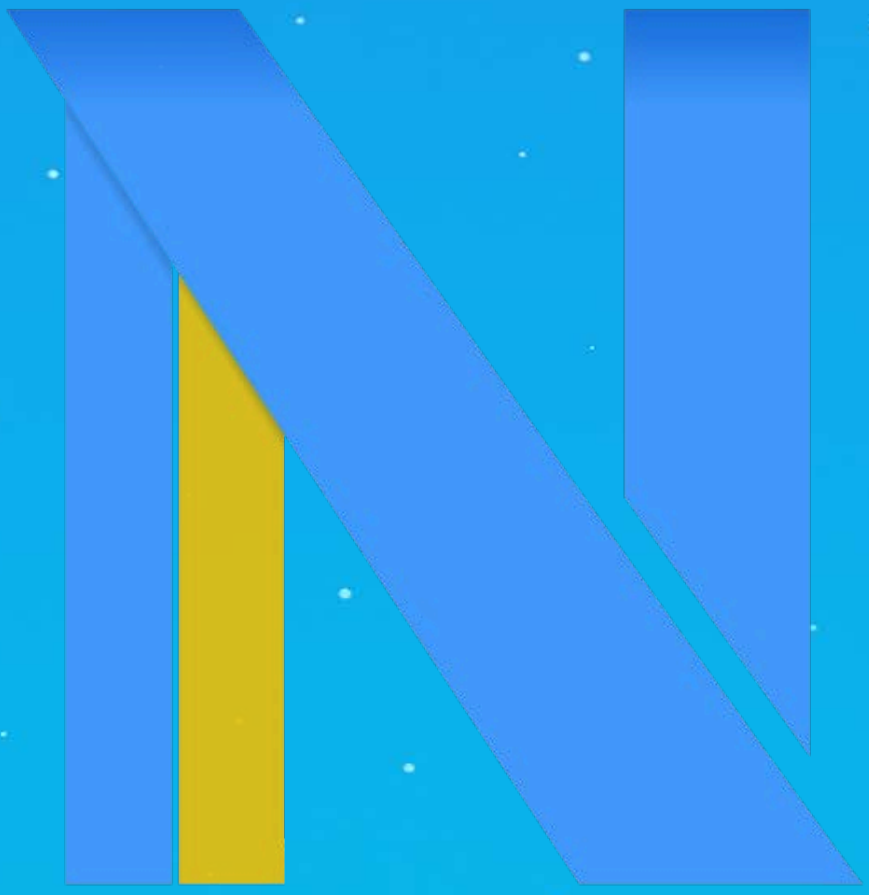
Guide to Hosting a NITO Network Node



Contents

Nito stands out as the leading platform, designed with a focus on decentralization, efficiency, and security. Utilizing a 100% Proof of Work (PoW) consensus mechanism, Nito ensures robust security and fairness by allowing anyone with the necessary hardware to participate in the mining process. This democratizes the network, preventing centralization and promoting true decentralization.

Nito's blockchain system is engineered for high transaction throughput with a one-minute block interval and a 0.8 MB block weight, which can be increased for higher transaction output if needed. This results in fast and efficient transaction processing, essential for merchants needing rapid confirmations. Additionally, Nito uses Bech32, making transactions more efficient by reducing transaction size and lowering costs.

The economic model of Nito is built for long-term sustainability. With a total supply of 1,154,217,600 Nitos distributed over 200 years, Nito maintains steady and predictable growth. Real time difficulty adjustment further ensure network stability and security. Notably, Nito has no pre-mine, guaranteeing fair distribution from the beginning.

Guide Introduction

Running a NITO Network node is one of the most effective ways you can support the health, decentralization, and resilience of the network. Whether you're a miner, developer, or simply a crypto enthusiast, operating a full node gives you greater control over your blockchain experience and strengthens the NITO ecosystem for everyone.

What is a Node

In the context of the NITO Network, a **node** is any computer running the official **Nito Core** software — either the command-line daemon (`nitod`) or the graphical wallet (`nito-qt`). These nodes form the backbone of the NITO blockchain's **peer-to-peer (P2P) network**.

Nodes connect to each other, exchange data, verify transactions and blocks, and help keep the blockchain synchronized and secure across the world.

A NITO node performs several critical functions:

- **Verifies transactions** according to consensus rules (e.g., signatures, double-spends)
- **Validates blocks** independently before accepting them into the chain
- **Stores the blockchain** locally, keeping a complete history from genesis
- **Propagates new transactions and blocks** to other peers in the network
- **Responds to requests from wallets and other nodes** (if configured to allow inbound connections)

Every node runs the same NITO Core software, the difference lies in how it's configured and how much it participates in network communication.

Why Run a NITO Node

Running a node means you’re no longer relying on someone else’s version of the truth. You're participating in the network directly — as an equal peer — and gaining both **independence** and **influence** over your blockchain experience.

Here’s how:

Verify Blocks and Transactions Yourself

When you run a full NITO node, you no longer trust third-party explorers, wallets, or nodes to tell you what’s valid. Your node independently checks every transaction and block against consensus rules. This means:

- You can detect invalid or malicious data instantly.
- You don’t need to worry about fake balances or manipulated chains.
- You are using the same rulebook the network enforces — no shortcuts, no trust required.

Connect Your Wallet Directly to the Network

By running your own node, you can point your wallet to **localhost** or your own server:

- Avoid reliance on public RPC servers.
- Gain faster and more reliable responses.
- Reduce exposure to downtime or service limits.

This is especially important for users who:

- Manage large balances
- Want to increase privacy
- Run automated services like payment processors or mining operations

Improve Privacy by Avoiding Third-Party APIs

Most light wallets and explorers rely on centralized backends that **see your addresses, balances, and transaction history**.
Running your own node ensures:

- No one knows what addresses you're watching.
- No one can associate your IP with your wallet activity.
- You can query, monitor, and interact with the chain 100% privately.

Help New Wallets and Miners Connect to Peers

Your node becomes part of the network fabric. By accepting inbound connections:

- You relay transactions and blocks to other peers.
- You help new wallets and lightweight clients find reliable sync sources.
- You reduce load on seed nodes and ensure better decentralization.

Even if you’re not actively using your node every day, just being online makes you a contributor to the network’s strength and stability.

Strengthen the Network’s Decentralization

Each additional node is a win for NITO:

- It reduces reliance on any single entity or server.

- It makes censorship harder and data more resilient.
- It ensures the chain can continue functioning even if parts of the internet go down.

The more users who run their own nodes, the **less control any one party** has over what gets seen, mined, or censored.

Bottom Line

Running a node puts **you** in the driver's seat:

- You control your data.
- You verify your own truth.
- You help secure the network. Not just for yourself, but for everyone.

Whether you're mining, building, or just holding coins, running a node is one of the most impactful things you can do in the NITO ecosystem.

How Does Running a Node Support the Network

Running a full node isn't just a personal tool — it's a public good. Every node contributes to the strength, speed, and decentralization of the NITO Network. Here's how:

Decentralization

"A blockchain is only as decentralized as the infrastructure supporting it."

Every full node is a vote **against centralization**. Without individual nodes, the network risks becoming overly reliant on a small handful of hosted services, mining pools, or third-party APIs.

By running a node, you:

- Eliminate your reliance on any single company or service.
- Increase the number of independently validating peers.
- Ensure no one party has outsized control over what data is seen or accepted.

More nodes = less risk of manipulation, downtime, or censorship.

Transaction Propagation

"The faster a transaction spreads, the sooner it can be mined."

Nodes don't just sit quietly — they're constantly **relaying transactions and blocks** to their peers. When you run a node:

- You help broadcast transactions submitted by wallets or mining pools.
- You help miners receive transactions quickly, improving fee market fairness.
- You reduce latency in the network's communication, which improves efficiency and security.

Even a single node helps shorten the "time to visibility" for new transactions.

Data Availability

"If nodes disappear, so does the chain."

Every node stores a complete or near-complete copy of the blockchain. This ensures that:

- **New users can sync the full chain** without relying on a single source.
- The history of the network is preserved redundantly across the globe.
- Block explorers, light wallets, and dev tools have reliable upstream data sources.

By hosting a node, you're holding a copy of the public record — ensuring that no one can rewrite history or lose the past.

Censorship Resistance

"A centralized network can be shut down. A decentralized one adapts."

With hundreds or thousands of nodes:

- Transaction relay continues globally, even if individual regions or servers are blocked.
- Users can always discover and connect to new peers through decentralized networking.
- Valid transactions can reach miners without relying on any single intermediary.

Running a node is a quiet act of digital sovereignty — strengthening a network that resists control, censorship, and failure.

Chapter Summary

The more nodes exist, the more durable and resilient the NITO Network becomes.

Running a node strengthens the network in every direction — from security and redundancy to speed and fairness. Even if you're not mining or building, simply keeping a node online helps others connect, transact, and verify.

It's one of the **most valuable contributions** you can make to the future of the chain.

Who Should Run a Node

You don’t need to be a developer, miner, or blockchain expert to run a node. If you believe in open, decentralized systems — or just want to take control over your own crypto experience — **running a node is for you**.

Here’s a breakdown of the types of people who benefit from running a NITO node, and how they contribute to the ecosystem:

Everyday Users Who Value Privacy and Sovereignty

- Want to check your balance or receive coins without exposing your addresses to third-party APIs or explorers?
- Prefer to verify your own copy of the chain instead of trusting external sources?

Running a full node gives you independence. You're no longer leaking your usage to external services, relying on API uptime, or trusting others to report the chain. You're using NITO the way it was meant to be used — **peer-to-peer**.

Wallet Users Who Want to Avoid Centralized RPC Servers

Most light wallets rely on remote servers to query balances and broadcast transactions. That means:

- Your wallet activity has the potential to be logged.
- You’re trusting someone else not to censor or misreport data.
- You’re dependent on their uptime and maintenance.

By running your own node and pointing your wallet at it (via RPC), you remove the middleman — boosting privacy, reliability, and control.

Developers Building Wallets, Explorers, or Apps

If you're building tools that use blockchain data, there's no substitute for a locally synced, fully validating node. It gives you:

- Real-time access to chain state, transactions, and blocks
- Better control over indexing, querying, and testing
- Full insight into how the chain behaves under edge conditions

Whether you're developing on-chain tools, payment gateways, or decentralized apps (DApps), running your own node ensures you're **working on solid, verifiable ground**.

Exchanges and Mining Pools Supporting NITO

For exchanges and pools, running one or more full nodes is **non-negotiable**:

- You need authoritative, low-latency data to validate deposits, process withdrawals, and serve users.
- Your infrastructure needs to remain online even during outages, chain reorgs, or high volume periods.
- You help keep the network connected by serving peers and new clients.

Without nodes, there is no network — and that applies double for infrastructure providers.

Anyone Who Believes in Decentralization

- Want to support the network even if you're not transacting daily?
- Have a spare server, laptop, or VPS with uptime to offer?
- Want to be part of something global, borderless, and resilient?

Running a NITO node is one of the **simplest yet most powerful ways** to contribute to the health of the ecosystem. You don't need to know how it all works — just keeping your node online is a meaningful act.

Final Thought

Even if you're not doing anything "advanced" with it, **just running a node helps everyone**:

- You're increasing peer availability
- You're helping wallets sync faster
- You're making censorship harder
- You're creating more points of access to the chain

Every node counts. Yours could be the one that keeps the network strong when others go offline.

What You Need to Run a NITO Node

You don't need a data center, enterprise hardware, or a PhD in networking to run a NITO node. In fact, you probably already have everything you need.

Here's a clear breakdown of what's required, and what's not.

Minimum Requirements

These are the basic technical needs to run a full NITO node using `nitod` or `nito-qt`:

- **A computer or VPS**
  - Linux, Windows, or macOS all work
  - Can be a desktop, laptop, mini-PC, or cloud instance
- **10+ GB free disk space**
  - SSD strongly recommended for faster sync
  - Larger storage gives room for future chain growth
- **1–2 GB of RAM**
  - Plenty for most setups running just the node
  - Swap file recommended for lower RAM systems
- **Stable internet connection**
  - After the initial sync, usage is modest (~1GB/day)
  - No need for gigabit — just consistent uptime
- **NITO Core software**
  - Available at github.com/nitonetwork/Nito-Core

Common Myths

Myth	Reality
"I need to mine to run a node"	You don't. Mining and running a node are separate. Anyone can run a node.
"I need a powerful server"	False. A basic laptop or VPS is often enough — SSD is more important.
"It uses too much bandwidth"	Only during the first sync. After that, ~1GB/day is typical.
"I need a static IP"	Dynamic IPs are fine for most users. Port forwarding can help with inbound peers but isn't required.

Setting Up a NITO Node

Getting started with your own NITO node is easier than you might think. Whether you're on Linux, Windows, or using a VPS, the process is straightforward — and once you're up and running, your node will start syncing and verifying the blockchain automatically.

This section will guide you through the setup step-by-step.

Linux (Command-Line / Daemon)

1. Download the NITO Core release

Visit the official releases page:
🔗 https://github.com/nitonetwork/Nito-Core/releases

Download the latest Linux binary archive (`nito-x86_64-linux.tar.gz`) and extract:

```
wget https://github.com/NitoNetwork/Nito-core/releases/download/v2.0.1/nito-2-0-1-x86_64-linux-gnu.tar.gz
tar -xvzf nito-x86_64-linux.tar.gz
cd nito
chmod +x nitod nito-cli
```

Optionally move them to a system path:

```
sudo mv nitod nito-cli /usr/local/bin/
```

2. Create the config directory and file

```
mkdir ~/.nito
nano ~/.nito/nito.conf
```

Paste the following basic config:

```
rpcuser=nitorpc
rpcpassword=strongpassword123
daemon=1
server=1
listen=1
txindex=1
rpcallowip=127.0.0.1
```

3. Start your node

```
nitod -daemon
```

To check your sync status or connected peers:

```
nito-cli getblockchaininfo
nito-cli getconnectioncount
```

Windows (GUI Wallet or Command-Line)

1. Download and Extract

- Go to: https://github.com/nitonetwork/Nito-Core/releases
- Download the Windows `.zip` archive
- Extract it to a folder like:
  `C:\NITO\`

2. Create the config file

Open Notepad and paste the same config as above.

Save it as:

`C:\Users\<YourUsername>\AppData\Roaming\NITO\nito.conf`

📌 If you don't see the AppData folder, enable "Show Hidden Files" in File Explorer.

3. Run the node

- Double-click `nitod.exe` to run as a background daemon
- Or use `nito-qt.exe` if you prefer a full graphical wallet and sync interface

Testing Your Node

Once your NITO node is up and running, you'll want to confirm that it's connected, syncing, and contributing to the network.

You can check this using a few simple diagnostic commands.

These commands work in two places:

- **Command Line Interface (CLI)** – if you're running `nitod` + `nito-cli`
- **NITO-QT Console** – if you're using the graphical wallet (`nito-qt`)

To open the console in `nito-qt`, go to:
Help → Debug Window → Console

From either method, you can enter the following commands to check on your node's status:

Check Connection Count

```
nito-cli getconnectioncount
```

This returns a number (e.g., `8`, `12`, `24`) — the total number of peers your node is connected to.

- **At least 8 connections** is typical after startup.
- If it's `0`, your node may not be able to reach the network (check internet, config, or firewall).

If you see active connections, your node is communicating with the network.

Check Blockchain Sync Status

```
nito-cli getblockchaininfo
```

This outputs a JSON object. Look for these keys:

- `"blocks"` — Number of blocks your node has synced
- `"headers"` — Total known blocks on the network
- `"verificationprogress"` — A decimal between 0 and 1 (e.g., `0.9989`)
- `"initialblockdownload"` — Should be `false` once syncing is complete

When `"blocks"` and `"headers"` match and `initialblockdownload` is `false`, your node is fully synced.

Check Network Info and Port Listening

```
nito-cli getnetworkinfo
```

Key things to look for:

- `"connections"` — Total peers (same as earlier)
- `"localaddresses"` — If populated, your node is announcing its IP and port (inbound ready)
- `"networks"` — See if IPv4/IPv6 are available and active
- `"relayfee"` — Shows your node is accepting and relaying transactions

Seeing a populated `localaddresses` array means you're publicly accessible for inbound connections.

Other Commands

The NITO node provides a wide range of commands to monitor, interact with, and troubleshoot your node, from blockchain queries and wallet management to network diagnostics and mempool info.

You don't need to memorize them all, just remember the `help` command.

```
nito-cli help
```

Understanding Inbound and Outbound Connections

Every NITO node connects to other peers in the network — but not all connections are the same. To fully support the network and function as a healthy peer, it's useful to understand the two types of connections your node can make:

Outbound Connections

These are the connections **your node initiates** when it starts up.

- NITO Core will automatically reach out to a list of peers (via DNS seeds or `addnode`/`connect`) and try to establish ~8 outbound connections.
- These peers help you **receive new blocks and transactions**, and allow you to **sync the blockchain**.
- Outbound connections work even behind firewalls, NAT, or dynamic IP addresses — because **your node is initiating the connection**.

You can run a full node with only outbound connections and it will still sync and function just fine.

Inbound Connections

Inbound connections are when **other nodes connect to you**.

- To allow inbound connections, you need to make your node accessible from the outside:
  - Forward port `8820/TCP` on your router (if at home)
  - Open port `8820` in your VPS or firewall (Linux: `sudo ufw allow 8820/tcp`)
- Once set up, your node will begin receiving inbound peer connections — up to the maximum allowed (`maxconnections` in `nito.conf`).

Nodes with both inbound and outbound connections are **preferred by the network** because they help relay data and assist other peers with syncing.

Why It Matters

Connection Type	Purpose	Required?	Helps Network?
Outbound	Syncing chain, receiving transactions/blocks	✅ Yes	✅ Yes
Inbound	Serving data to others, strengthening the P2P web	❌ Optional	✅✅✅ Huge boost

Running with only outbound connections makes you a **consumer** of network data.
Running with inbound connections makes you a **provider** — someone who shares and supports the network for others.

How to Check Connection Types

Run this:

```
nito-cli getpeerinfo | grep inbound | wc -l
```

- This shows how many of your connected peers are **inbound**.
- The rest are **outbound** (which your node initiated).

Quick Tips to Enable Inbound Connections

At home?

- Login to your router
- Forward TCP port `8820` to your local device's IP (e.g. `192.168.1.45`)

Using Linux or VPS?

```
sudo ufw allow 8820/tcp
```

In nito.conf:

```
listen=1
```

Summary

- **Outbound connections** let you join the network.
- **Inbound connections** let others connect to you, making your node a real asset to the NITO ecosystem.
- Enabling both is the ideal way to support decentralization and redundancy.

Your node doesn't just serve you, it can serve the world.

Conclusion

Running your own NITO node is more than just syncing a blockchain — it's about taking control, contributing to decentralization, and becoming part of something bigger than yourself.

It doesn't require expensive hardware.
It doesn't require mining.
It doesn't require technical wizardry.

But what it **does** give you is powerful:

- ✅ **Independence** — You don't have to trust anyone else's version of the chain.
- ✅ **Privacy** — You stop broadcasting your wallet activity to third-party servers.
- ✅ **Resilience** — You strengthen the NITO network for everyone.
- ✅ **Transparency** — You see the network exactly as it is, not as someone else says it is.

In a world where decentralization is often just a marketing term, **running a full node is the real thing**. It's one of the most direct, practical ways to support open-source technology and financial freedom.

Whether you're a casual holder, a miner, a developer, or just someone who believes in the core values of crypto — **your node matters**.

Get Started Today

You don't need permission.
You don't need to apply.
You just need to start.

Visit https://github.com/nitonetwork/Nito-Core to download the latest release, or jump into the community Discord for help getting set up:
👉 https://discord.com/invite/wBcfKE8nPy

With NITO, you're not just connected to the network — **you are the network!**

This guide was created by No-F8, operator of https://nitropool.net, with the goal of making it easy and empowering for anyone to run a NITO node and contribute to the health of the network.

Special thanks to:
The NITO community: For ongoing dedication to, and development of the NITO ecosystem.

https://nito.network/