

Relay@Home User Guide

Documentation Version 0.3 - March 13, 2021

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Is my Relay@Home Working?

When your relay starts up the first thing it does is verify it's database. It then starts synchronizing the blockchain with all the other relays on the network. If your relay has been powered off for a while it may take several hours to retrieve the blockchain history. While it is getting back in sync it will not be active on the network.

Check status on Public Peer List

Once your relay is synchronized to the blockchain you can check for it to be listed on the public peer list.

The public IP address of your relay will be the address assigned to you by your internet service provider. You can find your your public IPv4 address by logging into your modem/router or by going to this site: <https://www.whatismyip.com/what-is-my-public-ip-address/>

If you see your public IP address listed on this page then your relay should be operating correctly and helping with the security of the network!

Compendia Network Stats

<https://friendsoflittleyus.nl/compendia-network-stats/>

Ark Network Stats

<https://friendsoflittleyus.nl/ark-network-stats/>

Updating Software on Relay@Home

Regular software updates are important to ensure the security and performance of the blockchain you are supporting. Keeping your Relay up to date is very important.

At this time we have not created an automated remote update process due to the complexity of the blockchain and privacy issues. Blockchain upgrades are typically a straightforward and simple process.

You will need to connect to your Relay using SSH protocol. I use Putty on windows for SSH access however Windows 10 now has a built in SSH client available via the windows command prompt. MACos and Linux have built in SSH clients as well.

The upgrade instructions below assumes you are familiar with SSH access however please contact us if you need instructions on how to do this.

1. SSH into your relay. Your computer needs to be on the same local network as your Relay. The firewall on the Relay blocks SSH access from outside of your local network.
2. Login via this account info:

```
user: friends
```

```
password: littleyus
```

Follow the upgrade instructions specific to your network:

ARK Upgrade

1. Change to core-ark folder

```
cd core-ark
```

2. Pull updated files from github

```
git pull
```

3. Rebuild. This will take several minutes

```
yarn setup
```

4. Restart relay process and open log file

```
pm2 restart all && pm2 logs
```

When the relay process starts up it must verify the existing database and several other tasks. This operation is very memory intensive and will likely take 10->25 minutes. The Pro Relay@Home version has faster memory and will complete this step much faster than the standard version.

When you get the message `Blockchain 100% in sync`, the relay is running with updated software and should be visible on the peer list.

<https://friendsoflittlejus.nl/ark-network-stats/>

The log file should look similar to this:

```
INFO : Starting P2P Interface
INFO : Socket worker started, PID: 10906
INFO : Socket worker started, PID: 10907
INFO : Setting up core-magistrate-transactions.
INFO : Starting Database Manager
INFO : Establishing Database Connection
INFO : Connecting to transaction pool
INFO : Starting Blockchain Manager :chains:
INFO : Verifying database integrity
INFO : Verified database integrity
INFO : Last block in database: 15,262,615
INFO : State Generation - Step 1 of 21: Block Rewards
INFO : State Generation - Step 2 of 21: Fees & Nonces
INFO : State Generation - Step 3 of 21: Transfer
INFO : State Generation - Step 4 of 21: SecondSignature
INFO : State Generation - Step 5 of 21: DelegateRegistration
INFO : State Generation - Step 6 of 21: Vote
INFO : State Generation - Step 7 of 21: MultiSignature
INFO : State Generation - Step 8 of 21: Ipfs
INFO : State Generation - Step 9 of 21: MultiPayment
INFO : State Generation - Step 10 of 21: DelegateResignation
```

INFO : State Generation - Step 11 of 21: HtlcLock
INFO : State Generation - Step 12 of 21: HtlcClaim
INFO : State Generation - Step 13 of 21: HtlcRefund
INFO : State Generation - Step 14 of 21: BusinessRegistration
INFO : State Generation - Step 15 of 21: BusinessResignation
INFO : State Generation - Step 16 of 21: BusinessUpdate
INFO : State Generation - Step 17 of 21: BridgechainRegistration
INFO : State Generation - Step 18 of 21: BridgechainResignation
INFO : State Generation - Step 19 of 21: BridgechainUpdate
INFO : State Generation - Step 20 of 21: Entity
INFO : State Generation - Step 21 of 21: Vote Balances & Delegate

Ranking

INFO : State Generation complete! wallets in memory: 148201
INFO : Number of registered delegates: 1171
INFO : Transaction Pool Manager build wallets complete
INFO : Your network connectivity has been verified by 8.8.8.8
INFO : Your NTP connectivity has been verified by pool.ntp.org
INFO : Local clock is off by 12ms from NTP
INFO : Peer verify 85.235.65.213: failure: could not determine a

common block

INFO : Checking 125 peers
INFO : 125 of 125 peers on the network are responsive
INFO : Median Network Height: 15,262,777
INFO : Discovered 121 peers with v2.7.24.
INFO : Discovered 2 peers with v2.7.13.
INFO : Discovered 1 peer with v2.7.7.
INFO : Discovered 1 peer with v2.6.31.
INFO : Downloaded 163 new blocks accounting for a total of 12

transactions

INFO : Starting Round 299,268
INFO : Saving round 299,268
INFO : Starting Round 299,269
INFO : Saving round 299,269
INFO : Skipping broadcast of block 15,262,716 as blockchain is not ready

INFO : Starting Round 299,270
INFO : Saving round 299,270
INFO : Starting Round 299,271
INFO : Saving round 299,271
INFO : Skipping broadcast of block 15,262,778 as blockchain is not ready

INFO : Block download finished
INFO : Blockchain 100% in sync

```
INFO : Checking 10 peers
INFO : Public HTTP API Server running at: http://0.0.0.0:4003
INFO : wallet API Server running at: http://0.0.0.0:4040
INFO : webhooks are disabled
INFO : Exchange JSON-RPC Server is disabled
INFO : 51.75.68.189 has downloaded 400 blocks from height
13,716,913
```

Compendia Upgrade

1. Download and update files. This will take several minutes to complete
`ccontrol update core`
2. Restart relay process and open log file
`ccontrol restart relay && ccontrol logs`

When the relay process starts up it must verify the existing database and several other tasks. This operation is very memory intensive and will likely take a few minutes. The Compendia blockchain is much smaller than Ark and will startup much more quickly as there is less database to verify.

When you get the message Blockchain 100% in sync, the relay is running with updated software and should be visible on the peer list.

<https://friendsoflittlejus.nl/compendia-network-stats/>

The log file should look similar to this:

```
INFO : Starting P2P Interface
INFO : Socket worker started, PID: 140811
INFO : Socket worker started, PID: 140812
INFO : Registering Stake Create Transaction
INFO : Registering Stake Cancel Transaction
INFO : Registering Stake Redeem Transaction
INFO : Registering Module File Transactions
INFO : Starting Database Manager
INFO : Establishing Database Connection
INFO : Connecting to transaction pool
INFO : Starting Blockchain Manager :chains:
INFO : Verifying database integrity
INFO : Verified database integrity
```

```
INFO : Last block in database: 2,560,875
INFO : State Generation - Step 1 of 19: Block Rewards
INFO : State Generation - Step 2 of 19: Fees & Nonces
INFO : State Generation - Step 3 of 19: Transfer
INFO : State Generation - Step 4 of 19: SecondSignature
INFO : State Generation - Step 5 of 19: DelegateRegistration
INFO : State Generation - Step 6 of 19: Vote
INFO : State Generation - Step 7 of 19: MultiSignature
INFO : State Generation - Step 8 of 19: MultiPayment
INFO : State Generation - Step 9 of 19: DelegateResignation
INFO : State Generation - Step 10 of 19: HtlcLock
INFO : State Generation - Step 11 of 19: HtlcClaim
INFO : State Generation - Step 12 of 19: HtlcRefund
INFO : State Generation - Step 13 of 19: StakeCreate
INFO : State Generation - Step 14 of 19: StakeCancel
INFO : State Generation - Step 15 of 19: StakeExtend
INFO : State Generation - Step 16 of 19: StakeRedeem
INFO : State Generation - Step 17 of 19: SetFile
INFO : State Generation - Step 18 of 19: Vote Balances
INFO : State Generation - Step 19 of 19: Validator Rankings
INFO : State Generation complete! wallets in memory: 1606
INFO : Number of registered delegates: 157
INFO : Transaction Pool Manager build wallets complete
INFO : Your network connectivity has been verified by
208.67.220.220
INFO : Your NTP connectivity has been verified by time.google.com
INFO : Local clock is off by 10ms from NTP
INFO : Checking 40 peers
INFO : 40 of 40 peers on the network are responsive
INFO : Median Network Height: 2,561,643
INFO : Discovered 40 peers with v2.12.14.
INFO : Downloaded 769 new blocks accounting for a total of 3
transactions
INFO : Starting Round 54,488
INFO : Saving round 54,488
INFO : Starting Round 54,489
INFO : Saving round 54,489
INFO : Skipping broadcast of block 2,560,976 as blockchain is not
ready
INFO : Starting Round 54,490
INFO : Saving round 54,490
INFO : Starting Round 54,491
INFO : Saving round 54,491
```

```
INFO : Starting Round 54,492
INFO : Saving round 54,492
INFO : Skipping broadcast of block 2,561,077 as blockchain is not
ready

INFO : Block download finished
INFO : Blockchain 100% in sync
INFO : Checking 10 peers
INFO : Public HTTP API Server running at: http://0.0.0.0:4003
INFO : wallet API Server running at: http://0.0.0.0:4040
INFO : webhooks are disabled
INFO : Exchange JSON-RPC Server is disabled
```

Relay Commands

The following are a list of common commands used to manage your relay.

Ark Relay Commands

COMMAND	DESCRIPTION
ark relay:start	Start Relay
ark relay:stop	Stop Relay
restart relay	Restart Relay
ark relay:log	Open Log File

Compendia Relay Commands

COMMAND	DESCRIPTION
ccontrol start relay	Start Relay
ccontrol stop relay	Stop Relay
ccontrol restart relay	Restart Relay
ccontrol ccontrol logs relay	Open Log File
ccontrol status relay	returns version and status (online or offline)

Relay@Home Pro System Dashboard

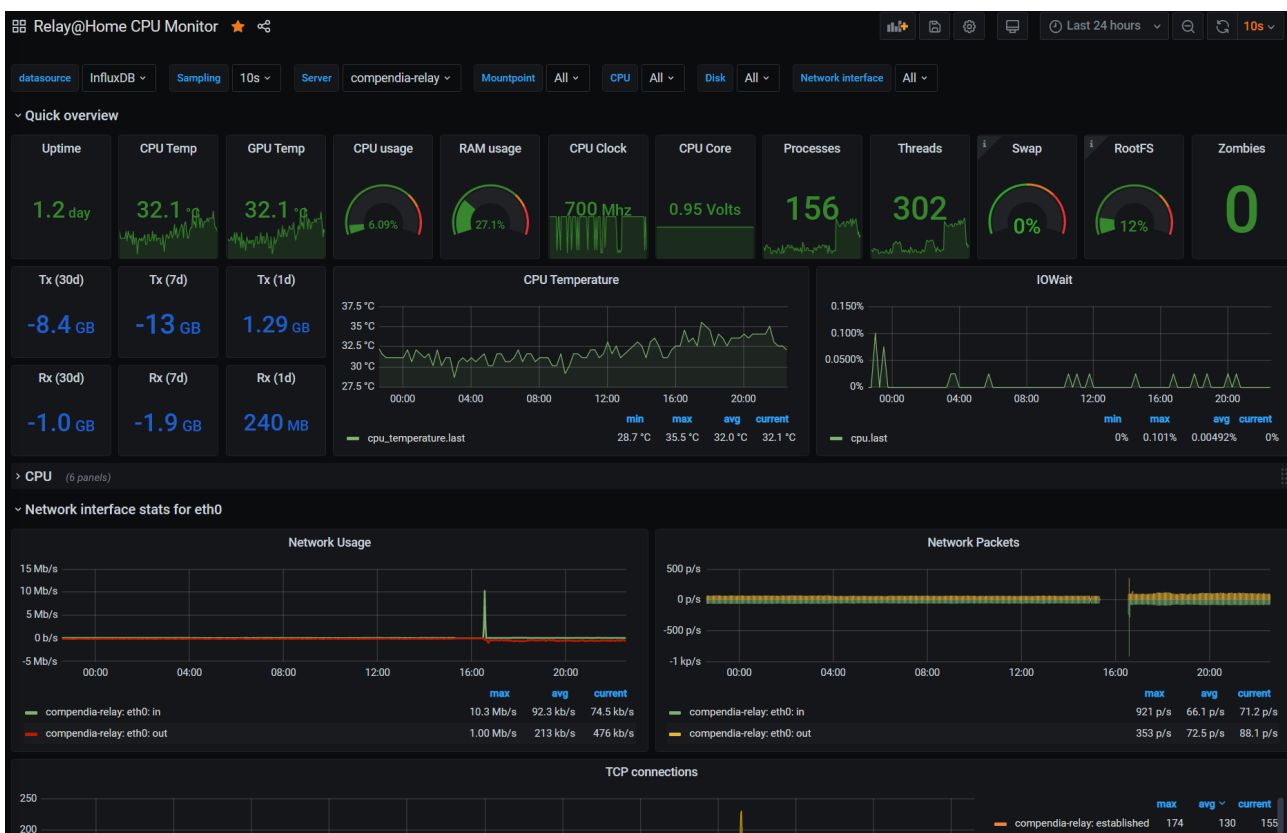
The Relay@Home Pro systems have a real time graphical dashboard installed. You can access this graphical interface via a computer on the same local network as your Relay.

Access the local IP address of your Relay@Home on port 3000 and the dashboard will load showing detailed CPU stats of the processor. 30 Days of historical data are stored.

<http://192.168.1.104:3000/> (replace with the IP address of your relay)

Username: admin

password: friends



tags: Pi Relays