

## How to mine VTC and UIS on Easy Mine

A short, step-by-step, visual guide to help you get started on mining VertCoin and Unitus! Before we start note that this guide will explain how to merge-mine both coins. Where you receive the additional UIS at no extra cost!

Step 1 – Preparing the Wallets .....	1
Step 1 A – Vertcoin Wallet .....	1
Step 1 B – Unitus Wallet .....	5
Step 2 – Setting up your Miner .....	8
2 A – CCminer for Nvidia – Latest Release .....	8
2 A.1 – Temporarily disable Windows Defender and add CCminer to the Exceptions.....	8
2 A.2 – Setting up the actual miner, bat files and such .....	11
2 A.3 – Running your miner – Congrats! .....	13
2 B – CCminer for Nvidia – v2.2.5 Windows Binaries .....	14
2 B.1 – Setting up the actual miner, bat files and such.....	14
2 A.3 – Running your miner – Congrats! .....	15
Step 3 – Adding your Unitus Address to Easy Mine.....	16
3 A –Ledger specific steps .....	18
Step 4 – Bonus: How to OC your GPU.....	21
4 A – Setting up MSI Afterburner.....	22
4 B – Settings for Lyra2rev2 .....	23

### Step 1 – Preparing the Wallets

Before you can start your mining adventure you'll need to download some wallets. These will allow you to access your currencies when you've mined them. We'll need two wallets: One for Vertcoin and one for Unitus.

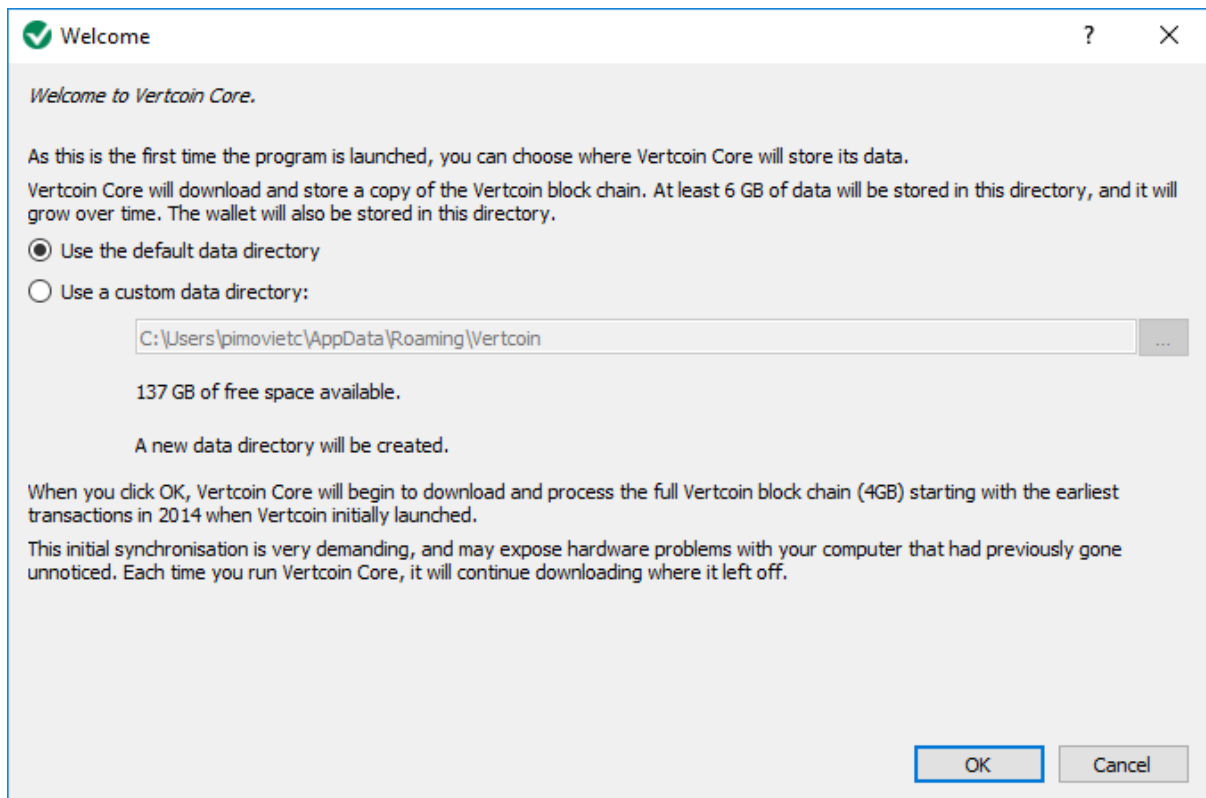
#### Step 1 A – Vertcoin Wallet

There are several options available here Vertcoin Core, Electrum-VTC or Nano Ledger S. This guide will focus on the official Vertcoin Core wallet, the process for other wallets should be similar.

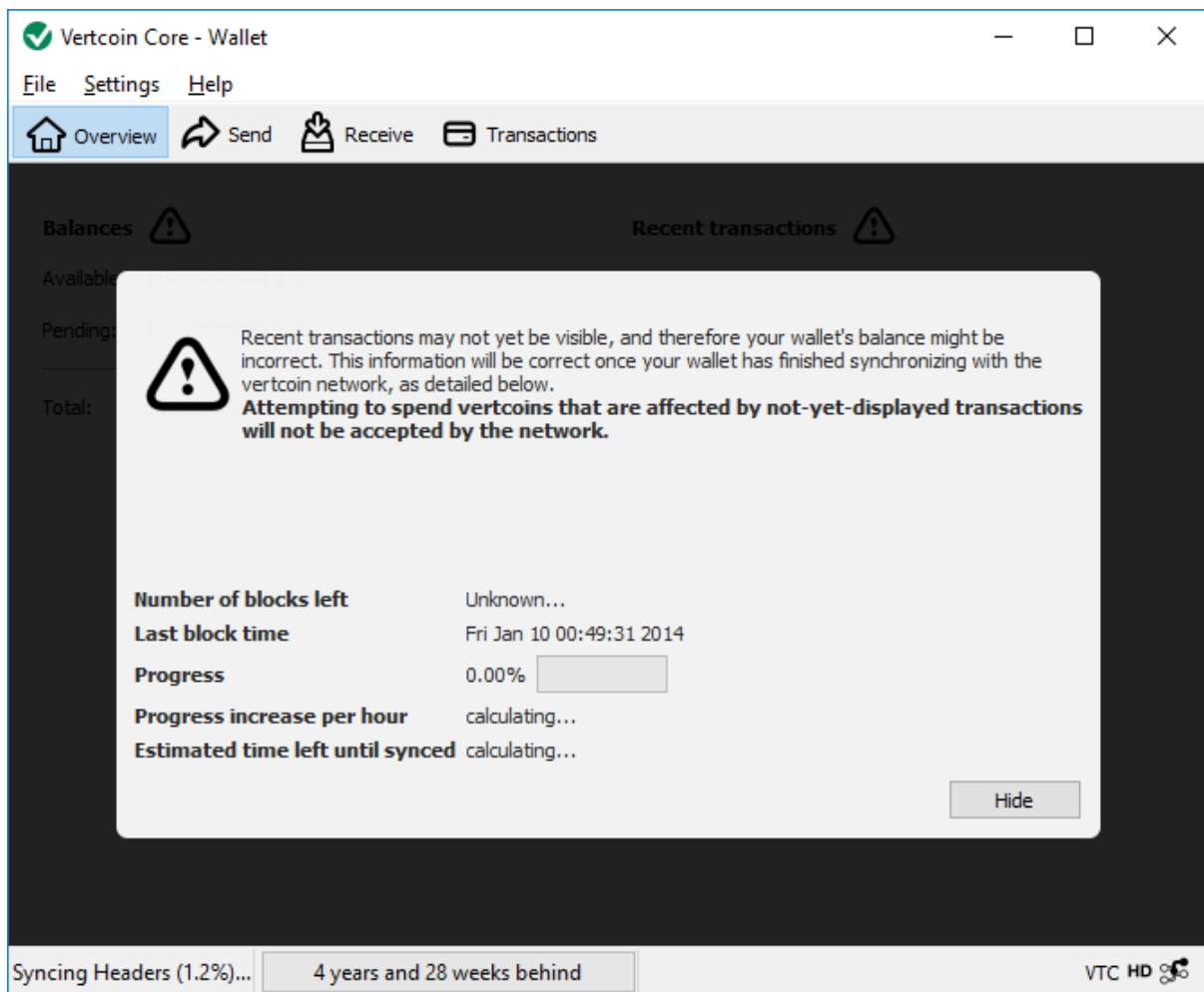
If you really want to it is possible to directly mine to an exchange deposit address. However, do realize that this does **NOT** allow you to sign messages (we'll need this to claim our Unitus and modify payout thresholds). Another important point is that some exchanges change the deposit address, which will mean that you won't receive your VTC payout! Therefore, mining directly to an exchange **IS NOT RECOMMENDED**.

Point of note here: Easy Mine supports legacy, segwit and bech32 addresses. However, legacy addresses (starting with V) are recommended as these are currently the only type able to sign messages.

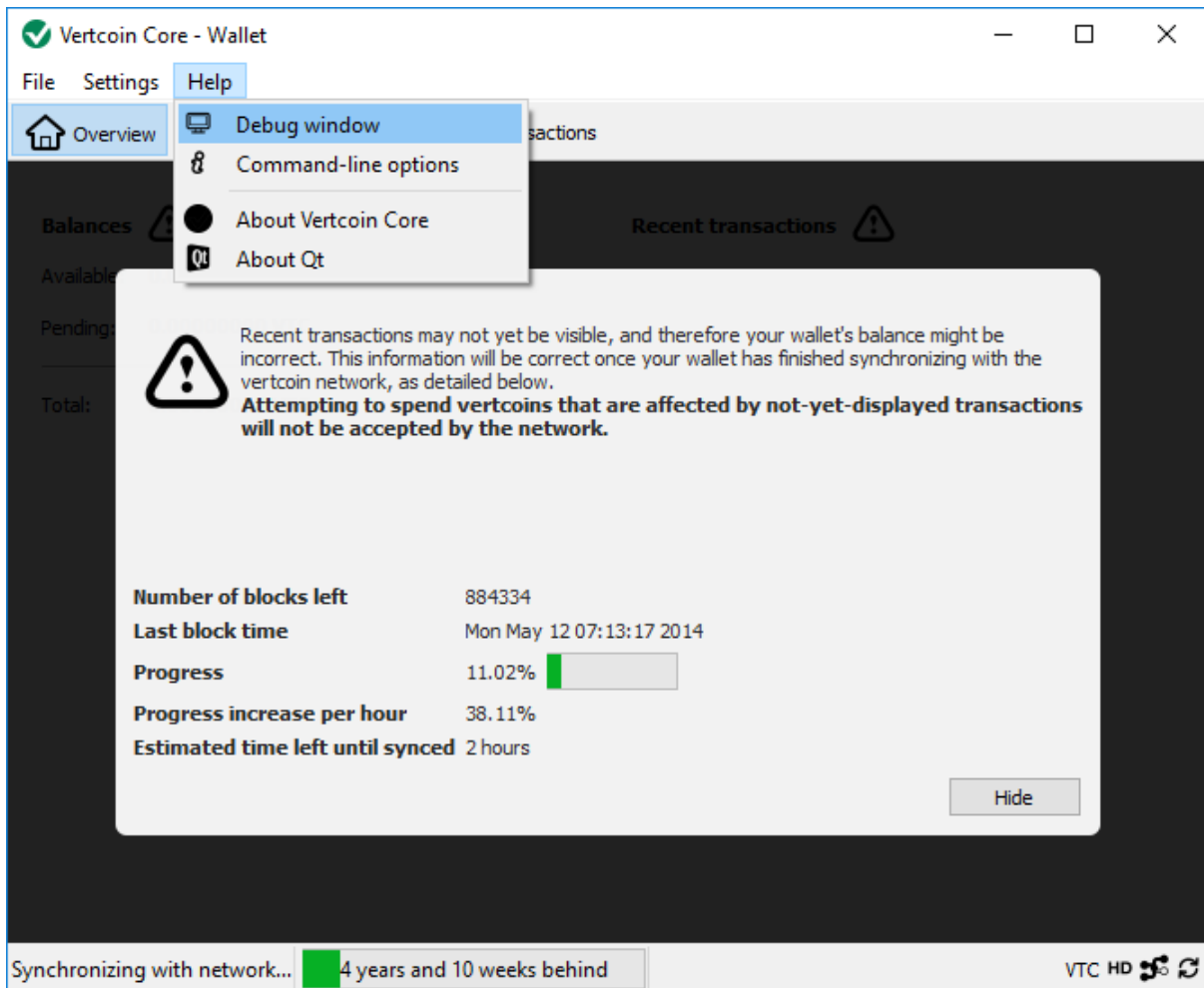
The Vertcoin Core wallet can be found at <https://vertcoin.org/download/>, after downloading the wallet for your operating system you can start the installation process.



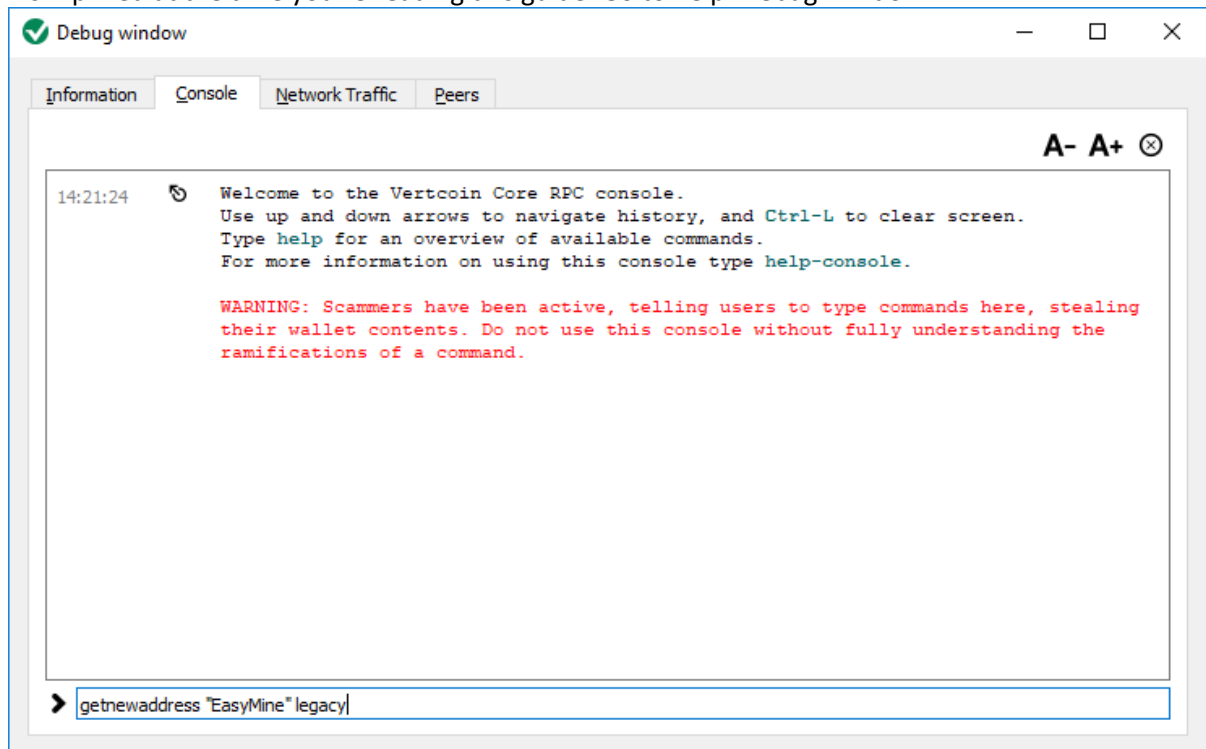
The first time you launch the Vertcoin Core wallet you may choose where the data is stored. By default, this is at %appdata%\Vertcoin



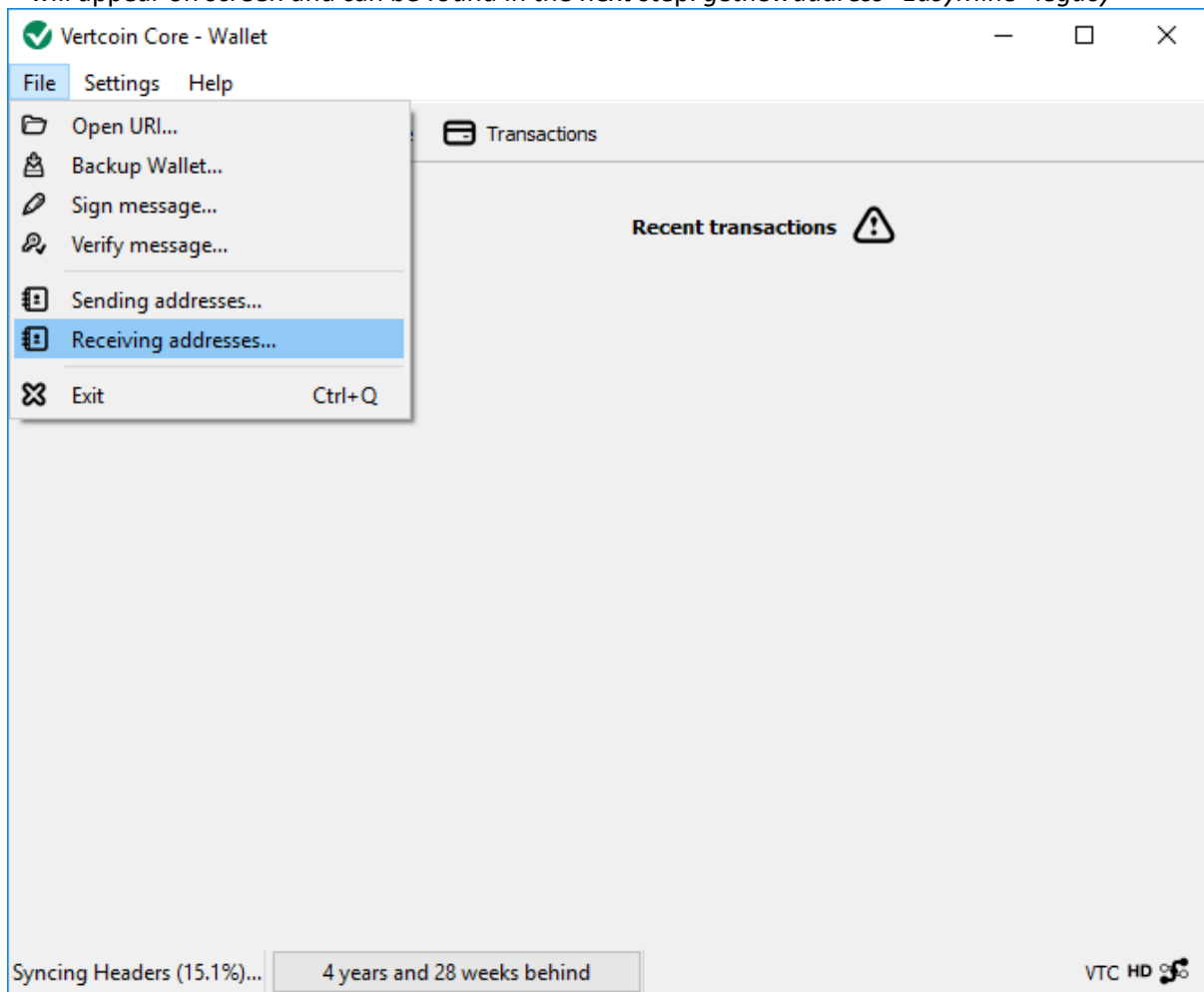
Next up the wallet will start to synchronize with the network, this will take a long time to finish. Therefore, I'd recommend leave it synchronizing overnight. It is however possible to continue whilst it is synchronizing.



Currently we need to do some debug-console magic to generate a legacy address, so this step might be simplified at the time you're reading this guide. Go to help>Debug Window



And paste the following line at the console input (at the bottom) and press enter. The newly generated address will appear on screen and can be found in the next step. *getnewaddress "EasyMine" legacy*

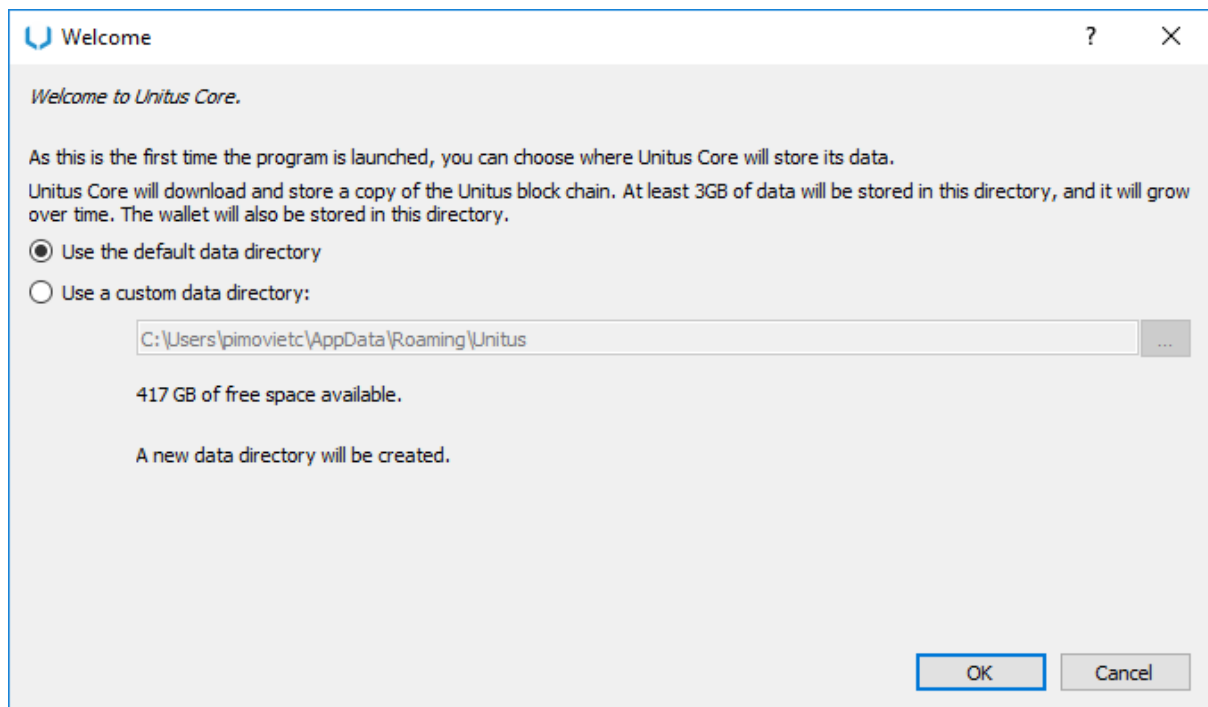


If you got to File>Receiving addresses... you'll be presented with a screen with your newly created legacy address. This is the address we'll be needing to mine on EasyMine. The address should start with a capital V and is a randomized string of 34 characters, e.g. **VgT29UCrpQyJphre4LztiU1qf1cAaA4RNG**

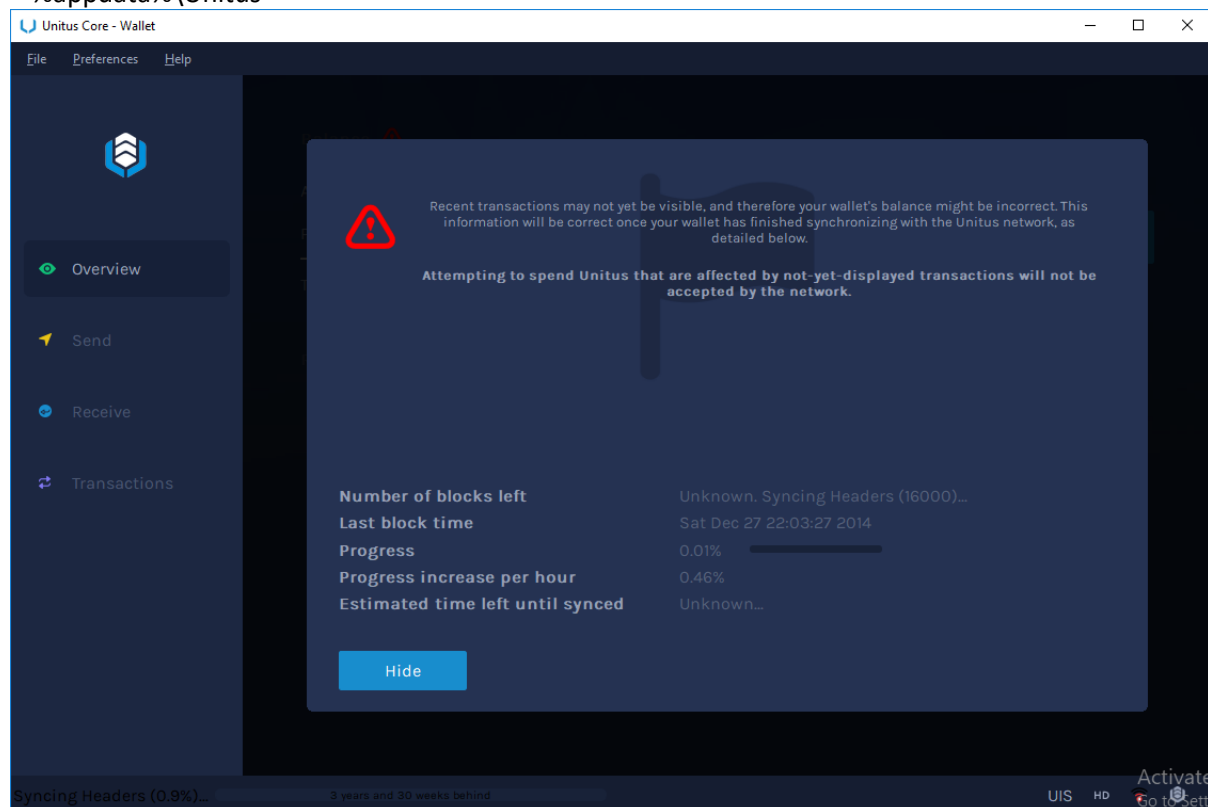
That wraps up the Vertcoin Wallet, on to the next step!

### Step 1 B – Unitus Wallet

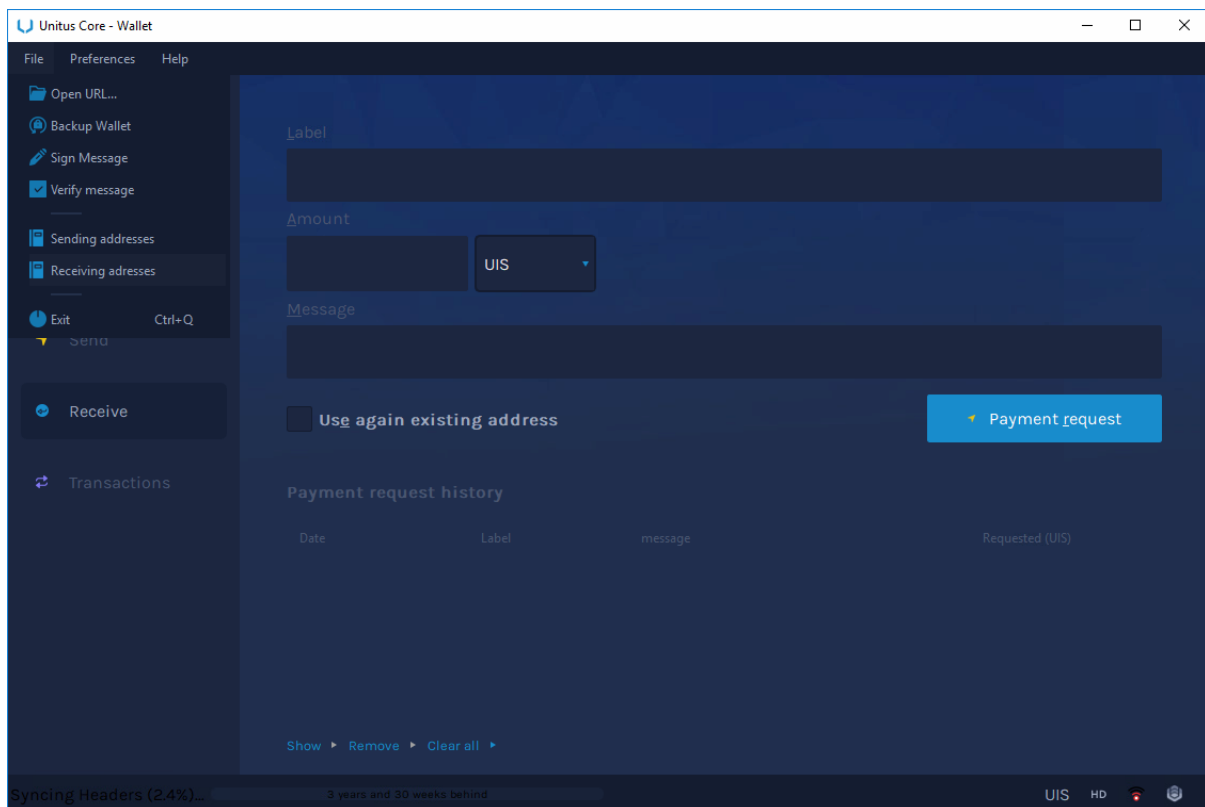
The Unitus Wallet can be found at <https://unituscurrency.com/#wallets>, after downloading the wallet for your operating system you can start the installation process.



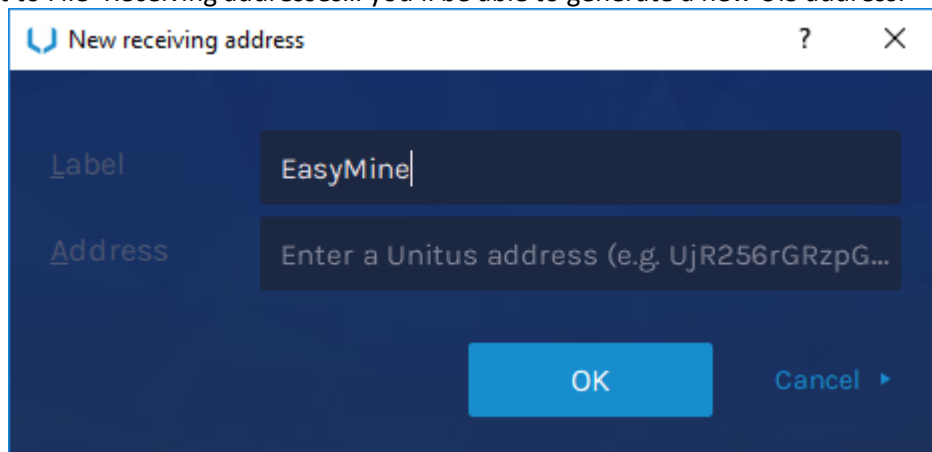
The first time you launch the Unitus Wallet you may choose where the data is stored. By default, this is at %appdata%\Unitus



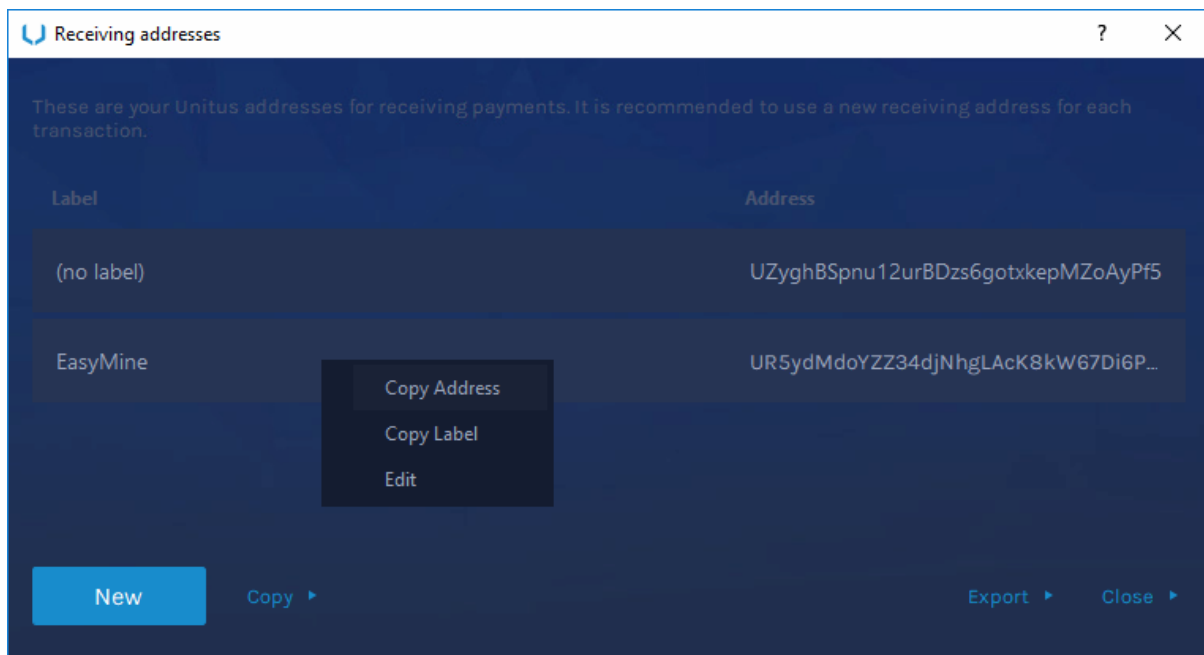
Next up the wallet will start to synchronize with the network, this will take a long time to finish. Therefore, I'd recommend leave it synchronizing overnight. It is however possible to continue whilst it is synchronizing.



If you got to File>Receiving addresses... you'll be able to generate a new UIS address.



Give it a fancy name like “EasyMine” and press ok, the wallet will then generate an address.



Lastly you may copy the address and save it for use later. We'll be needing this address when we're linking it to our miner! The address will be a string of 34 characters starting with a capital U, e.g.

**Ui67Stxp5ZumXtJYgB8P465vn6Gm4asunu**

That wraps up the wallet set ups and we can start working on our miner!

## Step 2 – Setting up your Miner

To mine Vertcoin we'll need a mining tool that uses the Lyra2rev2 algorithm. Depending on your graphics cards you'll need different software. Depending on what type of GPU you have you'll have to acquire different software.

Sometimes Anti-Virus will falsely flag mining software as viruses, I can assure you these usually aren't actual viruses. If the source you're downloading from is legitimate (e.g. from the original github repos) then there is not much to worry about. If you don't want to risk it however, you can go to **Step 2 B** which uses an older version of CCminer which doesn't get flagged by Windows Defender as a virus. Over at the Github repro you can inspect the changes between the latest and the "virus-free" version and see that there is no suspicious code added. Indicating that Windows Defender is calling a false-positive on the software.

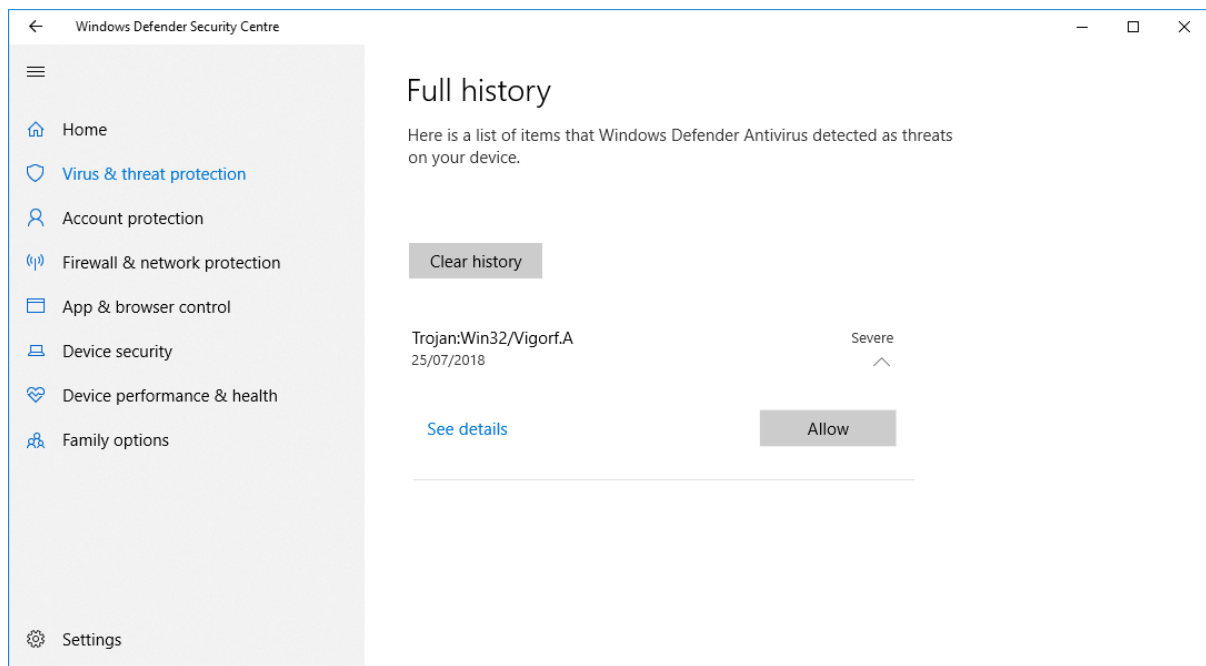
### 2 A – CCminer for Nvidia – Latest Release

For this tutorial we'll be using the ccminer by tpruvot (which is a continuation from the original ccminer by cbuchner). You'll be able to find the most recent release over at <https://github.com/tpruvot/ccminer/releases>. Note that there might be some differences between the most recent version and the version used in this guide, at the time of writing this guide the most recent release is v2.3.

#### 2 A.1 – Temporarily disable Windows Defender and add CCminer to the Exceptions

If you're using a different Anti-Virus than Windows Defender then the steps themselves will be different, but the idea of adding the files to the exception list is the same.





Open the Windows Defender Security Centre and go to the **"Virus & threat protection"** tab and click on **"Threat History"** and go to **"See full history"**, after downloading the latest release of CCminer you might see something like the above.

## Trojan:Win32/Vigorf.A

Alert level: Severe

Status: Quarantined

Date: 25/07/2018

Recommended action: Remove the threat now.

Category: Trojan

Details: This program is dangerous and executes commands from an attacker.

[Learn more](#)

Affected items:

file: C:\Users\pimovietc\Downloads\Unconfirmed 805673.crdownload

OK

We will want to make sure that we're allowing the correct file through our Anti-Virus, so it might be useful to clear your history and have it open so see which "threat" gets added, you can also inspect the details of the latest threat and you should see something similar as above. After pressing **ALLOW** you can resume your download from your browser (I've used chrome in this case) and the file won't get removed.

## Trojan:Win32/Bluteal.B!rfn

Alert level: Severe  
Status: Quarantined  
Date: 25/07/2018

Recommended action: Remove the threat now.

Category: Trojan  
Details: This program is dangerous and executes commands from an attacker.












[Learn more](#)

Affected items:  
file: C:\Users\pimovietc\Desktop\ccminerlatest\ccminer-x64.exe

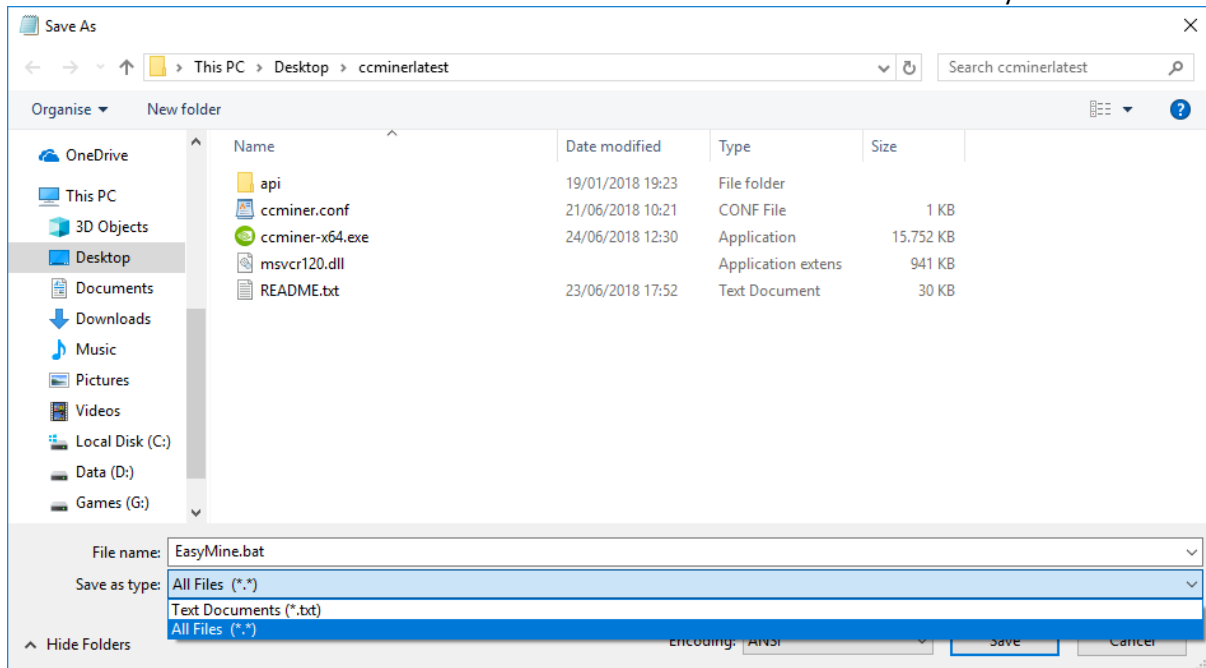
OK

If you try to unzip it you'll, once again, be warned by your Anti-Virus that there is a virus. Go back to the history, check the details and you should find the following. You can then **RESTORE** the file and you're good to go.

### 2 A.2 – Setting up the actual miner, bat files and such

Name	Date modified	Type	Size
 api	19/01/2018 19:23	File folder	
 ccminer.conf	21/06/2018 10:21	CONF File	1 KB
 ccminer-x64.exe	24/06/2018 12:30	Application	15.752 KB
 msvcrt120.dll		Application extens	941 KB
 README.txt	23/06/2018 17:52	Text Document	30 KB
 RUN-AEON.cmd	24/06/2018 12:45	Windows Comma...	1 KB
 RUN-GRLC-YIIMP.cmd	06/05/2018 19:45	Windows Comma...	1 KB
 RUN-PHI2-BPOOL.cmd	10/06/2018 18:10	Windows Comma...	1 KB
 RUN-PHI2-YIIMP.cmd	10/06/2018 18:09	Windows Comma...	1 KB
 RUN-RVN-YIIMP.cmd	02/04/2018 09:33	Windows Comma...	1 KB
 RUN-XMR.cmd	23/06/2018 20:02	Windows Comma...	1 KB

After extraction (and restoring the .exe file) your Miner's folder should look like this. We won't be using the RUN-SOMETHING.cmd files which come with CCminer so we can throw them away.



Open your favorite text editor (we'll use Notepad) and paste the following without quotation marks:

**"ccminer-x64 -a lyra2v2 -o stratum+tcp://lyra2.easymine.online:5000 -u  
YOUR\_VTC\_ADDRESS.WORKER\_NAME -p x"**

for example

**"ccminer-x64 -a lyra2v2 -o stratum+tcp://lyra2.easymine.online:5000 -u  
VgT29UCrpQyJphre4LztiU1qf1cAaA4RNG.donate -p x"**

Then press Save As, give it a fancy name like EasyMine.bat (the extension is important!) and don't forget to switch the Save as Type to **All Files**.

If you want to you can omit the worker name and only use your VTC address (note do not use the . if you're not using a worker name!)

## 2 A.3 – Running your miner – Congrats!

```
C:\WINDOWS\system32\cmd.exe
C:\Users\pimovietc\Desktop>ccminerlatest>ccminer-x64 -a lyra2v2 -o stratum+tcp://lyra2.easymine.online:5000 -u VgT29UCrpQyJphre4LztiU1qf1cAaA4RNG.donate -p x
*** ccminer 2.3 for nVidia GPUs by tpruvot@github ***
    Built with VC++ 2013 and nVidia CUDA SDK 9.0 64-bits

Originally based on Christian Buchner and Christian H. project
Include some kernels from alexis78, djm34, djEzo, tsiv and krnlx.

BTC donation address: 1AJdFCpLWPN0AMDfHF1wD5y8VgKSSTHxPo (tpruvot)

[2018-07-25 21:15:41] Starting on stratum+tcp://lyra2.easymine.online:5000
[2018-07-25 21:15:41] NVML GPU monitoring enabled.
[2018-07-25 21:15:41] NVAPI GPU monitoring enabled.
[2018-07-25 21:15:41] 1 miner thread started, using 'lyra2v2' algorithm.
[2018-07-25 21:15:42] Stratum difficulty set to 15 (0.05859)
[2018-07-25 21:15:42] GPU #0: Intensity set to 20, 1048576 cuda threads
[2018-07-25 21:15:50] GPU #0: GeForce GTX 1060 6GB, 25.37 MH/s
[2018-07-25 21:15:50] accepted: 1/1 (diff 0.260), 25.37 MH/s yes!
[2018-07-25 21:15:54] GPU #0: GeForce GTX 1060 6GB, 25.39 MH/s
[2018-07-25 21:15:55] lyra2v2 block 969630, diff 57040.238
[2018-07-25 21:15:58] GPU #0: GeForce GTX 1060 6GB, 25.31 MH/s
[2018-07-25 21:15:58] accepted: 2/2 (diff 0.070), 25.35 MH/s yes!
```

You can now launch your miner by double clicking on EasyMine.bat (the extension might be hidden!). If everything is working correctly you should start seeing shares being accepted.

### Miner General Information

Have an account related issue you need help with? Email [support@easymine.online](mailto:support@easymine.online) with a detailed description of the problem.

Miner Address	VgT29UCrpQyJphre4LztiU1qf1cAaA4RNG
Valid Address?	Yes
Pool Donation <sup>6</sup>	0.00%
Effective Hashrate <sup>1</sup>	96.27 MH/s (1.2% invalid)
Last Seen Share	11:03:26, 26/07/2018
Pool Shares in Payout Window	57077745.743037
Miner Shares in Payout Window	195595.48184724 (0.343% of pool)

Lastly, you'd want to verify if everything is working by going to

[https://vertcoin.easymine.online/miner/YOUR\\_ADDRESS](https://vertcoin.easymine.online/miner/YOUR_ADDRESS)

for example: <https://vertcoin.easymine.online/miner/VgT29UCrpQyJphre4LztiU1qf1cAaA4RNG>

After a while you should be able to see some shares trickling in, these will eventually result in a payment to your Wallet!

If you see shares on your miner's page then you're officially mining Vertcoin, congratulations! You can now go to **Step 3** to link your Unitus wallet to your Miner. If you don't you'll still be mining both VTC and UIS. The UIS will be stored in your pending rewards until you either add a wallet or become inactive for too long.

## 2 B – CCminer for Nvidia – v2.2.5 Windows Binaries

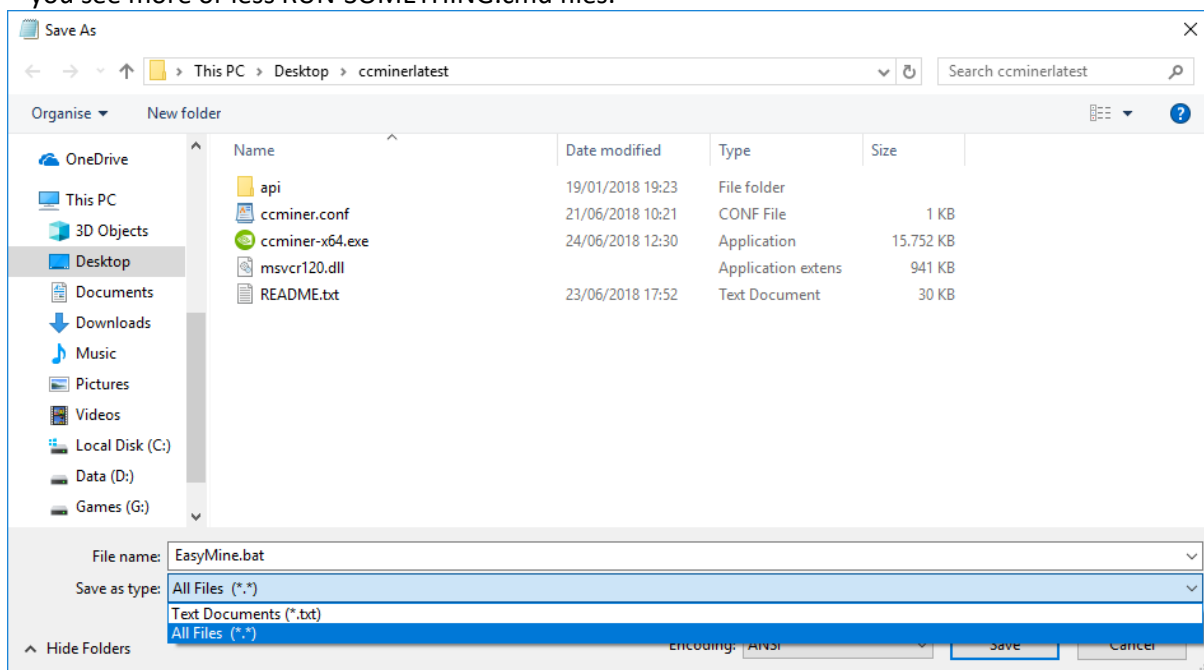
This section will use the latest CCminer release that doesn't get falsely flagged as a virus. You can find this release on the tpruvot/ccminer github or you can directly find it here:

<https://github.com/tpruvot/ccminer/releases/tag/2.2.5-tpruvot>.

### 2 B.1 – Setting up the actual miner, bat files and such

Name	Date modified	Type	Size
api	19/01/2018 19:23	File folder	
ccminer.conf	21/06/2018 10:21	CONF File	1 KB
ccminer-x64.exe	24/06/2018 12:30	Application	15.752 KB
msvcrt120.dll		Application extens	941 KB
README.txt	23/06/2018 17:52	Text Document	30 KB
RUN-AEON.cmd	24/06/2018 12:45	Windows Comma...	1 KB
RUN-GRMC-YIIMP.cmd	06/05/2018 19:45	Windows Comma...	1 KB
RUN-PH2-BPOOL.cmd	10/06/2018 18:10	Windows Comma...	1 KB
RUN-PH2-YIIMP.cmd	10/06/2018 18:09	Windows Comma...	1 KB
RUN-RVN-YIIMP.cmd	02/04/2018 09:33	Windows Comma...	1 KB
RUN-XMR.cmd	23/06/2018 20:02	Windows Comma...	1 KB

After extraction (and restoring the .exe file) your Miner's folder should look something like this. We won't be using the RUN-SOMETHING.cmd files which come with CCminer so we can throw them away. So don't worry if you see more or less RUN-SOMETHING.cmd files.



Open your favorite text editor (we'll use Notepad) and paste the following without quotation marks:

**"ccminer-x64 -a lyra2v2 -o stratum+tcp://lyra2.easymine.online:5000 -u  
YOUR\_VTC\_ADDRESS.WORKER\_NAME -p x"**

for example

**"ccminer-x64 -a lyra2v2 -o stratum+tcp://lyra2.easymine.online:5000 -u  
VgT29UCrpQyJphre4LztiU1qf1cAaA4RNG.donate -p x"**

Then press Save As, give it a fancy name like EasyMine.bat (the extension is important!) and don't forget to switch the Save as Type to **All Files**.

If you want to you can omit the worker name and only use your VTC address (note do not use the . if you're not using a worker name!)

### 2 A.3 – Running your miner – Congrats!

```
C:\WINDOWS\system32\cmd.exe
C:\Users\pimovietc\Desktop\ccminerlatest>ccminer-x64 -a lyra2v2 -o stratum+tcp://lyra2.easymine.online:5000 -u VgT29UCrp
QyJphre4LztiU1qf1cAaA4RNG.donate -p x
*** ccminer 2.3 for nVidia GPUs by tpruvot@github ***
Built with VC++ 2013 and nVidia CUDA SDK 9.0 64-bits

Originally based on Christian Buchner and Christian H. project
Include some kernels from alexis78, djm34, djEzo, tsiv and krnlx.

BTC donation address: 1AJdFcPWPNoAMDfHF1wD5y8VgKSSTHxPo (tpruvot)

[2018-07-25 21:15:41] Starting on stratum+tcp://lyra2.easymine.online:5000
[2018-07-25 21:15:41] NVML GPU monitoring enabled.
[2018-07-25 21:15:41] NVAPI GPU monitoring enabled.
[2018-07-25 21:15:41] 1 miner thread started, using 'lyra2v2' algorithm.
[2018-07-25 21:15:42] Stratum difficulty set to 15 (0.05859)
[2018-07-25 21:15:42] GPU #0: Intensity set to 20, 1048576 cuda threads
[2018-07-25 21:15:50] GPU #0: GeForce GTX 1060 6GB, 25.37 MH/s
[2018-07-25 21:15:50] accepted: 1/1 (diff 0.260), 25.37 MH/s yes!
[2018-07-25 21:15:54] GPU #0: GeForce GTX 1060 6GB, 25.39 MH/s
[2018-07-25 21:15:55] lyra2v2 block 969630, diff 57040.238
[2018-07-25 21:15:58] GPU #0: GeForce GTX 1060 6GB, 25.31 MH/s
[2018-07-25 21:15:58] accepted: 2/2 (diff 0.070), 25.35 MH/s yes!
```

You can now launch your miner by double clicking on EasyMine.bat (the extension might be hidden!). If everything is working correctly you should start seeing shares being accepted.

## Miner General Information

Have an account related issue you need help with? Email [support@easymine.online](mailto:support@easymine.online) with a detailed description of the problem.

Miner Address	VgT29UCrpQyJphre4LztiU1qf1cAaA4RNG
Valid Address?	Yes
Pool Donation <sup>6</sup>	0.00%
Effective Hashrate <sup>1</sup>	96.27 MH/s (1.2% invalid)
Last Seen Share	11:03:26, 26/07/2018
Pool Shares in Payout Window	57077745.743037
Miner Shares in Payout Window	195595.48184724 (0.343% of pool)

Lastly, you'd want to verify if everything is working by going to

[https://vertcoin.easymine.online/miner/YOUR\\_ADDRESS](https://vertcoin.easymine.online/miner/YOUR_ADDRESS)

for example: <https://vertcoin.easymine.online/miner/VgT29UCrpQyJphre4LztiU1qf1cAaA4RNG>

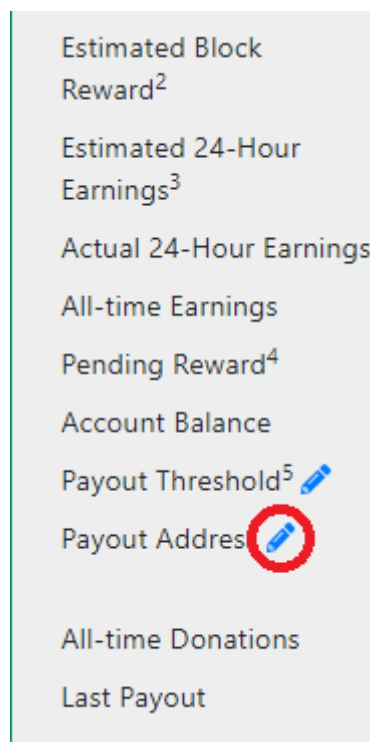
After a while you should be able to see some shares trickling in, these will eventually result in a payment to your Wallet!

If you see shares on your miner's page then you're officially mining Vertcoin, congratulations! You can now go to **Step 3** to link your Unitus wallet to your Miner. If you don't you'll still be mining both VTC and UIS. The UIS will be stored in your pending rewards until you either add a wallet or become inactive for too long.

### Step 3 – Adding your Unitus Address to Easy Mine

Next up we want to add our UIS wallet to our EasyMine page to enable payouts for UIS! We'll be needing the Unitus address, the Vertcoin Wallet and our EasyMine miner's page. This guide explains the process from the Vertcoin Core Wallet. The process is similar for the other wallets however somethings might look different.

If you're using a Ledger as your VertCoin wallet the signing process is a bit different, you'll want to skim through the "normal" guide and then read **Step 3 A** for Ledger specifics.



Under **"Miner General Information"** locate the blue pencil next to **"Payout Address"**. This will take you directly to [https://vertcoin.easymine.online/settings/YOUR\\_ADDRESS](https://vertcoin.easymine.online/settings/YOUR_ADDRESS), which is where you can change your account settings. Including your UIS payout address.

Address to sign message with

VgT29UCrpQyJphre4LztiU1qf1cAaA4RNG

Message to sign - Select and copy this to your clipboard.

6d4d86a5d94fdaa02ac531ee836e65cbccf2315528b8c59e08f00df70da0ba94

Each time you visit this page it will show you a (newly generated) message that you need to sign with your wallet. Note that it also tells you that you **MUST** sign it from your miner's address, this is important as most wallets will automatically generate new addresses (which are all linked together) and you have to pay attention that you're using the correct one!



Paste the signature from your Wallet here.

Paste Signature Here

**IMPORTANT:** You need to sign the above message and paste the signature here. Without this we cannot verify that you are the owner.

Pool Donation % (VTC & UIS)

0

Vertcoin (VTC) Minimum Payout Balance (Minimum 0.5, Maximum 25)

2.50000000

Unitus (UIS) Minimum Payout Balance (Minimum 5, Maximum 100)

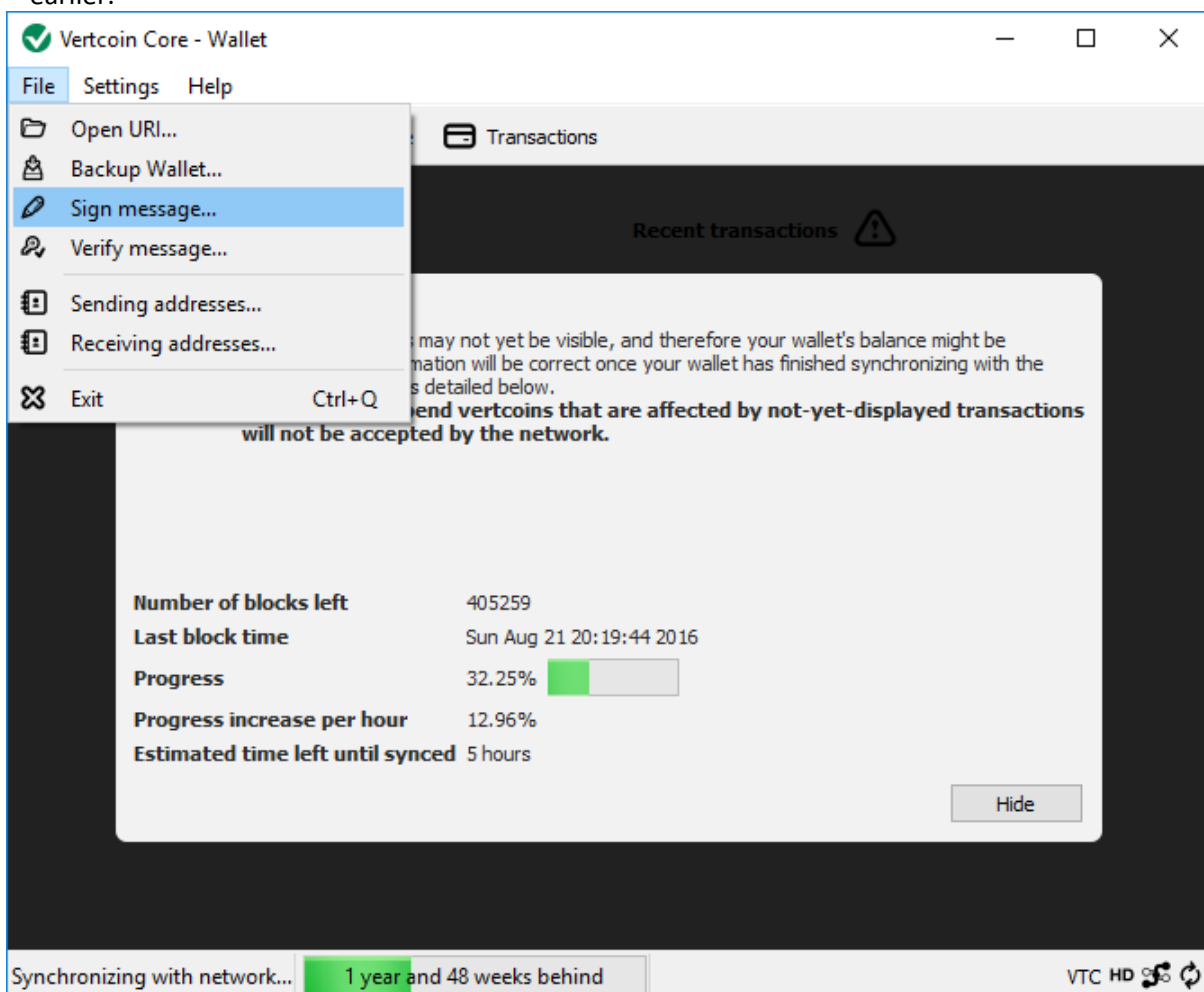
10.00000000

Unitus (UIS) Payout Address

UcBynhRvG5P3mRYXke9wiHhJb2NmuQS8nz

Save Changes Reset Cancel

At the bottom of the page you'll find all the settings you can change. In the very last field you want to paste your UIS address. Before pressing "Save Changes" we'll first have to sign the actual message that we mentioned earlier.



This is where we need to switch back to the Vertcoin Core Wallet. And navigate to "Sign message"

Signatures - Sign / Verify a Message

Sign Message

Verify Message

You can sign messages/agreements with your addresses to prove you can receive vertcoins sent to them. Be careful not to sign anything vague or random, as phishing attacks may try to trick you into signing your identity over to them. Only sign fully-detailed statements you agree to.

VmXPLmt9w9wUxa1RRHG4wxMrtDEmgk2uhc

6d4d86a5d94fdaa02ac531ee836e65cbccf2315528b8c59e08f00df70da0ba94

Signature

H2/F/+Jlgw4/o30jlXPGFsV7lufqXQHjNALyGX/yTDmbckLIptFLRI/MReWu2aY08YNqQ5VRzvjqUITdOoKzWqoE=

Sign Message
 Clear All

Message signed.

Choose or paste the correct address in the first field and paste the message in the second. After pressing “Sign Message” a signature will be generated at the bottom. You’ll need to copy this string and paste it in the correct field on the “Change Account Settings” page and hit “Save Changes”.

Account Changes	
When	Details
21:17:09, 02/02/2018	Address Validation: Successfully validated UIS address UcBynhRvG5P3mRYXke9wiHhJb2NmuQS8nz.
21:16:11, 02/02/2018	Changed UIS Payout Address to UcBynhRvG5P3mRYXke9wiHhJb2NmuQS8nz
21:16:11, 02/02/2018	Changed UIS Payout Threshold to 10

After a while you should be able to see the changes take effect on your Miner’s Page. It will take some time before your UIS address is validated. However, once it is you’ll start receiving UIS payouts!

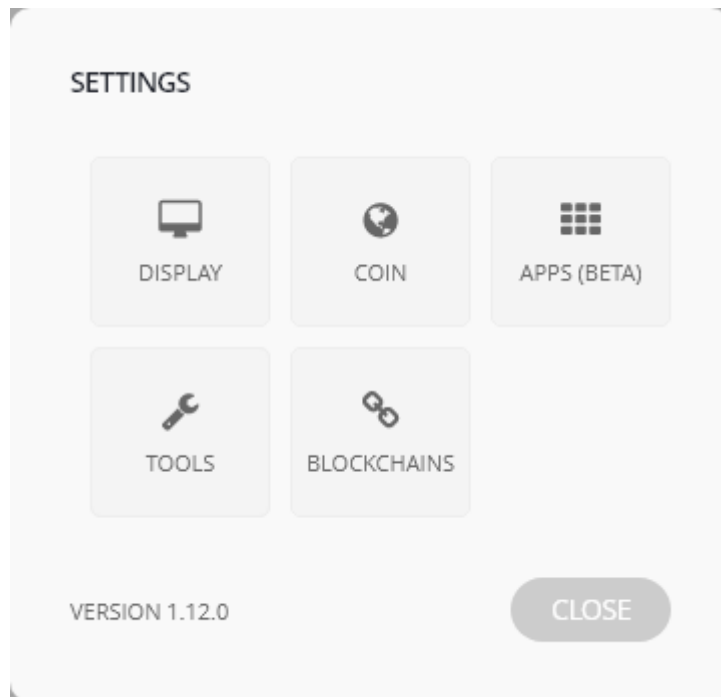
Congratulations you’ve successfully set up your miner, VTC and UIS wallets!

### 3 A –Ledger specific steps

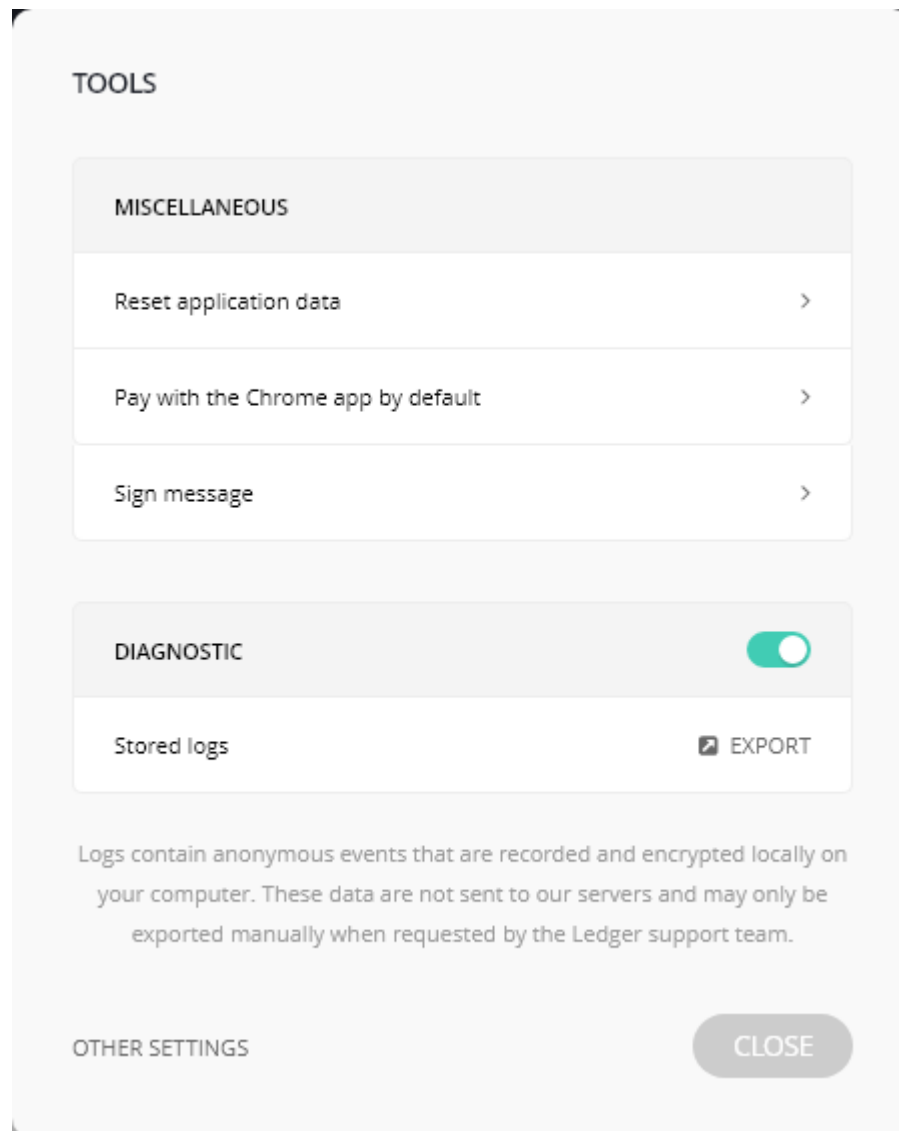
When mining directly to a Ledger wallet the process of signing messages is a tiny bit different. The main idea is of course very similar, however the Ledger generates a larger message padded with some reiterated data which must be removed.

**Also a side note, if you’re mining directly to the Ledger. Please use a high payout threshold, this**

will make it so you only receive a single payout per day. This will help alleviate the amount of traffic that Ledger has to process!



After opening your VTC wallet on your Ledger, navigate to **Settings** and open **Tools**.



From this menu go to **“Sign message”**

**SIGN MESSAGE**

ADDRESS VIT7ShWQzFPFcVcotNCMTq9uee9ww5c9U5 ▾

Message

CANCEL SIGN

Now in this step it is very **IMPORTANT** to select the correct address from the dropdown menu. Then copy the message from your EasyMine miner's page and press Sign.

**SIGNED MESSAGE**

-----BEGIN BITCOIN SIGNED MESSAGE-----

repetition of the message

-----BEGIN SIGNATURE-----

repetition of your VTC address

IKWlwcnafyE5O4uSR6T1ed72ldShA43XnsxMBImzVAEb2U4ATsqvAY7+uOW/dCekKUScE5glabc3Zqy+LsNXDA=

-----END BITCOIN SIGNED MESSAGE-----

CLOSE

After a short moment you'll be presented with the signed message. You'll see some headers to increase readability and some repetitions of the original message and your wallet's address. However, on EasyMine we're only interested in the actual signature, which is the part left readable in the above image. So **IKWlwcg...LsNXDA=**.

#### Step 4 – Bonus: How to OC your GPU

There are many ways of overclocking your GPUs. If you're on a windows system one of the easiest methods of safely overclocking is with the help of MSI Afterburner. This tool allows you to change your GPU settings within a (relatively very) safe range and monitor temperatures as you go.

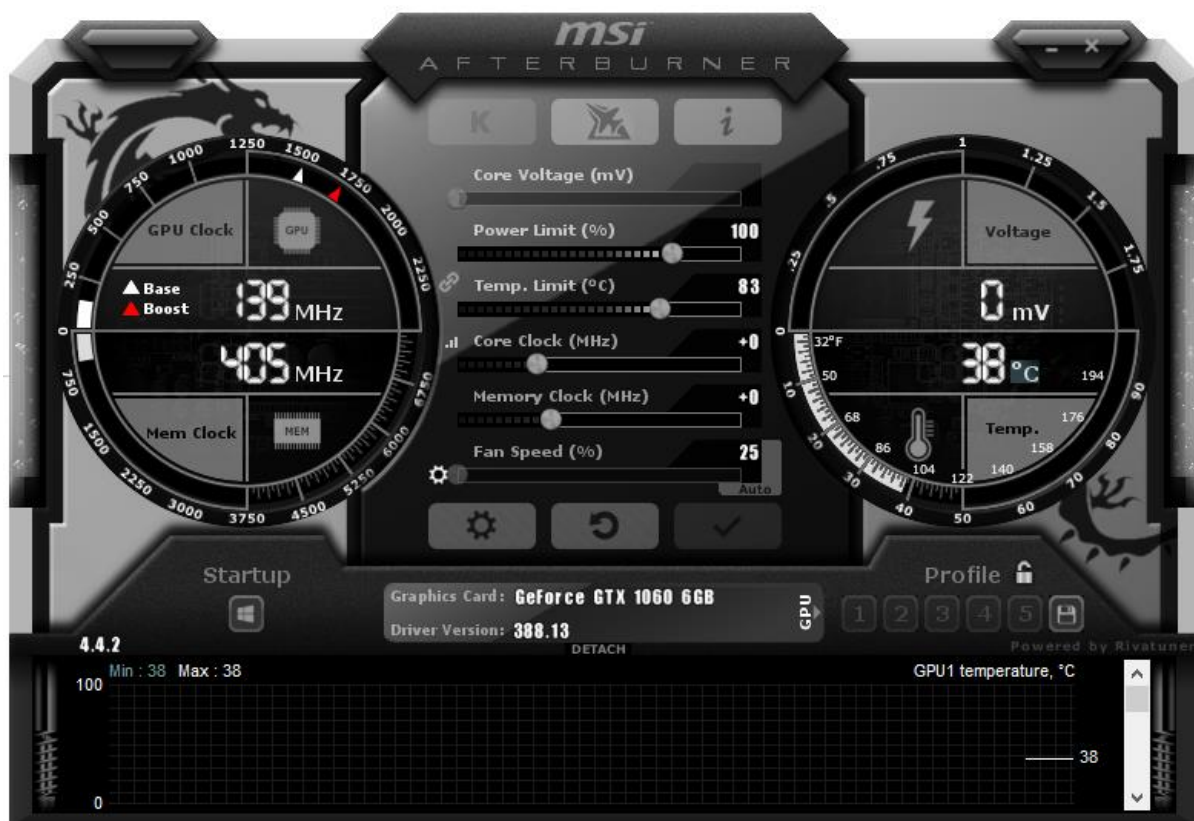
Each and every GPU will behave different, there are several guides for your GPUs architecture, type and even specific brands. However, note that two Asus GTX 1060 DUAL 3GB may still behave very

differently even though they are the “same” card. Usually large differences only occur in the same type of cards if different memory types were used. However, it is still possible that two EXACTLY the same specced cards behave different. So keep this in the back of your head when you’re OCing your rig!

Your goal when overclocking may differ based on your electricity cost, if you have a very low price then it might be in your best interest to increase your hashrate as much as possible. If not, you’ll want to strike a balance between power consumption and hashrate.

#### 4 A – Setting up MSI Afterburner

You’ll want to download the latest version of Afterburner from MSI, which you can find over at <https://www.msi.com/page/afterburner>. This tool will allow you to make changes to the core frequency, memory frequency and power limits. (You can change more, but we’ll try to keep the guide short and concise).



When you first launch Afterburner it will look something like this. In the center you see some sliders. The top slider (Core Voltage) is usually greyed out by default and for this tutorial we’re not going to use it anyway.

The remaining sliders should be rather clear what they do. The Power and Temperature Limits, well they are the maximum power/temp the card may draw/reach until the software will step in and reduce the OC. The Core and Memory clock are the respective clock frequencies it will try to use when on full load.

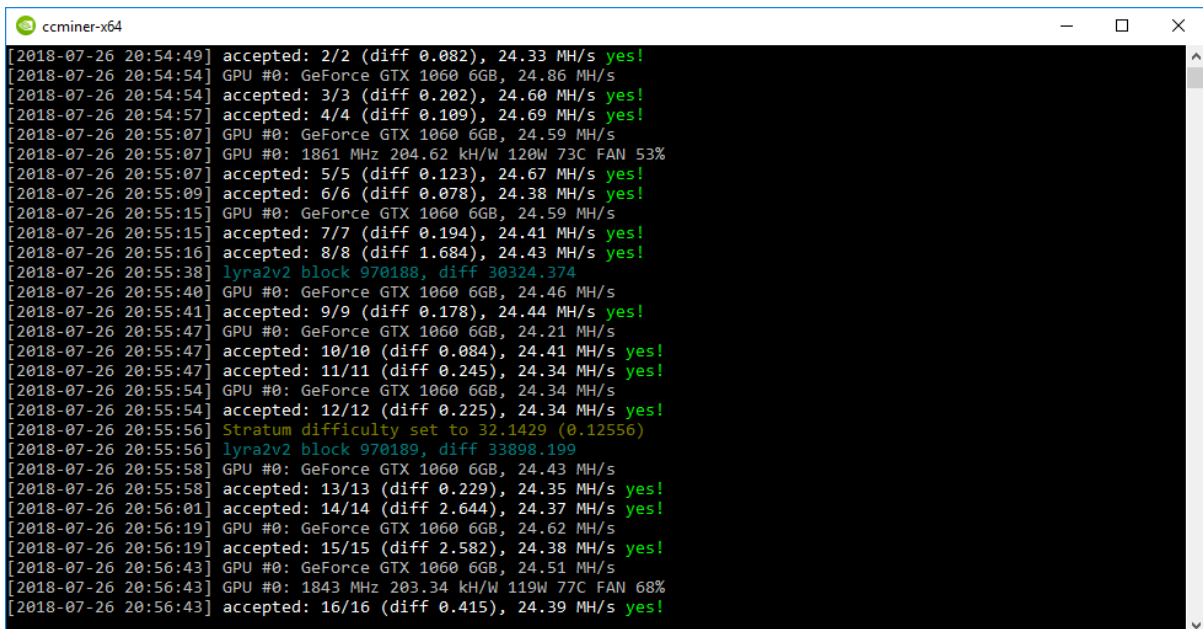
This means that if you’ve put in a too high OC then your GPU will start to throttle itself because it either goes above your set Power or Temperature limit. So if you see your frequencies jumping all over the place in the left circle when mining then you either have to increase your limits or decrease your overclocks.

## 4 B – Settings for Lyra2rev2

For every mining algorithm the hardware requirements are different and thus benefit differently from different OC settings. As there are a lot of factors that are out of our control that affect the effectiveness of certain settings we can only give rules of thumb.

Lyra2rev2 (the algorithm used for VTC) is very heavy on the core side and very light on the memory side. Therefore, it is in your interest to increase the core clock frequency by as much as possible and the memory clock not so much. I personally tend to decrease the Power Limit to 70% to decrease the power draw, making my rigs more efficient (more hashes/Watt).

In my experience my hashrate isn't affected by dropping the memory clock by a couple of 100 MHz. So decrease the memory clock, this slightly decreases the power draw thus making it possible to increase the core clock by a little bit more. How to balance this is something you'll have to test by small increments (during an extensive period) to see what works best for your setup. It is important to work in small steps, as your system might crash when taking large steps at once.



```
ccminer-x64
[2018-07-26 20:54:49] accepted: 2/2 (diff 0.082), 24.33 MH/s yes!
[2018-07-26 20:54:54] GPU #0: GeForce GTX 1060 6GB, 24.86 MH/s
[2018-07-26 20:54:54] accepted: 3/3 (diff 0.202), 24.60 MH/s yes!
[2018-07-26 20:54:57] accepted: 4/4 (diff 0.109), 24.69 MH/s yes!
[2018-07-26 20:55:07] GPU #0: GeForce GTX 1060 6GB, 24.59 MH/s
[2018-07-26 20:55:07] GPU #0: 1861 MHz 204.62 kH/W 120W 73C FAN 53%
[2018-07-26 20:55:07] accepted: 5/5 (diff 0.123), 24.67 MH/s yes!
[2018-07-26 20:55:09] accepted: 6/6 (diff 0.078), 24.38 MH/s yes!
[2018-07-26 20:55:15] GPU #0: GeForce GTX 1060 6GB, 24.59 MH/s
[2018-07-26 20:55:15] accepted: 7/7 (diff 0.194), 24.41 MH/s yes!
[2018-07-26 20:55:16] accepted: 8/8 (diff 1.684), 24.43 MH/s yes!
[2018-07-26 20:55:38] Lyra2v2 block 970188, diff 30324.374
[2018-07-26 20:55:40] GPU #0: GeForce GTX 1060 6GB, 24.46 MH/s
[2018-07-26 20:55:41] accepted: 9/9 (diff 0.178), 24.44 MH/s yes!
[2018-07-26 20:55:47] GPU #0: GeForce GTX 1060 6GB, 24.21 MH/s
[2018-07-26 20:55:47] accepted: 10/10 (diff 0.084), 24.41 MH/s yes!
[2018-07-26 20:55:47] accepted: 11/11 (diff 0.245), 24.34 MH/s yes!
[2018-07-26 20:55:54] GPU #0: GeForce GTX 1060 6GB, 24.34 MH/s
[2018-07-26 20:55:54] accepted: 12/12 (diff 0.225), 24.34 MH/s yes!
[2018-07-26 20:55:56] Stratum difficulty set to 32.1429 (0.12556)
[2018-07-26 20:55:56] Lyra2v2 block 970189, diff 33898.199
[2018-07-26 20:55:58] GPU #0: GeForce GTX 1060 6GB, 24.43 MH/s
[2018-07-26 20:55:58] accepted: 13/13 (diff 0.229), 24.35 MH/s yes!
[2018-07-26 20:56:01] accepted: 14/14 (diff 2.644), 24.37 MH/s yes!
[2018-07-26 20:56:19] GPU #0: GeForce GTX 1060 6GB, 24.62 MH/s
[2018-07-26 20:56:19] accepted: 15/15 (diff 2.582), 24.38 MH/s yes!
[2018-07-26 20:56:43] GPU #0: GeForce GTX 1060 6GB, 24.51 MH/s
[2018-07-26 20:56:43] GPU #0: 1843 MHz 203.34 kH/W 119W 77C FAN 68%
[2018-07-26 20:56:43] accepted: 16/16 (diff 0.415), 24.39 MH/s yes!
```

Default OC

```
ccminer-x64
[2018-07-26 20:57:30] NVML GPU monitoring enabled.
[2018-07-26 20:57:30] NVAPI GPU monitoring enabled.
[2018-07-26 20:57:30] 1 miner thread started, using 'lyra2v2' algorithm.
[2018-07-26 20:57:31] Stratum difficulty set to 15 (0.05859)
[2018-07-26 20:57:31] GPU #0: Intensity set to 20, 1048576 cuda threads
[2018-07-26 20:57:33] GPU #0: GeForce GTX 1060 6GB, 25.00 MH/s
[2018-07-26 20:57:33] accepted: 1/1 (diff 0.092), 25.00 MH/s yes!
[2018-07-26 20:57:38] GPU #0: GeForce GTX 1060 6GB, 24.88 MH/s
[2018-07-26 20:57:38] accepted: 2/2 (diff 0.082), 24.88 MH/s yes!
[2018-07-26 20:57:46] GPU #0: GeForce GTX 1060 6GB, 24.82 MH/s
[2018-07-26 20:57:46] GPU #0: 1877 MHz 288.70 kH/W 86W 59C FAN 42%
[2018-07-26 20:57:46] accepted: 3/3 (diff 0.082), 24.85 MH/s yes!
[2018-07-26 20:57:47] lyra2v2 block 970190, diff 33909.439
[2018-07-26 20:57:52] GPU #0: GeForce GTX 1060 6GB, 24.86 MH/s
[2018-07-26 20:57:52] accepted: 4/4 (diff 1.144), 24.85 MH/s yes!
[2018-07-26 20:57:54] accepted: 5/5 (diff 0.708), 24.83 MH/s yes!
[2018-07-26 20:57:59] GPU #0: GeForce GTX 1060 6GB, 24.79 MH/s
[2018-07-26 20:57:59] accepted: 6/6 (diff 0.199), 24.82 MH/s yes!
[2018-07-26 20:58:12] GPU #0: GeForce GTX 1060 6GB, 24.59 MH/s
[2018-07-26 20:58:12] accepted: 7/7 (diff 4.860), 24.78 MH/s yes!
[2018-07-26 20:58:17] GPU #0: GeForce GTX 1060 6GB, 24.47 MH/s
[2018-07-26 20:58:17] accepted: 8/8 (diff 0.940), 24.74 MH/s yes!
[2018-07-26 20:58:18] accepted: 9/9 (diff 0.972), 24.74 MH/s yes!
[2018-07-26 20:58:41] GPU #0: GeForce GTX 1060 6GB, 24.58 MH/s
[2018-07-26 20:58:41] accepted: 10/10 (diff 0.077), 24.72 MH/s yes!
[2018-07-26 20:58:47] Stratum difficulty set to 29.7794 (0.11633)
[2018-07-26 20:59:38] GPU #0: 1858 MHz 286.92 kH/W 86W 69C FAN 48%
[2018-07-26 20:59:39] GPU #0: GeForce GTX 1060 6GB, 24.29 MH/s
[2018-07-26 20:59:39] accepted: 11/11 (diff 0.152), 24.68 MH/s yes!
```

### PL 70%, Core +150 and Mem -500

Note that the hashrate is marginally higher than with default settings, however we're also consuming 30% less energy. Saving on the electricity cost, heat production and wear/tear of the GPU. So this is a win-win situation. Same revenue, less costs what else is there to wish for?

```
ccminer-x64
[2018-07-26 21:01:34] NVAPI GPU monitoring enabled.
[2018-07-26 21:01:34] 1 miner thread started, using 'lyra2v2' algorithm.
[2018-07-26 21:01:35] Stratum difficulty set to 15 (0.05859)
[2018-07-26 21:01:35] GPU #0: Intensity set to 20, 1048576 cuda threads
[2018-07-26 21:01:56] GPU #0: GeForce GTX 1060 6GB, 24.42 MH/s
[2018-07-26 21:01:56] GPU #0: 1876 MHz 282.91 kH/W 86W 52C FAN 32%
[2018-07-26 21:02:04] GPU #0: GeForce GTX 1060 6GB, 24.47 MH/s
[2018-07-26 21:02:04] accepted: 1/1 (diff 1.539), 24.47 MH/s yes!
[2018-07-26 21:02:10] GPU #0: GeForce GTX 1060 6GB, 24.35 MH/s
[2018-07-26 21:02:11] accepted: 2/2 (diff 0.104), 24.41 MH/s yes!
[2018-07-26 21:02:17] GPU #0: GeForce GTX 1060 6GB, 24.35 MH/s
[2018-07-26 21:02:17] accepted: 3/3 (diff 0.814), 24.39 MH/s yes!
[2018-07-26 21:02:22] GPU #0: GeForce GTX 1060 6GB, 24.25 MH/s
[2018-07-26 21:02:23] accepted: 4/4 (diff 0.067), 24.36 MH/s yes!
[2018-07-26 21:02:37] GPU #0: GeForce GTX 1060 6GB, 24.23 MH/s
[2018-07-26 21:02:41] GPU #0: GeForce GTX 1060 6GB, 24.33 MH/s
[2018-07-26 21:02:41] accepted: 5/5 (diff 0.331), 24.33 MH/s yes!
[2018-07-26 21:02:47] GPU #0: GeForce GTX 1060 6GB, 24.10 MH/s
[2018-07-26 21:02:48] accepted: 6/6 (diff 0.060), 24.30 MH/s yes!
[2018-07-26 21:02:55] GPU #0: GeForce GTX 1060 6GB, 24.12 MH/s
[2018-07-26 21:02:55] accepted: 7/7 (diff 0.100), 24.28 MH/s yes!
[2018-07-26 21:03:00] GPU #0: GeForce GTX 1060 6GB, 24.22 MH/s
[2018-07-26 21:03:00] accepted: 8/8 (diff 0.127), 24.27 MH/s yes!
[2018-07-26 21:03:12] lyra2v2 block 970191, diff 33893.651
[2018-07-26 21:03:16] GPU #0: GeForce GTX 1060 6GB, 24.08 MH/s
[2018-07-26 21:03:16] accepted: 9/9 (diff 0.136), 24.25 MH/s yes!
[2018-07-26 21:03:31] GPU #0: GeForce GTX 1060 6GB, 24.06 MH/s
[2018-07-26 21:03:31] GPU #0: 1843 MHz 279.73 kH/W 86W 68C FAN 46%
[2018-07-26 21:03:32] accepted: 10/10 (diff 0.148), 24.23 MH/s yes!
```

### PL 70%, Core +150 and default Memory

It might surprise you that the hashrate drops with a higher memory clock (default is higher than -500). The reason for this is that the GPU used in this example is hitting the Power level because the memory isn't underclocked. Therefore, it throttles itself. As this differs for each and every GPU you want to do some extensive testing yourself. But as a rule of thumb for Lyra2re2 you want to increase the core clock and decrease the memory clock. Good luck tuning your system!