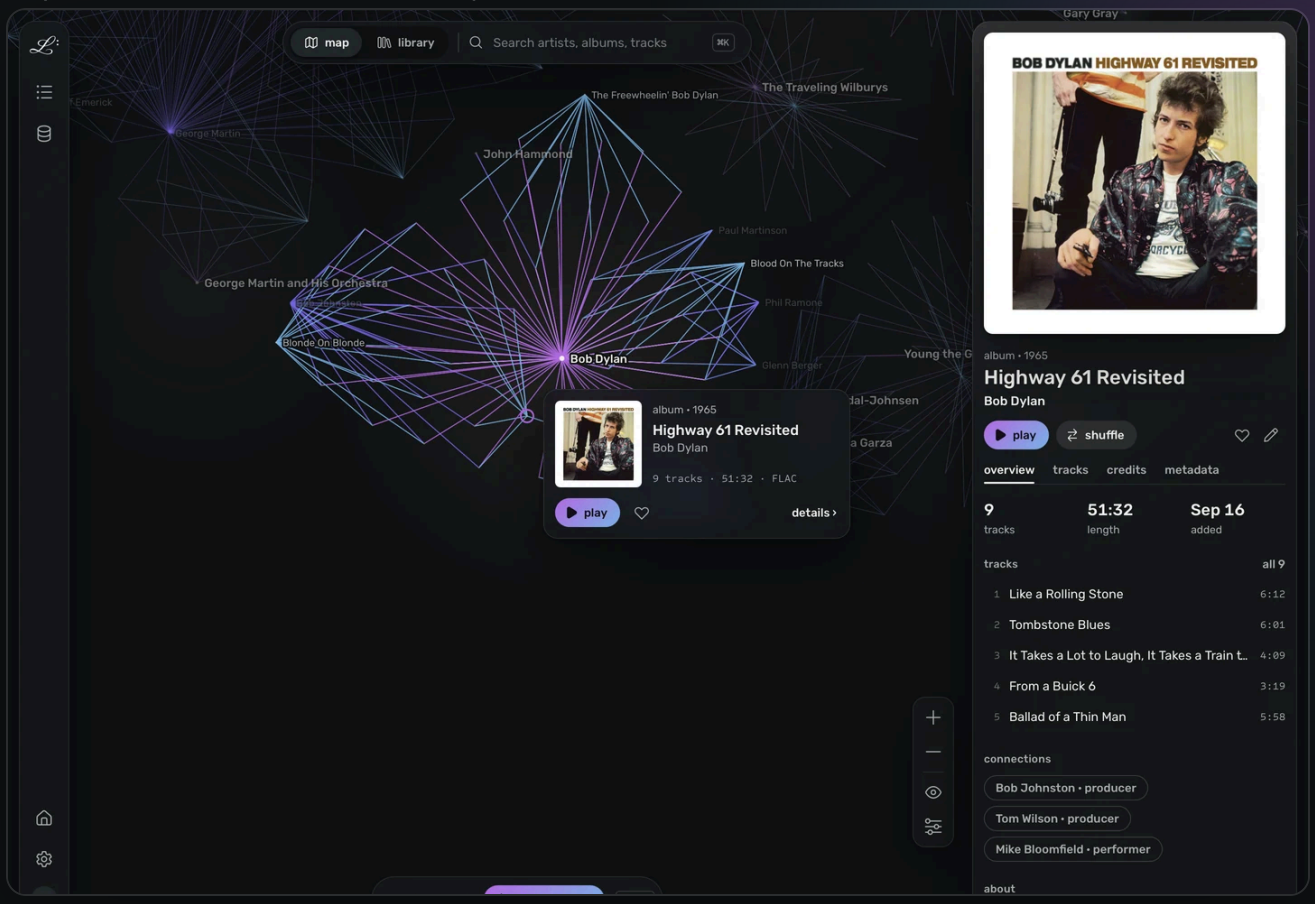
legato

HOME SERVER BETA · VERSION 0.4.0

Beta tester guide
Install it, use it, tell us.

Thank you for testing Legato. This guide sets up Legato on your Synology and your computer, walks you through what to try, and explains how to send us what you find.



FEEDBACK HELLO@LEGATO.FM

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What you're testing

Legato is a music player for the library you already own. It lays your music out as a map: every artist, album, track, producer and label gets its own page, linked to everything else you have. The **home server** is the part that runs on your NAS. It reads your music, works out how it all connects, and streams it to any browser and to your phone.

This beta is the first time people outside the project will install it, and from version 0.4.0 it includes the **desktop app** for Mac, Windows and Linux too. What we learn from you decides what gets fixed before a wider release, so a short note saying "this step confused me" is every bit as useful as a bug report.

PART 1 · ABOUT 20 MINUTES

Install

Set up Legato on your Synology with Container Manager, all from DSM's web interface. The desktop app and other setups start on page 8.

PART 2 · AT YOUR OWN PACE

Test

Use it the way you normally listen, on your computer and your phone, and work through the checklist.

PART 3 · WHENEVER

Tell us

Email hello@legato.fm with what worked, what didn't, and what surprised you.

What you'll need

A Synology NAS	On DSM 7.2 or later, with a processor Container Manager supports (step 1 checks this). Legato also runs on any Linux machine or a Mac; see page 10.
Your music on it	In a shared folder. FLAC, ALAC, MP3, AAC and other common formats all work. Legato only ever reads it.
A browser	On a computer on the same network as the NAS. That's where you'll do the setup.
A phone	Android (a Pixel is ideal) or iPhone, for the phone tests. The phone app is Legato's web app, so there's nothing to download from an app store.
About 20 minutes	Plus the first scan, which runs on its own. A large library can take an hour or more.

What Legato does with your music and data

- **Your music is mounted read-only.** Legato can't change, move or delete a file with the NAS setup in this guide.
- **Everything stays on your own hardware:** your library, its metadata, your playlists and your play history.
- **To fill in details, your server looks things up itself** in MusicBrainz, the Cover Art Archive, LRCLIB (lyrics), Deezer (artist photos) and Wikipedia. Once a day it also checks GitHub for a new Legato release, as the desktop app does. Nothing about your library is sent to us. The full list is at legato.fm/privacy.

Set up Legato on your Synology

Legato runs in **Container Manager**, DSM's Docker app, as a project. Every step happens in DSM's web interface. One step offers SSH as a shortcut, but you never need it.

In the steps below, **Control Panel → Shared Folder** means: open Control Panel, then choose Shared Folder. Names in `this style` are things you type or paste exactly as written.

1 Check your NAS can run Container Manager

Open **Package Center** and search for **Container Manager**. If it shows up with an **Install** or **Open** button, your NAS can run Legato.

If it doesn't appear, your NAS can't run containers. That's most "j" models and every 32-bit model. Email us: Legato can run on another machine, such as a Raspberry Pi, and read your music from the NAS over the network.

> 1 GB OF MEMORY?
>
> On a DS223j or another model with 1 GB of RAM, Legato runs, but the first scan is slow. Step 6 has a line to add for these.

2 Install Container Manager

Package Center → Container Manager → Install. This also creates a shared folder called `docker`, where Legato's settings and database will live.

3 Make a user for Legato, and find its two id numbers

Legato runs as an ordinary user, never as an administrator. Create one just for it: **Control Panel → User & Group → Create**, named `legato`, with no application permissions and no access to any shared folder yet (step 4 gives it your music).

Legato needs that user's two id numbers, which DSM doesn't show in its user list. The easiest way to see them is a one-off task:

1. **Control Panel → Task Scheduler → Create → Scheduled Task → User-defined script**.
2. **General** tab: name it `show legato ids`, set **User** to `root`, and untick **Enabled** so it never runs on its own.
3. **Task Settings** tab, under **Run command**: `id legato`
4. **OK**. Select the task, choose **Run**, then **Action → View Result**.

The result looks like this. Write down the two numbers, then delete the task:

```
uid=1027(legato) gid=100(users) groups=100(users)
```

Here **PUID** is **1027** and **PGID** is **100**. PGID is almost always 100 on a Synology. If you use SSH, `id legato` gives the same answer.

4 Let that user read your music

Control Panel → Shared Folder, select the folder with your music, then **Edit → Permissions**. Under **Local users**, tick **Read only** for `legato`, and save.

While you're there, note the folder's **path**. A shared folder called `music` on Volume 1 is `/volume1/music`. If your library is in a subfolder, use its full path, for example `/volume1/music/Library`.

5 Let Legato notice new music straight away

Legato watches your music folders, so albums you add show up within moments. DSM's default limit on watched folders is too low for a big library. Without this step, Legato checks for new music every 30 minutes instead, so it's worth doing but not essential.

1. **Control Panel → Task Scheduler → Create → Triggered Task → User-defined script**.
2. **General** tab: name it `raise inotify watch limit`, **User** `root`, **Event Boot-up**, **Enabled** ticked.
3. **Task Settings** tab, under **Run command**:

```
sysctl -w fs.inotify.max_user_watches=524288
```

Then **OK**, select the task and choose **Run**, so it takes effect now as well as after every restart.

6 Create the Legato project

1. **File Station**: open the `docker` folder and create a folder inside it called `legato`.
2. **Container Manager → Project → Create. Project name:** `legato`. **Path:** the `docker/legato` folder you just made. **Source: Create docker-compose.yml**.
3. Paste this into the editor, and change the three marked values to yours:

```
services:
  legato:
    image: ghcr.io/danielbchurchill/legato-server:latest
    container_name: legato
    restart: unless-stopped
    environment:
      PUID: "1027"   # ← your PUID from step 3
      PGID: "100"    # ← your PGID from step 3
    ports:
      - "8899:8899"
    volumes:
      # Legato's database and caches, in docker/legato/data
      - ./data:/data
      # Your music, read-only. ← your folder's path from step 4
      - /volume1/music:/music:ro
```

4. **Next**. If it offers **Web portal settings** (Web Station), leave it unticked: Legato serves its own page. **Next** again, tick **Start the project once it is created**, then **Done**.

Container Manager downloads Legato (a couple of hundred MB) and starts it. The project turns green when it's running.

TWO OPTIONAL CHANGES

- **Port 8899 already used by something else?** Change only the left number, for example `"8900:8899"`, and use 8900 wherever this guide says 8899.
- **1 GB of memory?** Add `LEGATO_MEDIA_CONCURRENCY: "1"` under `environment:`, lined up with `PUID`.

7 Check that it started

Container Manager → **Container** → **legato** → **Details** → **Log**. Among the lines, you should see these (shortened here):

```
"msg":"legato-server 0.4.0 (43e43e9)"
"msg":"database: /data/legato.db (0 files)"
"msg":"No owner account yet — setup code K7QM-4XRD, valid for 10 minutes …"
"msg":"legato-server listening at http://127.0.0.1:8899"
```

"0 files" is right before you add your library, and `127.0.0.1` is the container's own view of itself.

IF IT STOPPED INSTEAD

- `PUID and PGID must be numeric ids` or `refusing to run the server as root`: the two numbers in step 6 are wrong. **Project** → **legato** → **Action** → **Stop**, fix them in the YAML, then **Action** → **Build**.
- `Permission denied` on `/data`: give the `legato` user Read/Write on the `docker` shared folder, then **Container** → **legato** → **Action** → **Restart**.

8 Create your account

On a computer on the same network, open `http://<your NAS's address>:8899/setup`, for example `http://192.168.1.20:8899/setup`. It's the same address you use for DSM, with `:8899/setup` in place of DSM's port.

The page shows a **setup code** with a countdown, and a form. Enter a name and a password (twice), and choose **create owner**. This password stays on your NAS, works without an internet connection, and is how you'll sign in from every browser and phone.

- The code renews itself every ten minutes. There's never a need to restart anything.
- The code only appears when you open the page on your own network, by IP address or the NAS's name. Through QuickConnect or a reverse proxy, the page asks you to type it: copy it from the log in step 7.
- The page also shows a QR code for linking the server to a legato.fm account. You don't need it for this beta.

9 Add your music

Once you're signed in, Legato opens on **Add your music**, with `/music` listed under **found on the server** and a rough count of its tracks. Choose it: inside the container, your music always appears there, whatever the shared folder is called on your NAS. (If it isn't listed, choose **Choose a folder**, then `/music`.) The first scan starts on its own.

You can start browsing and playing right away. Albums appear as the scan reaches them, and cover art, lyrics, credits and artist photos fill in over the next while. **Settings** → **Library health** shows how far it's got.

Keeping Legato up to date

When a new version is out, Legato shows a notice. To update: **Container Manager** → **Image**, find `legato-server`, and choose **Update**. Your library, account and settings carry over, and Legato saves a copy of its database before upgrading it. The first line of the container's log shows the new version.

Backing up

Only Legato's database matters; it rebuilds everything else by itself. Stop the project, copy `docker/legato/data/legato.db` along with any `legato.db-wal` and `legato.db-shm` files beside it, then start it again. Hyper Backup can select the same files. Legato also keeps its own copies in `docker/legato/data/backups` before each upgrade.

PART 1 · CONTINUED

Legato on your phone

There's no app store download. Legato's phone app is its web app: on Android you open it in Chrome, and on an iPhone in Safari. It works in the browser straight away. Installing it as an app, with its own icon and window, needs one more step.

In the browser, at home

On your home Wi-Fi, open `http://<your NAS's address>:8899` in Chrome on Android, or in Safari on an iPhone, and sign in with the password from step 8. Browsing and playback all work, and so do the media controls on the lock screen.

Installing it as an app

Phones only install a web app from a secure (`https`) address. The quickest way to give your NAS one is **Tailscale**. It's free for personal use, and it also lets you listen away from home without opening any ports on your router.

1. Install **Tailscale** on the NAS from Package Center, and on your phone from Google Play or the App Store. Sign in to the same Tailscale account on both, and turn it on.
2. In the Tailscale admin console, open **DNS**, and turn on **MagicDNS** and **HTTPS Certificates**.
3. Sign in to the NAS over SSH (**Control Panel** → **Terminal & SNMP** → **Enable SSH service**) and run:

   ```
   sudo tailscale serve --bg 8899
   ```

   It prints your NAS's secure address, `https://<nas>.<tailnet>.ts.net`, and keeps serving it after a restart.
4. Open that address on your phone and sign in. The first visit can take a few seconds.

Android (Pixel and others)

1. In Chrome, play any track.
2. A few seconds after it starts, Legato offers **install legato**. Press **install**, then **Install** in Chrome's dialog.
3. If you dismissed the offer, use Chrome's ⋮ → **Add to home screen** → **Install**.
4. Open Legato from its icon. It opens in its own window, without Chrome's address bar.

iPhone

1. In Safari, tap **Share** → **Add to Home Screen**.
2. Open Legato from its icon. It opens in its own window, without Safari's address bar.

> ON MOBILE DATA
>
> Over Tailscale, Legato treats your phone as being at home and sends your original files, even on mobile data. CD-quality FLAC uses about 400 MB an hour. To use less, choose **Settings** → **Stream quality** → **standard • 160 kbps**, about 70 MB an hour, and set it back to **auto** when you're home. The setting is per phone.

Rather not use Tailscale? Any reverse proxy with a certificate your phone trusts works; docs/install/https.md covers it, including trusting your own certificate on Android. If neither suits you, test in the browser at home: that's still very useful.

PART 1 · ON YOUR COMPUTER

The desktop app

Legato's desktop app runs on a Mac, on Windows and on Linux. It carries its own Legato server, so there's nothing else to install. It plays the music folders on that computer, and serves them to your phone while it's open, or from the menu bar or tray once you close its window.

Which download

Every release has the app on its page, github.com/danielbchurchill/legato/releases/latest. The steps below are shortened from docs/install/desktop.md, which has the rest. Choose the file for your computer:

Mac with Apple silicon (M1 and later)	`legato_0.4.0_aarch64.dmg`
Mac with an Intel processor	`legato_0.4.0_x64.dmg`
Windows, 64-bit	`legato_0.4.0_x64-setup.exe`
Linux, x86-64	`legato_0.4.0_amd64.AppImage`, or `legato_0.4.0_amd64.deb`
Linux, 64-bit ARM	`legato_0.4.0_aarch64.AppImage`, or `legato_0.4.0_arm64.deb`

Not sure which Mac you have? **Apple menu** → **About This Mac** lists a **Chip** on Apple silicon, and a **Processor** on Intel. The Linux builds need Ubuntu 24.04, Debian 13, Fedora 40 or newer.

The first time you open it

The app isn't signed with Apple's or Microsoft's certificates yet, so macOS and Windows warn you the first time. It's one extra step per computer: updates come through the app itself, so you only do it once.

Mac

1. Open the `.dmg`, drag **legato** into **Applications**, and open it from there. macOS says "legato" wasn't opened. Click **Done**, not **Move to Trash**.
2. **System Settings** → **Privacy & Security**, and scroll down to **Security**, where "legato" was blocked. Click **Open Anyway**, then **Open Anyway** again with your password or Touch ID.
3. When Legato first looks for servers on your network, macOS asks whether it may find devices on your local network. Click **Allow**.

Open Anyway stays for about an hour. If it's gone, open Legato again, click **Done**, and go straight back.

Windows

1. If your browser says the installer isn't commonly downloaded, choose **Keep**.
2. Run `legato_0.4.0_x64-setup.exe`. SmartScreen says "Windows protected your PC". Click **More info**, then **Run anyway**. It installs for your account, with no administrator needed.
3. If Windows Firewall asks whether `legato-server` may use private networks, allow it, so your phone can play from this computer.

Linux

There's no warning to get past. Run the **AppImage**, or install the **.deb**, which adds Legato to your applications menu:

```
chmod +x legato_0.4.0_amd64.AppImage && ./legato_0.4.0_amd64.AppImage  # the AppImage
sudo apt install ./legato_0.4.0_amd64.deb                              # or the .deb
```

The AppImage needs FUSE 2: on Ubuntu 24.04, `sudo apt install libfuse2t64`. The tray icon needs `libayatana-appindicator3-1`, and on stock GNOME the AppIndicator extension.

Once it's open

The first time, it asks for a name and a password for its own server, with no setup code, then opens on **Add your music** with any music folders it found on the computer. Your phone plays from it as it does from a NAS (page 7): open `http://<your computer's address>:8899` and sign in with that password.

Closing the window leaves Legato serving from the menu bar on a Mac, or the tray elsewhere. Its menu has **Open Legato**, **Pause serving** and **Quit Legato**.

Updates

The app checks for a new version when it starts and once a day, and downloads it in the background. A note under the search bar then says so, for example "Legato 0.4.1 is available — restart to update". Nothing restarts until you click it, because restarting stops anything your phone is playing from it. The Mac app, the Windows installer and the AppImage update themselves. With the `.deb`, the note links to the release: install the new `.deb` the same way. The check sends GitHub your IP address and nothing about your library, and there's no setting to turn it off yet.

Not on a Synology?

Legato's server runs on Linux (x64 and ARM, including a Raspberry Pi 4 or 5 with a 64-bit OS), on a Mac, and in Docker anywhere. After installing, carry on from step 8 above: open `http://<machine>:8899/setup` and create your account. Or, on a computer you use every day, try the desktop app (page 8), which carries its own server.

Linux, with the install script

Installs Legato as a service for your user and starts it at boot. Point `--library` at your music. It prints the setup address and code when it's done.

```
curl -fsSL https://legato.fm/install.sh | sh -s -- --library=/path/to/music
```

To update later: `legato update`

Docker, on any machine

Download docker-compose.yml, then in the same folder:

```
LEGATO_MUSIC_DIR=/path/to/music docker compose up -d
docker compose logs | grep "setup code"
```

To update later: `docker compose pull && docker compose up -d`. The full guide is docs/install/docker.md.

Mac, with Homebrew

```
brew tap danielbchurchill/legato
brew trust danielbchurchill/legato
brew install legato
brew services start legato
```

If Homebrew says `trust` is an unknown command, your Homebrew is older and doesn't need that line. To update later: `brew upgrade legato`.

> UNRAID
>
> There's a template in packaging/unraid. Tell us how it goes: it hasn't had a tester yet.

What to try

Above all, use Legato the way you'd normally listen, and tell us where it gets in your way. The checklist covers what we most need to know. Skip anything that doesn't apply to you, and don't worry about doing it all at once.

Installing and the first scan

- [ ] Every install step matched what DSM showed you.
  Tell us the step and what you saw instead if one didn't, with your NAS model and DSM version (**Control Panel** → **Info Center**). This guide's Synology steps are new, and you're the first to follow them on real hardware.
- [ ] The first scan finished, and the album and track counts look right.
  Settings → **Library health**. Roughly how long did it take, and how big is your library?
- [ ] An album you add to your music folder afterwards shows up on its own.
  Within moments with step 5 done, or within 30 minutes without it.

Browsing and playing, on a computer

- [ ] The map, the library grid and search all find what you expect.
  Look up an artist you know well. Are their albums, tracks and credits right? Is anything missing or doubled up?
- [ ] An album plays from start to finish without stopping or stuttering.
  In Safari or the desktop app, a live album or a DJ mix also tests the gaps between tracks: there shouldn't be any.
- [ ] Previous, next and the scrubber (the progress bar) respond straight away.
  Previous restarts a track you're more than 3 seconds into. A second press goes back a track.

On Android, as an installed app PIXEL ANDROID

- [ ] Nothing asks you to install before you've played anything. After the first track starts, Legato offers **install legato**, and the installed app opens in its own window.
- [ ] Play an album and lock the phone. The lock screen shows the title, artist and cover, and play/pause, previous, next and the progress bar all work.
  Check the same controls in the media player at the top of Quick Settings (swipe down from the top of the screen).
- [ ] Previous restarts a track you're more than 3 seconds into. Pressed again straight away, it goes back a track.

- [ ] Your headphones' buttons work while the phone is locked.
  Wired or Bluetooth: play/pause, and next or previous if your headphones have them.
- [ ] Locked for 30 minutes, the music keeps playing from one track into the next.
  A long album is ideal. On unlocking, does the app show the track that's actually playing? If it stops, note the time, and whether Battery Saver was on.
- [ ] **Shuffle library**, locked for 15 minutes or more, never goes silent between tracks.
  Most useful if your library mixes formats: FLAC at different sample rates, ALAC, MP3.
- [ ] Dragging the progress bar well ahead jumps there and keeps playing.
  Roughly how long does it take to start again?
- [ ] The back gesture always goes back one screen, and never leaves Legato by surprise.
  Try **Settings** → **Library health**, then back twice: you're on the map. **Collections** → **Favourites** → **a playlist**, then back: you're on the grid. Search, open a result, then back: your results are still there. With Now playing open, back closes it.
- [ ] In Up next, holding a row lifts it so you can drag it to a new place, with no copy or share menu. Swiping a row left removes it.
- [ ] Turning the phone sideways and back while music plays doesn't interrupt it.
- [ ] Tapping on the map selects what you meant.
  Does it feel too eager to select something, or not eager enough?

On an iPhone IPHONE

- [ ] In the installed app, the lock-screen, previous, 30-minute and shuffle checks above all work the same way.
  Headphone buttons: one press pauses and plays, two skip forward, three go back.
- [ ] Dragging the progress bar well ahead starts playing again within about half a second.
- [ ] In a Safari tab, signing in doesn't leave the page zoomed in or cut off at the edges.

Away from home NEEDS TAILSCALE

- [ ] On mobile data, with Tailscale on, the installed app plays within a few seconds.
  If it won't play, note the time and tell us while it's still happening if you can.
- [ ] Switching to **Settings** → **Stream quality** → **standard • 160 kbps** and skipping a track, playback carries on.
- [ ] Back on home Wi-Fi, the app picks up again by itself.

In the desktop app MAC WINDOWS LINUX

- [ ] The app opens after the one-time step on page 9, starts its own server, and plays your music.
  Tell us the computer and its system, for example "Intel iMac, macOS 15" or "Windows 11", and anything that didn't match page 9. An Intel Mac, Windows, and Linux on GNOME or KDE are the ones we can't try ourselves.

- [ ] **Add your music** lists the music folders on your computer, each with a rough count of its tracks.
  On a Mac with Apple Music, its folder is listed as **Apple Music**.

- [ ] The menu-bar or tray icon appears, and with the window closed, your phone still plays from this computer.
  On Linux, tell us your desktop (GNOME, KDE or another), and whether the icon showed.

- [ ] Your computer's media controls show what's playing, and they and the keyboard's media keys control Legato.
  Mac: **Control Center** → **Now Playing**, with the title, artist and cover. Windows: the media panel in the volume flyout. Play/pause, next and previous should all work.

- [ ] A Mac's Apple Music library imports, with its playlists. APPLE MUSIC
  In Music, **File** → **Library** → **Export Library…**, then in Legato the **+** in Collections, **Import**, and that file. Do the preview's numbers look right? Tracks that are only in the cloud should be listed.

When we send an update

- [ ] Legato shows that a new version is out, the update goes through, and your library, account and playlists are all still there afterwards.

- [ ] In the desktop app, a note under the search bar says the new version is ready, and nothing restarts until you click **restart to update**. The app then opens on the new version and plays.
  On a Mac, it shouldn't ask about your local network again. With the `.deb`, the note links to the release instead.

ALREADY KNOWN, NO NEED TO REPORT

- **iPhone:** tapping the playing track on the lock screen can open a different Home Screen web app instead of Legato. That's an iOS bug, not something Legato controls. Open Legato from its icon instead.
- **Android, and Chrome anywhere:** there can be a short gap between tracks. Gapless playback is Safari's and the desktop app's for now.
- AirPlay isn't available from the web app yet.
- **Desktop app, the first time:** macOS says "legato" wasn't opened, and Windows that it protected your PC. The app isn't signed with Apple's or Microsoft's certificates yet. Page 9 has the one-time way past.
- **Desktop app:** after you choose Shuffle library, it can take 20 seconds or so before the music starts.
- Editing tags writes to FLAC, MP3 and M4A files only. On your NAS, it also needs write access, which this guide doesn't give Legato.

Sending feedback

Email is all it takes, as often as you like. One email per problem is easiest for us to follow up, but a single list at the end is fine too, and so is a report with half of the details below missing: "it stopped playing around 9 tonight" is still worth sending.

SEND EVERYTHING TO

hello@legato.fm

Start the subject with **Legato beta:** and a few words about what happened.

What helps us most

What you did	"Played Abbey Road on my Pixel, locked it, pressed next on the lock screen"
What you expected	"The next track to start"
What happened	"The lock screen showed the next title, but the music stopped"
When	The date and time, with your time zone, so we can match it to the log
Where	Phone or computer, and system: "Pixel 8, Android 16, installed app". It's in **Settings → About phone**
Legato version	The `version` shown at `http://<NAS or computer>:8899/api/v1/health`
Your NAS	Model and DSM version, from **Control Panel → Info Center**
Library size	Albums and tracks, from **Settings → Library health**
Pictures	A screenshot or screen recording. Pixel: Power and Volume down together for a screenshot, or Quick Settings' **Screen record**. iPhone: Side and Volume up

Including the server's log

For anything that went wrong, the log from around that time helps us find the cause: **Container Manager → Container → legato → Details → Log**. Copy the lines from a few minutes either side, and paste them into your email.

> WHAT'S IN THE LOG
>
> The log names files and folders in your library, and the addresses of devices that connected. Remove anything you'd rather not share before you send it.

Not just problems, and thank you

Tell us what you liked, what you'd change, and what you found yourself wishing it did. If the map turned up something you'd forgotten you owned, we'd love to hear that too. This beta is how Legato gets good enough for everyone else, and every report gets read. If you're stuck at any point, including during the install, email hello@legato.fm and we'll help.