

SMART FALCON LLP

Hyperledger Fabric
Assignment for Internship

Assignment GitHub Repository ([Link](#))

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Problem Statement

A financial institution needs to implement a blockchain-based system to manage and track assets. The system should support creating assets, updating asset values, querying the world state to read assets, and retrieving asset transaction history. The assets represent accounts with specific attributes, such as DEALERID, MSISDN, MPIN, BALANCE, STATUS, TRANSAMOUNT, TRANSTYPE, and REMARKS. The institution aims to ensure the security, transparency, and immutability of asset records, while also providing an efficient way to track and manage asset-related transactions and histories.

Requirements

Docker Desktop for Windows

Docker-Compose

Java (JDK)

VS Code

GO Language

Git

Node.js

Ubuntu Terminal (WSL)

cUrl

jq

Levels

LEVEL-1	<ul style="list-style-type: none">• Fabric and Fabric Samples• Running Fabric Test Network
LEVEL-2	<ul style="list-style-type: none">• Smart Contracts and Chaincode• Deploying of Smart Contracts
LEVEL-3	<ul style="list-style-type: none">• Rest-API

LEVEL - 1

Setup Hyperledger Fabric Test Network

Establish a Hyperledger Fabric test network for development and testing.

Steps Taken:

1. Environment Setup:

- Installed Docker and Docker Compose.
- Set up Java, Node.js, Go programming environment.

2. Network Configuration:

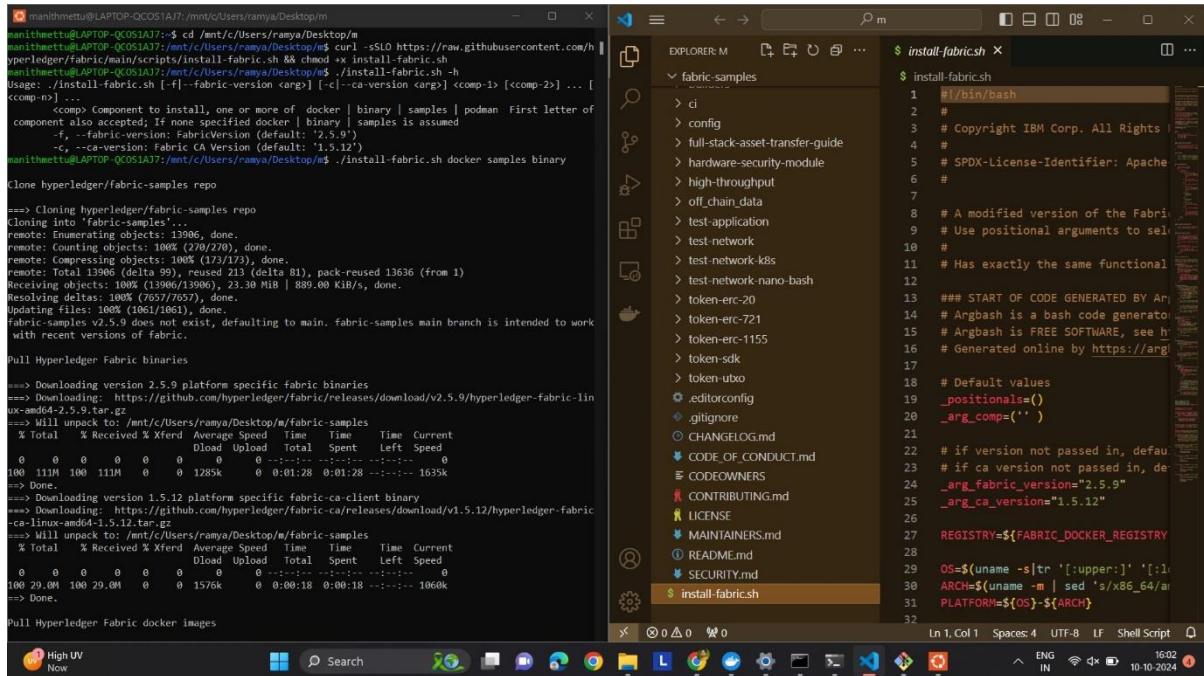
- Downloaded Hyperledger Fabric binaries and Docker images.
- Followed the instructions from the official Hyperledger Fabric documentation to set up the test network.

References:

- [Hyperledger Fabric Overview](#)
- [Getting Started with Hyperledger Fabric](#)
- [Test Network Setup](#)

Out put :

Fabric and Fabric Samples



```
manithmettu@LAPTOP-QCOS1AJ7:/mnt/c/Users/ramya/Desktop/m
manithmettu@LAPTOP-QCOS1AJ7:/mnt/c/Users/ramya/Desktop/m$ curl -sSLU https://raw.githubusercontent.com/hyperledger/fabric/main/scripts/install-fabric.sh && chmod +x install-fabric.sh
manithmettu@LAPTOP-QCOS1AJ7:/mnt/c/Users/ramya/Desktop/m$ ./install-fabric.sh -h
Usage: ./Install-Fabric.sh [-f|-f1--fabric-version <arg>] [-c|-ca-version <arg>] <comp-> [<comp->] ... [<comp->]
      <comp> Component to install, one or more of docker | binary | samples | podman. First letter of component also accepted; If none specified docker | binary | samples is assumed
      -f, --fabric-version: FabricVersion (default: 2.5.9)
      -c, --ca-version: Fabric CA Version (default: 1.5.12)
manithmettu@LAPTOP-QCOS1AJ7:/mnt/c/Users/ramya/Desktop/m$ ./install-fabric.sh docker samples binary

Clone hyperledger/fabric-samples repo
Cloning into 'fabric-samples'...
remote: Enumerating objects: 13906, done.
remote: Counting objects: 100% (270/270), done.
remote: Compressing objects: 100% (173/173), done.
remote: Total 13906 (delta 99), reused 213 (delta 81), pack-reused 13636 (from 1)
Receiving objects: 100% (13906/13906), 23.30 MiB | 889.00 KiB/s, done.
Resolving deltas: 100% (13577/13577), done.
Up-to-date files: 100% (1061/1061), done.
fabric-samples v2.5.9 does not exist, defaulting to main. fabric samples main branch is intended to work with recent versions of fabric.

Pull Hyperledger Fabric binaries
==> Downloading version 2.5.9 platform specific fabric binaries
==> Downloading: https://github.com/hyperledger/fabric/releases/download/v2.5.9/hyperledger-fabric-linux-amd64.tar.gz
==> Will unpack tar to /mnt/c/Users/ramya/Desktop/m/fabric-samples
% Total    % Received   Xferd  Average Speed   Time   Current
          Dload  Upload   Total   Spent  Left  Speed
0     0    0     0    0     0  0:01:28  0:01:28  0:00:00 1635k
=> Done.
==> Downloading version 1.5.12 platform specific fabric-ca-client binary
==> Downloading: https://github.com/hyperledger/fabric-ca/releases/download/v1.5.12/hyperledger-fabric-ca-docker-amd64-v1.5.12.tar.gz
==> Will unpack tar to /mnt/c/Users/ramya/Desktop/m/fabric-samples
% Total    % Received   Xferd  Average Speed   Time   Current
          Dload  Upload   Total   Spent  Left  Speed
0     0    0     0    0     0  0:00:18  0:00:18  0:00:00 1060k
=> Done.
Pull Hyperledger Fabric docker images
=> Done.
```

High UV Now

Search

File Explorer

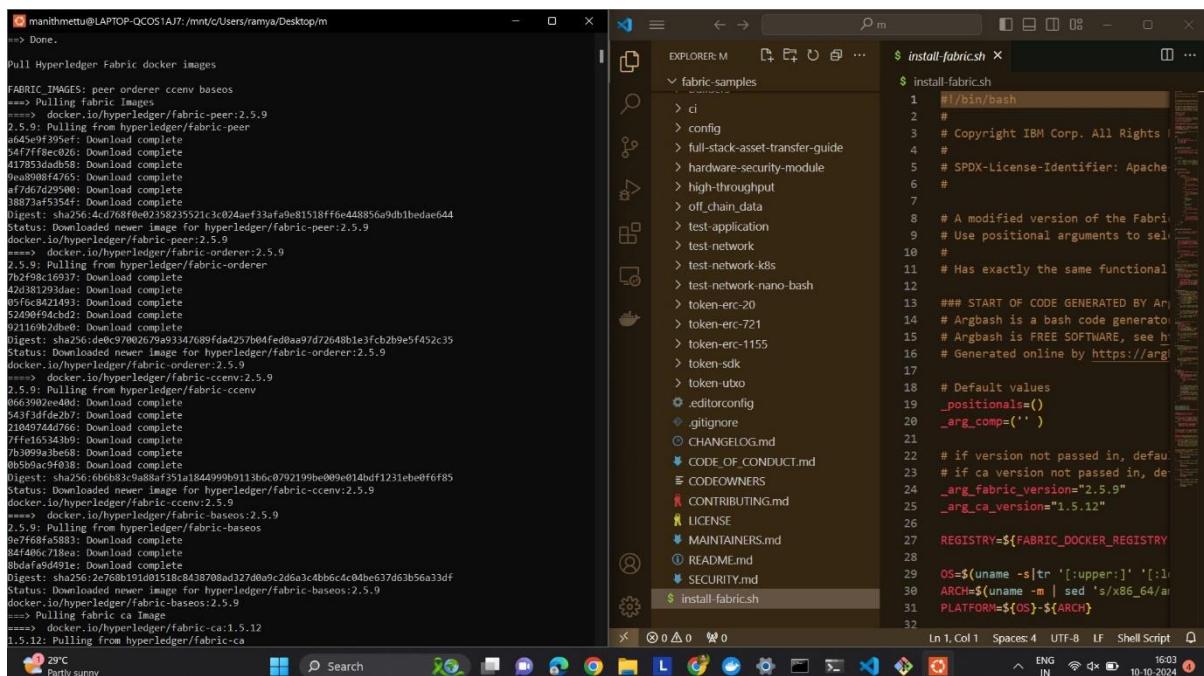
Taskbar

Terminal

File Explorer

Code Editor

Taskbar



```
manithmettu@LAPTOP-QCOS1AJ7:/mnt/c/Users/ramya/Desktop/m
manithmettu@LAPTOP-QCOS1AJ7:/mnt/c/Users/ramya/Desktop/m$ ./install-fabric.sh
Pull Hyperledger Fabric docker images
FABRIC_IMAGES: peer ordering ccenv baseos
==> Pulling fabric Images
==> docker.io/hyperledger/fabric-peer:2.5.9
2.5.9: Pulling from hyperledger/fabric-peer
a645e9f935ef: Download complete
54f7ff8ec6583: Download complete
112370946583: Download complete
112370947455: Download complete
af7d67295900: Download complete
38873af5354f: Download complete
Digest: sha256:4cd768fe0e2358235521c3c024aeff33fa9e81518ff6e448856a9db1bedea644
Status: Downloaded newer image for hyperledger/fabric-peer:2.5.9
docker.io/hyperledger/fabric-peer:2.5.9
==> docker.io/hyperledger/fabric-orderer:2.5.9
2.5.9: Pulling from hyperledger/fabric-orderer
702930203037: Download complete
05f6c9421493: Download complete
524900f94cb2: Download complete
921169b7db00: Download complete
Digest: sha256:de9c9702679e93347689fdad25/b64Fed0aa97d72648be3fcbb29e5f452c35
Status: Downloaded newer image for hyperledger/fabric-orderer:2.5.9
docker.io/hyperledger/fabric-orderer:2.5.9
==> docker.io/hyperledger/fabric-ccenv:2.5.9
2.5.9: Pulling from hyperledger/fabric-ccenv
064309333333: Download complete
54533fdfe2d7: Download complete
21049744d766: Download complete
7ffe16534309: Download complete
7b3a99a3be68: Download complete
0b5b9a9c0f03: Download complete
Digest: sha256:6bb683c9a88d351a1844999b9113b6c0792199b009e014bdf1231ebe0f6f85
docker.io/hyperledger/fabric-ccenv:2.5.9
==> docker.io/hyperledger/fabric-baseos:2.5.9
2.5.9: Pulling from hyperledger/fabric-baseos
0e7f60c5f5883: Download complete
84f406c780ea: Download complete
8bdafe9d491e: Download complete
Digest: sha256:2e7680191d01518c843870bad327d0a9c2d6a3c4bb6c4c04be637d6b56a33df
Status: Downloaded newer image for hyperledger/fabric-baseos:2.5.9
docker.io/hyperledger/fabric-baseos:2.5.9
==> Pulling fabric ca Image
==> docker.io/hyperledger/fabric-ca:1.5.12
1.5.12: Pulling from hyperledger/fabric-ca
```

29°C
Partly sunny

Search

File Explorer

Taskbar

File Explorer

Code Editor

Taskbar

```

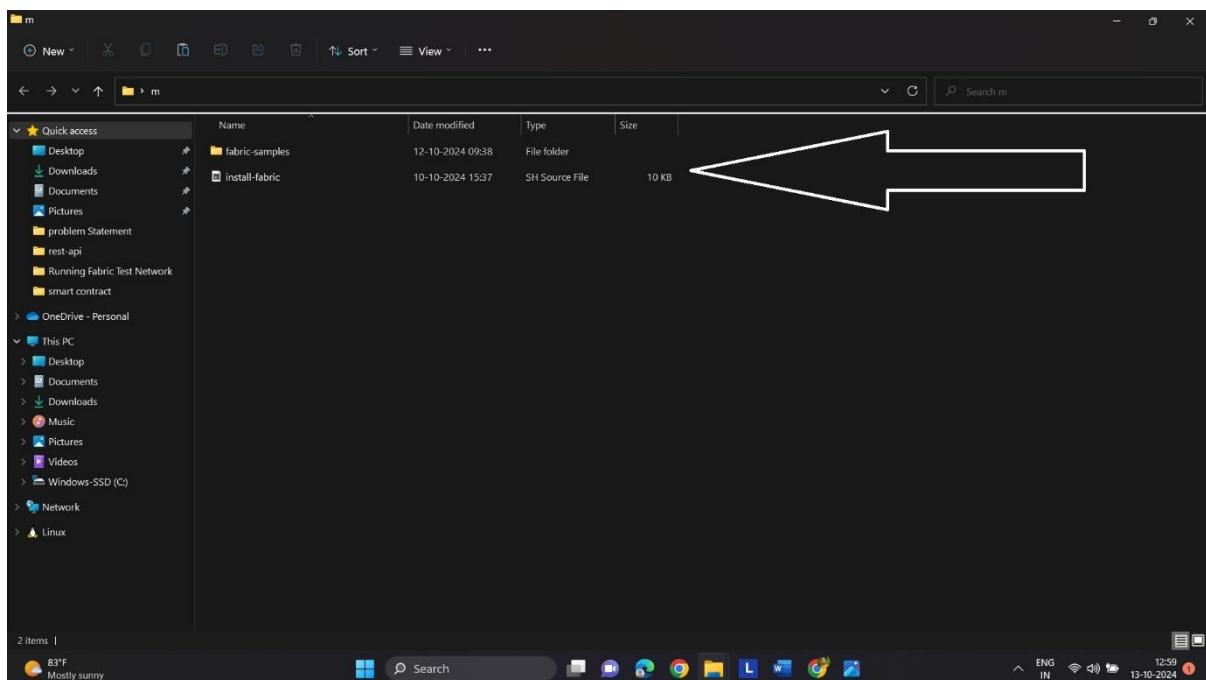
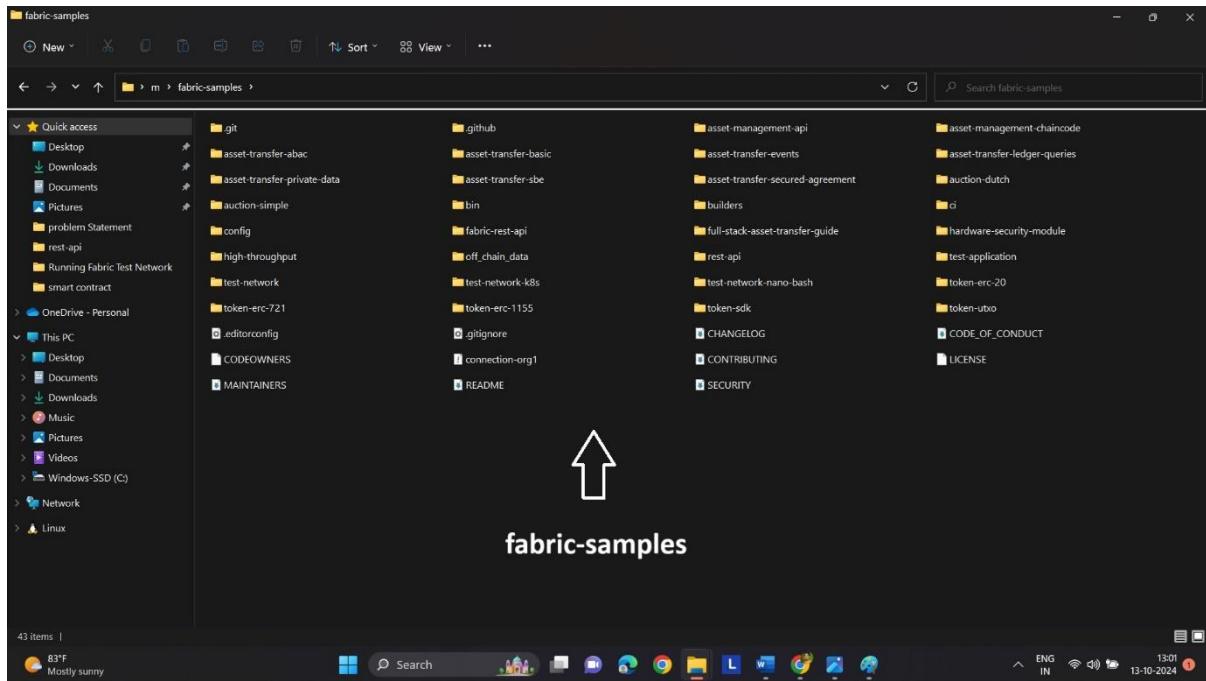
manithmettu@LAPTOP-QCOS1A7:/mnt/c/Users/ramya/Desktop/m
$ manithmettu@LAPTOP-QCOS1A7:/mnt/c/Users/ramya/Desktop/m$ ./install-fabric.sh --fabric-version 2.5.9 bin
[...]

```

```

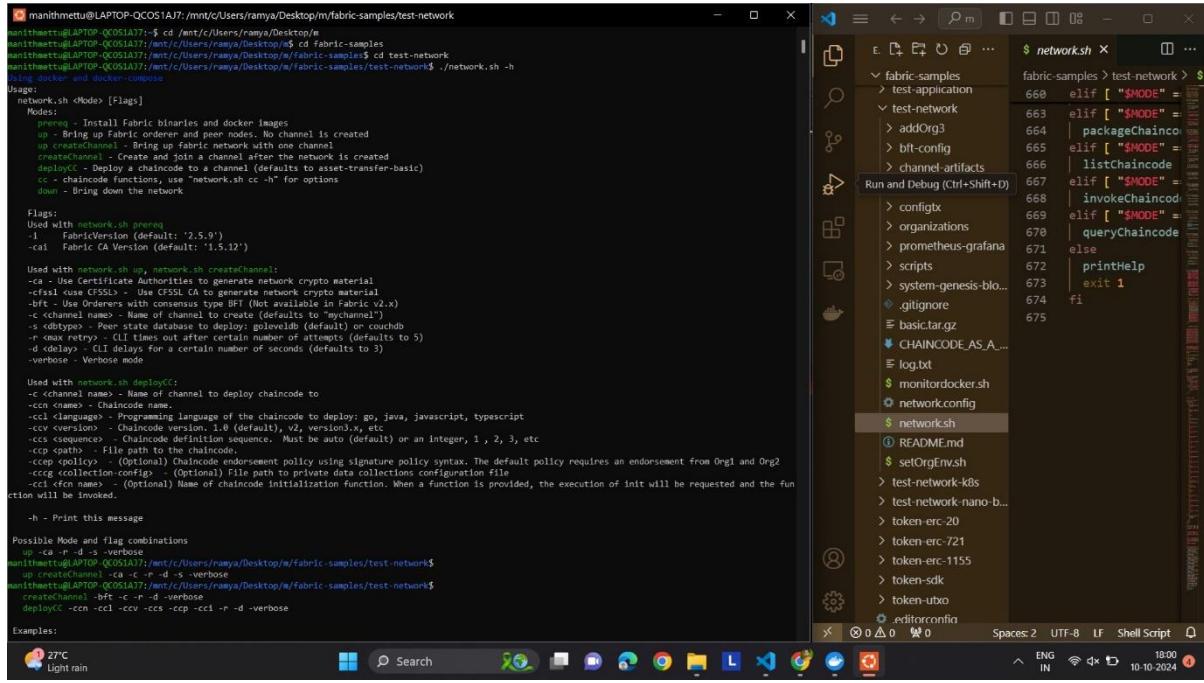
manithmettu@LAPTOP-QCOS1A7:/mnt/c/Users/ramya/Desktop/m
$ manithmettu@LAPTOP-QCOS1A7:/mnt/c/Users/ramya/Desktop/m$ ./install-fabric.sh --fabric-version 2.5.9 bin
[...]

```



Out put :

Running Fabric Test Network



```
manithmettu@LAPTOP-QCOS1AJ7:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ ./network.sh -h
Using docker and docker-compose
Usage: network.sh <Mode> [Flags]
  Modes:
    up            - Install Fabric binaries and docker images
      up          - Bring up Fabric orderer and peer nodes. No channel is created
      up createChannel - Bring up Fabric network with one channel
      createChannel - Create and join a channel after the network is created
        -c           - Channel name (Default: basic)
        -cc          - Chaincode name (Default: basic-transfer-basic)
        cc           - Chaincode Functions, use "network.sh cc -h" for options
    down          - Bring down the network

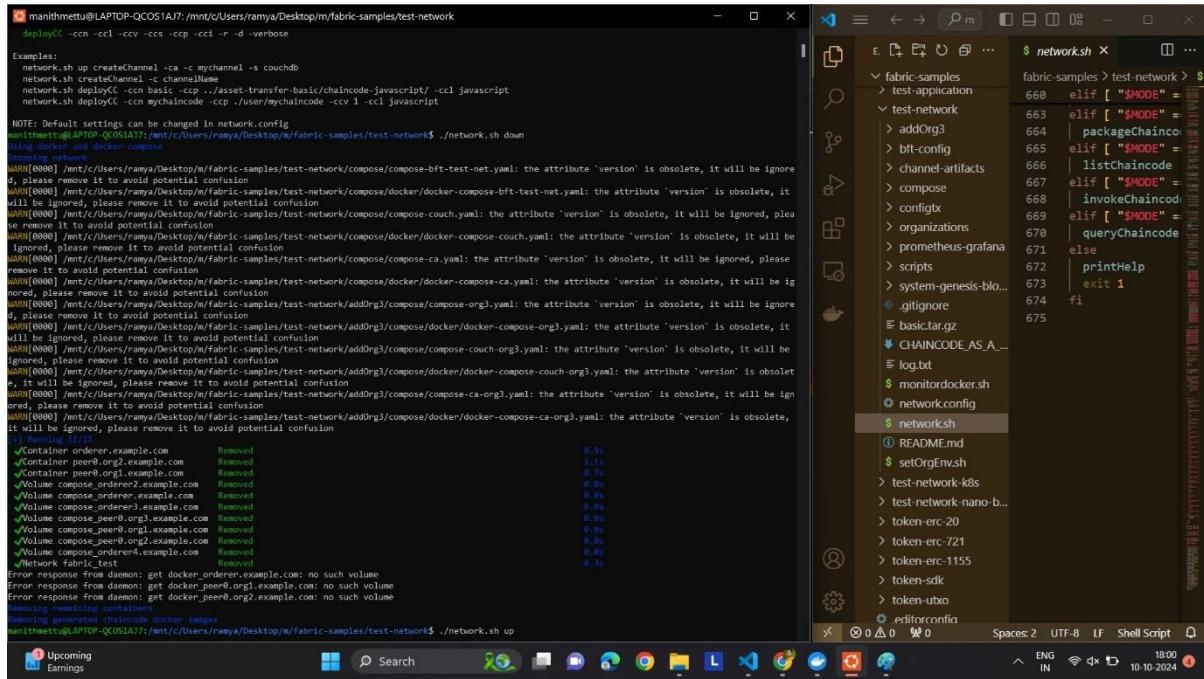
  Flags:
  Used with network.sh up, network.sh createChannel:
    -ca           - Use Certificate Authorities to generate network crypto material
    -cfl          - Use CFSLLD CA to generate network crypto material
    -bft          - Use Orderers with consensus type BFT (Not available in Fabric v2.x)
    -c <channel name> - Name of channel to create (defaults to "mychannelv2")
    -s <dbtype>   - Peer database to deploy: leveldb (default) or couchdb
    -r <retry>    - CLI times out after certain number of attempts (defaults to 5)
    -d <delay>    - CLI delays for a certain number of seconds (defaults to 3)
    -dverbose     - Verbosity mode

  Used with network.sh deployCC:
    -ccn          - Name of channel to deploy chaincode to
    -ccn <name>  - Chaincode name
    -ccl <language> - Programming language of the chaincode to deploy: go, java, javascript, typescript
    -ccv <version> - Chaincode version, 1.0 (default), v2, version.x, etc
    -ccs <sequence> - Chaincode definition sequence. Must be auto (default) or an integer, 1 , 2 , 3, etc
    -ccp <path>    - Path to chaincode source
    -ccp <policy>  - (Optional) Chaincode endorsement policy using signature policy syntax. The default policy requires an endorsement from Org1 and Org2
    -cccg <collection-config> - (Optional) File path to private data collections configuration file
    -ccf <fn name> - (Optional) Name of chaincode initialization function. When a function is provided, the execution of init will be requested and the function will be invoked.

  -h - Print this message

  Possible Mode and flag combinations
    up -ca -r -d -s -verbose
manithmettu@LAPTOP-QCOS1AJ7:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ ./network.sh up -ca -r -d -s -verbose
manithmettu@LAPTOP-QCOS1AJ7:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ createChannel -bft <-c -r -b -verbose
deployCC -ccn -cc1 -ccv -ccs -ccp -cc1 -r -d -verbose
Examples:
  manithmettu@LAPTOP-QCOS1AJ7:~$ ./network.sh up
  manithmettu@LAPTOP-QCOS1AJ7:~$ ./network.sh down
  manithmettu@LAPTOP-QCOS1AJ7:~$ ./network.sh -h
  manithmettu@LAPTOP-QCOS1AJ7:~$ ./network.sh -h
```

The right side of the screenshot shows the `network.sh` script in a code editor. The code is written in Bash and handles various modes like `up`, `down`, and `createChannel`. It also manages chaincode deployment using `deployCC` and handles configuration files like `network.config`.



```
manithmettu@LAPTOP-QCOS1AJ7:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ ./network.sh up
Examples:
  network.sh up createChannel -c < mychannel -s couchdb
  network.sh deployCC -ccn basic -s asset-transfer-basic/chaincode-javascript/ -cc1 javascript
  network.sh deployCC -ccn mychaincode -ccp /user/mychaincode -ccv 1 -cc1 javascript

  NOTE: Default settings can be changed in network.config
  manithmettu@LAPTOP-QCOS1AJ7:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ ./network.sh down
  Using docker and docker-compose
  Starting network...
WARN[0000] /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/compose/bft-test-net.yaml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion
WARN[0000] /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/compose/docker/docker-compose-bft-test-net.yaml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion
WARN[0000] /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/compose/couch.yaml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion
WARN[0000] /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/compose/docker/docker-compose-couch.yaml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion
WARN[0000] /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/compose/compose-ca.yaml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion
WARN[0000] /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/compose/docker/docker-compose-ca.yaml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion
WARN[0000] /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/addOrg3/compose/compose-org3.yaml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion
WARN[0000] /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/addOrg3/compose/docker/docker-compose-org3.yaml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion
WARN[0000] /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/addOrg3/compose/compose-peer0.org3.yaml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion
WARN[0000] /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/addOrg3/compose/docker/docker-compose-peer0.org3.yaml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion
  -! Running Tracer...
  ✓ Container orderer.example.com Removed 0.0s
  ✓ Container peer0.example.com Removed 1.1s
  ✓ Container peer1.example.com Removed 0.7s
  ✓ Volume compose_orderer.example.com Removed 0.0s
  ✓ Volume compose_orderer2.example.com Removed 0.0s
  ✓ Volume compose_orderer3.example.com Removed 0.0s
  ✓ Volume compose_peer0.org1.example.com Removed 0.0s
  ✓ Volume compose_peer1.org1.example.com Removed 0.0s
  ✓ Volume compose_peer2.org1.example.com Removed 0.0s
  ✓ Volume compose_peer0.org2.example.com Removed 0.0s
  ✓ Volume compose_orderer0.example.com Removed 0.0s
  ✓ Network fabric-test Removed 0.3s
Error response from daemon: get docker.orderer.example.com: no such volume
Error response from daemon: get docker.peer0.org1.example.com: no such volume
Error response from daemon: get docker.peer0.org2.example.com: no such volume
Removing remaining containers...
Removing generated chaincode docker images
manithmettu@LAPTOP-QCOS1AJ7:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ ./network.sh up
  manithmettu@LAPTOP-QCOS1AJ7:~$ ./network.sh up
  manithmettu@LAPTOP-QCOS1AJ7:~$ ./network.sh -h
  manithmettu@LAPTOP-QCOS1AJ7:~$ ./network.sh -h
```

The right side of the screenshot shows the `network.sh` script in a code editor. The code is written in Bash and handles various modes like `up`, `down`, and `createChannel`. It also manages chaincode deployment using `deployCC` and handles configuration files like `network.config`.

This screenshot shows a Windows desktop environment with three main windows:

- Terminal Window 1:** Shows the command-line interface for setting up a test network. It includes steps for generating certificates and configuration files, starting Docker containers, and listing running processes.
- Terminal Window 2:** Shows the contents of a file named `networksh`, which contains a shell script with logic for different modes of operation (e.g., `$MODE`).
- Code Editor:** An integrated development environment (IDE) showing the `networksh` script. The file uses syntax highlighting for shell commands and variables.

This screenshot shows a Windows desktop environment with three main windows:

- Terminal Window 1:** Shows the command-line interface for creating a channel in a fabric network. It includes steps for deployment and configuration of channel code.
- Terminal Window 2:** Shows the contents of a file named `networksh`, which contains a shell script with logic for different modes of operation (e.g., `$MODE`).
- Code Editor:** An integrated development environment (IDE) showing the `networksh` script. The file uses syntax highlighting for shell commands and variables.

```

manithmettu@LAPTOP-QCOS1AJ7:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ ./network.sh
+ res=0
+ creating Orderer Org Identities
+ cryptogen generate --config=./organizations/cryptogen/crypto-config-orderer.yaml --output=organizations
+ res=0
+ warning CCID filed for org1 and Org2
WARN[0000] /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/compose-test-net.yaml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion
WARN[0000] /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/docker/docker-compose-test-net.yaml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion
+ cd bin
+ ./network.sh
Creating fabric-test
  ✓ Volume "peer0.org1.example.com" Created
  ✓ Volume "compose_peer0.org1.example.com" Created
  ✓ Volume "compose_orderer.example.com" Created
  ✓ Container peer0.org1.example.com Started
  ✓ Container orderer.example.com Started
  ✓ Container peer0.org1.example.com Started
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
8d80fa1fae94 hyperledger/fabric-peer:latest "peer node start" 1 second ago Up Less than a second 0.0.0.0:7051->7051/tcp, 0.0.0.0:9444->9444/tcp peer0.org1.example.com
8d80fe62eac hyperledger/fabric-peer:latest "peer node start" 1 second ago Up Less than a second 0.0.0.0:9051->9051/tcp, 7051/tcp, 0.0.0.0:9445->9445/tcp peer0.org2.example.com
c1188dec1c7 hyperledger/fabric-orderer:latest "orderer" 1 second ago Up Less than a second 0.0.0.0:7050->7050/tcp, 0.0.0.0:7053->7053/tcp, 0.0.0.0:9443->9443/tcp orderer.example.com
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
8d80fa1fae94 hyperledger/fabric-peer:latest "peer node start" 12 seconds ago Up 11 seconds 0.0.0.0:7051->7051/tcp, 0.0.0.0:9444->9444/tcp peer0.org1.example.com
8d80fe62eac hyperledger/fabric-peer:latest "peer node start" 12 seconds ago Up 11 seconds 0.0.0.0:9051->9051/tcp, 7051/tcp, 0.0.0.0:9445->9445/tcp peer0.org2.example.com
c1188dec1c7 hyperledger/fabric-orderer:latest "orderer" 12 seconds ago Up 11 seconds 0.0.0.0:7050->7050/tcp, 0.0.0.0:7053->7053/tcp, 0.0.0.0:9443->9443/tcp orderer.example.com
manithmettu@LAPTOP-QCOS1AJ7:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ ./network.sh
Usage:
  network.sh <Mode> [<Flags>]
  Modes:
    preseed - Install Fabric binaries and docker images
      - Bring up Fabric orderer and peer nodes. No channel is created
    up createChannel - Bring up fabric network with one channel
    createChannel - Create and join a channel after the network is created
    deployCC - Deploy a chaincode to a channel (defaults to asset-transfer-basic)
    cc - chaincode functions, use `network.sh cc -h` for options
    down - Bring down the network
  Flags:
  Used with network.sh preseed
  -l FabricVersion (default: '2.5.9')
  -c ca Fabric CA Version (default: '1.6.12')

  Used with network.sh up, network.sh createChannel:
  -c - Use Certificate Authorities to generate network crypto material
  -ccf - Create a file to store the network crypto material
  -bft - Use Orderers with consensus type BFT (Not available in Fabric v2.x)
  -c -<channel name> - Name of channel to create (defaults to "mychannel")
  -s <dbtype> - Peer state database to deploy: gossipdb (default) or couchdb
  -r <max retry> - CLI times out after certain number of attempts (defaults to 5)
  -d <delay> - CLI delays for a certain number of seconds (defaults to 3)
  -v verbose - Verbose mode

  Used with network.sh deployCC:
  -c <channel name> - Name of channel to deploy chaincode to
  -ccn <name> - Chaincode name.

  Upcoming Earnings
  Search
  ENG IN 10:10:2024

```

```

manithmettu@LAPTOP-QCOS1AJ7:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ ./network.sh
Used with network.sh deployCC:
  -c <channel name> - Name of channel to deploy chaincode to
  -ccn <name> - Chaincode name.
  -cc <language> - Programming language of the chaincode to deploy: go, java, javascript, typescript
  -ccv <version> - Chaincode version: 1.0 (default), v2, version3.x, etc
  -ccs <sequence> - Chaincode definition sequence. Must be auto (default) or an integer, 1 , 2 , 3, etc
  -ccp <path> - File path to the chaincode.
  -keep <policy> - (Optional) Chaincode endorsement policy using signature policy syntax. The default policy requires an endorsement from Org1 and Org2
  -ccg <collection-config> - (Optional) File path to private data collections configuration file
  -ccl <fn name> - (Optional) Name of chaincode initialization function. When a function is provided, the execution of init will be requested and the function will be invoked.

  -h - Print this message

Possible Mode and flag combinations
  up -> createChannel
  up -> createChannel -> verbose
  up -bft -r -d -s -verbose
  up createChannel -ca -c -r -d -s -verbose
  up createChannel -bft -c -r -d -s -verbose
  createChannel -bft -c -r -d -verbose
  deployCC -ccn -cc -ccv -ccs -ccp -ccl -r -d -verbose

Examples:
  network.sh up createChannel -ca -c mychannel -s couchdb
  network.sh createChannel -c channelName
  network.sh deployCC -cc basic -ccp ./asset-transfer-basic/chaincode-Javascript -ccl javascript
  network.sh deployCC -ccn mychaincode -ccp ./user/mychaincode -ccv 1 -ccl javascript

NOTE: Default settings can be changed in network.config
manithmettu@LAPTOP-QCOS1AJ7:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ jq
jq - command-line JSON processor [version 1.7]

Usage: jq [options] <jq filter> [file...]
jq [options] --args <jq filter> [strings...]
jq [options] --jsonargs <jq filters> [JSON_TEXTS...]

jq is a tool for processing JSON inputs, applying the given filter to its JSON text inputs and producing the filter's results as JSON on standard output.

The simplest filter is ., which copies its input to its output unmodified except for formatting. For more advanced filters see the jq(1) manpage ("man jq") and/or https://jqlang.github.io/jq/.

Example:
  $ echo '{"foo": 0}' | jq .
  [
    "foo": 0
  ]

For listing the command options, use jq --help.

manithmettu@LAPTOP-QCOS1AJ7:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ ./network.sh createChannel
Using docker and docker-compose
Creating channel 'mychannel'.
  Search
  ENG IN 10:10:2024

```



```

manithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network
++ configtxlator proto_encode --input /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/config_update_in_envelope.json --type common.Envelope --output /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/OrgMSP_Patchers.tx
2024-08-10 11:56:12.017 UTC 0000 INFO [channelCmd] InitCmdFactory -> Endorser and orderer connections initialized
2024-08-10 11:56:12.017 UTC 0000 INFO [channelCmd] update -> Successfully submitted channel update
anchor peer set for org 'OrgMSP' on channel 'mychannel'
adding another peer for org...
peer 0.org2.example.com joined mychannel
retiring channel config for channel mychannel
using organization 2
retaining the most recent configuration block for the channel
++ peer channel fetch config ./mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/config_block.pb -o localhost:7050 --ordererTLSHostnameOverride orderer.example.com -c mychannel -tis --cafile /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/channel.block.pb
2024-08-10 11:56:12.762 UTC 0000 INFO [channelCmd] InitCmdFactory -> Endorser and orderer connections initialized
2024-08-10 11:56:12.762 UTC 0000 INFO [channelCmd] fetch -> Retrieving last config block: 1
2024-08-10 11:56:12.764 UTC 0000 INFO [cli_common] readBlock -> Received block: 1
2024-08-10 11:56:12.764 UTC 0000 INFO [cli_common] readBlock -> Received block: 1
++ configtxlator proto_decode --input /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/config_block.pb --type common.Block --output /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/config_block.json
++ jq .data.data[0].payload.data.config | /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/config_block.json
++ res=$?
adding another peer update transaction for Org 2 on channel mychannel
++ jq .groups[0].groups.Org2SPS.values += {"AnchorPeers":{"mod_policy": "Admins", "value": "anchor_peers": [{"host": "peer0.org2.example.com", "port": 9051}]}}, "version": "0"}]} /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/OrgMSPConfig.json
++ res=$?
++ configtxlator proto_encode --input /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/OrgMSPConfig.json --type common.Config --output /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/OrgMSPConfig.pb
++ configtxlator compute_update --original /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/original_config.pb --updated /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/modified_config.pb
++ configtxlator proto_encode --input /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/OrgMSPmodified_config.json --type common.Config --output /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/modified_config.pb
++ configtxlator config_update --input /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/original_config.pb --output /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/config_update.pb
++ configtxlator proto_decode --input /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/config_update.pb --type common.ConfigUpdate --output /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/config_update.json
++ jq .cat /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/config_update.json
++ echo $cat
{
  "payload": {
    "header": {
      "channel_id": "mychannel",
      "type": 2
    },
    "data": {
      "config_update": {
        "channel_id": "mychannel",
        "mod_set": [
          {
            "group": {
              "name": "OrgMSP"
            }
          }
        ],
        "mod_policy": "Admins",
        "version": "0"
      }
    }
  }
}
++ configtxlator proto_encode --input /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/config_update_in_envelope.json --type common.Envelope --output /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/OrgMSP_Patchers.tx
2024-08-10 11:56:14.950 UTC 0000 INFO [channelCmd] InitCmdFactory -> Endorser and orderer connections initialized
2024-08-10 11:56:14.950 UTC 0000 INFO [channelCmd] update -> Successfully submitted channel update
anchor peer set for org 'OrgMSP' on channel 'mychannel'
Channel 'mychannel' joined
manithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ ./network.sh createChannel -c mychannel
using docker and docker-compose
remote host is not up, starting nodes with CLI timeout of '5' tries and CLI delay of '3' seconds and using database 'leveldb'
bringting up network
27°C
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ENG IN 10:10:2024 18:03

```

```

manithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network
++ configtxgen -profile test-network -outputBlock ./channel-artifacts/channel.block -channelID mychannel
LOCAL_VERSION=v2.5.9
CHANNEL_NAME=v2.5.9
CHANNEL_VERSION=v2.5.9
WARN[0000] /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/compose/compose-test-net.yaml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion
WARN[0000] /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/docker/docker-compose-test-net.yaml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion
[+] Running 3/0
  ✓ Container peer0.org1.example.com Running
  ✓ Container peer0.org2.example.com Running
  ✓ Container orderer.example.com Running
  COMMAND           CREATED             STATUS              PORTS               NAMES
6bb0f14a94         "peer node start"   About a minute ago Up     About a minute  0.0.0.0:7051->7051/tcp, 0.0.0.0:9444->9444/tcp          peer0.org1.example.com
6bb106d2eac         "peer node start"   About a minute ago Up     About a minute  0.0.0.0:9051-9051/tcp, 7051/tcp, 0.0.0.0:9445->9445/tcp          peer0.org2.example.com
c11188ec1c         "hyperledger/fabric-orderer:latest" "orderer"   About a minute ago Up     About a minute  0.0.0.0:7050->7050/tcp, 0.0.0.0:7053->7053/tcp, 0.0.0.0:9443->9443/tcp          orderer.example.com
using docker and docker-compose
bringring up genesis block 'channel.block'
using docker
./scripts/docker-compose
/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/../.bin/configtxgen
+ '[' 0 -eq 1 ']'
+ configtxgen -profile ChannelUsingRaft -outputBlock ./channel-artifacts/channel.block -channelID mychannel
[...]
INFO[0000] [common/tools/configtxgen/localconfig] completeInitialization -> orderer type: atcdraft
2024-08-10 11:56:29.067 UTC 0000 INFO [common/tools/configtxgen/localconfig] completeInitialization -> OrdererAtcdraft.Options unset, setting to tick_interval:"500ms" election_tick:10 heartbeat_tick:1 max_inflight_blocks:5 snapshot_interval_ticks:167726
2024-08-10 11:56:29.067 UTC 0000 INFO [common/tools/configtxgen/localconfig] Load -> loaded configuration: /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/configtx/configtx.yaml
2024-08-10 11:56:30.032 UTC 0000 INFO [common/tools/configtxgen] doOutputBlock -> Generating genesis block
2024-08-10 11:56:30.076 UTC 0000 INFO [common/tools/configtxgen] doOutputBlock -> Creating application channel genesis block
2024-08-10 11:56:30.076 UTC 0000 INFO [common/tools/configtxgen] doOutputBlock -> Writing genesis block
+ res=0
creating channel mychannel
+ scripts/orderer.sh mychannel
+ '[' 0 -eq 1 ']'
+ res=0
2024-08-10 11:56:14.931 UTC 0001 INFO [channelCmd] InitCmdFactory -> Endorser and orderer connections initialized
2024-08-10 11:56:14.950 UTC 0000 INFO [channelCmd] update -> Successfully submitted channel update
Status: 201
{
  "name": "mychannel",
  "url": "/participation/v1/channels/mychannel",
  "consensusRelation": "consenter",
  "status": "alive",
  "height": 1
}

Channel 'mychannel' created
adding mychannel to the channel...
using organization 1
* peer channel join -b ./channel-artifacts/channel.block
+ res=0
2024-08-10 11:56:17.020 UTC 0001 INFO [channelCmd] InitCmdFactory -> Endorser and orderer connections initialized
2024-08-10 11:56:17.020 UTC 0000 INFO [channelCmd] executeJoin -> Successfully submitted proposal to join channel
joining org1 peer to the channel...
using organization 2
* peer channel join -b ./channel-artifacts/channel.block
+ res=0
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ENG IN 10:10:2024 18:03

```



```
manithmettu@LAPTOP-QCOS1A7:~/mnt/c/Users/ranya/Desktop/m/fabric-samples/test-network$ ./network.sh up createChannel
Creating channel 'mychannel'
Peer 0: starting nodes with CLI timeout of '5' tries and CLI delay of '3' seconds and using database 'leveldb'
Starting up networks...
LOCAL_VERSION=v2.5.9
DOCKER_IMAGE_VERSION=v2.5.9
[INFO] [0000] /mnt/c/Users/ranya/Desktop/m/fabric-samples/test-network/compose/compose-test-net.yaml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion
[INFO] [0000] /mnt/c/Users/ranya/Desktop/m/fabric-samples/test-network/compose/docker-compose-test-net.yaml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion
+ Container peer0.org1.example.com Running
+ Container peer0.org2.example.com Running
+ Container orderer.example.com Running
CONTAINER ID        IMAGE               COMMAND             CREATED            STATUS              PORTS               NAMES
ba0bfaf4d94   hyperledger/fabric-peer:latest   "/peer node start"   2 minutes ago   Up 2 minutes   0.0.0.0:7051->7051/tcp, 0.0.0.0:9444->9444/tcp   peer0.org1.example.com
ba8106de2ec   hyperledger/fabric-peer:latest   "/peer node start"   2 minutes ago   Up 2 minutes   0.0.0.0:9051->9051/tcp, 0.0.0.0:9445->9445/tcp   peer0.org2.example.com
c11188e1c1    hyperledger/fabric-orderer:latest  "/orderer"          2 minutes ago   Up 2 minutes   0.0.0.0:7050->7050/tcp, 0.0.0.0:7053->7053/tcp, 0.0.0.0:9443->9443/tcp   orderer.example.com
Using docker and docker-compose
Peer 0: joining genesis block 'mychannel.block'
Peer 0: generating genesis block
/mnt/c/Users/ranya/Desktop/m/fabric-samples/test-network/../bin/configtxgen
+ '[' 0 -eq 1 ']'
+ configtxgen -profile ChannelArtifacts -outputBlock ./channel-artifacts/mychannel.block -channelID mychannel
[INFO] [0000] main -> Loading configuration
[INFO] [0000] [0000-10 11:57:09.525 UTC 0000] [common.tools.configtxgen] completeInitialization -> orderer type: etcdraft
[INFO] [0000-10 11:57:09.525 UTC 0000] [common.tools.configtxgen.localconfig] completeInitialization -> Orderer.EtcdRaft.Options unset, setting to tick_interval:"500ms" election_tick:1 max_inflight_blocks:5 snapshot_interv
rval_size:16777216
[INFO] [0000-10 11:57:09.525 UTC 0000] [common.tools.configtxgen.localconfig] load -> Loaded configuration: /mnt/c/Users/ranya/Desktop/m/fabric-samples/test-network/configtx/configtx.yaml
[INFO] [0000-10 11:57:09.525 UTC 0000] [common.tools.configtxgen.localconfig] generateGenesisBlock -> Generating genesis block
[INFO] [0000-10 11:57:09.525 UTC 0000] [common.tools.configtxgen.localconfig] doOutputBlock -> Creating application channel genesis block
[INFO] [0000-10 11:57:09.588 UTC 0007] [common.tools.configtxgen] doOutputBlock -> Writing genesis block
+ res=0
Creating channel mychannel
Peer 0: joining mychannel
Peer 0: joining mychannel
+ . scripts/orderer.sh mychannel
+ '[' 0 -eq 1 ']'
+ res=0
[INFO] [0000-10 11:56:48.322 UTC 0000] [channelCmd] InitCmdFactory -> Endorser and orderer connections initialized
[INFO] [0000-10 11:56:48.322 UTC 0000] [channelCmd] update -> Successfully submitted channel update
Status: 405
{
  "error": "cannot join: channel already exists"
}

Channel 'mychannel' created
Notting org1 peer to the channel...
Joining organization 1
Peer channel join -b ./channel-artifacts/mychannel.block
+ res=0
Peer channel join -b ./channel-artifacts/mychannel.block
+ res=1
[INFO] [0000-10 11:57:09.172 UTC 0000] [channelCmd] InitCmdFactory -> Endorser and orderer connections initialized
Error: proposal failed (error bad proposal response 500: cannot create ledger from genesis block: ledger [mychannel] already exists with state [ACTIVE])
manithmettu@LAPTOP-QCOS1A7:~/mnt/c/Users/ranya/Desktop/m/fabric-samples/test-network$ ./network.sh deployCC -ccn basic -ccp ..../asset-transfer-basic/chaincode-go -cc1 go
Using docker and docker-compose
Deploying chaincode on channel 'mychannel'
executing with the following
CHANNEL_NAME: mychannel
CC_NAME: basic
CC_SRC_PATH: ../../asset-transfer-basic/chaincode-go
CC_SRC_LANGUAGE: go
CC_SEQUENCE: 1
CC_SEQUENCE: 2
CC_END_POLICY: NA
CC_COLL_CONFIG: NA
CC_INIT_FCN: NA
DLEDGER_TIMEOUT: 10
MAX_RETRY: 5
VERBOSE: false
executing with the following
CC_NAME: basic
CC_SRC_PATH: ../../asset-transfer-basic/chaincode-go
CC_SRC_LANGUAGE: go
CC_VERSION: 1.0
Deploying Go dependencies at ../../asset-transfer-basic/chaincode-go
/mnt/c/Users/ranya/Desktop/m/fabric-samples/asset-transfer-basic/chaincode-go /mnt/c/Users/ranya/Desktop/m/fabric-samples/test-network
./scripts/packageCC.sh: line 40: go: command not found
Error: failed to read chaincode package at 'basic.tar.gz': open basic.tar.gz: no such file or directory
Chaincode packaging has failed
Error: failed to read chaincode package at 'basic.tar.gz': open basic.tar.gz: no such file or directory
Installing chaincode on peer0.org1...
Peer 0: joining mychannel
+ peer lifecycle chaincode package basic.tar.gz --path ..../asset-transfer-basic/chaincode-go -l lang golang --label basic_1.0
+ res=0
Error: failed to normalize chaincode path: failed to determine module root: exec: "go": executable file not found in $PATH
Error: failed to read chaincode package at 'basic.tar.gz': open basic.tar.gz: no such file or directory
Chaincode packaging has failed
Error: failed to read chaincode package at 'basic.tar.gz': open basic.tar.gz: no such file or directory
Installing chaincode on peer0.org1...
Peer 0: joining mychannel
+ peer lifecycle chaincode queryinstalled --output json
+ jq -r ".try (.installed_chaincodes[]).package_id"
+ grep '^$'
+ test 1 -ne 0
+ peer lifecycle chaincode install basic.tar.gz
27°C
Light rain
ENG IN 18:04 10-10-2024
```

```
manithmettu@LAPTOP-QCOS1A7:~/mnt/c/Users/ranya/Desktop/m/fabric-samples/test-network$ ./network.sh up createChannel
Creating channel 'mychannel'
Peer 0: starting nodes with CLI timeout of '5' tries and CLI delay of '3' seconds and using database 'leveldb'
Starting up networks...
LOCAL_VERSION=v2.5.9
DOCKER_IMAGE_VERSION=v2.5.9
[INFO] [0000] /mnt/c/Users/ranya/Desktop/m/fabric-samples/test-network/compose/compose-test-net.yaml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion
[INFO] [0000] /mnt/c/Users/ranya/Desktop/m/fabric-samples/test-network/compose/docker-compose-test-net.yaml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion
+ Container peer0.org1.example.com Running
+ Container peer0.org2.example.com Running
+ Container orderer.example.com Running
CONTAINER ID        IMAGE               COMMAND             CREATED            STATUS              PORTS               NAMES
ba0bfaf4d94   hyperledger/fabric-peer:latest   "/peer node start"   2 minutes ago   Up 2 minutes   0.0.0.0:7051->7051/tcp, 0.0.0.0:9444->9444/tcp   peer0.org1.example.com
ba8106de2ec   hyperledger/fabric-peer:latest   "/peer node start"   2 minutes ago   Up 2 minutes   0.0.0.0:9051->9051/tcp, 0.0.0.0:9445->9445/tcp   peer0.org2.example.com
c11188e1c1    hyperledger/fabric-orderer:latest  "/orderer"          2 minutes ago   Up 2 minutes   0.0.0.0:7050->7050/tcp, 0.0.0.0:7053->7053/tcp, 0.0.0.0:9443->9443/tcp   orderer.example.com
Using docker and docker-compose
Peer 0: joining genesis block 'mychannel.block'
Peer 0: generating genesis block
/mnt/c/Users/ranya/Desktop/m/fabric-samples/test-network/../bin/configtxgen
+ '[' 0 -eq 1 ']'
+ configtxgen -profile ChannelArtifacts -outputBlock ./channel-artifacts/mychannel.block -channelID mychannel
[INFO] [0000] main -> Loading configuration
[INFO] [0000] [0000-10 11:57:09.525 UTC 0000] [common.tools.configtxgen] completeInitialization -> orderer type: etcdraft
[INFO] [0000-10 11:57:09.525 UTC 0000] [common.tools.configtxgen.localconfig] completeInitialization -> Orderer.EtcdRaft.Options unset, setting to tick_interval:"500ms" election_tick:1 max_inflight_blocks:5 snapshot_interv
rval_size:16777216
[INFO] [0000-10 11:57:09.525 UTC 0000] [common.tools.configtxgen.localconfig] load -> Loaded configuration: /mnt/c/Users/ranya/Desktop/m/fabric-samples/test-network/configtx/configtx.yaml
[INFO] [0000-10 11:57:09.525 UTC 0000] [common.tools.configtxgen.localconfig] generateGenesisBlock -> Generating genesis block
[INFO] [0000-10 11:57:09.525 UTC 0000] [common.tools.configtxgen.localconfig] doOutputBlock -> Creating application channel genesis block
[INFO] [0000-10 11:57:09.588 UTC 0007] [common.tools.configtxgen] doOutputBlock -> Writing genesis block
+ res=0
Creating channel mychannel
Peer 0: joining mychannel
Peer 0: joining mychannel
+ . scripts/orderer.sh mychannel
+ '[' 0 -eq 1 ']'
+ res=0
[INFO] [0000-10 11:56:48.322 UTC 0000] [channelCmd] InitCmdFactory -> Endorser and orderer connections initialized
[INFO] [0000-10 11:56:48.322 UTC 0000] [channelCmd] update -> Successfully submitted channel update
Status: 405
{
  "error": "cannot join: channel already exists"
}

Channel 'mychannel' created
Notting org1 peer to the channel...
Joining organization 1
Peer channel join -b ./channel-artifacts/mychannel.block
+ res=0
Peer channel join -b ./channel-artifacts/mychannel.block
+ res=1
[INFO] [0000-10 11:57:09.172 UTC 0000] [channelCmd] InitCmdFactory -> Endorser and orderer connections initialized
Error: proposal failed (error bad proposal response 500: cannot create ledger from genesis block: ledger [mychannel] already exists with state [ACTIVE])
manithmettu@LAPTOP-QCOS1A7:~/mnt/c/Users/ranya/Desktop/m/fabric-samples/test-network$ ./network.sh deployCC -ccn basic -ccp ..../asset-transfer-basic/chaincode-go -cc1 go
Using docker and docker-compose
Deploying chaincode on channel 'mychannel'
executing with the following
CHANNEL_NAME: mychannel
CC_NAME: basic
CC_SRC_PATH: ../../asset-transfer-basic/chaincode-go
CC_SRC_LANGUAGE: go
CC_SEQUENCE: 1
CC_END_POLICY: NA
CC_COLL_CONFIG: NA
CC_INIT_FCN: NA
DLEDGER_TIMEOUT: 10
MAX_RETRY: 5
VERBOSE: false
executing with the following
CC_NAME: basic
CC_SRC_PATH: ../../asset-transfer-basic/chaincode-go
CC_SRC_LANGUAGE: go
CC_VERSION: 1.0
Deploying Go dependencies at ../../asset-transfer-basic/chaincode-go
/mnt/c/Users/ranya/Desktop/m/fabric-samples/asset-transfer-basic/chaincode-go /mnt/c/Users/ranya/Desktop/m/fabric-samples/test-network
./scripts/packageCC.sh: line 40: go: command not found
Error: failed to read chaincode package at 'basic.tar.gz': open basic.tar.gz: no such file or directory
Chaincode packaging has failed
Error: failed to read chaincode package at 'basic.tar.gz': open basic.tar.gz: no such file or directory
Installing chaincode on peer0.org1...
Peer 0: joining mychannel
+ peer lifecycle chaincode package basic.tar.gz --path ..../asset-transfer-basic/chaincode-go -l lang golang --label basic_1.0
+ res=0
Error: failed to normalize chaincode path: failed to determine module root: exec: "go": executable file not found in $PATH
Error: failed to read chaincode package at 'basic.tar.gz': open basic.tar.gz: no such file or directory
Chaincode packaging has failed
Error: failed to read chaincode package at 'basic.tar.gz': open basic.tar.gz: no such file or directory
Installing chaincode on peer0.org1...
Peer 0: joining mychannel
+ peer lifecycle chaincode queryinstalled --output json
+ jq -r ".try (.installed_chaincodes[]).package_id"
+ grep '^$'
+ test 1 -ne 0
+ peer lifecycle chaincode install basic.tar.gz
27°C
Light rain
ENG IN 18:05 10-10-2024
```

```
manithremtu@LAPTOP-QCQ51A7:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network
Error: failed to read chaincode package at 'basic.tar.gz': open basic.tar.gz: no such file or directory
chaincode packaging has failed
Error: failed to read chaincode package at 'basic.tar.gz': open basic.tar.gz: no such file or directory
installing chaincode on peer0.org1...
+ peer lifecycle chaincode queryinstalled --output json
+ jq -r 'try (.installed_chaincodes[],.package_id)'
+ grep '$'
+ test 1 -ne 0
+ peer lifecycle chaincode install basic.tar.gz
+ res=1
Error: failed to read chaincode package at 'basic.tar.gz': open basic.tar.gz: no such file or directory
chaincode installation on peer0.org1 has failed
deploying chaincode failed
manithremtu@LAPTOP-QCQ51A7:~/mnt/c/Users/ramya/Desktop/m/Fabric-samples/test-network$ ./network.sh deployCC -ccn basic -ccp ..asset-transfer-basic/chaincode-go -ccl go
deploying chaincode on channel 'mychannel'
executing with the following
- CHANNEL_NAME: mychannel
- CC_SRC_PATH: ./asset-transfer-basic/chaincode-go
- CC_SRC_LANGUAGE: go
- CC_VERSION: 1.0
- CC_SEQUENCE: auto
- CC_ENABLE_CCV: NA
- CC_COLL_CONFIG: NA
- CC_INIT_FCN: NA
- DELAY: 3
- MAX_RETRY: 5
- TIMEOUT: 10s
executing with the following
- CC_NAME: basic
- CC_SRC_PATH: ./asset-transfer-basic/chaincode-go
- CC_SRC_LANGUAGE: go
- CC_VERSION: 1.0
+ peer lifecycle chaincode install @./asset-transfer-basic/chaincode-go
/mnt/c/Users/ramya/Desktop/m/Fabric-samples/asset-transfer-basic/chaincode-go /mnt/c/Users/ramya/Desktop/m/Fabric-samples/test-network
./scripts/packageC.sh: line 4s: go: command not found
/mnt/c/Users/ramya/Desktop/m/Fabric-samples/test-network
+ ['false' == true ]
+ peer lifecycle chaincode package basic.tar.gz --path ..asset-transfer-basic/chaincode-go --lang golang --label basic_1.0
+ res=1
Error: failed to normalize chaincode path: failed to determine module root: exec: "go": executable file not found in $PATH
Error: failed to read chaincode package at 'basic.tar.gz': open basic.tar.gz: no such file or directory
chaincode packaging has failed
Error: failed to read chaincode package at 'basic.tar.gz': open basic.tar.gz: no such file or directory
installing chaincode on peer0.org1...
+ peer lifecycle chaincode queryinstalled --output json
+ jq -r 'try (.installed_chaincodes[],.package_id)'
+ grep '$'
+ test 1 -ne 0
+ peer lifecycle chaincode install basic.tar.gz
+ res=1
```

```
matthiemetz@LAPTOP-QC051A7:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ 
+ group '*' 
+ test 1 -ne 0 
+ peer lifecycle chaincode install basic.tar.gz 
+ res=1 
matthiemetz@LAPTOP-QC051A7:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ 
+ res=1 
matthiemetz@LAPTOP-QC051A7:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ go version 
Command "go" not found, but can be installed with: 
  sudo snap install go # version 1.23.2, or 
  sudo apt install snapd-go # version 21.1-21+2 
  sudo apt install gcore-go # version 21.1-21+2 
See 'snap info go' for additional versions. 
matthiemetz@LAPTOP-QC051A7:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ go version 
Command "go" not found, but can be installed with: 
  sudo snap install go # version 1.23.2, or 
  sudo apt install snapd-go # version 21.1-21+2 
  sudo apt install gcore-go # version 21.1-21+2 
See 'snap info go' for additional versions. 
matthiemetz@LAPTOP-QC051A7:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ sudo apt install golang-go 
Reading package lists... Done 
Building dependency tree... Done 
Reading state information... Done 
The following additional packages will be installed: 
  cpp-clang10 cpp-clang10-base libcpp-13-dev libcpp-13-x86_64-linux-gnu gcc-13 gcc-13-g++-13 x86_64-linux-gnu gcc gcc-13 
  libcpp-13-base libcpp-13-dev libcpp-13-x86_64-linux-gnu gcc-13-base libcpp-13-g++-13 x86_64-linux-gnu gcc-13-g++-13 x86_64-linux-gnu libatomic1c 
  libgcc-13-base libgcc-13-dev libgcc-13-x86_64-linux-gnu libgcc-13-g++-13 x86_64-linux-gnu libgcc1 libgccfg-plugin-acmdec 
  libhipeif-plugin-acmenc libhipeif-plugin-libb265 libhipeif1 libhwasan0 libis123 liblsm1 libmpc3 libpkcgnf3 libquadrath0 
  libstdc++13-dev libvt22 libwsan1 libxpm4 libxml-lbc-dev manpages-dev pkg-config pkgnconf-bin rpcsvc-proto 
Suggested packages: 
  libasan1 libasan1-13-locates cpp-13-doc g++-multilib g++-13-multilib gcc-13-doc g++-multilib make autocomake libltool flex bison 
  libgcc-doc gcc-13-multilib libgdb-13-x86_64-linux-gnu bzr bzr mercurial subversion liblbc-dev liblbgd-tools liblheiif-plugin-x265 
  liblheiif-plugin-jpgdec liblheiif-plugin-jpgdec liblheiif-plugin-jpgdec liblheiif-plugin-j2kenc liblheiif-plugin-ravie 
  liblheiif-plugin-svtenc libltdc++-13-doc 
The following NEW packages will be installed: 
  cpp-clang10 cpp-clang10-base libcpp-13-dev libcpp-13-x86_64-linux-gnu gcc-13 gcc-13-g++-13 x86_64-linux-gnu gcc gcc-13 
  libatomic1c libgcc-13-base libgcc-13-dev libgcc-13-x86_64-linux-gnu libgcc-13-g++-13 x86_64-linux-gnu libgcc1 libgccfg-plugin-acmdec 
  libhipeif-plugin-acmenc libhipeif-plugin-libb265 libhipeif1 libhwasan0 libis123 liblsm1 libmpc3 libpkcgnf3 libquadrath0 
  libstdc++13-dev libvt22 libwsan1 libxpm4 libxml-lbc-dev manpages-dev pkg-config pkgnconf pgconf-bin 
rpcsvc-proto 
sh: 0: getcwd() No such file or directory 
0 upgraded, 50 newly installed, 0 to remove and 0 not upgraded. 
1 in getcwd failed to find a file or directory 
try to use /etc/hosts as a searchpath. 
After this operation, 483 MB of additional disk space will be used. 
Do you want to continue? [Y/n] Y 
get: http://archive.ubuntu.com/ubuntu noble/main amd64 gcc-13-base amdgpu 13.2.0-23ubuntu [49.0 kB] 
get: http://archive.ubuntu.com/ubuntu noble/main amd64 libglapi-mesa 1.26.2-2bzildd [1689 kB] 
get: http://archive.ubuntu.com/ubuntu noble/main amd64 libglx123 amdgpu 1.3.1-1bzil116 [54.5 kB] 
Get:4 https://archive.ubuntu.com/ubuntu/noble/main amdgpu 13-x86_64-linux-gnu amdgpu 13.2.0-23ubuntu4 [111.2 kB] 
Get:5 https://archive.ubuntu.com/ubuntu/noble/main amdgpu 13-x86_64-linux-gnu amdgpu 13.2.0-23ubuntu4 [1032.8 kB] 
Get:6 https://archive.ubuntu.com/ubuntu/noble/main amdgpu 13-x86_64-linux-gnu amdgpu 4:13.2.0-7bzilnt1 [53268 B] 
Light rain 
ENG 
IN 
18:06 
10-10-2024
```

```
[manithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/my/fabric-samples/test-network]$ get-45 http://archive.ubuntu.com/ubuntu noble/main amd64 liblberlf-plugin-aemnc amd64 1.17.6~ubuntu4 [14.7 kB]
get-46 http://archive.ubuntu.com/ubuntu noble/main amd64 liblberconf3 amd64 1.8.1-2~ubu1d1 [30.7 kB]
get-47 http://archive.ubuntu.com/ubuntu noble/main amd64 nanopipes-dev all 6.7.2+ [2013 kB]
get-48 http://archive.ubuntu.com/ubuntu noble/main amd64 pkgconf-bin amd64 1.8.1-2~ubu1d1 [20.7 kB]
get-49 http://archive.ubuntu.com/ubuntu noble/main amd64 pkgconf amd64 1.8.1-2~ubu1d1 [36.8 kB]
get-50 http://archive.ubuntu.com/ubuntu noble/main amd64 pkg-config amd64 1.8.1-2~ubu1d1 [764 kB]
gettotal 117 MB in 1min 14s (1580 kB/s)
sh: 0: getcwd() failed: No such file or directory
sh: 0: getcwd() failed: No such file or directory
sh: 0: getcwd() failed: No such file or directory
sh: 0: getcwd() failed: No such file or directory
sh: 0: getcwd() failed: No such file or directory
sh: 0: getcwd() failed: No such file or directory
sh: 0: getcwd() failed: No such file or directory
sh: 0: getcwd() failed: No such file or directory
Extracting templates from packages: 100%
cannot fetch initial working directory: No such file or directory at /usr/sbin/dpkg-preconfigure line 75.
Selecting previously unselected package gcc-13-base:amd64.
(Reading database ... 409 files and directories currently installed.)
Preparing to unpack .../00-gcc-13-base_13.2.0-2~ubu1d4_amd64.deb ...
Unpacking gcc-13-base:amd64 (13.2.0-2~ubu1d4) ...
Selecting previously unselected package libis123:amd64.
Preparing to unpack .../01-libis123_0.26-3~ubu1d1_amd64.deb ...
Unpacking libis123:amd64 (0.26-3~ubu1d1) ...
Selecting previously unselected package libomp3:amd64.
Preparing to unpack .../02-libomp3_1.3.1-1~ubu1d1_amd64.deb ...
Unpacking libomp3:amd64 (1.3.1-1~ubu1d1) ...
Selecting previously unselected package cpp-13-86-64-linux-gnu.
Preparing to unpack .../03-cpp-13-86-64-linux-gnu_13.2.0-2~ubu1d1_amd64.deb ...
Unpacking cpp-13-86-64-linux-gnu (13.2.0-2~ubu1d1) ...
Selecting previously unselected package cpp.
Preparing to unpack .../04-cpp-13_13.2.0-2~ubu1d4_amd64.deb ...
Unpacking cpp-13_13.2.0-2~ubu1d4 ...
Selecting previously unselected package cpp-x86-64-linux-gnu.
Preparing to unpack .../05-cpp-x86-64-linux-gnu_4X1a13.2.0-7~ubu1d1_amd64.deb ...
Unpacking cpp-x86-64-linux-gnu (4X1a13.2.0-7~ubu1d1) ...
Selecting previously unselected package cpo.
Preparing to unpack .../06-cpp_45a313.2.0-7~ubu1d1_amd64.deb ...
Unpacking cpo_45a313.2.0-7~ubu1d1 ...
Selecting previously unselected package libcurl1:amd64.
Preparing to unpack .../07-libcurl1_9.14.20240412-0~ubu1d1_amd64.deb ...

```

```
[manithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/my/fabric-samples/test-network]$ Setting up g++-13 (13.2.0-2~ubu1d4) ...
Setting up g++-4 (4:13.2.0-7~ubu1d4) ...
postinst for g++-4 (/usr/bin/g++) to provide /usr/bin/c++ (<++) in auto mode
Setting up liblberlf:amd64 (1.17.6~ubuntu4) ...
Setting up liblber3:amd64 (2.3.3-9~ubu1d5) ...
Setting up liblber-devtools (2.39-ubu1d8) ...
Setting up liblberlf-plugin-aemnc:amd64 (1.17.6~ubuntu4) ...
Setting up liblberlf-plugin-aemnc:amd64 (1.17.6~ubu1d5) ...
Setting up liblberlf-plugin-aemnc:amd64 (1.17.6~ubu1d4) ...
Processing triggers for liblbc-bin (2.39-ubu1d8) ...
/usr/lib/ldconfig.real: /usr/lib/wsl/1/lib/lthcuda.so.1 is not a symbolic link
Processing triggers for man-db (3.12.0-4~ubu1d7) ...
sh: 0: getcwd() failed: No such file or directory
manithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ ./network.sh deployCC -ccn basic -ccp ..//asset-transfer-basic/chaincode-go -ccl go
using docker and docker-compose
running docker daemon 'mychannel'
executing with the following
CHANNEL_NAME: mychannel
- CC_NAME: basic
- CC_SRC_PATH: ..//asset-transfer-basic/chaincode-go
- CC_SRC_LANGUAGE: go
- CC_VERSION: 1.0
- CC_SEQUENCE: auto
- CC_END_POLICY: NA
- CC_COLL_CONFIG: NA
- CC_INIT_FCN: NA
- CC_DOCKERFILE: Dockerfile
- MAX_RETRY: 5
- VERBOSE: false
executing with the following
- CC_NAME: basic
- CC_SRC_PATH: ..//asset-transfer-basic/chaincode-go
- CC_SRC_LANGUAGE: go
- CC_VERSION: 1.0
executing Go dependencies at ..//asset-transfer-basic/chaincode-go
/mnt/c/Users/ramya/Desktop/m/fabric-samples/asset-transfer-basic/chaincode-go /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network
go: downloading go1.22.4 (linux/amd64)
```

```
[manithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network]$ go: downloading github.com/mairu/easyjson v0.7.7
go: downloading golang.org/x/text v0.14.0
go: downloading github.com/josharian/interv v1.0.0
/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network
  go: finding github.com/josharian/interv dependencies
  + [- false = true]
  peer lifecycle chaincode package basic.tar.gz --path ..//asset-transfer-basic/chaincode-go --lang golang --label basic_1.0
* res=0
chaincode is packaged
  go: finding chaincode on peer0.org...
  peer=0
  peer lifecycle chaincode queryinstalled --output json
  jq -r 'try (.installed_chaincodes[], .package_id)'
  grep -E 'basic_1.0:c6a45e2d563c883869149c3dbd941c22fbe27daa21f0552834f5a53fb8058a|022|tbasic_1.0'
* res=0
[0024-10 12:18:11.386 UTC 0001] INFO [cli.lifecycle.chaincode] submitInstallProposal -> Installed remotely: response<status:200 payload:"\n\basic_1.0:c6a45e2d563c883869149c3dbd941c22fbe27daa21f0552834f5a53fb8058a|022|tbasic_1.0">
[0024-10 12:18:11.312 UTC 0002] INFO [cli.lifecycle.chaincode] submitInstallProposal -> Chaincode package identifier: basic_1.0:c6a45e2d563c883869149c3dbd941c22fbe27daa21f0552834f5a53fb8058a
chaincode is installed on peer0.org!
  go: finding chaincode on peer0.org...
  peer=0
  peer lifecycle chaincode install basic.tar.gz
* res=0
[0024-10 12:18:11.539 UTC 0001] INFO [cli.lifecycle.chaincode] submitInstallProposal -> Installed remotely: response<status:200 payload:"\n\basic_1.0:c6a45e2d563c883869149c3dbd941c22fbe27daa21f0552834f5a53fb8058a|022|tbasic_1.0">
[0024-10 12:18:11.541 UTC 0002] INFO [cli.lifecycle.chaincode] submitInstallProposal -> Chaincode package identifier: basic_1.0:c6a45e2d563c883869149c3dbd941c22fbe27daa21f0552834f5a53fb8058a
chaincode is installed on peer0.org!
++ peer lifecycle chaincode querycommitted --channelID mychannel --name basic
++ sed -n '/Version:/s/.*/Sequence: /; s/;/ Endorsement Plugin:$/; p'
Error: query failed with status: 404 - namespace basic is not defined
+ COMMITTED_CC_SEQUENCE=
* res=0
  peer lifecycle application 1
* peer lifecycle chaincode queryinstalled --output json
```

```
manithmettu@LAPTOP-QCOS1A17:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network
chaincode definition approved on peer0.org1 on channel 'mychannel'
using organization 1
checking the commit readiness of the chaincode definition on peer0.org1 on channel 'mychannel'...
attempting to check the commit readiness of the chaincode definition on peer0.org1, Retry after 3 seconds.
+ peer lifecycle chaincode checkcommitreadiness --channelID mychannel --name basic --version 1.0 --sequence 1 --output json
+ res=0
{
  "approvals": [
    "OrgMSP": true,
    "OrgMSDP": false
  ]
}
checking the commit readiness of the chaincode definition successful on peer0.org1 on channel 'mychannel'
using organization 2
checking the commit readiness of the chaincode definition on peer0.org2 on channel 'mychannel'...
attempting to check the commit readiness of the chaincode definition on peer0.org2, Retry after 3 seconds.
+ peer lifecycle chaincode checkcommitreadiness --channelID mychannel --name basic --version 1.0 --sequence 1 --output json
+ res=0
{
  "approvals": [
    "OrgMSP": true,
    "OrgMSDP": false
  ]
}
checking the commit readiness of the chaincode definition successful on peer0.org2 on channel 'mychannel'
using organization 1
+ peer lifecycle chaincode approveformyorg -o localhost:7050 --ordererTLSHostnameOverride orderer.example.com --tls --cafile /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/organizations/ordererOrganizations/example.com/tlsca.example.com-cert.pem --channelID mychannel --name basic --version 1.0 --packageID basic_1.0:c6a45e2d5563c883869149c3dbd941c22fbe27daa21f0552834f5a53fb8058a --sequence 1
+ res=0
2024-08-10 12:18:08.466 UTC +0000 [chaincodeCmd] ClientWait -> txid [8ef565e6d5899e9352ec6a9b29e017d1f72f06949a68cb429171d7f9e8e5] committed with status (VALID) at localhost:9851
chaincode definition approved on peer0.org2 on channel 'mychannel'
using organization 1
checking the commit readiness of the chaincode definition on peer0.org1 on channel 'mychannel'...
attempting to check the commit readiness of the chaincode definition on peer0.org1, Retry after 3 seconds.
+ peer lifecycle chaincode checkcommitreadiness --channelID mychannel --name basic --version 1.0 --sequence 1 --output json
+ res=0
{
  "approvals": [
    "OrgMSP": true,
    "OrgMSDP": false
  ]
}
```

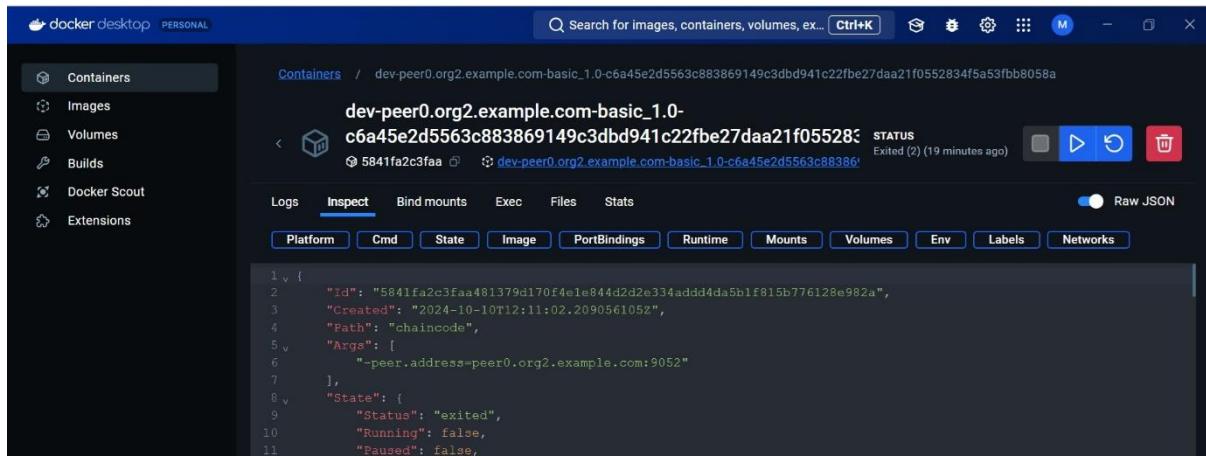
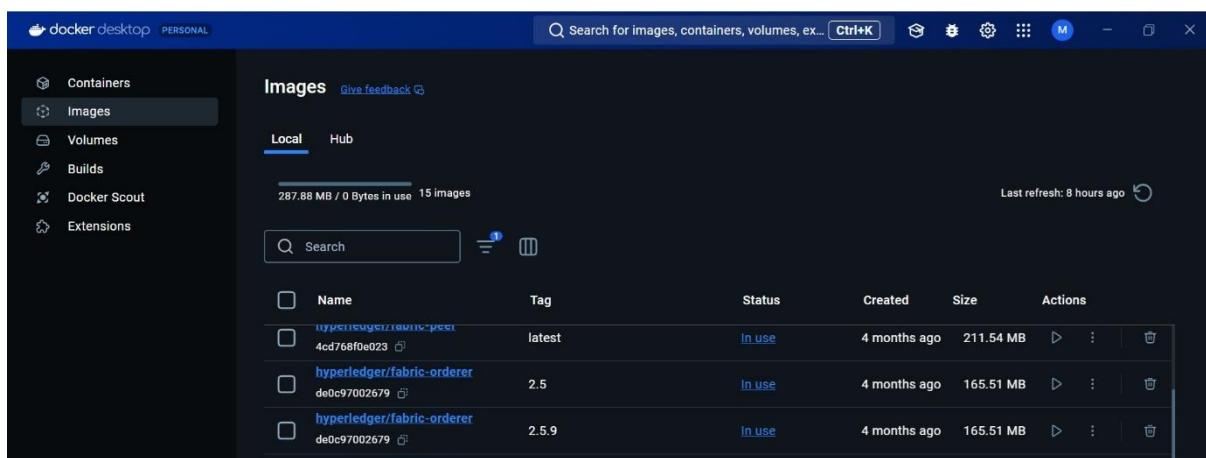
```
manithmettu@LAPTOP-QCOS1A17:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network
go: downloading github.com/miliru/easyjson v0.7.7
go: downloading golang.org/x/text v0.14.0
go: downloading github.com/josharian/intern v1.0.0
/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network
using organization 1
+ peer lifecycle chaincode queryinstalled --output json
+ '[' false = true ']'
+ peer lifecycle chaincode package basic.tar.gz --path ..asset-transfer-basic/chaincode-go --lang golang --label basic_1.0
+ res=0
chaincode is packaged
installing chaincode on peer0.org1...
using organization 1
+ peer lifecycle chaincode queryinstalled --output json
+ jq -r ".try(.installed_chaincodes[], package_id)"
+ grep 'basic_1.0:c6a45e2d5563c883869149c3dbd941c22fbe27daa21f0552834f5a53fb8058a$'
+ test 1 =ne 0
+ peer lifecycle chaincode install basic.tar.gz
+ res=0
2024-08-10 12:18:13.396 UTC +0000 [cli.lifecycle.chaincode] submitInstallProposal -> Installed remotely; response:<status:200 payload:"\n\nbasic_1.0:c6a45e2d5563c883869149c3dbd941c22fbe27daa21f0552834f5a53fb8058a@022\\tbasic_1.0" >
2024-08-10 12:18:13.397 UTC +0000 [cli.lifecycle.chaincode] submitInstallProposal -> Chaincode code package identifier: basic_1.0:c6a45e2d5563c883869149c3dbd941c22fbe27daa21f0552834f5a53fb8058a
chaincode is installed on peer0.org1
install chaincode on peer0.org1...
using organization 2
+ peer lifecycle chaincode queryinstalled --output json
+ jq -r ".try(.installed_chaincodes[], package_id)"
+ grep 'basic_1.0:c6a45e2d5563c883869149c3dbd941c22fbe27daa21f0552834f5a53fb8058a$'
+ test 1 =ne 0
+ peer lifecycle chaincode install basic.tar.gz
+ res=0
2024-08-10 12:18:13.396 UTC +0000 [cli.lifecycle.chaincode] submitInstallProposal -> Installed remotely; response:<status:200 payload:"\n\nbasic_1.0:c6a45e2d5563c883869149c3dbd941c22fbe27daa21f0552834f5a53fb8058a@022\\tbasic_1.0" >
2024-08-10 12:18:13.397 UTC +0000 [cli.lifecycle.chaincode] submitInstallProposal -> Chaincode code package identifier: basic_1.0:c6a45e2d5563c883869149c3dbd941c22fbe27daa21f0552834f5a53fb8058a
chaincode is installed on peer0.org2...
install chaincode on peer0.org2...
using organization 2
+ peer lifecycle chaincode queryinstalled --output json
+ jq -r ".try(.installed_chaincodes[], package_id)"
+ grep 'basic_1.0:c6a45e2d5563c883869149c3dbd941c22fbe27daa21f0552834f5a53fb8058a$'
+ test 1 =ne 0
+ peer lifecycle chaincode install basic.tar.gz
+ res=0
2024-08-10 12:18:13.396 UTC +0000 [cli.lifecycle.chaincode] submitInstallProposal -> Installed remotely; response:<status:200 payload:"\n\nbasic_1.0:c6a45e2d5563c883869149c3dbd941c22fbe27daa21f0552834f5a53fb8058a@022\\tbasic_1.0" >
2024-08-10 12:18:13.397 UTC +0000 [cli.lifecycle.chaincode] submitInstallProposal -> Chaincode code package identifier: basic_1.0:c6a45e2d5563c883869149c3dbd941c22fbe27daa21f0552834f5a53fb8058a
chaincode is installed on peer0.org2...
```

```
manithmettu@LAPTOP-QCOS1A17:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network
go: downloading github.com/miliru/easyjson v0.7.7
go: downloading golang.org/x/text v0.14.0
go: downloading github.com/josharian/intern v1.0.0
/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network
using organization 1
+ peer lifecycle chaincode queryinstalled --output json
+ '[' false = true ']'
+ peer lifecycle chaincode package basic.tar.gz --path ..asset-transfer-basic/chaincode-go --lang golang --label basic_1.0
+ res=0
chaincode is packaged
installing chaincode on peer0.org1...
using organization 1
+ peer lifecycle chaincode queryinstalled --output json
+ jq -r ".try(.installed_chaincodes[], package_id)"
+ grep 'basic_1.0:c6a45e2d5563c883869149c3dbd941c22fbe27daa21f0552834f5a53fb8058a$'
+ test 1 =ne 0
+ peer lifecycle chaincode install basic.tar.gz
+ res=0
2024-08-10 12:18:13.396 UTC +0000 [cli.lifecycle.chaincode] submitInstallProposal -> Installed remotely; response:<status:200 payload:"\n\nbasic_1.0:c6a45e2d5563c883869149c3dbd941c22fbe27daa21f0552834f5a53fb8058a@022\\tbasic_1.0" >
2024-08-10 12:18:13.397 UTC +0000 [cli.lifecycle.chaincode] submitInstallProposal -> Chaincode code package identifier: basic_1.0:c6a45e2d5563c883869149c3dbd941c22fbe27daa21f0552834f5a53fb8058a
chaincode is installed on peer0.org1
install chaincode on peer0.org1...
using organization 2
+ peer lifecycle chaincode queryinstalled --output json
+ jq -r ".try(.installed_chaincodes[], package_id)"
+ grep 'basic_1.0:c6a45e2d5563c883869149c3dbd941c22fbe27daa21f0552834f5a53fb8058a$'
+ test 1 =ne 0
+ peer lifecycle chaincode install basic.tar.gz
+ res=0
2024-08-10 12:18:13.396 UTC +0000 [cli.lifecycle.chaincode] submitInstallProposal -> Installed remotely; response:<status:200 payload:"\n\nbasic_1.0:c6a45e2d5563c883869149c3dbd941c22fbe27daa21f0552834f5a53fb8058a@022\\tbasic_1.0" >
2024-08-10 12:18:13.397 UTC +0000 [cli.lifecycle.chaincode] submitInstallProposal -> Chaincode code package identifier: basic_1.0:c6a45e2d5563c883869149c3dbd941c22fbe27daa21f0552834f5a53fb8058a
chaincode is installed on peer0.org2...
install chaincode on peer0.org2...
using organization 2
+ peer lifecycle chaincode queryinstalled --output json
```

```

manithmetu@LAPTOP-QCOS1A7:~/mnt/c/Users/ramy/Desktop/m/fabric-samples/test-network$ 
Checking the commit readiness of the chaincode definition successful on peer0.org1 on channel 'mychannel'
Joining organization 1
Joining organization 1
+ peer lifecycle chaincode commit -o localhost:7050 --ordererTLSHostnameOverride orderer.example.com -tls --cafile /mnt/c/Users/ramy/Desktop/m/fabric-samples/test-network/organizations/ordererOrganizations/example.com/tlsca/tlsca.example.com-cert.pem --peerAddresses localhost:9051 --tlsRootCertFiles /mnt/c/Users/ramy/Desktop/m/fabric-samples/test-network/organizations/peerOrganizations/org1.example.com/tlsca/tlsca.org1.example.com-tlsrootcert.pem
+ peer lifecycle chaincode querycommitted --channelID mychannel --name basic
Committed chaincode definition for chaincode 'basic' on channel 'mychannel':
Version: 1.0, Sequence: 1, Endorsement Plugin: escc, Validation Plugin: vscc, Approvals: [Org1MSP: true, Org2MSP: true]
Query chaincode definition successful on peer0.org1 on channel 'mychannel'.
Peer chaincode definition successful on peer0.org1 on channel 'mychannel'.
Chaincode initialization is not required
manithmetu@LAPTOP-QCOS1A7:~/mnt/c/Users/ramy/Desktop/m/fabric-samples/test-network$ export PATH=$PATH:..:/bin:$PATH
manithmetu@LAPTOP-QCOS1A7:~/mnt/c/Users/ramy/Desktop/m/fabric-samples/test-network$ export CORE_PEER_TLS_ENABLED=true
CORE_PEER_TLS_ROOTCERT_FILE=$PWD/organizations/peerOrganizations/peer0.org1.example.com/tls/ca.crt
manithmetu@LAPTOP-QCOS1A7:~/mnt/c/Users/ramy/Desktop/m/fabric-samples/test-network$ export CORE_PEER_MSPCONFIGPATH=$PWD/organizations/peerOrganizations/peer0.org1.example.com/users/hdmin@org1.example.com/msp
export CORE_PEER_ADDRESS=peer0.org1.example.com:7050
manithmetu@LAPTOP-QCOS1A7:~/mnt/c/Users/ramy/Desktop/m/fabric-samples/test-network$ peer chaincode invoke -o localhost:7050 --ordererTLSHostnameOverride orderer.example.com -tls --cafile "${PWD}/organizations/ordererOrganizations/example.com/orderers/orderer.example.com/msp/tlscacerts/tlsca.example.com-cert.pem" -c mychannel -n basic -peerAddresses localhost:9051 --tlsRootCertFiles "${PWD}/organizations/peerOrganizations/org2.example.com/peers/peer0.org2.example.com/tls/ca.crt" -c '{"function":"InitLedger","Args":[]}'

```



```

manithmettu@LAPTOP-QCOS1A37:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ docker ps -a
CONTAINER ID        IMAGE               COMMAND             STATUS              PORTS
5841fa2c3faa      dev-peer0.org2.example.com-basic_1.0-c6a45e2d5563c883869149c3dbd941c22fbe27daa21f0552834f5a53fbb8058a-c9bd31bb03fedd9cfb7cb6d494b2b76e9f504d6561fae48b995f3ce
b8058a            dev-peer0.org2.example.com-basic_1.0-c6a45e2d5563c883869149c3dbd941c22fbe27daa21f0552834f5a53fbb8058a-fe69b7bdc0bbe5769bfff0572aa6986343c77b61c84077999a9b65f
b8058a            dev-peer0.org1.example.com-basic_1.0-c6a45e2d5563c883869149c3dbd941c22fbe27daa21f0552834f5a53fbb8058a-fc11bb8ec1c7
b8058a            hyperledger/fabric-peer:latest
b8058a            Up 51 minutes   0.0.0.0:7851->7851/tcp, 0.0.0.0:9444->9444/tcp
b8058a            hyperledger/fabric-peer:latest
b8058a            Up 51 minutes   0.0.0.0:9051->9051/tcp, 7051/tcp, 0.0.0.0:9445->9445/tcp
b8058a            hyperledger/fabric-orderer:latest
b8058a            Up 51 minutes   0.0.0.0:7050->7050/tcp, 0.0.0.0:7053->7053/tcp, 0.0.0.0:9443->9443/tcp
peer0.org1.example.com
peer0.org2.example.com
orderer.example.com
Using docker and docker-compose
stopping network
WARN[0000] /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/compose/compose-bft-test-net.yaml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid conflicts
WARN[0000] /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/compose/docker/docker-compose-bft-test-net.yaml: the attribute 'version' is obsolete, it will be ignored on conflict
WARN[0000] /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/compose/compose-couch.yaml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid conflicts
WARN[0000] /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/compose/docker/docker-compose-couch.yaml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid conflicts
n
WARN[0000] /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/compose/compose-ca.yaml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid conflicts
WARN[0000] /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/compose/docker/docker-compose-ca.yaml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid conflicts
WARN[0000] /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/addOrg3/compose/compose-org3.yaml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid conflicts
WARN[0000] /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/addOrg3/compose/docker/docker-compose-org3.yaml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid conflicts
WARN[0000] /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/addOrg3/compose/compose-couch-org3.yaml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid conflicts
WARN[0000] /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/addOrg3/compose/compose-ca-org3.yaml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid conflicts
l
WARN[0000] /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/addOrg3/compose/compose-docker-compose-couch-org3.yaml: the attribute 'version' is obsolete, it will be ignored due to initial confusion
WARN[0000] /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/addOrg3/compose/compose-ca-org3.yaml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid conflicts
WARN[0000] /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/addOrg3/compose/docker/docker-compose-ca-org3.yaml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid conflicts
l
l+1 Running 11/13
✓ Container peer0.org1.example.com           Removed          1.09
✓ Container orderer.example.com             Removed          0.79
✓ Container peer0.org2.example.com           Removed          0.99
✓ Volume compose_peer0.org3.example.com     Removed          0.00
✓ Volume compose_peer0.org1.example.com     Removed          0.00
✓ Volume compose_orderer4.example.com       Removed          0.00
✓ Volume compose_orderer2.example.com       Removed          0.00
✓ Volume compose_orderer.example.com        Removed          0.00
✓ Volume compose_orderer3.example.com       Removed          0.00
✓ Volume compose_peer0.org2.example.com     Removed          0.00
✓ Network fabric_test                      Removed          0.26
Error response from daemon: get docker_orderer.example.com: no such volume
Error response from daemon: get docker_peer0.org1.example.com: no such volume
Error response from daemon: get docker_peer0.org2.example.com: no such volume
Removing remaining containers
Removing generated chaincode docker images
Untagged: dev-peer0.org2.example.com-basic_1.0-c6a45e2d5563c883869149c3dbd941c22fbe27daa21f0552834f5a53fbb8058a-c9bd31bb03fedd9cfb7cb6d494b2b76e9f504d6561fae48b995f3ce2a031e

```

```

manithmettu@LAPTOP-QCOS1A37:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ 
WARN[0000] /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/compose/compose-ca.yaml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid conflicts
WARN[0000] /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/compose/docker/docker-compose-ca.yaml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid conflicts
WARN[0000] /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/addOrg3/compose/compose-org3.yaml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid conflicts
WARN[0000] /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/addOrg3/compose/docker/docker-compose-org3.yaml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid conflicts
l
l+1 Running 11/13
✓ Container peer0.org1.example.com           Removed          1.09
✓ Container orderer.example.com             Removed          0.79
✓ Container peer0.org2.example.com           Removed          0.99
✓ Volume compose_peer0.org3.example.com     Removed          0.00
✓ Volume compose_peer0.org1.example.com     Removed          0.00
✓ Volume compose_orderer4.example.com       Removed          0.00
✓ Volume compose_orderer2.example.com       Removed          0.00
✓ Volume compose_orderer.example.com        Removed          0.00
✓ Volume compose_orderer3.example.com       Removed          0.00
✓ Volume compose_peer0.org2.example.com     Removed          0.00
✓ Network fabric_test                      Removed          0.26
Error response from daemon: get docker_orderer.example.com: no such volume
Error response from daemon: get docker_peer0.org1.example.com: no such volume
Error response from daemon: get docker_peer0.org2.example.com: no such volume
Removing remaining containers
Removing generated chaincode docker images
Untagged: dev-peer0.org2.example.com-basic_1.0-c6a45e2d5563c883869149c3dbd941c22fbe27daa21f0552834f5a53fbb8058a-c9bd31bb03fedd9cfb7cb6d494b2b76e9f504d6561fae48b995f3ce2a031e

```

LEVEL – 2

Smart Contract Development

Objective: Develop and test a smart contract based on the asset management requirements.

Smart Contract Features:

- Create, update, and query assets.
- Maintain transaction history for each asset.

Implementation:

- Developed the smart contract using Go language, implementing functions to manage the assets.
- Conducted unit tests to validate the functionality.

References:

- [Smart Contracts in Hyperledger Fabric](#)
- [Asset Transfer Basic Sample](#)
- [Deploying Chaincode](#)

Out put :

Smart Contract

```
manithmettu@LAPTOP-QCOS1AJ7:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ go help <topic> for more information about that topic.

manithmettu@LAPTOP-QCOS1AJ7:/mnt/c/Users/ramya/Desktop/m/fabric-samples$ cd /mnt/c/Users/ramya/Desktop/m/fabric-samples
manithmettu@LAPTOP-QCOS1AJ7:/mnt/c/Users/ramya/Desktop/m/fabric-samples$ cd test-network
manithmettu@LAPTOP-QCOS1AJ7:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ ./network.sh down
[+] Stopping network...
[+] Stopping docker-compose...
[+] Stopping network...
WARN[0000] /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/compose/compose-bft-test-test.net.yaml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion
WARN[0000] /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/compose/docker/docker-compose-bft-test-net.yaml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion
WARN[0000] /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/compose/compose-couch.yaml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion
WARN[0000] /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/compose/docker/docker-compose-couch.yaml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion
WARN[0000] /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/compose/docker/docker-compose-bft-test-net.yaml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion
WARN[0000] /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/compose/docker/docker-compose-couch.yaml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion
WARN[0000] /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/compose/docker/docker-compose-org3.yaml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion
WARN[0000] /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/addOrg3/compose/compose-ca-org3.yaml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion
WARN[0000] /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/addOrg3/compose/docker/docker-compose-ca-org3.yaml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion
1 confirmation
[+] Stopping 1/11
✓ Container peer0.org1.example.com Removed 0.8s
✓ Container orderer.example.com Removed 0.9s
✓ Container peer0.org2.example.com Removed 1.0s
✓ Volume compose_orderer4.example.com Removed 0.0s
✓ Volume compose_peer0.org1.example.com Removed 0.0s
✓ Volume compose_orderer2.example.com Removed 0.0s
✓ Volume compose_orderer3.example.com Removed 0.0s
✓ Volume compose_peer0.org2.example.com Removed 0.0s
✓ Volume compose_orderer.example.com Removed 0.1s
✓ Volume compose_orderer3.example.com Removed 0.0s
✓ Network fabric-test Removed 0.3s
Error response from daemon: get docker_orderer.example.com: no such volume
Error response from daemon: get docker_peer0.org1.example.com: no such volume
Error response from daemon: get docker_peer0.org2.example.com: no such volume
[+] Removing remaining containers
[+] Removing generated docker images
manithmettu@LAPTOP-QCOS1AJ7:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ ./network.sh up createChannel
[+] Creating channel 'mychannel'
[+] Creating channel 'mychannel'.
[+] network is not up, starting nodes with CLI timeout of '5' tries and CLI delay of '3' seconds and using database 'leveldb' with crypto from 'cryptogen'
[+] bringing up network
[+] LOCAL VERSION:v2.5.9
[+] Docker Image Version:v2.5.9
[+] 77°F Mostly cloudy
[+] Search
[+] Google Chrome
[+] 12:21 11-10-2024
[+] ENG IN
[+] 12:21 11-10-2024
```

```
manithmettu@LAPTOP-QCOS1AJ7:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ ./network.sh up createChannel
[+] Using docker and docker-compose...
[+] Creating channel 'mychannel'.
[+] network is not up, starting nodes with CLI timeout of '5' tries and CLI delay of '3' seconds and using database 'leveldb' with crypto from 'cryptogen'
[+] bringing up network
[+] LOCAL VERSION:v2.5.9
[+] Docker Image Version:v2.5.9
[+] /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/../bin/cryptogen
[+] cryptogen init --output=organizations
[+] Creating Org1 Identities
+ cryptogen generate --config=./organizations/cryptogen/crypto-config-org1.yaml --output=organizations
org1.example.com
+ res=0
[+] Creating Org2 Identities
+ cryptogen generate --config=./organizations/cryptogen/crypto-config-org2.yaml --output=organizations
org2.example.com
+ res=0
[+] Generating Orderer Org Identities
+ cryptogen generate --config=./organizations/cryptogen/crypto-config-orderer.yaml --output=organizations
+ res=0
[+] Generating CCP files for Org1 and Org2
WARN[0000] /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/compose/compose-test-net.yaml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion
WARN[0000] /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/compose/docker/docker-compose-test-net.yaml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion
[+] Running ///
[+] Network #fabric_test Created 0.0s
[+] Volume "compose_peer0.org1.example.com" Created 0.0s
[+] Volume "compose_peer0.org2.example.com" Created 0.0s
[+] Volume "compose_orderer.example.com" Created 0.0s
✓ Container peer0.org1.example.com Started 0.0s
✓ Container orderer.example.com Started 0.0s
✓ Container peer0.org2.example.com Started 1.0s
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
bf3747dbd5 hyperledger/fabric-peer:latest "peer node start" 1 second ago Up Less than a second 0.0.0.0:7051->7051/tcp, 0.0.0.0:9444->9444/tcp peer0.org1.example.com
1461c9e34ba hyperledger/fabric-orderer:latest "orderer" 1 second ago Up Less than a second 0.0.0.0:7050->7050/tcp, 0.0.0.0:7053->7053/tcp, 0.0.0.0:9443->9443/tcp orderer.example.com
685f9ff3e3a3 hyperledger/fabric-peer:latest "peer node start" 1 second ago Up Less than a second 0.0.0.0:9051->9051/tcp, 7051/tcp, 0.0.0.0:9445->9445/tcp peer0.org2.example.com
[+] Generating genesis block
[+] Generating channel genesis block 'mychannel.block'
[+] Using organization 1
/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/../bin/configtxgen
+ '[' 0 -eq 1 ']'
+ configtxgen -profile ChannelUsingRaft -outputBlock ./channel-artifacts/mychannel.block -channelID mychannel
2024-10-11 06:21:20.480 UTC 0002 INFO [common.tools.configtxgen] main -> Loading configuration
2024-10-11 06:21:20.480 UTC 0003 INFO [common.tools.configtxgen.localConfig] completeInitialization -> orderer type: etcdraft
2024-10-11 06:21:20.480 UTC 0003 INFO [common.tools.configtxgen.localConfig] completeInitialization -> Orderer.EtcdRaft.Options unset, setting to tick_interval:"500ms" election_tick:10 heartbeat_tick:1 max_inflight_blocks:1 snapshot_interval_size:16777216
2024-10-11 06:21:20.480 UTC 0003 INFO [common.tools.configtxgen.localConfig] Load -> Loaded configuration: /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/configtx/configtx.yaml
2024-10-11 06:21:20.483 UTC 0005 INFO [common.tools.configtxgen] doOutputBlock -> Generating genesis block
[+] 77°F Mostly cloudy
[+] Search
[+] Google Chrome
[+] 12:23 11-10-2024
[+] ENG IN
[+] 12:23 11-10-2024
```

```
manithmettu@LAPTOP-QCOS1AJ7:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network
++ peer channel configtxgen localconfig] completeInitialization -> Orderer.EtcdRaft.Options unset, setting to tick_interval:"500ms" election_tick:10 heartbeat_tick:1 max_inflight_blocks:5 snapshot_interval_size:1048576
++ common.tools.configtxgen localconfig] Load -> Loaded configuration: /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/configtx/configtx.yaml
++ common.tools.configtxgen doOutputBlock -> Generating genesis block
++ common.tools.configtxgen doOutputBlock -> Creating application channel genesis block
++ common.tools.configtxgen doOutputBlock -> Writing genesis block
+ res=0
+ rest=0
+ status=201
{
    "name": "mychannel",
    "url": "/participation/v1/channels/mychannel",
    "consensusRelation": "conseenter",
    "status": "active",
    "height": 1
}
}
Channel 'mychannel' created
Joining org1 peer to the channel...
Joining organization 1
+ peer channel join -b ./channel-artifacts/mychannel.block
+ res=0
2024-10-11 06:21:27.649 UTC 0001 INFO [channelCmd] InitCmdFactory -> Endorser and orderer connections initialized
2024-10-11 06:21:27.688 UTC 0002 INFO [channelCmd] executeJoin -> Successfully submitted proposal to join channel
Joining org2 peer to the channel...
Joining organization 2
+ peer channel join -b ./channel-artifacts/mychannel.block
+ res=0
2024-10-11 06:21:31.179 UTC 0001 INFO [channelCmd] InitCmdFactory -> Endorser and orderer connections initialized
2024-10-11 06:21:31.214 UTC 0002 INFO [channelCmd] executeJoin -> Successfully submitted proposal to join channel
Setting anchor peer for org1...
Using organization 1
Fetching channel config for channel mychannel
Using organization 1
Fetching the most recent configuration block for the channel
++ peer channel fetch config -o /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/config_block.pb -o localhost:7050 --ordererTLSHostnameOverride orderer.example.com -c mychannel --tls --cacertfile /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/organizations/ordererOrganizations/example.com/tlsca/tlsca.example.com-cert.pem
++ common.tools.configtxgen [channelCmd] InitCmdFactory -> Endorser and orderer connections initialized
2024-10-11 06:21:32.033 UTC 0003 INFO [cli_common] readBlock -> Received block: 0
2024-10-11 06:21:32.033 UTC 0003 INFO [channelCmd] fetch -> Retrieving last config block: 0
2024-10-11 06:21:32.037 UTC 0004 INFO [cli_common] readBlock -> Received block: 0
Decoding config block to JSON and isolating config to /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/OrgIMSPconfig.json
++ configtxlator proto_decode --input /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/config_block.pb --type common.Config --output /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/config_block.json
++ jq '.data.data[0].payload.data.config' /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/config_block.json
++ jq ".data.data[0].payload.data.config"
 77°F Mostly cloudy

ENG IN 12:23 11-10-2024
```

```
manithmettu@LAPTOP-QCOS1AJ7:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network
++ jq '.data.data[0].payload.data.config' /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/config_block.json
++ res=0
Generating anchor peer update transaction for Org1 on channel mychannel
++ jq '.channel_group.groups.Application.groups.OrgIMSP.values += {"AnchorPeers":{"mod_policy": "Admins","value": {"AnchorPeers": [{"host": "peer0.org1.example.com", "port": 7051}], "version": "0"}}, "version": "0"}' /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/OrgIMSPconfig.json
++ configtxlator proto_encode --input /mt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/original_config.pb --type common.Config --output /mt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/original_config.pb
++ configtxlator proto_encode --input /mt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/OrgIMSPmodified_config.json --type common.Config --output /mt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/modifid_config.pb
++ configtxlator compute_update --channel_id mychannel --original /mt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/original_config.pb --updated /mt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/modifid_config.pb
++ configtxlator proto_decode --input /mt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/config_update.pb --type common.ConfigUpdate --output /mt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/config_update.json
++ jq '.data.data[0].payload.data.config' /mt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/config_update.json
++ jq ".data.data[0].payload.data.config"
 77°F Mostly cloudy

ENG IN 12:24 11-10-2024
```

```

manithmettu@LAPTOP-QCOS1A17:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ jq '.data.data[0].payload.data.config' /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/config_block.json
++ res=>
++ jq ".channel_group.groups.Application.groups.Org2MSP.values += [{"AnchorPeers":{"host": "peer0.org2.example.com", "port": 9051}}, {"version": "0"}]" /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/config_update.json
++ res=>
++ configtxlator proto encode --input /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/Org2MSPconfig.json --type common.Config --output /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/config_update_in_envelope.json
++ configtxlator proto encode --input /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/config_update_in_envelope.json --type common.Config --output /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/Org2MSPmodified_config.json
++ configtxlator compute_update --channel_id mychannel --original /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/original_config.pb --updated /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/config_update.pb
++ configtxlator proto decode --input /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/config_update.pb --type common.ConfigUpdate --output /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/config_update.json
++ jq .
++ cat /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/config_update.json
+ echo $payload
{
  "header": {
    "channel_id": "mychannel",
    "type": "2"
  },
  "data": {
    "config_update": {
      "groups": [
        {
          "Application": {
            "Org2MSP": {
              "values": [
                {
                  "AnchorPeers": {
                    "host": "peer0.org2.example.com",
                    "port": 9051
                  }
                }
              ],
              "version": "0"
            }
          }
        }
      ],
      "mod_policy": "AND"
    }
  }
}
++ configtxlator proto encode --input /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/config_update_in_envelope.json --type common.Envelope --output /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/channel-artifacts/Org2MSPanchors.tx
++ ./scripts/test-network.sh -v 1.0.0 -v 0.0.2 INFO [channel1]d InitCmdFactory -> Endorser and orderer connections initialized
2024-10-11 06:21:37.417 UTC 0002 INFO [channel1]d update -> Successfully submitted channel update
Anchor peer set for org 'Org2MSP' on channel 'mychannel'
Channel 'mychannel' joined
manithmettu@LAPTOP-QCOS1A17:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ cd ..
cd: command not found
manithmettu@LAPTOP-QCOS1A17:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ cd Fabric-Samples/asset-transfer-basic/chaincode-go
-bash: cd: fabric-samples/asset-transfer-basic/chaincode-go: No such file or directory
manithmettu@LAPTOP-QCOS1A17:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ cd ..
cd: command not found
manithmettu@LAPTOP-QCOS1A17:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ cd ~
manithmettu@LAPTOP-QCOS1A17:$ cd fabric-samples/asset-transfer-basic/chaincode-go
-bash: cd: fabric-samples/asset-transfer-basic/chaincode-go: No such file or directory
manithmettu@LAPTOP-QCOS1A17:$ cd mnt/c/Users/ramya/Desktop/m/fabric-samples/asset-transfer-basic/chaincode-go
-bash: cd: mnt/c/Users/ramya/Desktop/m/fabric-samples/asset-transfer-basic/chaincode-go: No such file or directory
manithmettu@LAPTOP-QCOS1A17:$ cd /mnt/c/Users/ramya/Desktop/m/fabric-samples
manithmettu@LAPTOP-QCOS1A17:/mnt/c/Users/ramya/Desktop/m/Fabric-Samples$ cd asset-transfer-basic/chaincode-go
manithmettu@LAPTOP-QCOS1A17:/mnt/c/Users/ramya/Desktop/m/Fabric-Samples$ asset-transfer-basic/chaincode-go$ cat go.mod
module github.com/hyperledger/fabric-samples/asset-transfer-basic/chaincode-go

go 1.21

Cloud: 77°F Mostly cloudy

```

```

manithmettu@LAPTOP-QCOS1A17:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ cat go.mod
module github.com/hyperledger/fabric-samples/asset-transfer-basic/chaincode-go
go 1.21
toolchain go1.22.4
require (
    github.com/hyperledger/fabric-chaincode-go/v2 v2.0.0-20240618210511-f7903324a8af
    github.com/hyperledger/fabric-contract-api-go/v2 v2.0.0
    github.com/hyperledger/fabric-protos-go-apiv2 v0.3.3
    github.com/stretchr/testify v1.9.0
    google.golang.org/protobuf v1.34.2
)
require (
    github.com/davech/gospw v1.1.1 // indirect
    github.com/go-openapi/jsonpointer v0.21.0 // indirect
    github.com/go-openapi/jsonreference v0.21.0 // indirect
    github.com/go-openapi/spec v0.21.0 // indirect
    github.com/go-openapi/swag v0.23.0 // indirect
    github.com/gobuffalo/envy v1.10.2 // indirect
    github.com/gobuffalo/packd v1.0.2 // indirect
    github.com/gobuffalo/packr v1.30.1 // indirect
    github.com/joho/godotenv v1.5.1 // indirect
    github.com/josharian/intern v1.0.0 // indirect
    github.com/milru/easyyaml v0.1.0 // indirect
    github.com/nedrard/go-difflib v1.0.0 // indirect
    github.com/rogerp/go-internal v1.12.0 // indirect
    github.com/xipoun/gojsonpointer v0.0.0-20190905194746-02993c407bfb // indirect
    github.com/xipoun/gojsonreference v0.0.0-20180127040603-bd5ef7bd5415 // indirect
    github.com/xipoun/gojsonschema v1.2.0 // indirect
    golang.org/x/mod v0.17.0 // indirect
    golang.org/x/net v0.24.0 // indirect
    golang.org/x/sys v0.19.0 // indirect
    golang.org/x/text v0.14.0 // indirect
    google.golang.org/grpc v0.60.0-20230410155749-daa745c078e1 // indirect
    google.golang.org/grpc v1.64.0 // indirect
    gopkg.in/yaml.v3 v3.0.1 // indirect
)
manithmettu@LAPTOP-QCOS1A17:/mnt/c/Users/ramya/Desktop/m/fabric-samples/asset-transfer-basic/chaincode-go$ GO111MODULE=on go mod vendor
manithmettu@LAPTOP-QCOS1A17:/mnt/c/Users/ramya/Desktop/m/fabric-samples/asset-transfer-basic/chaincode-go$ cd ../../test-network
manithmettu@LAPTOP-QCOS1A17:/mnt/c/Users/ramya/Desktop/m/fabric-samples/asset-transfer-basic/chaincode-go$ export PATH=$(PWD)/..:$PATH
manithmettu@LAPTOP-QCOS1A17:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ export FABRIC_CFG_PATH=$PWD/..
manithmettu@LAPTOP-QCOS1A17:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ peer version
peer:
  Version: v2.5.9
  Commit SHA: 7c38762
  Go version: go1.22.4

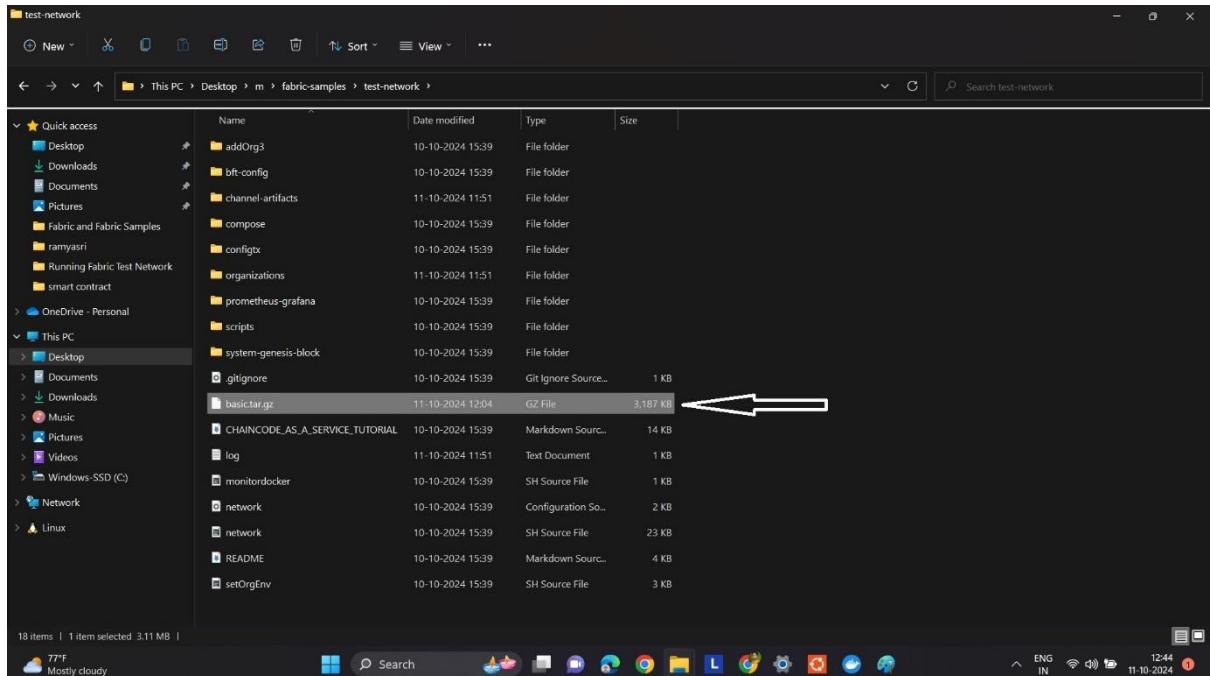
Cloud: 77°F Mostly cloudy

```

```

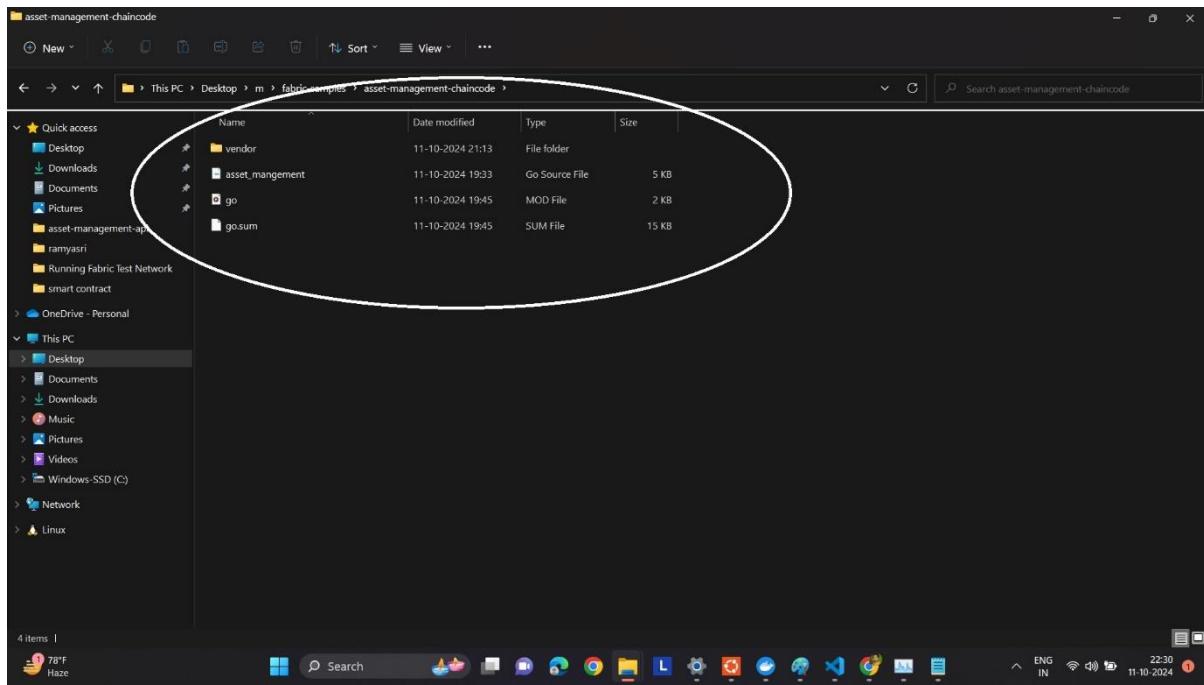
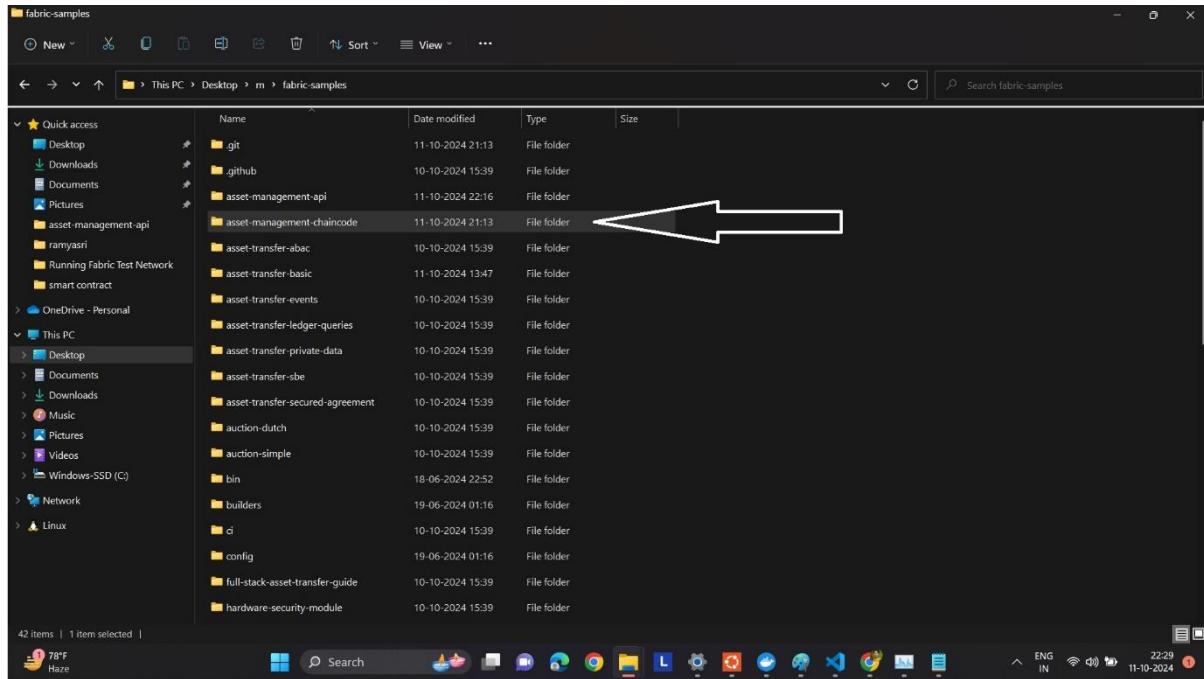
manithmettu@LAPTOP-QCOS1AJ7:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network
$ export CORE_PEER_TLS_ROOTCERT_FILE=$(PWD)/organizations/peerOrganizations/org1.example.com/peers/peer0.org1.example.com/tls/ca.crt
manithmettu@LAPTOP-QCOS1AJ7:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ export CORE_PEER_ADDRESS=localhost:7051
manithmettu@LAPTOP-QCOS1AJ7:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ peer lifecycle chaincode approveformyorg -o localhost:7050 --ordererTLSHostnameOverride orderer.example.com --channelID mychannel --name basic --version 1.0 --package-id SCC_PACKAGE_ID --sequence 1 --tls --cafile "$PWD/organizations/ordererOrganizations/example.com/orderers/orderer.example.com/msp/tlscacerts/tlsca.example.com-cert.pem"
[{"approvals": {
    "OrgIMSP": true,
    "OrgMSP": true
}}]
manithmettu@LAPTOP-QCOS1AJ7:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ 
manithmettu@LAPTOP-QCOS1AJ7:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ peer lifecycle chaincode commit -o localhost:7050 --ordererTLSHostnameOverride orderer.example.com --channelID mychannel --name basic --version 1.0 --sequence 1 --tls --cafile "$PWD/organizations/ordererOrganizations/example.com/orderers/orderer.example.com/msp/tlscacerts/tlsca.example.com-cert.pem" --output json
{
  "approvals": {
    "OrgIMSP": true,
    "OrgMSP": true
}}]
manithmettu@LAPTOP-QCOS1AJ7:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ peer lifecycle chaincode commit -o localhost:7050 --ordererTLSHostnameOverride orderer.example.com --channelID mychannel --name basic --version 1.0 --sequence 1 --tls --cafile "$PWD/organizations/ordererOrganizations/example.com/orderers/orderer.example.com/msp/tlscacerts/tlsca.example.com-cert.pem" --peerAddresses localhost:7051 --tlscertFiles "$PWD/organizations/peerOrganizations/org2.example.com/peers/peer0.org2.example.com/tls/ca.crt" --peerAddresses localhost:9051 --tlscertFiles "$PWD/organizations/peerOrganizations/org2.example.com/peers/peer0.org2.example.com/tls/ca.crt"
[{"approvals": {
    "OrgIMSP": true,
    "OrgMSP": true
}}]
manithmettu@LAPTOP-QCOS1AJ7:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ peer lifecycle chaincode invoke -o localhost:7050 --ordererTLSHostnameOverride orderer.example.com --channelID mychannel --name basic --version 1.0 --sequence 1 --tls --cafile "$PWD/organizations/ordererOrganizations/example.com/orderers/orderer.example.com/msp/tlscacerts/tlsca.example.com-cert.pem" --peerAddresses localhost:9051 --tlscertFiles "$PWD/organizations/peerOrganizations/org2.example.com/peers/peer0.org2.example.com/tls/ca.crt" --peerAddresses localhost:7051 --tlscertFiles "$PWD/organizations/peerOrganizations/org1.example.com/peers/peer0.org1.example.com/tls/ca.crt"
[{"approvals": {
    "OrgIMSP": true,
    "OrgMSP": true
}}]
manithmettu@LAPTOP-QCOS1AJ7:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ peer lifecycle chaincode querycommitted --channelID mychannel --name basic --cafile "$PWD/organizations/ordererOrganizations/example.com/msp/tlscacerts/tlsca.example.com-cert.pem"
Committed chaincode definition for chaincode 'basic' on channel 'mychannel':
Version: 1.0, Sequence: 1, Endorsement Plugin: esc, Validation Plugin: vsc, Approvals: [OrgIMSP: true, OrgMSP: true]
manithmettu@LAPTOP-QCOS1AJ7:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ peer chaincode invoke -o localhost:7050 --ordererTLSHostnameOverride orderer.example.com --tls --cafile "$PWD/organizations/ordererOrganizations/example.com/orderers/orderer.example.com/msp/tlscacerts/tlsca.example.com-cert.pem" -C mychannel -n basic --peerAddresses localhost:7051 --tlscertFiles "$PWD/organizations/peerOrganizations/org2.example.com/peers/peer0.org2.example.com/tls/ca.crt" --peerAddresses localhost:9051 --tlscertFiles "$PWD/organizations/peerOrganizations/org1.example.com/peers/peer0.org1.example.com/tls/ca.crt" --function "InitLedger" --Args "[{}]"
[{"approvals": {
    "OrgIMSP": true,
    "OrgMSP": true
}}]
manithmettu@LAPTOP-QCOS1AJ7:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ docker ps
CONTAINER ID        IMAGE               COMMAND             CR
STATUS              PORTS              NAMES
98339f769ad2      dev-peer0.org1.example.com-basic_1.0-c6a45e2d5563c883869149c3dbd941c22fbef27daa21f0552834f5a53fbb8058a-fe69b7bdc0bbe5769bbff0572aa6986343c77b61c80407999a9b65f295c0025   "chaincode -peer.add..." 20
manithmettu@LAPTOP-QCOS1AJ7:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ docker ps
peer0.org1.example.com                         "peer node start"   43
peer0.org1.example.com                         "orderer"           43
peer0.org2.example.com                         "peer node start"   43
manithmettu@LAPTOP-QCOS1AJ7:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ 

```



Out put :

Deploying a Smart Contract to a Channel



The screenshot shows a Windows desktop environment. In the foreground, a Visual Studio Code window is open, displaying the file `asset_mangement.go`. The code defines a `SmartContract` struct and an `Asset` struct, both using the `contractapi.Contract` interface. It also contains a function `InitLedger` that returns `nil`. Below the code editor, the terminal window shows the command `./network.sh up` being run, which is downloading dependencies from GitHub.

The screenshot shows a Linux terminal window with the command `./network.sh up` running. The output shows the creation of a test network using Docker Compose. It lists several containers being started, including peer nodes, an orderer node, and a chaincode node. The log also includes configuration details for the channel and genesis block generation.

```

manithmettu@LAPTOP-QCOS1AJ7:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network
manithmettu@LAPTOP-QCOS1AJ7:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ ./network.sh up createChannel -c mychannel -ca
Using docker and docker-compose
Creating channel 'mychannel'...
if network is not up, starting nodes with CLI timeout of '5' tries and CLI delay of '3' seconds and using database 'leveldb'
Starting up network
LOCAL VERSION=v2.5.9
BUCKER_IMAGE_VERSION=v2.5.9
CA_LOCAL_VERSION=v1.5.12
CA_DOCKER_IMAGE_VERSION=v1.5.12
WARN[0000] /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/compose/compose-test-net.yaml: the attribute `version` is obsolete, it will be ignored, please remove it to avoid potential confusion
WARN[0000] /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/compose/docker-compose-test-net.yaml: the attribute `version` is obsolete, it will be ignored, please remove it to avoid potential confusion
[+] Running 3/0
  ✓ Container peer0.org2.example.com  Running
  ✓ Container orderer.example.com  Running
  ✓ Container peer0.org1.example.com  Running
CONTAINER ID        IMAGE               COMMAND             CR
NAME              STATUS              PORTS              NAMES
983397d09ad2      dev-peer0.org1.example.com-basic_1.0-c6a45e2d5563c883869149c3dbd941c22fbc27daa21f0552834f5a53fb0b058a-fe69b7bd0bbe5769bfff0572aa6986343c77b01c84077999a9b05f29c5c0025   "chaincode -peer.add..."    8
hours ago          Exited (2) 3 hours ago                           dev-peer0.org1.example.com-basic_1.0-c6a45e2d5563c883869149c3dbd941c22fbc27daa21f0552834f5a53fb0b058a
985f9f9f3e3d1      dev-peer0.org2.example.com-basic_1.0-c6a45e2d5563c883869149c3dbd941c22fbc27daa21f0552834f5a53fb0b058a-c98d31bb0ffed9cfb7cbdd04fb2b76e9f59ad656fae4b995f3ce2a031a62   "chaincode -peer.add..."    8
hours ago          Exited (2) 8 hours ago                           dev-peer0.org2.example.com-basic_1.0-c6a45e2d5563c883869149c3dbd941c22fbc27daa21f0552834f5a53fb0b058a
bf3747d6dbd5      hyperledger/fabric-peer:latest
hours ago          Up 8 hours           0.0.0.0:7051->7051/tcp, 0.0.0.0:9444->9444/tcp                         peer0.org1.example.com
1461c9e34dba      hyperledger/fabric-orderer:latest
hours ago          Up 8 hours           0.0.0.0:7050->7050/tcp, 0.0.0.0:9443->9443/tcp                         orderer.example.com
685f9f9f3e3d1      hyperledger/fabric-peer:latest
hours ago          Up 8 hours           0.0.0.0:9051->9051/tcp, 7051/tcp, 0.0.0.0:9445->9445/tcp                         peer0.org2.example.com
[+] Creating 1 network (uses host-only adapter)
Generating channel genesis block 'mychannel.block'
Using organization 1
/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/../bin/configtxgen
* '[' 0 -eq 1 ']'
* configtxgen -profile ChannelUsingRaft -outputBlock ./channel-artifacts/mychannel.block -channelID mychannel
2024-10-11 14:19:48.447 UTC 0001 INFO [common.tools.configtxgen] main -> loading configuration
2024-10-11 14:19:48.469 UTC 0002 INFO [common.tools.configtxgen.localConfig] completeInitialization -> orderer type: etcdraft
2024-10-11 14:19:48.470 UTC 0003 INFO [common.tools.configtxgen.localConfig] completeInitialization -> OrdererECDraft.Options unset, setting to tick_interval:"500ms" election_tick:10 heartbeat_tick:1 max_inflight_blocks:1 snapshot_interval_size:1000000000
2024-10-11 14:19:48.498 UTC 0005 INFO [common.tools.configtxgen] Load -> Loaded configuration: /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network/configtx/configtx.yaml
2024-10-11 14:19:48.600 UTC 0006 INFO [common.tools.configtxgen] doOutputBlock -> Generating genesis block
2024-10-11 14:19:48.600 UTC 0007 INFO [common.tools.configtxgen] doOutputBlock -> Creating application channel genesis block
2024-10-11 14:19:48.600 UTC 0008 INFO [common.tools.configtxgen] doOutputBlock -> Writing genesis block
* resolv
* creating channel mychannel
* adding orderers
* . scripts/orderer.sh mychannel

```

```
[root@manithmettu LAPTOP-QCOS1A17: /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network]# ./bin/peer lifecycle chaincode package asset-management.tar.gz --path ..//asset-management-chaincode --lang golang --label asset-management_1.0
[2024-10-11 14:20:09.921 UTC 0001 INFO [main] InitCmd] InitCmdFactory -> Endorser and orderer connections initialized
[2024-10-11 14:20:09.917 UTC 0002 INFO [channelCmd] update -> Successfully submitted channel update
status: 405
{
    "error": "cannot join: channel already exists"
}

Channel 'mychannel' created
Joining org1 peer to the channel...
+ peer channel join -b ./channel-artifacts/mychannel.block
+ res=1
[2024-10-11 14:20:09.982 UTC 0001 INFO [channelCmd] InitCmdFactory -> Endorser and orderer connections initialized
Error: proposal failed (err: bad proposal response 500: cannot create ledger from genesis block: ledger [mychannel] already exists with state [ACTIVE])
After joining channel, peer has failed to join channel 'mychannel'
manithmettu@LAPTOP-QCOS1A17:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ ..//bin/peer lifecycle chaincode package asset-management.tar.gz --path ..//asset-management-chaincode --lang golang --label asset-management_1.0
[2024-10-11 14:20:39.921 UTC 0001 ERROR [main] InitCmd] Fatal error when initializing core config : error when reading core config file: Config File "core" Not Found in "[/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network]"
manithmettu@LAPTOP-QCOS1A17:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ export FABRIC_CFG_PATH=$PWD//..config/
CORE_PEER_MyEndPoint=192.168.6.11:7051
CORE_PEER_LOCALMSPID="Org1MSP"
CORE_PEER_TLS_ENABLED=true
CORE_PEER_MSPConfig=/etc/hyperledger/msp/peer/Org1MSP/tlsconfig.yaml
CORE_PEER_TLS_ROOTCERT_FILE=/etc/hyperledger/msp/peer/Org1MSP/tlsrootcert.pem
port 2000
COManithmettu@LAPTOP-QCOS1A17:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ export CORE_PEER_MSPCONFIGPATH=$PWD//organizations/peerOrganizations/org1.example.com/peers/peer0.org1.example.com/msp/tlscacerts/tlsca.example.com-cert.pem
port 2001
COManithmettu@LAPTOP-QCOS1A17:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ export CORE_PEER_ADDRESS=localhost:7051
manithmettu@LAPTOP-QCOS1A17:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ ..//bin/peer lifecycle chaincode package asset-management.tar.gz --path ..//asset-management-chaincode --lang golang --label asset-management_1.0
manithmettu@LAPTOP-QCOS1A17:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ export CORE_PEER_TLS_ENABLED=true
CORE_PEER_MyEndPoint=192.168.6.11:7051
CORE_PEER_LOCALMSPID="Org1MSP"
CORE_PEER_MSPConfig=/etc/hyperledger/msp/peer/Org1MSP/tlsconfig.yaml
CORE_PEER_TLS_ROOTCERT_FILE=/etc/hyperledger/msp/peer/Org1MSP/tlsrootcert.pem
port 2002
COManithmettu@LAPTOP-QCOS1A17:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ export CORE_PEER_MSPCONFIGPATH=$PWD//organizations/peerOrganizations/org1.example.com/peers/peer0.org1.example.com/msp/tlscacerts/tlsca.example.com-cert.pem
port 2003
COManithmettu@LAPTOP-QCOS1A17:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ export CORE_PEER_ADDRESS=localhost:7051
manithmettu@LAPTOP-QCOS1A17:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ ..//bin/peer lifecycle chaincode install asset-management.tar.gz
[2024-10-11 14:24:09.568 UTC 0002 INFO [cli-lifecycle.chaincode] submitInstallProposal -> Installed remotely: response::status:200 payload:"\nasset-management_1.0:d9614e4dbac242599471e0bd15e3f28a55805908chacd260663721806c181b0e63721806c181b0e02202aasset-management_1.0"
[2024-10-11 14:24:09.568 UTC 0002 INFO [cli-lifecycle.chaincode] submitInstallProposal -> Chaincode code package identifier: asset-management_1.0:d9614e4dbac242599471e0bd15e3f28a55805908chacd260663721806c181b0e
manithmettu@LAPTOP-QCOS1A17:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ ..//bin/peer lifecycle chaincode queryinstalled
Installed chaincodes on peer:
Package ID: basic_1.0:c6a45e2d5563c883869149c3dbd941c22fbfe27daa2f0552834f5a53fb80858a, Label: basic_1.0
[22:34 11-10-2024]
```

```
[root@manithmettu LAPTOP-QCOS1A17: /mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network]# ./bin/peer lifecycle chaincode install asset-management.tar.gz
[2024-10-11 14:24:09.568 UTC 0001 INFO [cli-lifecycle.chaincode] submitInstallProposal -> Installed remotely: response::status:200 payload:"\nasset-management_1.0:d9614e4dbac242599471e0bd15e3f28a55805908chacd260663721806c181b0e63721806c181b0e02202aasset-management_1.0"
[2024-10-11 14:24:09.568 UTC 0001 INFO [cli-lifecycle.chaincode] submitInstallProposal -> Chaincode code package identifier: asset-management_1.0:d9614e4dbac242599471e0bd15e3f28a55805908chacd260663721806c181b0e
manithmettu@LAPTOP-QCOS1A17:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ ..//bin/peer lifecycle chaincode queryinstalled
Installed chaincodes on peer:
Package ID: basic_1.0:c6a45e2d5563c883869149c3dbd941c22fbfe27daa2f0552834f5a53fb80858a, Label: basic_1.0
Package ID: asset-management_1.0:d9614e4dbac242599471e0bd15e3f28a55805908chacd260663721806c181b0e, Label: asset-management_1.0
manithmettu@LAPTOP-QCOS1A17:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ ..//bin/peer lifecycle chaincode approveformonyo -o localhost:7050 --ordererTLSHostnameOverride orderer.example.com --tls --cafile $PWD//organizations/ordererOrganizations/example.com/orderers/orderer.example.com/msp/tlscacerts/tlsca.example.com-cert.pem --channelID mychannel --name asset-management --version 1.0 --package-id packageID
--sequence 1
--peerAddresses localhost:7051 --tlsRootCertFiles $PWD//organizations/peerOrganizations/org1.example.com/peers/peer0.org1.example.com/tls/ca.crt
manithmettu@LAPTOP-QCOS1A17:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ 2 level completed_
initiation: chaincode definition not agreed to by this org (OrgMSP)
manithmettu@LAPTOP-QCOS1A17:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ ..//bin/peer lifecycle chaincode invoke -o localhost:7050 --ordererTLSHostnameOverride orderer.example.com --tls --cafile $PWD//organizations/ordererOrganizations/example.com/orderers/orderer.example.com/msp/tlscacerts/tlsca.example.com-cert.pem --channelID mychannel --name asset-management --peerAddresses localhost:7051 --tlsRootCertFiles $PWD//organizations/peerOrganizations/org1.example.com/peers/peer0.org1.example.com/tls/ca.crt
manithmettu@LAPTOP-QCOS1A17:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ ..//bin/peer chaincode commit -o localhost:7050 --ordererTLSHostnameOverride orderer.example.com --tls --cafile $PWD//organizations/peerOrganizations/org1.example.com/peers/peer0.org1.example.com/tls/ca.crt -C '{"Args":["CreateAsset","{\"asset_id\": \"dealer1\", \"1234567890\", \"1000\", \"active\"}"]}'
Error: endorsement failure during invoke. response: status:500 message:"make sure the chaincode asset-management has been successfully defined on channel mychannel and try again: chaincode asset-management not found"
manithmettu@LAPTOP-QCOS1A17:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ ..//bin/peer chaincode query -C mychannel -n asset-management -c ["Args":["ReadAsset", "asset1"]]
Error: endorsement failure during query. response: status:500 message:"make sure the chaincode asset-management has been successfully defined on channel mychannel and try again: chaincode asset-management not found"
manithmettu@LAPTOP-QCOS1A17:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ ..//bin/peer lifecycle chaincode approveformonyo -o localhost:7050 --ordererTLSHostnameOverride orderer.example.com --tls --cafile $PWD//organizations/ordererOrganizations/example.com/orderers/orderer.example.com/msp/tlscacerts/tlsca.example.com-cert.pem --channelID mychannel --name asset-management --version 1.0 --package-id packageID
--sequence 1
--peerAddresses localhost:7051 --tlsRootCertFiles $PWD//organizations/peerOrganizations/org1.example.com/peers/peer0.org1.example.com/tls/ca.crt
Chaincode definition for chaincode 'asset-management', version '1.0', sequence '1' on channel 'mychannel' approval status by org:
OrgMSP: true
Org2MSP: false
manithmettu@LAPTOP-QCOS1A17:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ ..//bin/peer lifecycle chaincode approveformonyo -o localhost:7050 --ordererTLSHostnameOverride orderer.example.com --tls --cafile $PWD//organizations/ordererOrganizations/example.com/orderers/orderer.example.com/msp/tlscacerts/tlsca.example.com-cert.pem --channelID mychannel --name asset-management --version 1.0 --package-id packageID
assetManagement_1.0:d9614e4dbac242599471e0bd15e3f28a55805908chacd260663721806c181b0e - sequence 1 - peerAddresses localhost:7051 --tlsRootCertFiles $PWD//organizations/peerOrganizations/org1.example.com/peers/peer0.org1.example.com/tls/ca.crt
Error: proposal failed with status: 500 - Failed to authorize invocation due to failed ACL check: Failed deserializing proposal creator during channelless check policy with policy [Admins]: [expected MSP ID Org2 MSP, received OrgMSP]
manithmettu@LAPTOP-QCOS1A17:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ ..//bin/peer lifecycle chaincode commit -o localhost:7050 --ordererTLSHostnameOverride orderer.example.com --tls --cafile $PWD//organizations/ordererOrganizations/example.com/orderers/orderer.example.com/msp/tlscacerts/tlsca.example.com-cert.pem --channelID mychannel --name asset-management --version 1.0 --sequence 1 --peerAddresses localhost:7051 --tlsRootCertFiles $PWD//organizations/peerOrganizations/org1.example.com/peers/peer0.org1.example.com/tls/ca.crt
manithmettu@LAPTOP-QCOS1A17:/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ ..//bin/peer lifecycle chaincode checkcommitreadiness --channelID mychannel --name asset-management --version 1.0 --sequence 1 --tls --cafile $PWD//organizations/peerOrganizations/org1.example.com/peers/peer0.org1.example.com/tls/ca.crt
[22:35 11-10-2024]
```

```
manithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ ./bin/peer lifecycle chaincode commit -o localhost:7050 --ordererTLSHostnameOverride orderer.example.com --tls --cafile $PWD/organizations/peerOrganizations/org2.example.com/users/Admin@org2.example.com/msp/tls/ca.crt
org CORE_Pmanithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ export CORE_PEER_LOCALMSPID="Org2MSP"
export CORE_Pmanithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ export CORE_PEER_LOCALMSPID="Org2MSP"
org CORE_Pmanithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ export CORE_PEER_ADDRESS=localhost:9051
manithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ ..../bin/peer lifecycle chaincode approveformyorg -o localhost:7050 --ordererTLSHostnameOverride orderer.example.com --tls --cafile $PWD/organizations/peerOrganizations/org2.example.com/users/Admin@org2.example.com/msp/tlsca.example.com-cert.pem --channelID mychannel --name asset-management --version 1.0 --package-id asset-management_1.0-d9614edb242599471e0bd15e3f28a55805908cacad260663721806c181b0e --sequence 1 --peerAddresses localhost:9051 --tlsRootCertFiles ${PWD}/organizations/peerOrganizations/org2.example.com/msp/tlsca.example.com-cert.pem
file #$(PWD)/organizations/peerOrganizations/org2.example.com/users/Admin@org2.example.com/msp/tlsca.example.com-cert.pem --channelID mychannel --name asset-management --version 1.0 --package-id asset-management_1.0-d9614edb242599471e0bd15e3f28a55805908cacad260663721806c181b0e --sequence 1 --peerAddresses localhost:9051 --tlsRootCertFiles ${PWD}/organizations/peerOrganizations/org2.example.com/msp/tlsca.example.com-cert.pem
chaincode definition for 'asset-management', version '1.0', sequence '1' on channel 'mychannel' approval status by org:
Org1MSP: true
Org2MSP: true
manithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ ..../bin/peer lifecycle chaincode commit -o localhost:7050 --ordererTLSHostnameOverride orderer.example.com --tls --cafile $PWD/organizations/peerOrganizations/org1.example.com/users/Admin@org1.example.com/msp/tlsca.example.com-cert.pem --channelID mychannel --name asset-management --version 1.0 --sequence 1 --peerAddresses $PWD/organizations/peerOrganizations/org1.example.com/msp/tlsca.example.com-cert.pem
manithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ ..../bin/peer lifecycle chaincode checkcommitreadiness --channelID mychannel --name asset-management --version 1.0 --sequence 1 --peerAddresses localhost:9051 --tlsRootCertFiles ${PWD}/organizations/peerOrganizations/org2.example.com/msp/tlsca.example.com-cert.pem
[2024-10-11 14:32:59,192 UTC 0001 INFO [chaincodeCmd] ClientWait -> txid [6fb04c9a15968194366fe934fb9d38119bd27f8bacef63aab653c669] committed with status (VALID) at localhost:9051
manithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ ..../bin/peer lifecycle chaincode checkcommitreadiness --channelID mychannel --name asset-management --version 1.0 --sequence 1 --peerAddresses $PWD/organizations/peerOrganizations/org1.example.com/msp/tlsca.example.com-cert.pem
[2024-10-11 14:32:59,192 UTC 0001 INFO [chaincodeCmd] ClientWait -> txid [b24f79a917e30bf5f5e87a8b3b711e21c18ea235608e64ae00d971a41aa0] committed with status (VALID) at localhost:9051
manithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ ..../bin/peer chaincode invoke -o localhost:7050 --ordererTLSHostnameOverride orderer.example.com --tls --cafile $PWD/organizations/peerOrganizations/org1.example.com/users/Admin@org1.example.com/msp/tlsca.example.com-cert.pem --channelID mychannel --name asset-management --peerAddresses localhost:9051 --tlsRootCertFiles ${PWD}/organizations/peerOrganizations/org1.example.com/msp/tlsca.example.com-cert.pem
[2024-10-11 14:32:59,192 UTC 0001 INFO [chaincodeCmd] ClientWait -> txid [b24f79a917e30bf5f5e87a8b3b711e21c18ea235608e64ae00d971a41aa0] committed with status (VALID) at localhost:9051
manithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ ..../bin/peer chaincode invoke -o localhost:7050 --ordererTLSHostnameOverride orderer.example.com --tls --cafile $PWD/organizations/peerOrganizations/org1.example.com/users/Admin@org1.example.com/msp/tlsca.example.com-cert.pem --channelID mychannel --name asset-management --peerAddresses localhost:9051 --tlsRootCertFiles ${PWD}/organizations/peerOrganizations/org1.example.com/msp/tlsca.example.com-cert.pem
[2024-10-11 14:32:59,192 UTC 0001 INFO [chaincodeCmd] ClientWait -> txid [12345e7890112345e7890110001active] error: proposal failed with status:500 message:"make sure the chaincode asset-management has been successfully defined on channel mychannel and try again: chaincode definition for 'asset-management' exists, but chaincode is not installed"
manithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ export CORE_PEER_LOCALMSPID="Org1MSP"
manithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ export CORE_PEER_TLS_ROOTCERT_FILE=${PWD}/organizations/peerOrganizations/org1.example.com/msp/tlsca.example.com-cert.pem
RE_Pmanithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ export CORE_PEER_MSPCONFIGPATH=${PWD}/organizations/peerOrganizations/org1.example.com/users/Admin@org1.example.com/msp
org CORE_Pmanithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ export CORE_PEER_ADDRESS=$9051host
manithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ 
Installed chaincodes on local peer
Package ID: basic_1.0-d9614edb242599471e0bd15e3f28a55805908cacad260663721806c181b0e, Label: basic_1.0
Package ID: asset-management_1.0-d9614edb242599471e0bd15e3f28a55805908cacad260663721806c181b0e, Label: asset-management_1.0
manithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ export CORE_PEER_LOCALMSPID="Org1MSP"
ORE_Pmanithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ export CORE_PEER_TLS_ROOTCERT_FILE=${PWD}/organizations/peerOrganizations/org2.example.com/msp/tlsca.example.com-cert.pem
manithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ 
manithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ ..../bin/peer lifecycle chaincode queryinstalled
Installed chaincodes on remote peer
Package ID: basic_1.0-d9614edb242599471e0bd15e3f28a55805908cacad260663721806c181b0e, Label: basic_1.0
manithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ export CORE_PEER_LOCALMSPID="Org1MSP"
USD/CNY -0.17%
Windows Search L S E M G D C O W X Y Z
ENG IN 22:35 11-10-2024
```

```
manithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ ./bin/peer lifecycle chaincode install asset-management.tar.gz
Error: chaincode install failed with status: 500 - failed to invoke backing implementation of 'InstallChaincode': chaincode already successfully installed (package ID 'asset-management_1.0_d9614edb242599471e0bd15e3f28a55805908cacad260663721806c181b0e')
manithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ export CORE_PEER_LOCALMSPID="Org1MSP"
ORE_Pmanithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ export CORE_PEER_TLS_ROOTCERT_FILE=${PWD}/organizations/peerOrganizations/org1.example.com/msp/tlsca.example.com-cert.pem
org CORE_Pmanithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ export CORE_PEER_ADDRESS=$9051host
manithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ 
manithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ ..../bin/peer lifecycle chaincode install asset-management.tar.gz
Error: proposal failed with status: 500 - failed to invoke backing implementation of 'CommitChaincodeDefinition': requested sequence is 1, but new definition must be sequence 2
manithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ export CORE_PEER_LOCALMSPID="Org1MSP"
export CORE_Pmanithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ export CORE_PEER_TLS_ROOTCERT_FILE=${PWD}/organizations/peerOrganizations/org1.example.com/msp/tlsca.example.com-cert.pem
org CORE_Pmanithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ export CORE_PEER_MSPCONFIGPATH=${PWD}/organizations/peerOrganizations/org1.example.com/users/Admin@org1.example.com/msp
RE_Pmanithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ export CORE_PEER_ADDRESS=$9051host
manithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ ..../bin/peer lifecycle chaincode commit -o localhost:7050 --ordererTLSHostnameOverride orderer.example.com --tls --cafile $PWD/organizations/peerOrganizations/org1.example.com/msp/tlsca.example.com-cert.pem --channelID mychannel --name asset-management --version 1.0 --sequence 1 --peerAddresses localhost:9051 --tlsRootCertFiles ${PWD}/organizations/peerOrganizations/org1.example.com/msp/tlsca.example.com-cert.pem
[2024-10-11 14:33:55,192 UTC 0001 INFO [cli lifecycle.chaincode] submitInstallProposal -> Installed remotely: response:cstatus:200 payload:"vflasest-managed:1.0:d9614edb242599471e0bd15e3f28a55805908cacad260663721806c181b0e"
663721806c181b0e@0221024asset-management-1.0>
[2024-10-11 14:33:55,192 UTC 0001 INFO [cli lifecycle.chaincode] submitInstallProposal -> Chaincode code package identifier: asset-management_1.0:d9614edb242599471e0bd15e3f28a55805908cacad260663721806c181b0e
manithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ ..../bin/peer lifecycle chaincode commit -o localhost:7050 --ordererTLSHostnameOverride orderer.example.com --tls --cafile $PWD/organizations/peerOrganizations/org1.example.com/msp/tlsca.example.com-cert.pem --channelID mychannel --name asset-management --version 1.0 --sequence 1 --peerAddresses localhost:9051 --tlsRootCertFiles ${PWD}/organizations/peerOrganizations/org1.example.com/msp/tlsca.example.com-cert.pem
[2024-10-11 14:34:03,192 UTC 0001 INFO [cli lifecycle.chaincode] submitInstallProposal -> Installed locally: response:cstatus:200 payload:"vflasest-managed:1.0:d9614edb242599471e0bd15e3f28a55805908cacad260663721806c181b0e"
manithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ export CORE_PEER_LOCALMSPID="Org2MSP"
ORE_Pmanithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ export CORE_PEER_TLS_ROOTCERT_FILE=${PWD}/organizations/peerOrganizations/org2.example.com/msp/tlsca.example.com-cert.pem
org CORE_Pmanithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ export CORE_PEER_MSPCONFIGPATH=${PWD}/organizations/peerOrganizations/org2.example.com/users/Admin@org2.example.com/msp
RE_Pmanithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ export CORE_PEER_ADDRESS=$9051host
manithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ ..../bin/peer lifecycle chaincode approveformyorg -o localhost:7050 --ordererTLSHostnameOverride orderer.example.com --tls --cafile $PWD/organizations/peerOrganizations/org2.example.com/msp/tlsca.example.com-cert.pem --channelID mychannel --name asset-management --version 1.0 --package-id asset-management_1.0-d9614edb242599471e0bd15e3f28a55805908cacad260663721806c181b0e --sequence 1 --peerAddresses localhost:9051 --tlsRootCertFiles ${PWD}/organizations/peerOrganizations/org2.example.com/msp/tlsca.example.com-cert.pem
[2024-10-11 14:34:03,192 UTC 0001 INFO [cli lifecycle.chaincode] ClientWait -> txid [74bb8e21764e44662c83673b74856610b41ed9f99001f2bc132767f87226d0] committed with status (VALID) at localhost:9051
manithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ 
manithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ export CORE_PEER_LOCALMSPID="Org2MSP"
ORE_Pmanithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ export CORE_PEER_TLS_ROOTCERT_FILE=${PWD}/organizations/peerOrganizations/org2.example.com/msp/tlsca.example.com-cert.pem
org CORE_Pmanithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ export CORE_PEER_MSPCONFIGPATH=${PWD}/organizations/peerOrganizations/org2.example.com/users/Admin@org2.example.com/msp
RE_Pmanithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ export CORE_PEER_ADDRESS=$9051host
manithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ ..../bin/peer lifecycle chaincode approveformyorg -o localhost:7050 --ordererTLSHostnameOverride orderer.example.com --tls --cafile $PWD/organizations/peerOrganizations/org2.example.com/msp/tlsca.example.com-cert.pem --channelID mychannel --name asset-management --version 1.0 --package-id asset-management_1.0-d9614edb242599471e0bd15e3f28a55805908cacad260663721806c181b0e --sequence 1 --peerAddresses localhost:9051 --tlsRootCertFiles ${PWD}/organizations/peerOrganizations/org2.example.com/msp/tlsca.example.com-cert.pem
[2024-10-11 14:34:03,192 UTC 0001 INFO [cli lifecycle.chaincode] ClientWait -> txid [c7809f81e08b723611e0f0c0a2fc57535168121ccf8cd07d6d2a1be1772074989] committed with status (VALID) at localhost:9051
manithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ 
SF - SEA Game score
Windows Search L S E M G D C O W X Y Z
ENG IN 22:36 11-10-2024
```

```

manithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ ./ls
localhost:7051 - tlsRootCertFiles $PWD/organizations/peerOrganizations/org1.example.com/tls/ca.crt
manithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ export CORE_PEER_LOCALMSPID="Org1MSP"
export CORE_PEER_MSPCONFIGPATH=$PWD/organizations/peerOrganizations/org1.example.com/users/Admin@org1.example.com/msp
export CORE_PEER_TLS_ROOTCERT_FILE=$PWD/organizations/peerOrganizations/org1.example.com/users/peer0.org1.example.com/tls/ca.crt
manithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ export CORE_PEER_ID=Org1MSP
manithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ ./bin/peer lifecycle chaincode approveformyorg -o localhost:7050 --ordererTLSHostnameOverride orderer.example.com --tls --cafile $PWD/organizations/ordererOrganizations/example.com/orderers/orderer.example.com/msp/tlscacerts/tlsca.example.com-cert.pem --channelID mychannel --name asset-management --version 1.0 --package-id asset-management_1.0-d9b14edba242599471eb0d15ef28a5580590cbacd260663721806c181b0e --sequence 2 --peerAddresses localhost:7051 --tlsRootCertFiles $PWD/organizations/peerOrganizations/org1.example.com/peers/peer0.org1.example.com/tls/ca.crt
2024-10-11 14:34:53.661 UTC [INFO] [chaincodeCmd] ClientWait->txid [74b8e821764c4466c3c3673b485c6610b41ed9f99001f2b13227f787c226db] committed with status (VALID) at localhost:7051
manithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ 
manithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ export CORE_PEER_LOCALMSPID="Org2MSP"
manithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ ./bin/peer lifecycle chaincode approveformyorg -o localhost:7050 --ordererTLSHostnameOverride orderer.example.com --tls --cafile $PWD/organizations/ordererOrganizations/example.com/orderers/orderer.example.com/msp/tlscacerts/tlsca.example.com-cert.pem --channelID mychannel --name asset-management --version 1.0 --package-id asset-management_1.0-d9b14edba242599471eb0d15ef28a5580590cbacd260663721806c181b0e --sequence 2 --peerAddresses localhost:7051 --tlsRootCertFiles $PWD/organizations/peerOrganizations/org2.example.com/peers/peer0.org2.example.com/tls/ca.crt
2024-10-11 14:34:53.661 UTC [INFO] [chaincodeCmd] ClientWait->txid [c700ff91e0b722611e0fc0a2fc57535168121ccf8c0d7d6d2a1be1772074989] committed with status (VALID) at localhost:9051
manithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ 
manithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ ./bin/peer lifecycle chaincode checkcommitreadiness --channelID mychannel --name asset-management --version 1.0 --sequence 2 --tls --cafile $PWD/organizations/ordererOrganizations/example.com/orderers/orderer.example.com/msp/tlscacerts/tlsca.example.com-cert.pem --peerAddresses localhost:7051 --tlsRootCertFiles $PWD/organizations/peerOrganizations/org1.example.com/peers/peer0.org1.example.com/tls/ca.crt
Chaincode definition for chaincode 'asset-management', version '1.0', sequence '2' on channel 'mychannel' approval status by org:
Org1MSP: true
Org2MSP: true
manithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ ./bin/peer lifecycle chaincode commit -o localhost:7050 --ordererTLSHostnameOverride orderer.example.com --tls --cafile $PWD/organizations/ordererOrganizations/example.com/orderers/orderer.example.com/msp/tlscacerts/tlsca.example.com-cert.pem --channelID mychannel --name asset-management --version 1.0 --sequence 2 --peerAddresses localhost:9051 --tlsRootCertFiles $PWD/organizations/peerOrganizations/org2.example.com/peers/peer0.org2.example.com/tls/ca.crt
2024-10-11 14:35:00.635 UTC [INFO] [chaincodeCmd] ClientWait->txid [3025a7f9af19dcade8639a0d2282a97c064872242094e69b49663c66914dab47] committed with status (VALID) at localhost:9051
manithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ ./bin/peer chaincode invoke -o localhost:7050 --ordererTLSHostnameOverride orderer.example.com --tls --cafile $PWD/organizations/ordererOrganizations/example.com/orderers/orderer.example.com/msp/tlscacerts/tlsca.example.com-cert.pem -C mychannel -n asset-management --peerAddresses localhost:7051 --tlsRootCertFiles $PWD/organizations/peerOrganizations/org1.example.com/peers/peer0.org1.example.com/tls/ca.crt --peerAddress localhost:9051 --tlsRootCertFiles $PWD/organizations/peerOrganizations/org2.example.com/peers/peer0.org2.example.com/tls/ca.crt -c '{"function": "CreateAsset", "Args": ["asset1", "dealer1", "1234567890", "1000", "active"]}'
2024-10-11 14:35:00.635 UTC [INFO] [chaincodeCmd] chaincodeInvokeQuery > Chaincode invoke successful result: status:200
manithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ ./bin/peer chaincode query -C mychannel -n asset-management -c '{"Args": ["ReadAsset", "asset1"]}' --dealerId "dealer1" --mspid "1234567890" --peerId "1234" --balance "1000" --status "active" --transamount "0" --transType "" --remarks ""
{"dealerId": "dealer1", "mspid": "1234567890", "peerId": "1234", "balance": "1000", "status": "active", "transamount": "0", "transType": "", "remarks": ""}
manithmettu@LAPTOP-QCOS1A17:~/mnt/c/Users/ramya/Desktop/m/fabric-samples/test-network$ z level completed

```



LEVEL – 3

REST API Development

Objective: Develop a REST API to interact with the deployed smart contract and create a Docker image for the API.

API Features:

- Endpoints to create, update, query, and retrieve asset transaction histories.

Implementation:

- Used Node.js to create the REST API.
- Integrated the Fabric Gateway to invoke the smart contract functions from the API.
- Created a Dockerfile to package the API for deployment.

References:

- [Hyperledger Fabric Gateway](#)

Out put

REST – API

The screenshot shows the VS Code interface with the following details:

- File Explorer:** Shows the directory structure for the `application-gateway-javascript` folder, which includes `node_modules`, `src`, `test-network`, `.gitignore`, `npmrc`, `app.js`, `dockerfile`, `eslint.config.mjs`, `package-lock.json`, `package.json`, and `application-gateway-typescript`.
- Terminal:** Displays the command `docker build -t fabric-rest-api .` being run in a PowerShell session. The output shows the build process for the `fabric-rest-api` image.
- Status Bar:** Shows system information like battery level (9%), Java warning, and network status (IND-BAN).

The screenshot shows the VS Code interface with the following details:

- File Explorer:** Shows the directory structure for the `application-gateway-javascript` folder, identical to the previous screenshot.
- Terminal:** Displays the command `docker build -t fabric-rest-api .` being run in a PowerShell session. The output provides a detailed timeline for each layer of the Docker image build.
- Status Bar:** Shows system information like temperature (29°C), weather (Partly sunny), Java warning, and network status (IND-BAN).

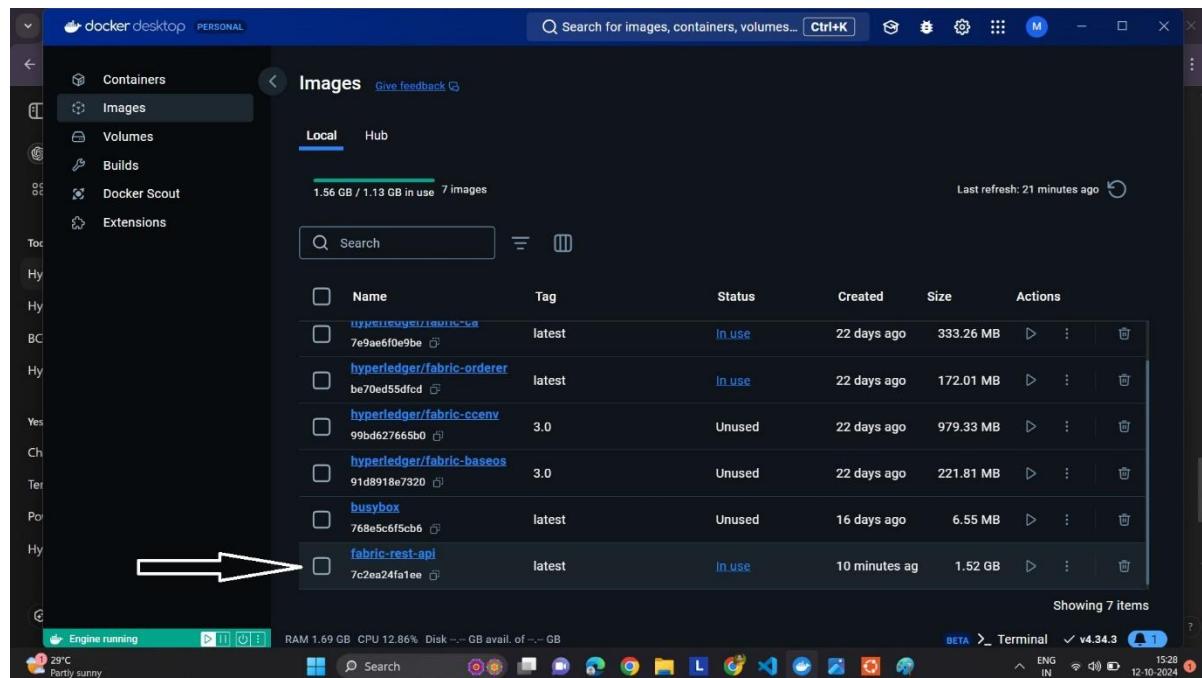
Layer	Time
[+] Building 467.is (1/1) FINISHED	0.1s
> [internal] load build definition from dockerfile	3.0s
>= > transferring dockerfile: 388B	0.0s
> [internal] load metadata for docker.io/library/node:16	0.0s
> [auth] library/node:pull token for registry-1.docker.io	0.0s
> [internal] load .dockerignore	0.0s
>= > transferring context: 2B	0.0s
>= > [1/5] FROM docker.io/library/node:16@sha256:f77a1aeef2da8d3e45ecf990f45df50f1a286c5fe8bbfb8c6e4246c6389705c0b	407.3s
>= > sha256:ee7d78be1eb92cafc84fc3af736b23eca018d5dedc967ae5bdeed6d7082403b / 458B	0.0s
>= > sha256:ca266fd6192188b57fb57074753a8c4ca5d58bae53dd7cfce9f42dedcc1d / 2.27MB	0.4s
>= > sha256:f421f66afaf42b009dfff26af6d132194b22a1082b08c5ef7cd69c627783c04 / 34.79MB	3.9s
>= > sha256:ae3b95bbaa61ce24cfdd9e7c74d6fb7713b2bcae93af4f7063d06bd7e02172 / 4.20KB	151.2s
>= > sha256:513d779256b648c861239a75f5b0589330546b072775217272e19ffae1635e98e / 191.90MB	2.1s
>= > sha256:ffdb397e94d74abc54e514f143be0e0f684328d1f895eadb482f08cc02444e5 / 51.89MB	394.1s
>= > sha256:7e9bf114588c95b2d6120803b96587f3b8d0f51647aae138a5b095d42f2454 / 17.58MB	189.1s
>= > sha256:311daec4c456ea1576925360eba391bcd32dece9b0e95960a0b0c9ffcb25fe712017 / 50.50MB	79.3s
>= > extracting sha256:311daec456ea1576925360eba391bcd32dece9b0e95960a0b0c9ffcb25fe712017	380.1s
>= > extracting sha256:7e9bf114588c95b2d6120803b96587f3b8d0f51647aae138a5b095d42f2454	3.8s
>= > extracting sha256:ffdb397e94d74abc54e514f143be0e0f604328d1f895eadb482f08cc02444e5	1.1s
>= > extracting sha256:513d779256b648c861239a75f5b0589330546b072775217272e19ffae1635e98e	4.8s
>= > extracting sha256:ae3b95bbaa61ce24cfdd9e7c74d6fb7713b2bcae93af4f7063d06bd7e02172	10.4s
>= > extracting sha256:ffdb397e94d74abc54e514f143be0e0f684328d1f895eadb482f08cc02444e5	0.8s
>= > extracting sha256:ca266fd6192188b57fb57074753a8c4ca5d58bae53dd7cfce9f42dedcc1d	2.1s
>= > extracting sha256:ee7d78be1eb92cafc84fc3af736b23eca018d5dedc967ae57deed6d7082403b	0.1s
> [internal] load build context	0.0s
>= > transferring context: 449.48kB	0.9s
>= > extracting sha256:7e9bf114588c95b2d6120803b96587f3b8d0f51647aae138a5b095d42f2454	0.8s

The screenshot shows a Windows desktop environment with the Visual Studio Code (VS Code) application open. The title bar reads "fabric-samples". The code editor has several tabs: "core.yaml", "docker-compose.yaml", "dockerfile", "ca.crt", and "network.sh". The "TERMINAL" tab is active, displaying the following command sequence:

```
PS C:\Users\ramya\Desktop\m\fabric-samples\asset-transfer-basic\application-gateway-javascript> docker run -d -p 3000:3000 fabric-rest-api  
bcd5afc5b288ac223219e2d4e02b8e8bd2ffbfdfb797ddfe0a8d17db23f  
PS C:\Users\ramya\Desktop\m\fabric-samples\asset-transfer-basic\application-gateway-javascript> docker ps  
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES  
a61f21a23edc gliderlabs/logspout "/bin/logspout" 2 hours ago Up 2 hours 127.0.0.1:8000->80/tcp logspout  
PS C:\Users\ramya\Desktop\m\fabric-samples\asset-transfer-basic\application-gateway-javascript> docker logs bcd5afc5b288ac223219e2d4e02b8e8bd2ffbfdfb797ddfe0a8d17db23f  
6d17db23f  
> asset-transfer-basic@1.0.0 start  
> node src/app.js  
channelName: mychannel  
mspid: Org1MSP  
cryptoPath: /usr/test-network/organizations/peerOrganizations/org1.example.com
```

The status bar at the bottom right indicates the date as 12-10-2024 and the time as 15:05.

This screenshot is identical to the one above, showing the same VS Code interface and terminal output. A red box highlights the command "PS C:\Users\ramya\Desktop\m\fabric-samples\asset-transfer-basic\application-gateway-javascript> docker run -d -p 3000:3000 -v \$(pwd)/test-network/organizations:/usr/test-network/organizations" in the terminal window.

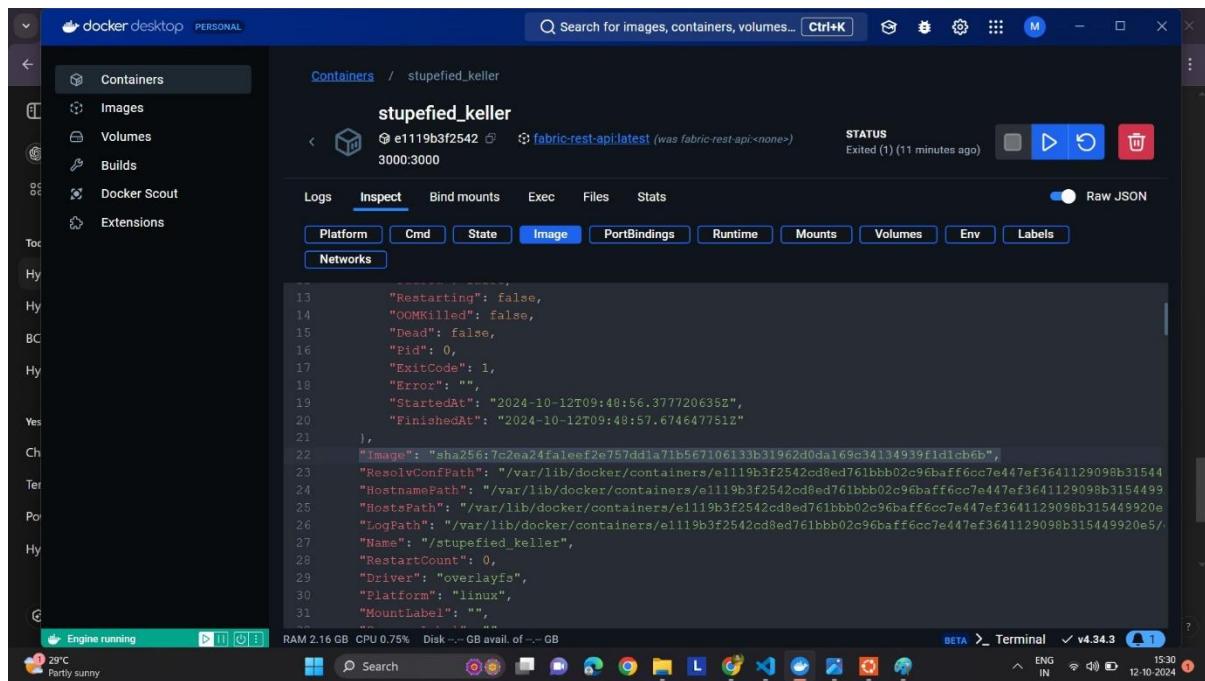


The screenshot shows a Windows desktop environment with two open windows. The top window is a terminal session in VS Code, titled 'fabric-samples'. It displays a command being run to build a Docker image:

```
manithmettu@LAPTOP-QCOS1AJ7:/mnt/c/Users/ramya/Desktop/m/fabric-samples/asset-transfer-basic/application-gateway-javascript$ docker build -t org1:latest .
```

The terminal output shows the build process, including extracting files, copying packages, running npm install, and exporting layers. The final step shows the creation of a manifest file.

The bottom window is the taskbar, showing various pinned icons and system status.



docker desktop PERSONAL

Search for images, containers, volumes... Ctrl+K

Images / fabric-rest-api:latest

fabric-rest-api:latest IN USE

CREATED 13 minutes ago SIZE 1.52 GB

Recommended fixes Run

Analyzed by docker SCOUT

Image hierarchy

Images (6) Vulnerabilities (10) Packages (966)

Give feedback View in GitHub

FROM node:16 0 2 2 3 2

FROM node:16 DOCKER OFFICIAL IMAGE created about 1 year ago

Packages: 756 Newer image available View in GitHub

FROM debian:10, 10.13, buster, buster-20230904 0 3 2 3 2

FROM buildpack-deps:buster-curl, oldoldstable-curl 0 3 2 3 2

FROM buildpack-deps:buster-scm, oldoldstable-s... 0 3 2 3 2

FROM buildpack-deps:buster, oldoldstable 0 3 2 3 2

FROM node:16, 16-buster, 16.20, 16.20-buster, 16... 0 3 2 3 2

ALL fabric-rest-api:latest 0 3 2 3 2

Packages: 966

Layers (19)

0 ADD file:d9c3e291731c1f06... 130.19 MB

1 CMD ["bash"] 0 B

2 set -eux; apt-get update; apt-... 36.25 MB

Engine running RAM 2.15 GB CPU ~-- % Disk ~-- GB avail. of ~-- GB

Search

29°C Partly sunny

BETA Terminal ✓ v4.34.3

ENG IN 15:31 12-10-2024

Conclusion

Through this internship project, I successfully implemented a blockchain-based asset management system using Hyperledger Fabric. The project was completed in three phases:

- **Level 1: Test Network Setup**

A test network was deployed to simulate a blockchain environment, demonstrating the foundational structure for secure, decentralized asset tracking. By following the provided resources, I gained hands-on experience with setting up and configuring the Hyperledger Fabric environment.

- **Level 2: Smart Contract Development**

I developed and tested a smart contract that manages and tracks assets representing accounts with specific attributes (DEALERID, MSISDN, MPIN, BALANCE, STATUS, TRANSAMOUNT, TRANSTYPE, and REMARKS). This smart contract ensures transparency and immutability of asset data while allowing authorized users to query and update asset information securely.

- **Level 3: REST API and Docker Integration**

A REST API was developed to interact with the smart contract deployed on the Hyperledger Fabric test network, enabling external systems to invoke blockchain transactions efficiently. The API was then containerized using Docker, allowing for streamlined deployment and scalability.

COVER LETTER

Mettu Manith
Shamshabad, Hyderabad,
501218
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6300407229

13 September 2024

SmartFalcon LLP
Hyderabad

Dear SmartFalcon,

I am writing to formally submit my final report and documentation for the recently completed Hyperledger Fabric internship at SmartFalcon LLP. This internship has been an invaluable experience in enhancing my skills in blockchain technology, particularly in the areas of asset management, smart contract development, and API integration.

As detailed in my report, I successfully completed all three phases of the assignment:

1. **Setting up a Hyperledger Fabric test network**, which provided a robust foundation for the blockchain-based system.
2. **Developing and testing a smart contract**, designed to manage and track assets with attributes such as DEALERID, MSISDN, MPIN, BALANCE, STATUS, TRANSAMOUNT, TRANSTYPE, and REMARKS.
3. **Creating a REST API and Docker image**, enabling the seamless interaction with the deployed smart contract for invoking transactions.

Throughout the project, I have demonstrated my ability to deliver secure, transparent, and efficient blockchain solutions, which are crucial for modern financial institutions. I believe these skills will continue to support my career growth and enable me to contribute meaningfully to future blockchain projects.

I appreciate the opportunity to learn and grow with SmartFalcon LLP, and I look forward to any feedback or future opportunities that may arise.

Thank you for your time and consideration.

Sincerely,

Mettu Manith

mettumanith0@gmail.com