

Masternode Cold Guide

Version 1.0 - 2018-07-25 - <https://blocknode.tech>

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What is a Controller-Cold-Setup?

This is the preferred way to setup your Masternodes. The wallet containing the coins do not have to be exposed and you can run it on your local computer.

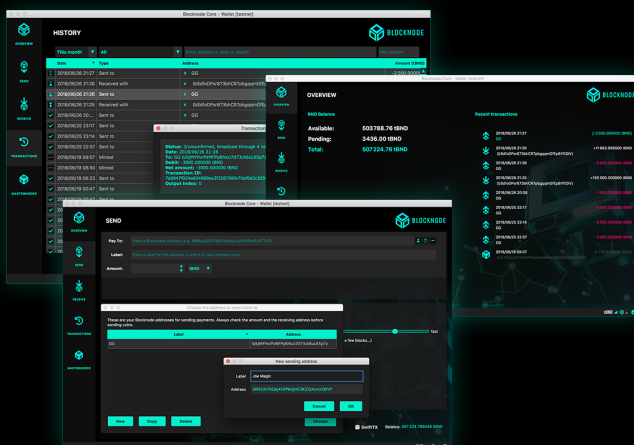
It does not have to run all the time and you are not vulnerable to someone hacking your VPS because all they can do is stop your Masternodes. (not steal your coins)

Before you start...

You will need to have the Blocknode Wallet installed. 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.

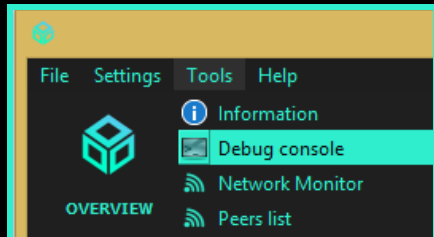
Win, Mac & Linux Wallet Download →
github.com/blocknodetech/blocknode/releases



PART 1 - GETTING STARTED

1.

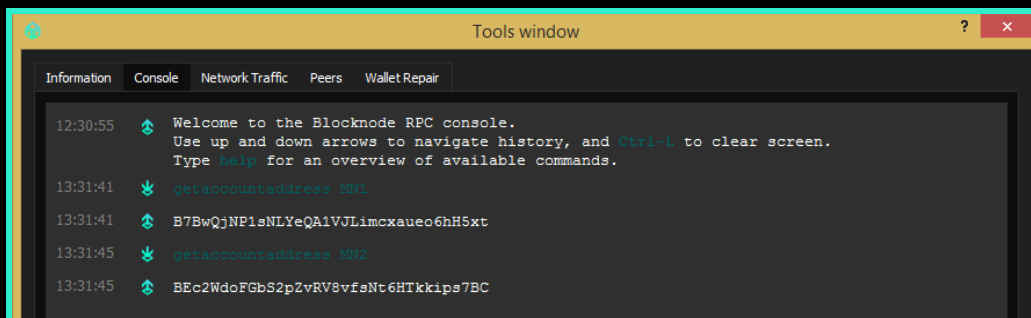
Tools → **Debug Console** to open debug console.



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.)



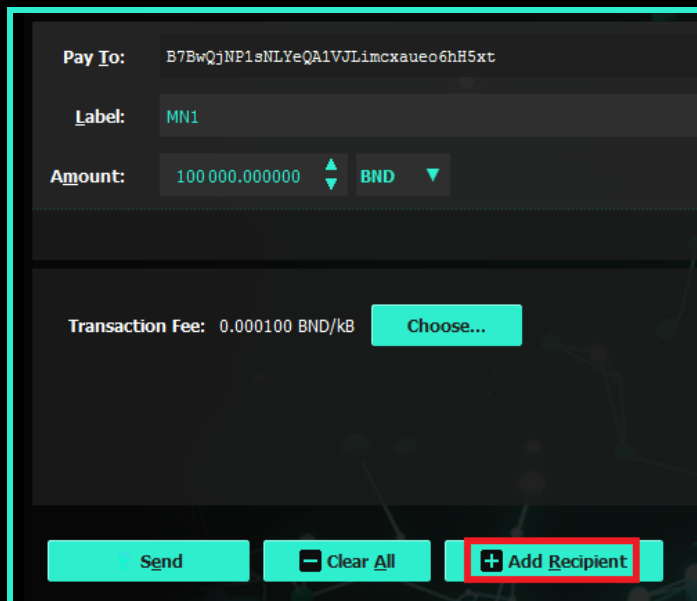
File → **Receiving Addresses**, to view all your created addresses.



3.

Send exactly **100,000 coins** to each address.

Pro Tip: Use “add recipient” to add lines so you can send to all nodes in one transaction if setting up multiple nodes.



Pay To: B7BwQjNP1sNLYeQA1VJLimcxaueo6hH5xt

Label: MN1

Amount: 100 000.000000 BND

Transaction Fee: 0.000100 BND/kB Choose...

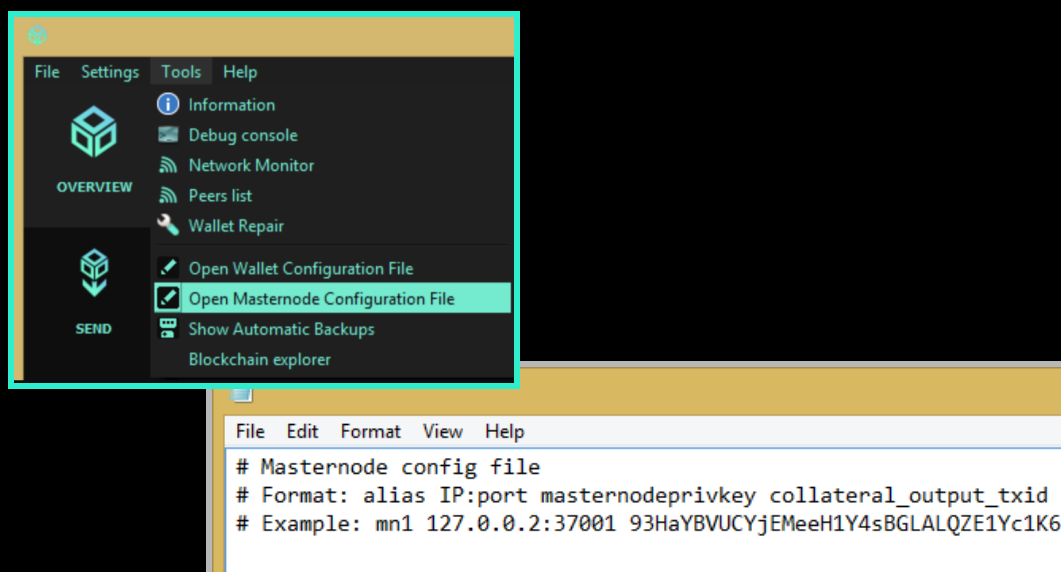
Send Clear All Add Recipient

4.

Open Wallet Config

Tools → **Open Wallet Configuration File**

Your text editor will open with the configuration file.



ATTENTION:

To continue with this step you are going to need to set up a VPS for you node. Refer to the “[Setting up a VPS](#)” section for more.

5.

Add new lines to config file

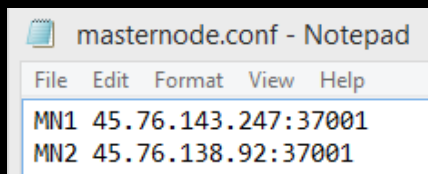
We will now add a line for each MN with the following Format:

“**alias IP:port masternodeprivkey txhash outputindex**”

Begin by entering details for **alias** & **IP:port**

What are these?

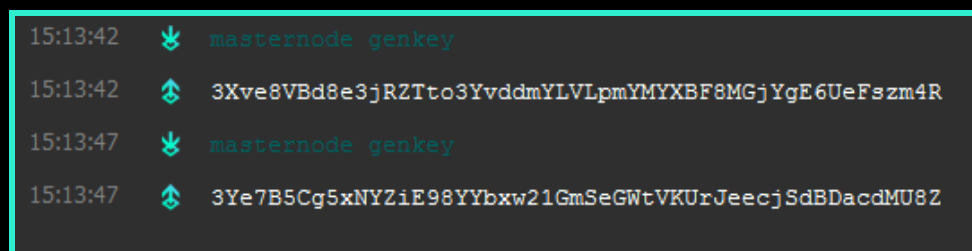
- **Alias** : the name of the MN receiving address (we named them MN1, MN2, ...)
- **IP** : The static IP of your Linux server – if you don’t have one right now go to the next section “[Setting up a VPS](#)” before you continue.
- **Port** : A port the MN will connect to. The port is **fixed to 37001** and the nodes can only run on **one server**.



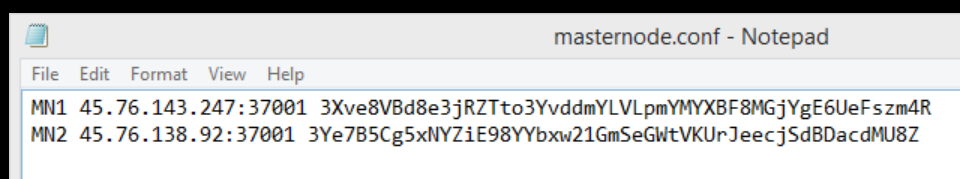
```
File Edit Format View Help
MN1 45.76.143.247:37001
MN2 45.76.138.92:37001
```

Next, how to get the **masternodeprivkey**:

1. **Tools** → **Debug Console**
2. Type “**masternode genkey**” and press **Enter**
Repeat for every masternode you want to set up.
3. Copy keys to config file. The private keys are used for voting and identify you as the real owner so **do not share them.**



```
15:13:42 ✨ masternode genkey
15:13:42 ⬆ 3Xve8VBd8e3jRZTto3YvddmYLVLPmYMYXBF8MGjYgE6UeFszm4R
15:13:47 ✨ masternode genkey
15:13:47 ⬆ 3Ye7B5Cg5xNYZiE98YYbxw21GmSeGWtVKUrJeecjSdBDacdMU8Z
```



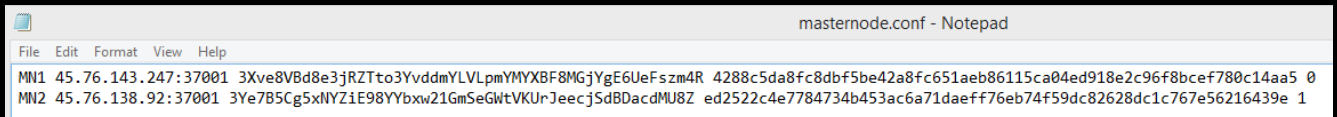
```
File Edit Format View Help
MN1 45.76.143.247:37001 3Xve8VBd8e3jRZTto3YvddmYLVLPmYMYXBF8MGjYgE6UeFszm4R
MN2 45.76.138.92:37001 3Ye7B5Cg5xNYZiE98YYbxw21GmSeGWtVKUrJeecjSdBDacdMU8Z
```

Next we will add **txhash** and **outputindex**

1. **Tools** → **Debug Console**, type “**masternode outputs**” and press **Enter**
2. If you send the coins in one transaction the “**txhash**” will be the same. If you add a masternode later, another tuple will be added. So every masternode has a unique pair of txhash and outputindex
3. Copy the information to the config file. **Don't forget the index!**

```
20:26:39 ✖ masternode outputs
20:26:39 ⬆ [
  {
    "txhash": "4288c5da8fc8dbf5be42a8fc651aeb86115ca04ed918e2c96f8bcef780c14aa5 0",
    "outputidx": 0
  },
  {
    "txhash": "ed2522c4e7784734b453ac6a71daeff76eb74f59dc82628dc1c767e56216439e 1",
    "outputidx": 1
  }
]
```

This is what your config **should finally look like!**




```
masternode.conf - Notepad
File Edit Format View Help
MN1 45.76.143.247:37001 3Xve8VBd8e3jRZTto3YvddmYLVLPmYMYXBf8MGjYgE6UeFszm4R 4288c5da8fc8dbf5be42a8fc651aeb86115ca04ed918e2c96f8bcef780c14aa5 0
MN2 45.76.138.92:37001 3Ye7B5Cg5xNYZ1E98YYbxw21GmSeGwTVKUrJeecjSdBDacdMU8Z ed2522c4e7784734b453ac6a71daeff76eb74f59dc82628dc1c767e56216439e 1
```

6.

Save the file and **restart the wallet**.

Verify now that your Masternodes are showing up in the wallet Masternodes tab.

MASTERNODES



BLOCKNODE

Note: Status of your masternodes in local wallet can potentially be slightly incorrect. Always wait for wallet to sync additional data and then double check from another node if your node should be running but you still see "MISSING" in "Status" field.

Alias	Address	Protocol	Status	Active	Last Seen (UTC)	Pubkey
MN1	45.76.143.247:37001	-1	MISSING	00m:00s	1970-01-01 00:00	
MN2	45.76.138.92:37001	-1	MISSING	00m:00s	1970-01-01 00:00	

PART 2 - SETTING UP A VPS

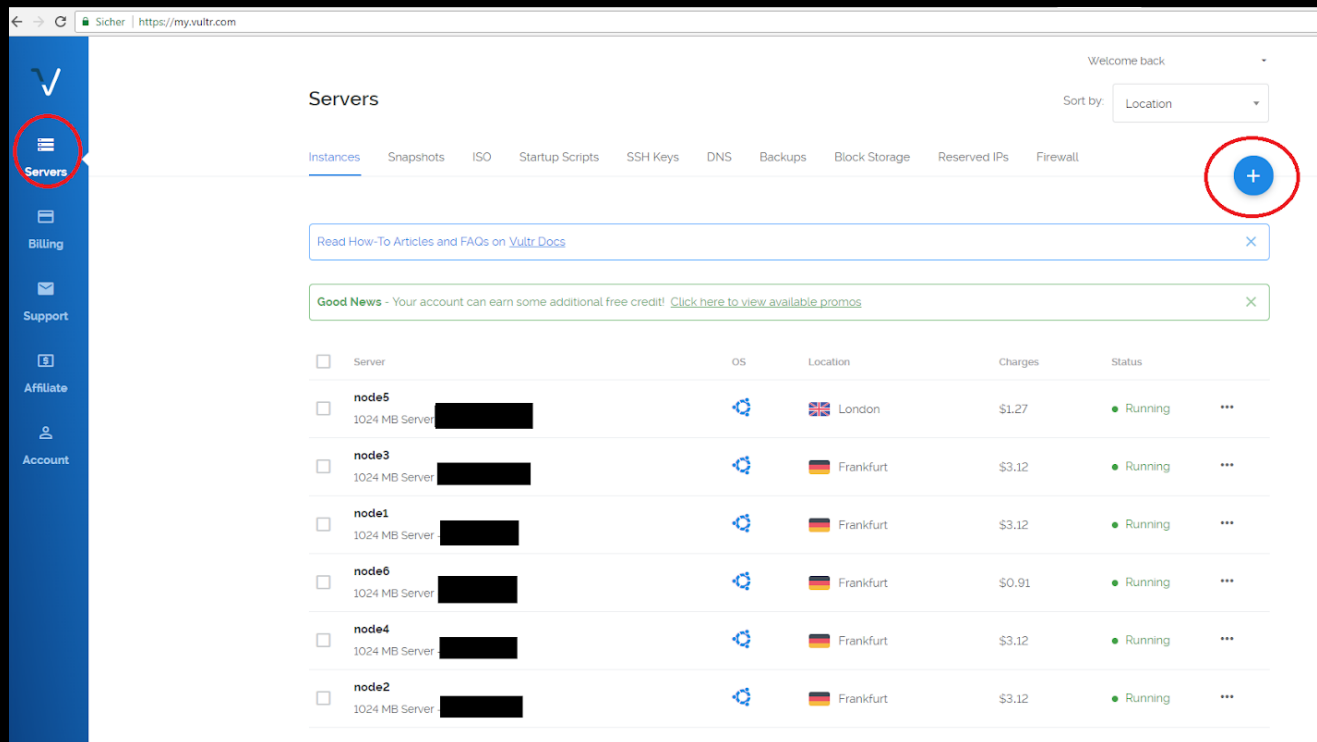
Setting up a VPS

For the cold wallets you first need a Linux VPS. You can get very affordable servers for \$5 here: <https://www.vultr.com/?ref=7186087>. After registration you will be directed 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.

1.

Deploy a new server

Click on the plus sign, top right, to add new instances.



The screenshot shows the Vultr dashboard interface. The left sidebar contains navigation links: Servers, Billing, Support, Affiliate, and Account. The 'Servers' link is highlighted with a red circle. The main content area is titled 'Servers' and includes a 'Sort by: Location' dropdown. A red circle highlights the '+ Add New' button in the top right corner. Below the navigation bar, there are two notification banners: one for 'Read How-To Articles and FAQs on Vultr Docs' and another for 'Good News - Your account can earn some additional free credit!'. The main table lists existing servers with columns for checkboxes, Server name, OS, Location, Charges, Status, and a three-dot menu.

<input type="checkbox"/>	Server	OS	Location	Charges	Status	
<input type="checkbox"/>	node5 1024 MB Server	Ubuntu 18.04	London	\$1.27	Running	...
<input type="checkbox"/>	node3 1024 MB Server	Ubuntu 18.04	Frankfurt	\$3.12	Running	...
<input type="checkbox"/>	node1 1024 MB Server	Ubuntu 18.04	Frankfurt	\$3.12	Running	...
<input type="checkbox"/>	node6 1024 MB Server	Ubuntu 18.04	Frankfurt	\$0.91	Running	...
<input type="checkbox"/>	node4 1024 MB Server	Ubuntu 18.04	Frankfurt	\$3.12	Running	...
<input type="checkbox"/>	node2 1024 MB Server	Ubuntu 18.04	Frankfurt	\$3.12	Running	...

2.

Choose a region near you or one of your preferences.

1. As “**Server Type**” choose **Ubuntu and click 16.04** (Important don’t take 17.10 and above!)
2. As Server Size choose the **\$5 instance with 1GB Ram**. The \$2.50 ones now on Vultr only run IPv6 only, so this option is no longer available as this only runs on IPv4.
3. Scroll down and **give the node a name**.
4. After that click “**Deploy now**”

The screenshot shows the Vultr deployment interface. The 'Server Type' section is active, displaying various operating system options. Ubuntu 16.04 x64 is selected. The 'Server Size' section shows three options: 20 GB SSD (\$2.50/mo), 25 GB SSD (\$5/mo), and 40 GB SSD (\$10/mo). The 25 GB SSD option is selected. At the bottom, the 'Servers Qty' is set to 1, and the 'Summary' shows a total cost of \$5.00/mo (\$0.007/hr). A 'Deploy Now' button is visible.

2 Server Type

64 bit OS 32 bit OS Application Upload ISO ISO Library Backup Snapshot

CentOS Select Version

CoreOS Stable x64

Debian Select Version

Fedora Select Version

FreeBSD Select Version

OpenBSD 6.3 x64

Ubuntu 16.04 x64

Windows Select Version

3 Server Size

IPv6 ONLY

20 GB SSD
\$2.50/mo
\$0.004/h

1 CPU
512MB Memory
500GB Bandwidth

25 GB SSD
\$5/mo
\$0.007/h

1 CPU
1024MB Memory
1000GB Bandwidth

40 GB SSD
\$10/mo
\$0.015/h

1 CPU
2048MB Memory
2000GB Bandwidth

Servers Qty: - 1 +

Summary: \$5.00/mo (\$0.007/hr)

Deploy Now

Next you will see the servers installing...

<input type="checkbox"/>	BlocknodeMN1 1024 MB Server		London	---	Installing
<input type="checkbox"/>	BlocknodeMN2 1024 MB Server		London	---	Installing

After which they will appear as running...

<input type="checkbox"/>	BlocknodeMN1 1024 MB Server - 45.76.143.247		London	\$0.01	● Running	...
<input type="checkbox"/>	BlocknodeMN2 1024 MB Server - 45.76.138.92		London	\$0.01	● Running	...

Click on a server to find more information on it...

Bandwidth Usage

0.24GB/1000GB

Location: London

IP Address: 45.76.143.247

Username: root

Password:

3.

Connect to your server(s)

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

```
root@BlocknodeMN1: ~  
login as: root  
root@45.76.143.247's password:  
Welcome to Ubuntu 16.04.4 LTS (GNU/Linux 4.4.0-127-generic x86_64)  
  
* Documentation:  https://help.ubuntu.com  
* Management:    https://landscape.canonical.com  
* Support:        https://ubuntu.com/advantage  
  
48 packages can be updated.  
25 updates are security updates.  
  
root@BlocknodeMN1:~#
```


4.

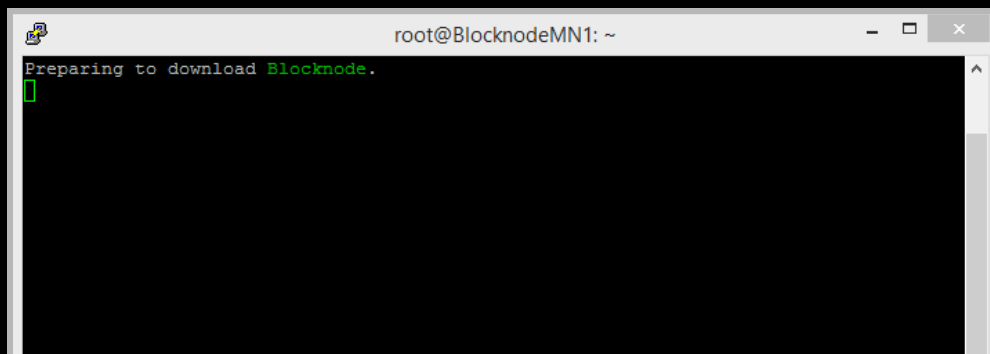
Automatic server installation and setup.

- a. Locate the “Download and Execute” script on Github.

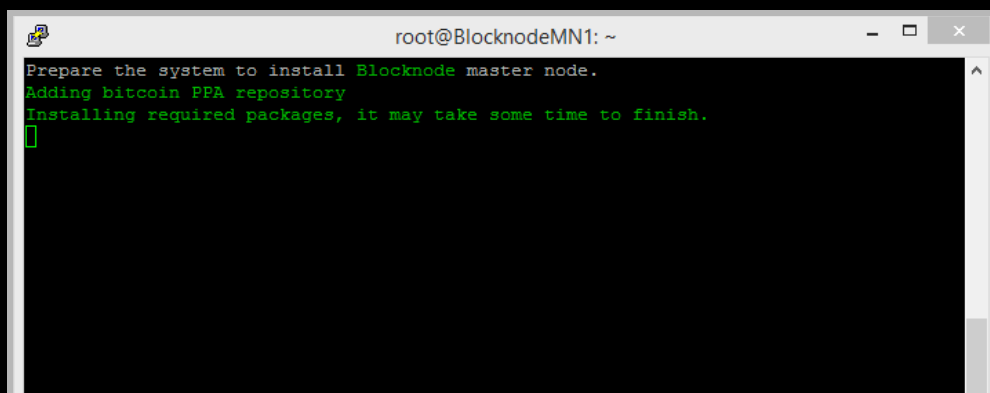
<https://github.com/zoldur/Blocknode>

```
wget -N https://raw.githubusercontent.com/zoldur/Blocknode/master/blocknode_install.sh  
  
bash blocknode_install.sh
```

- b. Enter the 2 lines of scripts separately to start the setup process. All dependencies and needed programs will be installed (takes a few minutes). This process is interactive and will ask you for your private key.



A terminal window titled 'root@BlocknodeMN1: ~' showing the command 'Preparing to download Blocknode.' followed by a green cursor on a new line.



A terminal window titled 'root@BlocknodeMN1: ~' showing the following steps: 'Prepare the system to install Blocknode master node.', 'Adding bitcoin PPA repository', and 'Installing required packages, it may take some time to finish.' followed by a green cursor on a new line.

- c. **Enter the Private key** (copy/paste) that you generated in your wallet with “**masternode genkey**” in your wallet debug console. Copy this and paste in the console. **Again, don’t give this to anyone!**

```
root@BlocknodeMN1: ~  
Enter your Blocknode Masternode Private Key. Leave it blank to generate a new Masternode Private Key for you:  
3Xve8VBd8e3jRZTto3YvddmYLVLPmYMYXBF8MGjYgE6UeFszm4R
```

- d. Once complete you will get all information of your masternode setup.

```
root@BlocknodeMN1: ~  
Installing and setting up firewall to allow ingress on port 37001  
=====
```

```
Blocknode Masternode is up and running listening on port 37001.  
Configuration file is: /root/.blocknode/blocknode.conf  
Start: systemctl start Blocknode.service  
Stop: systemctl stop Blocknode.service  
VPS IP:PORT 45.76.143.247:37001  
MASTERNODE PRIVATEKEY is: 3Xve8VBd8e3jRZTto3YvddmYLVLPmYMYXBF8MGjYgE6UeFszm4R  
Please check Blocknode daemon is running with the following command: systemctl status Blocknode.service  
Use blocknode-cli masternode status to check your MN.  
=====
```

```
root@BlocknodeMN1:~#
```

- e. “**systemctl status blocknode.service**” will show you if the masternode is active.

```
root@BlocknodeMN1: ~  
root@BlocknodeMN1:~# systemctl status Blocknode.service  
● Blocknode.service - Blocknode service  
   Loaded: loaded (/etc/systemd/system/Blocknode.service; enabled; vendor preset: ena  
   Active: active (running) since Mon 2018-07-23 14:32:01 UTC; 4h 37min ago  
   Main PID: 22360 (blocknoded)  
   CGroup: /system.slice/Blocknode.service  
           └─22360 /usr/local/bin/blocknoded -daemon -conf=/root/.blocknode/blocknode
```

```
Jul 23 14:32:01 BlocknodeMN1 systemd[1]: Starting Blocknode service...  
Jul 23 14:32:01 BlocknodeMN1 blocknoded[22356]: Blocknode server starting  
Jul 23 14:32:01 BlocknodeMN1 systemd[1]: Started Blocknode service.  
^X  
root@BlocknodeMN1:~# systemctl status Blocknode.service  
● Blocknode.service - Blocknode service  
   Loaded: loaded (/etc/systemd/system/Blocknode.service; enabled; vendor preset: ena  
   Active: active (running) since Mon 2018-07-23 14:32:01 UTC; 4h 37min ago  
   Main PID: 22360 (blocknoded)  
   CGroup: /system.slice/Blocknode.service  
           └─22360 /usr/local/bin/blocknoded -daemon -conf=/root/.blocknode/blocknode
```

```
Jul 23 14:32:01 BlocknodeMN1 systemd[1]: Starting Blocknode service...  
Jul 23 14:32:01 BlocknodeMN1 blocknoded[22356]: Blocknode server starting  
Jul 23 14:32:01 BlocknodeMN1 systemd[1]: Started Blocknode service.  
lines 1-10/10 (END)
```

- f. “**blocknode-cli getinfo**” will show you amount of blocks and connection count!

```
root@BlocknodeMN2:~# blocknode-cli getinfo
{
  "version": 1050200,
  "protocolversion": 70915,
  "walletversion": 61000,
  "balance": 0.000000,
  "zerocoinbalance": 0.000000,
  "blocks": 23338,
  "timeoffset": 0,
  "connections": 16,
  "proxy": "",
  "difficulty": 1563.745954465735,
  "testnet": false,
  "moneysupply": 35186604.311290,
  "zBNDsupply": {
    "1": 0.000000,
    "5": 0.000000,
    "10": 0.000000,
    "50": 0.000000,
    "100": 0.000000,
    "500": 0.000000,
    "1000": 0.000000,
    "5000": 0.000000,
    "total": 0.000000
  },
  "keypoololdest": 1532374859,
  "keypoolsize": 1001,
  "paytxfee": 0.000000,
  "relayfee": 0.000100,
  "staking status": "Staking Not Active",
  "errors": ""
}
```

- g. You can check on our discord server bot for the current block ammount or use our Block Explorers - www.coinexplorer.net/BND & explorer.blocknode.tech to see if it full synced with the chain as this command will show you amount of blocks and connection count.

5. Controlling the masternode

- a. “**blocknode-cli masternode status**” to see if everything works.

```
root@BlocknodeMN2:~# blocknode-cli masternode status
{
  "txhash": "ed2522c4e7784734b453ac6a71daeff76eb74f59dc82628dc1c767e56216439e",
  "outputidx": 1,
  "netaddr": "45.76.138.92:37001",
  "addr": "B7BwQjNP1sNLYeQA1VJLimcxaueo6hH5xt",
  "status": 4,
  "message": "Masternode successfully started"
}
root@BlocknodeMN2:~#
```

If you see this error, please click “**start alias, start all**” on your masternode gain in the wallet, as it is not synced correctly.

```
root@BlocknodeMN2:~# blocknode-cli masternode status
error: {"code":-1,"message":"Masternode not found in the list of available masternodes. Current status: Not capable masternode: Hot node, waiting for remote activation."}
```

- b. Sync completely and go to your **desktop wallet** and start MNs in the masternode tab (**unlock** wallet before).
- c. Start your masternodes on your Wallet, this should sync it to the VPS

Alias	Address	Protocol	Status	Active	Last Seen (UTC)	Pubkey
MN1	45.76.143.247:37001	70915	ENABLED	00m:00s	2018-07-23 19:41	BEc2WdoFGbS2pZvRV8vfaN6HTtki...
MN2	45.76.138.92:37001	70915	ENABLED	00m:00s	2018-07-23 19:41	B7BwQjNP1sNLYeQA1VJLimcxaueo6...

Blocknode-Qt

Successfully started 2 masternodes, failed to start 0, total 2

OK

Start alias

Start all

Start MISSING

Update status

Status will be updated automatically in (sec): 44

6.

Finished! Well done.

The wallet will show you that the Masternodes are successfully started and correctly connected to your wallet. Repeat this for all MNs to ensure they are running.

Alias	Address	Protocol	Status	Active	Last Seen (UTC)
MN1	45.76.143.247:37001	70915	ENABLED	32m:54s	2018-07-23 20:31
MN2	45.76.138.92:37001	70915	ENABLED	41m:52s	2018-07-23 20:40

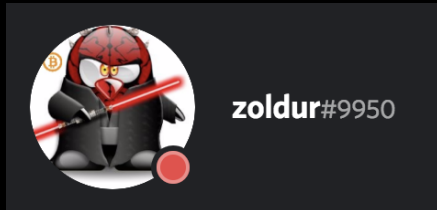
You can close your Desktop Wallet after a while if the time starts counting up.



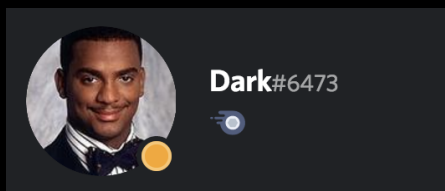
SPECIAL THANKS TO:



XeZZ - twitter.com/XeZZoR



Zolur - github.com/zoldur



Dark

THE BLOCKNODE TEAM
Copyright 2018