ZEST Coin Multi Masternode Guide

Controller-Cold-Setup

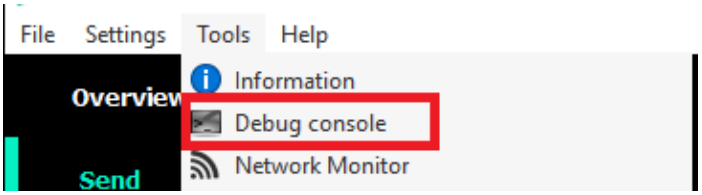
This is the advised Method to setup your Masternodes. The wallet containing the coins does not have to be exposed and can run on your local computer. It does not have to run all the time and you are not vulnerable to someone hacking your VPS because all he can do when he hacked your VPS is stop your MNs but not steal your coins!

Desktop Wallet Setup

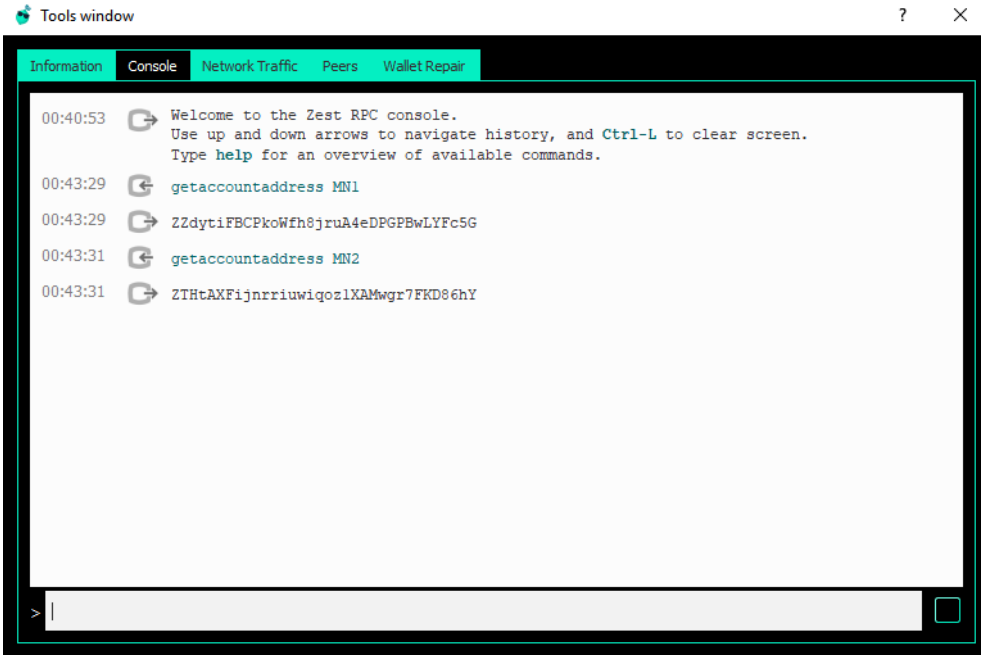
In the first steps the desktop wallet will be setup. This is the wallet you can run on your local PC. When the masternodes are connected this wallet can be closed and the PC does not have to run in order for the masternodes to generate rewards.

We will create an address, private key and transaction for each masternode (MN in the following) and show the necessary steps for configuration.

1. Open Console: Tools → Debug Console



2. Type “getaccountaddress MN1” and press Enter.



Repeat this step for the amount of masternodes you want to setup as shown. Make sure you count up (MN1, MN2 etc.)

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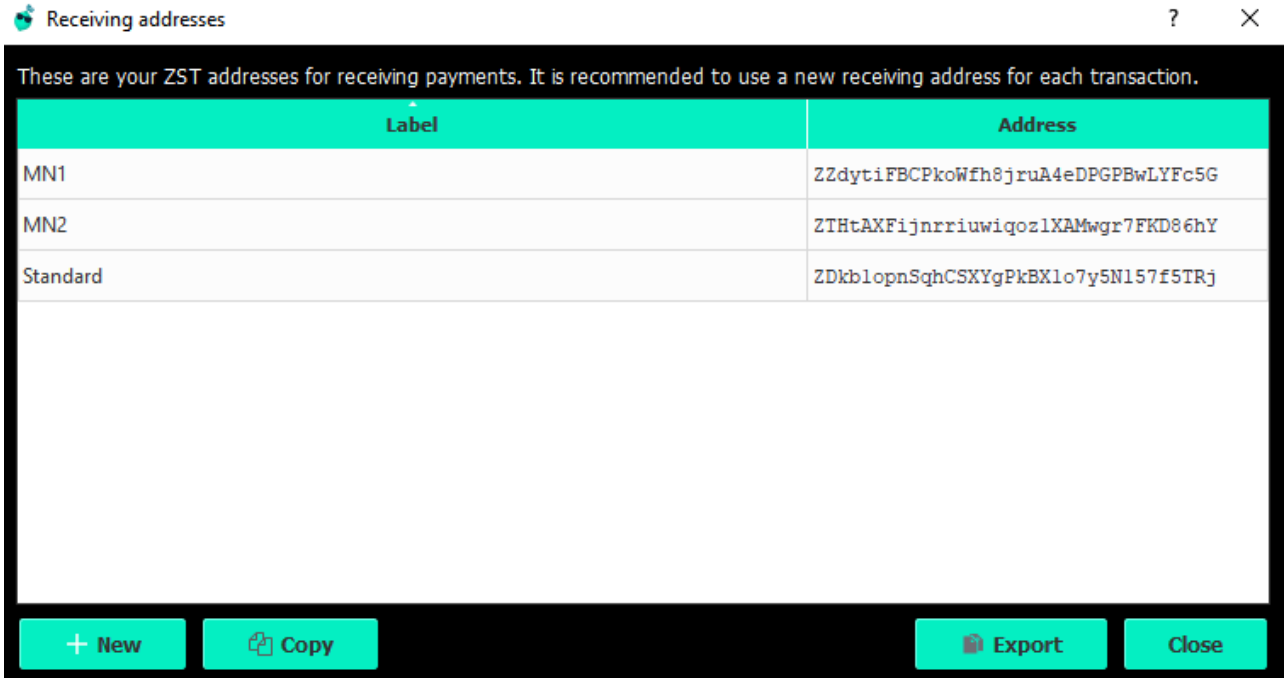
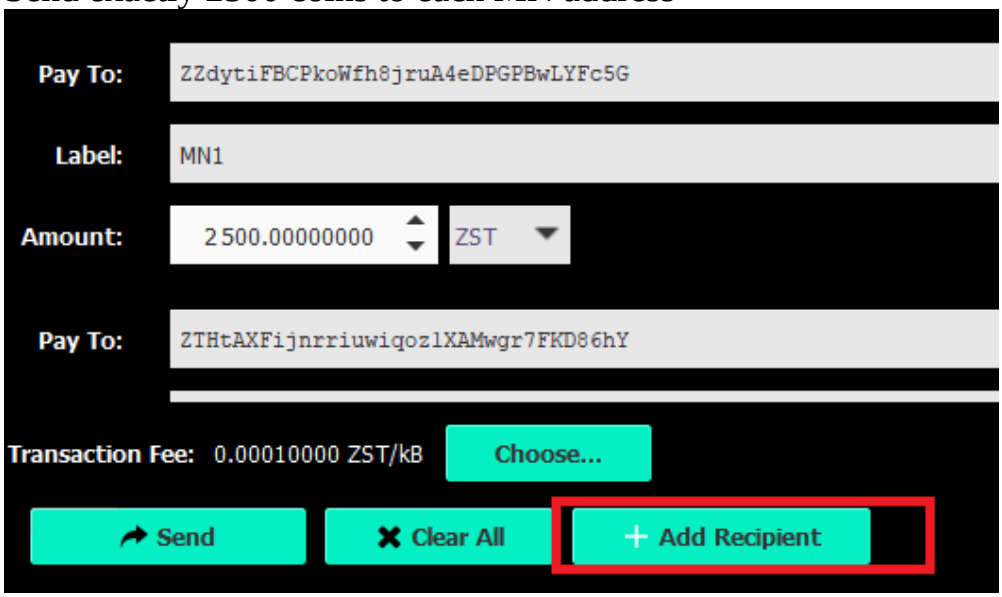


These *are the addresses that will be associated with the MNs. You can view all you created addresses under File → Receiving Addresses*

3. Send exactly 2500 coins to each MN address



Klick on "add recipient" to add lines so you can send to all nodes in one transaction.

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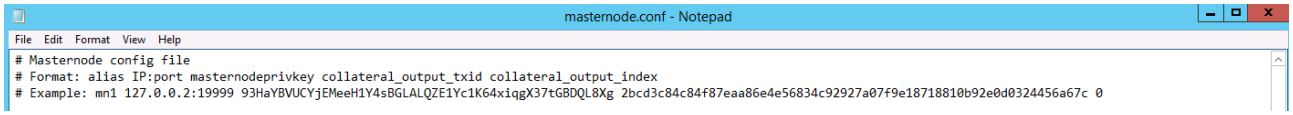
4. Setup MNs in config: Tools → Open Masternode Configuration File

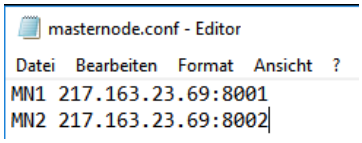


Your text editor will open with the configuration file.

alias IP:port masternodeprivkey txhash outputindex

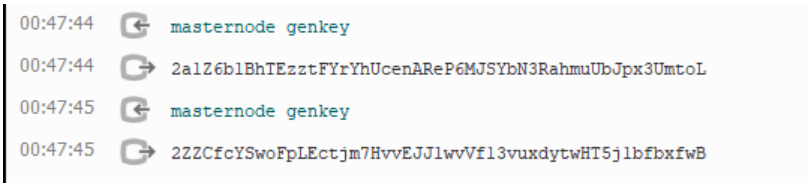
We will now add a Line for each MN with the following Format:

a. Begin by entering and alias IP:port
   i. Alias: the name of the MN receiving address (we named them MN1, MN2, …)
   ii. IP: The static IP of your linux server – if you don't have one right now go to the next section "Getting a VPS" before you continue.
   iii. port: A port the MN will connect to. The port is not fixed and multiple nodes can run on one server but need different ports.

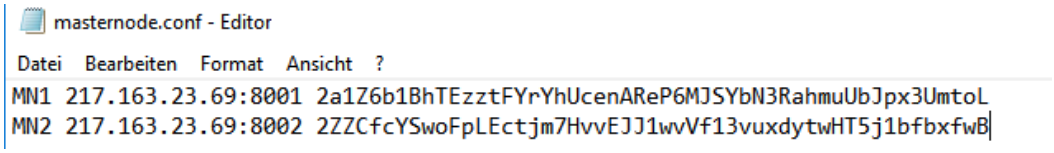


You can have more than one node per IP just adjust the ports. We start with 8001 but you can choose any free port!

b. Next we get the "masternodeprivkey "
   i. Open debug console again, type "masternode genkey" and press enter



ii. Repeat the line for each MN you want to setup
iii. Copy the output keys to the config



The private keys are used for voting and identify you as the real owner so don't share them.

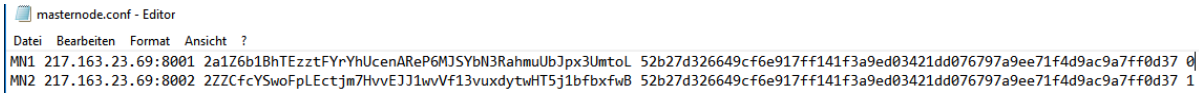
c. Next we will add txhash and outputindex
   i. Go to the debug console again, type "masternode outputs" and press enter

ii. If you send the coins in one transaction the "txhash" will be the same. If

```
00:50:23  masternode outputs
00:50:23  [
            {
              "txhash": "52b27d326649cf6e917ff141f3a9ed03421dd076797a9ee71f4d9ac9a7ff0d37",
              "outputidx": 0
            },
            {
              "txhash": "52b27d326649cf6e917ff141f3a9ed03421dd076797a9ee71f4d9ac9a7ff0d37",
              "outputidx": 1
            }
          ]
```

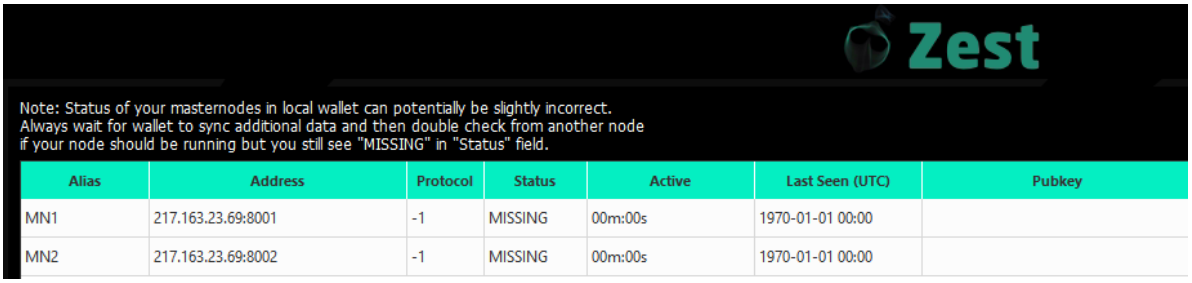
you add a masternode later, another tuple will be added. So every masternode has a unique pair of txhash and outputindex

iii. Copy the information to the config file (Make sure you don't forget the index!)



This is what your config should finally look like.

5. Save the file and restart the wallet.



Verify now that your MN are shown in the Masternodes tab.

Getting a VPS

For the cold wallets you first need a linux VPS. You can get very cheap ones for 5$ here: https://www.vultr.com/?ref=7285424. These can run around 5 ZEST masternode instances though it might be a good idea to split your MNs across some different Servers. The more isolation you have the less likely you are hit big by a server outage☺.

After registration you get to the Dashboard. You have to do the first payment with something else then Bitcoin. After the first payment you can pay the servers in BTC.

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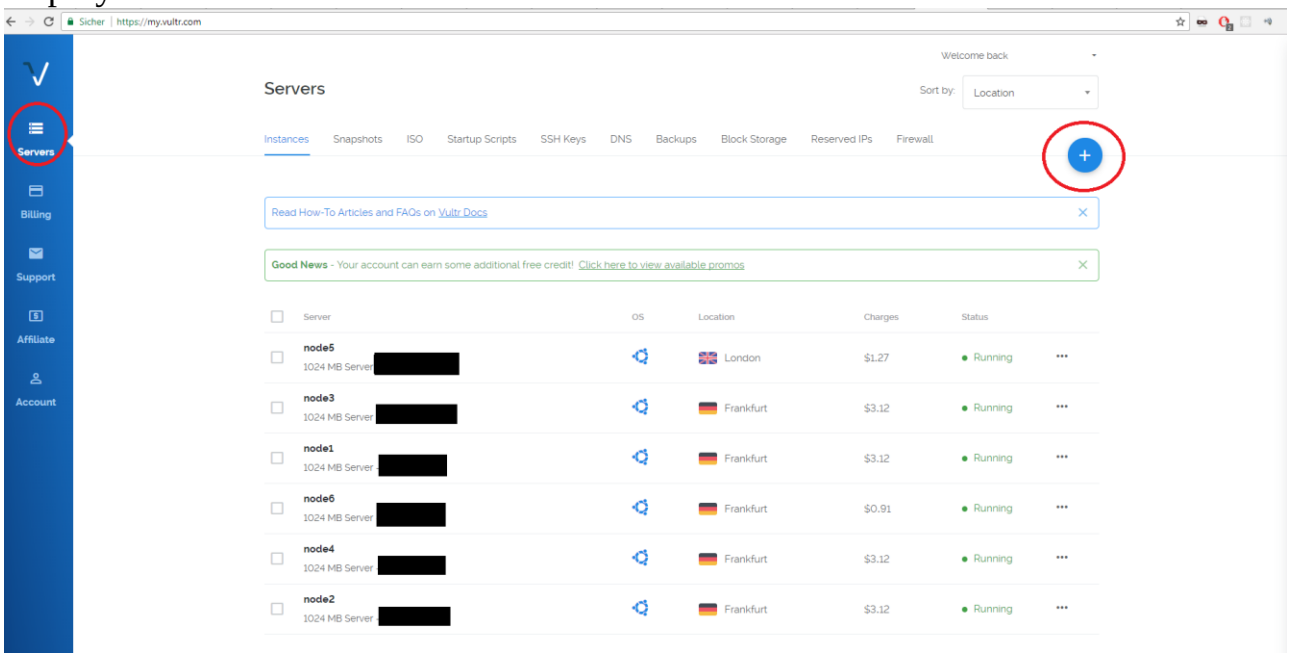
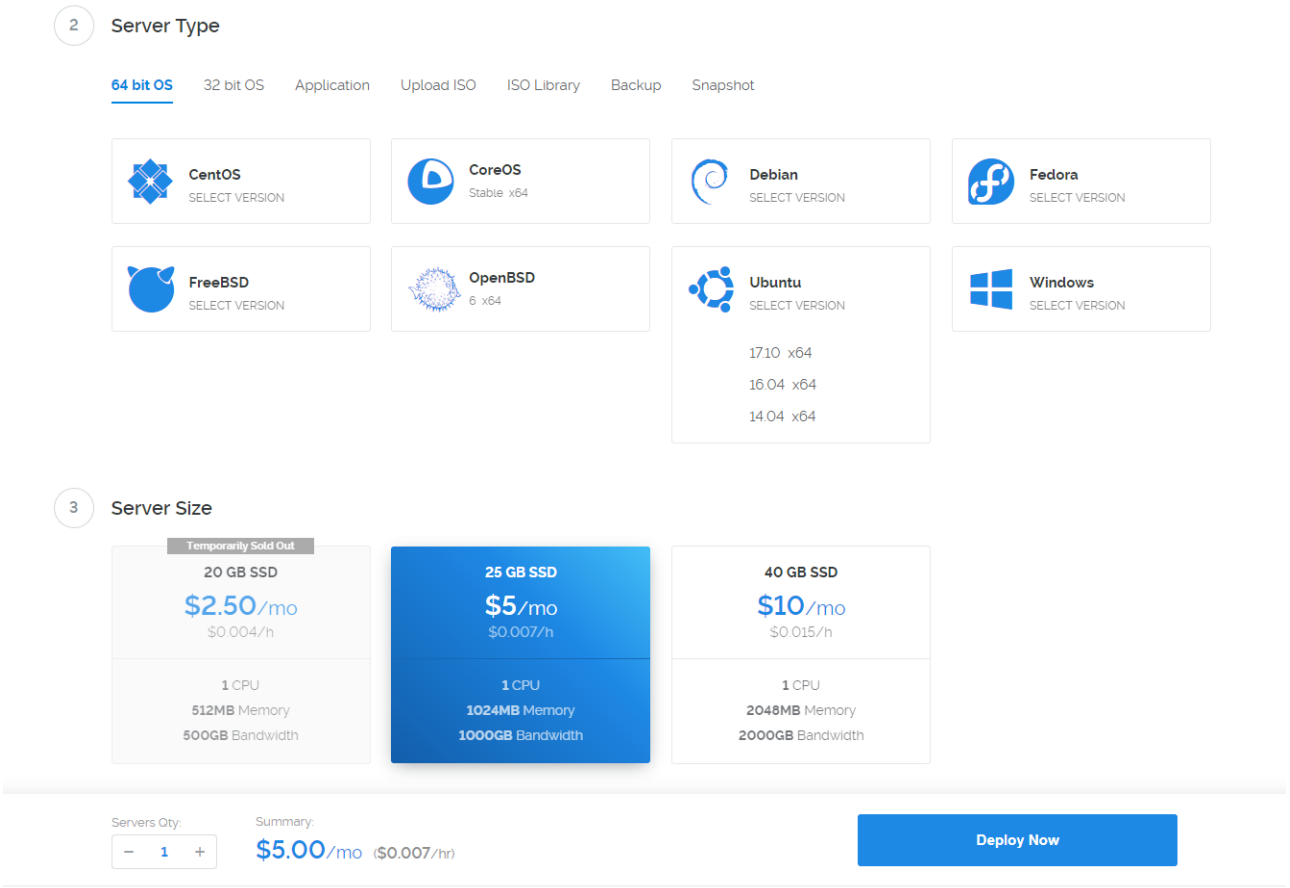
6. Deploy the server



Hit the plus top right to add new instances

7. Choose a region near you. It does not really matter.



a. As “Server Type” choose Ubuntu and klick 16.04 (Important don’t take 17.10!)
b. As Server Size choose the 5$ instance with 1GB Ram. If available you can choose the 2.50$ one if you only want to run one or two nodes on it.

c. Scroll down and give the node a name.
d. After that click “Deploy now” in the overview you should see this:

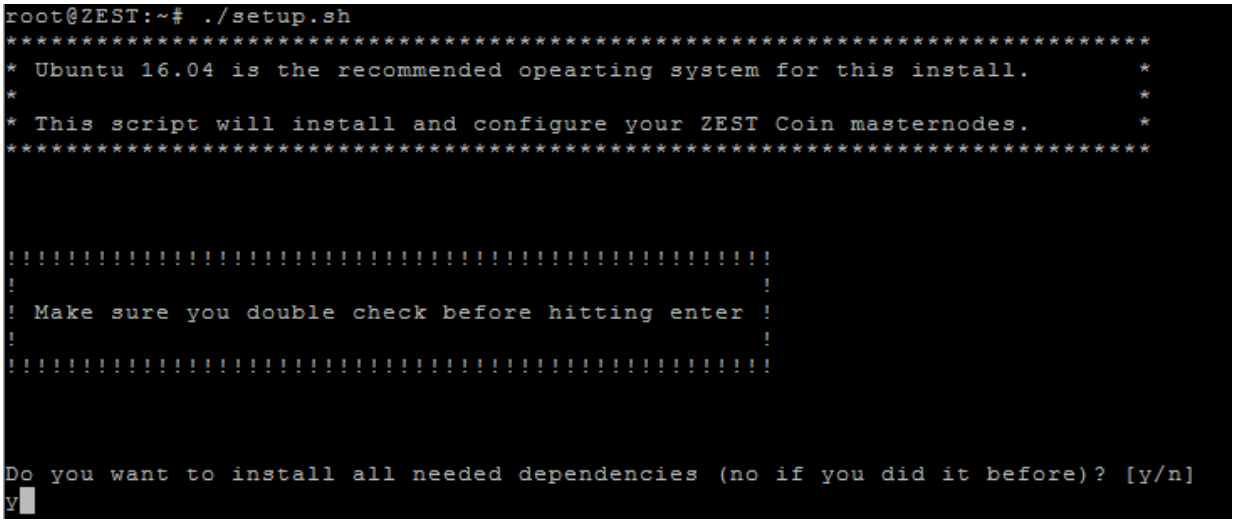
8. Connect to the Server.
   e. You will need some SSH tool connect. I use “Royal-TS” to manage several connections at once. It’s a bit harder getting used too but has real value.
   f. To connect with “putty” a basic tool refer to this guide
   g. You can find username (root) and password when you click on the newly created instance. The installation has to finish before!
   h. Note: pasting your clipboard is “right click”

Automatic server installation and setup.

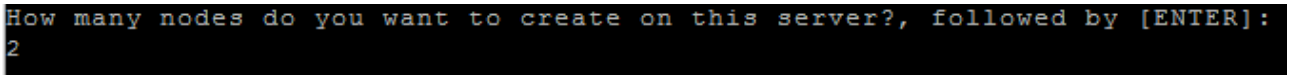
9. Download and execute script on VPS:

```
wget https://raw.githubusercontent.com/XeZZoR/scripts/master/ZEST/setup.sh
chmod 755 setup.sh
./setup.sh
```

This process is interactive and takes several minutes.



Enter y and press enter when you first setup the server. All dependencies and needed programs will be installed (takes some minutes)



Enter the number of masternodes you want to run on the server (2 in my case)

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```
Enter alias for new node
mn1

Enter port for node mn1 (Any valid free port matching config from steps before: i.E. 8001)
8001

Enter RPC Port (Any valid free port: i.E. 9001)
9001

Enter masternode private key for node mn1
2a1Z6b1BhTEzztFYrYhUcenAReP6MJSYbN3RahmuUbJpx3UmtoL
Skipping adding existing rule
Skipping adding existing rule (v6)
Zest server starting
```

Enter the asked information. The alias is to give each node a unique name and control it. Enter port and masternode key which you configured before in the desktop wallet. Also unique free rpc port is needed (We start with 9001 and count up here). The input process repeats for every node you want to configure (2 times in my case)

The name you enter is always converted to lowercase! Only use alphanumeric characters!

If you made an error when typing the interactive stuff: ctrl+c and restart the script ☺

10. Controlling the masternode
    a. The script from the last step already started all wallets on VPS
    b. Type “source .bashrc” in console
    c. Each MN has now its own control script under ~/bin (named with alias you typed before)
    d. To see if everything works type “zescoint-cli_mn1.sh mnsync status”

```
root@ZEST:~# zest-cli_mn1.sh mnsync status
{
  "IsBlockchainSynced": true,
  "lastMasternodeList": 0,
  "lastMasternodeWinner": 0,
  "lastBudgetItem": 0,
  "lastFailure": 0,
  "nCountFailures": 0,
  "sumMasternodeList": 0,
  "sumMasternodeWinner": 0,
  "sumBudgetItemProp": 0,
  "sumBudgetItemFin": 0,
  "countMasternodeList": 4,
  "countMasternodeWinner": 4,
  "countBudgetItemProp": 1,
  "countBudgetItemFin": 1,
  "RequestedMasternodeAssets": 4,
  "RequestedMasternodeAttempt": 1
}
```

Every node has a script “zestcoin-cli_ALIAS.sh”, “zestcoind_ALIAS.sh”. Always use these scripts and not the daemon directly.

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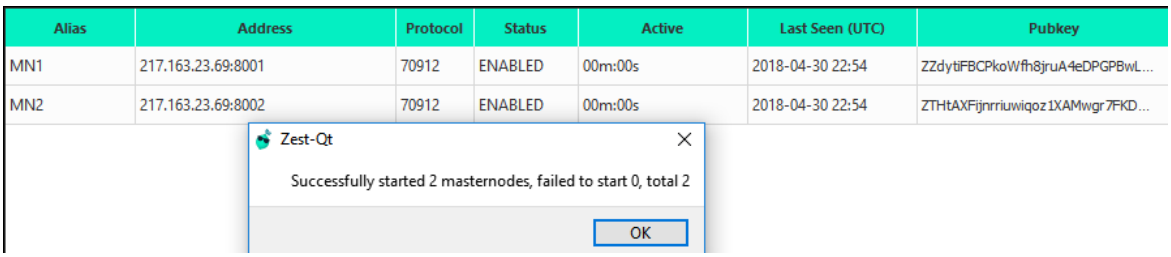
```
root@ZEST:~# zest-cli_mn1.sh getinfo
{
  "version": 1000061,
  "protocolversion": 70913,
  "walletversion": 61000,
  "balance": 0.00000000,
  "blocks": 2101,
  "timeoffset": 0,
  "connections": 12,
  "proxy": "",
  "difficulty": 2104.655860069281,
  "testnet": false,
  "moneysupply": 1502099.99351910,
  "keypoololdest": 1526795045,
  "keypoolsize": 1001,
  "paytxfee": 0.00000000,
  "relayfee": 0.00010000,
  "staking status": "Staking Not Active",
  "errors": ""
}
```

"zestcoin-cli_mn1.sh" will show you amount of blocks and connection count!

e. If sync is finished go to your desktop wallet and start MNs in the masternode tab (unlock wallet before).



f. Now check if MNs are running on the VPS with "zestcoin-cli_mn1.sh masternode status"

```
root@ZEST:~# zest-cli_mn1.sh masternode status
{
  "txhash": "a3a8b1f9e44decd03577085aa2f7f371e9c4c64a7fc42a08ab33388f2be05bbc"
  "outputidx": 0,
  "netaddr": "217.163.23.69:8001",
  "addr": "ZYqoxp1XjL3DWxqMJDsjyPZTgRpaRwcE1P",
  "status": 4,
  "message": "Masternode successfully started"
}
```

This shows you that the MN is successfully started! Repeat this for all MNs to ensure they are running.

g. You can close your Desktop wallet after a while if the time starts counting up.

Adding more nodes to existing VPS

To add more ZEST MNs to an existing server setup with the setup_multi.sh script before just restart the script and type "n" when asked if you want to install the dependencies at the beginning. After that just follow the steps from before in the interactive script.