

# Sprint 4

**Team ID: PNT2022TMID13419 Team**

**Mates:**

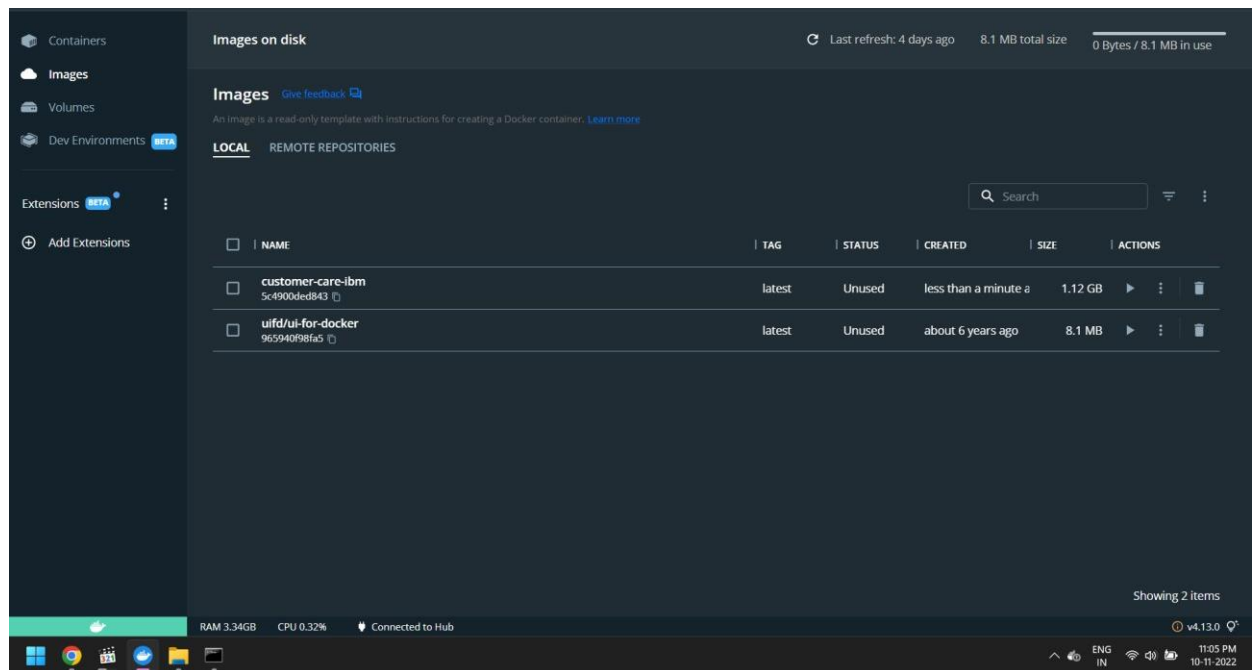
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4. Subbiah P

**Sprint 4:**

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)**

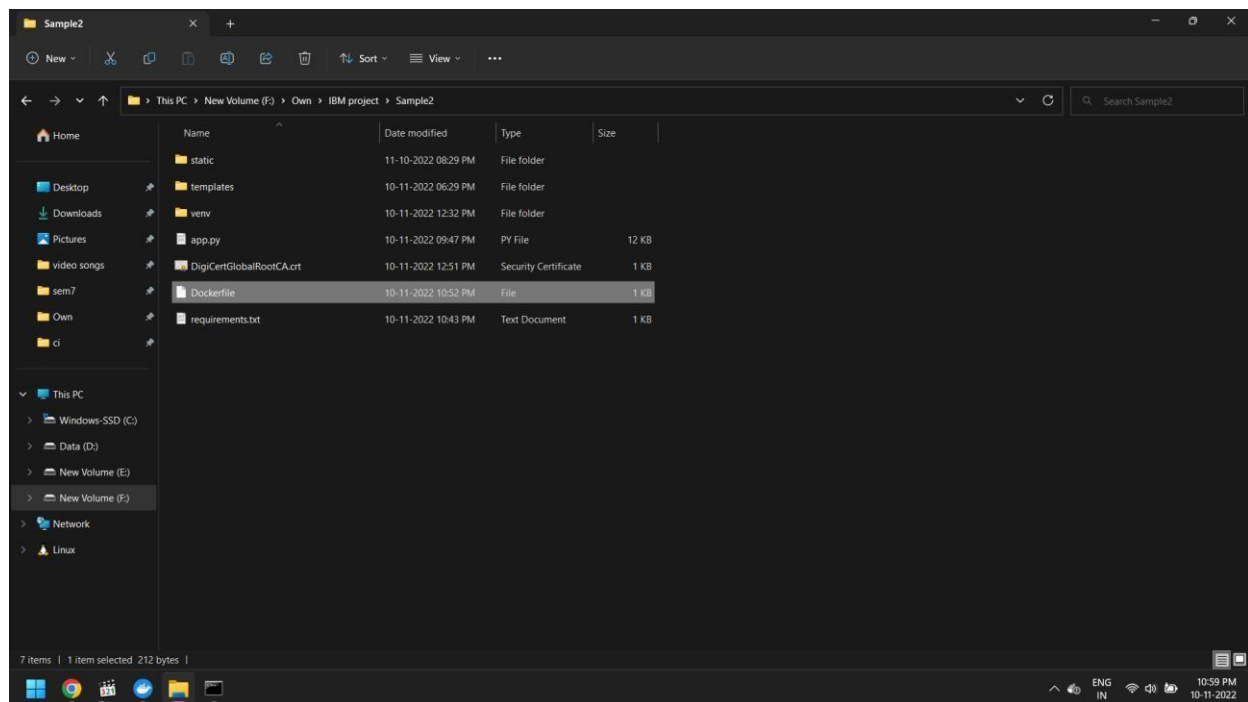
**Output :**

1. **Containerize the app:**

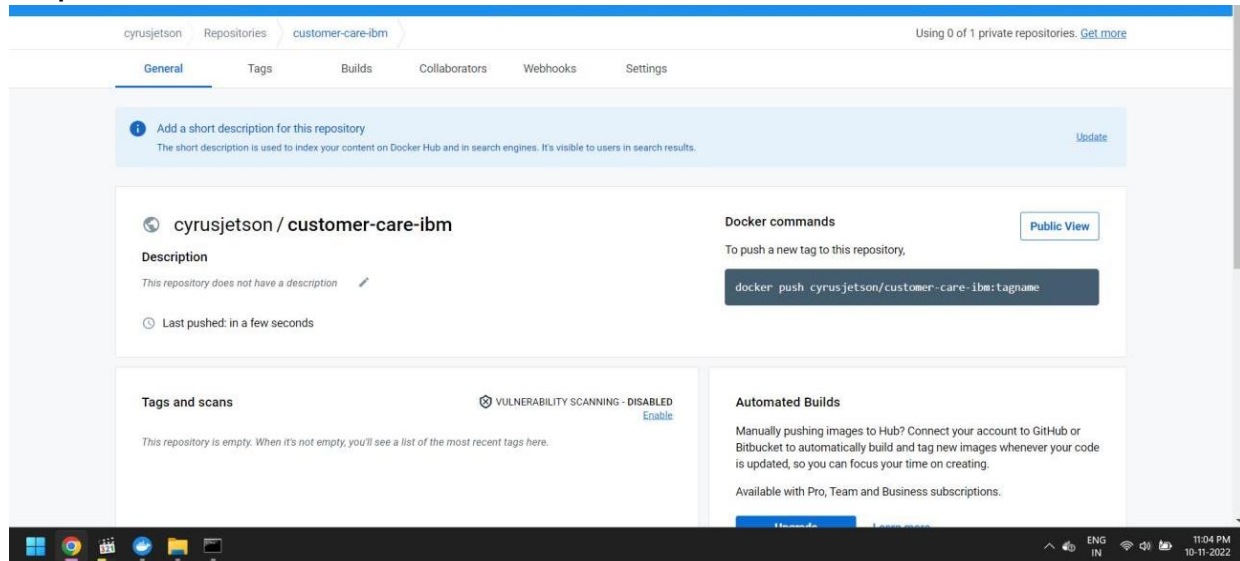


```
C:\Windows\System32\cmd.exe - docker build -t customer-care-ibm .
[auth] library/python:pull token for registry-1.docker.io 0.0s
[internal] load build context 0.0s
-> transferring context: 18.89MB 0.4s
-> CACHED [1/7] FROM docker.io/library/python:3.6$sha256:f8652afaf88c25f0d2235d547d892591067a 0.5s
-> resolve docker.io/library/python:3.6$sha256:f8652afaf88c25f0d2235d547d892591067a$4026a7fa9a6819df9f300af6fc 0.0s
-> sha256:0897a07abec079df5ac31872359c2de510f82214c0448e26393b376d3b00d 2.22kB / 2.22kB 0.0s
-> sha256:54260848d07c3e3ad4ac0e21fc009ad0c648a27634c089a000f7f13744018a 0.27kB / 0.27kB 0.0s
-> sha256:9b029c73b52b07d5c07a54fb0f3e921995a206c714b53a32ae67d19231fed 0B / 5.15MB 0.0s
-> sha256:f8652afaf88c25f0d2235d547d892591067a$4026a7fa9a6819df9f300af6fc 1.86kB / 1.86kB 0.0s
-> sha256:0e29546d541cdd309281d21a73a9d1db78665c1b95b74f32b009e0b77ae1e3 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
-> sha256:54260848d07c3e3ad4ac0e21fc009ad0c648a27634c089a000f7f13744018a 0.27kB / 0.27kB 0.0s
-> sha256:9b029c73b52b07d5c07a54fb0f3e921995a206c714b53a32ae67d19231fed 0.15MB / 5.15MB 0.0s
-> sha256:cb5b7ae361722f070eca53f35823ed21baa85d61d5d95cd5a95ab53d740cdd56 10.87MB / 10.87MB 0.0s
-> sha256:f8652afaf88c25f0d2235d547d892591067a$4026a7fa9a6819df9f300af6fc 1.86kB / 1.86kB 0.0s
-> sha256:0e29546d541cdd309281d21a73a9d1db78665c1b95b74f32b009e0b77ae1e3 54.92MB / 54.92MB 199.3s
-> sha256:cb5b7ae361722f070eca53f35823ed21baa85d61d5d95cd5a95ab53d740cdd56 253.65s
-> sha256:6f9f74895d4f93fe0172f94fab05e0b4eb0a81a0f9f912efc7e4d378f7 183.50MB / 183.50MB 389.65s
-> sha256:0e29546d541cdd309281d21a73a9d1db78665c1b95b74f32b009e0b77ae1e3 254.8s
-> extracting sha256:0e29546d541cdd309281d21a73a9d1db78665c1b95b74f32b009e0b77ae1e3 2.0s
-> extracting sha256:9b029c73b52b07d5c07a54fb0f3e921995a206c714b53a32ae67d19231fed 0.2s
-> extracting sha256:cb5b7ae361722f070eca53f35823ed21baa85d61d5d95cd5a95ab53d740cdd56 0.3s
-> sha256:f8652afaf88c25f0d2235d547d892591067a$4026a7fa9a6819df9f300af6fc 54.92MB / 54.92MB 272.0s
-> sha256:6f9f74895d4f93fe0172f94fab05e0b4eb0a81a0f9f912efc7e4d378f7 183.50MB / 183.50MB 254.8s
-> sha256:0e29546d541cdd309281d21a73a9d1db78665c1b95b74f32b009e0b77ae1e3 2.4s
-> sha256:c4f42be2be53b00ebf1c04c1d0f13de538434ccc5f5d954a5084ba010a3a3f 2.21MB / 2.21MB 266.5s
-> [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:\Own\IBM project\Sample2>docker build -t customer-care-ibm .
[+] Building 214.7s (11/12)
=> [internal] load build definition from Dockerfile                                0.0s
=> [internal] load .dockerignore                                                    0.0s
=> [internal] load build context                                                    0.0s
=> [internal] load metadata for docker.io/library/python:3.6                      3.1s
=> [auth] library/python:pull token for registry-1.docker.io                     0.0s
=> [internal] load build context                                                    1.0s
=> [internal] transfer context: 85.2MB                                             1.0s
=> [1/7] FROM docker.io/library/python:3.6@sha256:f852afaf8bc25fbd22354d547d892591067aa402ba7fa 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:\Own\IBM project\Sample2>
F:\Own\IBM project\Sample2>docker build -t customer-care-ibm .
[+] Building 142.1s (9/11)
=> [internal] load build definition from Dockerfile                                0.0s
=> [internal] load .dockerignore                                                    0.0s
=> [internal] load build context                                                    0.0s
=> [internal] load metadata for docker.io/library/python:3.6                      1.4s
=> [1/7] FROM docker.io/library/python:3.6@sha256:f852afaf8bc25fbd22354d547d892591067aa402ba7fa 0.0s
=> [internal] load build context                                                    0.2s
=> [internal] transfer context: 233.8MB                                            0.1s
=> CACHED [2/7] RUN apt-get update                                                 0.0s
=> CACHED [3/7] WORKDIR /app                                                       0.0s
=> [4/7] ADD . /app                                                                6.7s
=> [5/7] COPY requirements.txt /app                                                0.1s
=> [6/7] RUN python3 -m pip install -r requirements.txt                           139.8s
=> # 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] RUN apt-get update
=> [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 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] RUN apt-get update
=> [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 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
a5bfb8e911c: 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
3e607d59ef9f: Waiting
1e18e7efcc2: Preparing
c3a0d593ed24: Waiting
26a504e63be4: Waiting
8bf42db0de72: Waiting
31892cc314cb: 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
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:3.8
1.4s
-> [1/7] FROM docker.io/library/python:3.8@sha256:f8652a4f88c25f0022354d5478992593867aa025a7fa
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
0.0s
-> writing image sha256:508a6042ecb308c9443e8ae8932520d7540eca2594fe81361352421b7acd09bc
0.0s
-> naming to docker.io/library/customer-care-ibm
0.0s

[Omn]IBM project\Sample2>docker login
Authenticating with existing credentials...
Login Succeeded

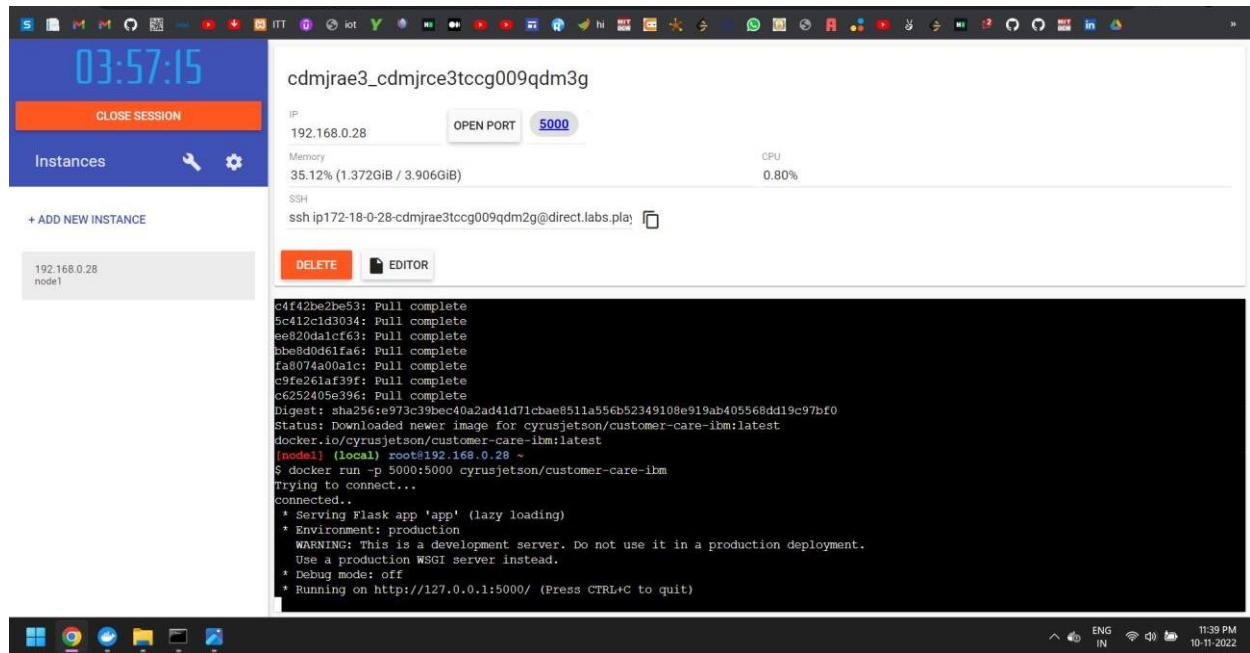
Logging in with your password grants your terminal complete access to your account.
For better security, log in with a limited-privilege personal access token. Learn more at https://docs.d
ocker.com/go/access-tokens/

[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
3bf88e9911c: Pushing 38.38MB/176.2MB
46a68692ee3: Pushed
45af8242a8b: Pushing 116.6MB
c0a240e77a2: Pushed
1e9637cbb82: Pushed
a4c808c19f6: Mounted from library/python
ba9f698e8ba: Mounted from library/python
e607d59e9f9: Mounted from library/python
e18e7efcc2: Pushing 184.8KB/18.48MB
3a0d593ed24: Pushing 145.4MB/528.4MB
6a504e63be4: Mounted from library/python
bf42db0de72: Pushing 1.42MB/18.95MB
1892cc314cb: Waiting
1936051f93b: Waiting
```

## 5. Running on Docker playground

The screenshot displays the Docker Playground interface. On the left, there's a sidebar with a clock showing 03:58:31, a 'CLOSE SESSION' button, and a list of instances. The main area shows details for an instance named 'cdmjrae3\_cdmjrce3tccg009qdm3g' with IP 192.168.0.28. Below the instance details, there's a terminal window showing the execution of the 'docker pull cyrusjetson/customer-care-ibm' command. The terminal output indicates that the image is being pulled from the 'cyrusjetson/customer-care-ibm' repository, with the latest tag being used. The progress of pulling the image layers is shown, with the final layer '6252409e396' being downloaded.



03:57:15

CLOSE SESSION

Instances

+ ADD NEW INSTANCE

192.168.0.28  
node1

cdmjrae3\_cdmjrce3tccg009qdm3g

IP: 192.168.0.28 OPEN PORT: 5000

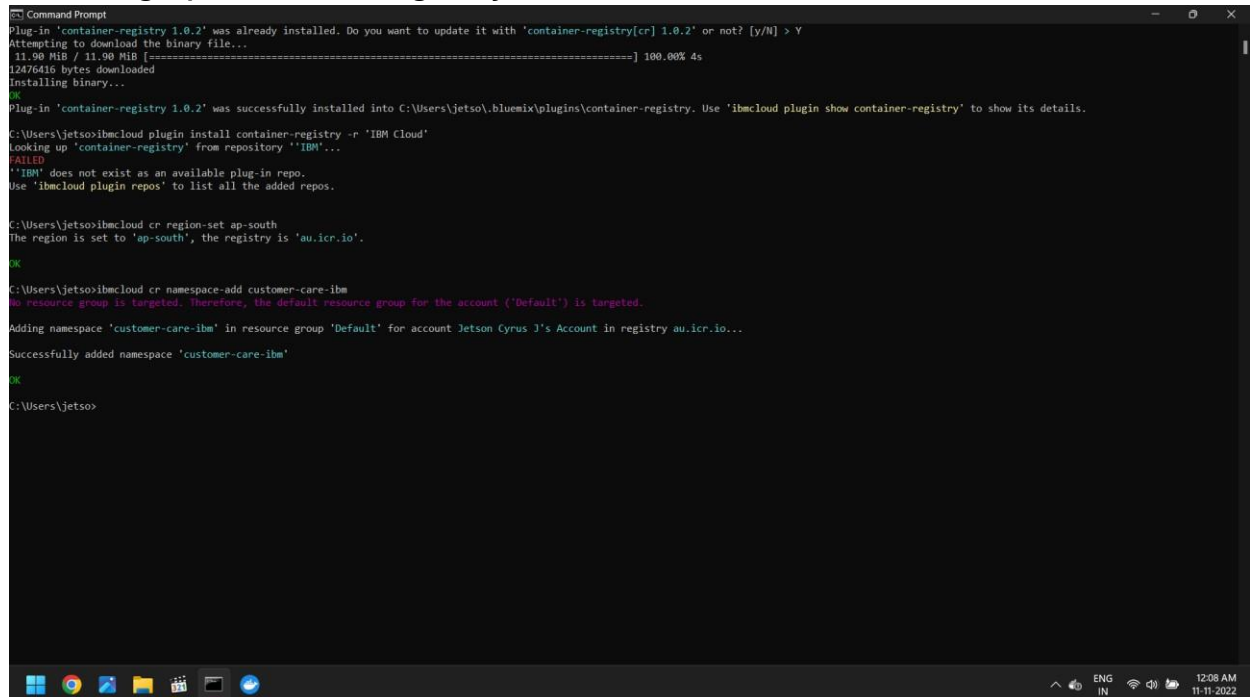
Memory: 35.12% (1.372GiB / 3.906GiB) CPU: 0.80%

SSH: ssh ip172-18-0-28-cdmjrae3tccg009qdm2g@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:re973c39bec40a2ad41d71cbae8511a556b52349108e919ab405568dd19c97bf0
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



```
Command Prompt
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]
60e69f1ff594: Pushed
e6305036d3f0: Pushed
3a4ff6f5bc4e1: Pushed
7229f373b05a: Pushed
1c8a240e77a2: Pushed
41e9637cbb82: Pushed
aa4c888c19f6: Pushed
8ba9f690e8ba: Pushed
3e607d59ef9f: Pushed
1e18e7elfcc2: Pushed
3a8d593ed2d4: 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
aa4c888c19f6: Layer already exists
8ba9f690e8ba: Layer already exists
3e607d59ef9f: Layer already exists
1e18e7elfcc2: Layer already exists
3a8d593ed2d4: Layer already exists
26a504e63be4: Pushing [=====>] 156.5MB
8bf42db0de72: Layer already exists
31892cc314cb: Pushed
11936051f93b: Pushing [=====>] 1179B/123.9MB
```

## 7. Uploading image in container registry

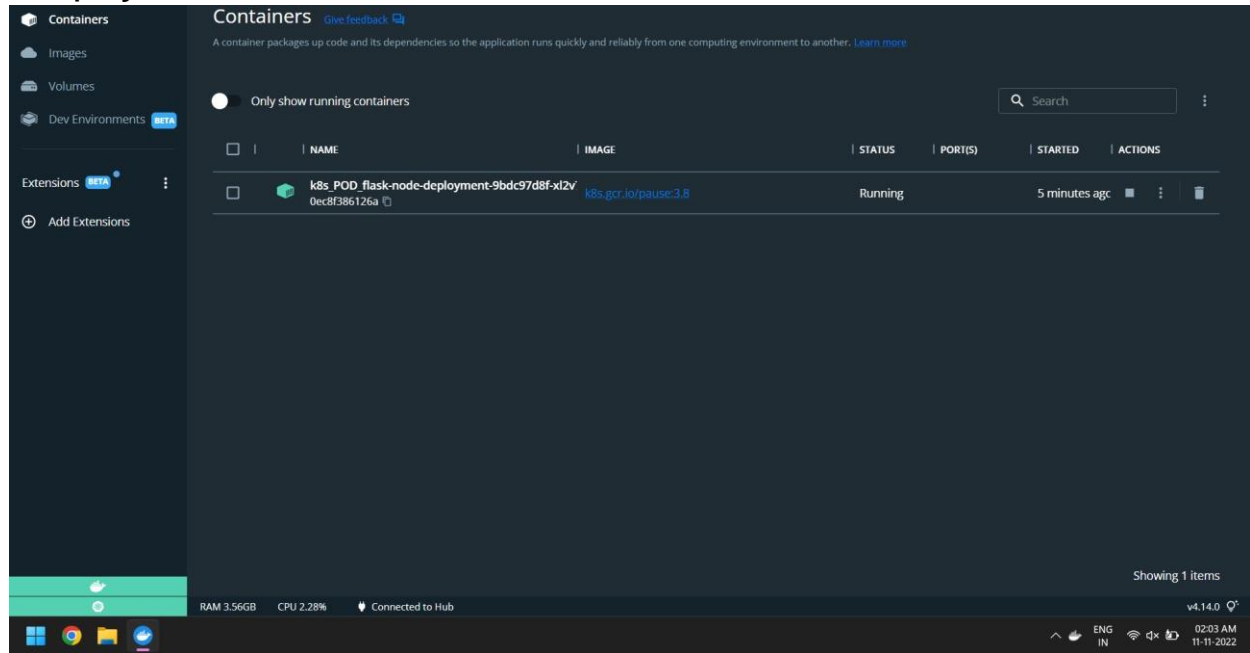
The screenshot shows the IBM Cloud Container Registry interface. The left sidebar contains navigation links: Container Registry, Quick start, Namespaces (1), Repositories (1), Images (1), Trash (0), and Settings. The main area is titled 'Repositories' and shows a list of repositories. The 'customer-care-ibm' repository is selected, showing 1 image. The image details table lists the following information:

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

The interface also includes a search bar, a 'Create' button, and pagination controls at the bottom.



## 8. Deploy in Docker



## 9. Upload Demo Video

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