

Sprint 4

Team ID: PNT2022TMID38924

TeamMates:

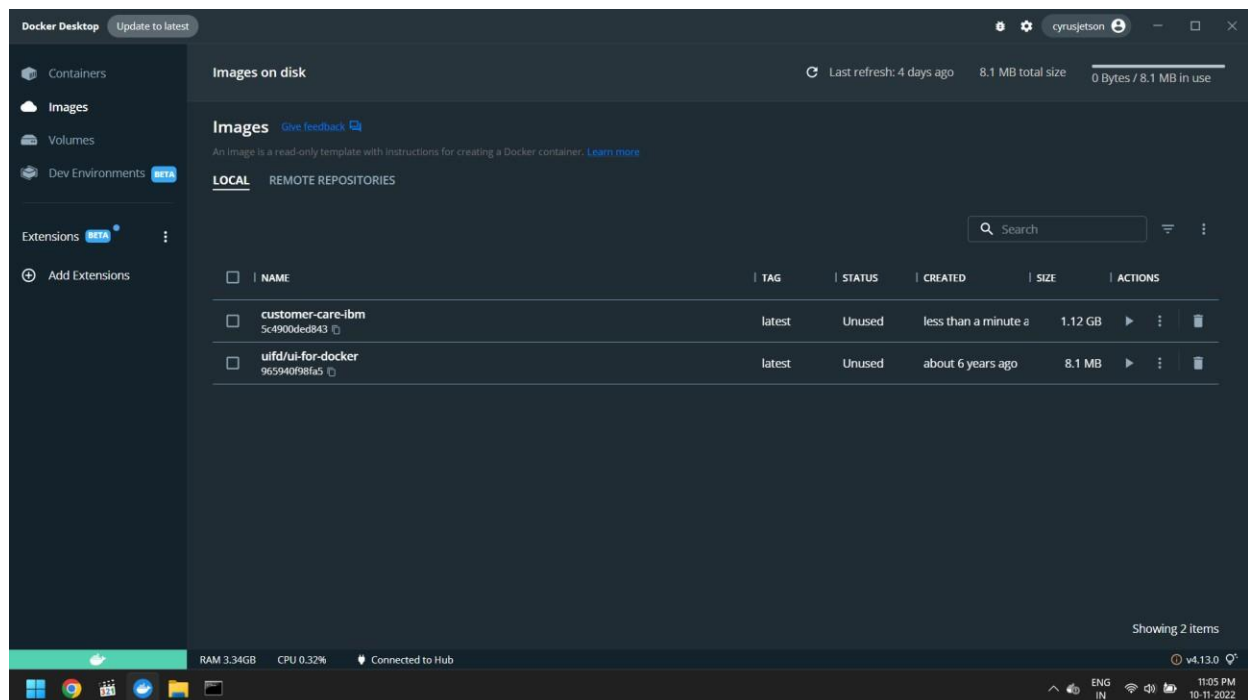
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3. Kiruthika M
4. tamilselvan S

Sprint4:

1. Containerize the flask app
2. Upload in docker hub
3. Building Image
4. Pushing docker image
5. Running on Docker playground
6. Setting up container registry
7. Uploading image in container registry
8. Deploy in Docker
9. Upload Demo Video-https://youtu.be/Yi_fo4sqhQA

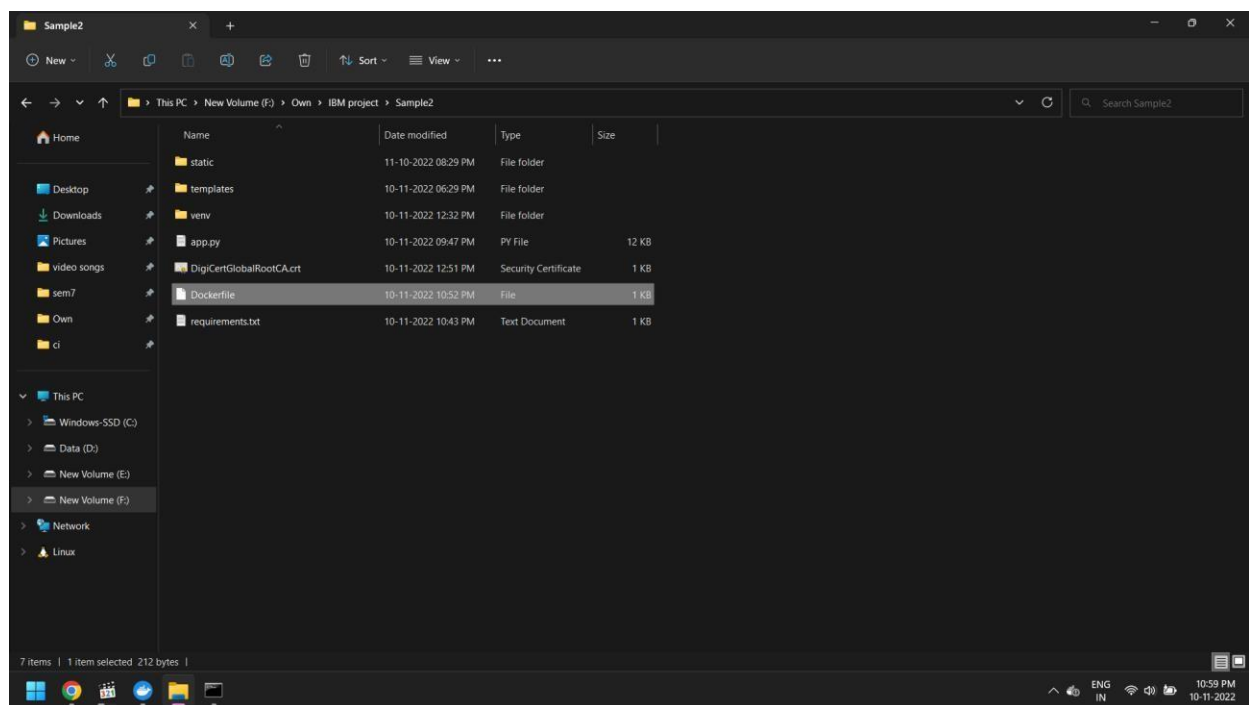
Output:

1. Containerize the app:

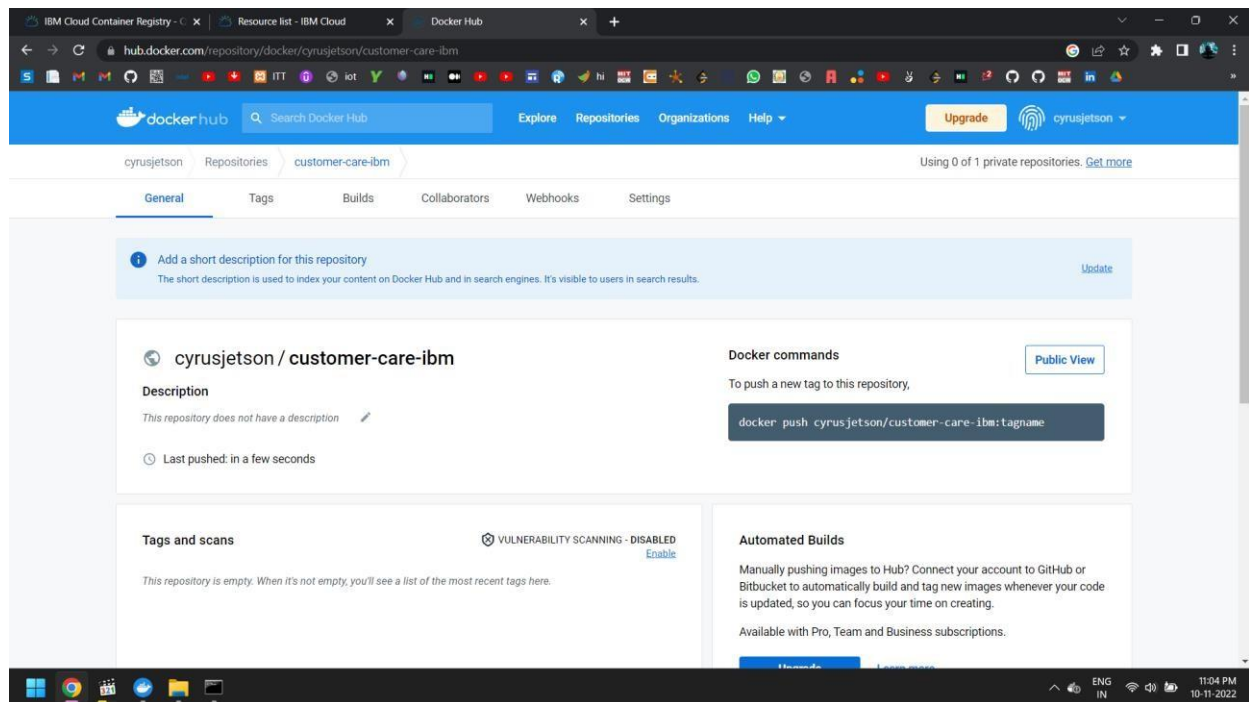


```
C:\Windows\System32\cmd.exe - docker build -t customer-care-ibm .
[+] Building 391.0s (5/12)
--> [internal] load build definition from Dockerfile 0.0s
--> [internal] load .dockerignore 0.0s
--> [internal] load metadata for docker.io/library/python:3.6 1.2s
--> [internal] load build context 0.15s
--> [1/7] FROM docker.io/library/python:3.6@sha256:f8652afaf88c25f0d22354d547d892591067a0626a7fa9a6819df9f300af6fc 389.6s
--> resolve docker.io/library/python:3.6@sha256:f8652afaf88c25f0d22354d547d892591067a0626a7fa9a6819df9f300af6fc 0.0s
--> sha256:d897a407a8ec879df5ac31872359c2de510f82214c8448e26393b376d3b08d 2.22kB / 2.22kB 0.0s
--> sha256:5426084807c3e3a2d4c0e21fc080a0c848a276340892080f7f131440184 0.27kB / 0.27kB 0.0s
--> sha256:9b829c73b52b92b7d5c07a54fb0f3e921995a206c714b53a32ae67d19231fed 0.515MB / 5.15MB 0.5s
--> sha256:cb5b7ae361722f070eca53f35823ed21baa85d61d5d95cd5a95ab53d740cdd56 10.87MB / 10.87MB 0.5s
--> sha256:0e2954d541cdd309281d21a73a9d1db78665c1b95b74f32b009e0b77a6e1e3 0.54.92MB / 54.92MB 0.5s
--> sha256:cb5b7ae361722f070eca53f35823ed21baa85d61d5d95cd5a95ab53d740cdd56 10.87MB / 10.87MB 0.5s
--> CACHED [2/7] RUN apt-get update 0.0s
--> CACHED [3/7] RUN apt-get install python3-pip 0.0s
--> CACHED [4/7] ADD . /app 0.0s
--> ERROR [5/7] COPY requirements.tx /app 0.0s
-----
> [5/7] COPY requirements.tx /app:
-----
failed to compute cache key: "/requirements.tx" not found: not found

F:\Own\IBM project\Sample2>docker build -t customer-care-ibm .
[+] Building 391.0s (5/12)
--> [internal] load build definition from Dockerfile 0.0s
--> [internal] load .dockerignore 0.0s
--> [internal] load metadata for docker.io/library/python:3.6 1.2s
--> [internal] load build context 0.15s
--> [1/7] FROM docker.io/library/python:3.6@sha256:f8652afaf88c25f0d22354d547d892591067a0626a7fa9a6819df9f300af6fc 389.6s
--> resolve docker.io/library/python:3.6@sha256:f8652afaf88c25f0d22354d547d892591067a0626a7fa9a6819df9f300af6fc 0.0s
--> sha256:d897a407a8ec879df5ac31872359c2de510f82214c8448e26393b376d3b08d 2.22kB / 2.22kB 0.0s
--> sha256:5426084807c3e3a2d4c0e21fc080a0c848a276340892080f7f131440184 0.27kB / 0.27kB 0.0s
--> sha256:9b829c73b52b92b7d5c07a54fb0f3e921995a206c714b53a32ae67d19231fed 0.515MB / 5.15MB 0.5s
--> sha256:cb5b7ae361722f070eca53f35823ed21baa85d61d5d95cd5a95ab53d740cdd56 10.87MB / 10.87MB 0.5s
--> sha256:f8652afaf88c25f0d22354d547d892591067a0626a7fa9a6819df9f300af6fc 1.80kB / 1.80kB 0.0s
--> sha256:0e2954d541cdd309281d21a73a9d1db78665c1b95b74f32b009e0b77a6e1e3 54.92MB / 54.92MB 0.5s
--> sha256:cb5b7ae361722f070eca53f35823ed21baa85d61d5d95cd5a95ab53d740cdd56 10.87MB / 10.87MB 0.5s
--> sha256:6f9f74896d4f93fed72f594fab85e9b4e8a84180fefe9112cfc4d3c78f7 183.50MB / 186.51MB 2.4s
--> sha256:0e2954d541cdd309281d21a73a9d1db78665c1b95b74f32b009e0b77a6e1e3 2.4s / 2.4s 0.0s
--> sha256:0e2954d541cdd309281d21a73a9d1db78665c1b95b74f32b009e0b77a6e1e3 2.4s / 2.4s 0.0s
--> extracting sha256:cb5b7ae361722f070eca53f35823ed21baa85d61d5d95cd5a95ab53d740cdd56 0.3s
--> sha256:0e2954d541cdd309281d21a73a9d1db78665c1b95b74f32b009e0b77a6e1e3 14.21MB / 14.21MB 0.0s
--> sha256:6f9f74896d4f93fed72f594fab85e9b4e8a84180fefe9112cfc4d3c78f7 254.8s / 254.8s 2.4s
--> extracting sha256:6f9f74896d4f93fed72f594fab85e9b4e8a84180fefe9112cfc4d3c78f7 2.4s / 2.4s 0.0s
--> sha256:c442be2be53b080bdfc0d0c1d1f130e38434cc5f5d954a5084ba610a3a3f 2.21MB / 2.21MB 0.0s
--> [auth] library/python:pull token for registry-1.docker.io 0.0s
```



2.Upload in docker hub



```

C:\Windows\System32\cmd.exe - docker build -t customer-care-ibm .
--severity string Only report vulnerabilities of provided level
                    or higher (low/medium/high)
--token string     Authentication token to login to the third
                    party scanning provider
--version          Display version of the scan plugin
"docker scan" requires exactly 1 argument

F:\Qm\IBM project\Sample2>docker build -t customer-care-ibm .
[+] Building 214.7s (11/12)
=> [internal] load build definition from Dockerfile                                0.0s
=> => transferring dockerfile: 33B                                                0.0s
=> [internal] load .dockerignore                                                    0.0s
=> => transferring context: 2B                                                    0.0s
=> [internal] load metadata for docker.io/library/python:3.6                    1.1s
=> [auth] library/python:pull token for registry-1.docker.io                    0.0s
=> [internal] load build context                                                    1.3s
=> => transferring context: 95.20kB                                              1.4s
=> [1/7] FROM docker.io/library/python:3.6@sha256:f852afef8bc25f8d22354d547d892591867ae4026a7fa 0.0s
=> CACHED [2/7] RUN apt-get update                                                0.0s
=> CACHED [3/7] WORKDIR /app                                                      0.0s
=> [4/7] ADD . /app                                                              1.6s
=> [5/7] COPY requirements.txt /app                                              0.0s
=> CANCELED [6/7] RUN python3 -m pip install -r requirements.txt                208.0s
context canceled

F:\Qm\IBM project\Sample2>
F:\Qm\IBM project\Sample2>docker build -t customer-care-ibm .
[+] Building 142.1s (9/11)
=> [internal] load build definition from Dockerfile                                0.0s
=> => transferring dockerfile: 33B                                                0.0s
=> [internal] load .dockerignore                                                    0.0s
=> => transferring context: 2B                                                    0.0s
=> [internal] load metadata for docker.io/library/python:3.6                    1.1s
=> [1/7] FROM docker.io/library/python:3.6@sha256:f852afef8bc25f8d22354d547d892591867ae4026a7fa 0.0s
=> [internal] load build context                                                    0.2s
=> => transferring context: 233.80kB                                             0.1s
=> CACHED [2/7] RUN apt-get update                                                0.0s
=> CACHED [3/7] WORKDIR /app                                                      0.0s
=> [4/7] ADD . /app                                                              0.7s
=> [5/7] COPY requirements.txt /app                                              0.1s
=> [6/7] RUN python3 -m pip install -r requirements.txt                          139.8s
=> => # Collecting ripp>0.5
=> => # Downloading ripp-1.6.0-py3-none-any.whl (5.3 kB)
=> => # Collecting typing_extensions>3.6.4
=> => # Downloading typing_extensions-4.1.1-py3-none-any.whl (26 kB)
=> => # Building wheels for collected packages: ibm-db
=> => # Building wheel for ibm-db (PEP 517): started

```

3. Building Image

```
C:\Windows\System32\cmd.exe
[+] Building 147.7s (12/12) FINISHED
=> [internal] load build definition from Dockerfile
=> [internal] load .dockerignore
=> [internal] transfering context: 20
=> [internal] load metadata for docker.io/library/python:3.6
=> [auth] library/python:pull token for registry-1.docker.io
=> [internal] load build context
=> [internal] load .dockerignore
=> [1/7] FROM docker.io/library/python:3.6@sha256:f8052aaf88c25f8d22354d5478892591867aa48026a7fa
=> CACHED [2/7] RUN apt-get update
=> CACHED [3/7] WORKDIR /app
=> [4/7] ADD . /app
=> [5/7] COPY requirements.txt /app
=> CANCELED [6/7] RUN python3 -m pip install -r requirements.txt
context canceled

F:\Own\IBM project\Sample2>
F:\Own\IBM project\Sample2>docker build -t customer-care-ibm .
[+] Building 147.7s (12/12) FINISHED
=> [internal] load build definition from Dockerfile
=> [internal] load .dockerignore
=> [internal] transfering context: 20
=> [internal] load metadata for docker.io/library/python:3.6
=> [1/7] FROM docker.io/library/python:3.6@sha256:f8052aaf88c25f8d22354d5478892591867aa48026a7fa
=> [internal] load build context
=> [internal] load .dockerignore
=> CACHED [2/7] RUN apt-get update
=> CACHED [3/7] WORKDIR /app
=> [4/7] ADD . /app
=> [5/7] COPY requirements.txt /app
=> [6/7] RUN python3 -m pip install -r requirements.txt
=> [7/7] RUN python3 -m pip install ibm_db
=> exporting to image
=> exporting layers
=> writing image sha256:5d9a0042e6308c3443e0ae9312620f7540eca2594f6813b1352421b7acd09c
=> naming to docker.io/library/customer-care-ibm

F:\Own\IBM project\Sample2>docker login
Authenticating with existing credentials...
Login Succeeded

Logging in with your password grants your terminal complete access to your account.
For better security, log in with a limited-privilege personal access token. Learn more at https://docs.docker.com/go/access-tokens/

F:\Own\IBM project\Sample2>docker tag customer-care-ibm cyrusjetson/customer-care-ibm

F:\Own\IBM project\Sample2>
```

4. Pushing docker image

```
C:\Windows\System32\cmd.exe : docker push cyrusjetson/customer-care-ibm
F:\Own\IBM project\Sample2>docker build -t customer-care-ibm .
[+] Building 147.7s (12/12) FINISHED
=> [internal] load build definition from Dockerfile
=> [internal] load .dockerignore
=> [internal] transfering context: 20
=> [internal] load metadata for docker.io/library/python:3.6
=> [1/7] FROM docker.io/library/python:3.6@sha256:f8052aaf88c25f8d22354d5478892591867aa48026a7fa
=> [internal] load build context
=> [internal] load .dockerignore
=> CACHED [2/7] RUN apt-get update
=> CACHED [3/7] WORKDIR /app
=> [4/7] ADD . /app
=> [5/7] COPY requirements.txt /app
=> [6/7] RUN python3 -m pip install -r requirements.txt
=> [7/7] RUN python3 -m pip install ibm_db
=> exporting to image
=> exporting layers
=> writing image sha256:5d9a0042e6308c3443e0ae9312620f7540eca2594f6813b1352421b7acd09c
=> naming to docker.io/library/customer-care-ibm

F:\Own\IBM project\Sample2>docker login
Authenticating with existing credentials...
Login Succeeded

Logging in with your password grants your terminal complete access to your account.
For better security, log in with a limited-privilege personal access token. Learn more at https://docs.docker.com/go/access-tokens/

F:\Own\IBM project\Sample2>docker tag customer-care-ibm cyrusjetson/customer-care-ibm

F:\Own\IBM project\Sample2>docker push cyrusjetson/customer-care-ibm
Using default tag: latest
The push refers to repository [docker.io/cyrusjetson/customer-care-ibm]
e450b874bb2d: Pushing 2.04kB
e5bf88e9911c: Pushing > ] 1.63kB/176.2MB
5d9a0042e63: Pushing [=====] 2.56kB
445af8242a8b: Pushing > ] 2.19kB/114.7MB
1c0e240e77a2: Pushing 1.53kB
41e9637cbb82: Waiting
aa4c808c19f6: Waiting
8ba9f690c0ba: Waiting
8e07d99ef9f: Waiting
1e18e7efcc2: Preparing
c3a0d593ed24: Waiting
26a504e3be4: Waiting
8bf42db0d672: Waiting
f1892cc314cb: Waiting
11936051f93b: Waiting
```

```
C:\Windows\System32\cmd.exe - docker push cyrusjetson/customer-care-ibm

+ Building 147.7s (12/12) FINISHED
-> [internal] load build definition from Dockerfile
=> [internal] load .dockerignore
=> [internal] load metadata for docker.io/library/python:3.8
=> [1/7] FROM docker.io/library/python:3.8@sha256:f8522a1af88c25f0d22354d5470892591067aa4026a7fa
=> [internal] load build context
=> transferring context: 231.89kB
=> CACHED [2/7] RUN apt-get update
=> CACHED [3/7] WORKDIR /app
=> [4/7] ADD . /app
=> [5/7] COPY requirements.txt /app
=> [6/7] RUN python3 -m pip install --no requirements.txt
=> [7/7] RUN python3 -m pip install ibm_db
=> exporting to image
=> exporting layers
=> writing image sha256:50ba60842eb308c94430bae093202037540eca2504fe813b1352621b7ac09bc
=> naming to docker.io/library/customer-care-ibm

c:\Qm\IBM project\Sample2>docker login
Authenticating with existing credentials...
Login Succeeded

Logging in with your password grants your terminal complete access to your account.
For better security, log in with a limited-privilege personal access token. Learn more at https://docs.d
ocker.com/go/access-tokens/

c:\Qm\IBM project\Sample2>docker tag customer-care-ibm cyrusjetson/customer-care-ibm

c:\Qm\IBM project\Sample2>docker push cyrusjetson/customer-care-ibm
Using default tag: latest
The push refers to repository [docker.io/cyrusjetson/customer-care-ibm]
450b874bb2d: Pushed
5bf88e9911c: Pushing 38.38MB/176.2MB
d6a6802ee3: Pushed
45af8242a8b: Pushing 116.6MB
c0a240e77a2: Pushed
1e9e37cbb82: Pushed
a4c888c19f6: Mounted from library/python
ba9f690e8ba: Mounted from library/python
e607d50ef9f: Mounted from library/python
a18c7e1fcc2: Pushing 184.8KB/18.49MB
3a0d591ed24: Pushing 145.4MB/528.4MB
6a504e63be4: Mounted from library/python
bf42db0de72: Pushing 1.42MB/18.95MB
1892cc31acb: Waiting
1936051f93b: Waiting
```

5. Running on Docker playground

The screenshot displays the Docker Playground interface in a web browser. The top navigation bar includes links to IBM Cloud Container Registry, Docker Hub, and Image Layer Details. The main content area shows the details of a container named 'cdmjrae3_cdmjrc3tccg009qdm3g'. The container's IP is 192.168.0.28, and it has 30.21% memory usage (1.18GiB / 3.906GiB) and 139.31% CPU usage. The SSH command is 'ssh ip172-18-0-28-cdmjrae3tccg009qdm2g@direct.labs.play'. Below the container details, there is a terminal window showing the command 'docker pull cyrusjetson/customer-care-ibm' and its output, which includes the pull progress and the final download of the image.

```
cdmjrae3_cdmjrc3tccg009qdm3g

IP: 192.168.0.28 OPEN PORT

Memory 30.21% (1.18GiB / 3.906GiB) CPU 139.31%

SSH ssh ip172-18-0-28-cdmjrae3tccg009qdm2g@direct.labs.play

DELETE EDITOR

[terminal output]
[cdmjrae3_cdmjrc3tccg009qdm3g] ~
$ docker pull cyrusjetson/customer-care-ibm
Using default tag: latest
latest: Pulling from cyrusjetson/customer-care-ibm
0e29546d541c: Pull complete
9b829c73b52b: Pull complete
cb5b7ae36172: Pull complete
6494e4811622: Pull complete
679f74896dfa: Pull complete
5e3b1213e6c5: Pull complete
9fd4dfc56334: Pull complete
404f0204bac: Pull complete
c4f42be2be53: Pull complete
5c412c1d3034: Pull complete
ee820dalc1f63: Pull complete
b8e8d0d61fa6: Extracting [=====>] 16.91MB/38.71MB
fa8074a00a1c: Download complete
c9fe261af39f: Download complete
c6252405e396: Download complete
```

03:57:15

CLOSE SESSION

Instances

+ ADD NEW INSTANCE

192.168.0.28
node1

cdmjrae3_cdmjrce3tccg009qdm3g

IP: 192.168.0.28 OPEN PORT 5000

Memory: 35.12% (1.372GiB / 3.906GiB) CPU: 0.80%

SSH: ssh ip172-18-0-28-cdmjrce3tccg009qdm3g@direct.labs.pla:

DELETE EDITOR

```

c4f42be2be53: Pull complete
5c412c1d3034: Pull complete
ee820dalc6f63: Pull complete
bbe8d0d61fa6: Pull complete
fa8074a00a1c: Pull complete
c9fe261af39f: Pull complete
c6252405e396: Pull complete
Digest: sha256:973c39bec40a2ad41d71cbee8511a556b52349108e919ab405568dd19c97bf0
Status: Downloaded newer image for cyrusjetson/customer-care-ibm:latest
docker.io/cyrusjetson/customer-care-ibm:latest
(node1) (local) root@192.168.0.28 ~
$ docker run -p 5000:5000 cyrusjetson/customer-care-ibm
Trying to connect...
connected..
* 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 http://127.0.0.1:5000/ (Press CTRL+C to quit)

```

6. Setting up container registry

```

C:\Users\jeto> ibmcloud plugin install container-registry
Plug-in 'container-registry 1.0.2' was already installed. Do you want to update it with 'container-registry[cr] 1.0.2' or not? [y/N] > Y
Attempting to download the binary file...
11.90 MiB / 11.90 MiB [=====] 100.00% 4s
12476416 bytes downloaded
Installing binary...
Plug-in 'container-registry 1.0.2' was successfully installed into C:\Users\jeto\bluemix\plugins\container-registry. Use 'ibmcloud plugin show container-registry' to show its details.

C:\Users\jeto> ibmcloud plugin install container-registry -r 'IBM Cloud'
Looking up 'container-registry' from repository 'IBM'...
FAILED
* 'IBM' does not exist as an available plug-in repo.
Use 'ibmcloud plugin repos' to list all the added repos.

C:\Users\jeto> ibmcloud cr region-set ap-south
The region is set to 'ap-south', the registry is 'au.icr.io'.

C:\Users\jeto> ibmcloud cr namespace-add customer-care-ibm
No resource group is targeted. Therefore, the default resource group for the account ('Default') is targeted.
Adding namespace 'customer-care-ibm' in resource group 'Default' for account 'Jetson Cyrus J's Account in registry au.icr.io...
Successfully added namespace 'customer-care-ibm'

C:\Users\jeto>

```



```
Command Prompt - docker push au.icr.io/customer-care-ibm/customer-care-ibm

C:\Users\jetso>ibmcloud cr login
Logging 'docker' in to 'au.icr.io'...
Logged in to 'au.icr.io'.

C:\Users\jetso>docker push au.icr.io/customer-care-ibm/customer-care-ibm
Using default tag: latest
The push refers to repository [au.icr.io/customer-care-ibm/customer-care-ibm]
60e69f1ff594: Pushed
e6305036d3f0: Pushed
3a4ff6f5bc4e1: Pushed
7229f373b05a: Pushed
1c8a240e77a2: Pushed
41e9637cbb82: Pushed
aa4c808c19f6: Pushed
8ba9f690e8ba: Pushed
3e607d59ef9f: Pushed
1e18e7elfcc2: Pushed
3a0d593ed24: Pushed
26a504e63be4: Pushing 151.9MB/151.9MB
8bf42db0de72: Pushed
31892cc314cb: Retrying in 1 second
11936051f93b: Retrying in 1 second
net/http: TLS handshake timeout

C:\Users\jetso>docker push au.icr.io/customer-care-ibm/customer-care-ibm
Using default tag: latest
The push refers to repository [au.icr.io/customer-care-ibm/customer-care-ibm]
60e69f1ff594: Layer already exists
e6305036d3f0: Layer already exists
3a4ff6f5bc4e1: Layer already exists
7229f373b05a: Layer already exists
1c8a240e77a2: Layer already exists
41e9637cbb82: Layer already exists
aa4c808c19f6: Layer already exists
8ba9f690e8ba: Layer already exists
3e607d59ef9f: Layer already exists
1e18e7elfcc2: Layer already exists
3a0d593ed24: Layer already exists
26a504e63be4: Pushing [=====] 156.5MB
8bf42db0de72: Layer already exists
31892cc314cb: Pushed
11936051f93b: Pushing [=====] 117MB/123.9MB
```

7. Uploading image in container registry

IBM Cloud Container Registry - F x IBM Cloud Container Registry - F x +

cloud.ibm.com/registry/repos

IBM Cloud

Search resources and products...

Container Registry

Quick start

Namespaces 1

Repositories 1

Images 1

Trash 0

Settings

Repositories

Location

Sydney

Search

Create +

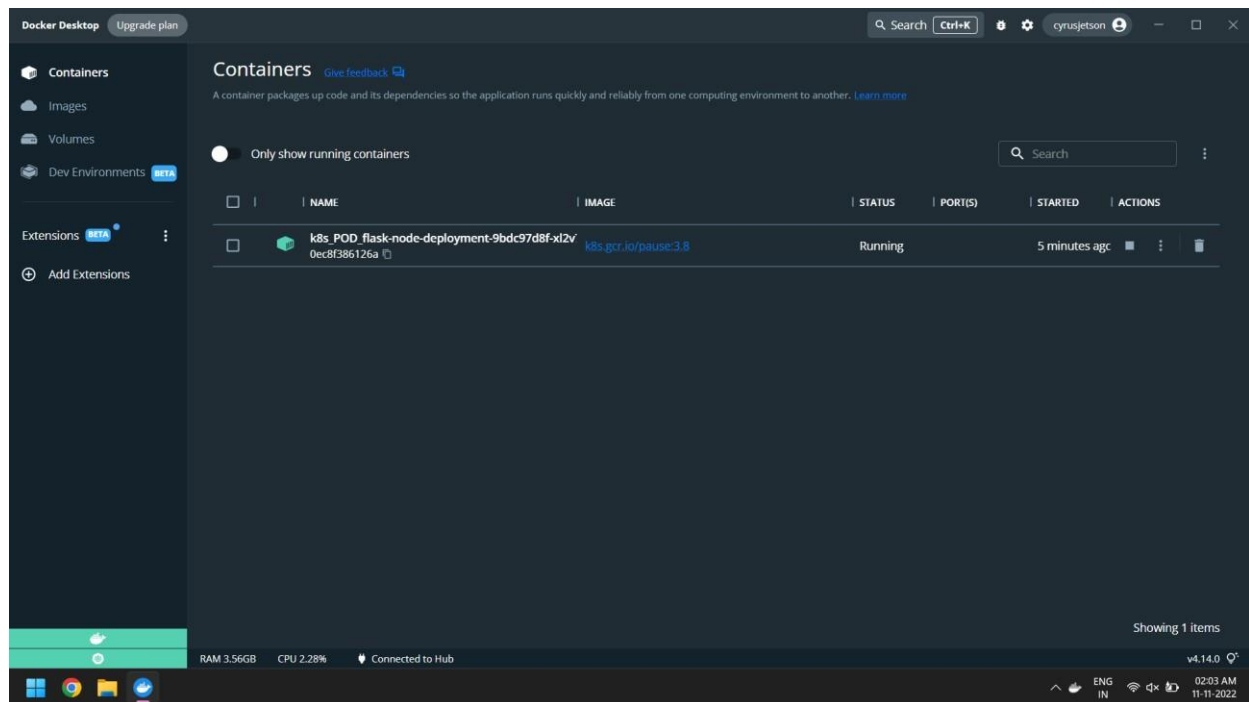
Name	Image count	Namespace	Last updated
customer-care-ibm au.icr.io/customer-care-ibm/customer-care-ibm	1	customer-care-ibm	1 hour ago

Digest	Manifest type	Tags	Created	Size	Security status
396f2b181a98	Docker	latest	1 hour ago	487 MB	Unscanned

Items per page: 25 1-1 of 1 item

1 1 of 1 page

8. Deploy in Docker



9. Upload Demo Video

Youtube video Link : https://youtu.be/Yi_fo4sqhQA