

Problem 1

Use docker to run bitcoind with regression testing (**regtest**) network. Ensure to forward the relevant ports to be able to access bitcoin daemon from your host machine.

Problem 2

Generate a chain of 101 blocks using the `bitcoin-cli` client on the regtest network from previous docker daemon. Print the balance in the account.

Problem 3

Write a Java program to use `WalletAppKit` from BitcoinJ api to create a new wallet with name `walletA`. Connect to local host and sync the block chain created in Problem 2.

Print the current `walletA` address for transferring bitcoins.

Transfer a total of 10 bitcoins from the `regTest` network using `bitcoin-cli` command, to the address printed above.

Inside your java program you can use `walletA.wallet().addCoinsReceivedEventListener(params)`. This is a listener which will notify you when you will receive bitcoins from the `regTest` network.

Use your `Print` statement inside this listener to print the `walletA`'s current balance as soon as bitcoins are received.

Also add your listener between `walletA.awaitRunning()` and `walletA.awaitTerminated()` statements to keep your listener running in background.

Problem 4

Create another wallet walletB using WalletAppKit from BitcoinJ api.

Connect to local host and sync the block chain created in Problem 2.

Print the current walletB address for transferring bitcoins.

Send 5 bitcoins from the previously created wallet A to this newly created wallet B.

For this you can use walletA.wallet().sendCoins(params,params,params) command inside your Java program created in problem 3.

Inside your java program for walletB you can use walletB.wallet().addCoinsReceivedEventListener(params) to get notified on receiving bitcoins from walletA.

Use your Print statement inside this listener to print the walletB's current balance as soon as bitcoins are received.

Also add your listener between walletB.awaitRunning() and walletB.awaitTerminated() statements to keep your listener running in background.

References

<https://bitcoin.org/en/developer-examples#regtest-mode>

<https://bitcoin.org/en/developer-examples#testnet>

<https://bitcoinj.github.io/getting-started-java>