



TOR MASTERNODE GUIDE



Galilel

TABLE OF CONTENTS

Overview & Purpose	3
What you will need	3
Step 1 - Setup your Main Wallet (Controller Wallet)	3
Step 2 - Install Tor Browser & Editing the Torrc File.....	4
Step 3 - Creating .onion Addresses.....	6
Step 4 - Gather the Information	8
Step 5 - Setup the Wallet Folders	9
Step 6 - Shortcuts & Configs	10
Step 7 - Starting the Masternodes.....	19
Step 8 - Final Notes	20
Important Links	21



OVERVIEW & PURPOSE

This guide is for Windows but should work with any platform, the purpose being you have easier control over your nodes and a quick setup without the need to know any linux or use remote access. It will also save you vps costs, the only drawback is that you have to have a computer running 24/7 online but if you stake then you are doing this already. You can run multiple Tor nodes or as many as you need on the one computer.

WHAT YOU WILL NEED

1. The latest version of the Galilel coin wallet.
2. The Tor Browser for your system from here <https://www.torproject.org>
3. A computer suitable for running 24/7 online.

STEP 1 - SETUP YOUR MAIN WALLET (CONTROLLER WALLET)

1. If you already have a wallet installed already then go to 2. If not then install the Galilel coin wallet as normal and fully sync.
2. Create address for how many masternodes you will need and label them mn1, mn2, mn3, mn4 ect.. Copy the address and paste them into a text document like this >

```
mn1      ..y64y63ud99cyc007ch776c8c70
mn2      ..xkmj4jm4mmd98fjd7f18fdj kf8
mn3      ..c78c88dhndmyfkdbhd7hjd25
mn4      ..omxin374674b74b74b7c9008v7
```

3. Go to the debug window and generate the private keys for your masternodes. Type masternode genkey to generate a private key for every masternode, then copy the private keys and paste them in the text document like this >

```
mn1 genkey      ..979hity6u67h8GHRDSJKXCNN5BDBbKHbj4a3NN4VM8nWU
mn2 genkey      ..5864878HIUTGJ7h8GHRDSJKXCNN5BDBbKHbj4a3NN4VM8
mn3 genkey      ..UHFTDFHL880344JHRDSJKXCNN5BDBbKHbj4a3NN4VM8nW
mn4 genkey      ..544YG7R55K67h76YTIJHHIKHbj4a3NN4VM8nWUHHGUF5H
```



4. Transfer the correct amount of coins to your wallet from the exchange that you will need for each masternode, i.e if a coins masternode collateral is 15,000 then you need 15,000 coins for mn1 but make sure you have enough to covered to transfer fee, so send 15,010. If you already have the correct amount of coins in your wallet then go to step 5.
5. Now send the exact collateral to each masternode address one at a time, start with mn1, wait for the coins to confirm then type **masternode outputs** each masternode address you send coins to will create a transaction id like this "a97c835aae17ebde01155c48w8b73e5bd763fee5bb4ff1650c4479578f8e9ed6" : "1" you can also right click the transaction in the transactions tab of the wallet or in send `coin control` copy and save them in the text document like this >

mn1 outputs	"7tu07hh8h68j99h9yhldg6gffn5bd763fee5bbc9f1650c4479558f8e9ed6" : "1"
mn2 outputs	"hs8669cah9c7k0s7c6s789jc97s0c9f1650c4479558fs89a07sf6shh8s7f" : "0"
mn3 outputs	"4whhgr77hwg7hllahgflbn8c6c59c7c97c9dbbc9f1650cduy9jkskje9fd6" : "0"
mn4 outputs	"97e9w67kf97690w6dh869h9yhldg6gffn5bd7e5bbsdc9gf16e446dds5gg0" : "1"

6. Now that we have all the info we need saved in the info text document, we now need to backup the wallet and save this to a safe place. You can do this one of two ways, if the wallet client has a backup in the menu then use this, if not then turn off the wallet, go to the coins blockchain folder (in Windows its C:\Users****\AppData\Roaming\Galilel) there you will find wallet.dat copy that to a safe place. Close the wallet.

STEP 2 - INSTALL TOR BROWSER & EDITING THE TORRC FILE

1. Download the Tor Browser installation file from <https://www.torproject.org> and install.
2. When the Tor browser has finished the install we need to edit a file called torrc, this file can be found in the folder >
3. Tor Browser\Browser\TorBrowser\Data\Tor



4. Open the torrc file in a text editor.
5. Once open in the editor you will need to add the following lines of text, (If there is already text in the file, just start underneath it). Add a line for each masternode like this (make sure the <LOCATION> is correct and where you installed the Tor Browser, example >

```
HiddenServiceDir C:\Program Files (x86)\Tor Browser\nodeGALI1  
HiddenServicePort 36001 127.0.0.1:9901
```

6. Add a line for each masternode. The only things you will have to change is the last number after 127.0.0.1:900* You can add as many as you need like this >

```
HiddenServiceDir <LOCATION>\Tor Browser\GALNode1  
HiddenServicePort 36001 127.0.0.1:9901
```

```
HiddenServiceDir <LOCATION>\Tor Browser\GALNode2  
HiddenServicePort 36001 127.0.0.1:9902
```

```
HiddenServiceDir <LOCATION>\Tor Browser\GALNode3  
HiddenServicePort 36001 127.0.0.1:9903
```

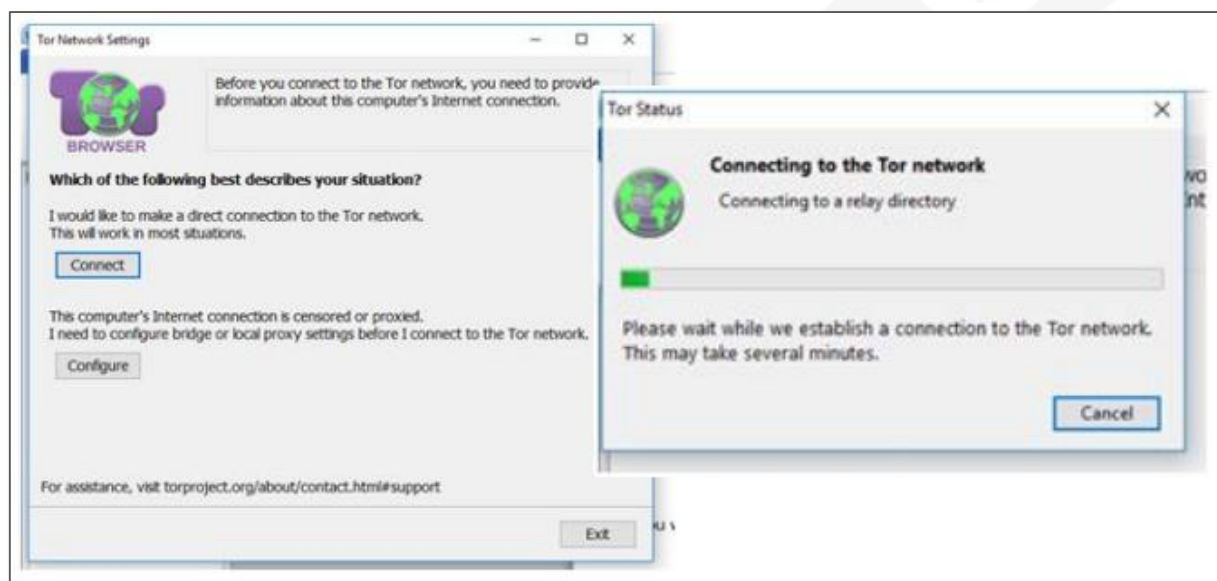
7. Make sure your masternode port is **36001** and the p2p forward local ports are correct for each node you add **127.0.0.1:990*** ect.
8. Save and close the torrc, you might want to make a shortcut to this file on your desktop for quick access later.

STEP 3 - CREATING .ONION ADDRESSES

1. Start tor browser.

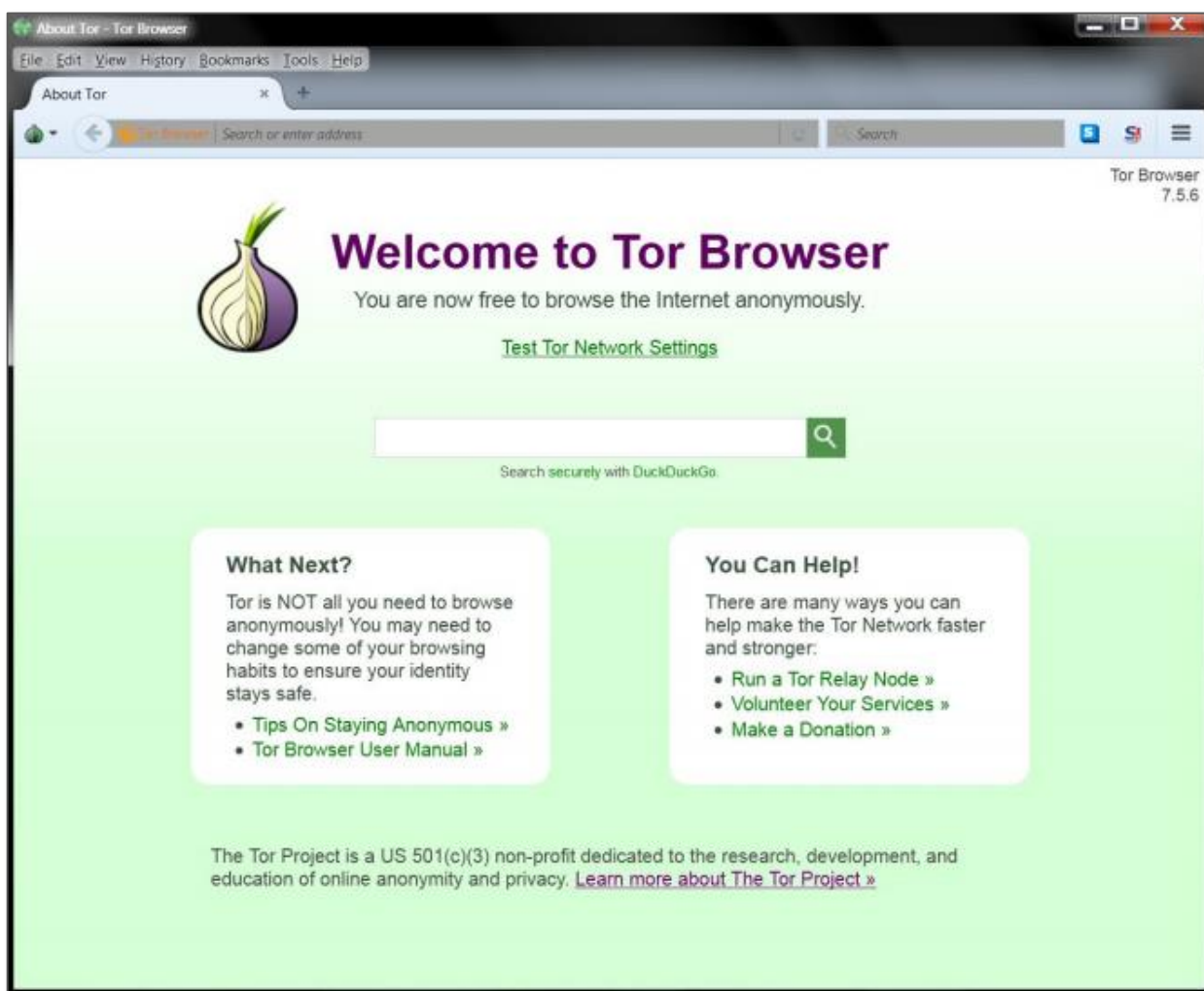


2. If you are not connected behind a proxy simply click connect or if you are add in your details.



3. Connecting this box will popup.

- Once connected you will be faced with a screen like this below, you can click 'Test Tor Network Settings' to make sure it is working.



- Now you have run the Tor Browser it has automatically created your onion IP addresses in the folders you used in the torrc config file.
- Close Tor Browser, then add # to all the command lines in the torrc file to deactivate and to keep a record, like this, then save :

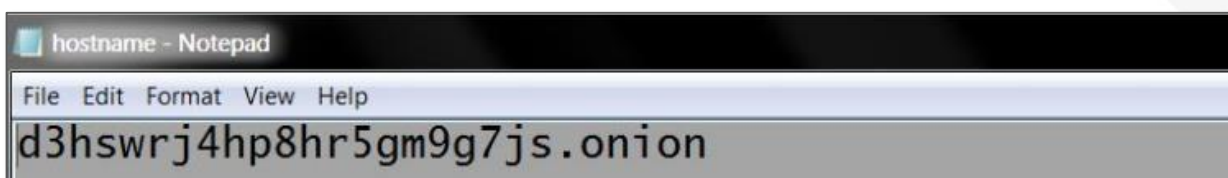
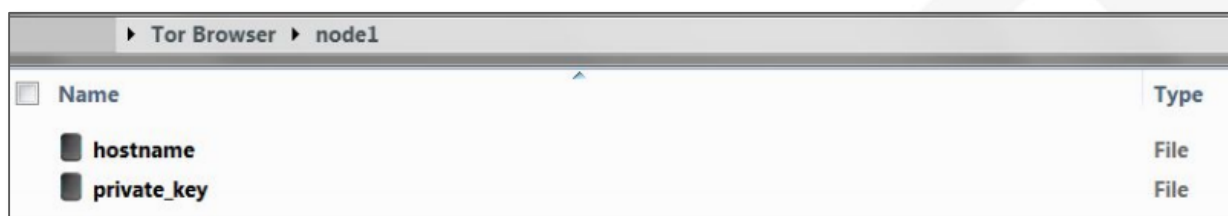
```
# HiddenServiceDir C:\Program Files (x86)\Tor Browser\nodeGALI1
# HiddenServicePort 36001 127.0.0.1:9901
```

STEP 4 - GATHER THE INFORMATION

1. Go to the Tor Browser folder and you will see the node folders you specified in the torrc file. Example >



2. In each of these node folders you will find a file called hostname. Open it with a text editor again and it will show you the .onion address/IP >



- Copy each of the .onion addresses from node1, node2, ect.. to the info text document you saved earlier like this >

```
mn1      d3hswrj4hp8hr5gm9g7js.onion
mn2      kheg7eh7d57f5sv7x4z3x.onion
mn3      kjg7tyc5hf6hr54s7g6f5.onion
mn4      g67h73nhgsk3gtb3dvtru.onion
```

- Save info text document. You should now have all the details needed to setup the masternodes.

STEP 5 - SETUP THE WALLET FOLDERS

- Now we need to setup the masternode wallet folders for node1, node2, node3...ect. Create a folder on a drive called TORMASTERNODE, example `C:\TORMASTERNODE` then create 3 more folders inside TORMASTERNODE labeled DATA , EXE , SHORTCUT >



- Next create the folders node1, node2, node3 ect.. In the DATA folder or drag and copy the nodeGALI* folders from Tor Browser folder.





3. Next copy the galilel-qt.exe file to the `TORMASTERNODE\EXE` folder . You now need to make copies of the galilel-qt.exe and name them galilel-tor1.exe, galilel-tor2.exe, galilel-tor3.exe, ect... example >

galilel-tor1.exe	Application
galilel-tor2.exe	Application
galilel-tor3.exe	Application
galilel-tor4.exe	Application

4. Now create a shortcut to each galilel-tor*.exe in the SHORTCUTS folder like this >

TORMASTERNODE	galilel-tor1.exe	Shortcut
DATA	galilel-tor2.exe	Shortcut
EXE	galilel-tor3.exe	Shortcut
SHORTCUTS	galilel-tor4.exe	Shortcut

STEP 6 - SHORTCUTS & CONFIGS

1. Next we have to edit the shortcuts so the wallets find the blockchain in the DATA/nodeGALI* folders. Right click the first shortcut, click properties and add this line to the end of the target after 1 space> -datadir=C:\TORMASTERNODE\DATA\nodeGALI1
2. Example : C:\TORMASTERNODE\EXE\galilel-tor1.exe -datadir=C:\TORMASTERNODE\DATA\nodeGALI1
Make sure your location (drive letter) of the TORMASTERNODE is correct, above the example is located on C Drive.

Target type:	Application
Target location:	EXE
Target	1.exe -datadir=C:\TORMASTERNODE\DATA\node1
Start in:	C:\TORMASTERNODE\EXE



Galilel

3. Now edit the next shortcuts but change the node number so the other wallets can find their own blockchain folder like this >

-datadir=C:\TORMASTERNODE\DATA\nodeGALI2

-datadir=C:\TORMASTERNODE\DATA\nodeGALI3

-datadir=C:\TORMASTERNODE\DATA\nodeGALI4 ...ect

Once all your shortcuts are edited copy them to your desktop or create a shortcut to the shortcut folder.

4. We now need to open the info document saved earlier, it should look something like this >

```
NoName01.txt - Notepad
File Edit Format View Help

mn1      xjly64y63ud99cyc007ch776c8c70
mn2      xo7xkmj4jm4mmd98fjd7fi8fdjkf8
mn3      x9lc78c88dhndmyfkdbhd7hjd25
mn4      x89omxin374674b74b74b7c9008v7

mn1 genkey      k59g9hity6u67h8GHRDSJKXCNN5BDBbKHbj4a3NN4VM8nwU
mn2 genkey      j58jd4878HIUTGJ7h8GHRDSJKXCNN5BDBbKHbj4a3NN4VM8
mn3 genkey      5uU7F5DFHL880344JHRDSJKXCNN5BDBbKHbj4a3NN4VM8nw
mn4 genkey      st544YG7R55K67h76YTIJHHIKHbj4a3NN4VM8nwUHHGUF5H

mn1 outputs      "7tu07hh8h68j99h9yh8dg6gffn5bd763fee5bbc9f1650c4479558f8e9ed6" : "1"
mn2 outputs      "hs8669cah9c7k0s7c6s789jc97s0c9f1650c4479558fs89a07sf6shh8s7f" : "0"
mn3 outputs      "4whhgr77hwg7h1lahgf1bn8c6c59c7c97c9dbbc9f1650cdy9jkskje9fd6" : "0"
mn4 outputs      "97e9w67kf97690w6dh869h9yh1dg6gf8n5bd7e5bbsdc9gf16e446dds5gg0" : "1"

mn1      d3hswrj4hp8hr5gm9g7js.onion
mn2      khcg7eh7d57f5sv7x4z3x.onion
mn3      kjg7tyc5hf6hr54s7g6f5.onion
mn4      g67h73nhgsk3gtb3dvtru.onion
```

5. First edit the control wallet galilel.conf & masternode.conf, go to C:\Users***\AppData\Roaming\Galilel folder and open both files in a text editor

6. In the galilel.conf add the following without < > brackets

```
listen=1
server=1
daemon=1
staking=1
rpcuser=<user>
rpcpassword=<password>
# rpcport=36002
# port=9901
rpcallowip=127.0.0.1
# onion=127.0.0.1:9901
maxconnections=256
masternode=1
externalip=<TOR NODE 1.onion>
masternodeaddr=<TOR NODE 1.onion>:36001
masternodeprivkey=<mn1 PRIVATEKEY>
masternodeaddr=<TOR NODE 2.onion>:36001
masternodeprivkey=<mn2 PKEY>
masternodeaddr=<TOR NODE 3.onion>:36001
masternodeprivkey=<mn3 PKEY>
masternodeaddr=<TOR NODE 4.onion>:36001
masternodeprivkey=<mn4 PKEY>
addnode=<Official seed node>
addnode=<Official seed node>
```



7. You need to add a rpc user & password it can be anything except special characters, the MN port must be 36001. It should look something like this depending how many nodes you have>

[illegible]

8. Next edit the masternode.conf and add the following lines >

```
# Masternode config file
```

Format: alias IP:port masternodeprivkey collateral output txid collateral output index

mn1 d3nyuybb775ht57hj4.onion:36001 7guk7k9guk7k64jfi8kgkky86ikssed3dsdf45544vfgv77qd5mkyt66hhy 0

mn2 <TOR NODE 2>:<MN PORT> <masternodeprivkey NODE 2> <TXID mn2>

mn3 <TOR NODE 3>:<MN PORT> <masternodeprivkey NODE 3> <TXID mn3>

```
mn4 <TOR NODE 4>:<MN PORT> <masternodeprivkey NODE 4> <TXID mn4>
```



9. The <TXID mn#> should look like this >

7tu07hh8h68j99h9yh8dg6gffn5bd763fee5bbc9f1650c4479558f8e9ed6 1

It should look something like this example depending how many nodes you have>

```
# Masternode config file
# Format: alias IP:port masternodeprivkey collateral_output_txid collateral_output_index
mn1 d3hswrj4hp8hr5gm9g7js.onion:123456 k59g9hity6u67h8GHRDSJKXCNN5BDBbKHbj4a3NN4VM8nWU 7tu07hh8h68j99h9yh8dg6gffn5bd763fee5bbc9f1650c4479558f8e9ed6 1
mn2 khcg7eh7d57f5sv7x4z3x.onion:123456 j58jd4878HIUTGJ7h8GHRDSJKXCNN5BDBbKHbj4a3NN4VM8 hs8669cah9c7k0s7c6s789jc97s0c9f1650c4479558f8e9ed6 0
mn3 kjg7tyc5hf6hr54s7g6f5.onion:123456 5uU7F5DFHL880344JHRDSJKXCNN5BDBbKHbj4a3NN4VM8nW 4whhgr77hwg7hllahgf1bn8c6c59c7c97c9dbbc9f1650cduy9jkskje9fd6 0
```

10. Now we have saved the galilel.conf & masternode.conf files for \AppData\Roaming\Galilel we must now copy all files & folders to each \TORMASTERNODE\DATA\node# folder.

11. Go to your main wallet folder C:\Users***\AppData\Roaming\Galilel folder.

backups	File folder
blocks	File folder
chainstate	File folder
database	File folder
sporks	File folder
zerocoin	File folder
.lock	LOCK File
budget.dat	DAT File
db.log	Text Document
debug.log	Text Document
fee_estimates.dat	DAT File
galilel.conf	CONF File
masternode.conf	CONF File
mncache.dat	DAT File
mnpayments.dat	DAT File
peers.dat	DAT File
wallet.dat	DAT File

12. Select and copy all the files and folders from `AppData\Roaming\Galilel` to all `TORMASTERNODE\DATA\node*` folders

13. Make sure you copy to all files & folders to node1, node2 node3, ect...





Galilei

14. Once copied go to `\TORMASTERNODE\DATA\nodeGALI1` and edit the `galilei.conf` with a text editor, remove lines that are for NODE2, NODE3, NODE4, ect.. change `listen=0`, `staking=0`, remove the `#` before `rpcport=9001`, `port=9901` and `onion=127.0.0.1:9901`.

listen=0

server=1

```
daemon=1
```

staking=0

```
rpcuser=bossteck
```

```
rpcpassword=password
```

```
rpcport=9001
```

```
port=9901
```

```
rpcallowip=127.0.0.1
```

```
onion=127.0.0.1:9901
```

maxconnections=256

```
masternode=1
```

```
externalip=node 1.onion
```

```
masternodeaddr=xxxxxxxxxxxxxxxxx.onion:36001
```

`masternodeprivkey=xx`

addnode=seed1.galilei.cloud

addnode=seed2.galilei.cloud

addnode=seed3.galilei.cloud

addnode=45.32.100.225

addnode=167.88.171.203



Galilei

15. Once copied go to `\TORMASTERNODE\DATA\nodeGALI1` and edit the `galilel.conf` with a text editor, remove lines that are for `NODE2`, `NODE3`, `NODE4`, ect.. change `listen=0`, `staking=0`, remove the `#` before `rpcport=9001`, `port=9901` and `onion=127.0.0.1:9901`.

```
# Masternode config file
```

```
mp1 xxxxxxxxxxxxxxxx.priop:36001 xxxxxxxxxxxxxxxxKEYxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxTXxxxxxxxxxxxxxxxxxxxxxxxx 0
```

16. Next go to `\TORMASTERNODE\DATA\GALI2` and edit the `galilei.conf` with a text editor, remove lines that are for `mn1`, `mn3`, `mn4`, ect.. also remove the `#` before `rpcport=9001`, `port=9901` and `onion=127.0.0.1:9901` and change to `rpcport=9002`, `port=9902` and `onion=127.0.0.1:9902` example>

listen=0

server=1

```
daemon=1
```

staking=0

```
rpcuser=bossteck
```

```
rpcpassword=password
```

```
rpcport=9002
```

```
port=9902
```

```
rpcallowip=127.0.0.1
```

```
onion=127.0.0.1:9902
```

maxconnections=256

```
masternode=1
```

```
externalip=node2.onion
```

```
masternodeaddr=xxxxxxxxxxxxxxxxx.onion:36001
```

```
masternodeprivkey=xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
```

[illegible]

17. Then open and edit the `masternode.conf` for `\TORMASTERNODE\DATA\nodeGAL12` and do the same, remove lines that are for `mn1`, `mn3`, `mn4`, ect.

```
# Masternode config file
# Format: alias IP:port masternodeprivkey collateral_output_txid collateral_output_index
mn2 kheg7eh7d57f5v7x4z3x.onion:123456 j58jd4878HIUTGJ7h8GHRDSJKXCNN5BDBbKbHj4a3NN4VM8 hs6869cah9c7k0a789jc97a0c9f1650c4479558fa89a07af6shh87a 0
```

18. Repeat 14. & 15. for mn3, mn4 ect... Make sure you change listen=0, staking=0 rpcport=900*, port=990* & onion=127.0.0.1:990* to match the node number ect... staking=0 is to stop the mn wallets staking the collateral of another mn, only the control wallet will be able to stake your rewards.

STEP 7 - STARTING THE MASTERNODES

1. First run all the node wallets and then the main controller wallet from the shortcuts on your desktop, let them all fully sync.
2. Now go to info and check the block number with the Galilel explorer <https://galilel.cloud/#statistics> to see if they are correct.
3. Once verified they are all on the correct block number we need to start each node.
4. First node1 wallet go to the masternode tab and right click mn1 the click Start alias.
5. Once mn1 says ENABLED go to node2, node3 wallet ect and repeat Start alias until all say ENABLED.
6. Now they are ENABLED go to the control wallet and repeat Start alias for mn1, 2, 3 , 4 ect.
7. Once you have all your nodes ENABLED then you just need to restart the wallets after about 20 mins. It should show all your nodes ENABLED and the time the node has been online, if not wait another hour or two and check the masternodes time again.
8. If the nodes go MISSING then repeat STEP 7 but try starting the nodes twice in the main control wallet, you might get a negative time but this will change after a couple of hours.



STEP 8 - FINAL NOTES

You must have the wallets for node1, node2, node3, 4 ect running 24/7. The control wallet only needs to be running 24/7 if you are staking your rewards. Adding a new masternode is simple just get a new .onion address (STEP 2.6) and follow the rest of the steps to add it.

The extra line is needed in the galilel.conf file for Tor icon in each node to work with the new Pivx 3 wallet.

onion=127.0.0.1:port

Example: If you set your port to 9501 for node1 in the torrc file, then the line would be onion=127.0.0.1:9501



IMPORTANT LINKS

Website

<https://galilel.cloud/>

Block Explorer (MAINNET)

<https://explorer.galilel.cloud/>

Block Explorer (TESTNET)

<https://explorer.testnet.galilel.cloud>

Github Wallets Repository

<https://github.com/Galilel-Project/galilel/releases>

Discord

<https://discord.galilel.cloud>

Twitter

<https://twitter.com/GalilelEN>

Facebook

<https://facebook.com/GalilelEN>

Youtube

<https://youtube.com/channel/UC26rKBciicXp33dK8NkALmg>

Bitcointalk

<https://bitcointalk.galilel.cloud>



galilei.cloud