

Property Registration Application – Hyperledger Fabric

Start & Configuration Instructions

- Run the following commands to bootstrap the network

Command to generate the crypto-materials:

```
./fabricNetwork.sh generate
```

Command to start the network

```
./fabricNetwork.sh up
```

- Verify whether all the required containers are UP and running using following command

docker ps -a

- Start the chaincode in DEV mode
- Commands to Install & Instantiate the chaincode on to the network

```
./fabricNetwork install
```

- Connect to cli node to verify various functions of chaincode

TAB 3: CLI – Connected to REGISTRAR MSP:

peer0.registrar.property-registration-network.com:7051

SSH to **cli** container in new terminal/tab using the following command

```
docker exec -it cli /bin/bash
```

TAB 4: CLI – Connected to USER MSP: peer0.users.property-registration-network.com:9051

SSH to **cli** container in new terminal/tab using the following command

```
docker exec -it cli /bin/bash
```

Set ENV variables to connect to User's Node

```
export CORE_PEER_LOCALMSPID=usersMSP
export CORE_PEER_ADDRESS=peer0.users.property-registration-network.com:9051
export CORE_PEER_MSPCONFIGPATH
```

```
=/opt/gopath/src/github.com/hyperledger/fabric/peer/crypto/peerOrganizations/users.prope  
rty- registration-network.com/users/Admin@users.property-registration-network.com/msp
```

Transactions

requestNewUser

Execute the following command on **TAB 4: CLI – Connected to USERMSP**

```
peer chaincode invoke -o orderer.property-registration-network.com:7050 -C  
registrationchannel -n regnet -c '{"Args":["org.property-registration-  
network.regnet.usercontract:requestNewUser","Rajesh","v4u2chat@gmail.com","9866  
7766 00","0000-0000-0000"]}'
```

Validation Scenario: If we execute the above command from **TAB 3: CLI – Connected to REGISTRARMSP**, we will get Unauthorized message as shown below

approveNewUser

TAB 3: CLI – Connected to REGISTRARMSP

```
peer chaincode invoke -o orderer.property-registration-network.com:7050 -C
registrationchannel -n regnet -c '{"Args":["org.property-registration-
network.regnet:approveNewUser","Rajesh","0000-0000-0000"]}'
```

Validation Scenario#1: Invalid User Details

Validation Scenario#2: Invalid Initiator

If we execute the above command from **TAB 4: CLI – Connected to USER MSP**, we will get Unauthorized message as shown below

rechargeAccount

TAB 4: CLI – Connected to USER MSP

```
peer chaincode invoke -o orderer.property-registration-network.com:7050 -C
registrationchannel -n regnet -c '{"Args":["org.property-registration-
network.regnet.usercontract:rechargeUserAccount","Rajesh","0000-0000-
0000","upg1000"]}'
```

If we execute the above command from **TAB 3: CLI – Connected to REGISTRARMSP**, we will get Unauthorized message as shown below

viewUser

TAB 4: CLI – Connected to USER MSP

```
peer chaincode invoke -o orderer.property-registration-network.com:7050 -C
registrationchannel -n regnet -c '{"Args":["org.property-registration-
network.regnet.usercontract:viewUser","Rajesh","0000-0000-0000"]}'
```

propertyRegistrationRequest

TAB 4: CLI – Connected to USER MSP

```
peer chaincode invoke -o orderer.property-registration-network.com:7050 -C
registrationchannel -n regnet -c '{"Args":["org.property-registration-
network.regnet.usercontract:propertyRegistrationRequest","1","500","REQUEST","Rajes
h","0000-0000-0000"]}'
```

approvePropertyRegistration

TAB 3: CLI – Connected to REGISTRARMSP

```
peer chaincode invoke -o orderer.property-registration-network.com:7050 -C
registrationchannel -n regnet -c '{"Args":["org.property-registration-
network.regnet:approvePropertyRegistration","1"]}'
```

viewProperty

TAB 3: CLI – Connected to REGISTRARMSP

```
peer chaincode invoke -o orderer.property-registration-network.com:7050 -C
registrationchannel -n regnet -c '{"Args":["org.property-registration-
network.regent:viewProperty","1"]}'
```

TAB 4: CLI – Connected to USER MSP

```
peer chaincode invoke -o orderer.property-registration-network.com:7050 -C
registrationchannel -n regnet -c '{"Args":["org.property-registration-
network.regnet.usercontract:viewProperty","1"]}'
```

updateProperty

TAB 4: CLI – Connected to USER MSP

```
peer chaincode invoke -o orderer.property-registration-network.com:7050 -C
registrationchannel -n regnet -c '{"Args":["org.property-registration-
network.regnet.usercontract:updateProperty","1","onSale","Rajesh","0000-0000-
0000"]}'
```

purchaseProperty

TAB 4: CLI – Connected to USER MSP

Before invoking the `purchaseProperty` command, we have created new User named **Bhargav** and recharged her account with **2000** UpGrad coins.

TAB 4: CLI – Connected to USER MSP

```
peer chaincode invoke -o orderer.property-registration-network.com:7050 -C
registrationchannel -n regnet -c '{"Args":["org.property-registration-
network.regnet.usercontract:purchaseProperty","1","Prashanthi","1111-1111-1111"]}'
```

Please refer the comments on screenshot for the reflected changes on Property asset and User asset