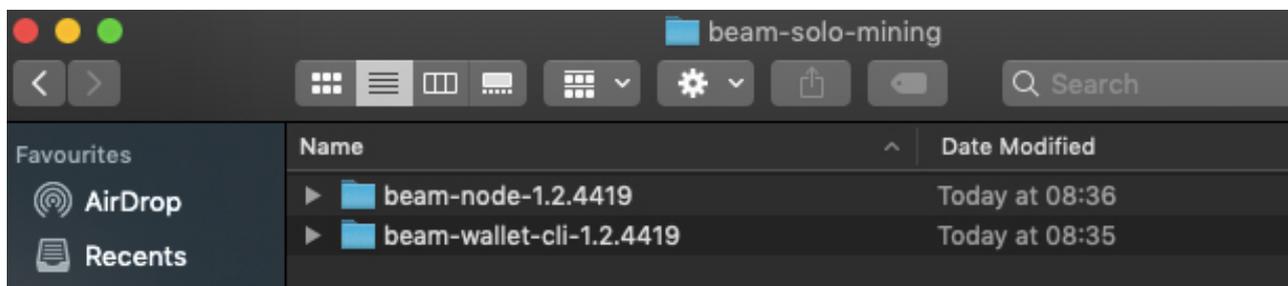


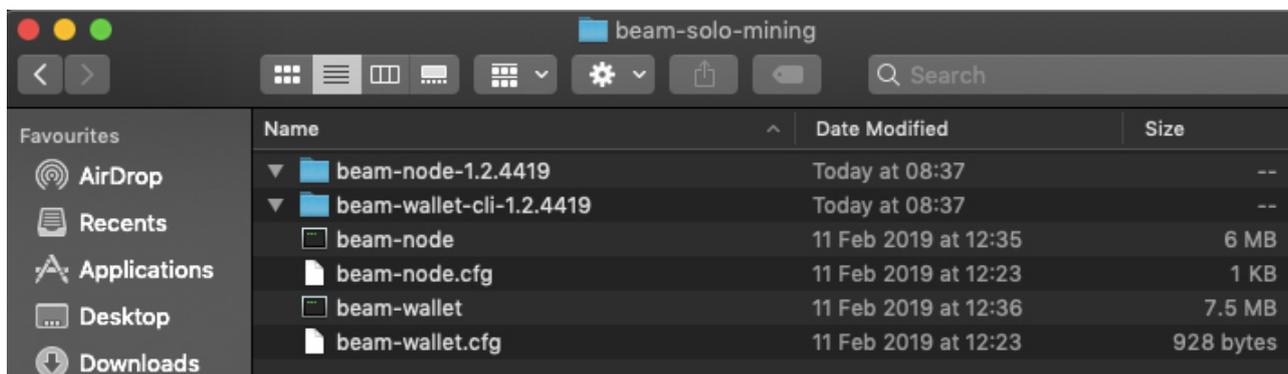
SOLO MINING BEAM SIMPLE STEP-by-STEP GUIDE
with great thanks to Freshminer (sunpool.top) for his assistance

To set up solo mining, we are going to install first the command-line-interface (CLI) wallet and the Beam node onto a secure device, away from your mining rig(s). You can do this on any operating system, and this guide will show screenshots using a Mac. The same processes are correct for Windows and Linux, respectively. NOTE: whichever device you run the node from, will need to have an ever-active command line terminal.

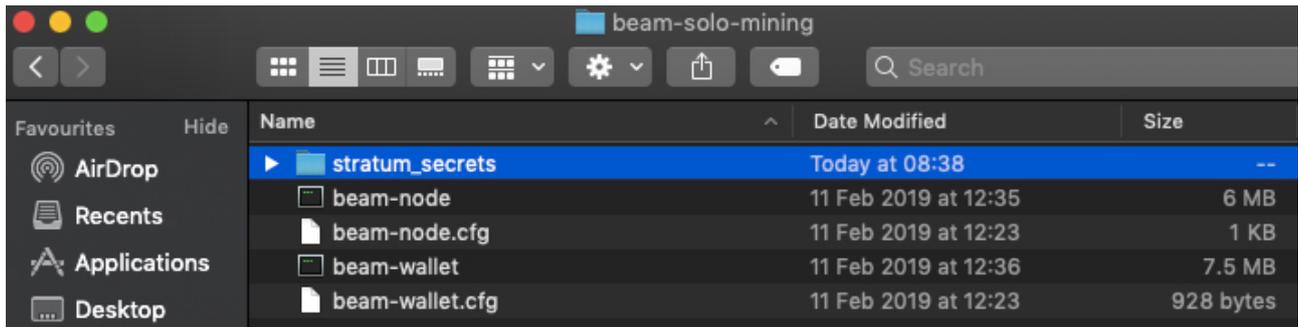
Step 1 : Please download the binaries: beam-wallet-cli-latestversion# and beam-node-latestversion# for your desired OS from <https://www.beam.mw/downloads> and unpack them into the a single folder, named for instance "beam-solo-mining".



Please now move all files from the two unpacked archives into the beam-solo-mining folder directly, and remove the 2 subfolders.



Please then make a subfolder named stratum_secrets;



Step 2 : Please navigate your internet browser to <https://github.com/BeamMW/beam/wiki/Instructions-for-Command-Line-Node>

On the bottom of the above page there are 2 links:

<https://github.com/BeamMW/beam/blob/master/utility/unittest/test.crt>

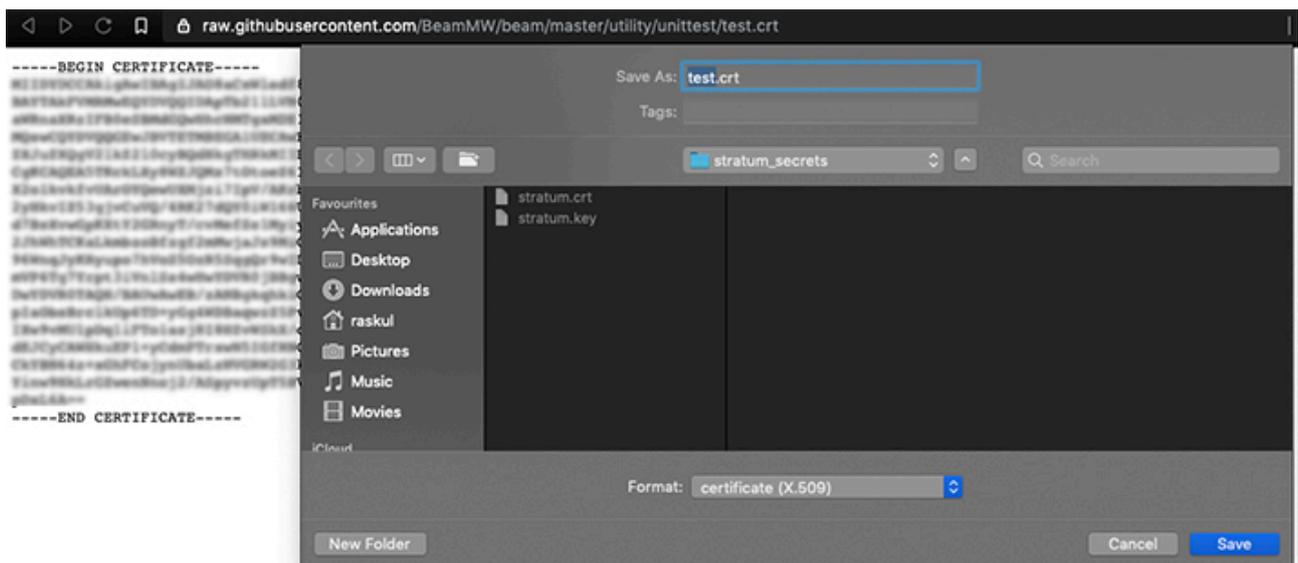
& <https://github.com/BeamMW/beam/blob/master/utility/unittest/test.key>

Open each of these files as RAW output and then 'save page as'

These files should be placed into your stratum_secrets folder and renamed as;

stratum.crt

stratum.key



Step 3 : Next step will be to choose a password for the wallet and add it to your beam-wallet.cfg file. Please choose a wallet password and save it somewhere. Open the beam-wallet.cfg file using a text editor and put your password at the command line:

pass=

Uncomment the line by removing the single # sign. Also add there:

node_addr=127.0.0.1:10000

Again, uncomment this line by removing the single # sign.

Those are the only 2 configurations that must be done on beam-wallet.cfg

Save the file and close it.

```
# password for the wallet
pass=

# phrase to generate secret
# seed_phrase=

# address of node
node_addr=127.0.0.1:10000
```


Step 7 : Whilst still within a text editor in beam-node.cfg, locate each of the below lines and add:

```
port=10000
log_level=verbose
file_log_level=verbose
mining_threads=0
peer=eu-node01.mainnet.beam.mw:8100
stratum_port=3333
stratum_secrets_path=./stratum_secrets/
```

```
#####
# General options:
#####

# port to start server on
port=10000

# log level [info|debug|verbose]
log_level=verbose

# file log level [info|debug|verbose]
file_log_level=verbose

# old logs cleanup period (days)
# log_cleanup_days=5

#####
# Node options:
#####

# node storage path
# storage=node.db

# directory for compressed history
# history_dir=

# temp directory for compressed history, must be on the same volume
# temp_dir=

# number of mining threads(there is no mining if 0)
mining_threads=0

# nodes to connect to
peer=eu-node01.mainnet.beam.mw:8100

# port to start stratum server on
stratum_port=3333

# path to stratum server api keys file, and tls certificate and private key
stratum_secrets_path=./stratum_secrets/
```

Ensure that you uncomment each of these lines by removing the # sign.
Save and close the .cfg file.

Step 8 : Please open a new command line window which you are prepared to leave open all the time - this is window 1 and will contain the perpetual node connection. Navigate into your beam-solo-mining folder and start the node by typing:

```
./beam-node
```

Depending on your device firewall settings you may need to “allow” it to open ports. Let the node synch with the network by downloading the blockchain. This may take a while, depending on your connection speed.

When fully synchronised, you will see current block height on the node like this:

```
I 2019-04-02.13:16:40.463 My Tip: 127459-c977890cbd75af4e, Work = 2.4725e+13
```

Step 9 : Please open another new command line window which you are prepared to leave open all the time - this is window 2, meanwhile, window 1 with Beam node must remain open at all times.

Navigate within the command line to your beam-solo-mining folder and type:

```
./beam-wallet listen
```

This enables the wallet to perpetually listen at the node.

```
I 2019-04-02.12:47:46.628 Sync up to 127497-1d493b18edde14aa
I 2019-04-02.12:47:46.628 Synchronizing with node: 0% (0/1)
I 2019-04-02.12:47:46.630 Synchronizing with node: 100% (1/1)
I 2019-04-02.12:47:46.632 Current state is 127497-1d493b18edde14aa
I 2019-04-02.12:48:30.606 Sync up to 127498-2cdfd43769b11a7d
I 2019-04-02.12:48:30.607 Synchronizing with node: 0% (0/1)
I 2019-04-02.12:48:30.609 Synchronizing with node: 100% (1/1)
I 2019-04-02.12:48:30.612 Current state is 127498-2cdfd43769b11a7d
I 2019-04-02.12:49:42.453 Sync up to 127499-009e2b5b14e3108e
I 2019-04-02.12:49:42.454 Synchronizing with node: 0% (0/1)
I 2019-04-02.12:49:42.457 Synchronizing with node: 100% (1/1)
I 2019-04-02.12:49:42.460 Current state is 127499-009e2b5b14e3108e
I 2019-04-02.12:53:52.114 Sync up to 127500-61e8c9853ec36c29
I 2019-04-02.12:53:52.115 Synchronizing with node: 0% (0/1)
I 2019-04-02.12:53:52.116 Synchronizing with node: 100% (1/1)
I 2019-04-02.12:53:52.119 Current state is 127500-61e8c9853ec36c29
I 2019-04-02.12:54:06.883 Sync up to 127501-5b21f387bfaaf171
I 2019-04-02.12:54:06.884 Synchronizing with node: 0% (0/1)
I 2019-04-02.12:54:06.886 Synchronizing with node: 100% (1/1)
I 2019-04-02.12:54:06.888 Current state is 127501-5b21f387bfaaf171
I 2019-04-02.12:56:09.882 Sync up to 127502-6f37bd19d67f58ba
I 2019-04-02.12:56:09.882 Synchronizing with node: 0% (0/1)
I 2019-04-02.12:56:09.885 Synchronizing with node: 100% (1/1)
I 2019-04-02.12:56:09.887 Current state is 127502-6f37bd19d67f58ba
I 2019-04-02.12:57:50.404 Sync up to 127503-493b03ded0169197
I 2019-04-02.12:57:50.405 Synchronizing with node: 0% (0/1)
I 2019-04-02.12:57:50.435 Synchronizing with node: 100% (1/1)
I 2019-04-02.12:57:50.437 Current state is 127503-493b03ded0169197
I 2019-04-02.12:59:26.630 Rolled back to 127502-6f37bd19d67f58ba
I 2019-04-02.12:59:26.633 Sync up to 127504-daad5142ad0da7b5
I 2019-04-02.12:59:26.634 Synchronizing with node: 0% (0/1)
I 2019-04-02.12:59:26.635 Synchronizing with node: 100% (1/1)
I 2019-04-02.12:59:26.638 Current state is 127504-daad5142ad0da7b5
```

In most cases you can close this window, but I prefer to leave it open to ensure continued listen with the node.

Step 10 : Please open one last new command line window which you are prepared to leave open all the time - this is window 3, meanwhile, window 1 with Beam node must remain open at all times and although not essential, window 2 can remain open also (personal preference).

Navigate within the command line to your beam-solo-mining folder and type:

```
./beam-wallet info
```

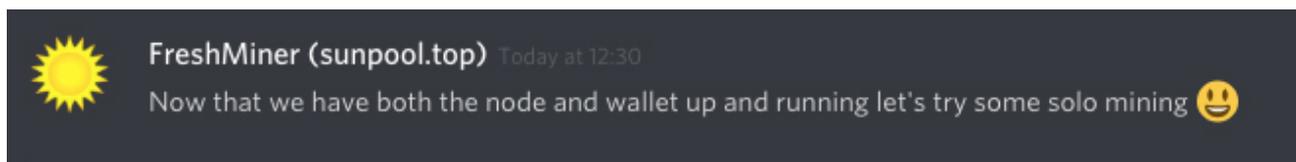
This prints a screen of the current wallet state.

```
Russells-MacBook-Air:beam-solo-mining raskul$ ./beam-wallet info
I 2019-04-02.13:06:16.284 Beam Wallet 1.2.4419 (mainnet)
I 2019-04-02.13:06:16.284 Rules signature: ed91a717313c6eb0
I 2019-04-02.13:06:16.284 starting a wallet...
I 2019-04-02.13:06:16.399 wallet sucessfully opened...
----Wallet summary-----
Current height.....127507
Current state ID.....a6103085b396d688

Available.....0 groth
Maturing.....0 groth
In progress.....0 groth
Unavailable.....0 groth
Available coinbase .....0 groth
Total coinbase.....0 groth
Available fee.....0 groth
Total fee.....0 groth
Total unspent.....0 groth

id | Beam | Groth | maturity | status | type
```

Wallet and node must show the same block if the wallet is currently synchronised.



Depending on your mining OS, simply use the following connection parameters with your miner.

POOL: (The local IP address on which your node is running) You can usually find this by checking your router and connected devices, the device with the node should be recognisable to you.

PORT: 3333

ADDRESS: Address can be useful only if the node is filtering connections with the stratum.api.keys file (which we have skipped on this guide), but even in this case it has nothing to do with where the mined blocks go. Blocks mined will always go to the CLI wallet which is coupled with the Beam Node. You can enter any random text in your address on your miner command line, however for simplicity sake, you can also enter the address which we generated in your wallet on Step 4.

To verify you are mining...

```
I 2019-04-02.12:42:07.946 Block generated: Height=127489, Fee=0, Difficulty=1b-3c6f27(1.65903e+08), Size=297
I 2019-04-02.12:42:07.946 New job for external miner
I 2019-04-02.12:42:07.946 stratum server new job 925 will be sent to 1 connected peers
```

Job xxx will be sent to x connected peers. Where x is the number of rigs you point at your solo mining node.

GOOD LUCK!