

Property Registration Assignment

Solution Documentation by Sunanda Vempati

Important Notes before starting the Assignment:

1. The 'regnet' chaincode should contain two separate smart contracts: One for the Users and the other for the Registrar.
2. All the functions that can be initiated by the registrar, such as 'approvePropertyRegistration', have to be included in the smart contract defined for the registrar.
3. Similarly, all the functions that can be initiated by the users have to be included in the smart contract defined for the users.
4. The functions which can be initiated by both registrar and user such as 'viewProperty', have to be put in both the smart contracts.

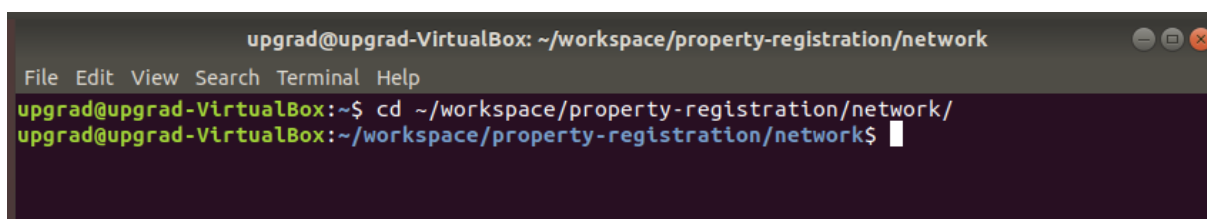
What this Document Contains:

1. The command to bootstrap the network.
2. The command to install and instantiate the chaincode.
3. Commands to execute each of the transactions defined in the chaincode in sequential order.
4. Snapshots of the terminal showing the expected output after executing the command for each transaction on the terminal.

Step 1:

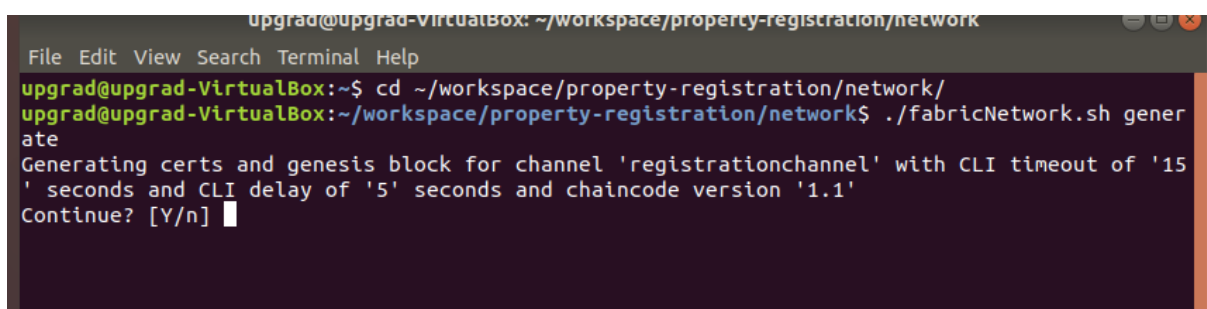
Follow the following steps to complete the bootstrap the network:

- ❖ In the terminal enter into the network folder with this command
 - `"cd ~/workspace/property-registration/network/"`



```
upgrad@upgrad-VirtualBox: ~/workspace/property-registration/network
File Edit View Search Terminal Help
upgrad@upgrad-VirtualBox:~$ cd ~/workspace/property-registration/network/
upgrad@upgrad-VirtualBox:~/workspace/property-registration/network$
```

- ❖ Type the following command generate the 'channel artifacts' :
 - `"./fabricNetwork.sh generate"`



```
upgrad@upgrad-VirtualBox: ~/workspace/property-registration/network
File Edit View Search Terminal Help
upgrad@upgrad-VirtualBox:~$ cd ~/workspace/property-registration/network/
upgrad@upgrad-VirtualBox:~/workspace/property-registration/network$ ./fabricNetwork.sh generate
Generating certs and genesis block for channel 'registrationchannel' with CLI timeout of '15'
seconds and CLI delay of '5' seconds and chaincode version '1.1'
Continue? [Y/n]
```

```
upgrad@upgrad-VirtualBox: ~/workspace/property-registration/network
File Edit View Search Terminal Help
+ configtxgen -profile RegistrationChannel -outputAnchorPeersUpdate ./channel-artifacts/regi
strarMSPanchors.tx -channelID registrationchannel -asOrg registrarMSP
2020-03-28 00:40:14.454 IST [common.tools.configtxgen] main -> INFO 001 Loading configuratio
n
2020-03-28 00:40:14.479 IST [common.tools.configtxgen.localconfig] Load -> INFO 002 Loaded c
onfiguration: /home/upgrad/workspace/property-registration2/network/configtx.yaml
2020-03-28 00:40:14.518 IST [common.tools.configtxgen.localconfig] completeInitialization ->
INFO 003 orderer type: solo
2020-03-28 00:40:14.519 IST [common.tools.configtxgen.localconfig] LoadTopLevel -> INFO 004
Loaded configuration: /home/upgrad/workspace/property-registration2/network/configtx.yaml
2020-03-28 00:40:14.519 IST [common.tools.configtxgen] doOutputAnchorPeersUpdate -> INFO 005
Generating anchor peer update
2020-03-28 00:40:14.519 IST [common.tools.configtxgen] doOutputAnchorPeersUpdate -> INFO 006
Writing anchor peer update
+ res=0
+ set +x

#####
##### Generating anchor peer update for usersMSP #####
#####
+ configtxgen -profile RegistrationChannel -outputAnchorPeersUpdate ./channel-artifacts/user
sMSPanchors.tx -channelID registrationchannel -asOrg usersMSP
2020-03-28 00:40:14.592 IST [common.tools.configtxgen] main -> INFO 001 Loading configuratio
n
2020-03-28 00:40:14.613 IST [common.tools.configtxgen.localconfig] Load -> INFO 002 Loaded c
onfiguration: /home/upgrad/workspace/property-registration2/network/configtx.yaml
2020-03-28 00:40:14.648 IST [common.tools.configtxgen.localconfig] completeInitialization ->
INFO 003 orderer type: solo
2020-03-28 00:40:14.649 IST [common.tools.configtxgen.localconfig] LoadTopLevel -> INFO 004
Loaded configuration: /home/upgrad/workspace/property-registration2/network/configtx.yaml
2020-03-28 00:40:14.649 IST [common.tools.configtxgen] doOutputAnchorPeersUpdate -> INFO 005
Generating anchor peer update
2020-03-28 00:40:14.649 IST [common.tools.configtxgen] doOutputAnchorPeersUpdate -> INFO 006
Writing anchor peer update
+ res=0
+ set +x

upgrad@upgrad-VirtualBox:~/workspace/property-registration/network$
```

- ❖ Once the above command is successfully ran. Run the following command to update the docker containers:
 - `“./fabricNetwork.sh up”`

```
upgrad@upgrad-VirtualBox: ~/workspace/property-registration/network
File Edit View Search Terminal Help
upgrad@upgrad-VirtualBox:~/workspace/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]
```

```

upgrad@upgrad-VirtualBox: ~/workspace/property-registration/network
File Edit View Search Terminal Help
+ res=0
+ set +x
2020-03-27 19:16:29.178 UTC [channelCmd] InitCmdFactory -> INFO 001 Endorser and orderer connections initialized
2020-03-27 19:16:29.224 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
2020-03-27 19:16:34.332 UTC [channelCmd] InitCmdFactory -> INFO 001 Endorser and orderer connections initialized
2020-03-27 19:16:34.395 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
2020-03-27 19:16:34.555 UTC [channelCmd] InitCmdFactory -> INFO 001 Endorser and orderer connections initialized
2020-03-27 19:16:34.586 UTC [channelCmd] update -> INFO 002 Successfully submitted channel update
===== Anchor peers updated for org 'registrarmsp' on channel 'registrationchannel' =====
+ peer channel update -o orderer.property-registration-network.com:7050 -c registrationchannel -f ./channel-artifacts/usersmspanchors.tx

Updating anchor peers for USERS...
+ res=0
+ set +x
2020-03-27 19:16:39.708 UTC [channelCmd] InitCmdFactory -> INFO 001 Endorser and orderer connections initialized
2020-03-27 19:16:39.749 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
upgrad@upgrad-VirtualBox:~/workspace/property-registration/network$

```

❖ Incase you want to make your docker containers down you need to run the command

- `“./fabricNetwork.sh down”`

To check whether the containers are “up and running” run the command `“docker ps -a”`

```

upgrad@upgrad-VirtualBox: ~/workspace/property-registration/network
File Edit View Search Terminal Help
upgrad@upgrad-VirtualBox:~/workspace/property-registration/network$ docker ps -a
CONTAINER ID        IMAGE                                     COMMAND                  CREATED            STATUS              PORTS
fde8fc558d3b       hyperledger/fabric-tools:latest        "/bin/bash"             5 minutes ago     Up 5 minutes
9c69a7827a56       hyperledger/fabric-peer:latest         "peer node start --p..." 5 minutes ago     Up 5 minutes       0.0.0.0:11051->11051/tcp
p, 0.0.0.0:11053->11053/tcp peer2.users.property-registration-network.com
fb64cb03d433       hyperledger/fabric-peer:latest         "peer node start --p..." 5 minutes ago     Up 5 minutes       0.0.0.0:9051->9051/tcp,
0.0.0.0:9053->9053/tcp peer0.users.property-registration-network.com
3391552dd8f1       hyperledger/fabric-peer:latest         "peer node start --p..." 5 minutes ago     Up 5 minutes       0.0.0.0:8051->8051/tcp,
0.0.0.0:8053->8053/tcp peer1.registrar.property-registration-network.com
ce17f9b38d37       hyperledger/fabric-orderer:latest      "orderer"               5 minutes ago     Up 5 minutes       0.0.0.0:7050->7050/tcp
70c246a451e0       hyperledger/fabric-ccenv:latest        "/bin/bash -c 'sleep..." 5 minutes ago     Up 5 minutes
chaincode
fdd08b28b1e7       hyperledger/fabric-peer:latest         "peer node start --p..." 5 minutes ago     Up 5 minutes       0.0.0.0:7051->7051/tcp,
0.0.0.0:7053->7053/tcp peer0.registrar.property-registration-network.com
22d5bb5916a5       hyperledger/fabric-ca:latest           "sh -c 'fabric-ca-se..." 5 minutes ago     Up 5 minutes       0.0.0.0:8054->7054/tcp
ca.users.property-registration-network.com
5d81a67d3d32       hyperledger/fabric-peer:latest         "peer node start --p..." 5 minutes ago     Up 5 minutes       0.0.0.0:10051->10051/tcp
p, 0.0.0.0:10053->10053/tcp peer1.users.property-registration-network.com
d156593b17e4       hyperledger/fabric-ca:latest           "sh -c 'fabric-ca-se..." 5 minutes ago     Up 5 minutes       0.0.0.0:7054->7054/tcp
ca.registrar.property-registration-network.com
upgrad@upgrad-VirtualBox:~/workspace/property-registration/network$

```

Step 2:

Before running the install and instantiate commands you have to make sure that the ‘node modules’ are “installed and running” in dev mode.

Installing the node modules in the network:

To run ‘node modules’ you have to get into the ‘chaincode’ container with this command

`“docker exec -it chaincode /bin/bash”` and run the command `“npm install”`

```

ca.registrar.property-registration-network.com
upgrad@upgrad-VirtualBox:~/workspace/property-registration/network$ docker exec -it chaincode /bin/bash
root@70c246a451e0:/opt/gopath/src/chaincode# npm install
npm WARN regnet@0.0.1 No repository field.
npm WARN regnet@0.0.1 No license field.

audited 988 packages in 10.168s
found 4 low severity vulnerabilities
  run `npm audit fix` to fix them, or `npm audit` for details
root@70c246a451e0:/opt/gopath/src/chaincode#

```

Once the “npm modules” are ran with out any high severity error, now run the command
 “npm run start-dev” to make sure you are testing the project in the dev mode.

```

File Edit View Search Terminal Help
root@70c246a451e0:/opt/gopath/src/chaincode# npm run start-dev
> regnet@0.0.1 start-dev /opt/gopath/src/chaincode
> fabric-chaincode-node start --peer.address peer0.users.property-registration-network.com:9053 --chaincode-id-name regnet:1.1

Configuring yargs through package.json is deprecated and will be removed in the next major release, please use the JS API instead.
Configuring yargs through package.json is deprecated and will be removed in the next major release, please use the JS API instead.
Configuring yargs through package.json is deprecated and will be removed in the next major release, please use the JS API instead.
2020-03-27T19:32:31.751Z info [shim:contracts-spi/bootstrap.js] No metadata file supplied in contract, introspection will gene
rate all the data
2020-03-27T19:32:31.752Z info [shim:contracts-spi/chaincodefromcontract.js] Using serializers {"transaction":"jsonSerializer","serializers
":{"}}
Configuring yargs through package.json is deprecated and will be removed in the next major release, please use the JS API instead.
2020-03-27T19:32:31.794Z info [shim:lib/chaincode.js] Registering with peer peer0.users.property-registration-networ
k.com:9053 as chaincode "regnet:1.1"
Command succeeded

2020-03-27T19:32:31.825Z info [shim:lib/handler.js] Successfully registered with peer node. State transferred to "
established"
2020-03-27T19:32:31.826Z info [shim:lib/handler.js] Successfully established communication with peer node. State t
ransferred to "ready"

```

Once the node modules are “installed and running” follow the below steps to install the fabric network in the nodes of the chaincode.

Installing the fabric network in the nodes of the network:

- ❖ Open a new tab in the terminal and run the command
 - “./fabricNetwork.sh install”

```

upgrad@upgrad-VirtualBox: ~/workspace/property-registration2/network
File Edit View Search Terminal Tabs Help
root@70c246a451e0:/opt/gopath/src/chaincode
upgrad@upgrad-VirtualBox:~/workspace/property-registration2/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]

```

```

File Edit View Search Terminal Tabs Help
upgrad@upgrad-VirtualBox: ~/workspace/property-re... * root@3cf9014983b5: /opt/gopath/src/chaincode * upgrad@upgrad-VirtualBox: ~/workspace/property-re... *
+ set +x
2020-03-27 20:09:37.563 UTC [chaincodeCmd] checkChaincodeCmdParams -> INFO 001 Using default escc
2020-03-27 20:09:37.564 UTC [chaincodeCmd] checkChaincodeCmdParams -> INFO 002 Using default vscc
2020-03-27 20:09:37.713 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.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
2020-03-27 20:09:37.848 UTC [chaincodeCmd] checkChaincodeCmdParams -> INFO 001 Using default escc
2020-03-27 20:09:37.848 UTC [chaincodeCmd] checkChaincodeCmdParams -> INFO 002 Using default vscc
2020-03-27 20:09:37.986 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.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 (''regist
rarMSP.member'', ''usersMSP.member'')'
+ res=0
+ set +x
2020-03-27 20:09:38.108 UTC [chaincodeCmd] checkChaincodeCmdParams -> INFO 001 Using default escc
2020-03-27 20:09:38.108 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:~/workspace/property-registration/network$

```

Step 3:

Before getting in to running the commands related to the functions to be tested related to the assignment make sure you have all the following pre-requisites:

- ❖ In the 'property-registration folder' there is a folder with name 'chaincodes' which has the files
 - Index.js (which is where the fabric network starts the execution of the project)
 - Package.json (this file holds various metadata relevant to the project)
 - userContract.js (the smart contract related to the users)
 - registrarContract.js (the smart contract related to the registrar)

Note: As we are working with two smart contracts separately I am using two different dev nodes for my ease of use in the 'package.json' file, "dev2 is used for user related functions" and "dev is used for the registrar related functions"

requestNewUser:

now run the network in the user dev mode which is dev2:

In the chaincode container, run the following command "npm run start-dev2"

```

Command succeeded
2020-03-27T20:08:38.774Z info [shim:lib/handler.js] Successfully registered with peer node. State transferred to "
established"
2020-03-27T20:08:38.775Z info [shim:lib/handler.js] Successfully established communication with peer node. State t
ransferred to "ready"
Regnet User Contract Instantiated by the Users
2020-03-27T20:09:38.131Z info [shim:lib/handler.js] [registrationchannel-0f73f28f] Calling chaincode Init() succee
ded. Sending COMPLETED message back to peer
^C
root@3cf9014983b5:/opt/gopath/src/chaincode# npm run start-dev2

```

```

root@3cf9014983b5:/opt/gopath/src/chaincode# npm run start-dev2
> regnet@0.0.1 start-dev2 /opt/gopath/src/chaincode
> fabric-chaincode-node start --peer.address peer0.users.property-registration-network.com:9053 --chaincode-id-name regnet:1.1

Configuring yargs through package.json is deprecated and will be removed in the next major release, please use the JS API instead.
Configuring yargs through package.json is deprecated and will be removed in the next major release, please use the JS API instead.
Configuring yargs through package.json is deprecated and will be removed in the next major release, please use the JS API instead.
2020-03-27T20:50:46.069Z info [shim:contracts-spi/bootstrap.js] No metadata file supplied in contract, introspection will generate all the data
2020-03-27T20:50:46.071Z info [shim:contracts-spi/chaincodefromcontract.js] Using serializers {"transaction":"jsonSerializer","serializers":{}}
2020-03-27T20:50:46.130Z info [shim:lib/chaincode.js] Configuring yargs through package.json is deprecated and will be removed in the next major release, please use the JS API instead.
2020-03-27T20:50:46.130Z info [shim:lib/chaincode.js] Registering with peer peer0.users.property-registration-network.com:9053 as chaincode "regnet:1.1"

Command succeeded

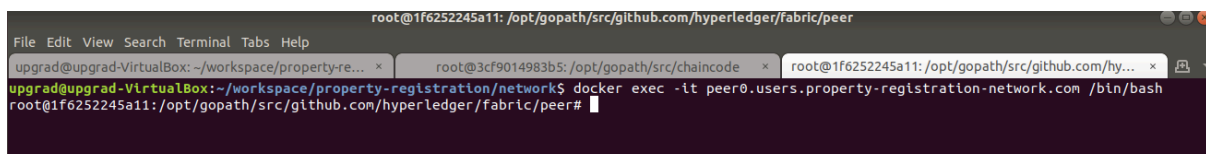
2020-03-27T20:50:46.158Z info [shim:lib/handler.js] Successfully registered with peer node. State transferred to "established"
2020-03-27T20:50:46.165Z info [shim:lib/handler.js] Successfully established communication with peer node. State transferred to "ready"

```

Open a new tab:

Get into the peer0 of user organization with this command

"docker exec -it peer0.users.property-registration-network.com /bin/bash"



```

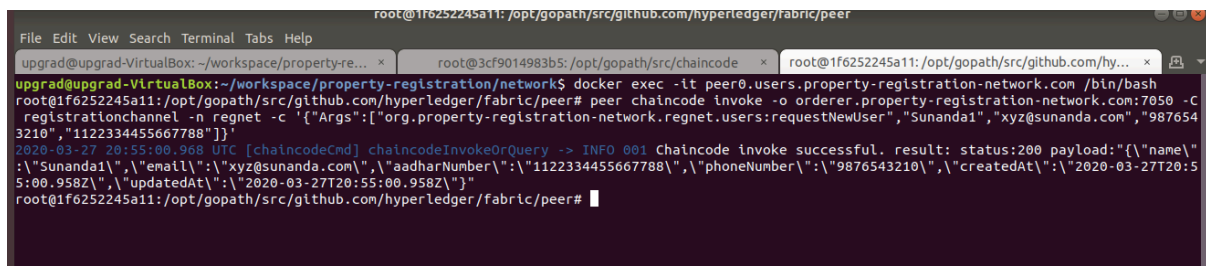
root@1f6252245a11:/opt/gopath/src/github.com/hyperledger/fabric/peer
File Edit View Search Terminal Tabs Help
upgrad@upgrad-VirtualBox: ~/workspace/property-registration-network$ docker exec -it peer0.users.property-registration-network.com /bin/bash
root@1f6252245a11:/opt/gopath/src/github.com/hyperledger/fabric/peer#

```

Command to test 'requestNewUser' function:

To test the requestNewUser function run the following command in the above path

"peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.users:requestNewUser","Sunanda1","xyz@sunanda.com","9876543210","1122334455667788"]}'"



```

root@1f6252245a11:/opt/gopath/src/github.com/hyperledger/fabric/peer
File Edit View Search Terminal Tabs Help
upgrad@upgrad-VirtualBox: ~/workspace/property-registration-network$ docker exec -it peer0.users.property-registration-network.com /bin/bash
root@1f6252245a11:/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","Sunanda1","xyz@sunanda.com","9876543210","1122334455667788"]}'
2020-03-27 20:55:00.968 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:{"name":"Sunanda1","email":"xyz@sunanda.com","aadharNumber":"1122334455667788","phoneNumber":"9876543210","createdAt":"2020-03-27T20:55:00.958Z","updatedAt":"2020-03-27T20:55:00.958Z"}
root@1f6252245a11:/opt/gopath/src/github.com/hyperledger/fabric/peer#

```

approveNewUser:

now run the network in the registrar dev mode which is dev:

In the chaincode container, run the following command **"npm run start-dev"**


```

root@3cf9014983b5: /opt/gopath/src/chaincode
File Edit View Search Terminal Tabs Help
upgrad@upgrad-VirtualBox: ~/workspace/property-reg... x root@3cf9014983b5: /opt/gopath/src/chaincode x root@1f6252245a11: /opt/gopath/src/github.com/hy... x
root@3cf9014983b5: /opt/gopath/src/chaincode# npm run start-dev
> regnet@0.0.1 start-dev /opt/gopath/src/chaincode
> fabric-chaincode-node start --peer.address peer0.registrar.property-registration-network.com:7053 --chaincode-id-name regnet:1.1

Configuring yargs through package.json is deprecated and will be removed in the next major release, please use the JS API instead.
Configuring yargs through package.json is deprecated and will be removed in the next major release, please use the JS API instead.
Configuring yargs through package.json is deprecated and will be removed in the next major release, please use the JS API instead.
2020-03-27T20:57:23.320Z info [shim:contracts-spi/bootstrap.js] No metadata file supplied in contract, introspection will gene
rate all the data
2020-03-27T20:57:23.322Z info [shim:contracts-spi/chaincodefromcontract.js] Using serializers [{"transaction": "jsonSerializer", "serializers
": {}}]
Configuring yargs through package.json is deprecated and will be removed in the next major release, please use the JS API instead.
2020-03-27T20:57:23.365Z info [shim:lib/chaincode.js] Registering with peer peer0.registrar.property-registration-ne
twork.com:7053 as chaincode "regnet:1.1"

Command succeeded

2020-03-27T20:57:23.381Z info [shim:lib/handler.js] Successfully registered with peer node. State transferred to "
established"
2020-03-27T20:57:23.387Z info [shim:lib/handler.js] Successfully established communication with peer node. State t
ransferred to "ready"

```

Open a new tab:

Get into the peer0 of registrar organization with this command

`"docker exec -it peer0.registrar.property-registration-network.com /bin/bash"`

```

root@30dace0e5044: /opt/gopath/src/github.com/hyperledger/fabric/peer
File Edit View Search Terminal Tabs Help
upgrad@upgrad-VirtualBox: ~/worksp... x root@3cf9014983b5: /opt/gopath/src... x root@1f6252245a11: /opt/gopath/src... x root@30dace0e5044: /opt/gopath/src... x
upgrad@upgrad-VirtualBox: ~/workspace/property-registration/network$ docker exec -it peer0.registrar.property-registration-network.com /bin/bash
root@30dace0e5044: /opt/gopath/src/github.com/hyperledger/fabric/peer#

```

Command to test `'approveNewUser'` function:

To test the `approveNewUser` function run the following command in the above path

`"peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.registrar:approveNewUser","Sunanda1","1122334455667788"]}'"`

```

root@30dace0e5044: /opt/gopath/src/github.com/hyperledger/fabric/peer
File Edit View Search Terminal Tabs Help
upgrad@upgrad-VirtualBox: ~/worksp... x root@3cf9014983b5: /opt/gopath/src... x root@1f6252245a11: /opt/gopath/src... x root@30dace0e5044: /opt/gopath/src... x
upgrad@upgrad-VirtualBox: ~/workspace/property-registration/network$ docker exec -it peer0.registrar.property-registration-network.com /bin/bash
root@30dace0e5044: /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.registrar:approveNewUser","Sunanda1","1122334455667788"]}'
2020-03-27 21:00:20.300 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:{"name\
": "Sunanda1", "email": "xyz@sunanda.com", "aadharNumber": "1122334455667788", "status": "Approved", "updatedAt": "2020-03-27T20:55:00.95
8Z", "upgradCoins": 0}
root@30dace0e5044: /opt/gopath/src/github.com/hyperledger/fabric/peer#

```

viewUser:

To test the `viewUser` function from the registrar node

run the following command **`"peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.registrar:viewUser","Sunanda1","1122334455667788"]}'"`**

```

root@30dace0e5044: /opt/gopath/src/github.com/hyperledger/fabric/peer
File Edit View Search Terminal Tabs Help
upgrad@upgrad-VirtualBox: ~/workspace/property-registration/network$ docker exec -it peer0.registrar.property-registration-network.com /bin/bash
root@30dace0e5044: /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.registrar:approveNewUser","Sunanda1","1122334455667788"]}'
2020-03-27 21:00:20.300 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:{"name":
:"Sunanda1","email":"xyz@sunanda.com","aadharNumber":"1122334455667788","status":"Approved","updatedAt":"2020-03-27T20:55:00.95
8Z","upgradCoins":0}
root@30dace0e5044: /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.registrar:viewUser","Sunanda1","1122334455667788"]}'
2020-03-27 21:04:00.641 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:{"name":
:"Sunanda1","email":"xyz@sunanda.com","aadharNumber":"1122334455667788","status":"Approved","updatedAt":"2020-03-27T20:55:00.95
8Z","upgradCoins":0}
root@30dace0e5044: /opt/gopath/src/github.com/hyperledger/fabric/peer#

```

To test the viewUser function from the user node

Run the following command from the user node b changing the dev2 node

“peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.users:viewUser","Sunanda1","1122334455667788"]}' ”

```

root@1f6252245a11: /opt/gopath/src/github.com/hyperledger/fabric/peer
File Edit View Search Terminal Tabs Help
upgrad@upgrad-VirtualBox: ~/workspace/property-registration/network$ docker exec -it peer0.users.property-registration-network.com /bin/bash
root@1f6252245a11: /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","Sunanda1","xyz@sunanda.com","987654
3210","1122334455667788"]}'
2020-03-27 20:55:00.968 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:{"name":
:"Sunanda1","email":"xyz@sunanda.com","aadharNumber":"1122334455667788","phoneNumber":"9876543210","createdat":"2020-03-27T20:5
5:00.958Z","updatedAt":"2020-03-27T20:55:00.958Z"}
root@1f6252245a11: /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","Sunanda1","1122334455667788"]}'
2020-03-27 21:06:15.995 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:{"name":
:"Sunanda1","email":"xyz@sunanda.com","aadharNumber":"1122334455667788","status":"Approved","updatedAt":"2020-03-27T20:55:00.95
8Z","upgradCoins":0}
root@1f6252245a11: /opt/gopath/src/github.com/hyperledger/fabric/peer#

```

rechargeAccount:

To test the rechargeAccount function from the user node

run the following command – Pass case

“peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.users:rechargeAccount","Sunanda1","1122334455667788","upg500"]}' ”

```

root@1f6252245a11: /opt/gopath/src/github.com/hyperledger/fabric/peer
File Edit View Search Terminal Tabs Help
upgrad@upgrad-VirtualBox: ~/workspace/property-registration/network$ docker exec -it peer0.users.property-registration-network.com /bin/bash
root@1f6252245a11: /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","Sunanda1","xyz@sunanda.com","987654
3210","1122334455667788"]}'
2020-03-27 20:55:00.968 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:{"name":
:"Sunanda1","email":"xyz@sunanda.com","aadharNumber":"1122334455667788","phoneNumber":"9876543210","createdat":"2020-03-27T20:5
5:00.958Z","updatedAt":"2020-03-27T20:55:00.958Z"}
root@1f6252245a11: /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","Sunanda1","1122334455667788"]}'
2020-03-27 21:06:15.995 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:{"name":
:"Sunanda1","email":"xyz@sunanda.com","aadharNumber":"1122334455667788","status":"Approved","updatedAt":"2020-03-27T20:55:00.95
8Z","upgradCoins":0}
root@1f6252245a11: /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:rechargeAccount","Sunanda1","1122334455667788","upg50
0"]}'
2020-03-27 21:09:32.936 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:{"name":
:"Sunanda1","email":"xyz@sunanda.com","aadharNumber":"1122334455667788","status":"Approved","updatedAt":"2020-03-27T20:55:00.95
8Z","upgradCoins":500}
root@1f6252245a11: /opt/gopath/src/github.com/hyperledger/fabric/peer#

```

run the following command – fail case

`"peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.users:rechargeAccount","Sunanda1","1122334455667788","upgr500"]}'"`

```
root@1f6252245a11: /opt/gopath/src/github.com/hyperledger/fabric/peer
File Edit View Search Terminal Tabs Help
upgrad@upgrad-VirtualBox: ~/worksp... x root@3cf9014983b5: /opt/gopath/src... x root@1f6252245a11: /opt/gopath/src... x root@30dace0e5044: /opt/gopath/src... x
upgrad@upgrad-VirtualBox:~/workspace/property-registration-network$ docker exec -it peer0.users.property-registration-network.com /bin/bash
root@1f6252245a11: /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","Sunanda1","xyz@sunanda.com","987654
3210","1122334455667788"]}'
2020-03-27 20:55:00.968 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:{"name\
":"Sunanda1","email":"xyz@sunanda.com","aadharNumber":"1122334455667788","phoneNumber":"9876543210","createdAt":"2020-03-27T20:5
5:00.958Z","updatedAt":"2020-03-27T20:55:00.958Z"}
root@1f6252245a11: /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","Sunanda1","1122334455667788"]}'
2020-03-27 21:06:15.995 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:{"name\
":"Sunanda1","email":"xyz@sunanda.com","aadharNumber":"1122334455667788","status":"Approved","updatedAt":"2020-03-27T20:55:00.95
8Z","upgradCoins":0}
root@1f6252245a11: /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:rechargeAccount","Sunanda1","1122334455667788","upgr50
0"]}'
2020-03-27 21:09:32.936 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:{"name\
":"Sunanda1","email":"xyz@sunanda.com","aadharNumber":"1122334455667788","status":"Approved","updatedAt":"2020-03-27T20:55:00.95
8Z","upgradCoins":500}
root@1f6252245a11: /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:rechargeAccount","Sunanda1","1122334455667788","upgr5
00"]}'
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: Invalid Bank Transaction ID"
root@1f6252245a11: /opt/gopath/src/github.com/hyperledger/fabric/peer#
```

propertyRegistrationRequest:

To test the propertyRegistrtrionRequest function from the user node

Run the following 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","100","Sunanda1","1122334455667788"]}'"`

```
root@1f6252245a11: /opt/gopath/src/github.com/hyperledger/fabric/peer
File Edit View Search Terminal Tabs Help
upgrad@upgrad-VirtualBox: ~/worksp... x root@3cf9014983b5: /opt/gopath/src... x root@1f6252245a11: /opt/gopath/src... x root@30dace0e5044: /opt/gopath/src... x
upgrad@upgrad-VirtualBox:~/workspace/property-registration-network$ docker exec -it peer0.users.property-registration-network.com /bin/bash
root@1f6252245a11: /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","Sunanda1","xyz@sunanda.com","987654
3210","1122334455667788"]}'
2020-03-27 20:55:00.968 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:{"name\
":"Sunanda1","email":"xyz@sunanda.com","aadharNumber":"1122334455667788","phoneNumber":"9876543210","createdAt":"2020-03-27T20:5
5:00.958Z","updatedAt":"2020-03-27T20:55:00.958Z"}
root@1f6252245a11: /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","Sunanda1","1122334455667788"]}'
2020-03-27 21:06:15.995 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:{"name\
":"Sunanda1","email":"xyz@sunanda.com","aadharNumber":"1122334455667788","status":"Approved","updatedAt":"2020-03-27T20:55:00.95
8Z","upgradCoins":0}
root@1f6252245a11: /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:rechargeAccount","Sunanda1","1122334455667788","upg50
0"]}'
2020-03-27 21:09:32.936 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:{"name\
":"Sunanda1","email":"xyz@sunanda.com","aadharNumber":"1122334455667788","status":"Approved","updatedAt":"2020-03-27T20:55:00.95
8Z","upgradCoins":500}
root@1f6252245a11: /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:rechargeAccount","Sunanda1","1122334455667788","upgr5
00"]}'
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: Invalid Bank Transaction ID"
root@1f6252245a11: /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:propertyRegistrationRequest","001","100","Sunanda1","
1122334455667788"]}'
2020-03-27 21:13:15.387 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:{"propId
":"001","owner":"u0000org.property-registration-network.regnet.users\\u0000Sunanda1\\u00001122334455667788\\u0000","price":"100","
createdAt":"2020-03-27T21:13:15.379Z"}
root@1f6252245a11: /opt/gopath/src/github.com/hyperledger/fabric/peer#
```

approvePropertyRegistration:

To test the approvePropertyRequest function from the registrar node

Run the following command from the registrar node by changing the dev node

`"peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.registrar:approvePropertyRegistration","001"]}'"`

```
root@30dace0e5044:/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.registrar:approvePropertyRegistration","001"]}'
2020-03-27 21:24:26.477 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:"{'propId':\":'001'\",'\":'owner'\":'\":'\u0000org.property-registration-network.regnet.users.property\u0000001\u00000'\",'\":'price'\":'\":'100'\",'\":'propStatus'\":'\":'registered'\",'\":'updatedAt'\":'\":'2020-03-27T21:24:26.469Z\"}'"
root@30dace0e5044:/opt/gopath/src/github.com/hyperledger/fabric/peer#
```

viewProperty:

To test the viewProperty function from the registrar node

run the following 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"]}' ”

```
root@30dace0e5044:/opt/gopath/src/github.com/hyperledger/fabric/peer
File Edit View Search Terminal Tabs Help
upgrad@upgrad-VirtualBox: ~/worksp... x root@3cf9014983b5:/opt/gopath/src... x root@1f6252245a11:/opt/gopath/src... x root@30dace0e5044:/opt/gopath/src... x
root@30dace0e5044:/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.registrar:approveNewUser","Sunanda1","1122334455667788"]}'
2020-03-27 21:00:20.300 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:"{'name':\":'Sunanda1'\",'\":'email'\":'\":'xyz@sunanda.com'\",'\":'aadharNumber'\":'\":'1122334455667788'\",'\":'status'\":'\":'Approved'\",'\":'updatedAt'\":'\":'2020-03-27T20:55:00.958Z'\",'\":'upgradCoins'\":'0\"}"
root@30dace0e5044:/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.registrar:viewUser","Sunanda1","1122334455667788"]}'
2020-03-27 21:04:00.641 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:"{'name':\":'Sunanda1'\",'\":'email'\":'\":'xyz@sunanda.com'\",'\":'aadharNumber'\":'\":'1122334455667788'\",'\":'status'\":'\":'Approved'\",'\":'updatedAt'\":'\":'2020-03-27T20:55:00.958Z'\",'\":'upgradCoins'\":'0\"}"
root@30dace0e5044:/opt/gopath/src/github.com/hyperledger/fabric/peer#
```

To test the viewProperty function from the user node

Run the following command from the user node b changing the dev2 node
“ peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.users:viewProperty","001"]}' ”

```
root@1f6252245a11:/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:propertyRegistrationRequest","001","100","Sunanda1","1122334455667788"]}'
2020-03-27 21:13:15.387 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:"{'propId':\":'001'\",'\":'owner'\":'\":'\u0000org.property-registration-network.regnet.users\u00000Sunanda1\u000001122334455667788\u00000'\",'\":'price'\":'\":'100'\",'\":'createdAt'\":'\":'2020-03-27T21:13:15.379Z\"}"
root@1f6252245a11:/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"]}'
2020-03-27 21:27:48.127 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:"{'propId':\":'001'\",'\":'owner'\":'\":'\u0000org.property-registration-network.regnet.users.property\u00000001\u00000'\",'\":'price'\":'\":'100'\",'\":'propStatus'\":'\":'registered'\",'\":'updatedAt'\":'\":'2020-03-27T21:24:26.469Z\"}"
root@1f6252245a11:/opt/gopath/src/github.com/hyperledger/fabric/peer#
```

updateProperty:

To test the updateProperty function from the user node

Run the following 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","Sunanda1","1122334455667788","onSale"]}' ”

```
root@1f6252245a11:/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","Sunanda1","1122334455667788","onSale"]}'
2020-03-28 17:03:13.010 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200
root@1f6252245a11:/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"]}'
2020-03-28 17:03:22.558 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:"{'pr
opId':\":'001'\",'\":'owner'\":'\":'\u0000org.property-registration-network.regnet.users\u00000Sunanda1\u000001122334455667788\u00000'\",'\":'price'\":'\":'100'\",'\":'propStatus'\":'\":'onSale'\",'\":'updatedAt'\":'\":'2020-03-28T17:03:13.003Z\"}"
root@1f6252245a11:/opt/gopath/src/github.com/hyperledger/fabric/peer#
```

[purchaseProperty:](#)

Before running the purchase property command, you need to add a new user to the network who will be the buyer of the property

[adding buyer to the network:](#)

```
File Edit View Search Terminal Tabs Help
root@1f6252245a11: /opt/gopath/src/github.com/hyperledger/fabric/peer
upgrad@upgrad-VirtualBox: ~/workspa... x root@3cf9014983b5: /opt/gopath/src/c... x root@1f6252245a11: /opt/gopath/src/g... x root@30dace0e5044: /opt/gopath/src/... x
root@1f6252245a11: /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","Sunanda2","abc@sunanda.com","9876543211","1122334455667777"]}'
2020-03-28 18:00:03.885 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:{"name":"Sunanda2","email":"abc@sunanda.com","aadharNumber":"1122334455667777","phoneNumber":"9876543211","createdAt":"2020-03-28T18:00:03.878Z","updatedAt":"2020-03-28T18:00:03.878Z"}
root@1f6252245a11: /opt/gopath/src/github.com/hyperledger/fabric/peer#
```

[Approving buyer by the registrar:](#)

```
File Edit View Search Terminal Tabs Help
root@30dace0e5044: /opt/gopath/src/github.com/hyperledger/fabric/peer
upgrad@upgrad-VirtualBox: ~/workspa... x root@3cf9014983b5: /opt/gopath/src/c... x root@1f6252245a11: /opt/gopath/src/g... x root@30dace0e5044: /opt/gopath/src/... x
root@30dace0e5044: /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.registrar:approveNewUser","Sunanda2","1122334455667777"]}'
2020-03-28 18:02:21.054 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:{"name":"Sunanda2","email":"abc@sunanda.com","aadharNumber":"1122334455667777","status":"Approved","updatedAt":"2020-03-28T18:00:03.878Z","upgradCoins":0}
root@30dace0e5044: /opt/gopath/src/github.com/hyperledger/fabric/peer#
```

[Recharging account of the buyer:](#)

```
root@1f6252245a11: /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:rechargeAccount","Sunanda2","1122334455667777","upg500"]}'
2020-03-28 18:25:04.807 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:{"name":"Sunanda2","email":"abc@sunanda.com","aadharNumber":"1122334455667777","status":"Approved","updatedAt":"2020-03-28T18:00:03.878Z","upgradCoins":500}
root@1f6252245a11: /opt/gopath/src/github.com/hyperledger/fabric/peer#
```

[To test the purchaseProperty function from the user node](#)

Run the following command for purchaseProperty function:

“ peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.users:purchaseProperty","001","Sunanda2","1122334455667777"]}' ”

```
root@1f6252245a11: /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:purchaseProperty","001","Sunanda2","1122334455667777"]}'
2020-03-28 18:27:16.088 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:{"propId":"001","owner":"\\u0000org.property-registration-network.regnet.users\\u0000Sunanda2\\u00001122334455667777\\u0000","price":"100","createdAt":"2020-03-28T18:16:20.373Z","status":"registered"}
root@1f6252245a11: /opt/gopath/src/github.com/hyperledger/fabric/peer# clear
```