ASSIGNMENT IV

Student Roll Number	194319
Team ID	PNT2022TMID11405
Student Name	Krithika.S
Project Name	Customer care registry

QUESTION: 1

1. Pull an image from docker hub and run it in docker playground.
2. Create a docker file for the jobportal application and deploy it in docker desktop application.
3. Create a IBM container registry and deploy hello world app.
   i, Install Container registry and create namespace.
   ii, Create IBM cloud login. Pull and Push image.
   iii, Then IBM container registry.
   iv, Create a kubernetes cluster in IBM cloud and deploy hello world image or jobportal image and also expose the same app to run in nodeport

PROGRAM:

Deployment.yaml

```
apiVersion: apps/v1

kind: Deployment

metadata:

 name: jobportal

spec:

replicas: 1

selector:

matchLabels:

 app: flasknode

template:

 metadata:

labels:

 app: flasknode

spec:

containers:

 - name: flasknode

image: icr.io/helloworld1/newhelloworld
```

imagePullPolicy: Always

ports:

- containerPort: 5000

Service.yaml

apiVersion: v1

kind: Service

metadata:

name: flask-node-deployment

spec:

ports:

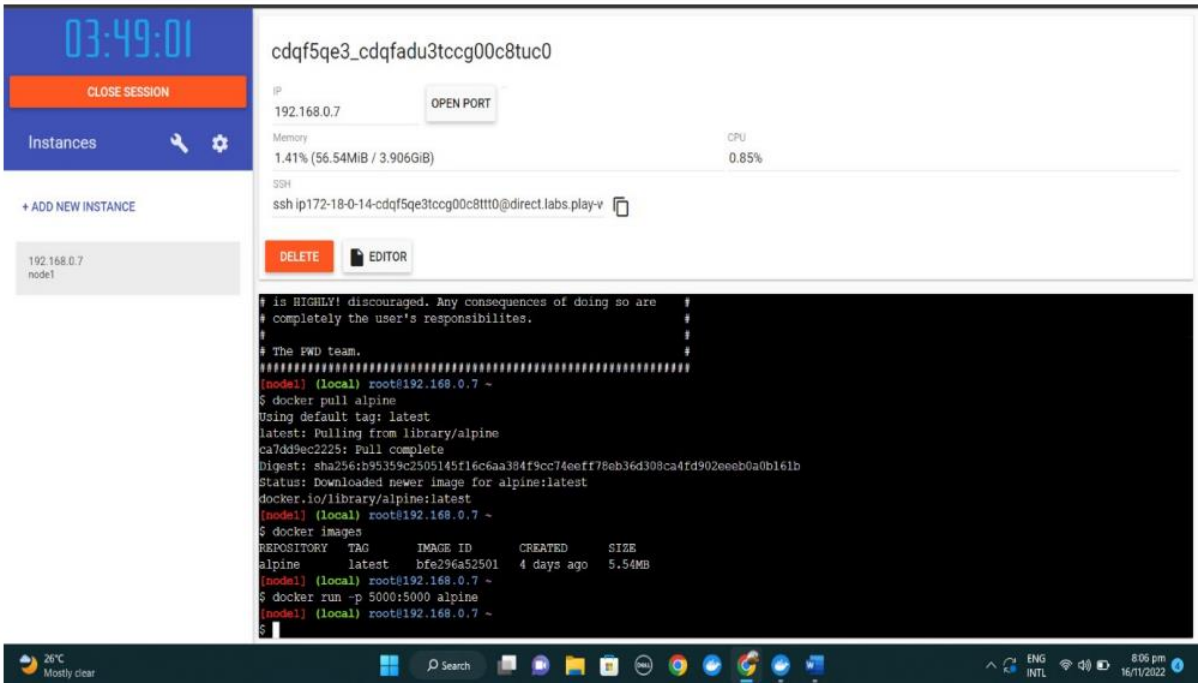
- port: 5000

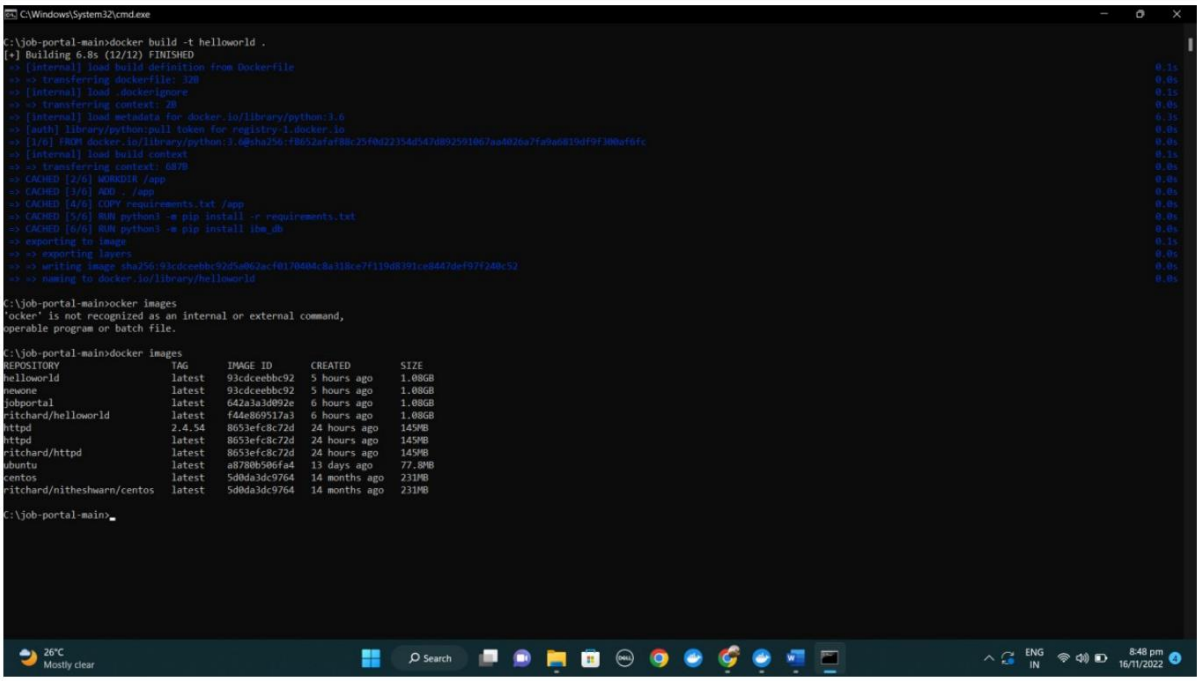
targetPort: 5000

selector:

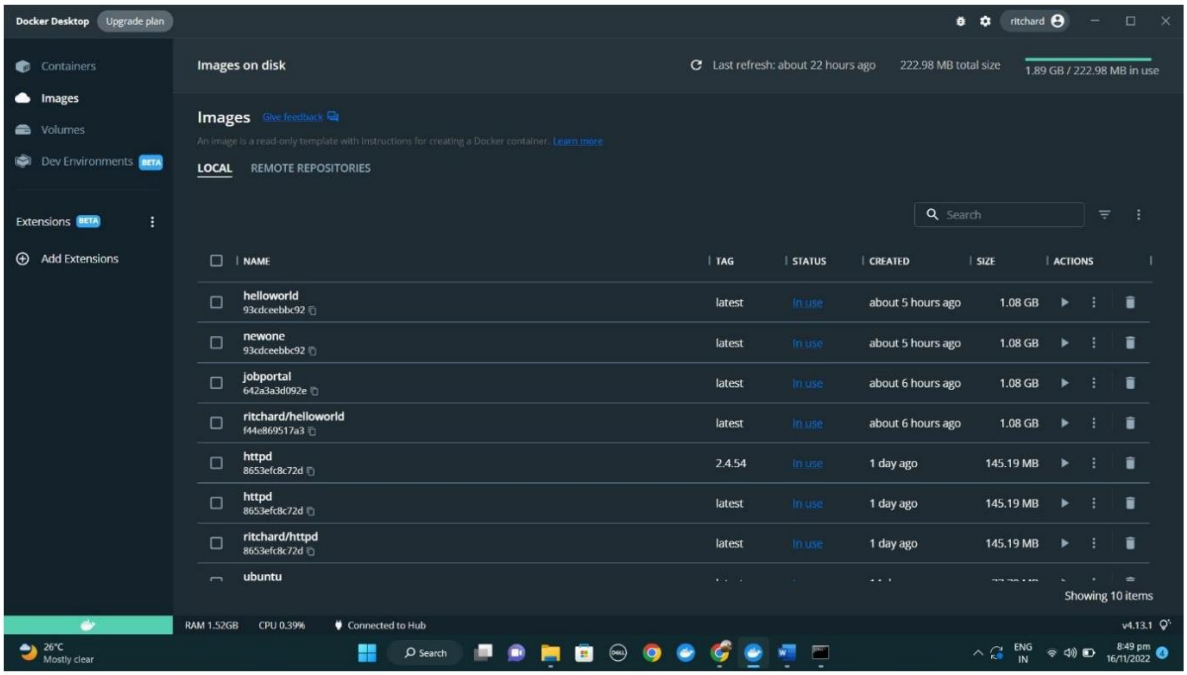
app: flasknode

OUT PUT



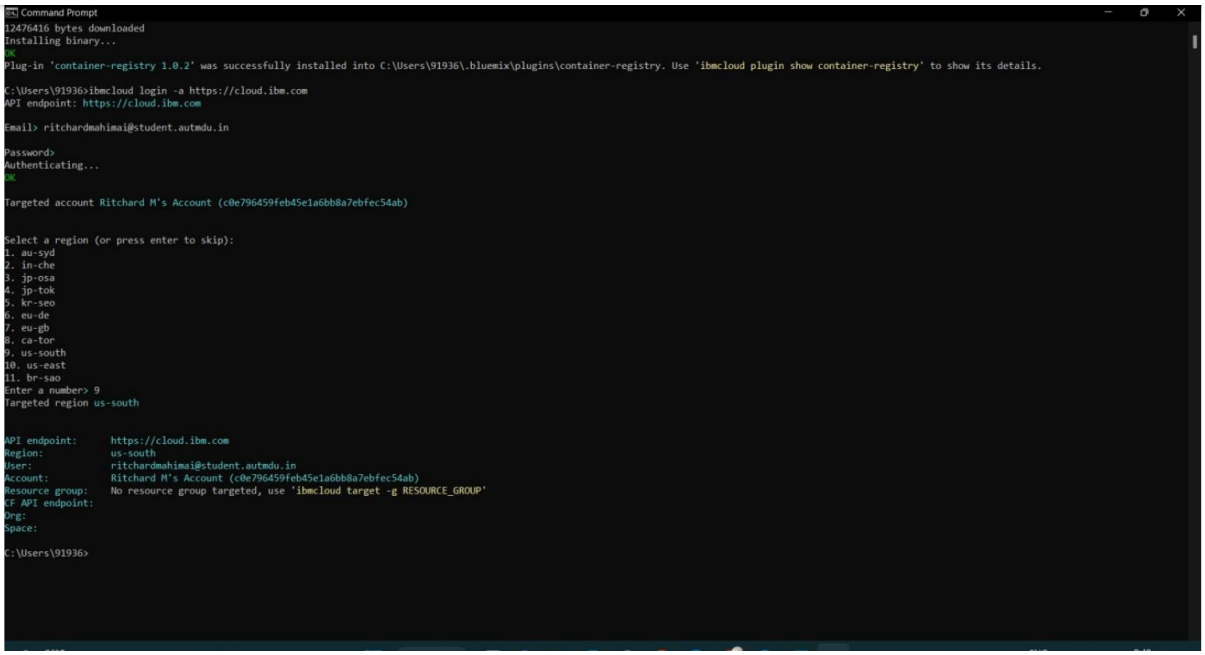


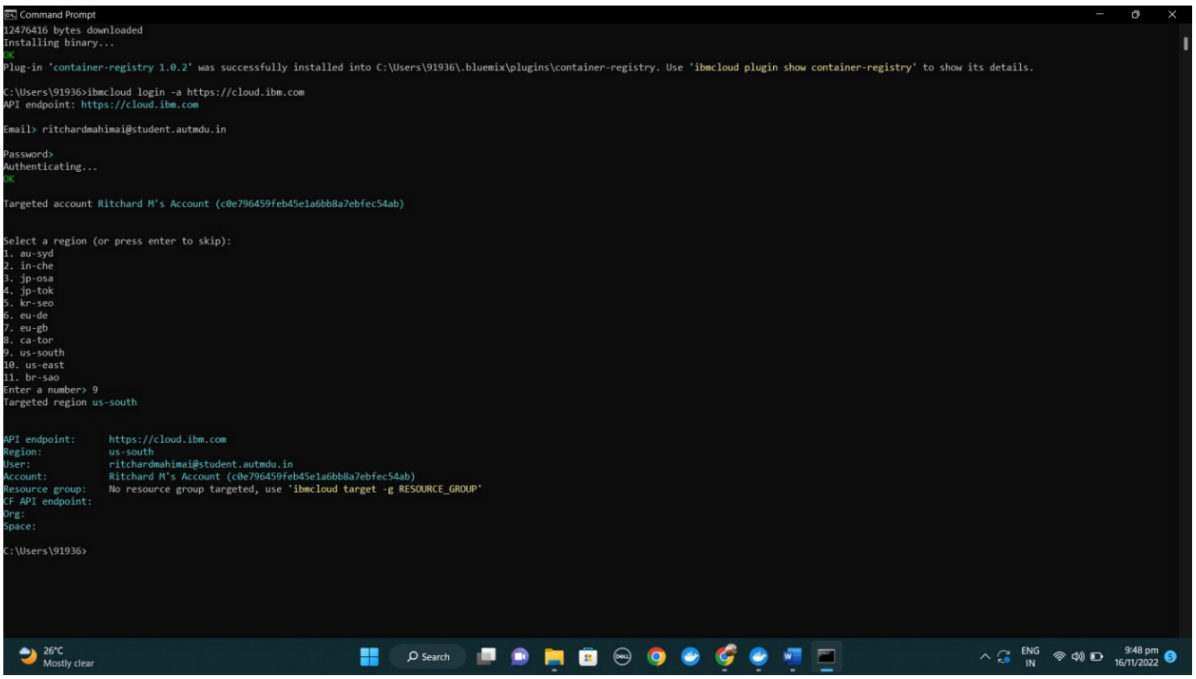

```
C:\Users\nithe\AppData\Local\Programs\Python\Python310\job-portal>docker run -p 8080:8080 helloworld
 * Serving Flask app 'app' (lazy loading)
 * Environment: production
   WARNING: This is a development server. Do not use it in a production deployment.
   Use a production WSGI server instead.
 * Debug mode: off
 * Running on all addresses.
   WARNING: This is a development server. Do not use it in a production deployment.
 * Running on http://172.17.0.2:5000/ (Press CTRL+C to quit)
```

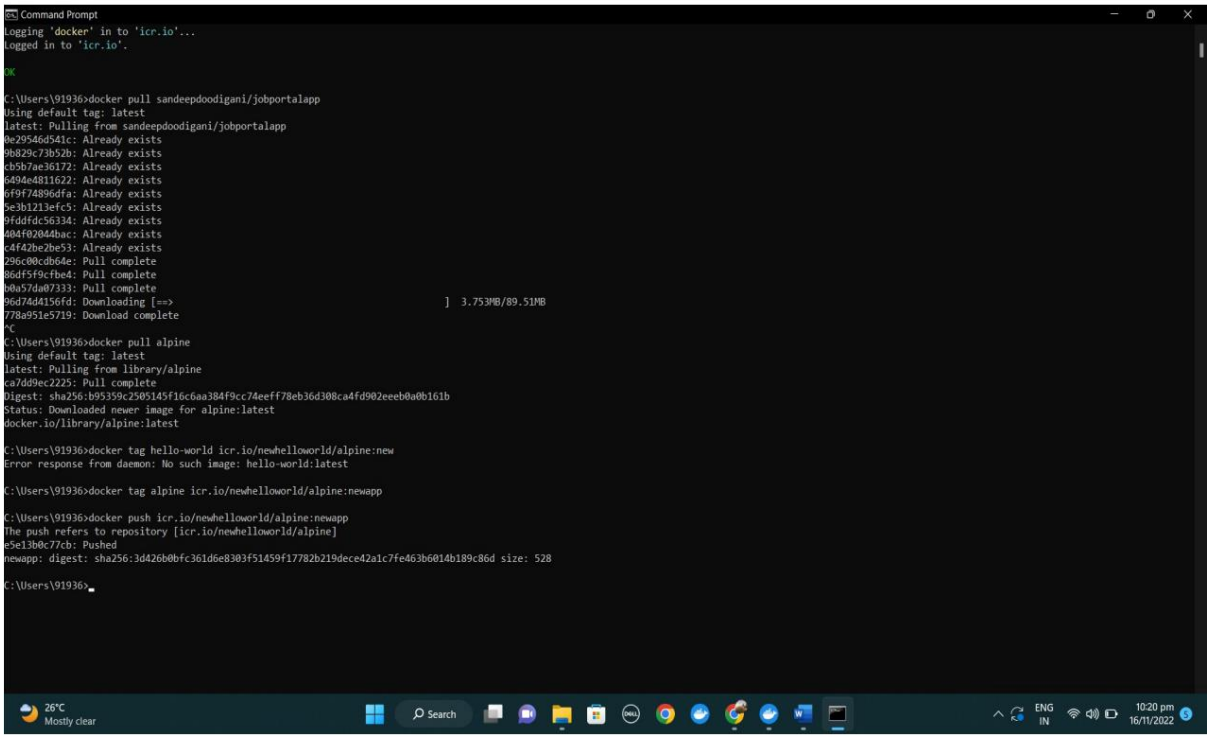


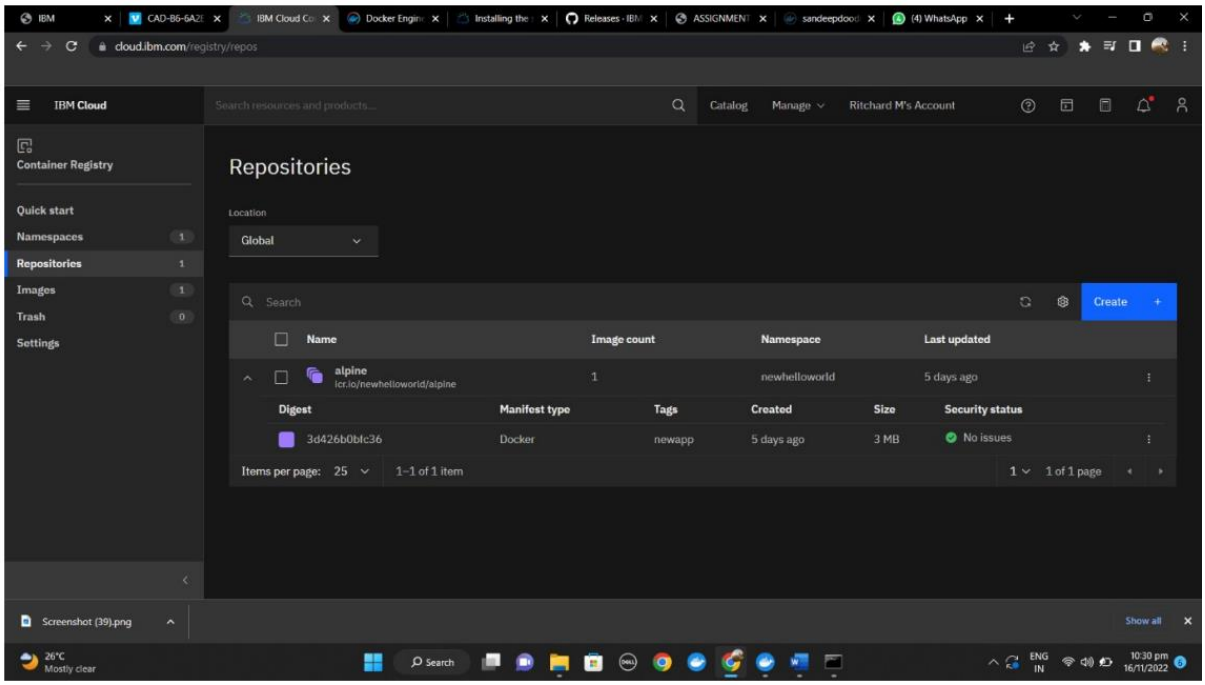

Command Prompt
Microsoft Windows [Version 10.0.22000.1219]
(c) Microsoft Corporation. All rights reserved.
C:\Users\91936>ibmcloud plugin install container-registry
Looking up 'container-registry' from repository 'IBM Cloud'...
Plug-in 'container-registry[cr] 1.0.2' found in repository 'IBM Cloud'
Attempting to download the binary file...
11.90 MiB / 11.90 MiB [==========] 100.00% 1m0s
12476416 bytes downloaded
Installing binary...
OK
Plug-in 'container-registry 1.0.2' was successfully installed into C:\Users\91936\.bluemix\plugins\container-registry. Use 'ibmcloud plugin show container-registry' to show its details.
C:\Users\91936>

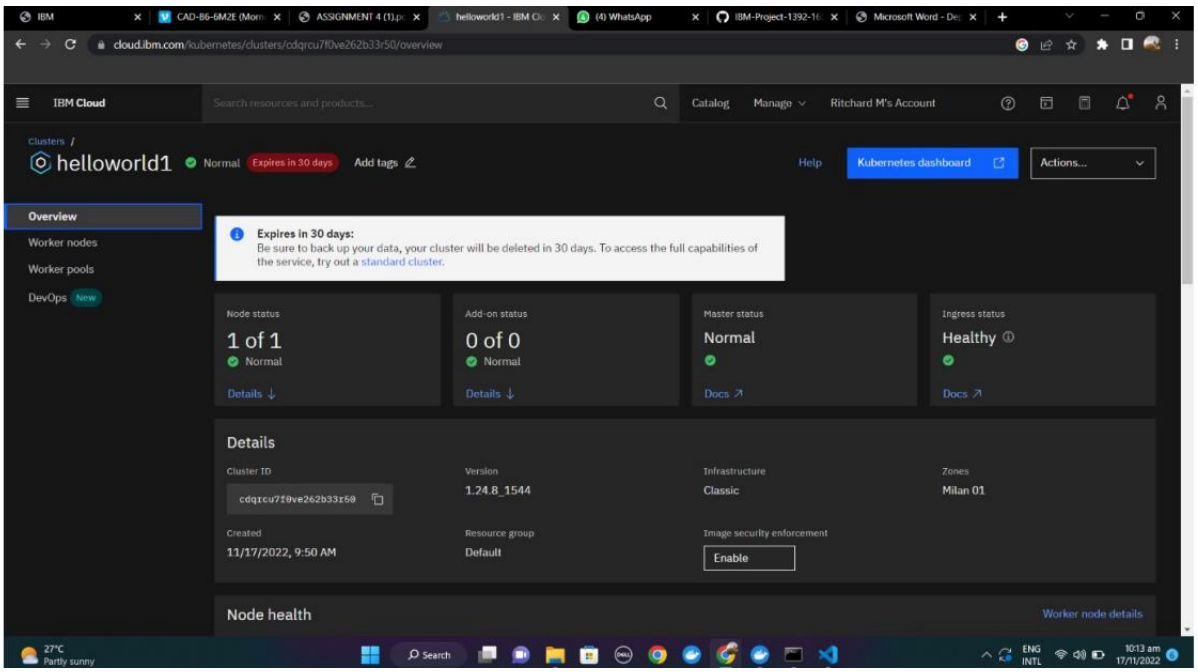

C:\Users\91936>ibmcloud cr region-set global
The region is set to 'global', the registry is 'icr.io'.
OK
C:\Users\91936>ibmcloud cr namespace-add newhelloworld
No resource group is targeted. Therefore, the default resource group for the account ('Default') is targeted.
Adding namespace 'newhelloworld' in resource group 'Default' for account Ritchard M's Account in registry icr.io...
Successfully added namespace 'newhelloworld'
OK
C:\Users\91936>

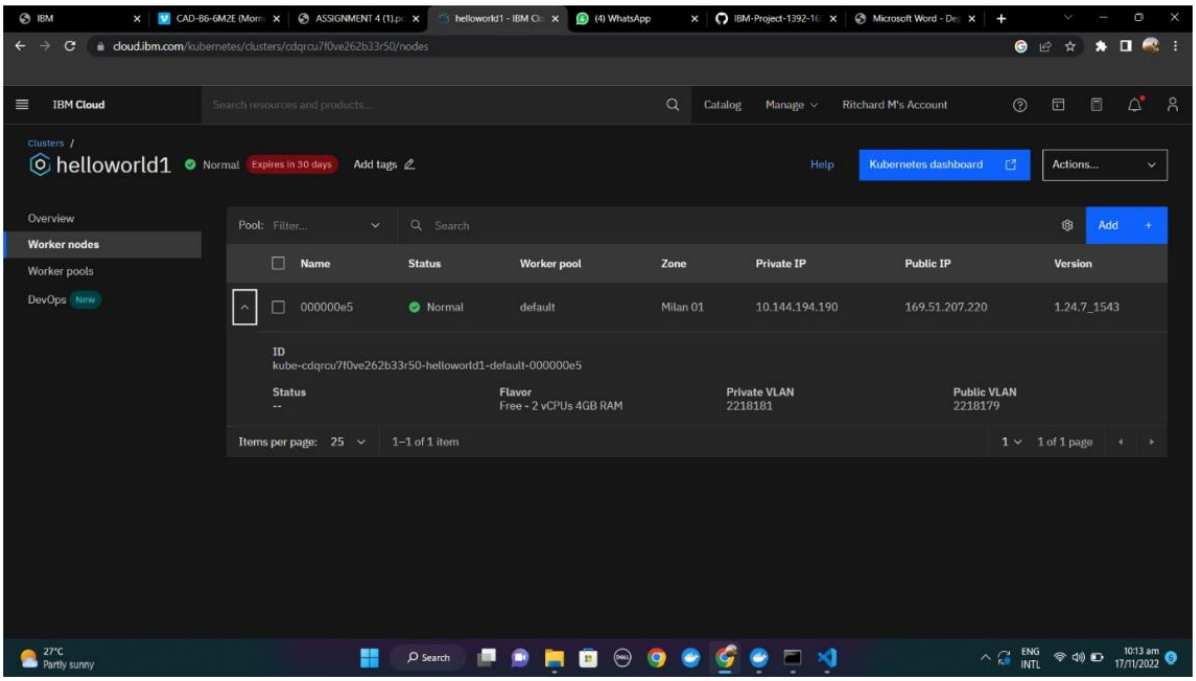

Command Prompt
12476416 bytes downloaded
Installing binary...
OK
Plug-in 'container-registry 1.0.2' was successfully installed into C:\Users\91936\.bluemix\plugins\container-registry. Use 'ibmcloud plugin show container-registry' to show its details.
C:\Users\91936>ibmcloud login -a https://cloud.ibm.com
API endpoint: https://cloud.ibm.com
Email> ritchardmahimai@student.autmdu.in
Password>
Authenticating...
OK
Targeted account Ritchard M's Account (c0e796459feb45e1a6bb8a7ebfec54ab)
Select a region (or press enter to skip):
1. au-syd
2. in-che
3. jp-osa
4. jp-tok
5. kr-seo
6. eu-de
7. eu-gb
8. ca-tor
9. us-south
10. us-east
11. br-sao
Enter a number> 9
Targeted region us-south
API endpoint: https://cloud.ibm.com
Region: us-south
User: ritchardmahimai@student.autmdu.in
Account: Ritchard M's Account (c0e796459feb45e1a6bb8a7ebfec54ab)
Resource group: No resource group targeted, use 'ibmcloud target -g RESOURCE_GROUP'
CF API endpoint:
Org:
Space:
C:\Users\91936>

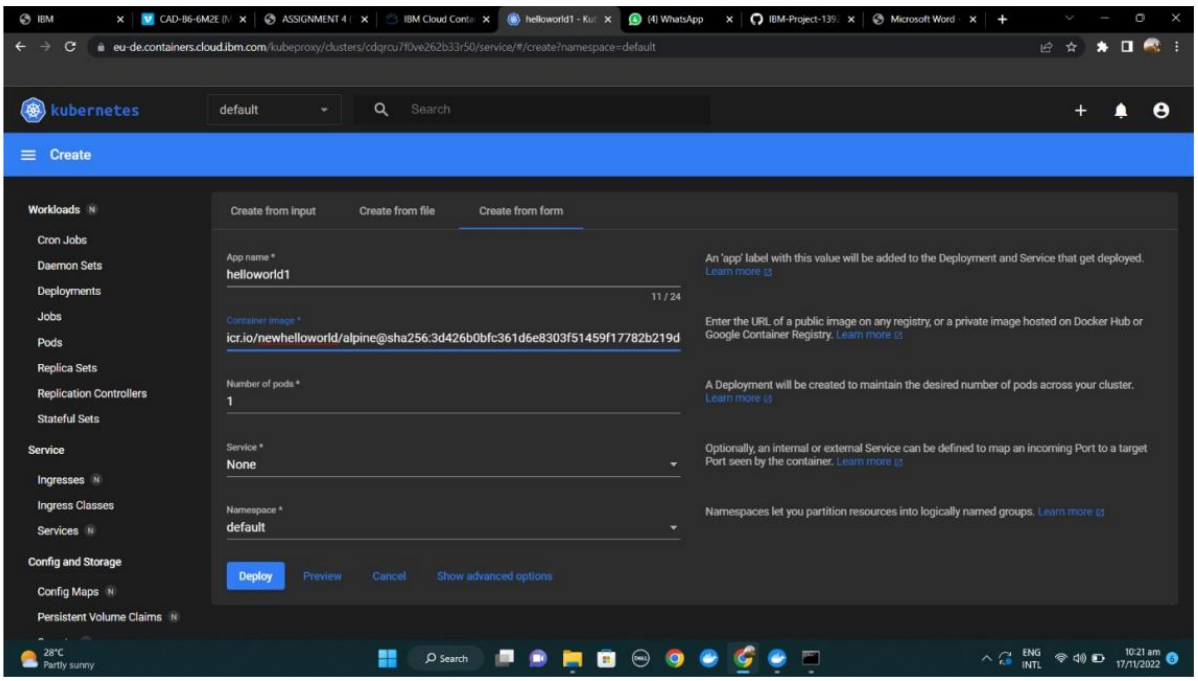

Command Prompt
12476416 bytes downloaded
Installing binary...
OK
Plug-in 'container-registry 1.0.2' was successfully installed into C:\Users\91936\.bluemix\plugins\container-registry. Use 'ibmcloud plugin show container-registry' to show its details.
C:\Users\91936>ibmcloud login -a https://cloud.ibm.com
API endpoint: https://cloud.ibm.com
Email> ritchardmahimai@student.autmdu.in
Password>
Authenticating...
OK
Targeted account Ritchard M's Account (c0e796459feb45e1a6bb8a7ebfec54ab)
Select a region (or press enter to skip):
1. au-syd
2. in-che
3. jp-osa
4. jp-tok
5. kr-seo
6. eu-de
7. eu-gb
8. ca-tor
9. us-south
10. us-east
11. br-sao
Enter a number> 9
Targeted region us-south
API endpoint: https://cloud.ibm.com
Region: us-south
User: ritchardmahimai@student.autmdu.in
Account: Ritchard M's Account (c0e796459feb45e1a6bb8a7ebfec54ab)
Resource group: No resource group targeted, use 'ibmcloud target -g RESOURCE_GROUP'
CF API endpoint:
Org:
Space:
C:\Users\91936>
26°C
Mostly clear
Search
ENG
IN
9:48 pm
16/11/2022

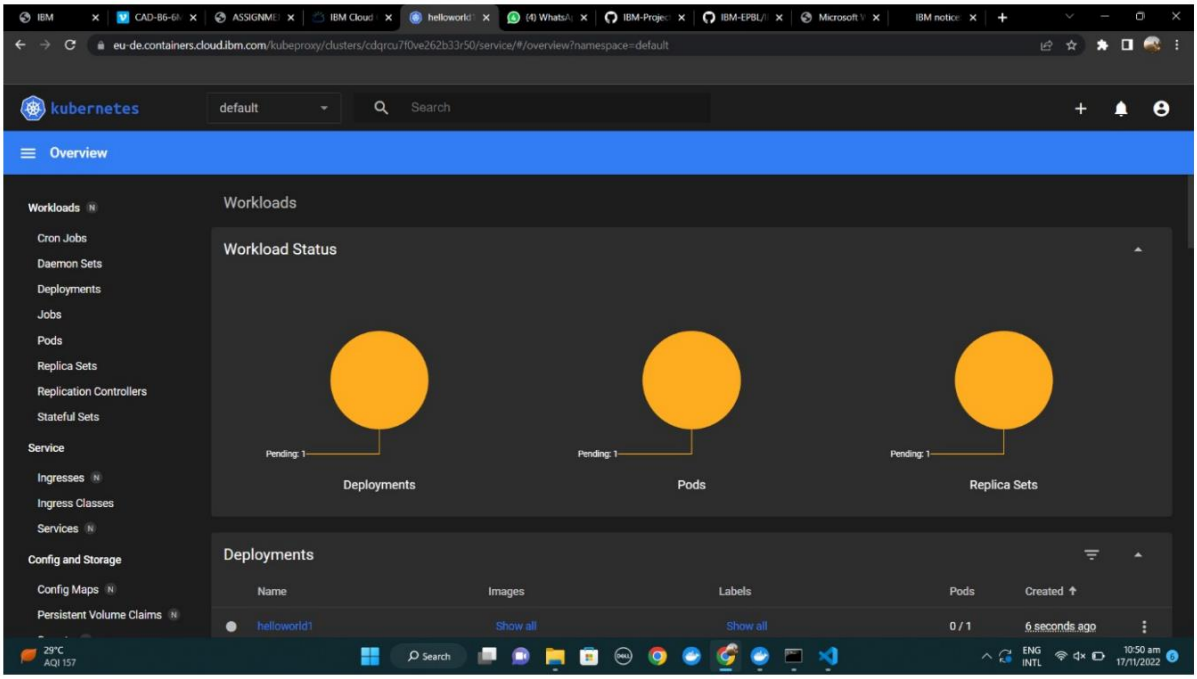

Command Prompt
Logging 'docker' in to 'icr.io'...
Logged in to 'icr.io'.
OK
C:\Users\91936>docker pull sandeepdoodigani/jobportalapp
Using default tag: latest
latest: Pulling from sandeepdoodigani/jobportalapp
0e29546d541c: Already exists
9b829c73b52b: Already exists
cb5b7ae36172: Already exists
6494e4811622: Already exists
6f9f74896dfa: Already exists
5e3b1213efc5: Already exists
9fddfdc56334: Already exists
404f02044bac: Already exists
c4f42be2be53: Already exists
296c00cdb64e: Pull complete
86df5f9cfbe4: Pull complete
b0a57da07333: Pull complete
96d74d4156fd: Downloading [==>] 3.753MB/89.51MB
778a951e5719: Download complete
^C
C:\Users\91936>docker pull alpine
Using default tag: latest
latest: Pulling from library/alpine
ca7dd9ec2225: Pull complete
Digest: sha256:b95359c2505145f16c6aa384f9cc74eeff78eb36d308ca4fd902eeeb0a0b161b
Status: Downloaded newer image for alpine:latest
docker.io/library/alpine:latest
C:\Users\91936>docker tag hello-world icr.io/newhelloworld/alpine:new
Error response from daemon: No such image: hello-world:latest
C:\Users\91936>docker tag alpine icr.io/newhelloworld/alpine:newapp
C:\Users\91936>docker push icr.io/newhelloworld/alpine:newapp
The push refers to repository [icr.io/newhelloworld/alpine]
e5e13b0c77cb: Pushed
newapp: digest: sha256:3d426b0bfc361d6e8303f51459f17782b219dece42a1c7fe463b6014b189c86d size: 528
C:\Users\91936>
26°C
Mostly clear
Search
ENG
IN
10:20 pm
16/11/2022


cloud.ibm.com/registry/repos
IBM Cloud
Search resources and products...
Catalog
Manage
Ritchard M's Account
Container Registry
Quick start
Namespaces 1
Repositories 1
Images 1
Trash 0
Settings
Repositories
Location
Global
Search
Create
Name
Image count
Namespace
Last updated
alpine
icr.io/newhelloworld/alpine
1
newhelloworld
5 days ago
Digest
Manifest type
Tags
Created
Size
Security status
3d426b0bfc36
Docker
newapp
5 days ago
3 MB
No issues
Items per page: 25
1–1 of 1 item
1 of 1 page
Screenshot (39).png
Show all
26°C
Mostly clear
Search
ENG
IN
10:30 pm
16/11/2022


cloud.ibm.com/kubernetes/clusters/cdqrcu7f0ve262b33r50/overview
IBM Cloud
Search resources and products...
Catalog
Manage
Ritchard M's Account
Clusters /
helloworld1
Normal
Expires in 30 days
Add tags
Help
Kubernetes dashboard
Actions...
Overview
Worker nodes
Worker pools
DevOps New
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
Normal
Details
Add-on status
0 of 0
Normal
Details
Master status
Normal
Docs
Ingress status
Healthy
Docs
Details
Cluster ID
cdqrcu7f0ve262b33r50
Version
1.24.8_1544
Infrastructure
Classic
Zones
Milan 01
Created
11/17/2022, 9:50 AM
Resource group
Default
Image security enforcement
Enable
Node health
Worker node details
27°C
Partly sunny
Search
ENG
INTL
10:13 am
17/11/2022


cloud.ibm.com/kubernetes/clusters/cdqrcu7f0ve262b33r50/nodes
IBM Cloud
Search resources and products...
Catalog
Manage
Ritchard M's Account
Clusters /
helloworld1
Normal
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
000000e5
Normal
default
Milan 01
10.144.194.190
169.51.207.220
1.24.7_1543
ID
kube-cdqrcu7f0ve262b33r50-helloworld1-default-000000e5
Status
--
Flavor
Free - 2 vCPUs 4GB RAM
Private VLAN
2218181
Public VLAN
2218179
Items per page: 25
1–1 of 1 item
1 of 1 page
27°C
Partly sunny
Search
ENG
INTL
10:13 am
17/11/2022


eu-de.containers.cloud.ibm.com/kubeproxy/clusters/cdqrcu7f0ve262b33r50/service/#/create?namespace=default
kubernetes
default
Search
Create
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
Create from input
Create from file
Create from form
App name *
helloworld1
11 / 24
An 'app' label with this value will be added to the Deployment and Service that get deployed.
Learn more
Container image *
icr.io/newhelloworld/alpine@sha256:3d426b0bfc361d6e8303f51459f17782b219d
Enter the URL of a public image on any registry, or a private image hosted on Docker Hub or Google Container Registry.
Learn more
Number of pods *
1
A Deployment will be created to maintain the desired number of pods across your cluster.
Learn more
Service *
None
Optionally, an internal or external Service can be defined to map an incoming Port to a target Port seen by the container.
Learn more
Namespace *
default
Namespaces let you partition resources into logically named groups.
Learn more
Deploy
Preview
Cancel
Show advanced options
28°C
Partly sunny
Search
ENG
INTL
10:21 am
17/11/2022


eu-de.containers.cloud.ibm.com/kubeproxy/clusters/cdqrcu7f0ve262b33r50/service/#/overview?namespace=default
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
Config Maps
Persistent Volume Claims
Workloads
Workload Status
Pending: 1
Deployments
Pending: 1
Pods
Pending: 1
Replica Sets
Deployments
Name
Images
Labels
Pods
Created
helloworld1
Show all
Show all
0 / 1
6 seconds ago
29°C
AQI 157
Search
ENG
INTL
10:50 am
17/11/2022