Nextcloud User Manual

Release latest

The Nextcloud developers

Apr 04, 2019

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CHAPTER

ONE

NEXTCLOUD LATEST USER MANUAL INTRODUCTION

Welcome to Nextcloud: A safe home for all your data.

Nextcloud is open source file sync and share software for everyone from individuals operating the free Nextcloud Server in the privacy of their own home, to large enterprises and service providers supported by the Nextcloud Enterprise Subscription. Nextcloud provides a safe, secure, and compliant file synchronization and sharing solution on servers that you control.

You can share one or more files and folders on your computer, and synchronize them with your Nextcloud server. Place files in your local shared directories, and those files are immediately synchronized to the server and to other devices using the Nextcloud Desktop Sync Client, Android app, or iOS app. To learn more about the Nextcloud desktop and mobile clients, please refer to their respective manuals:

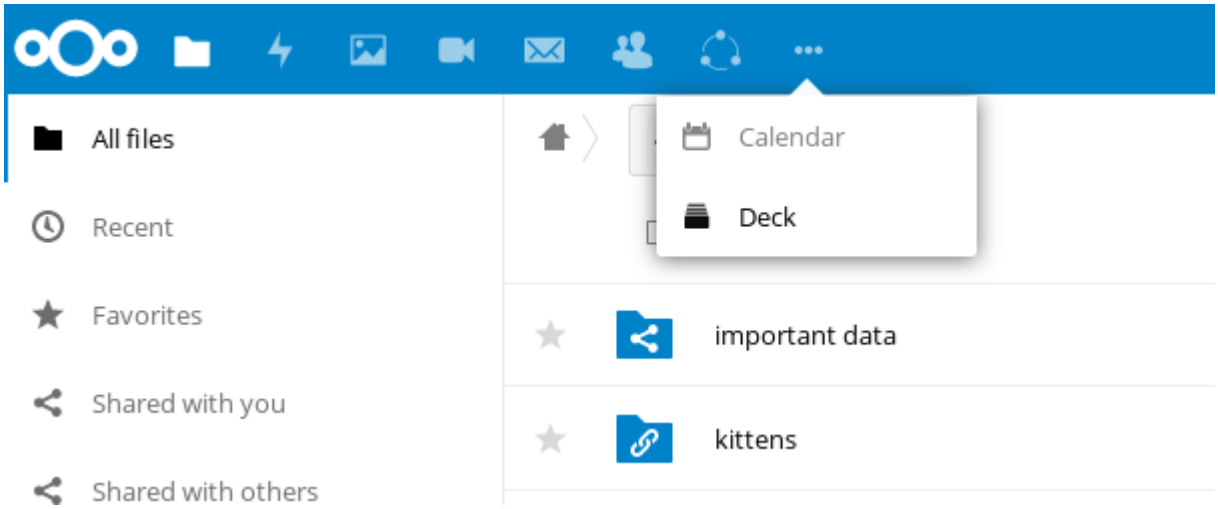
- Nextcloud Desktop Client
- Nextcloud Android App

CHAPTER

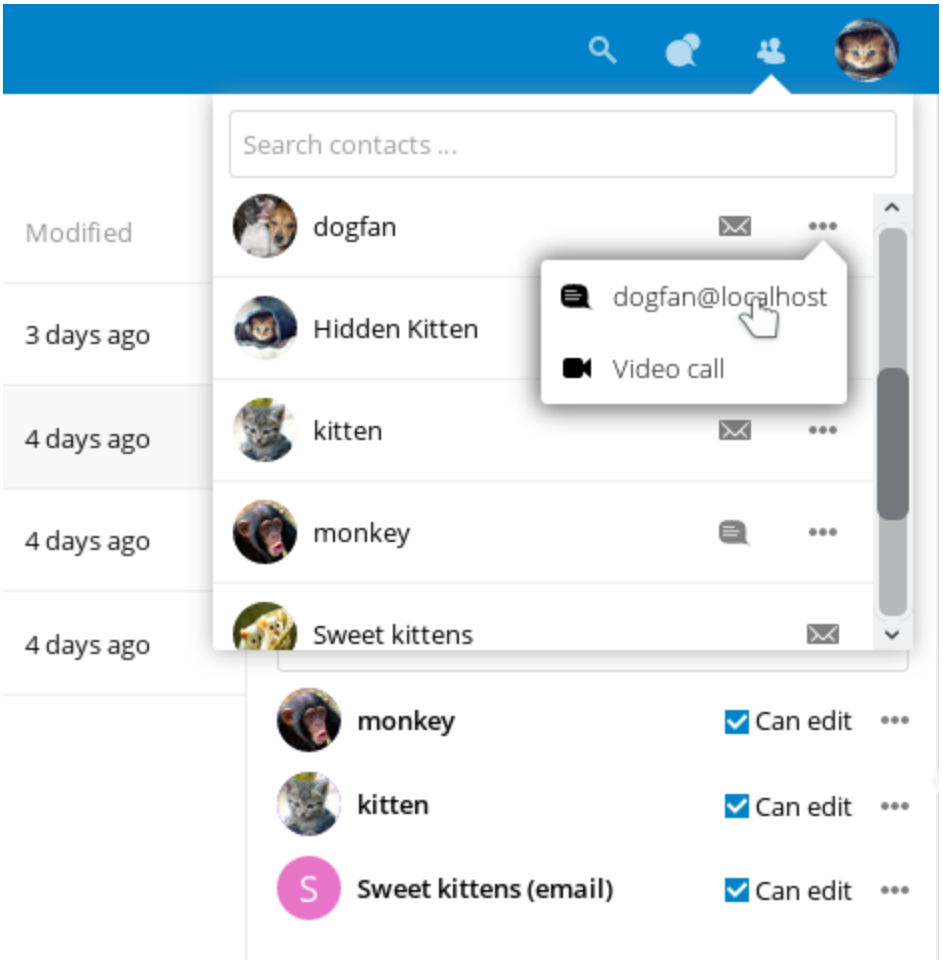
TWO

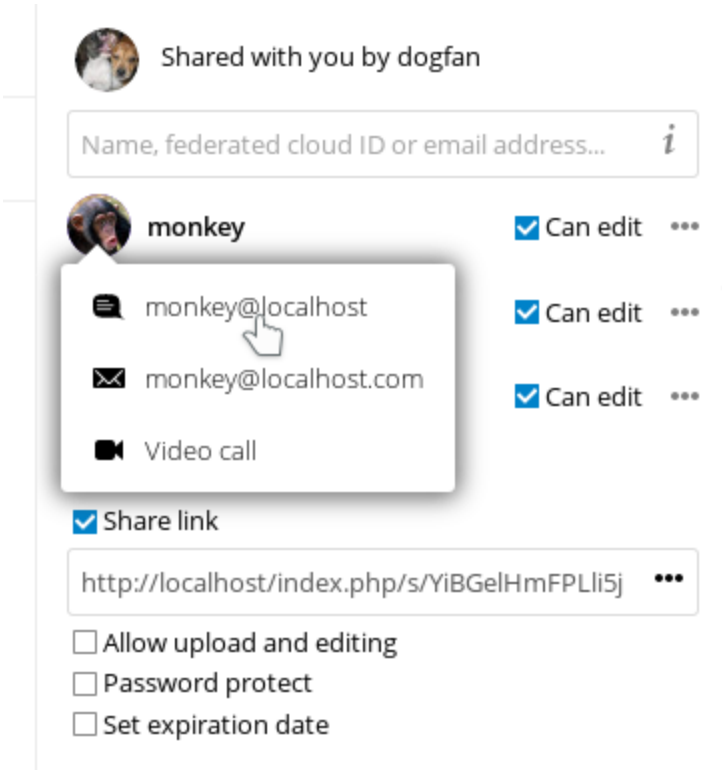
WHAT'S NEW FOR USERS IN NEXTCLOUD LATEST

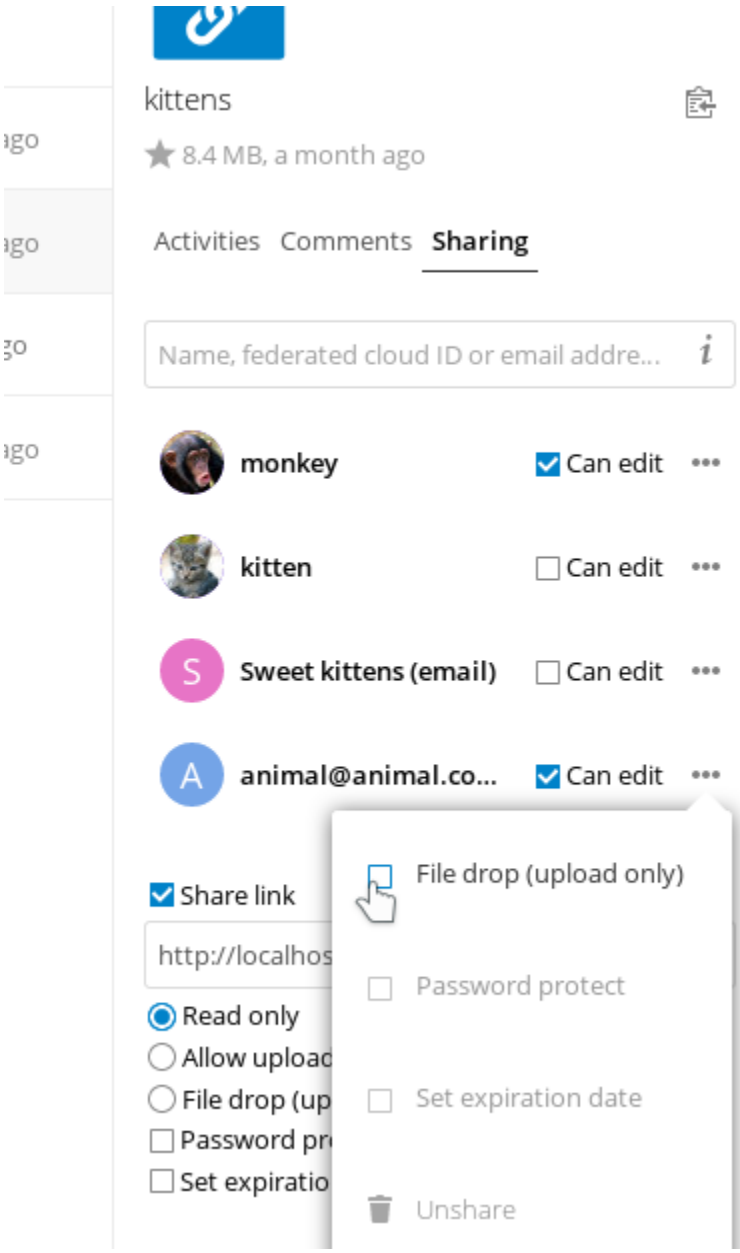
1. Easier way to select a new app



2. New Contacts menu to reach your colleagues or friends easier
3. A contact popup menu over avatars everywhere
4. Ability to send multiple unique sharing links each with their own settings, by entering email addresses (the recipient will receive an email)
5. Many other improvements and new apps, like screensharing in Video calls, new Circles app for user defined groups, push notifications, notifications of file changes even when shared to another server, undo removal of files from a shared folder even if the removal was done by a recipient, directly sharing to social media and much more.


Search contacts ...
Modified
dogfan
3 days ago
Hidden Kitten
dogfan@localhost
Video call
4 days ago
kitten
4 days ago
monkey
4 days ago
Sweet kittens
monkey
Can edit
kitten
Can edit
S
Sweet kittens (email)
Can edit


Shared with you by dogfan
Name, federated cloud ID or email address...
monkey
Can edit
monkey@localhost
Can edit
monkey@localhost.com
Can edit
Video call
Share link
http://localhost/index.php/s/YiBGelHmFPLli5j
Allow upload and editing
Password protect
Set expiration date

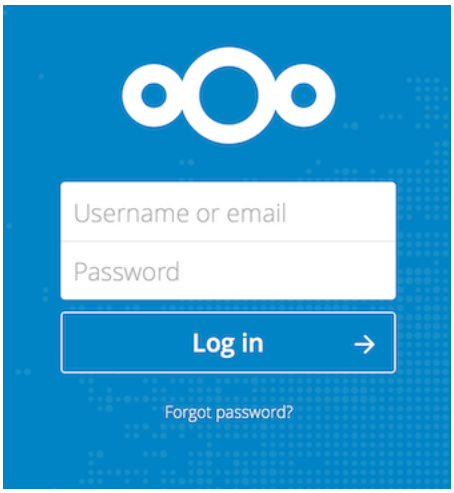

kittens
8.4 MB, a month ago
Activities
Comments
Sharing
Name, federated cloud ID or email addre...
monkey
Can edit
kitten
Can edit
Sweet kittens (email)
Can edit
animal@animal.co...
Can edit
Share link
http://localhos
Read only
Allow upload
File drop (up
Password pr
Set expiratio
File drop (upload only)
Password protect
Set expiration date
Unshare

CHAPTER

THREE

THE NEXTCLOUD WEB INTERFACE

You can connect to your Nextcloud server using any Web browser. Just point it to your Nextcloud server URL (e.g. cloud.example.com) and enter your username and password.



3.1 Web browser requirements

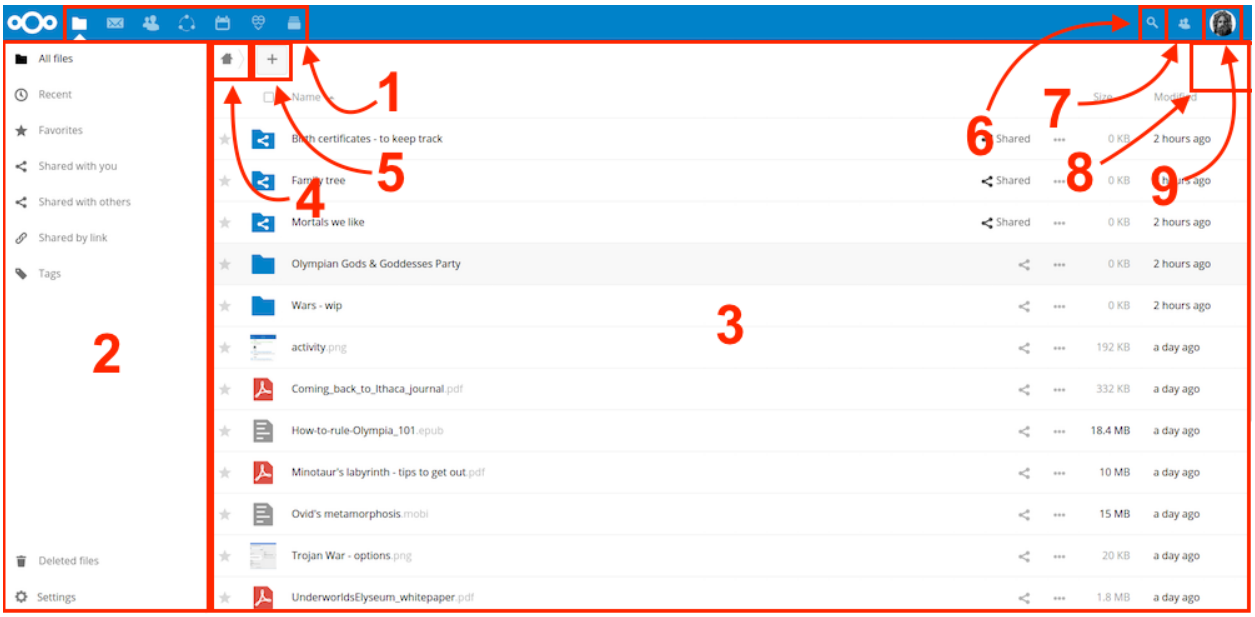
For the best experience with the Nextcloud web interface, we recommend that you use the latest and supported version of a browser from this list:

- Microsoft **Internet Explorer**
- Microsoft **Edge**
- Mozilla **Firefox**
- Google **Chrome**/Chromium
- Apple **Safari**

Note: If you want to use Nextcloud Talk you need to run Mozilla **Firefox** 52+ or Google **Chrome**/Chromium 49+ to have the full experience with video calls and screensharing. Google **Chrome**/Chromium requires a additional plugin for screensharing.

3.2 Navigating the main user interface

By default, the Nextcloud Web interface opens to your Files page. You can add, remove, and share files, and make changes based on the access privileges set by you (if you are administering the server) or by your server administrator.



The Nextcloud user interface contains the following fields and functions:

- **Apps Selection Menu** (1): Located in the upper left corner, you'll find all your apps which are available on your instance of Nextcloud. Clicking on an apps icon will redirect you to the app.
- **Apps Information** field (2): Located in the left sidebar, this provides filters and tasks associated with your selected app. For example, when you are using the Files apps you have a special set of filters for quickly finding your files, such as files that have been shared with you, and files that you have shared with others. You'll see different items for other apps.
- **Application View** (3): The main central field in the Nextcloud user interface. This field displays the contents or user features of your selected app.
- **Navigation Bar** (4): Located over the main viewing window (the Application View), this bar provides a type of breadcrumbs navigation that enables you to migrate to higher levels of the folder hierarchy up to the root level (home).
- **New** button (5): Located in the Navigation Bar, the `New` button enables you to create new files, new folders, or upload files.

Note: You can also drag and drop files from your file manager into the Files Application View to upload them to your instance. Currently, the only Web browsers that support drag-and-drop folders are Chrome and Chromium.

- **Search** field (6): Click on the magnifier in the upper right hand corner of to search for files.
- **Contacts Menu** (7): Gives you an overview about your contacts and users on your server. Dependent on the given details and available apps, you can directly start a video call with them or send emails.
- **Gallery** button (8). This looks like four little squares, and takes you directly to your image gallery.

- **Settings** menu (9): Click on your profile picture, located to the right of the Search field, to open your Settings dropdown menu. Your Settings page provides the following settings and features:
  - Links to download desktop and mobile apps
  - Server usage and space availability
  - Password management
  - Name, email, and profile picture settings
  - Manage connected browsers and devices
  - Group memberships
  - Interface language settings
  - Manage notifications
  - Federated Cloud ID and social media-sharing buttons
  - SSL/TLS certificate manager for external storages
  - Your Two-factor Settings
  - Nextcloud Version information

See *Setting your preferences* section to learn more about these settings.

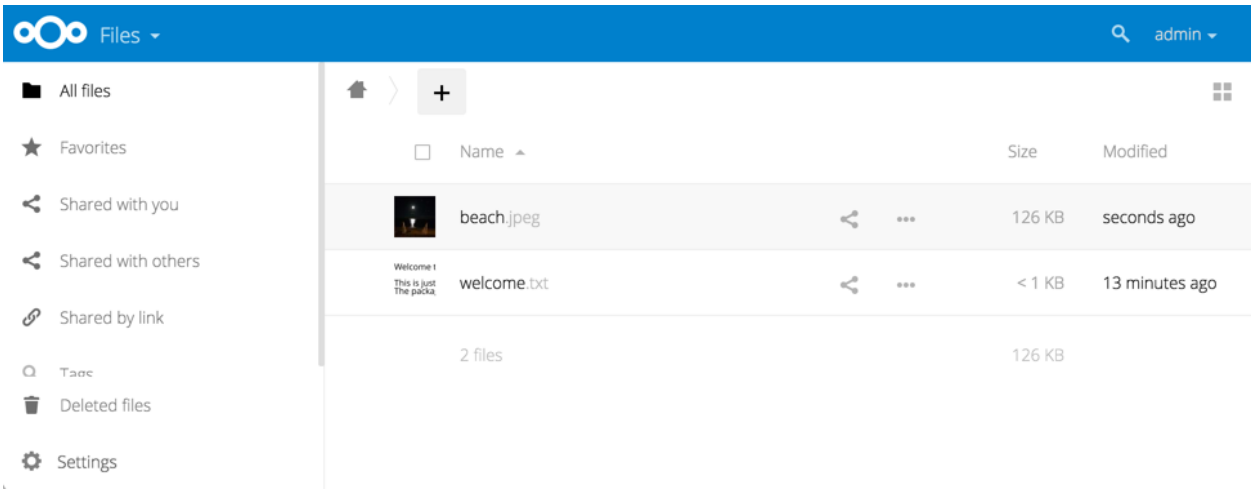
CHAPTER

FOUR

FILES & SYNCHRONIZATION

4.1 Accessing your files using the Nextcloud Web interface

You can access your Nextcloud files with the Nextcloud Web interface and create, preview, edit, delete, share, and re-share files. Your Nextcloud administrator has the option to disable these features, so if any of them are missing on your system ask your server administrator.



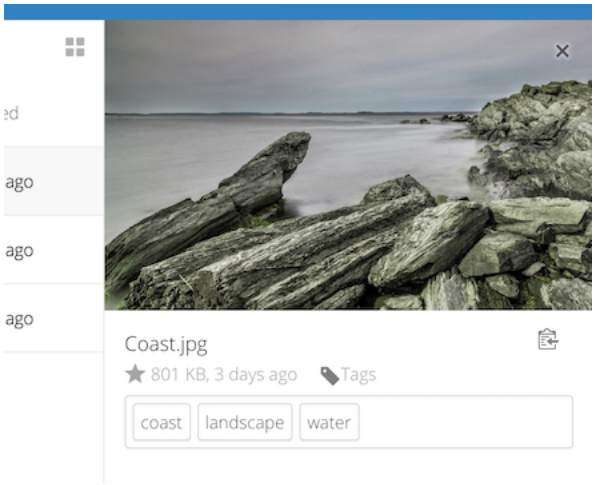
4.1.1 Tagging files

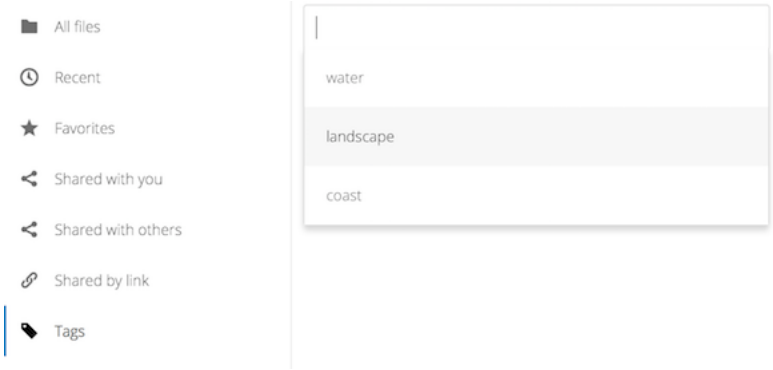
You can assign tags to files. To create tags, open a file to the Details view. Then type your tags. To enter more than one tag press the return key after creating each tag. All tags are system tags, and are shared by all users on your Nextcloud server.

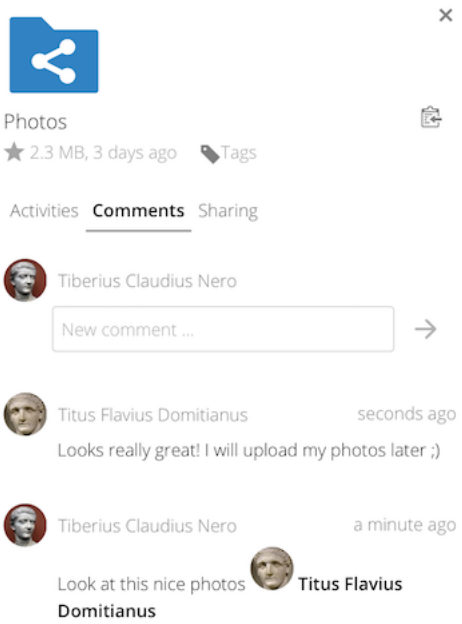
Then use the Tags filter on the left sidebar to filter files by tags.

4.1.2 Comments

Use the Details view to add and read comments on any file or folder. Comments are visible to everyone who has access to the file.

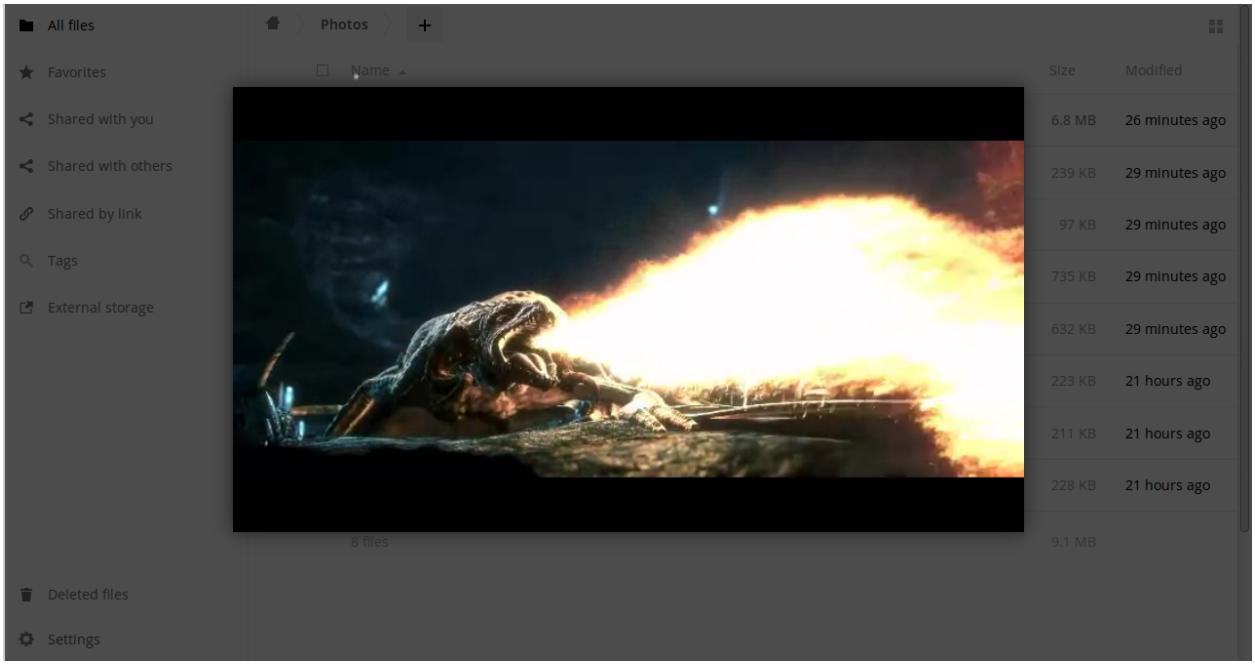

ago
ago
ago
Coast.jpg
801 KB, 3 days ago
Tags
coast
landscape
water


All files
Recent
Favorites
Shared with you
Shared with others
Shared by link
Tags
water
landscape
coast


Photos
2.3 MB, 3 days ago
Tags
Activities
Comments
Sharing
Tiberius Claudius Nero
New comment ...
Titus Flavius Domitianus
seconds ago
Looks really great! I will upload my photos later ;)
Tiberius Claudius Nero
a minute ago
Look at this nice photos
Titus Flavius Domitianus

4.1.3 Video player

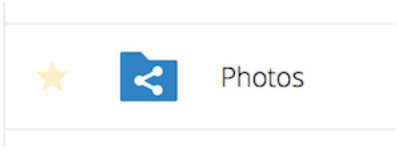
You can play videos in Nextcloud with the Video Player app by simply clicking on the file. Video streaming by the native Nextcloud video player depends on your Web browser and the video format. If your Nextcloud administrator has enabled video streaming, and it doesn't work in your Web browser, it may be a browser issue. See https://developer.mozilla.org/en-US/docs/Web/HTML/Supported_media_formats#Browser_compatibility for supported multimedia formats in Web browsers.



4.1.4 File controls

Nextcloud can display thumbnail previews for image files, MP3 covers, and text files, if this enabled by your server administrator. Hover your cursor over a file or folder to expose the controls for the following operations:

Favorites Click the star to the left of the file icon to mark it as a favorite, and quickly find all of your favorites with the Favorites filter on the left sidebar.

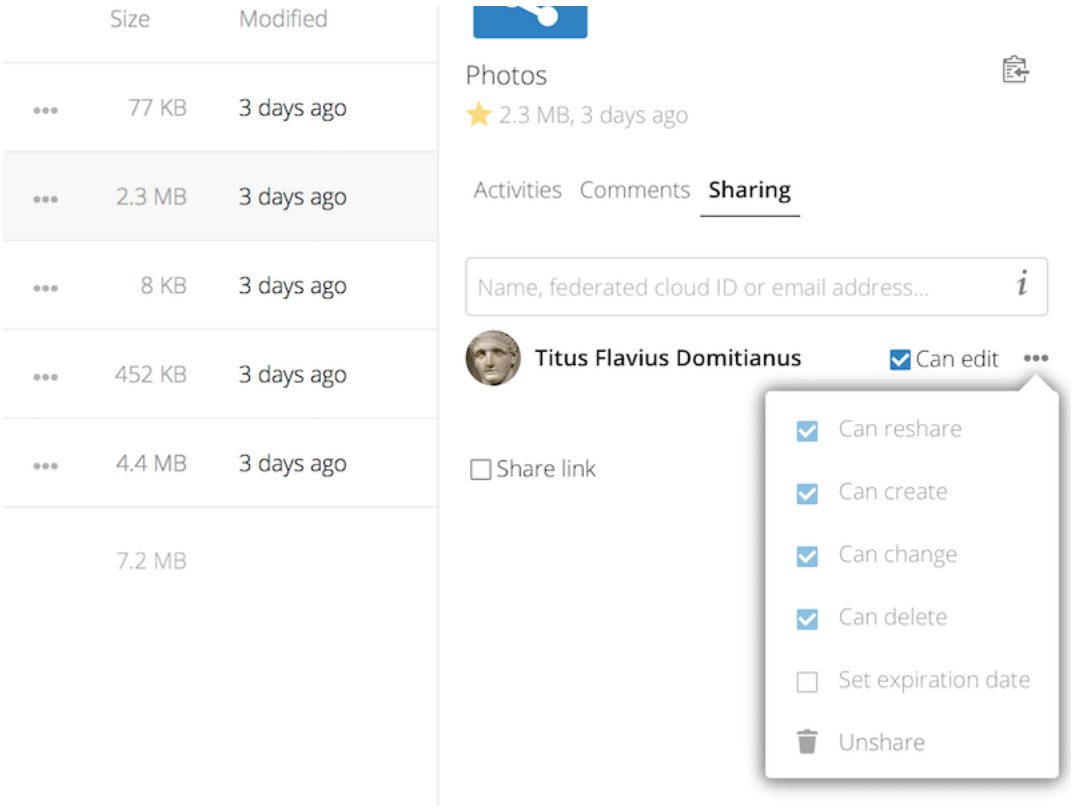


Share Share the file or folder with a group or other users, and create public shares with hyperlinks. You can also see who you have shared with already, and revoke shares by clicking the trash can icon.

Note: Since version 9.0, you can see all re-shares of your original file shares.

If username auto-completion is enabled, when you start typing the user or group name Nextcloud will automatically complete it for you. If your administrator has enabled email notifications, you can send an email notification of the new share from the sharing screen.

You have five share permissions:



- Can share; allows the users you share with to re-share.
- Can edit; allows the users you share with to edit your shared files, and to collaborate using the Documents app.
- Create; allows the users you share with to create new files and add them to the share.
- Change; allows uploading a new version of a shared file and replacing it.
- Delete; allows the users you share with to delete shared files.

Overflow Menu The Overflow menu (three dots) displays file details, and allows you to rename, download, or delete files.

The **Settings** gear icon at the lower left allows you to show or hide hidden files in your Nextcloud Web interface. These are also called dotfiles, because they are prefixed with a dot, e.g. `.mailfile`. The dot tells your operating system to hide these files in your file browsers, unless you choose to display them. Usually these are configuration files, so having the option to hide them reduces clutter.

4.1.5 Previewing files

You can display uncompressed text files, OpenDocument files, videos, and image files in the Nextcloud embedded viewers by clicking on the file name. There may be other file types you can preview if your Nextcloud administrator has enabled them. If Nextcloud cannot display a file, it starts a download process and downloads the file to your computer.

4.1.6 Navigating inside your Nextcloud

Navigating through folders in Nextcloud is as simple as clicking on a folder to open it and using the back button on your browser to move to a previous level. Nextcloud also provides a navigation bar at the top of the Files field for

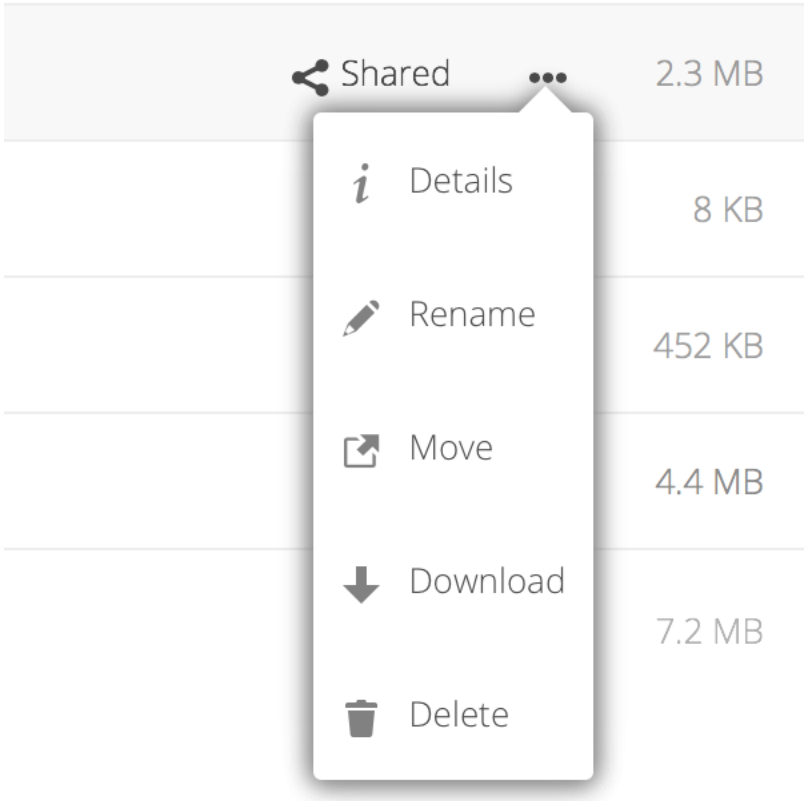
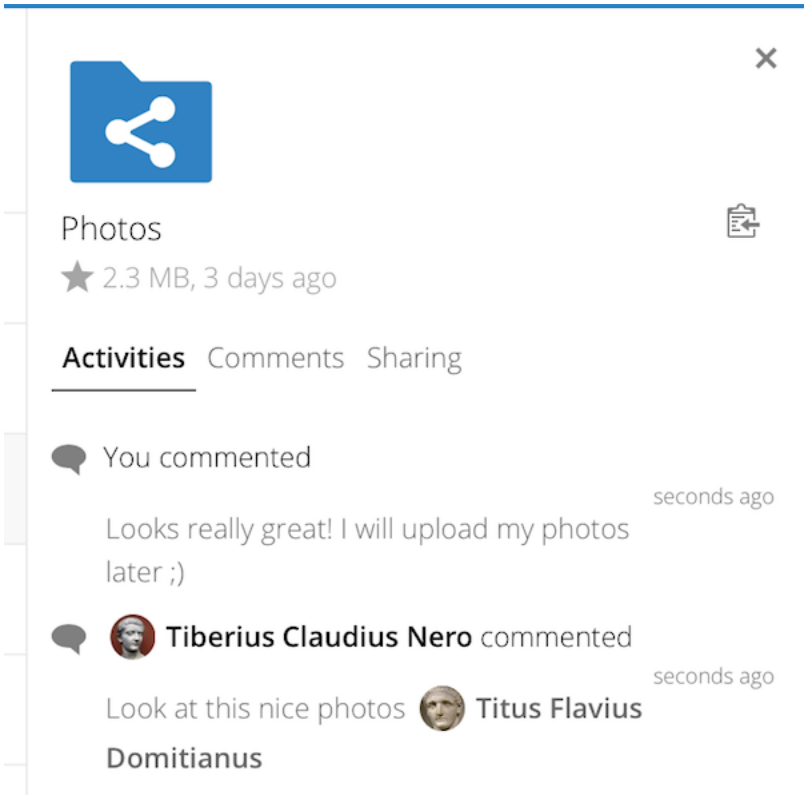
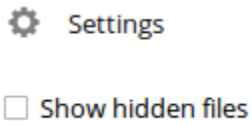


Fig. 1: The Details view shows Activities, Sharing, and Versions information.

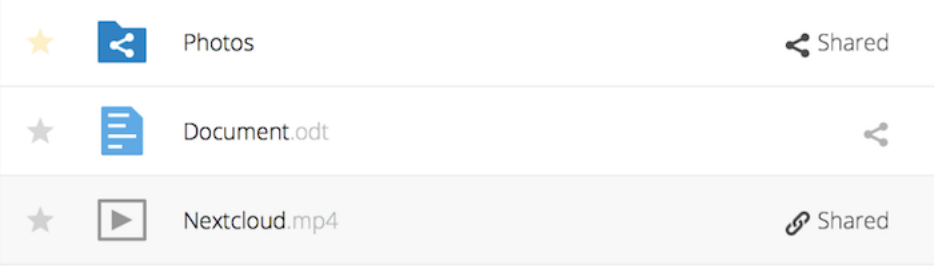

Photos
2.3 MB, 3 days ago
Activities
Comments
Sharing
You commented
seconds ago
Looks really great! I will upload my photos later ;)
Tiberius Claudius Nero commented
seconds ago
Look at this nice photos
Titus Flavius Domitianus


Settings
Show hidden files

quick navigation.

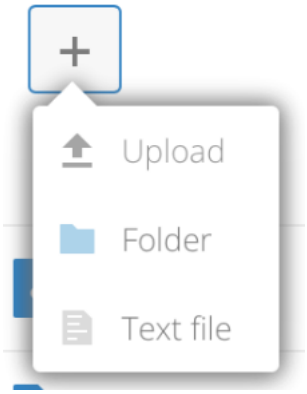
4.1.7 Sharing status icons

Any folder that has been shared is marked with the `Shared` overlay icon. Public link shares are marked with a chain link. Un-shared folders are blank.



4.1.8 Creating or uploading files and directories

Upload or create new files or folders directly in a Nextcloud folder by clicking on the *New* button in the Files app.



The *New* button provides the following options:

Up arrow Upload files from your computer into Nextcloud. You can also upload files by dragging and dropping them from your file manager.

Text file Creates a new text file and adds the file to your current folder.

Folder Creates a new folder in the current folder.

4.1.9 Selecting files or folders

You can select one or more files or folders by clicking on their checkboxes. To select all files in the current directory, click on the checkbox located at the top of the files listing.

When you select multiple files, you can delete all of them, or download them as a ZIP file by using the `Delete` or `Download` buttons that appear at the top.

Note: If the `Download` button is not visible, the administrator has disabled this feature.

4.1.10 Filtering the files view

The left sidebar on the Files page contains several filters for quickly sorting and managing your files.

All files The default view; displays all files that you have access to.

Favorites Files or folders marked with the yellow star.

Shared with you Displays all files shared with you by another user or group.

Shared with others Displays all files that you have shared with other users or groups.

Shared by link Displays all files that are shared by you via public link.

External Storage (optional) Files that you have access to on external storage devices and services such as Dropbox, Google, and Amazon S3.

4.1.11 Moving files

You can move files and folders by dragging and dropping them into any directory.

4.1.12 Change in share expiration date

In older versions of Nextcloud, you could set an expiration date on both local and public shares. Now you can set an expiration date only on public shares, and local shares do not expire when public shares expire. The only way to "expire" a local share is to click the trash can icon to un-share your files.

4.1.13 Creating or connecting to a Federation Share link

Federated Cloud Sharing allows you to mount file shares from remote Nextcloud servers, and manage them just like a local share. In Nextcloud 9 the process for creating a new sharing link is easier and more streamlined. See *Using Federation Shares* to learn to how to create and connect to new Federated Cloud shares.

4.2 Accessing Nextcloud files using WebDAV

Nextcloud fully supports the WebDAV protocol, and you can connect and synchronize with your Nextcloud files over WebDAV. In this chapter you will learn how to connect Linux, macOS, Windows, and mobile devices to your Nextcloud server via WebDAV. Before we get into configuring WebDAV, let's take a quick look at the recommended way of connecting client devices to your Nextcloud servers.

Note: In the following examples, You must adjust **example.com/** to the URL of your Nextcloud server installation. And USERNAME is the userid of the connecting user.

See the webdav url (bottom left, settings) on your Nextcloud.

4.2.1 Nextcloud Desktop and mobile clients

The recommended way to synchronize a desktop PC with a Nextcloud server is by using Nextcloud/ownCloud sync clients. You can configure the client to save files in any local directory and you can choose which directories on the Nextcloud server to sync with. The client displays the current connection status and logs all activity, so you always

know which remote files have been downloaded to your PC and you can verify that files created and updated on your local PC are properly synchronized with the server.

The recommended way to synchronize Nextcloud server with Android and Apple iOS devices is by using the mobile apps.

To connect your mobile app to a Nextcloud server use the base URL and folder only:

```
example.com/nextcloud
```

In addition to the mobile apps provided by Nextcloud or ownCloud, you can use other apps to connect to Nextcloud from your mobile device using WebDAV. WebDAV Navigator is a good (proprietary) app for Android devices and iPhones. The URL to use on these is:

```
example.com/nextcloud/remote.php/dav/files/USERNAME/
```

4.2.2 WebDAV configuration

If you prefer, you may also connect your desktop PC to your Nextcloud server by using the WebDAV protocol rather than using a special client application. Web Distributed Authoring and Versioning (WebDAV) is a Hypertext Transfer Protocol (HTTP) extension that makes it easy to create, read, and edit files on Web servers. With WebDAV you can access your Nextcloud shares on Linux, macOS and Windows in the same way as any remote network share, and stay synchronized.

4.2.3 Accessing files using Linux

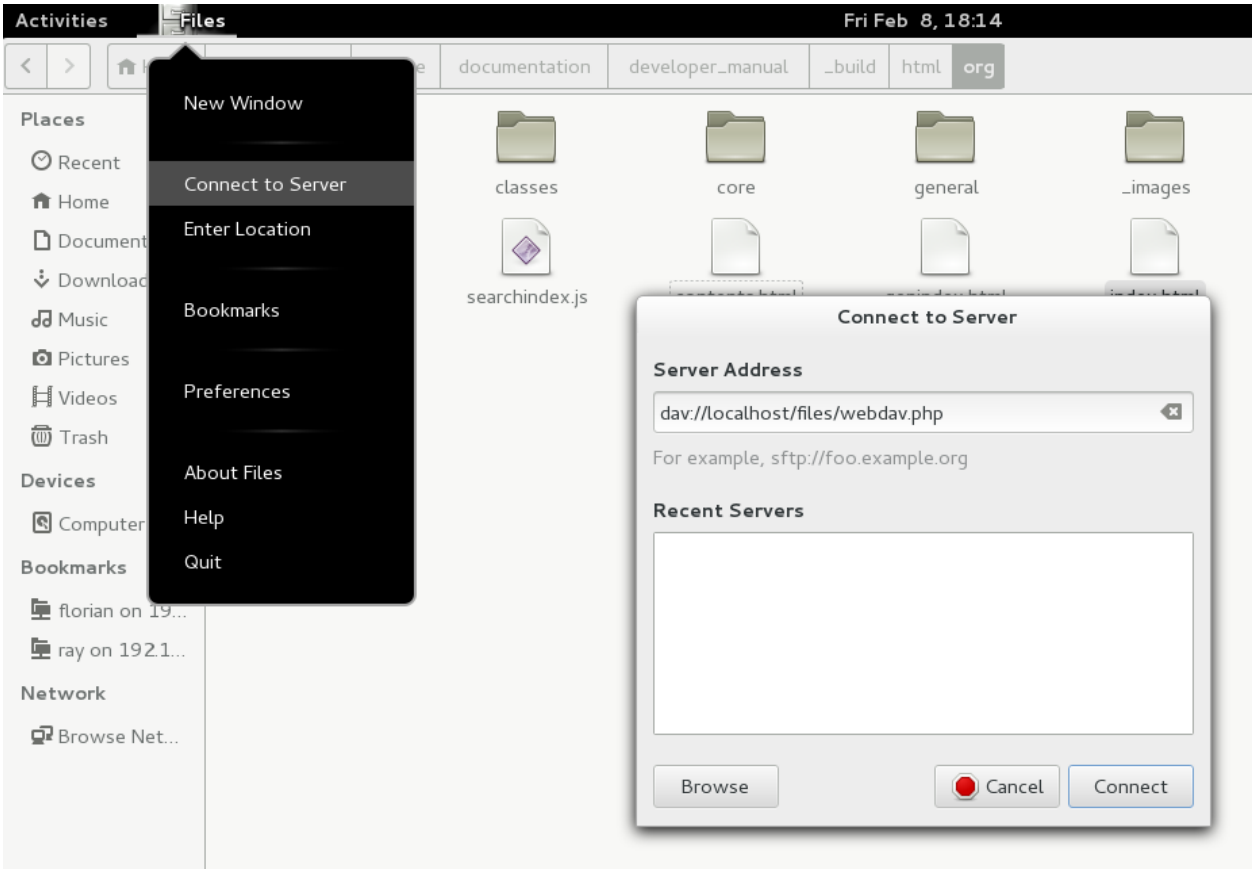
You can access files in Linux operating systems using the following methods.

Nautilus file manager

Use the `davs://` protocol to connect the Nautilus file manager to your Nextcloud share:

```
davs://example.com/nextcloud/remote.php/dav/files/USERNAME/
```

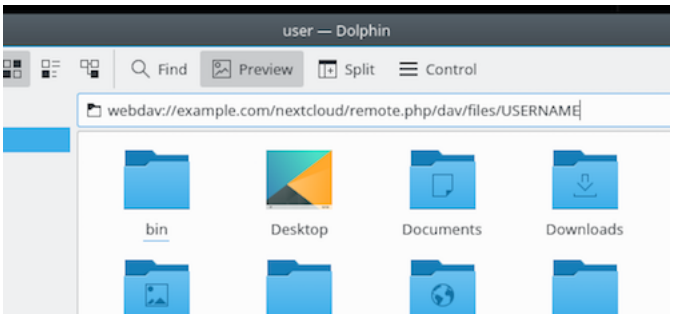
Note: If your server connection is not HTTPS-secured, use *dav://* instead of *davs://*.



Accessing files with KDE and Dolphin file manager

To access your Nextcloud files using the Dolphin file manager in KDE, use the `webdav://` protocol:

```
webdav://example.com/nextcloud/remote.php/dav/files/USERNAME/
```



You can create a permanent link to your Nextcloud server:

1. Open Dolphin and click “Network” in the left hand “Places” column.
2. Click on the icon labeled **Add a Network Folder**. The resulting dialog should appear with WebDAV already selected.
3. If WebDAV is not selected, select it.
4. Click **Next**.
5. Enter the following settings:

- Name: The name you want to see in the **Places** bookmark, for example Nextcloud.
- User: The Nextcloud username you used to log in, for example admin.
- Server: The Nextcloud domain name, for example **example.com** (without **http://** before or directories afterwards).
- Folder – Enter the path `nextcloud/remote.php/dav/files/USERNAME/`.

6. (Optional) Check the "Create icon checkbox" for a bookmark to appear in the Places column.
7. (Optional) Provide any special settings or an SSL certificate in the "Port & Encrypted" checkbox.

4.2.4 Creating WebDAV mounts on the Linux command line

You can create WebDAV mounts from the Linux command line. This is useful if you prefer to access Nextcloud the same way as any other remote filesystem mount. The following example shows how to create a personal mount and have it mounted automatically every time you log in to your Linux computer.

1. Install the `davfs2` WebDAV filesystem driver, which allows you to mount WebDAV shares just like any other remote filesystem. Use this command to install it on Debian/Ubuntu:

```
apt-get install davfs2
```

2. Use this command to install it on CentOS, Fedora, and openSUSE:

```
yum install davfs2
```

3. Add yourself to the `davfs2` group:

```
usermod -aG davfs2 <username>
```

3. Then create a `nextcloud` directory in your home directory for the mountpoint, and `.davfs2/` for your personal configuration file:

```
mkdir ~/nextcloud
mkdir ~/.davfs2
```

4. Copy `/etc/davfs2/secrets` to `~/.davfs2`:

```
cp  /etc/davfs2/secrets ~/.davfs2/secrets
```

5. Set yourself as the owner and make the permissions read-write owner only:

```
chown <linux_username>:<linux_username> ~/.davfs2/secrets
chmod 600 ~/.davfs2/secrets
```

6. Add your Nextcloud login credentials to the end of the `secrets` file, using your Nextcloud server URL and your Nextcloud username and password:

```
https://example.com/nextcloud/remote.php/dav/files/USERNAME/ <username> <password>
or
$PathToMountPoint $USERNAME $PASSWORD
for example
/home/user/nextcloud john 1234
```

7. Add the mount information to `/etc/fstab`:

```
https://example.com/nextcloud/remote.php/dav/files/USERNAME/ /home/<linux_
↪username>/nextcloud
davfs user,rw,auto 0 0
```

8. Then test that it mounts and authenticates by running the following command. If you set it up correctly you won't need root permissions:

```
mount ~/nextcloud
```

9. You should also be able to unmount it:

```
umount ~/nextcloud
```

Now every time you login to your Linux system your Nextcloud share should automatically mount via WebDAV in your `~/nextcloud` directory. If you prefer to mount it manually, change `auto` to `noauto` in `/etc/fstab`.

4.2.5 Known issues

Problem

Resource temporarily unavailable

Solution

If you experience trouble when you create a file in the directory, edit `/etc/davfs2/davfs2.conf` and add:

```
use_locks 0
```

Problem

Certificate warnings

Solution

If you use a self-signed certificate, you will get a warning. To change this, you need to configure `davfs2` to recognize your certificate. Copy `mycertificate.pem` to `/etc/davfs2/certs/`. Then edit `/etc/davfs2/davfs2.conf` and uncomment the line `servercert`. Now add the path of your certificate as in this example:

```
servercert /etc/davfs2/certs/mycertificate.pem
```

4.2.6 Accessing files using macOS

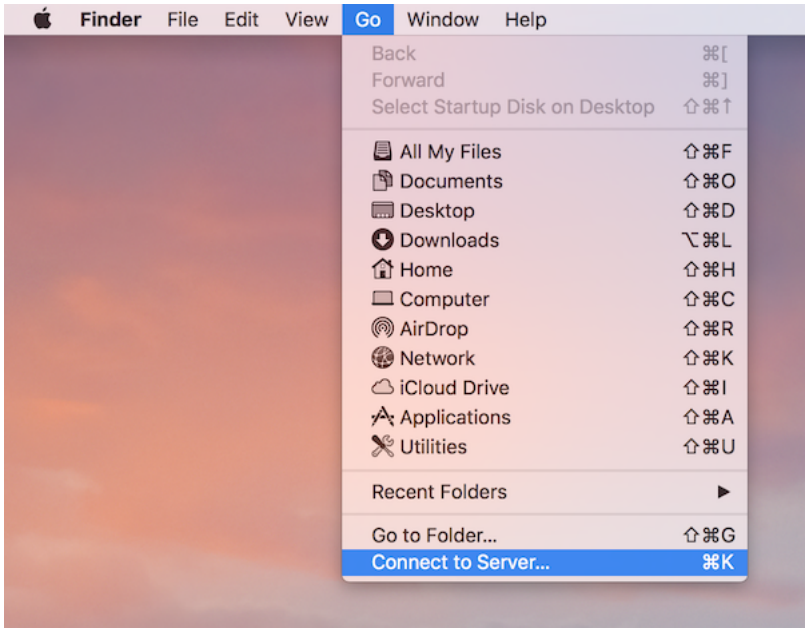
Note: The macOS Finder suffers from a series of implementation problems and should only be used if the Nextcloud server runs on **Apache** and **mod_php**, or **Nginx 1.3.8+**.

To access files through the macOS Finder:

1. Choose **Go > Connect to Server**.

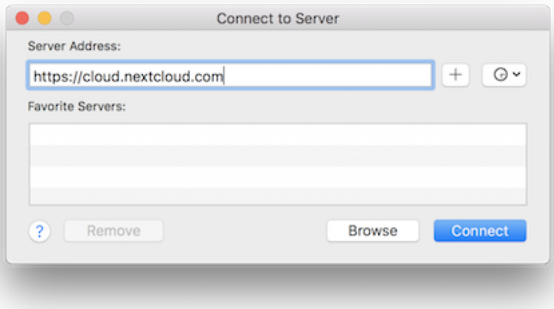
The “Connect to Server” window opens.

2. Specify the address of the server in the **Server Address** field.



For example, the URL used to connect to the Nextcloud server from the macOS Finder is:

```
https://example.com/nextcloud/remote.php/dav/files/USERNAME/
```



3. Click **Connect**.

The device connects to the server.

For added details about how to connect to an external server using macOS, check the vendor documentation .

4.2.7 Accessing files using Microsoft Windows

If you use the native Windows implementation, you can map Nextcloud to a new drive. Mapping to a drive enables you to browse files stored on a Nextcloud server the way you would files stored in a mapped network drive.

Using this feature requires network connectivity. If you want to store your files offline, use the Desktop Client to sync all files on your Nextcloud to one or more directories of your local hard drive.

Note: Prior to mapping your drive, you must permit the use of Basic Authentication in the Windows Registry. The procedure is documented in KB841215 and differs between Windows XP/Server 2003 and Windows Vista/7. Please follow the Knowledge Base article before proceeding, and follow the Vista instructions if you run Windows 7.

Mapping drives with the command line

The following example shows how to map a drive using the command line. To map the drive:

1. Open a command prompt in Windows.
2. Enter the following line in the command prompt to map to the computer Z drive:

```
net use Z: https://<drive_path>/remote.php/dav/files/USERNAME/ /user:youruser
yourpassword
```

   where <drive_path> is the URL to your Nextcloud server.

For example: `net use Z: https://example.com/nextcloud/remote.php/dav/files/USERNAME/ /user:youruser yourpassword`

   The computer maps the files of your Nextcloud account to the drive letter Z.

Note: Though not recommended, you can also mount the Nextcloud server using HTTP, leaving the connection unencrypted. If you plan to use HTTP connections on devices while in a public place, we strongly recommend using a VPN tunnel to provide the necessary security.

An alternative command syntax is:

```
net use Z: \\example.com@ssl\nextcloud\remote.php\dav /user:youruser
yourpassword
```

Mapping drives with Windows Explorer

To map a drive using the Microsoft Windows Explorer:

1. Migrate to your computer in Windows Explorer.
2. Right-click on **Computer** entry and select **Map network drive...** from the drop-down menu.
3. Choose a local network drive to which you want to map Nextcloud.
4. Specify the address to your Nextcloud instance, followed by **/remote.php/dav/files/USERNAME/**.

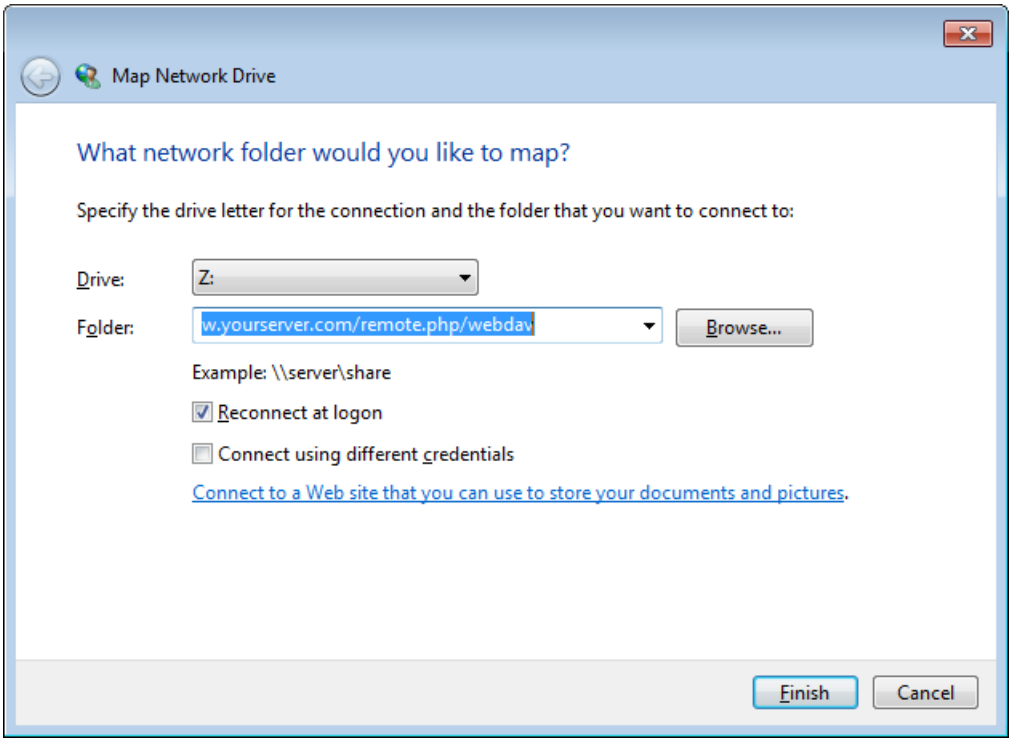
   For example:

```
https://example.com/nextcloud/remote.php/dav/files/USERNAME/
```

Note: For SSL protected servers, check **Reconnect at logon** to ensure that the mapping is persistent upon subsequent reboots. If you want to connect to the Nextcloud server as a different user, check **Connect using different credentials**.

5. Click the `Finish` button.

   Windows Explorer maps the network drive, making your Nextcloud instance available.



4.2.8 Accessing files using Cyberduck

Cyberduck is an open source FTP and SFTP, WebDAV, OpenStack Swift, and Amazon S3 browser designed for file transfers on macOS and Windows.

Note: This example uses Cyberduck version 4.2.1.

To use Cyberduck:

1. Specify a server without any leading protocol information. For example:

   ```
   example.com
   ```

2. Specify the appropriate port. The port you choose depends on whether or not your Nextcloud server supports SSL. Cyberduck requires that you select a different connection type if you plan to use SSL. For example:

   80 (for WebDAV)

   443 (for WebDAV (HTTPS/SSL))

3. Use the 'More Options' drop-down menu to add the rest of your WebDAV URL into the 'Path' field. For example:

   ```
   remote.php/dav/files/USERNAME/
   ```

Now Cyberduck enables file access to the Nextcloud server.

4.2.9 Accessing public shares over WebDAV

Nextcloud provides the possibility to access public shares over WebDAV.

To access the public share, open:

```
https://example.com/nextcloud/public.php/webdav
```

in a WebDAV client, use the share token as username and the (optional) share password as password.

Note: `Settings → Administration → Sharing → Allow users on this server to send shares to other servers` needs to be enabled in order to make this feature work.

4.2.10 Known problems

Problem

Windows does not connect using HTTPS.

Solution 1

The Windows WebDAV Client might not support Server Name Indication (SNI) on encrypted connections. If you encounter an error mounting an SSL-encrypted Nextcloud instance, contact your provider about assigning a dedicated IP address for your SSL-based server.

Solution 2

The Windows WebDAV Client might not support TSLv1.1 / TSLv1.2 connections. If you have restricted your server config to only provide TLSv1.1 and above the connection to your server might fail. Please refer to the WinHTTP documentation for further information.

Problem

You receive the following error message: **Error 0x800700DF: The file size exceeds the limit allowed and cannot be saved.**

Solution

Windows limits the maximum size a file transferred from or to a WebDAV share may have. You can increase the value **FileSizeLimitInBytes** in **HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\WebClient\Parameters** by clicking on **Modify**.

To increase the limit to the maximum value of 4GB, select **Decimal**, enter a value of **4294967295**, and reboot Windows or restart the **WebClient** service.

Problem

Accessing your files from Microsoft Office via WebDAV fails.

Solution

Known problems and their solutions are documented in the KB2123563 article.

Problem

Cannot map Nextcloud as a WebDAV drive in Windows using self-signed certificate.

Solution

1. Go to the your Nextcloud instance via your favorite Web browser.
2. Click through until you get to the certificate error in the browser status line.
3. View the cert, then from the Details tab, select Copy to File.
4. Save to the desktop with an arbitrary name, for example `myNextcloud.pem`.
5. Start, Run, MMC.
6. File, Add/Remove Snap-In.
7. Select Certificates, Click Add, My User Account, then Finish, then OK.
8. Dig down to Trust Root Certification Authorities, Certificates.
9. Right-Click Certificate, Select All Tasks, Import.
10. Select the Save Cert from the Desktop.
11. Select Place all Certificates in the following Store, Click Browse,
12. Check the Box that says Show Physical Stores, Expand out Trusted Root Certification Authorities, and select Local Computer there, click OK, Complete the Import.
13. Check the list to make sure it shows up. You will probably need to Refresh before you see it. Exit MMC.
14. Open Browser, select Tools, Delete Browsing History.
15. Select all but In Private Filtering Data, complete.
16. Go to Internet Options, Content Tab, Clear SSL State.
17. Close browser, then re-open and test.

Problem

You cannot download more than 50 MB or upload large Files when the upload takes longer than 30 minutes using Web Client in Windows 7.

Solution

Workarounds are documented in the KB2668751 article.

4.2.11 Accessing files using cURL

Since WebDAV is an extension of HTTP cURL can be used to script file operations.

To create a folder with the current date as name:

```
$ curl -u user:pass -X MKCOL "https://example.com/nextcloud/remote.php/dav/files/
↪USERNAME/$(date '+%d-%b-%Y')"
```

To upload a file `error.log` into that directory:

```
$ curl -u user:pass -T error.log "https://example.com/nextcloud/remote.php/dav/files/
↪USERNAME/$(date '+%d-%b-%Y')/error.log"
```

To move a file:

```
$ curl -u user:pass -X MOVE --header 'Destination: https://example.com/nextcloud/
↪remote.php/dav/files/USERNAME/target.jpg' https://example.com/nextcloud/remote.php/
↪dav/files/USERNAME/source.jpg
```

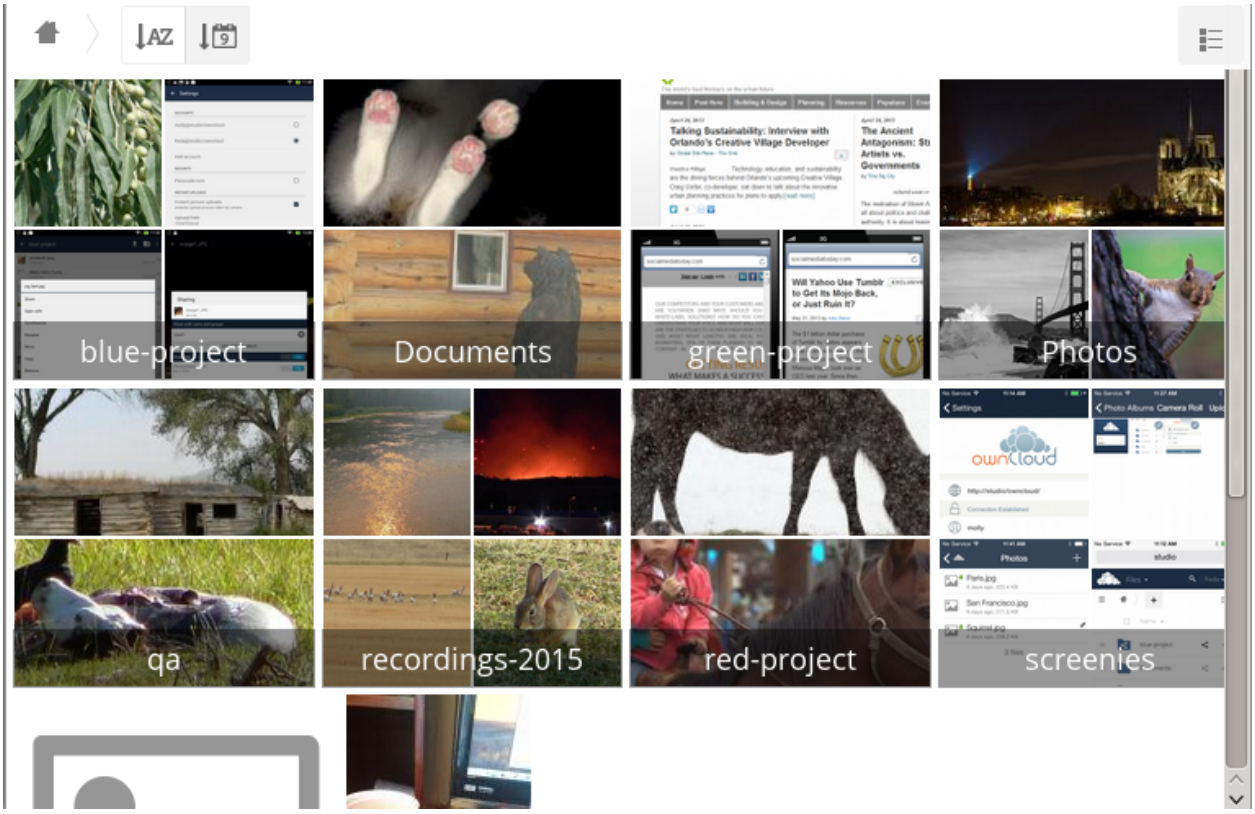
To get the properties of files in the root folder:

```
    $ curl -X PROPFIND -H "Depth: 1" -u user:pass https://example.com/nextcloud/
↪remote.php/dav/files/USERNAME/ | xml_pp
    <?xml version="1.0" encoding="utf-8"?>
<d:multistatus xmlns:d="DAV:" xmlns:oc="http://nextcloud.org/ns" xmlns:s="http://
↪sabredav.org/ns">
  <d:response>
    <d:href>/nextcloud/remote.php/dav/files/USERNAME/</d:href>
    <d:propstat>
      <d:prop>
        <d:getlastmodified>Tue, 13 Oct 2015 17:07:45 GMT</d:getlastmodified>
        <d:resourcetype>
          <d:collection/>
        </d:resourcetype>
        <d:quota-used-bytes>163</d:quota-used-bytes>
        <d:quota-available-bytes>11802275840</d:quota-available-bytes>
        <d:getetag>"561d3a6139d05"</d:getetag>
      </d:prop>
      <d:status>HTTP/1.1 200 OK</d:status>
    </d:propstat>
  </d:response>
  <d:response>
    <d:href>/nextcloud/remote.php/dav/files/USERNAME/welcome.txt</d:href>
    <d:propstat>
      <d:prop>
        <d:getlastmodified>Tue, 13 Oct 2015 17:07:35 GMT</d:getlastmodified>
        <d:getcontentlength>163</d:getcontentlength>
        <d:resourcetype/>
        <d:getetag>"47465fae667b2d0fee154f5e17d1f0f1"</d:getetag>
        <d:getcontenttype>text/plain</d:getcontenttype>
      </d:prop>
      <d:status>HTTP/1.1 200 OK</d:status>
    </d:propstat>
  </d:response>
</d:multistatus>
```

4.3 Gallery app

The Pictures app has been rewritten and improved, and is now called the Gallery app. It supports more image formats, sorting, zoom, and scrolling. It also supports advanced customizations via a simple text file.

On your main Nextcloud Files page, click the little icon at the top right, underneath your username, to open your Gallery. The Gallery app automatically finds all images in your Nextcloud folders, and overlays the thumbnails with the folder names. Click on the folder thumbnails to open the folders. At the top left you have two sorting options, alphabetical and by date.



After entering any folder, click on any image to open it in slideshow mode. This has the following features: a download button at the top center, forward and back buttons at the right and left sides, an automatic slideshow button at the bottom right, and a close button at the top right.

4.3.1 Custom configuration

You may customize a Gallery album with a simple text file named **gallery.cnf**, which contains parameters structured using the Yaml markup language. You may have multiple **gallery.cnf** files; you need one in your own root Nextcloud folder (your Home folder) that defines global features, and then you may have individual per-album **gallery.cnf** files if you want to define different behaviors in different albums.

Features

The following general features are currently implemented:

- Native SVG support.
- Access to external shares.

The following album features are currently implemented:

- Adding a link to a file containing a description.
- Typing a simple copyright statement directly in the configuration file.
- Adding a link to a file containing a copyright statement.
- Defining a sort type and order.

crabs.jpg

- Defining the colour of the background.
- Defining if sub-albums will inherit the configuration.

The following slideshow features are currently implemented:

- Showing a button which lets you pick which background, either black or white, to use for the picture you are currently viewing (for images with transparent backgrounds).

Setup

The configuration file has to be named **gallery.cnf**. You may have multiple per-album **gallery.cnf** files. To enable global features, place one in your top-level folder, which is symbolised in the Web GUI by the home icon. (This puts it in `data/<user>/files/`.) See *an example below* in the **Global features** section.

Note: You need to refresh your browser after changing your configuration to see your changes.

Format

UTF-8, **without BOM**. A file created from within the Nextcloud Web GUI works.

Structure

You should include a comment in the file, so that people stumbling upon the file know what it's for. Comments start with #.

Spacing is created using 2 spaces. **Do not use tabs.**

Take a look at the YAML Format documentation if you are getting error messages.

Here is an example *gallery.cnf*:

```
 # Gallery configuration file
 # Created on 31 Jan 2016 by Nextcloud User
features:
  external_shares: yes
  native_svg: yes
  background_colour_toggle: yes
design:
  background: "#ff9f00"
  inherit: yes
information:
  description: This is an **album description** which is only shown if there
  is no `description_link`
  description_link: readme.md
  copyright: Copyright 2003-2016 [interfaSys sàrl](https://www.interfasys.ch),
  Switzerland
  copyright_link: copyright.md
  inherit: yes
sorting:
  type: date
  order: des
  inherit: yes
```

Supported variables

Global Features

Place this in your root Nextcloud folder, which is your Home folder.

- **external_shares**: Set to **yes** in your root configuration file if you want to load images stored on external locations, when using the **files_external** app.
- **native_svg**: Set to **yes** in your root configuration file to enable rendering SVG images in your browser. This may represent a security risk if you can't fully trust your SVG files.
- **background_colour_toggle**: Set to **yes** in your root configuration file to enable a button that toggles between black and white backgrounds on transparent images.

Note: External shares are 20-50 times slower than local shares. Be prepared to wait a long time before being able to see all the images contained in a shared album.

Album Configuration

Each album can be individually configured using the following configuration sections. Use the **inherit** parameter to pass configurations on to sub-albums.

Design

- **background**: Defines the colour of the background of the photowall using the RGB hexadecimal representation of that colour. For example: **"#ffa033"**. You must use quotes around the value or it will be ignored. It is strongly recommended to use a custom theme, with a CSS loading spinner if you intend to use this feature. You can use this colour wheel to find a colour you like.
- **inherit**: Set to **yes** if you want sub-folders to inherit this part of the configuration.

Album Presentation

- **description**: A markdown-formatted string which will be displayed in the info box. It can spread over multiple lines using the Yaml markers.
- **description_link**: A markdown file located within the album which will be parsed and displayed in the info box instead of the description.
- **copyright**: A markdown-formatted string. This supports links to external resources.
- **copyright_link**: Any file (e.g. copyright.html), in the album itself, which will be downloaded when the user clicks on the link
- **inherit**: Set to **yes** if you want sub-folders to inherit this part of the configuration.

See http://www.markitdown.net/markdown for the markdown syntax.

Note: Do not add links to your *copyright* string if you use the **copyright_link** variable.

Sorting

- **sorting**: **date** or **name**. **date** only works for files.
- **sort_order**: **asc** or **des** (Ascending or descending).
- **inherit**: Set to **yes** if you want sub-folders to inherit this part of the configuration.

4.3.2 Notes

- When only the sort **type** variable has been set, the default sort order will be used.
- When only the sort **order** variable has been found, the sort configuration will be ignored and the script will keep looking for a valid configuration in upper folders.
- To enable a feature such as native SVG in a public share, you need to create in that folder a configuration file containing that feature.
- If you share a folder publicly, don't forget to add all the files you link to (e.g. `description.md` or `copyright.md`) inside the shared folder as the user won't have access to files stored in the parent folder.
- Since people can download a whole folder as an archive, it's usually best to include all files within a shared folder, rather than adding text directly in the configuration file.

4.3.3 Examples

Sorting Only

Applies to the current folder only:

```
# Gallery configuration file
  sorting:
  type: date
  order: asc
```

Short description and link to copyright document, applies to the current folder and all of its sub-folders. This also shows you the syntax you can use to spread a description over multiple lines:

```
# Gallery configuration file
  information:
  description: | # La Maison Bleue, Winter '16
    This is our Winter 2016 collection shot in **Kyoto**
    Visit our [website](http://www.secretdesigner.ninja) for more information
  copyright: Copyright 2015 La Maison Bleue, France
  copyright_link: copyright_2015_lmb.html
  inherit: yes
```

Load Images From External Clouds

Note: Features can only be defined in the root folder.

You can add standard configuration items to the same configuration file:

```
# Gallery configuration file
  features:
  external_shares: yes
```

Enabling native SVG

Note: Special features can only be defined in the root folder.

You can add standard configuration items to the same configuration file:

```
# Gallery configuration file
 features:
 native_svg: yes
```

4.3.4 Possible future extensions

Different sorting parameters for albums.

4.4 Managing deleted files

When you delete a file in Nextcloud, it is not immediately deleted permanently. Instead, it is moved into the trash bin. It is not permanently deleted until you manually delete it, or when the Deleted Files app deletes it to make room for new files.

Find your deleted files by clicking on the **Deleted files** button on the Files page of the Nextcloud Web interface. You'll have options to either restore or permanently delete files.

4.4.1 Quotas

Deleted files are not counted against your storage quota. Only your personal files count against your quota, not files which were shared with you. (See *Storage quota* to learn more about quotas.)

4.4.2 What happens when shared files are deleted

Deleting files gets a little complicated when they are shared files, as this scenario illustrates:

1. User1 shares a folder "test" with User2 and User3
2. User2 (the recipient) deletes a file/folder "sub" inside of "test"
3. The folder "sub" will be moved to the trashbin of both User1 (owner) and User2 (recipient)
4. But User3 will not have a copy of "sub" in her trash bin

When User1 deletes "sub" then it is moved to User1's trash bin. It is deleted from User2 and User3, but not placed in their trash bins.

When you share files, other users may copy, rename, move, and share them with other people, just as they can for any computer files; Nextcloud does not have magic powers to prevent this.

4.4.3 How the deleted files app manages storage space

To ensure that users do not run over their storage quotas, the Deleted Files app allocates a maximum of 50% of their currently available free space to deleted files. If your deleted files exceed this limit, Nextcloud deletes the oldest files (files with the oldest timestamps from when they were deleted) until it meets the memory usage limit again.

Nextcloud checks the age of deleted files every time new files are added to the deleted files. By default, deleted files stay in the trash bin for 30 days. The Nextcloud server administrator can adjust this value in the `config.php` file by setting the `trashbin_retention_obligation` value. Files older than the `trashbin_retention_obligation` value will be deleted permanently. Additionally, Nextcloud calculates the maximum available space every time a new file is added. If the deleted files exceed the new maximum allowed space Nextcloud will expire old deleted files until the limit is met once again.

4.5 Desktop and mobile synchronization

For synchronizing files with your desktop computer, we recommend using the Nextcloud Sync Client for Windows, macOS and Linux.

The Nextcloud Desktop Sync Client enables you to connect to your Nextcloud Server. You can create folders in your home directory, and keep the contents of those folders synced with your Nextcloud server. Simply copy a file into the directory and the Nextcloud desktop client does the rest. Make a change to the files on one computer, it will flow across the others using these desktop sync clients. You will always have your latest files with you wherever you are.

Its usage is documented separately in the Nextcloud Desktop Client Manual.

4.5.1 Mobile clients

Visit your Personal page in your Nextcloud Web interface to find download links for Android and iOS mobile sync clients. Or, visit the Nextcloud download page.

4.6 Encrypting your Nextcloud files on the server

Nextcloud includes a server side Encryption app, and when it is enabled by your Nextcloud administrator all of your Nextcloud data files are automatically encrypted on the server. Encryption is server-wide, so when it is enabled you cannot choose to keep your files unencrypted. You don't have to do anything special, as it uses your Nextcloud login as the password for your unique private encryption key. Just log in and out and manage and share your files as you normally do, and you can still change your password whenever you want.

Its main purpose is to encrypt files on remote storage services that are connected to your Nextcloud server, such as Dropbox and Google Drive. This is an easy and seamless way to protect your files on remote storage. You can share your remote files through Nextcloud in the usual way, however you cannot share your encrypted files directly from Dropbox, Google Drive, or whatever remote service you are using, because the encryption keys are stored on your Nextcloud server, and are never exposed to outside service providers.

If your Nextcloud server is not connected to any remote storage services, then it is better to use some other form of encryption such as file-level or whole disk encryption. Because the keys are kept on your Nextcloud server, it is possible for your Nextcloud admin to snoop in your files, and if the server is compromised the intruder may get access to your files. (Read Encryption in Nextcloud to learn more.)

4.6.1 Encryption FAQ

How can encryption be disabled?

The only way to disable encryption is to run the "decrypt all".

script, which decrypts all files and disables encryption.

Is it possible to disable encryption with the recovery key?

Yes, *if* every user uses the file recovery key, "decrypt all" will use it to decrypt all files.

Can encryption be disabled without the user's password?

If you don't have the users password or file recovery key.

then there is no way to decrypt all files. What's more, running it on login would be dangerous, because you would most likely run into timeouts.

Is it planned to move this to the next user login or a background job?

If we did that, then we would need to store your login password in the database. This could be seen as a security issue, so nothing like that is planned.

Is group Sharing possible with the recovery key?

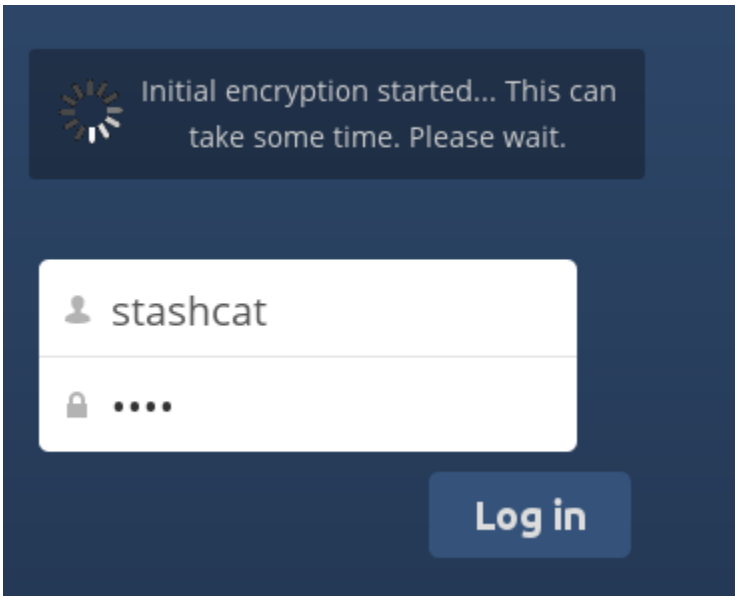
If you mean adding users to groups and make it magically work? No. This only works with the master key.

4.6.2 Using encryption

Nextcloud encryption is pretty much set it and forget it, but you have a few options you can use.

When your Nextcloud admin enables encryption for the first time, you must log out and then log back in to create your encryption keys and encrypt your files. When encryption has been enabled on your Nextcloud server you will see a yellow banner on your Files page warning you to log out and then log back in.

When you log back in it takes a few minutes to work, depending on how many files you have, and then you are returned to your default Nextcloud page.



Note: You must never lose your Nextcloud password, because you will lose access to your files. Though there is an optional recovery option that your Nextcloud administrator may enable; see the Recovery Key Password section (below) to learn about this.

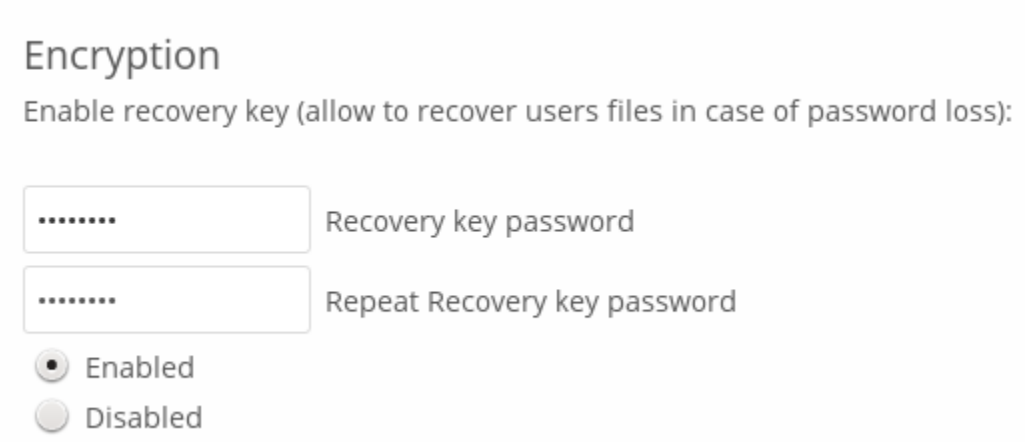
4.6.3 Sharing encrypted files

Only users who have private encryption keys have access to shared encrypted files and folders. Users who have not yet created their private encryption keys will not have access to encrypted shared files; they will see folders and filenames, but will not be able to open or download the files. They will see a yellow warning banner that says "Encryption App is enabled but your keys are not initialized, please log-out and log-in again."

Share owners may need to re-share files after encryption is enabled; users trying to access the share will see a message advising them to ask the share owner to re-share the file with them. For individual shares, un-share and re-share the file. For group shares, share with any individuals who can't access the share. This updates the encryption, and then the share owner can remove the individual shares.

Recovery key password

If your Nextcloud administrator has enabled the recovery key feature, you can choose to use this feature for your account. If you enable "Password recovery" the administrator can read your data with a special password. This feature enables the administrator to recover your files in the event you lose your Nextcloud password. If the recovery key is not enabled, then there is no way to restore your files if you lose your login password.



4.6.4 Files not encrypted

Only the data in your files is encrypted, and not the filenames or folder structures. These files are never encrypted:

- Old files in the trash bin.
- Image thumbnails from the Gallery app.
- Previews from the Files app.
- The search index from the full text search app.
- Third-party app data

There may be other files that are not encrypted; only files that are exposed to third-party storage providers are guaranteed to be encrypted.

Change private key password

This option is only available if your log-in password, but not your encryption password, was changed by your administrator. This can occur if your Nextcloud provider uses an external user back-end (for example, LDAP) and changed your login password using that back-end configuration. In this case, you can set your encryption password to your new login password by providing your old and new login password. The Encryption app works only if your login password and your encryption password are identical.

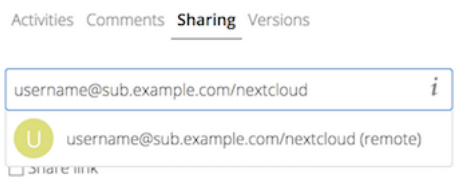
4.7 Using Federation Shares

Federation Sharing allows you to mount file shares from remote Nextcloud servers, in effect creating your own cloud of Nextclouds. You can create direct share links with users on other Nextcloud servers.

4.7.1 Creating a new Federation Share

Federation sharing is enabled on new or upgraded Nextcloud installations by default. Follow these steps to create a new share with other Nextcloud or ownCloud 9+ servers:

1. Go to your `Files` page and click the Share icon on the file or directory you want to share. In the sidebar enter the username and URL of the remote user in this form: `<username>@<oc-server-url>`. In this example, that is `layla@remote-server/nextcloud`. The form automatically echoes the address that you type and labels it as "remote". Click on the label.



2. When your local Nextcloud server makes a successful connection with the remote Nextcloud server you'll see a confirmation. Your only share option is **Can edit**.

Click the Share button anytime to see who you have shared your file with. Remove your linked share anytime by clicking the trash can icon. This only unlinks the share, and does not delete any files.

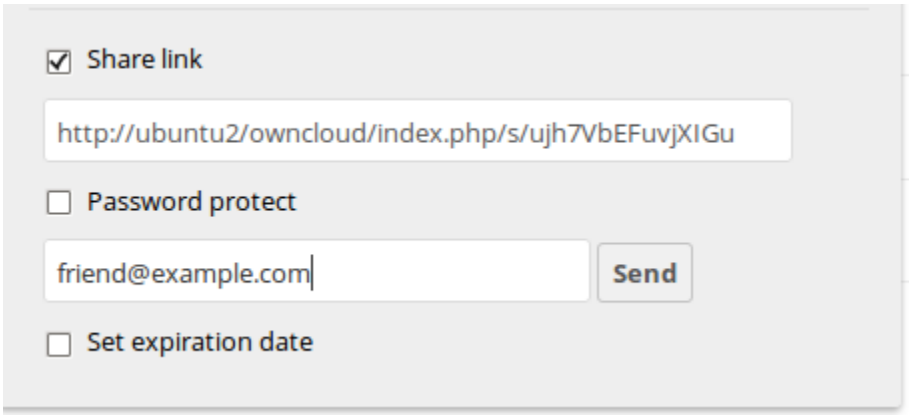
4.7.2 Creating a new Federated Cloud Share via email

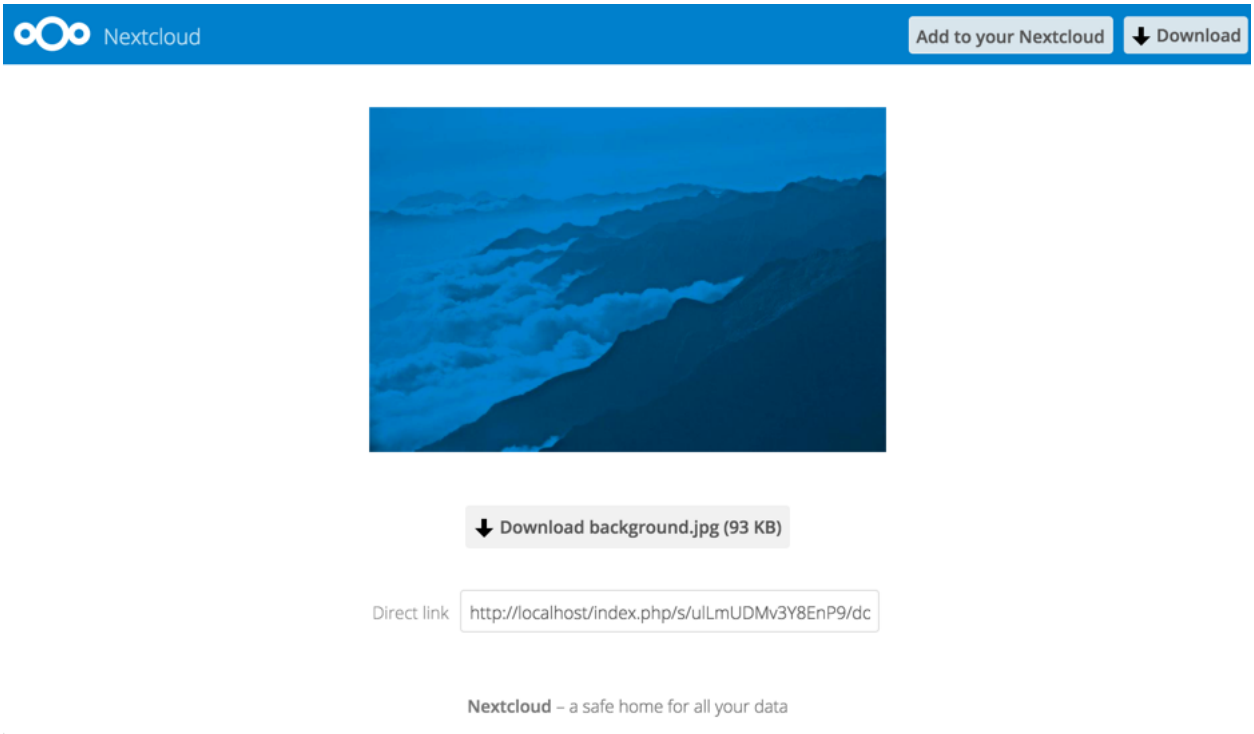
Use this method when you are sharing with users on ownCloud 8.x and older.

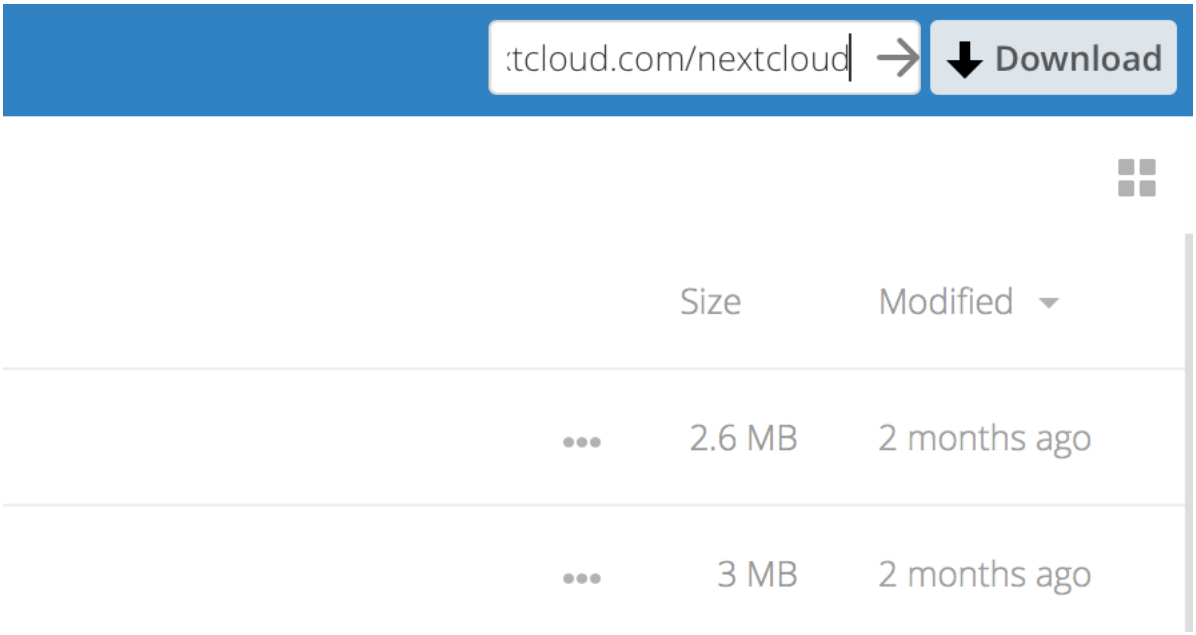
What if you do not know the username or URL? Then you can have Nextcloud create the link for you and email it to your recipient.

When your recipient receives your email they will have to take a number of steps to complete the share link. First they must open the link you sent them in a Web browser, and then click the **Add to your Nextcloud** button.

The **Add to your Nextcloud** button changes to a form field, and your recipient needs to enter the URL of their Nextcloud or ownCloud server in this field and press the return key, or click the arrow.


Share link
http://ubuntu2/owncloud/index.php/s/ujh7VbEFuvjXIGu
Password protect
friend@example.com
Send
Set expiration date


Nextcloud
Add to your Nextcloud
Download
Download background.jpg (93 KB)
Direct link
http://localhost/index.php/s/ulLmUDMv3Y8EnP9/dc
Nextcloud – a safe home for all your data



Next, they will see a dialog asking to confirm. All they have to do is click the **Add remote share** button and they're finished.

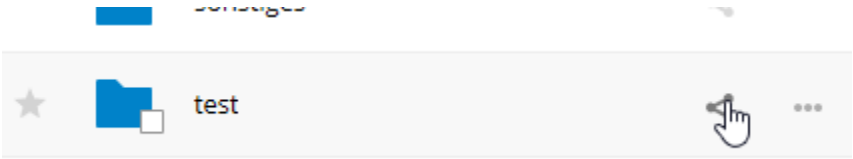
Remove your linked share anytime by clicking the trash can icon. This only unlinks the share, and does not delete any files.

4.8 Making anonymous uploads

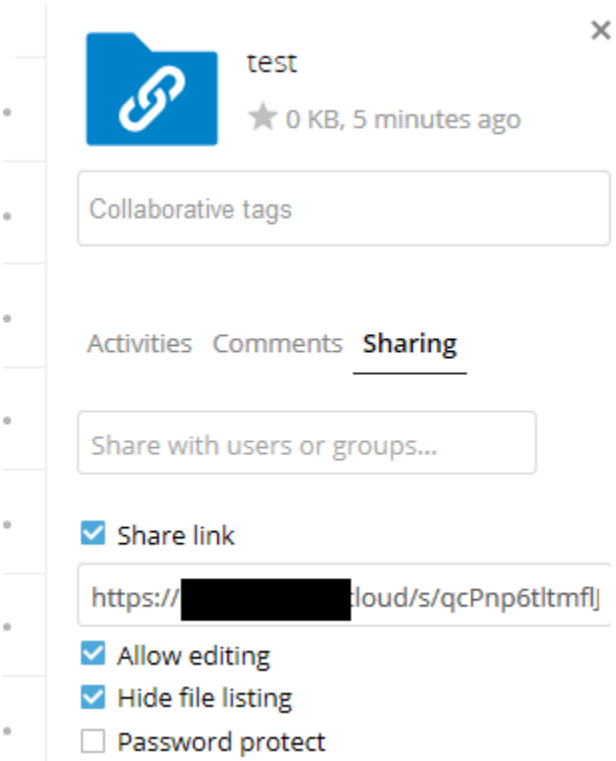
You may create your own special upload directories so that other people can upload files to you without having to log in to the server, and without being a Nextcloud user. They will not be allowed to see the contents of this directory, or to make any changes. This is an excellent alternative to sending large attachments via email, using an FTP server, or using commercial file-sharing services.

4.8.1 Setting up your own file drop

Go to Files and create or choose the folder, the anonymous upload should be made to.



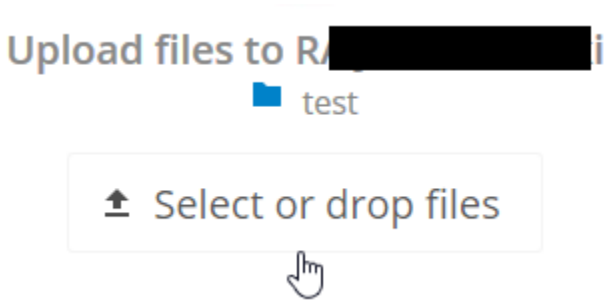
Check Share Link, Allow editing, Hide file listing.



Now you can send the link to the upload folder manually or by using the Nextcloud send function, if your administrator has enabled it.

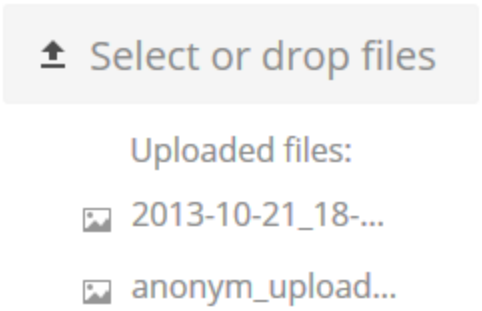
4.8.2 Uploading files

Using the anonymous upload function is simple. You receive a link to the upload folder, click the link, and then you'll see a Nextcloud page with a **Click to upload** button.



This opens a file picker, and you select the file or directory you want to upload. You're also able to just drop files into the window.

When your upload is completed, the filenames are listed:



4.9 Large file uploads

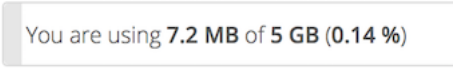
When uploading files through the web client, Nextcloud is limited by PHP and Apache configurations. By default, PHP is configured for only 2 megabyte uploads. As this default upload limit is not entirely useful, we recommend that your Nextcloud admin increase the Nextcloud variables to sizes appropriate for users.

Modifying certain Nextcloud variables requires administrative access. If you require larger upload limits than have been provided by the default (or already set by your administrator):

- Contact your administrator to request an increase in these variables
- Refer to the section in the Admin Documentation that describes how to manage file upload size limits.

4.10 Storage quota

Your Nextcloud admin has the option to set a storage quota on users. Look at the top of your Personal page to see what your quota is, and how much you have used.



It may be helpful to understand how your quota is calculated.

Metadata (thumbnails, temporary files, cache, and encryption keys) takes up about 10% of disk space, but is not counted against user quotas. Some apps store information in the database, such as the Calendar and Contacts apps. This data is excluded from your quota.

When other users share files with you, the shared files count against the original share owner's quota. When you share a folder and allow other users or groups to upload files to it, all uploaded and edited files count against your quota. When you re-share files shared with you, the re-share still counts against the quota of the original share owner.

Encrypted files are a little larger than unencrypted files; the unencrypted size is calculated against your quota.

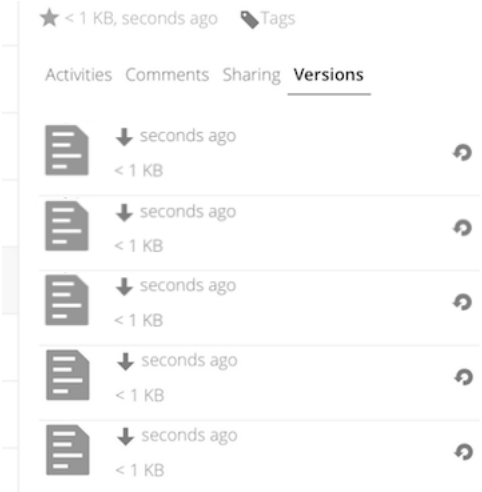
Deleted files that are still in the trash bin do not count against quotas. The trash bin is set at 50% of quota. Deleted file aging is set at 30 days. When deleted files exceed 50% of quota then the oldest files are removed until the total is below 50%.

When version control is enabled, the older file versions are not counted against quotas.

If you create a public share via URL, and allow uploads, any uploaded files count against your quota.

4.11 Version control

Nextcloud supports simple version control system for files. Versioning creates backups of files which are accessible via the Versions tab on the Details sidebar. This tab contains the history of the file where you can roll back a file to any previous version. Changes made at intervals greater than two minutes are saved in **data/[user]/versions**.



To restore a specific version of a file, click the circular arrow to the left. Click on the timestamp to download it.

The versioning app expires old versions automatically to make sure that the user doesn't run out of space. This pattern is used to delete old versions:

- For the first second we keep one version
- For the first 10 seconds Nextcloud keeps one version every 2 seconds
- For the first minute Nextcloud keeps one version every 10 seconds
- For the first hour Nextcloud keeps one version every minute
- For the first 24 hours Nextcloud keeps one version every hour
- For the first 30 days Nextcloud keeps one version every day
- After the first 30 days Nextcloud keeps one version every week

The versions are adjusted along this pattern every time a new version gets created.

The version app never uses more that 50% of the user's currently available free space. If the stored versions exceed this limit, Nextcloud deletes the oldest versions until it meets the disk space limit again.

CHAPTER

FIVE

GROUPWARE

Nextcloud Groupware is a bundle of apps which is consisting of an **Mail**-client (IMAP/POP3) and a **Calendar** and **Contacts** server (CalDAV/CardDAV) with the respective web interfaces.

We complete those productivity tools with **Deck**, a project management tool which allows you to create Kanban-style task boards and share them with your team.

You can find out more about Nextcloud Groupware on our website.

5.1 Using the contacts app

The Contacts app is not enabled by default in Nextcloud latest and needs to be installed separately from our App Store.

The Nextcloud Contacts app is similar to other mobile contact applications, but with more functionality. When you first access the Contacts app, a default address book becomes available.

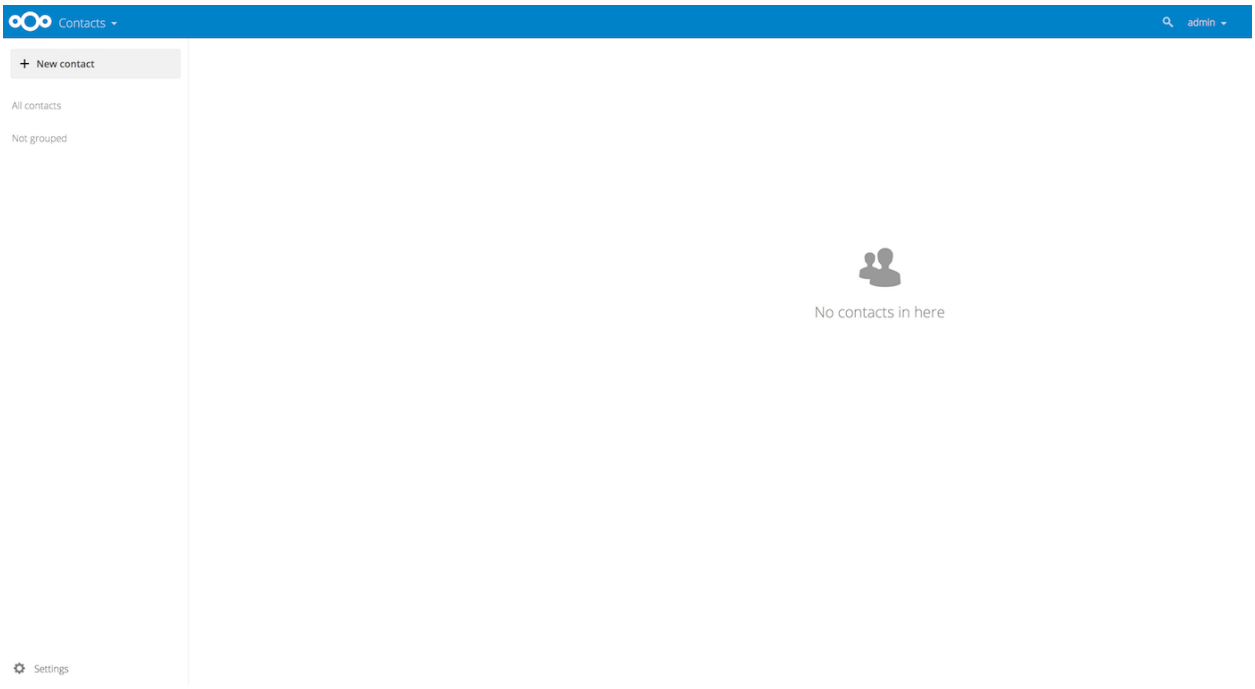


Fig. 1: **Contacts app (empty)**

5.1.1 Adding contacts

You can add contacts using one of the following methods:

- Import contacts using a Virtual Contact File (VCF/Vcard) file
- Add contacts manually

Importing Contacts

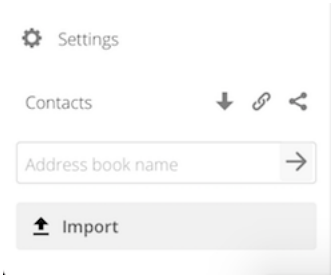
The fastest way to add contacts is through the use of a Virtual Contact File (VCF/Vcard) file.

To import contacts using a VCF/Vcard file:

1. At the bottom of the Contacts app information field, locate the gear button.

Contact settings gear button

2. Click the gear button. The Contacts app upload field opens.



Contacts app upload field

Note: The Contacts app only supports import of vCards version 3.0 and 4.0.

Creating Contacts Manually

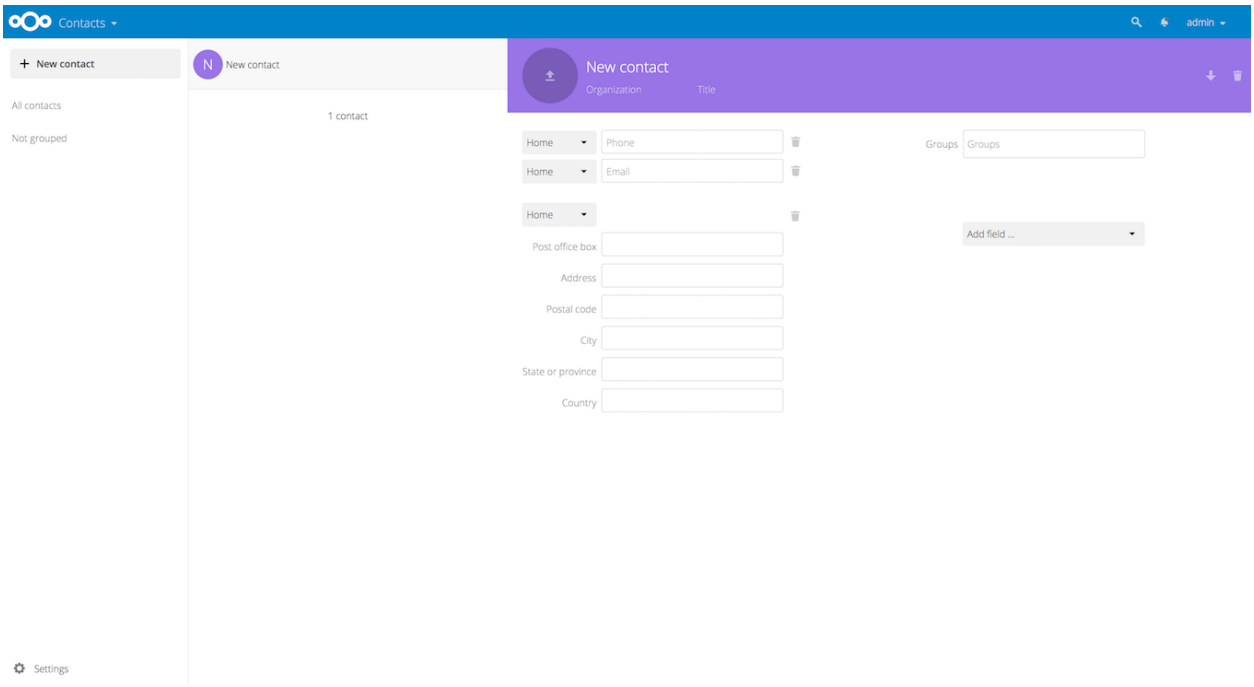
The Contacts app enables you to create contacts manually.

To create a new contact:

1. Click the `+ New contact` button.

   An empty new contact configuration opens in the Application View field.

2. Specify the new contact information. Changes that you made are implemented immediately.



Edit or Remove Contact Information

The Contacts app enables you to edit or remove contact information.

To edit or remove contact information:

1. Navigate to the specific contact that you want to modify.
2. Select the information in the field that you want to edit or remove.
3. Make your modifications or click on the trash bin.

Changes or removals that you made to any contact information are implemented immediately.

Contact Picture

To define a contact picture, click on the upload button:

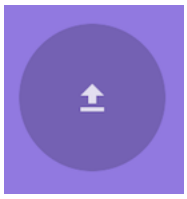


Fig. 2: **Contact picture (upload button)**

After you have set a contact picture, it will look like that:

If you want to upload a new one, remove it, view it in full size or download it click on the contacts picture.

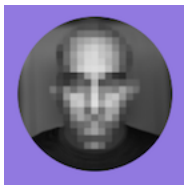


Fig. 3: **Contact picture (set)**

5.1.2 Adding and managing address books

Clicking on the settings (gear) button at the bottom of the Apps Information field provides access to the Contact app settings. This field shows all available address books, certain options for each address book, and enables you to create new address books, simply by specifying an address books name.

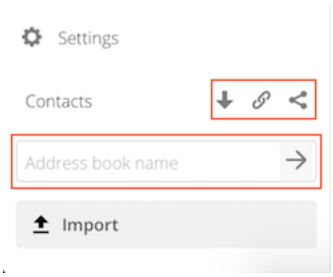


Fig. 4: **Add address book in the contacts settings**

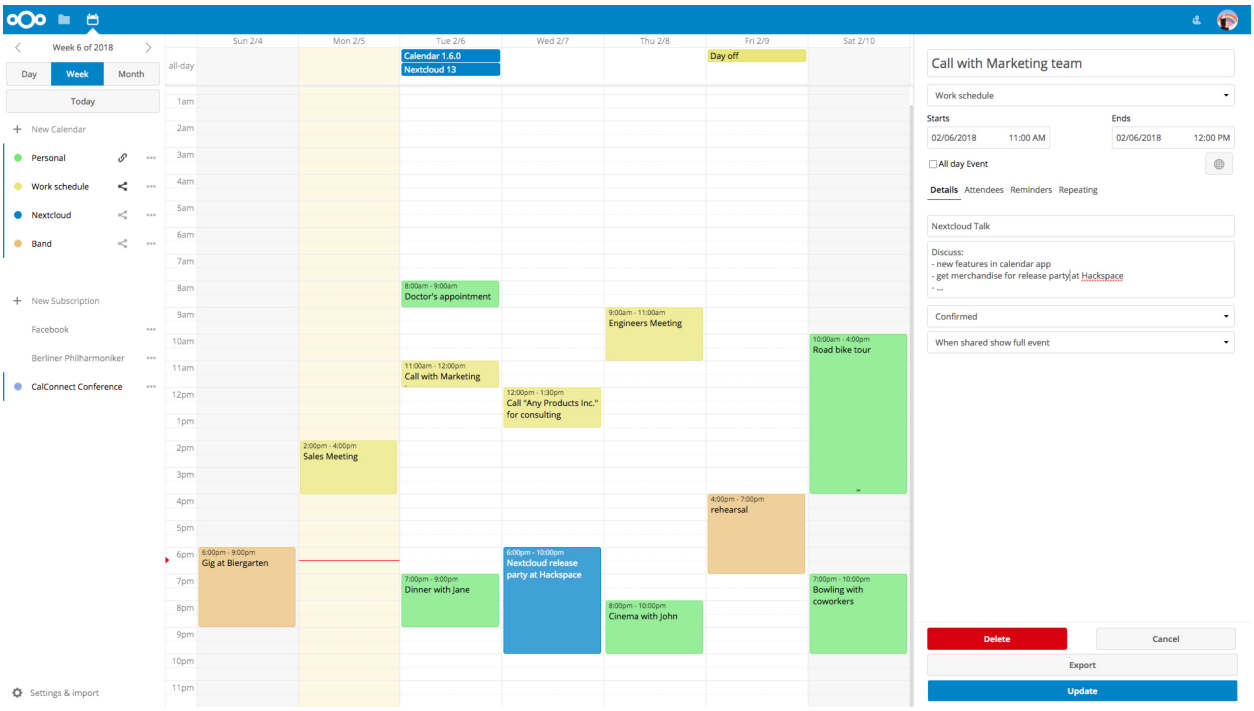
The Contacts settings also enables you to share, export and delete address books. You will also find the CardDAV URLs there. See *Groupware* for more details about syncing your adress books with iOS, macOS, Thunderbird and other CardDAV clients.

5.2 Using the calendar app

Note: The calendar app is not enabled by default and needs to be installed separately from our App Store. Please ask your Administrator for it.

The Nextcloud Calendar app works similar to other calendar applications you can sync your Nextcloud calendars and events with.

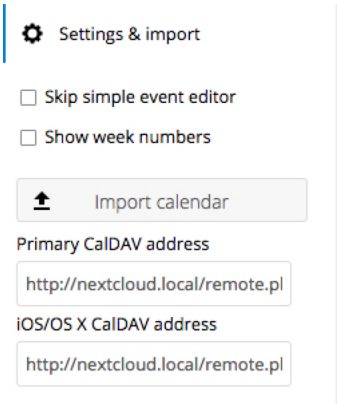
When you first access the Calendar app, a default first calendar will be pre-generated for you.



5.2.1 Managing your calendars

Import a Calendar

If you want to transfer your calendar and their respective events to your Nextcloud instance, importing is the best way to do so.



1. Click on the settings-icon labeled with `Settings & Import` at the left-bottom.
2. After clicking on `+ Import Calendar` you can select one or more calendar files from your local device to upload.
3. The upload can take some time and depends on how big the calendar you import is.

Note: The Nextcloud Calendar application only supports iCalendar-compatible `.ics`-files, defined in RFC 5545.

Create a new Calendar

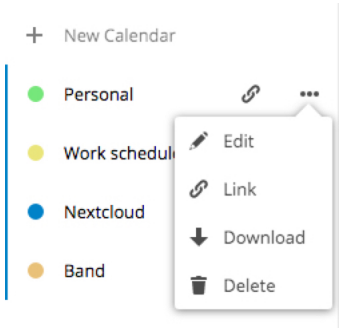
If you plan to setup a new calendar without transferring any old data from your previous calendar, creating a new calendar is the way you should go.

1. Click on `+ New Calendar` in the left sidebar.
2. Type in a name for your new calendar, e.g. “Work”, “Home” or “Studies”.
3. After clicking on the checkmark, your new calendar is created and can be synced across your devices, filled with new events and shared with your friends and colleagues.

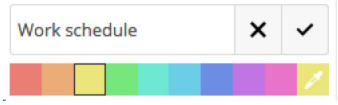
Edit, Download or Delete a Calendar

Sometimes you may want to change the color or the entire name of a previous imported or created calendar. You may also want to export it to your local hard drive or delete it forever.

Note: Please keep in mind that deleting a calendar is a irreversible action. After deletion, there is no way of restoring the calendar unless you have a local backup.



1. Click on the three-dot-menu of the respective calendar.



2. Click on `Edit`, `Download` or `Delete`.

Subscribe to a Calendar

You can subscribe to iCal calendars directly inside of your Nextcloud. By supporting this interoperable standard (RFC 5545) we made Nextcloud calendar compatible to Google Calendar, Apple iCloud and many other calendar-servers you can exchange your calendars with.

1. Click on `+ New Subscription` in the left sidebar.
2. Type in the link of the shared calendar you want to subscribe to.

Finished. Your calendar subscriptions will be updated regularly.

5.2.2 Managing Events

Create a new event

Events can be created by clicking in the area when the event is scheduled. In the day- and week-view of the calendar you just click, pull and left your cursor over the area when the event is taking place.

The month-view only requires a single click into the area of the specific day.

After that, you can type in the events name (e.g. **Meeting with Lukas**), choose the calendar in which you want to choose the event (e.g. **Personal**, **Work**) check and concretize the time span or set the event as all-day event.

If you want to edit advanced details such as the **Location**, a **Description**, **Attendees**, **Reminders** or to set the event as a repeating-event click on the `More...`-button to open the advanced sidebar-editor.

Note: If you always want to open the advanced sidebar-editor instead of the simple event editor popup, you can set a `Skip simple event editor`-checkmark in the `Settings & Import`-section of the app.

Clicking on the blue `Create`-button will finally create the event.

Edit or Delete an event

If you want to edit or delete a specific event, you just need to click on it. After that you will be able to re-set all of the events details and open the advanced sidebar-editor by clicking on `More...`.

Clicking on the blue `Update`-button will update the event. Clicking on the `Cancel`-button will not save your edits.

If you click on the red `Delete`-button the event will be removed from your calendar.

5.2.3 Birthday calendar

The birthday calendar is a auto-generated calendar which will automatically fetch the birthdays from your contacts. The only way to edit this calendar is by filing your contacts with birthday dates. You can not directly edit this calendar from the calendar-app.

Note: If you do not see the birthday calendar, your Administrator may has disabled this for your server.

5.3 Synchronizing with Android

5.3.1 Contacts and Calendar

1. Install DAVx[5] (formerly known as DAVDroid) on your Android device.
2. Create a new account ("+" button).
3. Select **Connection with URL and username**. **Base URL:** URL of your Nextcloud instance (e.g. `https://sub.example.com/remote.php/dav`) **Contact Group Method:** As credentials
4. Chose the option `Groups are per-contact categories`.
5. Click **Connect**.
6. Select the data you want to sync.

Note: Enter your email address as DAVx^5 account name (mandatory if you want to be able to send calendar invitation)

5.4 Synchronizing with iOS

5.4.1 Calendar

1. Open the settings application.
2. Select Mail, Contacts, Calendars.
3. Select Add Account.
4. Select Other as account type.
5. Select Add CalDAV account.
6. For server, type `example.com/remote.php/dav/principals/users/USERNAME/`
7. Enter your user name and password.
8. Select Next.
9. If your server does not support SSL, a warning will be displayed. Select Continue.
10. If the iPhone is unable to verify the account information perform the following steps:
    - Select OK.
    - Select advanced settings.
    - If your server does not support SSL, make sure Use SSL is set to OFF.
    - Change port to 80.
    - Go back to account information and hit Save.

Your calendar will now be visible in the Calendar application

5.4.2 Contacts

1. Open the settings application.
2. Select Mail, Contacts, Calendars.
3. Select Add Account.
4. Select Other as account type.
5. Select Add CardDAV account.
6. For server, type `example.com/remote.php/dav/principals/users/USERNAME/`
7. Enter your user name and password.
8. Select Next.
9. If your server does not support SSL, a warning will be displayed. Select Continue.
10. If the iPhone is unable to verify the account information perform the following:
    - Select OK.

- Select advanced settings.
- If your server does not support SSL, make sure Use SSL is set to OFF.
- Change port to 80.
- Go back to account information and hit Save.

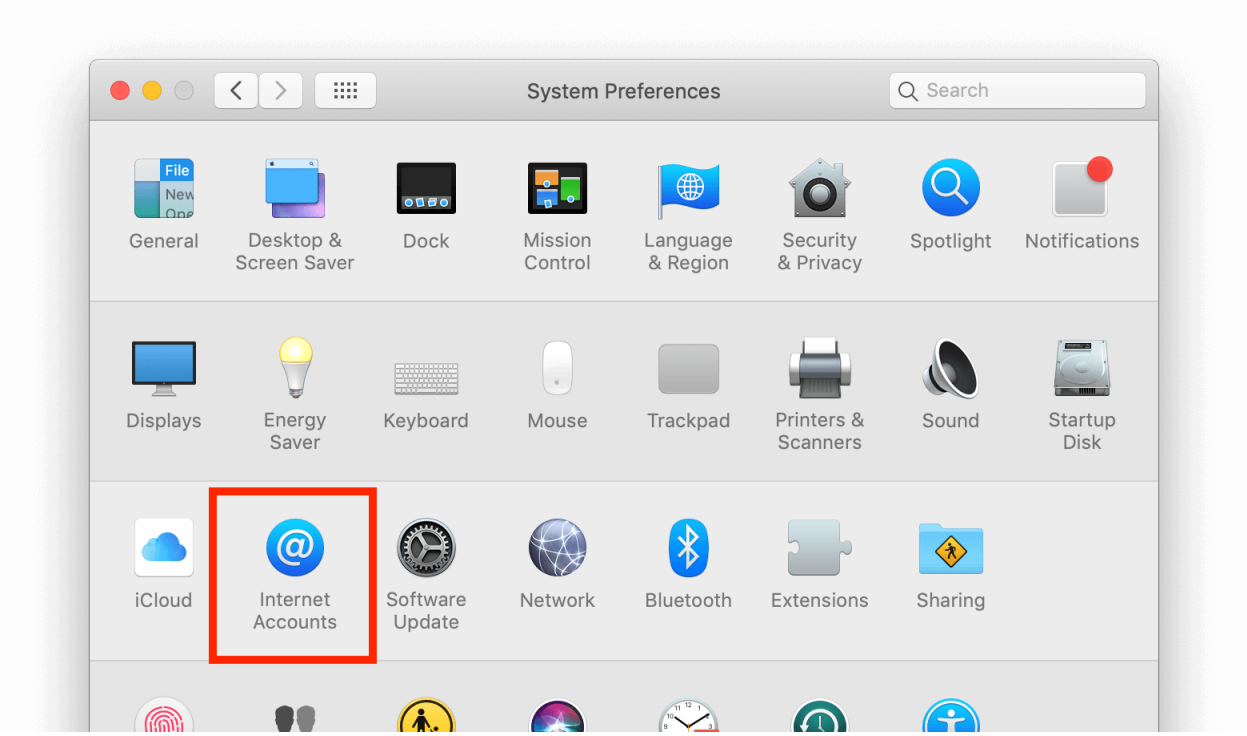
You should now find your contacts in the address book of your iPhone. If it's still not working, have a look at the Troubleshooting Contacts & Calendar guide.

5.5 Synchronizing with macOS

5.5.1 Setup your Accounts

In the following steps you will add your server resources for **CalDAV** (Calendar) and **CardDAV** (Contacts) to your Nextcloud.

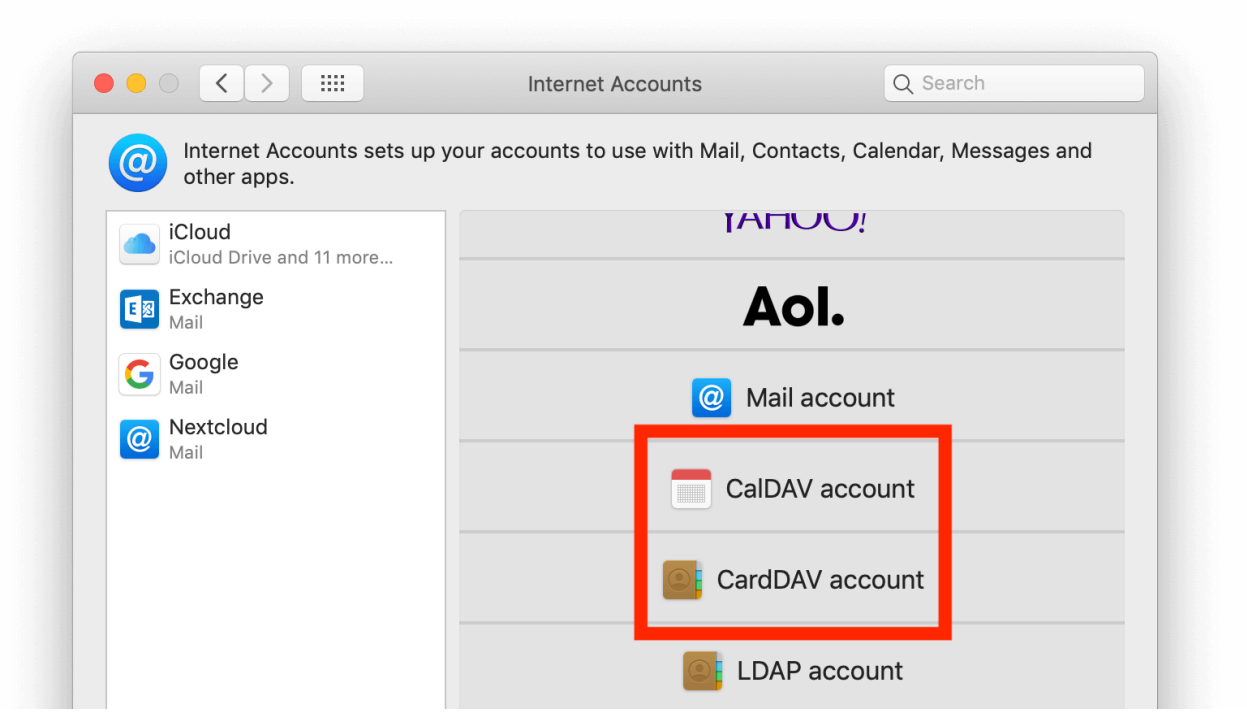
1. Open the **system preferences** of your macOS device
2. Navigate to **Internet Accounts**



3. Click on **Add Other Account...** and click on **CalDAV Account** for Calendar or **CardDAV Account** for Contacts.

Note: You can not setup Calendar/Contacts together. You need to setup them in **separate accounts**.

4. Select **Advanced** as Account-Type and type in your respective credentials:



Username: Your Nextcloud username or email **Password**: Your generated App-password/token (App-password/token) **Server Address**: URL of your Nextcloud server (e.g. https://cloud.example.com) **Server Path:** /remote.php/dav/principals/users/[your_username] **Port:** 443 **Use SSL:** Yes

5. Click on **Sign In**.

For CalDAV (Calendar): You can now select, with which applications you want to use this resource. In the most cases, this will be the "Calendar" application, sometimes you may also want to use it for your **Tasks and reminders**.

5.5.2 Troubleshooting

- macOS does **not** support syncing CalDAV/CardDAV over non-encrypted `http://` connections. Make sure you have `https://` enabled and configured on server- and client-side.
- **Self-signed certificates** need to be properly set up in the macOS keychain.

5.6 Synchronizing with Thunderbird

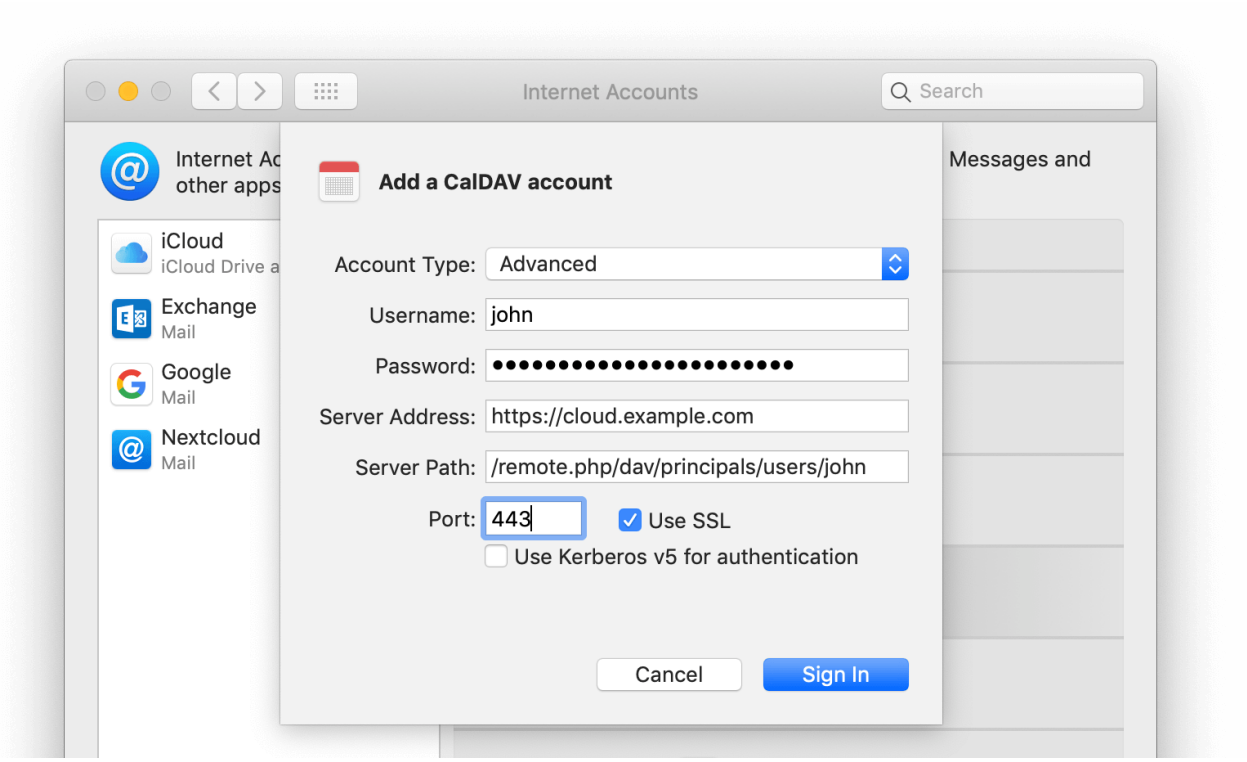
5.6.1 Contacts

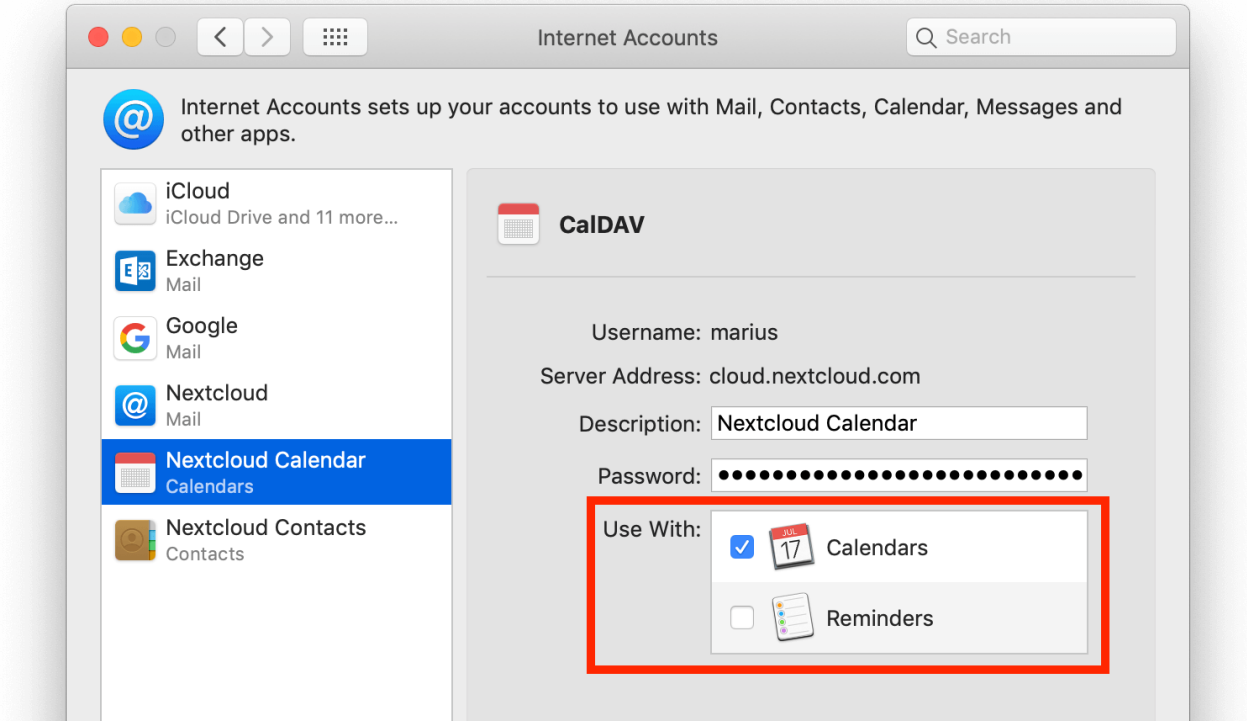
As someone who is new to Nextcloud and new to CardBook here is what you need in excruciating pithy detail to make this work:

- Thunderbird for your OS unless it comes with your OS distribution (Linux)
- CardBook (a Thunderbird contacts add-on.)

Once you've installed CardBook and Thunderbird do like this:

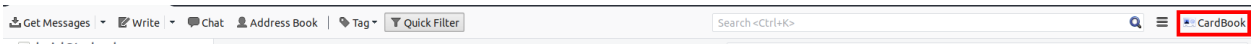
1. In the bottom left of the Contacts View (in Nextcloud contatcs) look for a little impeller symbol that looks like this:


Internet Accounts
Search
Internet Ac
other apps
Messages and
iCloud
iCloud Drive a
Exchange
Mail
Google
Mail
Nextcloud
Mail
Add a CalDAV account
Account Type: Advanced
Username: john
Password: ••••••••••••••••••••••••
Server Address: https://cloud.example.com
Server Path: /remote.php/dav/principals/users/john
Port: 443
Use SSL
Use Kerberos v5 for authentication
Cancel
Sign In

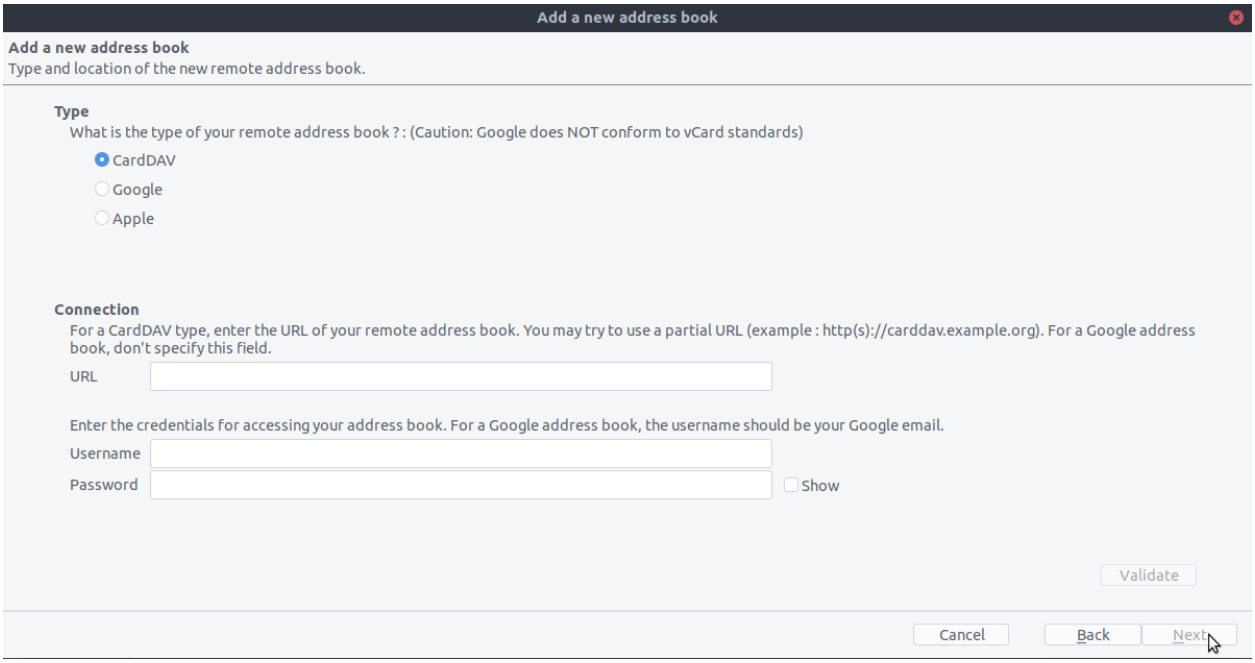

Internet Accounts
Search
Internet Accounts sets up your accounts to use with Mail, Contacts, Calendar, Messages and other apps.
iCloud
iCloud Drive and 11 more...
Exchange
Mail
Google
Mail
Nextcloud
Mail
Nextcloud Calendar
Calendars
Nextcloud Contacts
Contacts
CalDAV
Username: marius
Server Address: cloud.nextcloud.com
Description: Nextcloud Calendar
Password: ••••••••••••••••••••••••••••••
Use With:
Calendars
Reminders

which will display and URL that looks something like this: https://cloud.nextcloud.com/remote.php/dav/addressbooks/users/daniel/Thunderbird/

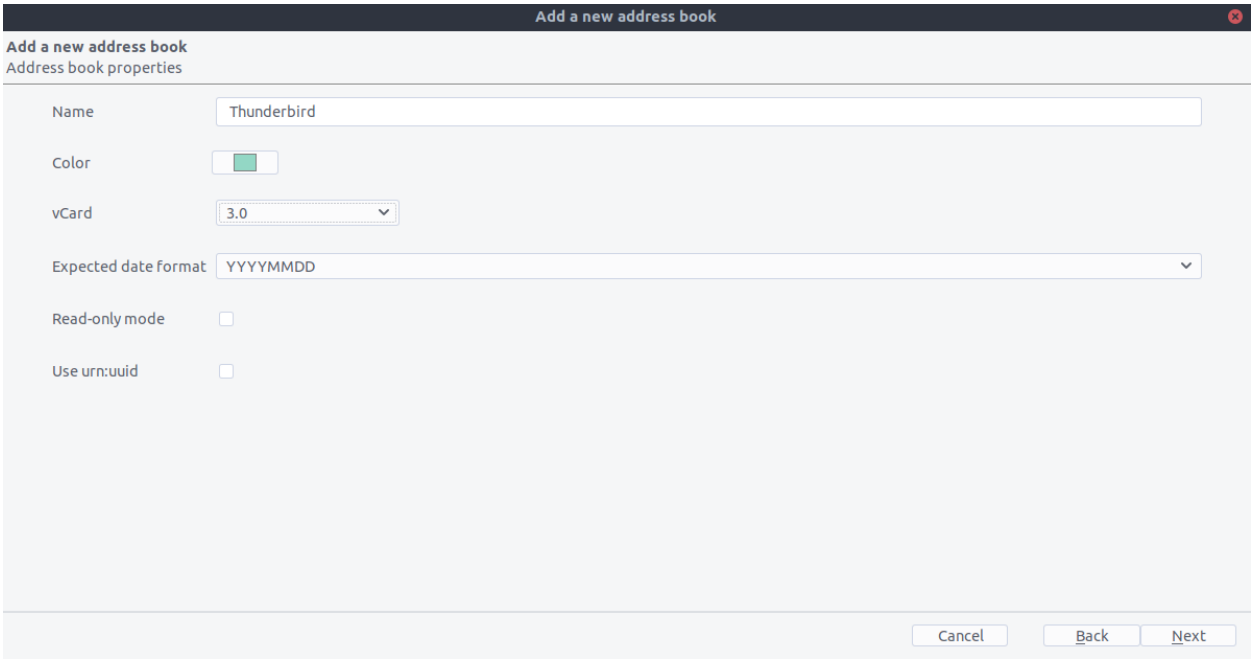
2. Cardbook is found in the upper right corner of Thunderbird:



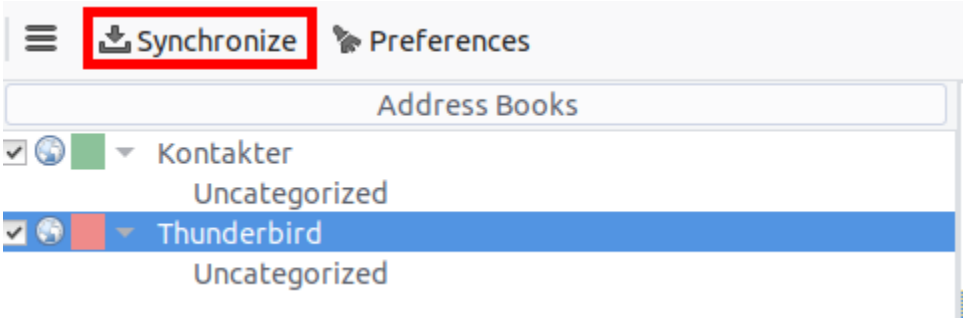
3. In the Thunderbird Cardbook add-on:
   - "Adressbook > New Adressbook **Remote** > Next
   - Fill in your information



4. Validate your settings and click Next, then choose the name of the addressbook and click Next again.



5. Once installed, synchronize your addressbook by clicking "Synchronize" in the top left corner of CardBook. You'll see your address book populate from Nextcloud!



The rest of the details of dealing with Thunderbird CardBook are left to the reader. . .

5.6.2 Calendar

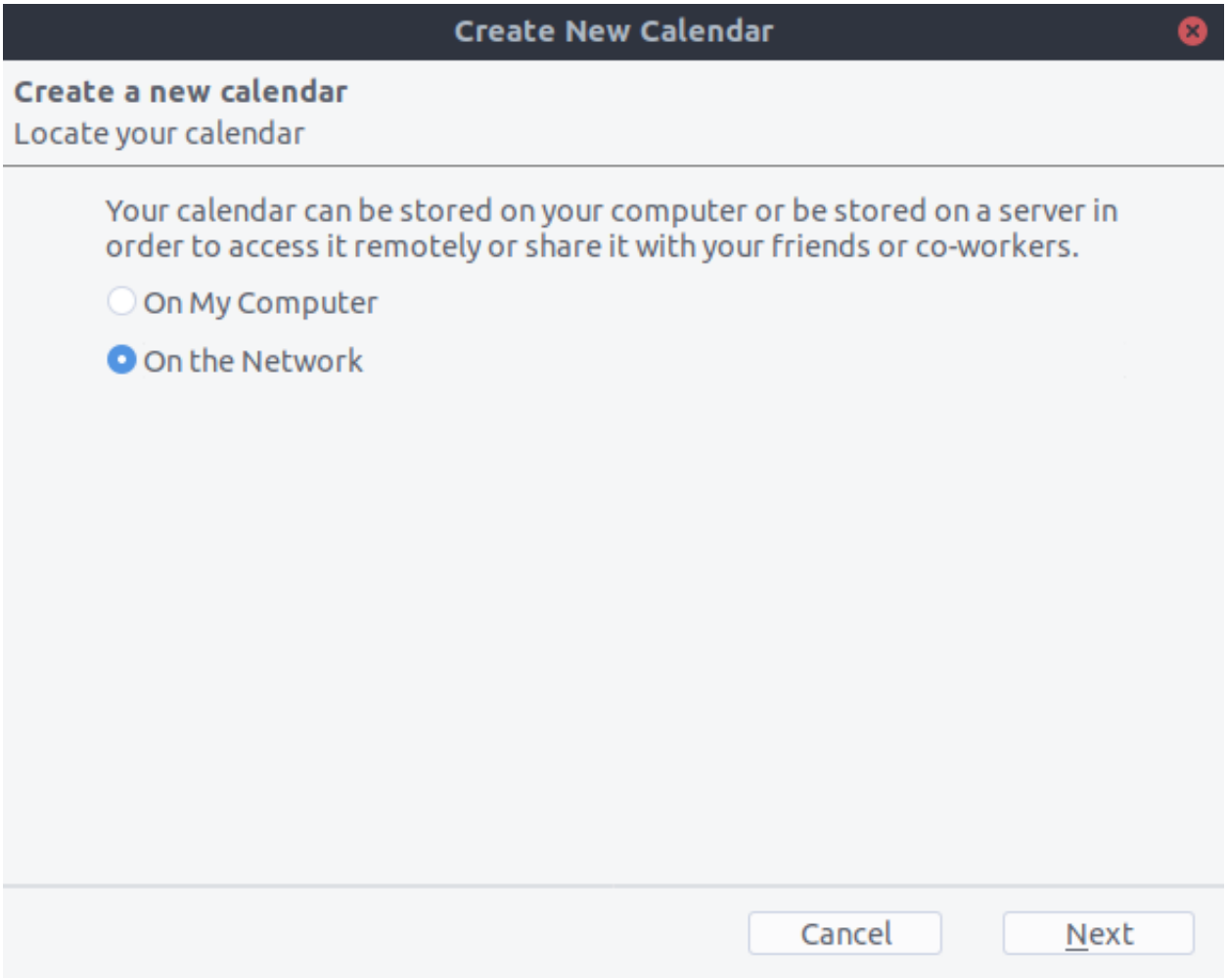
- Thunderbird for your OS unless it comes with your OS distribution (Linux)
- Lightning (a Thunderbird calendar add-on.)

Once you've installed Lighning and Thunderbird do like this:

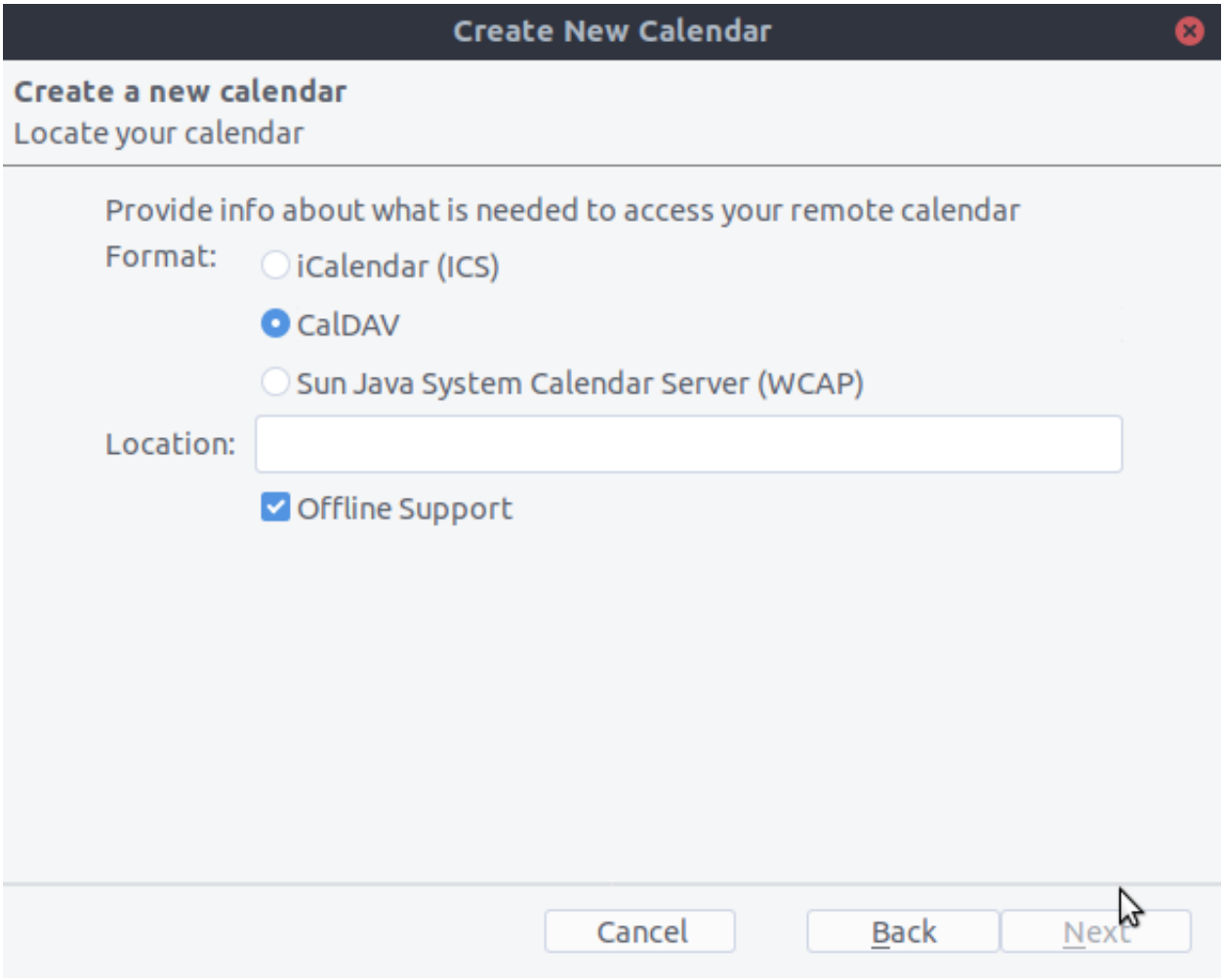
1. Go to your Nextcloud Calendar and click on the 3 dotted menu for the calendar that you want to synchronize which will display and URL that looks something like this: https://cloud.nextcloud.com/remote.php/dav/calendars/daniel/personal/

2. Go to the calendar view in Thunderbird and right click in the calendar menu to the left (where the names of the calendars are) to add a **New Calendar**.

3. Choose **On the network**



4. Choose **CalDAV** and fill in the missing information:



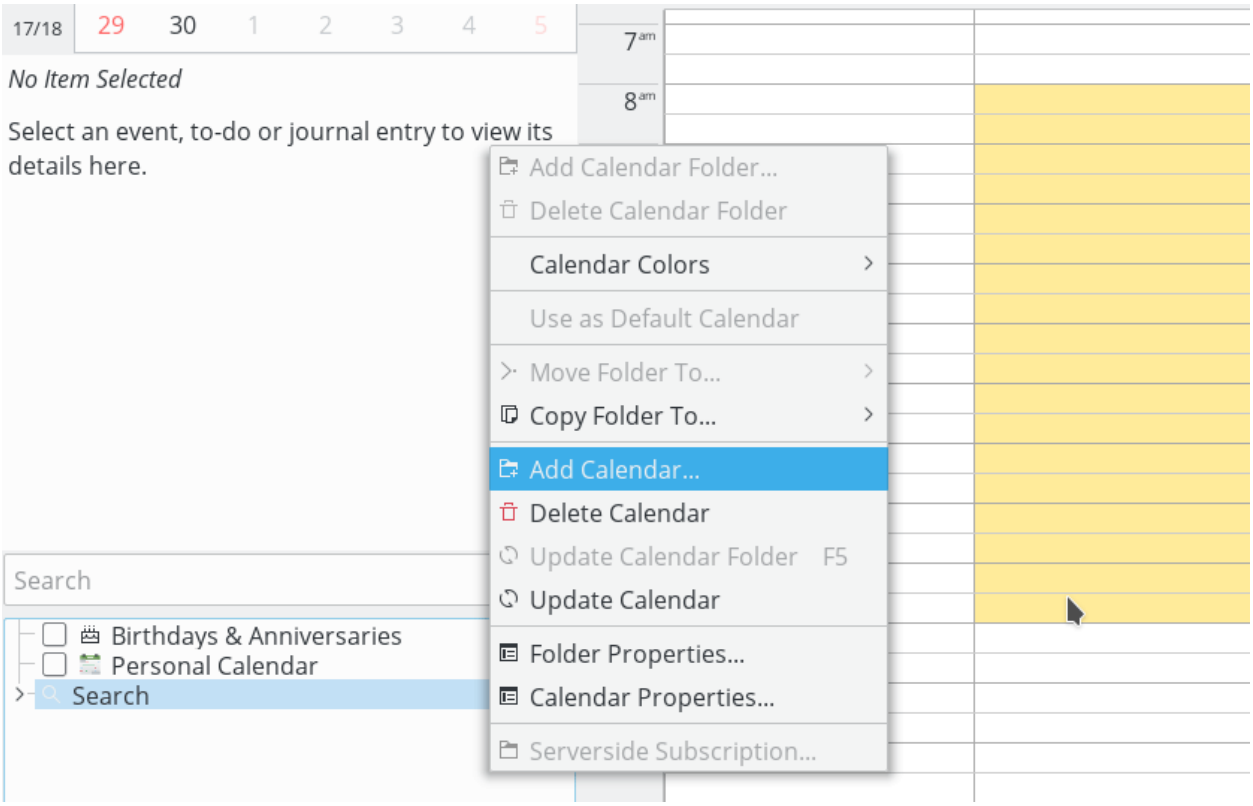
The rest of the details of dealing with Thunderbird Calendar are left to the reader. . .

5.7 Synchronizing with KDE Kontact

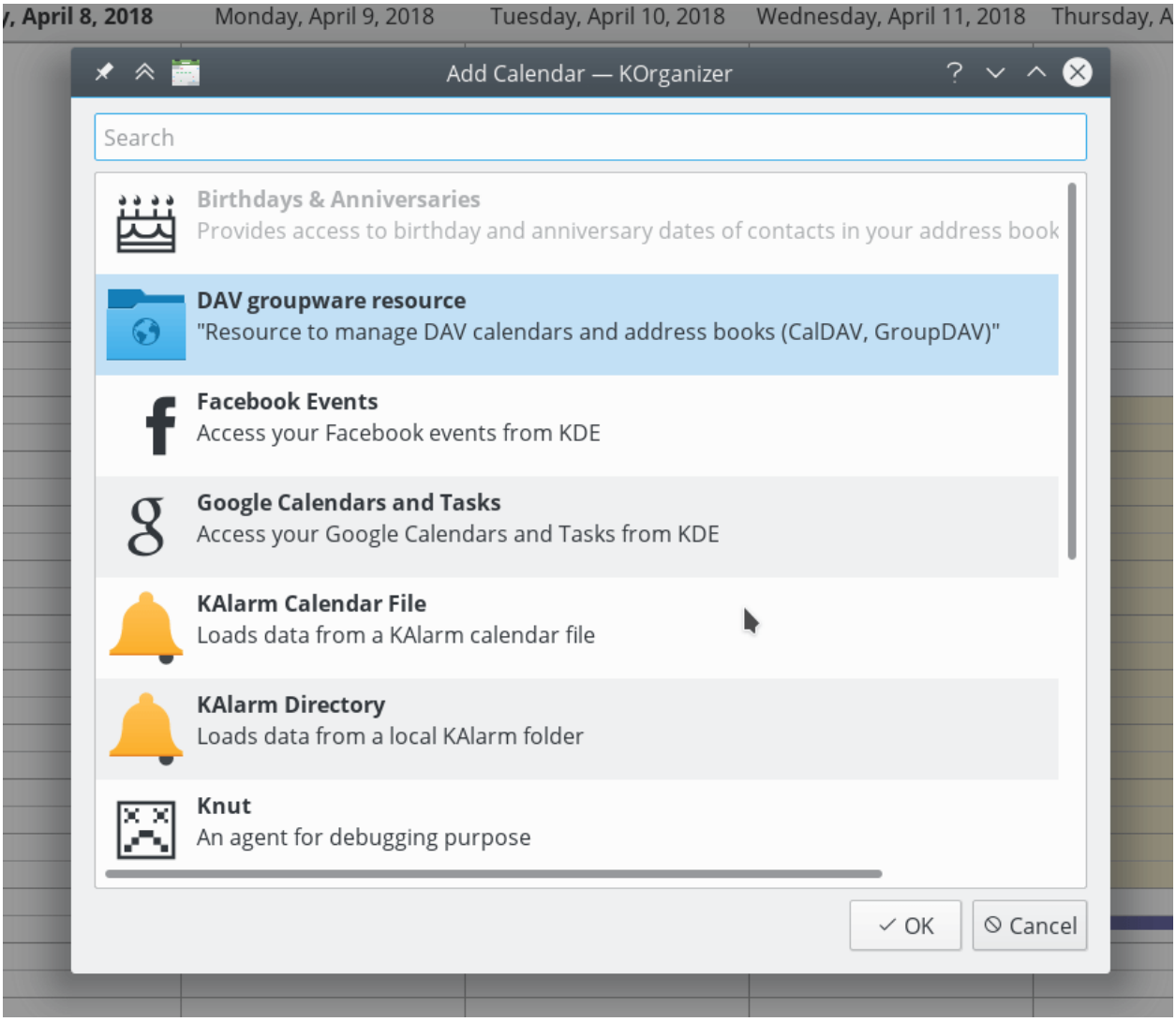
KOrganizer and KAddressBook can synchronize your calendar, contacts and tasks with a Nextcloud server.

This can be done by following these steps:

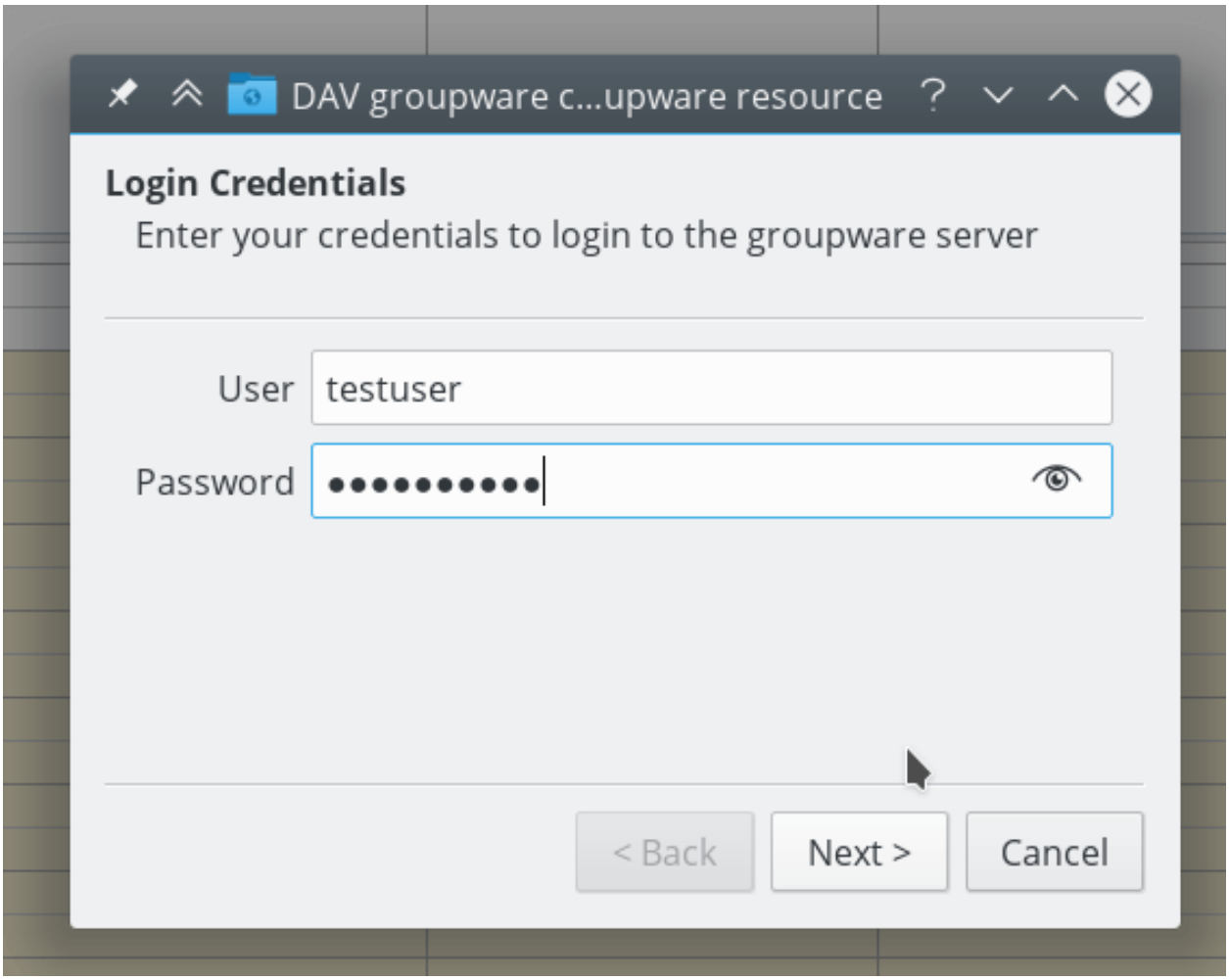
1. Open KOrganizer and in the calendar list (bottom left) right-click and choose `Add Calendar`.



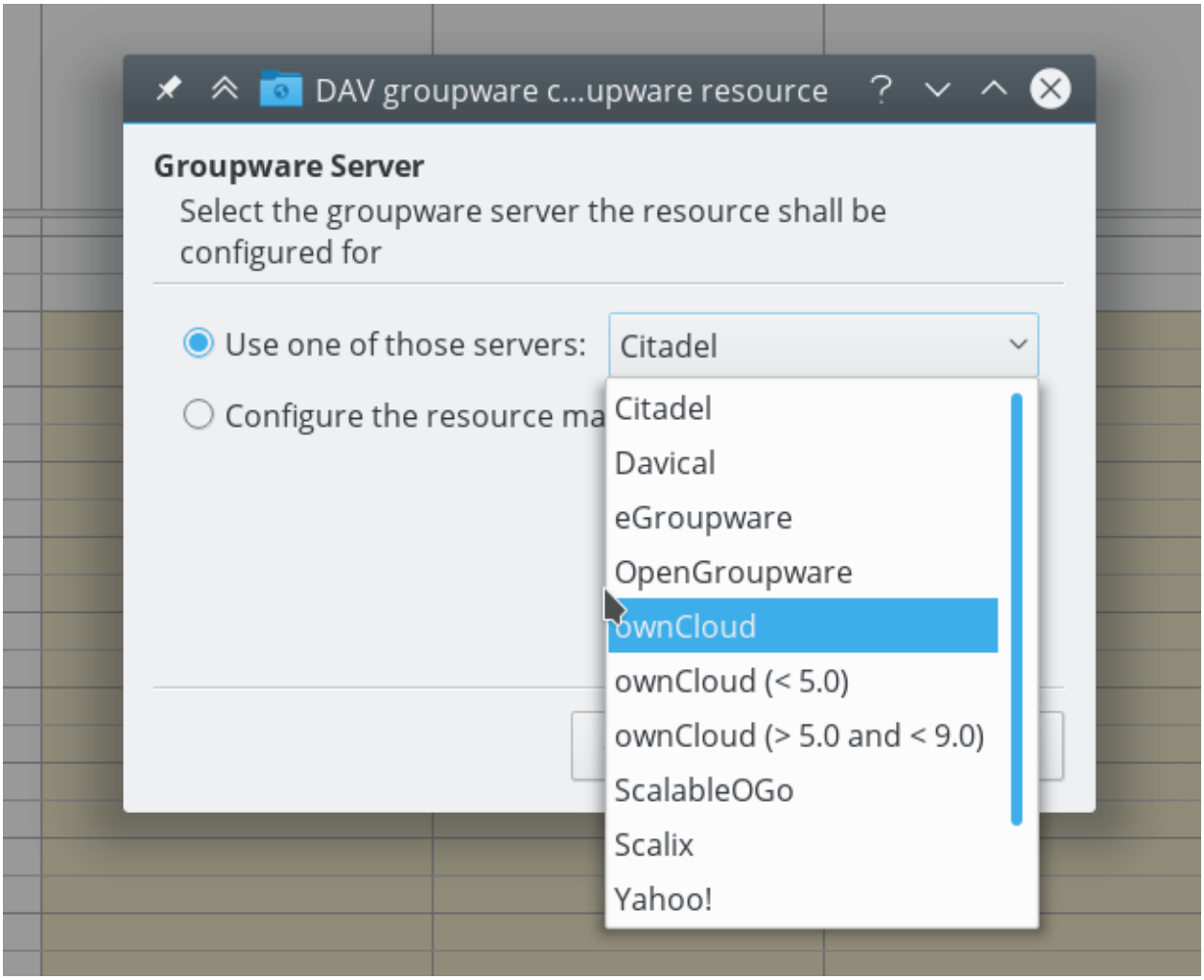
2. In the resulting list of resources, pick `DAV groupware resource`.



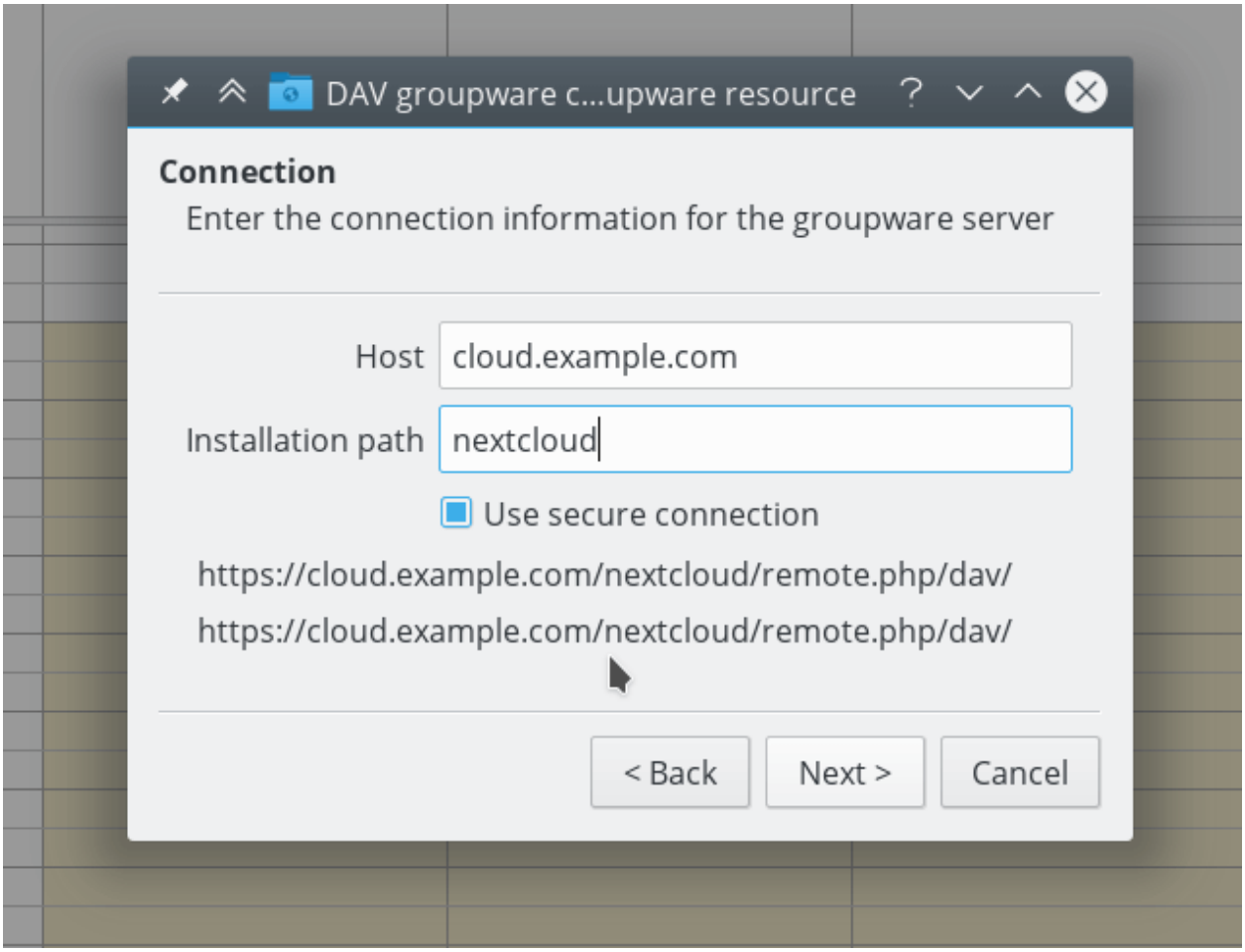
3. Enter your username. As password, you need to generate an app-password/token (Learn more).



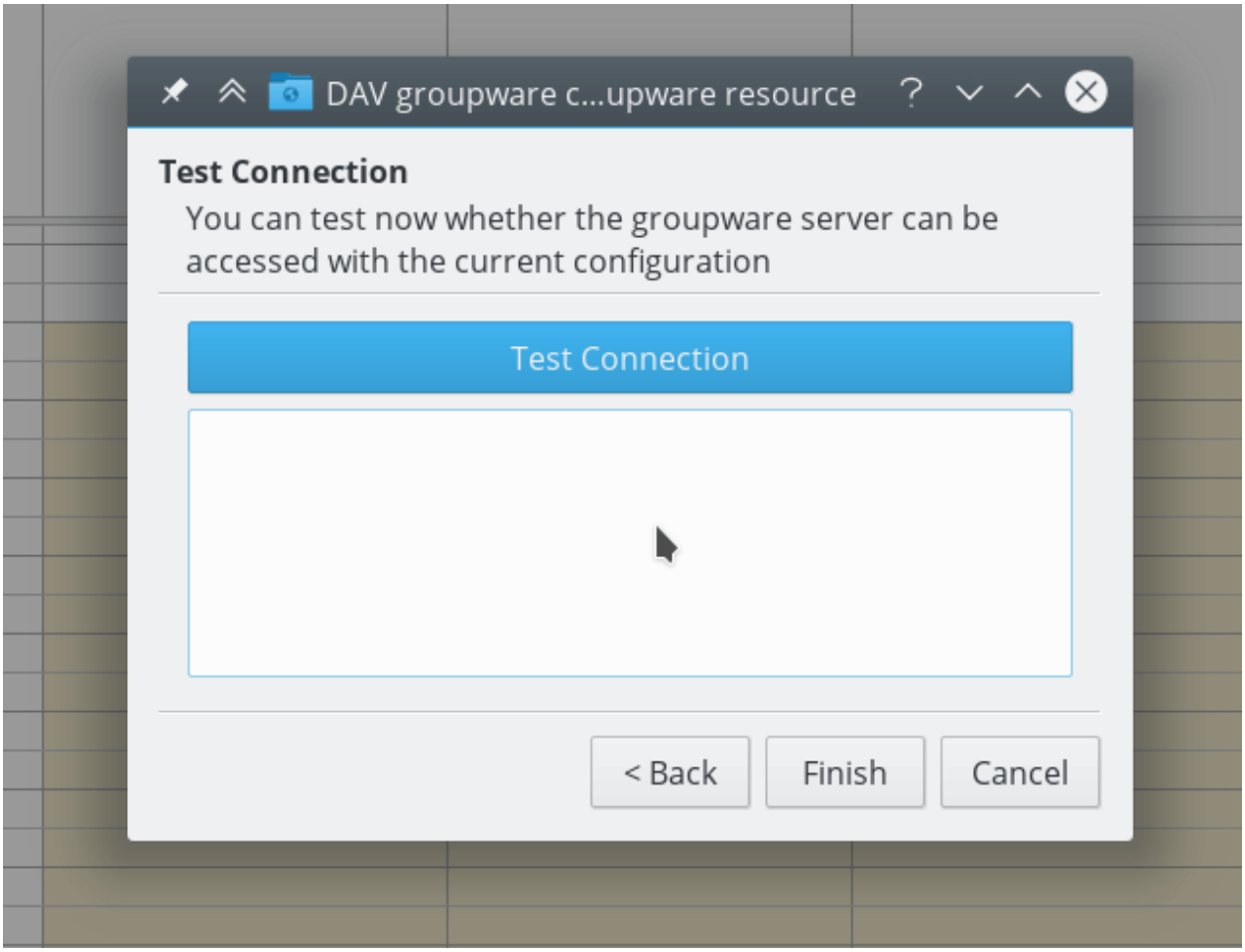
4. Choose `ownCloud` or `Nextcloud` as Groupware server option.

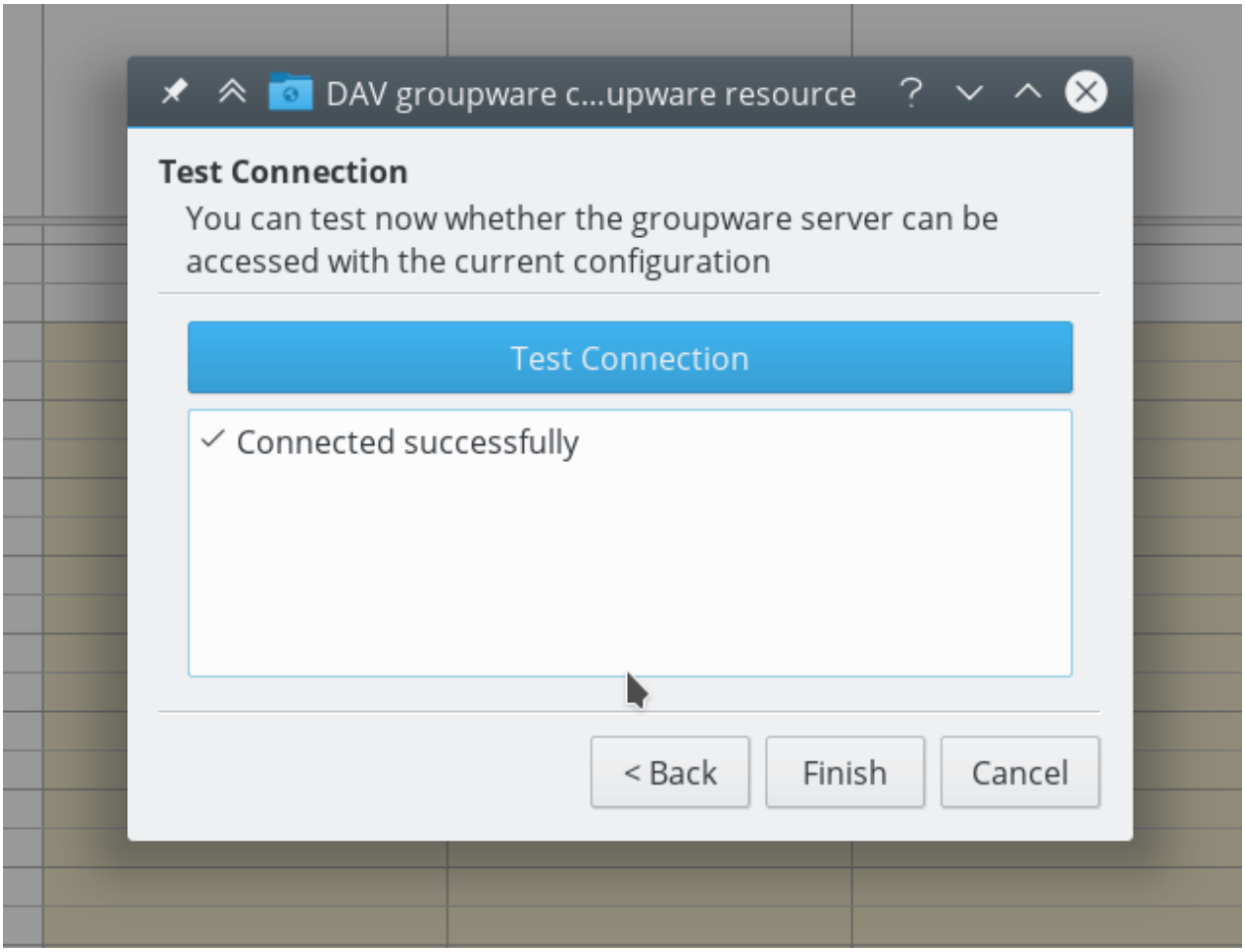


5. Enter your Nextcloud server URL and, if needed, installation path (anything that comes after the first /, for example `mynextcloud` in `https://exampe.com/mynextcloud`). Then click next.



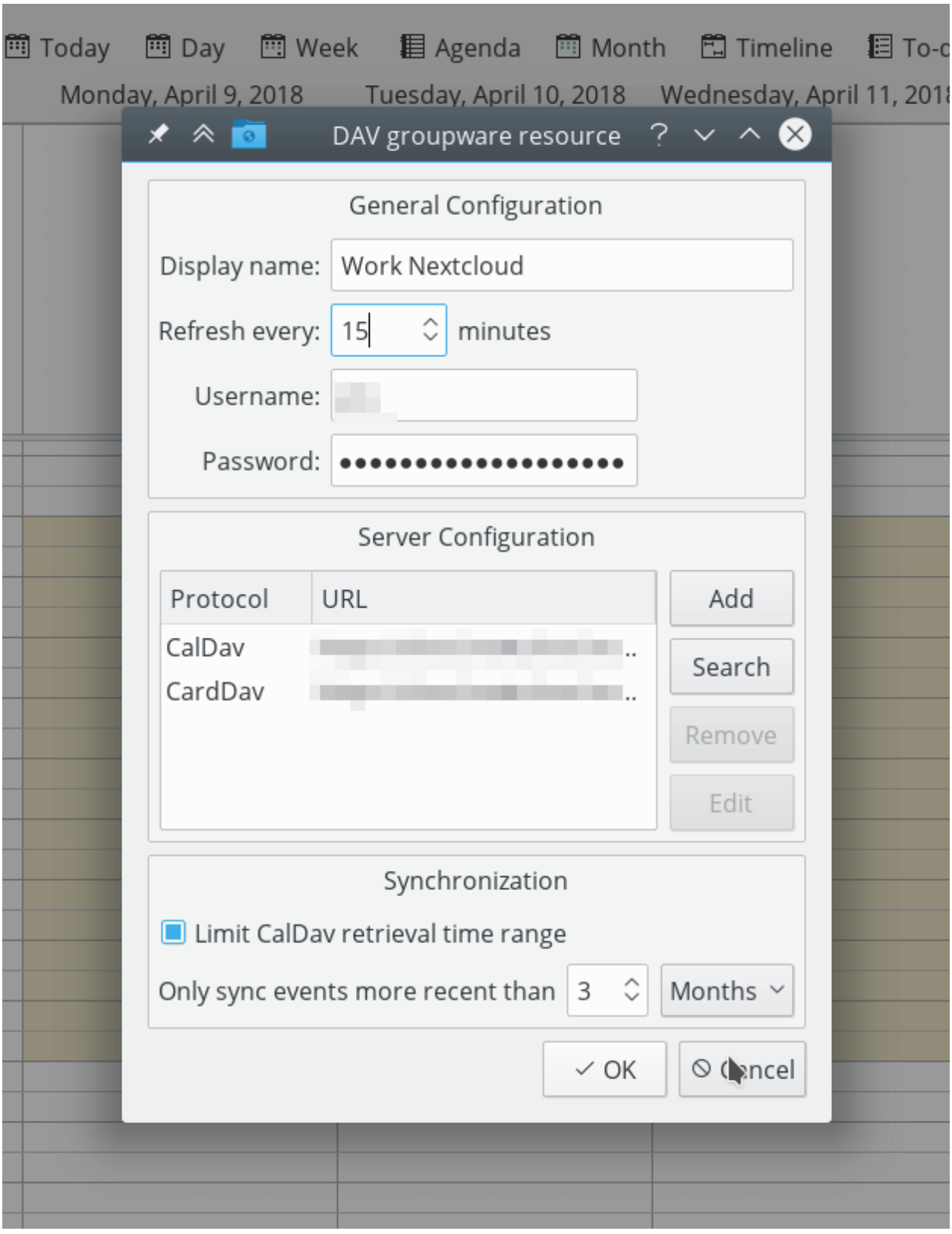
6. You can now test the connection, which can take some time for the initial connection. If it does not work, you can go back and try to fix it with other settings.


DAV groupware c...upware resource
Test Connection
You can test now whether the groupware server can be accessed with the current configuration
Test Connection
< Back
Finish
Cancel

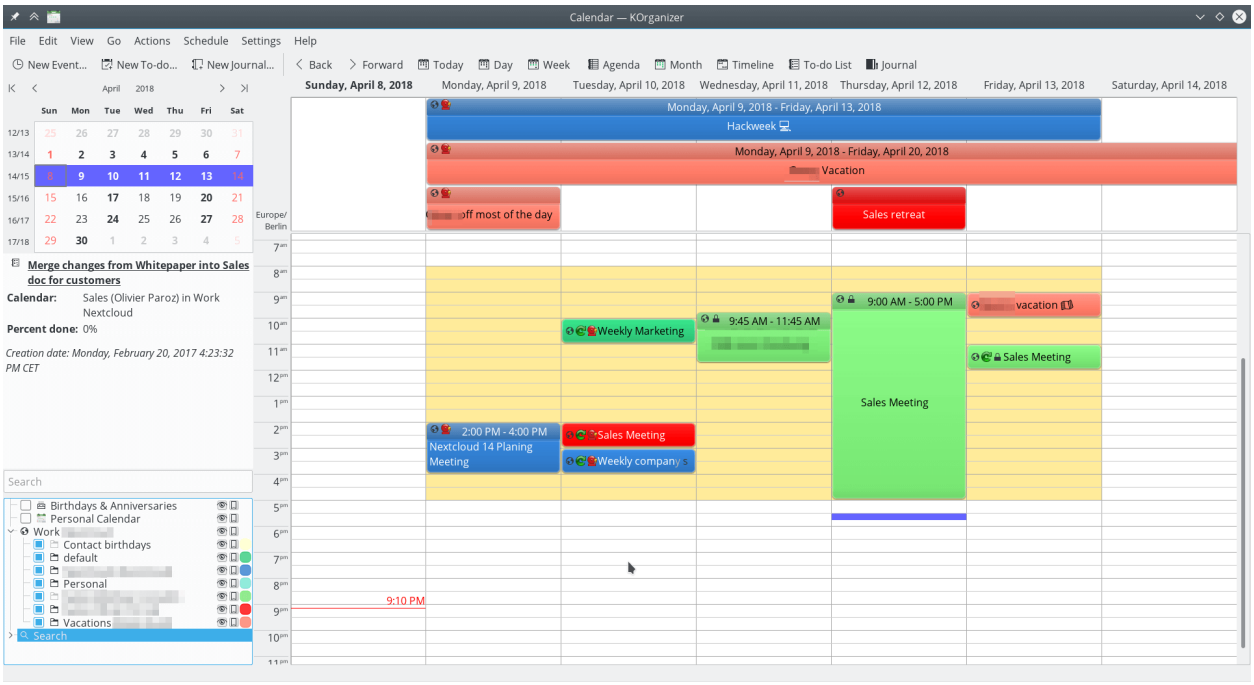


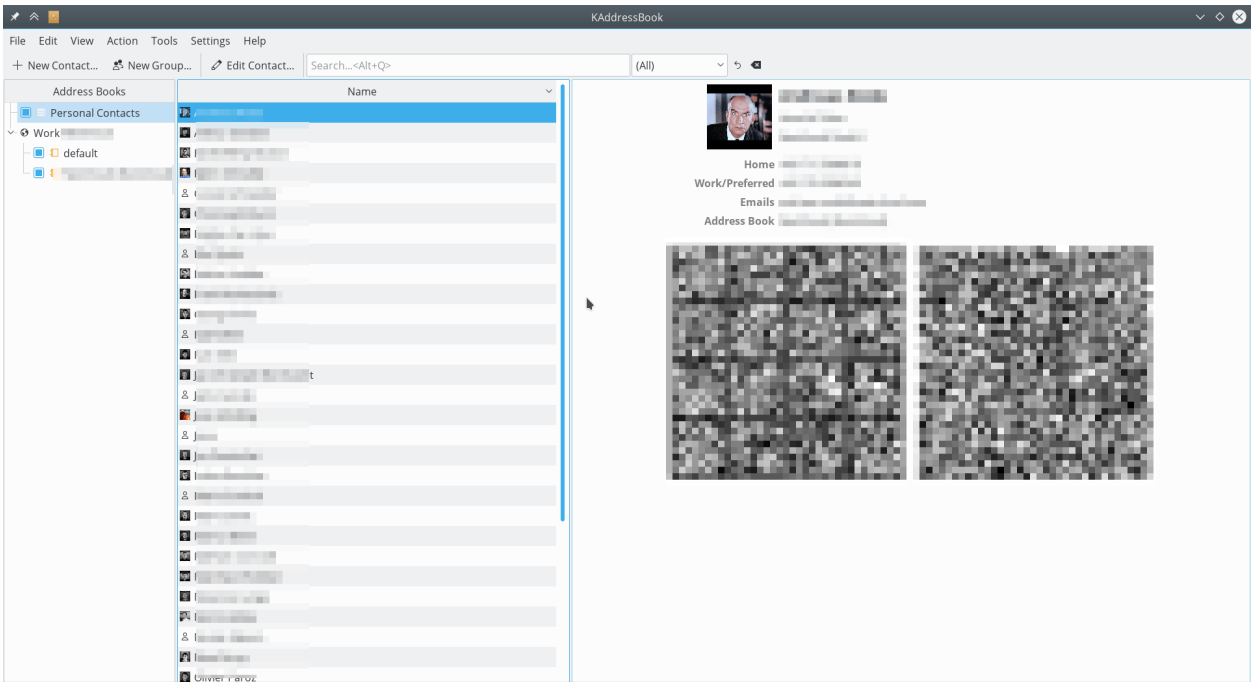
7. Pick a name for this resource, for example `Work` or `Home`. By default, both CalDAV (Calendar) and CardDAV (Contacts) are synced.

Note: You can set a manual refresh rate four your calendar and contacts resources. By default this setting is set to 5 minutes and should be fine for the most use cases. You may want to change this for saving your power or cellular data plan. that you can update with a right-click on the item in the calendar list and when you create a new appointment it is synced to Nextcloud right away.



8. After a few seconds to minutes depending on your internet connection, you will finde your calendars and contacts inside the KDE Kontact applications KOrganizer and KAddressBook!





5.8 Synchronizing with Windows 10

5.8.1 Calendar

1. In your browser, navigate to the Nextcloud Calendar app. Under “Settings & import”, copy the “iOS/macOS CalDAV Address” into your clipboard.
2. Launch the Windows 10 Calendar app. Then, click the settings icon (gear icon) and select “Manage accounts”.

3. Click “Add account” and choose “iCloud”.
4. Enter an email, username and password. None of this information has to be valid-it will all be changed in the upcoming steps.
5. Click “Done”. A message should appear indicating the settings were saved successfully.
6. In the “Manage Accounts” menu, click on the iCloud account created in previous steps, and select “Change settings”. Then, click on “Change mailbox sync settings”.
7. Scroll to the bottom of the dialog box, select “Advanced mailbox settings”. Paste your CalDAV URL in the field labelled “Calendar server (CalDAV)”.
8. Click “Done”. Enter your Nextcloud username and password in the appropriate fields, and change the account name to whatever you prefer (e. g. “Nextcloud Calendar”). Click “Save”.

After following all these steps, your Nextcloud calendar should synchronize. If not, check your username and password. Otherwise, repeat these steps.

NOTE: You will not be able to synchronize your calendar if you have two-factor authentication enabled. Follow the steps below to get an app password that can be used with the Calendar client app:

1. Log into Nextcloud. Click on your user icon, then click on “settings”.
2. Click on “Security”, then locate a button labeled “Generate app password”. Next to this button, enter “Windows 10 Calendar app”. Then, click the button and copy and paste the password. Use this password instead of your Nextcloud password for Step 8.

Special thanks to this Reddit user for their post: https://www.reddit.com/r/Nextcloud/comments/5rcypb/using_the_windows_10_calendar_application_with/

CHAPTER

SIX

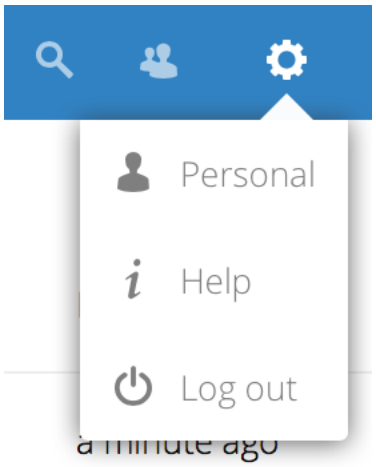
SETTING YOUR PREFERENCES

As a user, you can manage your personal settings.

To access your personal settings:

1. Click on your profile picture in the top, right corner of your Nextcloud instance.

   The Personal Settings Menu opens.



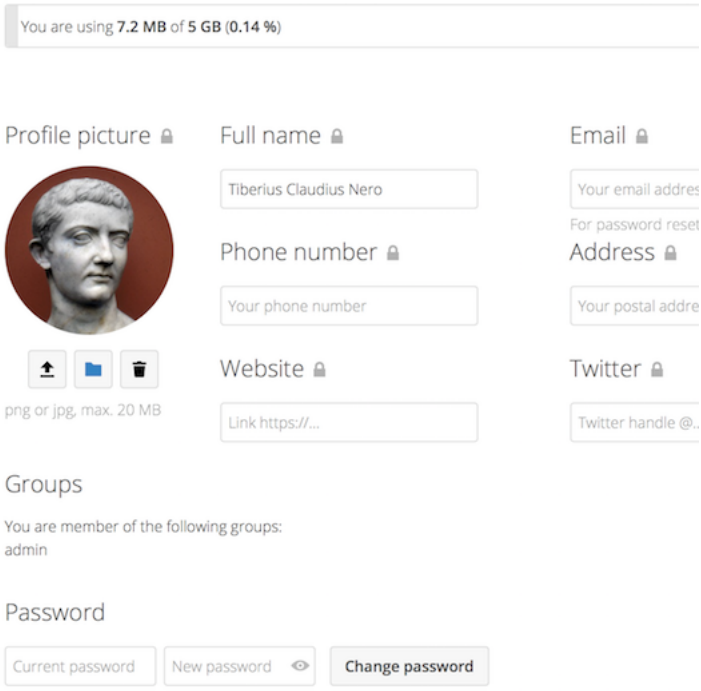
   Personal Settings Menu

2. Choose *Settings* from the drop down menu.

Note: If you are an administrator, you can also manage users and administer the server. These links do not appear to a non-admin user.

The options listed in the Personal Settings Page depend on the applications that are enabled by the administrator. Some of the features you will see include the following:

- Usage and available quota
- Manage your profile picture
- Full name (You can make this anything you want, as it is separate from your Nextcloud login name, which is unique and cannot be changed)
- Email address
- List of your Group memberships
- Change your password



- *Using two-factor authentication*
- *Setting your preferences*
- Choose the language for your Nextcloud interface
- Links to desktop and mobile apps
- Manage your Activity stream and notifications
- Default folder to save new documents to
- Your Federated sharing ID
- Social sharing links
- Nextcloud version

Note: Available options and settings depending on your administrators configuration. If you are not able to change the password or the display-name in your personal settings, please contact your administrator for help.

CHAPTER

SEVEN

USING TWO-FACTOR AUTHENTICATION

Two-factor authentication (2FA) is a way to protect your Nextcloud account against unauthorized access. It works by requiring two different 'proofs' of your identity. For example, *something you know* (like a password) and *something you have* like a physical key. Typically, the first factor is a password like you already have and the second can be a text message you receive or a code you generate on your phone or another device (*something you have*). Nextcloud supports a variety of 2nd factors and more can be added.

Once a two-factor authentication app has been enabled by your administrator you can enable and configure it in *Setting your preferences*. Below you can see how.

7.1 Configuring two-factor authentication

In your Personal Settings look up the Second-factor Auth setting. In this example this is TOTP, a Google Authenticator compatible time-based code.

You will see your secret and a QR code which can be scanned by the TOTP app on your phone (or another device). Depending on the app or tool, type in the code or scan the QR and your device will show a login code which changes every 30 seconds.

7.2 Recovery codes in case you lost your 2nd factor

You should always generate backup codes for 2FA. If your 2nd factor device gets stolen or is not working, you will be able to use one of these codes to unlock your account. It effectively functions as a backup 2nd factor. To get the backup codes, go to your Personal Settings and look under Second-factor Auth settings. Choose *Generate backup codes*.

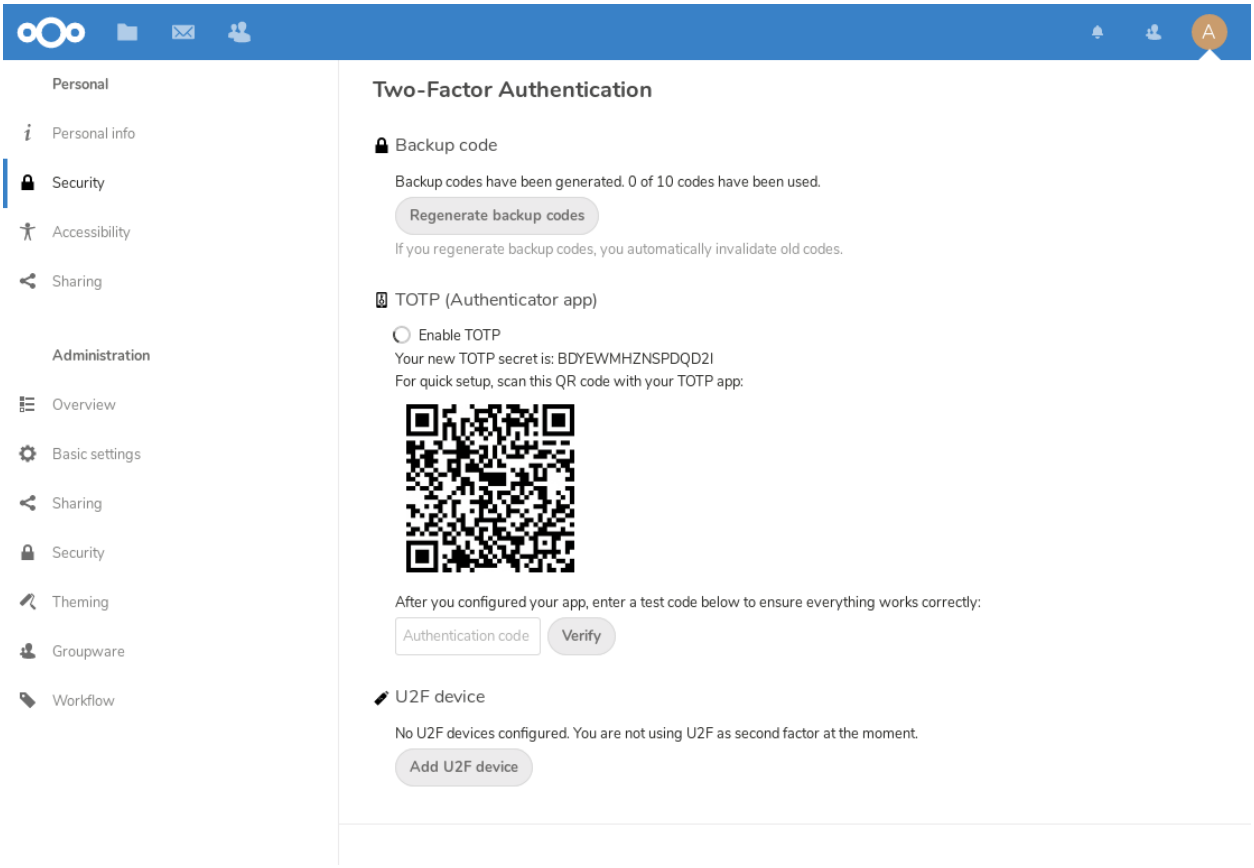
You will then be presented with a list of one-time-use backup codes.

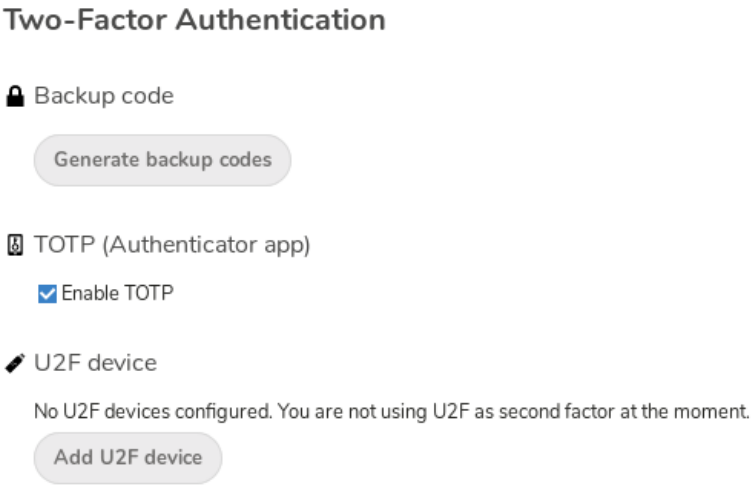
You should put these codes in a safe spot, somewhere you can find them. Don't put them together with your 2nd factor like your mobile phone but make sure that if you lose one, you still have the other. Keeping them at home is probably the best thing to do.

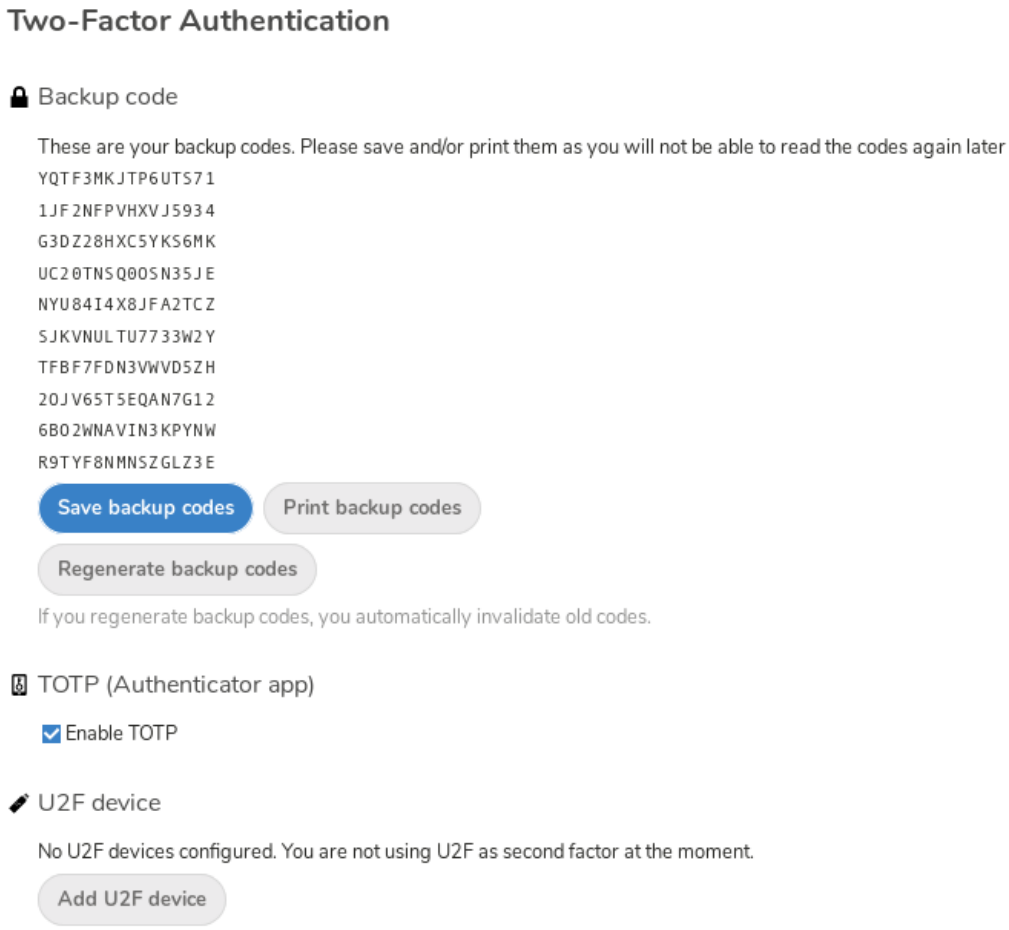
7.3 Logging in with two-factor authentication

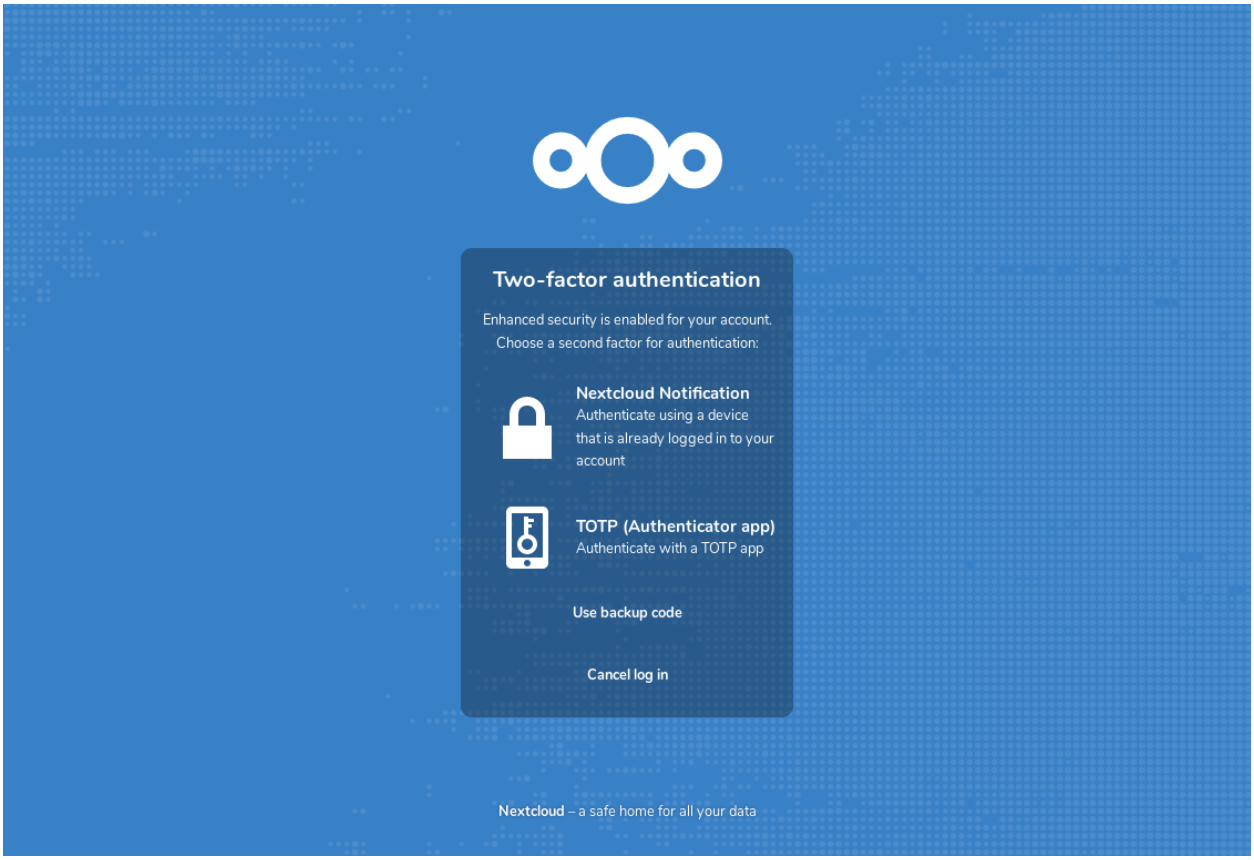
After you have logged out and need to log in again, you will see a request to enter the TOTP code in your browser. If you enable not only the TOTP factor but another one, you will see a selection screen on which you can choose two-factor method for this login. Select TOTP.

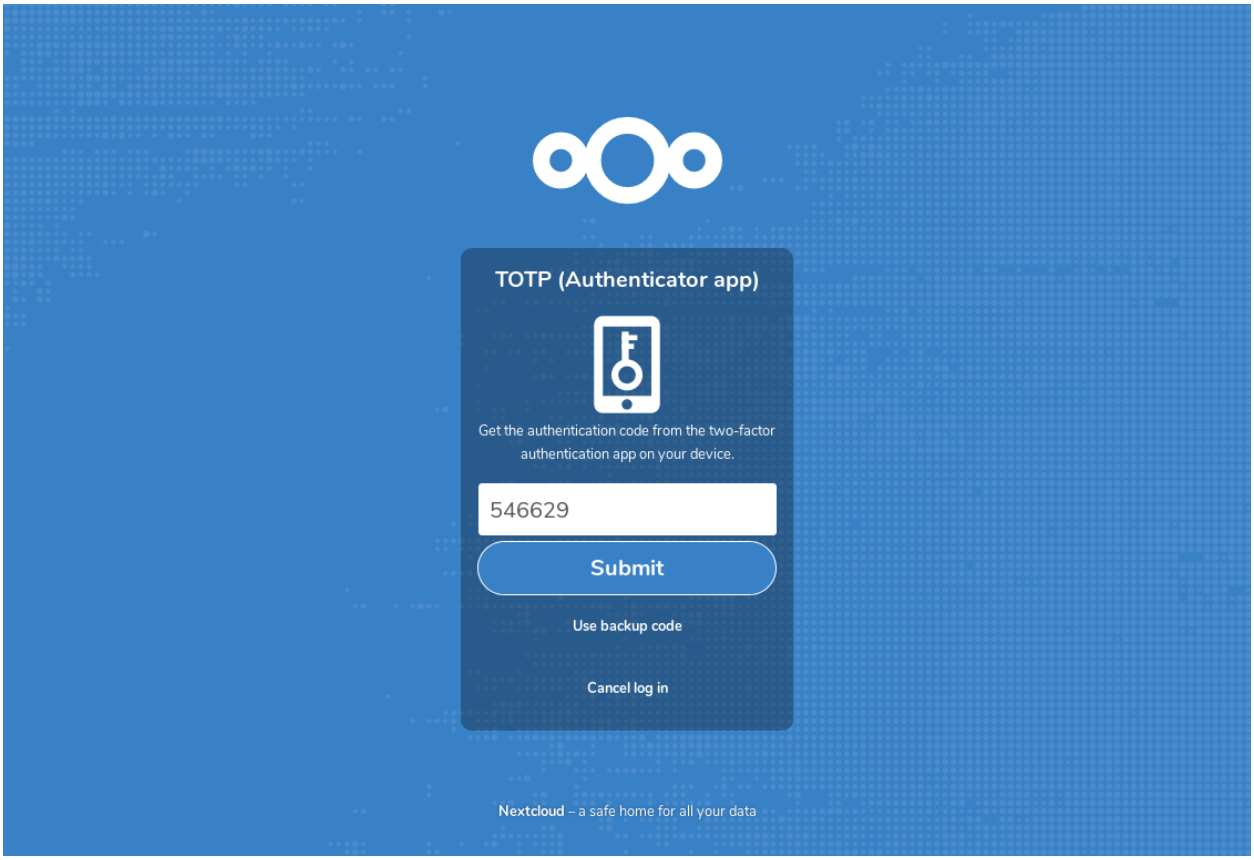
Now, just enter your code:


Personal
Personal info
Security
Accessibility
Sharing
Administration
Overview
Basic settings
Sharing
Security
Theming
Groupware
Workflow
Two-Factor Authentication
Backup code
Backup codes have been generated. 0 of 10 codes have been used.
Regenerate backup codes
If you regenerate backup codes, you automatically invalidate old codes.
TOTP (Authenticator app)
Enable TOTP
Your new TOTP secret is: BDYEWMHZNSPDQD2I
For quick setup, scan this QR code with your TOTP app:
After you configured your app, enter a test code below to ensure everything works correctly:
Authentication code
Verify
U2F device
No U2F devices configured. You are not using U2F as second factor at the moment.
Add U2F device


Two-Factor Authentication
Backup code
Generate backup codes
TOTP (Authenticator app)
Enable TOTP
U2F device
No U2F devices configured. You are not using U2F as second factor at the moment.
Add U2F device


Two-Factor Authentication
Backup code
These are your backup codes. Please save and/or print them as you will not be able to read the codes again later
YQTF3MKJTP6UTS71
1JF2NFPVHXVJ5934
G3DZ28HXC5YKS6MK
UC20TNSQ0OSN35JE
NYU84I4X8JFA2TCZ
SJKVNULTU7733W2Y
TFBF7FDN3VWVD5ZH
2OJV65T5EQAN7G12
6BO2WNAVIN3KPYNW
R9TYF8NMNSZGLZ3E
Save backup codes
Print backup codes
Regenerate backup codes
If you regenerate backup codes, you automatically invalidate old codes.
TOTP (Authenticator app)
Enable TOTP
U2F device
No U2F devices configured. You are not using U2F as second factor at the moment.
Add U2F device


Two-factor authentication
Enhanced security is enabled for your account.
Choose a second factor for authentication:
Nextcloud Notification
Authenticate using a device that is already logged in to your account
TOTP (Authenticator app)
Authenticate with a TOTP app
Use backup code
Cancel log in
Nextcloud – a safe home for all your data


TOTP (Authenticator app)
Get the authentication code from the two-factor authentication app on your device.
546629
Submit
Use backup code
Cancel log in
Nextcloud – a safe home for all your data

If the code was correct you will be redirected to your Nextcloud account.

Note: Since the code is time-based, it's important that your server's and your smartphone's clock are almost in sync. A time drift of a few seconds won't be a problem.

7.4 Using client applications with two-factor authentication

Once you have enabled 2FA, your clients will no longer be able to connect with just your password unless they also have support for two-factor authentication. To solve this, you should generate device specific passwords for them. See *Manage connected browsers and devices* for more information on how to do this.

CHAPTER

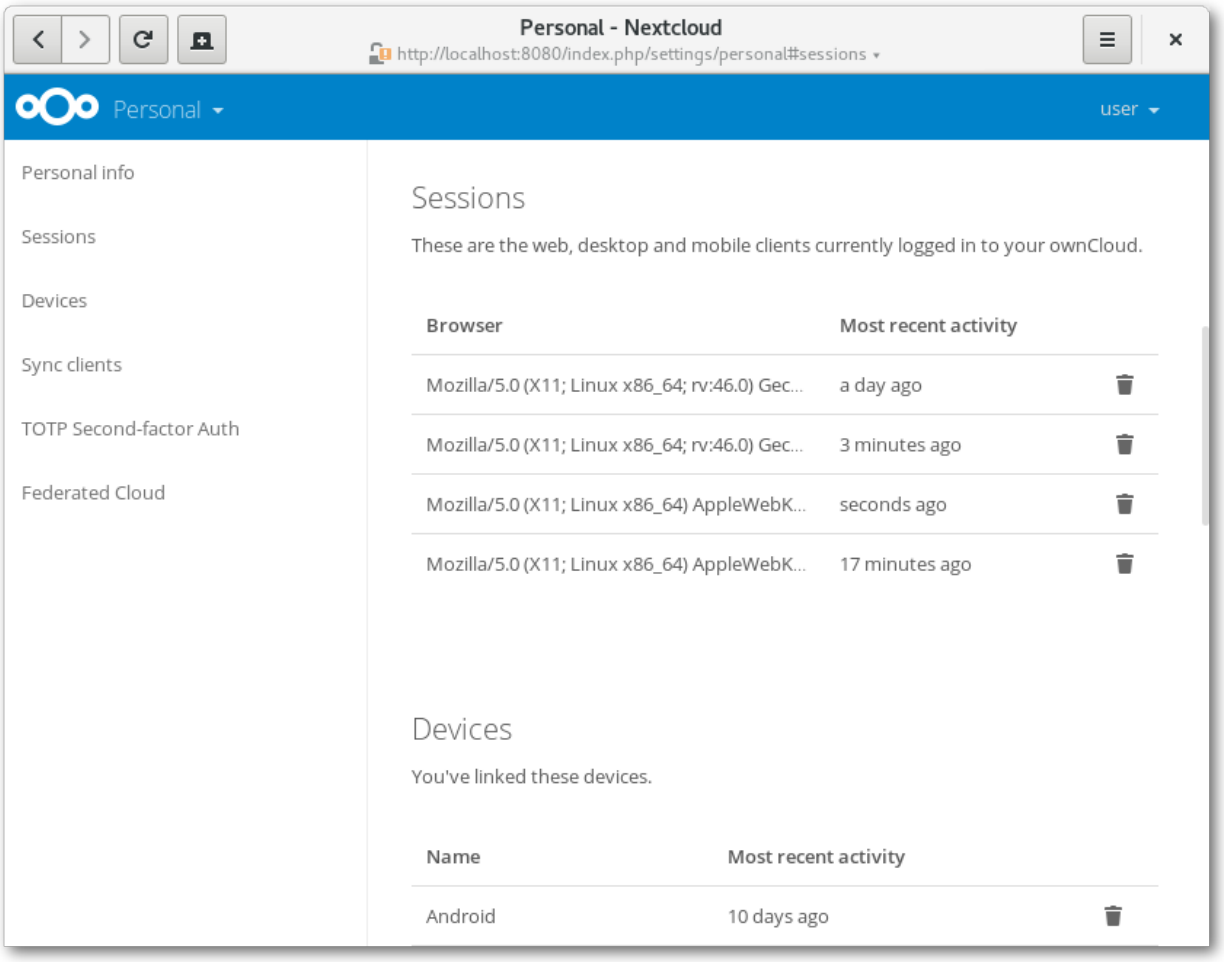
EIGHT

MANAGE CONNECTED BROWSERS AND DEVICES

The personal settings page allows you to have an overview on the connected browsers and devices.

8.1 Managing connected browsers

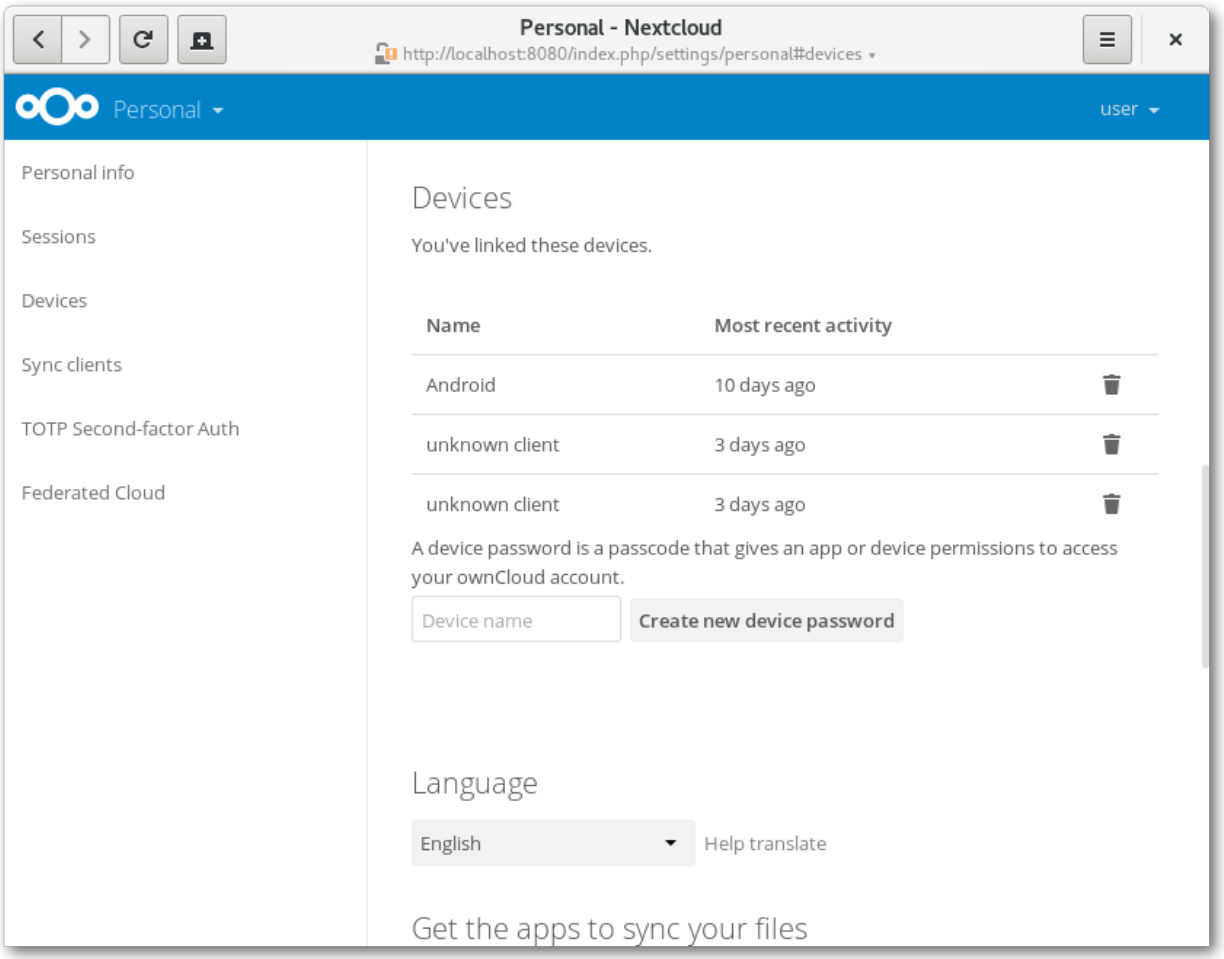
In the list of connected browsers you see which browsers connected to your account recently:



You can use the trash icon to disconnect any of the browsers in the list.

8.2 Managing devices

In the list of connected devices you see all the devices and clients you generated a device password for and their last activity:

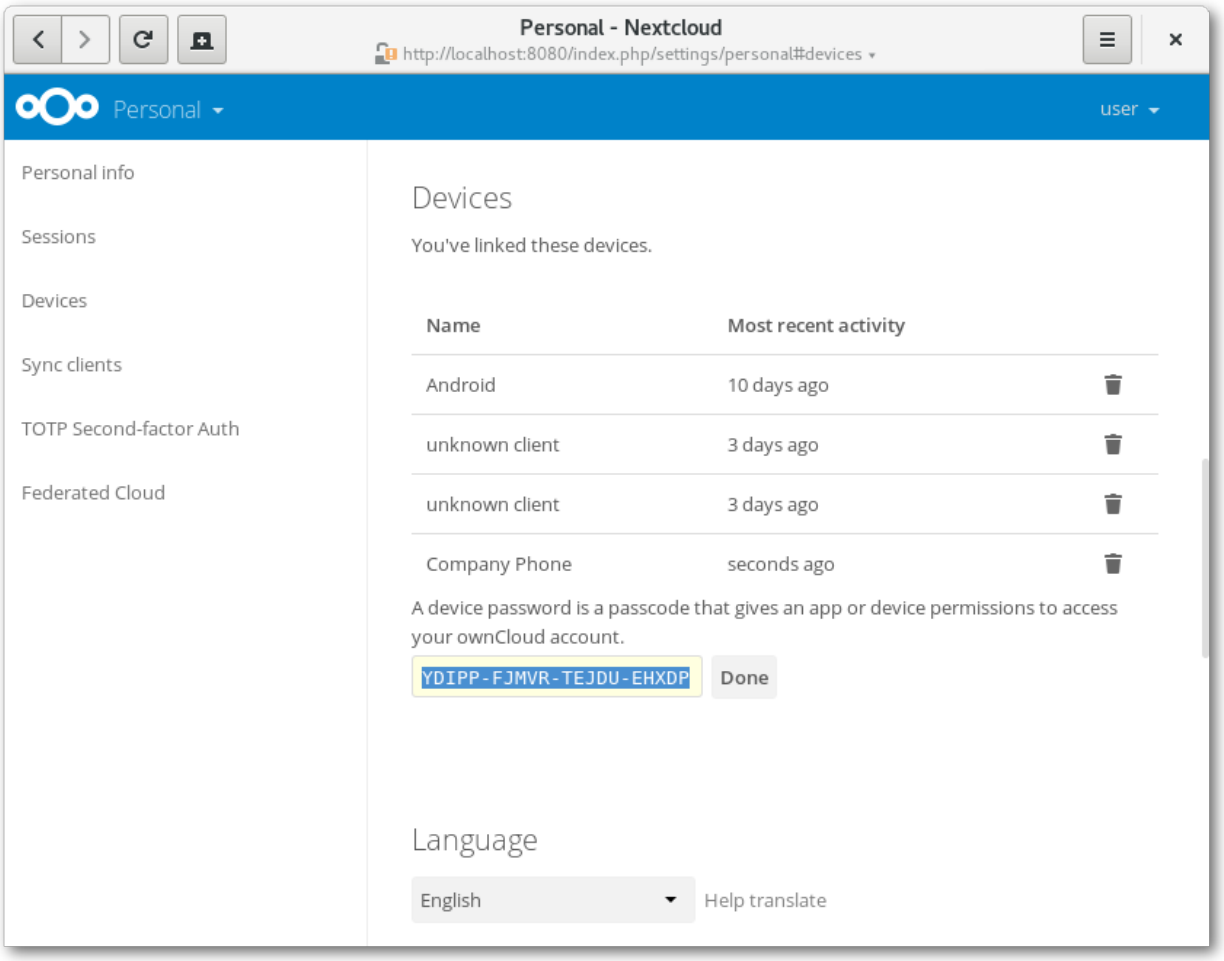


You can use the trash icon to disconnect any of the devices in the list.

At the bottom of the list you find a button to create a new device-specific password. You can choose a name to identify the token later. The generated password is used for configuring the new client. Ideally, generate individual tokens for every device you connect to your account, so you can disconnect those individually if necessary.

Note: You have only access to the device password when creating it, Nextcloud will not save the plain password, hence it's recommended to enter the password on the new client immediately.

Note: If you are *Using two-factor authentication* for your account, device-specific passwords are the only way to configure clients. The client will deny connections of clients using your login password then.


Personal - Nextcloud
http://localhost:8080/index.php/settings/personal#devices
Personal
user
Personal info
Sessions
Devices
Sync clients
TOTP Second-factor Auth
Federated Cloud
Devices
You've linked these devices.
Name
Most recent activity
Android
10 days ago
unknown client
3 days ago
unknown client
3 days ago
Company Phone
seconds ago
A device password is a passcode that gives an app or device permissions to access your ownCloud account.
YDIPP-FJMVR-TEJDU-EHXDP
Done
Language
English
Help translate

8.3 Device-specific passwords and password changes

The behaviour of device-specific passwords during changes of the main password changed in different versions of Nextcloud.

Up to Nextcloud 13 Device-specific passwords are removed on password change and also are removed once they are not valid anymore if an external user backend is used.

Nextcloud 14 For local user backend the device-specific passwords are updated properly and continue to work. For external user backends (like LDAP/AD) the device-specific passwords are still removed.

Starting with Nextcloud 15 For password changes in external user backends the device-specific passwords are marked as invalid and once a login of the user account with the main password happens all device-specific passwords are updated and work again.

CHAPTER

NINE

EXTERNAL STORAGE

9.1 Configuring external Storage

The External Storage application allows you to mount external storage services, such as Google Drive, Dropbox, Amazon S3, SMB/CIFS fileservers, and FTP servers in Nextcloud. Your Nextcloud server administrator controls which of these are available to you. Please see Configuring External Storage (GUI) in the Nextcloud Administrator's manual for configuration howtos and examples.