

**UiO** : **Department of Technology Systems**  
University of Oslo

**Raspberry Pi - Intro Sep2022**

# **Raspberry Pi (RPI) - good to know**

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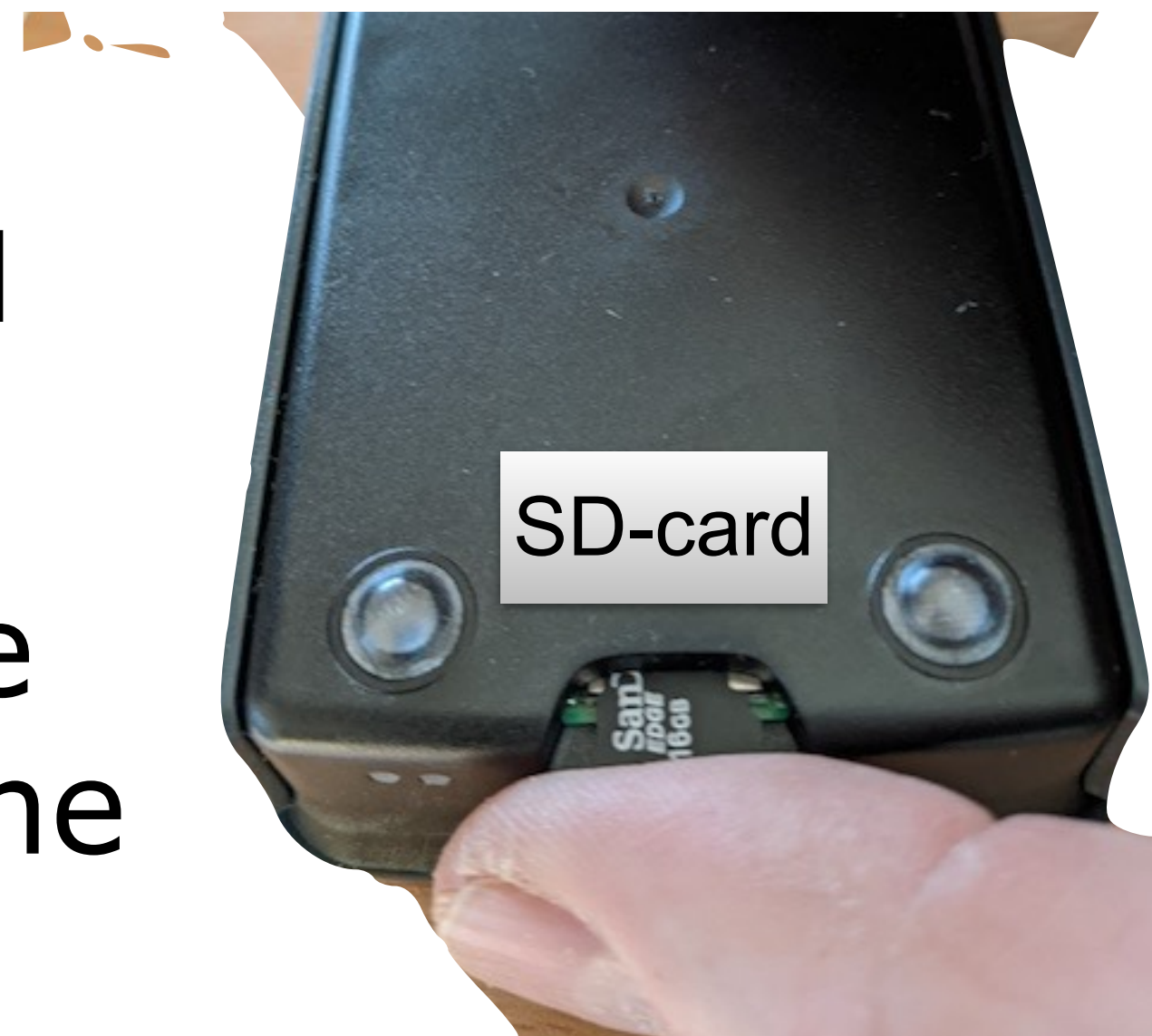
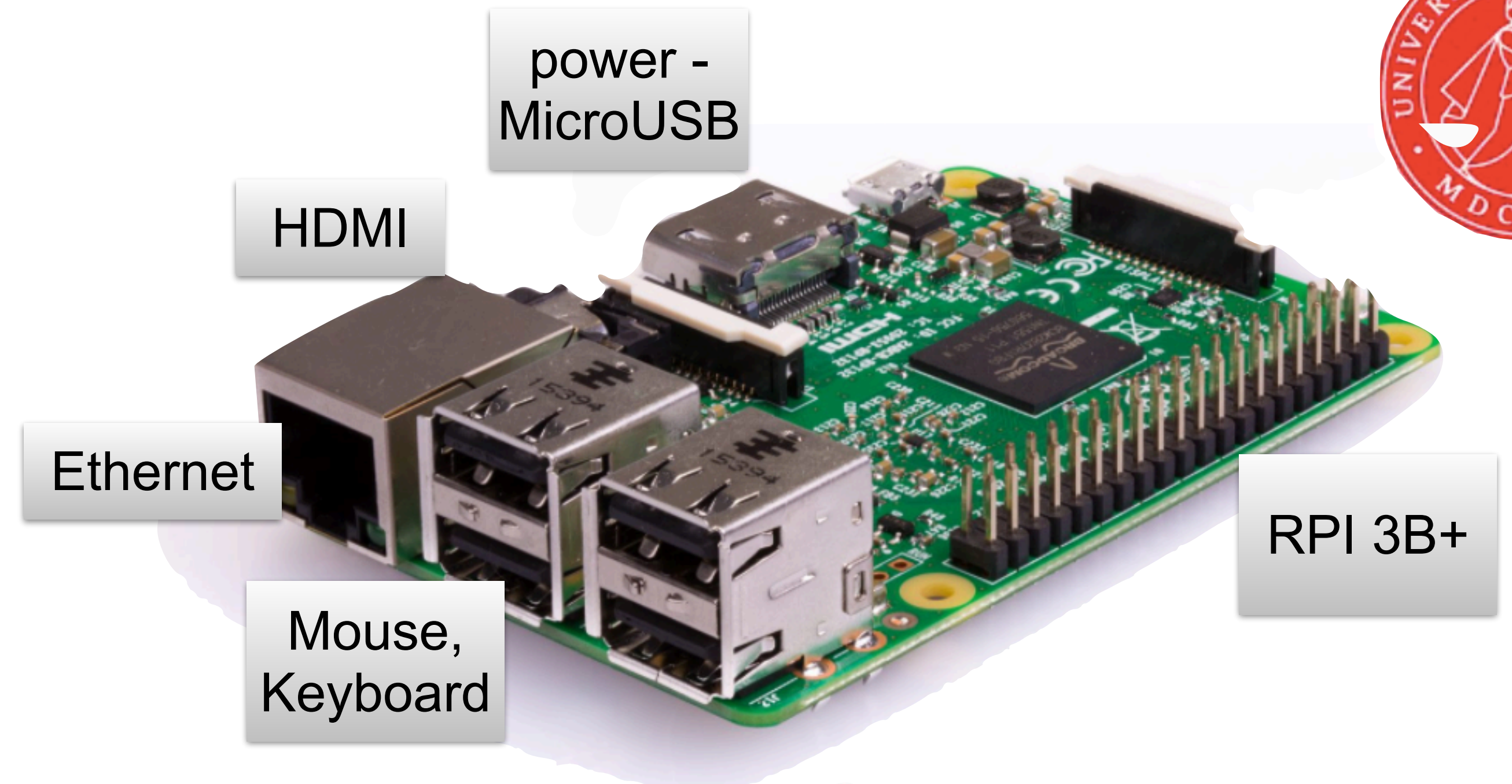


# Raspberry Pi (RPI)

- A mini computer
- comes in different versions

- RPI 3B+
- RPI 4
- RPI 4 integrated

- ensure that the SD-card is in the slot



# Prepare for the session

## Alternative A connect to an external screen

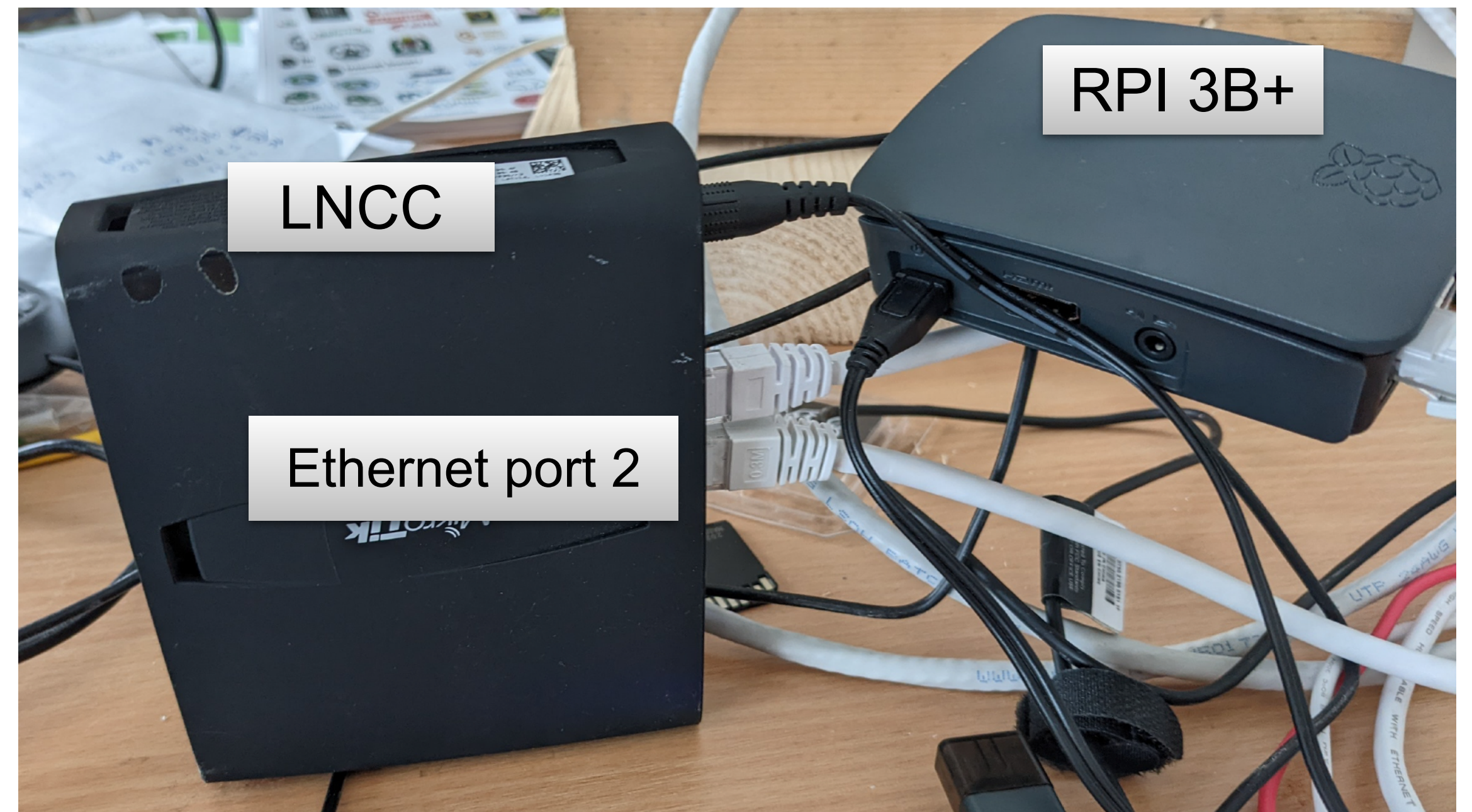
- connect the RPI with a keyboard and a mouse
  - connect to an external screen (HDMI cable)
  - power up the RPI
- you should see [yeboo.com](http://yeboo.com) (page 5)



# Prepare for the session

## Alternative B: connect an LNCC

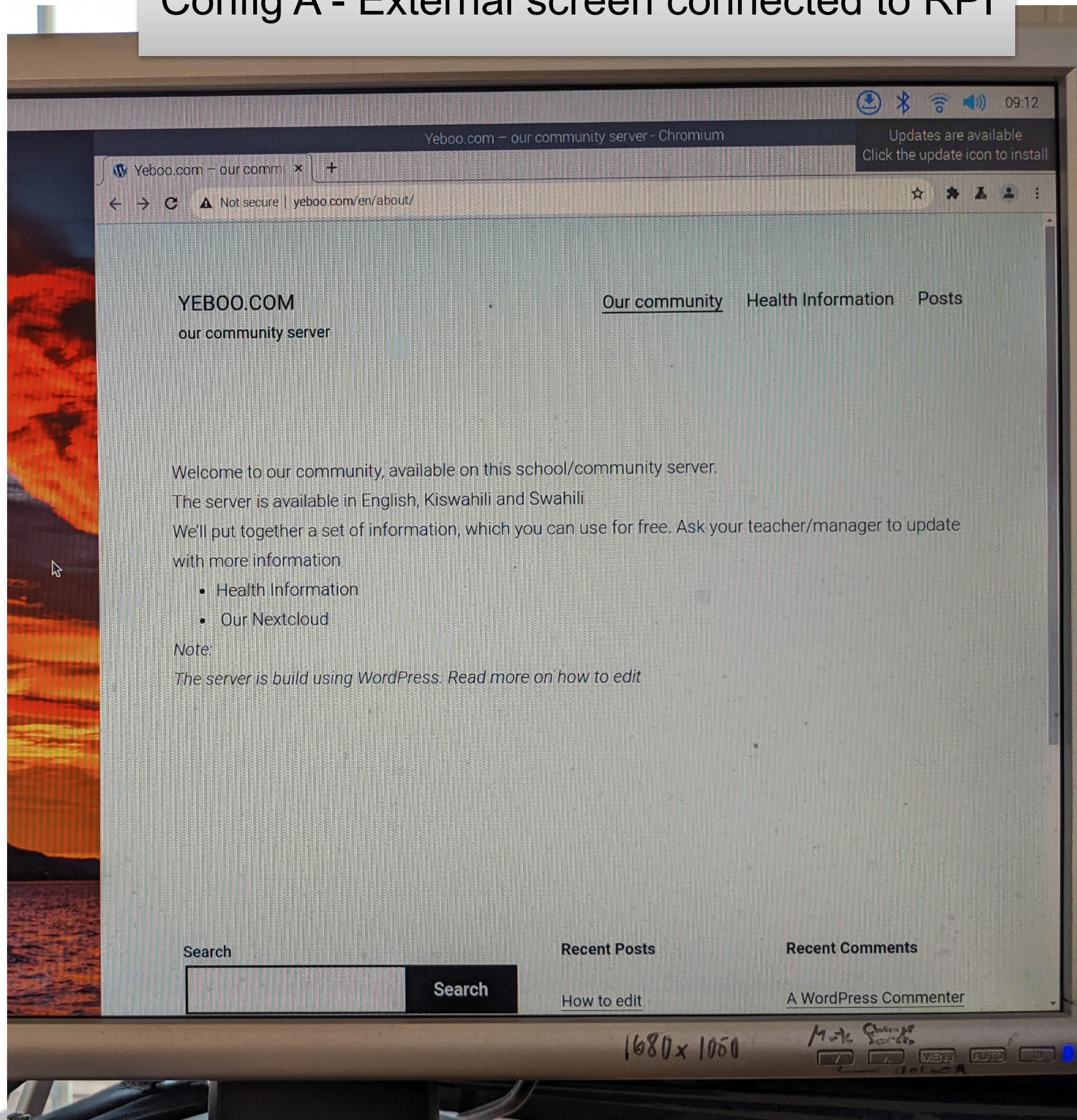
- Connect the RPI to a LNCC (port 2) using an Internet cable
- connect your laptop/mobile phone to Wifi "BasicInternet"
- Note: LNCC is the local network control center, which is configured as BasicInternet, see: [solutions.basicinternet.no](https://solutions.basicinternet.no)



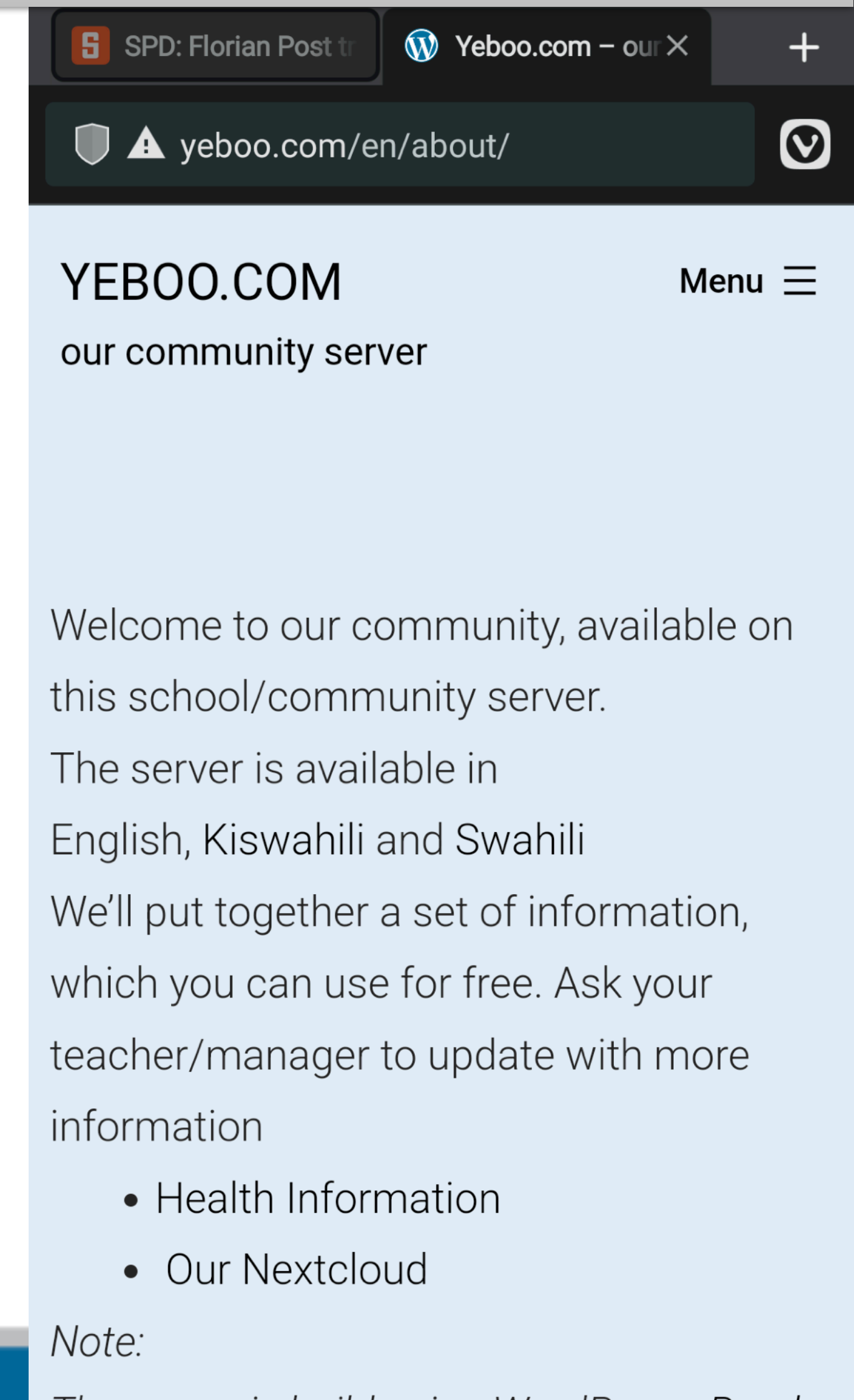
# Welcome page yeboo.com



Config A - External screen connected to RPI



Config B - Mobile Phone connected to SSID BasicInternet on LNCC



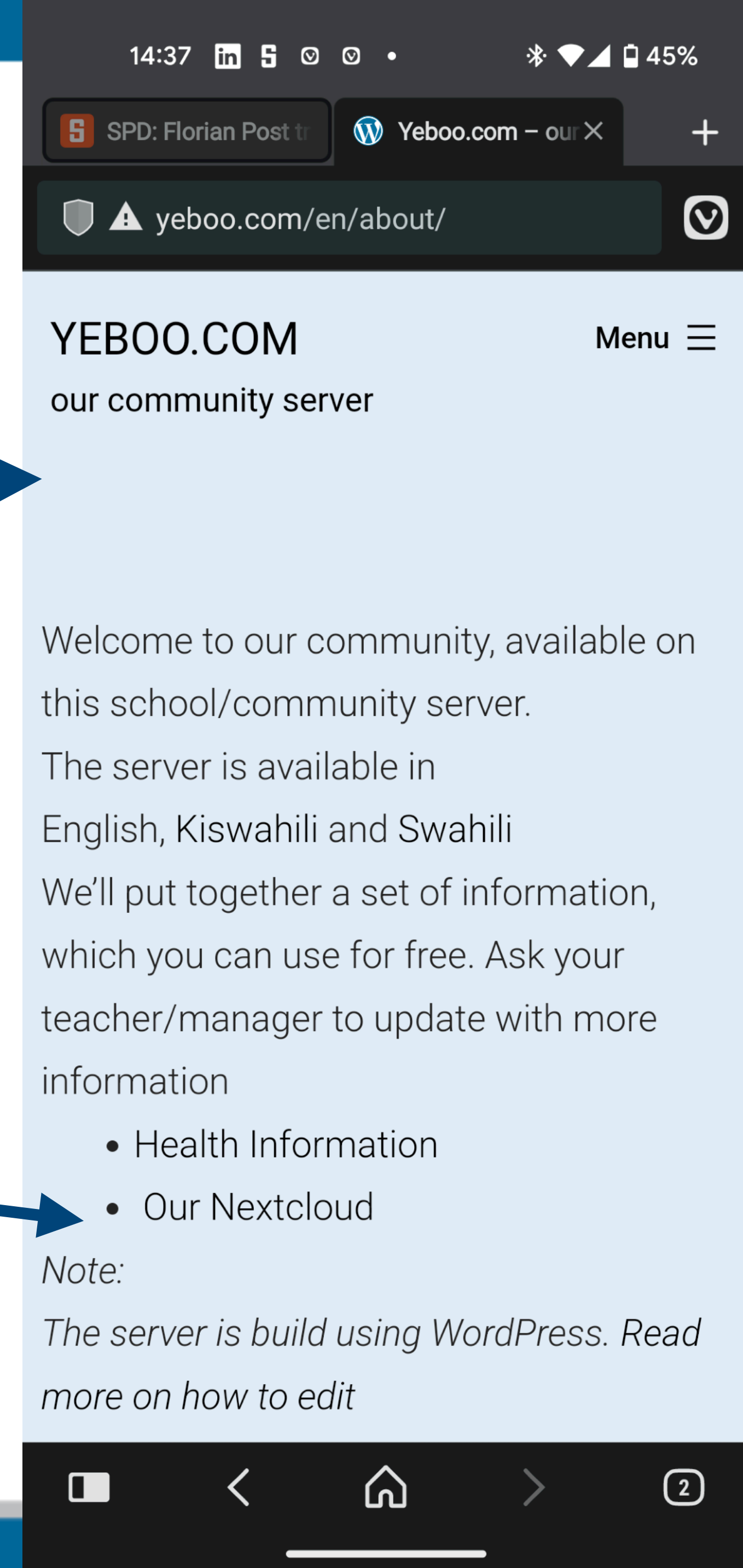


# Goal

## Use the RPI

- Create a **web page**
  - edit wordpress
  - add new sections (see health information)
- Share content with people
  - Add to Nextcloud
  - Add new videos/information

this is a web page on the RPI



- Web page creation**
- use wordpress**
- on RPI: <http://Yeboo.com>**

# Edit a web page

→ yeboo.com is the local web page on your Raspberry Pi

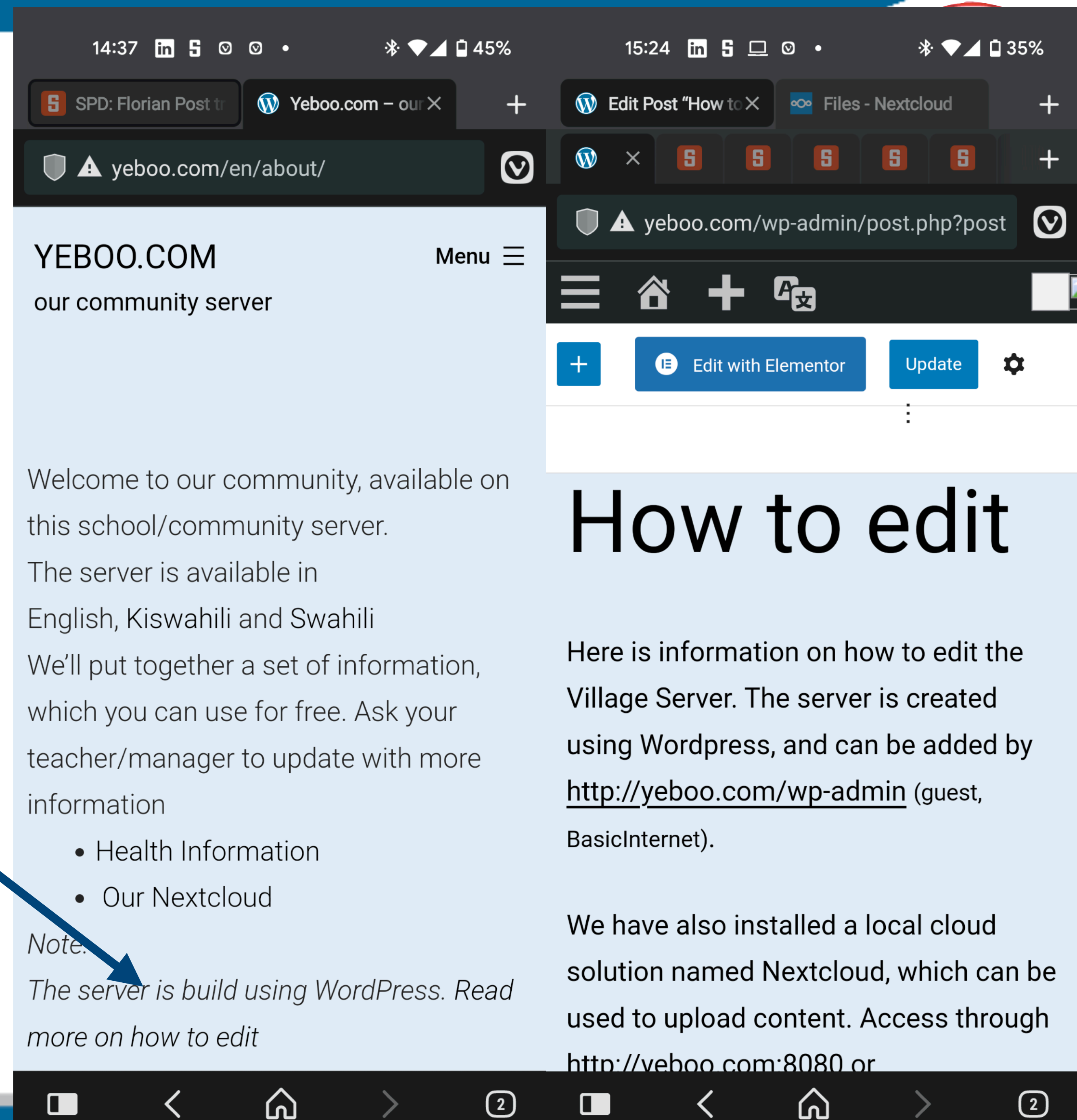
→ See the link "Read more on how to edit"

■ <http://yeboo.com/wp-admin>

→ Users

■ guest, BasicInternet or

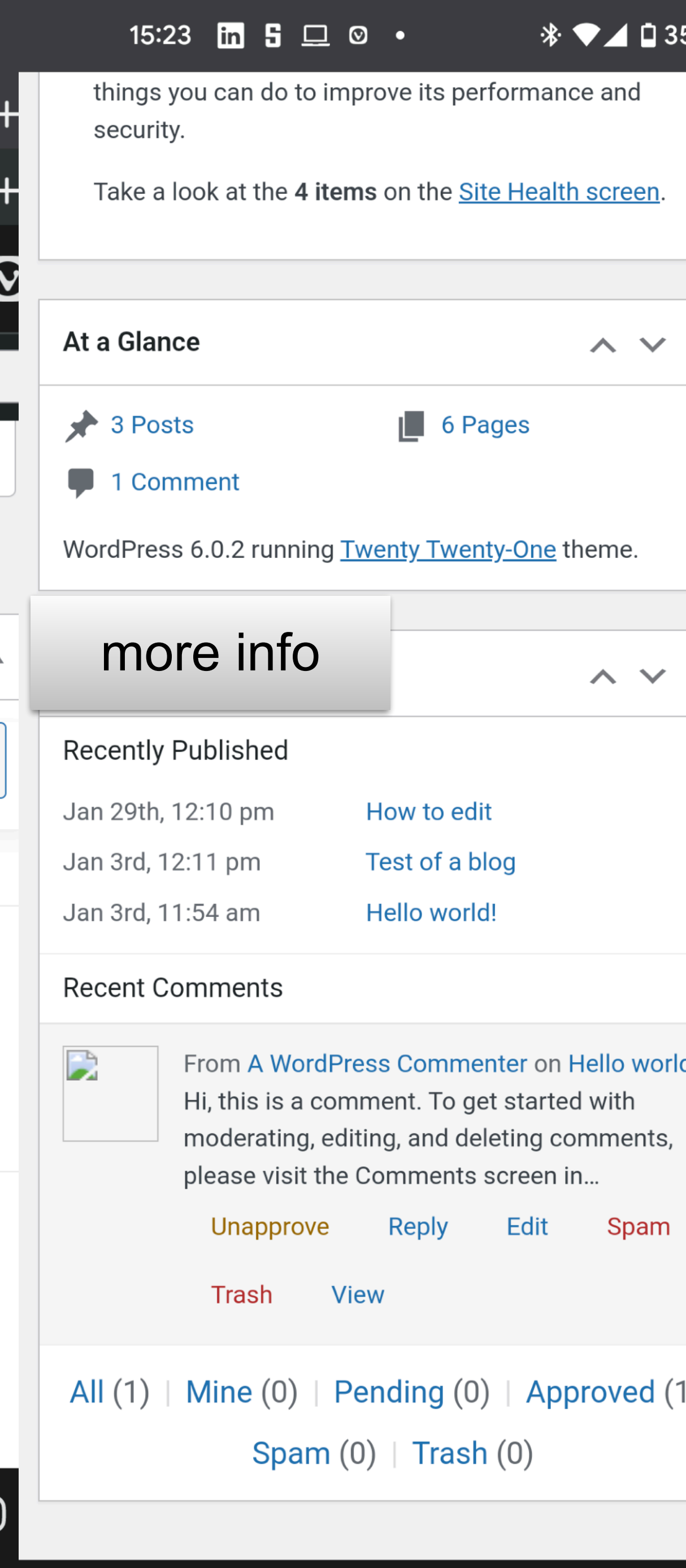
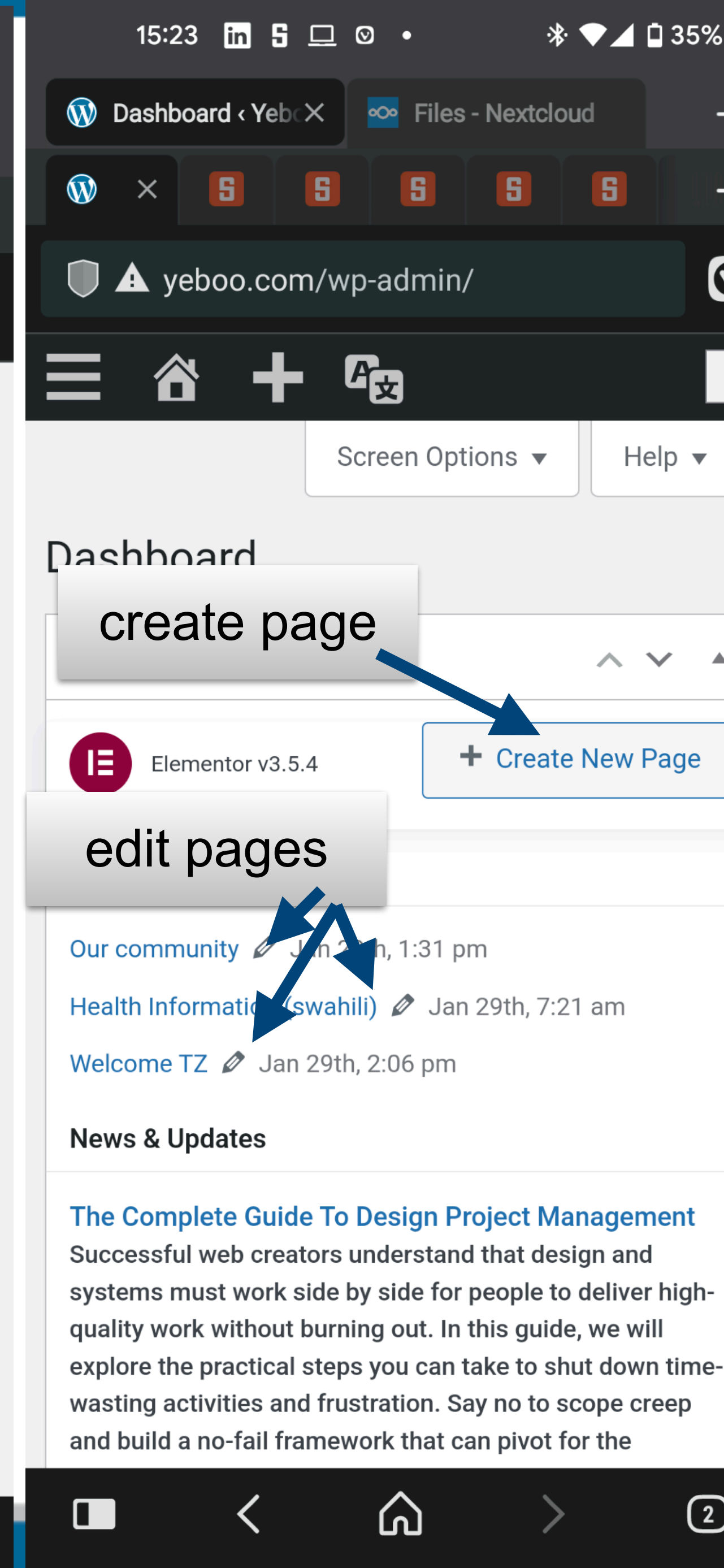
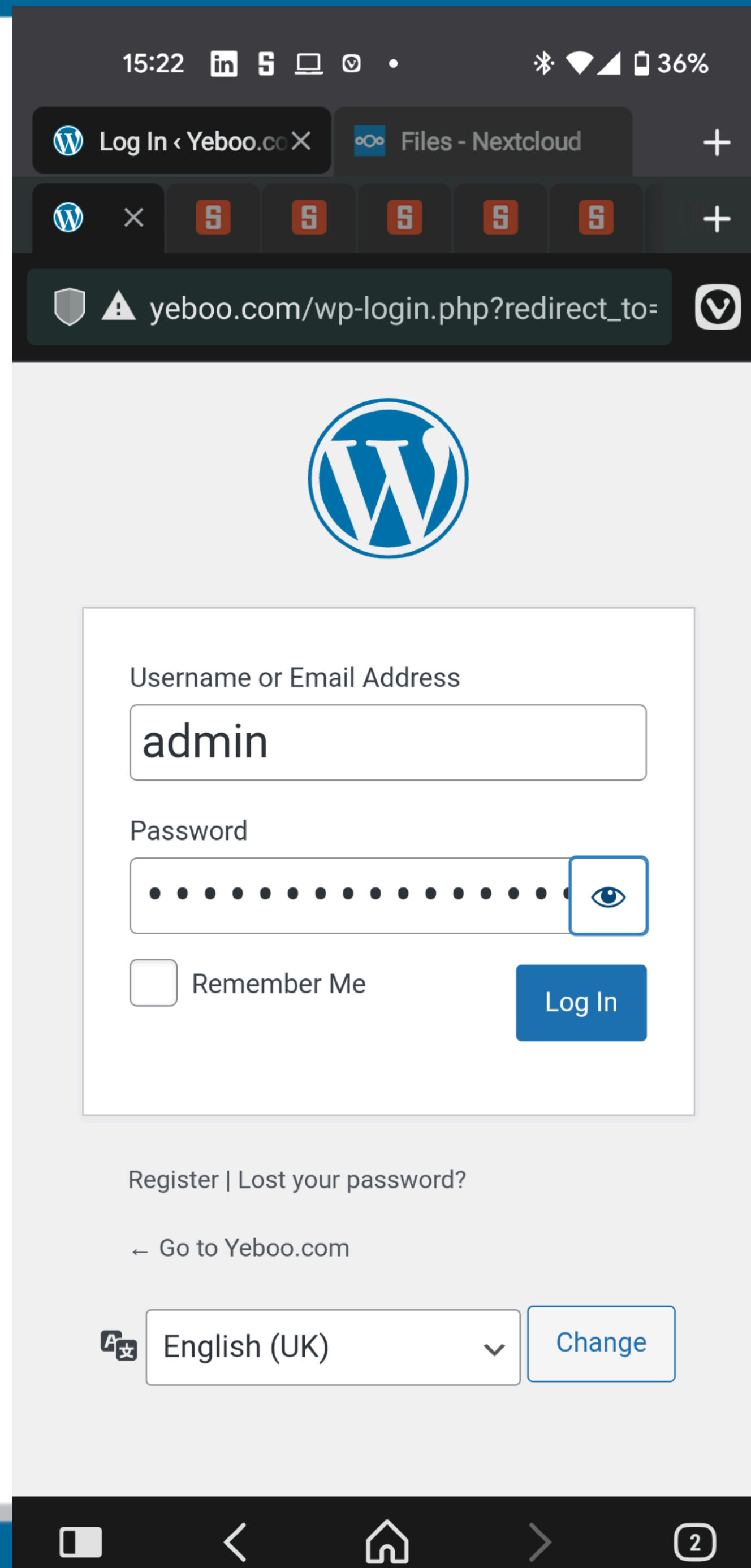
■ admin, \*\*\*\*\*





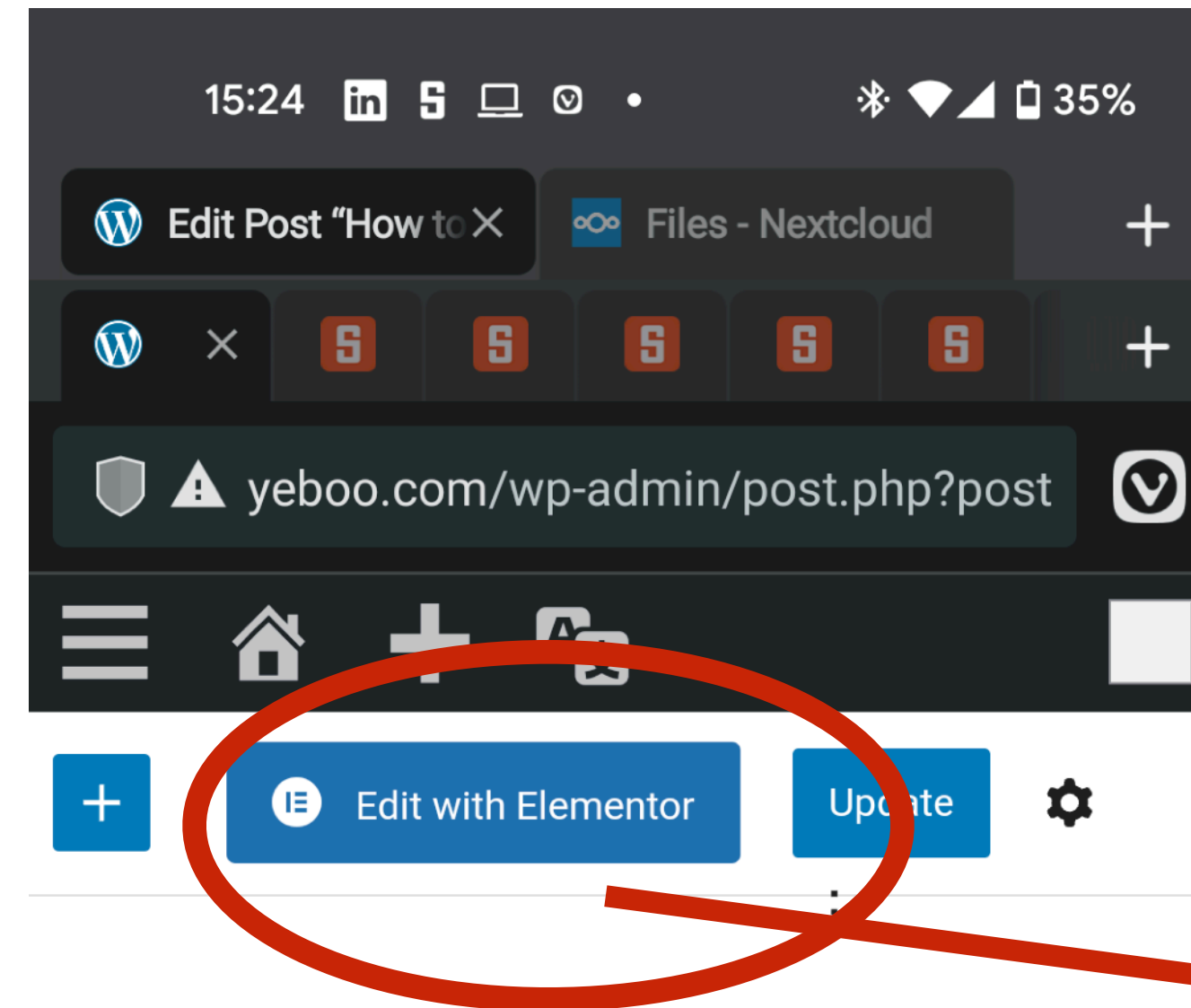
# Wordpress Dashboard

- Information on Wordpress installation
- update wordpress
- create users
- add pages



# Using Elementor to create/add a new page

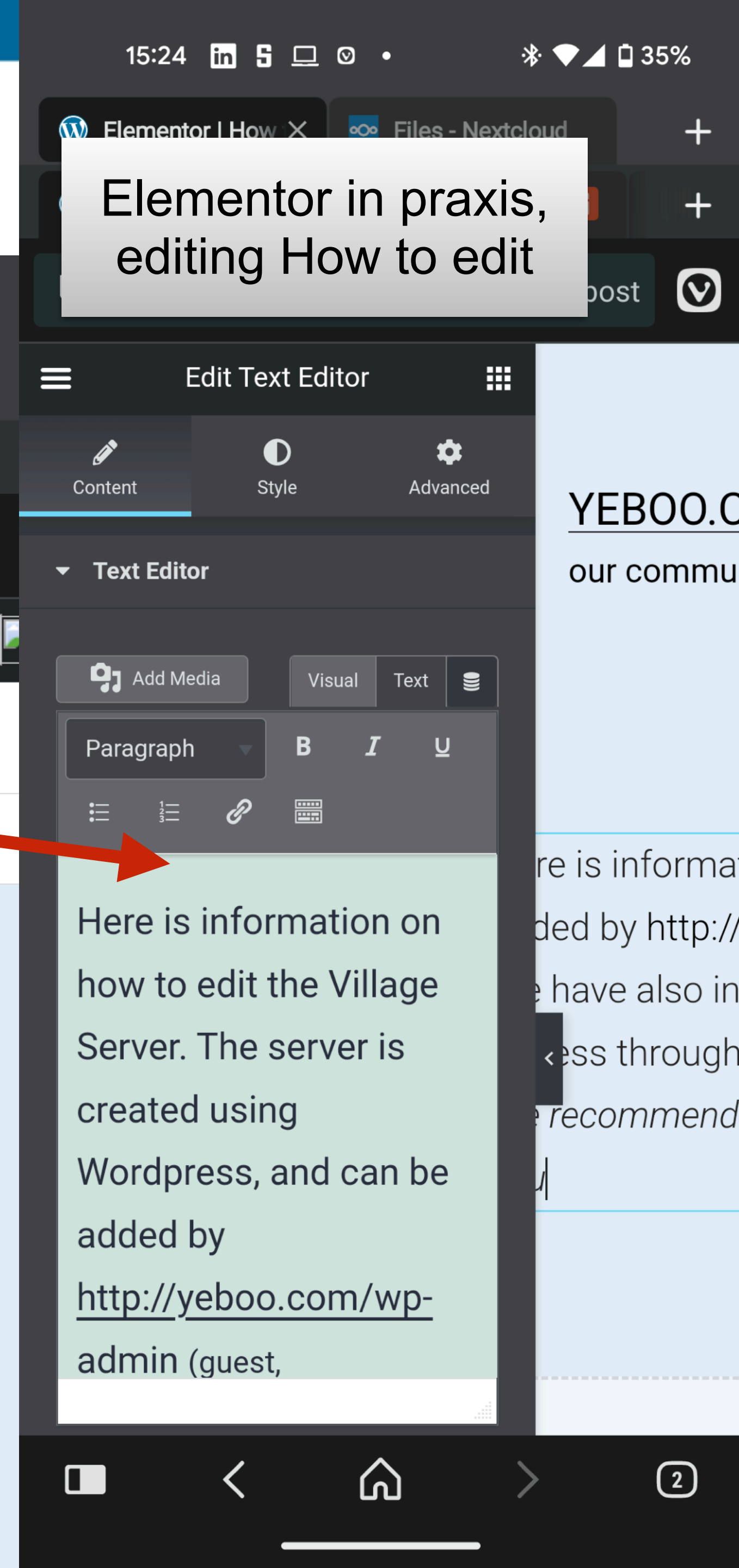
- Wordpress has two page editors
  - Block editor (default)
  - Elementor (easier to use)
- Suggest to use a PC/Mac to edit, too small on a Phone



## How to edit

Here is information on how to edit the Village Server. The server is created using Wordpress, and can be added by <http://yeboo.com/wp-admin> (guest, BasicInternet).

We have also installed a local cloud solution named Nextcloud. which can be



# Tasks

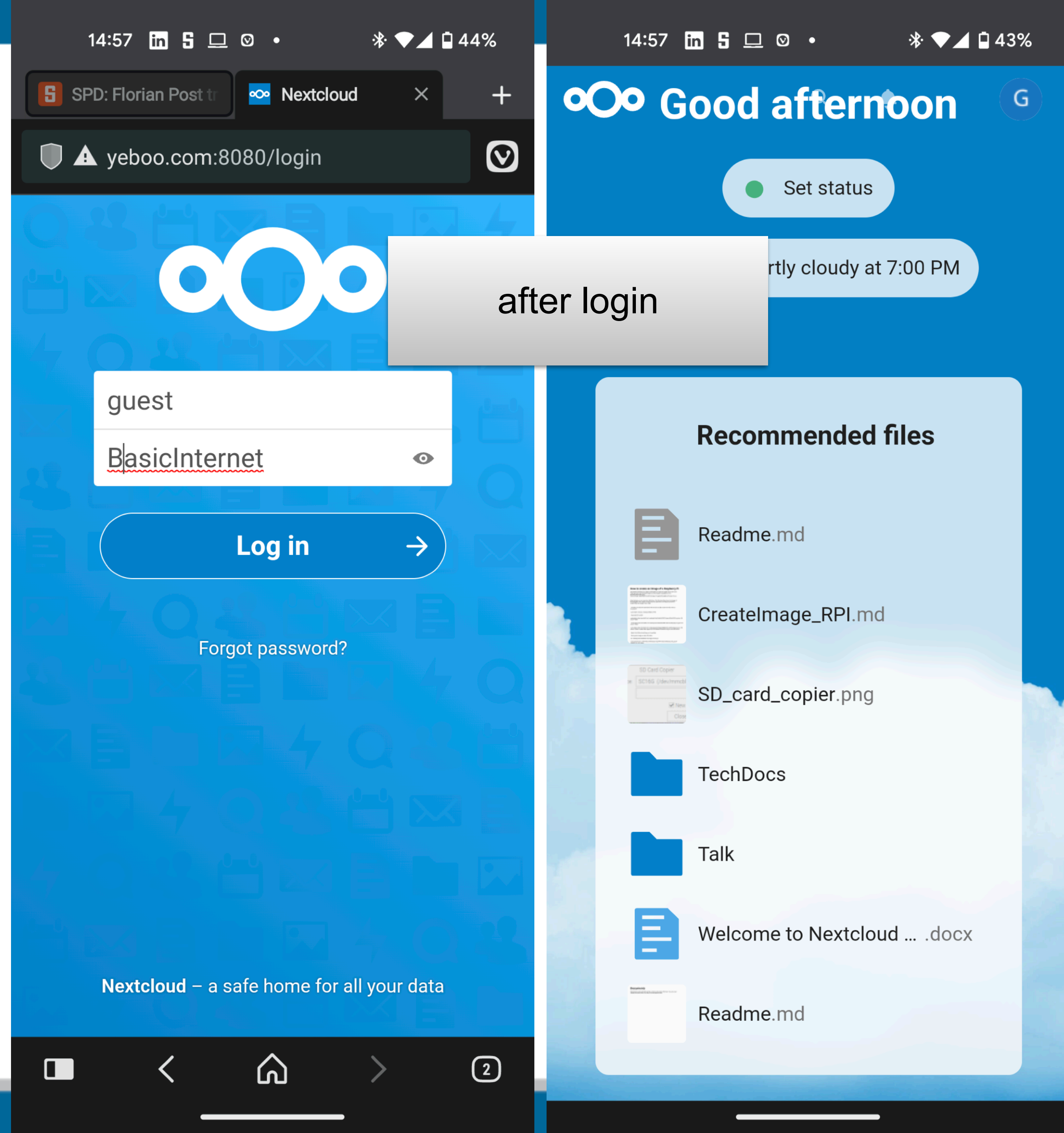
- Create a new blogg entry
  - use guest, BasicInternet for the login
  
- Edit a page
  - E.g. health information
  
- Create new user
  - login as admin, \*\*\*\*\*

- Sharing information**
- use Nextcloud
  - on RPI: <http://Yeboo.com:8080>

# Nextcloud

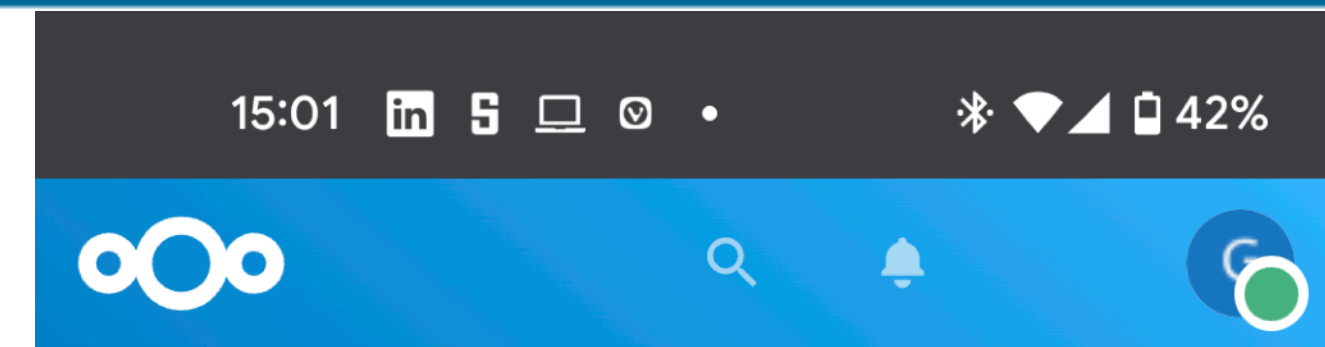
<http://Yeboo.com:8080>

- Sharing files/information with others
  - have your own information space
  - Dashboard shows new information
- create users (admin)
- common folders (admin)
- login
  - guest, BasicInternet
  - admin, \*\*\*\*\*(12)



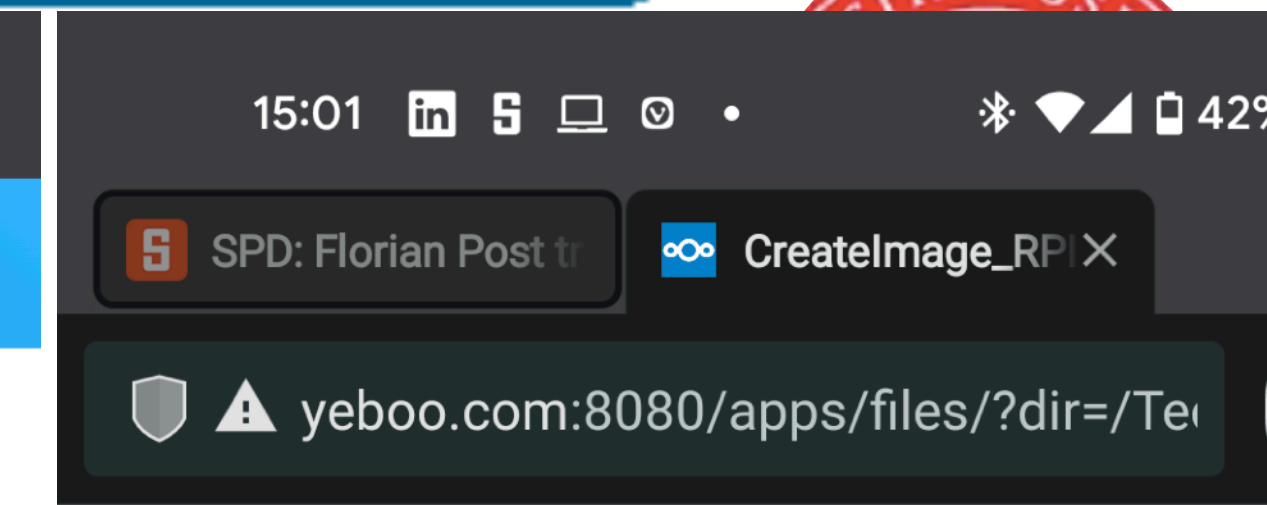
# File examples

- TechDocs is a directory shared with everyone
- Readme.md files are the ones that are automatically shown (if exist) in each directory
  - .md is the markup language, allowing **bold**, *italics*, lists, tasks and include pictures
  - see CreateImage\_RPI.md as example



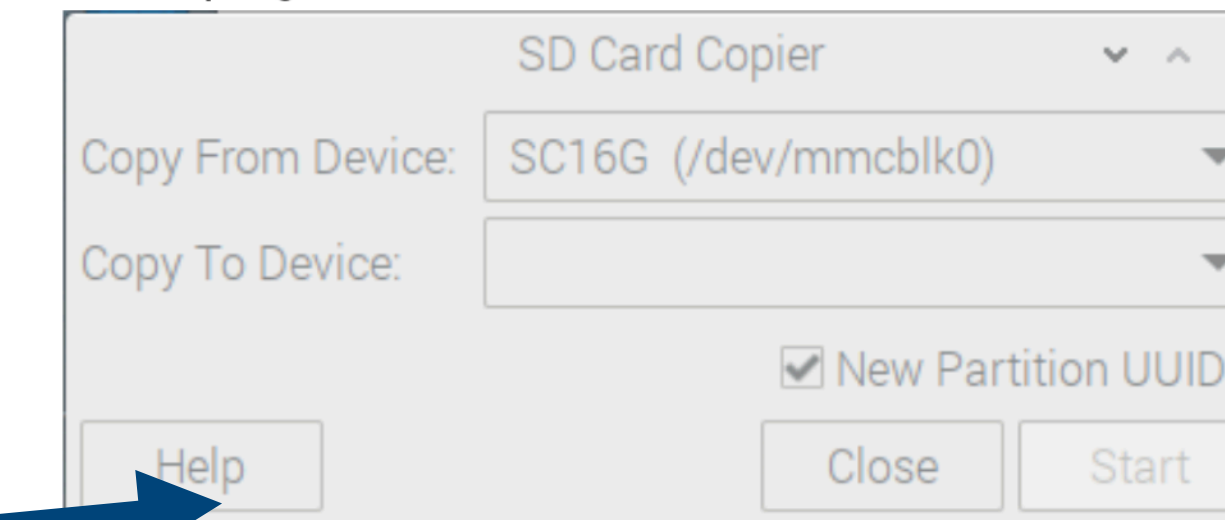
This is an example of the Readme.md file on Nextcloud.

If you create such a file, then everyone can read what is in the directory.



## a Raspberry Pi

The easiest solution is to have an RPI with an external reader for an SD card. Then you can use: SD\_Card\_Copier as the program available on the RPI.



SD\_card\_copier.png

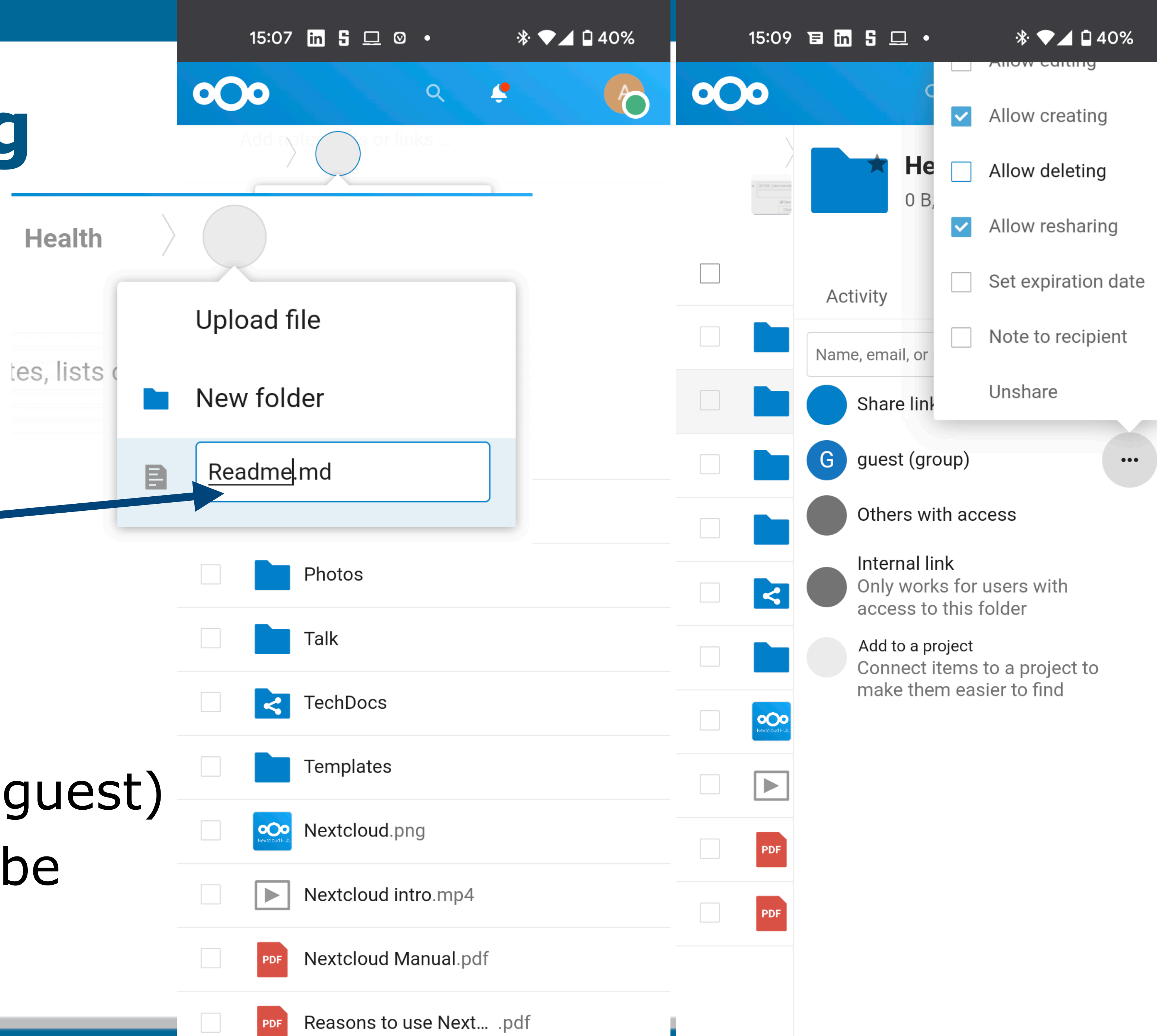
Alternatively, use an external USB drive. This file describes how the image of the Raspberry Pi is taken on the external USB drive, formatted as EXT4 to enable file sizes larger than 4 GB.

- connect an external USD drive with at least 32 GB, check how the drive is mounted:  
`sudo lsblk # shows /media/pi/80DC-079B -`
- Executes the write:



# Basic file handling

- Upload files
- Create folders
- Create new text (.md) document
- Share files & folders
  - with existing users (here: guest)
  - through a public link (can be added to wordpress)

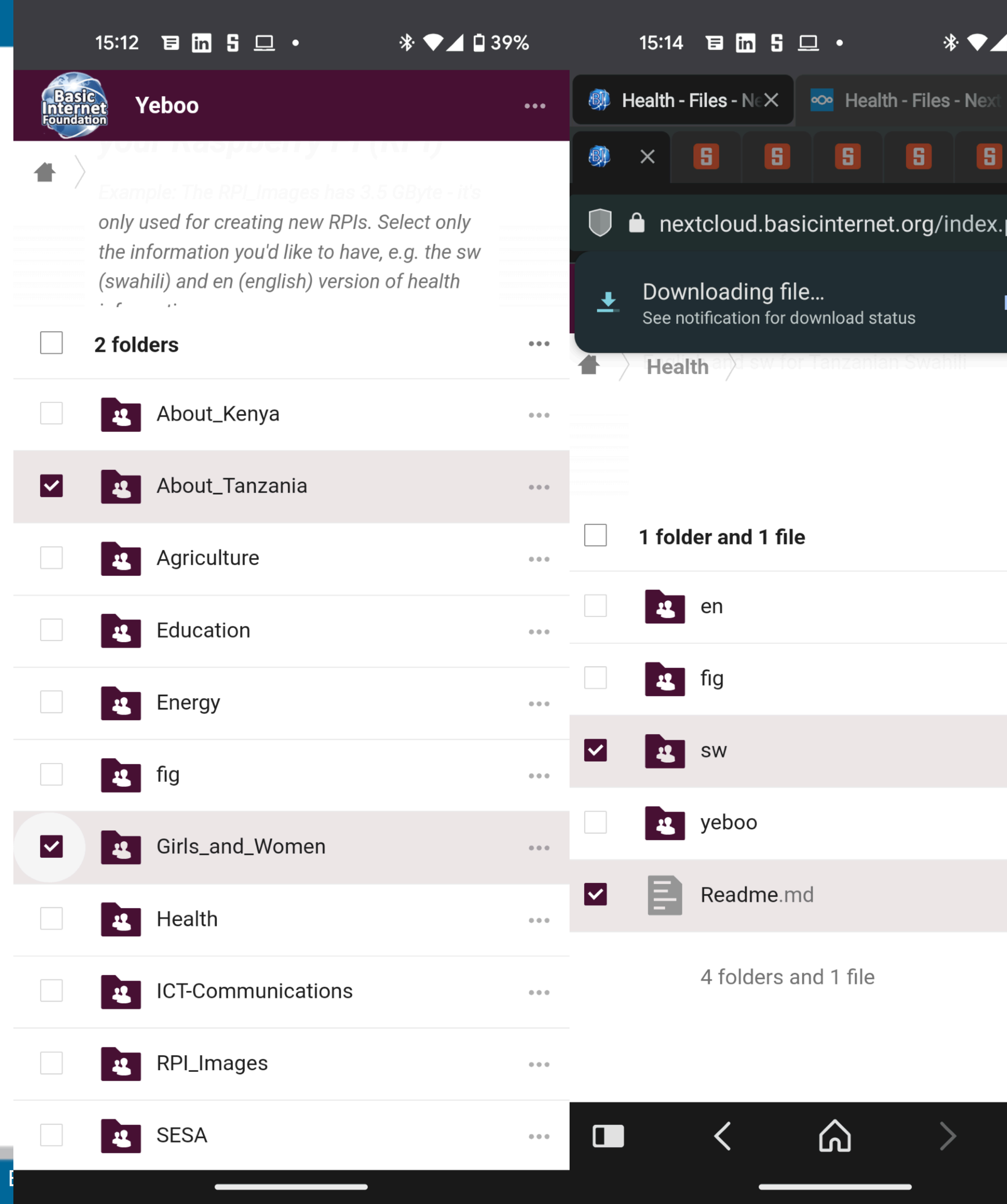


# Download files from the Internet

→ Example:  
[yeboo.BasicInternet.org](http://yeboo.BasicInternet.org)

→ Other download

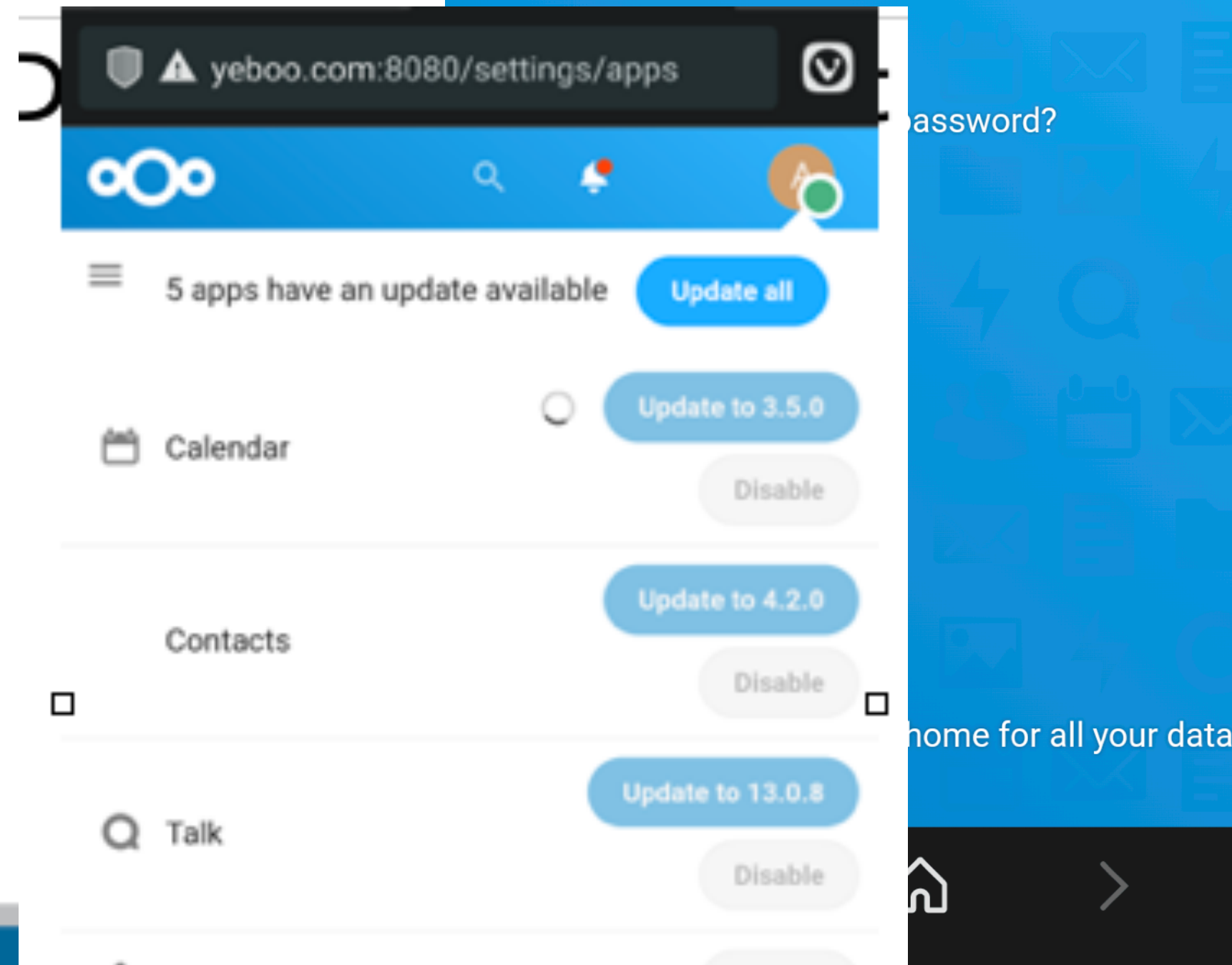
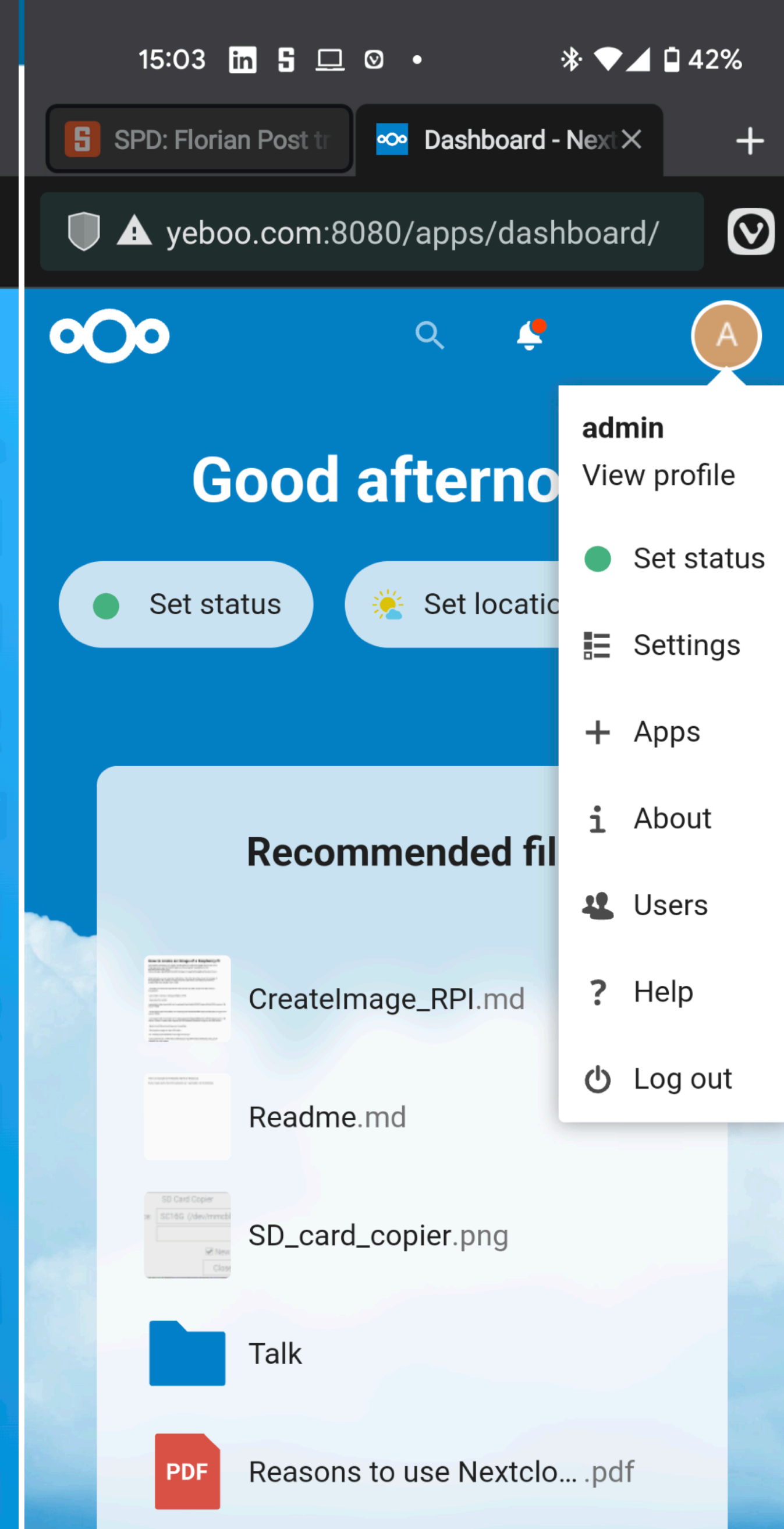
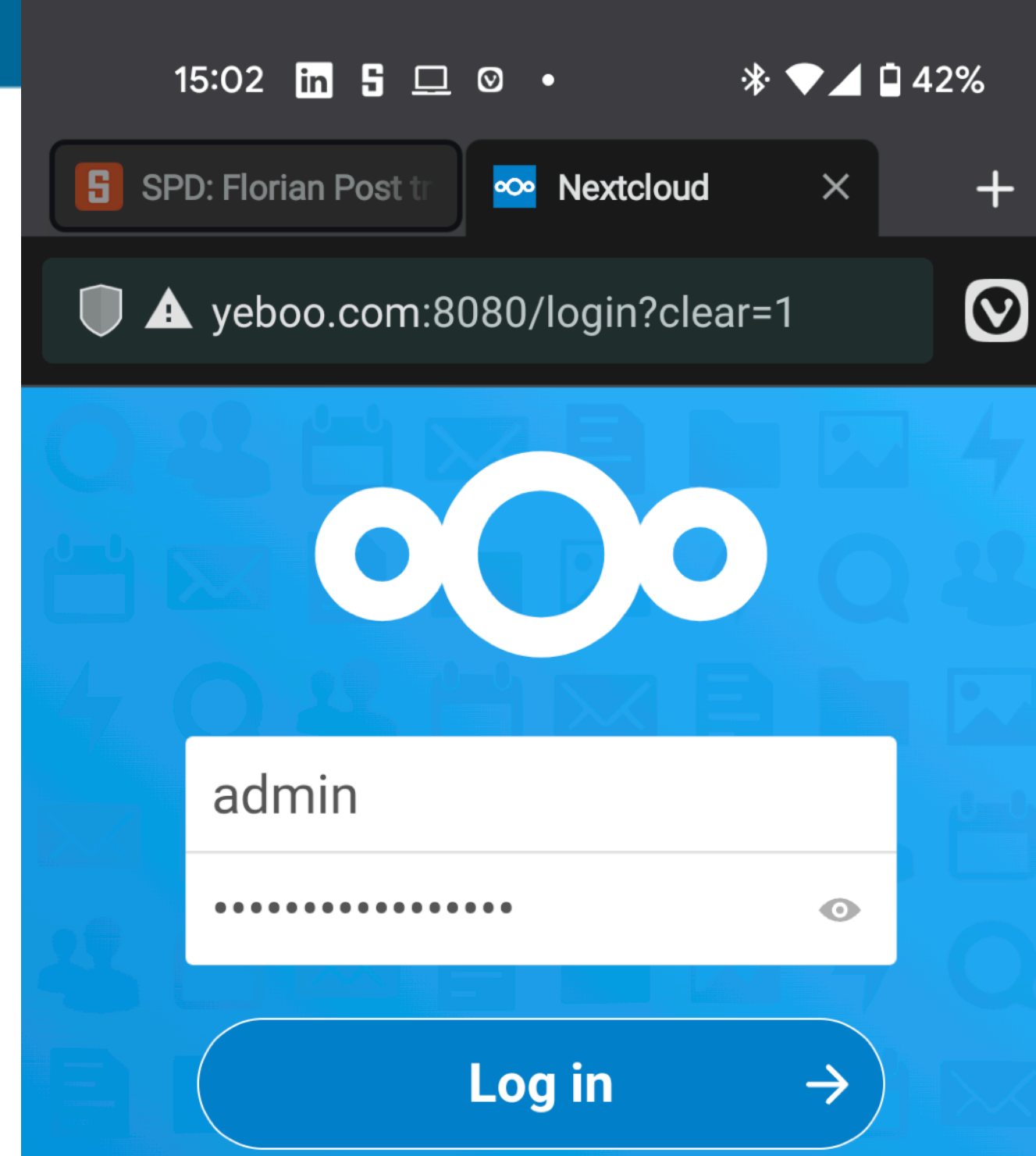
- YouTube downloaders





# Nextcloud - admin

- Admin login allows administration
  - update of nextcloud
  - create users
  - create common folders
  -



# Admin: User creation

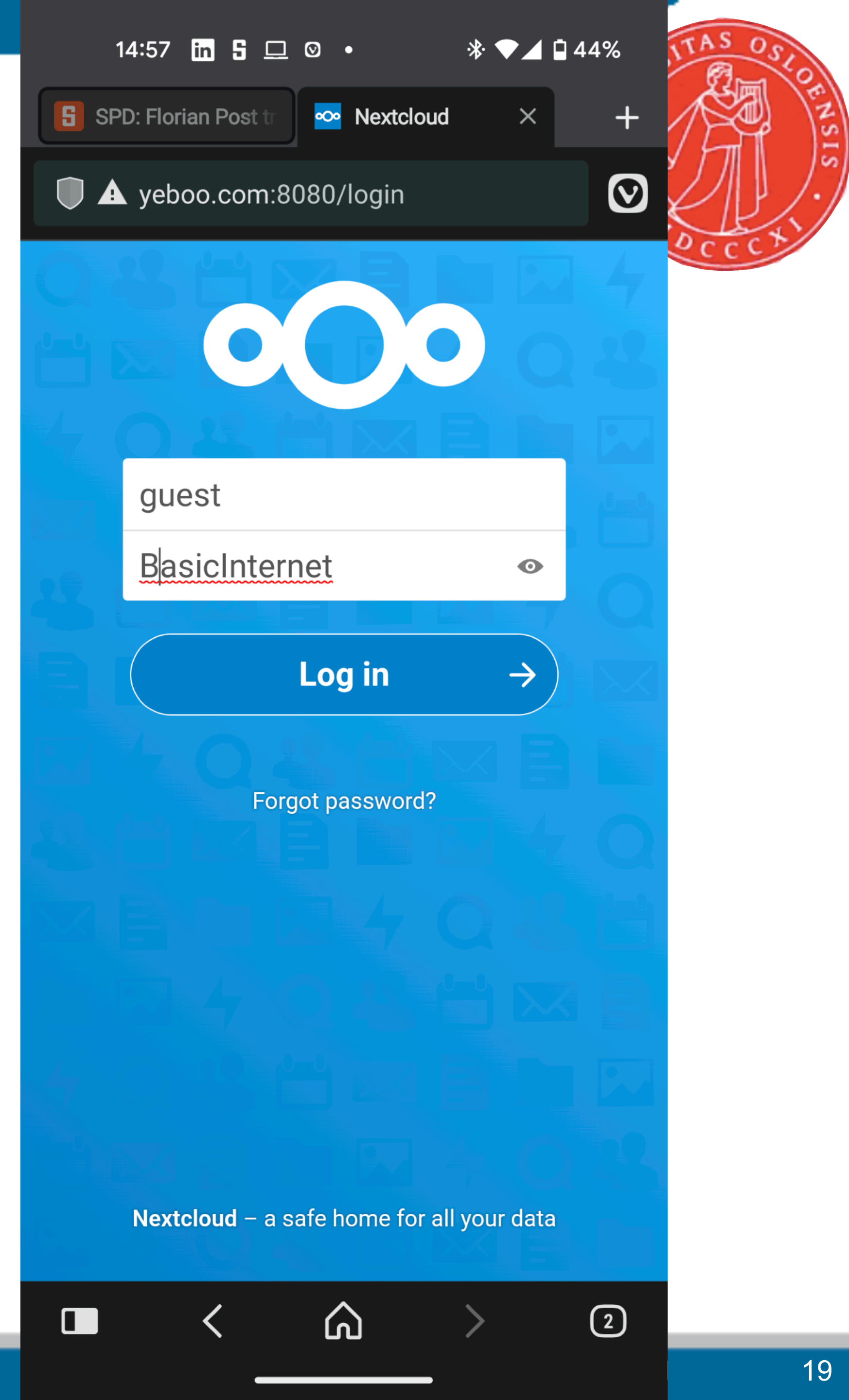
- See existing users
- Create new users
- click on the the 3 bars

The screenshot displays the Nextcloud mobile application interface. At the top, there are two browser tabs: 'Dashboard - Nextcloud' and 'Users - Nextcloud'. The address bar shows the URL 'yeboo.com:8080/settings/users'. The main content area is a user management table with columns for 'Username', 'Display name', and 'Password'. The table lists three users: 'admin' (display name 'admin'), 'guest' (display name 'guest'), and 'josef' (display name 'Josef Noll'). A blue arrow points from the 'More' menu icon in the top left to the 'Users' tab in the browser. Another blue arrow points from the '3 bars' icon in the list to the 'More' menu icon in the app. The bottom of the screen shows the mobile OS navigation bar with home and back icons.

Username	Display name	Password
admin	admin	
guest	guest	
josef	Josef Noll	

# Tasks

- Create a directory
- Create a Readme.md and write some text
- Download a video from [yeboo.BasicInternet.org](http://yeboo.BasicInternet.org) and place it on Nextcloud
- Share you file with others
  - create a public link



# Lessons learned

## Use the Raspberry Pi as School server

- What is a Raspberry PI
  - nothing else than a small computer
  - all information is stored on the SD-card
- Edit a web page
  - <http://yeboo.com/wp-admin>
- Add a video or other educational material
  - Use Nextcloud
  - create users
  - Share content

