

# TZC

## MINING, STAKING, & WALLET CONFIGURATION

PoW & PoS Basics Guide

Version 1.1.0.0\_01

## What you need:

- 1) A local computer running Ubuntu 16.04, OS X 10.11 (El Capitan), Windows 8.1—or higher.  
[Note: The examples in this guide will mostly come from Windows 10.]
- 2) A bit of patience. :)

## What we will see:

1. Mining & Staking overview.
2. The [trezarcoin.conf](#) file.
3. Pool mining and solo mining.
4. What is staking & how to stake.

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This guide will not cover every part of the mining/staking topic but it will help you start to understand and will hopefully address the more commonly found issues that may arise.

We will use [altminer.net](#) as example mining pool in this guide but feel free to use any pool you're comfortable with.

**Important Note:** Manual creation of the `trezarcoin.conf` file is only necessary for wallets prior to version 1.1.0.0. From 1.1.0.0 forward, the wallet will automatically create a `trezarcoin.conf` file with preset default values; wallet data and `wallet.dat` will also be located in `%appdata%/TrezarCoin` instead of the `/data` location in prior versions.

# 1

## Mining & Staking

Proof-of-Work (PoW) is the more commonly known protocol by which a cryptocurrency blockchain network aims to validate transactions and create new blocks. PoW utilizes computational power—in the form of CPUs, GPUs, and other processing hardware—to solve complicated cryptographic puzzles. When a block is solved, a certain amount of new coins are created and awarded to the miner. TrezarCoin's PoW protocol employs the ASIC-resistant NeoScript algorithm.

Proof-of-Stake (PoS) is another protocol by which a cryptocurrency blockchain network aims to achieve distributed consensus. PoS uses a participant's coin balance instead of computational power as the key driver for validating transactions.

- When you use your CPU or GPU to solve blocks, you're mining (PoW).
- When you use your wallet and its coin balance to participate in distributed consensus, you're staking (PoS).
- When you help the network, either through mining or staking, you're rewarded with income. :)

# 2

The way your TrezarCoin wallet interacts with the network can be fine-tuned according to a specific configuration file we're going to create: **trezarcoin.conf**

Download the TrezarCoin wallet [here](#) according to your operating system and launch it once. It'll generate a `/data` folder (post-1.1.0.0 versions will generate a `%appdata%/TrezarCoin` folder). We need to create a new text file in this folder. Save it as `trezarcoin.conf` and edit it like this:

```
irc=0
dns=1
qtstyle=2
daemon=1
server=1
listen=1
stakegen=1
logtimestamps=1
minersleep=2000
stakemindepth=1000
stakemintime=24
stakecombine=2000
stakesplit=4000
port=17298
rpcport=17299
rpcuser=username
rpcpassword=password
rpcallowip=127.0.0.*
addnode=162.217.249.198:17298
addnode=46.4.0.101:17298
```

qtstyle >> The wallet skin. Choose between 1 or 2.

stakegen >> Enable or disable staking (PoS).

stakemintime >> Hours an input needs to mature before staking.

Nom	Modifié le	Type	Taille
blktree	13/09/2017 17:43	Dossier de fichiers	
blocks	10/09/2017 10:58	Dossier de fichiers	
coins	15/09/2017 05:36	Dossier de fichiers	
database	13/09/2017 07:28	Dossier de fichiers	
.lock	10/09/2017 10:58	Fichier LOCK	0 Ko
db.log	10/09/2017 10:58	Document texte	0 Ko
debug.log	15/09/2017 16:33	Document texte	18 693 Ko
peers.dat	15/09/2017 16:33	Fichier DAT	103 Ko
trezarcoin.conf	10/09/2017 17:09	Fichier CONF	3 Ko
wallet.dat	15/09/2017 16:33	Fichier DAT	1 592 Ko

Please verify that the trezarcoin.conf file is:

- A) The correct file type--**.conf** not .txt or anything else.
- B) Located in the proper directory—either `/data` or `%appdata%/TrezarCoin` depending on your wallet version.

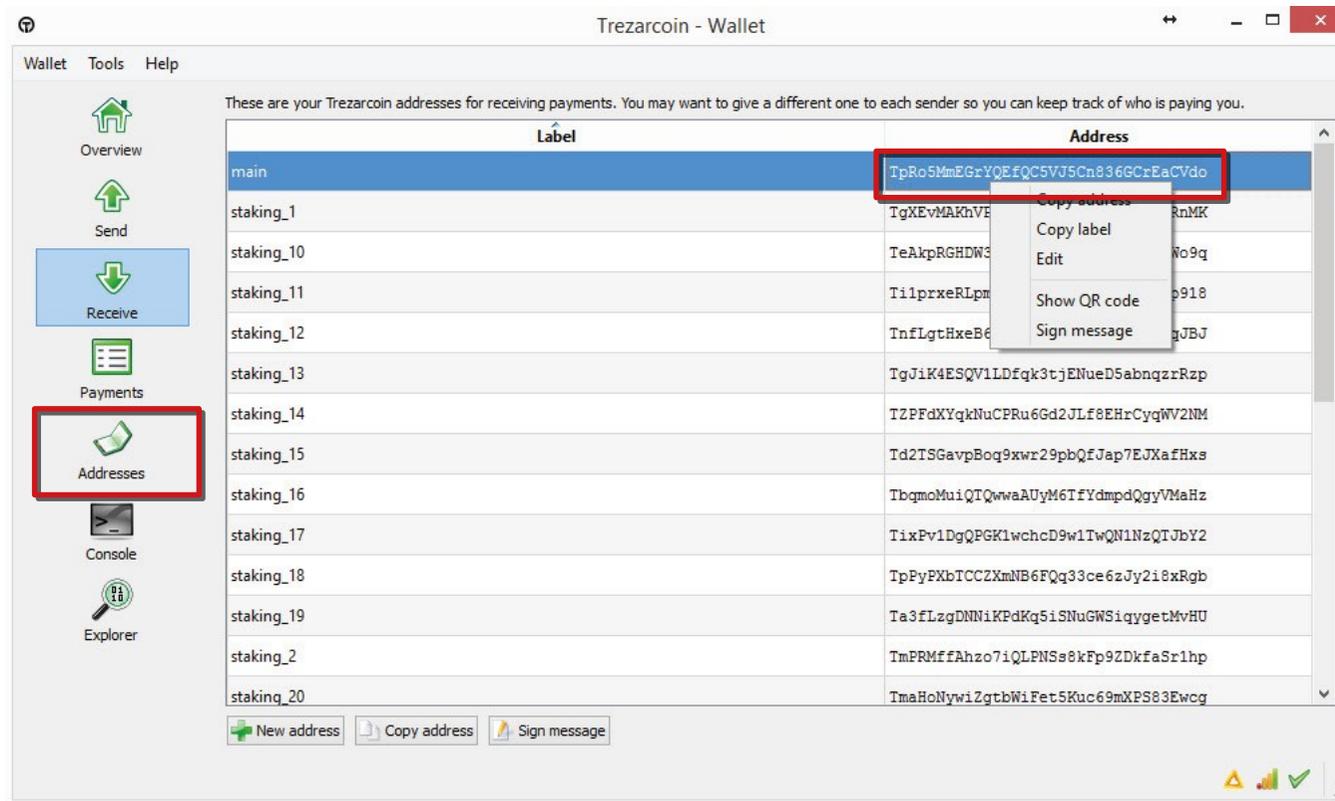
Your wallet is now ready. :)

\* Here's a list of nodes you can add to your `trezarcoin.conf` file to improve your wallet's connectivity to the network:

```
addnode=185.213.210.221:53740
addnode=188.242.118.114:37285
addnode=162.217.249.198:55383
addnode=116.100.160.65:64046
addnode=14.226.75.73:53267
addnode=109.124.238.30:17298
addnode=71.90.76.105:17298
addnode=67.166.32.31:17298
addnode=195.80.169.31:17298
addnode=76.173.55.64:17298
addnode=62.210.137.161:17298
addnode=96.234.157.221:17298
addnode=173.66.0.213:17298
addnode=176.159.60.61:17298
addnode=213.5.46.28:17298
addnode=195.58.249.107:17298
addnode=66.186.247.121:17298
addnode=94.181.94.119:17298
addnode=96.40.33.78:17298
addnode=98.168.217.196:17298
addnode=98.199.22.255:17298
addnode=178.165.68.219:17298
addnode=185.39.74.210:59297
addnode=109.232.227.133:63397
addnode=116.105.206.34:57699
```

# 3

First of all, you will need your wallet address. Launch your wallet, click on **Receive** to list your addresses. Right-click on an address to select copy—allowing you to paste it as needed.



To be able to mine we will need a dedicated *miner* program. You can mine on CPUs and GPUs; due to the different architectures the miner we are going to use depends of your hardware.

For mining on **CPUs**: [CPUminer](#) or [NSGminer](#)

For mining on **Nvidia GPUs**: [CCminer](#)

(There are different builds of CCminer, we will use the 2.2 one from tpruvot in this guide, feel free to try others and choose the one that will perform the best on your rig. Other popular Nvidia miners include the KlausT ccminer, excavator, and hsrminer and its variants.)

For mining on **AMD GPUs**: [NSGminer](#)

(There are many other AMD-friendly miners available as well, including Claymore's AMD Neoscrypt miner.)

**Note:** Although it is possible, it's not really recommended that you mine TZC with your CPU. A high-end 8-core/16-thread CPU will not be able to match a low-cost GPU's speed and hundreds of threads. It will likely cost you more in electricity/CPU-lifespan than you will earn. Always remember to consider power and other costs.

Create a start.txt file (we will be changing it to .bat filetype later) and edit it with notepad to include your chosen miner along with any necessary parameters, as well as your wallet address if appropriate—some pools will take login credentials instead of a wallet address:

NSGminer (AMD cards and CPU):

**GPU** Solo mining  
`nsgminer 0 --neoscrypt -C --cpu-threads <nb of cores> -o 127.0.0.1:17299 -O YOUR_USERNAME:YOUR_STRONG_PASSWORD`

Pool Mining  
`nsgminer --neoscrypt -C --cpu-threads <nb of cores> -o stratum+tcp://eu1.altminer.net:4233 -u YOUR_WALLET_ADDRESS -p=TZC`

**CPU** Solo mining  
`nsgminer 0 --neoscrypt -g -o 127.0.0.1:17299 -O YOUR_USERNAME:YOUR_STRONG_PASSWORD`  
Pool Mining  
`nsgminer --neoscrypt -g -o stratum+tcp://eu1.altminer.net:4233 -u YOUR_WALLET_ADDRESS -p c=TZC`

CPUminer:

Solo mining

```
cpuminer-aes-avx2 -a neoscrypt -t 6 -o 127.0.0.1:17299 -u YOUR_USERNAME -p YOUR_STRONG_PASSWORD
```

Pool Mining

```
cpuminer-aes-avx2 -a neoscrypt -t 6 -o stratum+tcp://eu1.altminer.net:4233 -u YOUR_WALLET_ADDRESS -p=TZC
```

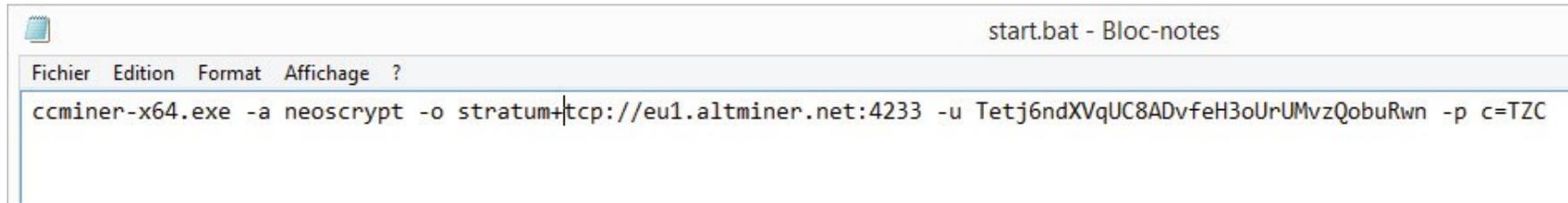
CCminer (Nvidia Cards):

Solo mining

```
ccminer-x64.exe -a neoscrypt -o http://127.0.0.1:17299 -u YOUR_USERNAME -p YOUR_STRONG_PASSWORD
```

Pool Mining

```
ccminer-x64.exe -a neoscrypt -o stratum+tcp://eu1.altminer.net:4233 -u YOUR_WALLET_ADDRESS -p c=TZC
```



```
ccminer-x64.exe -a neoscrypt -o stratum+tcp://eu1.altminer.net:4233 -u Tetj6ndXVqUC8ADvfeH3oUrUMvzQobuRwn -p c=TZC
```

Once edited, save the file and change the .txt extension to .bat. This will allow Windows to execute it. Above is an example of a .bat file using CCminer.

- a is the algorithm you're telling the miner to use.
- o is the address of the pool you're mining on—this is provided by the pool (see their help/main page).
- u is the user address. Here its your wallet address. It can also be an account.worker name, depending on the pool type.
- p is your password. altminer doesn't use an account and the password field is used to identify which Neoscrypt currency is mined.

Once edited and saved with the correct .bat extension, you can execute the file to start the miner.

Note that it is often helpful to launch the .bat file from a command prompt rather than simply double-clicking it—this will allow you to see errors if it quits instead of having the command window immediately disappear.

```
C:\Windows\system32\cmd.exe
[2017-09-15 15:35:09] accepted: 17/17 <diff 0.001>, 1004.26 kH/s yes!
[2017-09-15 15:35:12] GPU #0: GeForce GTX 1070, 1034.68 kH/s
[2017-09-15 15:35:12] accepted: 18/18 <diff 0.004>, 1005.86 kH/s yes!
[2017-09-15 15:35:13] accepted: 19/19 <diff 0.001>, 1005.74 kH/s yes!
[2017-09-15 15:35:16] GPU #0: GeForce GTX 1070, 1036.36 kH/s
[2017-09-15 15:35:17] accepted: 20/20 <diff 0.006>, 1007.19 kH/s yes!
[2017-09-15 15:35:18] Stratum difficulty set to 64 <0.00098>
[2017-09-15 15:35:18] accepted: 21/21 <diff 0.001>, 1008.44 kH/s yes!
[2017-09-15 15:35:19] accepted: 22/22 <diff 0.001>, 1009.54 kH/s yes!
[2017-09-15 15:35:21] GPU #0: GeForce GTX 1070, 1036.45 kH/s
[2017-09-15 15:35:21] accepted: 23/23 <diff 0.001>, 1010.66 kH/s yes!
[2017-09-15 15:35:32] GPU #0: GeForce GTX 1070, 1034.61 kH/s
[2017-09-15 15:35:32] accepted: 24/24 <diff 0.002>, 1011.62 kH/s yes!
[2017-09-15 15:35:35] accepted: 25/25 <diff 0.001>, 1011.91 kH/s yes!
[2017-09-15 15:35:37] GPU #0: GeForce GTX 1070, 1036.91 kH/s
[2017-09-15 15:35:37] accepted: 26/26 <diff 0.001>, 1012.83 kH/s yes!
[2017-09-15 15:35:39] accepted: 27/27 <diff 0.001>, 1013.26 kH/s yes!
[2017-09-15 15:35:41] GPU #0: GeForce GTX 1070, 1035.71 kH/s
[2017-09-15 15:35:41] accepted: 28/28 <diff 0.001>, 1014.03 kH/s yes!
[2017-09-15 15:35:48] GPU #0: GeForce GTX 1070, 1033.99 kH/s
[2017-09-15 15:35:48] accepted: 29/29 <diff 0.002>, 1014.69 kH/s yes!
[2017-09-15 15:35:59] GPU #0: GeForce GTX 1070, 1032.78 kH/s
[2017-09-15 15:35:59] GPU #0: 1993 MHz 4277.61 H/W 241W 71C FAN 55%
[2017-09-15 15:35:59] accepted: 30/30 <diff 0.001>, 1034.93 kH/s yes!
[2017-09-15 15:36:00] accepted: 31/31 <diff 0.002>, 1030.14 kH/s yes!
[2017-09-15 15:36:03] GPU #0: GeForce GTX 1070, 1029.12 kH/s
[2017-09-15 15:36:03] accepted: 32/32 <diff 0.001>, 1029.88 kH/s yes!
[2017-09-15 15:36:04] accepted: 33/33 <diff 0.001>, 1029.49 kH/s yes!
[2017-09-15 15:36:12] GPU #0: GeForce GTX 1070, 1030.64 kH/s
[2017-09-15 15:36:12] accepted: 34/34 <diff 0.002>, 1029.10 kH/s yes!
[2017-09-15 15:36:13] Stratum difficulty set to 96 <0.00146>
[2017-09-15 15:36:13] neoscrypt block 14704, diff 4.272
[2017-09-15 15:36:13] accepted: 35/35 <diff 0.002>, 1024.66 kH/s yes!
[2017-09-15 15:36:38] GPU #0: GeForce GTX 1070, 1027.39 kH/s
[2017-09-15 15:36:38] accepted: 36/36 <diff 0.006>, 1024.21 kH/s yes!
[2017-09-15 15:36:43] GPU #0: GeForce GTX 1070, 1018.23 kH/s
[2017-09-15 15:36:45] accepted: 37/37 <diff 0.085>, 1023.79 kH/s yes!
[2017-09-15 15:36:54] neoscrypt block 14705, diff 4.407
[2017-09-15 15:37:01] GPU #0: GeForce GTX 1070, 1026.42 kH/s
[2017-09-15 15:37:01] accepted: 38/38 <diff 0.002>, 1023.31 kH/s yes!
[2017-09-15 15:37:02] neoscrypt block 14706, diff 4.712
[2017-09-15 15:37:02] accepted: 39/39 <diff 0.002>, 1022.83 kH/s yes!
[2017-09-15 15:37:05] GPU #0: GeForce GTX 1070, 1025.91 kH/s
[2017-09-15 15:37:05] accepted: 40/40 <diff 0.006>, 1022.31 kH/s yes!
[2017-09-15 15:37:08] accepted: 41/41 <diff 0.009>, 1021.85 kH/s yes!
[2017-09-15 15:37:28] GPU #0: GeForce GTX 1070, 1025.97 kH/s
[2017-09-15 15:37:28] GPU #0: 1969 MHz 4212.79 H/W 242W 79C FAN 60%
[2017-09-15 15:37:28] accepted: 42/42 <diff 0.003>, 1021.32 kH/s yes!
[2017-09-15 15:37:31] accepted: 43/43 <diff 0.005>, 1020.09 kH/s yes!
[2017-09-15 15:37:43] GPU #0: GeForce GTX 1070, 1025.85 kH/s
[2017-09-15 15:37:43] accepted: 44/44 <diff 0.013>, 1020.68 kH/s yes!
[2017-09-15 15:37:50] GPU #0: GeForce GTX 1070, 1021.45 kH/s
[2017-09-15 15:37:50] accepted: 45/45 <diff 0.002>, 1019.98 kH/s yes!
[2017-09-15 15:37:50] accepted: 46/46 <diff 0.002>, 1018.86 kH/s yes!
```

Your cmd window should look similar to this. You can check your accepted shares and your hashrate here. If shares are refused and/or your hashrate is lower than expected, you should check your software configuration and your CPU/GPU settings and temperatures.

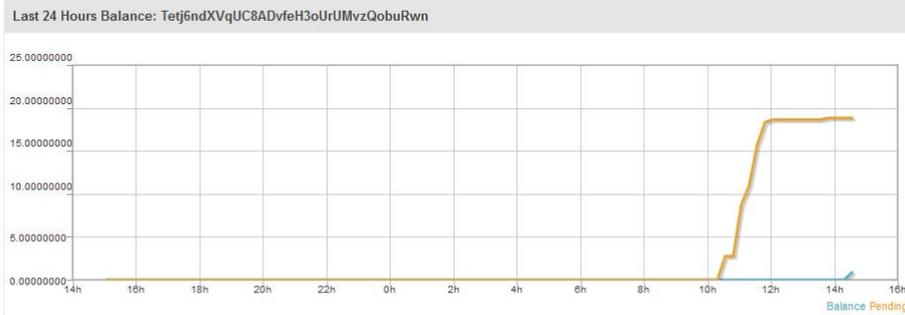
Wallet: Tetj6ndXVqUC8ADvfeH3oUrUMvzQobuRwn

Name	Immature	Confirmed	Total	Value*
TrezarCoin (total pending)	3.19338191	13.07905788		16.27243979 TZC
Balance				2.56639633 TZC
Total Unpaid				18.83883612 TZC
Total Paid				157.79085779 TZC
Total Earned				176.62969391 TZC

\* approximate from current exchange rates

Last 24 Hours Payouts: Tetj6ndXVqUC8ADvfeH3oUrUMvzQobuRwn

Time	Amount Tx
Total:	0.00000000



Last 24 Hours Hashrate: Tetj6ndXVqUC8ADvfeH3oUrUMvzQobuRwn

Time	Hashrate
Total:	9.2 Gh/s

Pool Status

Algo	Port	Coins	Miners	Hashrate	Fees**	24 Hours Actual***
xevan	3739	VSX	76	150.5 Mh/s	0.45%	0.39686*
neoscrypt	4233		146	318.9 Mh/s	0.45%	0.11647
nist5	3833	CTIC2	1	69 Mh/s	0.45%	0.00000
x11	3533		5	758.3 Mh/s	0.45%	0.00276
skunk	8433		0	-	0.45%	0.00000
tribus	8533	VEGA	5	1.2 Gh/s	0.45%	0.00000
script	3433		28	6.8 Gh/s	0.45%	0.00000
all			261			

\* best normalized multi algo  
 \*\* fees are now fixed manually.  
 \*\*\* values in mBTC/Mh/day (mBTC/Gh/day for sha256 and blake algos)

Last 50 Earnings: Tetj6ndXVqUC8ADvfeH3oUrUMvzQobuRwn

Name	Amount	Percent	mBTC	Time	Status
TrezarCoin (neoscrypt)	0.187351 TZC	0.187%	0.00000	65m ago	Immature (68)
TrezarCoin (neoscrypt)	0.315539 TZC	0.316%	0.00000	2h ago	Immature (181)
TrezarCoin (neoscrypt)	1.227765 TZC	1.228%	0.00000	3h ago	Immature (188)
TrezarCoin (neoscrypt)	0.731364 TZC	0.731%	0.00000	3h ago	Immature (195)
TrezarCoin (neoscrypt)	0.731364 TZC	0.731%	0.00000	3h ago	Immature (199)
TrezarCoin (neoscrypt)	1.304602 TZC	1.305%	0.00000	3h ago	Confirmed
TrezarCoin (neoscrypt)	1.689965 TZC	1.690%	0.00000	3h ago	Confirmed
TrezarCoin (neoscrypt)	1.689965 TZC	1.690%	0.00000	3h ago	Confirmed
TrezarCoin (neoscrypt)	0.907770 TZC	0.908%	0.00000	3h ago	Confirmed
TrezarCoin (neoscrypt)	1.367913 TZC	1.368%	0.00000	3h ago	Confirmed
TrezarCoin (neoscrypt)	1.484830 TZC	1.485%	0.00000	3h ago	Confirmed
TrezarCoin (neoscrypt)	1.594573 TZC	1.595%	0.00000	3h ago	Confirmed
TrezarCoin (neoscrypt)	1.484830 TZC	1.485%	0.00000	4h ago	Confirmed

On the altminer pool you can monitor your mining stats by using the URL below:  
[https://altminer.net/?address=YOUR\\_WALLET\\_ADDRESS](https://altminer.net/?address=YOUR_WALLET_ADDRESS)

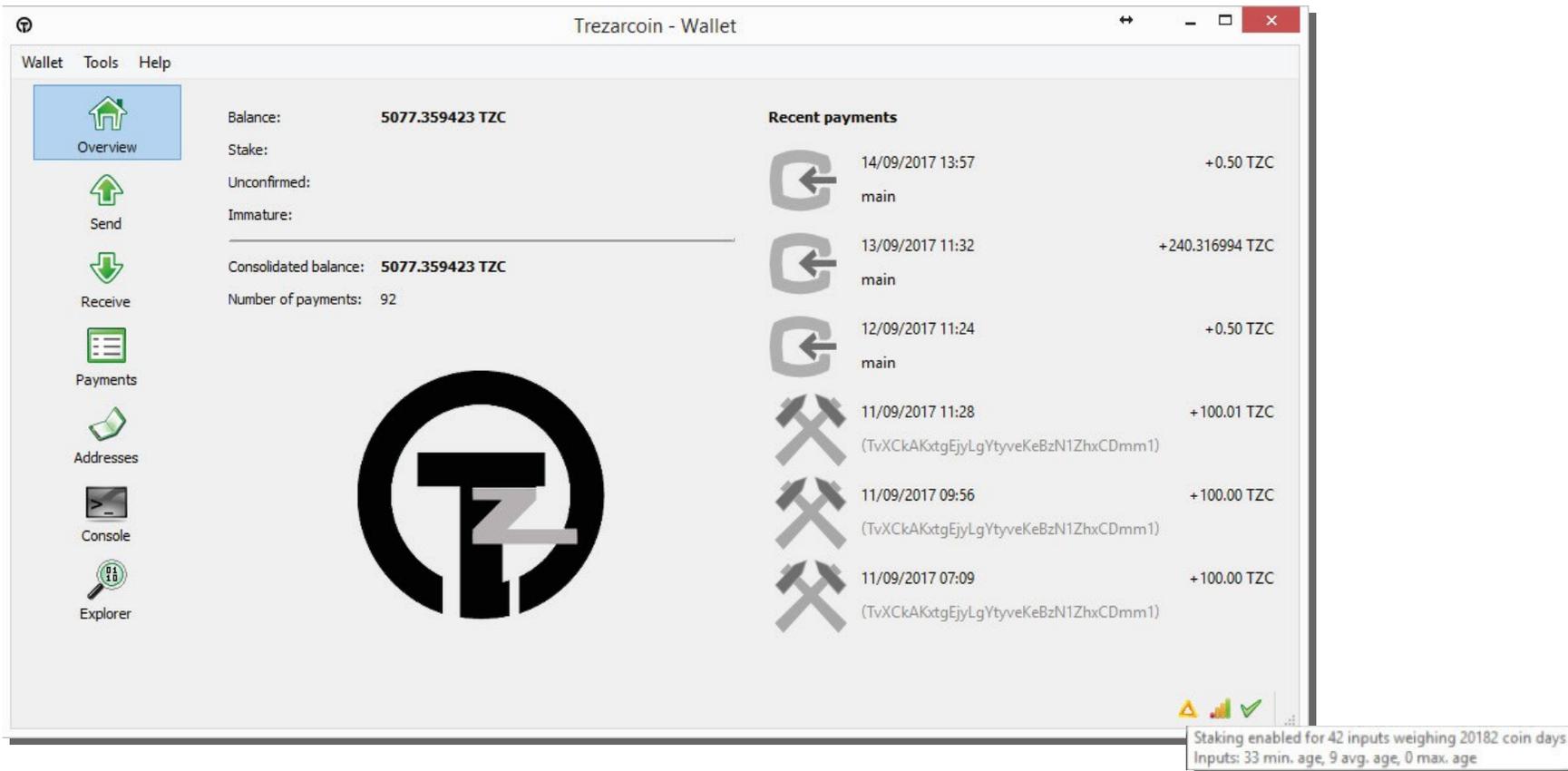
:)

# 4

Staking (PoS) is an automatic process that will start as soon as your inputs are mature. There are minor optimizations available by tweaking the `trezarcoin.conf` file. This guide isn't meant to provide a full tutorial about how to stake, which depends both on how many coins you have and on the overall network PoS difficulty. We will simply provide some useful information to help you get everything set up.

In order to stake, your wallet must remain open. The time before your inputs start to stake is related to your configuration file (the minimum is 24 hours). Once an input reaches this "age", your wallet will begin to use it for staking. The more time that passes, the more your inputs weigh—increasing your staking chances. The more coins you have and the longer they remain unmoved in your wallet, the more chance you have to hit a PoS block. The maximum age for an input is 16 days. After this time, it will stop increasing in weight. If you alter/consume the inputs (e.g., send a payment), any input included in the transaction will have its time reset to 0. So it may be beneficial for you to have a regular wallet and a PoS wallet (you can follow the Local Wallet + PoS Headless Wallet on VPS guide as an example for setting up such a wallet).

- \* Staking is based on luck and network difficulty. It's a game of patience. After an input is rewarded with a PoS block, its age is reset to 0 and it will have to wait at least 24 hours to be eligible to stake again.
- \* Additionally, if the input is bigger than the *stakesplit* value and if its age is not at max (16 days) it will split into two halves. For example, if an input of 100,000 coins hits a PoS block before its coin age is 16 days, it will split into two 50,000 inputs and the age for both will be 0.
- \* This autosplit behavior repeats until the inputs are below the *stakesplit* value in your `trezarcoin.conf`.
- \* The important value is your inputs' weighting. Now, be patient. :)



The grey penrose triangle icon on the bottom right of your wallet is your staking status. It will turn yellow/orange when staking is enabled. The time before this happens is related to your configuration file (the minimum is 24 hours).

If you hover your cursor over the triangle, it will display your input weighting which is the PoS equivalent to a PoW mining hashrate.

Thanks to crofly and the community for the staking info

Happy PoW/PoS mining :)