

Solution Document with Commands to Setup and Verify Property Registration Network

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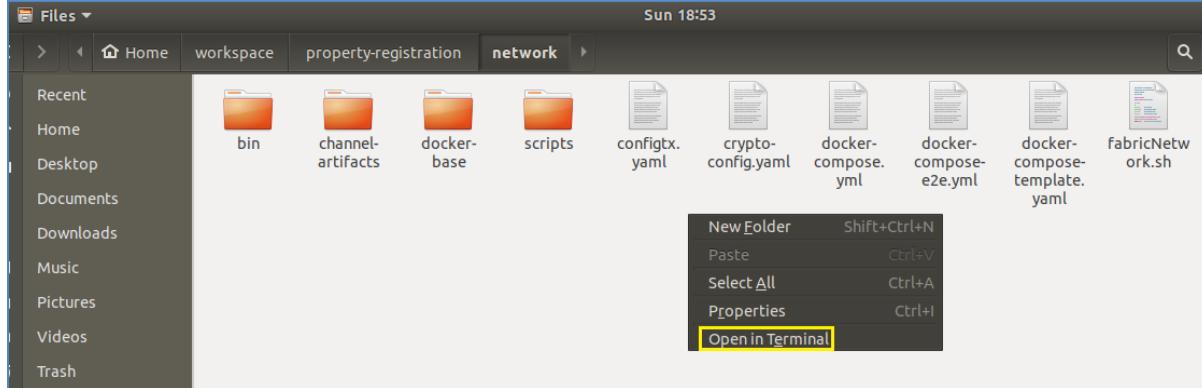
Command to Bootstrap the Network

Step 1: Download zip folder from the Google Drive link available in assignment submission page.

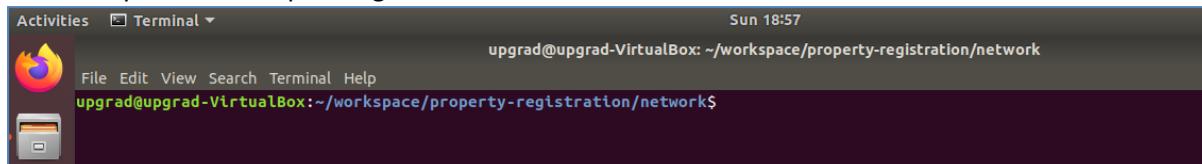
Step 2: Unzip the folder to a suitable location on Ubuntu machine.

Step 3: Navigate to “**property-registration > network**” path inside unzipped folder

Step 4: Right click anywhere inside network folder and select “**Open in Terminal**” as shown below



This will open Terminal pointing to network folder as shown below



Step 5: Before starting network setup, run below command and ensure that no docker containers are running.

```
docker ps -a
```

The output of above command should look similar to shown in below screenshot:

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
upgrad@upgrad-VirtualBox:~/workspace/property-registration/network\$						

In case any containers are running, use below command to force kill them and re-run “`docker ps -a`” command to ensure all containers have been removed

```
docker rm -f $(docker ps -aq)
```

Step 6: Run below command in the terminal to ensure no stale docker images are available

```
docker images
```

The output of this command should look like below:

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
hyperledger/fabric-tools	1.4.3	18ed4db0cd57	7 months ago	1.55GB
hyperledger/fabric-tools	latest	18ed4db0cd57	7 months ago	1.55GB
hyperledger/fabric-ca	1.4.3	c18a0d3cc958	7 months ago	253MB
hyperledger/fabric-ca	latest	c18a0d3cc958	7 months ago	253MB
hyperledger/fabric-ccenv	1.4.3	3d31661a812a	7 months ago	1.45GB
hyperledger/fabric-ccenv	latest	3d31661a812a	7 months ago	1.45GB
hyperledger/fabric-orderer	1.4.3	b666a6ebbe09	7 months ago	173MB
hyperledger/fabric-orderer	latest	b666a6ebbe09	7 months ago	173MB
hyperledger/fabric-peer	1.4.3	fa87ccae0ef	7 months ago	179MB
hyperledger/fabric-peer	latest	fa87ccae0ef	7 months ago	179MB
hyperledger/fabric-javaenv	1.4.3	5ba5ba09db8f	8 months ago	1.76GB
hyperledger/fabric-javaenv	latest	5ba5ba09db8f	8 months ago	1.76GB
hyperledger/fabric-zookeeper	0.4.15	20c6045930c8	12 months ago	1.43GB
hyperledger/fabric-zookeeper	latest	20c6045930c8	12 months ago	1.43GB
hyperledger/fabric-kafka	0.4.15	b4ab82bbaf2f	12 months ago	1.44GB
hyperledger/fabric-kafka	latest	b4ab82bbaf2f	12 months ago	1.44GB
hyperledger/fabric-couchdb	0.4.15	8de128a55539	12 months ago	1.5GB
hyperledger/fabric-couchdb	latest	8de128a55539	12 months ago	1.5GB
hyperledger/fabric-baseimage	amd64-0.4.15	c4c532c23a50	12 months ago	1.39GB
hyperledger/fabric-baseos	amd64-0.4.15	9d6ec11c60ff	12 months ago	145MB

In case the command shows any image with repository like “**dev-peer0.users.property-registration-network.com-***” or “**dev-peer0.registrar.property-registration-network.com-***”, use below command to remove these images (Substitute **ImageID** in command with “Image ID” available from above command for dev images) - see below screenshots for reference. This step is required to ensure no stale code is left over from any previous runs before starting network setup.

```
docker rmi ImageID
```

```
upgrad@upgrad-VirtualBox:~/workspace/property-registration/network$ docker images
REPOSITORY          IMAGE ID       CREATED        SIZE
dev-peer0.users.property-registration-network.com-regnet-1.1-76da9314e31f272b684f33dd592fa563770e2bfd19f797a9ef3c5ecc4ce208cb   latest
      565211442bc1    2 hours ago   1.46GB
dev-peer0.registrar.property-registration-network.com-regnet-1.1-ed30435d83b796209a5a3402d9a831f4905dead60a62b89d5ac2c3ca05a5eacc   latest
      1b124f811cb1    2 hours ago   1.46GB
hyperledger/fabric-tools
      18ed4dbcd57     7 months ago  1.55GB
hyperledger/fabric-tools
      18ed4dbcd57     7 months ago  1.55GB
hyperledger/fabric-ca
      c18a0d3cc958     7 months ago  253MB
hyperledger/fabric-ca
      c18a0d3cc958     7 months ago  253MB
hyperledger/fabric-ccenv
      3d31661a812a     7 months ago  1.45GB
hyperledger/fabric-ccenv
      3d31661a812a     7 months ago  1.45GB
hyperledger/fabric-orderer
      b666a6ebbe09     7 months ago  173MB
hyperledger/fabric-orderer
      b666a6ebbe09     7 months ago  173MB
hyperledger/fabric-peer
      fa87ccaaed0ef    7 months ago  179MB
hyperledger/fabric-peer
      fa87ccaaed0ef    7 months ago  179MB
hyperledger/fabric-javaenv
      5ba5ba09db8f     8 months ago  1.76GB
TAG

upgrad@upgrad-VirtualBox:~/workspace/property-registration/network$ docker rmi 565211442bc1
Untagged: dev-peer0.users.property-registration-network.com-regnet-1.1-76da9314e31f272b684f33dd592fa563770e2bfd19f797a9ef3c5ecc4ce208cb:latest
Deleted: sha256:565211442bc19ac345fbfa6051ec9b761214b280e95f6b98b58347ee1e981b86
Deleted: sha256:4db97e2646207fc44e7b3d8ce72471c84251fdb25e92a2673e3286e1dc0cd02
Deleted: sha256:478caffafbbef868e8be153ae58727eb31b89298d565d9a374baf972f1a65894
Deleted: sha256:465cf4a8d90a021bb0cfdbab379853ea4999a5f82db3b89f72aeelbcfa9cbcea
upgrad@upgrad-VirtualBox:~/workspace/property-registration/network$ docker rmi 1b124f811cb1
Untagged: dev-peer0.registrar.property-registration-network.com-regnet-1.1-ed30435d83b796209a5a3402d9a831f4905dead60a62b89d5ac2c3ca05a5eacc:la
test
Deleted: sha256:1b124f811cb14cb09495a89633d938bcf6bc11234651969786076d763d3f63fd
Deleted: sha256:474991563e4972aceeb5f86a37988747569f29618c674a9aff04174e035feccc
Deleted: sha256:b8a3a508baf209a06a3c1761be9e8fa3543a11278cb58a7542da88eaf404304
Deleted: sha256:3bab5cf0b88f971535718875f25adff17eba5327e6331b113727139da2bc1758c
```

Step 7: Run the following command to bootstrap or start property registration network inside terminal window opened above

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

Command will ask confirmation as shown below. Simply press Enter to allow command to proceed.

```
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] 
```

Wait for command to complete network setup. Successful completion will look like shown below.

```

upgrad@upgrad-VirtualBox: ~/workspace/property-registration/network
File Edit View Search Terminal Help
+ peer channel join -b registrationchannel.block
+ res=0
+ set +x
2020-04-05 13:33:51.905 UTC [channelCmd] InitCmdFactory -> INFO 001 Endorser and orderer connections initialized
2020-04-05 13:33:52.057 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
2020-04-05 13:33:52.596 UTC [channelCmd] InitCmdFactory -> INFO 001 Endorser and orderer connections initialized
2020-04-05 13:33:52.690 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
2020-04-05 13:33:58.548 UTC [channelCmd] InitCmdFactory -> INFO 001 Endorser and orderer connections initialized
2020-04-05 13:33:58.674 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! =====

```



Step 8: Run below command and ensure that status of all docker containers is showing “Up xx seconds” or “Up xx minutes” to confirm that network setup was successful

`docker ps -a`

CONTAINER ID	IMAGE	NAMES	COMMAND	CREATED	STATUS	PORTS
b49108bfb86a	hyperledger/fabric-tools:latest	"/bin/bash"		2 minutes ago	Up 2 minutes	
7ba36b281772	hyperledger/fabric-peer:latest	"peer node start"		4 minutes ago	Up 3 minutes	0.0.0.0:10051->10051/tcp
tcp_0_0_0_0_10053->10053	hyperledger/fabric-peer:latest	"peer0.register.property-registration-network.com"		4 minutes ago	Up 3 minutes	0.0.0.0:7050->7050/tcp
0717202e158b	hyperledger/fabric-orderer:latest	"orderer"		4 minutes ago	Up 3 minutes	0.0.0.0:7051->7051/tcp
p_fa500fb8c17d	hyperledger/fabric-peer:latest	"peer node start"		4 minutes ago	Up 2 minutes	0.0.0.0:7053->7053/tcp
p_0_0_0_0_7053->7053	hyperledger/fabric-peer:latest	"peer0.register.property-registration-network.com"		4 minutes ago	Up 2 minutes	0.0.0.0:9051->9051/tcp
91c618bc9f49	hyperledger/fabric-peer:latest	"peer node start"		4 minutes ago	Up 3 minutes	0.0.0.0:11051->11051/tcp
tcp_0_0_0_0_11053->11053	hyperledger/fabric-peer:latest	"peer2.register.property-registration-network.com"		4 minutes ago	Up 3 minutes	0.0.0.0:8053->8053/tcp
349c7107aae5	hyperledger/fabric-peer:latest	"peer node start"		4 minutes ago	Up 2 minutes	0.0.0.0:9051->9051/tcp
p_0_0_0_0_9053->9053	hyperledger/fabric-peer:latest	"peer0.register.property-registration-network.com"		4 minutes ago	Up 2 minutes	0.0.0.0:7054->7054/tcp
b6e4ca3082c5	hyperledger/fabric-ca:latest	"sh -c 'fabric-ca-se..."		4 minutes ago	Up 3 minutes	0.0.0.0:8051->8051/tcp
p_ca.registrar.property-registration-network.com	hyperledger/fabric-ca:latest	"sh -c 'fabric-ca-se..."		4 minutes ago	Up 2 minutes	0.0.0.0:8053->8053/tcp
38b1d26d8bda	hyperledger/fabric-peer:latest	"peer node start"		4 minutes ago	Up 2 minutes	0.0.0.0:8051->8051/tcp
p_0_0_0_0_8053->8053	hyperledger/fabric-peer:latest	"peer1.register.property-registration-network.com"		4 minutes ago	Up 2 minutes	0.0.0.0:8054->8054/tcp
cb2bd5fd22cf	hyperledger/fabric-ccenv:latest	"/bin/bash -c 'sleep..."		4 minutes ago	Up 3 minutes	0.0.0.0:8054->8054/tcp
b3c3a707993c	hyperledger/fabric-ca:latest	"sh -c 'fabric-ca-se..."		4 minutes ago	Up 3 minutes	0.0.0.0:8054->8054/tcp
p_ca.users.property-registration-network.com	hyperledger/fabric-ca:latest	"sh -c 'fabric-ca-se..."		4 minutes ago	Up 3 minutes	0.0.0.0:8054->8054/tcp

Step 9: In case of any error in network setup command, first ensure that all docker containers are up using above command and then rerun “./fabricNetwork.sh up” to complete network setup.

Command to Install and Instantiate Chaincode

Step 1: Run following command on same terminal window opened in above step to install and instantiate chaincode on the network

`./fabricNetwork.sh install -v 1.1`

Command will ask confirmation as shown below. Simply press Enter to allow command to proceed.

```

upgrad@upgrad-VirtualBox:~/workspace/property-registration/network$ ./fabricNetwork.sh install -v 1.1
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] 

```

Wait for command to complete chaincode installation and instantiation. Successful completion will look like shown below. Note that Chaincode instantiation can take few minutes to complete.

```

File Edit View Search Terminal Help
2020-04-05 13:42:56.498 UTC [chaincodeCmd] install -> INFO 003 Installed remotely response:<status:200 payload:"OK" >
=====
Chaincode is installed on peer0.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
2020-04-05 13:42:57.254 UTC [chaincodeCmd] checkChaincodeCmdParams -> INFO 001 Using default escc
2020-04-05 13:42:57.254 UTC [chaincodeCmd] checkChaincodeCmdParams -> INFO 002 Using default vscc
2020-04-05 13:42:58.441 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.usercontract:instantiate"]} -P 'OR ('\'registrarMSP.member\'','\'usersMSP.member\'')'
+ res=0
+ set +x
2020-04-05 13:42:59.134 UTC [chaincodeCmd] checkChaincodeCmdParams -> INFO 001 Using default escc
2020-04-05 13:42:59.135 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 =====

```



Step 2: To re-confirm that chaincode was properly instantiated, open a new tab in terminal to view logs of peer. In new tab, type in following command:

```
docker logs -f peer0.registrar.property-registration-network.com
```

After pressing Enter, the output should be similar to shown below to confirm that chaincode instantiation was successful

```

File Edit View Search Terminal Tabs Help
upgrad@upgrad-VirtualBox:~/workspace/property-registration/network x upgrad@upgrad-VirtualBox:~/workspace/property-registration/network x
2020-04-05 13:33:59.406 UTC [comm.grpc.server] 1 -> INFO 05c streaming call completed grpc.service=gossip.Gossip grpc.method=GossipStream grpc._request_deadline=2020-04-05T13:34:09.352Z grpc.peer_address=172.18.0.3:56042 grpc.code=OK grpc.call_duration=53.29856ms
2020-04-05 13:33:59.411 UTC [comm.grpc.server] 1 -> INFO 05d streaming call completed grpc.service=gossip.Gossip grpc.method=GossipStream grpc._peer_address=172.18.0.10:59770 grpc.code=OK grpc.call_duration=0.090476433s
2020-04-05 13:33:59.418 UTC [comm.grpc.server] 1 -> INFO 05e streaming call completed grpc.service=gossip.Gossip grpc.method=GossipStream grpc._request_deadline=2020-04-05T13:34:09.366Z grpc.peer_address=172.18.0.10:59990 grpc.code=OK grpc.call_duration=51.28629ms
2020-04-05 13:33:59.453 UTC [comm.grpc.server] 1 -> INFO 05f unary call completed grpc.service=gossip.Gossip grpc.method=Ping grpc.request_deadline=2020-04-05T13:34:01.453Z grpc.peer_address=172.18.0.8:46510 grpc.code=OK grpc.call_duration=161.692us
2020-04-05 13:33:59.562 UTC [comm.grpc.server] 1 -> INFO 060 streaming call completed grpc.service=gossip.Gossip grpc.method=GossipStream grpc._request_deadline=2020-04-05T13:34:09.513Z grpc.peer_address=172.18.0.8:46510 error="rpc error: code = Canceled desc = context canceled" grpc.code=Canceled grpc.call_duration=49.482779ms
2020-04-05 13:33:59.582 UTC [comm.grpc.server] 1 -> INFO 061 unary call completed grpc.service=gossip.Gossip grpc.method=Ping grpc.request_deadline=2020-04-05T13:34:01.582Z grpc.peer_address=172.18.0.8:46510 grpc.code=OK grpc.call_duration=227.588us
2020-04-05 13:42:54.652 UTC [endorser] callChaincode -> INFO 062 [53bba79e] Entry chaincode: name:"lscc"
2020-04-05 13:42:54.671 UTC [lscc] executeInstall -> INFO 063 Installed Chaincode [regnet] Version [1.1] to peer
2020-04-05 13:42:54.671 UTC [endorser] callChaincode -> INFO 064 [53bba79e] Exit chaincode: name:"lscc" (19ms)
2020-04-05 13:42:54.672 UTC [comm.grpc.server] 1 -> INFO 065 unary call completed grpc.service=protos.Endorser grpc.method=ProcessProposal grpc.peer_address=172.18.0.11:56612 grpc.code=OK grpc.call_duration=22.549965ms
2020-04-05 13:42:59.146 UTC [endorser] callChaincode -> INFO 066 [registrationchannel][d7cb9775] Entry chaincode: name:"lscc"
2020-04-05 13:42:21.234 UTC [endorser] callChaincode -> INFO 067 [registrationchannel][d7cb9775] Exit chaincode: name:"lscc" (22087ms)
2020-04-05 13:42:21.236 UTC [comm.grpc.server] 1 -> INFO 068 unary call completed grpc.service=protos.Endorser grpc.method=ProcessProposal grpc.peer_address=172.18.0.11:56624 grpc.code=OK grpc.call_duration=22.0969739155
2020-04-05 13:42:23.266 UTC [gossip.privdata] StoreBlock -> INFO 069 [registrationchannel] Received block [3] from buffer
2020-04-05 13:42:23.283 UTC [committer.txvalidator] Validate -> INFO 070 [registrationchannel] Validated block [3] in 16ms
2020-04-05 13:42:23.284 UTC [cceventmgmt] HandleStateUpdates -> INFO 071 Channel [registrationchannel]: Handling deploy or update of chaincode [regnet]
2020-04-05 13:42:23.444 UTC [kvledger] CommitWithPvtData -> INFO 072 [registrationchannel] Committed block [3] with 1 transaction(s) in 160ms (state_validation=80ms block_and_pvtdata_commit=68ms state_commit=3ms) commitHash=[be53cf084025af788cid2c958765ccebd044bf4b752a7b9a025a49e682a933]

```

Press Ctrl + C on the terminal after verifying peer logs to exit from logs and then close the terminal tab

Invoking Functions

Step 1: First step is to successfully **SSH** into **peer0** container of **User organisation**. For this, open a new tab on terminal and type in following command and press Enter:

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

After pressing Enter, screen will look something like this:

```

upgrad@upgrad-VirtualBox:~/workspace/property-registration/network x root@349c7107aae5:/opt/gopath/src/github.com/hyperledger/fabric/peer x
upgrad@upgrad-VirtualBox:~/workspace/property-registration/network$ docker exec -it peer0.users.property-registration-network.com /bin/bash
root@349c7107aae5:/opt/gopath/src/github.com/hyperledger/fabric/peer#

```

Step 2: Second step is to successfully **SSH** into **peer0** container of **Registrar organisation**. For this, open a third tab on terminal and type in following command and press Enter:

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

After pressing Enter, screen will look something like this:

```
upgrad@upgrad-VirtualBox:~/workspace/property-r... x root@349c7107aae5:/opt/gopath/src/github.com/hy... x root@fa500fb8c17d:/opt/gopath/src/github.com/hy... x
upgrad@upgrad-VirtualBox:~/workspace/property-registration/network$ docker exec -it peer0.registrar.property-registration-network.com /bin/bash
root@fa500fb8c17d:/opt/gopath/src/github.com/hyperledger/fabric/peer#
```

All functions in regnet smart contract will be tested from both “User” and “Registrar” organization by issuing commands through tabs connected to respective organization peers on the terminal.

requestNewUser:

Step 1: In the terminal tab connected to peer0 of User organization, execute following command to invoke “requestNewUser” function of regnet smart contract:

```
peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.usercontract:requestNewUser","User1","user1@test.com","0000000000","12345"]}'
```

After pressing Enter screen will look like shown below. Note that the command can take few minutes to execute when executed for first time:

```
upgrad@upgrad-VirtualBox:~/workspace/property-r... x root@b36449143c28:/opt/gopath/src/github.com/hy... x root@6e360273457f:/opt/gopath/src/github.com/hy... x
upgrad@upgrad-VirtualBox:~/workspace/property-registration/network$ docker exec -it peer0.users.property-registration-network.com /bin/bash
root@b36449143c28:/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.usercontract:requestNewUser","User1","user1@test.com","0000000000","12345"]}'
2020-04-05 16:20:33.381 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:"{\\"name \":\\"User1\\",\\"emailId\\":\\"user1@test.com\\",\\"phoneNumber\\":\\"0000000000\\",\\"aadharNumber\\":\\"12345\\",\\"createdAt\\":\\"2020-04-05T16:20:33.339Z\\"}"
root@b36449143c28:/opt/gopath/src/github.com/hyperledger/fabric/peer#
```

Step 2: Run the same command again on terminal tab connected to peer0 of User organization to observe error message “Registration request for given name and Aadhar number already placed” as shown below:

```
upgrad@upgrad-VirtualBox:~/workspace/property-r... x root@b36449143c28:/opt/gopath/src/github.com/hy... x root@6e360273457f:/opt/gopath/src/github.com/hy... x
upgrad@upgrad-VirtualBox:~/workspace/property-registration/network$ docker exec -it peer0.users.property-registration-network.com /bin/bash
root@b36449143c28:/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.usercontract:requestNewUser","User1","user1@test.com","0000000000","12345"]}'
2020-04-05 16:20:33.381 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:"{\\"name \":\\"User1\\",\\"emailId\\":\\"user1@test.com\\",\\"phoneNumber\\":\\"0000000000\\",\\"aadharNumber\\":\\"12345\\",\\"createdAt\\":\\"2020-04-05T16:20:33.339Z\\"}"
root@b36449143c28:/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.usercontract:requestNewUser","User1","user1@test.com","0000000000","12345"]}'
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: Registration request for given name and Aadhar number already placed"
root@b36449143c28:/opt/gopath/src/github.com/hyperledger/fabric/peer#
```

Step 3: Run the same command on terminal tab connected to peer0 of Registrar organization to observe error message “Only members of User organization can initiate new user registration requests” as shown below:

```
upgrad@upgrad-VirtualBox:~/workspace/property-r... x root@b36449143c28:/opt/gopath/src/github.com/hy... x root@6e360273457f:/opt/gopath/src/github.com/hy... x
upgrad@upgrad-VirtualBox:~/workspace/property-registration/network$ docker exec -it peer0.registrar.property-registration-network.com /bin/bash
root@6e360273457f:/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.usercontract:requestNewUser","User1","user1@test.com","0000000000","12345"]}'
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: Only members of User organization can initiate new user registration requests"
root@6e360273457f:/opt/gopath/src/github.com/hyperledger/fabric/peer#
```

Step 4: In the terminal tab connected to peer0 of User organization, execute following command to invoke “requestNewUser” function of regnet smart contract to register second user since at least two users are required to simulate property purchase:

```
peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.usercontract:requestNewUser","User2","user2@test.com","1111111111","67890"]}'
```

After pressing Enter screen will look like shown below:

```

upgrad@upgrad-VirtualBox:~/workspace/property-r... x root@b36449143c28:/opt/gopath/src/github.com/hy... x root@6e360273457f:/opt/gopath/src/github.com/hy...
upgrad@upgrad-VirtualBox:~/workspace/property-registration/network$ docker exec -it peer0.users.property-registration-network.com /bin/bash
root@b36449143c28:/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.usercontract:requestNewUser","User1","user1@test.com",
"0000000000","12345"]}'
2020-04-05 16:20:33.381 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:"{\\"name\\":\\"User1\\",\\"emailId\\":\\"user1@test.com\\",\\"phoneNumber\\":\\"0000000000\\",\\"aadharNumber\\":\\"12345\\",\\"createdAt\\":\\"2020-04-05T16:20:33.339Z\\"}"
root@b36449143c28:/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.usercontract:requestNewUser","User1","user1@test.com",
"0000000000","12345"]}'"
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: Registration request for given name and Aadhar number already placed"
root@b36449143c28:/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.usercontract:requestNewUser","User2","user2@test.com",
"1111111111","67890"]}'
2020-04-05 16:27:00.411 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:"{\\"name\\":\\"User2\\",\\"emailId\\":\\"user2@test.com\\",\\"phoneNumber\\":\\"1111111111\\",\\"aadharNumber\\":\\"67890\\",\\"createdAt\\":\\"2020-04-05T16:27:00.385Z\\"}"
root@b36449143c28:/opt/gopath/src/github.com/hyperledger/fabric/peer#

```

approveNewUser:

Step 1: In the terminal tab connected to peer0 of Registrar organization, execute following command to invoke “approveNewUser” function of regnet smart contract:

```
peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.registrarcontract:approveNewUser","User1","12345"]}'
```

After pressing Enter screen will look like shown below:

```

upgrad@upgrad-VirtualBox:~/workspace/property-r... x root@b36449143c28:/opt/gopath/src/github.com/hy... x root@6e360273457f:/opt/gopath/src/github.com/hy...
root@6e360273457f:/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.registrarcontract:approveNewUser","User1","12345"]}'"
2020-04-05 16:31:19.773 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:"{\\"name\\":\\"User1\\",\\"emailId\\":\\"user1@test.com\\",\\"phoneNumber\\":\\"0000000000\\",\\"aadharNumber\\":\\"12345\\",\\"upgradcoins\\":0,\\"createdAt\\":\\"2020-04-05T16:31:19.729Z\\",\\"updatedAt\\":\\"2020-04-05T16:31:19.729Z\\"}"
root@6e360273457f:/opt/gopath/src/github.com/hyperledger/fabric/peer#

```

Step 2: Run the same command again on terminal tab connected to peer0 of Registrar organization to observe error message “User already exists with given name and Aadhar number.” as shown below:

```

upgrad@upgrad-VirtualBox:~/workspace/property-r... x root@b36449143c28:/opt/gopath/src/github.com/hy... x root@6e360273457f:/opt/gopath/src/github.com/hy...
root@6e360273457f:/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.registrarcontract:approveNewUser","User1","12345"]}'"
2020-04-05 16:31:19.773 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:"{\\"name\\":\\"User1\\",\\"emailId\\":\\"user1@test.com\\",\\"phoneNumber\\":\\"0000000000\\",\\"aadharNumber\\":\\"12345\\",\\"upgradcoins\\":0,\\"createdAt\\":\\"2020-04-05T16:31:19.729Z\\",\\"updatedAt\\":\\"2020-04-05T16:31:19.729Z\\"}"
root@6e360273457f:/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.registrarcontract:approveNewUser","User1","12345"]}'"
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: User already exists with given name and Aadhar number."
root@6e360273457f:/opt/gopath/src/github.com/hyperledger/fabric/peer#

```

Step 3: Run the same command on terminal tab connected to peer0 of User organization to observe error message “Only members of Registrar organization can approve new user registration requests” as shown below:

```

upgrad@upgrad-VirtualBox:~/workspace/property-r... x root@b36449143c28:/opt/gopath/src/github.com/hy... x root@6e360273457f:/opt/gopath/src/github.com/hy...
root@b36449143c28:/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.registrarcontract:approveNewUser","User1","12345"]}'"
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: Only members of Registrar organization can approve new user registration requests"
root@b36449143c28:/opt/gopath/src/github.com/hyperledger/fabric/peer#

```

Step 4: In the terminal tab connected to peer0 of Registrar organization, execute following command to invoke “approveNewUser” function of regnet smart contract to approve second user request:

```
peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.registrarcontract:approveNewUser","User2","67890"]}'
```

After pressing Enter screen will look like shown below:

```

upgrad@upgrad-VirtualBox:~/workspace/property-r... x root@b36449143c28:/opt/gopath/src/github.com/hy... x root@6e360273457f:/opt/gopath/src/github.com/hy...
root@6e360273457f:/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.registrarcontract:approveNewUser","User1","12345"]}' 2020-04-05 10:31:19.773 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:{"name ":"\"User1\"","emailId ":"\"user1@test.com\"","phoneNumber ":"\"0000000000\"","aadharNumber ":"\"12345\"","upgradCoins":0,"createdAt ":"\"2020-04-05T16:31:19.729Z\"","updatedat ":"\"2020-04-05T16:31:19.729Z\""}
root@6e360273457f:/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.registrarcontract:approveNewUser","User1","12345"]}' Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: User already exists with given name and Aadhar number."
root@6e360273457f:/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.registrarcontract:approveNewUser","User2","67890"]}' 2020-04-05 16:37:26.603 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:{"name ":"\"User2\"","emailId ":"\"user2@test.com\"","phoneNumber ":"\"1111111111\"","aadharNumber ":"\"67890\"","upgradCoins":0,"createdAt ":"\"2020-04-05T16:37:26.567Z\"","updatedat ":"\"2020-04-05T16:37:26.567Z\""}
root@6e360273457f:/opt/gopath/src/github.com/hyperledger/fabric/peer#

```

Step 5: Run below command on terminal tab connected to peer0 of Registrar organization to observe error message “**No registration request is available for given name and Aadhar number!!!**” as shown below:

```

peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.registrarcontract:approveNewUser","User2","6789"]}' 

```

```

upgrad@upgrad-VirtualBox:~/workspace/property-r... x root@b36449143c28:/opt/gopath/src/github.com/hy... x root@6e360273457f:/opt/gopath/src/github.com/hy...
root@6e360273457f:/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.registrarcontract:approveNewUser","User1","12345"]}' 2020-04-05 16:31:19.773 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:{"name ":"\"User1\"","emailId ":"\"user1@test.com\"","phoneNumber ":"\"0000000000\"","aadharNumber ":"\"12345\"","upgradCoins":0,"createdAt ":"\"2020-04-05T16:31:19.729Z\"","updatedat ":"\"2020-04-05T16:31:19.729Z\""}
root@6e360273457f:/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.registrarcontract:approveNewUser","User1","12345"]}' Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: User already exists with given name and Aadhar number."
root@6e360273457f:/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.registrarcontract:approveNewUser","User2","67890"]}' 2020-04-05 16:37:26.603 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:{"name ":"\"User2\"","emailId ":"\"user2@test.com\"","phoneNumber ":"\"1111111111\"","aadharNumber ":"\"67890\"","upgradCoins":0,"createdAt ":"\"2020-04-05T16:37:26.567Z\"","updatedat ":"\"2020-04-05T16:37:26.567Z\""}
root@6e360273457f:/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.registrarcontract:approveNewUser","User2","6789"]}' Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: No registration request is available for given name and Aadhar number!!!" 
root@6e360273457f:/opt/gopath/src/github.com/hyperledger/fabric/peer#

```

rechargeAccount:

Step 1: In the terminal tab connected to peer0 of User organization, execute following command to invoke “rechargeAccount” function of regnet smart contract:

```

peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.usercontract:rechargeAccount","User1","12345","upg100"]}' 

```

After pressing Enter screen will look like shown below:

```

upgrad@upgrad-VirtualBox:~/workspace/property-r... x root@b36449143c28:/opt/gopath/src/github.com/hy... x root@6e360273457f:/opt/gopath/src/github.com/hy...
root@b36449143c28:/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.usercontract:rechargeAccount","User1","12345","upg100"]}' 2020-04-05 16:43:17.494 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200
root@b36449143c28:/opt/gopath/src/github.com/hyperledger/fabric/peer#

```

Step 2: Run the same command on terminal tab connected to peer0 of Registrar organization to observe error message “**Only members of User organization can recharge their accounts**” as shown below:

```

upgrad@upgrad-VirtualBox:~/workspace/property-r... x root@b36449143c28:/opt/gopath/src/github.com/hy... x root@6e360273457f:/opt/gopath/src/github.com/hy...
root@6e360273457f:/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.usercontract:rechargeAccount","User1","12345","upg100"]}' Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: Only members of User organization can recharge their accounts" 
root@6e360273457f:/opt/gopath/src/github.com/hyperledger/fabric/peer#

```

Step 3: Run below command on terminal tab connected to peer0 of User organization to observe error message “**Invalid Bank Transaction ID**” as shown below:

```

peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.usercontract:rechargeAccount","User1","12345","upg1500"]}' 

```

```

upgrad@upgrad-VirtualBox: ~/workspace/property-r... x root@b36449143c28:/opt/gopath/src/github.com/hy... x root@6e360273457f:/opt/gopath/src/github.com/hy...
root@b36449143c28:/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.usercontract:rechargeAccount","User1","12345","upg100"]}'
2020-04-05 16:43:17.494 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200
root@b36449143c28:/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.usercontract:rechargeAccount","User1","12345","upg1500"]}'
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: Invalid Bank Transaction ID"
root@b36449143c28:/opt/gopath/src/github.com/hyperledger/fabric/peer#

```

Step 4: Run below command on terminal tab connected to peer0 of User organization to observe error message “**No User exists with given name and Aadhar number.**” as shown below:

```

peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.usercontract:rechargeAccount","User1","12346","upg100"]}'

```

```

upgrad@upgrad-VirtualBox: ~/workspace/property-r... x root@b36449143c28:/opt/gopath/src/github.com/hy... x root@6e360273457f:/opt/gopath/src/github.com/hy...
root@b36449143c28:/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.usercontract:rechargeAccount","User1","12345","upg100"]}'
2020-04-05 16:43:17.494 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200
root@b36449143c28:/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.usercontract:rechargeAccount","User1","12345","upg1500"]}'
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: Invalid Bank Transaction ID"
root@b36449143c28:/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.usercontract:rechargeAccount","User1","12346","upg100"]}'
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: No User exists with given name and Aadhar number."
root@b36449143c28:/opt/gopath/src/github.com/hyperledger/fabric/peer#

```

viewUser:

Step 1: In the terminal tab connected to peer0 of User organization, execute following command to invoke “viewUser” function of regnet smart contract from usercontract:

```

peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.usercontract:viewUser","User1","12345"]}'

```

After pressing Enter screen will look like shown below. Observe that User1 account is now recharged with 100 upgradCoins from rechargeAccount command executed in above section:

```

upgrad@upgrad-VirtualBox: ~/workspace/property-r... x root@b36449143c28:/opt/gopath/src/github.com/hy... x root@6e360273457f:/opt/gopath/src/github.com/hy...
root@b36449143c28:/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.usercontract:viewUser","User1","12345"]}'
2020-04-05 16:53:25.779 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:"{\\"name\":\"User1\",\"emailId\":\"user1@test.com\",\"phoneNumber\":\"0000000000\",\"aadharNumber\":\"12345\",\"upgradCoins\":100,\"createdAt\":\"2020-04-05T16:31:19.729Z\",\"updatedAt\":\"2020-04-05T16:43:17.429Z\"}"
root@b36449143c28:/opt/gopath/src/github.com/hyperledger/fabric/peer#

```

Step 2: Run below command on terminal tab connected to peer0 of User organization to observe error message “**No User exists with given name and Aadhar number.**” as shown below:

```

peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.usercontract:viewUser","User1","12346"]}'

```

```

upgrad@upgrad-VirtualBox: ~/workspace/property-r... x root@b36449143c28:/opt/gopath/src/github.com/hy... x root@6e360273457f:/opt/gopath/src/github.com/hy...
root@b36449143c28:/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.usercontract:viewUser","User1","12345"]}'
2020-04-05 16:53:25.779 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:"{\\"name\":\"User1\",\"emailId\":\"user1@test.com\",\"phoneNumber\":\"0000000000\",\"aadharNumber\":\"12345\",\"upgradCoins\":100,\"createdAt\":\"2020-04-05T16:31:19.729Z\",\"updatedAt\":\"2020-04-05T16:43:17.429Z\"}"
root@b36449143c28:/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.usercontract:viewUser","User1","12346"]}'
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: No User exists with given name and Aadhar number."
root@b36449143c28:/opt/gopath/src/github.com/hyperledger/fabric/peer#

```

Step 3: In the terminal tab connected to peer0 of Registrar organization, execute following command to invoke “viewUser” function of regnet smart contract from registrarcontract:

```

peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.registrarcontract:viewUser","User1","12345"]}'

```

After pressing Enter screen will look like shown below. Observe that User1 account is now recharged with 100 upgradCoins from rechargeAccount command executed in above section:

```

upgrad@upgrad-VirtualBox:~/workspace/property-r... x root@b36449143c28:/opt/gopath/src/github.com/hy... x root@6e360273457f:/opt/gopath/src/github.com/hy...
root@6e360273457f:/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.registrarcontract:viewUser","User1","12345"]}'
2020-04-05 16:58:54.416 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:"{"name
":"User1","emailId":"user1@test.com"},"phoneNumber":\\"0000000000\\","aadharNumber":\"12345\",\"upgradCoins\":100,\"createdAt\":\"2020
-04-05T16:31:19.729Z\",\"updatedAt\":\"2020-04-05T16:43:17.429Z\"}"
root@6e360273457f:/opt/gopath/src/github.com/hyperledger/fabric/peer# 

```

Step 4: Run below command on terminal tab connected to peer0 of Registrar organization to observe error message “**No User exists with given name and Aadhar number.**” as shown below:

```

peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n
regnet -c '{"Args":["org.property-registration-
network.regnet.registrarcontract:viewUser","User1","12346"]}' 

```

```

upgrad@upgrad-VirtualBox:~/workspace/property-r... x root@b36449143c28:/opt/gopath/src/github.com/hy... x root@6e360273457f:/opt/gopath/src/github.com/hy...
root@6e360273457f:/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.registrarcontract:viewUser","User1","12345"]}'
2020-04-05 16:58:54.416 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:"{"name
":"User1","emailId":"user1@test.com"},"phoneNumber":\\"0000000000\\","aadharNumber":\"12345\",\"upgradCoins\":100,\"createdAt\":\"2020
-04-05T16:31:19.729Z\",\"updatedAt\":\"2020-04-05T16:43:17.429Z\"}"
root@6e360273457f:/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.registrarcontract:viewUser","User1","12346"]}' 
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: No User exists with given na
me and Aadhar number."
root@6e360273457f:/opt/gopath/src/github.com/hyperledger/fabric/peer# 

```

propertyRegistrationRequest:

Step 1: In the terminal tab connected to peer0 of User organization, execute following command to invoke “**propertyRegistrationRequest**” function of regnet smart contract:

```

peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n
regnet -c '{"Args":["org.property-registration-
network.regnet.usercontract:propertyRegistrationRequest","User1","12345","0001","100"]}' 

```

After pressing Enter screen will look like shown below:

```

upgrad@upgrad-VirtualBox:~/workspace/property-r... x root@b36449143c28:/opt/gopath/src/github.com/hy... x root@6e360273457f:/opt/gopath/src/github.com/hy...
root@b36449143c28:/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.usercontract:propertyRegistrationRequest","User1","123
45","0001","100"]}' 
2020-04-05 17:04:11.162 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:"{"prop
ertyID":\"0001\", \"owner\":\"\\"u0000org.property-registration-network.regnet.user\\u0000User1-12345\\u0000\", \"price\":100, \"status\":\"regis
tered\"}" 
root@b36449143c28:/opt/gopath/src/github.com/hyperledger/fabric/peer# 

```

Step 2: Run the same command again on terminal tab connected to peer0 of User organization to observe error message “**There is already a registration request for given property**” as shown below:

```

upgrad@upgrad-VirtualBox:~/workspace/property-r... x root@b36449143c28:/opt/gopath/src/github.com/hy... x root@6e360273457f:/opt/gopath/src/github.com/hy...
root@b36449143c28:/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.usercontract:propertyRegistrationRequest","User1","123
45","0001","100"]}' 
2020-04-05 17:04:11.162 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:"{"prop
ertyID":\"0001\", \"owner\":\"\\"u0000org.property-registration-network.regnet.user\\u0000User1-12345\\u0000\", \"price\":100, \"status\":\"regis
tered\"}" 
root@b36449143c28:/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.usercontract:propertyRegistrationRequest","User1","123
45","0001","100"]}' 
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: There is already a registrat
ion request for given property"
root@b36449143c28:/opt/gopath/src/github.com/hyperledger/fabric/peer# 

```

Step 3: Run the same command on terminal tab connected to peer0 of Registrar organization to observe error message “**Only members of User organization can register properties**” as shown below:

```

upgrad@upgrad-VirtualBox:~/workspace/property-r... x root@b36449143c28:/opt/gopath/src/github.com/hy... x root@6e360273457f:/opt/gopath/src/github.com/hy...
root@6e360273457f:/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.usercontract:propertyRegistrationRequest","User1","123
45","0001","100"]}' 
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: Only members of User organiz
ation can register properties"
root@6e360273457f:/opt/gopath/src/github.com/hyperledger/fabric/peer# 

```

Step 4: Run below command on terminal tab connected to peer0 of User organization to observe error message “**Property registration request cannot be captured since Owner with given name and Aadhar number does not exist.**” as shown below:

```

peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n
regnet -c '{"Args":["org.property-registration-
network.regnet.usercontract:propertyRegistrationRequest","User1","12346","0001","100"]}' 

```

```

upgrad@upgrad-VirtualBox:~/workspace/property-r... x root@b36449143c28:/opt/gopath/src/github.com/hy... x root@6e360273457f:/opt/gopath/src/github.com/hy...
root@b36449143c28:/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.usercontract:propertyRegistrationRequest","User1","12345","0001","100"]}' 
2020-04-05 17:04:11.162 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:"{\\"propertyID\":\"0001\",\"\\owner\":\"\\\\u0000org.property-registration-network.regnet.user\\\\u0000User1-12345\\\\u0000\",\"\\price\":100,\"status\":\"\\registered\"}" 
root@b36449143c28:/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.usercontract:propertyRegistrationRequest","User1","12345","0001","100"]}' 
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: There is already a registration request for given property" 
root@b36449143c28:/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.usercontract:propertyRegistrationRequest","User1","12345","0001","100"]}' 
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: Property registration request cannot be captured since Owner with given name and Aadhar number does not exist." 
root@b36449143c28:/opt/gopath/src/github.com/hyperledger/fabric/peer#

```

approveRegistrationRequest:

Step 1: In the terminal tab connected to peer0 of Registrar organization, execute following command to invoke “approvePropertyRegistration” function of regnet smart contract:

```
peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.registrarcontract:approvePropertyRegistration","0001"]}'
```

After pressing Enter screen will look like shown below:

```

upgrad@upgrad-VirtualBox:~/workspace/property-r... x root@b36449143c28:/opt/gopath/src/github.com/hy... x root@6e360273457f:/opt/gopath/src/github.com/hy...
root@6e360273457f:/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.registrarcontract:approvePropertyRegistration","0001"]}' 
2020-04-05 17:15:55.067 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:"{\\"propertyID\":\"0001\",\"\\owner\":\"\\\\u0000org.property-registration-network.regnet.user\\\\u0000User1-12345\\\\u0000\",\"\\price\":100,\"status\":\"\\registered\"},\\\"createdAt\":\"2020-04-05T17:15:55.038Z\",\\\"updatedAt\":\"2020-04-05T17:15:55.038Z\"}" 
root@6e360273457f:/opt/gopath/src/github.com/hyperledger/fabric/peer#

```

Step 2: Run the same command again on terminal tab connected to peer0 of Registrar organization to observe error message “Property already exists with given property ID.” as shown below:

```

upgrad@upgrad-VirtualBox:~/workspace/property-r... x root@b36449143c28:/opt/gopath/src/github.com/hy... x root@6e360273457f:/opt/gopath/src/github.com/hy...
root@6e360273457f:/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.registrarcontract:approvePropertyRegistration","0001"]}' 
2020-04-05 17:15:55.067 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:"{\\"propertyID\":\"0001\",\"\\owner\":\"\\\\u0000org.property-registration-network.regnet.user\\\\u0000User1-12345\\\\u0000\",\"\\price\":100,\"status\":\"\\registered\"},\\\"createdAt\":\"2020-04-05T17:15:55.038Z\",\\\"updatedAt\":\"2020-04-05T17:15:55.038Z\"}" 
root@6e360273457f:/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.registrarcontract:approvePropertyRegistration","0001"]}' 
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: Property already exists with given property ID." 
root@6e360273457f:/opt/gopath/src/github.com/hyperledger/fabric/peer#

```

Step 3: Run the same command on terminal tab connected to peer0 of User organization to observe error message “Only members of Registrar organization can approve new property registration requests” as shown below:

```

upgrad@upgrad-VirtualBox:~/workspace/property-r... x root@b36449143c28:/opt/gopath/src/github.com/hy... x root@6e360273457f:/opt/gopath/src/github.com/hy...
root@b36449143c28:/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.registrarcontract:approvePropertyRegistration","0001"]}' 
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: Only members of Registrar organization can approve new property registration requests" 
root@b36449143c28:/opt/gopath/src/github.com/hyperledger/fabric/peer#

```

Step 4: Run below command on terminal tab connected to peer0 of Registrar organization to observe error message “No registration request is available for given property!!!” as shown below:

```
peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.registrarcontract:approvePropertyRegistration","0002"]}'
```

```

upgrad@upgrad-VirtualBox:~/workspace/property-r... x root@b36449143c28:/opt/gopath/src/github.com/hy... x root@6e360273457f:/opt/gopath/src/github.com/hy...
root@6e360273457f:/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.registrarcontract:approvePropertyRegistration","0001"]}'
2020-04-05 17:15:55.067 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:"{\\"propertyID\":\"0001\",\"owner\":\"\\\\u0000org.property-registration-network.regnet.user\\\\u0000User1-12345\\\\u0000\",\"\\price\":100,\"status\":\"\\registered\",\"\\createdAt\":\"2020-04-05T17:15:55.038Z\",\"\\updatedAt\":\"2020-04-05T17:15:55.038Z\"}"
root@6e360273457f:/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.registrarcontract:approvePropertyRegistration","0001"]}'
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: Property already exists with given property ID."
root@6e360273457f:/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.registrarcontract:approvePropertyRegistration","0002"]}'
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: No registration request is available for given property!!!"
root@6e360273457f:/opt/gopath/src/github.com/hyperledger/fabric/peer#

```

viewProperty:

Step 1: In the terminal tab connected to peer0 of User organization, execute following command to invoke “viewProperty” function of regnet smart contract from usercontract:

```
peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.usercontract:viewProperty","0001"]}'
```

After pressing Enter screen will look like shown below:

```

upgrad@upgrad-VirtualBox:~/workspace/property-r... x root@b36449143c28:/opt/gopath/src/github.com/hy... x root@6e360273457f:/opt/gopath/src/github.com/hy...
root@b36449143c28:/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.usercontract:viewProperty","0001"]}'
2020-04-05 17:24:20.289 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:"{\\"propertyID\":\"0001\",\"owner\":\"\\\\u0000org.property-registration-network.regnet.user\\\\u0000User1-12345\\\\u0000\",\"\\price\":100,\"status\":\"\\registered\",\"\\createdAt\":\"2020-04-05T17:15:55.038Z\",\"\\updatedAt\":\"2020-04-05T17:15:55.038Z\"}"
root@b36449143c28:/opt/gopath/src/github.com/hyperledger/fabric/peer#

```

Step 2: Run below command on terminal tab connected to peer0 of User organization to observe error message “No Property exists with given property ID.” as shown below:

```
peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.usercontract:viewProperty","0002"]}'
```

```

upgrad@upgrad-VirtualBox:~/workspace/property-r... x root@b36449143c28:/opt/gopath/src/github.com/hy... x root@6e360273457f:/opt/gopath/src/github.com/hy...
root@b36449143c28:/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.usercontract:viewProperty","0001"]}'
2020-04-05 17:24:20.289 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:"{\\"propertyID\":\"0001\",\"owner\":\"\\\\u0000org.property-registration-network.regnet.user\\\\u0000User1-12345\\\\u0000\",\"\\price\":100,\"status\":\"\\registered\",\"\\createdAt\":\"2020-04-05T17:15:55.038Z\",\"\\updatedAt\":\"2020-04-05T17:15:55.038Z\"}"
root@b36449143c28:/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.usercontract:viewProperty","0002"]}'
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: No Property exists with give
n property ID."
root@b36449143c28:/opt/gopath/src/github.com/hyperledger/fabric/peer#

```

Step 3: In the terminal tab connected to peer0 of Registrar organization, execute following command to invoke “viewProperty” function of regnet smart contract from registrarcontract:

```
peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.registrarcontract:viewProperty","0001"]}'
```

After pressing Enter screen will look like shown below:

```

upgrad@upgrad-VirtualBox:~/workspace/property-r... x root@b36449143c28:/opt/gopath/src/github.com/hy... x root@6e360273457f:/opt/gopath/src/github.com/hy...
root@6e360273457f:/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.registrarcontract:viewProperty","0001"]}'
2020-04-05 17:28:00.767 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:"{\\"propertyID\":\"0001\",\"owner\":\"\\\\u0000org.property-registration-network.regnet.user\\\\u0000User1-12345\\\\u0000\",\"\\price\":100,\"status\":\"\\registered\",\"\\createdAt\":\"2020-04-05T17:15:55.038Z\",\"\\updatedAt\":\"2020-04-05T17:15:55.038Z\"}"
root@6e360273457f:/opt/gopath/src/github.com/hyperledger/fabric/peer#

```

Step 4: Run below command on terminal tab connected to peer0 of Registrar organization to observe error message “No Property exists with given property ID.” as shown below:

```
peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.registrarcontract:viewProperty","0002"]}'
```

```

upgrad@upgrad-VirtualBox:~/workspace/property-r... x root@b36449143c28:/opt/gopath/src/github.com/hyper... x root@6e360273457f:/opt/gopath/src/github.com/hy...
root@6e360273457f:/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.registrarcontract:viewProperty","0001"]}'
2020-04-05 17:28:00.767 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:{"prop
ertyID":"0001","owner": "\u0000User1-12345\\"\u0000","price":100,"status": "registered","createdat": "2020-04-05T17:15:55.038Z","updatedat": "2020-04-05T17:15:55.038Z"}"
root@6e360273457f:/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.usercontract:updateProperty","0002"]}'
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: No Property exists with give
n property ID."
root@6e360273457f:/opt/gopath/src/github.com/hyperledger/fabric/peer#

```

updateProperty:

Step 1: In the terminal tab connected to peer0 of User organization, execute following command to invoke “updateProperty” function of regnet smart contract:

```

peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n
regnet -c '{"Args":["org.property-registration-
network.regnet.usercontract:updateProperty","0001","User1","12345","onSale"]}'
```

After pressing Enter screen will look like shown below:

```

upgrad@upgrad-VirtualBox:~/workspace/property-r... x root@b36449143c28:/opt/gopath/src/github.com/hy... x root@6e360273457f:/opt/gopath/src/github.com/hy...
root@b36449143c28:/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.usercontract:updateProperty","0001","User1","12345","o
nSale"]}'
2020-04-05 17:32:11.887 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200
root@b36449143c28:/opt/gopath/src/github.com/hyperledger/fabric/peer#
```

Step 2: Run the same command again on terminal tab connected to peer0 of User organization to observe error message “Input status is same as property status. No update performed!!!” as shown below:

```

upgrad@upgrad-VirtualBox:~/workspace/property-r... x root@b36449143c28:/opt/gopath/src/github.com/hy... x root@6e360273457f:/opt/gopath/src/github.com/hy...
root@b36449143c28:/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.usercontract:updateProperty","0001","User1","12345","o
nSale"]}'
2020-04-05 17:32:11.887 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200
root@b36449143c28:/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.usercontract:updateProperty","0001","User1","12345","o
nSale"]}'
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: Input status is same as prop
erty status. No update performed!!!"
root@b36449143c28:/opt/gopath/src/github.com/hyperledger/fabric/peer#
```

Step 3: Run the same command on terminal tab connected to peer0 of Registrar organization to observe error message “Only members of User organization can update property status” as shown below:

```

upgrad@upgrad-VirtualBox:~/workspace/property-r... x root@b36449143c28:/opt/gopath/src/github.com/hy... x root@6e360273457f:/opt/gopath/src/github.com/hy...
root@6e360273457f:/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.usercontract:updateProperty","0001","User1","12345","o
nSale"]}'
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: Only members of User organiz
ation can update property status"
root@6e360273457f:/opt/gopath/src/github.com/hyperledger/fabric/peer#
```

Step 4: Run below command on terminal tab connected to peer0 of User organization to observe error message “Invalid input status. Status should be either registered or onSale!!!” as shown below:

```

peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n
regnet -c '{"Args":["org.property-registration-
network.regnet.usercontract:updateProperty","0001","User1","12345","onSales"]}'
```

```

upgrad@upgrad-VirtualBox:~/workspace/property-r... x root@b36449143c28:/opt/gopath/src/github.com/hy... x root@6e360273457f:/opt/gopath/src/github.com/hy...
root@b36449143c28:/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.usercontract:updateProperty","0001","User1","12345","o
nSale"]}'
2020-04-05 17:32:11.887 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200
root@b36449143c28:/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.usercontract:updateProperty","0001","User1","12345","o
nSale"]}'
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: Input status is same as prop
erty status. No update performed!!!"
root@b36449143c28:/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.usercontract:updateProperty","0001","User1","12345","o
nSales"]}'
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: Invalid input status. Status
should be either registered or onSale!!!"
root@b36449143c28:/opt/gopath/src/github.com/hyperledger/fabric/peer#
```

Step 5: Run below command on terminal tab connected to peer0 of User organization to observe error message “Owner with given name and Aadhar number does not exist.” as shown below:

```

peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n
regnet -c '{"Args":["org.property-registration-
network.regnet.usercontract:updateProperty","0001","User1","12346","onSale"]}'
```

```
upgrad@upgrad-VirtualBox:~/workspace/property-r... x root@b36449143c28:/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.usercontract:updateProperty","0001","User1","12345","onSale"]}'  
2020-04-05 17:32:11.887 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200  
root@b36449143c28:/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.usercontract:updateProperty","0001","User1","12345","onSale"]}'  
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: Input status is same as property status. No update performed!!!"  
root@b36449143c28:/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.usercontract:updateProperty","0001","User1","12345","onSales"]}'  
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: Invalid input status. Status should be either registered or onSale!!!"  
root@b36449143c28:/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.usercontract:updateProperty","0001","User1","12346","onSale"]}'  
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: Owner with given name and Aadhar number does not exist."  
root@b36449143c28:/opt/gopath/src/github.com/hyperledger/fabric/peer#
```

Step 6: Run below command on terminal tab connected to peer0 of User organization to observe error message “No Property exists with given property ID.” as shown below:

```
peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.usercontract:updateProperty","0002","User1","12345","onSale"]}'
```

```
upgrad@upgrad-VirtualBox:~/workspace/property-... x root@b36449143c28:/opt/gopath/src/github.com/hyperled... x root@6e36027345f7:/opt/gopath/src/github.com/hy... x 
root@b36449143c28:/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.usercontract:updateProperty","0001","User1","12345","o...nSale"]}' 
2020-04-05 17:32:11.887 UTC [chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 
root@b36449143c28:/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.usercontract:updateProperty","0001","User1","12345","o...nSale"]}' 
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: Input status is same as property status. No update performed!!!" 
root@b36449143c28:/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.usercontract:updateProperty","0001","User1","12345","o...nSales"]}' 
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: Invalid input status. Status should be either registered or onSale!!!" 
root@b36449143c28:/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.usercontract:updateProperty","0001","User1","12346","o...nSale"]}' 
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: Owner with given name and Aadhar number does not exist." 
root@b36449143c28:/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.usercontract:updateProperty","0002","User1","12345","o...nSale"]}' 
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: No Property exists with give...n property ID." 
root@b36449143c28:/opt/gopath/src/github.com/hyperledger/fabric/peer#
```

Step 7: Run below command on terminal tab connected to peer0 of User organization to observe error message “Only Owner of the property is allowed to updated its status!!!” as shown below:

```
peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.usercontract:updateProperty","0001","User2","67890","onSale"]}'
```

```
upgrad@upgrad-virtualBox:~/workspace/propertyr... x root@b36449143c28:/opt/gopath/src/github.com/hyper... x root@6e36027345f:/opt/gopath/src/github.com/hyper... x
root@b36449143c28:/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.usercontract:updateProperty","0001","User1","12345","o nSale"]}'  
2020-04-05 17:32:11.887 UTC [chaincodeCmd] chaincodeInvokeOrQuery +> INFO 001 Chaincode invoke successful. result: status:200  
root@b36449143c28:/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.usercontract:updateProperty","0001","User1","12345","o nSale"]}'  
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: Input status is same as prop erty status. No update performed!!!"  
root@b36449143c28:/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.usercontract:updateProperty","0001","User1","12345","o nSale"]}'  
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: Invalid input status. Status should be either registered or onSale!!!"  
root@b36449143c28:/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.usercontract:updateProperty","0001","User1","12346","o nSale"]}'  
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: Owner with given name and Aa dhar number does not exist."  
root@b36449143c28:/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.usercontract:updateProperty","0002","User1","12345","o nSale"]}'  
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: No Property exists with give n property ID."  
root@b36449143c28:/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.usercontract:updateProperty","0001","User2","67890","o nSale"]}'  
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: Only Owner of the property i s allowed to updated its status!!!"  
root@b36449143c28:/opt/gopath/src/github.com/hyperledger/fabric/peer#
```

purchaseProperty:

Step 1: Run below command on terminal tab connected to peer0 of Registrar organization to observe error message “Only members of User organization can purchase property” as shown below:

```
peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.usercontract:purchaseProperty","0001","User1","12345"]}'
```

```
upgrad@upgrad-VirtualBox:~/workspace/property-r... x root@b36449143c28:/opt/gopath/src/github.com/hy... x root@6e360273457f:/opt/gopath/src/github.com/hy... x
root@6e360273457f:/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.usercontract:purchaseProperty","0001","User1","12345"]}'
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: Only members of User organization can purchase property"
root@6e360273457f:/opt/gopath/src/github.com/hyperledger/fabric/peer#
```

Step 2: Run below command on terminal tab connected to peer0 of User organization to observe error message “Buyer with given name and Aadhar number does not exist.” as shown below:

```
peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.usercontract:purchaseProperty","0001","User1","12346"]}'
```

```
upgrad@upgrad-VirtualBox:~/workspace/property-r... x root@b36449143c28:/opt/gopath/src/github.com/hy... x root@6e360273457f:/opt/gopath/src/github.com/hy... x
root@b36449143c28:/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.usercontract:purchaseProperty","0001","User1","12346"]}'
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: Buyer with given name and Aadhar number does not exist."
root@b36449143c28:/opt/gopath/src/github.com/hyperledger/fabric/peer#
```

Step 3: Run below command on terminal tab connected to peer0 of User organization to observe error message “No Property exists with given property ID.” as shown below:

```
peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.usercontract:purchaseProperty","0002","User1","12345"]}'
```

```
upgrad@upgrad-VirtualBox:~/workspace/property-r... x root@b36449143c28:/opt/gopath/src/github.com/hy... x root@6e360273457f:/opt/gopath/src/github.com/hy... x
root@b36449143c28:/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.usercontract:purchaseProperty","0001","User1","12346"]}'
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: Buyer with given name and Aadhar number does not exist."
root@b36449143c28:/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.usercontract:purchaseProperty","0002","User1","12345"]}'
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: No Property exists with given property ID."
root@b36449143c28:/opt/gopath/src/github.com/hyperledger/fabric/peer#
```

Step 4: In the terminal tab connected to peer0 of User organization, execute following command to update property status to “registered”:

```
peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.usercontract:updateProperty","0001","User1","12345","registered"]}'
```

After pressing Enter screen will look like shown below:

```
upgrad@upgrad-VirtualBox:~/workspace/property-r... x root@b36449143c28:/opt/gopath/src/github.com/hy... x root@6e360273457f:/opt/gopath/src/github.com/hy... x
root@b36449143c28:/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.usercontract:purchaseProperty","0001","User1","12346"]}'
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: Buyer with given name and Aadhar number does not exist."
root@b36449143c28:/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.usercontract:purchaseProperty","0002","User1","12345"]}'
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: No Property exists with given property ID."
root@b36449143c28:/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.usercontract:updateProperty","0001","User1","12345","registered"]}'
2020-04-05 17:57:11.563 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200
root@b36449143c28:/opt/gopath/src/github.com/hyperledger/fabric/peer#
```

Step 5: Run below command on terminal tab connected to peer0 of User organization to observe error message “Sorry, given property is currently not listed for sale!!!” as shown below:

```
peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.usercontract:purchaseProperty","0001","User1","12345"]}'
```

```

upgrad@upgrad-VirtualBox:~/workspace/property-r... x root@b36449143c28:/opt/gopath/src/github.com/hy... x root@6e360273457f:/opt/gopath/src/github.com/hy... x
root@b36449143c28:/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.usercontract:purchaseProperty","0001","User1","12346"]}'
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: Buyer with given name and Aadhar number does not exist."
root@b36449143c28:/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.usercontract:purchaseProperty","0002","User1","12345"]}'
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: No Property exists with given property ID."
root@b36449143c28:/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.usercontract:updateProperty","0001","User1","12345","registered"]}'
2020-04-05 17:57:11.563 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200
root@b36449143c28:/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.usercontract:purchaseProperty","0001","User1","12345"]}'
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: Sorry, given property is currently not listed for sale!!!"
root@b36449143c28:/opt/gopath/src/github.com/hyperledger/fabric/peer#

```

Step 6: In the terminal tab connected to peer0 of User organization, execute following command to update property status to “onSale”:

```
peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.usercontract:updateProperty","0001","User1","12345","onSale"]}'
```

After pressing Enter screen will look like shown below:

```

upgrad@upgrad-VirtualBox:~/workspace/property-r... x root@b36449143c28:/opt/gopath/src/github.com/hy... x root@6e360273457f:/opt/gopath/src/github.com/hy... x
root@b36449143c28:/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.usercontract:purchaseProperty","0001","User1","12346"]}'
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: Buyer with given name and Aadhar number does not exist."
root@b36449143c28:/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.usercontract:purchaseProperty","0002","User1","12345"]}'
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: No Property exists with given property ID."
root@b36449143c28:/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.usercontract:updateProperty","0001","User1","12345","registered"]}'
2020-04-05 17:57:11.563 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200
root@b36449143c28:/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.usercontract:purchaseProperty","0001","User1","12345"]}'
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: Sorry, given property is currently not listed for sale!!!"
root@b36449143c28:/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.usercontract:updateProperty","0001","User1","12345","onSale"]}''
2020-04-05 18:00:21.120 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200
root@b36449143c28:/opt/gopath/src/github.com/hyperledger/fabric/peer#

```

Step 7: Run below command on terminal tab connected to peer0 of User organization to observe error message “**Invalid purchase attempt, buyer is already the property owner!!!**” as shown below:

```
peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.usercontract:purchaseProperty","0001","User1","12345"]}'
```

```

upgrad@upgrad-VirtualBox:~/workspace/property-r... x root@b36449143c28:/opt/gopath/src/github.com/hy... x root@6e360273457f:/opt/gopath/src/github.com/hy... x
root@b36449143c28:/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.usercontract:purchaseProperty","0001","User1","12346"]}'
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: Buyer with given name and Aadhar number does not exist."
root@b36449143c28:/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.usercontract:purchaseProperty","0002","User1","12345"]}'
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: No Property exists with given property ID."
root@b36449143c28:/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.usercontract:updateProperty","0001","User1","12345","registered"]}'
2020-04-05 17:57:11.563 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200
root@b36449143c28:/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.usercontract:purchaseProperty","0001","User1","12345"]}'
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: Sorry, given property is currently not listed for sale!!!"
root@b36449143c28:/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.usercontract:updateProperty","0001","User1","12345","onSale"]}''
2020-04-05 18:00:21.120 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200
root@b36449143c28:/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.usercontract:purchaseProperty","0001","User1","12345"]}'
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: Invalid purchase attempt, buyer is already the property owner!!!"
root@b36449143c28:/opt/gopath/src/github.com/hyperledger/fabric/peer#

```

Step 8: Run below command on terminal tab connected to peer0 of User organization to observe error message “**Sorry, buyer does not have sufficient account balance to purchase the property. Recharge the buyer account!!!**” as shown below:

```
peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.usercontract:purchaseProperty","0001","User2","67890"]}'
```

```
root@b36449143c28:/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.usercontract:purchaseProperty","0001","User2","67890"]}'  
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: Sorry, buyer does not have sufficient account balance to purchase the property. Recharge the buyer account!!!"  
root@b36449143c28:/opt/gopath/src/github.com/hyperledger/fabric/peer#
```

Step 9: In the terminal tab connected to peer0 of User organization, execute following command to recharge User2 account with 100 upgradCoins:

```
peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.usercontract:rechargeAccount","User2","67890","upg100"]}'
```

After pressing Enter screen will look like shown below:

```
root@b36449143c28:/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.usercontract:purchaseProperty","0001","User2","67890"]}'  
Error: endorsement failure during invoke. response: status:500 message:"transaction returned with failure: Error: Sorry, buyer does not have sufficient account balance to purchase the property. Recharge the buyer account!!!"  
root@b36449143c28:/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.usercontract:rechargeAccount","User2","67890","upg100"]}'  
2020-04-05 18:07:45.884 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200  
root@b36449143c28:/opt/gopath/src/github.com/hyperledger/fabric/peer#
```

Step 10: In the terminal tab connected to peer0 of User organization, execute following command to successfully execute “purchaseProperty” transaction:

```
peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.usercontract:purchaseProperty","0001","User2","67890"]}'
```

After pressing Enter screen will look like shown below:

```
root@1a7bb199a589:/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.usercontract:rechargeAccount","User2","67890","upg100"]}'  
2020-04-05 18:34:19.264 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200  
root@1a7bb199a589:/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.usercontract:purchaseProperty","0001","User2","67890"]}'  
2020-04-05 18:34:33.881 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200  
root@1a7bb199a589:/opt/gopath/src/github.com/hyperledger/fabric/peer#
```

Step 11: In the terminal tab connected to peer0 of User organization, execute following command to observe that owner of property 0001 is updated to User2 and status is updated to registered after successful purchase:

```
peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.usercontract:viewProperty","0001"]}'
```

After pressing Enter screen will look like shown below:

```
root@1a7bb199a589:/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.usercontract:rechargeAccount","User2","67890","upg100"]}'  
2020-04-05 18:34:19.264 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200  
root@1a7bb199a589:/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.usercontract:purchaseProperty","0001","User2","67890"]}'  
2020-04-05 18:34:33.881 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200  
root@1a7bb199a589:/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.usercontract:viewProperty","0001"]}'  
2020-04-05 18:36:35.317 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload:"{\"propertyID\":\"0001\",\"owner\":\"\\\"\\u0000org.property-registration-network.regnet.user\\\"\\u0000User2-67890\\\"\\u0000\\\", \"price\":100, \"status\":\"\\\"\\registed\\\"\\\", \"createdAt\":\"2020-04-05T18:33:33.783Z\", \"updatedAt\":\"2020-04-05T18:34:33.802Z\"}"  
root@1a7bb199a589:/opt/gopath/src/github.com/hyperledger/fabric/peer#
```

Step 12: In the terminal tab connected to peer0 of User organization, execute following command to observe that 100 upgradCoins are deducted from User2 account after successful purchase of property 0001 of price 100:

```
peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.usercontract:viewUser","User2","67890"]}'
```

After pressing Enter screen will look like shown below:

```

upgrad@upgrad-VirtualBox:~/workspace/property-r... x root@1a7bb199a589:/opt/gopath/src/github.com/h... x root@a08ab0f547fb:/opt/gopath/src/github.com/hy... x
root@1a7bb199a589:/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.usercontract:rechargeAccount","User2","67890","upg100"]}'
2020-04-05 18:34:19.264 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200
root@1a7bb199a589:/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.usercontract:purchaseProperty","0001","User2","67890"]}'
2020-04-05 18:34:33.881 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200
root@1a7bb199a589:/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.usercontract:viewProperty","0001"]}'
2020-04-05 18:36:35.317 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload: "{\"propertyID\":\"0001\", \"owner\":\"\\\"\\u00000org.property-registration-network.regnet.user\\\"\\u0000User2-67890\\\"\\u0000\", \"price\":100, \"status\":\"registered\", \"createdAt\":\"\\\"2020-04-05T18:33:33.783Z\\\"\", \"updatedAt\":\"\\\"2020-04-05T18:34:33.802Z\\\""}"
root@1a7bb199a589:/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.usercontract:viewUser","User2","67890"]}'
2020-04-05 18:39:16.295 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload: "{\"name\":\"\\\"User2\\\"\", \"emailId\":\"\\\"user2@test.com\\\"\", \"phoneNumber\":\"\\\"1111111111\\\"\", \"aadharNumber\":\"\\\"67890\\\"\", \"upgradCoins\":0, \"createdAt\":\"\\\"2020-04-05T18:32:30.930Z\\\"\", \"updatedAt\":\"\\\"2020-04-05T18:34:33.802Z\\\"\"}"
root@1a7bb199a589:/opt/gopath/src/github.com/hyperledger/fabric/peer# 

```

Step 13: In the terminal tab connected to peer0 of User organization, execute following command to observe that 100 upgradCoins are added to User1 account after successful sale of property 0001 of price 100:

```
peer chaincode invoke -o orderer.property-registration-network.com:7050 -C registrationchannel -n regnet -c '{"Args":["org.property-registration-network.regnet.usercontract:viewUser","User1","12345"]}'
```

After pressing Enter screen will look like shown below:

```

upgrad@upgrad-VirtualBox:~/workspace/property-r... x root@1a7bb199a589:/opt/gopath/src/github.com/h... x root@a08ab0f547fb:/opt/gopath/src/github.com/hy... x
root@1a7bb199a589:/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.usercontract:rechargeAccount","User2","67890","upg100"]}'
2020-04-05 18:34:19.264 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200
root@1a7bb199a589:/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.usercontract:purchaseProperty","0001","User2","67890"]}'
2020-04-05 18:34:33.881 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200
root@1a7bb199a589:/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.usercontract:viewProperty","0001"]}'
2020-04-05 18:36:35.317 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload: "{\"propertyID\":\"0001\", \"owner\":\"\\\"\\u00000org.property-registration-network.regnet.user\\\"\\u0000User2-67890\\\"\\u0000\", \"price\":100, \"status\":\"registered\", \"createdAt\":\"\\\"2020-04-05T18:33:33.783Z\\\"\", \"updatedAt\":\"\\\"2020-04-05T18:34:33.802Z\\\""}"
root@1a7bb199a589:/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.usercontract:viewUser","User2","67890"]}'
2020-04-05 18:39:16.295 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload: "{\"name\":\"\\\"User2\\\"\", \"emailId\":\"\\\"user2@test.com\\\"\", \"phoneNumber\":\"\\\"1111111111\\\"\", \"aadharNumber\":\"\\\"67890\\\"\", \"upgradCoins\":0, \"createdAt\":\"\\\"2020-04-05T18:32:30.930Z\\\"\", \"updatedAt\":\"\\\"2020-04-05T18:34:33.802Z\\\"\"}"
root@1a7bb199a589:/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.usercontract:viewUser","User1","12345"]}'
2020-04-05 18:40:56.892 UTC [chaincodeCmd] chaincodeInvokeOrQuery -> INFO 001 Chaincode invoke successful. result: status:200 payload: "{\"name\":\"\\\"User1\\\"\", \"emailId\":\"\\\"user1@test.com\\\"\", \"phoneNumber\":\"\\\"0000000000\\\"\", \"aadharNumber\":\"\\\"12345\\\"\", \"upgradCoins\":200, \"createdAt\":\"\\\"2020-04-05T18:32:21.857Z\\\"\", \"updatedAt\":\"\\\"2020-04-05T18:34:33.802Z\\\"\"}"
root@1a7bb199a589:/opt/gopath/src/github.com/hyperledger/fabric/peer# 

```