Tutorial: How to setup a cold dynode on a remote Linux server

Summary

This tutorial should help you set-up a cold dynode on a remote webserver. ‘‘Cold’’ means that the server running the dynode does *not* need a local wallet containing the dynode collateral. Notice that setting up a dynode requires some basic knowledge of the Unix shell. However, with this guide you should be fine.

Requirements

In order to set-up a cold remote wallet, you will need:

• A local QT wallet on your main machine containing at least 1000 DYN (and some change to cover the transaction fees)

• A webserver with a fixed IP(v4) address <webserverIP> and the port 33300 open

Remote set-up

Preparing your webserver

• Connect to your webserver by using ssh <youruser>@<webserverIP> or ssh <youruser>@<webserverURL>

• Once connected to your webserver, get the Dynamic binary archive from GitHub and extract it.

• wget **https://github.com/duality-solutions/Dynamic/releases/FILENAME** - Replace **FILENAME** with the GitHub file you are downloading.

tar -xzf “**FILENAME**”

• Change into the Dynamic binary directory to see the binaries

• **cd** dynamic-(**CURRENT_VERSION**)/bin (Example: dynamic-2.2.0/bin)

• **ls** -lisa

This should show you the binaries. In the following, we will need only the daemon dynamicd and the client dynamic-cli

• In order to start the binaries from any directory in the system, you need to add this directory to your $PATH variable or link them to a place where the system can find it. We assume that ~/bin/ is in your $PATH.

sudo ln -s $(**pwd**)/dynamicd ~/bin/dynamicd

sudo ln -s $(**pwd**)/dynamic-cli ~/bin/dynamic-cli

• Now you should be able to run dynamicd and dynamic-cli from anywhere

Configuring your dynode

• First, start the daemon by typing dynamicd. This creates an initial configuration file at ~/ .dynamic/dynamic.conf. Now press <CTRL>+c to stop the daemon again.
• Now start the daemon in background mode dynamicd --daemon
• The dynamic node should now start syncing the blockchain automatically. You can check the progress using:

dynamic-cli getinfo.

• Next, we need to create a private key for the dynode. The controller wallet on your main machine will use that key to talk to start the dynode.

dynamic-cli dynode genkey

• Write down the generated key as <dynodepairingkey>
• After the wallet has synced, stop the daemon

dynamic-cli stop

• Now we edit the configuration file

nano ~/ .dynamic/dynamic.conf

• Add the following lines (save with <CTRL>+o, close with <CTRL>+x)

dynode=1
dynodepairingkey=<dynodepairingkey>

• Now, starting the node you will have a dynode ready to be controlled

dynamicd --daemon

• You can check the status of your remote dynode using the client:

dynamic-cli dynode status

Setting up the controller wallet

The wallet on your local machine acts as the controller wallet for your dynodes. It contains the dynode collateral and can activate your cold dynode on your webserver. We will use the Dynamic QT Wallet.

Setting the collateral funds

• In the QT Wallet, go to the tab ‘‘Receive’’, and create a new address. You may use a label like ‘‘dynode collateral’’ for that. Copy the address just generated, which we will call <collateral address>.
• Go to ‘‘Send’’ and send *exactly* 1000 DYN to the address <collateral address> (You need to make sure fees are accounted for and it is exactly 1000).
Now this should have created a dynode compatible transaction output. You now have **2 options** to find the <collateralTXID><TXINDX>
• **Option 1** – Go to Tools/Debug Console and type dynode outputs. You should see something like "<collateral TXID>" "<TXINDX>"
Example Output:
ce334e88a716b8bb7c51d8f817dd4bea3a3665be4b95361a0d486db7e8bf890f, “0”
• **Option 2** – Go to Settings then Options and make sure “Enable coin control features” is checked. Now go to Send tab, click on Inputs. Right click on the input and copy TX id. You should also see the output index.

Configuring the dynode configuration file on the controller wallet

• Now go to Tools/Edit Dynode Configuration File and enter the following line:
<**alias**> <webserverIP>:33300 <dynodepairingkey> <collateralTXID> <TXINDX>

- <alias>: The name you have given to you dynode.
- <webserverIP>: The external IP of your webserver, something like 123.45.67.89
- <dynodepairingkey>: The key that you generated earlier and put into the dynode.conf file on your remote cold dynode
- <collateralTXID>: The transaction ID you received from the above instructions.
- <TXINDX>: The transaction index will be either a “1” or “0”

• Close the wallet and restart it.
• Go to the ‘‘Dynodes’’ Tab. Your dynode should be listed with its alias as ‘‘Missing’’. Right-click on it and click Start Alias.
• If you did everything right, the dynode will successfully start and become ‘‘PRE-ENABLED’’
• The dynodes should switch to ‘‘ENABLED’’ and stay like after a max of 20 minutes, as long as everything is fine on your remote webserver.
• Hint: You might need to restart your QT wallet to see the updated status
• When your dynode earns a reward, it will be credited to the corresponding <collateral address>

Ensure your webserver has connected correctly

• Log back into your webserver.
• Check the status of your dynode to ensure your webserver has connected:

```
dynamic-cli dynode status
```