

# Latest Updates and Roadmap

ownCloud, Holger Dyroff

# Extension System

Web UI

# Web UI Extension System

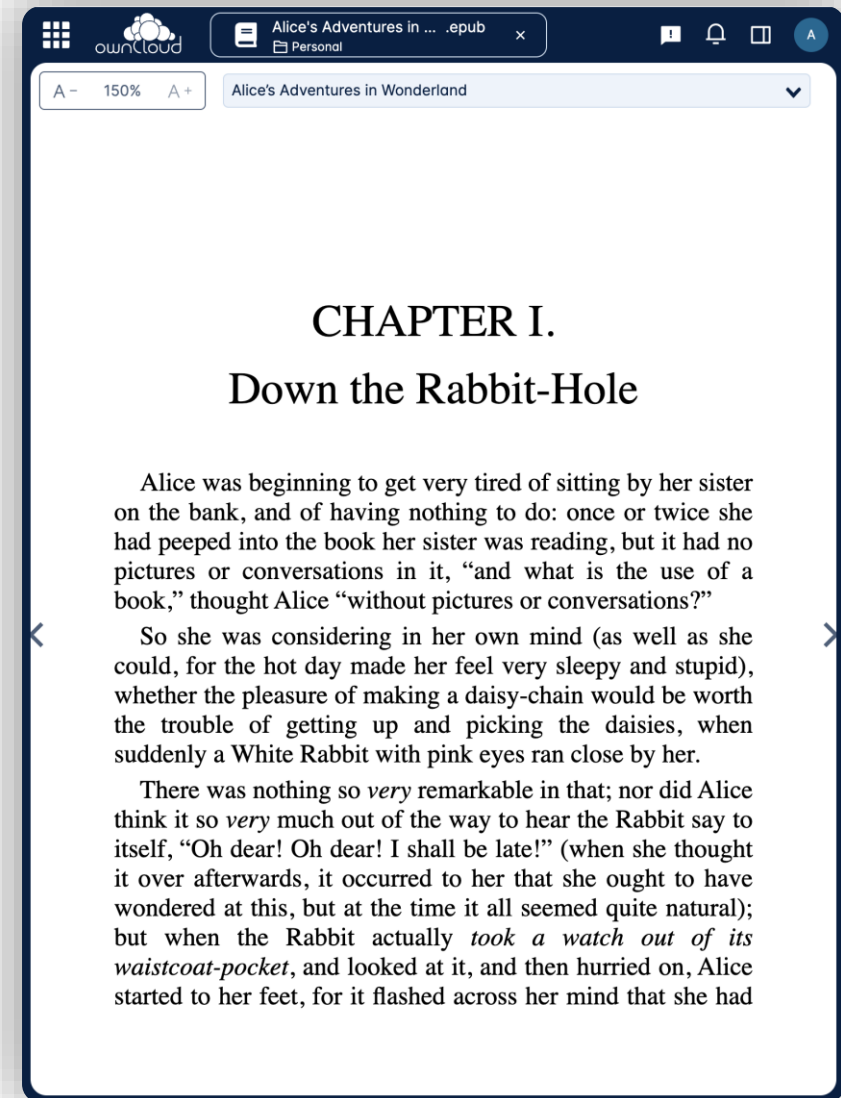
ownCloud Web can now be extended with custom apps and extensions.

## Some Examples:

### Viewers & Editors

- 3D Model Viewer - View 3D models based on three.js
- Arcade - Play NES games based on nes-vue
- DICOM Viewer - Preview medical images based on Cornerstone3D
- Draw.io - View and edit draw.io diagrams
- EPub Reader - Read eBooks in .epub format using epub.js
- GPX Viewer - Render GPX files in a map view with Leaflet
- PDF Viewer - Read PDFs utilizing native browser pdf rendering
- Presentation Viewer - Render markdown presentations with reveal.js
- Preview - View images, watch videos and listen to audio files
- Text Editor - Edit markdown and plain text file types using TOAST UI Editor File Actions
- Cast - Send images and videos from your ownCloud to your Chrome Cast.

□ List of existing extensions: <https://github.com/owncloud/awesome-ocis>

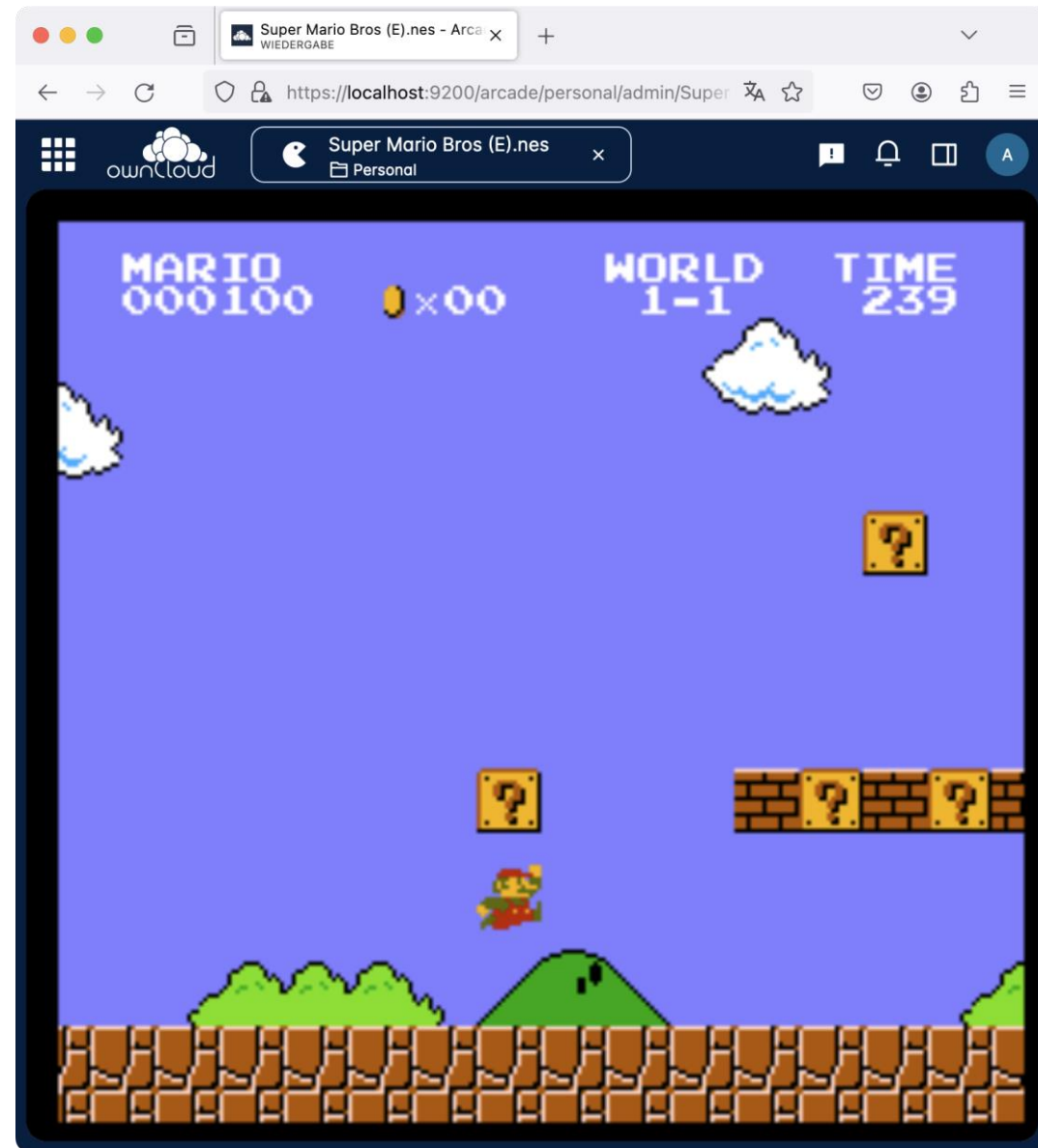


Example Extension: EPub Reader

# Web UI Extension System

## Example

**Arcade** - Play NES games based on nes-vue  
(Community contribution)



# Web UI Extension System

How to integrate extensions?

3 simple steps:

1. Download extensions
2. Save extensions to `/var/lib/ocis/web/assets/apps`
3. Restart the “web” service of ocis, enjoy!

Automated installation via marketplace or NPM repo at a later point of time

# Web UI Extension System

Get creative! Create your own Extension

## Extension Types

For building an extension you can choose from the types predefined by the ownCloud Web extension system:

1. **ActionExtension** (type action) - An extension that can register Action items which then get shown in various places (e.g. context menus, batch actions), depending on their respective scope. Most commonly used for file and folder actions (e.g. copy, rename, delete, etc.). For details, please refer to the action docs
2. **SearchExtension** (type search) - An extension that can register additional search providers. For details, please refer to the search docs
3. **SidebarNavExtension** (type sidebarNav) - An extension that can register additional navigation items to the left sidebar. These can be scoped to specific apps, and programmatically enabled/disabled. For details, please refer to the sidebar nav docs
4. **SidebarPanelExtension**, (type sidebarPanel) - An extension that can register panels to the right sidebar. For details, please refer to the sidebar panel docs
5. **FolderViewExtension** (type folderView) - An extension that can register additional ways of displaying the content of a folder (resources, so spaces, folders or files) to the user. For details, please refer to the folder view docs
6. More to come ...

# Web UI Extension System

## Getting Started

## Extension System Documentation:

The screenshot shows a web browser displaying the documentation for the ownCloud extension system. The page has a dark blue header with the ownCloud logo and navigation icons. A search bar is located at the top left. The main content area is divided into a left sidebar and a main content pane. The sidebar contains a navigation menu with categories like 'oCIS - ownCloud Infinite Scale', 'APIs', 'Extensions', 'Integrations', 'Architecture', 'Clients', and 'Services'. The 'Clients' section is expanded to show 'ownCloud Web', which includes 'Getting Started', 'Building from source', 'Releasing', 'Setup with ownCloud 10', 'Development', 'Setup with oCIS', 'Deployments', 'Tests', 'Theming', and 'Embed Mode'. The 'Extension system' link is highlighted. The main content pane shows the 'Extension system' page, which includes a breadcrumb trail 'ownCloud / Clients / ownCloud Web / Extension system' and a list of sub-sections: 'Concepts and Building Blocks', 'Distinction between Apps and Extensions', 'Apps', and 'Extensions'. The 'Concepts and Building Blocks' section is expanded to show 'Extension Registry', 'Extension Types', 'Extension Base Configuration', and 'Extension Points'. The 'Distinction between Apps and Extensions' section is also expanded, showing a paragraph and a list of two points. The 'Apps' section is expanded to show a paragraph and a code block. The code block shows a TypeScript snippet for installing a devDependency and defining a web application.

ownCloud

Search...

ownCloud / Clients / ownCloud Web / Extension system [Edit page](#)

### Navigation

- oCIS - ownCloud Infinite Scale <
- APIs <
- Extensions
  - Hello (example extension) <
- Integrations
  - File Picker <
- Architecture <
- Clients
  - ownCloud Web
    - Getting Started
    - Building from source
    - Releasing
    - Setup with ownCloud 10
    - Development <
    - Setup with oCIS
    - Deployments <
    - Tests <
    - Theming
    - Embed Mode
    - Extension system
      - Extension Types <
  - oCIS PHP SDK <
  - Rclone <
- Services <

### Extension system

- Concepts and Building Blocks
  - Distinction between Apps and Extensions
  - Apps
  - Extensions
    - Extension Registry
    - Extension Types
    - Extension Base Configuration
    - Extension Points

---

### Concepts and Building Blocks

The ownCloud Web can be extended through various entry points with custom **apps** and **extensions**.

#### Distinction between Apps and Extensions

An Application in the context of ownCloud Web is an artifact which can be installed in an ownCloud Infinite Scale instance. It serves two main purposes:

1. It makes the full app viewport (everything below the top bar) available to the application developer for any custom application code. This includes the ability to define views with routes, navigation items for the left sidebar, and more.
2. Through the `extensions` key in the application interface you can register extensions of any extension type. Those extensions are then available in standardized extension points. Additionally, they can be queried from the extension registry for your own purposes.

Both parts are optional. This means that an application can be a file editor without any custom extensions, or even contain no custom application code at all and only host extensions to be registered in the extension registry, or a combination of both.

#### Apps

To get started, define a `src/index.ts`. Below is the most basic example of its content:

```
// Install '@ownclouders/web-pkg' as a devDependency first (only relevant for types and autocompleti
import {
  AppWrapperRoute,
  ApplicationFileExtension,
  defineWebApplication
} from '@ownclouders/web-pkg'

export default defineWebApplication({
  setup({ applicationConfig }) {
    // Here, you have access to the full injection context, meaning you can use all composables that
```

# Embed Mode

Web UI



# Web UI Embed Mode

Access ownCloud from within other applications

- ownCloud Web can be consumed by another application in a stripped down version called “Embed mode”.
- This mode is supposed to be used in the context of selecting or sharing resources.
- The embed mode covers the usecase of a file picker but provides even more features like sharing, renaming, organizing files etc.

Suchen 🔍 K

Startseite ▾ +

Personen ▾ +

@VP-n.schwarz:messenger.bycs-vp.de

Räume ▾ +

- Leerer Raum
- Edwin Streicher
- Edwin Streicher
- Edwin Streicher
- Edwin Streicher und Otto Heppner
- Kuno Möbius
- sdui-admin-intermediary
- Gunter Mohr
- Wera Kühnert
- Maritta Bartmann
- Otto Heppner
- Weniger anzeigen

Archiv

- Mein Raum
- Systembenachrichtigungen
- Schulleitung

@VP-n.schwarz:messenger.bycs-vp.de

📞 🔍 🗨️ 🔔 ⓘ

### Select File from ownCloud

ByCS

Enter search term Everywhere 🔍

Spaces > Space mit didi > Project

- Personal
- Shares
- Spaces
- Deleted files

📁 + 📄 🗂️ 🗑️

<input checked="" type="checkbox"/>	Name ↓	Size	Actions
<input checked="" type="checkbox"/>	Agenda.docx ↗	0 B	⋮

1 item in total (1 file, 0 folders)

Cancel Share links Attach as copy

**Example** usecase for the web embed mode:  
You are in a chat application and want to insert a file from ownCloud. Click on paper clip let's you select a file from ownCloud (=Web UI embed mode)



17:02 Sounds perfect! I'll mark it on my calendar. Looking forward to it.

Verschlüsselte Nachricht senden ...

😊 📎 📄 ⋮

# Other Web Integrations

- **Filepicker**
- **PHP SDK**
- **Moodle Integration**

# Federated Sharing

OCM 1.1

# Federated Sharing

## OCM 1.1

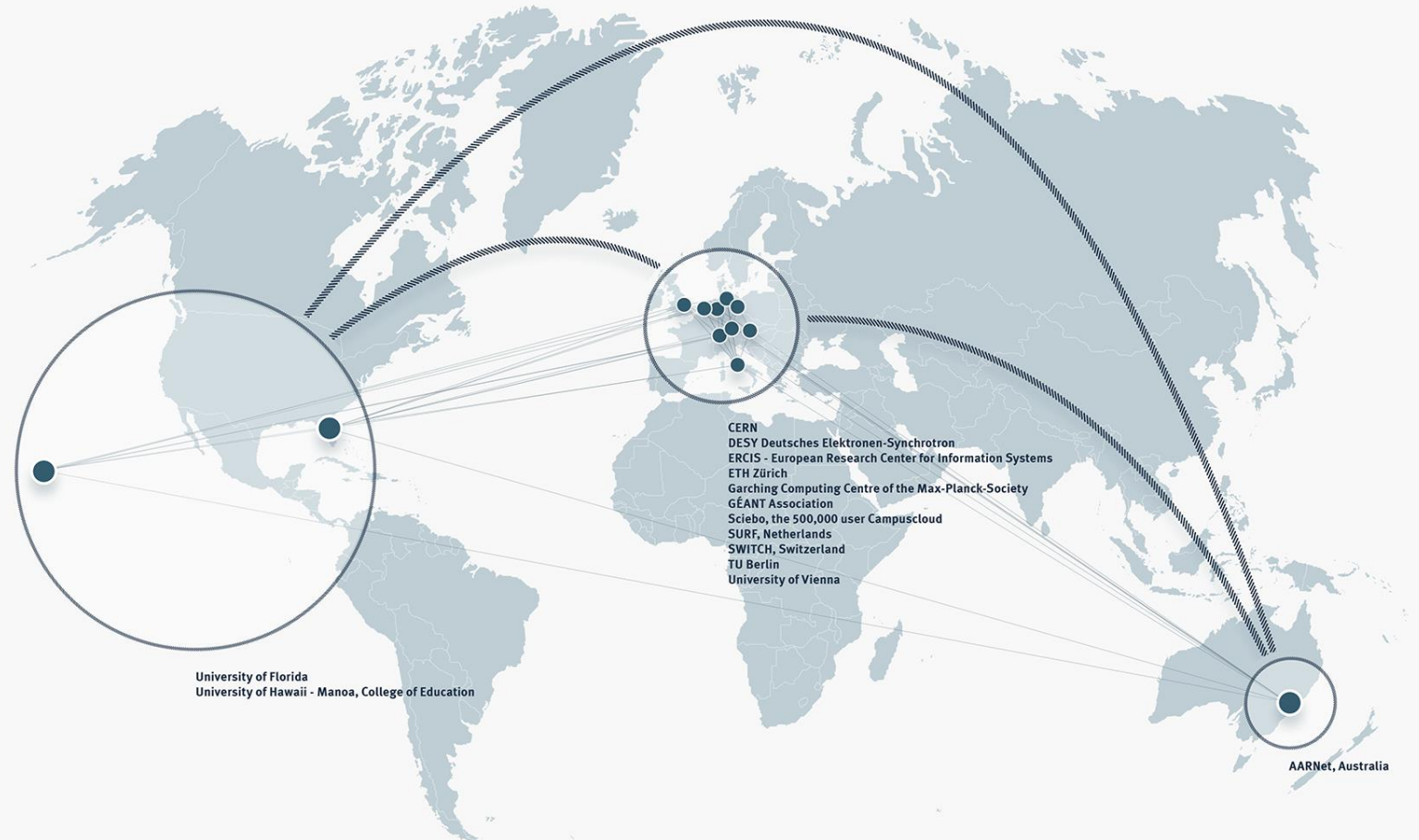
**Work on files from anywhere in the world as if they were files on your own computer.**

- Users from different organizations can access, share, and work on files without the need for multiple accounts or transferring files between different systems
- This enhances productivity and streamlines workflows
- Allows FAIR sharing principles
- Open Standard – Federation with other file clouds

### Experimental status

Preview, may break, individual production usage

must be agreed with ownCloud Support



# Feature Highlights

# Spaces

# Problem Nr. 1

❌ Chaos in *Shared with me*

❌ Missing context

*“Does this file belong to Project A or B?”*



Files shared with me - ownCloud

ownCloud

Enter search term

Shared with me Shared with others Shared via link

Personal

Shares

Spaces

Deleted files

<input type="checkbox"/>	Name ↓	Status	Shared with	Actions
<input type="checkbox"/>	Gravity.txt	Decline	AE	⋮
<input type="checkbox"/>	NuclearPhysics.txt	Decline	AE	⋮
<input type="checkbox"/>	Optics.txt	Decline	AE	⋮
<input type="checkbox"/>	ParticlePhysics (1).txt	Decline	AE	⋮
<input type="checkbox"/>	ParticlePhysics.txt	Decline	AE	⋮
<input type="checkbox"/>	project (1).md	Decline	AE	⋮
<input type="checkbox"/>	project.md	Decline	AE	⋮
<input type="checkbox"/>	Relativity.txt	Decline	AE	⋮
<input type="checkbox"/>	Report.pdf	Decline	AE	⋮
<input type="checkbox"/>	Report.xlsx	Decline	AE	⋮
<input type="checkbox"/>	space image.jpg	Decline	AE	⋮
<input type="checkbox"/>	Space Timepptx (8).pptx	Decline	AE	⋮
<input type="checkbox"/>	Space Timepptx.pptx	Decline	AE	⋮
<input type="checkbox"/>	Superconductivity.txt	Decline	AE	⋮
<input type="checkbox"/>	The Photoelectric Effect (6).docx	Decline	AE	⋮
<input type="checkbox"/>	The Photoelectric Effect.docx	Decline	AE	⋮
<input type="checkbox"/>	The Photoelectric Effect.pdf	Decline	AE	⋮
<input type="checkbox"/>	Theory of Relativity (4).md	Decline	AE	⋮
<input type="checkbox"/>	Theory of Relativity.md	Decline	AE	⋮



## Problem Nr. 2

- ✘ People leave the organization and **their data disappear with them** because "Personal" is a data silo.

**Project Folders are cumbersome and project users tough with Zero Trust SSO (OIDC)**

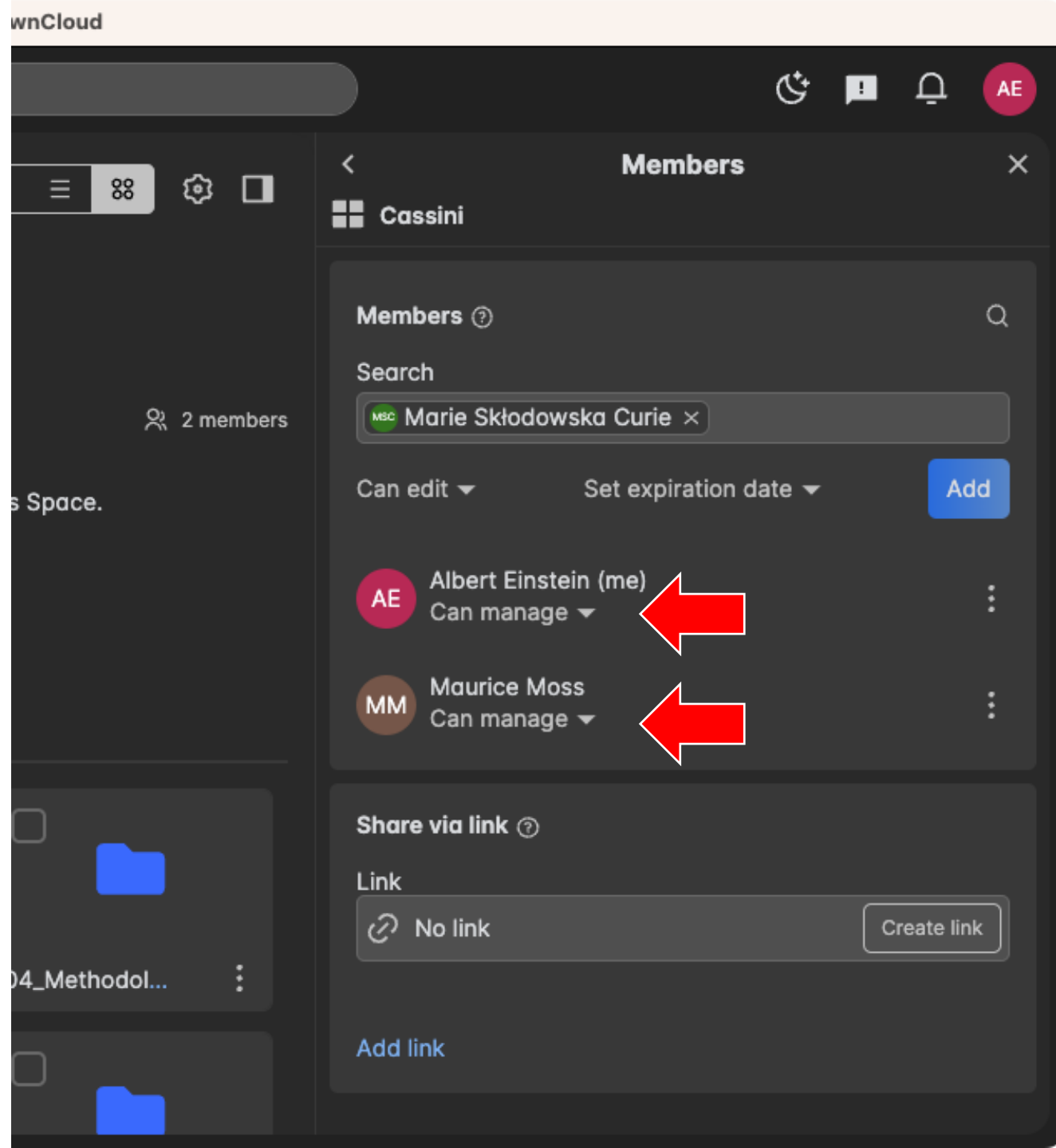
# Spaces

## Spaces simplify collaboration on files

- **Separate** location from the *Personal* files
- **Collaborate:** Ideal for shared files eg. for projects, departments or school classes
- **Quota:** Spaces can have a quota
- **Manager:** Spaces always have a *Manager* who is responsible for quota and access
- **Transfer:** Spaces can have multiple Managers eg. to transfer a Project



Transfer

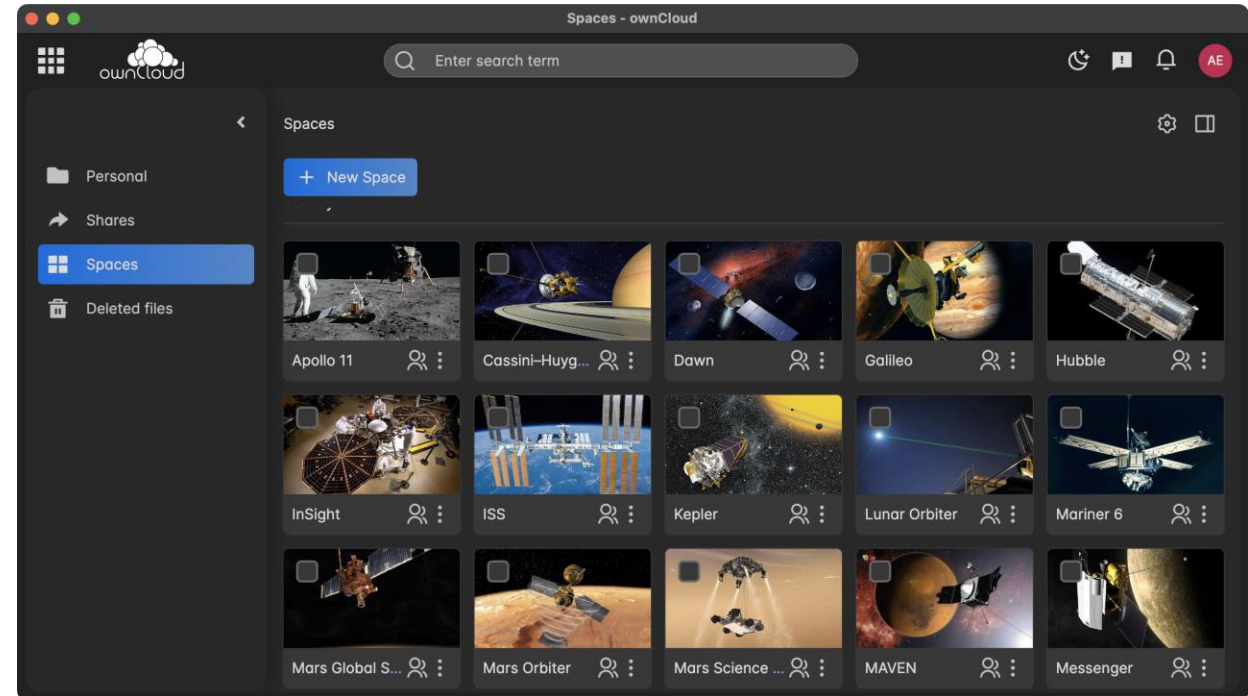


# Spaces

## Advantages for the organization

### Advantages from an organizational view

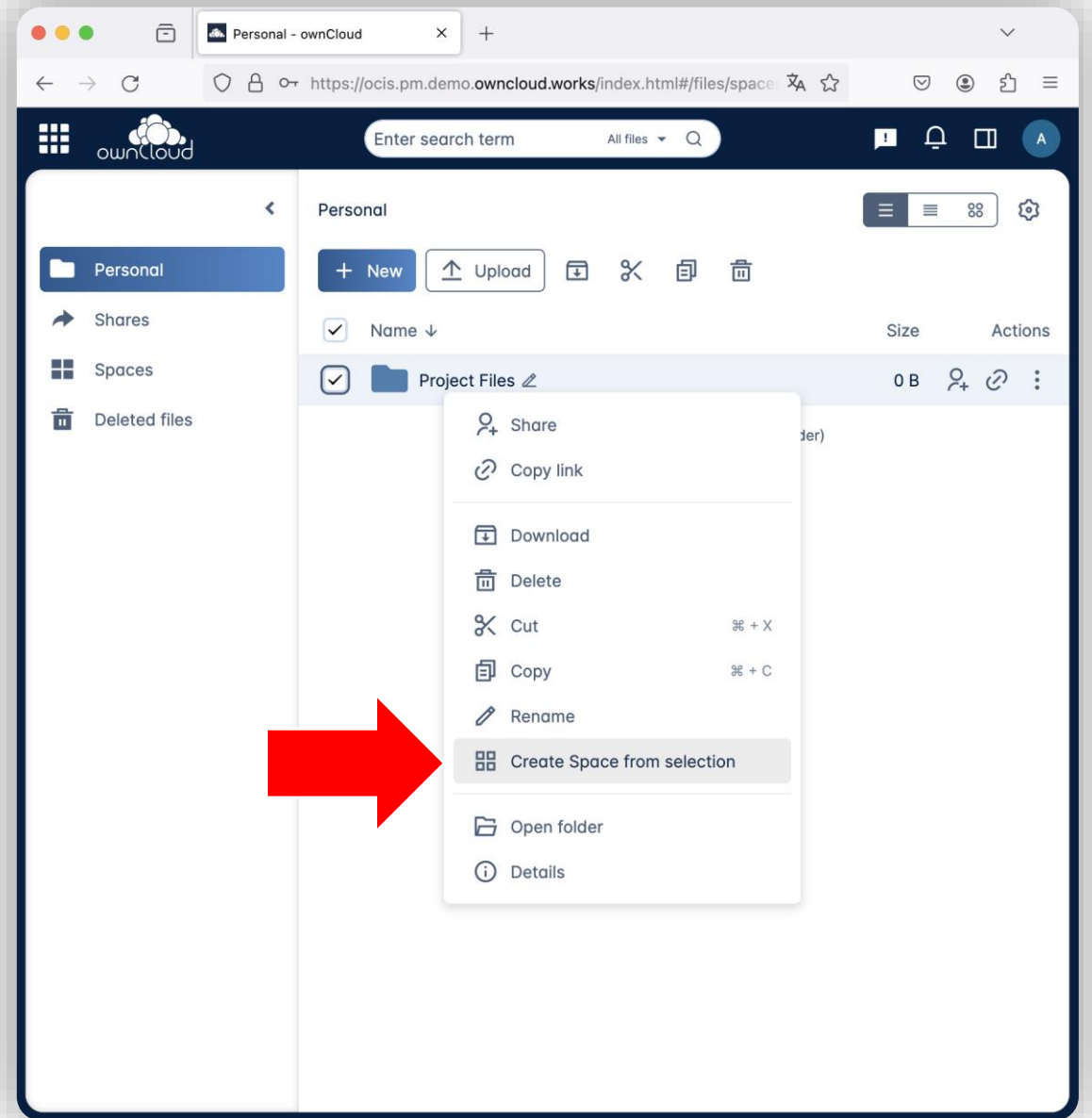
- Spaces avoid personal (employee) **data-silos** “by design”
- Spaces increase **security** as they strictly separate personal from project related files
- **Self-service**: Spaces lower support efforts for admins as they focus on self-service for users



# Say bye bye to chaotic folder structures

# Create a Space from a Folder

**Say bye bye to chaotic folder structures  
and create unified folders in seconds!**

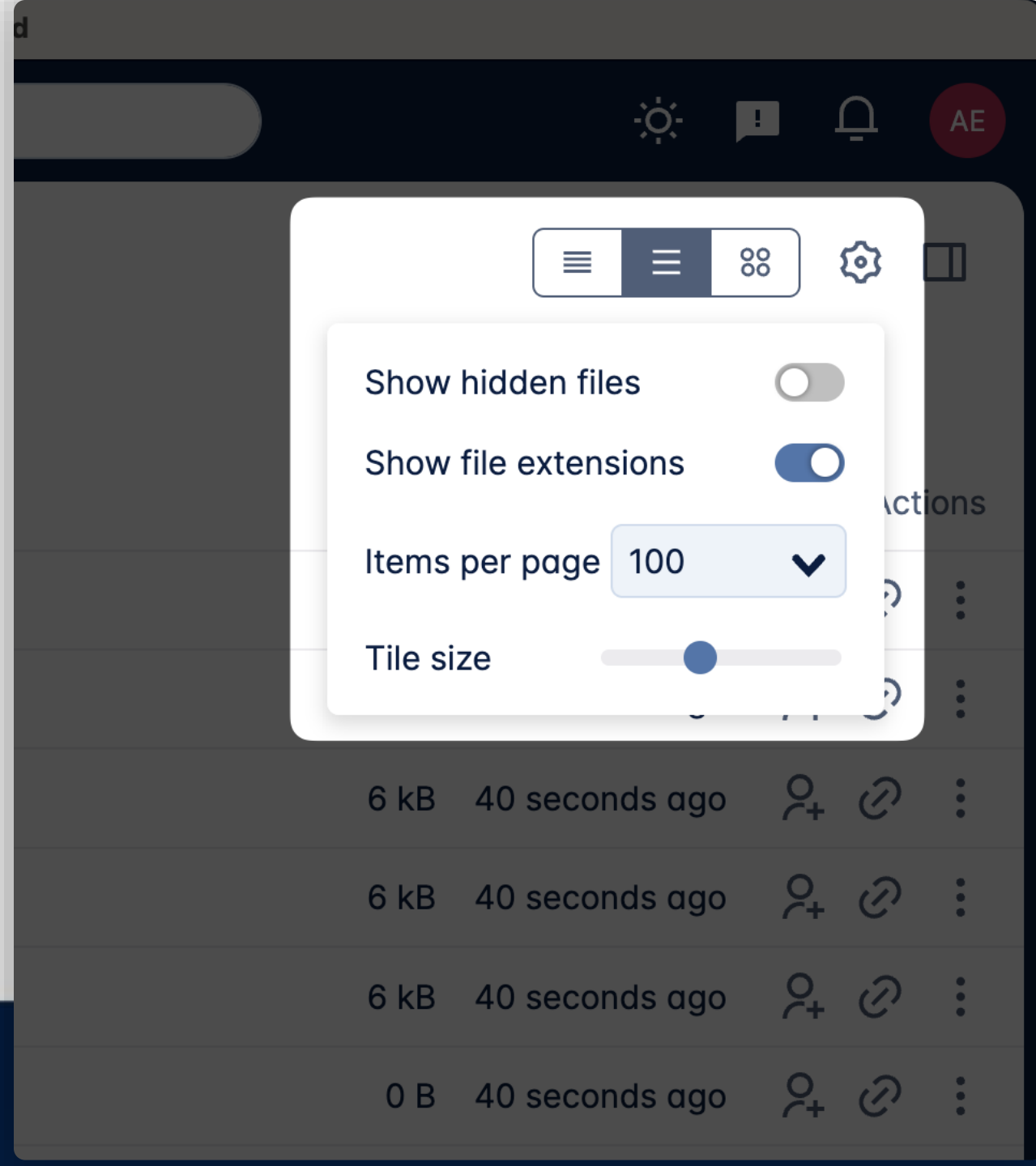


# View modes

# View modes

## Individual views that adapt to your needs

- Dark / light mode
- Compact view
- Regular view
- Tiles view with adjustable tile sizes



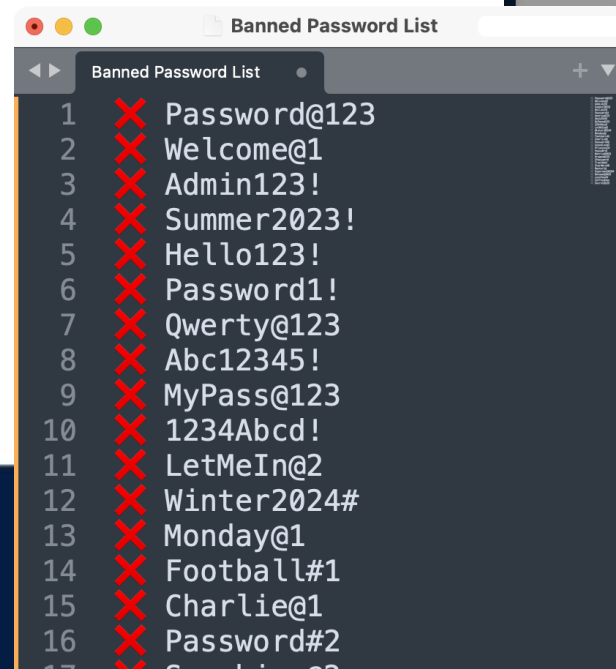
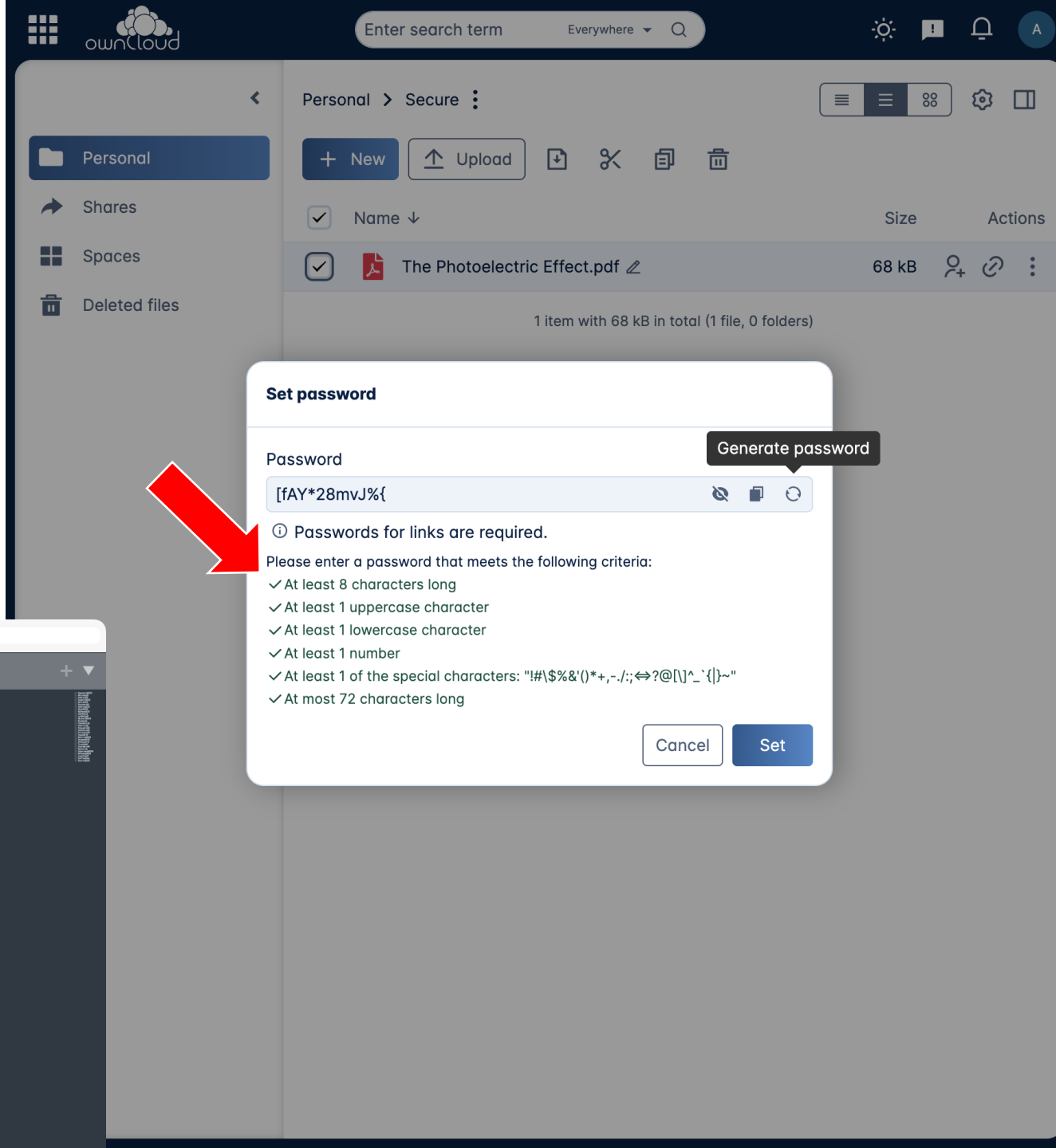
# Password Policy for sharing links



# Password Policy for sharing links

Enforce a policy for links eg. the password must contain eg. 8 characters, 1 uppercase, 1 number etc.

- 100% configurable
- Comfort: generate a password that meets the policy criteria
- Banned Password List: define commonly used password that are not allowed.



# Search Filter

# Search Filter

## New filter to find what you need

- **Type** (Documents, Spreadsheet, Presentation etc.)
- **Last modified** (Today, yesterday, last week etc.)

The screenshot shows the ownCloud web interface. At the top, the search bar contains the text "effect". Below the search bar, the results are displayed under the heading "Search results for 'effect'". A red arrow points to the "Filter:" dropdown menu, which is currently set to "PDF". The dropdown menu is open, showing a list of file types with checkboxes: Document, Spreadsheet, Presentation, PDF (checked), Image, Video, Audio, Folder, and Archive. The main content area shows a table with columns for "Name", "Size", "Modified", and "Actions". A single file is listed with a size of "68 kB" and a modification date of "6 months ago". The interface also includes a sidebar with navigation options like "Personal", "Shares", "Spaces", and "Deleted files".

# Simplified Shares

# Simplified Shares

## Before

- 3 areas
- 3 states (Pending, Accepted, Declined)

ownCloud 2024. All rights reserved. ownCloud.com

ownCloud

Enter search term All Files

Shared with me Shared with others Shared via link

### Pending shares (8)

Name ↓	Status	Shared by	Shared with	Shared on	Actions
<input type="checkbox"/> 02_DataAnalysis	✓ Accept	MSC	AE	2 minutes ago	⋮
<input type="checkbox"/> 04_Methodology	✓ Accept	MSC	AE	2 minutes ago	⋮
<input type="checkbox"/> 12_FinalSubmission	✓ Accept	MSC	AE	1 minute ago	⋮
<input type="checkbox"/> Profile_Katherine Johnson.png	✓ Accept	MSC	AE	54 seconds ago	⋮
<input type="checkbox"/> Profile_Marie Curie.png	✓ Accept	MSC	AE	49 seconds ago	⋮
<input type="checkbox"/> Profile_Maurice Moss.png	✓ Accept	MSC	AE	44 seconds ago	⋮
<input type="checkbox"/> Profile_Richard Feynman.png	✓ Accept	MSC	AE	39 seconds ago	⋮
<input type="checkbox"/> Theory of Relativity.md	✓ Accept	MSC	AE	3 minutes ago	⋮

Show less ^

### Accepted shares (5)

Name ↓	Status	Shared by	Shared with	Shared on	Actions
<input type="checkbox"/> 03_LiteratureReview	⊖ Decline	MSC	AE	2 minutes ago	⋮
<input type="checkbox"/> 07_Conclusion	⊖ Decline	MSC	AE	2 minutes ago	⋮
<input type="checkbox"/> 11_SupervisorFeedback	⊖ Decline	MSC	AE	1 minute ago	⋮
<input type="checkbox"/> Space Timepptx.pptx	⊖ Decline	MSC	AE	3 minutes ago	⋮
<input type="checkbox"/> The Photoelectric Effect.docx	⊖ Decline	MSC	AE	3 minutes ago	⋮

5 items in total (2 files, 3 folders)

### Declined shares (10)

Name ↓	Status	Shared by	Shared with	Shared on	Actions
<input type="checkbox"/> 01_Experiment	✓ Accept	MSC	AE	2 minutes ago	⋮
<input type="checkbox"/> 05_Results	✓ Accept	MSC	AE	2 minutes ago	⋮

# Simplified Shares

New

- Only your shares

The screenshot shows the ownCloud interface with the 'Shares' section selected. A red arrow points to the 'Shares' button in the left sidebar. The main content area displays a list of shared items with columns for Name, Status, Shared by, Shared with, Shared on, and Actions.

<input type="checkbox"/>	Name ↓	Status	Shared by	Shared with	Shared on	Actions
<input type="checkbox"/>	Notes	🔄	MSC	A	9 minutes ago	🗑️ Hide ⋮
<input type="checkbox"/>	Photos	🔄	MSC	A	9 minutes ago	🗑️ Hide ⋮
<input type="checkbox"/>	Calculations.xlsx	🔄	AE	A	10 minutes ago	🗑️ Hide ⋮
<input type="checkbox"/>	Space Timepptx.pptx	🔄	AE	A	10 minutes ago	🗑️ Hide ⋮
<input type="checkbox"/>	The Photoelectric Effect.docx	🔄	AE	A	10 minutes ago	🗑️ Hide ⋮
<input type="checkbox"/>	Theory of Relativity.md	🔄	AE	A	10 minutes ago	🗑️ Hide ⋮

6 items in total (4 files, 2 folders)

# Simplified Shares

New

- Only your shares
- Tidy up: Hide unwanted shares

The screenshot shows the ownCloud interface with the 'Shares' section selected in the left sidebar. The main area displays a list of shared items under the 'Shared with me' tab. The list includes folders 'Notes' and 'Photos', and files 'Calculations.xlsx', 'Space Timepptx.pptx', 'The Photoelectric Effect.docx', and 'Theory of Relativity.md'. A red arrow points to the 'Hide' button for the 'Calculations.xlsx' file.

Name	Status	Shared by	Shared with	Shared on	Actions
Notes	Refresh	MSC	A	10 minutes ago	Hide
Photos	Refresh	MSC	A	9 minutes ago	Hide
Calculations.xlsx	Refresh	AE	A	10 minutes ago	Hide
Space Timepptx.pptx	Refresh	AE	A	10 minutes ago	Hide
The Photoelectric Effect.docx	Refresh	AE	A	10 minutes ago	Hide
Theory of Relativity.md	Refresh	AE	A	10 minutes ago	Hide

6 items in total (4 files, 2 folders)

# Simplified Shares

New

- Only your shares
- Tidy up: Hide unwanted shares

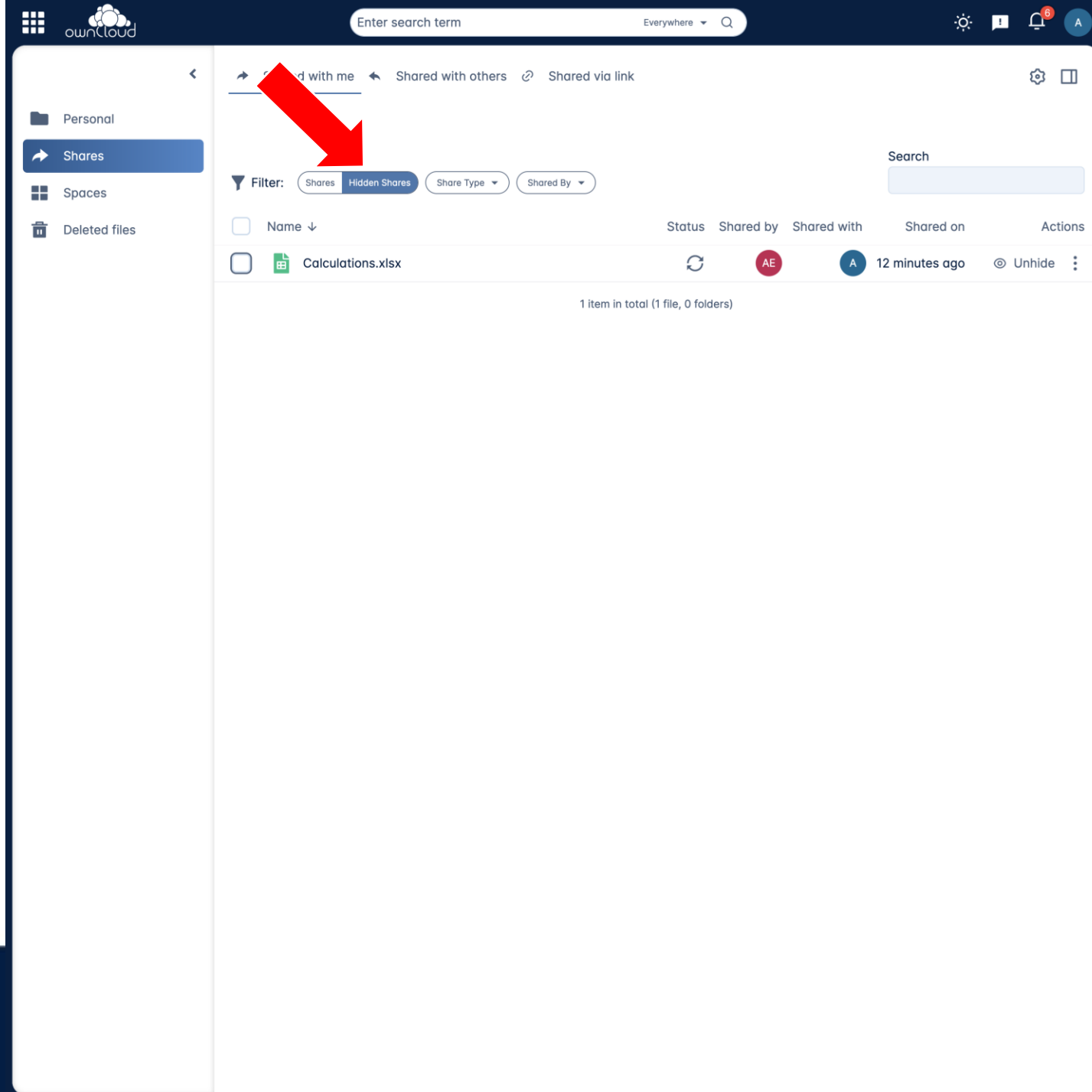
ownCloud 2024. All rights reserved. ownCloud.com



# Simplified Shares

New

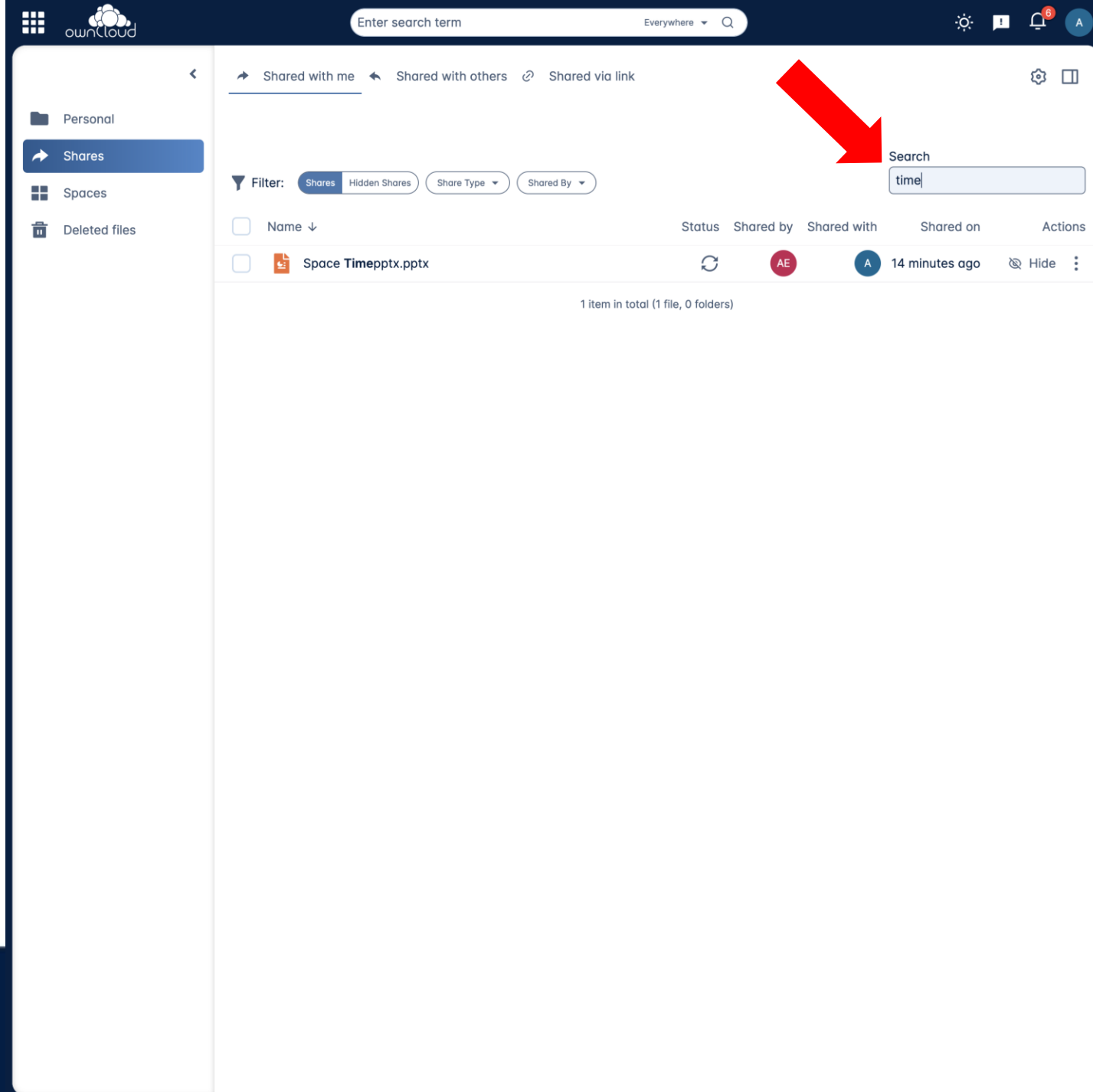
- Only your shares
- Tidy up: Hide unwanted shares
- Find hidden shares via the filter



# Simplified Shares

New

- Only your shares
- Tidy up: Hide unwanted shares
- Find hidden shares via the filter
- Search within shares

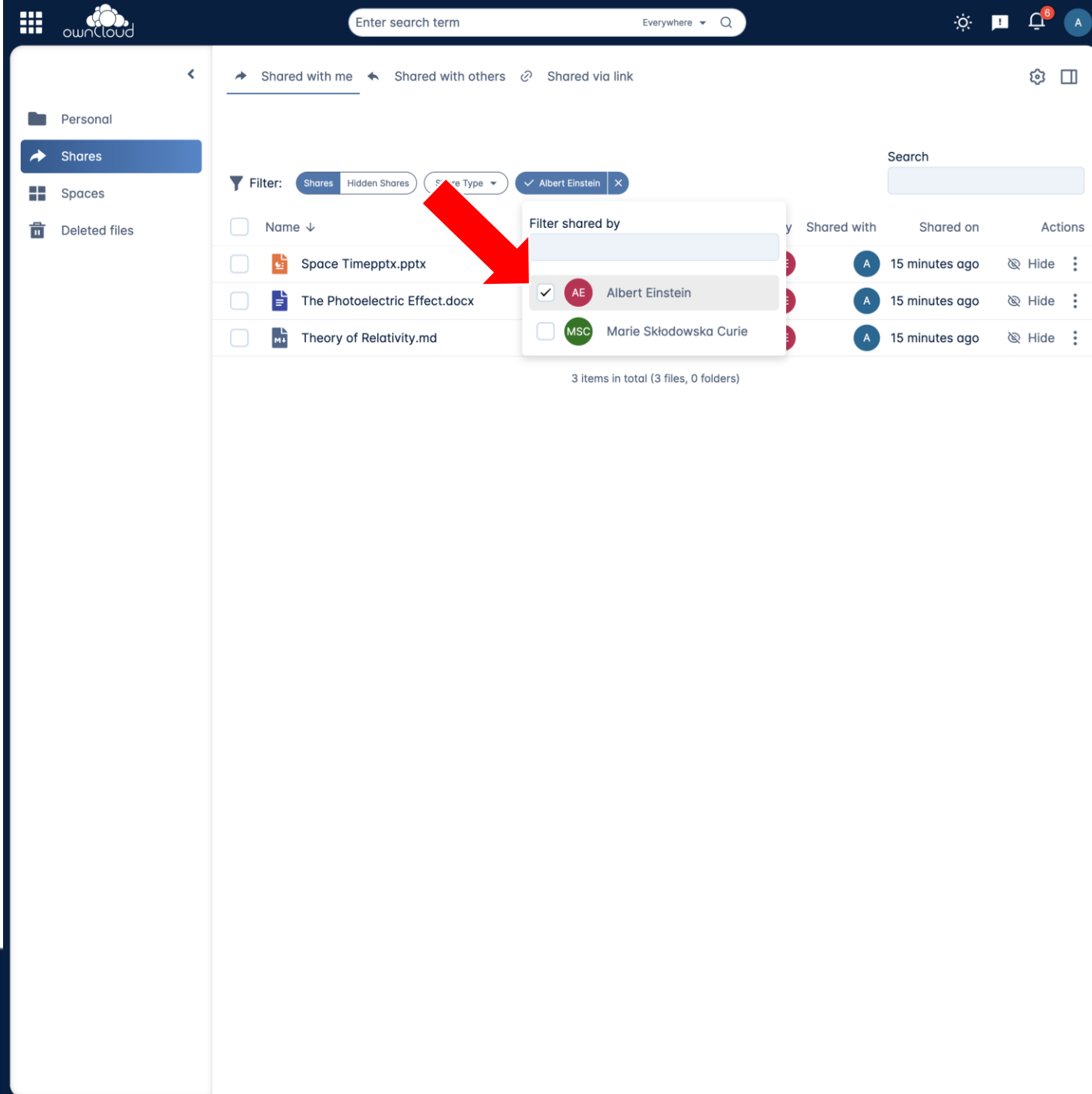


The screenshot displays the ownCloud web interface. On the left sidebar, the 'Shares' section is selected. The main content area shows a list of shares under the 'Shared with me' tab. A search bar in the top right corner is highlighted with a red arrow and contains the text 'time|'. Below the search bar, there are filter buttons for 'Shares' and 'Hidden Shares', along with dropdown menus for 'Share Type' and 'Shared By'. The list of shares includes a file named 'Space Timepptx.pptx' with a status of 'AE' and a share date of '14 minutes ago'. The bottom of the list shows '1 item in total (1 file, 0 folders)'.

# Simplified Shares

New

- Only your shares
- Tidy up: Hide unwanted shares
- Find hidden shares via the filter
- Search within shares
- Person filter (eg. “Shared by Einstein”)



The screenshot displays the ownCloud interface. The top navigation bar includes the ownCloud logo, a search bar with the text "Enter search term", and a "Everywhere" dropdown menu. The left sidebar shows navigation options: "Personal", "Shares" (highlighted), "Spaces", and "Deleted files". The main content area is titled "Shared with me" and contains a filter bar with "Shares", "Hidden Shares", and "Share Type" buttons. A red arrow points to the "Filter shared by" dropdown menu, which is open and shows a search bar and two options: "Albert Einstein" (selected with a checkmark) and "Marie Skłodowska Curie". Below the filter, a list of shares is visible, including "Space Timepptx.pptx", "The Photoelectric Effect.docx", and "Theory of Relativity.md". The table columns are "Name", "Shared with", "Shared on", and "Actions". The "Shared with" column shows a person icon with the letter "A" and the text "15 minutes ago". The "Actions" column shows a "Hide" button and a three-dot menu. At the bottom of the list, it says "3 items in total (3 files, 0 folders)".

# Simplified Shares

New

- Only your shares
- Tidy up: Hide unwanted shares
- Find hidden shares via the filter
- Search within shares
- Person filter (eg. “Shared by Einstein”)
- Define in Web which shares should be available for sync

The screenshot shows the ownCloud web interface. The top navigation bar includes the ownCloud logo, a search bar, and user profile information. The left sidebar shows navigation options: Personal, Shares (selected), Spaces, and Deleted files. The main content area displays a list of shares under the 'Shared with me' tab. The filter bar at the top of the list shows 'Shares', 'Hidden Shares', 'Share Type', and 'Shared By'. A red arrow points to the 'Shared By' dropdown menu. The list of shares includes folders like 'Notes' and 'Photos', and files like 'Space Timepptx.pptx', 'The Photoelectric Effect.docx', and 'Theory of Relativity.md'. A hand cursor is hovering over the 'Synced with your devices' status icon for the file 'Space Timepptx.pptx'. The bottom of the list shows '5 items in total (3 files, 2 folders)'.

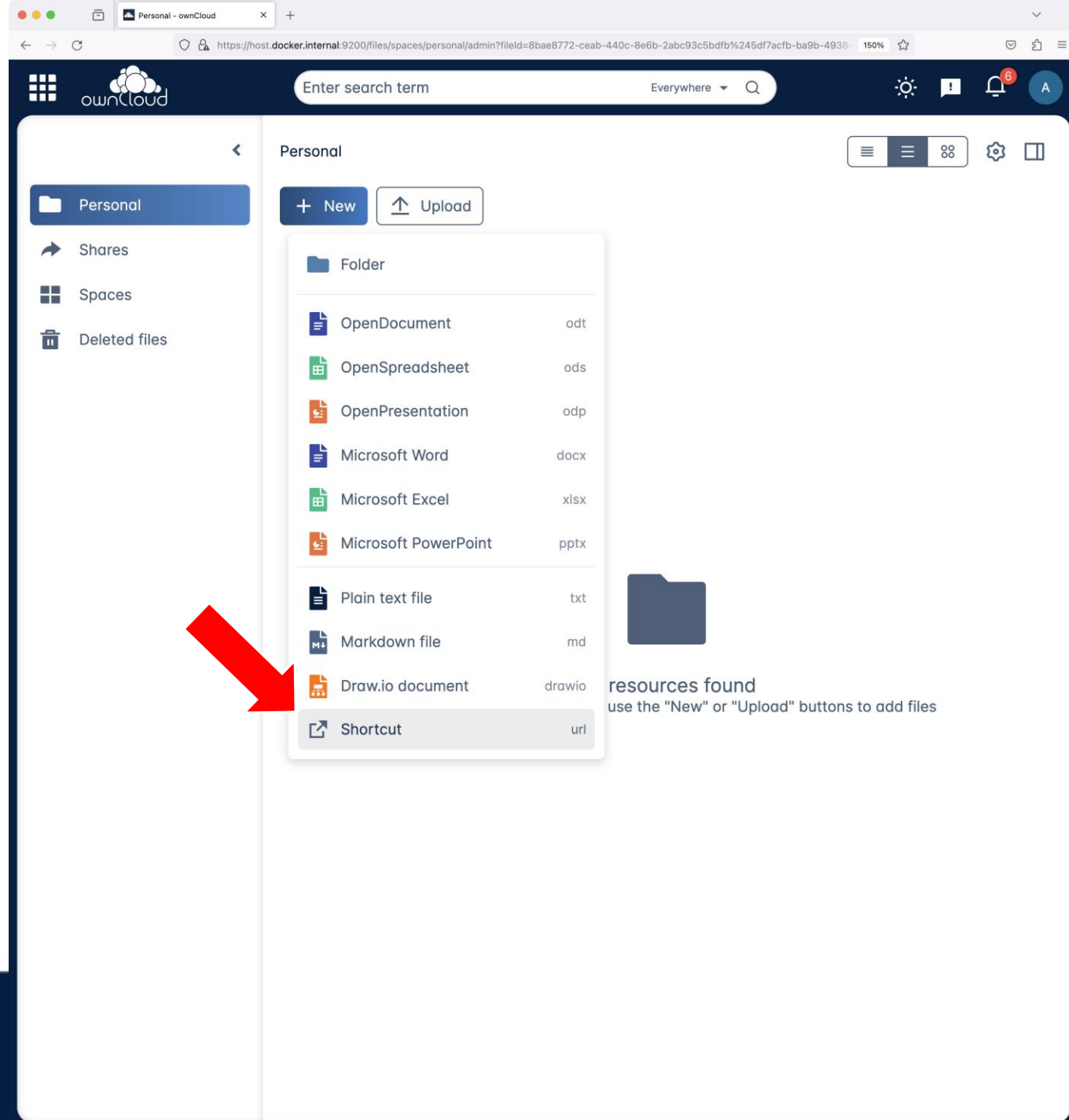
# Shortcuts

# Shortcuts

## Create shortcuts to

- Webpages or
- Files

By using shortcuts, the need to have multiple copies of the same file in different locations is eliminated. This not only saves storage space but also ensures that everyone is working on the most current version of a document.

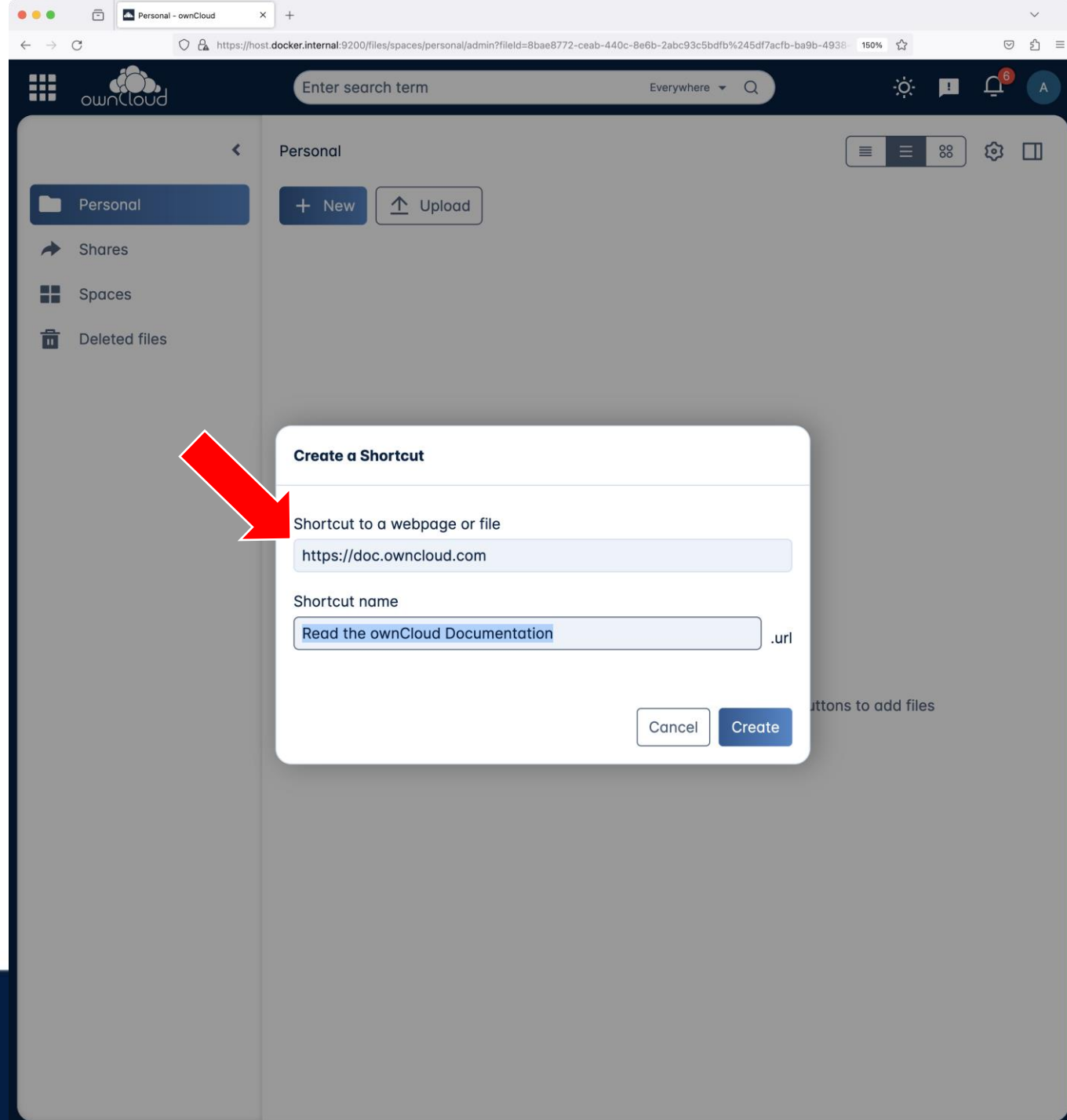


# Shortcuts

## Create shortcuts to

- Webpages or
- Files

By using shortcuts, the need to have multiple copies of the same file in different locations is eliminated. This not only saves storage space but also ensures that everyone is working on the most current version of a document.

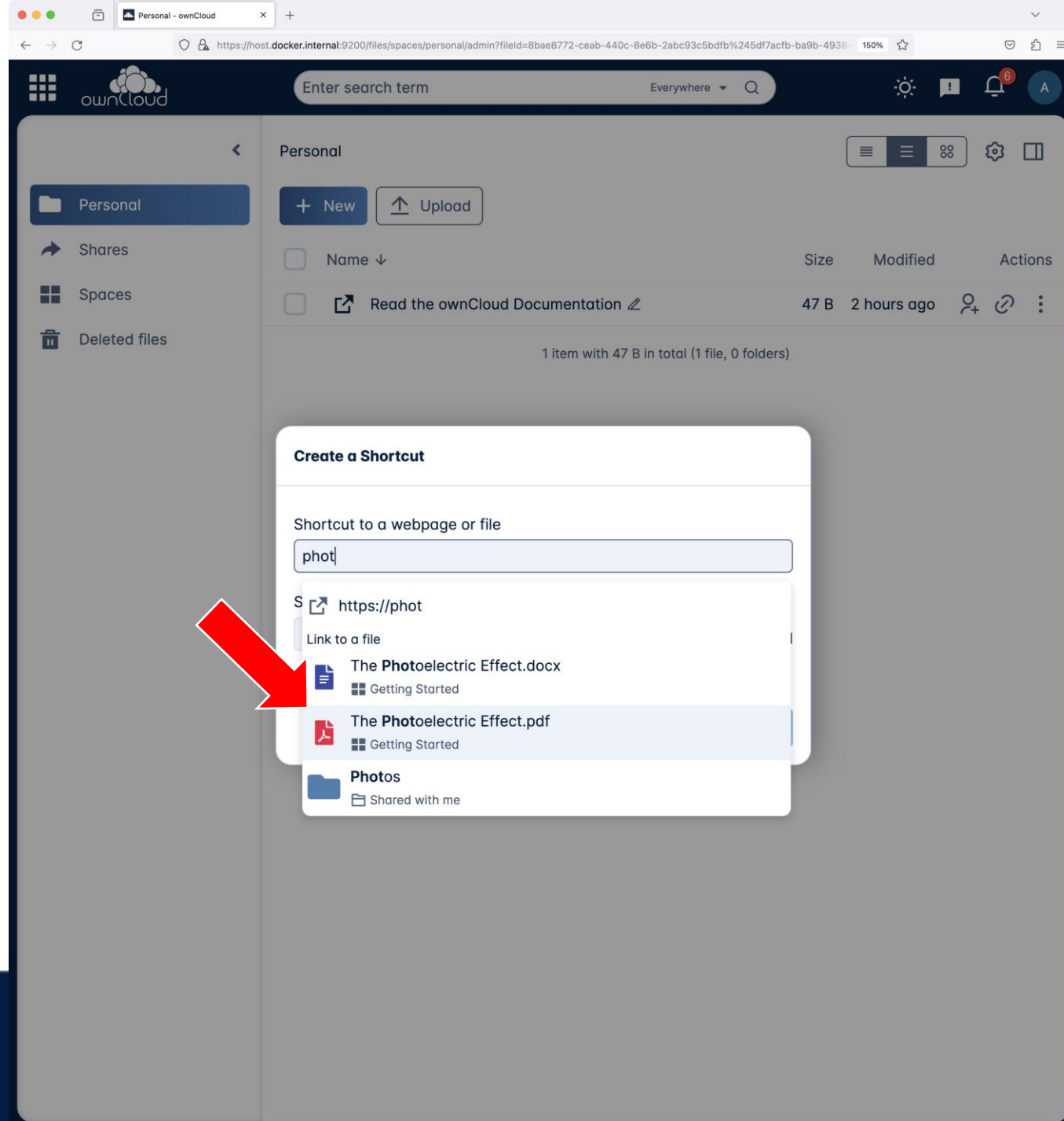


# Shortcuts

## Create shortcuts to

- Webpages or
- Files

By using shortcuts, the need to have multiple copies of the same file in different locations is eliminated. This not only saves storage space but also ensures that everyone is working on the most current version of a document.



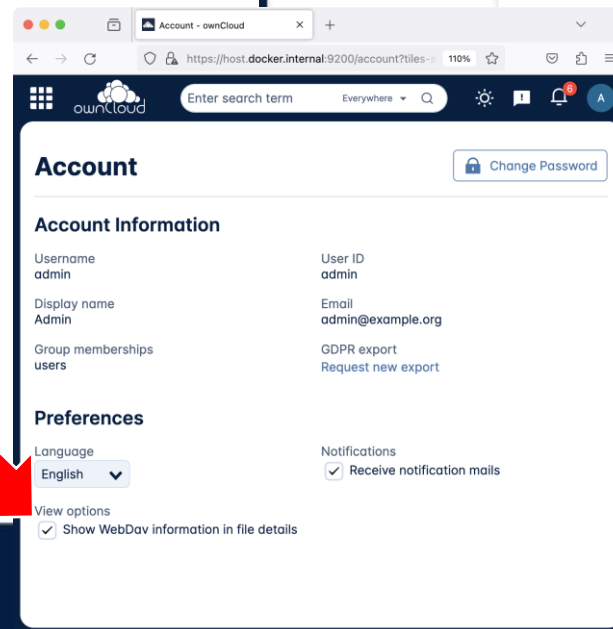
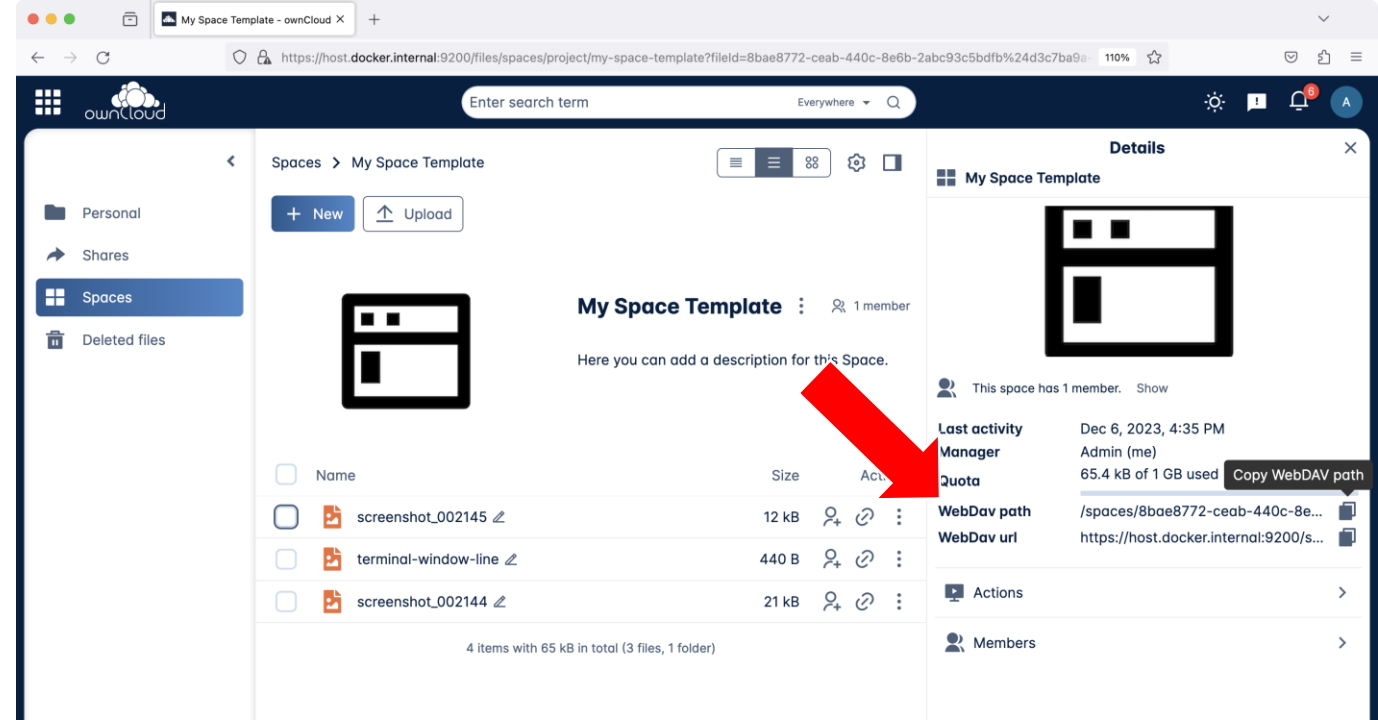


# Show WebDav Path

# Show WebDav Path

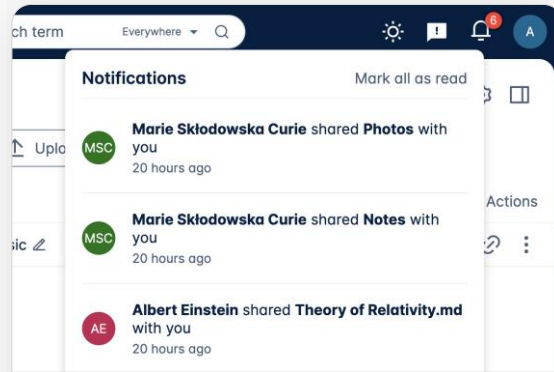
Shows WebDav path in the details view of a file, folder or Space.

This is a handy feature for advanced users who access Infinite Scale eg. via command line or 3<sup>rd</sup> party clients. The feature is off by default.



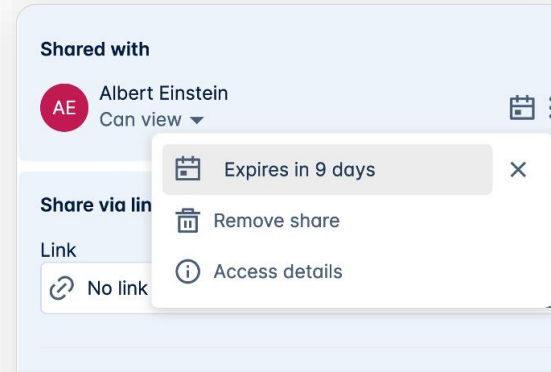
**... and many more  
improvements**

# ... and many more improvements



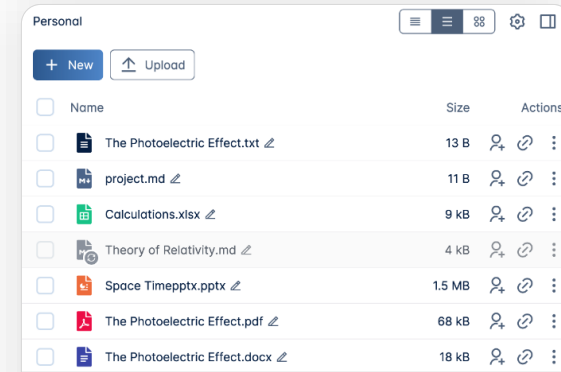
## Server Sent Events (SSE)

Show events like Notifications in realtime



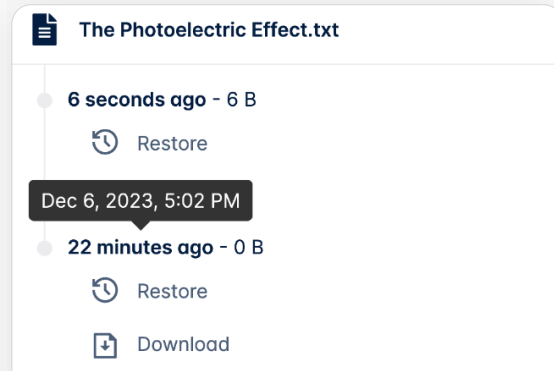
## Simplified Context Menu

Simplified expiration and password options in the context menu



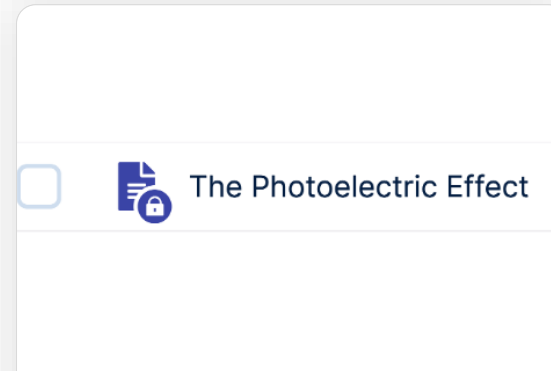
## Postprocessing

Show a file as inactive if it is being processed and not yet available (SSE)



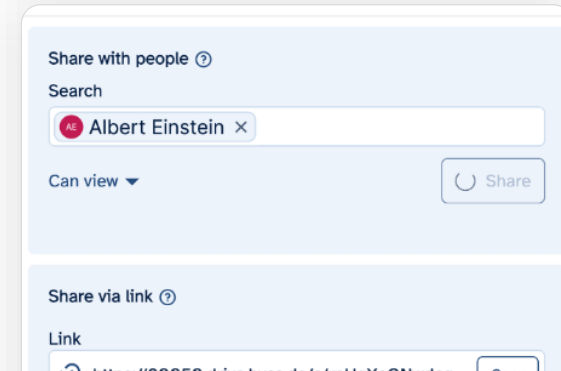
## Date in Version History

Show the absolute date additionally



## File Locking

Show if a file locked eg. because another user is currently editing it



## Loading Indicator

If sharing is delayed a loading indicator shows that the system is working

# Release Cycle

Infinite Scale

# Release Cycle

Infinite Scale

- **New Release**

2 x per year (receives full quality assurance)

- **Community Release**

17 x per year (after each 3 week sprint)

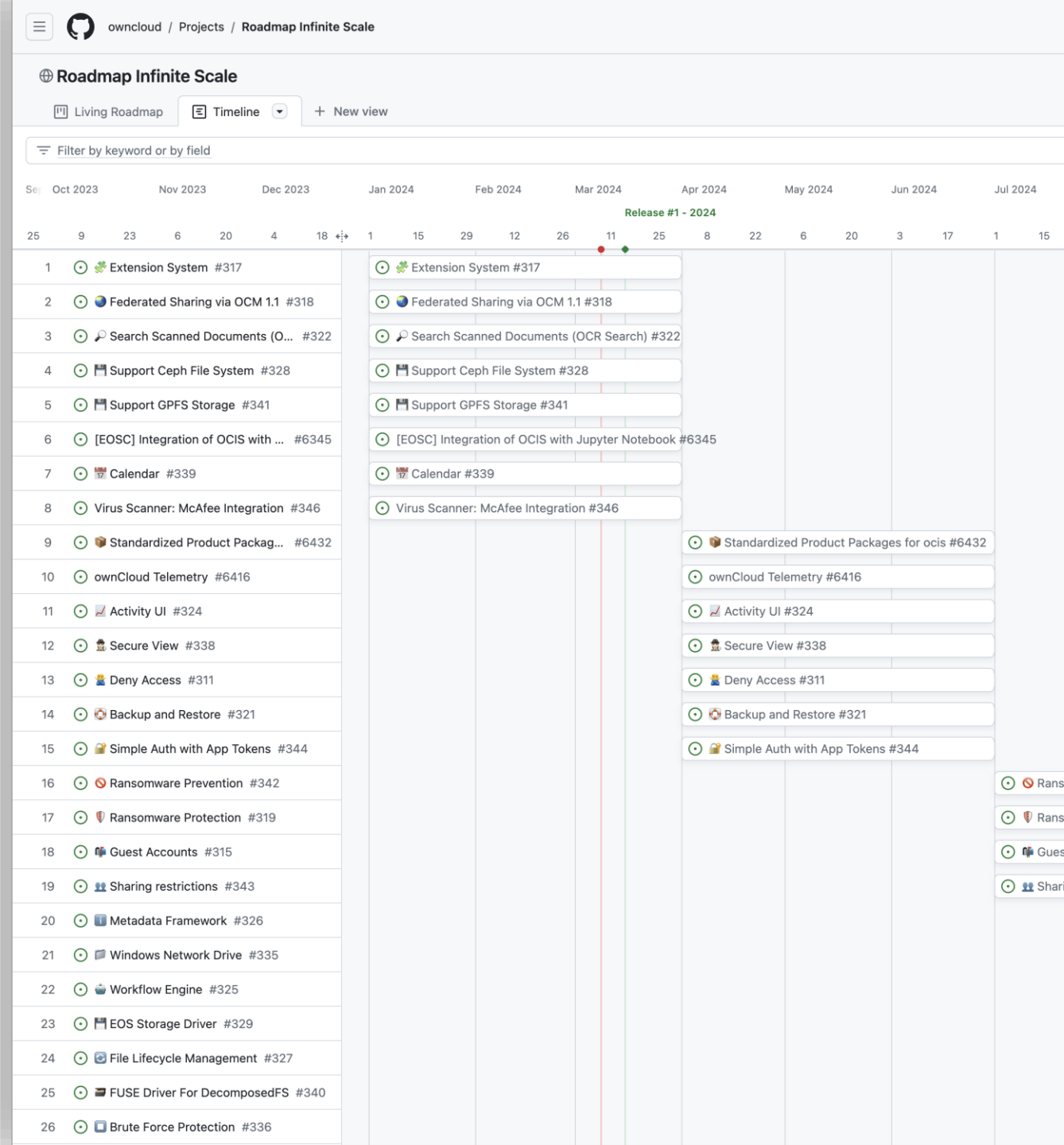


# Whats next?

## Check out the Roadmap

- Public
- Living
- Discuss!

[owncloud.com/roadmap](https://owncloud.com/roadmap)



# Roadmap Items

Next up in the coming months

- **OCR for documents leveraging Apache Tesseract**
- **Integration with Jupyter Notebooks**
- **Secure View with Collabora Online**
- **Community: Calendar via CalDAV and OIDC**
- **App Tokens for auth integrations which can't use full OIDC**



# GPFS and Collaborative Storage

Infinite Scale

# Collaborative Storage

“Mount” a filesystem into ownCloud Infinite Scale

- **Watch changes via event system of the file system**
- **Add Metadata when new files or changes show up**
- **Display in Web via Server Side Events = Instant Update**
- **Further improvements in the future like locks**
- **GPFS will be the first iteration of this**
- **Ceph to follow – CephFS or Rados tbd**
- **SMB later in 2025**
- **EOS possible**
- **NFS not likely due to missing features**

**Thank You  
For Your Attention!**

