Hyperledger Fabric Study

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Installation Guide

1. Prerequisites

```
sudo apt-get install curl
sudo apt-get install -y docker docker-compose
sudo groupadd docker

curl -O https://dl.google.com/go/go1.12.3.linux-amd64.tar.gz
tar xvf go1.12.3.linux-amd64.tar.gz
```

```
vi .bashrc (만약 vi 없을 시 sudo apt-get install vi)
```

vi에서 shift+g (맨아래로 이동) / o (아래 줄 insert 모드) 아래 두 줄 복사 붙여넣기

```
export GOPATH=$HOME/go
export PATH=$PATH:$GOPATH/bin
```

esc키 (모드 전환) :w (저장) Enter키 (저장 완료) :q (나가기)

```
source ~/.bashrc
echo $GOPATH
echo $PATH
sudo apt-get install -y npm
sudo apt-get install -y git
```

1. Fabric Docker Image & First Netwrok

```
curl -sSL http://bit.ly/2ysbOFE | bash -s
ls (fabric-samples 확인)
cd fabric-samples/first-network/
./byfn.sh generate -c [채널이름]
./byfn.sh up -c [채널이름]
```

Reference

1. https://hyperledger-fabric.readthedocs.io/en/release-1.4/prereqs.html
2. https://hyperledger-fabric.readthedocs.io/en/release-1.4/install.html
3. https://hyperledger-fabric.readthedocs.io/en/release-1.4/build_network.html

Chaincode 관련 파일들

1. first-network/byfn.sh - 처음 설치
2. first-network/docker-compose-cli.yml
3. first-network/scripts/script.sh - 체인코드 설치 실행 코드
4. first-network/scripts/utils.sh - 체인코드 설치 (peer chaincode)

Chaincode Install (GO)

Chain Code Install

```
peer chaincode install -n mycc -v 1.3 -p
github.com/chaincode/chaincode_example02/go/
```

Chaincode Instantiate

```
peer chaincode  -o orderer.example.com:7050 --tls "true" --cafile
/opt/gopath/src/github.com/hyperledger/fabric/peer/crypto/ordererOrganizat
ions/example.com/msp/tlscacerts/tlsca.example.com-cert.pem -C mychannel -n
mycc -v 1.4 -c '{"Args":["init","a","90","b","210","c","0"]}' -P "OR
('Org1MSP.peer','Org2MSP.peer')"
```

(After Instantiate) Chain Code Upgrade

```
peer chaincode upgrade -o orderer.example.com:7050 --tls "true" --cafile
/opt/gopath/src/github.com/hyperledger/fabric/peer/crypto/ordererOrganizat
ions/example.com/msp/tlscacerts/tlsca.example.com-cert.pem -C mychannel -n
mycc -v 1.4 -c '{"Args":["init","a","90","b","210","c","0"]}' -P "OR
('Org1MSP.peer','Org2MSP.peer')"
```

Chain Code Invoke

```
peer chaincode invoke -o orderer.example.com:7050 --tls "true" --cafile
/opt/gopath/src/github.com/hyperledger/fabric/peer/crypto/ordererOrganizat
ions/example.com/msp/tlscacerts/tlsca.example.com-cert.pem -C mychannel -n
mycc "" -c '{"Args":["invoke","a","b","c","10"]}'
```

Chain Code Query

```
peer chaincode query -C mychannel -n mycc -c '{"Args":["query","c"]}'
```