Tutorial One

CHAINCODERS.io = Enterprise Blockchain Services

Actors in the Network

Peer
A node on the network that can execute chaincode and stores a copy of the distributed ledger. Peers are owned and operated by an organisation.

Anchor
The Anchor peer is responsible for peer communication within a channel. The Anchor peer helps peers on the channel become discoverable.

Leader
Receives blocks from the orderer and passes onto other peers in the organisation.

Endorser
Is the state that a peer enters when it is called upon to execute and validate a chaincode transaction.

Actors in the Network

Orderer

Orderer is a node responsible for distributing updates to the ledger. The orderer packages transactions and puts them inside a new block, then distributes that block to the leader peers in the network.

Channel

Each channel has it own blockchain that is only accessible by the organisations and actors connected to that given channel.

Files And Structure

Outside the network
Running on your local machine

Shared

Inside the network
Running in the cli/peer containers

The generated files are copied into the network when the containers are booted

These file and folder are used before the network is running, to generate the necessary artifacts and certificates

- byfn-simple.sh
- docker-compose.yaml
- configtx.yaml
- crypto-config.yaml

These generated files can then be used to configure the empty hyperledger network with channels and chaincode

- channel.tx
- genesis.block
- Org{x}MSP.tx

BYFN levels

Low Detail	Medium Detail	High Detail
Outside the network ● ./byfn-simple.sh up ● ./byfn-simple.sh down Inside the network(CLI) ● ./script/script.sh start	Outside the network ● ./byfn-simple.sh generate_certs ● ./byfn-simple.sh generate_artifacts ● ./byfn-simple.sh boot_containers Inside the network(CLI) ● ./scripts/build-network.sh init_channel ● ./scripts/build-network.sh init_anchors ● ./scripts/build-network.sh init_chaincode ● ./scripts/build-network.sh test_chaincode	Outside the network ● ./byfn-simple.sh create_certs ● ./byfn-simple.sh inject_keys ● ./byfn-simple.sh create_channel_artifact ● ./byfn-simple.sh create_genesisblock_artifact ● ./byfn-simple.sh create_organisation_artifact Inside the network(CLI) ● ./scripts/build-network create_channel ● ./scripts/build-network joinChannel ● ./scripts/build-network updateAnchors ● ./scripts/build-network installChaincode ● ./scripts/build-network instantiateChaincode ● ./scripts/build-network chaincodeQuery ● ./scripts/build-network chaincodeInvoke

Demo

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Questions?

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