

# **Property Registration- Blockchain (Hyperledger)**

**Smart Contract Functional Document**

**Sharansh Guha**

This document contains step by step guide to user who would like to understand different methods available implemented in the smart contracts and execute to understand the output.

## Introduction

There are two smart contracts, 1) for User and 2) Registrar. NodeJS is used to write these smart contracts.

## Pre-requisites

These smart contracts were developed using Property- Registration stub which contains necessary software for deploying and executing smart contracts.

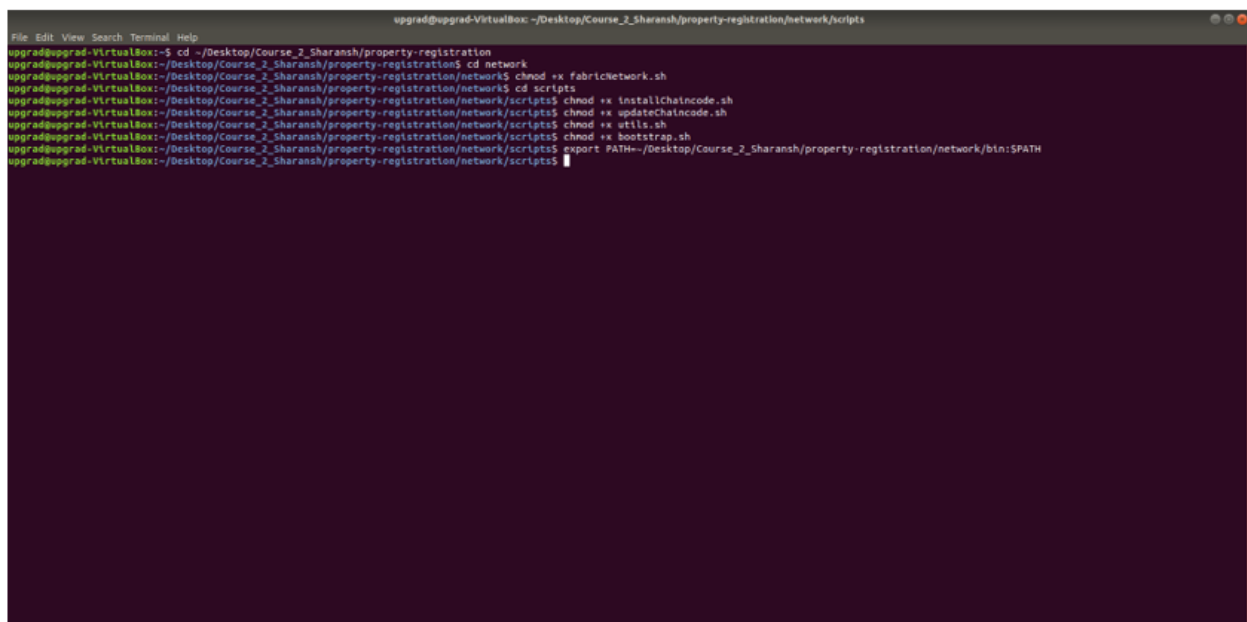
Pre-requisites of Software

- Export bin path to PATH Variable using following command:

- **export**  
**PATH=~/.Desktop/Course2\_Assignment\_Sharansh/propertyregistration/network/bin:\$**  
**PATH**

- Enable Read and Write access for script files using following command

- **chmod +x fabricNetwork.sh**
- **chmod +x installChaincode.sh**
- **chmod +x updateChaincode.sh**
- **chmod +x utils.sh**
- **chmod +x bootstrap.sh**



```
upgrad@upgrad-VirtualBox: ~/Desktop/Course_2_Sharansh/property-registration/network/scripts
upgrad@upgrad-VirtualBox:~$ cd ~/Desktop/Course_2_Sharansh/property-registration
upgrad@upgrad-VirtualBox:~/Desktop/Course_2_Sharansh/property-registration$ cd network
upgrad@upgrad-VirtualBox:~/Desktop/Course_2_Sharansh/property-registration/network$ chmod +x fabricNetwork.sh
upgrad@upgrad-VirtualBox:~/Desktop/Course_2_Sharansh/property-registration/network$ cd scripts
upgrad@upgrad-VirtualBox:~/Desktop/Course_2_Sharansh/property-registration/network/scripts$ chmod +x installChaincode.sh
upgrad@upgrad-VirtualBox:~/Desktop/Course_2_Sharansh/property-registration/network/scripts$ chmod +x updateChaincode.sh
upgrad@upgrad-VirtualBox:~/Desktop/Course_2_Sharansh/property-registration/network/scripts$ chmod +x utils.sh
upgrad@upgrad-VirtualBox:~/Desktop/Course_2_Sharansh/property-registration/network/scripts$ chmod +x bootstrap.sh
upgrad@upgrad-VirtualBox:~/Desktop/Course_2_Sharansh/property-registration/network/scripts$ export PATH=~/.Desktop/Course_2_Sharansh/property-registration/network/bin:$PATH
upgrad@upgrad-VirtualBox:~/Desktop/Course_2_Sharansh/property-registration/network/scripts$
```

## Users

- Seller – Sharansh, sharanshguha@gmail.com, 1231231231231231
- Buyer – Sujit, sujitkumar@gmail.com, 4564564564564564

## Step 1: Bootstrapping the network

### Command

1. Go to the 'network' folder of the project
2. Execute the command **“./fabricNetwork.sh up”**, which will prompt for the confirmation to boot the network. Enter 'Y' in the terminal to bring up the network.

### Terminal :

```
root@e3a99798ad98: /opt/gopath/src/chaincode
root@e3a99798ad98: /opt/gopath/src/chaincode
root@0a8af6c5484e: /opt/gopath/src/github.com/hyperledger/fabric/peer
root@ba2619b8069d: /opt/gopath/src/github.com/hyperledger/fabric/peer

upgradupgrad-VirtualBox:~/Desktop/Course2_Assignment_Sharansh/property-registration/network$ ./fabricNetwork.sh up
Starting for channel 'registrationchannel' with CLI timeout of '15' seconds and CLI delay of '5' seconds and chaincode version '1.1'
Continue? [Y/n]
proceeding ...
LOCAL_VERSION=1.4.2
DOCKER_IMAGE_VERSION=1.4.3
===== WARNING =====
Local fabric binaries and docker images are
out of sync. This may cause problems.
=====
Creating network "network_registration" with the default driver
Creating volume "network_orderer.property-registration-network.com" with default driver
Creating volume "network_peer0.registrar.property-registration-network.com" with default driver
Creating volume "network_peer1.registrar.property-registration-network.com" with default driver
Creating volume "network_peer0.users.property-registration-network.com" with default driver
Creating volume "network_peer1.users.property-registration-network.com" with default driver
Creating volume "network_peer2.users.property-registration-network.com" with default driver
Creating peer1.users.property-registration-network.com ... done
Creating ca.registrar.property-registration-network.com ... done
Creating ca.users.property-registration-network.com ... done
Creating peer0.registrar.property-registration-network.com ... done
Creating peer1.registrar.property-registration-network.com ... done
Creating peer2.users.property-registration-network.com ... done
Creating peer0.users.property-registration-network.com ... done
Creating cli ... done
CONTAINER ID        IMAGE               COMMAND              CREATED        STATUS        PORTS                               NAMES
bed3525b96c4       hyperledger/fabric-tools:latest    "/bin/bash"         2 seconds ago Up Less than a second           cli
0a8af6c5484e       hyperledger/fabric-peer:latest     "peer node start --p..." 12 seconds ago Up 2 seconds           0.0.0.0:9051->9051/tcp, 0.0.0.0:9053->9053/tcp peer0.users.property-regis
cf6aa02b2345       hyperledger/fabric-peer:latest     "peer node start --p..." 12 seconds ago Up 2 seconds           0.0.0.0:11051->11051/tcp, 0.0.0.0:11053->11053/tcp peer2.users.property-regis
5136972cae9       hyperledger/fabric-orderer:latest   "orderer"             12 seconds ago Up 1 second           0.0.0.0:7050->7050/tcp orderer.property-registrat
lon-network.com    hyperledger/fabric-ccenv:latest     "/bin/bash -c 'sleep..." 12 seconds ago Up 3 seconds           0.0.0.0:8051->8051/tcp, 0.0.0.0:8053->8053/tcp chaincode
c3a99798ad98     hyperledger/fabric-peer:latest     "peer node start --p..." 12 seconds ago Up 1 second           0.0.0.0:8051->8051/tcp, 0.0.0.0:8053->8053/tcp peer1.registrar.property-r
2bf3a4779b9      hyperledger/fabric-peer:latest     "peer node start --p..." 12 seconds ago Up 5 seconds           0.0.0.0:7051->7051/tcp, 0.0.0.0:7053->7053/tcp peer0.registrar.property-r
2d29b8cb61bd     hyperledger/fabric-ca:latest       "sh -c 'fabric-ca-se..." 12 seconds ago Up 2 seconds           0.0.0.0:8054->7054/tcp ca.users.property-registra
tton-network.com  hyperledger/fabric-ca:latest       "sh -c 'fabric-ca-se..." 12 seconds ago Up 3 seconds           0.0.0.0:7054->7054/tcp ca.registrar.property-regl
straton-network.com  hyperledger/fabric-peer:latest     "peer node start --p..." 12 seconds ago Up 5 seconds           0.0.0.0:10051->10051/tcp, 0.0.0.0:10053->10053/tcp peer1.users.property-regis
```

```
root@e3a99798ad98: /opt/gopath/src/khaincode
File Edit View Search Terminal Tabs Help
root@e3a99798ad98: /opt/gopath/src/chaincode
root@0a8afcc85484e: /opt/gopath/src/github.com/hyperledger/fabric/peer
root@ba2619b8069d: /opt/gopath/src/github.com/hyperledger/fabric/peer

+ peer channel join -b registrationchannel.block
+ res=0
+ set +x
2020-05-30 13:54:19.388 UTC [channelCmd] InitCmdFactory -> INFO 001 Endorser and orderer connections initialized
2020-05-30 13:54:19.426 UTC [channelCmd] executeJoin -> INFO 002 Successfully submitted proposal to join channel
===== peer0.users.registration-network.com joined channel 'registrationchannel' =====

+ peer channel join -b registrationchannel.block
+ res=0
+ set +x
2020-05-30 13:54:24.557 UTC [channelCmd] InitCmdFactory -> INFO 001 Endorser and orderer connections initialized
2020-05-30 13:54:24.592 UTC [channelCmd] executeJoin -> INFO 002 Successfully submitted proposal to join channel
===== peer1.users.registration-network.com joined channel 'registrationchannel' =====

+ peer channel join -b registrationchannel.block
+ res=0
+ set +x
2020-05-30 13:54:29.716 UTC [channelCmd] InitCmdFactory -> INFO 001 Endorser and orderer connections initialized
2020-05-30 13:54:29.752 UTC [channelCmd] executeJoin -> INFO 002 Successfully submitted proposal to join channel
Updating anchor peers for REGISTRAR...
+ peer channel update -o orderer.property-registration-network.com:7050 -c registrationchannel -f ./channel-artifacts/registrarMSPanchors.tx
+ res=0
+ set +x
2020-05-30 13:54:29.850 UTC [channelCmd] InitCmdFactory -> INFO 001 Endorser and orderer connections initialized
2020-05-30 13:54:29.879 UTC [channelCmd] update -> INFO 002 Successfully submitted channel update
===== Anchor peers updated for org 'registrarMSP' on channel 'registrationchannel' =====

Updating anchor peers for USERS...
+ peer channel update -o orderer.property-registration-network.com:7050 -c registrationchannel -f ./channel-artifacts/usersMSPanchors.tx
+ res=0
+ set +x
2020-05-30 13:54:34.998 UTC [channelCmd] InitCmdFactory -> INFO 001 Endorser and orderer connections initialized
2020-05-30 13:54:35.032 UTC [channelCmd] update -> INFO 002 Successfully submitted channel update
===== Anchor peers updated for org 'usersMSP' on channel 'registrationchannel' =====

===== All GOOD, Hyperledger Fabric Property Registration Network Is Now Up and Running! =====

[END]
```

## Step 2: Chaincode Installation and Instantiation

### Command:

1. Once Step1 is complete, execute below command which will install & instantiate the smart contracts in chaincode container and allow us to invoke different methods listed below.
2. “./fabricNetwork.sh install”

### Terminal :

```
root@e3a99798ad98: /opt/gopath/src/chaincode

upgrad@upgrad-VirtualBox:~/Desktop/Course2_Assignment_Sharamsh/property-registration/network$ ./fabricNetwork.sh install
Installing chaincode for channel 'registrationchannel' with CLI timeout of '15' seconds and CLI delay of '5' seconds and chaincode version '1.1'
Continue? [Y/n]
proceeding ...
LOCAL_VERSION=1.4.2
DOCKER_IMAGE_VERSION=1.4.3
***** WARNING *****
Local fabric binaries and docker images are
out of sync. This may cause problems.
*****

START

Deploying chaincode REGNET On Property Registration Network

Channel name : registrationchannel
+ peer chaincode install -n regnet -v 1.1 -l node -p /opt/gopath/src/github.com/hyperledger/fabric/peer/chaincode/
Installing chaincode on peer0.registrar.property-registration-network.com.con ...
+ res=0
+ set +x
2020-05-30 13:54:59.041 UTC [chaincodeCmd] checkChaincodeCmdParams -> INFO 001 Using default escc
2020-05-30 13:54:59.041 UTC [chaincodeCmd] checkChaincodeCmdParams -> INFO 002 Using default vscc
2020-05-30 13:54:59.228 UTC [chaincodeCmd] install -> INFO 003 Installed remotely response:<status:200 payload:"OK" >
***** Chaincode is installed on peer0.registrar *****

Installing chaincode on peer1.registrar.property-registration-network.com.con ...
+ peer chaincode install -n regnet -v 1.1 -l node -p /opt/gopath/src/github.com/hyperledger/fabric/peer/chaincode/
+ res=0
+ set +x
2020-05-30 13:54:59.321 UTC [chaincodeCmd] checkChaincodeCmdParams -> INFO 001 Using default escc
2020-05-30 13:54:59.321 UTC [chaincodeCmd] checkChaincodeCmdParams -> INFO 002 Using default vscc
2020-05-30 13:54:59.471 UTC [chaincodeCmd] install -> INFO 003 Installed remotely response:<status:200 payload:"OK" >
***** Chaincode is installed on peer1.registrar *****

Installing chaincode on peer0.users.property-registration-network.com.con ...
+ peer chaincode install -n regnet -v 1.1 -l node -p /opt/gopath/src/github.com/hyperledger/fabric/peer/chaincode/
+ res=0
+ set +x
2020-05-30 13:54:59.509 UTC [chaincodeCmd] checkChaincodeCmdParams -> INFO 001 Using default escc
2020-05-30 13:54:59.509 UTC [chaincodeCmd] checkChaincodeCmdParams -> INFO 002 Using default vscc
2020-05-30 13:54:59.735 UTC [chaincodeCmd] install -> INFO 003 Installed remotely response:<status:200 payload:"OK" >
***** Chaincode is installed on peer0.users *****
```

```
root@e3a99798ad98: /opt/gopath/src/chaincode
File Edit View Search Terminal Tabs Help
root@e3a99798ad98: /opt/gopath/src/chaincode
root@0a8afcc5484e: /opt/gopath/src/github.com/hyperledger/fabric/peer
root@ba2619b8069d: /opt/gopath/src/github.com/hyperledger/fabric/peer

+ peer chaincode install -n regnet -v 1.1 -l node -p /opt/gopath/src/github.com/hyperledger/fabric/peer/chaincode/
Installing chaincode on peer0.registrar.property-registration-network.com ...
+ res=0
+ set +x
2020-05-30 13:54:59.041 UTC [chaincodeCmd] checkChaincodeCmdParams -> INFO 001 Using default escv
2020-05-30 13:54:59.041 UTC [chaincodeCmd] checkChaincodeCmdParams -> INFO 002 Using default vscc
2020-05-30 13:54:59.228 UTC [chaincodeCmd] install -> INFO 003 Installed remotely response:<status:200 payload:"OK" >
===== Chaincode is installed on peer0.registrar =====

Installing chaincode on peer1.registrar.property-registration-network.com ...
+ peer chaincode install -n regnet -v 1.1 -l node -p /opt/gopath/src/github.com/hyperledger/fabric/peer/chaincode/
+ res=0
+ set +x
2020-05-30 13:54:59.321 UTC [chaincodeCmd] checkChaincodeCmdParams -> INFO 001 Using default escv
2020-05-30 13:54:59.321 UTC [chaincodeCmd] checkChaincodeCmdParams -> INFO 002 Using default vscc
2020-05-30 13:54:59.471 UTC [chaincodeCmd] install -> INFO 003 Installed remotely response:<status:200 payload:"OK" >
===== Chaincode is installed on peer1.registrar =====

Installing chaincode on peer0.users.property-registration-network.com ...
+ peer chaincode install -n regnet -v 1.1 -l node -p /opt/gopath/src/github.com/hyperledger/fabric/peer/chaincode/
+ res=0
+ set +x
2020-05-30 13:54:59.589 UTC [chaincodeCmd] checkChaincodeCmdParams -> INFO 001 Using default escv
2020-05-30 13:54:59.589 UTC [chaincodeCmd] checkChaincodeCmdParams -> INFO 002 Using default vscc
2020-05-30 13:54:59.735 UTC [chaincodeCmd] install -> INFO 003 Installed remotely response:<status:200 payload:"OK" >
===== Chaincode is installed on peer0.users =====

Instantiating chaincode on channel using peer0.registrar.property-registration-network.com ...
+ peer chaincode instantiate -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -l node -v 1.1 -c '{"Args":["org.property-registration-network.regnet.users:instantiate","org.property-registration-network.regnet.registrar:instantiate"]}' -P 'OR ('registrarMSP.member','usersMSP.member')'
+ res=0
+ set +x
2020-05-30 13:54:59.822 UTC [chaincodeCmd] checkChaincodeCmdParams -> INFO 001 Using default escv
2020-05-30 13:54:59.822 UTC [chaincodeCmd] checkChaincodeCmdParams -> INFO 002 Using default vscc
===== Chaincode is instantiated on peer0.registrar on channel 'registrationchannel' =====

===== All GOOD, Chaincode REGNET Is Now Installed & Instantiated On Registration Network =====

[END]

upgrad@upgrad-VirtualBox:~/Desktop/Course2_Assignment_Sharansh/property-registration/network$ docker exec -lt chaincode /bin/bash
```

## Step 3: Start the chaincode node application

### Command:

1. Enter into docker container for chaincode using command “**docker exec -it chaincode /bin/bash**”
2. Install node modules using “**npm install**” command which will install all necessary Node modules inside chaincode container.
3. Start the node application: “**npm run start-dev**”

### Terminal:

```
root@e3a99798ad98: /opt/gopath/src/chaincode
Installing chaincode on peer1.registrar.property-registration-network.com ...
+ peer chaincode install -n regnet -v 1.1 -l node -p /opt/gopath/src/github.com/hyperledger/fabric/peer/chaincode/
+ res=0
+ set +x
2020-05-30 13:54:59.321 UTC [chaincodeCmd] checkChaincodeCmdParams -> INFO 001 Using default esccc
2020-05-30 13:54:59.321 UTC [chaincodeCmd] checkChaincodeCmdParams -> INFO 002 Using default vscc
2020-05-30 13:54:59.471 UTC [chaincodeCmd] install -> INFO 003 Installed remotely response:<status:200 payload:"OK" >
***** Chaincode is installed on peer1.registrar *****

Installing chaincode on peer0.users.property-registration-network.com ...
+ peer chaincode install -n regnet -v 1.1 -l node -p /opt/gopath/src/github.com/hyperledger/fabric/peer/chaincode/
+ res=0
+ set +x
2020-05-30 13:54:59.569 UTC [chaincodeCmd] checkChaincodeCmdParams -> INFO 001 Using default esccc
2020-05-30 13:54:59.569 UTC [chaincodeCmd] checkChaincodeCmdParams -> INFO 002 Using default vscc
2020-05-30 13:54:59.725 UTC [chaincodeCmd] install -> INFO 003 Installed remotely response:<status:200 payload:"OK" >
***** Chaincode is installed on peer0.users *****

Instantiating chaincode on channel using peer0.registrar.property-registration-network.com ...
+ peer chaincode instantiate -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -l node -v 1.1 -c '{"Args":["org.property-registration-network.regnet.users:instantiate","org.property-registration-network.regnet.registrar:instantiate"]}' -p 'OR ('registrarNSP.member','usersNSP.member')'
+ res=0
+ set +x
2020-05-30 13:54:59.822 UTC [chaincodeCmd] checkChaincodeCmdParams -> INFO 001 Using default esccc
2020-05-30 13:54:59.822 UTC [chaincodeCmd] checkChaincodeCmdParams -> INFO 002 Using default vscc
***** Chaincode is instantiated on peer0.registrar on channel 'registrationchannel' *****

***** All GOOD, Chaincode REGNET Is Now Installed & Instantiated On Registration Network *****

END

upgrad@upgrad-VirtualBox:~/Desktop/Course2_Assignment_Sharansh/property-registration/network$ docker exec -it chaincode /bin/bash
root@e3a99798ad98:/opt/gopath/src/chaincode# npm install
npm WARN regnet@0.1 No repository field.
npm WARN regnet@0.1 No license field.
npm WARN optional SKIPPING OPTIONAL DEPENDENCY: fsevents@2.1.3 (node_modules/fsevents):
npm WARN notsup SKIPPING OPTIONAL DEPENDENCY: Unsupported platform for fsevents@2.1.3: wanted {"os":"darwin","arch":"any"} (current: {"os":"linux","arch":"x64"})
audited 528 packages in 4.663s
found 0 vulnerabilities
```

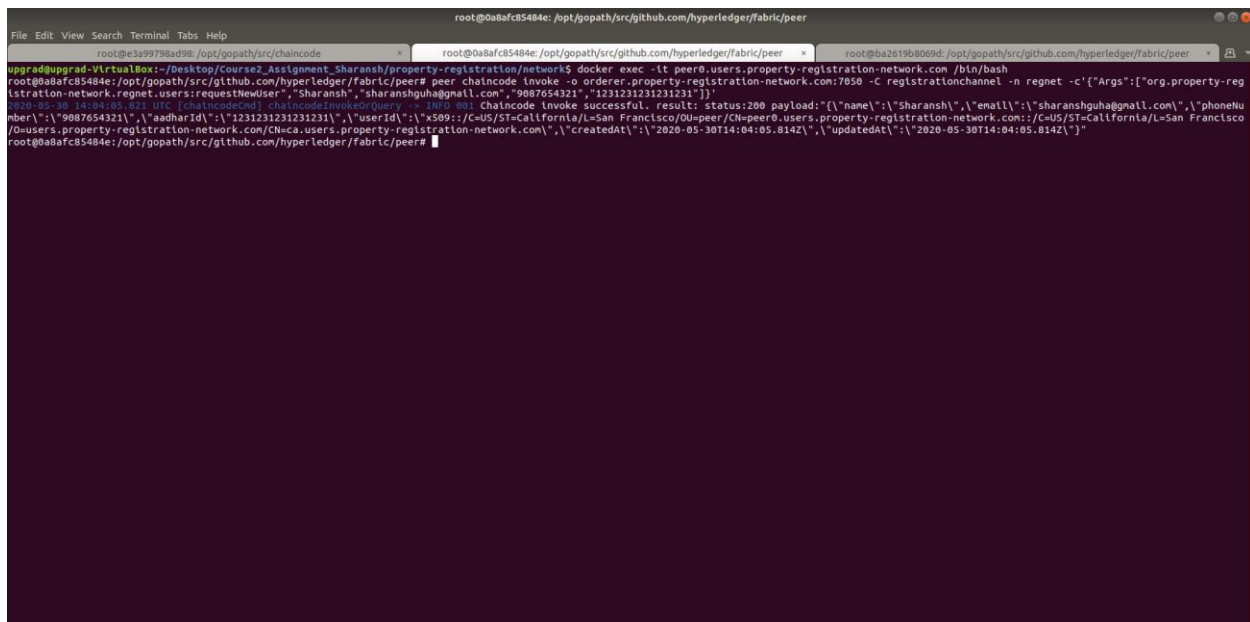
## Step 4: Invoke Smart Contract Methods as per flow mentioned

### Function 1: requestNewUser

#### Commands:

1. Enter into Peer0 of users org: **"docker exec -it peer0.users.property-registration-network.com /bin/bash"**
2. Execute command: **"peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.users:requestNewUser","Sharansh","sharanshguha@gmail.com","90 87654321","1231231231231231"]}'"**

#### Terminal:



```
root@0a8afc85484e: /opt/gopath/src/github.com/hyperledger/fabric/peer
File Edit View Search Terminal Tabs Help
root@e3a99798ad98: /opt/gopath/src/chaincode x root@0a8afc85484e: /opt/gopath/src/github.com/hyperledger/fabric/peer x root@ba2619b8069d: /opt/gopath/src/github.com/hyperledger/fabric/peer x
upgradupgrad-VirtualBox:~/Desktop/Course2_Assignment_Sharansh/property-registration-network$ docker exec -it peer0.users.property-registration-network.com /bin/bash
root@0a8afc85484e: /opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-reg
stration-network.regnet.users:requestNewUser","Sharansh","sharanshguha@gmail.com","9087654321","1231231231231"]}'
2020-05-30 14:04:05.801 UTC [ChaincodeInvokeRequest] -> 1000 001 Chaincode invoke successful. result: status:200 payload:{"name":"Sharansh","email":"sharanshguha@gmail.com","phoneNu
mber":"9087654321","aadharId":"1231231231231231","userId":"x509:/C=US/ST=California/L=San Francisco/OU=peer/CN=peer0.users.property-registration-network.com","createdAt":"2020-05-30T14:04:05.814Z","updatedAt":"2020-05-30T14:04:05.814Z"}
root@0a8afc85484e: /opt/gopath/src/github.com/hyperledger/fabric/peer#
```

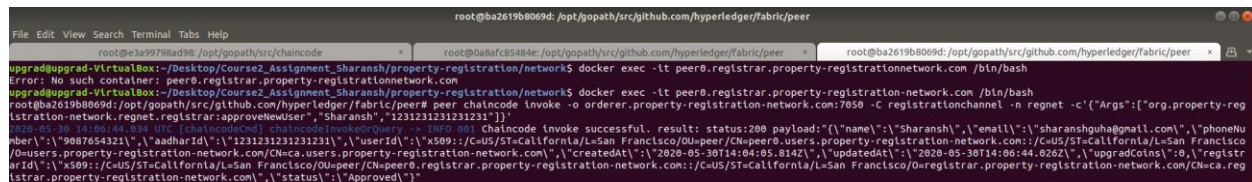


## Function 2: approveNewUser

### Commands:

1. Enter into Peer0 of registrar org: **"docker exec -it peer0.registrar.property-registration-network.com /bin/bash"**
2. Execute command: **"peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.registrar:approveNewUser","","1231231231231231"]}'"**

### Terminal:



```
root@ba2619b8069d:/opt/gopath/src/github.com/hyperledger/fabric/peer
File Edit View Search Terminal Tabs Help
root@e3a99798ad98:/opt/gopath/src/chaincode
root@0a8af85494e:/opt/gopath/src/github.com/hyperledger/fabric/peer
root@ba2619b8069d:/opt/gopath/src/github.com/hyperledger/fabric/peer
upgrad@upgrad-VirtualBox:~/Desktop/Course2_Assignment_Sharansh/property-registration/network$ docker exec -it peer0.registrar.property-registration-network.com /bin/bash
Error: No such container: peer0.registrar.property-registration-network.com
upgrad@upgrad-VirtualBox:~/Desktop/Course2_Assignment_Sharansh/property-registration/network$ docker exec -it peer0.registrar.property-registration-network.com /bin/bash
root@ba2619b8069d:/opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-reg
istration-network.regnet.registrar:approveNewUser","Sharanish","1231231231231231"]}'
2020-05-30T14:06:44.044 UTC [ChaincodeInvokeRequest] INFO [0] Chaincode invoke successful. result: status:200 payload:{"name":"Sharanish","email":"sharanishguha@gmail.com","phoneNu
mber":"9887654321","aadharId":"1231231231231231","userId":"x509:/C=US/ST=California/L=San Francisco/OU=peer/CN=peer0.users.property-registration-network.com:/C=US/ST=California/L=San Francisco
/OU=users.property-registration-network.com/CN=ca.users.property-registration-network.com","createdAt":"2020-05-30T14:04:05.814Z","updatedAt":"2020-05-30T14:06:44.026Z","upgradCoins":0,"registr
arId":"x509:/C=US/ST=California/L=San Francisco/OU=peer/CN=peer0.registrar.property-registration-network.com:/C=US/ST=California/L=San Francisco/OU=registrar.property-registration-network.com/CN=ca.reg
istrar.property-registration-network.com","status":"Approved"}
```

## Function 3: rechargeAccount

### Commands:

1. Enter into Peer0 of users org: **"docker exec -it peer0.users.property-registration-network.com /bin/bash"**
2. Execute command:
  - a. Success: **"peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.users:rechargeAccount","Sharansh","1231231231231231","upg500"]}'"**
  - b. Failure: **"peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.users:rechargeAccount","Sharansh","1231231231231231","upg500"]}'"**

### Terminal for Failure & Success:

```
root@ba2619b8069d: /opt/gopath/src/github.com/hyperledger/fabric/peer
File Edit View Search Terminal Tabs Help
root@e3a99798ad98: /opt/gopath/src/chaincode x root@0a8af6c5484e: /opt/gopath/src/github.com/hyperledger/fabric/peer x root@ba2619b8069d: /opt/gopath/src/github.com/hyperledger/fabric/peer x
upgradupgrad-VirtualBox:~/Desktop/Course2_Assignment_Sharansh/property-registration-network$ docker exec -it peer0.registrar.property-registration-network.com /bin/bash
Error: No such container: peer0.registrar.property-registration-network.com
upgradupgrad-VirtualBox:~/Desktop/Course2_Assignment_Sharansh/property-registration-network$ docker exec -it peer0.registrar.property-registration-network.com /bin/bash
root@ba2619b8069d: /opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-reg
istration-network.regnet.registrar:approveNewUser","Sharansh","1231231231231231"]}'
2020-05-30 14:06:44.034 UTC [chaincode500] chaincodeInvokeQuery => INFO 001 Chaincode invoke successful. result: status:200 payload:{"name":"Sharansh","email":"sharanshguha@gmail.com","phoneNu
mber":"9087654321","aadharId":"1231231231231231","userId":"x509:/C=US/ST=California/L=San Francisco/OU=peer/CN=peer0.users.property-registration-network.com:/C=US/ST=California/L=San Francisco
/O=users.property-registration-network.com/CN=ca.users.property-registration-network.com","createdAt":"2020-05-30T14:04:05.814Z","updatedAt":"2020-05-30T14:06:44.026Z","upgradCols":{"0","regis
trarId":"x509:/C=US/ST=California/L=San Francisco/OU=peer/CN=peer0.registrar.property-registration-network.com:/C=US/ST=California/L=San Francisco/O=registrar.property-registration-network.com/CN=ca.r
egistrar.property-registration-network.com","status":"Approved"}}
root@ba2619b8069d: /opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-reg
istration-network.regnet.users:rechargeAccount","Sharansh","1231231231231231","upg500"]}'
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: Invalid Transaction ID: upg50 0"
root@ba2619b8069d: /opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-reg
istration-network.regnet.users:rechargeAccount","Sharansh","1231231231231231","upg500"]}'
2020-05-30 14:11:18.286 UTC [chaincode500] chaincodeInvokeQuery => INFO 001 Chaincode invoke successful. result: status:200 payload:{"name":"Sharansh","email":"sharanshguha@gmail.com","phoneNu
mber":"9087654321","aadharId":"1231231231231231","userId":"x509:/C=US/ST=California/L=San Francisco/OU=peer/CN=peer0.users.property-registration-network.com:/C=US/ST=California/L=San Francisco
/O=users.property-registration-network.com/CN=ca.users.property-registration-network.com","createdAt":"2020-05-30T14:04:05.814Z","updatedAt":"2020-05-30T14:11:18.286Z","upgradCols":{"0","regis
trarId":"x509:/C=US/ST=California/L=San Francisco/OU=peer/CN=peer0.registrar.property-registration-network.com:/C=US/ST=California/L=San Francisco/O=registrar.property-registration-network.com/CN=ca.r
egistrar.property-registration-network.com","status":"Approved"}}
root@ba2619b8069d: /opt/gopath/src/github.com/hyperledger/fabric/peer#
```

## Function 4: viewUser

### Commands for Users Org:

1. Enter into Peer0 of users org: **"docker exec -it peer0.users.property-registration-network.com /bin/bash"**
2. Execute command: **"peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.users:viewUser","Sharansh","1231231231231231"]}'"**

### Commands for Registrar Org:

1. Enter into Peer0 of registrar org: **"docker exec -it peer0.registrar.property-registration-network.com /bin/bash"**
2. Execute command: **"peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.registrar:viewUser","Sharansh","1231231231231231"]}'"**

### Terminal for Users:

```
root@0a8afc85484e: /opt/gopath/src/github.com/hyperledger/fabric/peer
File Edit View Search Terminal Tabs Help
root@e3a99798ad98: /opt/gopath/src/chaincode * root@0a8afc85484e: /opt/gopath/src/github.com/hyperledger/fabric/peer * root@ba2619b8069d: /opt/gopath/src/github.com/hyperledger/fabric/peer *
upgrad@upgrad-VirtualBox:~/Desktop/course2_Assignment_Sharansh/property-registration/network$ docker exec -it peer0.users.property-registration-network.com /bin/bash
root@0a8afc85484e: /opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-reg
istration-network.regnet.users:requestNewUser","Sharansh","sharanshguha@gmail.com","9087654321","1231231231231231"]}'
2020-05-28 14:04:05.883 UTC [chaincodeexec] chaincodeInvokeOrQuery -- 1000 001 Chaincode invoke successful. result: status:200 payload:{"name":"Sharansh","email":"sharanshguha@gmail.com","phoneNu
mber":"9087654321","aadharId":"1231231231231231","userId":"X509:/C=US/ST=California/L=San Francisco/OU=peer/CN=peer0.users.property-registration-network.com:/C=US/ST=California/L=San Francisco
/O=users.property-registration-network.com/CN=ca.users.property-registration-network.com"},"createdAt":"2020-05-30T14:04:05.814Z","updatedAt":"2020-05-30T14:04:05.814Z"}
root@0a8afc85484e: /opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-reg
istration-network.regnet.users:viewUser","Sharansh","1231231231231231"]}'
2020-05-28 14:05:10.661 UTC [chaincodeexec] chaincodeInvokeOrQuery -- 1000 003 Chaincode invoke successful. result: status:200 payload:{"name":"Sharansh","email":"sharanshguha@gmail.com","phoneNu
mber":"9087654321","aadharId":"1231231231231231","userId":"X509:/C=US/ST=California/L=San Francisco/OU=peer/CN=peer0.users.property-registration-network.com:/C=US/ST=California/L=San Francisco
/O=users.property-registration-network.com/CN=ca.users.property-registration-network.com"},"createdAt":"2020-05-30T14:04:05.814Z","updatedAt":"2020-05-30T14:11:18.286Z","upgradCoins":500,"regis
trarId":"X509:/C=US/ST=California/L=San Francisco/OU=peer/CN=peer0.registrar.property-registration-network.com:/C=US/ST=California/L=San Francisco/OU=registrar.property-registration-network.com/CN=ca.r
egistrar.property-registration-network.com"},"status":"Approved"}
root@0a8afc85484e: /opt/gopath/src/github.com/hyperledger/fabric/peer#
```

## Terminal for Registrar:

```
root@ba2619b8069d:/opt/gopath/src/github.com/hyperledger/fabric/peer
File Edit View Search Terminal Tabs Help

root@e3a97978ad98:/opt/gopath/src/chaincode * root@0a8af6c8546e:/opt/gopath/src/github.com/hyperledger/fabric/peer * root@ba2619b8069d:/opt/gopath/src/github.com/hyperledger/fabric/peer *
upgradegrad-VirtualBox:~/Desktop/Course2_Assignment_Sharansh/property-registration/network$ docker exec -lt peer0.registrar.property-registration-network.com /bin/bash
Error: No such container: peer0.registrar.property-registration-network.com
upgradegrad-VirtualBox:~/Desktop/Course2_Assignment_Sharansh/property-registration/network$ docker exec -lt peer0.registrar.property-registration-network.com /bin/bash
root@ba2619b8069d:/opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-reg
istration-network.regnet.registrar:approveNewUser","Sharansh","1231231231231231"]}'
2020-05-30 14:04:04.808 UTC [chaincodecmd] chaincodeInvokeOrQuery => INFO 803 Chaincode Invoke successful, result: status:200 payload:{"name":"Sharansh","email":"sharanshguha@gmail.com","phoneNu
mber":"9087654321","aadharId":"1231231231231231","userId":"x509:/C=US/ST=California/L=San Francisco/OU=peer/CN=peer0.users.property-registration-network.com:/C=US/ST=California/L=San Francisco
/OU=users.property-registration-network.com/CN=ca.users.property-registration-network.com"},"createdat":"2020-05-30T14:04:05.814Z","updatedat":"2020-05-30T14:06:44.026Z","upgradcols":"0","registr
arId":"x509:/C=US/ST=California/L=San Francisco/OU=peer/CN=peer0.registrar.property-registration-network.com:/C=US/ST=California/L=San Francisco/OU=registrar.property-registration-network.com/CN=ca.r
egistrar.property-registration-network.com"},"status":"Approved"}
root@ba2619b8069d:/opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-reg
istration-network.regnet.users:rechargeAccount","Sharansh","1231231231231231","upg50 0"]}'
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: Invalid Transaction ID: upg50 0"
root@ba2619b8069d:/opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-reg
istration-network.regnet.users:rechargeAccount","Sharansh","1231231231231231","upg500"]}'
2020-05-30 14:11:18.294 UTC [chaincodecmd] chaincodeInvokeOrQuery => INFO 803 Chaincode Invoke successful, result: status:200 payload:{"name":"Sharansh","email":"sharanshguha@gmail.com","phoneNu
mber":"9087654321","aadharId":"1231231231231231","userId":"x509:/C=US/ST=California/L=San Francisco/OU=peer/CN=peer0.users.property-registration-network.com:/C=US/ST=California/L=San Francisco
/OU=users.property-registration-network.com/CN=ca.users.property-registration-network.com"},"createdat":"2020-05-30T14:04:05.814Z","updatedat":"2020-05-30T14:11:18.286Z","upgradcols":"500","regis
trarId":"x509:/C=US/ST=California/L=San Francisco/OU=peer/CN=peer0.registrar.property-registration-network.com:/C=US/ST=California/L=San Francisco/OU=registrar.property-registration-network.com/CN=ca.r
egistrar.property-registration-network.com"},"status":"Approved"}
root@ba2619b8069d:/opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-reg
istration-network.regnet.registrar:viewUser","Sharansh","1231231231231231"]}'
2020-05-30 14:12:05.540 UTC [chaincodecmd] chaincodeInvokeOrQuery => INFO 803 Chaincode Invoke successful, result: status:200 payload:{"name":"Sharansh","email":"sharanshguha@gmail.com","phoneNu
mber":"9087654321","aadharId":"1231231231231231","userId":"x509:/C=US/ST=California/L=San Francisco/OU=peer/CN=peer0.users.property-registration-network.com:/C=US/ST=California/L=San Francisco
/OU=users.property-registration-network.com/CN=ca.users.property-registration-network.com"},"createdat":"2020-05-30T14:04:05.814Z","updatedat":"2020-05-30T14:11:18.286Z","upgradcols":"500","regis
trarId":"x509:/C=US/ST=California/L=San Francisco/OU=peer/CN=peer0.registrar.property-registration-network.com:/C=US/ST=California/L=San Francisco/OU=registrar.property-registration-network.com/CN=ca.r
egistrar.property-registration-network.com"},"status":"Approved"}
root@ba2619b8069d:/opt/gopath/src/github.com/hyperledger/fabric/peer#
```

## Function 5: propertyRegistrationRequest

### Commands:

1. Enter into Peer0 of users org: **"docker exec -it peer0.users.property-registration-network.com /bin/bash"**
2. Execute command: **"peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.users:propertyRegistrationRequest","001","200","Sharansh","1231231231231231"]}'"**

### Terminal:

```
root@0a8afc85484e: /opt/gopath/src/github.com/hyperledger/fabric/peer
File Edit View Search Terminal Tabs Help
root@e3a99798ad98: /opt/gopath/src/chaincode x root@0a8afc85484e: /opt/gopath/src/github.com/hyperledger/fabric/peer x root@ba2619b8069d: /opt/gopath/src/github.com/hyperledger/fabric/peer x
upgradupgrad-VirtualBox:~/Desktop/Course2_Assignment_Sharansh/property-registration/network$ docker exec -it peer0.users.property-registration-network.com /bin/bash
root@0a8afc85484e: /opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-reg
istration-network.regnet.users:propertyRegistrationRequest","001","200","Sharansh","1231231231231"]}'
2020-05-30 14:04:05.841 UTC [ChaincodeCmd] chaincodeInvokeQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:{"name":"Sharansh","email":"sharanshguha@gmail.com","phoneNu
mber":"9087654321","aadharId":"1231231231231231","userId":"X509:/C=US/ST=California/L=San Francisco/O=peer/CN=peer0.users.property-registration-network.com","createdAt":"2020-05-30T14:04:05.814Z","updatedAt":"2020-05-30T14:04:05.814Z"}
root@0a8afc85484e: /opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-reg
istration-network.regnet.users:viewUser","Sharansh","1231231231231"]}'
2020-05-30 14:25:59.001 UTC [ChaincodeCmd] chaincodeInvokeQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:{"name":"Sharansh","email":"sharanshguha@gmail.com","phoneNu
mber":"9087654321","aadharId":"1231231231231231","userId":"X509:/C=US/ST=California/L=San Francisco/O=peer/CN=peer0.users.property-registration-network.com","createdAt":"2020-05-30T14:04:05.814Z","updatedAt":"2020-05-30T14:11:18.286Z","upgradColns":500,"regls
trarId":"X509:/C=US/ST=California/L=San Francisco/O=peer/CN=peer0.registrar.property-registration-network.com","status":"Approved"}
root@0a8afc85484e: /opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-reg
istration-network.regnet.users:propertyRegistrationRequest","001","200","Sharansh","1231231231231"]}'
2020-05-30 14:11:02.197 UTC [ChaincodeCmd] chaincodeInvokeQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:{"propertyId":"001","owner":"Sharansh-1231231231231231","pri
cel":"200","createdAt":"2020-05-30T14:31:02.194Z","updatedAt":"2020-05-30T14:31:02.194Z"}
root@0a8afc85484e: /opt/gopath/src/github.com/hyperledger/fabric/peer#
```



## Function 6: approvePropertyRegistration

### Commands:

1. Enter into Peer0 of registrar org: **"docker exec -it peer0.registrar.property-registration-network.com /bin/bash"**
2. Execute command: **"peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.registrar:approvePropertyRegistration","001"]}'"**

### Terminal:

```
root@ba2619b8069d: /opt/gopath/src/github.com/hyperledger/fabric/peer
File Edit View Search Terminal Tabs Help
root@e3e99798ad98: /opt/gopath/src/chaincode * root@0a8afcc5494e: /opt/gopath/src/github.com/hyperledger/fabric/peer * root@ba2619b8069d: /opt/gopath/src/github.com/hyperledger/fabric/peer *
upgrad@upgrad-VirtualBox:~/Desktop/Course2_Assignment_Sharansh/property-registration/network$ docker exec -it peer0.registrar.property-registration-network.com /bin/bash
Error: No such container: peer0.registrar.property-registration-network.com
upgrad@upgrad-VirtualBox:~/Desktop/Course2_Assignment_Sharansh/property-registration/network$ docker exec -it peer0.registrar.property-registration-network.com /bin/bash
root@ba2619b8069d: /opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-reg
istration-network.regnet.registrar:approveNewUser","Sharansh","1231231231231231"]}'
2020-05-30 14:08:44.834 UTC [chaincodeCmd] chaincodeInvokeQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:{"name":"Sharansh","email":"sharanshguha@gmail.com","phoneNu
mber":"9087654321","aadharId":"1231231231231231","userId":"x509:/C=US/ST=California/L=San Francisco/OU=peer0/CN=peer0.users.property-registration-network.com:/C=US/ST=California/L=San Francisco
/O=users.property-registration-network.com/CN=ca.users.property-registration-network.com","createdAt":"2020-05-30T14:04:05.814Z","updatedAt":"2020-05-30T14:06:44.826Z","upgradColns":0,"regis
trarId":"x509:/C=US/ST=California/L=San Francisco/OU=peer0/CN=peer0.registrar.property-registration-network.com:/C=US/ST=California/L=San Francisco/O=registrar.property-registration-network.com/CN=ca.r
egistrar.property-registration-network.com","status":"Approved"}
root@ba2619b8069d: /opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-reg
istration-network.regnet.users:rechargeAccount","Sharansh","1231231231231231","upg500"]}'
Error: endorsement failure during invoke. response: status:500 message:transaction returned with failure: Error: Invalid Transaction ID: upg500 0"
root@ba2619b8069d: /opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-reg
istration-network.regnet.registrar:viewUser","Sharansh","1231231231231231","upg500"]}'
2020-05-30 14:11:18.286 UTC [chaincodeCmd] chaincodeInvokeQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:{"name":"Sharansh","email":"sharanshguha@gmail.com","phoneNu
mber":"9087654321","aadharId":"1231231231231231","userId":"x509:/C=US/ST=California/L=San Francisco/OU=peer0/CN=peer0.users.property-registration-network.com:/C=US/ST=California/L=San Francisco
/O=users.property-registration-network.com/CN=ca.users.property-registration-network.com","createdAt":"2020-05-30T14:04:05.814Z","updatedAt":"2020-05-30T14:11:18.286Z","upgradColns":500,"regis
trarId":"x509:/C=US/ST=California/L=San Francisco/OU=peer0/CN=peer0.registrar.property-registration-network.com:/C=US/ST=California/L=San Francisco/O=registrar.property-registration-network.com/CN=ca.r
egistrar.property-registration-network.com","status":"Approved"}
root@ba2619b8069d: /opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-reg
istration-network.regnet.registrar:approvePropertyRegistration","001"]}'
2020-05-30 14:34:08.358 UTC [chaincodeCmd] chaincodeInvokeQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:{"propertyId":"001","owner":"Sharansh-1231231231231231","prl
cel":"2001","createdAt":"2020-05-30T14:31:02.194Z","updatedAt":"2020-05-30T14:34:08.346Z","status":"registered","approvedBy":"x509:/C=US/ST=California/L=San Francisco/OU=peer0/CN=peer0.reg
istrar.property-registration-network.com:/C=US/ST=California/L=San Francisco/O=registrar.property-registration-network.com/CN=ca.registrar.property-registration-network.com"}
root@ba2619b8069d: /opt/gopath/src/github.com/hyperledger/fabric/peer#
```

## Function 7: viewProperty

### Commands for Users Org:

1. Enter into Peer0 of users org: **"docker exec -it peer0.users.property-registration-network.com /bin/bash"**
2. Execute command: **"peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.users:viewProperty","001"]}'"**

### Commands for Registrar Org:

1. Enter into Peer0 of registrar org: **"docker exec -it peer0.registrar.property-registration-network.com /bin/bash"**
2. Execute command: **"peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.registrar:viewProperty","001"]}'"**

### Terminal for Users:

```
File Edit View Search Terminal Tabs Help
root@0a8afc85484e: /opt/gopath/src/github.com/hyperledger/fabric/peer
root@e3e9798ad98: /opt/gopath/src/chaincode
root@0a8afc85484e: /opt/gopath/src/github.com/hyperledger/fabric/peer
root@ba2619b8069d: /opt/gopath/src/github.com/hyperledger/fabric/peer

upgradegrad-VirtualBox:~/Desktop/course2_Assignment_Sharansh/property-registration-network$ docker exec -it peer0.users.property-registration-network.com /bin/bash
root@0a8afc85484e:/opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-reg
2020-05-30 14:04:05.882 UTC [chaincodeexec] chaincodeInvokeRequest => 1000 001 Chaincode invoke successful. result: status:200 payload:{"name":"Sharansh","email":"sharanshguha@gmail.com","phoneNu
mber":"9087654321","aadharId":"1231231231231231","userId":"x509:/C=US/ST=California/L=San Francisco/O=peer/CN=peer0.users.property-registration-network.com:/C=US/ST=California/L=San Francisco
/O=users.property-registration-network.com/CN=ca.users.property-registration-network.com","createdAt":"2020-05-30T14:04:05.814Z","updatedAt":"2020-05-30T14:04:05.814Z"}"
root@0a8afc85484e:/opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-reg
2020-05-30 14:04:05.882 UTC [chaincodeexec] chaincodeInvokeRequest => 1000 001 Chaincode invoke successful. result: status:200 payload:{"name":"Sharansh","email":"sharanshguha@gmail.com","phoneNu
mber":"9087654321","aadharId":"1231231231231231","userId":"x509:/C=US/ST=California/L=San Francisco/O=peer/CN=peer0.users.property-registration-network.com:/C=US/ST=California/L=San Francisco
/O=users.property-registration-network.com/CN=ca.users.property-registration-network.com","createdAt":"2020-05-30T14:04:05.814Z","updatedAt":"2020-05-30T14:11:18.286Z","upgradCoins":500,"regis
trarID":"x509:/C=US/ST=California/L=San Francisco/O=peer/CN=peer0.registrar.property-registration-network.com:/C=US/ST=California/L=San Francisco/O=registrar.property-registration-network.com/CN=ca.r
egistrar.property-registration-network.com","status":"Approved"}"
root@0a8afc85484e:/opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-reg
2020-05-30 14:04:05.882 UTC [chaincodeexec] chaincodeInvokeRequest => 1000 001 Chaincode invoke successful. result: status:200 payload:{"propertyId":"001","owner":"Sharansh-1231231231231231","pri
cel":"2001","createdAt":"2020-05-30T14:31:02.194Z","updatedAt":"2020-05-30T14:31:02.194Z"}"
root@0a8afc85484e:/opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-reg
2020-05-30 14:04:05.882 UTC [chaincodeexec] chaincodeInvokeRequest => 1000 001 Chaincode invoke successful. result: status:200 payload:{"propertyId":"001","owner":"Sharansh-1231231231231231","pri
cel":"2001","createdAt":"2020-05-30T14:31:02.194Z","updatedAt":"2020-05-30T14:34:06.346Z","status":"registered","approvedBy":"x509:/C=US/ST=California/L=San Francisco/O=peer/CN=peer0.reg
istrar.property-registration-network.com:/C=US/ST=California/L=San Francisco/O=registrar.property-registration-network.com/CN=ca.registrar.property-registration-network.com"}"
root@0a8afc85484e:/opt/gopath/src/github.com/hyperledger/fabric/peer#
```

## Terminal for Registrar :

```
root@ba2619b8069d: /opt/gopath/src/github.com/hyperledger/fabric/peer
File Edit View Search Terminal Tabs Help

root@e3a99798ad98: /opt/gopath/src/chaincode * root@0a8afcd5484e: /opt/gopath/src/github.com/hyperledger/fabric/peer * root@ba2619b8069d: /opt/gopath/src/github.com/hyperledger/fabric/peer *
upgradupgrad-VirtualBox:~/Desktop/Course2_Assignment_Sharansh/property-registration/network$ docker exec -lt peer0.registrar.property-registratonnetwork.com /bin/bash
Error: No such container: peer0.registrar.property-registratonnetwork.com
upgradupgrad-VirtualBox:~/Desktop/Course2_Assignment_Sharansh/property-registration/network$ docker exec -lt peer0.registrar.property-registration-network.com /bin/bash
root@ba2619b8069d: /opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -c registrationchannel -n regnet -c '{"Args":["org.property-registraton-network.regnet.registrarapproveNewUser","Sharansh","1231231231231231"]}'
2020-05-30 14:06:44.034 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:({"name":"Sharansh","email":"sharanshguha@gmail.com","phoneNumber":"9087654321","aadharID":"1231231231231231","userID":"x509:/C=US/ST=California/L=San Francisco/OU=peer/CN=peer0.users.property-registration-network.com:/C=US/ST=California/L=San Francisco/O=users.property-registration-network.com/CNca.users.property-registration-network.com","createdAt":"2020-05-30T14:04:05.814Z","updatedAt":"2020-05-30T14:06:44.026Z","upgradCoins":0,"registrarID":"x509:/C=US/ST=California/L=San Francisco/OU=peer/CN=peer0.registrar.property-registration-network.com:/C=US/ST=California/L=San Francisco/O=registrar.property-registration-network.com/CNca.registrar.property-registration-network.com"},"status":"Approved"})
root@ba2619b8069d: /opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -c registrationchannel -n regnet -c '{"Args":["org.property-registraton-network.regnet.users:rechargeAccount","Sharansh","1231231231231231","upg500"]}'
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: Invalid Transaction ID: upg500 0"
root@ba2619b8069d: /opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -c registrationchannel -n regnet -c '{"Args":["org.property-registraton-network.regnet.users:rechargeAccount","Sharansh","1231231231231231","upg500"]}'
2020-05-30 14:11:18.280 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:({"name":"Sharansh","email":"sharanshguha@gmail.com","phoneNumber":"9087654321","aadharID":"1231231231231231","userID":"x509:/C=US/ST=California/L=San Francisco/OU=peer/CN=peer0.users.property-registration-network.com:/C=US/ST=California/L=San Francisco/O=users.property-registration-network.com/CNca.users.property-registration-network.com"},"createdAt":"2020-05-30T14:04:05.814Z","updatedAt":"2020-05-30T14:11:18.286Z","upgradCoins":500,"registrarID":"x509:/C=US/ST=California/L=San Francisco/OU=peer/CN=peer0.registrar.property-registration-network.com:/C=US/ST=California/L=San Francisco/O=registrar.property-registration-network.com/CNca.registrar.property-registration-network.com"},"status":"Approved"})
root@ba2619b8069d: /opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -c registrationchannel -n regnet -c '{"Args":["org.property-registraton-network.regnet.registrar:viewUser","Sharansh","1231231231231231"]}'
2020-05-30 14:19:02.140 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:({"name":"Sharansh","email":"sharanshguha@gmail.com","phoneNumber":"9087654321","aadharID":"1231231231231231","userID":"x509:/C=US/ST=California/L=San Francisco/OU=peer/CN=peer0.users.property-registration-network.com:/C=US/ST=California/L=San Francisco/O=users.property-registration-network.com/CNca.users.property-registration-network.com"},"createdAt":"2020-05-30T14:04:05.814Z","updatedAt":"2020-05-30T14:11:18.286Z","upgradCoins":500,"registrarID":"x509:/C=US/ST=California/L=San Francisco/OU=peer/CN=peer0.registrar.property-registration-network.com:/C=US/ST=California/L=San Francisco/O=registrar.property-registration-network.com/CNca.registrar.property-registration-network.com"},"status":"Approved"})
root@ba2619b8069d: /opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -c registrationchannel -n regnet -c '{"Args":["org.property-registraton-network.regnet.registrar:approvePropertyRegistration","001"]}'
2020-05-30 14:34:08.350 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:({"propertyID":"001","owner":"Sharansh-1231231231231231","prlcel":"200"},"createdAt":"2020-05-30T14:31:02.194Z","updatedAt":"2020-05-30T14:34:08.346Z","status":"registered","approvedBy":"x509:/C=US/ST=California/L=San Francisco/OU=peer/CN=peer0.registrar.property-registration-network.com:/C=US/ST=California/L=San Francisco/O=registrar.property-registration-network.com/CNca.registrar.property-registration-network.com"})
root@ba2619b8069d: /opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -c registrationchannel -n regnet -c '{"Args":["org.property-registraton-network.regnet.registrar:viewProperty","001"]}'
2020-05-30 14:39:10.742 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:({"propertyID":"001","owner":"Sharansh-1231231231231231","prlcel":"200"},"createdAt":"2020-05-30T14:31:02.194Z","updatedAt":"2020-05-30T14:34:08.346Z","status":"registered","approvedBy":"x509:/C=US/ST=California/L=San Francisco/OU=peer/CN=peer0.registrar.property-registration-network.com:/C=US/ST=California/L=San Francisco/O=registrar.property-registration-network.com/CNca.registrar.property-registration-network.com"})
root@ba2619b8069d: /opt/gopath/src/github.com/hyperledger/fabric/peer#
```



## Function 8: updateProperty

### Commands:

1. Enter into Peer0 of users org: **"docker exec -it peer0.users.property-registration-network.com /bin/bash"**
2. Execute command: **"peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.users:updateProperty","001","Sharansh","1231231231231231","onSale"]}'"**

### Terminal:

```
root@0a8afc85484e: /opt/gopath/src/github.com/hyperledger/fabric/peer
File Edit View Search Terminal Tabs Help
root@0a8afc85484e: /opt/gopath/src/github.com/hyperledger/fabric/peer
root@0a8afc85484e: /opt/gopath/src/github.com/hyperledger/fabric/peer# docker exec -it peer0.users.property-registration-network.com /bin/bash
root@0a8afc85484e:/opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-reg
istration-network.regnet.users:requestNewUser","Sharansh","sharanshguha@gmail.com","9087654321","1231231231231231"]}'
2020-05-30 14:04:05.821 UTC [chaincodeCmd] chaincodeInvokeOrQuery -- INFO 001 Chaincode invoke successful. result: status:200 payload:{"name":"Sharansh","email":"sharanshguha@gmail.com","phoneNu
mber":"9087654321","aadharId":"1231231231231231","userId":"x509:/C=US/ST=California/L=San Francisco/O=peer/CN=peer0.users.property-registration-network.com:/C=US/ST=California/L=San Francisco
/O=users.property-registration-network.com/CN=ca.users.property-registration-network.com"},"createdat":"2020-05-30T14:04:05.814Z","updatedat":"2020-05-30T14:04:05.814Z"}
root@0a8afc85484e:/opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-reg
istration-network.regnet.users:viewUser","Sharansh","1231231231231231"]}'
2020-05-30 14:04:05.880 UTC [chaincodeCmd] chaincodeInvokeOrQuery -- INFO 001 Chaincode invoke successful. result: status:200 payload:{"name":"Sharansh","email":"sharanshguha@gmail.com","phoneNu
mber":"9087654321","aadharId":"1231231231231231","userId":"x509:/C=US/ST=California/L=San Francisco/O=peer/CN=peer0.users.property-registration-network.com:/C=US/ST=California/L=San Francisco
/O=users.property-registration-network.com/CN=ca.users.property-registration-network.com"},"createdat":"2020-05-30T14:04:05.814Z","updatedat":"2020-05-30T14:11:18.286Z","upgradcoins":500,"regis
trarId":"x509:/C=US/ST=California/L=San Francisco/O=peer/CN=peer0.registrar.property-registration-network.com:/C=US/ST=California/L=San Francisco/O=registrar.property-registration-network.com/CN=ca.r
egistrar.property-registration-network.com"},"status":"Approved"}
root@0a8afc85484e:/opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-reg
istration-network.regnet.users:propertyRegistrationRequest","001","200","Sharansh","1231231231231231"]}'
2020-05-30 14:31:02.197 UTC [chaincodeCmd] chaincodeInvokeOrQuery -- INFO 001 Chaincode invoke successful. result: status:200 payload:{"propertyId":"001","owner":"Sharansh-1231231231231231","pri
cel":"2001","createdat":"2020-05-30T14:31:02.194Z","updatedat":"2020-05-30T14:31:02.194Z"}
root@0a8afc85484e:/opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-reg
istration-network.regnet.users:viewProperty","001"]}'
2020-05-30 14:37:55.722 UTC [chaincodeCmd] chaincodeInvokeOrQuery -- INFO 001 Chaincode invoke successful. result: status:200 payload:{"propertyId":"001","owner":"Sharansh-1231231231231231","pri
cel":"2001","createdat":"2020-05-30T14:31:02.194Z","updatedat":"2020-05-30T14:34:08.346Z","status":"registered","approvedby":"x509:/C=US/ST=California/L=San Francisco/O=peer/CN=peer0.reg
istrar.property-registration-network.com:/C=US/ST=California/L=San Francisco/O=registrar.property-registration-network.com/CN=ca.registrar.property-registration-network.com"}
root@0a8afc85484e:/opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-reg
istration-network.regnet.users:updateProperty","001","Sharansh","1231231231231231","onSale"]}'
2020-05-30 14:40:13.300 UTC [chaincodeCmd] chaincodeInvokeOrQuery -- INFO 001 Chaincode invoke successful. result: status:200 payload:{"propertyId":"001","owner":"Sharansh-1231231231231231","pri
cel":"2001","createdat":"2020-05-30T14:31:02.194Z","updatedat":"2020-05-30T14:34:08.346Z","status":"onSale","approvedby":"x509:/C=US/ST=California/L=San Francisco/O=peer/CN=peer0.regis
trar.property-registration-network.com:/C=US/ST=California/L=San Francisco/O=registrar.property-registration-network.com/CN=ca.registrar.property-registration-network.com"}
root@0a8afc85484e:/opt/gopath/src/github.com/hyperledger/fabric/peer#
```

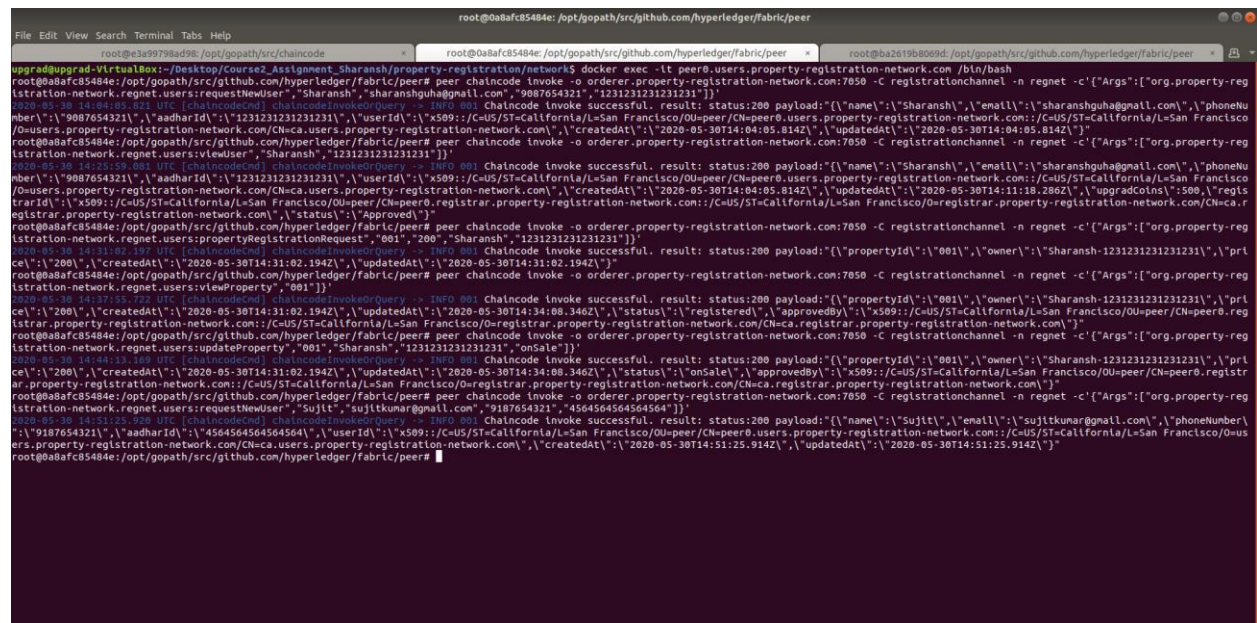
## Function 9: purchaseProperty

### Pre-requisite:

In order to purchase property, we need to register new peer user as mentioned below before proceeding with purchase of the property.

### Steps to register new user (Sujit) in the network and request property purchase

1. requestNewUser: "peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.users:requestNewUser","Sujit","sujitkumar@gmail.com","9187654321","4564564564564564"]}'"



```
root@0a8afc85484e: /opt/gopath/src/github.com/hyperledger/fabric/peer
root@0a8afc85484e: /opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.users:requestNewUser","Sujit","sujitkumar@gmail.com","9187654321","4564564564564564"]}'
2020-05-30 14:04:05.621 UTC [chaincodeCmd] chaincodeInvokeQuery => INFO 001 Chaincode invoke successful. result: status=200 payload:{"name":"Sujit","email":"sujitkumar@gmail.com","phoneNumber":"9187654321","aadharId":"1231231231231231","userId":"X509:/C=US/ST=California/L=San Francisco/O=peer/CN=peer0.users.property-registration-network.com:/C=US/ST=California/L=San Francisco/O=users.property-registration-network.com/CNca.users.property-registration-network.com","createdAt":"2020-05-30T14:04:05.614Z","updatedAt":"2020-05-30T14:04:05.614Z"}
root@0a8afc85484e: /opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.users:viewUser","Sujit","1231231231231231"]}'
2020-05-30 14:04:05.608 UTC [chaincodeCmd] chaincodeInvokeQuery => INFO 001 Chaincode invoke successful. result: status=200 payload:{"name":"Sujit","email":"sujitkumar@gmail.com","phoneNumber":"9187654321","aadharId":"1231231231231231","userId":"X509:/C=US/ST=California/L=San Francisco/O=peer/CN=peer0.users.property-registration-network.com:/C=US/ST=California/L=San Francisco/O=users.property-registration-network.com/CNca.users.property-registration-network.com","createdAt":"2020-05-30T14:04:05.614Z","updatedAt":"2020-05-30T14:11:18.286Z","upgradcoins":500,"registrarId":"X509:/C=US/ST=California/L=San Francisco/O=peer/CN=peer0.registrar.property-registration-network.com:/C=US/ST=California/L=San Francisco/O=registrar.property-registration-network.com/CNca.registrar.property-registration-network.com","status":"Approved"}
root@0a8afc85484e: /opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.users:registerProperty","001","200","Sujit","1231231231231231"]}'
2020-05-30 14:31:02.197 UTC [chaincodeCmd] chaincodeInvokeQuery => INFO 001 Chaincode invoke successful. result: status=200 payload:{"propertyId":"001","owner":"Sujit","1231231231231231","price":"200","createdAt":"2020-05-30T14:31:02.194Z","updatedAt":"2020-05-30T14:31:02.194Z"}
root@0a8afc85484e: /opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.users:viewProperty","001"]}'
2020-05-30 14:37:55.722 UTC [chaincodeCmd] chaincodeInvokeQuery => INFO 001 Chaincode invoke successful. result: status=200 payload:{"propertyId":"001","owner":"Sujit","1231231231231231","price":"200","createdAt":"2020-05-30T14:31:02.194Z","updatedAt":"2020-05-30T14:34:08.346Z","status":"onSale","approvedBy":"X509:/C=US/ST=California/L=San Francisco/O=peer/CN=peer0.registrar.property-registration-network.com:/C=US/ST=California/L=San Francisco/O=registrar.property-registration-network.com/CNca.registrar.property-registration-network.com"}
root@0a8afc85484e: /opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.users:updateProperty","001","Sujit","1231231231231231","onSale"]}'
2020-05-30 14:44:15.528 UTC [chaincodeCmd] chaincodeInvokeQuery => INFO 001 Chaincode invoke successful. result: status=200 payload:{"propertyId":"001","owner":"Sujit","1231231231231231","price":"200","createdAt":"2020-05-30T14:31:02.194Z","updatedAt":"2020-05-30T14:34:08.346Z","status":"onSale","approvedBy":"X509:/C=US/ST=California/L=San Francisco/O=peer/CN=peer0.registrar.property-registration-network.com:/C=US/ST=California/L=San Francisco/O=registrar.property-registration-network.com/CNca.registrar.property-registration-network.com"}
root@0a8afc85484e: /opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.users:requestNewUser","Sujit","sujitkumar@gmail.com","9187654321","4564564564564564"]}'
2020-05-30 14:54:22.508 UTC [chaincodeCmd] chaincodeInvokeQuery => INFO 001 Chaincode invoke successful. result: status=200 payload:{"name":"Sujit","email":"sujitkumar@gmail.com","phoneNumber":"9187654321","aadharId":"4564564564564564","userId":"X509:/C=US/ST=California/L=San Francisco/O=peer/CN=peer0.users.property-registration-network.com:/C=US/ST=California/L=San Francisco/O=users.property-registration-network.com/CNca.users.property-registration-network.com","createdAt":"2020-05-30T14:51:25.914Z","updatedAt":"2020-05-30T14:51:25.914Z"}
root@0a8afc85484e: /opt/gopath/src/github.com/hyperledger/fabric/peer#
```

2. approveNewUser: "peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.registrar:approveNewUser","Sujit","4564564564564564"]}]'"

```
root@ba2619b8069d: /opt/gopath/src/github.com/hyperledger/fabric/peer
File Edit View Search Terminal Tabs Help

root@ba2619b8069d: /opt/gopath/src/chaincode
root@ba2619b8069d: /opt/gopath/src/github.com/hyperledger/fabric/peer
root@ba2619b8069d: /opt/gopath/src/github.com/hyperledger/fabric/peer

upgradupgrad-VirtualBox:~/Desktop/Course2_Assignment_Sharansh/property-registration/network$ docker exec -lt peer0.registrar.property-registration-network.com /bin/bash
Error: No such container: peer0.registrar.property-registration-network.com
upgradupgrad-VirtualBox:~/Desktop/Course2_Assignment_Sharansh/property-registration/network$ docker exec -lt peer0.registrar.property-registration-network.com /bin/bash
root@ba2619b8069d: /opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-reg
istration-network.regnet.registrar:approveNewUser","Sharansh","1231231231231231"]}'
2020-05-30 14:11:04.540 UTC [chaincode] ChaincodeInvokeQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:{"name":"Sharansh","email":"sharanshguha@gmail.com","phoneNu
mber":"9087654321","aadharId":"1231231231231231","userId":"X509:/C=US/ST=California/L=San Francisco/OU=peer/CN=peer0.users.property-registration-network.com:/C=US/ST=California/L=San Francisco
/O=users.property-registration-network.com/CN=ca.users.property-registration-network.com","createdAt":"2020-05-30T14:04:05.814Z","updatedAt":"2020-05-30T14:06:44.026Z","upgradColns":0,"regis
trarId":"X509:/C=US/ST=California/L=San Francisco/OU=peer/CN=peer0.registrar.property-registration-network.com:/C=US/ST=California/L=San Francisco/O=registrar.property-registration-network.com/CN=ca.r
egistrar.property-registration-network.com","status":"Approved"}
root@ba2619b8069d: /opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-reg
istration-network.regnet.users:rechargeAccount","Sharansh","1231231231231231","upg500"]}'
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: Invalid Transaction ID: upg500 0"
root@ba2619b8069d: /opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-reg
istration-network.regnet.users:rechargeAccount","Sharansh","1231231231231231","upg500"]}'
2020-05-30 14:11:10.294 UTC [chaincode] ChaincodeInvokeQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:{"name":"Sharansh","email":"sharanshguha@gmail.com","phoneNu
mber":"9087654321","aadharId":"1231231231231231","userId":"X509:/C=US/ST=California/L=San Francisco/OU=peer/CN=peer0.users.property-registration-network.com:/C=US/ST=California/L=San Francisco
/O=users.property-registration-network.com/CN=ca.users.property-registration-network.com","createdAt":"2020-05-30T14:04:05.814Z","updatedAt":"2020-05-30T14:11:10.286Z","upgradColns":500,"regis
trarId":"X509:/C=US/ST=California/L=San Francisco/OU=peer/CN=peer0.registrar.property-registration-network.com:/C=US/ST=California/L=San Francisco/O=registrar.property-registration-network.com/CN=ca.r
egistrar.property-registration-network.com","status":"Approved"}
root@ba2619b8069d: /opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-reg
istration-network.regnet.registrar:viewUser","Sharansh","1231231231231231"]}'
2020-05-30 14:11:10.540 UTC [chaincode] ChaincodeInvokeQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:{"propertyId":"001","owner":"Sharansh-1231231231231231","pri
cel":"2001","createdAt":"2020-05-30T14:31:02.194Z","updatedAt":"2020-05-30T14:34:08.346Z","status":"registered","approvedBy":"X509:/C=US/ST=California/L=San Francisco/OU=peer/CN=peer0.reg
istrar.property-registration-network.com:/C=US/ST=California/L=San Francisco/O=registrar.property-registration-network.com/CN=ca.registrar.property-registration-network.com"}
root@ba2619b8069d: /opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-reg
istration-network.regnet.registrar:approvePropertyRegistration","001"]}'
2020-05-30 14:11:12.540 UTC [chaincode] ChaincodeInvokeQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:{"propertyId":"001","owner":"Sharansh-1231231231231231","pri
cel":"2001","createdAt":"2020-05-30T14:31:02.194Z","updatedAt":"2020-05-30T14:34:08.346Z","status":"registered","approvedBy":"X509:/C=US/ST=California/L=San Francisco/OU=peer/CN=peer0.reg
istrar.property-registration-network.com:/C=US/ST=California/L=San Francisco/O=registrar.property-registration-network.com/CN=ca.registrar.property-registration-network.com"}
root@ba2619b8069d: /opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-reg
istration-network.regnet.registrar:approveNewUser","Sujit","4564564564564564"]}'
2020-05-30 14:15:12.540 UTC [chaincode] ChaincodeInvokeQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:{"name":"Sujit","email":"sujitkumar@gmail.com","phoneNumber":
"9187654321","aadharId":"4564564564564564","userId":"X509:/C=US/ST=California/L=San Francisco/OU=peer/CN=peer0.users.property-registration-network.com:/C=US/ST=California/L=San Francisco/O=us
ers.property-registration-network.com/CN=ca.users.property-registration-network.com","createdAt":"2020-05-30T14:55:12.943Z","updatedAt":"2020-05-30T14:55:12.943Z","upgradColns":0,"registrarId":
"X509:/C=US/ST=California/L=San Francisco/OU=peer/CN=peer0.registrar.property-registration-network.com:/C=US/ST=California/L=San Francisco/O=registrar.property-registration-network.com/CN=ca.r
egistrar.property-registration-network.com","status":"Approved"}
root@ba2619b8069d: /opt/gopath/src/github.com/hyperledger/fabric/peer#
```



3. rechargeAccount: "peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.users.rechargeAccount","Sujit","4564564564564564","upg500"]}''"

```
File Edit View Search Terminal Tabs Help
root@0a8afc85484e: /opt/gopath/src/github.com/hyperledger/fabric/peer

root@0a8afc85484e: /opt/gopath/src/chaincode
root@0a8afc85484e: /opt/gopath/src/github.com/hyperledger/fabric/peer
root@ba2619b8069d: /opt/gopath/src/github.com/hyperledger/fabric/peer

upgrad@upgrad-VirtualBox:~/Desktop/Course2_Assignment_Sharansh/property-registration-network$ docker exec -it peer0.users.property-registration-network.com /bin/bash
root@0a8afc85484e:/opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-reg
2020-05-30 14:54:05.802 UTC [chaincodeCmd] chaincodeInvokeQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:{"name":"Sharansh","email":"sharanshguha@gmail.com","phoneNu
mber":"9087654321","aadharId":"1231231231231231","userId":"x509:/C=US/ST=California/L=San Francisco/O=peer/CN=peer0.users.property-registration-network.com:/C=US/ST=California/L=San Francisco
/O=users.property-registration-network.com/CN=ca.users.property-registration-network.com"},"createdat":"2020-05-30T14:04:05.814Z","updatedat":"2020-05-30T14:04:05.814Z"}"
root@0a8afc85484e:/opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-reg
istration-network.regnet.users.viewUser","Sharansh","1231231231231231"]}'
2020-05-30 14:54:15.603 UTC [chaincodeCmd] chaincodeInvokeQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:{"name":"Sharansh","email":"sharanshguha@gmail.com","phoneNu
mber":"9087654321","aadharId":"1231231231231231","userId":"x509:/C=US/ST=California/L=San Francisco/O=peer/CN=peer0.users.property-registration-network.com:/C=US/ST=California/L=San Francisco
/O=users.property-registration-network.com/CN=ca.users.property-registration-network.com"},"createdat":"2020-05-30T14:04:05.814Z","updatedat":"2020-05-30T14:11:18.286Z","upgradcoins":500,"regis
trarId":"x509:/C=US/ST=California/L=San Francisco/O=peer/CN=peer0.registrar.property-registration-network.com:/C=US/ST=California/L=San Francisco/O=registrar.property-registration-network.com/CN=ca.r
egistrar.property-registration-network.com","status":"Approved"}"
root@0a8afc85484e:/opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-reg
istration-network.regnet.users.propertyRegistrationRequest","001","200","Sharansh","1231231231231231"]}'
2020-05-30 14:54:32.187 UTC [chaincodeCmd] chaincodeInvokeQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:{"propertyId":"001","owner":"Sharansh-1231231231231231","pri
cel":"200"},"createdat":"2020-05-30T14:31:02.194Z","updatedat":"2020-05-30T14:31:02.194Z"}"
root@0a8afc85484e:/opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-reg
istration-network.regnet.users.viewProperty","001"]}'
2020-05-30 14:54:37.957 UTC [chaincodeCmd] chaincodeInvokeQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:{"propertyId":"001","owner":"Sharansh-1231231231231231","pri
cel":"200"},"createdat":"2020-05-30T14:31:02.194Z","updatedat":"2020-05-30T14:34:00.346Z","status":"registered","approvedby":"x509:/C=US/ST=California/L=San Francisco/O=peer/CN=peer0.reg
istrar.property-registration-network.com:/C=US/ST=California/L=San Francisco/O=registrar.property-registration-network.com/CN=ca.registrar.property-registration-network.com"}"
root@0a8afc85484e:/opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-reg
istration-network.regnet.users.updateProperty","001","Sharansh","1231231231231231","onSale"]}'
2020-05-30 14:54:41.910 UTC [chaincodeCmd] chaincodeInvokeQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:{"propertyId":"001","owner":"Sharansh-1231231231231231","pri
cel":"200"},"createdat":"2020-05-30T14:31:02.194Z","updatedat":"2020-05-30T14:34:00.346Z","status":"onSale","approvedby":"x509:/C=US/ST=California/L=San Francisco/O=peer/CN=peer0.registr
ar.property-registration-network.com:/C=US/ST=California/L=San Francisco/O=registrar.property-registration-network.com/CN=ca.registrar.property-registration-network.com"}"
root@0a8afc85484e:/opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-reg
istration-network.regnet.users.requestNewUser","Sujit","sujitkumar@gmail.com","9187654321","4564564564564564"]}'
2020-05-30 14:55:00.508 UTC [chaincodeCmd] chaincodeInvokeQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:{"name":"Sujit","email":"sujitkumar@gmail.com","phoneNumber\
":"9187654321","aadharId":"4564564564564564","userId":"x509:/C=US/ST=California/L=San Francisco/O=peer/CN=peer0.users.property-registration-network.com:/C=US/ST=California/L=San Francisco/O=us
ers.property-registration-network.com/CN=ca.users.property-registration-network.com"},"createdat":"2020-05-30T14:51:25.914Z","updatedat":"2020-05-30T14:51:25.914Z"}"
root@0a8afc85484e:/opt/gopath/src/github.com/hyperledger/fabric/peer# peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-reg
istration-network.regnet.users.rechargeAccount","Sujit","4564564564564564","upg500"]}'
2020-05-30 14:55:11.543 UTC [chaincodeCmd] chaincodeInvokeQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:{"name":"Sujit","email":"sujitkumar@gmail.com","phoneNumber\
":"9187654321","aadharId":"4564564564564564","userId":"x509:/C=US/ST=California/L=San Francisco/O=peer/CN=peer0.users.property-registration-network.com:/C=US/ST=California/L=San Francisco/O=us
ers.property-registration-network.com/CN=ca.users.property-registration-network.com"},"createdat":"2020-05-30T14:51:25.914Z","updatedat":"2020-05-30T14:57:11.540Z","upgradcoins":500,"registrarI
d":"x509:/C=US/ST=California/L=San Francisco/O=peer/CN=peer0.registrar.property-registration-network.com:/C=US/ST=California/L=San Francisco/O=registrar.property-registration-network.com/CN=ca.regis
trar.property-registration-network.com","status":"Approved"}"
root@0a8afc85484e:/opt/gopath/src/github.com/hyperledger/fabric/peer#
```

[illegible]