ASSIGNMENT – 4

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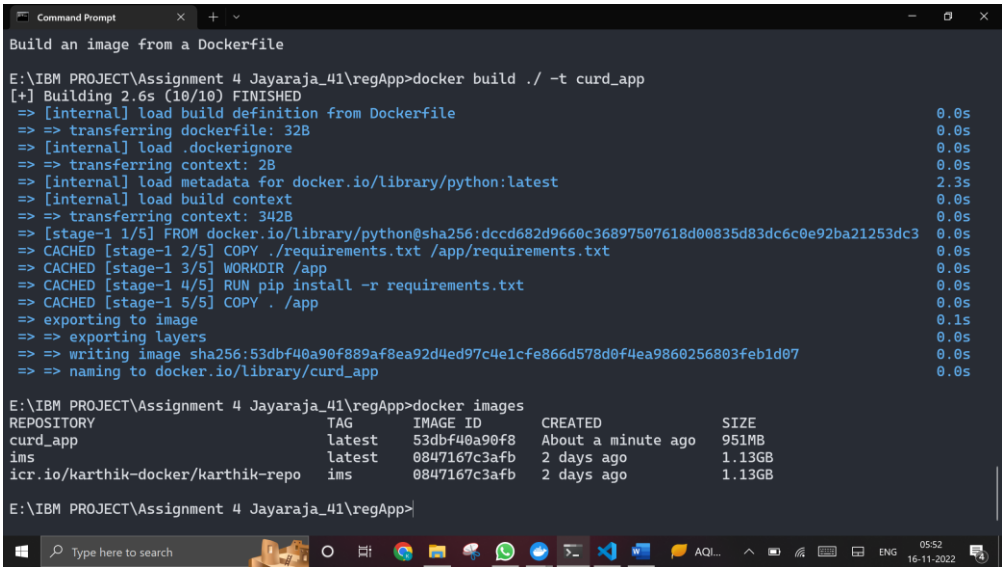
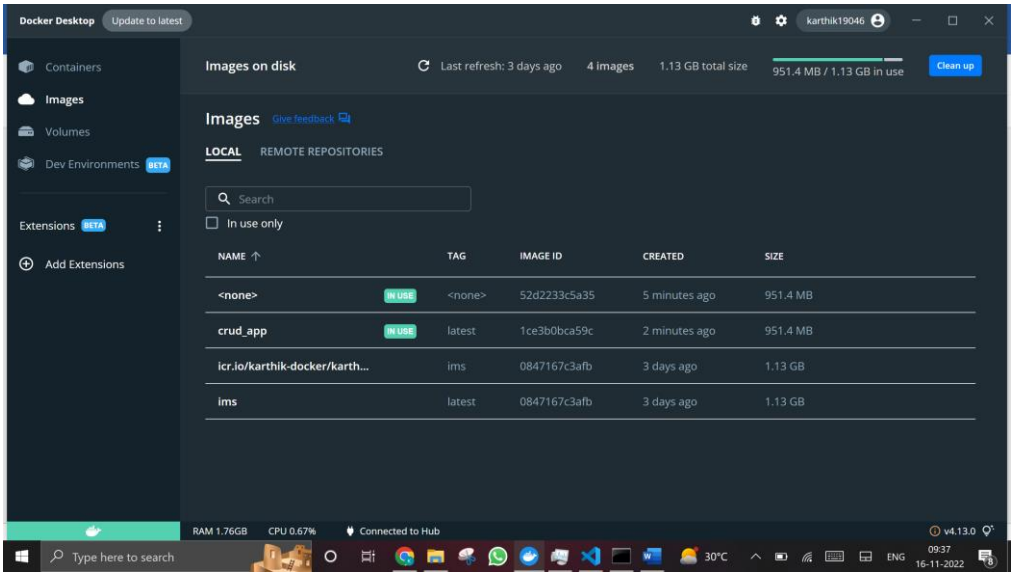
STEPS TO BE FOLLOWED

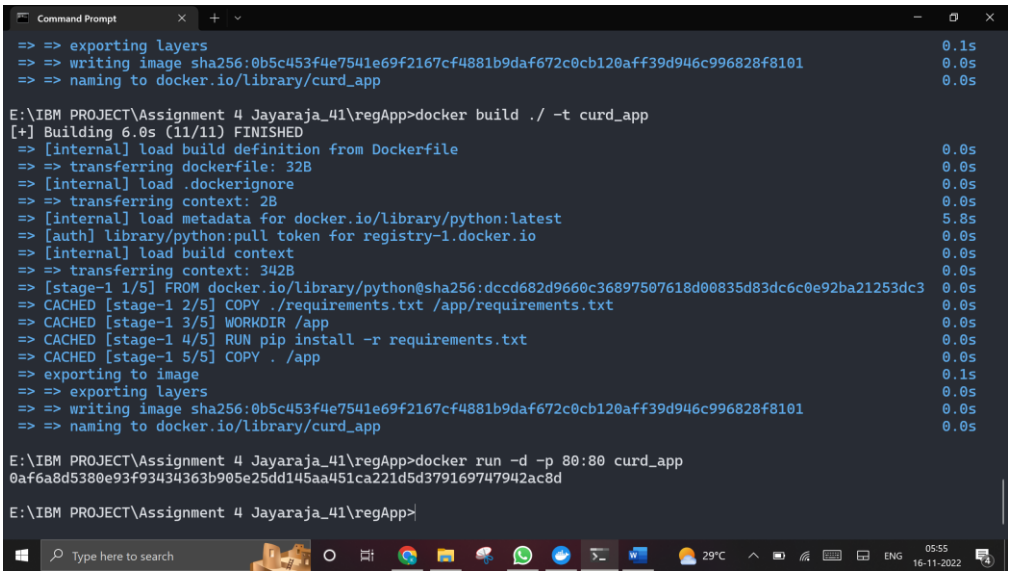
1. *Install Docker Desktop*
2. *Install WSL and convert it to WSL-2 for docker to work*
3. *Go to the project directory*
4. *Create a file called as Dockerfile and add the contents below to the project folder*

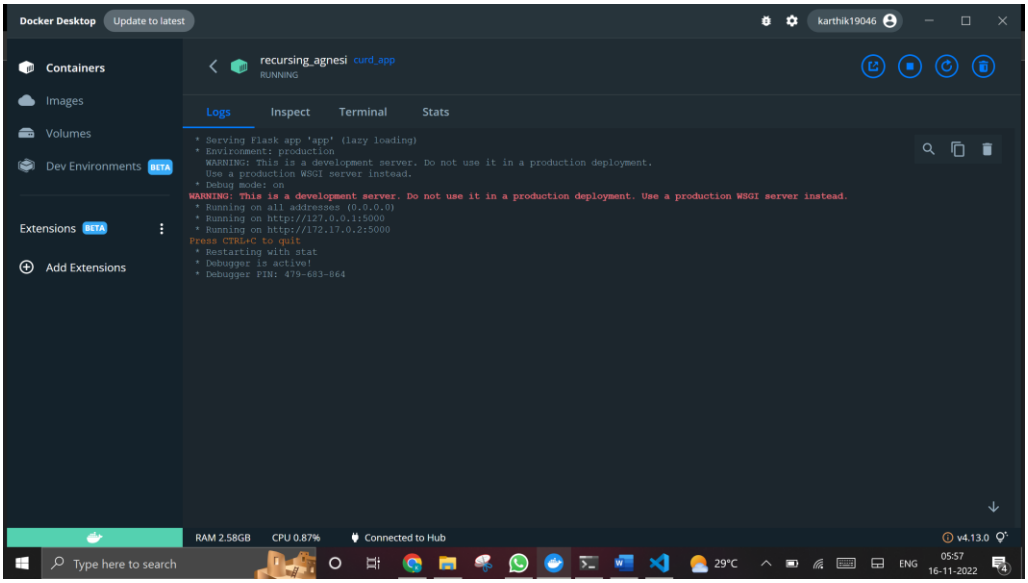
```
FROM ubuntu/apache2
FROM python

COPY ./requirements.txt /app/requirements.txt

WORKDIR /app

RUN pip install -r requirements.txt

COPY . /app

ENTRYPOINT [ "python" ]

CMD ["app.py" ]
```

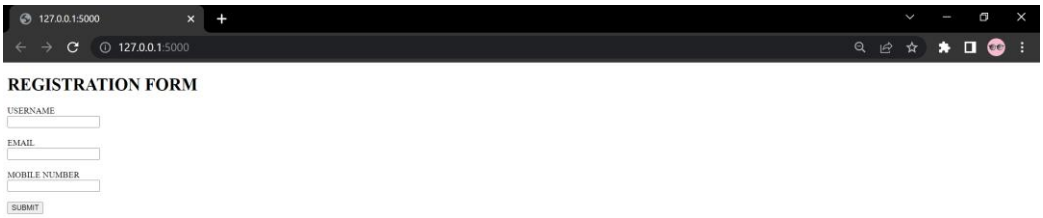
5. *Create the image file as follows:*



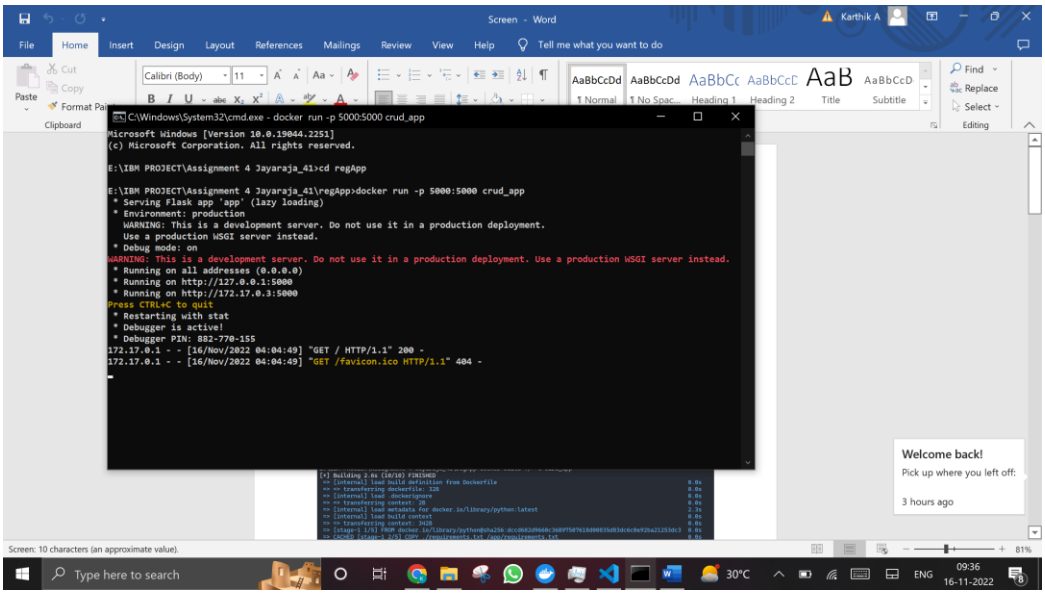




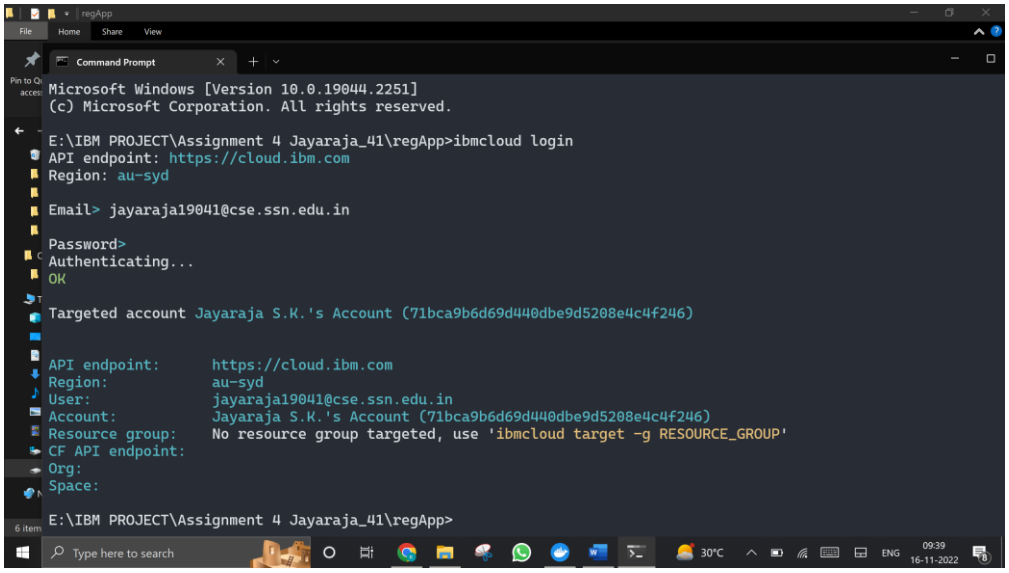

Docker Desktop
Update to latest
karthik19046
Containers
Images
Volumes
Dev Environments
BETA
Extensions
BETA
Add Extensions
recursing_agnesi
curd_app
RUNNING
Logs
Inspect
Terminal
Stats
* Serving Flask app 'app' (lazy loading)
* Environment: production
WARNING: This is a development server. Do not use it in a production deployment.
Use a production WSGI server instead.
* Debug mode: on
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
* Running on all addresses (0.0.0.0)
* Running on http://127.0.0.1:5000
* Running on http://172.17.0.2:5000
Press CTRL+C to quit
* Restarting with stat
* Debugger is active!
* Debugger PIN: 479-683-864
RAM 2.58GB
CPU 0.87%
Connected to Hub
v4.13.0
Type here to search
29°C
ENG
05:57
16-11-2022

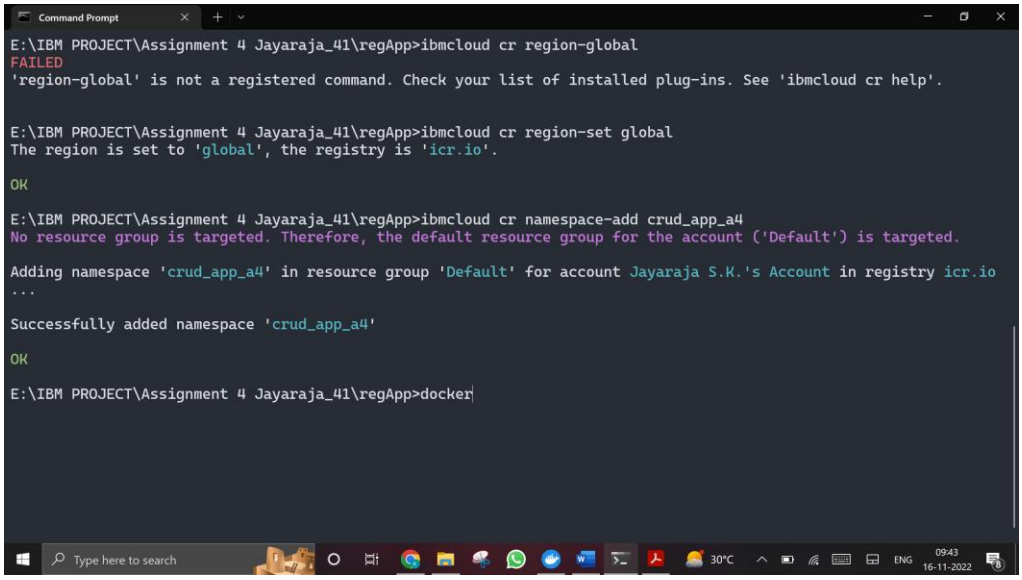

127.0.0.1:5000
127.0.0.1:5000
REGISTRATION FORM
USERNAME
EMAIL
MOBILE NUMBER
SUBMIT

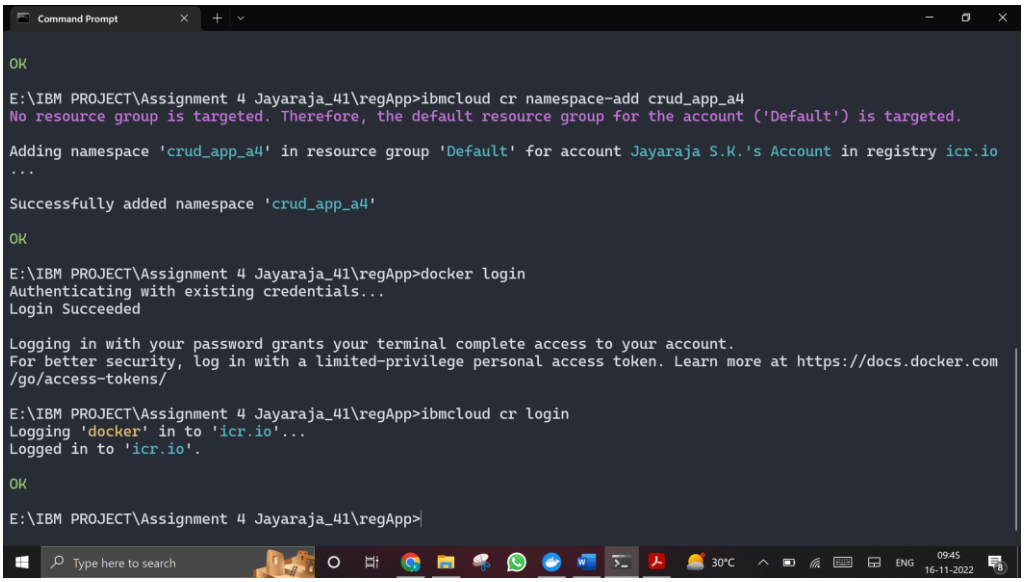

Type here to search
29°C
ENG
05:57
16-11-2022


Screen - Word
Karthik A
File
Home
Insert
Design
Layout
References
Mailings
Review
View
Help
Tell me what you want to do
C:\Windows\System32\cmd.exe - docker run -p 5000:5000 crud_app
Microsoft Windows [Version 10.0.19044.2251]
(c) Microsoft Corporation. All rights reserved.
E:\IBM PROJECT\Assignment 4 Jayaraja_41>cd regApp
E:\IBM PROJECT\Assignment 4 Jayaraja_41\regApp>docker run -p 5000:5000 crud_app
* 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: on
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
* Running on all addresses (0.0.0.0)
* Running on http://127.0.0.1:5000
* Running on http://172.17.0.3:5000
Press CTRL+C to quit
* Restarting with stat
* Debugger is active!
* Debugger PIN: 882-770-155
172.17.0.1 - - [16/Nov/2022 04:04:49] "GET / HTTP/1.1" 200 -
172.17.0.1 - - [16/Nov/2022 04:04:49] "GET /favicon.ico HTTP/1.1" 404 -
Welcome back!
Pick up where you left off:
3 hours ago
Type here to search
30°C
ENG
09:36
16-11-2022

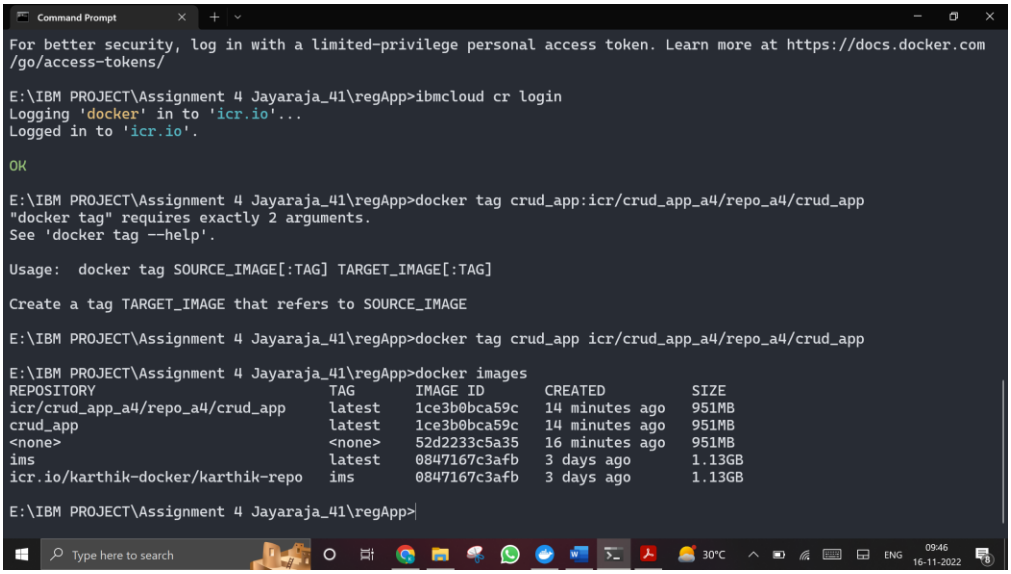
6. *Install IBM Cloud CLI and login into it from the CMD*

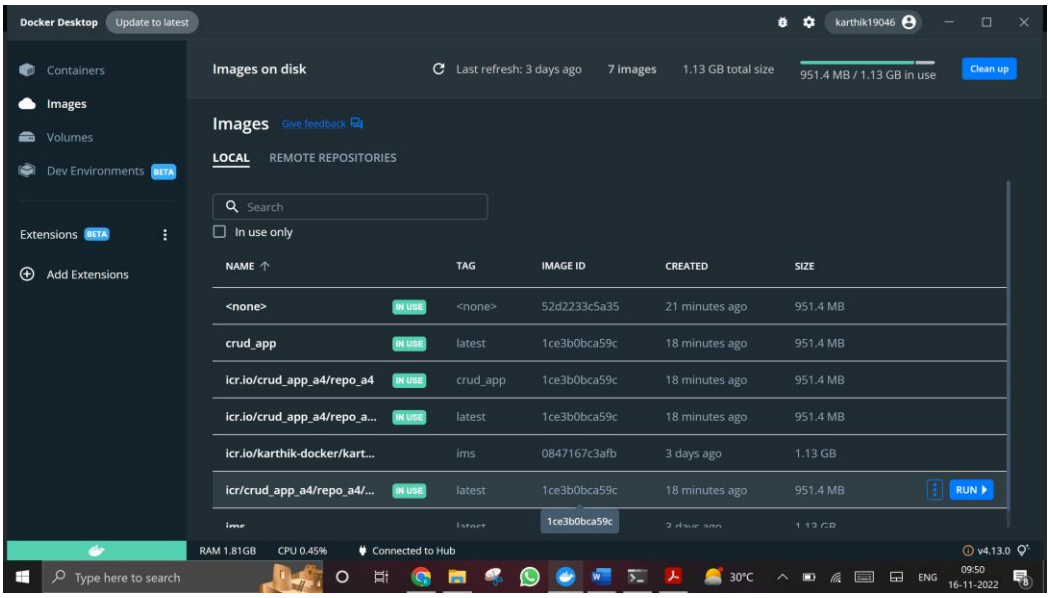


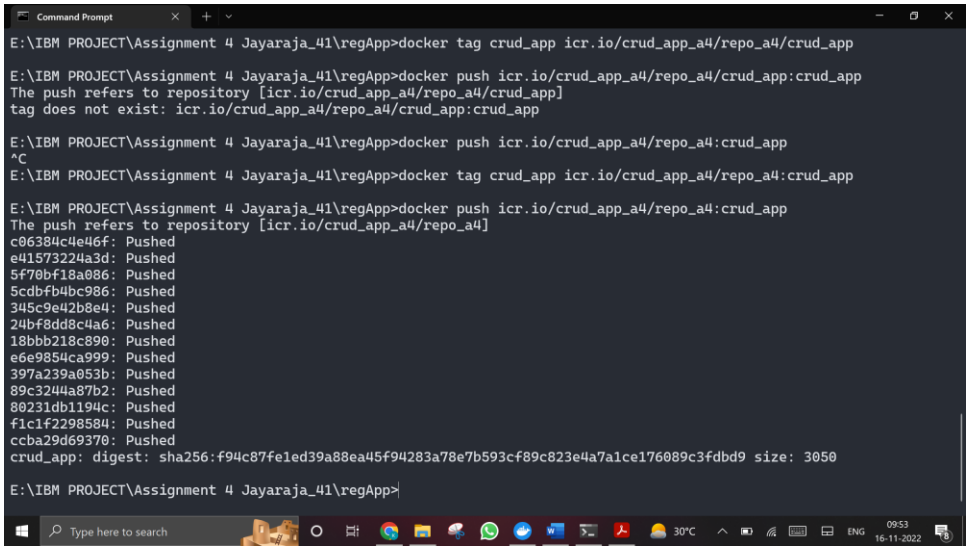




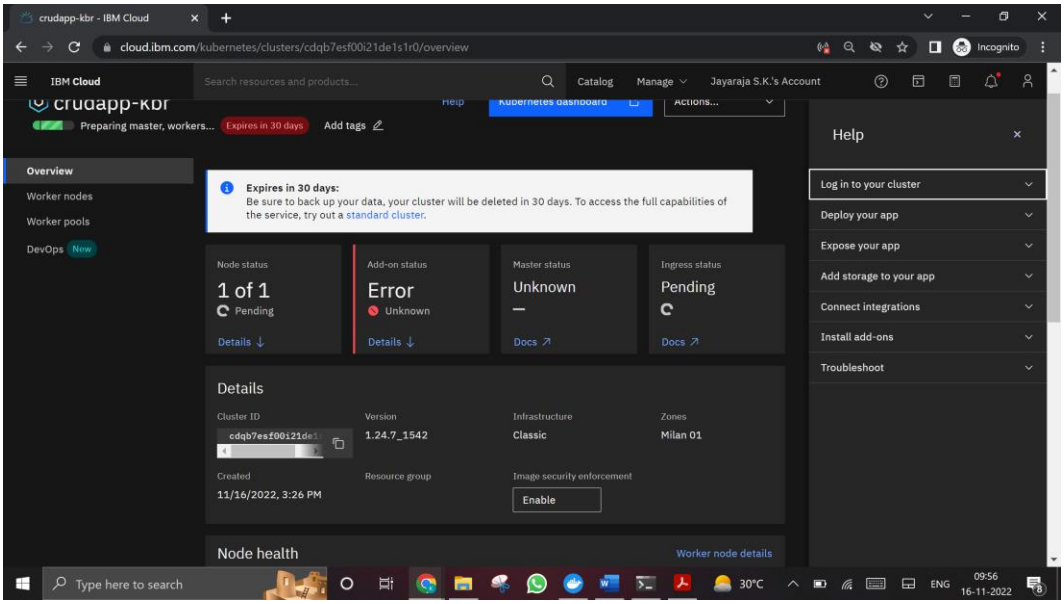
7. *Push the image to the container registry*

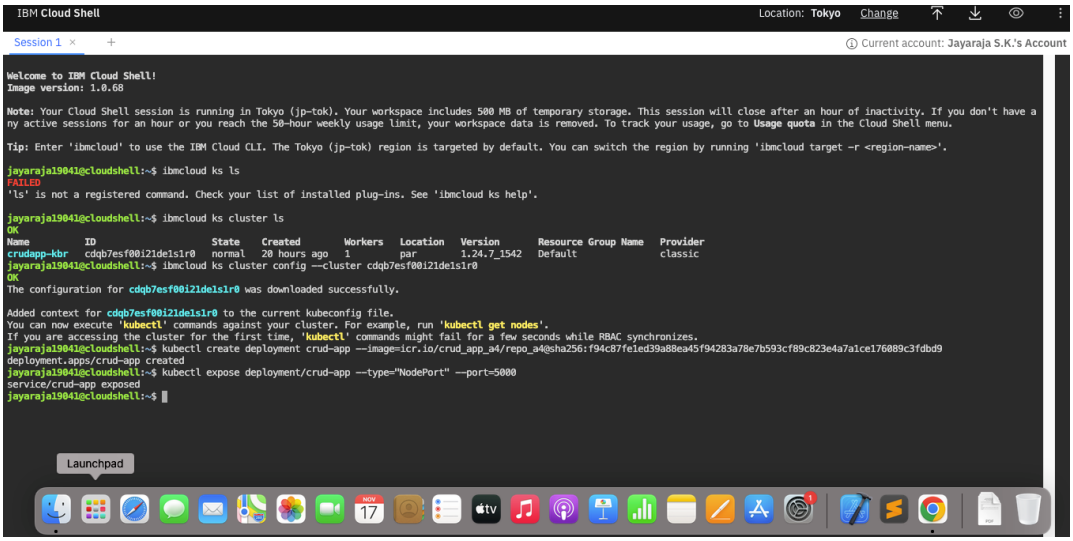


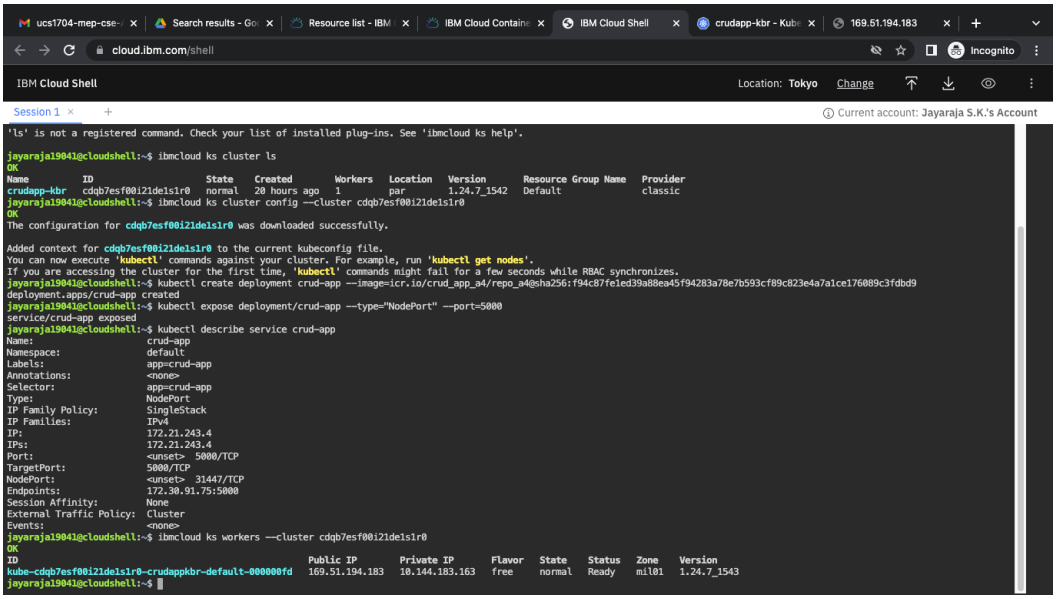


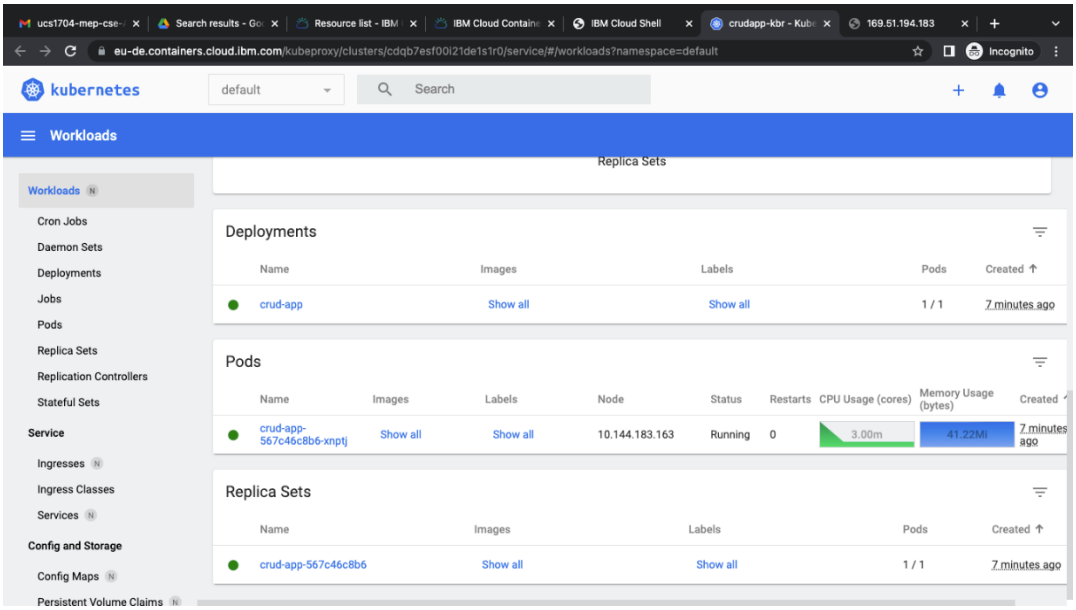


8. *Create a Kubernetes cluster in IBM Cloud and push the app to deploy it globally*






cloud.ibm.com/shell
IBM Cloud Shell
Location: Tokyo Change
Session 1
Current account: Jayaraja S.K.'s Account
'ls' is not a registered command. Check your list of installed plug-ins. See 'ibmcloud ks help'.
jayaraja19041@cloudshell:~$ ibmcloud ks cluster ls
OK
Name ID State Created Workers Location Version Resource Group Name Provider
crudapp-kbr cdqb7esf00i21de1s1r0 normal 20 hours ago 1 par 1.24.7_1542 Default classic
jayaraja19041@cloudshell:~$ ibmcloud ks cluster config --cluster cdqb7esf00i21de1s1r0
OK
The configuration for cdqb7esf00i21de1s1r0 was downloaded successfully.
Added context for cdqb7esf00i21de1s1r0 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.
jayaraja19041@cloudshell:~$ kubectl create deployment crud-app --image=icr.io/crud_app_a4/repo_a4@sha256:f94c87fe1ed39a88ea45f94283a78e7b593cf89c823e4a7a1ce176089c3fdbd9
deployment.apps/crud-app created
jayaraja19041@cloudshell:~$ kubectl expose deployment/crud-app --type="NodePort" --port=5000
service/crud-app exposed
jayaraja19041@cloudshell:~$ kubectl describe service crud-app
Name: crud-app
Namespace: default
Labels: app=crud-app
Annotations: <none>
Selector: app=crud-app
Type: NodePort
IP Family Policy: SingleStack
IP Families: IPv4
IP: 172.21.243.4
IPs: 172.21.243.4
Port: <unset> 5000/TCP
TargetPort: 5000/TCP
NodePort: <unset> 31447/TCP
Endpoints: 172.30.91.75:5000
Session Affinity: None
External Traffic Policy: Cluster
Events: <none>
jayaraja19041@cloudshell:~$ ibmcloud ks workers --cluster cdqb7esf00i21de1s1r0
OK
ID Public IP Private IP Flavor State Status Zone Version
kube-cdqb7esf00i21de1s1r0-crudappkbr-default-000000fd 169.51.194.183 10.144.183.163 free normal Ready mil01 1.24.7_1543
jayaraja19041@cloudshell:~$


eu-de.containers.cloud.ibm.com/kubeproxy/clusters/cdqb7esf00i21de1s1r0/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
Replica Sets
Deployments
Name Images Labels Pods Created
crud-app Show all Show all 1 / 1 7 minutes ago
Pods
Name Images Labels Node Status Restarts CPU Usage (cores) Memory Usage (bytes) Created
crud-app-567c46c8b6-xnptj Show all Show all 10.144.183.163 Running 0 3.00m 41.22Mi 7 minutes ago
Replica Sets
Name Images Labels Pods Created
crud-app-567c46c8b6 Show all Show all 1 / 1 7 minutes ago