



Photo Station

User's Manual

A self-hosted photo & video sharing website for your own server.

Modeled after Synology Photo Station 6

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Introduction

Photo Station is a self-hosted photo and video sharing website you run on your own server. It lets you organize pictures and movie clips into albums, control exactly who can see each album, and share them through any web browser — no cloud service, no third party, your files stay on your hardware. An administrator manages all content and accounts, while regular users get a clean, read-only gallery to browse the albums they've been given access to. It also includes a blog with comments and a detailed access log, and its look and feel are modeled after Synology Photo Station 6.

This manual covers everything: what the site can do, what you need to run it, how to install it, and how to use every feature day to day.

1. Features Overview

- **Albums** — Group photos and videos into albums, each with a name, description, keywords, and a cover image. Albums can be reordered, and the order you set is the order visitors see.
- **All image formats accepted** — JPG, JPEG, PNG, GIF, WebP, BMP, AVIF, TIFF, SVG, HEIC, and ICO. Thumbnails are generated automatically; formats a browser can't display inline (such as HEIC or TIFF) still upload and download fine and show a placeholder tile.
- **Video playback and streaming** — MP4, MKV, WebM, MOV, and M4V clips play directly in the browser with full seek support, because the server streams them in response to range requests.
- **Full-screen lightbox viewer** — Click any photo to open a large viewer with next/previous arrows, keyboard navigation, and a one-click close.
- **Two permission levels** — Administrators manage everything; regular users can only view (they cannot upload, edit, or delete).
- **Per-user album access** — Every album is either public (visible to everyone, including people who aren't signed in) or private (visible only to admins and the specific users you grant). You can assign access from either the album page or the user page.
- **Search** — Find albums by name, description, or keyword from the search box in the top bar.
- **Blog with comments** — Administrators publish blog posts; any signed-in user can leave comments, and admins can moderate (delete) any comment.
- **Access log** — Records who visited, searched, signed in (including failed attempts), and which albums and photos/videos were viewed — with date, time, username, and source IP address. Filterable by keyword, IP address, and user.
- **Built-in security** — Passwords are stored hashed (bcrypt), all database access uses prepared statements, every form is CSRF-protected, and original files are served only through access-checked scripts that enforce album permissions.

2. Requirements and Dependencies

Server

- **Ubuntu** (or any Linux) running **Apache2**

- **PHP 8.x** with the Apache integration (`libapache2-mod-php` or PHP-FPM)
- **MySQL** or **MariaDB**

Required PHP extensions

Extension	Purpose
<code>php-mysql</code>	Database access
<code>php-gd</code>	Thumbnail generation
<code>php-mbstring</code>	Safe text handling
<code>php-exif</code>	Photo rotation (usually bundled with php-gd)

Optional

ffmpeg — when installed, real thumbnails are generated from the first frame of each video. Without it, videos still upload and play; they just show a generic “play” placeholder tile in the grid.

Install everything in one line

```
sudo apt update
sudo apt install apache2 php php-mysql php-gd php-mbstring libapache2-mod-php ffmpeg
```

Client (for viewers)

Any modern web browser — Chrome, Edge, Firefox, or Safari — on desktop or mobile. The interface is responsive and works on phones and tablets.

3. Installation

Step 1 — Copy the files to your web server

```
sudo cp -r photostation /var/www/html/
sudo chown -R www-data:www-data /var/www/html/photostation
```

Step 2 — Create the database and a MySQL user

```
sudo mysql

CREATE DATABASE photostation CHARACTER SET utf8mb4 COLLATE utf8mb4_unicode_ci;
CREATE USER 'photostation'@'localhost' IDENTIFIED BY 'pick-a-strong-password';
GRANT ALL PRIVILEGES ON photostation.* TO 'photostation'@'localhost';
FLUSH PRIVILEGES;
EXIT;
```

Step 3 — Enter your settings

Open `includes/config.php` and set `DB_PASS` to the password you just chose. In the same file you can also set:

- `SITE_NAME` — the title shown in the top bar and browser tab
- `THUMB_SIZE` — thumbnail size in pixels (default 480)
- the allowed image and video file extensions

Step 4 — Allow large uploads and .htaccess overrides

Make sure your Apache site allows `.htaccess` overrides (needed so the app can protect the `uploads/` folder):

```
# inside your <VirtualHost> in /etc/apache2/sites-available/000-default.conf
<Directory /var/www/html>
    AllowOverride All
</Directory>
```

If you use `mod_php`, the included `.htaccess` already raises upload limits to 2 GB. If you use `PHP-FPM`, set these in `/etc/php/8.*-fpm/php.ini` instead and remove the `<IfModule mod_php.c>` block from `.htaccess`:

```
upload_max_filesize = 2048M
post_max_size = 2048M
max_file_uploads = 200
max_execution_time = 600
memory_limit = 512M
```

Then restart the server:

```
sudo systemctl restart apache2      # or: sudo systemctl restart php8.*-fpm
```

Step 5 — Run the installer

In a browser, go to `http://your-server/photostation/install.php` and create your administrator username and password. The installer creates all database tables and the `uploads/` and `cache/thumbs/` folders automatically.

Step 6 — Delete the installer

For security, remove the installer once setup is complete:

```
sudo rm /var/www/html/photostation/install.php
```

Note: Upgrading an existing install? Just copy the updated files over the old ones. The application adds new database pieces (such as the access-log table and album sort order) automatically the first time they're needed — no manual SQL migration required.

4. Roles: Admins vs. Users

Capability	Admin	User	Guest
Browse public albums	Yes	Yes	Yes
Browse private albums	All	Granted	No
View photos / play videos	Yes	Yes	Public
Search albums	Yes	Yes	Public
Read the blog	Yes	Yes	Yes
Post blog comments	Yes	Yes	No
Upload / edit / delete photos	Yes	No	No
Create / edit / delete albums	Yes	No	No
Manage users	Yes	No	No
Write posts / delete comments	Yes	No	No
View the access log	Yes	No	No

There is no public sign-up — administrators create all accounts.

5. Using the Site — For Everyone

Signing in

Click **Sign in** at the top right and enter your username and password. Guests can browse public albums without signing in by clicking the “Browse public albums as guest” link.

Browsing albums

The home page shows every album you're allowed to see, as cover-image cards. A lock badge marks private albums. Click a card to open the album.

Viewing photos and videos

Inside an album, photos and videos appear in a grid (videos show a play symbol). Click any item to open the full-screen viewer:

- **Next / previous** — the on-screen arrows, or the **Left/Right arrow keys**
- **Close** — the close button, the **Esc** key, or click the dark area around the image
- **Videos** play automatically with standard controls (play/pause, seek, volume, full screen)

Searching

Type a word into the **search box** in the top bar and press Enter. It matches album names, descriptions, and keywords, and only shows albums you have access to. Use **Clear search** to return to the full list.

The blog

Click **Blog** in the top bar to read posts. Open a post to read it in full and see its comments. If you're signed in, scroll to the bottom, type in the comment box, and click **Post comment**.

6. Administrator Guide

Sign in as an administrator and click the **Admin** link in the top bar to reach the dashboard. It shows totals (albums, photos, videos, users, posts, storage used, log entries) and links to the four management areas.

6.1 Managing albums

Go to **Admin** → **Manage albums**.

Create an album: fill in the name (and optionally keywords, description, and visibility) and click **Create**. You're taken straight to its upload page.

Visibility:

- **Public** — anyone, including guests, can see it.
- **Private** — only admins and the users you specifically grant.

Grant user access (from the album side): click **Edit** on an album. When it's private, a checklist of users appears — tick the ones who may view it and click **Save album**.

Set the display order:

- **Sort A→Z** (top-right button) rennumbers all albums alphabetically by name.
- The up / down arrows in the Order column move an album up or down by one.
- Whatever order you set is exactly the order visitors see on the home page.

Delete an album: click **Delete**. This permanently removes the album, all its photos/videos, and their files (you'll be asked to confirm).

6.2 Adding and managing photos and videos

From an album's **Photos** page (or **Upload / manage** inside the album):

Upload: click the file selector, choose one or many files, and click **Upload**. You can select large batches — the uploader automatically sends them in groups so server limits aren't a problem. Accepted types are listed on the page.

Per-file actions:

- **Set cover** — make that image the album's cover.
- **Title** — type a caption and click the check mark to save it.

- **Delete** — permanently remove that file (with confirmation).

6.3 Managing users

Go to **Admin** → **Manage users**.

Create a user: enter a username, optional display name, and password (at least 8 characters), and pick a role:

- **User (view only)** — an **Album access** checklist appears; tick the albums this person should be able to see.
- **Administrator** — full access to everything (the album checklist dims, since admins see all albums).

On the album checklist you can tick albums individually, or use the **Select all** and **Deselect all** buttons above the list to grant or clear every album at once; a live counter shows how many of the total albums are currently selected.

Edit a user: click **Edit** on any row to change their **display name**, change their **role** (User to Administrator or back), and **assign them to any number of albums** via the same checklist (pre-ticked to their current access, with the same **Select all** / **Deselect all** buttons). Click **Save changes**. Switching someone to Administrator clears their per-album grants; switching back to User lets you pick albums again.

Other actions on each row:

- **Disable / Enable** — block or restore sign-in without deleting the account.
- **Reset password** — set a new password for that user.
- **Delete** — permanently remove the account.

Note: Safeguards: you cannot disable, delete, or remove the admin role from your own account, so you can't accidentally lock yourself out. Album access is the same data whether you set it from the album page or the user page — the two views always agree.

6.4 Managing the blog

Go to **Admin** → **Manage blog**.

- **Write a post:** enter a title and body, then click **Publish**. Line breaks are preserved.
- **Edit or delete** any post from the list (deleting a post also removes its comments).
- **Moderate comments:** open any post on the public Blog page; as an admin you'll see a **delete** link beside each comment.

6.5 The access log

Go to **Admin** → **Access log** to see site activity. Each entry records the date and time, the user (or "guest"), the source IP address, the event type, and a description.

Logged events: site visits, searches (with the search text), sign-ins, **failed sign-in attempts** (with the username that was tried), album views, and photo/video views.

Filtering: use the boxes at the top to filter by **keyword** (matches album or photo names, search text, and event type), **IP address** (a prefix like **192.168.1.** matches a whole subnet), and **user** (a dropdown, including a

“Guests” option). Filters combine, and clicking any IP address in the table instantly filters by it. Results are paginated, newest first.

Housekeeping: at the bottom you can delete entries older than a chosen number of days, or clear the entire log.

Note: To spot password-guessing, filter the keyword box for **failed**. Failed attempts are logged individually (no de-duplication), so a brute-force attempt shows up as one row per try.

7. Maintenance and Backups

What to back up — two things fully capture your site:

1. The **MySQL database** (**photostation**) — accounts, albums, permissions, blog, and the log.
2. The **uploads/ directory** — the original photos and videos.

Example backup commands:

```
mysqldump -u photostation -p photostation > photostation-db.sql  
sudo tar czf photostation-uploads.tar.gz -C /var/www/html/photostation uploads
```

Thumbnails live in **cache/thumbs/** and do not need backing up — they’re regenerated automatically on demand. You can safely delete that folder’s contents any time to reclaim space or force fresh thumbnails.

8. Troubleshooting

MKV videos won’t play in some browsers.

Playback of MKV depends on the browser and the codecs inside the file. Chrome and Edge handle most H.264/AAC or VP9 MKVs; Firefox and Safari are more limited. When a browser can’t decode a clip, the viewer shows a Download button instead. For playback that works everywhere, convert to MP4 (H.264 + AAC): **ffmpeg -i input.mkv -c:v libx264 -c:a aac output.mp4**

HEIC or TIFF photos show a placeholder.

Most browsers can’t display these inline. The files are stored and downloadable; convert them to JPG or WebP for in-browser viewing.

Uploads fail or are cut off for large videos.

Raise **upload_max_filesize** and **post_max_size** (see Step 4). The on-screen “Server upload limit” note shows the current cap.

Videos have no thumbnail (just a play icon).

Install ffmpeg (**sudo apt install ffmpeg**) and re-open the album; thumbnails generate on demand.

“Forbidden” when opening an album.

That album is private and your account hasn’t been granted access — ask an administrator to add you.

A photo's orientation is wrong.

JPEG rotation is read from EXIF data; this requires the php-exif extension to be enabled.

9. Quick Reference

Keyboard shortcuts (photo viewer)

Key	Action
Right / Left arrow	Next / previous
Esc	Close the viewer
Click backdrop	Close the viewer

Key locations

Item	Path
Configuration	<code>includes/config.php</code>
Original photos & videos	<code>uploads/album_<id>/</code>
Thumbnail cache (disposable)	<code>cache/thumbs/</code>
Database schema	<code>schema.sql</code>
Admin dashboard	Admin link in the top bar

First-run checklist

3. Install Apache, PHP, MySQL, and the PHP extensions.
4. Copy the files; set ownership to www-data.
5. Create the database and MySQL user.
6. Edit `includes/config.php`.
7. Allow `.htaccess` overrides and raise upload limits.
8. Run `install.php`, create the admin account, then delete `install.php`.
9. Sign in, create albums, upload media, then create users and grant album access.