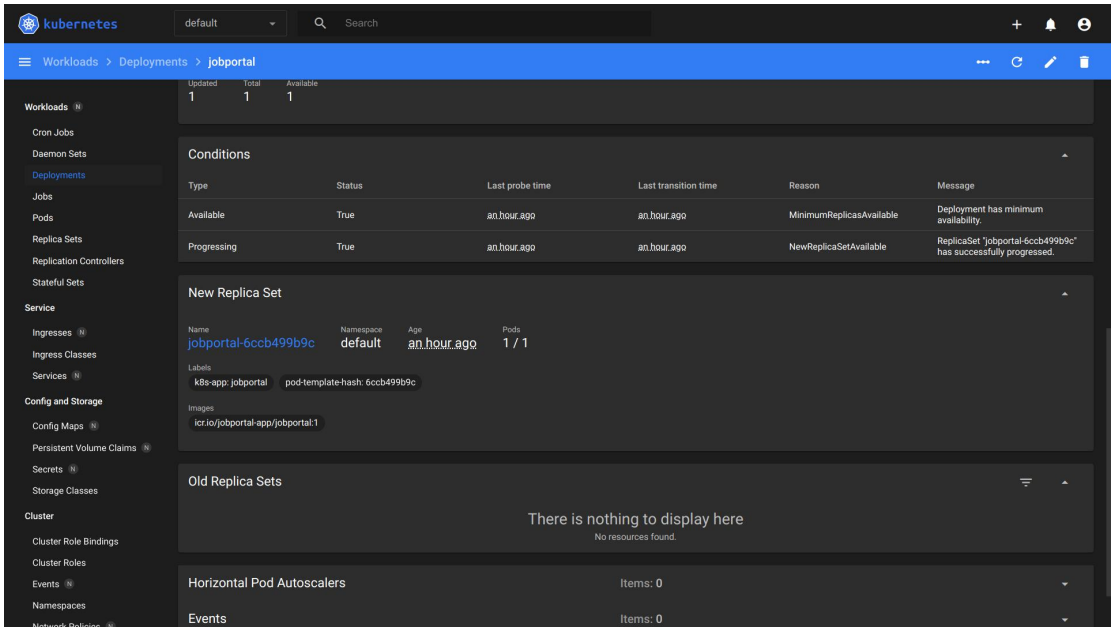


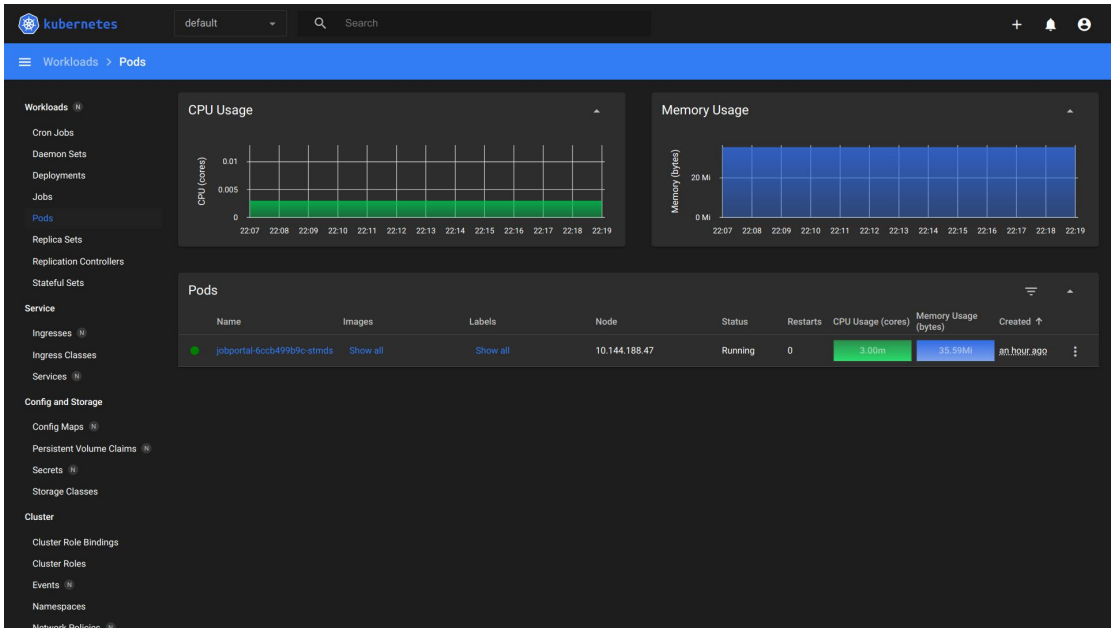


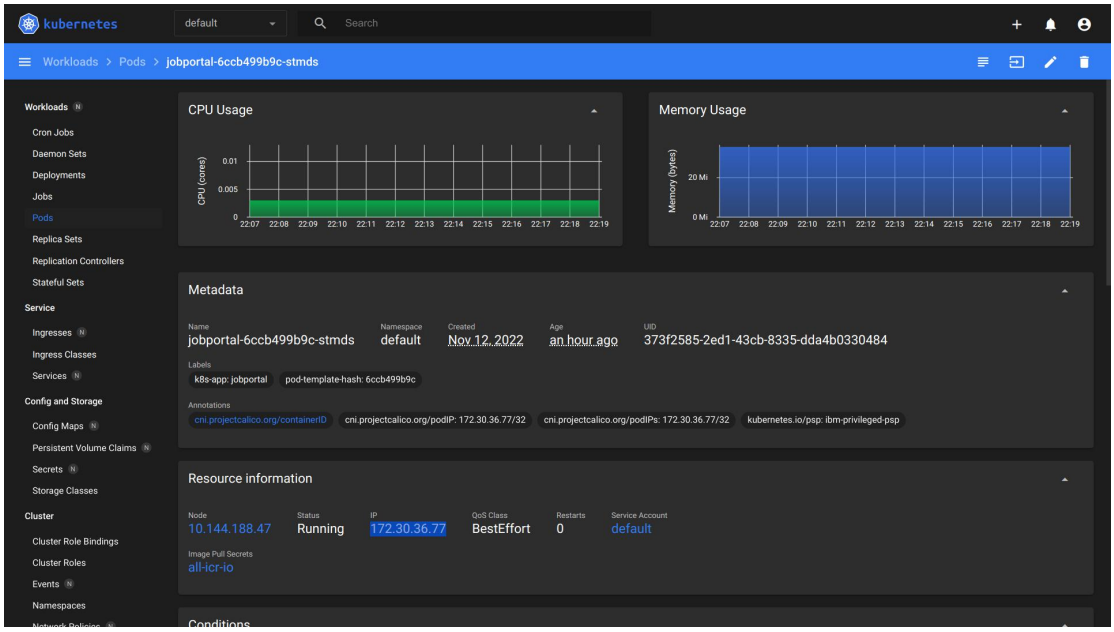
4. Create a Kubernetes cluster in IBM cloud and deploy helloworld image or jobportal image and also expose the same app to run in nodeport.

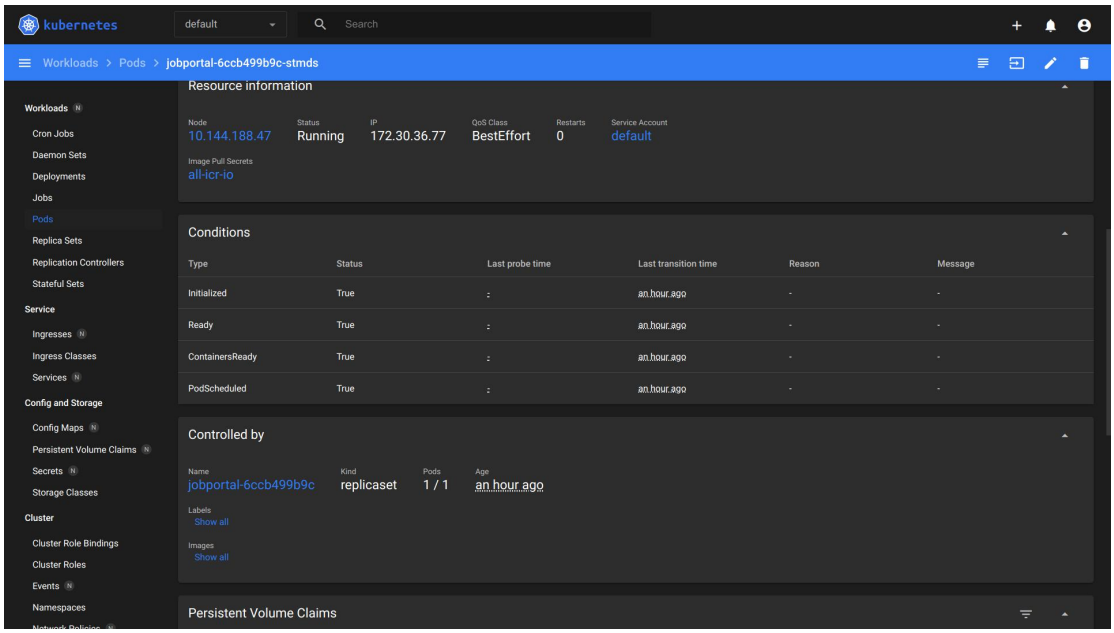

kubernetes
default
Search
Workloads
Workloads
Cron Jobs
Daemon Sets
Deployments
Jobs
Pods
Replica Sets
Replication Controllers
Stateful Sets
Service
Ingresses
Ingress Classes
Services
Config and Storage
Config Maps
Persistent Volume Claims
Secrets
Storage Classes
Cluster
Cluster Role Bindings
Cluster Roles
Events
Namespaces
Workload Status
Running: 1
Deployments
Running: 1
Pods
Running: 1
Replica Sets
Deployments
Name
Images
Labels
Pods
Created
jobportal
Show all
Show all
1 / 1
an hour ago
Pods
Name
Images
Labels
Node
Status
Restarts
CPU Usage (cores)
Memory Usage (bytes)
Created
jobportal-6ccb499b9c-stmds
Show all
Show all
10.144.188.47
Running
0
3.00m
35.59Mi
an hour ago
Replica Sets
Name
Images
Labels
Pods
Created

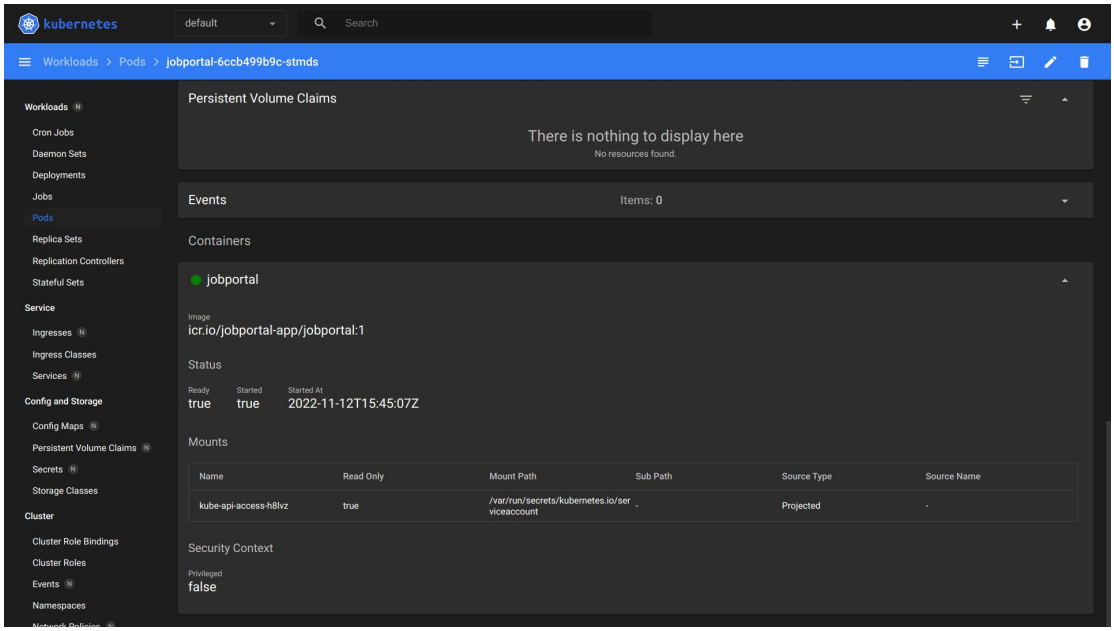

kubernetes
default
Search
Workloads > Deployments > jobportal
Workloads
Cron Jobs
Daemon Sets
Deployments
Jobs
Pods
Replica Sets
Replication Controllers
Stateful Sets
Service
Ingresses
Ingress Classes
Services
Config and Storage
Config Maps
Persistent Volume Claims
Secrets
Storage Classes
Cluster
Cluster Role Bindings
Cluster Roles
Events
Namespaces
Metadata
Name
jobportal
Namespace
default
Created
Nov 12, 2022
Age
an hour ago
UID
c2035f91-30ce-4458-9855-706a762501a8
Labels
k8s-app: jobportal
Annotations
deployment.kubernetes.io/revision: 1
Resource information
Strategy
RollingUpdate
Min ready seconds
0
Revision history limit
10
Selector
k8s-app: jobportal
Rolling update strategy
Max surge
25%
Max unavailable
25%
Pods status
Updated
1
Total
1
Available
1


kubernetes
default
Search
Workloads > Deployments > jobportal
Updated 1
Total 1
Available 1
Workloads
Cron Jobs
Daemon Sets
Deployments
Jobs
Pods
Replica Sets
Replication Controllers
Stateful Sets
Service
Ingresses
Ingress Classes
Services
Config and Storage
Config Maps
Persistent Volume Claims
Secrets
Storage Classes
Cluster
Cluster Role Bindings
Cluster Roles
Events
Namespaces
Conditions
Type Status Last probe time Last transition time Reason Message
Available True an hour ago an hour ago MinimumReplicasAvailable Deployment has minimum availability.
Progressing True an hour ago an hour ago NewReplicaSetAvailable ReplicaSet "jobportal-6ccb499b9c" has successfully progressed.
New Replica Set
Name jobportal-6ccb499b9c
Namespace default
Age an hour ago
Pods 1 / 1
Labels k8s-app: jobportal pod-template-hash: 6ccb499b9c
Images icr.io/jobportal-app/jobportal:1
Old Replica Sets
There is nothing to display here
No resources found.
Horizontal Pod Autoscalers Items: 0
Events Items: 0


kubernetes
default
Search
Workloads > Pods
Workloads
Cron Jobs
Daemon Sets
Deployments
Jobs
Pods
Replica Sets
Replication Controllers
Stateful Sets
Service
Ingresses
Ingress Classes
Services
Config and Storage
Config Maps
Persistent Volume Claims
Secrets
Storage Classes
Cluster
Cluster Role Bindings
Cluster Roles
Events
Namespaces
CPU Usage
CPU (cores)
0.01
0.005
0
22:07 22:08 22:09 22:10 22:11 22:12 22:13 22:14 22:15 22:16 22:17 22:18 22:19
Memory Usage
Memory (bytes)
20 Mi
0 Mi
22:07 22:08 22:09 22:10 22:11 22:12 22:13 22:14 22:15 22:16 22:17 22:18 22:19
Pods
Name Images Labels Node Status Restarts CPU Usage (cores) Memory Usage (bytes) Created
jobportal-6ccb499b9c-stmds Show all Show all 10.144.188.47 Running 0 3.00m 35.59Mi an hour ago


kubernetes
default
Search
Workloads > Pods > jobportal-6ccb499b9c-stmds
Workloads
Cron Jobs
Daemon Sets
Deployments
Jobs
Pods
Replica Sets
Replication Controllers
Stateful Sets
Service
Ingresses
Ingress Classes
Services
Config and Storage
Config Maps
Persistent Volume Claims
Secrets
Storage Classes
Cluster
Cluster Role Bindings
Cluster Roles
Events
Namespaces
CPU Usage
GPU (cores)
0.01
0.005
0
22:07 22:08 22:09 22:10 22:11 22:12 22:13 22:14 22:15 22:16 22:17 22:18 22:19
Memory Usage
Memory (bytes)
20 Mi
0 Mi
22:07 22:08 22:09 22:10 22:11 22:12 22:13 22:14 22:15 22:16 22:17 22:18 22:19
Metadata
Name
jobportal-6ccb499b9c-stmds
Namespace
default
Created
Nov 12, 2022
Age
an hour ago
UID
373f2585-2ed1-43cb-8335-dda4b0330484
Labels
k8s-app: jobportal
pod-template-hash: 6ccb499b9c
Annotations
cni.projectcalico.org/containerID
cni.projectcalico.org/podIP: 172.30.36.77/32
cni.projectcalico.org/podIPs: 172.30.36.77/32
kubernetes.io/psp: ibm-privileged-psp
Resource information
Node
10.144.188.47
Status
Running
IP
172.30.36.77
QoS Class
BestEffort
Restarts
0
Service Account
default
Image Pull Secrets
all-icr-io
Conditions


kubernetes
default
Search
Workloads > Pods > jobportal-6ccb499b9c-stmds
Resource information
Node
10.144.188.47
Status
Running
IP
172.30.36.77
QoS Class
BestEffort
Restarts
0
Service Account
default
Image Pull Secrets
all-icr-io
Conditions
Type
Status
Last probe time
Last transition time
Reason
Message
Initialized
True
an hour ago
Ready
True
an hour ago
ContainersReady
True
an hour ago
PodScheduled
True
an hour ago
Controlled by
Name
jobportal-6ccb499b9c
Kind
replicaset
Pods
1 / 1
Age
an hour ago
Labels
Show all
Images
Show all
Persistent Volume Claims


kubernetes
default
Search
Workloads > Pods > jobportal-6ccb499b9c-stmds
Workloads
Cron Jobs
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Ingress Classes
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Config and Storage
Config Maps
Persistent Volume Claims
Secrets
Storage Classes
Cluster
Cluster Role Bindings
Cluster Roles
Events
Namespaces
Persistent Volume Claims
There is nothing to display here
No resources found.
Events
Items: 0
Containers
jobportal
Image
icr.io/jobportal-app/jobportal:1
Status
Ready
true
Started
true
Started At
2022-11-12T15:45:07Z
Mounts
Name
Read Only
Mount Path
Sub Path
Source Type
Source Name
kube-api-access-h8lvz
true
/var/run/secrets/kubernetes.io/serviceaccount
-
Projected
-
Security Context
Privileged
false