“Cloud Computing in the European schools”

Project: 2017-1-ES01-KA202-038471

Co-funded by the
Erasmus+ Programme
of the European Union

IES Ramón del Valle-Inclán

“Owncloud on a dedicated server”

Índice

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Objective and tasksheet

The objective is to build up a dedicated server containing a software suite for collaboration in a work group.

1. Get information about “owncloud”

Search the internet for minimum requirements for setting up “owncloud”.

https://owncloud.org/

https://de.wikipedia.org/wiki/OwnCloud

https://en.wikipedia.org/wiki/OwnCloud

2. Get information about Raspberry pi

Search the internet for latest issue of Raspberry Pi 3:

https://www.raspberrypi.org/

https://de.wikipedia.org/wiki/Raspberry_Pi

https://en.wikipedia.org/wiki/Raspberry_Pi

3. Search the internet for information about Debian Etch:

https://www.debian.org/

https://de.wikipedia.org/wiki/Debian

https://en.wikipedia.org/wiki/Debian

4. Build up the Raspberry Pi with owncloud:

- Copy Debian Stretch Image from debian.org to micro sd card
- Connect Raspberry to LAN (IP: 172.20.42.xx)
- Enable ssh and xrdp
- Download owncloud installer package
- Install owncloud referring to this installation guide: https://doc.owncloud.org/server/latest/admin_manual/installation/source_installation.html
- Download and install calendar app: https://github.com/owncloud/calendar

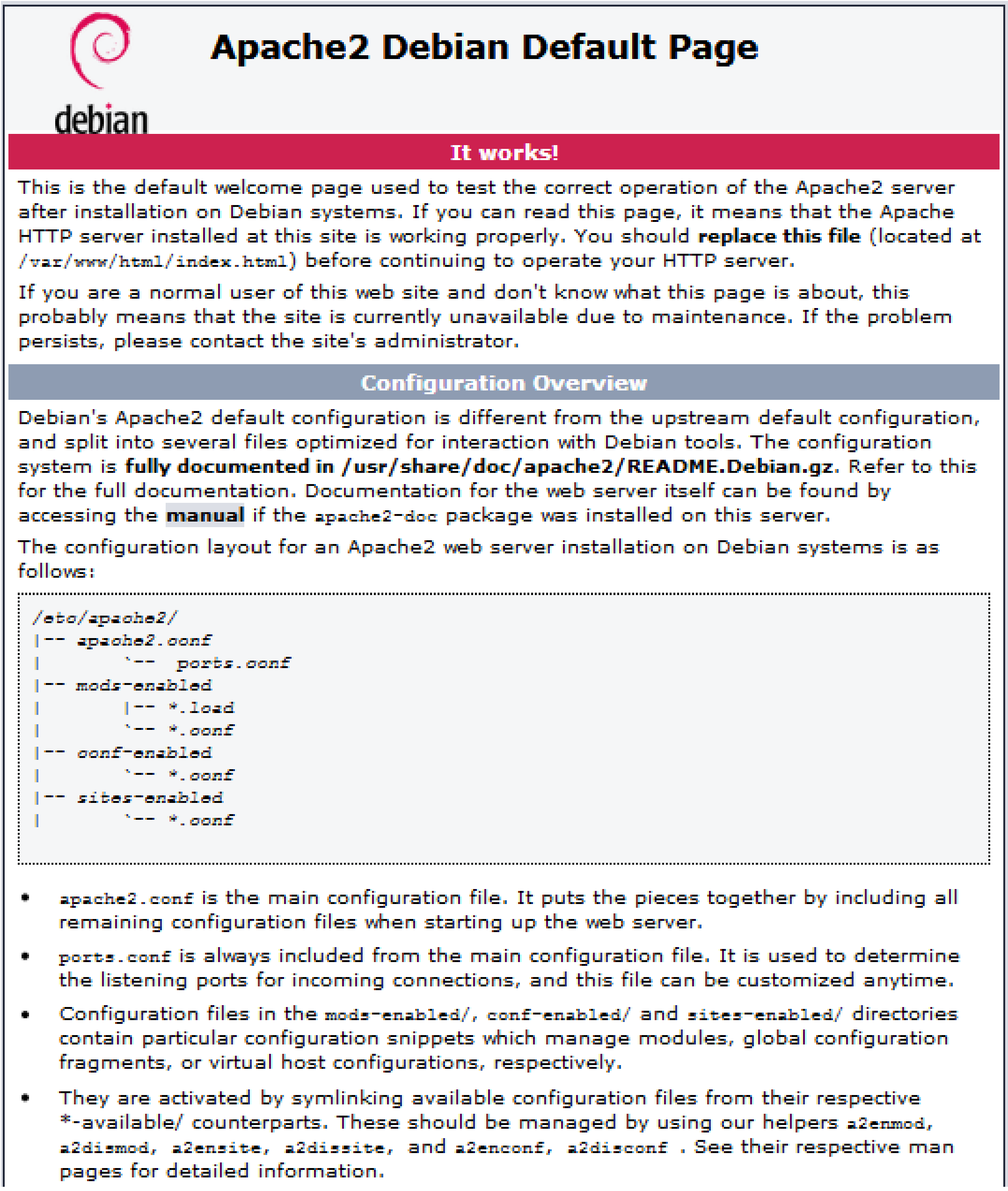
5. Test owncloud in LAN

6. Visit hopto.org, get a DynDNS address:
   http://freeddns.noip.com/?d=hopto.org&u=aG9wdG8ub3JnLw==

7. After everything is done, ask your teacher for inconfiguering a route to your machine.

Result (Example)

After setting up the machine, you can connect to the server. At first it shall run in LAN. We gave it the IP Adress 172.20.42.77. The initial debian website looks as follows:



Apache2 Debian Default Page

It works!

This is the default welcome page used to test the correct operation of the Apache2 server after installation on Debian systems. If you can read this page, it means that the Apache HTTP server installed at this site is working properly. You should **replace this file** (located at `/var/www/html/index.html`) before continuing to operate your HTTP server.

If you are a normal user of this web site and don't know what this page is about, this probably means that the site is currently unavailable due to maintenance. If the problem persists, please contact the site's administrator.

Configuration Overview

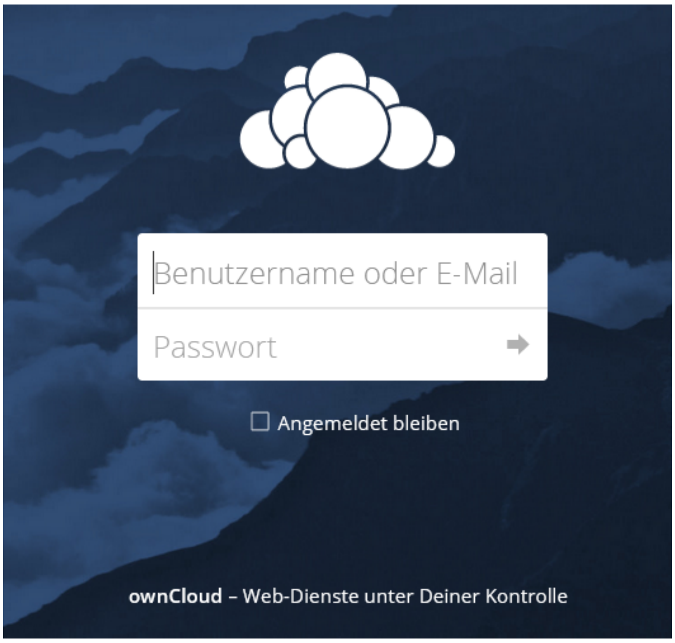
Debian's Apache2 default configuration is different from the upstream default configuration, and split into several files optimized for interaction with Debian tools. The configuration system is **fully documented in /usr/share/doc/apache2/README.Debian.gz**. Refer to this for the full documentation. Documentation for the web server itself can be found by accessing the **manual** if the `apache2-doc` package was installed on this server.

The configuration layout for an Apache2 web server installation on Debian systems is as follows:

```
/etc/apache2/
|-- apache2.conf
|       `--  ports.conf
|-- mods-enabled
|       |-- *.load
|       `-- *.conf
|-- conf-enabled
|       `-- *.conf
|-- sites-enabled
|       `-- *.conf
```

- `apache2.conf` is the main configuration file. It puts the pieces together by including all remaining configuration files when starting up the web server.
- `ports.conf` is always included from the main configuration file. It is used to determine the listening ports for incoming connections, and this file can be customized anytime.
- Configuration files in the `mods-enabled/`, `conf-enabled/` and `sites-enabled/` directories contain particular configuration snippets which manage modules, global configuration fragments, or virtual host configurations, respectively.
- They are activated by symlinking available configuration files from their respective *-available/ counterparts. These should be managed by using our helpers `a2enmod`, `a2dismod`, `a2ensite`, `a2dissite`, and `a2enconf`, `a2disconf` . See their respective man pages for detailed information.

To access owncloud, the ip-address has to be completed with owncloud: http://172.20.42.77/owncloud; after sending the page to the server, the index.php automatically routes to http://172.20.42.77/owncloud/index.php/login:



Benutzername oder E-Mail

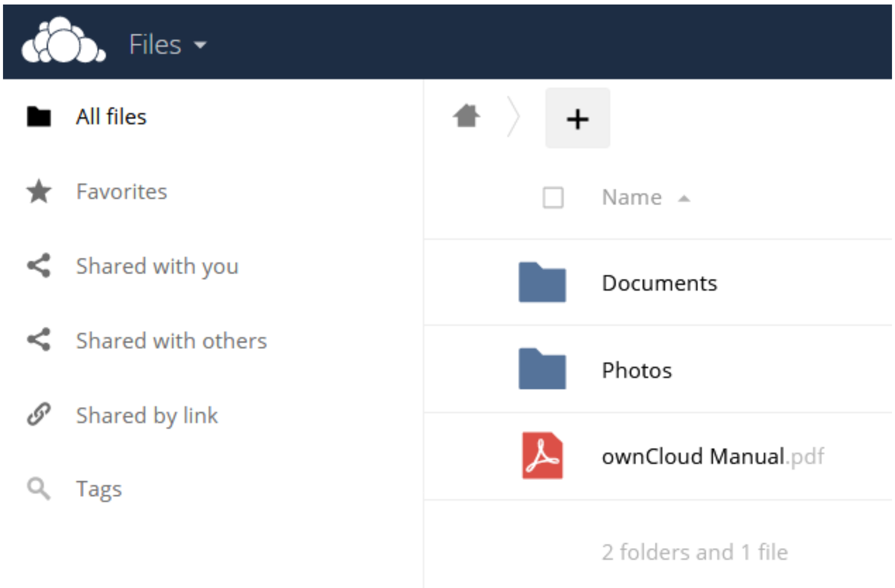
Passwort

□ Angemeldet bleiben

ownCloud – Web-Dienste unter Deiner Kontrolle

Login data: ccep / Erasmus+

This leads to:



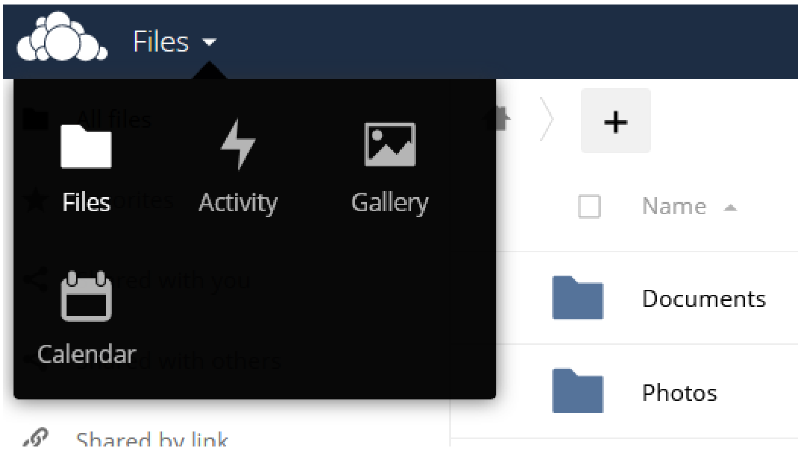
Documents

Photos

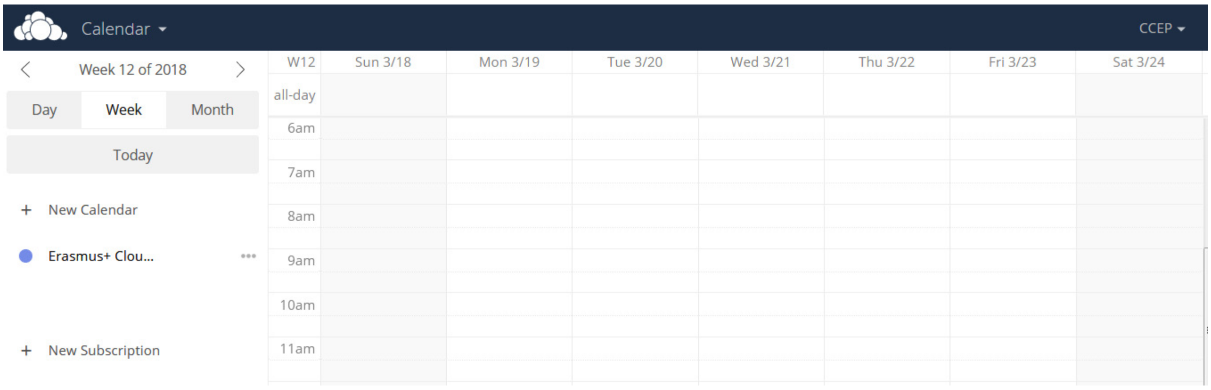
ownCloud Manual.pdf

2 folders and 1 file

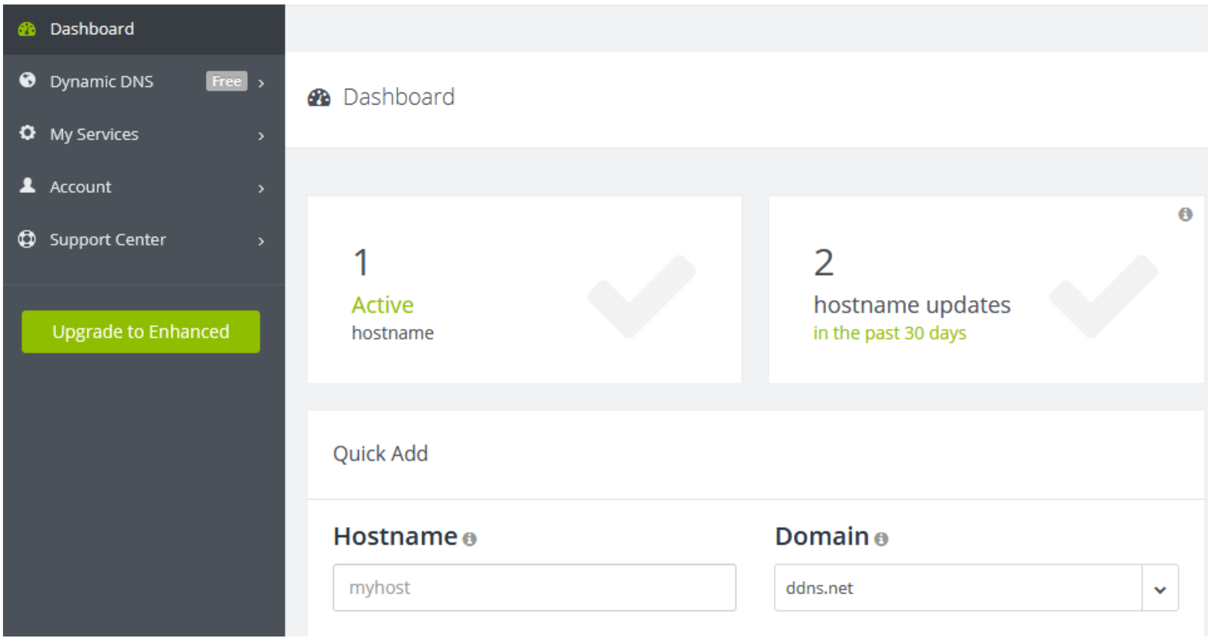
After installing the calendar app you have access via “Files”:



The link “New Calendar” lets you define a calendar. As we want to use it for our next meeting in Germany, we create a new calendar “Erasmus+ Cloud Computing”:



Now it’s time to define a route in order to connect to the server from the internet. We choose the web address https://my.noip.com/ because this is a costless service. Ponly little disadvantage: you have to renew the account every 30 days, if you don’t want to pay for the pro version. This leads to the homepage of No IP:



1 Active hostname

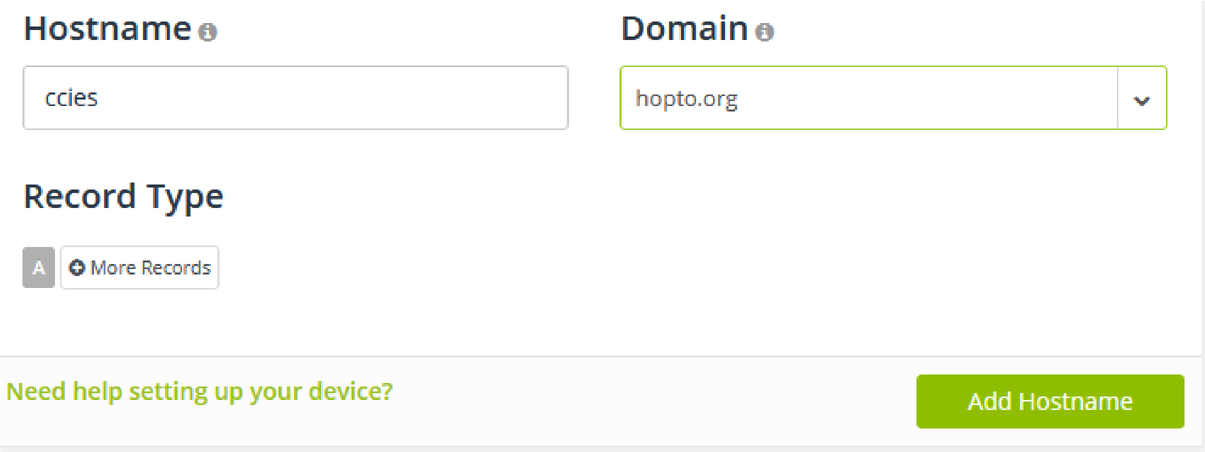
2 hostname updates in the past 30 days

Quick Add

Hostname: myhost

Domain: ddns.net

We choose ccies as host name and hopto.org as domain:



Hostname: ccies

Domain: hopto.org

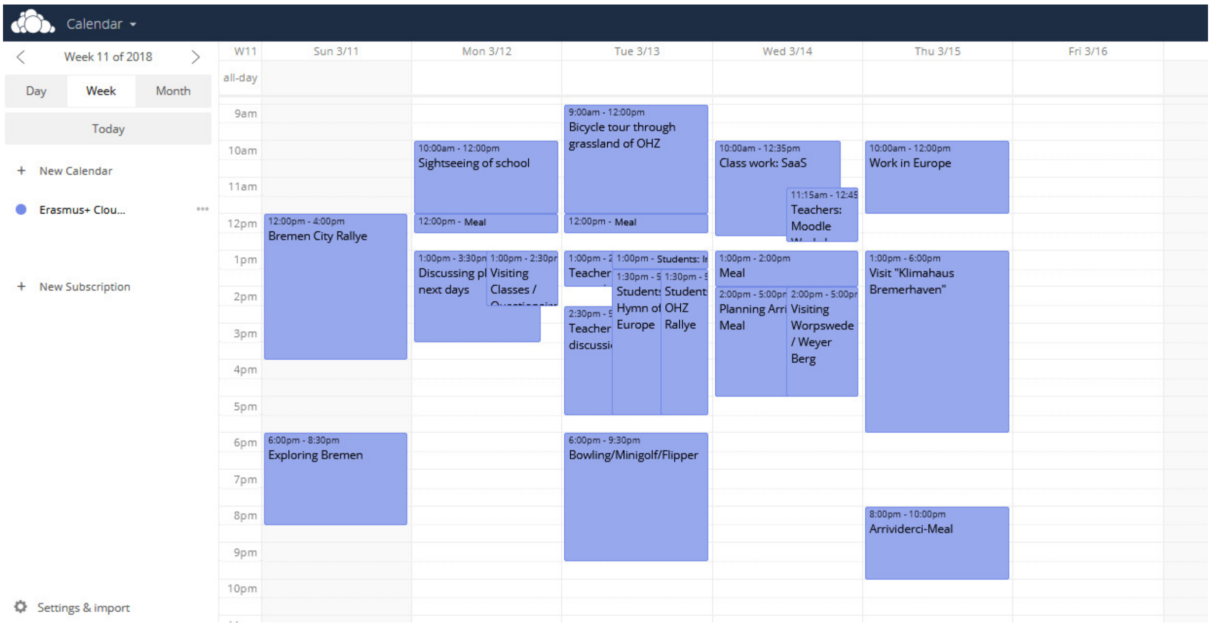
Record Type: A

As our router has already a forwarding route, we must choose another port than 80. We choose port 81 instead, so the complete route to our owncloud-server is http://ccies.hopto.org:81

Now everyone who’s in posession of this address and the access data con read and insert data into the calendar.

Use as group calendar for Erasmus+ project

Because using a group calendar for our Erasmus+ project via Google was not possible. So we prepared the owncloud server to serve as a calendar server for our meeting in Germany. Every member of this project has direct access to the group calendar:



Sun 3/11

12:00pm - 4:00pm Bremen City Rallye

6:00pm - 8:30pm Exploring Bremen

Mon 3/12

10:00am - 12:00pm Sightseeing of school

12:00pm - Meal

1:00pm - 3:30pm Discussing pl next days

1:00pm - 2:30pm Visiting Classes /

Tue 3/13

9:00am - 12:00pm Bicycle tour through grassland of OHZ

12:00pm - Meal

1:00pm - 2 Teacher

1:00pm - Students: I

1:30pm - 5 Student: Hymn of Europe

1:30pm - 5 Student OHZ Rallye

2:30pm - 5 Teacher discussi

6:00pm - 9:30pm Bowling/Minigolf/Flipper

Wed 3/14

10:00am - 12:35pm Class work: SaaS

11:15am - 12:45 Teachers: Moodle

1:00pm - 2:00pm Meal

2:00pm - 5:00pm Planning Arri Meal

2:00pm - 5:00pm Visiting Worpswede / Weyer Berg

Thu 3/15

10:00am - 12:00pm Work in Europe

1:00pm - 6:00pm Visit "Klimahaus Bremerhaven"

8:00pm - 10:00pm Arrividerci-Meal

Even on a smartphone the view was quite content.