# Practical – 7

Name: Dhruv Sonani

Roll Number: 20BCE527

Course Code: 2CSDE93

Course Name: Blockchain Technology

Aim: To perform a thorough study of blockchain development on Hyperledger Fabric using Composer

1. Install wsl on windows 11(wsl —install):

```
* Documentation: https://help.ubuntu.com

* Management: https://landscape.canonical.com

* Support: https://ubuntu.com/advantage

System information as of Mon Nov 21 22:13:18 IST 2022

System load: 0.0 Processes: 8
Usage of /: 0.7% of 250.98GB Users logged in: 0
Memory usage: 6% IPv4 address for eth0: 172.17.38.226
Swap usage: 0%

309 updates can be installed immediately.
203 of these updates are security updates.
To see these additional updates run: apt list --upgradable

This message is shown once once a day. To disable it please create the
```

2. sudo apt install docker.io -y

3. sudo apt install docker-compose

```
Preparing to unseck . ./1-gython3-mebbocket 0.53 0-2ubuntul_all.deb ...
Unpacking python3-mebsocket (0.53 0-2ubuntul)
Selecting previously unselected package python1-docker.
Preparing to unpack . ./3-python3-docker_4.1.0-1.all.deb ...
Unpacking python3-docker (4.1.0-1)
Selecting previously unselected package python3-dockerpty.
Preparing to unpack .../3-python3-dockerpty.0.4.1-2_all.deb ...
Unpacking python3-dockery (0.4.1-2)
Selecting previously unselected package python3-dockerpty.
Preparing to unpack .../4-python3-dockerpty.0.4.1-2_all.deb ...
Unpacking python3-dockery (0.4.1-2)
Selecting previously unselected package python3-docker.
Selecting previously unselected package python3-texttable.
Preparing to unpack .../5-python3-texttable.1.6.2-2_all.deb ...
Unpacking python3-dockery december of the selecting previously unselected package docker-compose.
Preparing to unpack .../5-docker-compose.1.25.0-1_all.deb ...
Unpacking docker-compose (1.25.0-1)
Selecting up python3-dextable (1.6.2-2)
Selecting up python3-dextable (1.6.2-2)
Selecting up python3-dextext (0.6.2-2.2ubuntul) ...
Setting up python3-dockery (0.6.2-2.2ubuntul) ...
Setting up python3-dockery (0.6.2-2.2ubuntul) ...
Setting up python3-dockery (0.6.2-2.2ubuntul) ...
Setting up python3-docker (0.6.2-2.2ubuntul) ...
Setting up python3-docker (4.1.0-1) ...
Setting up docker-compose (1.25.0-1) ...
Setting up docker-
```

4. sudo apt install python3 python3-pip ipython3

```
leading package lists. Done

printing up python-pryprecis 3 s. 8-inhuntur)

printing up python-pryprecis 3 s. 8-inhuntur)

printing up python-proprecis 3 s. 8-inhuntur-20 s. 80 s.

printing up liberfer amdid (2 sim-dubuntur 3).

printing up python-proprecis (3 sim-dubuntur 3).

printing up python-proprecis (6 sim-printing up python-proprecis (8 sim-printing up python-proprecis (8 sim-printing up python-proprecis (8 sim-printing up python-proprecis (8 sim-printing up python-printing up python-pri
```

5. sudo apt install python2

```
Selecting previously unselected package libpython2.7-minimal:amd64.

(Reading database ... 40715 files and directories currently installed.)

Preparing to unpack ... /6-libpython2.7-minimal2.7.1.3-1-20.94.3, amd64.deb ...

Unpacking libpython2.7-minimal:amd64 (2.7.18-1-20.94.3) ...

Selecting previously unselected package python2.7-minimal.

Inpacking python2.7-minimal:amd64 (2.7.18-1-20.94.3) ...

Selecting previously unselected package python2.7-minimal.

Preparing to unpack .../2-python2-minimal.2-7.17-ubuntu4_amd64.deb ...

Unpacking python2.7-minimal (2.7.17-ubuntu4) ...

Selecting previously unselected package libpython2.7-stdlib:amd64.

Preparing to unpack .../2-ilbpython2.7-stdlib:2-7.18-1-26.94.3 ...

Selecting previously unselected package libpython2.7-stdlib:amd64.

Preparing to unpack .../3-libpython2.7-stdlib:2-7.18-1-26.94.3 ...

Selecting previously unselected package python2.7.

Preparing to unpack .../4-python2.7_2.7.18-1-26.94.3 ...

Selecting previously unselected package libpython2-stdlib:amd64.

Preparing to unpack .../4-python2.7_2.7.18-1-26.94.3...

Selecting previously unselected package libpython2-stdlib:amd64.

Preparing to unpack .../5-libpython2-fittlib.2.7.17-2bbuntu4.

Selecting previously unselected package libpython2-stdlib:amd64.

Preparing to unpack .../5-libpython2-fittlib.2.7.17-2bbuntu4.

Selecting previously unselected package python2.

Selecting previously unselected package python2.
```

### 6. sudo apt install golang-go

#### 7. sudo apt install nodejs

```
Suggested packages:
npm
The following NEW packages will be installed:
libc-ares2 libnode64 node5s node5s-doc
0 upgraded, 4 newly installed, 0 to remove and 270 not upgraded.
Need to get 6807 MS of archives.
After this operation, 30.7 MS of additional disk space will be used.
Do you want to continue? [Y/n] or the following the space will be used.
Do you want to continue? [Y/n] or the following the space will be used.
Do you want to continue? [Y/n] or the following the space will be used.
Do you want to continue? [Y/n] or the space will be used.
Do you want to continue? [Y/n] or the space will be used.
Do you want to continue? [Y/n] or the space will be used.
Do you want to continue? [Y/n] or the space will be used.
Do you want to continue? [Y/n] or the space will be used.
Do you want to continue? [Y/n] or the space will be used.
Do you want to continue? [Y/n] or the space will be used.
Do you want to continue? [Y/n] or the space will be used.
Do you want to continue? [Y/n] or the space will be used.
Do you want to continue? [Y/n] or the space will be used.
Do you want to continue? [Y/n] or the space will be used.
Do you want to continue? [Y/n] or the space will be used.
Do you want to continue? [Y/n] or the space will be used.
Do you want to continue? [Y/n] or the space will be used.
Do you want to continue? [Y/n] or the space will be used.
Do you want to continue? [Y/n] or the space will be used.
Do you want to continue? [Y/n] or the space will be used.
Do you want to continue? [Y/n] or the space will be used.
Do you want to continue? [Y/n] or the space will be used.
Do you want to continue? [Y/n] or the space will be used.
Do you want to continue? [Y/n] or the space will be used.
Do you want to continue? [Y/n] or the space will be used.
Do you want to continue? [Y/n] or the space will be used.
Do you want to continue? [Y/n] or the space will be used.
Do you want to continue? [Y/n] or the space will be used.
Do you want to continue? [Y/n] or the space will be used.
Do you want to continue? [Y/n] or the space wi
```

## 8. sudo apt install npm

```
[sudo] password for dravik:
Reading package lists... Done
Building dependency tree
Reading state information... Done
npm is already the newest version (6.14.4+ds-1ubuntu2).
0 upgraded, 0 newly installed, 0 to remove and 268 not upgraded.
```

 git config --global core.autocrlf false git config --global core.longpaths true mkdir hyperledge cd hyperledge

10. Run hello world program

```
Unable to find image 'hello-world:latest' locally
latest: Pulling from library/hello-world
2db29710123e: Pull complete
Digest: sha256:faa03e786c97f07ef34423fccceeec2398ec8a5759259f94d99078f264e9d7af
Status: Downloaded newer image for hello-world:latest

Hello from Docker!
This message shows that your installation appears to be working correctly.

To generate this message, Docker took the following steps:
1. The Docker client contacted the Docker daemon.
2. The Docker daemon pulled the "hello-world" image from the Docker Hub.
(amd64)
3. The Docker daemon created a new container from that image which runs the
executable that produces the output you are currently reading.
4. The Docker daemon streamed that output to the Docker client, which sent it
to your terminal.

To try something more ambitious, you can run an Ubuntu container with:
$ docker run -it ubuntu bash

Share images, automate workflows, and more with a free Docker ID:
https://hub.docker.com/

for more examples and ideas, visit:
https://docs.docker.com/get-started/
```

**11.** export GOPATH=\$HOME/lucifar/hyperledge/fabric-samples/asset-transfer-basic/chaincode-go/cd fabric-samples/test-network

./network.sh down

```
INING docker and docker-compose
Stopping network
Removing network fabric_test
MARNING: Network fabric_test not found.
Removing network compose_default
MARNING: Network compose_default not found.
Removing volume compose_orderer.example.com
MARNING: Volume compose_orderer.example.com not found.
Removing volume compose_peer0.org1.example.com
MARNING: Volume compose_peer0.org1.example.com
MARNING: Volume compose_peer0.org1.example.com
MARNING: Volume compose_peer0.org2.example.com
MARNING: Volume compose_peer0.org3.example.com not found.
Removing volume compose_peer0.org3.example.com not found.
Removing volume compose_peer0.org3.example.com not found.
Removing volume compose_peer0.org3.example.com
MARNING: Volume compose_peer0.org3.example.com
Error: No such volume: docker_peer0.org1.example.com
Error: No such volume: docker_peer0.org1.example.com
Error: No such volume: docker_peer0.org1.example.com
Removing romaining containers
Removing romaining containers
Removing generated chaincode docker images
"docker kill" requires at least 1 argument.
See 'docker kill --help'.

Usage: docker kill [OPTIONS] CONTAINER [CONTAINER...]

Kill one or more running containers
Unable to find image 'busybox:latest' locally
latest: Pulling from library/busybox

Digest: sha256:fcd85228d7a25feb59f101ac3a955d27c80df4ad824d65f5757a954831450185

Status: Downloaded newer image for busybox:latest
```

12. ./network.sh up

```
Using docker and docker-compose
Starting modes with Clitimeout of '5' tries and Cli delay of '3' seconds and using database 'leveldo' with crypto from 'cryptogen'
Starting modes with Clitimeout of '5' tries and Cli delay of '3' seconds and using database 'leveldo' with crypto from 'cryptogen'
Starting modes with Clitimeout of '5' tries and Cli delay of '3' seconds and using database 'leveldo' with cryptogen'
Starting modes with Clitimeout of the starting orginal with cryptogen form orginal with cryptogen form orginal with cryptogen form orginal comparison or
```

#### 13. /network.sh createChannel

```
resting channel synthemol.

The short is not up, starting modes with CLI timesus of 15 tries and CLI dolay of 15 seconds and using database lever technical in the part of the starting modes with CLI timesus of 15 tries and CLI dolay of 15 seconds and using database lever technical process of society control of the part of the pa
```

**14.** /network.sh deployCC -ccn basic -ccp ../asset-transferbasic/chaincode-go -ccl go

```
As in sector and docker compose the compose the compose of the com
```

```
1022-11-21 17:34:13.512 157 0001 1MFO [chaincodeCmd] ClientMait -> txid [4265d86369b50fb9da74dc1ba683f7fc3b5
35583c859372371a7d4f9d1043095] committed with status (VALID) at localhost:7051
4022-11-21 17:34:13.545 157 0002 1MFO [chaincodeCmd] ClientMait -> txid [4265d86369b50fb9da74dc1ba683f7fc3b5
35583c859372371a7d4f9d1043095] committed with status (VALID) at localhost:9051
chaincode definition committed on channel 'mychannel'
Using organization 1
Querying chaincode definition on peer0.org1 on channel 'mychannel'...
Attempting to Query committed status on peer0.org1 Refer after 3 seconds.
+ peer lifecycle chaincode querycommitted --channelID mychannel --name basic
+ res-0
Committed chaincode definition for chaincode 'basic' on channel 'mychannel':
Version: 1.0, Sequence: 1, Endorsement Plugin: escc, Validation Plugin: vscc, Approvals: [OrgIMSP: true, Org
2MSP: true]
Query chaincode definition on peer0.org2 on channel 'mychannel'
Ling organization 2
Query dealnoods definition on peer0.org2 on channel 'mychannel'...
Attempting to Query committed status on peer0.org2, Refry after 3 seconds.
+ peer lifecycle chaincode querycommitted --channelID mychannel --name basic
+ res-0
Committed chaincode definition for chaincode 'basic' on channel 'mychannel':
Version: 1.0, Sequence: 1, Endorsement Plugin: escc, Validation Plugin: vscc, Approvals: [OrgIMSP: true, Org
2MSP: true]
Query chaincode definition successful on peer0.org2 on channel 'mychannel'
+ halncode definition successful on peer0.org2 on channel 'mychannel'
+ halncode definition successful on peer0.org2 on channel 'mychannel'
+ halncode definition is not required
```