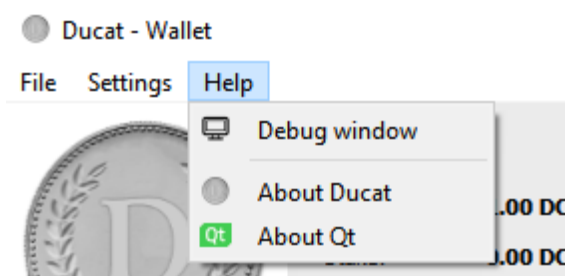# Ducat Masternode Guide

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 window

2. Type "getaccountaddress MN1" and press Enter.
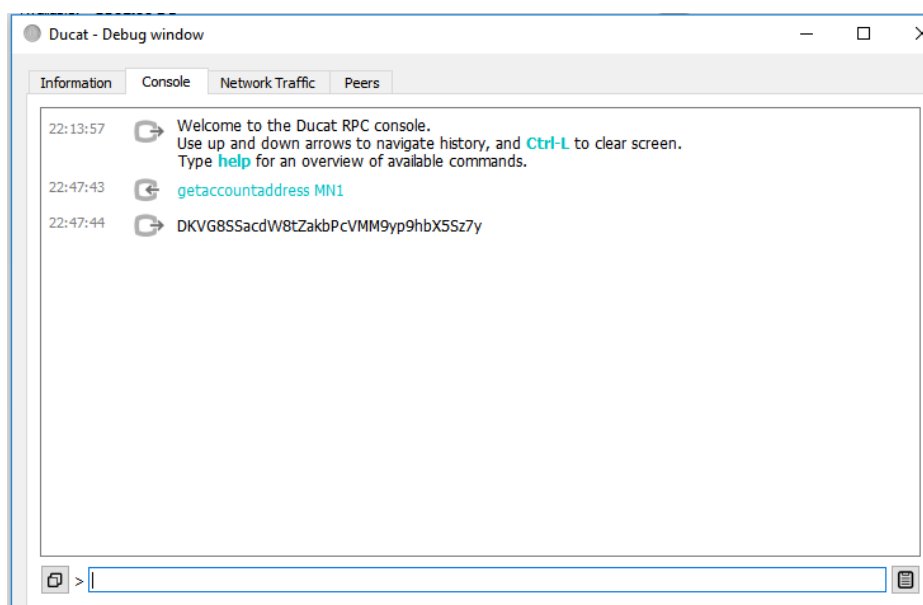
Repeat this step for the amount of masternodes you want to setup as shown. Make sure you count up (MN1, MN2 etc.)

These are your Ducat addresses for receiving payments. You may want to give a different one to each sender so you can keep track of who is paying you.

Label	Address
MN1	DKVG8SSacdW8tZakbPcVMM9yp9hbX5Sz7y
Standard	DRVeWDKZYNkEu2Em8j5VyyLRzS2LWfFc8j

DASHBOARD

RECEIVE

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

3. Send exactly 3500 coins to the MN address

Coin Control Features

Inputs...

Quantity: 1	Amount: 3501.00 DC	Fee:	0.01 DC	After Fee:	3500.99 DC
Bytes: ~226	Priority: highest	Low Output:	no	Change	0.99 DC

☑ custom change address DRVeWDKZYNkEu2Em8j5VyyLRzS2LWfFc8j   Standard

Pay To: DKVG8SSacdW8tZakbPcVMM9yp9hbX5Sz7y

Label: MN1

Amount: 3500.00000000 ÷ DC ▼

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

4. Now create (or open) the "masternode.conf" this file is located under %appdata%\Roaming\Ducat
Make sure you activated file extension!

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

> alias IP:port masternodeprivkey txhash outputindex

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 server (If you don't have one scroll down to find out where to get one!)
   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.

masternode.conf - Editor

Datei Bearbeiten Format Ansicht ?

MN1 199.247.21.63:10015 |

You can have more than one node per IP just adjust the ports. If you don't have a linux VPS by now please scroll down to "Get a Linux VPS first"

b. Next we get the "masternodeprivkey "

    i. Open debug console again, type "masternode genkey" and press enter

22:52:52	⏎	masternode genkey
22:52:52	⏏	69BmFqdpz2RCRXbTwvSQThMQShE9JuhTBLiW8bNPAwGsxXHcqf3

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

```
📄 masternode.conf - Editor
Datei  Bearbeiten  Format  Ansicht  ?
MN1 199.247.21.63:10015 69BmFqdpz2RCRXbTwvSQThMQShE9JuhTBLiW8bNPAwGsxXHcqf3 |
```

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 you add a masternode later, another tuple will be added. So every

```
09:38:29  ⏏  {
              "0438fb6c2e830ccfc9e609f05cc8c6da4e06f54d53153f641761b7ef6d66a5ff" : "1"
            }
```

    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!)

```
📄 masternode.conf - Editor
Datei  Bearbeiten  Format  Ansicht  ?
MN1 199.247.21.63:10015 69BmFqdpz2RCRXbTwvSQThMQShE9JuhTBLiW8bNPAwGsxXHcqf3 0438fb6c2e830ccfc9e609f05cc8c6da4e06f54d53153f641761b7ef6d66a5ff 1|
```

This is what your config should finally look like.

5. Save the file and restart the wallet.

Ducat Network	My Master Nodes				
Create...					
Alias	IP/Onion	Reward %	Reward Address		Status
1 MN1	199.247.21.63:10015			Not in the masternode list.	

Verify now that your MN are shown in the Masternodes tab. (Press the update button below)

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 3 different coin masternode. 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.

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 only one node on it.

c. Scroll down and give the node a name.

d. After that click "Deploy now" in the overview you should see this:

| | BITG | | | | |
| | 1024 MB Server - 45.77.65.231 | | Frankfurt | --- | Installing |

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/Ducat/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 ~10-30 minutes for compilation)

```
Configure your masternodes now!
Type the IP of this server, followed by [ENTER]:
199.247.21.63

Enter masternode private key for node
69BmFqdpz2RCRXbTwvSQThMQShE9JuhTBLiW8bNPAwGsxXHcqf3
Rule added
Rule added (v6)
root@CORE-09:~# Ducat server starting

root@CORE-09:~# █
```

*Enter the asked information and hit enter. The Daemon will automatically start
after the script finishes.*

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 the wallet on VPS

To see if everything works type "ducatd getinfo"

```
root@CORE-10:~# ducatd getinfo
{
    "version" : "v1.0.0.0-60028",
    "protocolversion" : 60028,
    "walletversion" : 60000,
    "balance" : 0.00000000,
    "darksend_balance" : 0.00000000,
    "newmint" : 0.00000000,
    "stake" : 0.00000000,
    "blocks" : 264,
    "timeoffset" : 0,
    "moneysupply" : 1600000.00000000,
    "connections" : 5,
    "proxy" : "",
    "ip" : "199.247.21.63",
    "difficulty" : 0.00001526,
    "testnet" : false,
    "keypoololdest" : 1524297580,
    "keypoolsize" : 101,
    "paytxfee" : 0.01000000,
    "mininput" : 0.00000000,
    "errors" : ""
```

You can see the amount of blocks here. Wait till it's fully synced till the next step.

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

	Alias	IP/Onion	Reward %	Reward Address	Status
1	MN1	199.247.21.63:10015			Masternode is Running.

c. See if node is running: "ducatd masternode status"

```
root@CORE-10:~# ducatd masternode status
{
    "vin" : "CTxIn(COutPoint(0438fb6c2e, 1), scriptSig=)",
    "service" : "199.247.21.63:10015",
    "status" : 9,
    "pubKeyMasternode" : "DPC75sGyFkXCJAuBB4fgiJCtDgtZY6LwrC",
    "notCapableReason" : "Could not find suitable coins!"
}
```

If you see this status your node is successfully running and you can close the controller wallet!

In case of status 2 follow the following steps:

```
ducatd stop
ducatd -reindex
```

After this wait for sync again and start it from the GUI like before!