dvb-WarpPool

Your own Bitcoin solo-mining pool

Installation & User Manual

Docker · Native package · Raspberry Pi · from source

Version 1.24.0 · Edition July 2026

Contents

1 · What is dvb-WarpPool?

dvb-WarpPool turns your own machine into your own Bitcoin mining pool. Run it **privately** — your miners point at your host and **every block reward — and every transaction fee — goes straight to your own Bitcoin address** — or open it up as a **public 0% pool** where any visiting miner mines to *their* own address. Either way: no pool operator, no pool fee, no account.

> **Two ways to run it.** This manual covers the common case — a private solo pool for your own rigs or a fixed group of friends. To run an **open, non-custodial 0% pool** that strangers can point their miners at (per-worker payouts, privacy controls, public hardening), see the separate **Public 0% Solo Pool Operator Manual** at `docs.warppool.org/public-pool-guide.html`.

It is a **solo pool**: your miners work together on the same block template built from your own Bitcoin node. When one of them finds a block, the full reward is paid to the payout address you configure. Until then, nothing leaves your machine.

Why run your own pool?

- **Full self-custody.** Rewards are paid by the Bitcoin network directly to your address — the pool never holds your coins.
- **Privacy.** Your hashrate, your miners and your work never touch a third-party server.
- **Your node, your rules.** Blocks are built from your own mempool and broadcast by your own Bitcoin node.
- **A real dashboard.** Live hashrate, per-miner statistics, hardware detection, energy cost, notifications and more.

> **Good to know:** Solo mining is a lottery. A block is found rarely and unpredictably, in proportion to your share of the total network hashrate. dvb-WarpPool does not change those odds — it gives you a private, transparent, self-hosted way to take part, and pays you directly when luck strikes.

A few quirks worth knowing up front

This manual is written for a complete beginner. Before we dive in, three small things will save you confusion later — they come up again in context:

- **Some menu labels don't match the page title.** The menu items **Workers**, **Miners** and **Devices** lead to three different pages — and two of them are titled "Miners". Always go by the *menu label*, not the page heading. Chapter 7 explains each one.
- **Comfort settings are per-device.** Language, screensaver, your personal card layout and browser notifications are stored in *this* browser only — set them again on each device you use.
- **There are four size profiles:** Small, Medium, Large and Enterprise. (If you ever see the internal name "gross", that is simply the "Large" profile.)

> **About the screenshots.** The screenshots in this manual come from a local test pool with simulated miners and sample data. The exact numbers, worker names, block counts and statuses are illustrative — a real pool shows your own figures (and, unlike a quick test run, far fewer rejected blocks).

2 · Before you start

You need four things. All of them are quick to check.

Requirement	Details
A host	Any Linux or macOS machine, a NAS, or a Raspberry Pi 5 — anything that can run a container or a native binary and stays on.
Bitcoin Core	Your own **Bitcoin Core** node (v27.0 or newer recommended), fully synced, with the `getblocktemplate` RPC and ZMQ block notifications enabled. See the box below for the exact settings. The setup wizard can even write this for you.
A Bitcoin address	A receive address from a wallet you control (for example `bc1q…`). This is where a found block pays out. **Never use a private key** — only a public receive address.
A miner	Any Bitcoin ASIC or hobby miner that speaks Stratum: Bitaxe, NerdAxe, NerdMiner, Avalon, Antminer, and so on.

Preparing Bitcoin Core

dvb-WarpPool builds block templates from your node and gets instant notifications when a new block arrives. Add these lines to your `bitcoin.conf` and restart Bitcoin Core:

```
server=1
txindex=1
zmqpubhashblock=tcp://127.0.0.1:28332
zmqpubrawblock=tcp://127.0.0.1:28333
```

The RPC user/password (or the `.cookie` file) is read by the setup wizard. If the pool runs on a *different* machine than the node, also set `rpcbind` and `rpcallowip` accordingly.

The wizard can do this for you. If you'd rather not edit files, skip ahead — the setup wizard (chapter 4) detects Bitcoin Core, and offers a one-click button to write a ready-made `bitcoin.conf` and restart the node.

Syncing takes time. A fresh node must download the blockchain before it can build templates. Let it reach 100 % before you expect the pool to mine. The wizard shows the node's sync progress in the meantime.

Pruned node? A pruned node works fine for solo mining; the pool only needs the current chain tip and your mempool. `txindex` is optional but recommended for the most robust reorg handling.

3 · Installing dvb-WarpPool

Pick whichever fits your host. All paths end at the same setup wizard on `http://<host>:18334`.

Option A — Docker (any Linux/macOS host or NAS)

The multi-arch image runs on amd64 and arm64. One command:

```
docker run -d --name warppool --restart unless-stopped \
  -p 18334:18334 -p 3333:3333 -p 34254:34254 \
  -v ~/.warppool:/data \
  git.warppool.org/dvb-projekt/dvb-warppool:latest
```

Port `18334` is the web UI, `3333` is Stratum V1 for your miners, `34254` is Stratum V2. Add `-p 3334:3334` as well if you want the TLS Stratum port (chapter 11). The `-v` volume keeps your database across restarts.

Option B — Native package (Debian/Ubuntu, Fedora, Windows, AppImage)

Download the matching file from the latest release and install it:

```
sudo apt install ./dvb-warppool_1.24.0-1_amd64.deb
sudo systemctl enable --now dvb-warppool
```

Also available: `.rpm` (Fedora/RHEL), `.AppImage` (portable Linux), `.msi` (Windows) and a signed `.dmg` (macOS).

Option C — Raspberry Pi 5 (arm64)

```
wget …/releases/latest/download/dvb-warppool_arm64.deb
sudo dpkg -i dvb-warppool_arm64.deb
sudo systemctl enable --now dvb-warppool
```

Storage on a Pi: prefer an NVMe HAT or a USB-3 SSD over an SD card. The pool's database is write-heavy under sustained load and wears SD cards quickly.

macOS note. The `.dmg` is not notarized yet — after mounting it, run `xattr -dr com.apple.quarantine /Applications/dvb-WarpPool.app` once so Gatekeeper lets it start.

Verify your download. Every release ships a signed `SHA256SUMS` and a software bill of materials, and the container image is reproducible and digest-pinned. Check the signature if you mine on mainnet.

4 · First launch: the setup wizard

The first time you open the pool, a **setup wizard** runs at `http://<host>:8331`. It is *one long page you scroll down*, not a click-through sequence — you fill in the cards from top to bottom and press a single button at the very end. When you finish, the wizard hands off to the real pool interface on port `:18334` and shuts itself down.

> **The wizard does *not* ask for an admin password.** You set up the admin login later, the first time you open the Admin area (chapter 9). The wizard is only about your node, your payout address and your hardware.


EN
dvb-WarpPool
First-Run Setup — Bitcoin Solo Pool
Hardware
OS
Darwin 26.5.1
Architecture
arm64 (bare)
CPU
Apple M2 Pro
Cores
12 physical / 12 logical
RAM
32768 MB total / 27951 MB available
Disk free
180504 MB
Recommendation: small (≤5 Miner)
Hardware handles up to: enterprise
Mining
Payout address (required)
bc1q...
Block reward lands here (coinbase output #1). Solo wallet address, never a private key.
Expected miners
5
Determines the recommended profile.
Pool fee (%)
0
Default 0 = "No pool fee". Only for multi-user solo / hosting.
Server location
Location
Korschenbroich NRW, Germany
Shown in the status endpoint + block-found notifications. Brand name (dvb-WarpPool) is fixed.
Electricity Rate (optional)
Rate per kWh
0.2744
Currency
EUR (€)
Optional — fills the dashboard energy card with cost values. Editable later in Admin. Leave empty for watt/kWh only, no cost.

The wizard is one scrolling page: hardware, mining, location and electricity at the top.

Language picker (top-right)

A flag + language code with a small ▾ arrow lets you switch between eight languages (Deutsch, English, Español, Português BR, Français, Italiano, ,). Pick yours first so the rest of the wizard reads in your language.

The "Hardware" card (read-only)

Purely informational — nothing to fill in. It shows your operating system, architecture, CPU, core count ("x physical / y logical"), RAM and free disk. Below that, a recommendation box suggests a **size profile** based on how many miners you expect: Small (≤5), Medium (≤20), Large (≤100) or Enterprise (>100). A second line, "hardware can handle up to …", tells you the largest profile your machine could support. Both update live as you change the "Expected miners" field below. If your machine is tight on RAM or disk, or you're on a 32-bit ARM board or a Raspberry Pi with an SD card, a warning appears here.

The "Mining" card — the important one

Field	What to enter
Pool type	Choose **Private solo pool** (the default) or **Public 0% pool**. A private pool pays every block to *your* payout address — for mining your own rigs or a fixed group of friends. A public pool lets any visiting miner mine to *their* own address (taken from their Stratum login): the full reward goes straight to whoever finds the block, and you take no fee. Picking **Public 0% pool** hides the payout-address and fee fields below, because they aren't used in that mode.
Payout address (required)	Your own Bitcoin receive address — this is where a found block's full reward is paid (coinbase output #1). The wizard validates the format (`bc1` , `tb1` , `bcrt1` , or a legacy `1` / `3` address). **Only a public receive address — never a private key.** *(Hidden for a public 0% pool.)*
Expected miners	How many miners you plan to connect (default 5, minimum 1). This chooses your starting size profile and the initial difficulty range. You can change it later in Admin.
Pool fee (%)	Default `0` ("No Pool Fee") — leave it at zero for a true solo pool where you keep everything. A non-zero fee (0–50 %) only makes sense if you host mining for other people. *(Hidden and forced to 0 for a public 0% pool.)*
Pool fee address	Appears only if the fee is above 0, and then it is required — the address that receives the fee slice.

The public-pool option is the whole switch for running a non-custodial, 0%-fee solo pool that strangers can point their miners at. For everything that involves — what miners enter, wallet pages, hardening and the optional donation card — see the **Public 0% Solo Pool** chapter in the online handbook.

The "Server location" card

A free-text label (pre-filled, editable) that appears in your pool's status and in block notifications — for example "my basement". Cosmetic; it does not affect mining.

The "Electricity rate" card (optional)

Enter your price per kWh and pick a currency (default EUR, 19 currencies) so the dashboard can show running energy cost. Leave the rate empty to show kWh only, without a money figure.

The "Photovoltaics / Solar" card (optional)

If you run solar, the pool can show how much of your mining is covered by sunshine. Choose one of the provider cards: **No, set up later** (default), **Anker Solix**, **Home Assistant**, or **Generic HTTP**. Each provider reveals its own fields — a snapshot URL (default `http://127.0.0.1:8765/snapshot.json`), and for Home Assistant a token plus the PV and consumption entity IDs. Every active provider also asks for a "surplus tariff (€/kWh)" and a "safety buffer (W)". A **Test connection** button pings the URL and shows the current PV and house load so you can confirm it works before saving.

The "Restore" card (only if old data is found)

If the wizard finds data from a previous install, it offers checkboxes to restore your saved state (best shares, worker data — on by default), restore saved configs (on by default), and import best shares from dvb-goPool (off by default). Leave the defaults unless you're migrating.

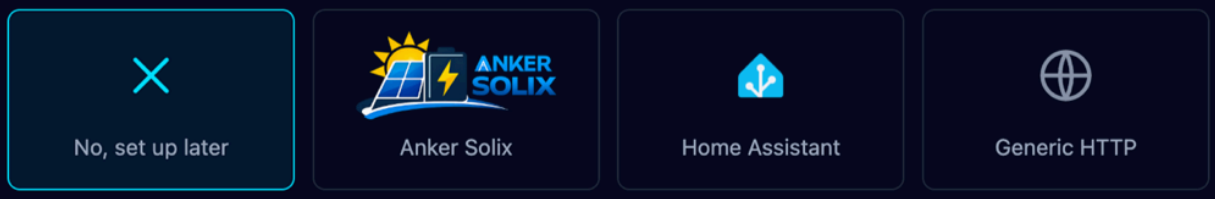
The "Bitcoin Core — Installation" card

The wizard looks for `bitcoind` on your machine. If it finds it, you get a green ✓ with the version and path (and, on macOS, a button to start the service via Homebrew). If it doesn't, you get a red ✗ with a one-click install button (macOS/Homebrew, with a live log) and a copy-ready install command for your operating system, a download link, and the key facts (roughly 700 GB of disk, 1–3 days for the initial sync, and a note about `prune=550` for a smaller footprint). An "I've installed it" button lets you point the wizard at your `bitcoind` once it's ready.

Solar PV (optional)

If you have a solar PV system, the pool can automatically switch the electricity rate to 0 €/kWh during PV excess and track the kWh origin (solar vs. grid).

Provider



You can leave this empty and set it up later via Admin or config.toml. The choice here only writes the [mining.electricity.solar] block into the config file.

Bitcoin Core — Installation

✓ **Bitcoin Core is installed**

Bitcoin Core daemon version v31.0.0 bitcoind

`/opt/homebrew/bin/bitcoind`

If the RPC connection below fails: check whether bitcoind is running (e.g. `bitcoind -daemon` or `brew services start bitcoin`) and the `~/.bitcoin/.cookie` file exists.

✓ macOS sleep mode disabled

The pool launcher automatically prevents system sleep while the daemon is running (via macOS `caffeinate`). This is necessary so that Bitcoin Core and the Stratum connections stay reachable around the clock. Display sleep keeps working — you can let the screen go dark.

▶ Why is this needed?

Bitcoin Core

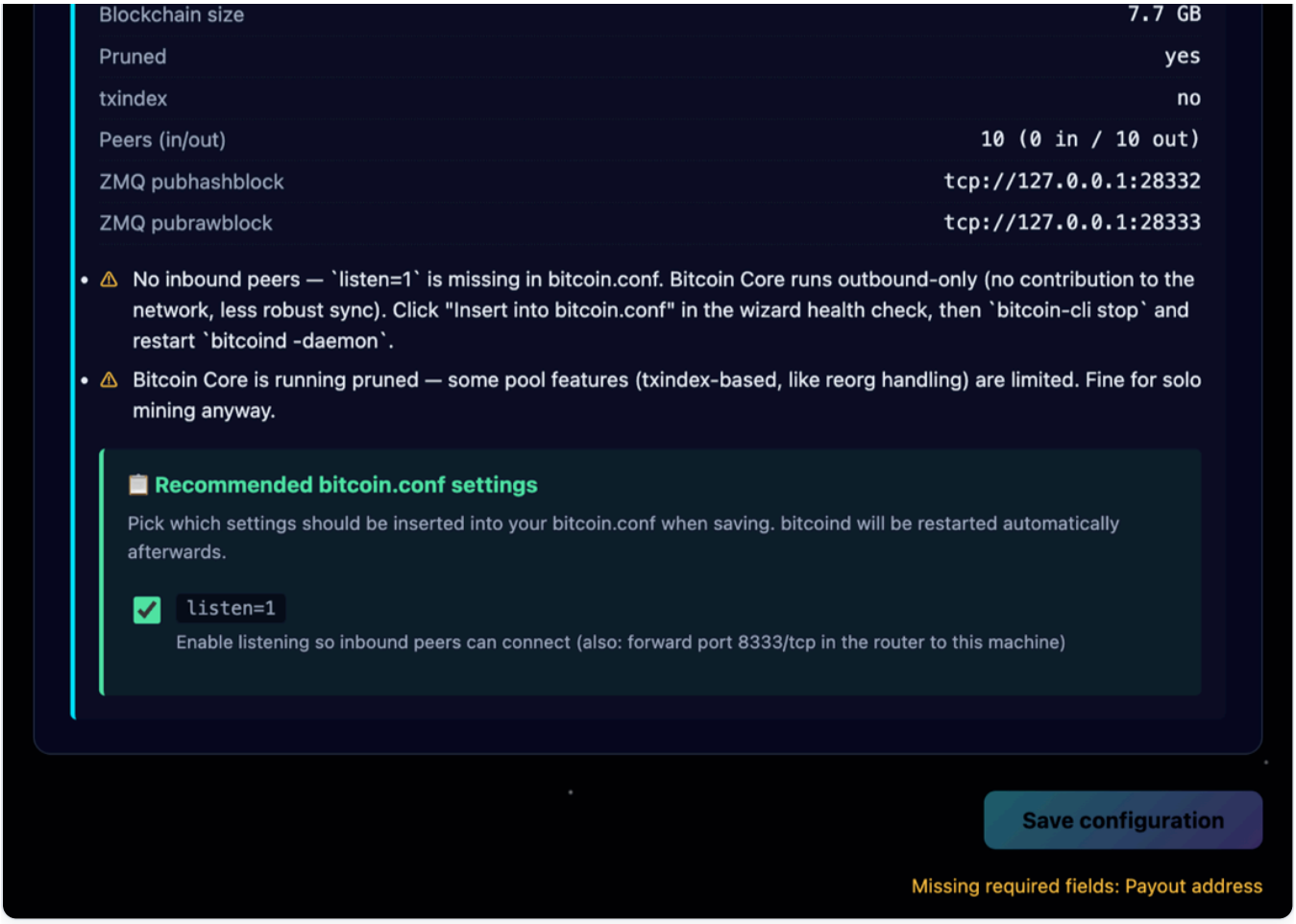
✓ Defaults from `/Users/Oliver/Library/Application Support/Bitcoin/bitcoin.conf` · Network: **main**

RPC	ZMQ HASHBLOCK	ZMQ RAWBLOCK
✓ Block 954076	✓ :28332 open	✓ :28333 open

▶ Other network (testnet/signet/regtest) — load bitcoin.conf manually

⚠ Bitcoin Core reachable

Version	310000
Subversion	/Satoshi:31.0.0/
Chain	main
Block height	954076 / Headers 954076
Sync	100.00 %
IBD	no



Further down: optional solar, and the live Bitcoin Core health check with its three traffic lights.

The "Bitcoin Core" health-check card

This is where the wizard confirms your node is reachable. Three traffic-light tiles show the state of **RPC**, **ZMQ hashblock** and **ZMQ rawblock** — green means OK, yellow means "not set", red means an error.

- **If a light is not green, an override box appears** for that item: the RPC URL / user / password / cookie path, the ZMQ hashblock URL, or the ZMQ rawblock URL. There is also a button **"Create Bitcoin Core mainnet config"** that writes a complete `bitcoin.conf` for you (with `prune=8000`, `dbcache=1024` and the ZMQ endpoints).
- An expandable **"Other network (testnet/signet/regtest)"** section lets you point at a non-mainnet `bitcoin.conf`.
- When the check succeeds, a result box lists your node's version, chain, block height and headers, sync %, whether it's still doing its initial download (IBD), on-disk size, pruned/txindex status, peer counts and ZMQ status. Warnings appear for common issues (still syncing, few peers, no inbound connections, no ZMQ, pruned).
- A checklist, **"Recommended bitcoin.conf settings"** (all ticked by default: `zmqpubhashblock`, `zmqpubrawblock`, `maxconnections`, `listen`), is merged into your config when you save — and the wizard restarts `bitcoind` for you.

Finishing: "Save configuration"

The final button is disabled until every required field is filled — a live hint lists what's still missing (payout address, RPC URL, ZMQ hashblock, and a fee address if you set a fee). When you click it, the wizard writes

your config, applies the recommended `bitcoin.conf` settings, restarts Bitcoin Core, and shows a "Setup complete" screen with an **Open pool UI** button (it opens automatically after about a second and a half).

> **macOS sleep.** On a Mac the wizard shows a small note explaining that it keeps the machine awake (`caffeinate`) so mining isn't interrupted when the screen sleeps. Nothing to do — it's informational.

5 · The dashboard, tile by tile

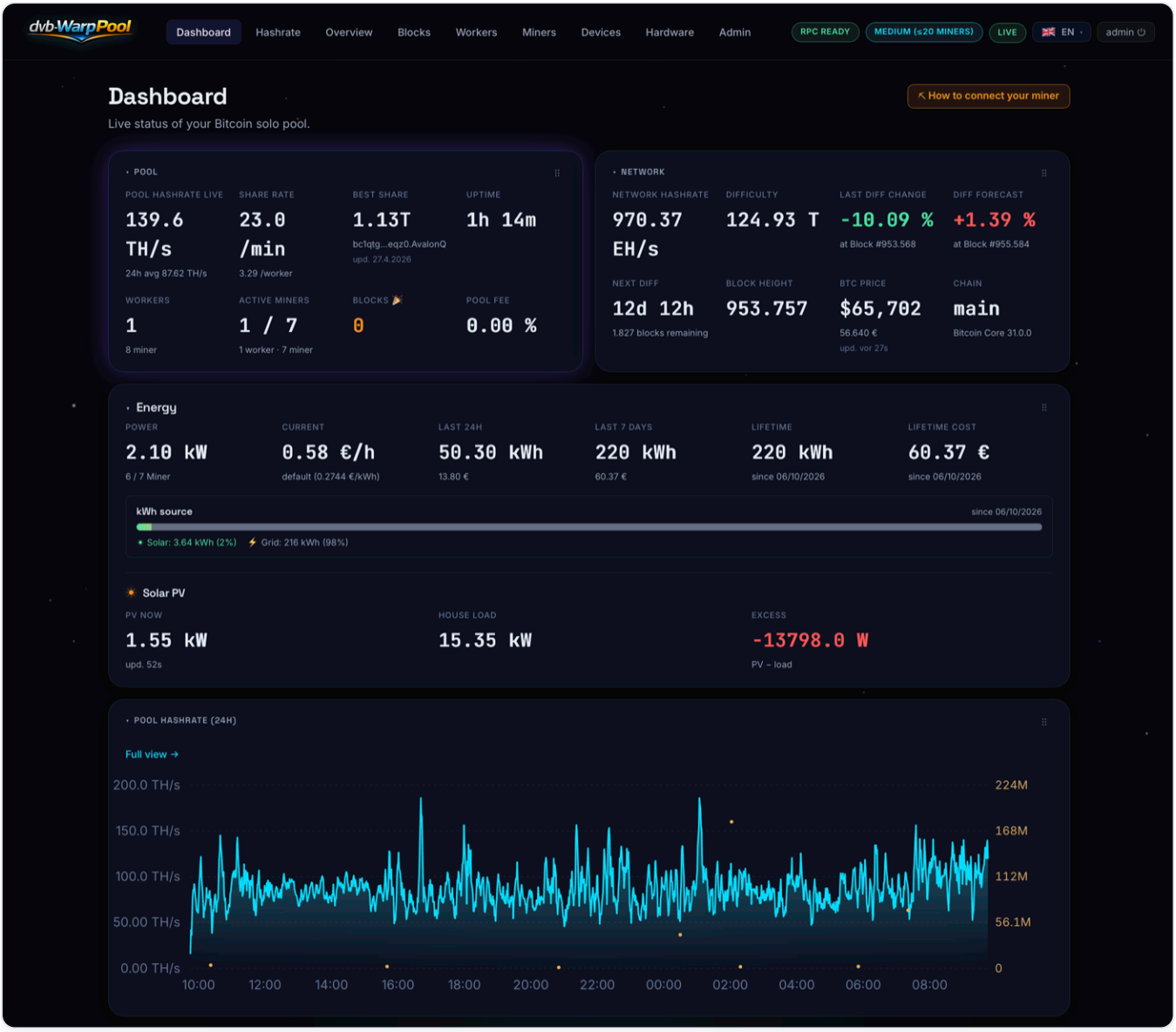
The dashboard is your pool's home screen — a live view of everything at once. Before the cards, let's read the bar that sits at the top of *every* page.

The header and status bar (on every page)

On the left is your pool's **logo** (a link back to the dashboard). In the middle is the **navigation**, with the active tab highlighted. On the right is a cluster of small status badges:

Badge	What it tells you
rpc ready / rpc waiting	Green "ready" = Bitcoin Core is reachable and the pool can build work. Yellow "waiting" = the pool is still waiting for the node (usually during startup or sync).
Profile (cyan)	Your active size profile, e.g. "Small (1-5 miners)".
live / live off	Green "live" = real-time updates are streaming (the page refreshes instantly). Yellow "live off" = the stream dropped and the page is falling back to polling every 30 seconds. Red "offline" = the API is unreachable. A brief flicker here is cosmetic and does not affect mining.
Display (monitor icon ▾)	Opens the screensaver / kiosk settings (chapter 12).
Language (flag ▾)	Switches the interface language instantly (per browser).
Login / Logout	When logged out, a "Login" link. When logged in, your username with a power icon to log out.

The **footer** shows your brand name, "WarpPool · version X", and "Refreshed at …" with a timestamp. If the operator has configured legal pages, a "Terms of Use" and "Privacy Policy" line appears too (not present in the standard solo setup).



The dashboard: pool status, network context, energy and a 24-hour hashrate chart.

How the cards behave

The dashboard is a grid of cards. Each card can be **collapsed** with the ▾/▸ arrow, and the whole grid can be **re-ordered** by dragging the ⠿ handle ("Drag to reorder"). Your arrangement is remembered in *this* browser. Two controls sit at the bottom when you've changed things or you're logged in: **"↺ Reset layout"** (back to defaults) and, for admins only, **"Save layout as default"** (makes your arrangement the pool-wide default for everyone who hasn't set their own).

If the pool can't reach its own backend, a red banner appears after two failed tries: "API unreachable — Daemon running?".

The "Pool" card — your pool at a glance (8 tiles)

Tile	Meaning
Pool Hashrate Live	Your current combined mining speed (from the last full 5-minute block), auto-scaled to the right unit. The sub-line shows the 24-hour average.
Share Rate	How many shares are coming in, as X/min or X/s. The sub-line shows the rate per worker.
Best Share	The single hardest (highest-difficulty) share ever submitted. The sub-line names the worker and when it happened. This is a "luckiest attempt" high score — it has no monetary value.
Uptime	How long the pool has been running.
Workers	The number of distinct payout wallet addresses; the sub-line adds the miner count.
Active miners	Active wallets / active miners, with a breakdown of workers, miners, and how many are on TLS or Stratum V2.
Blocks 🎉	How many blocks your pool has found (shown in orange).
Pool Fee	Your configured operator fee, as a percentage.

The "Network" card — context from the Bitcoin network (8 tiles)

Tile	Meaning
Network Hashrate	The whole Bitcoin network's speed (in EH/s). Your share of this is, roughly, your share of the luck.
Difficulty	The current network difficulty.
Last Diff Change	How much difficulty moved at the last adjustment (green if it fell, red if it rose), with the block it happened at.
Diff Forecast	The predicted next adjustment, same colour logic.
Next Diff	Estimated time to the next adjustment, plus how many blocks remain.
Block Height	The current chain tip height.
BTC Price	Price in $ and €, with a refresh time.
Chain	Which chain you're on, plus your Bitcoin Core version. A warning line here reads "IBD" (node still syncing) or "no rpc" (node unreachable).

The "Energy" card

Present if energy tracking is on (an admin can hide it). Six tiles: **Power** (current draw in W/kW, plus how many miners are reporting), **current** (cost per hour and the tariff source), **last 24h** (kWh and cost), **last 7 days**, **Lifetime** (kWh since a given date) and **Lifetime cost**. A "kWh source" bar splits solar (green) from grid (grey). If you configured solar, a "☀ Solar PV" section shows live PV output, house load, and the surplus (PV minus load). A badge warns if the solar reading is stale (older than five minutes).

> **Where do the watts come from?** Power and kWh are read from your miners' own telemetry (see the Devices tab, chapter 7). Without registered, connected devices these tiles stay empty, and "disconnected" devices don't count.

The "Pool Hashrate (24h)" chart

The filled line is your pool hashrate over time (left axis). Amber dots are the hardest share seen in each time bucket (right axis) — a tall dot means a share came unusually close to solving a block. Orange circles mark a bucket where a block was found. Hovering shows the exact hashrate, timestamp, best share and any blocks. A "Full view →" link opens the dedicated Hashrate tab (chapter 7).

The "Active workers" card

Up to ten rows: User, Hashrate, Diff, Shares and "Last seen". A "All workers →" link opens the full list. When empty it shows "No workers connected yet." and your Stratum URL to copy.

The "Best Shares" card

A small high-score table with a toggle between **All Time** (global best) and **Per Worker** (each worker's best). Columns: Rank (🥇 🥈 🥉 or #N), Worker, Difficulty (amber), When and Hash. Again — this is a leaderboard of your luckiest shares, not money.

The "Recent blocks" card

Up to five rows: time, worker, a status badge (green "accepted", red "rejected", yellow "pending") and a shortened hash (a clickable explorer link for accepted blocks, if an explorer is configured). "All blocks →" opens the Blocks tab. Empty, it reads "No blocks found yet." with a gentle reminder: "Solo mining is a marathon — hashrate × luck × patience."

> **Connect a miner right away** with the **"⛏ How to connect your miner"** button at the top of the dashboard — it shows your exact address, ports and (if enabled) TLS/Sv2 details. The next chapter walks through it.

6 · Connecting your first miner

Point your miner at your pool host. You configure three things in your miner's own settings page.

Setting	Value
Stratum URL / host	Your pool host's address on the network, e.g. `stratum+tcp://192.168.1.50` (or its hostname)
Port	`3333` — standard Stratum V1 (works with every miner firmware)
Worker / user	Your Bitcoin address, optionally with a worker name: `bc1q…` or `bc1q….myBitaxe`
Password	Anything (commonly `x`) — it is not used.

Which port?

Pick by **how your miner reaches the pool**, not by performance: all three carry the same work at the same speed, and the choice never changes your odds of finding a block. Encryption protects the *connection*, not your hashrate.

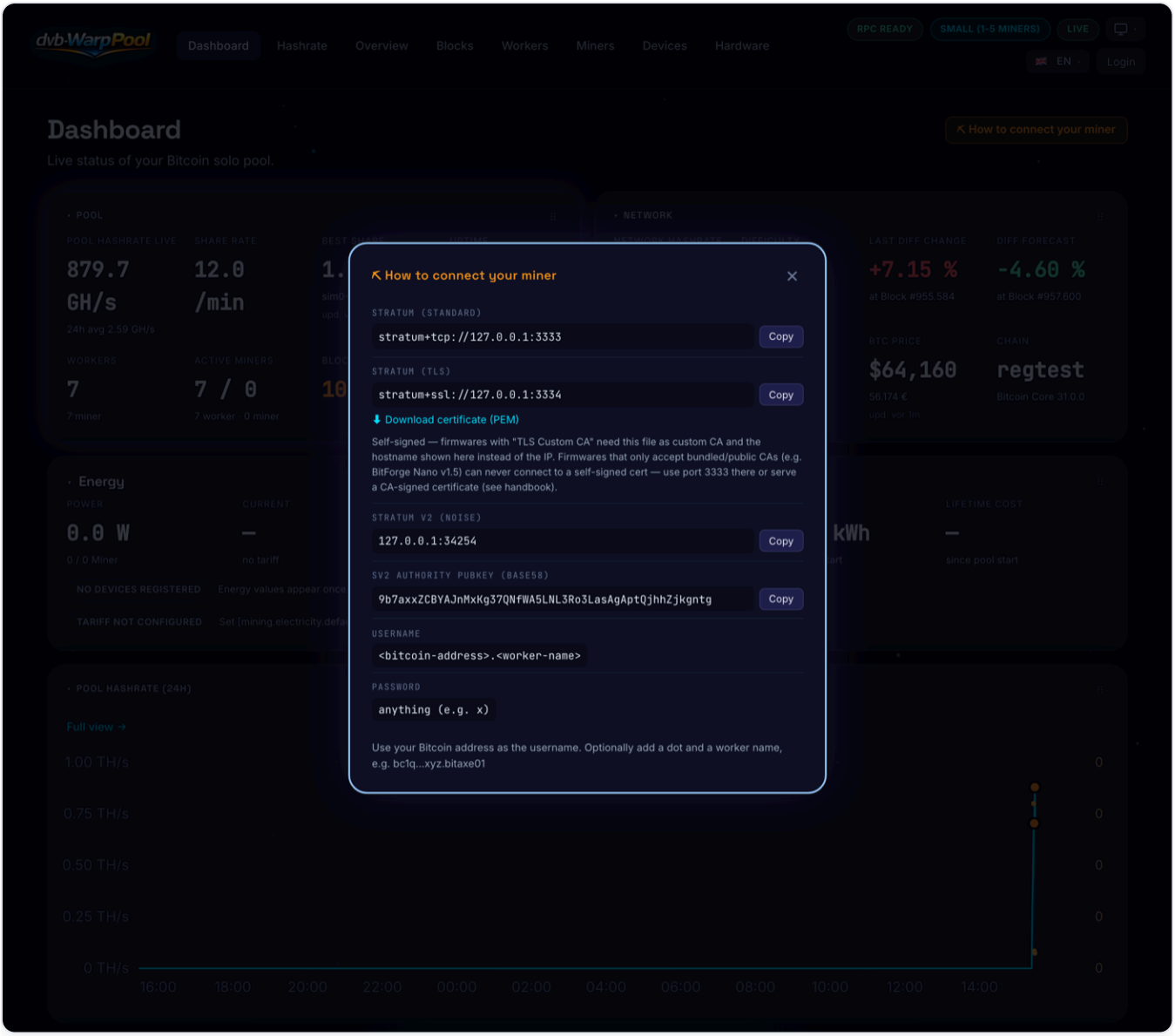
Port	What you get	What it costs
`3333` **Stratum V1 (plain)**	Works with every miner firmware; nothing to set up.	Unencrypted — perfectly fine on your own LAN, not for traffic crossing a network you don't control.
`3334` **Stratum V1 + TLS**	Encrypted transport for the exact same V1 protocol.	Only firmwares that accept a custom/self-signed certificate can use it (chapter 11); no speed benefit.
`34254` **Stratum V2 (NOISE)**	Modern protocol, always encrypted (NOISE), no certificate to manage.	Fewer firmwares speak Sv2 yet; needs the pool's authority key (chapter 11).

> **Short answer:** on a home LAN use plain `3333`. Reach for TLS (`3334`) only when mining traffic crosses a network you don't control, and Stratum V2 (`34254`) only if your firmware supports it. None of the three is faster than the others.

The "How to connect your miner" panel

Rather than typing these by hand, open the **"⛏ How to connect your miner"** button on the dashboard. It shows each value with a copy button (which confirms with a "✓" for a moment):

- **Stratum (standard)** — `stratum+tcp://<host>:3333`, the address for almost any firmware.
- **Stratum (TLS)** — `stratum+ssl://…` (shown only if TLS is enabled) plus a **"⬇ Download certificate (PEM)"** button. See chapter 11 for which firmware can use it.
- **Stratum V2 (NOISE)** — `<host>:34254` (shown only if Sv2 is enabled) plus the Sv2 authority public key in Base58, if set.
- **Username** — `<bitcoin-address>.<worker-name>`. **Password** — anything (e.g. `x`).



The “How to connect your miner” panel — your exact address and ports, plus the TLS certificate and Stratum V2 key when enabled.

Worker names. Add a name after your address (`bc1q….livingroom`) to tell several miners apart on the Workers and Miners tabs. All of them still pay out to the same address.

Running a public 0% pool? By default every miner pays out to the one operator address you set in the wizard. If you instead switch the pool to **per-worker payout** (`[mining] payout_mode = "per_worker"`), the Bitcoin address in *each* miner's login becomes that miner's own payout address — different miners can use different addresses, and each one keeps the full reward for the blocks it finds, non-custodially. That is how you run dvb-WarpPool as an open, zero-fee solo pool for other people. See the "Run a public pool" guide at **docs.warppool.org** for the operator setup and hardening checklist.

Save the miner's settings and give it a minute. It appears on the dashboard's **Active miners** count and on the **Miners** tab, and its shares start flowing into the hashrate chart.

Small miners look "bursty". A tiny device (e.g. a NerdMiner at a few hundred KH/s) submits a share only every few minutes, so its displayed hashrate naturally rises and falls. That is normal and does not mean it is offline.

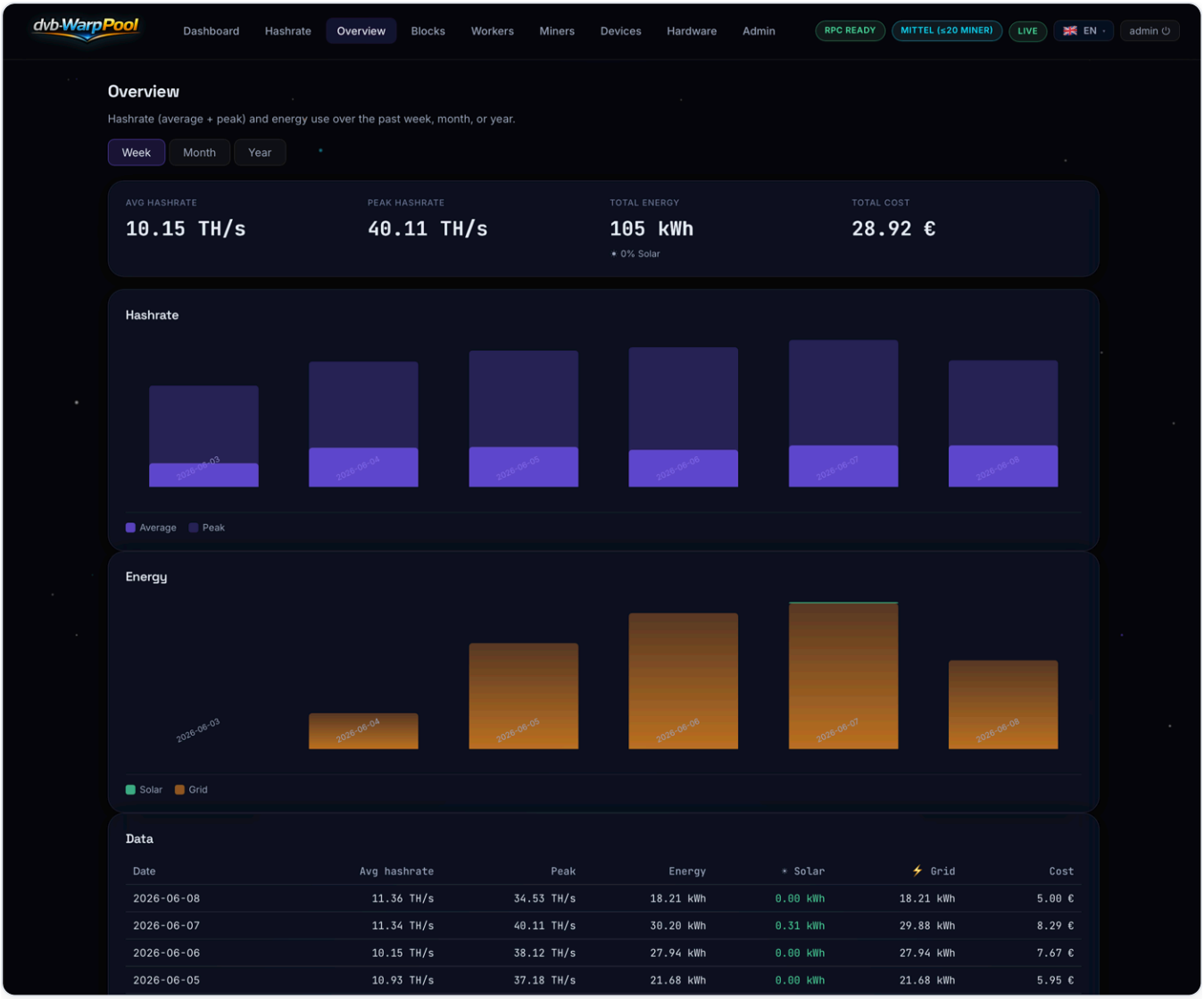
7 · The tabs, one by one

The navigation bar gives you focused views. First, the single most confusing thing about this interface — please read this before the tabs:

> **Three menu items, and two pages titled "Miners".** The menu label is *not* the same as the page it opens:
>
> - Menu **Workers** → a table with one row per **wallet address**.
> - Menu **Miners** → a read-only table with one row per **Stratum login**. Its page title reads "Miners".
> - Menu **Devices** → the interactive **device manager** with telemetry. Its page title *also* reads "Miners".
>
> Always refer to a page by its **menu label**, never by the heading.

Overview (menu "Overview")

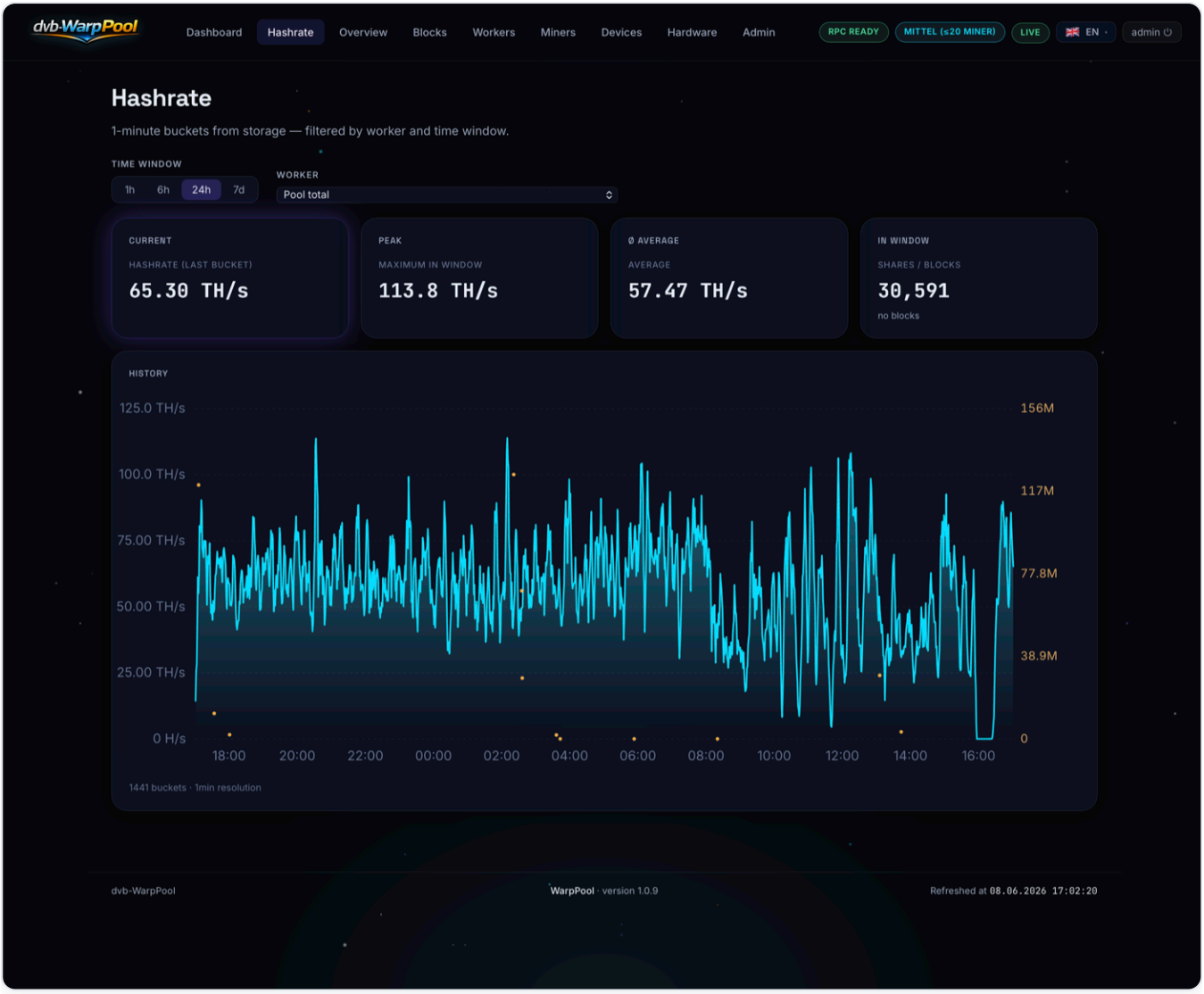
A weekly/monthly/yearly summary. A **Week / Month / Year** switch at the top changes the range. Tiles show **Avg hashrate**, **Peak hashrate**, **Total energy** (with a "☀ NN% Solar" note) and **Total cost** (the energy tiles appear only if energy is visible). A **Hashrate** bar chart pairs a strong "Average" bar with a pale "Peak" bar per bucket; an **Energy** chart stacks grid (orange) and solar (green). The **Data** table lists each day: Date, Avg hashrate, Peak, Energy, Solar, Grid and Cost. Empty, it reads "No data yet — daemon needs at least 1 hour of runtime to build daily aggregates."



Overview: average and peak hashrate plus energy use over a week, month or year.

Hashrate (menu "Hashrate")

The detailed hashrate view, built from 1-minute buckets in storage. A **Time window** selector (1h / 6h / 24h / 7d, default 24h) and a **Worker** dropdown (first option "Pool total") filter it. Four tiles: **Current** (last bucket), **Peak** (maximum in the window), **Ø Average**, and **In window** (shares and blocks). Below, a large chart with the amber best-share overlay and a legend like "<n> buckets · <m>min resolution · Filter: <worker>".



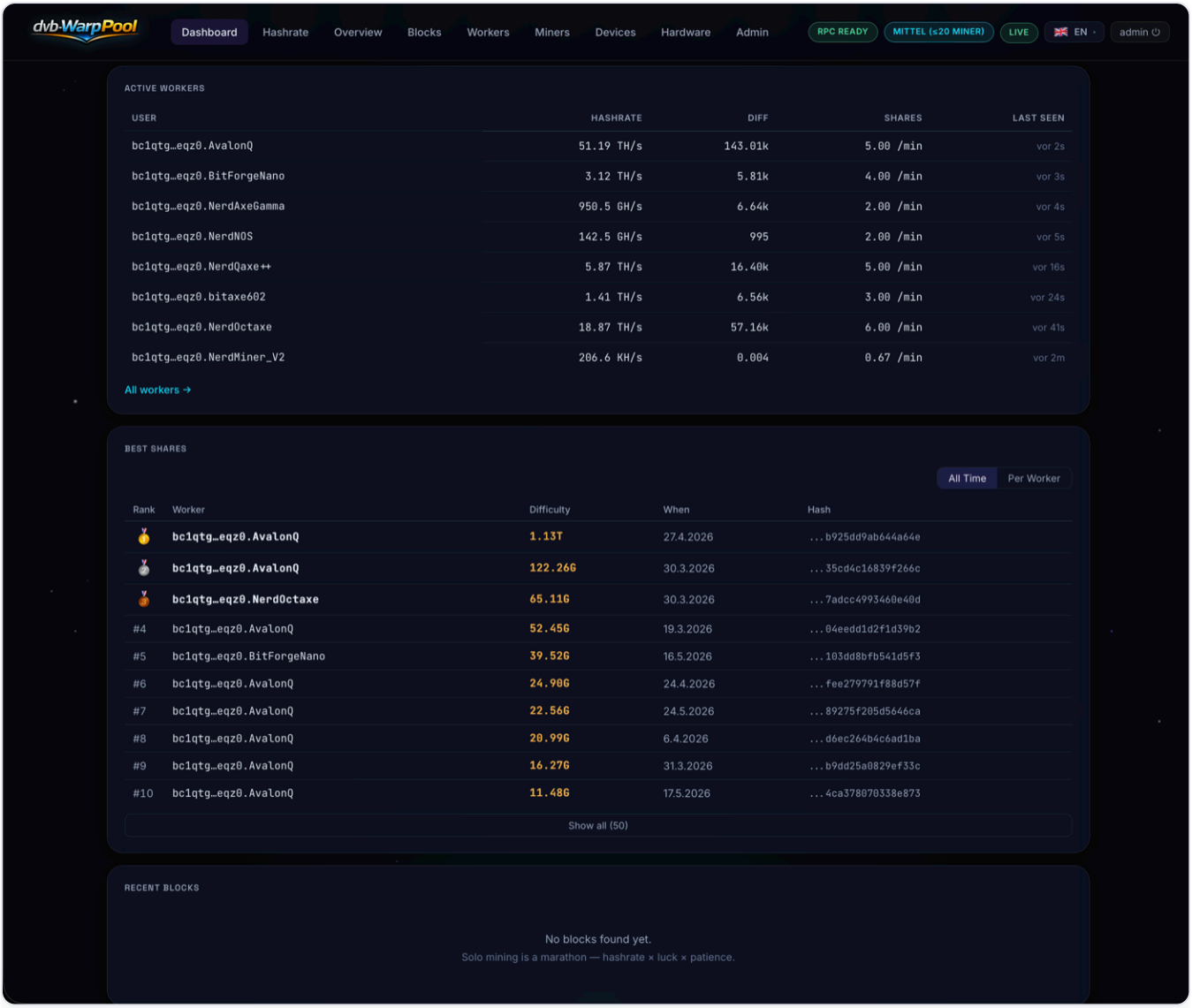
Hashrate: filter by worker and time window; the amber dots are best-share peaks.

Workers (menu "Workers") — one row per wallet

This page aggregates by **payout wallet address** — all the miners paying to the same address are summed into one row. The subtitle reads "{n} workers (wallet addresses) — aggregated over the miners below."

Column	What it means & what's normal
Wallet	The payout address, shortened (hover for the full value).
Miners	How many miners pay to this wallet, and how many are live right now. A green dot means all of them are active.
Hashrate	The combined speed of this wallet's miners.
Shares/min	How fast shares are coming in for this wallet.
Shares ✓ (green)	Accepted shares — valid work. This number should keep climbing.
Shares ✗ (red)	Rejected shares. A handful right after a new block or a reconnect is completely normal (the miner was briefly working on stale work). A steadily growing reject count is worth a look.
Blocks (orange)	Blocks this wallet has found. Usually 0 for a long time — that's solo mining.
First seen / Last seen	When this wallet first appeared and when it last submitted. "Last seen" jumping to minutes/hours ago means its miners went quiet.

What to watch: a healthy wallet has a rising Shares ✓, a near-zero or slowly-growing Shares ✗, and a recent "Last seen". Empty, the page reads "No worker connected yet." with your Stratum URL.

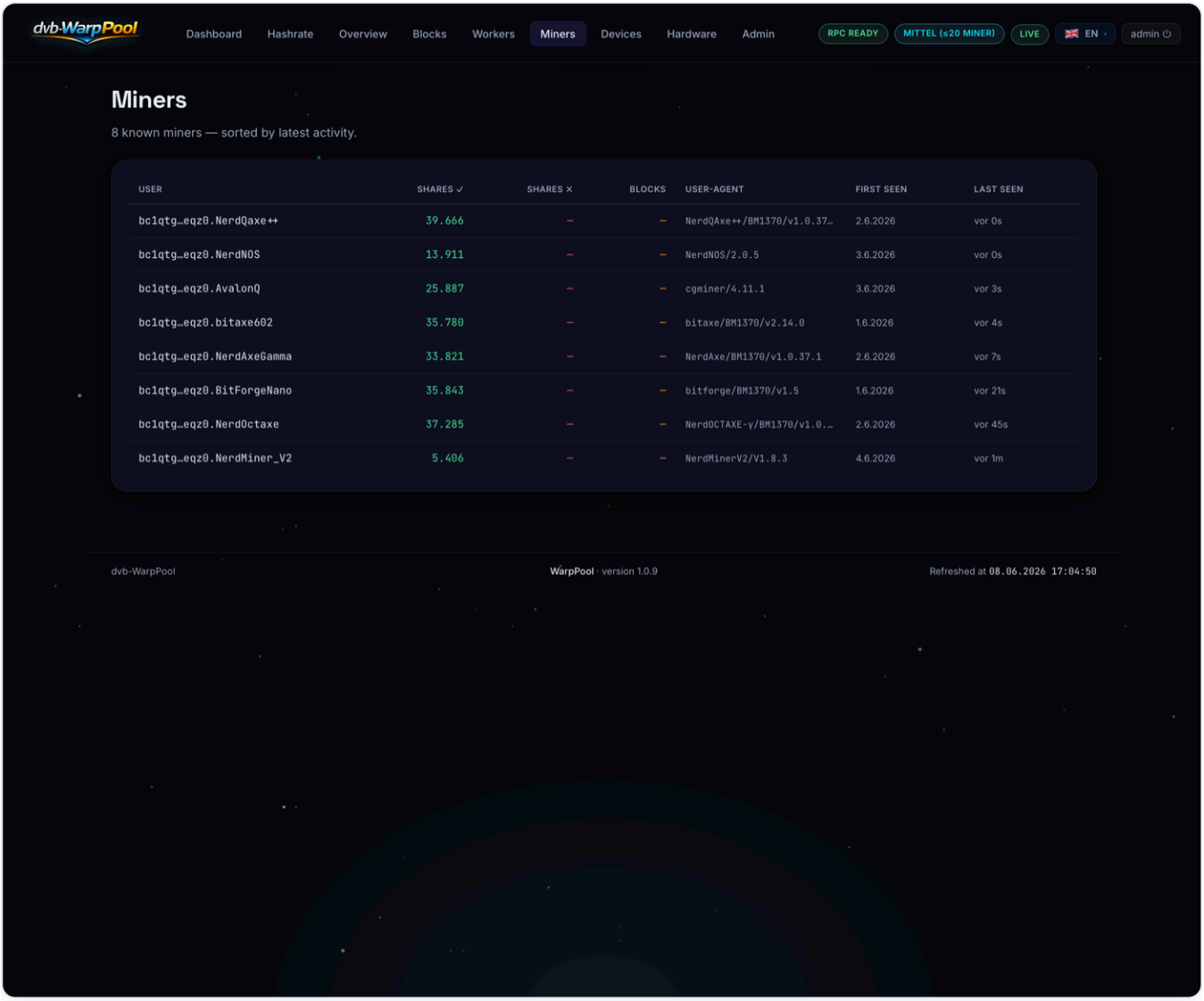


Workers: one row per payout wallet, with accepted/rejected shares and blocks.

Miners (menu "Miners") — one row per Stratum login (read-only)

The subtitle reads "{n} known miners — sorted by latest activity." Each row is a single Stratum login (an `address.workername`). There are no filters or sorting — newest activity is always first.

Column	What it means
User	The login name, with a 🔒 icon if it connected over TLS or a ⚡ icon if it connected over Stratum V2 (NOISE).
Shares ✓ / ✗	Accepted and rejected shares for this login (same reading as on the Workers tab).
Blocks	Blocks found by this login.
User-Agent	The miner's reported firmware — handy for telling identical devices apart.
First seen / Last seen	When this login first and last submitted.



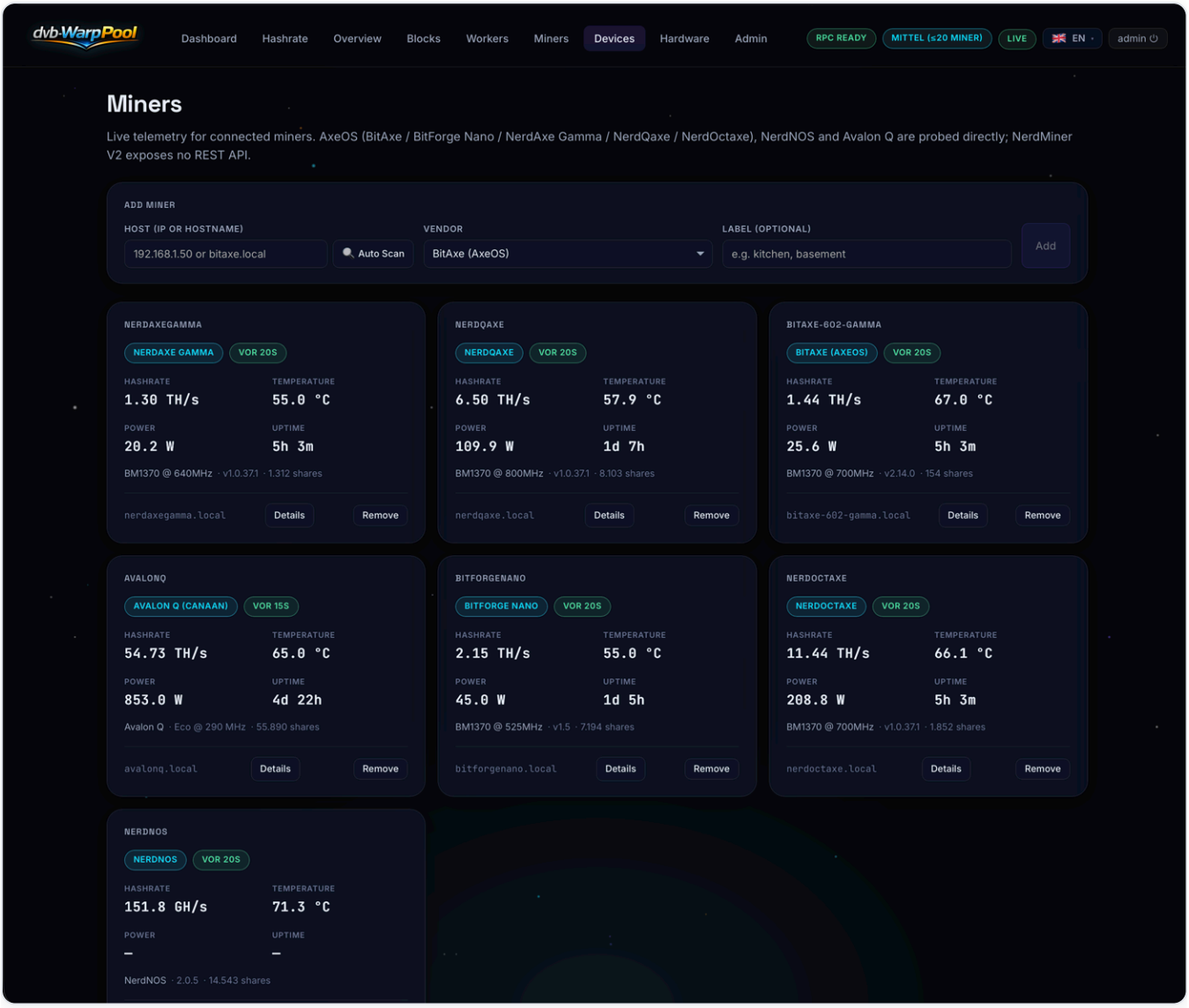
Miners: every Stratum login, with a lock icon for TLS and a lightning icon for Stratum V2.

Devices (menu "Devices") — the interactive device manager

This is the most interactive tab. It lists and manages the physical miners on your network, with live telemetry, and polls them every 15 seconds. Its subtitle lists the supported hardware (AxeOS devices: Bitaxe, BitForge Nano, NerdAxe Gamma, NerdQaxe, NerdOctaxe; plus NerdNOS and Avalon Q — note that NerdMiner V2 has no REST API, so it can be mined but not managed here).

- **Auto-discovered (mDNS)** — devices found automatically on your LAN. Each offers "Adopt" (when logged in), or "already added" / "login to adopt".
- **Add miner** (logged-in only; otherwise "Login required to add or remove miners") — a **Host (IP or hostname)** field, a **Vendor** dropdown (Bitaxe/AxeOS, BitForge Nano, NerdMiner, NerdAxe Gamma, NerdQaxe, NerdOctaxe, NerdNOS, Avalon Q, BitMain/Antminer, Whatsminer), an optional **Label**, and an **Add** button.
- **Auto Scan** (the "🔍 Auto Scan" button) sweeps a range of IPs for miners. You can tick several results and add them at once ("Select all", "Add selection").
- **Device cards** — one per miner. A coloured "age" badge shows how fresh the telemetry is (green under 90 s, yellow up to 10 min, red beyond, or yellow "never probed"), and a yellow "Disconnected" badge means it isn't currently mining to the pool. Telemetry tiles show **Hashrate**, **Temperature** (turns **red above**

75 °C), **Power** and **Uptime**, with the model, firmware and share count below. Each card links to **Details** and has a **Remove** button (with a "Remove miner {name}?" confirmation).

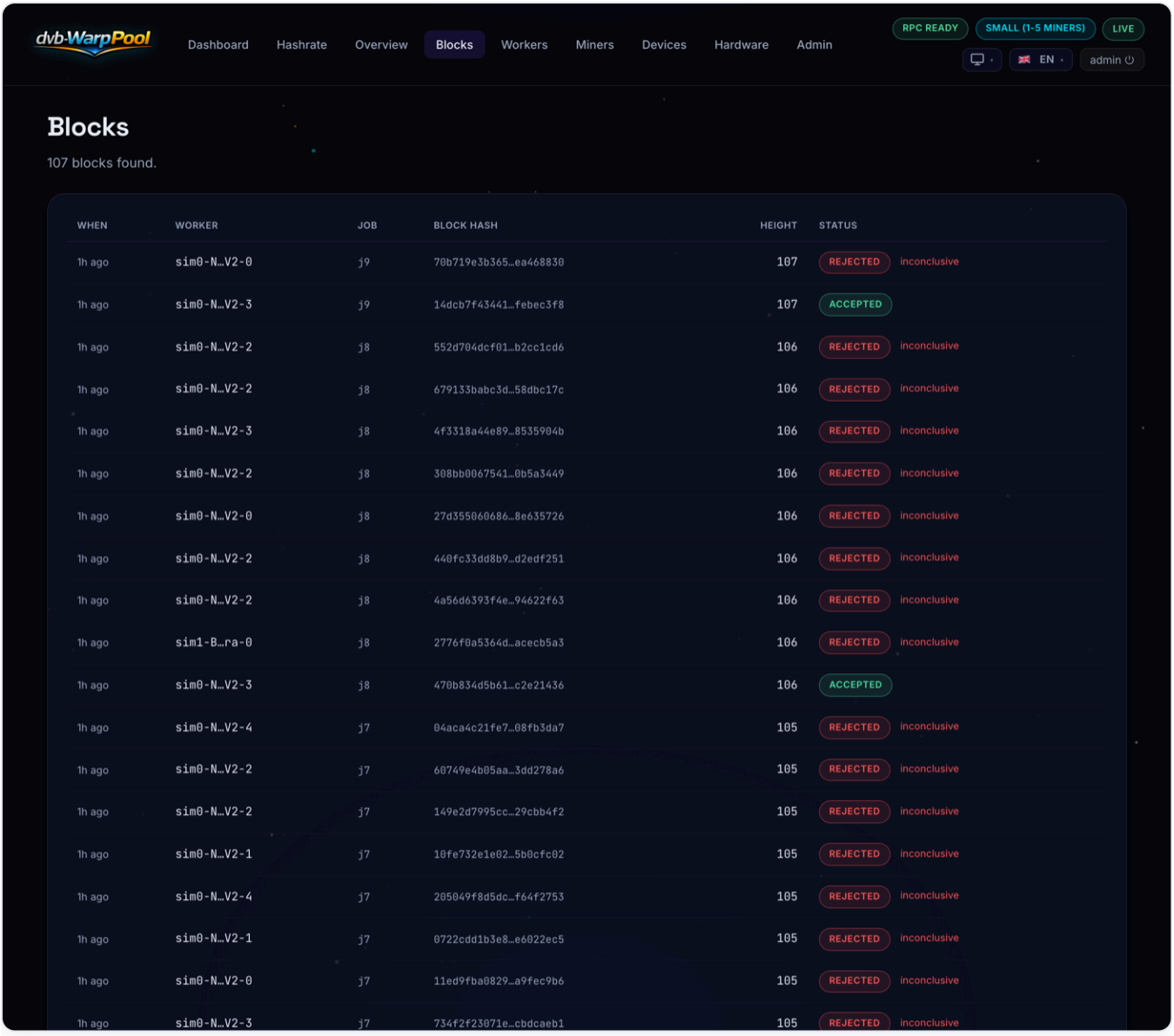


Devices: adopt discovered miners or add them by IP, then watch live temperature, power and hashrate.

> **The device Details page currently shows raw text keys.** On a miner's Details page you may see literal labels like "← common.back", "minerDetail.alerts", "minerDetail.history" and "{n} minerDetail.samples", and an empty chart labelled "keine Daten" (no data). This is a known cosmetic gap, not a fault with your miner. The page itself works: the buttons 1h/6h/24h/7d switch the time range, and the five small graphs are Hashrate, Power, Temperature, Voltage and Fan.

Blocks (menu "Blocks")

Every block your pool has found. Columns: **When**, **Worker**, **Job**, **Block hash** (a clickable explorer link when accepted and an explorer is configured), **Height**, and **Status** (green "accepted", red "rejected" with a reason, yellow "pending"). Empty, it shows "No blocks found yet." with the marathon reminder. It refreshes every 10 seconds.

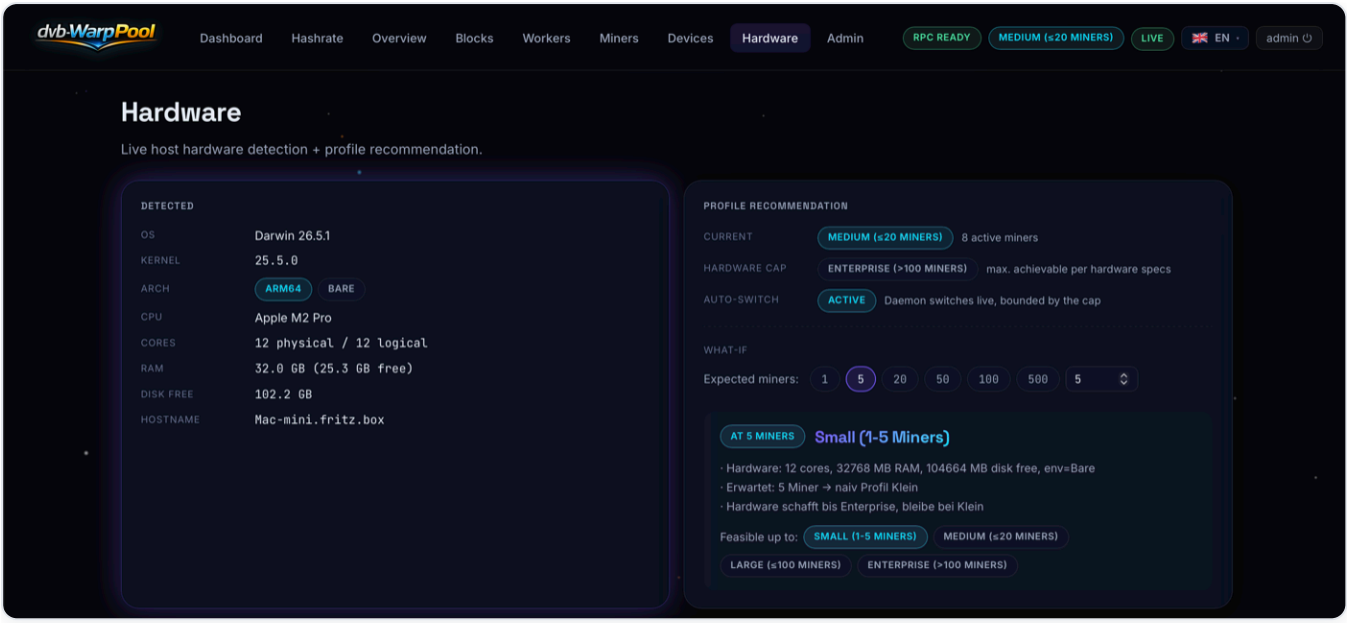


The Blocks tab: every solved block with its worker, height and accepted/rejected status.

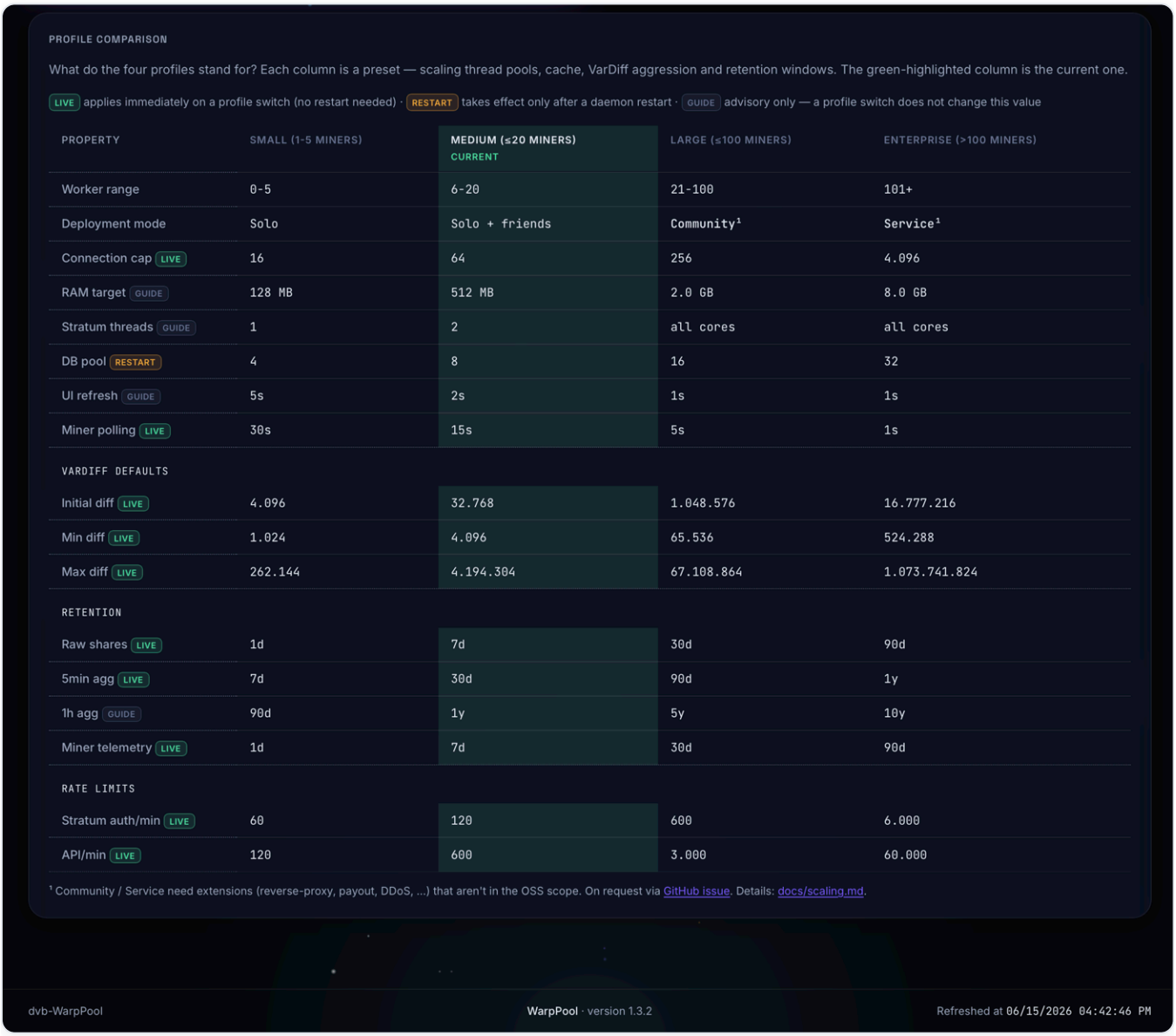
Hardware (menu "Hardware")

The pool host's own resources and the size-profile picture. Three cards:

- **Detected** — OS, kernel, architecture, CPU, cores, RAM, free disk and hostname.
- **Profile recommendation** — your current profile, the hardware "cap" (the largest profile your machine can handle), and whether auto-switch is on. A "What-if" control lets you try miner counts (chips for 1·5·20·50·100·500 or a free field) and see the recommended profile.
- **Profile comparison** — a table comparing all four profiles across worker range, connection cap, retention, VarDiff defaults, rate limits and more. Each value carries a marker: **live** (applies instantly on a profile switch), **restart** (needs a restart) or **guide** (a rough target only).



Hardware: live host detection plus the profile that fits your miner count.



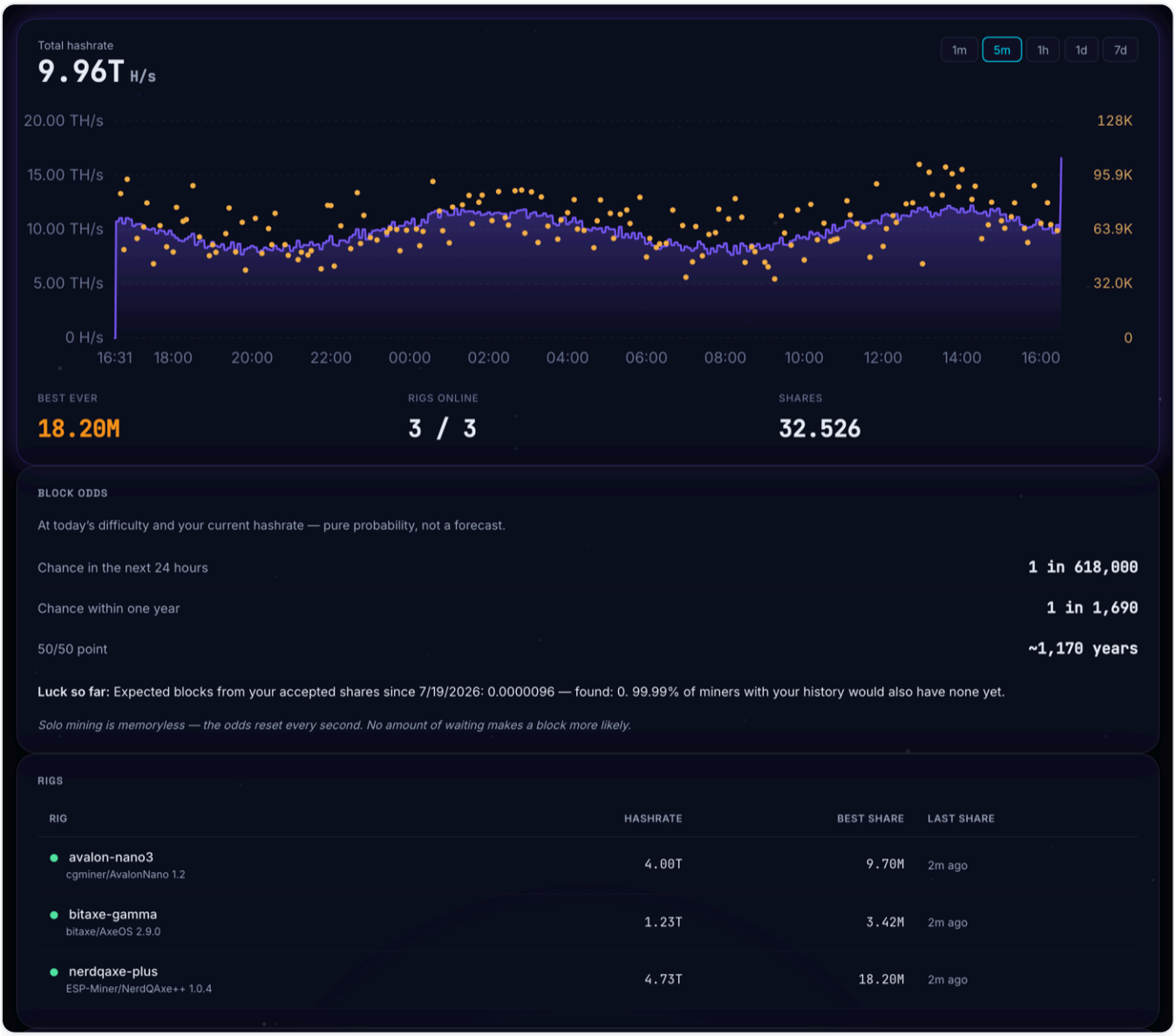
The profile comparison table — "live", "restart" and "guide" tell you when each value takes effect.

8 · Your public wallet page (`/users`)

Every payout address that has ever mined on your pool gets its own status page at `/users/<address>`. It needs no login, it is safe to share, and it is the page your miners will bookmark to watch their own rigs.

Open it in two ways:

- On the **Workers** tab (chapter 7), click any wallet row.
- Go straight to `https://<your-host>/users/<bitcoin-address>`.



The public wallet page: aggregated hashrate with 1m–7d windows, the 24-hour chart with best-share peaks, the honest block odds, and one row per rig.

What it shows

- **Total hashrate** with a window switch — **1m · 5m · 1h · 1d · 7d** — aggregated across every rig that logs in under this address.
- The **24-hour hashrate chart**, with each best share drawn as a dot so lucky shares stand out.

- **Best ever** — the highest-difficulty share this address has ever submitted.
- **Rigs online** and the total **shares** counter.
- A **Rigs** table — one row per `address.rig` login, with its hashrate, best share, last-share time and detected mining software.

The Block-odds panel

Below the stats sits an honest answer to the only question that really matters in solo mining: *what are my chances?* The old builds showed a single "estimated time to block" — for a home rig that reads "~12,000 years", which sounds like "never" and quietly hides the one fact that makes solo mining make sense at all: the process is **memoryless**. Every second is a fresh draw; there is no queue, no progress bar, nothing getting closer. The panel replaces that one misleading number with the real picture:

- **Chance in the next 24 hours** and **chance within one year** — computed from your current hashrate and today's network difficulty. Long odds are shown as "**1 in N**" (for example "1 in 6.3 million"); once a probability climbs above 1 % it is shown as a percentage, always rounded *down* so it never overstates your chances.
- **50/50 point** — the time after which finding a block is more likely than not (the median, not the average). This is usually many years; that is normal and it is not a countdown.
- **Luck so far** — the number of blocks your accepted work "should" have produced (a fraction, almost always far below 1), the number you actually found, and — if none yet — what share of miners with exactly your history would also still be empty-handed. This is measured from the day the pool started tracking it, shown as "since <date>", never as an all-time claim.

None of this changes how mining works — it is the same lottery, described honestly. No amount of waiting makes a block more likely; only more hashrate or a lower difficulty does. When the address is offline (no current hashrate) the panel shows a dash, exactly like the old tile did.

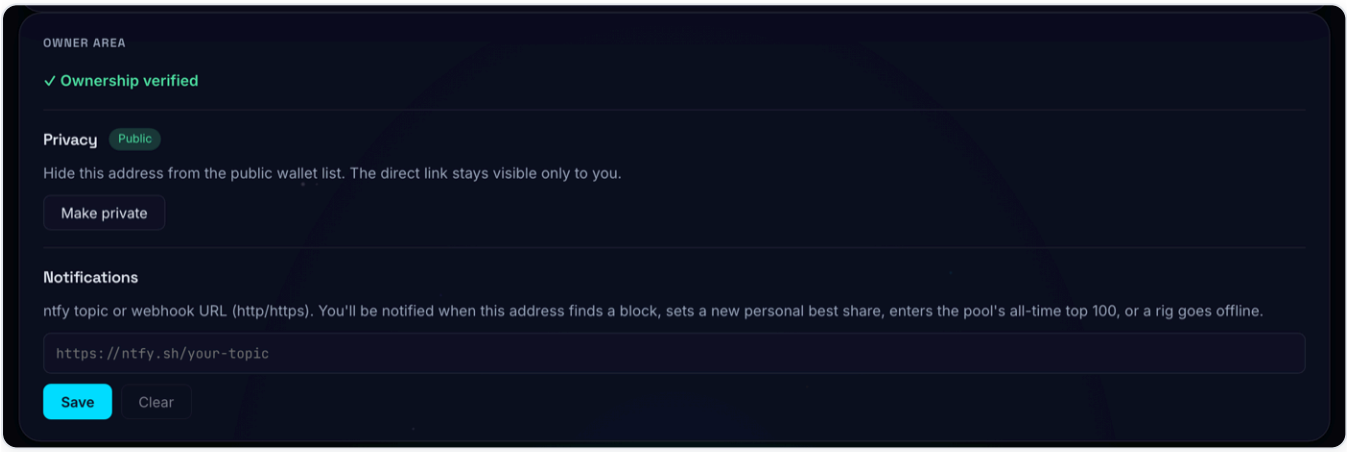
> **Firmware & ckstats.** The same data is served as JSON at `/api/users/<address>` in the ckpool field format (`hashrate1m` … `hashrate7d`, `bestshare`, `bestever`, `worker[]`), so ckstats-style dashboards and miner firmware can read it directly. The block-odds figures are added as an `odds` object on the same response (24-hour and yearly probability, the 50/50 point in seconds, expected vs. found blocks), computed server-side so third-party tools get identical numbers; it is `null` when the address is offline.

The Owner Area

Below the stats, anyone can prove they own the address — without an account and without moving a single satoshi — by signing a short challenge message with the address's private key (the same "Sign message" feature your wallet already has). Verifying unlocks two owner-only controls:

- **Privacy** — hide this address from the public **Workers**/wallet list. The direct `/users/<address>` link keeps working, but only for you.
- **Notifications** — an ntfy topic or webhook URL (http/https) that gets pinged on this address's milestones: it finds a **block**, it sets a new **personal-best share** (across all of its rigs, not just one), it first enters the pool's **all-time top 100** best shares, or one of its rigs goes **offline**. Each kind has its own cooldown so a good run does not turn into a stream of messages, and a found block sends a single headline rather than three overlapping alerts.

Step one: WarpPool shows a short challenge text. Sign it with the wallet that holds the address and paste the signature back. Taproot (`bc1p…`) addresses work here too — with a wallet that can sign **BIP-322** messages.



The Owner Area after a successful signature: a privacy toggle and a per-address notification target.

Which addresses can verify? Message signing works for legacy (`1…`), SegWit (`bc1q…`) and wrapped-SegWit (`3…`) addresses. **Taproot** (`bc1p…`) works too, with a wallet that can sign **BIP-322** messages, such as Sparrow.

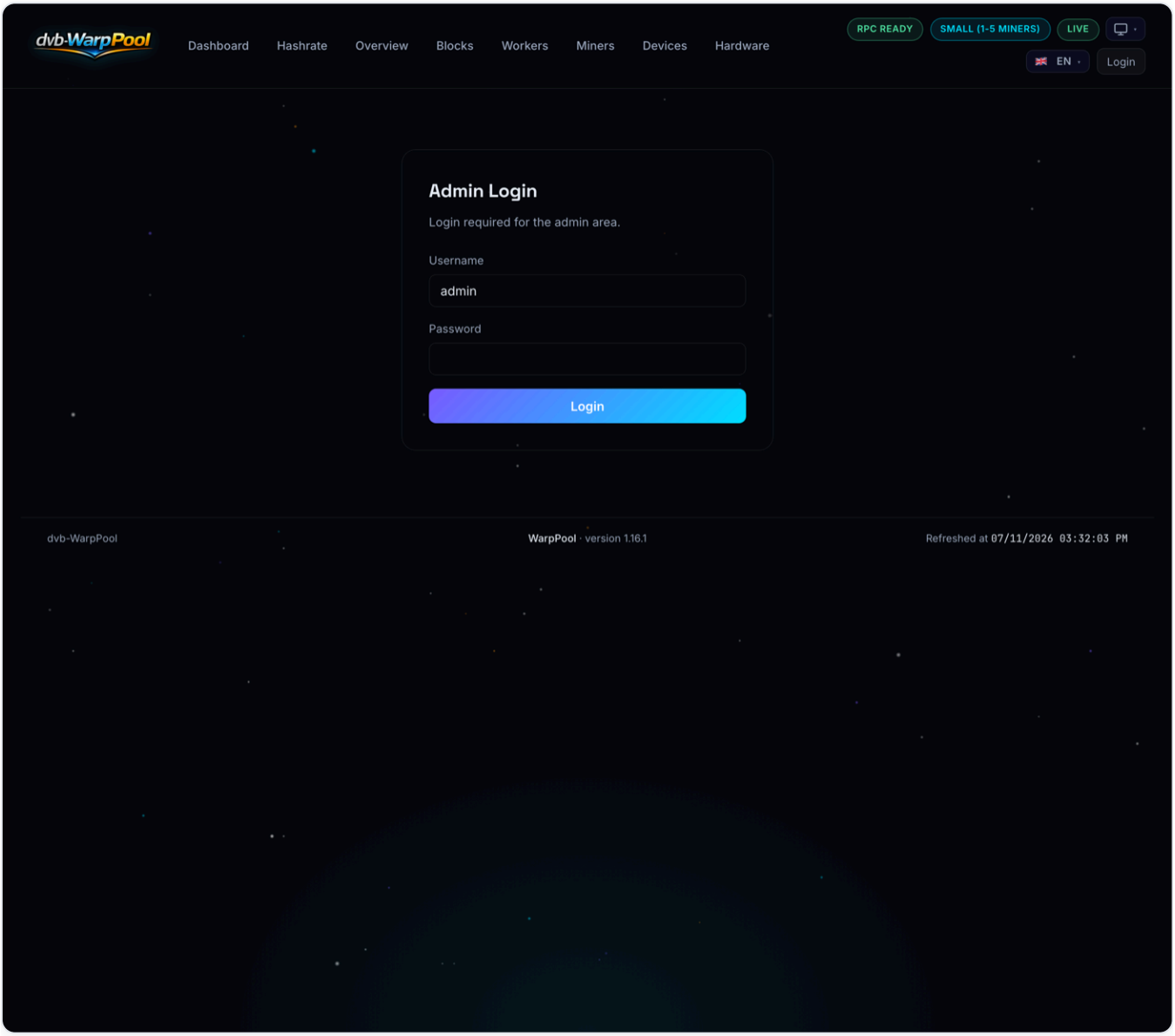
No account, ever. The signature only proves ownership of this one address; it grants a browser cookie that expires on its own. It never touches your funds and never reveals your private key.

9 · The Admin area, page by page

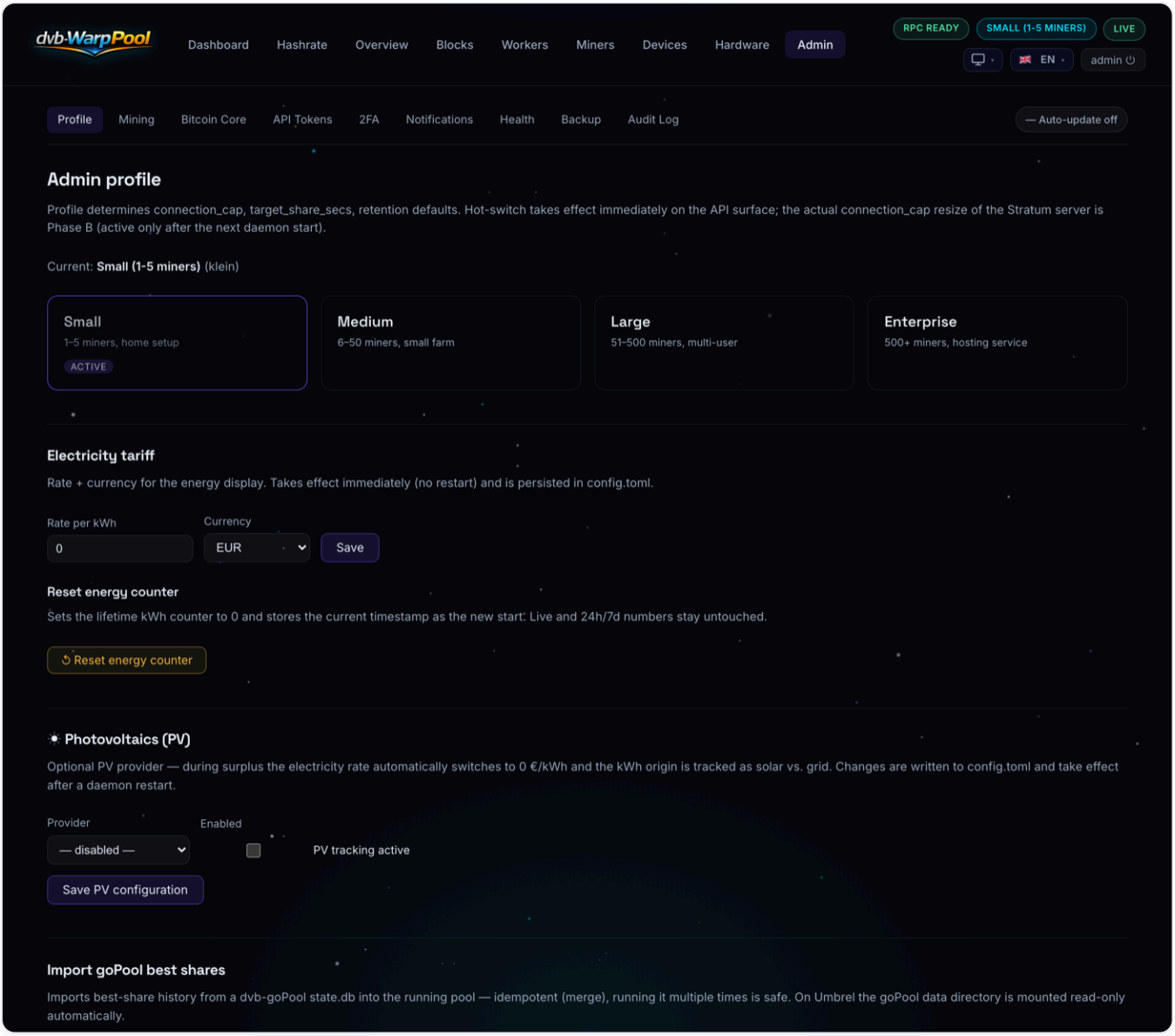
Everything you might tune lives under **Admin**. It is protected by a login (a session lasts 24 hours by default), so the first thing you'll meet is the login screen.

Login & first-time setup

The **very first** time, there is no admin account yet, so the login page shows a **"Set up admin account"** form: pick a username (default `admin`), a password (at least 8 characters) and confirm it, then click **"Create account & sign in"**. No restart is needed — you're logged straight in. After that, the same page is a normal **Login** (username + password), and — if you've enabled 2FA — it asks for a 6-digit code on the second try.



The admin login. On a brand-new install this screen instead shows “Set up admin account”.



The Admin area opens on the Profile page: the size-profile cards, electricity tariff, energy reset and PV settings. The sub-navigation lists every admin page.

Across the top of Admin is a sub-navigation — **Profile · Mining · Bitcoin Core · API Tokens · 2FA · Notifications · Health · Backup · Audit Log** — and an update badge on the right (green "Up to date", orange "Update available", grey "Auto-update off", or yellow "Update check failed").

Profile (Admin → Profile)

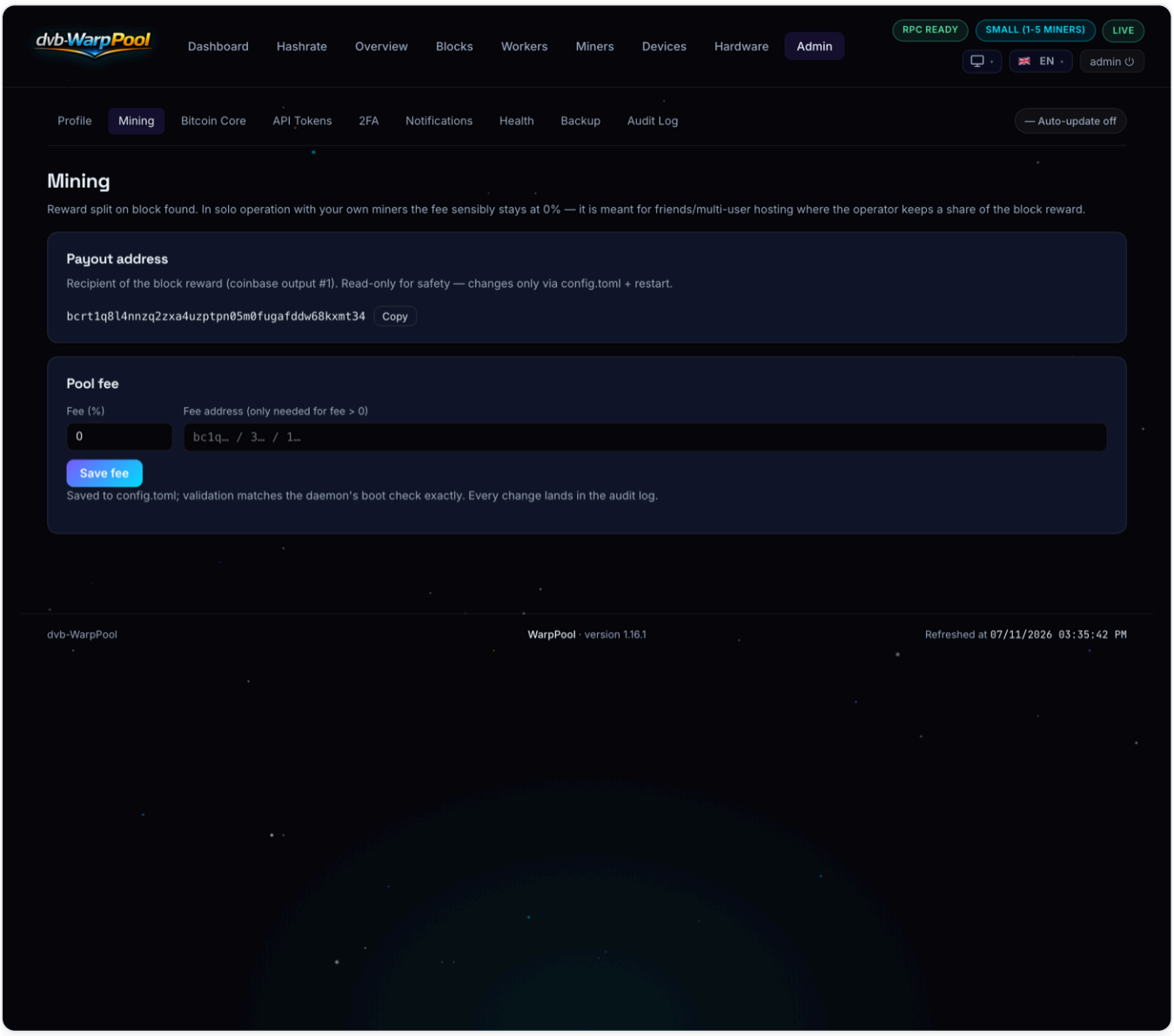
The busiest admin page. From top to bottom:

- **Profile hot-switch** — four cards: **Small** (1–5 miners, home setup), **Medium** (6–50, small farm), **Large** (51–500, multi-user) and **Enterprise** (500+, hosting service). Switching is instant, *except* the connection cap, which needs a restart. Choosing Large or Enterprise pops an "operator mode" warning first (these modes are meant for hosting others and show a standing orange banner while active).
- **Electricity tariff** — rate per kWh + currency + Save. Takes effect immediately.
- **Reset energy counter** — zeroes the lifetime kWh (Live/24h/7d are untouched), after an inline "Really reset?" confirmation.

- **Photovoltaics (PV)** — the same solar providers as the wizard, plus surplus rate and buffer. **Saving PV config needs a daemon restart** to take effect.
- **Import goPool best shares** — pull a best-shares history from an old dvb-goPool database (idempotent merge).
- **Visibility toggles** — three checkboxes to show or hide the Miners tab, the Hardware tab and the Energy card *for anonymous visitors*. (This is why a tab may appear "missing" when you're logged out.)
- **IP ban list** — see chapter 15.
- **Uninstall** — see chapter 14.
- **Restart pool** — a "↻ Restart pool" button for any change marked "restart required". Miners reconnect within seconds and no shares are lost; the page reloads after about 10 seconds.

Mining (Admin → Mining)

Your **payout address** is shown here **read-only** — for safety it can only be changed in `config.toml`. Below it, the **pool fee** (percentage + fee address, with a confirmation checkbox if the fee is above zero). A fee change takes effect **after a restart and from the next block onward**, and is recorded in the audit log.



Admin → Mining: the read-only payout address and the optional pool fee (0 % for a true solo pool).

Donations (Admin → Donations) — public pools only

This page appears in the admin menu **only when the pool runs in per-worker mode** (a public 0% pool). A per-worker pool keeps none of the reward, so a voluntary tip is the only way supporters can help cover your hosting — and this page is where you set the addresses for it.

Field	What to enter
On-chain address	Any Bitcoin address you want tips sent to. It's validated when you save. Shown on the public dashboard as a copyable address and a `bitcoin:` QR code a visitor's wallet can scan.
Lightning address	A Lightning address, LNURL or BOLT12 string (stored as you enter it). Shown as its own copy field and QR code.

Leave either field blank to hide that option. When at least one is set, a **"Support this pool"** card appears at the bottom of the public dashboard. These addresses are purely informational — they are never mixed into block construction, so setting one can't affect the rule that a per-worker pool pays the finder the full reward. Saving takes effect immediately (no restart) and is recorded in the audit log.

Banner (Admin → Banner) — a scrolling notice on your pool page

Sooner or later you need to tell the people mining on your pool something: you are restarting the node on Sunday morning, your internet provider has announced an outage, or a port has changed. This page puts that message where they will actually see it — as a slowly scrolling strip along the very top of the pool page, above the dashboard, visible to every visitor whether they are logged in or not.

Field	What to enter
Announcement text	The message itself, up to 200 characters. It is shown exactly as you type it — plain text only, never interpreted as HTML or formatting. Line breaks and other control characters are refused, because they would tear the scrolling strip apart.
Runtime and **Unit**	How long the notice should stay up: a number plus *minutes*, *hours* or *days*. The shortest allowed is one minute, the longest 90 days. The end time is worked out from the moment you press Start.

Start puts the notice live. **Stop** takes it down again before its time is up — useful when the maintenance finished early. Above the fields a status line tells you whether a notice is currently running, and until when.

The point of the runtime is that **you do not have to remember to remove it**. The end time is stored next to the text, so the notice disappears on its own when the time is over — even if the pool is restarted in between. A forgotten maintenance notice cannot sit on your page for weeks.

Two details that matter for your visitors: pointing at the strip with the mouse, or reaching it with the Tab key, **pauses the scrolling**, so a long notice can be read to the end; and anyone who has switched on „reduce motion“ in their operating system sees the text standing still instead of moving.

> **The banner shows everywhere in the interface**, not only on the dashboard — including while you are working in the admin area. That is deliberate: it doubles as confirmation that your notice really is live.

Bitcoin Core (Admin → Bitcoin Core) — including GBT ⇄ IPC

Two parts. The first is a **bitcoin.conf editor** (on a self-managed host): a **Form** tab with the common fields (network, RPC user/password/port, ZMQ endpoints, prune, dbcache, txindex) and an **Advanced (free-text)** tab. Saving backs up the old file and writes a new one; changes apply after you restart Bitcoin Core with the **"↻ Restart Bitcoin Core"** button.

The second part is the one to understand:

Template source: GBT + ZMQ vs. IPC

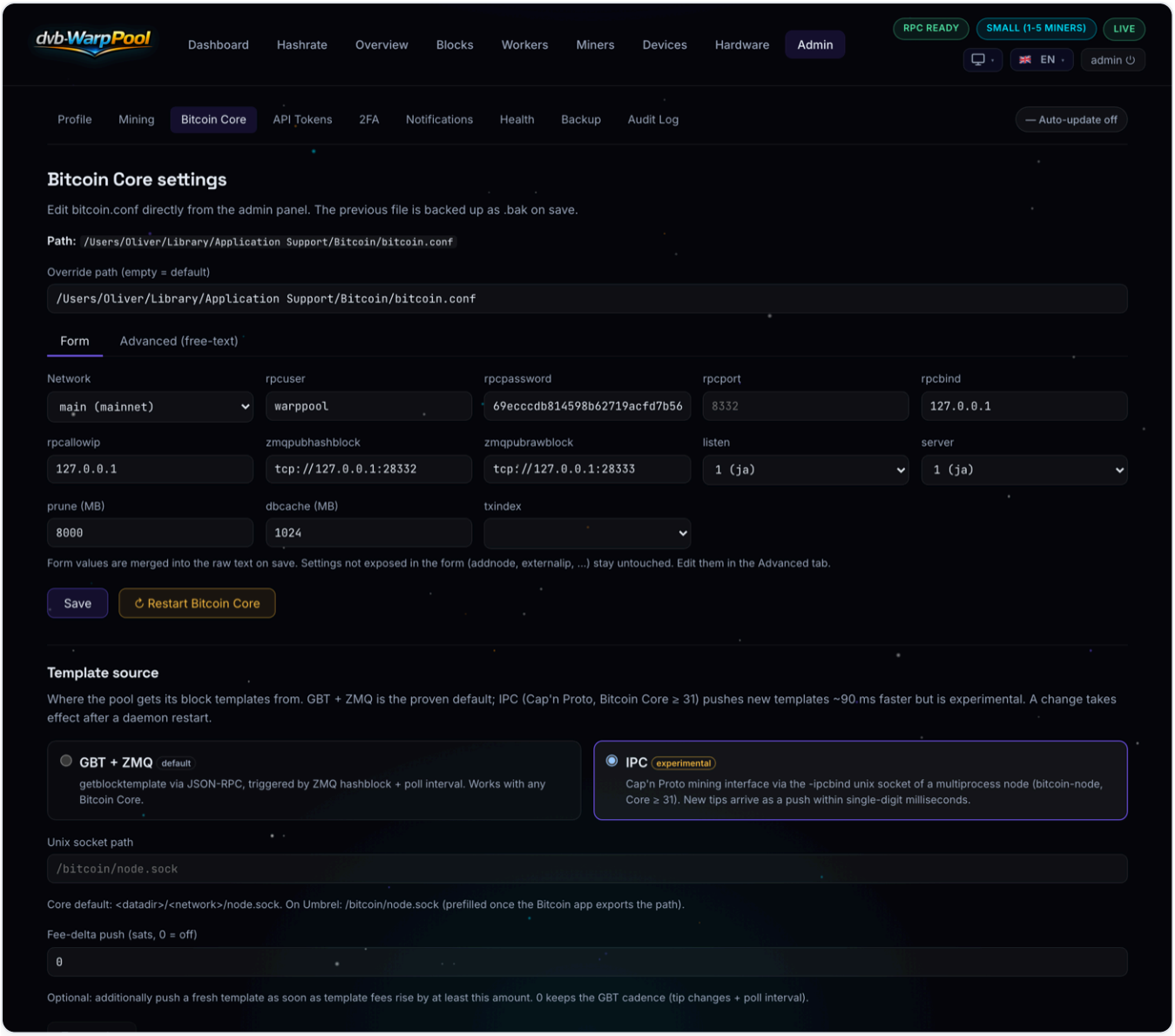
This chooses *how* the pool gets fresh block templates from your node. The page states it plainly: "GBT + ZMQ is the proven default; IPC (Cap'n Proto, Bitcoin Core ≥ 31) pushes new templates ~90 ms faster but is experimental. A change takes effect after a daemon restart."

Option	What it is & who it's for
GBT + ZMQ (badge "default")	The classic path: `getblocktemplate` over RPC plus ZMQ notifications. Works with **every** Bitcoin Core version. **For almost everyone, this is the right choice** — leave it here.
IPC (badge "experimental")	A newer, faster path: the Cap'n Proto mining interface over a Unix socket of a multiprocess node (`bitcoin-node` , **Bitcoin Core ≥ 31**). New chain tips arrive as a push in single-digit milliseconds. Opt-in and experimental.

If you switch to **IPC**, two more fields appear: a **Unix socket path** (Bitcoin Core's default is `<datadir>/<network>/node.sock`) and a **Fee-delta push** value in sats (push a fresh template when template fees rise by at least this much; 0 = off). The recommended flow is:

1. Enter the socket path.
2. Click **"Test socket"** until it reports **"✓ Connection OK — interface responds, tip height …"**. Other messages tell you exactly what's wrong (wrong path, node down, no permission on the socket, or "old schema (Core < 31) — update Bitcoin Core to v31.0").
3. Click **Save** ("Takes effect after a daemon restart").
4. Click **"↻ Restart daemon now"**. There is no hot-switch — IPC only becomes active after the restart.

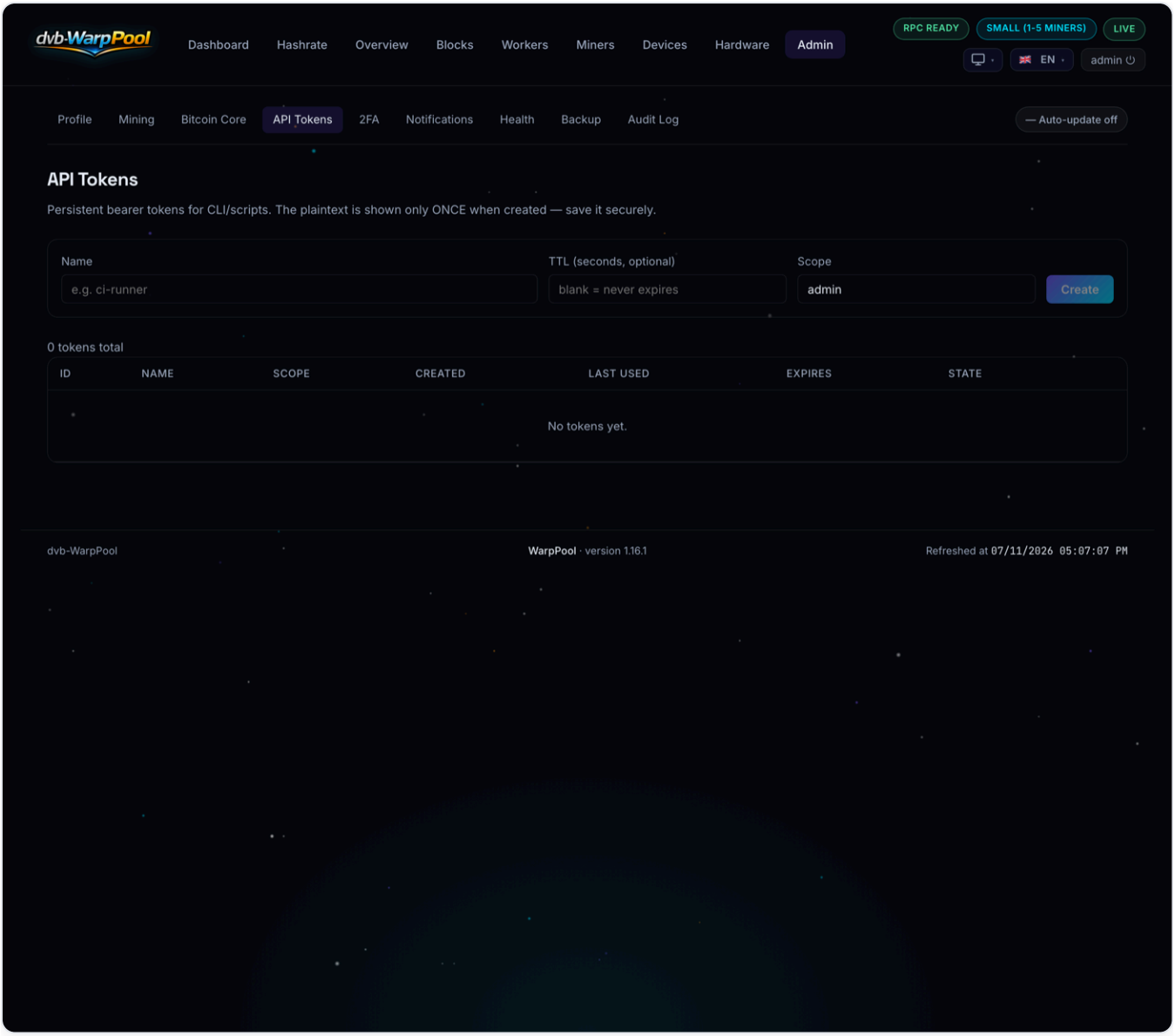
> **IPC needs a multiprocess Bitcoin Core v31 or newer.** If you're not running that, stay on GBT + ZMQ — it is fully supported and only a few milliseconds slower. IPC is a power-user optimisation, not a requirement.



Admin → Bitcoin Core: the bitcoin.conf editor above, and the “Template source” switch below — here with IPC selected, which reveals the Unix socket path and fee-delta fields.

API Tokens (Admin → API Tokens)

Bearer tokens for scripts and the CLI — the plaintext is shown **only once** when you create one, so copy it immediately. The form has **Name** (required), **TTL** (optional lifetime in seconds, blank = never expires), **Scope** (a free-text field, default `admin`), and **Create** (create). The table lists your tokens with a status (`active`, `expiring`, `revoked`) and a **Revoke** action.



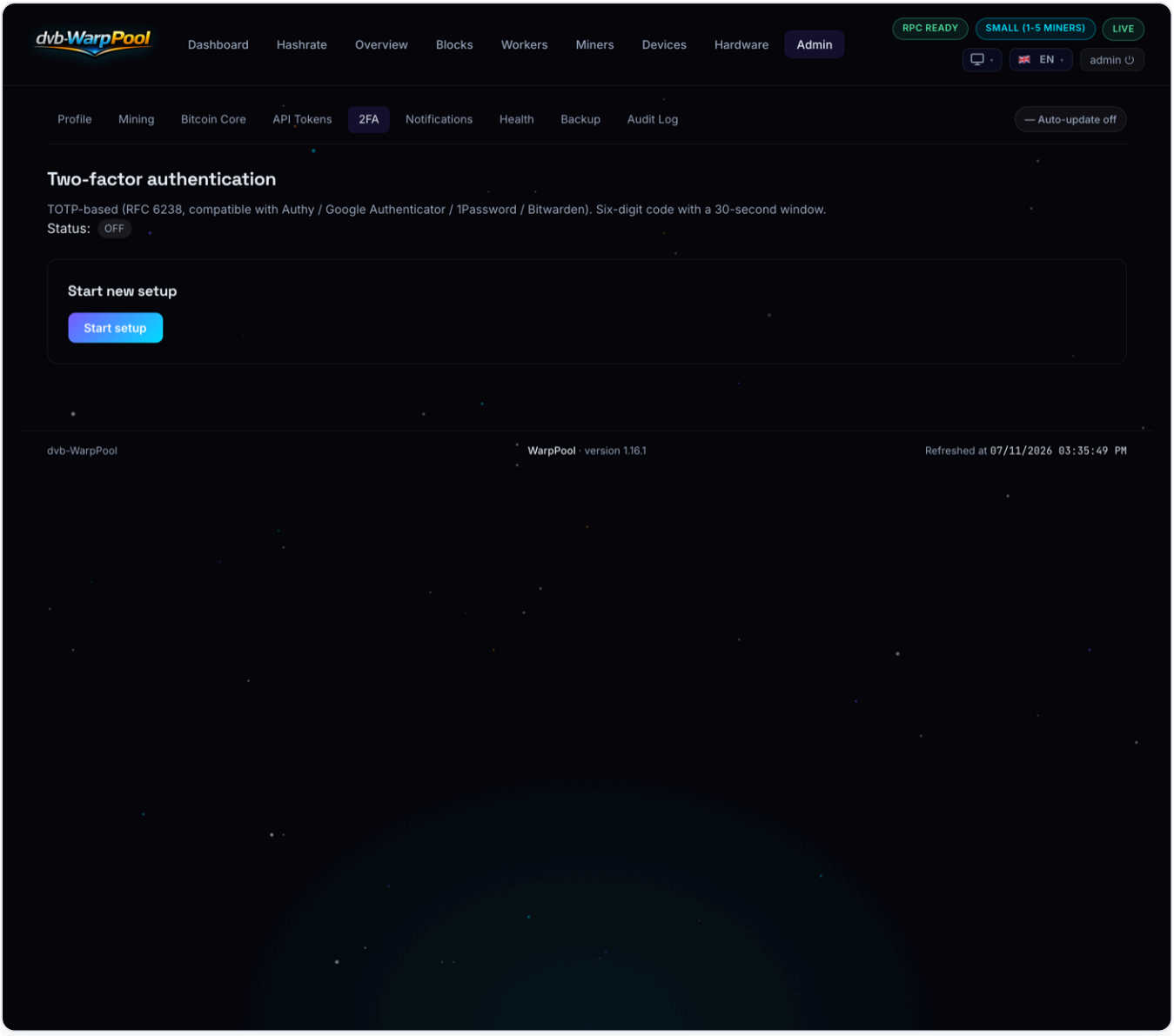
Admin → API Tokens: create bearer tokens for scripts and the CLI. The plaintext token is shown only once.

2FA (Admin → 2FA)

Two-factor authentication for the admin login, using any TOTP app (Authy, Google Authenticator, 1Password, Bitwarden). To turn it on: click **Start setup**, scan the QR code (or use the manual Base32 secret), enter the code from your app and click **Enable 2FA**. From then on the login asks for a 6-digit code. To turn it off you must enter a **valid current code**.

Recovery codes. Enabling 2FA shows **10 one-time recovery codes** — save them (copy or download). If you lose your authenticator, enter one in place of the 6-digit code at login; each works once. The 2FA page shows how many remain and can regenerate a fresh set (invalidating the old ones) with your current app code.

> **Save your recovery codes.** They are shown only once. If you lose both your authenticator and your recovery codes, 2FA can only be cleared by deleting the `admin_2fa` row from the pool database.



Admin → 2FA: turn on a TOTP second factor for the admin login. Here it is still off.

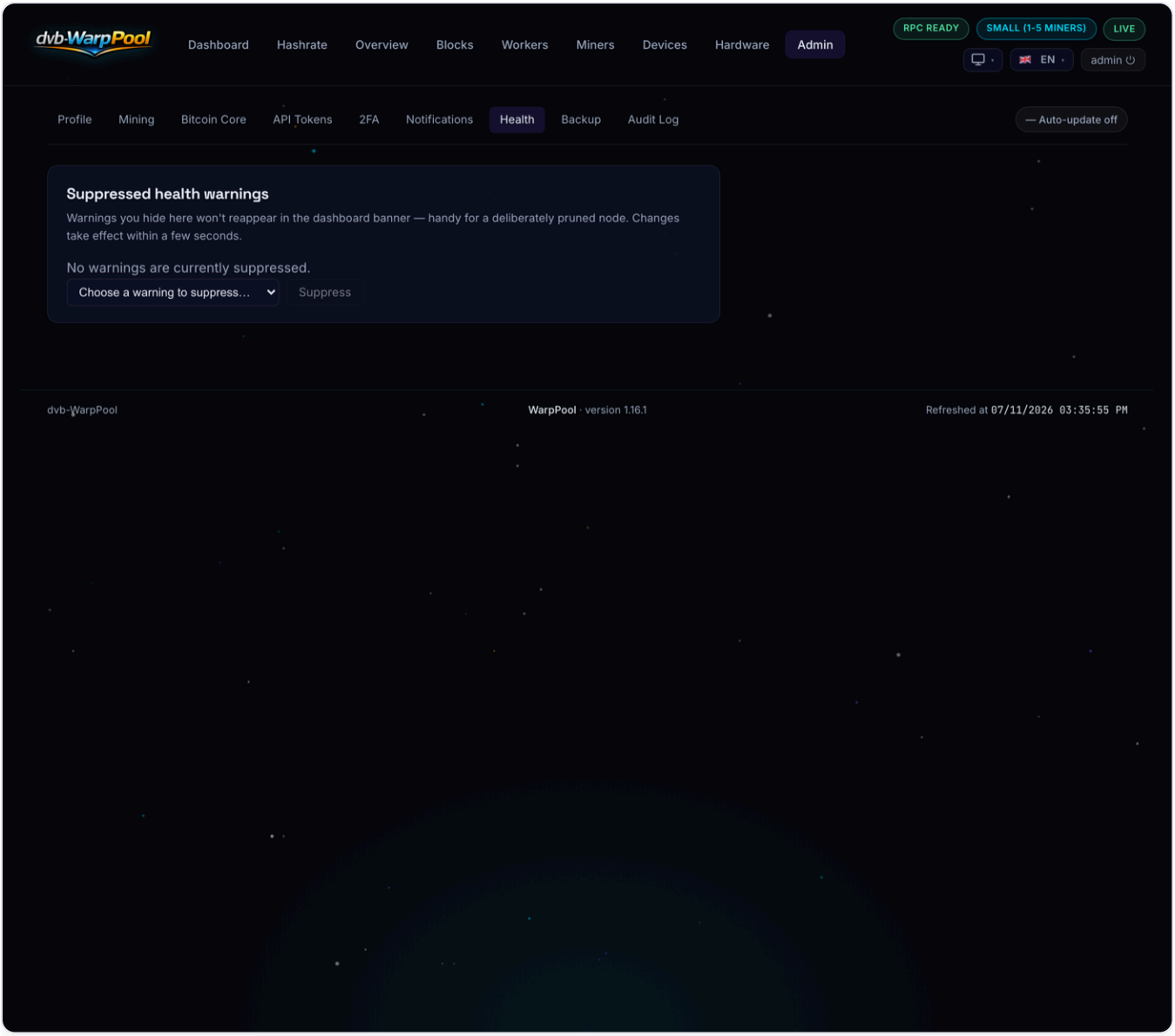
Notifications (Admin → Notifications)

Alerts for found blocks and health issues, through several channels. Because it's a whole topic of its own — and includes channels that work even when the app is closed — it has its own chapter 10.

Health (Admin → Health)

"Suppressed health warnings." Any warning you hide here won't reappear in the dashboard's health banner — useful for a deliberately pruned node. Pick a warning from the dropdown and click **Suppress**; click **Show again** to restore it.

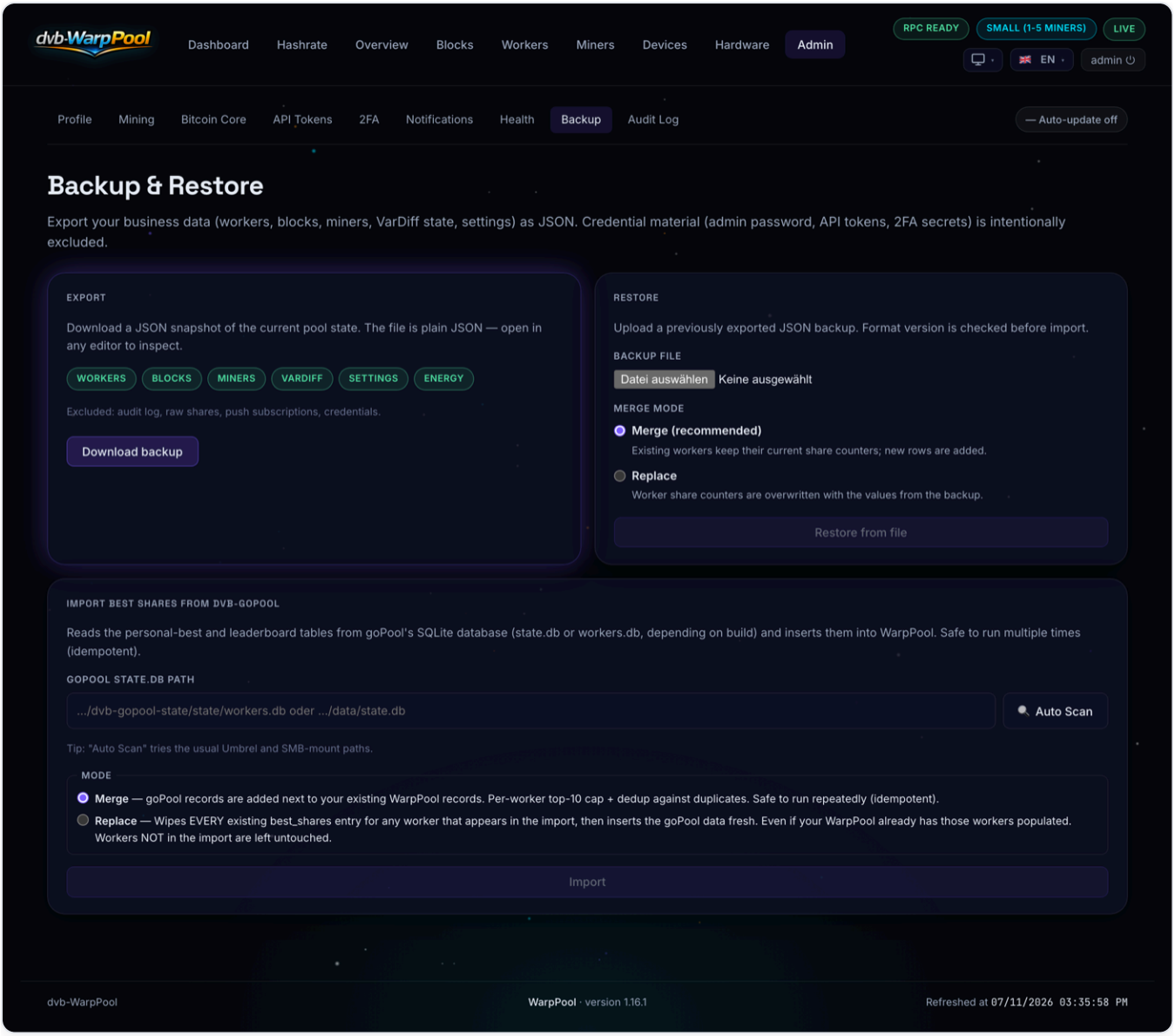
> **One warning is special.** The new IPC "template stale" warning (`ipc_template_stale`) is *not* in this dropdown. You hide it from the dashboard banner itself with "Hide permanently", after which it appears here so you can "Show again".



Admin → Health: warnings you suppress here stop appearing in the dashboard banner.

Backup (Admin → Backup)

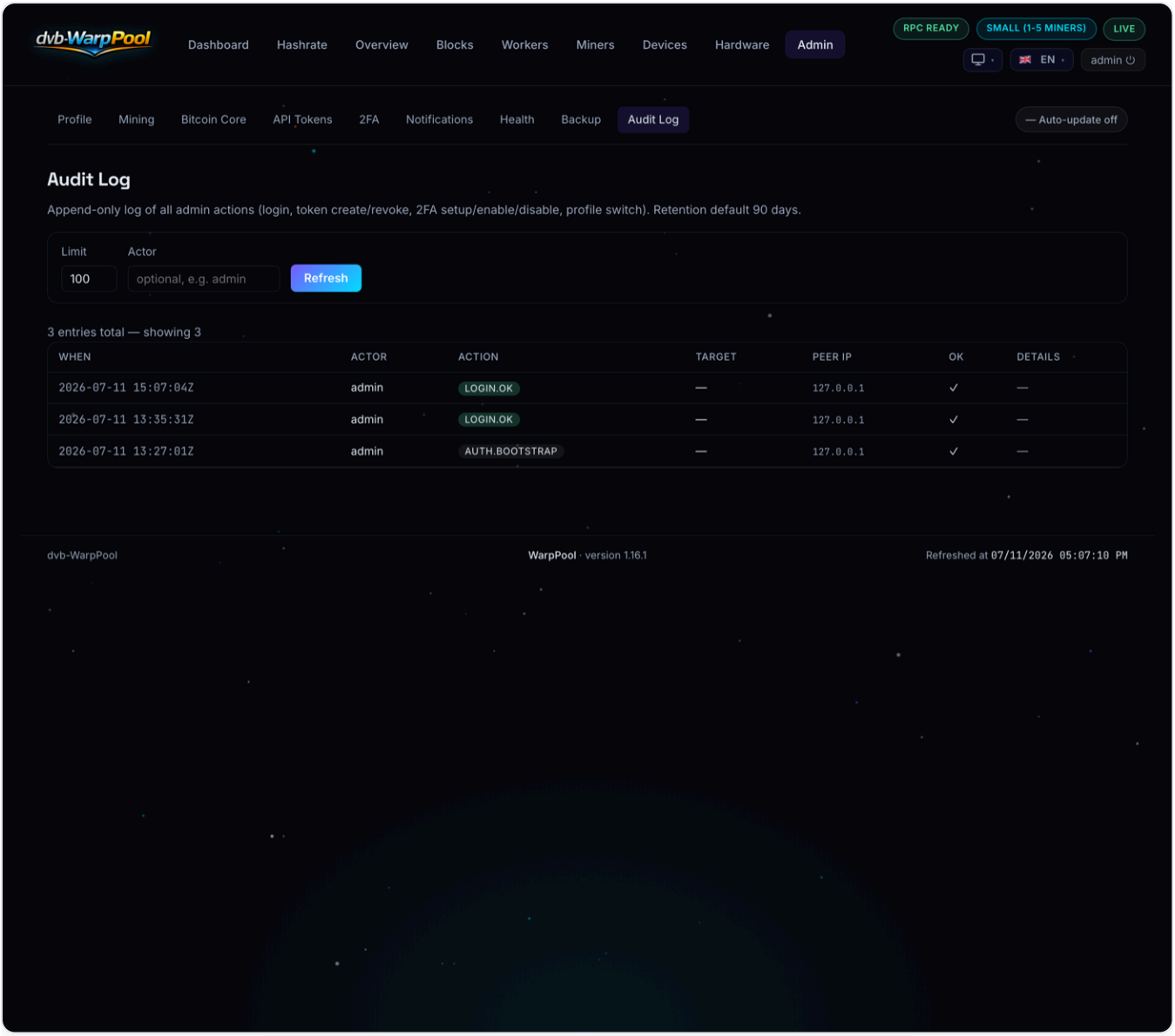
"Backup & Restore." **Download backup** saves a JSON snapshot containing workers, blocks, miners, VarDiff, settings and energy — but **never** credentials, raw shares or the audit log. To restore, pick a file and a mode: **Merge (recommended)** keeps existing workers and adds new ones; **Replace** overwrites share counters. There's also a dedicated **"Import best shares from dvb-goPool"** tool with the same merge/replace choice.



Admin → Backup: export a JSON snapshot (never credentials), restore with Merge or Replace, or import best shares from dvb-goPool.

Audit Log (Admin → Audit Log)

An append-only record of admin actions (login, token create/revoke, 2FA changes, profile switches), kept for 90 days by default. You can filter by **Limit** and **Actor**. It is read-only; empty it says "No audit entries yet."



Admin → Audit Log: each admin action (here LOGIN.OK and AUTH.BOOTSTRAP) is recorded append-only.

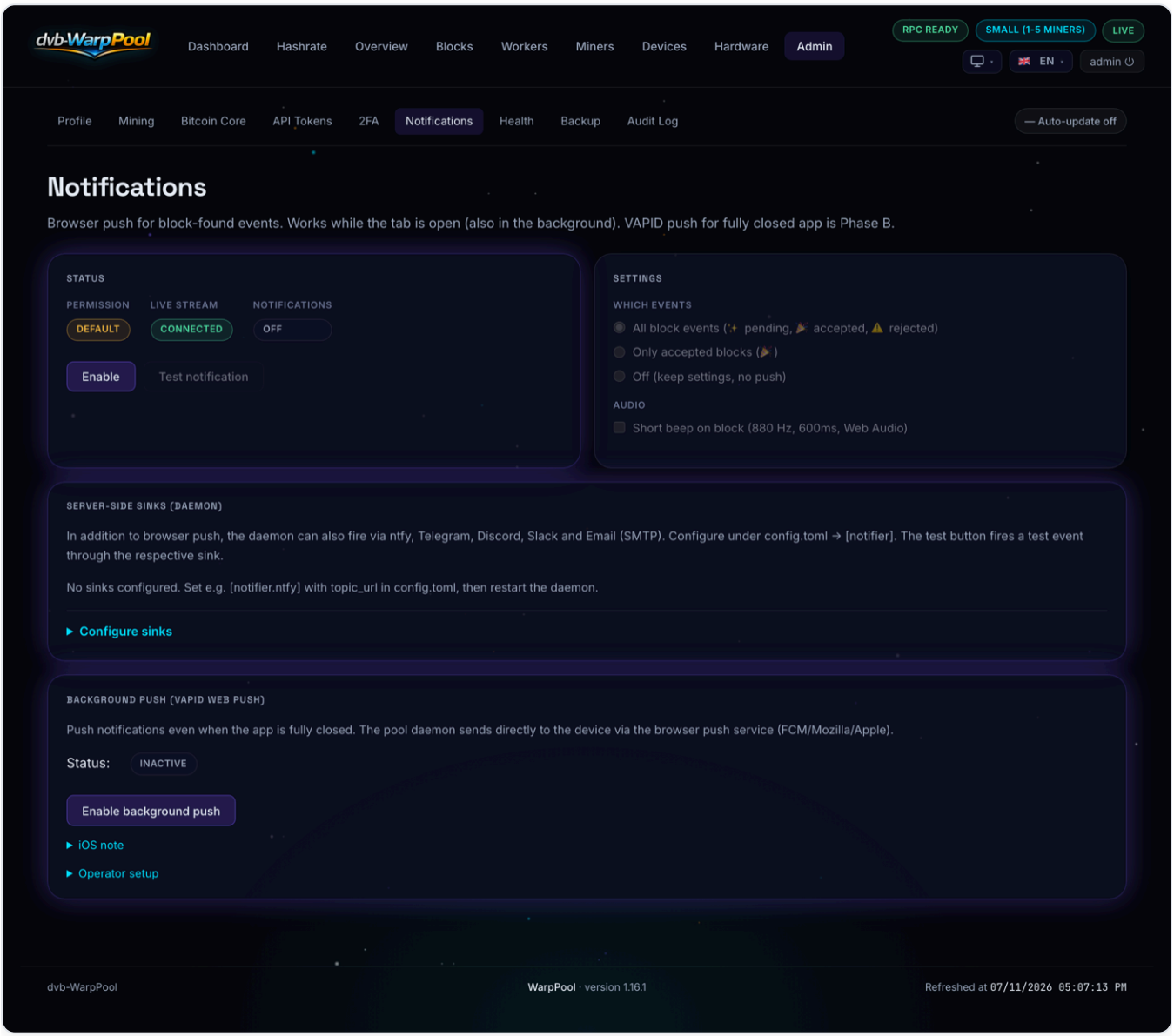
Update (Admin → Update)

Shows your installed version next to the latest, with a **Check again** button and an optional changelog. On **macOS** there is a one-click **"Install now"** that downloads the DMG, verifies its SHA-256, swaps the app and relaunches it. On **Linux/Windows** it points you to the releases page instead ("1-click install is only wired up on macOS hosts"). The actual update procedures per install type are in chapter 13.

10 · Setting up notifications

dvb-WarpPool can tell you the moment a block is found (or a health issue arises). The **Admin → Notifications** page organises this into four cards.

> **Two kinds of notification — this is the key distinction. Browser notifications** (the first two cards) only work while a browser tab is open on the pool, and they're blocked when you reach the pool over a plain `http://` LAN address. **Server-side sinks and background push** (the last two cards) are sent by the pool itself and arrive **even when the app is completely closed** — these are what you want for real alerting.



Admin → Notifications: its four cards are Status, Settings, Server-Side Sinks and Background Push.

Card 1 — Status (browser notifications)

Shows whether the browser has granted permission, whether the live stream is connected, and whether notifications are on. Buttons: **Enable** (ask the browser for permission), **Disable** (turn off), and **Test notification** (locked until permission is granted). Over a plain-HTTP LAN address a warning explains that browser push is blocked — use the server sinks instead.

Card 2 — Settings (what to notify)

Locked until you enable notifications. Choose which events fire — all block events (pending, accepted, rejected), only accepted blocks, or off — and whether to play a short beep (880 Hz) when a block lands.

Card 3 — Server-Side Sinks (Daemon) — the reliable ones

These are sent by the pool daemon, so they work with the app closed: **ntfy**, **Telegram**, **Discord**, **Slack** and **Email (SMTP)**. Open **Configure sinks** and fill in the channel you want:

Channel	What you provide
ntfy	A topic URL (e.g. `https://ntfy.sh/your-topic`) — the simplest option; install the ntfy app on your phone and subscribe to the same topic.
Telegram	A chat ID and a bot token (create a bot with @BotFather).
Discord / Slack	A webhook URL from your server/workspace.
Email (SMTP)	An SMTP URL and password, plus sender and recipient addresses.

Save with **Save sink configuration**. Use the per-sink **Test** buttons (or "test all") to confirm delivery. **Saving sinks needs a daemon restart to take effect.**

Card 4 — Background Push (VAPID Web Push)

Web-push notifications that arrive even with the app fully closed. Buttons **Enable background push** / **Disable**. This requires the operator to have configured VAPID keys (via the CLI), and on iOS you must add the pool to your home screen as a PWA first (iOS 16.4+). An expandable note explains both.

> **Simplest reliable setup:** use **ntfy**. Pick a hard- to-guess topic, enter its URL as an ntfy sink, save, restart the daemon, and subscribe to the same topic in the free ntfy phone app. You'll get a push the instant a block is found — no open browser required.

11 · TLS and Stratum V2

Two optional, more advanced ways for miners to connect. Neither is required — plain Stratum on port `3333` is perfectly fine for a home LAN.

TLS (encrypted Stratum V1, port 3334)

TLS encrypts the connection between miner and pool. When it's enabled, the Connect panel shows a **Stratum (TLS)** line (`stratum+ssl://…`) and a **"⬇ Download certificate (PEM)"** button, and TLS-connected miners get a 🔒 icon on the Miners tab.

> **The certificate is self-signed.** That means:
>
> - Firmware with a **"TLS Custom CA"** option works — upload the downloaded PEM file *and* use the exact hostname shown (not the raw IP address).
> - Firmware that only trusts a fixed, bundled set of CAs (for example **BitForge Nano v1.5**) can *never* validate a self-signed cert — use the plain port `3333` for those.

Stratum V2 (NOISE, port 34254)

Stratum V2 is a modern protocol with built-in encryption (the "NOISE" handshake). When enabled, the Connect panel shows a **Stratum V2 (NOISE)** line (`<host>:34254`) and, if configured, the **Sv2 authority public key** in Base58 — some firmware asks for this to authenticate the pool. Sv2-connected miners show a ⚡ icon on the Miners tab. Use this only if your firmware explicitly supports Stratum V2; otherwise stay on plain V1.

> **Not sure which to pick?** Start on plain `3333` . Move to TLS only if you route mining traffic across an untrusted network, and to Sv2 only if your firmware advertises it.

12 · Kiosk / screensaver mode

dvb-WarpPool has a built-in full-screen display mode — perfect for a wall monitor or a spare tablet showing your pool at a glance.

Open the **Display** menu (the monitor icon in the header). It offers:

- **Screensaver** — on/off (off by default). "Fullscreen display when idle."
- **Starts after** — 5, 10, 15 or 30 minutes of no interaction.
- **Show statistics** — on by default.

After the idle time, the screen goes full-screen with a looping video background, a "Live" badge, uptime, and a stat bar (best share, hashrate, miners, blocks and version). **Any key press or tap exits** and returns you to the normal interface.

Kiosk / screensaver mode: a full-screen live display with a statistics bar, ideal for a wall monitor.

It's a per-device setting. Like language and your card layout, the screensaver is stored in *this* browser only — set it up on each device you want to use as a display. You can preview it immediately by adding `?screensaver=1` to the URL. If the device has "reduce motion" enabled, a static poster image is shown instead of the video.

13 · Updating the app

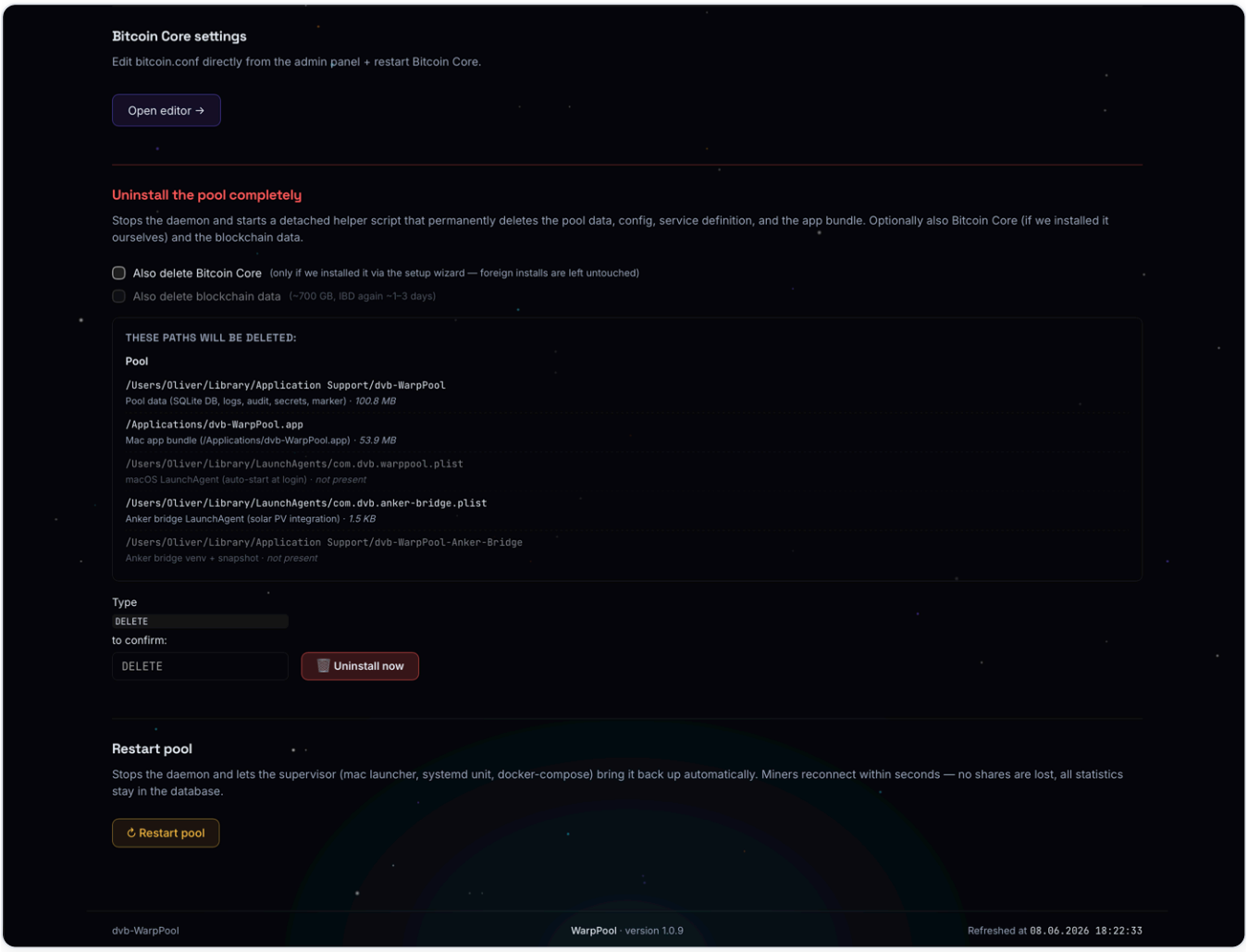
How you update depends on how you installed:

- **Docker** — pull the new image and recreate the container:
  `docker pull git.warppool.org/dvb-projekt/dvb-warppool:latest`
  `docker stop warppool && docker rm warppool` then run it again with the same `-v ~/.warppool:/data`
- **Native package** — install the new `.deb` / `.rpm` over the old one and restart the service.
- **macOS app** — use the one-click updater on **Admin** → **Update**: it downloads the signed DMG, verifies its SHA-256, replaces the app and relaunches it. Afterwards do a hard reload (`⌘⇧R`).
- **A specific version or a rollback** — from the CLI: `dvb-warppool-cli download-update --tag v1.12.1`.

In every case your **configuration, database and statistics are preserved** (they live in the data volume/directory), and miners reconnect automatically after the short restart. A brief flurry of reconnect messages right afterwards is normal.

14 · Uninstalling

You can remove dvb-WarpPool from the app's own **Admin → Profile → Uninstall** section, or from the host (`docker rm -f warppool` for Docker, or `sudo apt remove dvb-warppool` for a native install).



Uninstalling shows exactly which paths will be removed and asks you to type DELETE.

The in-app uninstaller is deliberate and explicit. It offers two extra checkboxes — **"Also delete Bitcoin Core"** (only if the wizard installed it) and **"Also delete blockchain data"** (~700 GB, only after the first is ticked) — and previews the exact paths that will be removed. To confirm, you must type the word `DELETE` exactly into the field, then click "🗑 **Uninstall now**".

> **Uninstalling deletes the pool's data** (statistics, configuration, database). Your Bitcoin address and any coins already received by the network are of course unaffected — they live in your wallet, not in the pool. If you want to keep your statistics, take a backup first (chapter 9).

15 · Troubleshooting & FAQ

My miner won't connect

- Double-check the host address (your pool host's IP or hostname) and port `3333`.
- Make sure the worker/user field is your **Bitcoin address**, not a username.
- Confirm your miner and your pool host are on the same network.
- If your firmware is set to Stratum V2, either switch it to V1 on port `3333` or use the Sv2 port `34254`. If it's set to TLS but can't validate a self-signed certificate, use plain `3333` (chapter 11).

The pool shows no hashrate

- Give a new miner a minute or two to submit its first share.
- Very small miners submit rarely — the number will rise and fall.
- Check the miner's own screen: is it actually hashing and accepted?

"Bitcoin node not ready" or sync warnings

- Make sure Bitcoin Core is running and fully synced to 100 %.
- Check that `server=1`, the ZMQ lines and the RPC credentials are set (see chapter 2), then restart Bitcoin Core.
- The pool builds templates only once the node is synced and reachable.

I switched to IPC and templates went stale

- IPC needs a multiprocess **Bitcoin Core ≥ 31**. If the "Test socket" button reports an old schema, update Bitcoin Core, or switch back to **GBT + ZMQ** on Admin → Bitcoin Core.
- Remember the change only takes effect after **"Restart daemon now"**.

Two menu items open a page titled "Miners"

That's expected — see the box at the start of chapter 7. **Miners** (the menu) is your read-only login list; **Devices** (the menu) is the interactive device manager. Both pages happen to carry the heading "Miners".

A tab is missing when I'm logged out

The Miners tab, Hardware tab and Energy card can be hidden from anonymous visitors. Log in, or turn their visibility toggles back on under Admin → Profile.

The "Live" indicator flickers

The small Live/Offline pill reflects the browser's live connection to the app. A brief flicker is cosmetic and does not affect mining — your miners stay connected and your shares keep counting.

When will I find a block?

Solo mining is probabilistic. Expected time to a block scales with the whole network's hashrate versus yours, so for small setups it can be very long — but every share has a real, non-zero chance, and the full reward is yours when it lands.

Are my rewards safe?

Yes. The pool never holds coins. A found block pays the reward directly to the address you configured, via the Bitcoin network. The pool only builds the work and broadcasts the solved block.

16 · Support & links

Documentation	docs.warppool.org
Source & issues	git.warppool.org/dvb-projekt/dvb-WarpPool
Feature comparison	docs.warppool.org/comparison.html
Downloads	git.warppool.org/dvb-projekt/dvb-WarpPool/releases · Docker: `git.warppool.org/dvb-projekt/dvb-warppool`
Contact	dvbprojekt@gmx.de

dvb-WarpPool is free and open-source software (AGPL-3.0-or-later, with a commercial licence available). This manual describes Version 1.24.0. Screens may differ slightly between releases. Mining is inherently probabilistic; nothing here is a promise of reward. Always keep control of your own Bitcoin keys.

Happy mining — and may your best share be a block.