

# Mine Monero in a Pool

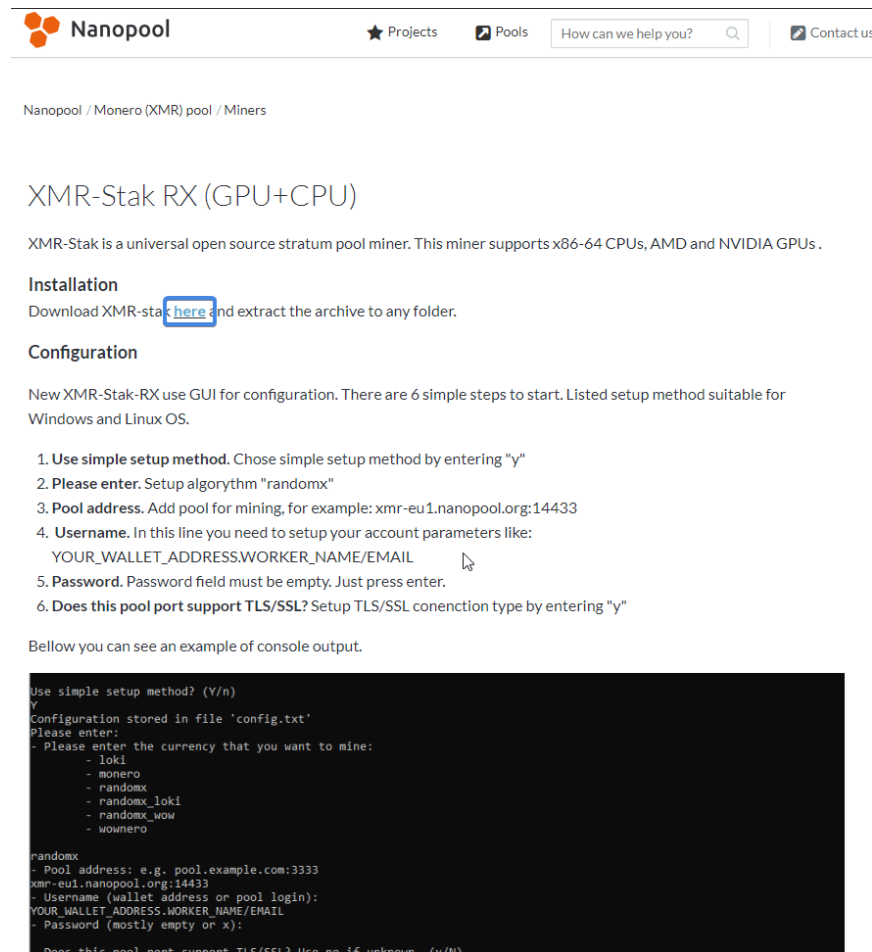
## Exercise

In this exercise, you will learn how to mine **Monero** with “**XMR-stak**” miner in **Nanopool**. XMR-Stak is a universal Stratum pool miner. This miner supports CPUs, AMD and NVIDIA GPUs and can be used to mine the Monero and Aeon cryptocurrencies. Monero is a **Proof of Work** cryptocurrency that can be mined with computational power from a **CPU** or **GPU**. It uses the **CryptoNight hashing algorithm**. For this exercise, we will mine it with a CPU. There are currently no ASICs for Monero which means that anyone with a computer can mine it.

First you will need “**XMR-stak**” miner.

## 1.Download “XMR-stak” Miner

1. Go to “Nanopool” Monero mining <https://help.nanopool.org/article/101-xmr-stak-rx-gpu-cpu> and download “XMR-stak”:



Nanopool / Monero (XMR) pool / Miners

### XMR-Stak RX (GPU+CPU)

XMR-Stak is a universal open source stratum pool miner. This miner supports x86-64 CPUs, AMD and NVIDIA GPUs.

#### Installation

Download XMR-stak [here](#) and extract the archive to any folder.

#### Configuration

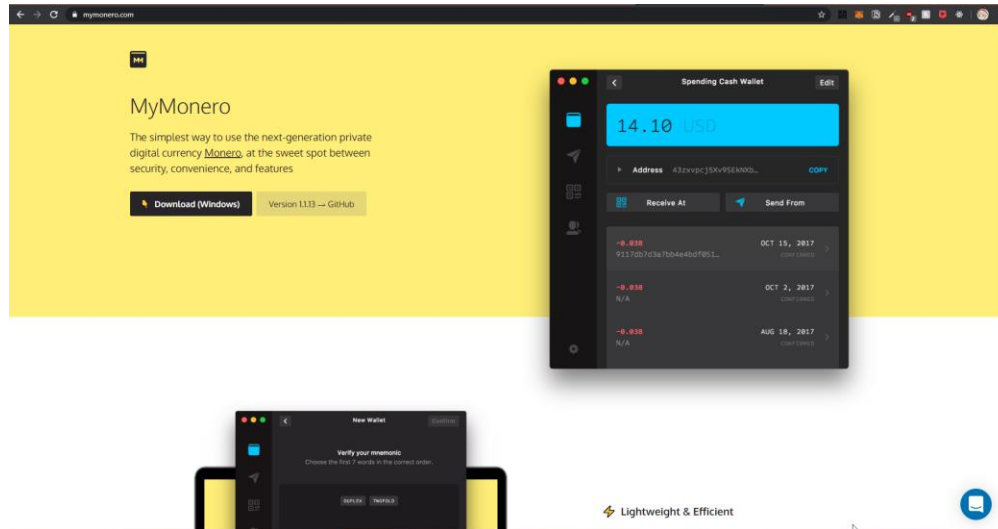
New XMR-Stak-RX use GUI for configuration. There are 6 simple steps to start. Listed setup method suitable for Windows and Linux OS.

1. **Use simple setup method.** Chose simple setup method by entering "y"
2. **Please enter.** Setup algorithym "randomx"
3. **Pool address.** Add pool for mining, for example: xmr-eu1.nanopool.org:14433
4. **Username.** In this line you need to setup your account parameters like:  
YOUR\_WALLET\_ADDRESS.WORKER\_NAME/EMAIL
5. **Password.** Password field must be empty. Just press enter.
6. **Does this pool port support TLS/SSL?** Setup TLS/SSL conenction type by entering "y"

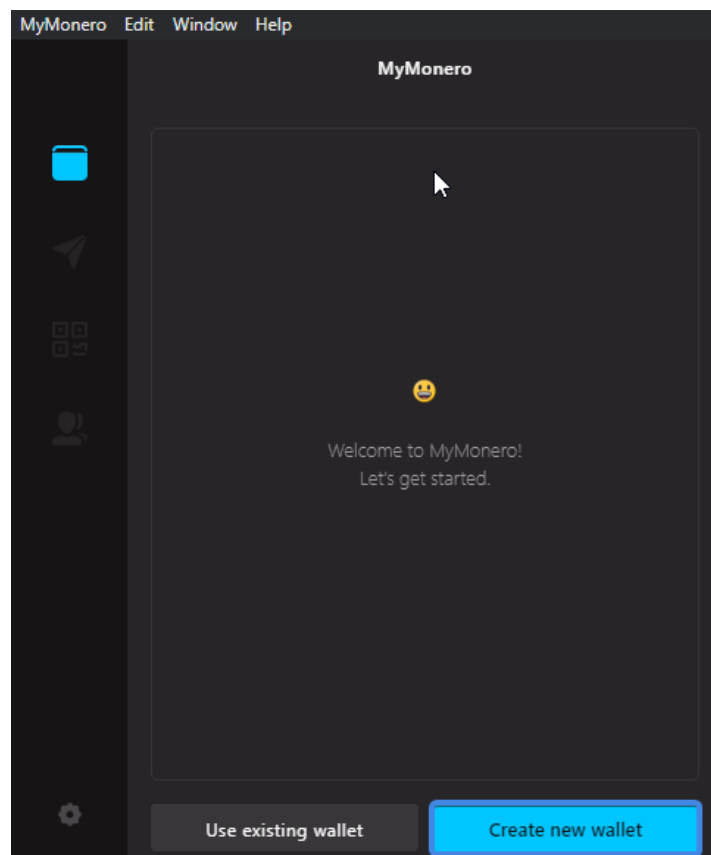
Bellow you can see an example of console output.

```
Use simple setup method? (Y/n)
Y
Configuration stored in file 'config.txt'
Please enter:
- Please enter the currency that you want to mine:
  - loki
  - monero
  - randomx
  - randomx_loki
  - randomx_wow
  - wowmonero
randomx
- Pool address: e.g. pool.example.com:3333
xmr-eu1.nanopool.org:14433
- Username (wallet address or pool login):
YOUR_WALLET_ADDRESS.WORKER_NAME/EMAIL
- Password (mostly empty or x):
- Does this pool port support TLS/SSL? (Use no if unknown) (y/N)
```

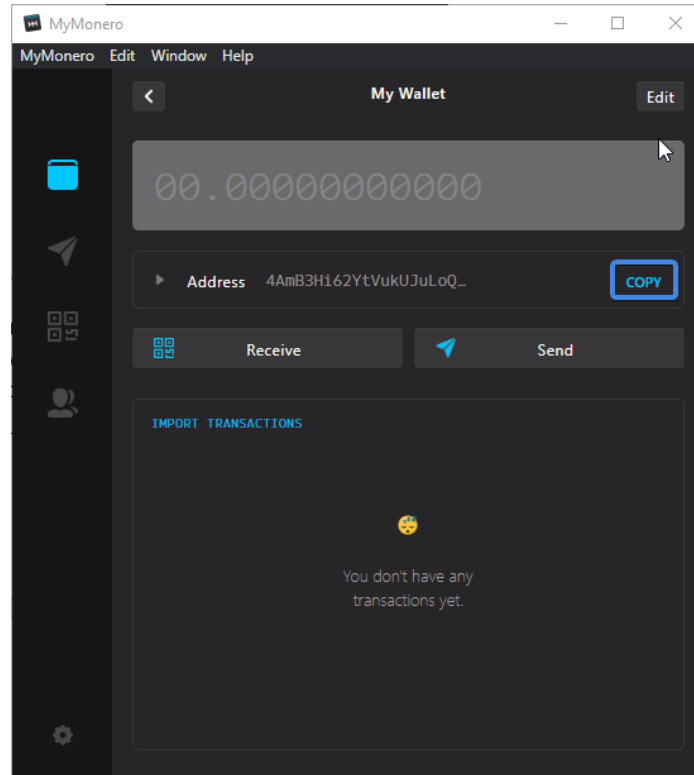
2. Now you need a Monero wallet. Go to <https://mymonero.com/#/> and **download the client**.



3. Open the app, and create a new wallet. Go through the typical procedure of generating a wallet.



4. Copy your wallet address, you will need this for setting up the miner later.



### 3. Setup the Miner

1. Let's **setup the "XMR-stak"**. Open the file **"start.bat"** with your preferred text editor. In this exercise we will mine Monero in

**"Nanopool"** pool. Make the **"start.bat"** looks like this:

- YOUR\_WALLET\_ADDRESS - your valid Monero address.
- YOUR\_WORKER\_NAME - simple short worker name (like worker01). Optional.
- YOUR\_EMAIL - your email address for notifications. Optional.

A screenshot of a Notepad window titled "start.bat - Notepad". The window contains the following text:

```
xmr-stak-rx.exe -O xmr-jp1.nanopool.org:14433^  
-u 4AmB3Hi62YtVukUJuLoQDV5j19c2QPQpe4G4mhBfCpiLiZpnqEDMycuQpnfL2GxYoPWWXjgX446dcKX6f7swjqw8ERptndv.testWorker/defyh@gmail.com^  
--currency monero -i -0 -p "" -r ""
```

2. **Save** the **"start.bat"** file.

## 4. Mine Monero Coins

1. Start “XMR-stak” by double clicking the file “start.bat”.



2. The **miner** will start and give us information.

```
xmr-stak 2.4.1 737383a5

Brought to you by fireice_uk and psychocrypt under GPLv3.
Based on CPU mining code by wolf9466 (heavily optimized by fireice_uk).
Based on NVIDIA mining code by KlausT and psychocrypt.
Based on OpenCL mining code by wolf9466.

Configurable dev donation level is set to 2.0%

You can use following keys to display reports:
'h' - hashrate
'r' - results
'c' - connection
-----
[2018-05-10 19:16:25] : Mining coin: monero7
WARNING: NVIDIA Insufficient driver!
[2018-05-10 19:16:25] : WARNING: backend NVIDIA disabled.
WARNING: AMD cannot load backend library: xmrstak_opengl_backend.dll
WARNING: AMD Backend disabled
[2018-05-10 19:16:25] : WARNING: backend AMD disabled.
[2018-05-10 19:16:25] : CPU configuration stored in file 'cpu.txt'
```

3. After connection to “Nanopool” the miner starts receiving “new jobs” from the pool.

```
C:\Users\Develop\Downloads\xmr-stak-win64\xmr-stak.exe
[2018-05-10 19:25:50] : New block detected.
[2018-05-10 19:26:50] : New block detected.
[2018-05-10 19:27:50] : New block detected.
[2018-05-10 19:27:55] : New block detected.
[2018-05-10 19:28:42] : New block detected.
[2018-05-10 19:29:10] : Result accepted by the pool.
[2018-05-10 19:29:42] : New block detected.
[2018-05-10 19:30:42] : New block detected.
[2018-05-10 19:31:42] : New block detected.
[2018-05-10 19:32:42] : New block detected.
[2018-05-10 19:33:43] : New block detected.
[2018-05-10 19:33:47] : New block detected.
[2018-05-10 19:34:48] : New block detected.
[2018-05-10 19:35:31] : New block detected.
[2018-05-10 19:36:31] : New block detected.
[2018-05-10 19:37:31] : New block detected.
[2018-05-10 19:37:57] : New block detected.
[2018-05-10 19:38:45] : New block detected.
[2018-05-10 19:38:50] : New block detected.
[2018-05-10 19:38:53] : New block detected.
[2018-05-10 19:39:53] : New block detected.
[2018-05-10 19:40:53] : New block detected.
[2018-05-10 19:41:47] : New block detected.
[2018-05-10 19:42:47] : New block detected.
[2018-05-10 19:43:47] : New block detected.
[2018-05-10 19:43:49] : New block detected.
[2018-05-10 19:44:49] : New block detected.
[2018-05-10 19:45:49] : New block detected.
[2018-05-10 19:46:41] : New block detected.
```

4. Also, you can see the information about **Hashrate**. In runtime you can press “h” key to see the speed statistics anytime.

```
[2018-05-10 20:40:54] : New block detected.
[2018-05-10 20:42:05] : New block detected.
[2018-05-10 20:42:05] : New block detected.
HASHRATE REPORT - CPU
| ID | 10s | 60s | 15m | ID | 10s | 60s | 15m |
| 0 | 18.1 | 18.7 | 17.7 | 1 | 18.8 | 19.4 | 18.4 |
| 2 | 18.9 | 19.4 | 18.4 |
Totals (CPU): 55.8 57.5 54.5 H/s
-----
Totals (ALL): 55.8 57.5 54.5 H/s
Highest: 65.3 H/s
-----
[2018-05-10 20:42:25] : New block detected.
```

5. In runtime you can also press “r” to see the **results** report.

```
[2018-05-10 20:48:51] : New block detected.
[2018-05-10 20:49:41] : New block detected.
RESULT REPORT
Difficulty      : 120001
Good results    : 3 / 3 (100.0 %)
Avg result time : 1882.7 sec
Pool-side hashes : 360003

Top 10 best results found:
| 0 |          721261 | 1 |          622191 |
| 2 |          243112 | 3 |              0 |
| 4 |              0 | 5 |              0 |
| 6 |              0 | 7 |              0 |
| 8 |              0 | 9 |              0 |

Error details:
Yay! No errors.
[2018-05-10 20:50:41] : New block detected.
[2018-05-10 20:51:19] : New block detected.
```

6. If you press “c” this will bring up the connection report.

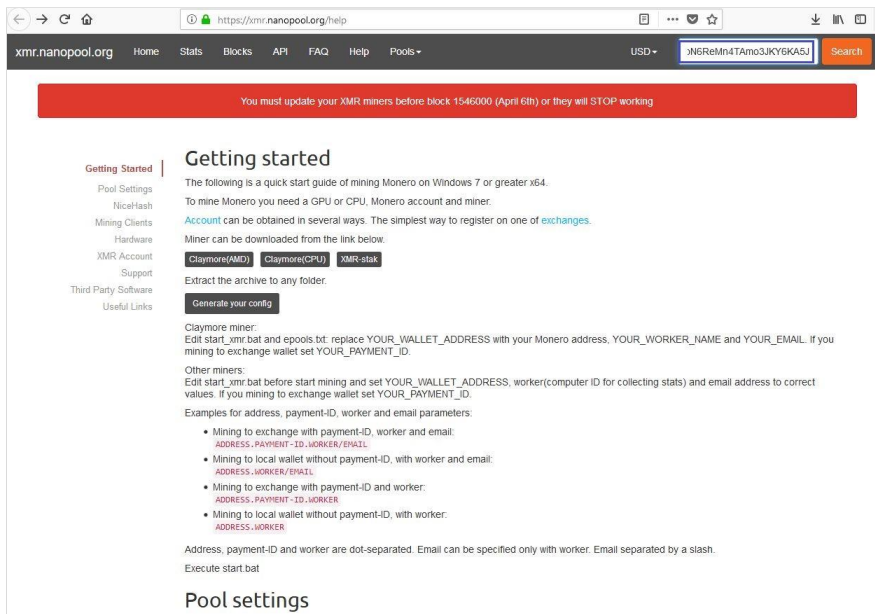
```
[2018-05-10 20:54:22] : New block detected.
[2018-05-10 20:54:24] : Fast-connecting to dev pool ...
[2018-05-10 20:54:25] : Dev pool connected. Logging in...
CONNECTION REPORT
Pool address     : xmr-eu1.nanopool.org:14433
Connected since  : 2018-05-10 19:16:28
Pool ping time   : 338 ms

Network error log:
Yay! No errors.
```

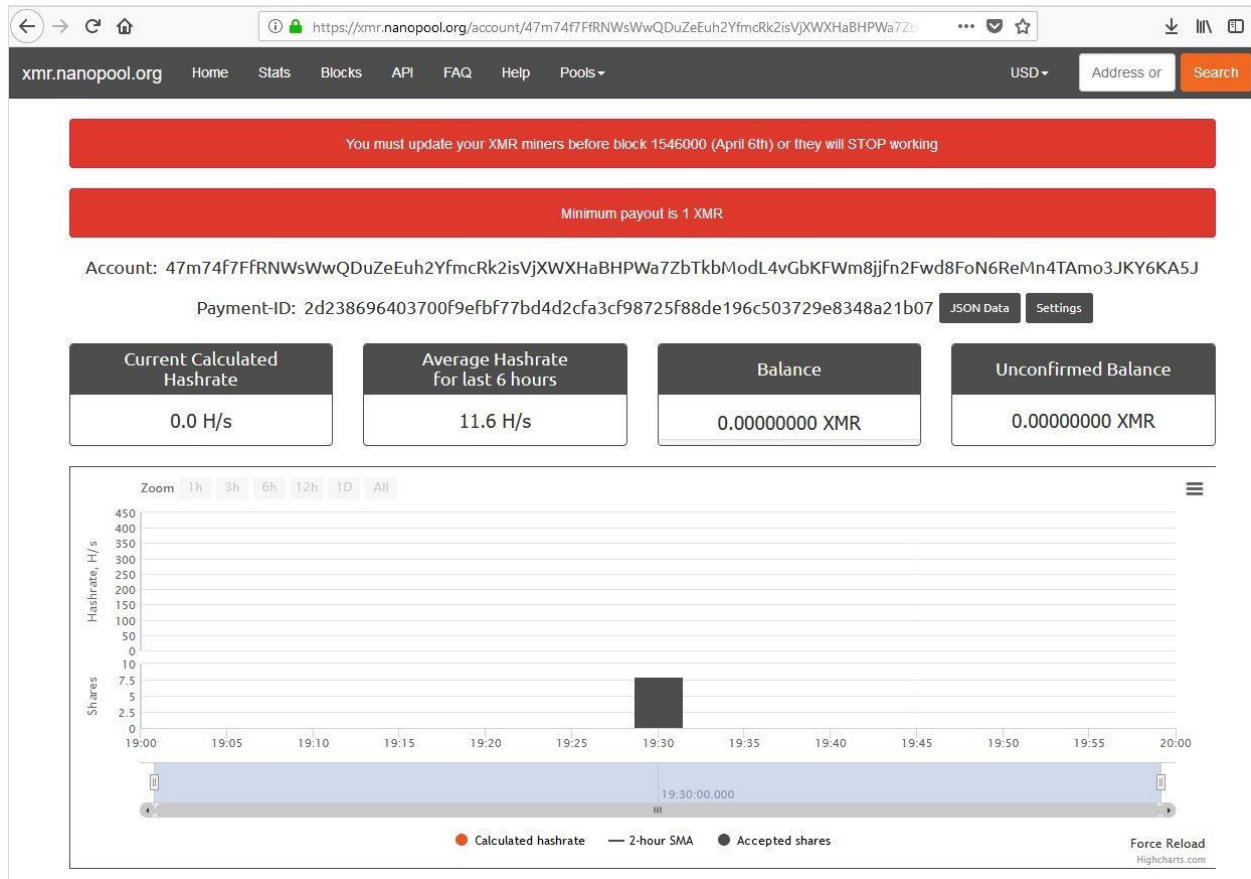


## 5. Let's See the Pool Statistics.

1. Go to <https://xmr.nanopool.org/> , paste the address in the upper right corner and click on search.



2. After you mined your first block, here you can see a variety of statistics.



## 6. Experiment with the Miner

1. What is your **hash rate**?
2. How much XMR (**Monero**) you can mine in 24 hours?

## What to Submit?

Create a **zip file** (e.g. **your-name-monero-mining-exercise.zip**) holding the following:

1. Screenshots of your mining terminal
2. Screenshots of your miner statistics page.

Submit your zip file as **homework** on the course platform.