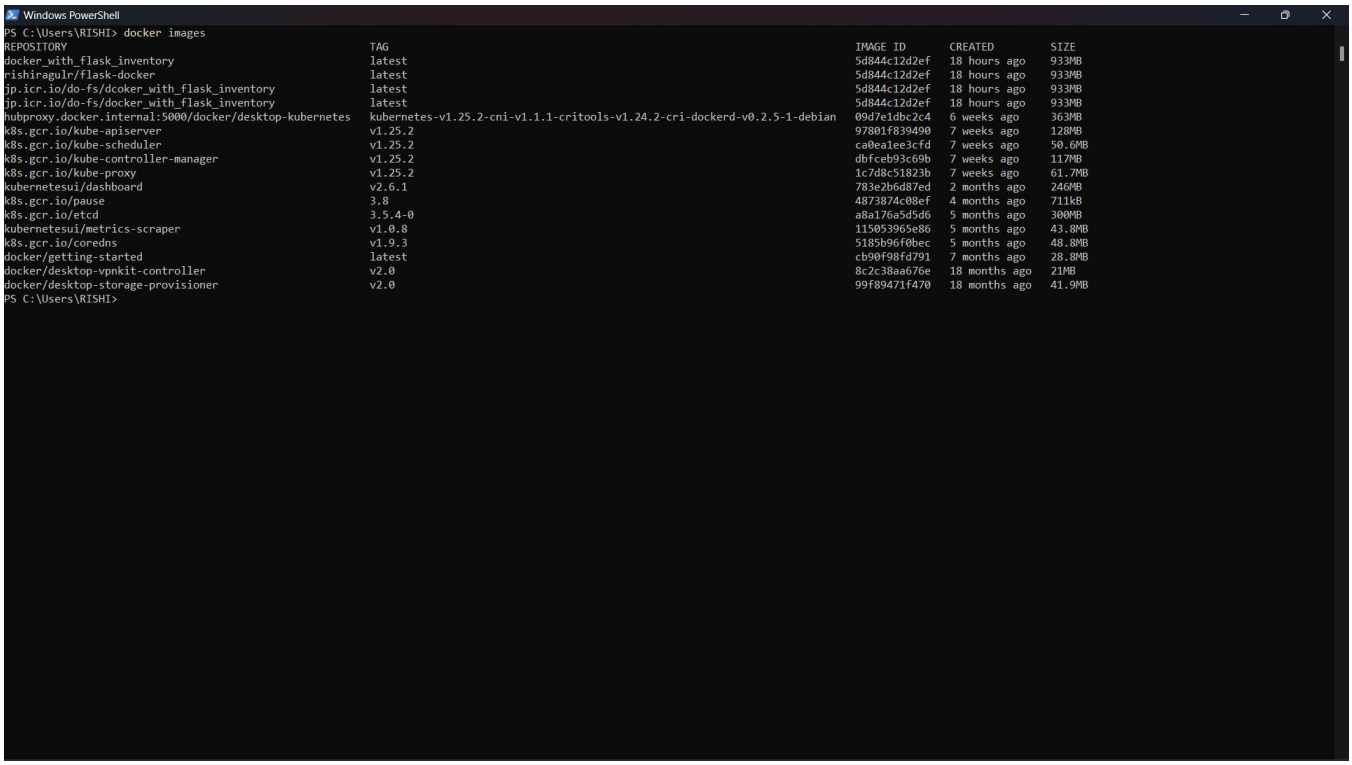
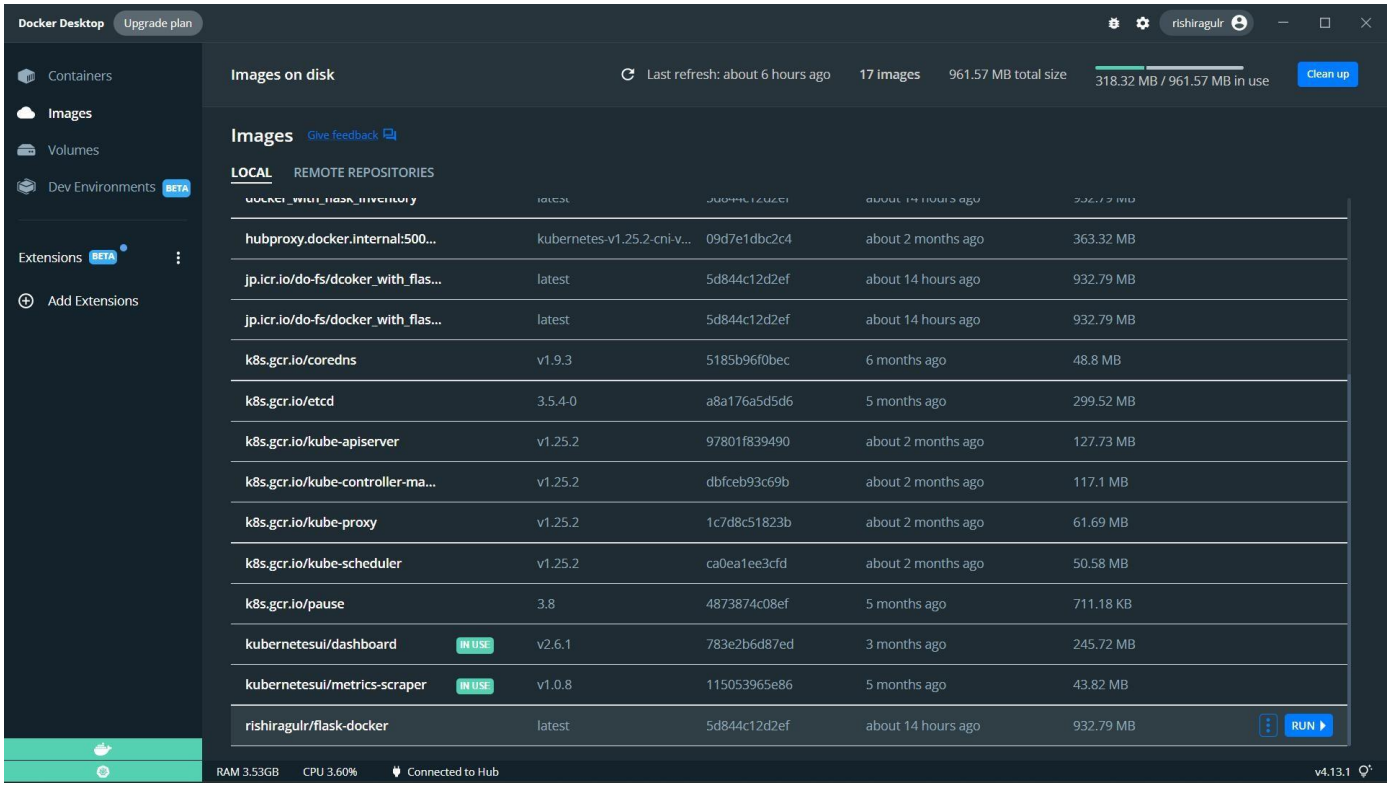
Assignment-4

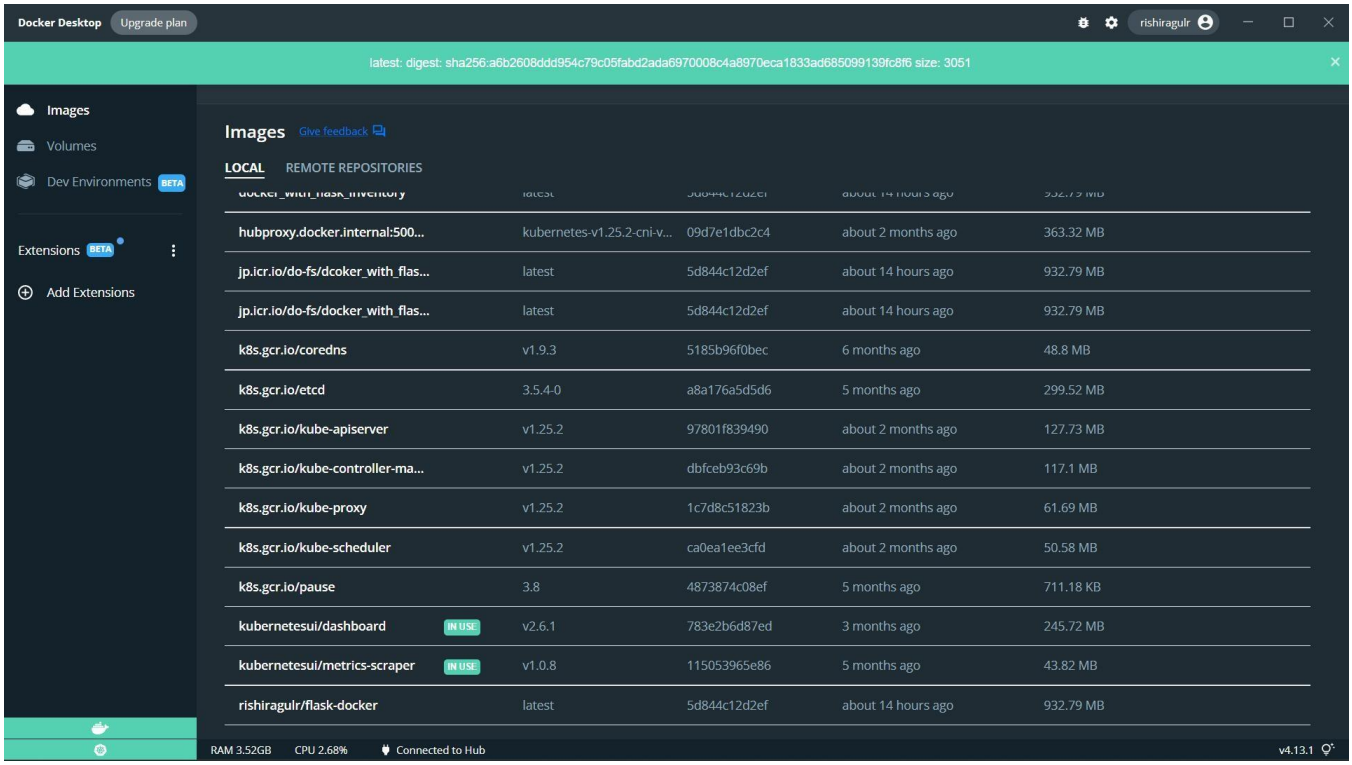
Assignment Date	29 October 2022
Student Name	Tamilselvan G
Student Roll Number	610519104105
Maximum Marks	2 Marks

Question:

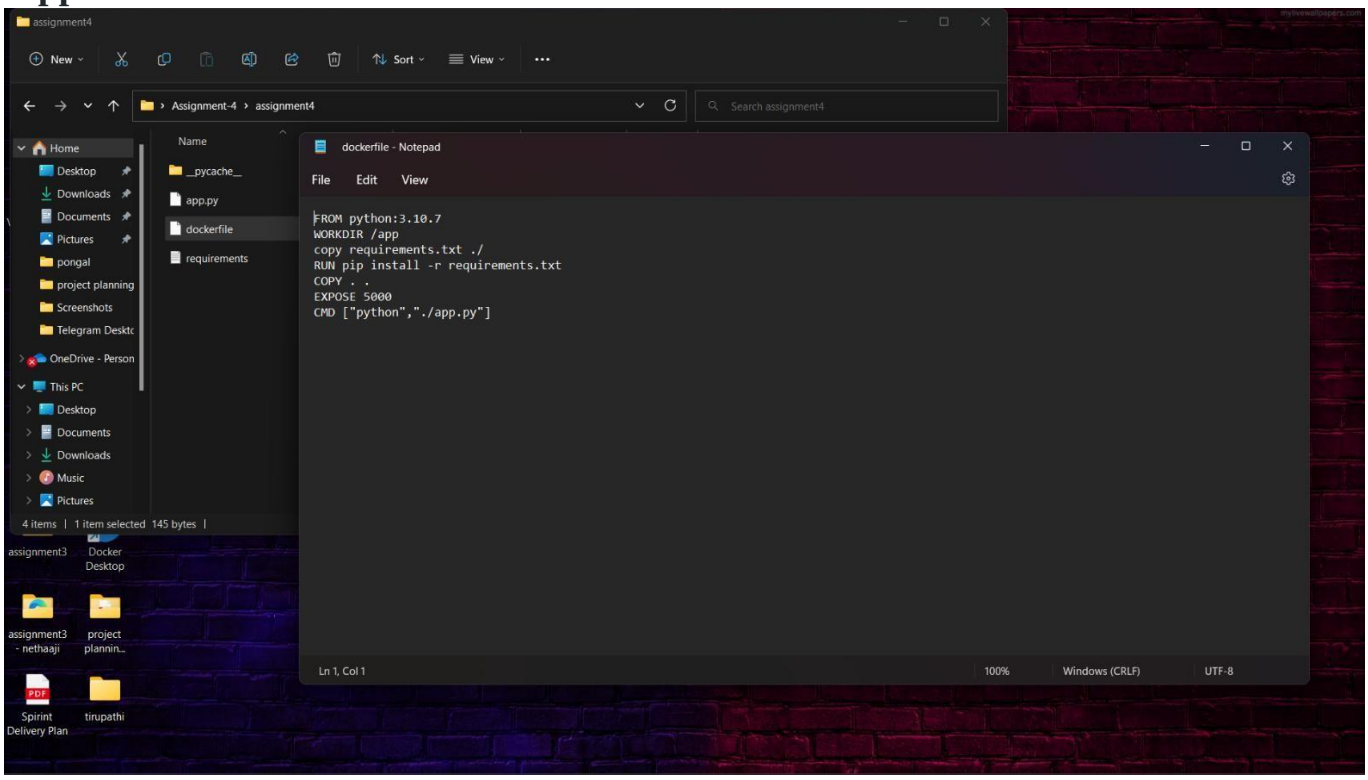
1. Pull an Image from docker hub and run it in docker playground.



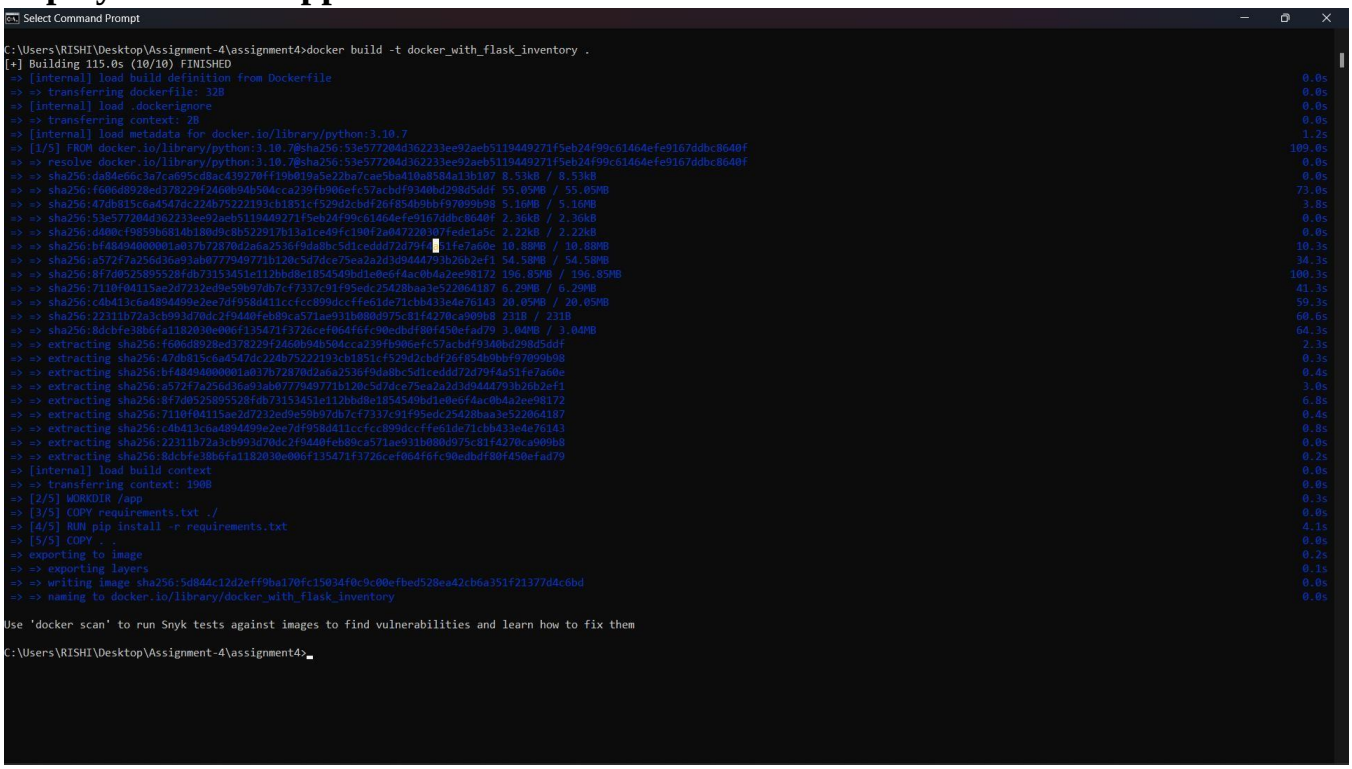

Docker Desktop
Upgrade plan
rishiragulr
Containers
Images
Volumes
Dev Environments BETA
Extensions BETA
Add Extensions
Images on disk
Last refresh: about 6 hours ago
17 images
961.57 MB total size
318.32 MB / 961.57 MB in use
Clean up
Images
Give feedback
LOCAL
REMOTE REPOSITORIES
hubproxy.docker.internal:500... kubernetes-v1.25.2-cni-v... 09d7e1dbc2c4 about 2 months ago 363.32 MB
jp.icr.io/do-fs/dcoker_with_flas... latest 5d844c12d2ef about 14 hours ago 932.79 MB
jp.icr.io/do-fs/docker_with_flas... latest 5d844c12d2ef about 14 hours ago 932.79 MB
k8s.gcr.io/coredns v1.9.3 5185b96f0bec 6 months ago 48.8 MB
k8s.gcr.io/etcd 3.5.4-0 a8a176a5d5d6 5 months ago 299.52 MB
k8s.gcr.io/kube-apiserver v1.25.2 97801f839490 about 2 months ago 127.73 MB
k8s.gcr.io/kube-controller-ma... v1.25.2 dbfceb93c69b about 2 months ago 117.1 MB
k8s.gcr.io/kube-proxy v1.25.2 1c7d8c51823b about 2 months ago 61.69 MB
k8s.gcr.io/kube-scheduler v1.25.2 ca0ea1ee3cfd about 2 months ago 50.58 MB
k8s.gcr.io/pause 3.8 4873874c08ef 5 months ago 711.18 KB
kubernetesui/dashboard IN USE v2.6.1 783e2b6d87ed 3 months ago 245.72 MB
kubernetesui/metrics-scraper IN USE v1.0.8 115053965e86 5 months ago 43.82 MB
rishiragulr/flask-docker latest 5d844c12d2ef about 14 hours ago 932.79 MB
RUN
RAM 3.53GB
CPU 3.60%
Connected to Hub
v4.13.1


Docker Desktop
Upgrade plan
rishiragulr
latest: digest: sha256:a6b2608ddd954c79c05fabd2ada6970008c4a8970eca1833ad685099139fc8f6 size: 3051
Images
Volumes
Dev Environments BETA
Extensions BETA
Add Extensions
Images
Give feedback
LOCAL
REMOTE REPOSITORIES
hubproxy.docker.internal:500... kubernetes-v1.25.2-cni-v... 09d7e1dbc2c4 about 2 months ago 363.32 MB
jp.icr.io/do-fs/dcoker_with_flas... latest 5d844c12d2ef about 14 hours ago 932.79 MB
jp.icr.io/do-fs/docker_with_flas... latest 5d844c12d2ef about 14 hours ago 932.79 MB
k8s.gcr.io/coredns v1.9.3 5185b96f0bec 6 months ago 48.8 MB
k8s.gcr.io/etcd 3.5.4-0 a8a176a5d5d6 5 months ago 299.52 MB
k8s.gcr.io/kube-apiserver v1.25.2 97801f839490 about 2 months ago 127.73 MB
k8s.gcr.io/kube-controller-ma... v1.25.2 dbfceb93c69b about 2 months ago 117.1 MB
k8s.gcr.io/kube-proxy v1.25.2 1c7d8c51823b about 2 months ago 61.69 MB
k8s.gcr.io/kube-scheduler v1.25.2 ca0ea1ee3cfd about 2 months ago 50.58 MB
k8s.gcr.io/pause 3.8 4873874c08ef 5 months ago 711.18 KB
kubernetesui/dashboard IN USE v2.6.1 783e2b6d87ed 3 months ago 245.72 MB
kubernetesui/metrics-scraper IN USE v1.0.8 115053965e86 5 months ago 43.82 MB
rishiragulr/flask-docker latest 5d844c12d2ef about 14 hours ago 932.79 MB
RAM 3.52GB
CPU 2.68%
Connected to Hub
v4.13.1

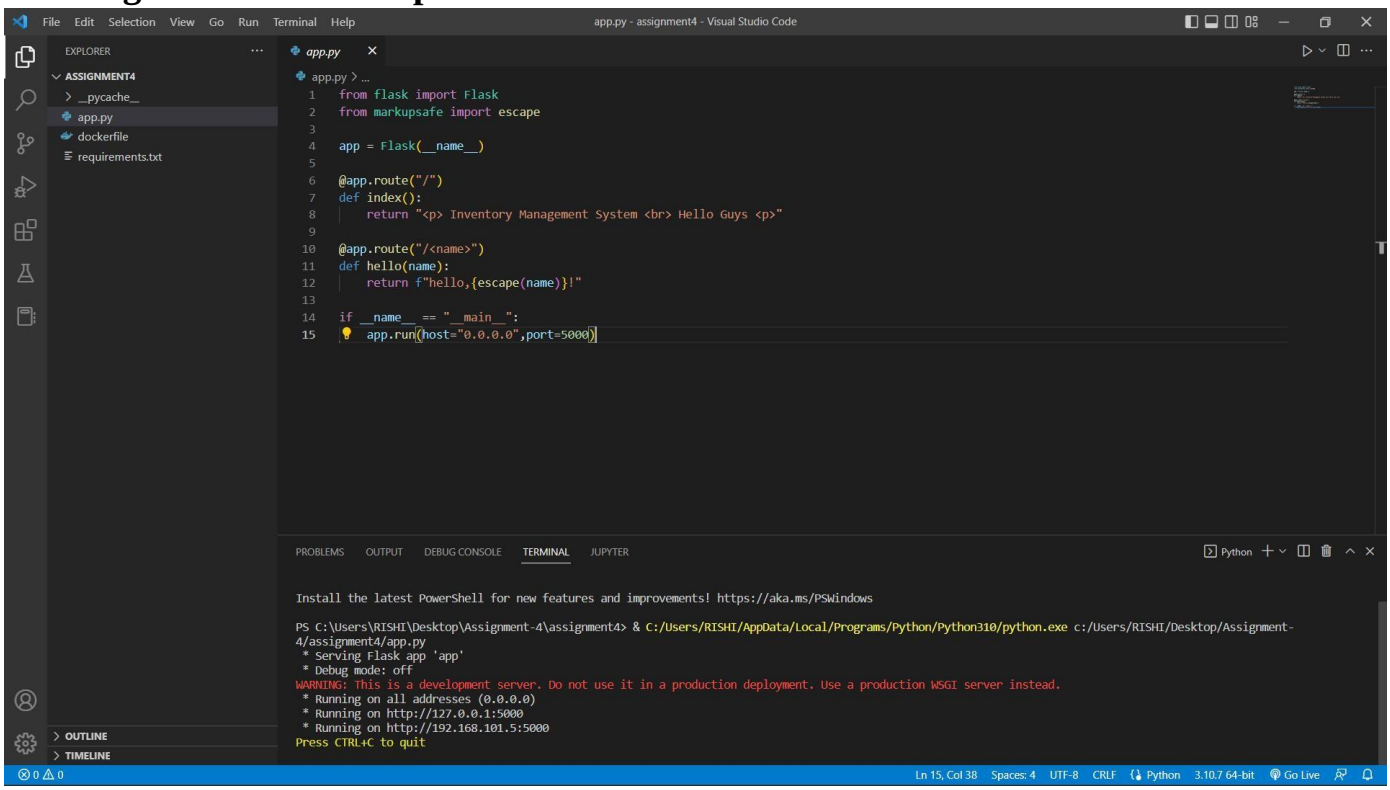
2. Create a docker file for the job portal application and deploy it in Docker desktop application.



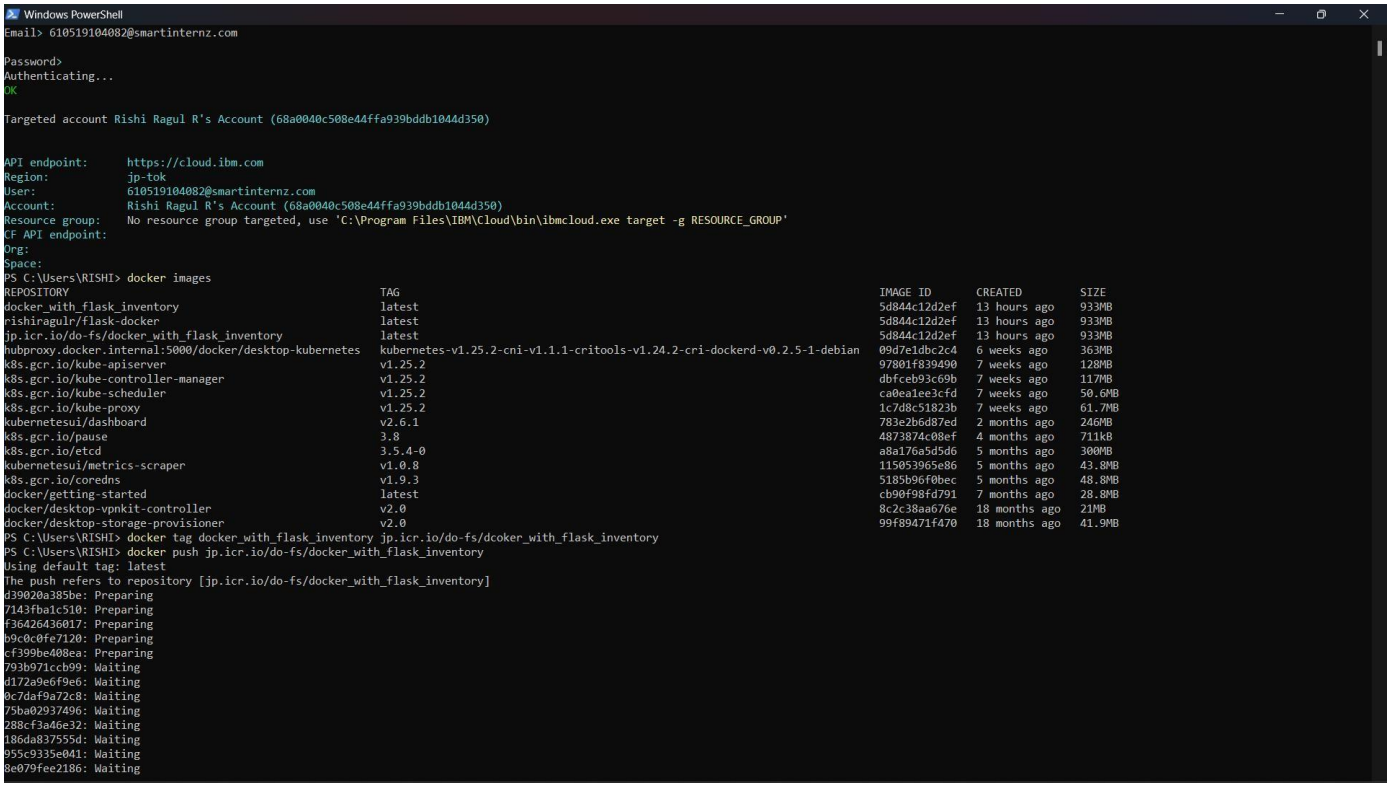
Deploy in docker application

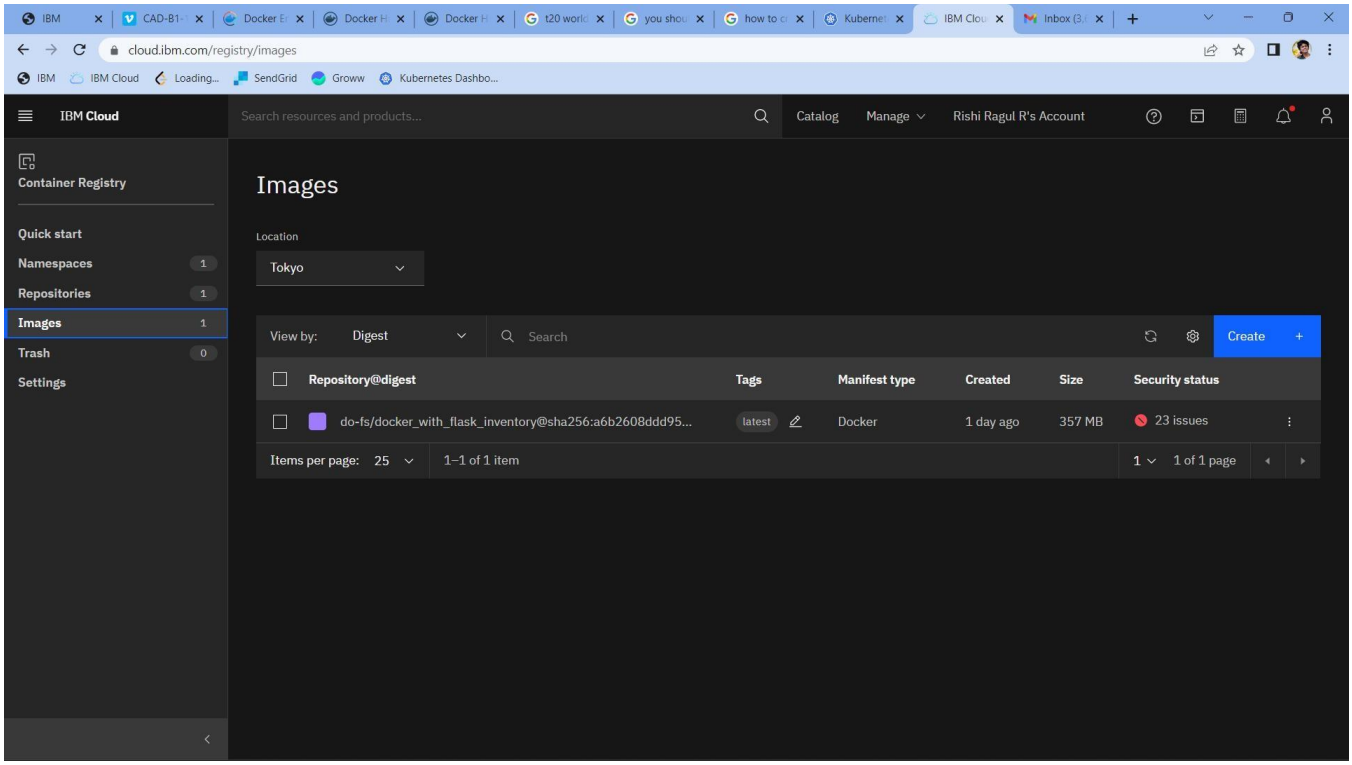


Running in docker desktop

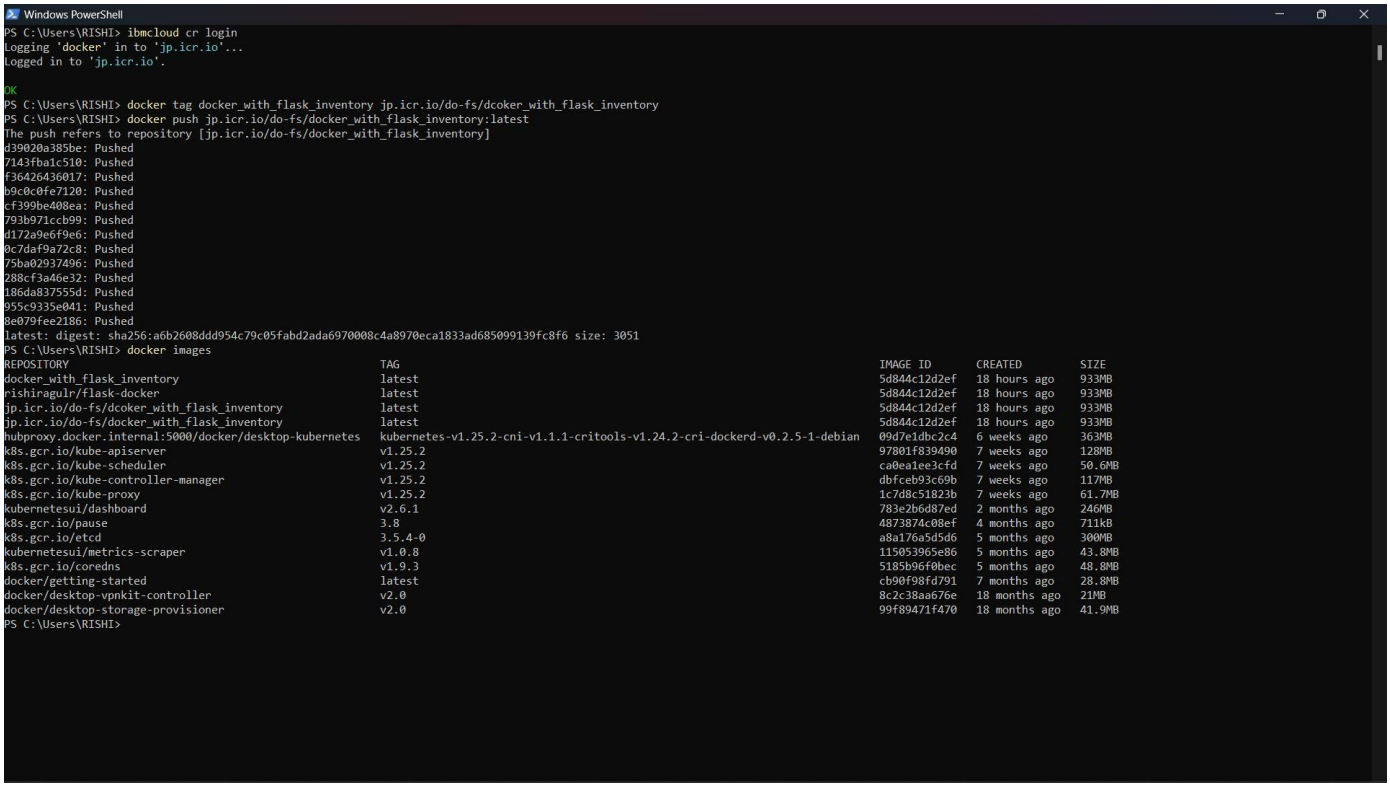


3. Create a IBM container registry and deploy hello world app or job portal app.


Windows PowerShell
Email> 610519104082@smartinternz.com
Password>
Authenticating...
OK
Targeted account Rishi Ragul R's Account (68a0040c508e44ffa939bddb1044d350)
API endpoint: https://cloud.ibm.com
Region: jp-tok
User: 610519104082@smartinternz.com
Account: Rishi Ragul R's Account (68a0040c508e44ffa939bddb1044d350)
Resource group: No resource group targeted, use 'C:\Program Files\IBM\Cloud\bin\ibmcloud.exe target -g RESOURCE_GROUP'
CF API endpoint:
Org:
Space:
PS C:\Users\RISHI> docker images
REPOSITORY TAG IMAGE ID CREATED SIZE
docker_with_flask_inventory latest 5d844c12d2ef 13 hours ago 933MB
rishiragulr/flask-docker latest 5d844c12d2ef 13 hours ago 933MB
jp.icr.io/do-fs/docker_with_flask_inventory latest 5d844c12d2ef 13 hours ago 933MB
hubproxy.docker.internal:5000/docker/desktop-kubernetes kubernetes-v1.25.2-cni-v1.1.1-critools-v1.24.2-cri-dockerd-v0.2.5-1-debian 09d7e1dbc2c4 6 weeks ago 363MB
k8s.gcr.io/kube-apiserver v1.25.2 97801f839490 7 weeks ago 128MB
k8s.gcr.io/kube-controller-manager v1.25.2 dbfceb93c69b 7 weeks ago 117MB
k8s.gcr.io/kube-scheduler v1.25.2 ca0ea1ee3cfd 7 weeks ago 50.6MB
k8s.gcr.io/kube-proxy v1.25.2 1c7d8c51823b 7 weeks ago 61.7MB
kubernetesui/dashboard v2.6.1 783e2b6d87ed 2 months ago 246MB
k8s.gcr.io/pause 3.8 4873874c08ef 4 months ago 711kB
k8s.gcr.io/etcd 3.5.4-0 a8a176a5d5d6 5 months ago 300MB
kubernetesui/metrics-scraper v1.0.8 115053965e86 5 months ago 43.8MB
k8s.gcr.io/coredns v1.9.3 5185b96f0bec 5 months ago 48.8MB
docker/getting-started latest cb90f98fd791 7 months ago 28.8MB
docker/desktop-vpnkit-controller v2.0 8c2c38aa676e 18 months ago 21MB
docker/desktop-storage-provisioner v2.0 99f89471f470 18 months ago 41.9MB
PS C:\Users\RISHI> docker tag docker_with_flask_inventory jp.icr.io/do-fs/dcoker_with_flask_inventory
PS C:\Users\RISHI> docker push jp.icr.io/do-fs/docker_with_flask_inventory
Using default tag: latest
The push refers to repository [jp.icr.io/do-fs/docker_with_flask_inventory]
d39020a385be: Preparing
7143fba1c510: Preparing
f36426436017: Preparing
b9c0c0fe7120: Preparing
cf399be408ea: Preparing
793b971ccb99: Waiting
d172a9e6f9e6: Waiting
0c7daf9a72c8: Waiting
75ba02937496: Waiting
288cf3a46e32: Waiting
186da837555d: Waiting
955c9335e041: Waiting
8e079fee2186: Waiting

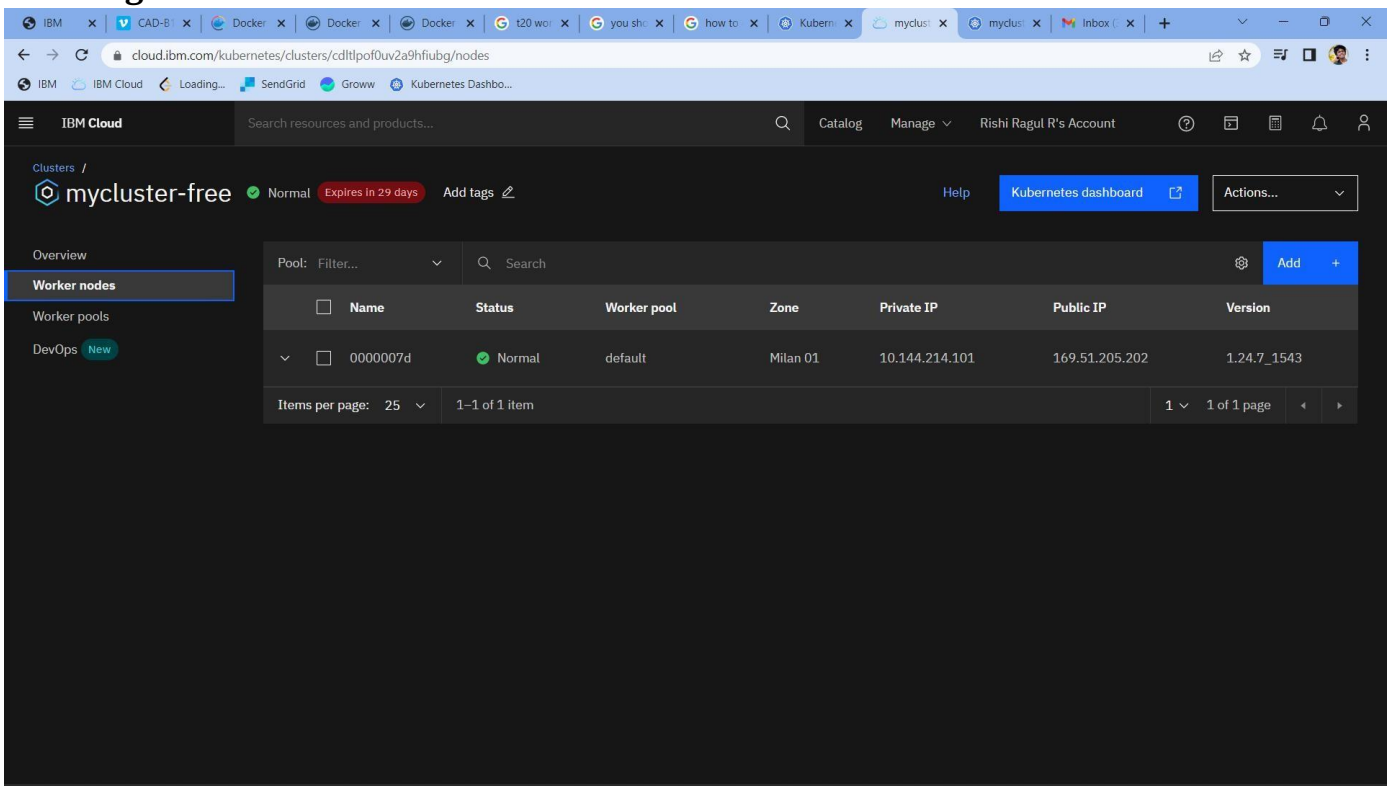

cloud.ibm.com/registry/images
IBM Cloud
Search resources and products...
Catalog
Manage
Rishi Ragul R's Account
Container Registry
Quick start
Namespaces 1
Repositories 1
Images 1
Trash 0
Settings
Images
Location
Tokyo
View by: Digest
Search
Create
Repository@digest
Tags
Manifest type
Created
Size
Security status
do-fs/docker_with_flask_inventory@sha256:a6b2608ddd95...
latest
Docker
1 day ago
357 MB
23 issues
Items per page: 25
1–1 of 1 item
1 of 1 page

Deploy hello world or job portal

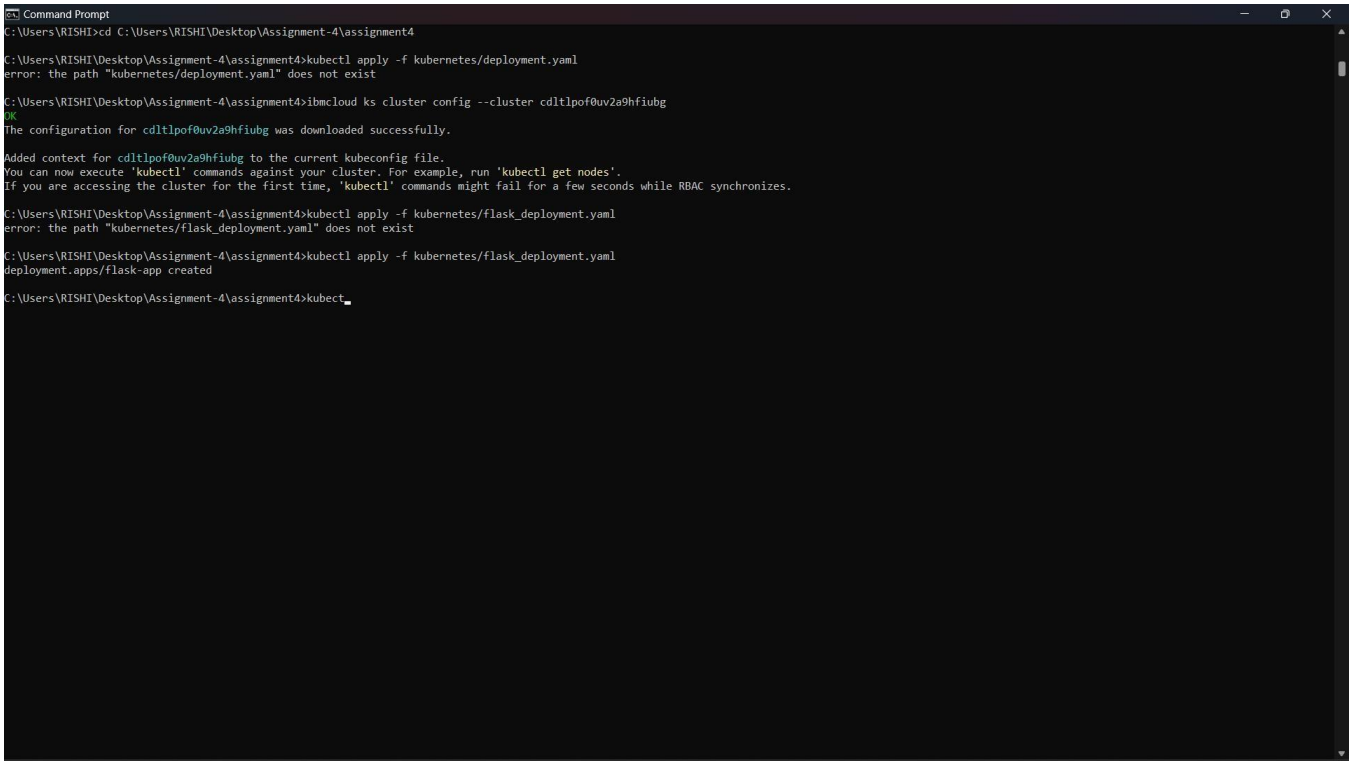


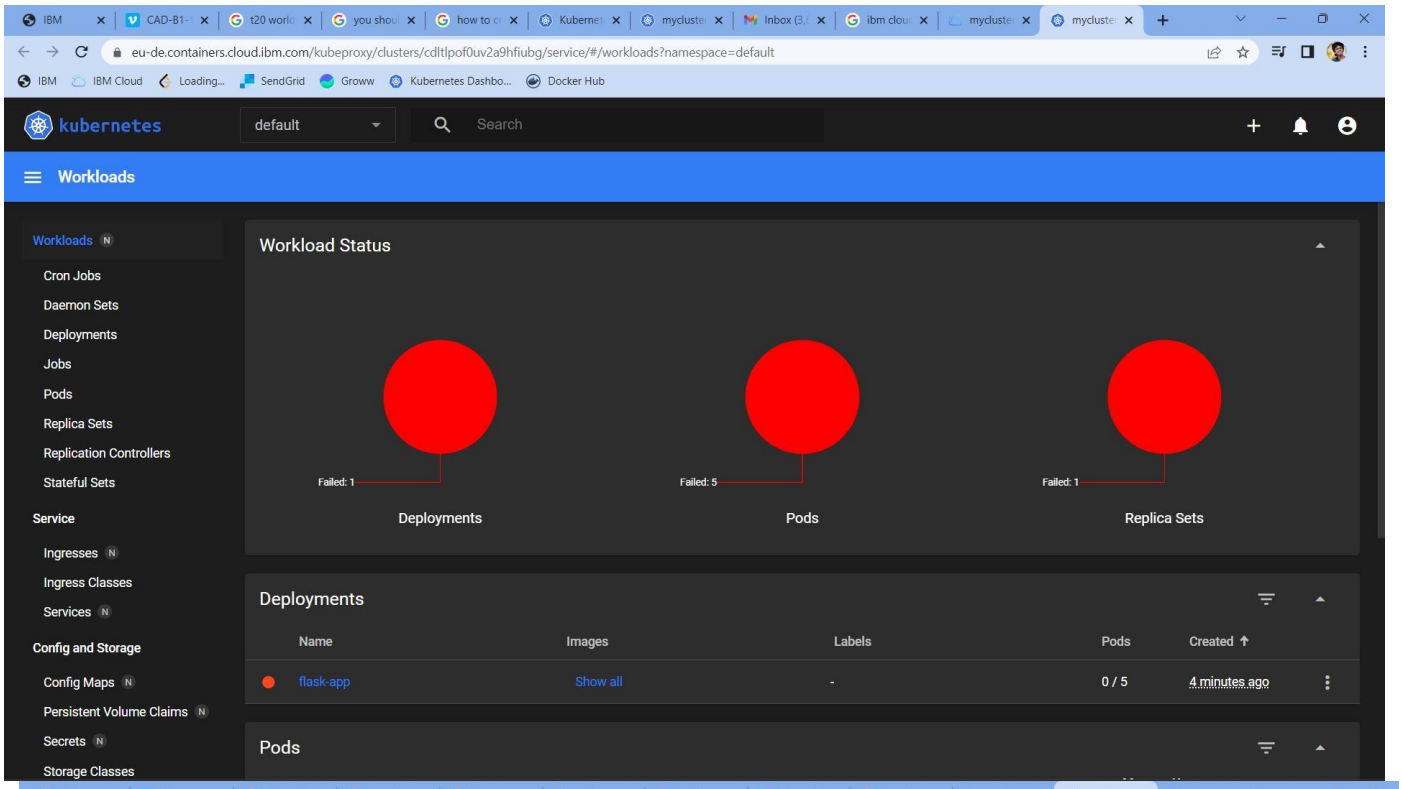
4. Create a Kubernetes cluster in IBM cloud and deploy hello world image or job portal image and also expose the same app to run in node port.

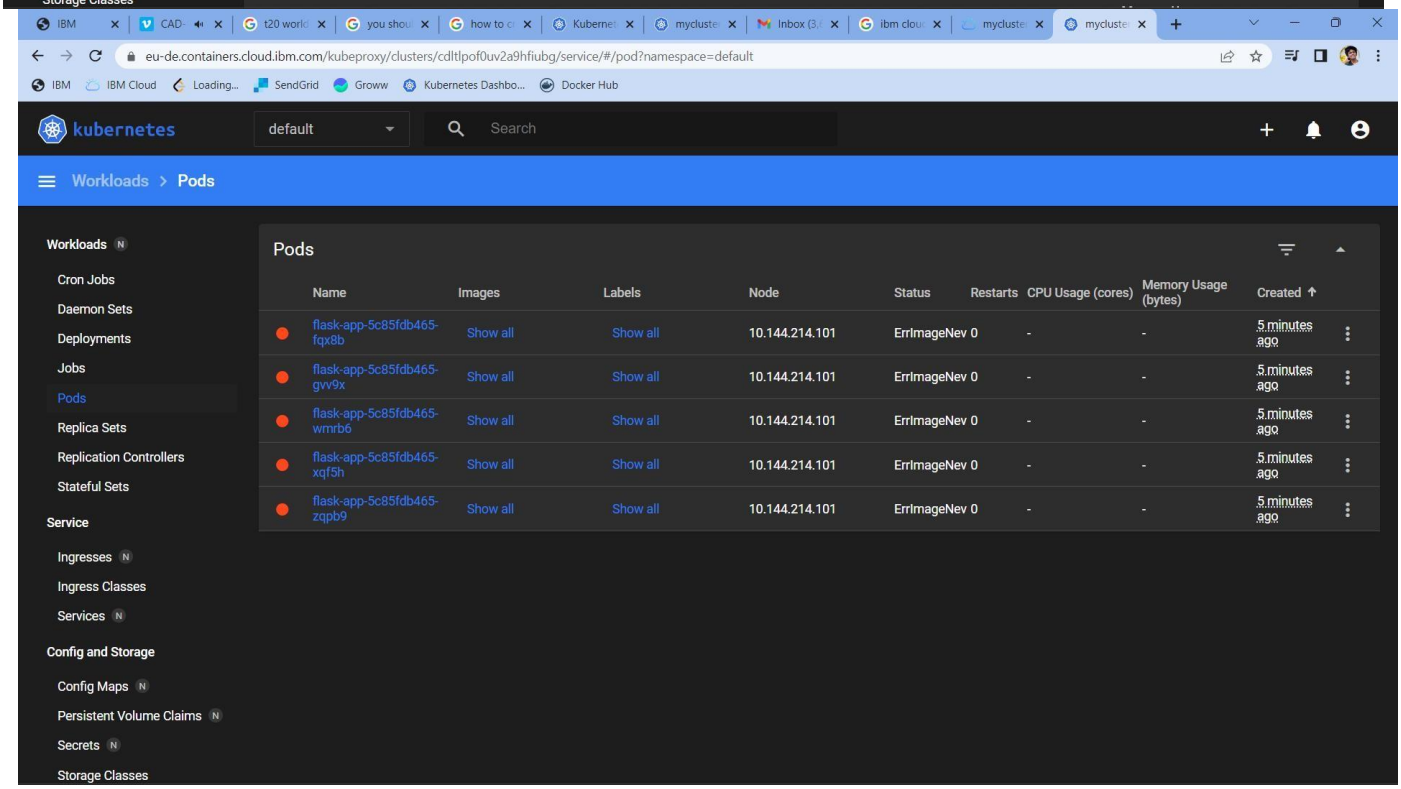
Creating a Kubernetes cluster in IBM cloud



Expose the same app to run in noteport


Command Prompt
C:\Users\RISHI>cd C:\Users\RISHI\Desktop\Assignment-4\assignment4
C:\Users\RISHI\Desktop\Assignment-4\assignment4>kubectl apply -f kubernetes/deployment.yaml
error: the path "kubernetes/deployment.yaml" does not exist
C:\Users\RISHI\Desktop\Assignment-4\assignment4>ibmcloud ks cluster config --cluster cdltlpof0uv2a9hfiubg
OK
The configuration for cdltlpof0uv2a9hfiubg was downloaded successfully.
Added context for cdltlpof0uv2a9hfiubg 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.
C:\Users\RISHI\Desktop\Assignment-4\assignment4>kubectl apply -f kubernetes/flask_deployment.yaml
error: the path "kubernetes/flask_deployment.yaml" does not exist
C:\Users\RISHI\Desktop\Assignment-4\assignment4>kubectl apply -f kubernetes/flask_deployment.yaml
deployment.apps/flask-app created
C:\Users\RISHI\Desktop\Assignment-4\assignment4>kubect


eu-de.containers.cloud.ibm.com/kubeproxy/clusters/cdltlpof0uv2a9hfiubg/service/#/workloads?namespace=default
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
Workload Status
Failed: 1
Deployments
Failed: 5
Pods
Failed: 1
Replica Sets
Deployments
Name
Images
Labels
Pods
Created
flask-app
Show all
-
0 / 5
4 minutes ago
Pods


eu-de.containers.cloud.ibm.com/kubeproxy/clusters/cdltlpof0uv2a9hfiubg/service/#/pod?namespace=default
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
Pods
Name
Images
Labels
Node
Status
Restarts
CPU Usage (cores)
Memory Usage (bytes)
Created
flask-app-5c85fdb465-fqx8b
flask-app-5c85fdb465-gvv9x
flask-app-5c85fdb465-wnrb6
flask-app-5c85fdb465-xqf5h
flask-app-5c85fdb465-zqpb9
Show all
10.144.214.101
ErrImageNev
0
5 minutes ago