

# Sprint 4

**Team ID: PNT2022TMID292270**

**TeamMates:**

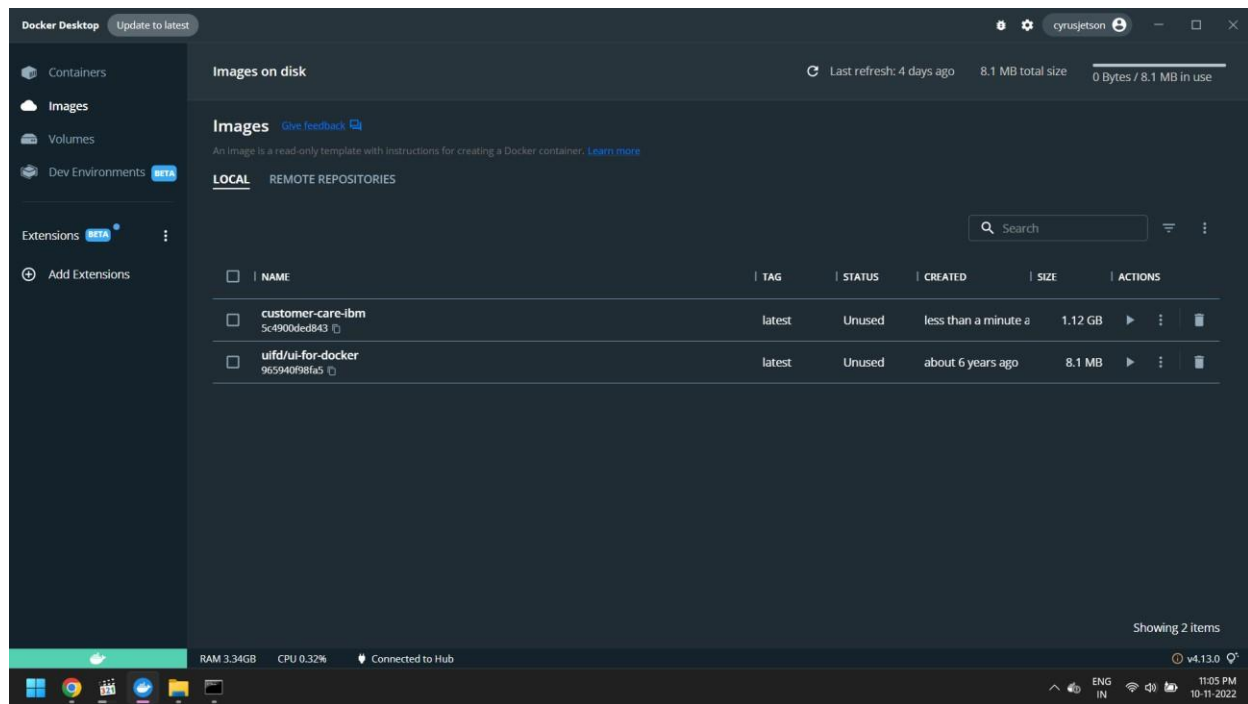
1. GIRUPANETHI K
2. YOGESH K
3. RAJA K
4. AAKASH N

**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](https://youtu.be/Yi_fo4sqhQA)

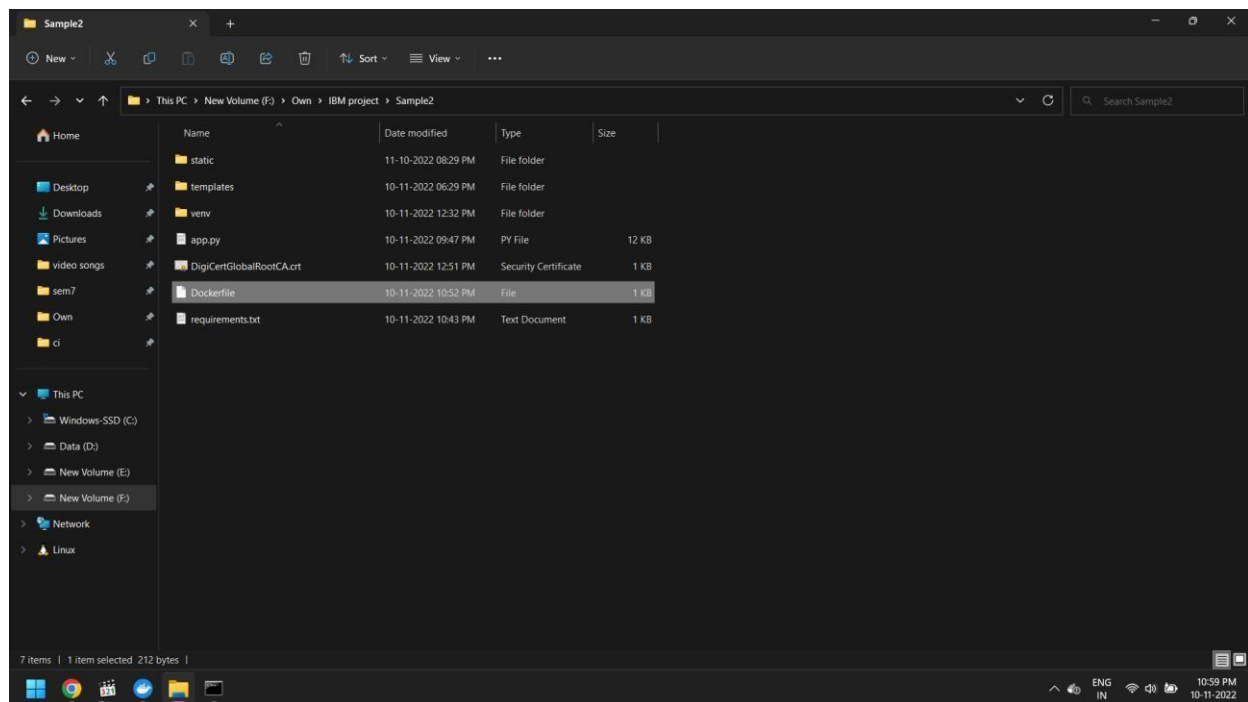
**Output :**

1. Containerize the app:



```
C:\Windows\System32\cmd.exe - docker build -t customer-care-ibm .
[auth] library/python:pull token for registry-1.docker.io 0.0s
[internal] load build context 0.0s
-> transferring context: 18.89MB 0.4s
-> CACHED [1/7] FROM docker.io/library/python:3.6$sha256:f8652afaf88c25f0d2235d547d892591067a 0.5s
-> resolve docker.io/library/python:3.6$sha256:f8652afaf88c25f0d2235d547d892591067a$4026a7fa9a6819df9f300af6fc 0.0s
-> sha256:0897a07abec079df5ac31872359c2de510f82214c0448e26393b376d3b00d 2.22kB / 2.22kB 0.0s
-> sha256:5426848d07c3e3ad4ac0e21fc080ad0c040a276340892000ff7137440104 0.27kB / 0.27kB 0.0s
-> sha256:9b029c73b52b07d5c07a54fb0f3e921995a206c714b53a32ae67d10231fcd 0B / 5.15MB 0.0s
-> sha256:f8652afaf88c25f0d2235d547d892591067a$4026a7fa9a6819df9f300af6fc 1.86kB / 1.86kB 0.0s
-> sha256:0e2954d541cdd309281d21a73a9d1db78665c1b95b74f32b009e0b77ae1e3 0B / 54.92MB 0.5s
-> sha256:cb5b7ae361722f070eca53f35823ed21baa85d61d5d95cd5a95ab53d740cdd56 0B / 10.87MB 0.5s
-> CACHED [2/7] RUN apt-get update 0.0s
-> CACHED [3/7] RUN apt-get install /app 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
-> transferring dockerfile: 25B 0.0s
-> [internal] load .dockerignore 0.0s
-> transferring context: 2B 0.0s
-> [internal] load metadata for docker.io/library/python:3.6 1.3s
-> [internal] load build context 0.1s
-> transferring context: 144.79MB 0.4s
-> [1/7] FROM docker.io/library/python:3.6$sha256:f8652afaf88c25f0d2235d547d892591067a$4026a7fa9a6819df9f300af6fc 389.65s
-> resolve docker.io/library/python:3.6$sha256:f8652afaf88c25f0d2235d547d892591067a$4026a7fa9a6819df9f300af6fc 0.0s
-> sha256:0897a07abec079df5ac31872359c2de510f82214c0448e26393b376d3b00d 2.22kB / 2.22kB 0.0s
-> sha256:5426848d07c3e3ad4ac0e21fc080ad0c040a276340892000ff7137440104 0.27kB / 0.27kB 0.0s
-> sha256:9b029c73b52b07d5c07a54fb0f3e921995a206c714b53a32ae67d10231fcd 0.15MB / 5.15MB 0.0s
-> sha256:cb5b7ae361722f070eca53f35823ed21baa85d61d5d95cd5a95ab53d740cdd56 10.87MB / 10.87MB 0.0s
-> sha256:f8652afaf88c25f0d2235d547d892591067a$4026a7fa9a6819df9f300af6fc 1.86kB / 1.86kB 0.0s
-> sha256:0e2954d541cdd309281d21a73a9d1db78665c1b95b74f32b009e0b77ae1e3 54.92MB / 54.92MB 0.0s
-> sha256:cb5b7ae361722f070eca53f35823ed21baa85d61d5d95cd5a95ab53d740cdd56 253.65s
-> sha256:6f9f74895d4f93fe0172f94fab05e0b4eb0a81a0f6f9312efc7e4d378f7 183.50MB / 183.50MB 0.0s
-> sha256:0e2954d541cdd309281d21a73a9d1db78665c1b95b74f32b009e0b77ae1e3 221.4s
-> extracting sha256:0e2954d541cdd309281d21a73a9d1db78665c1b95b74f32b009e0b77ae1e3 2.0s
-> extracting sha256:9b029c73b52b07d5c07a54fb0f3e921995a206c714b53a32ae67d10231fcd 0.2s
-> extracting sha256:cb5b7ae361722f070eca53f35823ed21baa85d61d5d95cd5a95ab53d740cdd56 0.3s
-> sha256:f8652afaf88c25f0d2235d547d892591067a$4026a7fa9a6819df9f300af6fc 14.21MB / 14.21MB 0.0s
-> sha256:6f9f74895d4f93fe0172f94fab05e0b4eb0a81a0f6f9312efc7e4d378f7 183.50MB / 183.50MB 0.0s
-> sha256:0e2954d541cdd309281d21a73a9d1db78665c1b95b74f32b009e0b77ae1e3 254.8s
-> extracting sha256:0e2954d541cdd309281d21a73a9d1db78665c1b95b74f32b009e0b77ae1e3 2.4s
-> sha256:c4f42be2be53b00ebf1c04c1d0f13de538434ccc5f5d954a5084ba010a3a3f 2.21MB / 2.21MB 0.0s
-> [auth] library/python:pull token for registry-1.docker.io 0.0s
```



## 2.Upload in docker hub

The screenshot shows the Docker Hub interface for the repository `cyrusjetson/customer-care-ibm`. The page includes a search bar, navigation tabs (General, Tags, Builds, Collaborators, Webhooks, Settings), and a description section. The description states: "This repository does not have a description". The "Tags and scans" section indicates that vulnerability scanning is disabled. The "Automated Builds" section provides instructions on how to connect the repository to GitHub or Bitbucket for automated builds. The "Docker commands" section shows the command to push a new tag to the repository: `docker push cyrusjetson/customer-care-ibm:tagname`.

```
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
=> transferring dockerfile: 32B
-> [internal] load .dockerignore
=> transferring context: 2B
-> [internal] load metadata for docker.io/library/python:3.6
=> [auth] library/python:pull token for registry-1.docker.io
-> [internal] load build context
=> transferring context: 95.20MB
-> [1/7] FROM docker.io/library/python:3.6@sha256:f8652a4f88c25fb422354d54f892591867a042ba7fa
=> 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:\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
=> transferring dockerfile: 32B
-> [internal] load .dockerignore
=> transferring context: 2B
-> [internal] load metadata for docker.io/library/python:3.6
-> [1/7] FROM docker.io/library/python:3.6@sha256:f8652a4f88c25fb422354d54f892591867a042ba7fa
=> transferring context: 233.85kB
=> 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
=> # Collecting zipp>0.5
=> # Downloading zipp-3.6.0-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
> docker build -t customer-care-ibm .
[+] Building 147.7s (12/12) FINISHED
=> [internal] load build definition from Dockerfile
=> [internal] load .dockerignore
=> [internal] load build context
=> [1/7] FROM docker.io/library/python:3.6
=> [2/7] FROM docker.io/library/python:3.6
=> [3/7] FROM docker.io/library/python:3.6
=> [4/7] ADD . /app
=> [5/7] COPY requirements.txt /app
=> [6/7] RUN python3 -m pip install -r requirements.txt
context canceled
208.0s

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] load build context
=> [1/7] FROM docker.io/library/python:3.6
=> [2/7] FROM docker.io/library/python:3.6
=> [3/7] FROM docker.io/library/python:3.6
=> [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 layers
=> writing image sha256:5d9a0042ecb308c9443b0ae032620d7540eca2504fe813b1352421b7ac09c
=> 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] load build context
=> [1/7] FROM docker.io/library/python:3.6
=> [2/7] FROM docker.io/library/python:3.6
=> [3/7] FROM docker.io/library/python:3.6
=> [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 layers
=> writing image sha256:5d9a0042ecb308c9443b0ae032620d7540eca2504fe813b1352421b7ac09c
=> 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 2.048kB
a5bf88e911c: Pushing > ] 1.638MB/176.2MB
5d9a0042ecb3: Pushing [=====] 2.56kB
a45af8242a8b: Pushing > ] 2.194MB/114.7MB
1c8e240e77a2: Pushing 1.536kB
41e9637cbb82: Waiting
aa4c888c19f6: Waiting
8ba9f690e8ba: Waiting
3e007d59ef9f: Waiting
1e18e7efcc2: Preparing
c3a0d593ed24: Waiting
26a504e63be4: Waiting
8bf42db0de72: Waiting
31892cc314cb: Waiting
1193605193b: Waiting
```

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

*] Building 147.7s (12/12) FINISHED
-> [internal] load build definition from Dockerfile
0.0s
-> => transferring dockerfile: 32B
0.0s
-> [internal] load .dockerignore
0.0s
-> => transferring context: 2B
0.0s
-> [internal] load metadata for docker.io/library/python:3.6
1.4s
-> [1/7] FROM docker.io/library/python:3.6@sha256:f8522a1af88c25f0d22354d547d892593867aa8025a7fa
0.0s
-> [internal] load build context
0.2s
-> => transferring context: 231.80KB
0.1s
-> CACHED [1/7] RUN apt-get update
0.9s
-> CACHED [1/7] WORKDIR /app
0.9s
-> [4/7] ADD . /app
0.7s
-> [5/7] COPY requirements.txt /app
0.1s
-> [6/7] RUN python3 -m pip install -r requirements.txt
163.2s
-> [7/7] RUN python3 -m pip install ibm_db
1.2s
-> => exporting to image
0.8s
-> => exporting layers
0.8s
-> writing image sha256:508a6042eb388c9443e8ae8932526d7540eca2594fe81361352421b7acd09bc
0.0s
-> naming to docker.io/library/customer-care-ibm
0.0s

[Omn]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/

[Omn]IBM project\Sample2>docker tag customer-care-ibm cyrusjetson/customer-care-ibm

[Omn]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
9bf88e9911c: Pushing 38.38MB/176.2MB
46a88692ec3: Pushed
45af8242a8b: Pushing 116.6MB
c0a240e77a2: Pushed
1e9637cbb82: Pushed
a4c808c19f6: Mounted from library/python
ba9f698e8ba: Mounted from library/python
e607d59ef9f: Mounted from library/python
e18e7e1fcc2: Pushing 184.8KB/18.48MB
3a0d593ed24: Pushing 145.4MB/528.4MB
6a504e63be4: Mounted from library/python
b442d04de72: Pushing 1.42MB/18.95MB
1892cc314cb: Waiting
1936051f93b: Waiting
```

## 5. Running on Docker playground

The screenshot displays the Docker Playground web interface. On the left, a sidebar shows a digital clock at 03:58:31, a 'CLOSE SESSION' button, and a list of instances with one instance named '192.168.0.28 node1'. The main panel shows details for the container 'cdmjrae3\_cdmjrce3tccg009qdm3g', including its IP address (192.168.0.28), memory usage (30.21% of 1.18GiB), CPU usage (139.31%), and an SSH command. Below this, a terminal window shows the execution of 'docker pull cyrusjetson/customer-care-ibm', which successfully pulls the latest image from the Docker Hub repository, showing progress bars for each layer and the total size of 16.91MB.

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
c9re261af39f: Pull complete
c6252405e396: Pull complete
Digest: sha256:ee873c39bec40a2ad41d71cbce8511a556b52349108e919ab405568dd19c97bf0
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\jetso> ibmcloud plugin install container-registry -r 'IBM Cloud'
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...
OK
Plug-in 'container-registry 1.0.2' was successfully installed into C:\Users\jetso\bluemix\plugins\container-registry. Use 'ibmcloud plugin show container-registry' to show its details.

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

OK

C:\Users\jetso> 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'

OK

C:\Users\jetso>

```



```
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]
6e69f1ff594: Pushed
e6305036d3f0: Pushed
3a4ff6f5bc4e1: Pushed
7229f373b05a: Pushed
1c8a240e77a2: Pushed
41e9637cbb82: Pushed
aa4c808c19f6: Pushed
8ba9f690e8ba: Pushed
3e607d59ef9f: Pushed
1e18e7ef1cc2: Pushed
3a0d593ed24: Pushed
26a504e3be4: 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]
6e69f1ff594: 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
1e18e7ef1cc2: Layer already exists
3a0d593ed24: Layer already exists
26a504e3be4: Pushing [=====>] 156.5MB
8bf42db0de72: Layer already exists
31892cc314cb: Pushed
11936051f93b: Pushing [=====>] 117MB/123.9MB
```

## 7. Uploading image in container registry

The screenshot shows the IBM Cloud Container Registry web interface. The left sidebar contains navigation links: IBM Cloud, Container Registry, Quick start, Namespaces (1), Repositories (1), Images (1), Trash (0), and Settings. The main content area is titled 'Repositories' and shows a list of repositories. The 'customer-care-ibm' repository is selected, showing details for the 'latest' tag. The repository is located in 'Sydney' and contains 1 image. The image details include a digest of '396f2b181a98', a manifest type of 'Docker', a size of 487 MB, and a security status of 'Unscanned'.

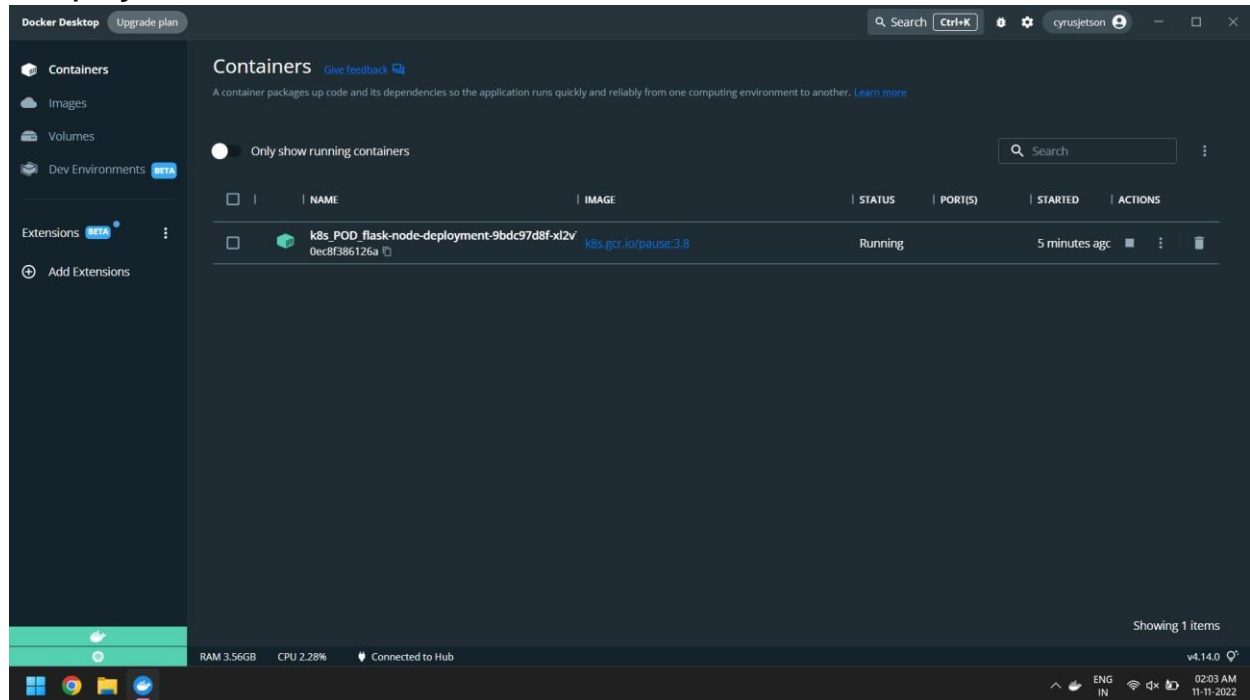
Name	Image count	Namespace	Last updated
customer-care-ibm au.icr.io/customer-care-ibm/customer-care-ibm	1	customer-care-ibm	1 hour ago

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



## 8. Deploy in Docker



## 9. Upload Demo Video

Youtube video Link : [https://youtu.be/Yi\\_fo4sqhQA](https://youtu.be/Yi_fo4sqhQA)