

Quick Setup Guide for Neuralium Server Accounts.

Overview

Requirements for Server accounts:

- Have a stable* Public IP.
- *Open and forward Ports 32888 and 33888*
 - 33888 is the p2p port.
 - 32888 is the validator port, used for decentralized appointments.
- Share the blockchain
- Have at least 4.5 Gb in RAM to process the THS (Time Hard Signature) .

* The IP needs not be stable all the time, as long as it is stable during each individual mining session and within 24 hours of an appointment.

Server wallet type publication on launch

The *Server* account publication process has some special consideration:

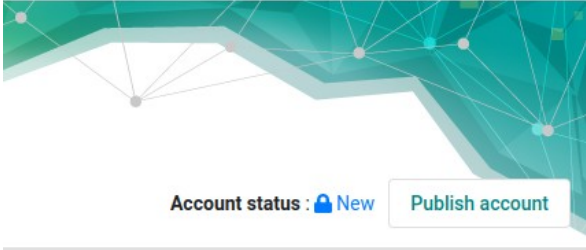
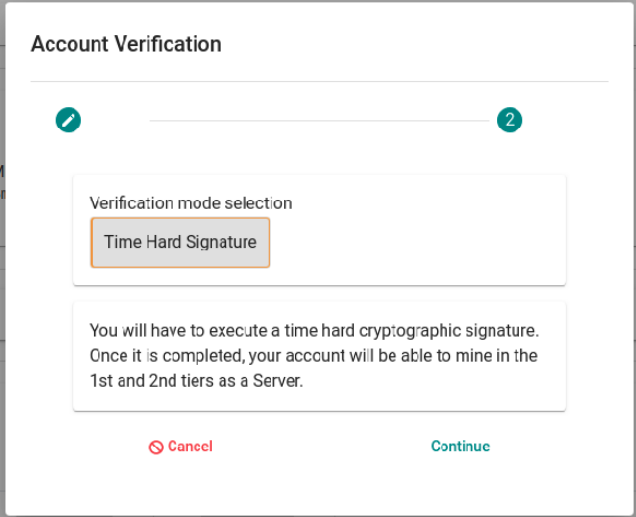
- Server accounts use “Time Hard Signature” (THS) as a verification method for publication.
- After performing THS and have a dispatched or published account, the wallet can be moved to another device.

THS considerations

- The processing of the THS does not represent any kind of mining on the blockchain, it is only a complex CPU, Memory and Time hard digital signature.
- If you use a VPS, you may create the THS on a powerful desktop computer and move the wallet once it is published to the destination machine.
- It may take a lot of time to complete depending on your PC capacity.
- By default the THS is run single threaded, but you can assign more cores if you have the capacity. (configuration details explained later in this document).

- The estimated target time is only a mathematical estimation and the process can take much more time.
- The solution count does not matter. A valid signature may have only one or many solutions. What matters is that there is at least one.
- The target nonce is only a minimum target, but the process can go well beyond if it has to until it finds the last signature with a total nonce at least higher than the target. This may require multiple rounds or a single one.
- The process of the THS is to find all the solutions in rounds until the last solution found above the target nonce. It can sometimes find it way beyond the minimum target.
- If the process takes longer than expected, it is better to simply let it run until completion.
- It is recommended to take backups of the entire wallet folders every few hours just in case. It may be useful to restart the process in case of errors at the latest snapshot. (it could still have bugs, this is early software).
- The THS process may be interrupted. If it is, it may be restarted by restarting the server node. It may take up to 15 minutes for the THS to resume automatically. Patience is recommended.

Steps to publish a Server account:

<p>Click Publish Account.</p> <p><i>It will only be enabled once you're 100% synced with the blockchain.</i></p> <p>At this time the only block emitted is the Genesis block.</p>	
<p>Click on Time Hard Signature (THS) as a verification mode.</p>	

Click **Publish account** you will have to be patient, it will take time to complete the Time Hard Signature (THS).

Publish account

Before any operations can be performed on the blockchain, your account must be presented publicly to others. Your account will be confirmed, and will be ready to operate once it is confirmed in a block.

[Publish account](#) [Close](#)

Wait for the **THS** to complete. THS computation may take anywhere from 48 hours or even longer. The estimated time is only a rough estimation based on a benchmark and the process may sometimes go well beyond. You must only allow it to run until completion.

You may stop the process and stop the node, it will restart automatically after +/-10 minutes once restarted.

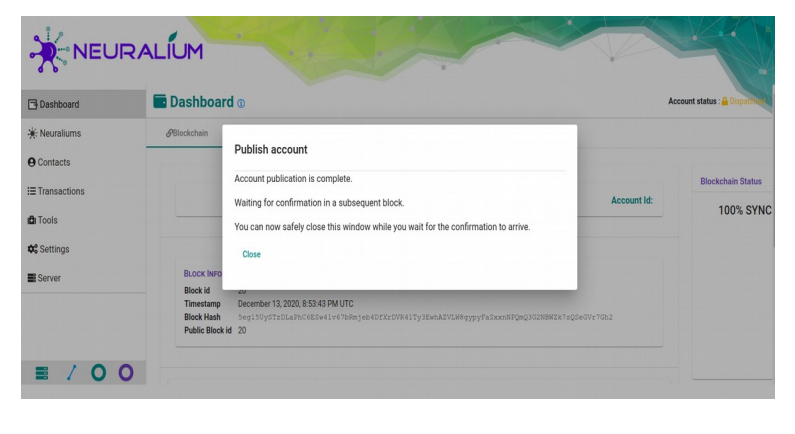
Time Hard Signature Generation

Statistics	
Benchmark Target	1 day 0 second
Minimum Nonce Target	14400
Estimated Iteration Time	18 seconds
Estimated Remaining Time	2 days 23 hours 59 minutes 24 seconds
Current round	3
Current nonce	1
Current Nonce Total	20
Current Elapsed Time	6 minutes 8 seconds

THS Solutions found	
Nonce	Solution
6	1482906852
13	1232427612

[Close](#)

Once the **THS** is finished you will receive a message indicating that your account has been dispatched.



Once it is dispatched, wait for confirmation. I can take anywhere from a few minutes to an hour.

Account status: 🔒 Dispatched

<p>After a block is created and embeds your presentation transaction, your account will be fully confirmed and you will finally be ready for mining.</p>	
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How to configure multi core THS

By default, the THS is single core. You may add more cores if your machine can support it.

Please take into consideration that by design, the THS is very resource intensive and every core will each require 4GB of RAM and significant CPU resources.

So for example, if the process is set at 4 cores then $4 \text{ cores} \times 4\text{GB} = 16\text{GB}$ of dedicated RAM will be required.

To configure multi cores, there is no way to do so in the GUI at this moment, so it must be done in the configuration file. Access the neuralium folder inside the Neuralium App folder, and locate the config folder. (the binaries downloaded from the website, you will find a folder call “neuralium” and in it a folder called “config”). In this folder, edit the file config.json to add the Key “THSThreadCount” under the AppSettings section with the number of cores you desire.

For example, to set 4 cores:

```
{  
  "AppSettings": {  
  
    "THSThreadCount" : 4  
  }  
}
```

once completed, save the file and restart the server node and wallet GUI.