



MASTERNODE GUIDE

Hot wallet Linux

Single masternode on Linux VPS (Ubuntu 16.04 x64)

Prerequisites:

1. A remote server (Virtual Private Server, VPS) which will be our masternode wallet.
2. PuTTY, which will be used to setup the server (install the dependencies, the wallet itself, and configure everything) after the initial configuration.
3. 1001 or more NYX as collateral (1000 NYX + 1 NYX to cover the transaction fees)

To do:

1. Deploy VPS server
2. VPS configuration
3. Install Sentinel
4. Start masternode

1. Deploy VPS server

- a) Register: <https://www.vultr.com/> and add some funds. At least 10\$ or more
- b) Press "Servers"
- c) Press "+"

Server location:
Frankfurt(or any)

Server type: Ubuntu
16.04 x64

Server Size: 25 GB SSD
5\$/mo 1cpu 1024mb
1000gb (will be more than enough)

Enable IPv6, Auto Backups and Private networking not needed

The screenshot shows the Vultr VPS deployment interface with the following steps and selections:

- Step 2: Server Type**
 - Location: Frankfurt, Germany (highlighted with a red box)
 - OS: Ubuntu 16.04 x64 (highlighted with a red box)
- Step 3: Server Size**
 - Plan: 25 GB SSD, \$5/mo, 1 CPU, 1024MB Memory, 1000GB Bandwidth (highlighted with a red box)
- Step 4: Additional Features**
 - Enable IPv6:
 - Enable Auto Backups: \$1.00/mo
 - Enable DDOS Protection: \$10/mo
 - Enable Private Networking:
- Step 5: Startup Script (Manage)**
 - Add New:
- Step 6: SSH Keys (Manage)**
 - Add New:
- Step 7: Server Hostname & Label**
 - Enter server hostname: NYX1MN1

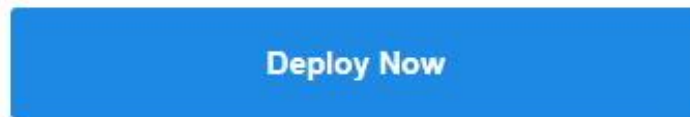
Enable DDOS Protection or not is your decision (if DDOS attack occur your server will continue work while others are down. It is mean you will get more profit because other masternodes are down)

Startup Script don't touch

SSH Keys don't touch



Server hostname & label: Give name to your server (ex: NYXMN1)

d) Press



Once install done you'll get confirmation email. It'll take up to 5 mins.



Server	OS	Location	Charges	Status
<input type="checkbox"/> NYXMN1 1024 MB Server - 45.76.93.58		 Frankfurt	\$0.11	● Running ⋮

e) Press your server name

You'll see your IP, username and password


Overview Usage Graphs Settings Snapshots Backups DDOS

Bandwidth Usage

0.16GB/1000GB


CPU Usage


3%





Current Charges

\$0.11

Location:  Frankfurt

IP Address: 45.76.93.58 

Username: root

Password:  

CPU: 1 vCore

RAM: 1024 MB

Storage: 25 GB SSD

Bandwidth: [0.16 GB of 1000 GB](#)

Label: [NYXMN1](#)

Tag: [\[Click here to set\]](#)

OS: Ubuntu 16.04 x64

*to see your password press "EYE" icon

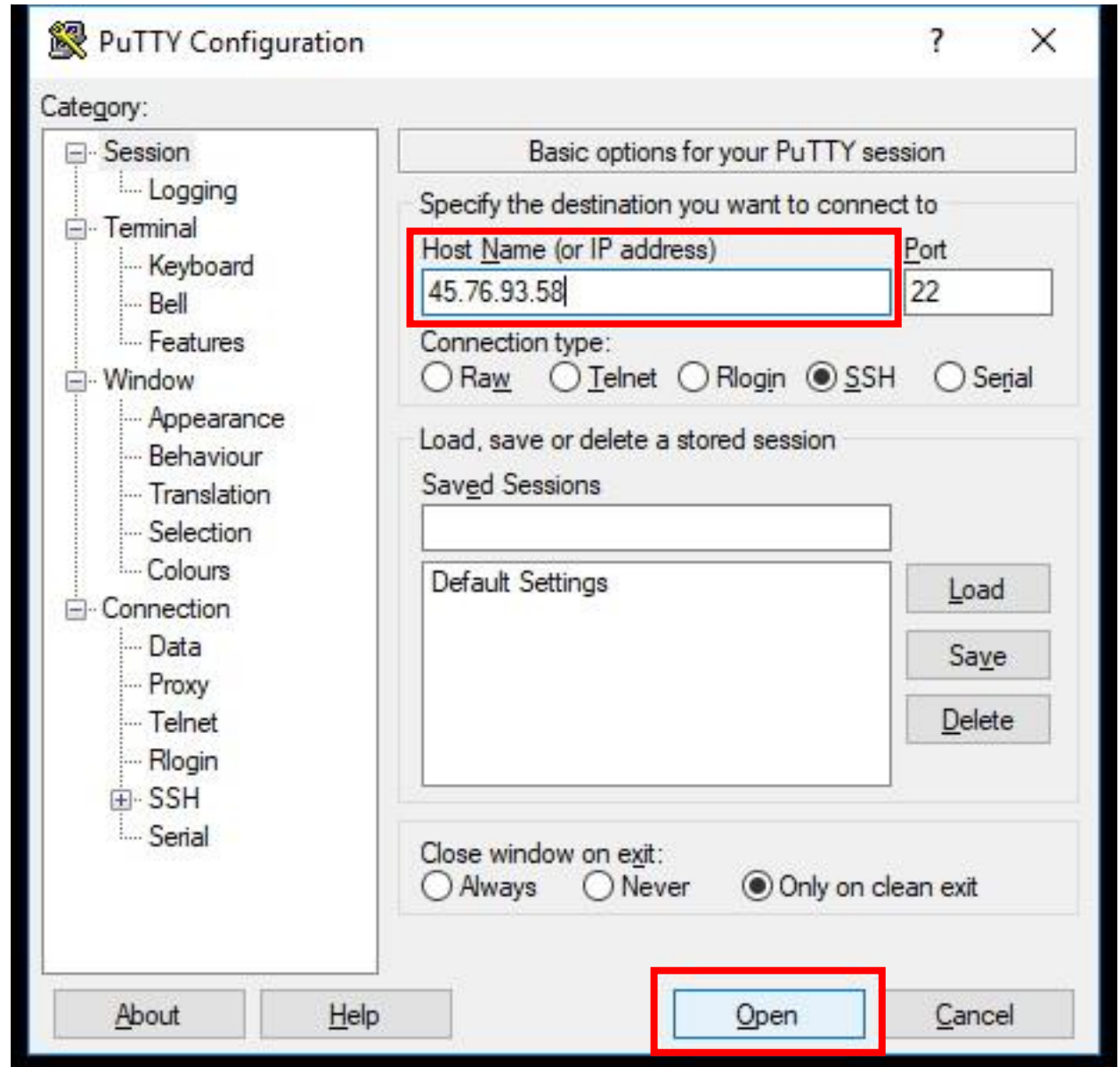
2. VPS configuration

a) Download PUTTY for your windows system

<https://www.putty.org>

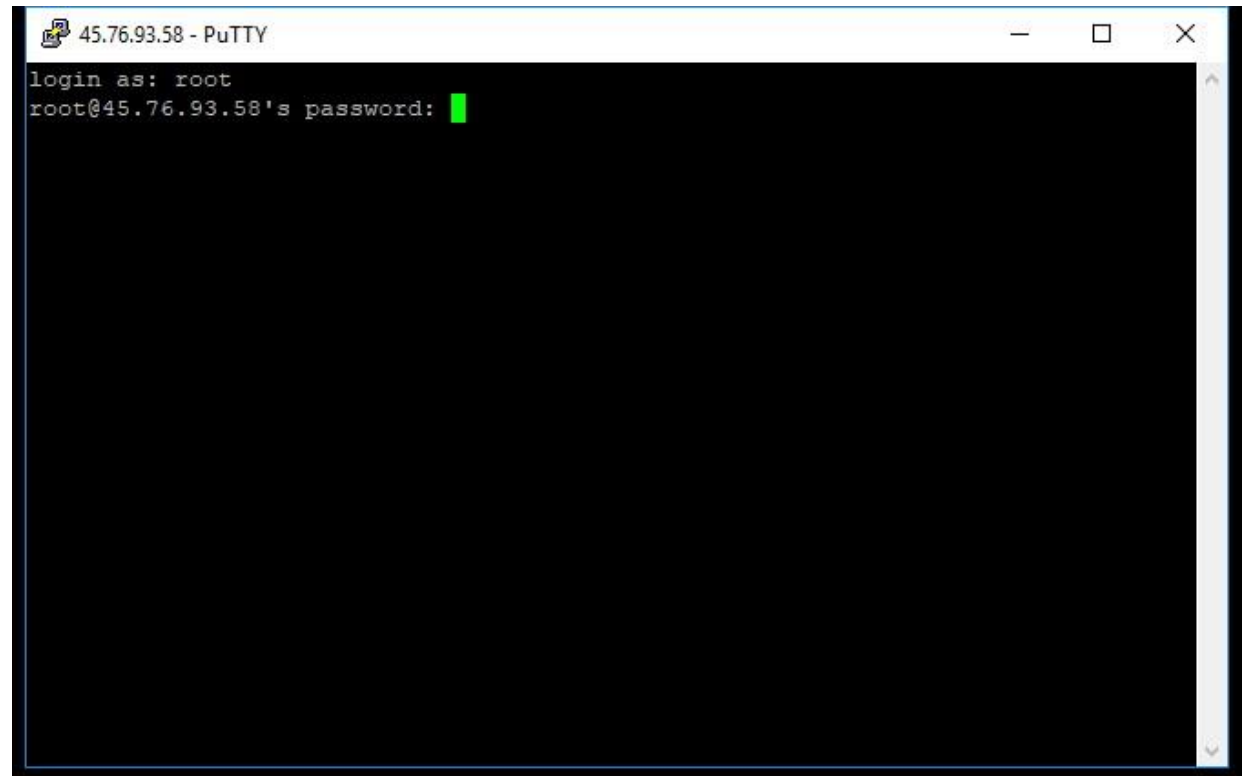
b) Copy your VPS IP and open
PUTTY

c) Paste IP to PUTTY “Host name”
and press OPEN and answer
“Yes”



Login as: root

Password: (copy from vultr server screen in browser)



* It is absolutely normal that password is invisible. Cursor will not move.

* For paste your password just click right mouse button, you will not see anything - it's normal, press ENTER.

* Always use right button click for paste text in PUTTY from WINDOWS

d) Upgrade OS by running the following commands(copy-paste one by one and confirm by ENTER button):

```
apt-get update
```

```
apt-get upgrade
```

(Press Y and ENTER when prompted)

```
apt-get dist-upgrade
```

(Press Y and ENTER when prompted)

```
apt-get install software-properties-common nano libboost-all-dev libzmq3-dev libminiupnpc-dev libssl-dev libevent-dev
```

(Press Y and ENTER when prompted)

```
add-apt-repository ppa:bitcoin/bitcoin
```

(Press ENTER when prompted)

```
apt-get update
```

```
apt-get install libdb4.8-dev libdb4.8++-dev
```

(Press Y and ENTER when prompted)

```
mkdir nyx && cd nyx
```

e) Download the latest wallet version:

```
wget http://latest.nyxcoin.org/nyx-0.12.1-linux64.tar.gz
```

* Double check that it is last version of software.

* Fresh link you can always copy from: <https://github.com/nyxpay/nyx/releases>

f) Extract all files from the wallet tar.gz file using the tar command, delete archive and go to nyx folder:

```
tar -xvf nyx-0.12.1-linux64.tar.gz && rm nyx-0.12.1-linux64.tar.gz && cd nyx-0.12.1
```

* Name "nyx-0.12.1-linux64.tar.gz" could be different. Depend on current version. Check file name on github repository first and make necessary correction in command if needed.

g) Make it possible to launch NYX core from any directory and start NYX wallet:

```
chmod +x nyx*
```

```
mv nyx-cli nyx-qt nyx-tx nyxd /usr/local/bin
```

```
cd ..
```

```
rm -r -f nyx-0.12.1
```

```
nyxd -daemon
```

h) Make sure your masternode is syncing with the NYX network:

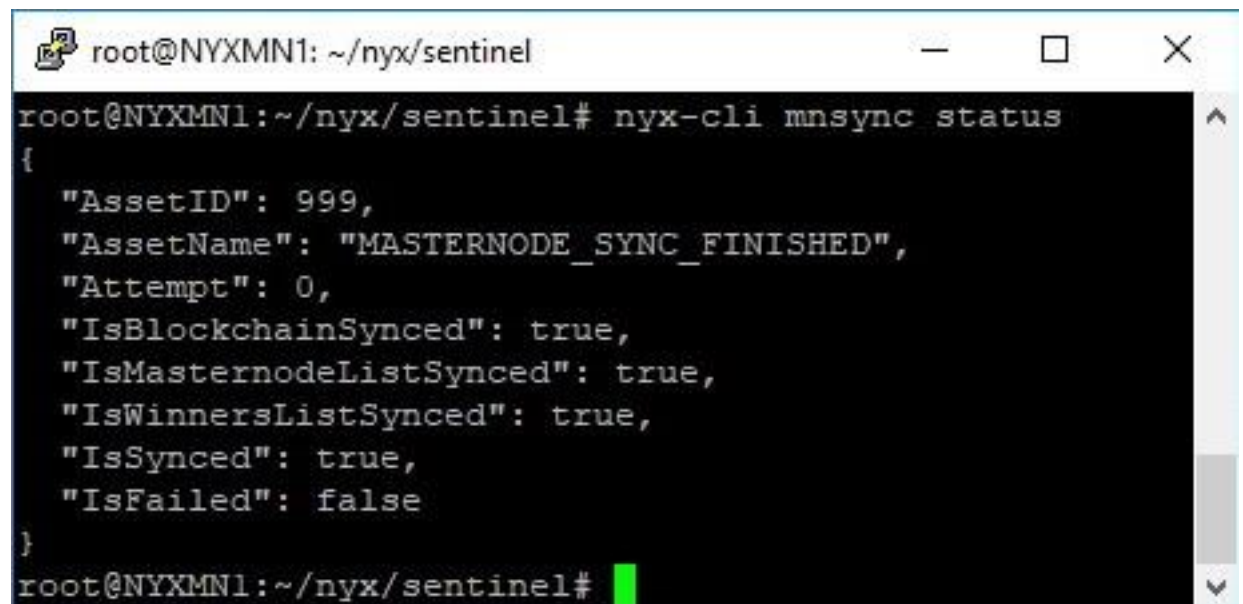
```
nyx-cli mnsync status
```

```
"AssetName": "MASTERNODE_SYNC_FINISHED",
```

```
"IsBlockchainSynced": true,
```

```
"IsMasternodeListSynced": true,
```

```
"IsWinnersListSynced": true,
```



```
root@NYXMN1: ~/nyx/sentinel
root@NYXMN1:~/nyx/sentinel# nyx-cli mnsync status
{
  "AssetID": 999,
  "AssetName": "MASTERNODE_SYNC_FINISHED",
  "Attempt": 0,
  "IsBlockchainSynced": true,
  "IsMasternodeListSynced": true,
  "IsWinnersListSynced": true,
  "IsSynced": true,
  "IsFailed": false
}
root@NYXMN1:~/nyx/sentinel#
```

"IsSynced": true,

* That is mean your node is synced

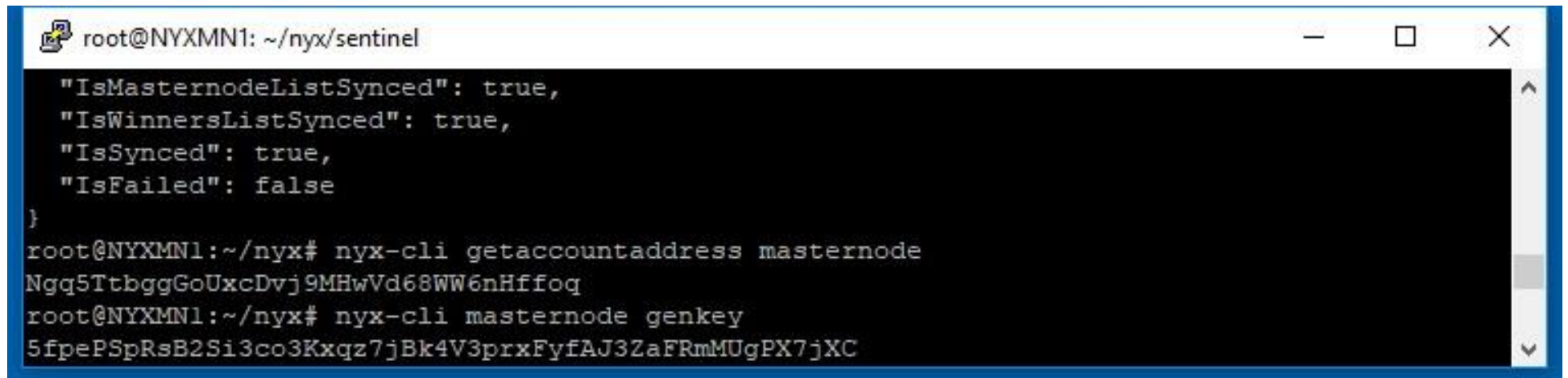
i) Get NYX masternode address. This is address where you should send exactly 1000 NYX.

`nyx-cli getaccountaddress masternode`

j) Send 1000 coins to the generated address and wait 15 confirmations (30mins approximately).

k) Generate the private key for the masternode and copy it to notepad.

`nyx-cli masternode genkey`



```
root@NYXMN1: ~/nyx/sentinel
{
  "IsMasternodeListSynced": true,
  "IsWinnersListSynced": true,
  "IsSynced": true,
  "IsFailed": false
}
root@NYXMN1:~/nyx# nyx-cli getaccountaddress masternode
Ngq5TtbggGoUxcDvj9MHwVd68WW6nHffoq
root@NYXMN1:~/nyx# nyx-cli masternode genkey
5fpePSPRsB2Si3co3Kxqz7jBk4V3prxFyFAJ3ZaFRmMUgPX7jXC
```

l) Stop wallet and edit nyx.conf file:

`cd /root/.nyx`

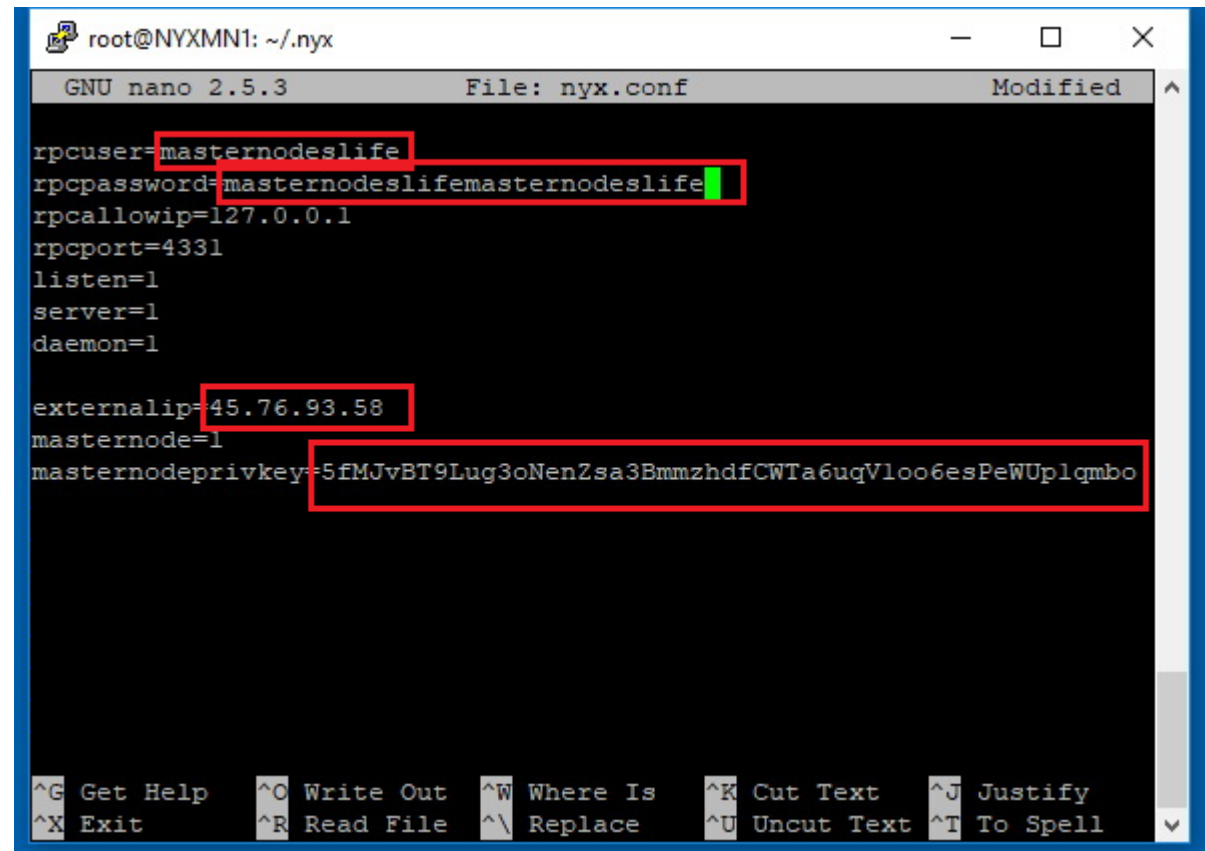
`nyx-cli stop`

`nano nyx.conf`

m) nyx.conf file will be opened automatically in Linux text editor. You should change RPCUSER(any), RPCPASSWORD(any), EXTENALIP(your VPS ip address) and MASTERNODEPRIVKEY(we got it on step#2-k). Copy whole blue text to notepad, change only red text with your data and paste it in putty:

```
rpcuser=ReplaceWithSomeUsernameOnlyAlphabeticWithoutSymbolsAndSpaces
rpcpassword=ReplaceWithYourOwnUniqueLongPasswordWithoutSymbolsAndSpaces
rpcallowip=127.0.0.1
rpcport=4331
listen=1
server=1
daemon=1

externalip=XXX.XXX.XXX.XXX
masternode=1
masternodeprivkey=ReplaceWithYourPrivKeyFromStep#2-k
```



```
root@NYXMN1: ~/.nyx
GNU nano 2.5.3 File: nyx.conf Modified
rpcuser=masternodeslife
rpcpassword=masternodeslifemasternodeslife
rpcallowip=127.0.0.1
rpcport=4331
listen=1
server=1
daemon=1

externalip=45.76.93.58
masternode=1
masternodeprivkey=5fMJvBT9Lug3oNenZsa3BmmzhdfCWTa6uqVl0o6esPeWUplqmb0

^G Get Help ^O Write Out ^W Where Is ^K Cut Text ^J Justify
^X Exit ^R Read File ^\ Replace ^U Uncut Text ^T To Spell
```

n) Save changes in nyx.conf file and exit by pressing CTRL+O -> ENTER -> CTRL+X

o) Start nyxd again and wait for full sync.

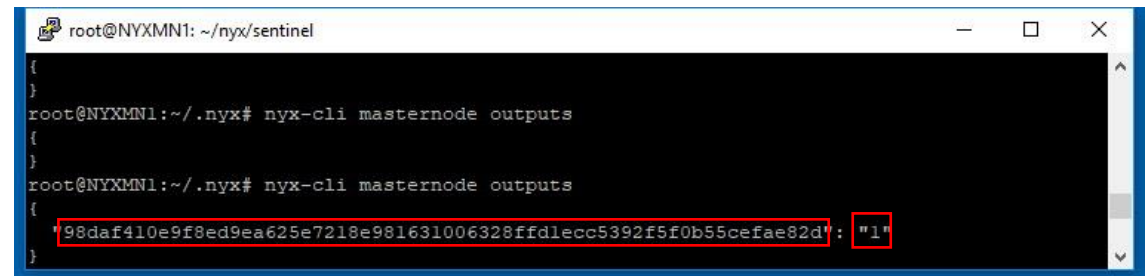
nyxd

p) Get masternode collateral_output_txid and collateral_output_index and save it to notepad without quotes and brackets:

nyx-cli masternode outputs

q) Edit masternode.conf file:

nano masternode.conf



```
root@NYXMN1: ~/nyx/sentinel
{
}
root@NYXMN1:~/ .nyx# nyx-cli masternode outputs
{
}
root@NYXMN1:~/ .nyx# nyx-cli masternode outputs
{
  "98daf410e9f8ed9ea625e7218e981631006328ffdlecc5392f5f0b55cefae82d": "1"
}
```

r) To the bottom of text you should paste your data(divided by spaces):

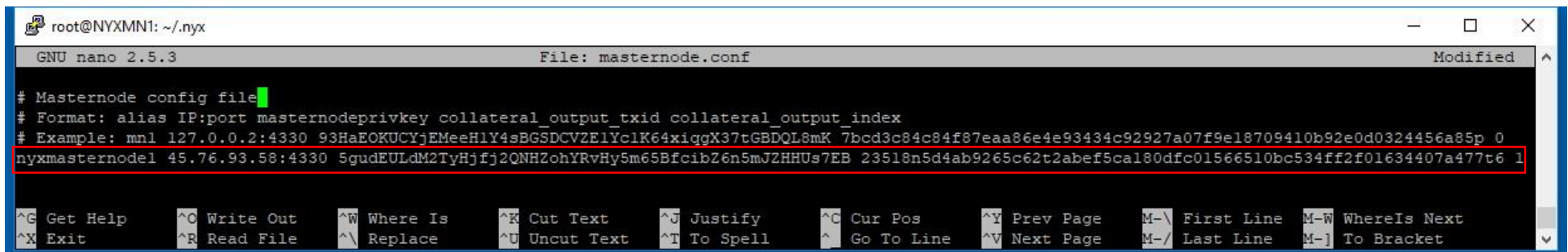
Masternodename - any you want

IP:port – Your VPS ip address and port 4330(port is fixed for all)

masternodeprivkey – You got it from step #2-k

collateral_output_txid – first part of masternode outputs

collateral_output_index – second part of masternode outputs (usually 1 or 0)



```
root@NYXMN1: ~/nyx
GNU nano 2.5.3 File: masternode.conf Modified
# Masternode config file
# Format: alias IP:port masternodeprivkey collateral_output_txid collateral_output_index
# Example: mnl 127.0.0.2:4330 93HaEOKUCYjEMeeH1Y4sBGSDCVZE1Yc1K64xiqgX37tGBDQL8mK 7bcd3c84c84f87eaa86e4e93434c92927a07f9e18709410b92e0d0324456a85p 0
nyxmasternode1 45.76.93.58:4330 5gudEULdM2TyHjFj2QNHZohYRvHy5m65BfcibZ6n5mJZHHUs7EB 23518n5d4ab9265c62t2abef5cal80dfc01566510bc534ff2f01634407a477t6 1
```

s) Save changes in mastenode.conf file and exit by pressing CTRL+O -> ENTER -> CTRL+X

t) Stop and start nyx server by:

`nyx-cli stop`

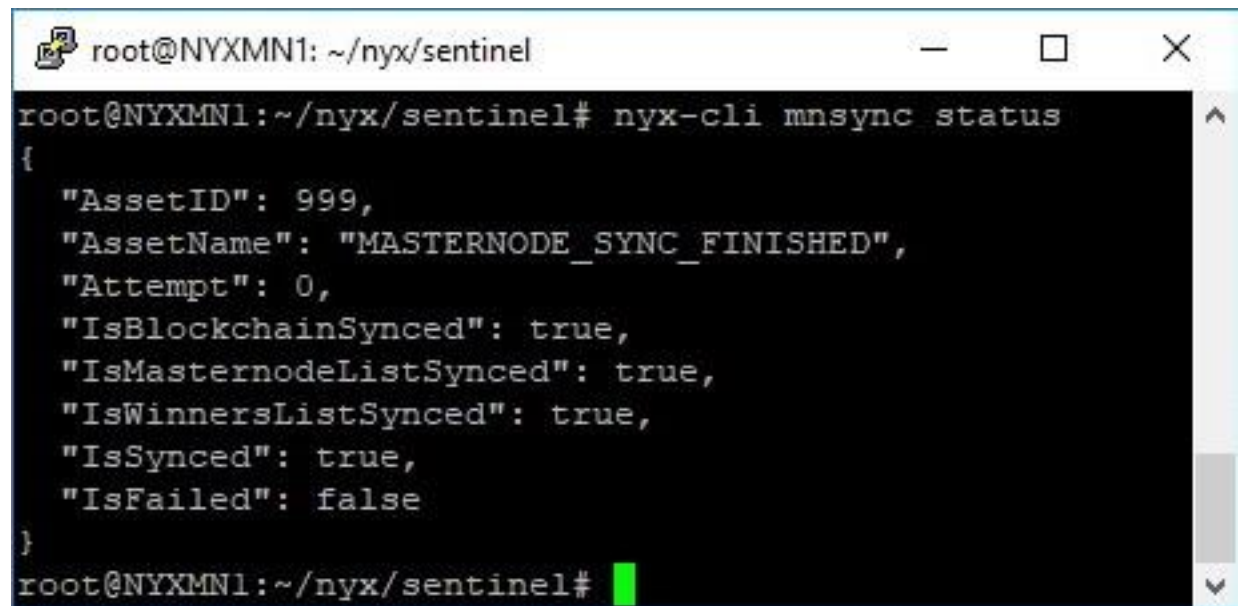
`nyxd`

It should say "Nyx Core server starting"

u) Make sure your wallet is syncing with the NYX network:

`nyx-cli mnsync status`

```
"AssetName": "MASTERNODE_SYNC_FINISHED",  
"IsBlockchainSynced": true,  
"IsMasternodeListSynced": true,  
"IsWinnersListSynced": true,  
"IsSynced": true,
```



```
root@NYXMN1: ~/nyx/sentinel  
root@NYXMN1:~/nyx/sentinel# nyx-cli mnsync status  
{  
  "AssetID": 999,  
  "AssetName": "MASTERNODE_SYNC_FINISHED",  
  "Attempt": 0,  
  "IsBlockchainSynced": true,  
  "IsMasternodeListSynced": true,  
  "IsWinnersListSynced": true,  
  "IsSynced": true,  
  "IsFailed": false  
}  
root@NYXMN1:~/nyx/sentinel#
```

* That is mean your node is synced

3. Install Sentinel

a) Make sure Python version 2.7.x or above is installed:

```
python --version
```

```
cd /root/nyx
```

b) Installation:

```
apt-get update
```

```
apt-get -y install python-virtualenv
```

```
git clone https://github.com/nyxpay/sentinel.git && cd sentinel
```

```
apt install virtualenv
```

(Press Y and ENTER when prompted)

```
virtualenv ./venv
```

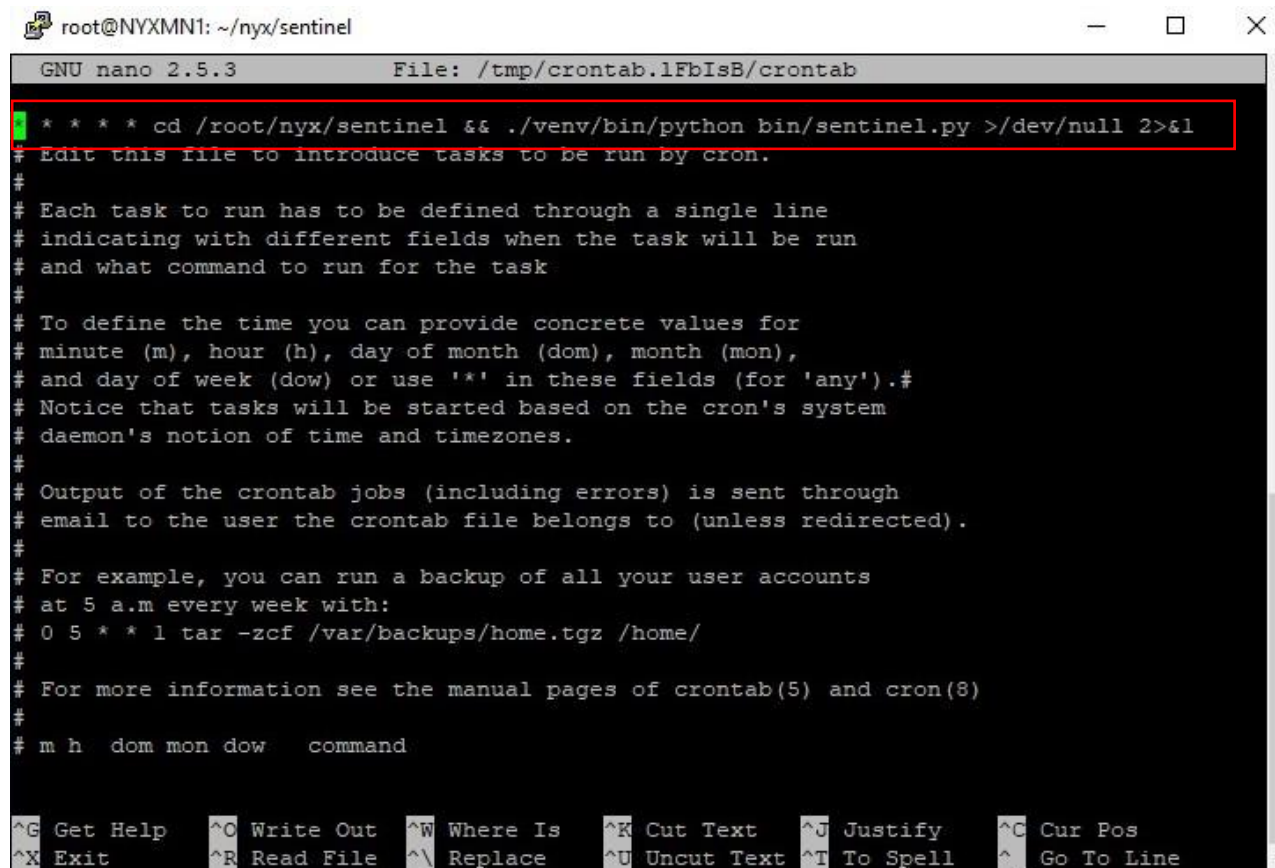
```
./venv/bin/pip install -r requirements.txt
```

c) Set up a crontab entry to call Sentinel every minute:

`crontab -e` (Press 2 and ENTER when prompted)

d) COPY blue text and paste it in PUTTY:

`* * * * * cd /root/nyx/sentinel && ./venv/bin/python bin/sentinel.py >/dev/null 2>&1`



```
root@NYXMN1: ~/nyx/sentinel
GNU nano 2.5.3 File: /tmp/crontab.lFbIsB/crontab
* * * * * cd /root/nyx/sentinel && ./venv/bin/python bin/sentinel.py >/dev/null 2>&1
# Edit this file to introduce tasks to be run by cron.
#
# Each task to run has to be defined through a single line
# indicating with different fields when the task will be run
# and what command to run for the task
#
# To define the time you can provide concrete values for
# minute (m), hour (h), day of month (dom), month (mon),
# and day of week (dow) or use '*' in these fields (for 'any').#
# Notice that tasks will be started based on the cron's system
# daemon's notion of time and timezones.
#
# Output of the crontab jobs (including errors) is sent through
# email to the user the crontab file belongs to (unless redirected).
#
# For example, you can run a backup of all your user accounts
# at 5 a.m every week with:
# 0 5 * * 1 tar -zcf /var/backups/home.tgz /home/
#
# For more information see the manual pages of crontab(5) and cron(8)
#
# m h dom mon dow   command
^G Get Help  ^O Write Out  ^W Where Is   ^K Cut Text   ^J Justify    ^C Cur Pos
^X Exit      ^R Read File  ^\ Replace    ^U Uncut Text ^T To Spell   ^_ Go To Line
```

(And press ENTER to move string to next line)

e) Use CTRL+O -> ENTER -> CTRL+X (for saving changes and exit to command line)

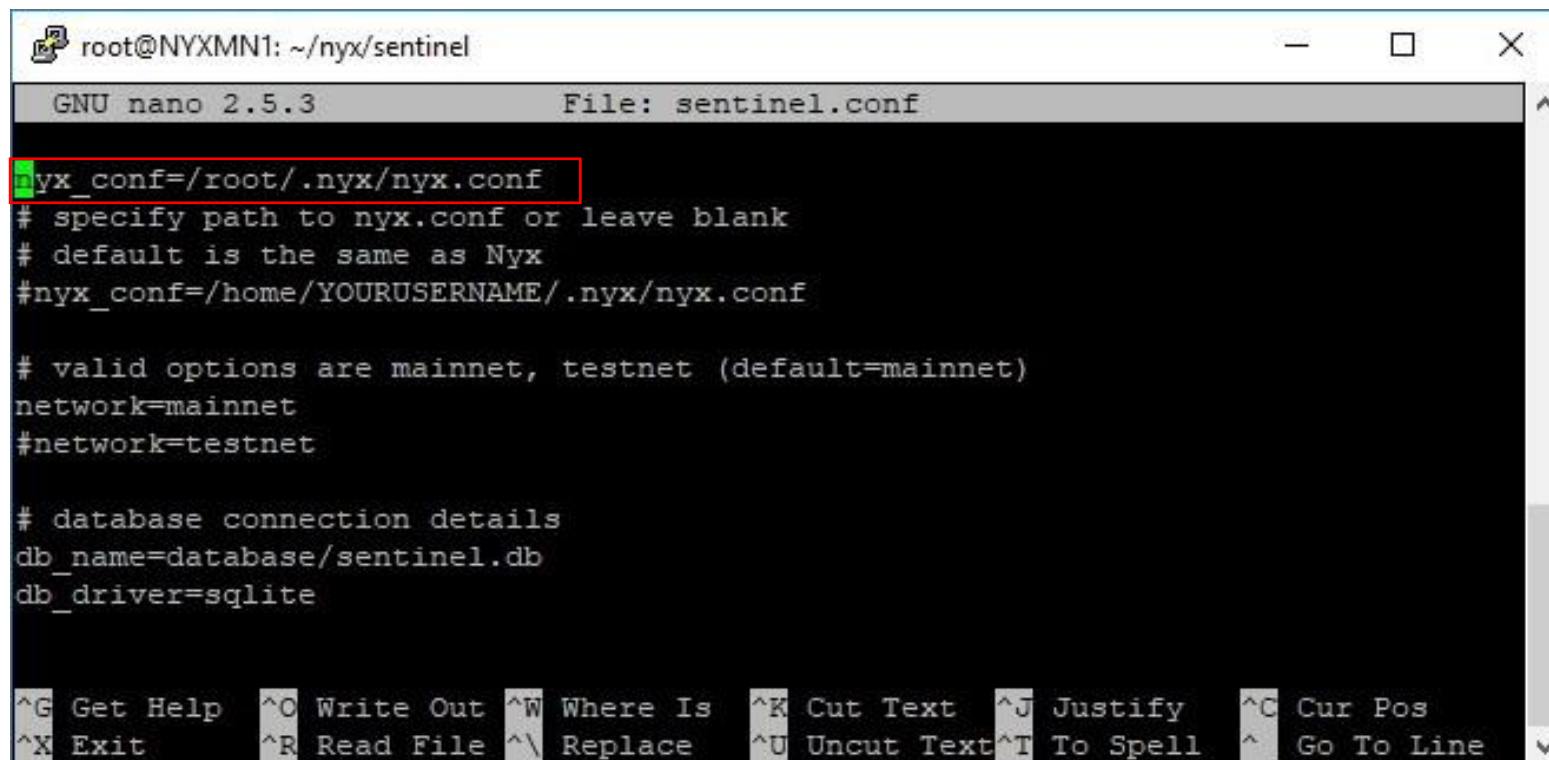
f) Configuration sentinel.conf:

`nano sentinel.conf`

g) Copy blue text and paste in PUTTY:

`nyx_conf=/root/.nyx/nyx.conf`

(And press ENTER to move string to next line)



```
root@NYXMN1: ~/nyx/sentinel
GNU nano 2.5.3 File: sentinel.conf
nyx_conf=/root/.nyx/nyx.conf
# specify path to nyx.conf or leave blank
# default is the same as Nyx
#nyx_conf=/home/YOURUSERNAME/.nyx/nyx.conf

# valid options are mainnet, testnet (default=mainnet)
network=mainnet
#network=testnet

# database connection details
db_name=database/sentinel.db
db_driver=sqlite

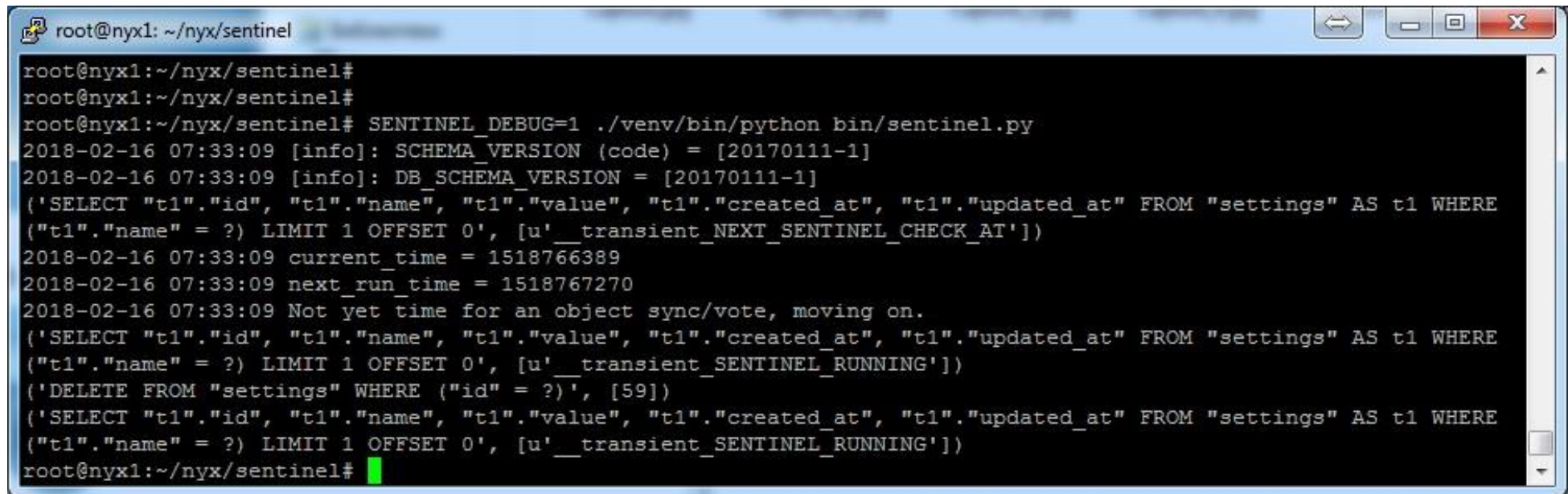
^G Get Help  ^O Write Out  ^W Where Is  ^K Cut Text   ^J Justify   ^C Cur Pos
^X Exit      ^R Read File  ^\ Replace   ^U Uncut Text ^T To Spell  ^_ Go To Line
```

h) Use CTRL+O -> ENTER -> CTRL+X (for saving changes and exit to command line).

i) Test Sentinel:

```
cd /root/nyx/sentinel
```

```
SENTINEL_DEBUG=1 ./venv/bin/python bin/sentinel.py
```



```
root@nyx1: ~/nyx/sentinel
root@nyx1:~/nyx/sentinel#
root@nyx1:~/nyx/sentinel# SENTINEL_DEBUG=1 ./venv/bin/python bin/sentinel.py
2018-02-16 07:33:09 [info]: SCHEMA_VERSION (code) = [20170111-1]
2018-02-16 07:33:09 [info]: DB_SCHEMA_VERSION = [20170111-1]
('SELECT "t1"."id", "t1"."name", "t1"."value", "t1"."created_at", "t1"."updated_at" FROM "settings" AS t1 WHERE
("t1"."name" = ?) LIMIT 1 OFFSET 0', [u'__transient_NEXT_SENTINEL_CHECK_AT'])
2018-02-16 07:33:09 current_time = 1518766389
2018-02-16 07:33:09 next_run_time = 1518767270
2018-02-16 07:33:09 Not yet time for an object sync/vote, moving on.
('SELECT "t1"."id", "t1"."name", "t1"."value", "t1"."created_at", "t1"."updated_at" FROM "settings" AS t1 WHERE
("t1"."name" = ?) LIMIT 1 OFFSET 0', [u'__transient_SENTINEL_RUNNING'])
('DELETE FROM "settings" WHERE ("id" = ?)', [59])
('SELECT "t1"."id", "t1"."name", "t1"."value", "t1"."created_at", "t1"."updated_at" FROM "settings" AS t1 WHERE
("t1"."name" = ?) LIMIT 1 OFFSET 0', [u'__transient_SENTINEL_RUNNING'])
root@nyx1:~/nyx/sentinel#
```

* This is mean your sentinel is working fine

* Run command after masternode start only. It will not show sentinel status now.

4. Start masternode

a) Type in PUTTY:

```
nyx-cli masternode start
```

b) To check masternode status:

```
nyx-cli masternode status
```

c) Your status will become "PRE_ENABLED" and after 30-60min it will be changed to "ENABLED"

d) Sometimes you should wait for 1-2 hours for your masternode sync with another nodes and become ready for starting, if it not start immediately don't worry, just try a little bit later.

e) Relaunch your node if your masternode status is "NEW_START_REQUIRED"

f) Don't worry if status is "WATCHDOG_EXPIRED". It will go back to "ENABLED" in 30-60 minutes.

g) If you would like to check on your wallet's balance and see if you have earned any rewards, enter this command. Any rewards earned from your masternode will appear in the immature_balance until they have reached 100 confirmations, and then they will move to your spendable balance.

```
nyx-cli getwalletinfo
```

h) If you want to send money to another wallet address (exchange or somewhere) use command:

```
nyx-cli sendtoaddress [address] [quantity]
```

* Replace [address] with destination address and replace [quantity] with amount of coins to send.

Example: `nyx-cli sendtoaddress NfEnneYbL12YyrLku2wTkww51APtJSn6WK 250`

CONGRATULATIONS! YOU DID IT!

GOOD LUCK!