

## 任务1：搭建环境

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[Courses/区块链实验/实验一/实验环境搭建](#)

## 任务2：chaincode编写

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### 编写chaincode

```
cd ~/blockchain
git clone https://github.com/yy158775/blockchain-exp
cd blockchain-exp/vote-smartcontract
go mod tidy
# 修改main.go
cd ~/blockchain/blockchain-exp/vote-app
gedit main.go
# 将其中的cryptoPath改为如下路径（之前的文件夹相对位置需要与 实验环境搭建 部分所写一致）
# cryptoPath      = "../..../fabric-samples/test-
network/organizations/peerOrganizations/org1.example.com"
# certPath        = cryptoPath +
"/users/User1@org1.example.com/msp/signcerts/User1@org1.example.com-
cert.pem"
# 下载依赖
go mod tidy
# 开启network
cd ~/blockchain/fabric-samples/test-network
./network.sh down
./network.sh up
# 创建channel
./network.sh createChannel
# 运行
./network.sh deployCC -ccn basic -ccp ../..../blockchain-exp/vote-
smartcontract -ccl go
```

输出如下就算成功

```
seed@VM:~/blockchain/fabric-samples/test-network
2022-12-02 17:55:41.151 CST 0002 INFO [chaincodeCmd] ClientWait -> txid [3f0a854985add29b6f18de5cb1646903053063282ce599be07e7a9ee2409clac] committed with status (VALID) at localhost:7051
Chaincode definition committed on channel 'mychannel'
Using organization 1
Querying chaincode definition on peer0.org1 on channel 'mychannel'...
Attempting to Query committed status on peer0.org1, Retry after 3 seconds.
+ peer lifecycle chaincode querycommitted --channelID mychannel --name basic
+ res=0
Committed chaincode definition for chaincode 'basic' on channel 'mychannel':
Version: 1.0, Sequence: 1, Endorsement Plugin: escc, Validation Plugin: vscc, Approvals: [Org1MSP: true, Org2MSP: true]
Query chaincode definition successful on peer0.org1 on channel 'mychannel'
Using organization 2
Querying chaincode definition on peer0.org2 on channel 'mychannel'...
Attempting to Query committed status on peer0.org2, Retry after 3 seconds.
+ peer lifecycle chaincode querycommitted --channelID mychannel --name basic
+ res=0
Committed chaincode definition for chaincode 'basic' on channel 'mychannel':
Version: 1.0, Sequence: 1, Endorsement Plugin: escc, Validation Plugin: vscc, Approvals: [Org1MSP: true, Org2MSP: true]
Query chaincode definition successful on peer0.org2 on channel 'mychannel'
Chaincode initialization is not required
seed:test-network/ (main) $ [17:55:47]
```

## 用区块链投票

```
# 运行客户端
cd ~/blockchain/blockchain-exp/vote-app
go mod tidy
go run main.go
```

### 刚开始输入1没有用户

```
2022/12/02 18:01:36 ===== application-golang starts =====
2022/12/02 18:01:36 Please input your choice:
2022/12/02 18:01:36 1: Get all users' votes
2022/12/02 18:01:36 2: Vote for user
2022/12/02 18:01:36 3: Query a user's vote by username
2022/12/02 18:01:36 9: Quit
1
[]
```

### 输入2再输入ssj给ssj投票，再输入1可以看到ssj有一票

```
2022/12/02 18:04:47 Please input your choice:
2022/12/02 18:04:47 1: Get all users' votes
2022/12/02 18:04:47 2: Vote for user
2022/12/02 18:04:47 3: Query a user's vote by username
```

```
2022/12/02 18:04:47 9: Quit
2
2022/12/02 18:05:13 Please enter your username you want to vote:
ssj
2022/12/02 18:05:18 Please input your choice:
2022/12/02 18:05:18 1: Get all users' votes
2022/12/02 18:05:18 2: Vote for user
2022/12/02 18:05:18 3: Query a user's vote by username
2022/12/02 18:05:18 9: Quit
1
[
  {
    "id": 0,
    "username": "ssj",
    "votes": 1
  }
]
```

## 完整脚本

```
mkdir ~/blockchain
cd ~/blockchain
git clone https://github.com/hyperledger/fabric-samples
cd ~/blockchain/fabric-samples
wget
https://raw.githubusercontent.com/hyperledger/fabric/main/scripts/install-
fabric.sh --no-check-certificate
chmod +x install-fabric.sh
./install-fabric.sh docker
./install-fabric.sh b
cd ~/blockchain/fabric-samples/test-network
./network.sh up

cd ~/blockchain
git clone https://github.com/yy158775/blockchain-exp
cd ~/blockchain/blockchain-exp/vote-smartcontract
go mod tidy
cd ~/blockchain/blockchain-exp/vote-app
sed -i "s#\.\.\.#\.\.\./\.\.\./fabric-samples#g" main.go
sed -i "s#cert.pem#User1@org1.example.com-cert.pem#g" main.go
go mod tidy
cd ~/blockchain/fabric-samples/test-network
./network.sh down
./network.sh up
./network.sh createChannel
./network.sh deployCC -ccn basic -ccp ../../blockchain-exp/vote-
```

```
smartcontract -ccl go
```

```
cd ~/blockchain/blockchain-exp/vote-app  
go mod tidy  
go run main.go
```