LINUX SERVERS

ALL-IN-ONE LINUX SERVERS

PostgreSQL

RAYHAN ALI KHAN

Email: ralikhan@iespuigcastellar.xeill.net

School: IES PUIG CASTELLAR

Linux

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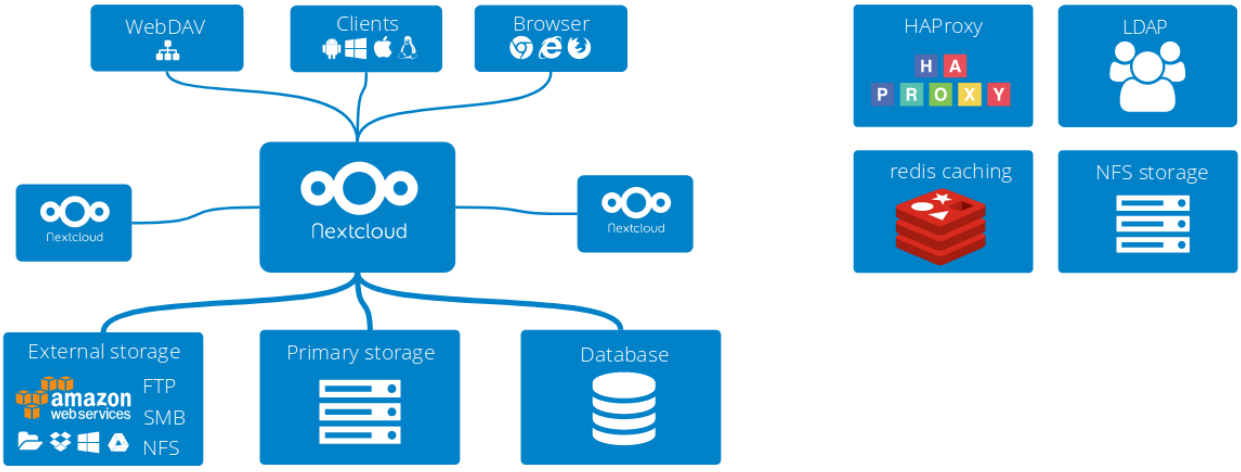
1 - Introduction

1.1 Context and justification of the Treball

It is a free software project created initially by the same creator of OwnCloud, Frank Karlitschek, with the objective that users recover control over their data. The objective of the product is to provide organizations and individuals with control over their information and data, facilitating the synchronization and exchange of files between devices. It also incorporates other tools that allow to communicate by audio and video via WebRTC in a safe way.

- Alternative to proprietary cloud services
- 100% Open Source fork of ownCloud Enterprise
- New features with a focus on security and stability
- Both an Enterprise and a Consumer product
- A safe home for all your data



Your own software and cloud storage service Cloud Computing but with many more options, such as:

- Storage of files .
- Also Cryptography .
- Synchronization with PC .
- How to Schedule (CalDAV).
- Task Launcher
- Address book
- Also Music Streaming (Ampache)
- Administration of users.
- Share files
- Also an Online Editor .
- As Markers .
- Photo gallery
- Also PDF viewer (using pdf.js)
- ODF file viewer.

1.2 Target Audience

MOBILE AND DESKTOP CLIENTS

Nextcloud clients for Android, iOS and desktop systems allow you to sync and share files, in a fully secure way through the encrypted connection. The mobile clients feature enables automatic upload of the photos and videos and can synchronize selected files or folders. The clients can handle multiple accounts, showing all activities on the server and notifying about new events, such as availability of the new shares.

CONNECTIVITY AND SYNCHRONIZATION

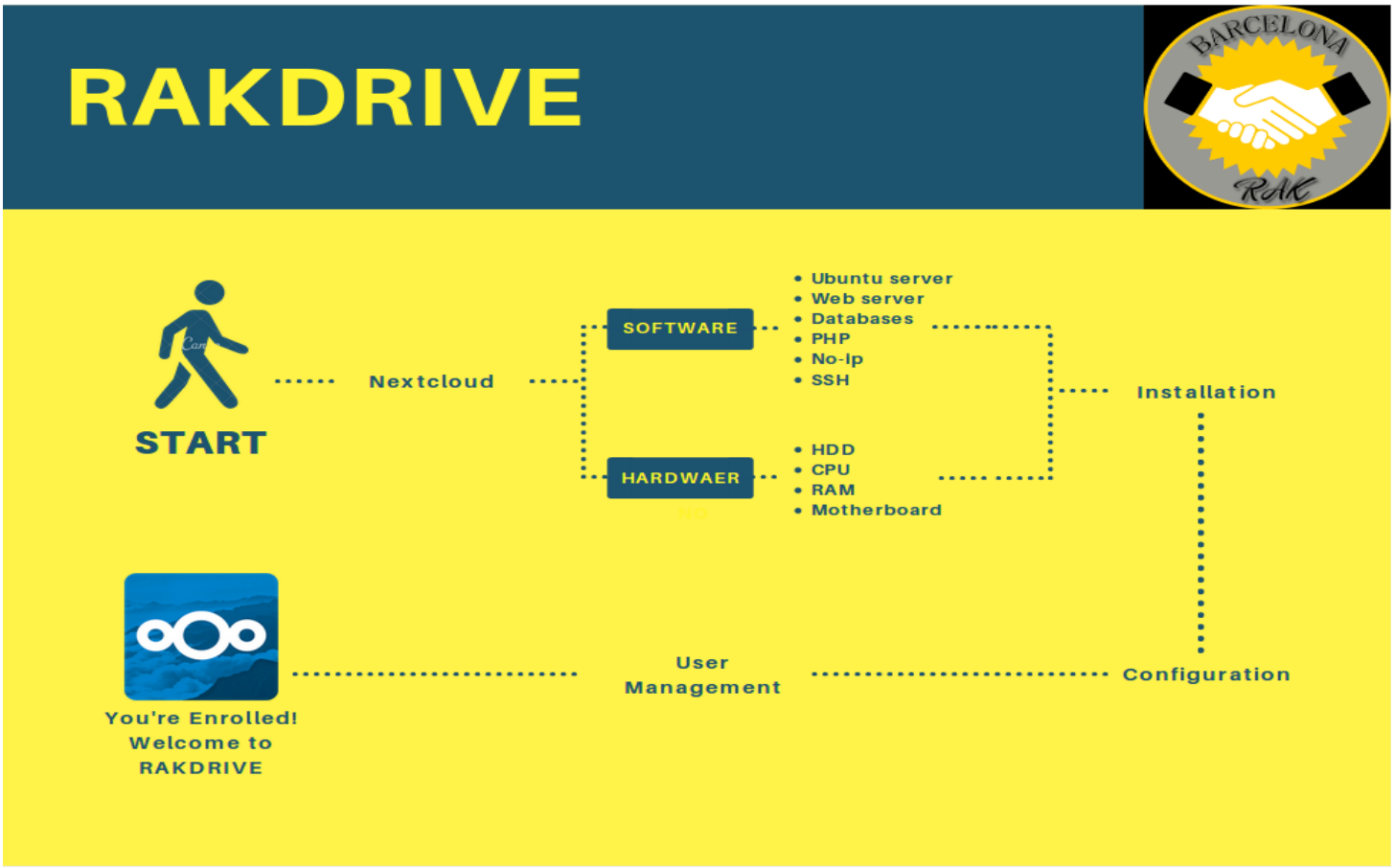
Nextcloud can access files stored with a wide variety of popular cloud service providers such as Amazon, Google and Dropbox. Access them also using standard protocols such as NFS, (S)FTP, WebDAV and more. Nextcloud will keep your data where they are, on original place.

CALENDAR AND CONTACTS

The Nextcloud Calendar and Contacts apps allow you to store, sync and share documents, contacts and files. Data can be shared among users or user groups. Sync with other devices is also supported.

COLLABORA ONLINE OFFICE

Collabora Online is a powerful LibreOffice- based online office suite which supports all major formats of documents, spreadsheets and presentations.Advanced RTE (Rich Text Editor) is included with lots of editing functionalities.



1.3 SECURITY AND CONTROL

Security first

Nextcloud is one of the most secure Open Source solutions in the industry of file management, sync and sharing.

Workflow management

Nextcloud allows you to effectively manage files and contents of different types and also provides the automation of the workflows. Nextcloud puts you in control of your metadata, systematization, archiving and marking documents - considering your wishes.

Perfect control of all your data and files

The Activity app gives users a clear view on what is happening with their files. Activities overview is very simple and efficient also using RSS feed or e-mail notification.

1.4 Objectives of the Work

We already know, when we use an Internet service that is free means that the product is us. Currently there are many services in the so-called "cloud" that offer us free storage from a few gigabytes to dozens of them, according to our needs and service provision. The problem is that, as a general rule, they are opaque clouds that are usually in other countries, of which we do not know their security norms and, most worryingly, we do not know what they do with our data.

To solve this, there are free storage products that allow us to access their source code, which comply with certain ethics and which, moreover, we can install in our own systems, see VPS. One of them is Nextcloud.

Unlike other clouds, which are already mentioned Dropbox and Google Drive, it is characterized by using 100% open source software and, also, because it is completely free, where the only limit of storage space is our hard disco. In addition, it is a very simple platform to scale, so at any time we can easily expand both its storage space and its hardware resources.

1.5 Planificació del projecte

Poject Planing				
Information				
Name	**Owner**	**Status**	**How long will this take - Start**	**How long will this take - End**
Introduction	Rayhan Ali Khan	Done	2018-02-01	2018-02-03
Subtraction of capitols	Rayhan Ali Khan	Done	2018-02-07	2018-02-10
Conclusions	Rayhan Ali Khan	Done	2018-02-14	2018-02-17
Glossari	Rayhan Ali Khan	Done	2018-02-20	2018-02-23
Bibliografia	Rayhan Ali Khan	Done	2018-02-26	2018-03-01
Installation				
Name	**Owner**	**Status**	**How long will this take - Start**	**How long will this take - End**
Installing and Configuration Ubuntu 16.04.3 Server	Rayhan Ali Khan	Done	2018-02-27	2018-02-28
Installing and Configuration Openssh-server	Rayhan Ali Khan	Done	2018-02-28	2018-03-01
Installing and Configuration apache2	Rayhan Ali Khan	Done	2018-03-01	2018-03-02
Create a Virtual host	Rayhan Ali Khan	Done	2018-03-01	2018-03-02
Installing and Configuration PHP in apache	Rayhan Ali Khan	Done	2018-03-03	2018-03-04
Install and Use PostgreSQL on Ubuntu 14.04	Rayhan Ali Khan	Done	2018-03-04	2018-03-05
Using PostgreSQL Roles and Databases	Rayhan Ali Khan	Done	2018-03-05	2018-03-06
INSTALL AND CONFIGURE MARIADB	Rayhan Ali Khan	Done	2018-03-06	2018-03-07
CONFIGURING NEXTCLOUD	Rayhan Ali Khan	Done	2018-03-07	2018-03-10
INSTALLING NO-IP IN UBUNTU SERVER	Rayhan Ali Khan	Done	2018-03-11	2018-03-12
Solve the error of nextcloud	Rayhan Ali Khan	Done	2018-03-10	2018-04-01

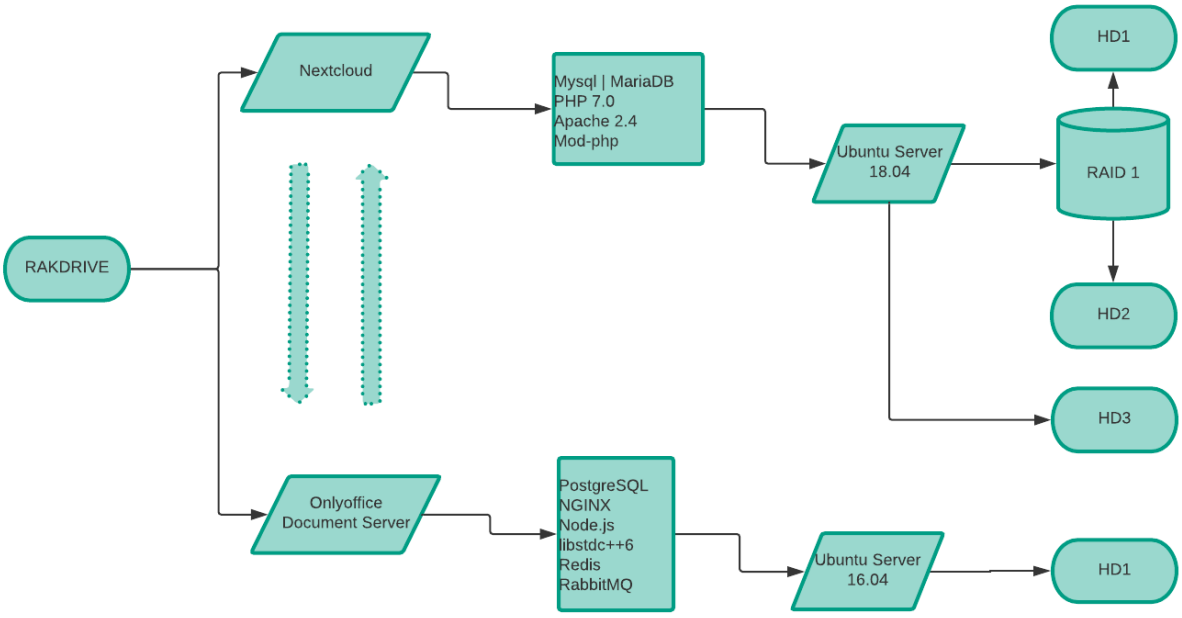
1.6 Description of the other chapters of the memory

Mi proyecto esta relacionado sobre un nuve pripio. Para installar eso las herramientas que hemos utilizado son:

Nextcloud→ It is the main tools. For Nextcloud to work there is install apache2 and configure it. In my case I created a virtual hos that was listened to on port 80. for it was

necessary to configure the file /etc/apache2/sites-available/nextcloud.conf. The nextcloud is installed on the ubuntu server 18.04. The server has a fixed ip. It is also installed openssh to connect from any computer remotely. Level of security is mounted RAID 1 with two 1tb hard drive. Raid is configured with madadm. Level of the database is installed postgresqly mriadb.

Onlyoffice → Onlyoffice is so that users can the documents. To install onlyoffice we have used another server with ubuntu 16.04. It is configured with a fixed ip and openssh is installed. So we can connect from any site remotely. Postgresql is also installed. Dependencies are postgresql, nginx, nodejs, libstdc, redis, rabbitMQ. Atra véz del ip is connected onlyoffice and nextcloud



2 - Conclusions

Nextcloud is a tool used to have your own cloud. It's like Google Drive itself.
A long time ago I was thinking about having my own server and I did not know how to do it and so my server could be useful. One day I took charge of the operating system of my laptop, so from that day I thought if I could make an automatic backup, and so if sometimes I get damaged the computer could recover the files again. Many times I have lost data from my phone, photos, videos, documents, etc, for lack of backup, and I have noticed that lately it was spoiling the SD cards and pendrive. Then I did not know where to make the backup, I started using Google Drive, but it turns out that it only offers free up to 17GB, then I started using Dropbox and in the end I used MEGA, but after all I realized that with so few gigs I would not use it and if I wanted to rent more gigas I had to pay since it is not free. Then I began to think if instead of saving my information in other places because I do not create my own cloud to be able to do the backup.
For this I installed Ubuntu server, and there I installed Apapche and FTP, but I had to do the backup manually, and I did not like it that much. Then I was looking to see if I could find a program to do it automatically, I found some Bash script and other programs such as: CrashPlan, Déjà Dup, Grsync, backups, etc. After analyzing each program I chose Déjà Dup, with which I backed up my laptop daily to my server automatically. I was doing well, there was no problem, until one day I thought that if I want to do it from my mobile I would need an application, for this I ask a teacher called Oscar if there is a program that does that automatically from any device, He told me to try nextcloud, which was a good tool. I started researching about nextcloud, it comes from the cloud (here you could explain what it is about because I get lost). I have been very close to the nextcloud because it is a tool that is free software. In addition there is an application for mobile phones and computers. When I installed it I started to have more ideas, such as the possibility of editing documents, making video calls, etc. In the end I saw that with this project I could achieve many things. I have the goal of having as a Google Drive where you can upload documents and edit, you can also make a video in real time, that would get people to work in groups from anywhere. It would be very useful for the students since they could work in groups from their homes.

3 - System Requirements

3.1 Memory

Memory requirements for running an Nextcloud server are greatly variable, depending on the numbers of users and files, and volume of server activity. Nextcloud needs a minimum of 128MB RAM, and we recommend a minimum of 512MB.

3.2 Recommended Setup for Running Nextcloud

For best performance, stability, support, and full functionality we recommend:

• Red Hat Enterprise Linux 7 / Ubuntu 16.04 LTS / Ubuntu 18,04

• MySQL/MariaDB

• PHP 7.0, 7.1 (PHP 7.2 not supported)

• Apache 2.4 with mod_php

3.3 Supported Platforms

• Server: Linux (Debian 7, SUSE Linux Enterprise Server 11 SP3 & 12, Red Hat Enterprise Linux/CentOS 6.5 and 7 (7 is 64-bit only), Ubuntu 14.04 LTS, 16.04 LTS)

• Web server: Apache 2 (mod_php, php-fpm) or Nginx (php-fpm)

• Databases: MySQL/MariaDB 5.5+; PostgreSQL 9.x (10 is supported with Nextcloud 13+); Oracle 11g (cur-rently only possible if you contact us <https://nextcloud.com/enterprise> as part of a subscription)

• PHP 5.6 + required (PHP 7.2 not supported)

• Hypervisors: Hyper-V, VMware ESX, Xen, KVM

• Desktop: Windows XP SP3 (EoL Q2 2015), Windows 7+, macOS 10.10+ (64-bit only), Linux (CentOS 6.5, 7 (7 is 64-bit only), Ubuntu 12.04 LTS, 14.04 LTS, 14.10, Fedora 20, 21, openSUSE 12.3, 13, Debian 7 & 8).

• Mobile apps: iOS 7+, Android 4+

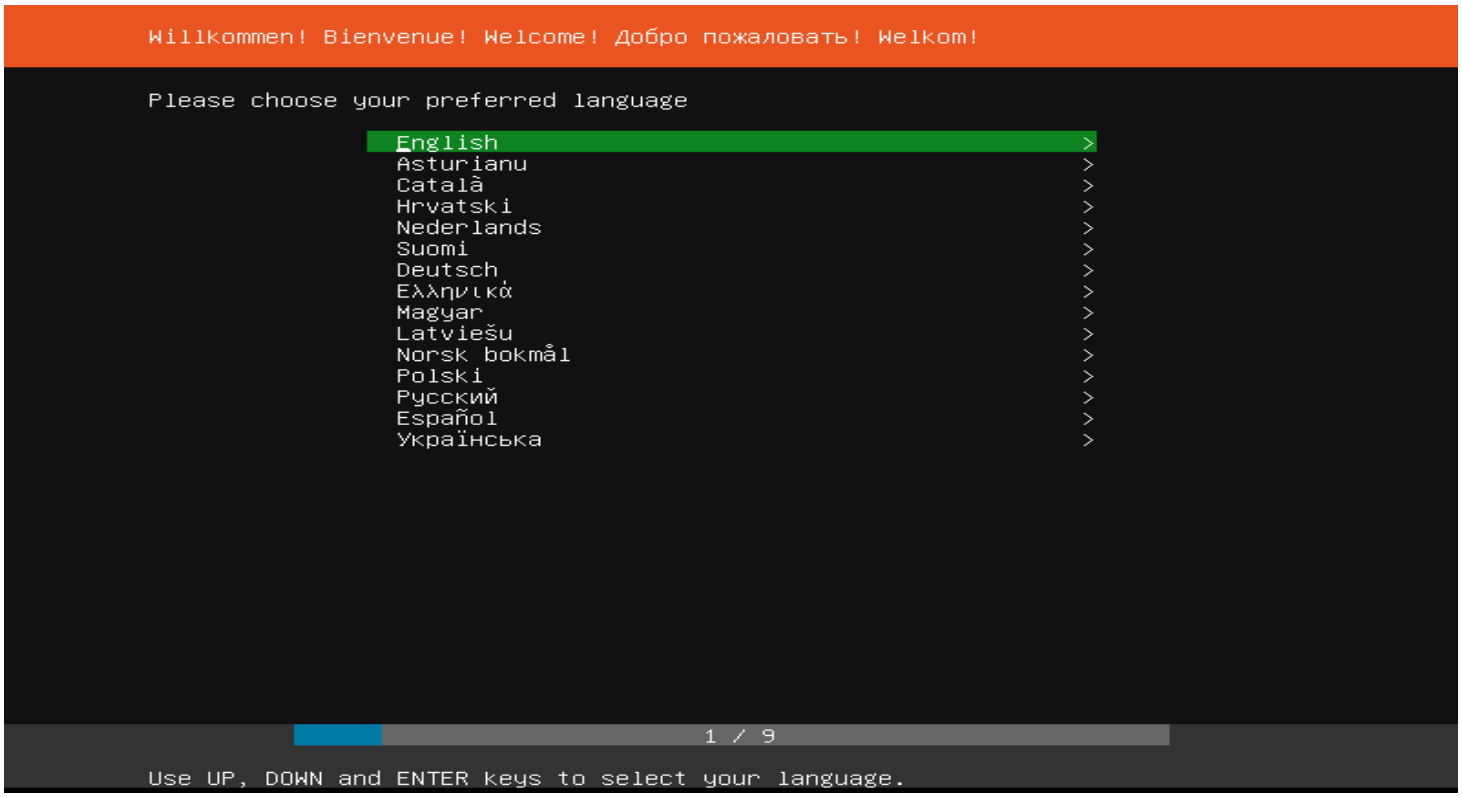
• Web browser: IE11+, Microsoft Edge, Firefox 14+, Chrome 18+, Safari 7+

4 - Annex

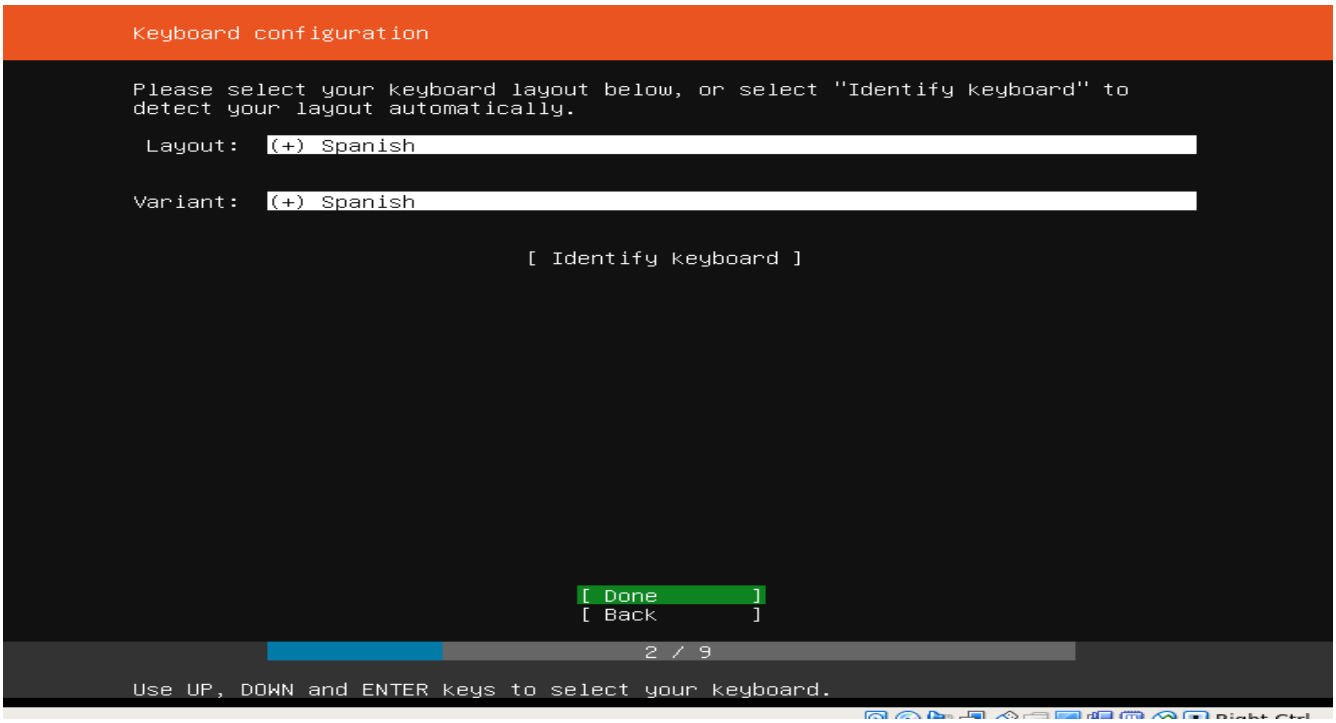
4.1 Installation in PC1

4.1.1 Installing Ubuntu 18.04 Server

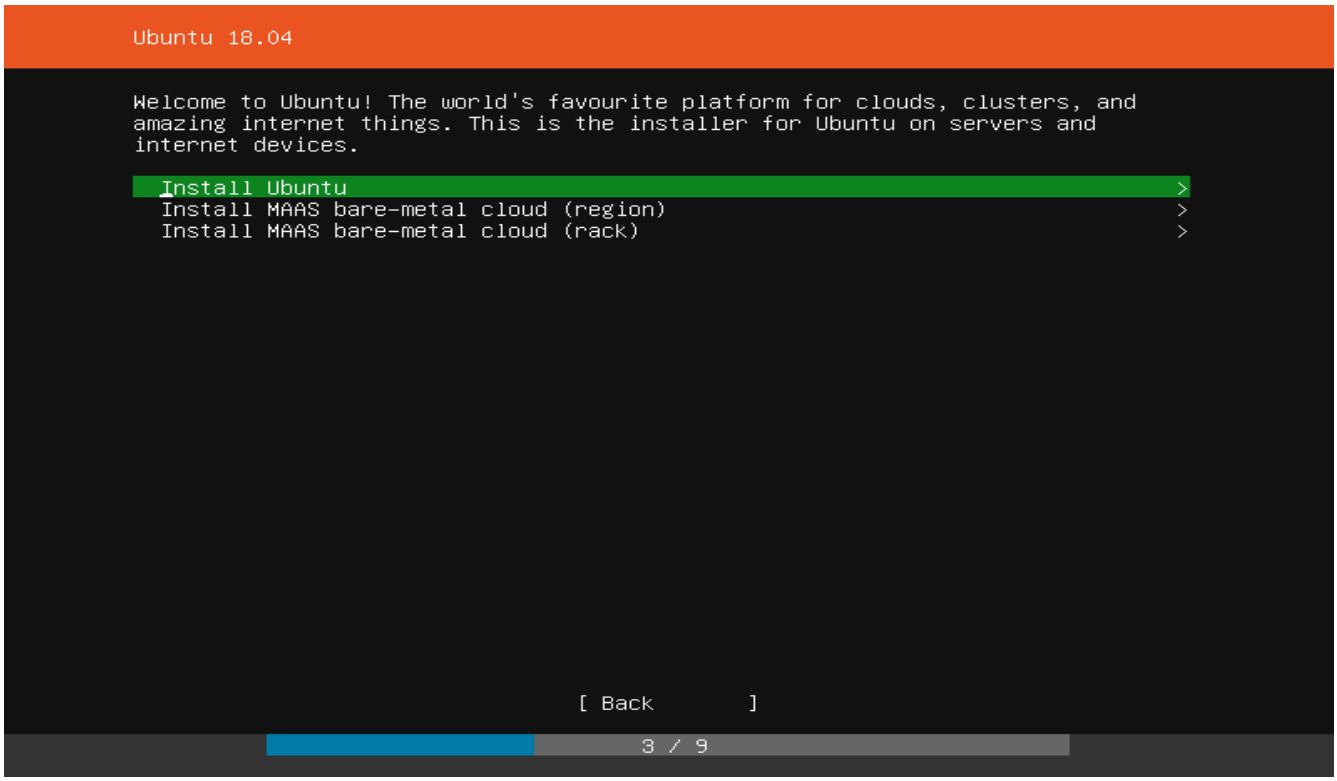
Step 1: Create a bootable **CD/USB** image. After system booting sequence choose your media bootable type from **BIOS** options (CD/DVD or USB drive).Choose your **preferred language** to use to install Ubuntu…

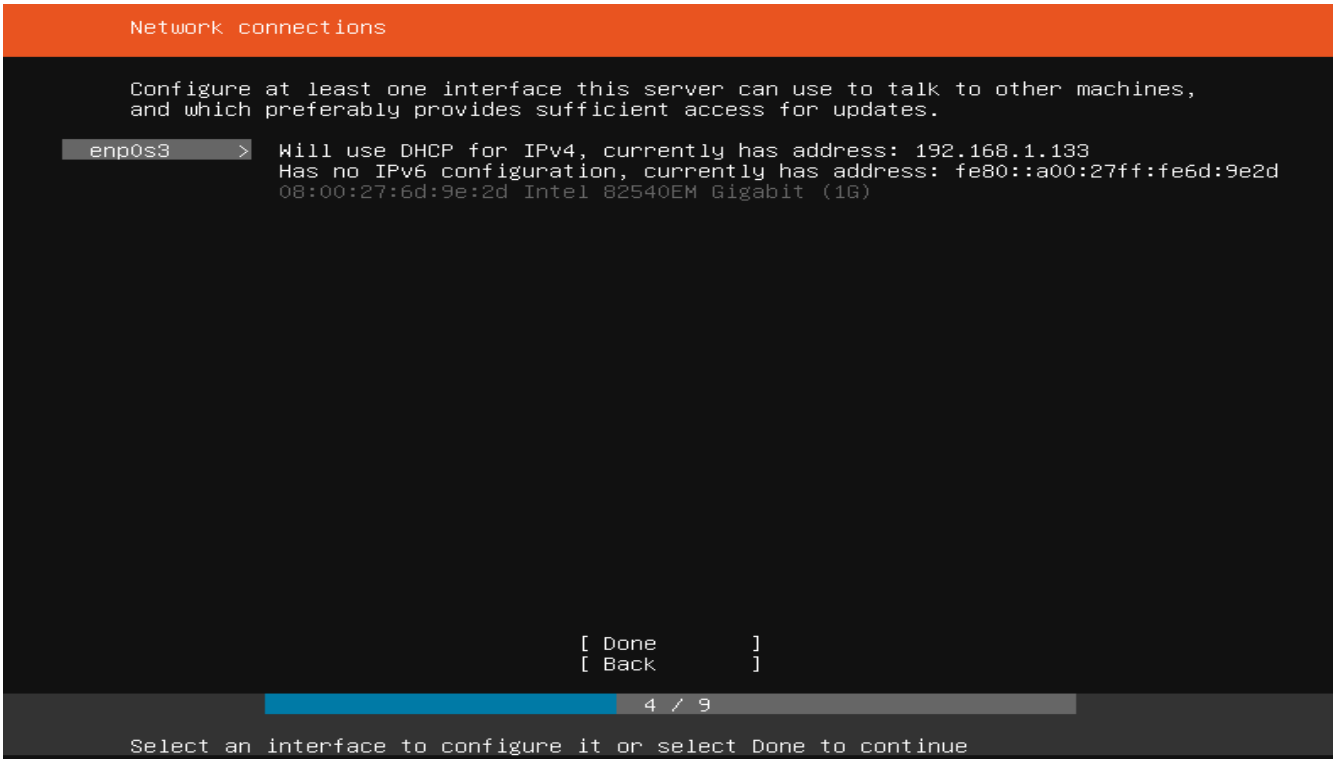


Step 2: Then select your **keyboard** layout for the installation… the default is Spanish and continue



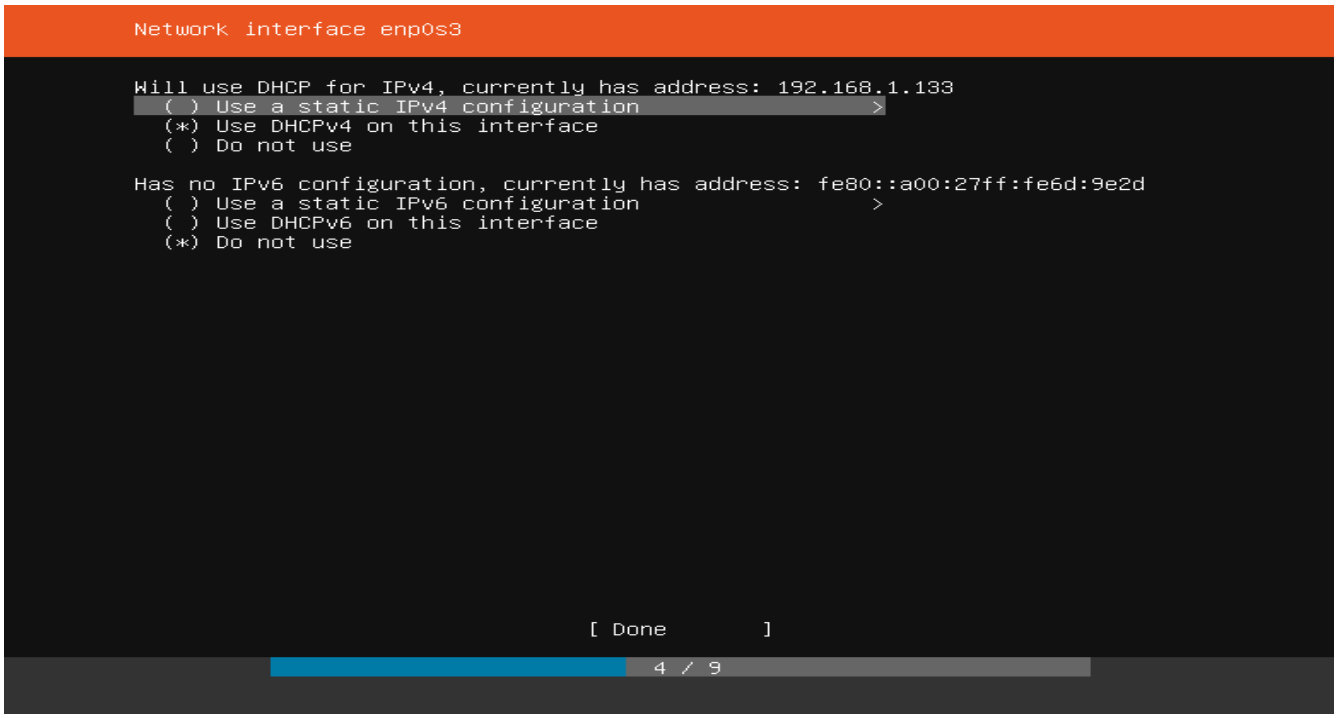
Step 3: After that select Intall Ubuntu…



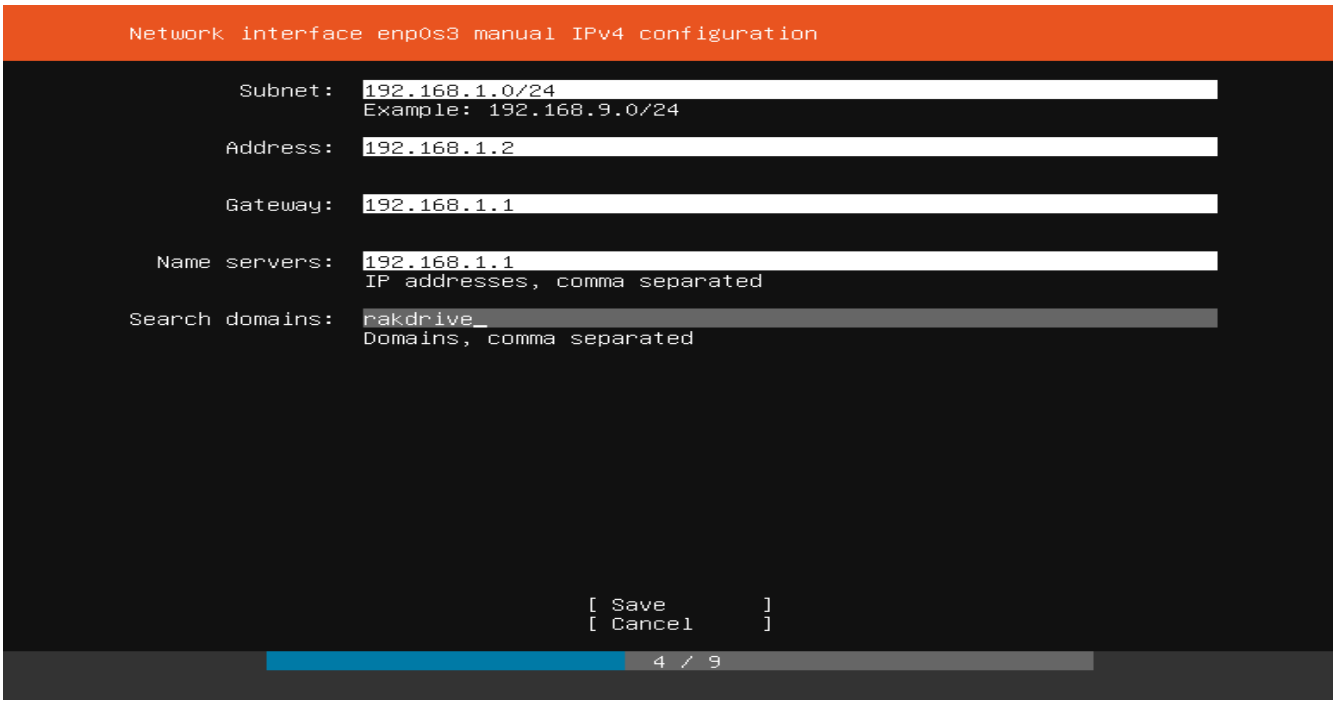


Step 4: On the next screen, select at least one network card to configure…

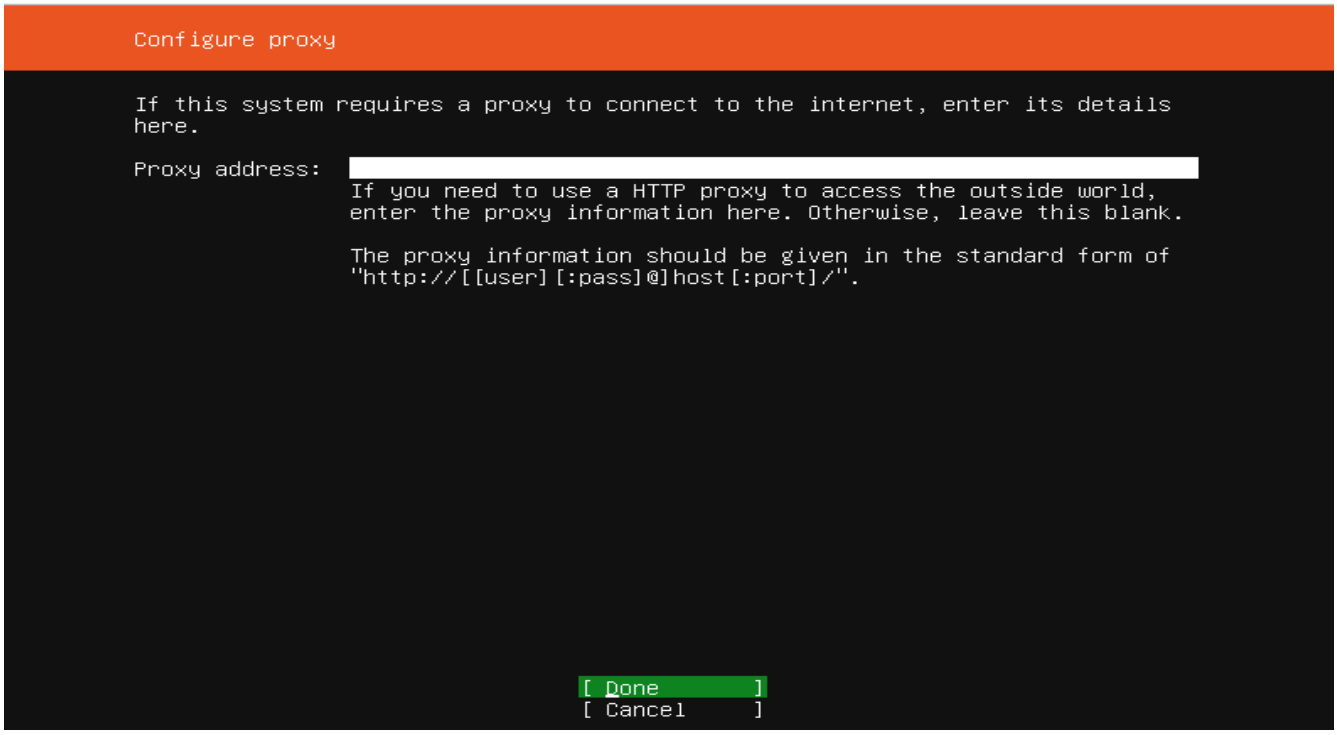
Selecr Use a static IPv4 configuration



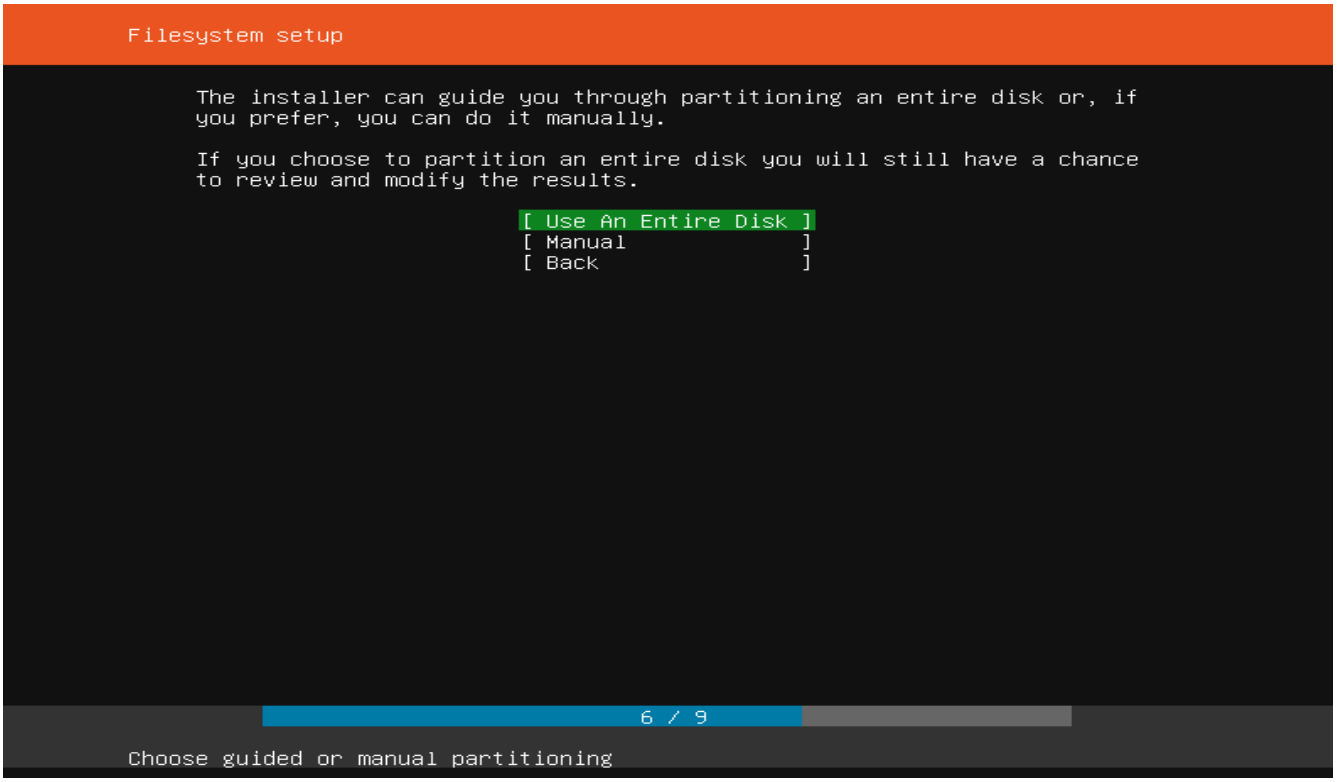
Network interface enp0s3 manual IPv4 configuration



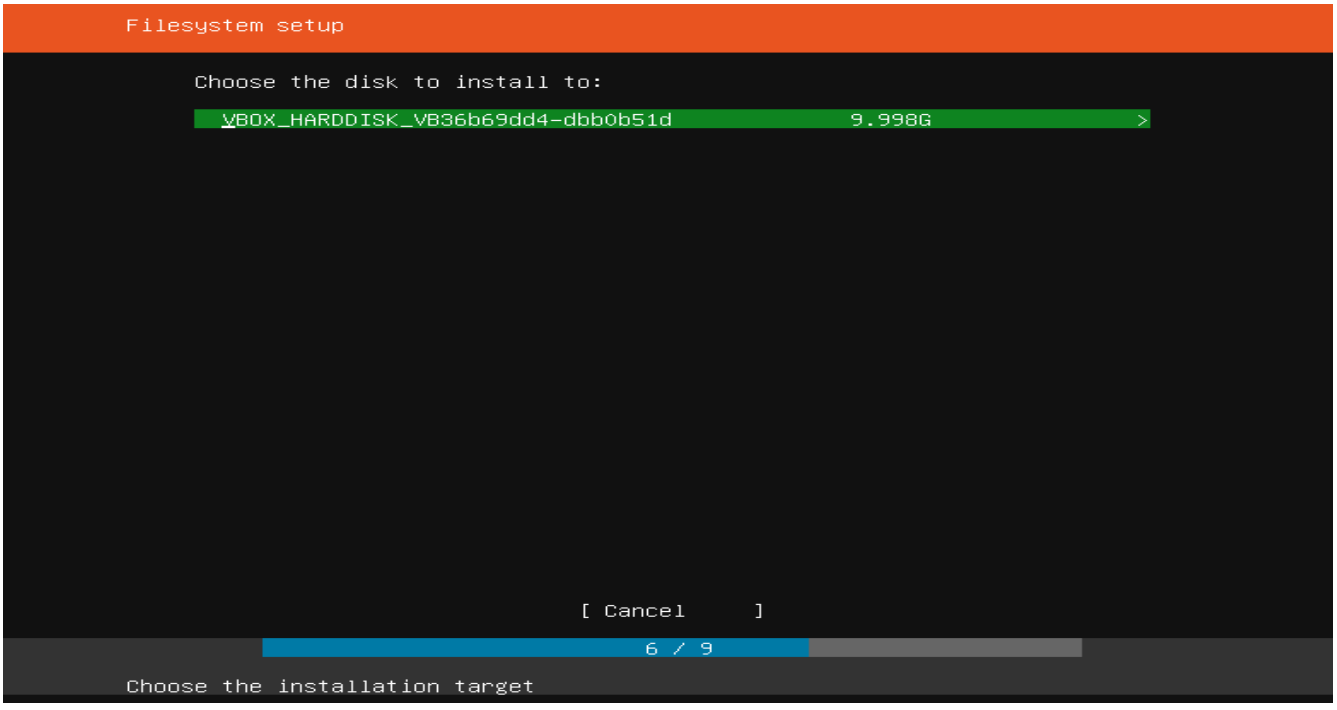
Step 5: Next, choose a proxy adress if there’s one… in most environments, this is not enabled.. so don’t type anything and continue…



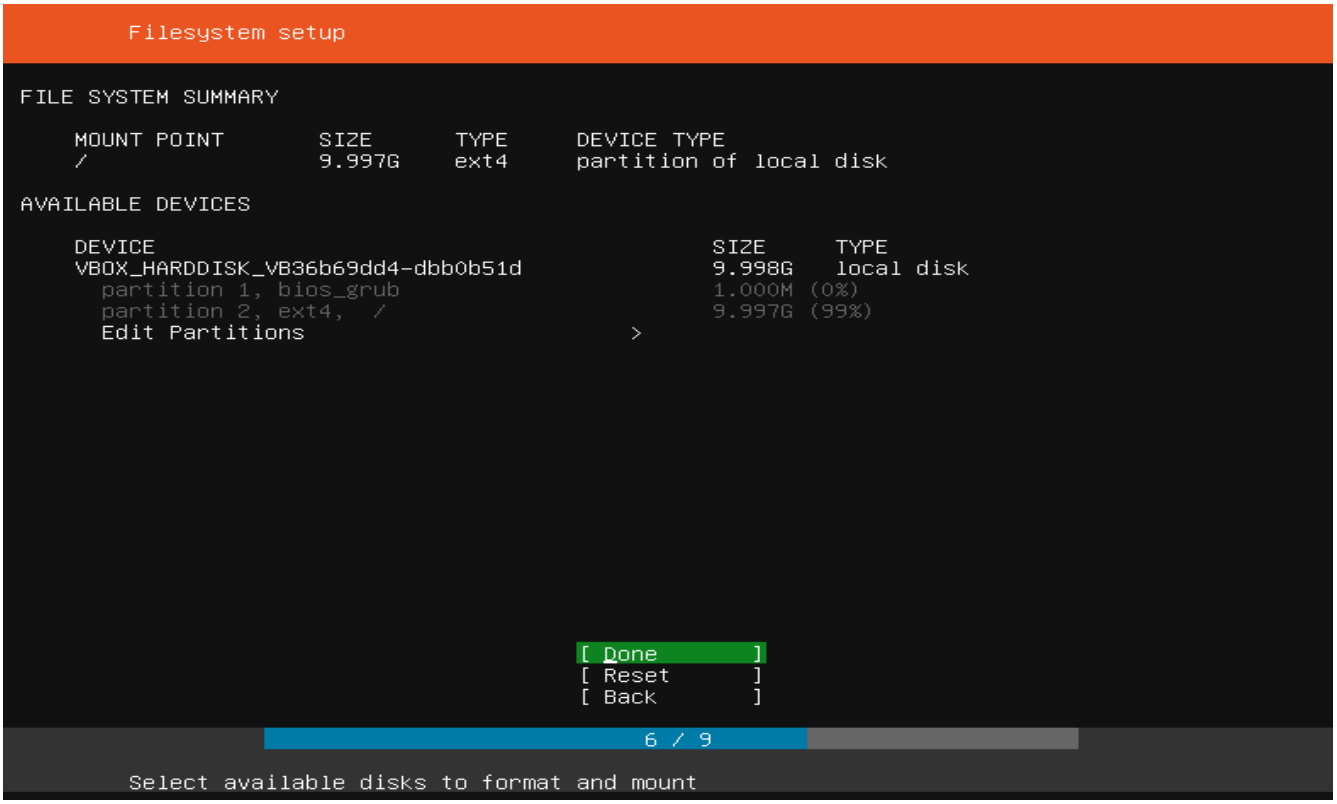
Step 6: Then choose to install ***Ubuntu on the entire disk***… this is the easiest method… continue from there.



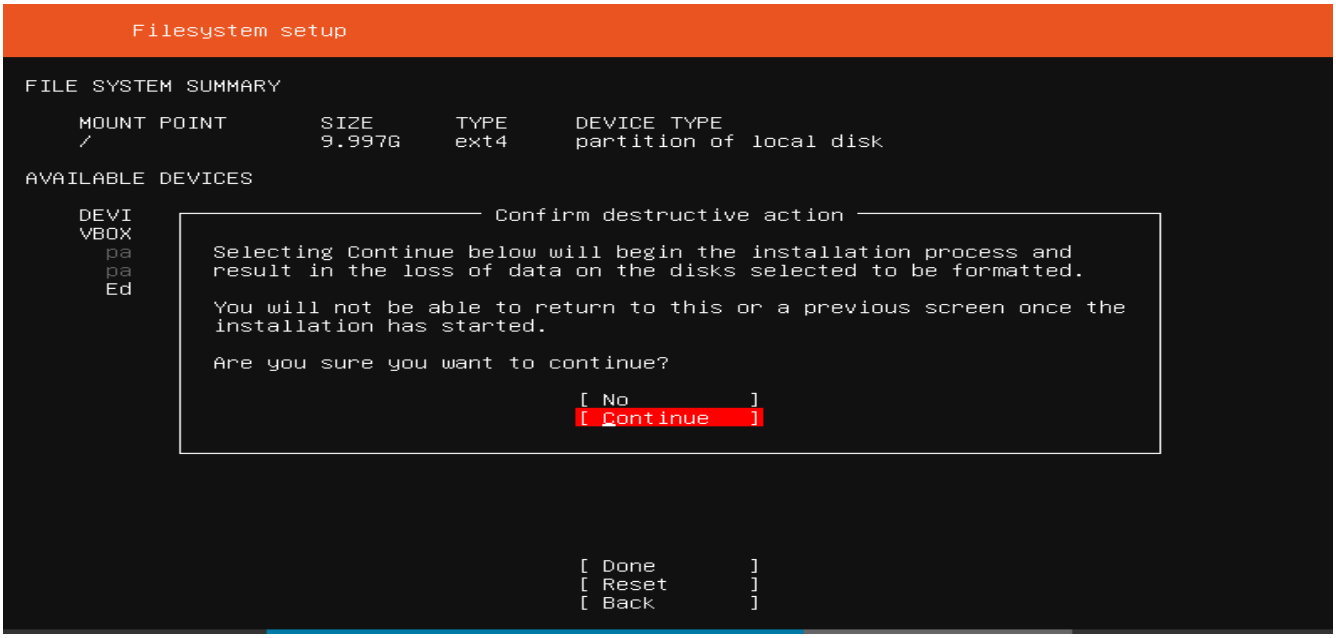
Next, select the disk to use to install on… and continue



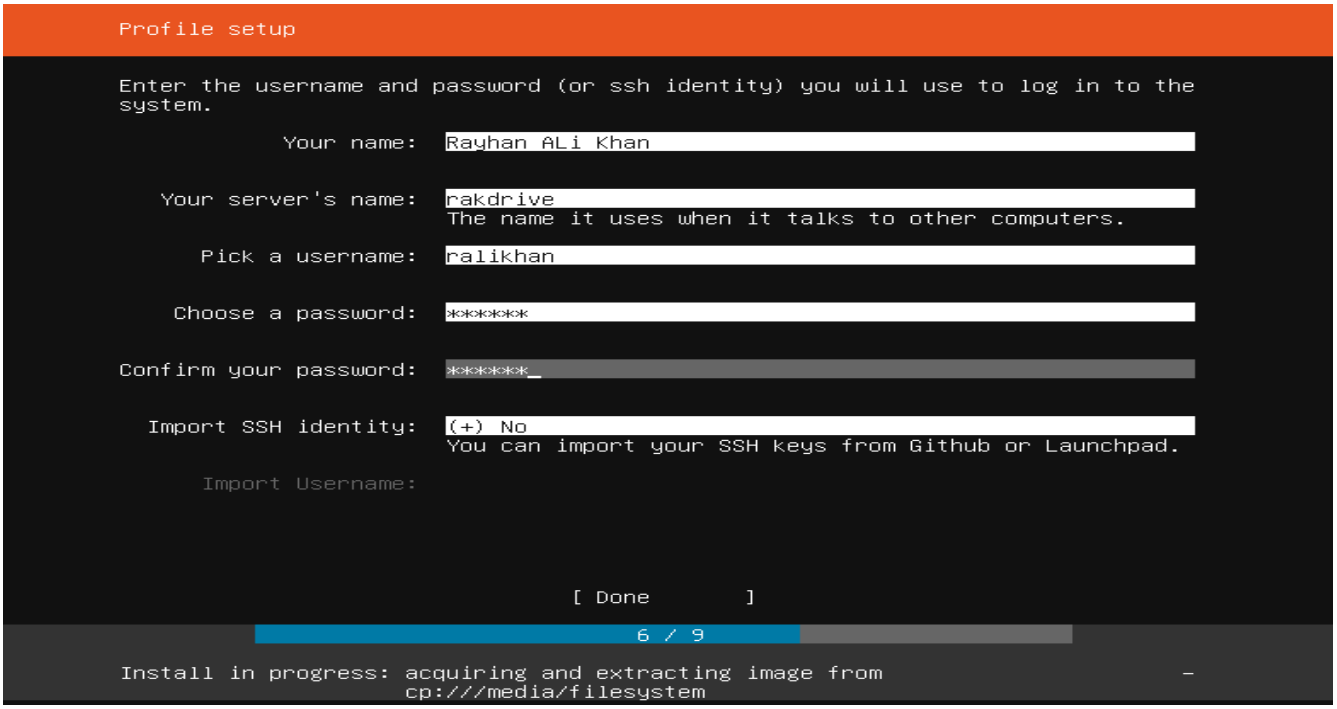
Step 7: Confirm the disk and continue… this is going to erase everything on the disk and install Ubuntu



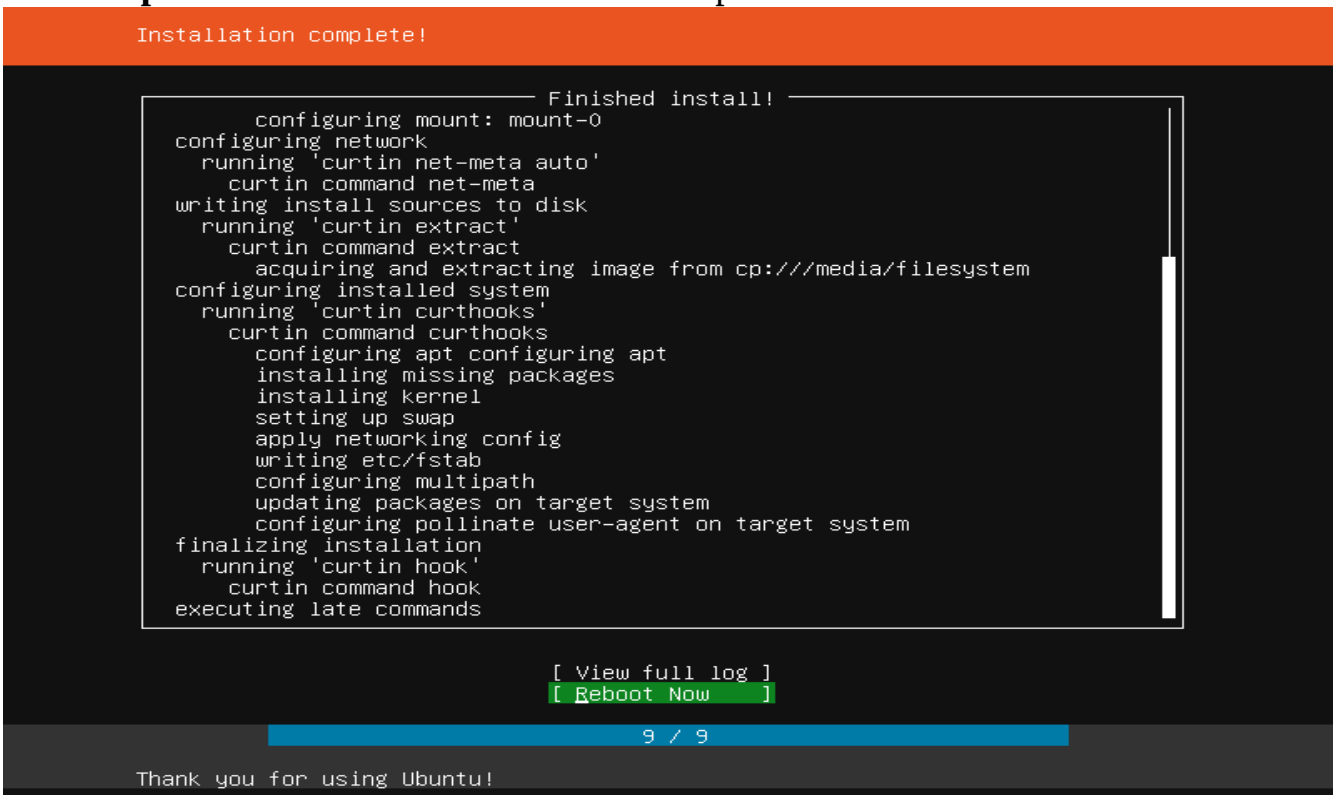
Step 8: Confirm to delete everything on the disk and install Ubuntu.. after this, you'll lose anything that was on the disk… so make sure the correct disk is selected and continue..



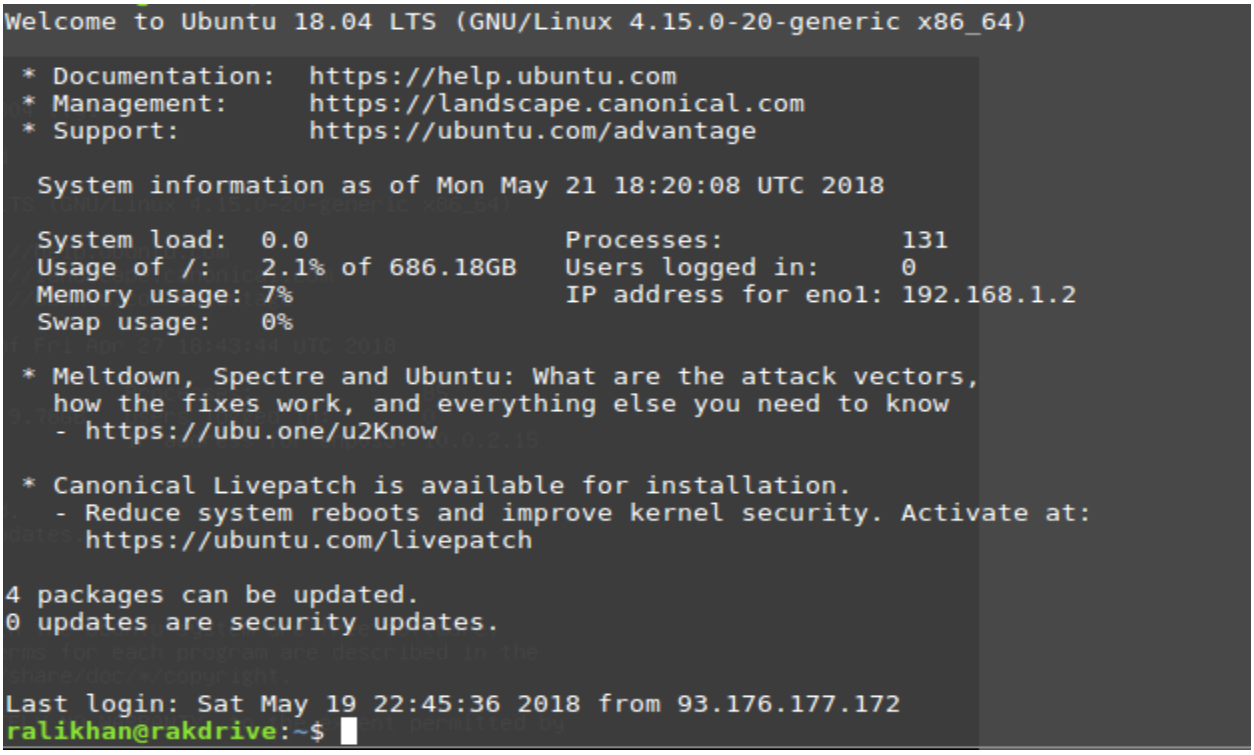
Step 9: Then create an account for the server… this will become an administrative account since the root account is not being used… also type the computer and and continue…



Step 10: Wait until the installation is complete… then reboot the server.

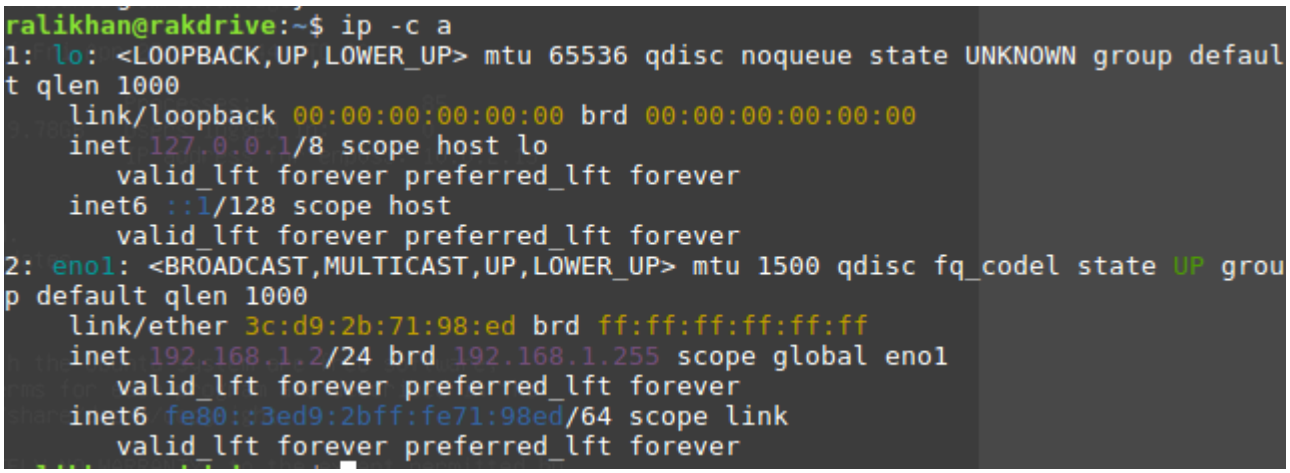


Enjoy!



Step 11: Verify network **IP** addresses using following command.

```
$ ip -c addr show
```



4.1.2 Install SSH Server

Step1: On Ubuntu desktop or server install, you can also directly install the OpenSSH server package as you would install any other package. To **install SSH server** on Ubuntu, all you have to do is to install the OpenSSH server package that is readily available through the respositories. Use the following command to setup SSH server:

```
$ sudo apt install openssh-server
```

```
ralikhan@rakbarcelona:~$ sudo apt install openssh-server
[sudo] password for ralikhan:
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  libwrap0 ncurses-term openssh-sftp-server python3-requests python3-urllib3 ssh-import-id tcpd
Suggested packages:
  ssh-askpass rssh molly-guard monkeysphere python3-ndg-httpsclient python3-openssl python3-pyasn1
The following NEW packages will be installed:
  libwrap0 ncurses-term openssh-server openssh-sftp-server python3-requests python3-urllib3
  ssh-import-id tcpd
0 upgraded, 8 newly installed, 0 to remove and 45 not upgraded.
Need to get 818 kB of archives.
After this operation, 5,898 kB of additional disk space will be used.
Do you want to continue? [Y/n]
```

Step 2: Configure SSH Server

To **install SSH server** is very easy but making it much more secure requires a bit more work. After the installation is complete, edit the /etc/ssh/sshd_config file. But before you start editing any configuration file, I suggest you backup the original file:

```
$ sudo cp -a /etc/ssh/sshd_config /etc/ssh/sshd_config_backup
```

Now, use the following command to edit the file:

```
$ sudo nano /etc/ssh/sshd_config
```

```
# Package generated configuration file
# See the sshd_config(5) manpage for details

# What ports, IPs and protocols we listen for
Port 22
# Use these options to restrict which interfaces/protocols sshd will bind to
#ListenAddress ::
#ListenAddress 0.0.0.0
Protocol 2
# HostKeys for protocol version 2
HostKey /etc/ssh/ssh_host_rsa_key
HostKey /etc/ssh/ssh_host_dsa_key
HostKey /etc/ssh/ssh_host_ecdsa_key
HostKey /etc/ssh/ssh_host_ed25519_key
#Privilege Separation is turned on for security
UsePrivilegeSeparation yes

# Lifetime and size of ephemeral version 1 server key
KeyRegenerationInterval 3600
ServerKeyBits 1024

# Logging
SyslogFacility AUTH
LogLevel INFO

# Authentication:
LoginGraceTime 120
PermitRootLogin prohibit-password
StrictModes yes
```

After you install SSH server and make any changes to the configuration file (sshd_config) you will have to restart the service. Use the following command to restart SSH:

```
$ sudo systemctl restart ssh
$ sudo systemctl stop ssh
$ sudo systemctl start ssh
$ sudo systemctl status ssh
```

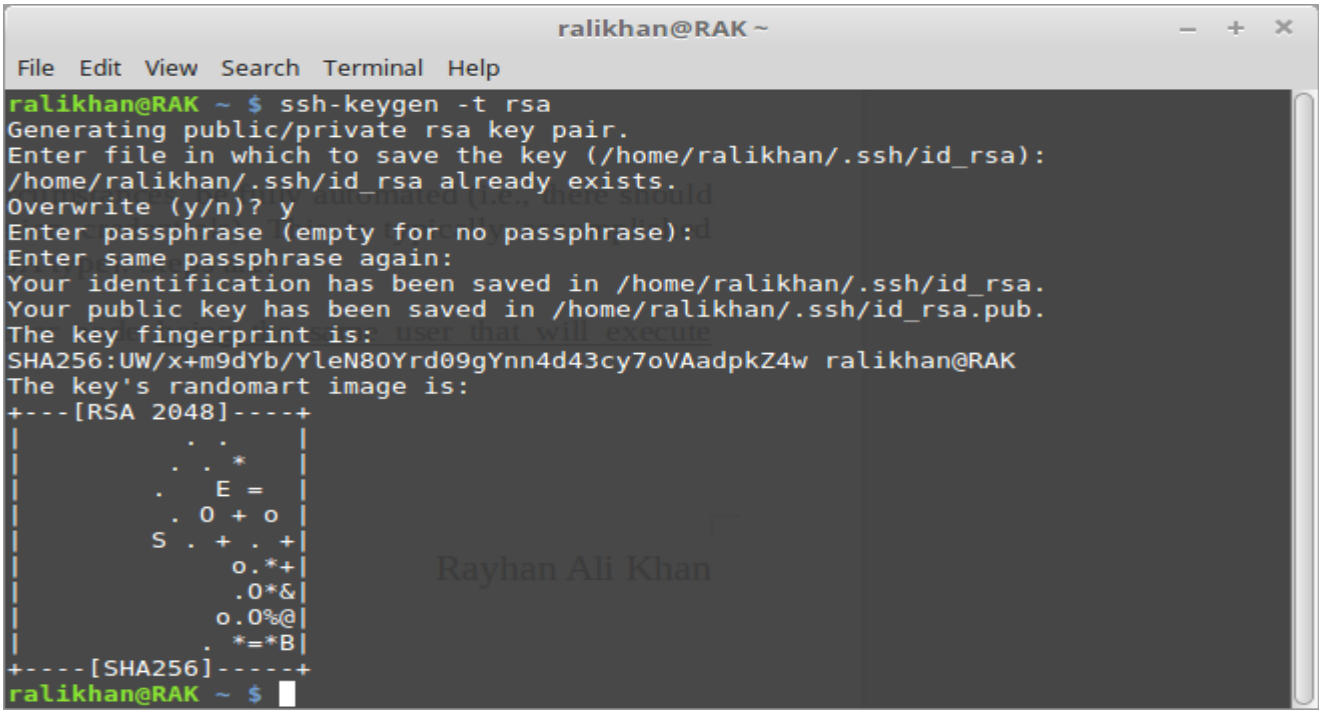
```
ralikhan@rakdrive:~$ sudo systemctl status ssh
[sudo] password for ralikhan:
● ssh.service - OpenBSD Secure Shell server
   Loaded: loaded (/lib/systemd/system/ssh.service; enabled; vendor preset: enabled)
   Active: active (running) since Mon 2018-05-21 23:43:18 UTC; 36min ago
 Main PID: 1266 (sshd)
    Tasks: 1 (limit: 4915)
   CGroup: /system.slice/ssh.service
           └─1266 /usr/sbin/sshd -D

May 22 00:16:35 rakdrive sshd[5268]: Invalid user bamboo from 183.60.40.104 port 40914
May 22 00:16:35 rakdrive sshd[5268]: pam_unix(sshd:auth): check pass; user unknown
May 22 00:16:35 rakdrive sshd[5268]: pam_unix(sshd:auth): authentication failure; logname= uid=0 euid=0 tty=
May 22 00:16:37 rakdrive sshd[5268]: Failed password for invalid user bamboo from 183.60.40.104 port 40914 s
May 22 00:16:37 rakdrive sshd[5268]: Connection closed by invalid user bamboo 183.60.40.104 port 40914 [prea
May 22 00:17:58 rakdrive sshd[5274]: Invalid user homes from 211.51.150.196 port 58358
May 22 00:17:58 rakdrive sshd[5274]: pam_unix(sshd:auth): check pass; user unknown
May 22 00:17:58 rakdrive sshd[5274]: pam_unix(sshd:auth): authentication failure; logname= uid=0 euid=0 tty=
May 22 00:18:00 rakdrive sshd[5274]: Failed password for invalid user homes from 211.51.150.196 port 58358 s
May 22 00:18:01 rakdrive sshd[5274]: Connection closed by invalid user homes 211.51.150.196 port 58358 [prea
lines 1-18/18 (END)
```

Claves SSH

This authentication should, in ideal circumstances, be fully automated (i.e., there should not be a prompt to the user for authentication credentials). This is typically accomplished through the use of SSH keys (normally, of RSA type). Steps are:

Step1:-Generate the SSH key on the master node being the same user that will execute ansible command:

```
$ ssh-keygen -t rsa
```



Step2:-Copy your recently generated public key (stored in ~/.ssh folder with the name of id_rsa.pub) to all the "victims", connecting to them with the same user Ansible will use. This can be achieved in several ways (via e-mail, pendrive, executing *scp* command...or using a specific command for this: ssh-copy-id):

```
$ ssh-copy-id ralikhan@rakdrive.ddns.net
```

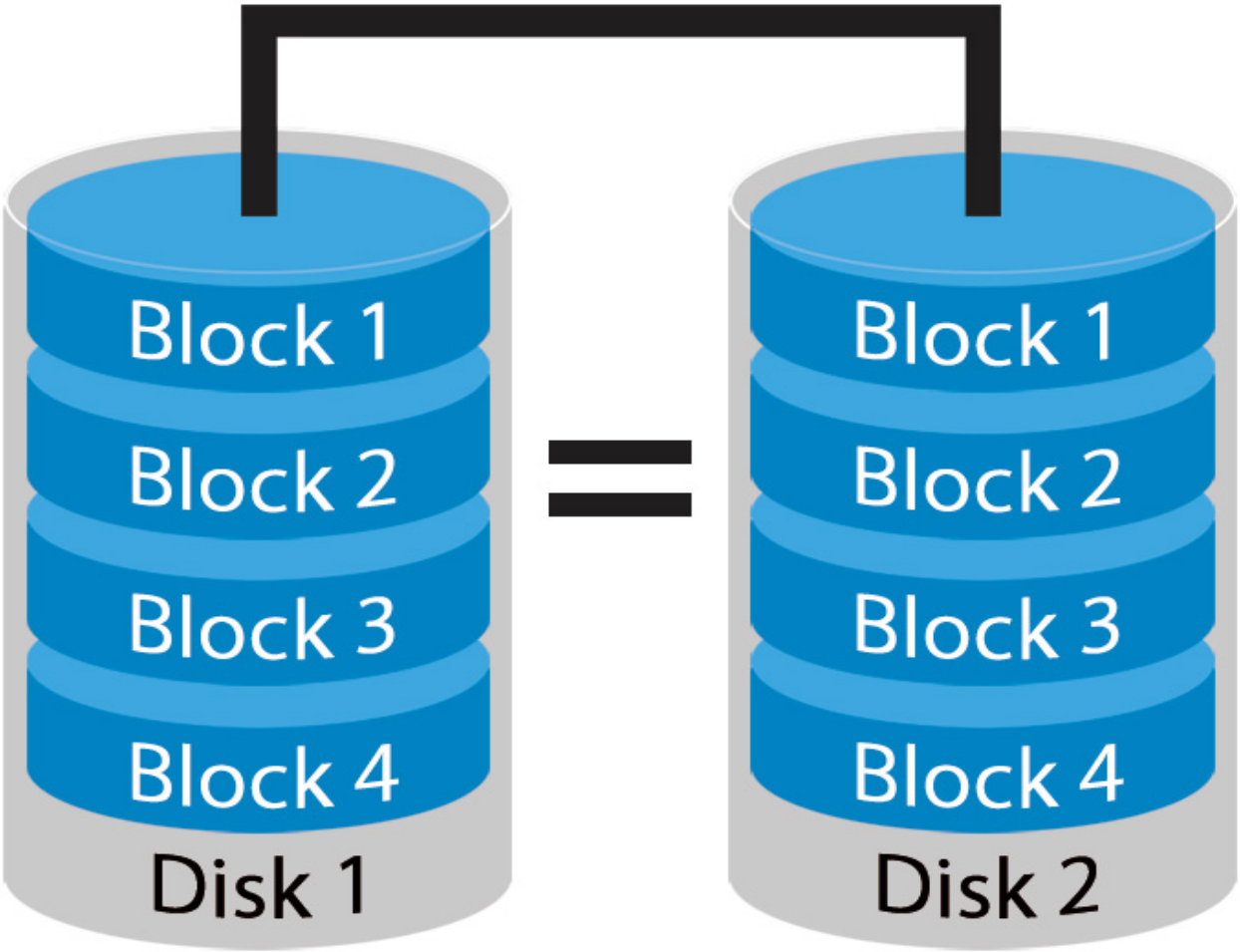
```
ralikhan@RAK ~ $ ls .ssh/
id_rsa  id_rsa.pub  known_hosts  known_hosts.old  known_hosts.pub
ralikhan@RAK ~ $ ssh-copy-id ralikhan@192.168.1.2
/usr/bin/ssh-copy-id: INFO: attempting to log in with the new key(s), to filter
out any that are already installed
/usr/bin/ssh-copy-id: INFO: 2 key(s) remain to be installed -- if you are prompt
ed now it is to install the new keys
ralikhan@192.168.1.2's password:

Number of key(s) added: 2

Now try logging into the machine, with:   "ssh 'ralikhan@192.168.1.2'"
and check to make sure that only the key(s) you wanted were added.
```

```
$ ssh rakdrive.ddns.net
```

```
ralikhan@rakdrive: ~
File  Edit  View  Search  Terminal  Help
ralikhan@RAK ~ $ ssh rakdrive.ddns.net
Welcome to Ubuntu 18.04 LTS (GNU/Linux 4.15.0-20-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:     https://landscape.canonical.com
 * Support:        https://ubuntu.com/advantage

  System information as of Wed May  9 15:04:55 UTC 2018

  System load:  0.18               Processes:           127
  Usage of /:   0.9% of 686.18GB   Users logged in:     0
  Memory usage: 3%                 IP address for eno1: 192.168.1.2
  Swap usage:   0%

 * Meltdown, Spectre and Ubuntu: What are the attack vectors,
   how the fixes work, and everything else you need to know
   - https://ubu.one/u2Know

0 packages can be updated.
0 updates are security updates.


Last login: Wed May  9 14:52:24 2018 from 79.154.76.125
ralikhan@rakdrive:~$
```

4.1.3 RAID 1 (Mirrored)

- This is the first mode that really has redundancy. RAID-1 can be used on two identical disks. This mode keeps an exact duplicate of the information on the other disc on one disc.
- If one fails, the data will remain intact, since we will have the other disk.
- Normally, the performance of the readings is the sum of the performances of the disks, while the performance of the writings is the same as that of a single device or, perhaps, even less. The readings can be done in parallel but, when it is written, the CPU must transfer 2 times the amount of data it would normally transfer (2 identical copies of all the data must be sent, one to each disk).



Install mdadm on Ubuntu

In principle, the **mdadm package is installed by default** in Ubuntu.

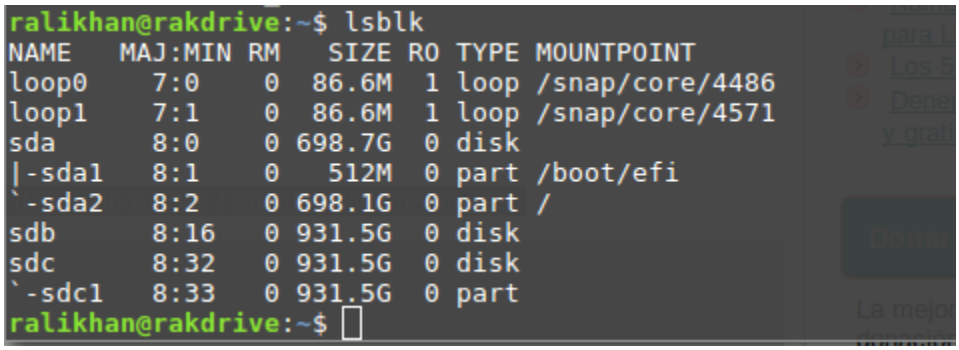
Also if you do not have the installed package you can install it with the Synaptic Package Manager or with the following command:

```
$ sudo apt install mdadm
```

Partitioning the hard disk

Now is the time to prepare the physical devices that will be used in our matrix. For this configuration, I have connected two 1TB disck drives that have been identified as /dev/sdb and /dev/sdc lsblk output:

```
$ lsblk
```



Crear un array RAID-1

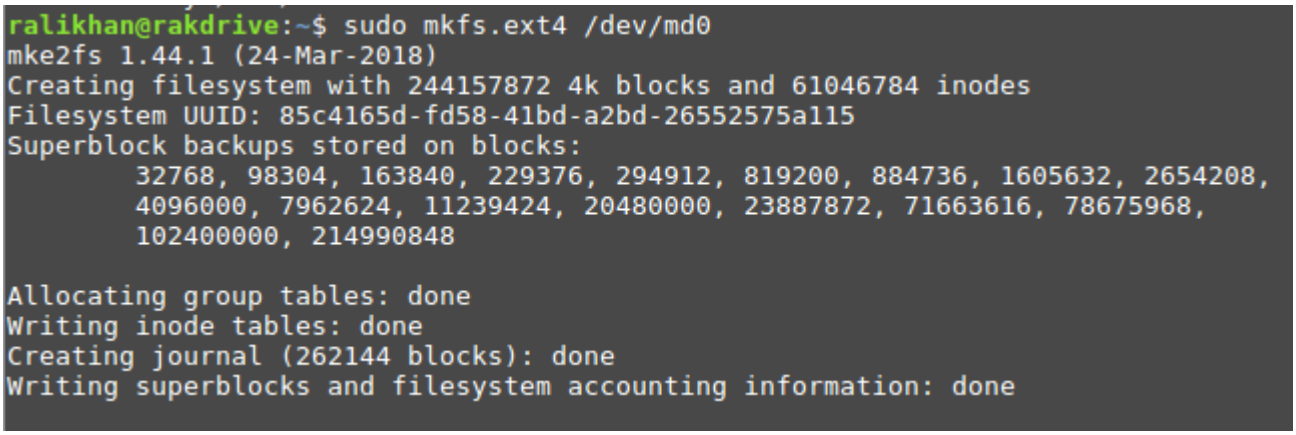
I have 2 hard drives. each of them has 1TB. Then I will create RAID 1 with these two hard drives. To create raid 1 we will execute the following

```
$ sudo mdadm --create /dev/md0 --level=1 --raid-device=2 /dev/sdb /dev/sdc
```

```
ralikhan@rakdrive:~$ sudo mdadm --create /dev/md0 --level=1 --raid-device=2 /dev/sdb /dev/sdc
mdadm: /dev/sdb appears to contain an ext2fs file system
       size=976762584K  mtime=Thu Jan  1 00:00:00 1970
mdadm: Note: this array has metadata at the start and
    may not be suitable as a boot device.  If you plan to
    store '/boot' on this device please ensure that
    your boot-loader understands md/v1.x metadata, or use
    --metadata=0.90
mdadm: /dev/sdc appears to contain an ext2fs file system
       size=976762584K  mtime=Thu Jan  1 00:00:00 1970
Continue creating array? yes
mdadm: Defaulting to version 1.2 metadata
mdadm: array /dev/md0 started.
```

To format the RAID we use the mkfs command:

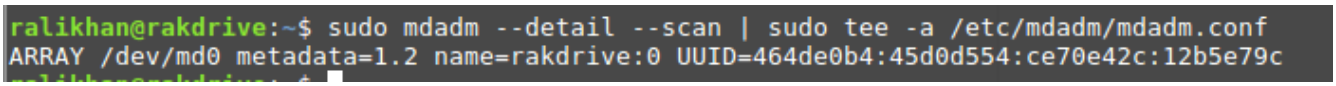
```
$ sudo mkfs.ext4 /dev/md0
```



Mount the RAID

By default, mdadm scans all existing partitions and MD groups, and logs any events detected in / var / log / syslog. Alternatively, you can specify RAID devices and arrays to scan in mdadm.conf located in /etc/mdadm/mdadm.conf (based on Debian) or /etc/mdadm.conf (based on RedHat), in the following format. If mdadm.conf does not exist, create one.

```
$ sudo mdadm --detail --scan | sudo tee -a /etc/mdadm/mdadm.conf
```




```
$ sudo update-initramfs -u
```

```
ralikhan@rakdrive:~$ sudo mdadm --detail --scan | sudo tee -a /etc/mdadm/mdadm.conf
ARRAY /dev/md0 metadata=1.2 name=rakdrive:0 UUID=464de0b4:45d0d554:ce70e42c:12b5e79c
ralikhan@rakdrive:~$ sudo update-initramfs -u
perl: warning: Setting locale failed.
perl: warning: Please check that your locale settings:
        LANGUAGE = (unset),
        LC_ALL = (unset),
        LC_MONETARY = "es_ES.UTF-8",
        LC_ADDRESS = "es_ES.UTF-8",
        LC_TELEPHONE = "es_ES.UTF-8",
        LC_NAME = "es_ES.UTF-8",
        LC_MEASUREMENT = "es_ES.UTF-8",
        LC_IDENTIFICATION = "es_ES.UTF-8",
        LC_NUMERIC = "es_ES.UTF-8",
        LC_PAPER = "es_ES.UTF-8",
        LANG = "en_US.UTF-8"
    are supported and installed on your system.
perl: warning: Falling back to a fallback locale ("en_US.UTF-8").
update-initramfs: Generating /boot/initrd.img-4.15.0-20-generic
```

Now we are going to create the directory where we are going to assemble the raid we have created. That is why we are going to follow the next steps

```
$ sudo mkdir /media/HD1
```

```
ralikhan@rakdrive:~$ sudo mkdir /media/HD1
ralikhan@rakdrive:~$ ls /media/
HD1
```

To mount the RAID we add the following line to the file / etc / fstab

```
$ sudo nano /etc/fstab
```

ADD

```
/dev/md0      /media/HD1     ext4   defaults      0      0
```

```
  GNU nano 2.9.3 /etc/fstab

UUID=62f8a371-5380-11e8-b724-3cd92b7198ed / ext4 defaults 0 0
UUID=28FA-9B85 /boot/efi vfat defaults 0 0
/swap.img       none    swap    sw      0       0
#######It's my raid mount point 1#################
/dev/md0        /media/HD1      ext4    defaults        0       0
```

Mount all the filesystems in the fstab

```
$ sudo mount -a
```

More details of the discs

```
$  sudo mdadm --query /dev/md0
```

```
ralikhan@rakdrive:~$ sudo mdadm --query /dev/md0
[sudo] password for ralikhan:
/dev/md0: 931.39GiB raid1 2 devices, 0 spares. Use mdadm --detail for more detail.
ralikhan@rakdrive:~$ lsblk
NAME   MAJ:MIN RM   SIZE RO TYPE  MOUNTPOINT
loop0    7:0    0  86.6M  1 loop  /snap/core/4486
loop1    7:1    0  86.6M  1 loop  /snap/core/4571
loop2    7:2    0  86.6M  1 loop  /snap/core/4650
sda      8:0    0 698.7G  0 disk
|-sda1   8:1    0   512M  0 part  /boot/efi
`-sda2   8:2    0 698.1G  0 part  /
sdb      8:16   0 931.5G  0 disk
`-md0    9:0    0 931.4G  0 raid1 /media/HD1
sdc      8:32   0 931.5G  0 disk
`-md0    9:0    0 931.4G  0 raid1 /media/HD1
```

```
$ sudo mdadm -D /dev/md0
```

```
ralikhan@rakdrive:~$ sudo mdadm -D /dev/md0
[sudo] password for ralikhan:
/dev/md0:
        Version : 1.2
  Creation Time : Mon May 21 20:21:17 2018
     Raid Level : raid1
     Array Size : 976631488 (931.39 GiB 1000.07 GB)
  Used Dev Size : 976631488 (931.39 GiB 1000.07 GB)
   Raid Devices : 2
  Total Devices : 2
    Persistence : Superblock is persistent

  Intent Bitmap : Internal

    Update Time : Wed May 23 14:47:41 2018
          State : clean
 Active Devices : 2
Working Devices : 2
 Failed Devices : 0
  Spare Devices : 0

           Name : rakdrive:0  (local to host rakdrive)
           UUID : 464de0b4:45d0d554:ce70e42c:12b5e79c
         Events : 11746

    Number   Major   Minor   RaidDevice State
       0       8       16        0      active sync   /dev/sdb
       1       8       32        1      active sync   /dev/sdc
```

Remove the RAID

Remove a failed disk from a RAID:

```
$ sudo mdadm --remove /dev/md0 /dev/sdb
```

Clean any previous information on a RAID disk (eg when reusing a disk from another old raid)

```
$ sudo mdadm --zero-superblock /deb/sdb
```

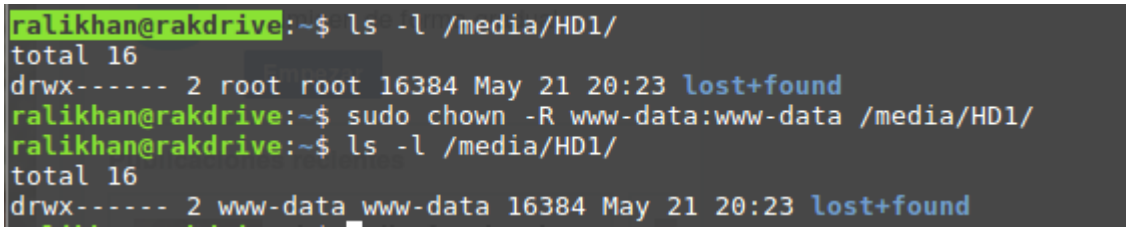
Add a disk to the RAID

```
$ sudo mdadm --add /dev/md0 /deb/sdb
```

4.1.4 Nextcloud

Step 1: First we create a folder that we use to decompress NextCloud, for this we will put the following command in the terminal SSH:

```
$ sudo chown -R www-data:www-data /media/HD1/
```



And now we go to the folder with:

```
$ cd /media/HD1/
```

Step 2: *Now we will download and install the latest version of NextCloud, for this we will download directly from the Official Repositories.*
Put the following command on the SSH terminal:

```
$ sudo wget https://download.nextcloud.com/server/releases/nextcloud-13.0.2.zip
```

```
ralikhan@rakdrive:/media/HD1$ sudo wget https://download.nextcloud.com/server/releases/next
cloud-13.0.2.zip
--2018-05-21 22:05:34--  https://download.nextcloud.com/server/releases/nextcloud-13.0.2.zi
p
Resolving download.nextcloud.com (download.nextcloud.com)... 88.198.160.133
Connecting to download.nextcloud.com (download.nextcloud.com)|88.198.160.133|:443... connec
ted.
HTTP request sent, awaiting response... 200 OK
Length: 61108941 (58M) [application/zip]
Saving to: 'nextcloud-13.0.2.zip'

nextcloud-13.0.2.zip   100%[=========================>]  58.28M  21.9MB/s    in 2.7s

2018-05-21 22:06:02 (21.9 MB/s) - 'nextcloud-13.0.2.zip' saved [61108941/61108941]

ralikhan@rakdrive:/media/HD1$ ls
lost+found  nextcloud-13.0.2.zip
```

Now unzip the file with:

```
$ sudo unzip nextcloud-13.0.2.zip
```

```
ralikhan@rakbarcelona:/var/www$ sudo unzip nextcloud-12.0.4.zip
Archive:  nextcloud-12.0.4.zip
   creating: nextcloud/
   creating: nextcloud/ocs/
  inflating: nextcloud/ocs/routes.php
  inflating: nextcloud/ocs/v2.php
  inflating: nextcloud/ocs/v1.php
  inflating: nextcloud/ocs/providers.php
  inflating: nextcloud/console.php
   creating: nextcloud/ocs-provider/
  inflating: nextcloud/ocs-provider/index.php
  inflating: nextcloud/version.php
   creating: nextcloud/core/
   creating: nextcloud/core/js/
  inflating: nextcloud/core/js/placeholder.js
  inflating: nextcloud/core/js/select2-toggleselect.js
  inflating: nextcloud/core/js/shareitemmodel.js
  inflating: nextcloud/core/js/jquery.ocdialog.js
```

Once the decompression is finished, finally delete the downloaded file with:

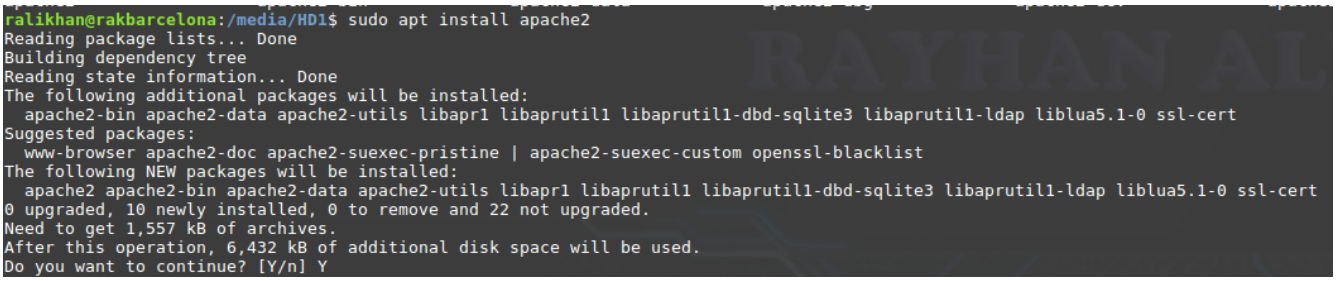
```
$ sudo rm nextcloud-13.0.2.zip
```

Right now we have the NextCloud folder located in /var/www/nextcloud

4.1.5 INSTALL AND CONFIGURE APACHE:

Step 1: In order to configure Apache previously we need to install it, so we will put the following command in the SSH terminal:

```
$ sudo apt install apache2
```



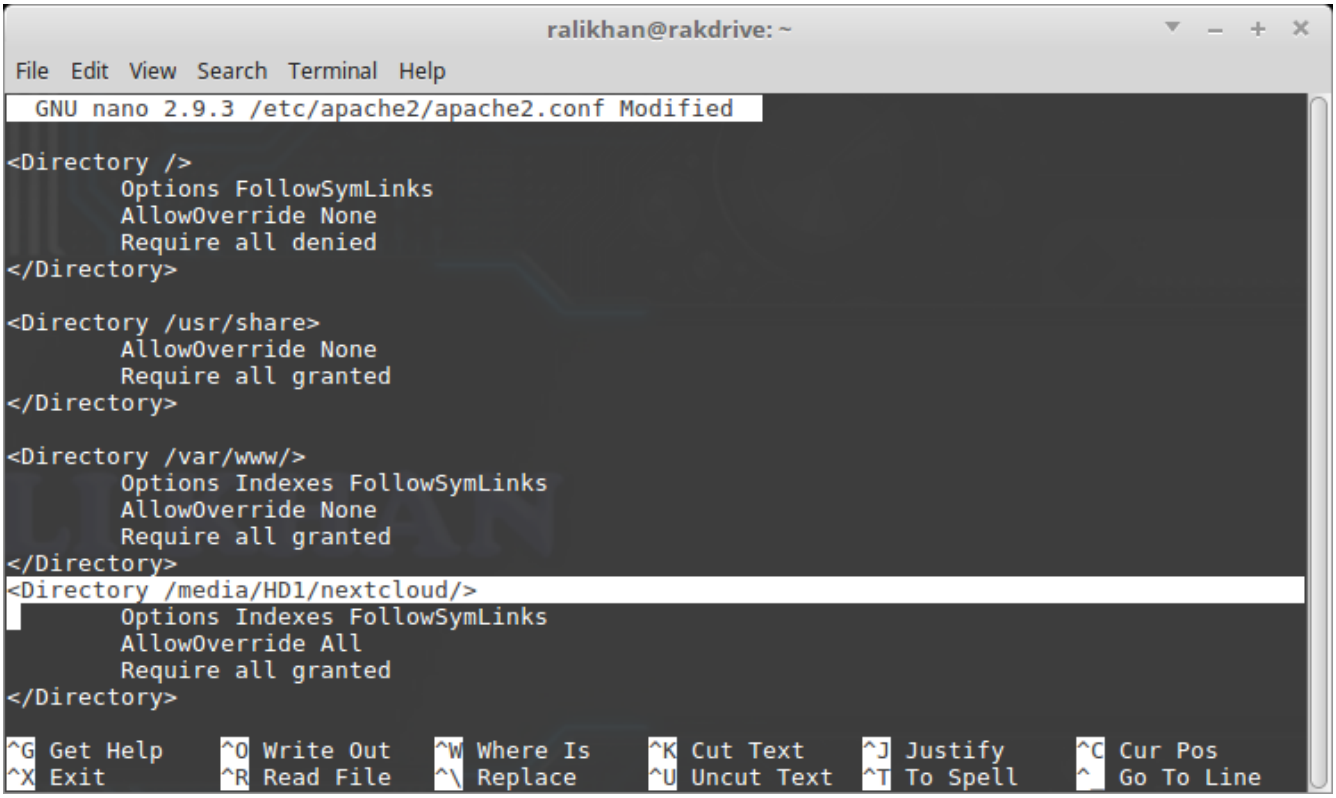
Step 2: Editing the following file, we will change the path to the NEXTCLOUD folder: **Configure apache**

To modify the apache configuration we open the following file: **/etc/apache2/apache2.conf**

```
$ sudo nano /etc/apache2/apache2.conf
```

We look for the directive **<Directory / var / www />** which is responsible for denying access outside **/var/www/** and we add a similar structure for the folder **/ media/HD1/nextcloud** in the option AllowOverride we put All for Apache Take into account the configuration using the .htaccess file

```
<Directory /var/www/>
  Options Indexes FollowSymLinks
  AllowOverride None
  Require all granted
</Directory>

<Directory /media/HD1/nextcloud/>
  Options Indexes FollowSymLinks
  AllowOverride All
  Require all granted
</Directory>
```



Create a virtual host

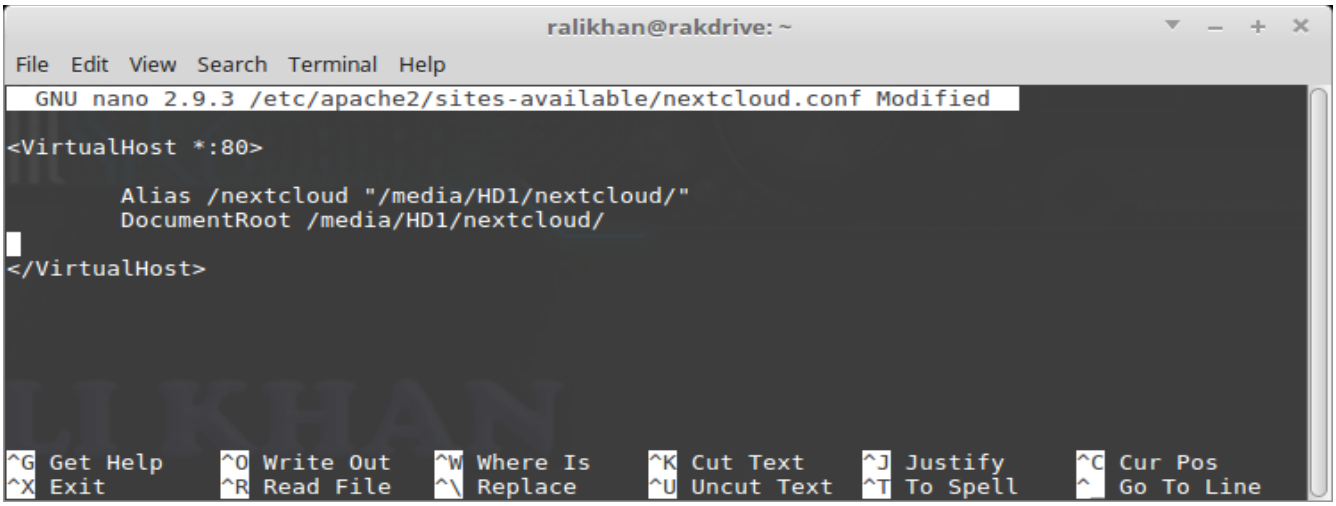
Step 1: *So far we have the structure for the site, now we have to create the virtual host so that we can access the page using the domain name we want.*

```
$ sudo nano /etc/apache2/sites-available/nextcloud.conf
```

Now edit the file and add the following parameters just below <VirtualHost *: 80>

ADD

```
<VirtualHost *:80>

    Alias /nextcloud "/media/HD1/nextcloud/"
  DocumentRoot /media/HD1/nextcloud/

</VirtualHost>
```

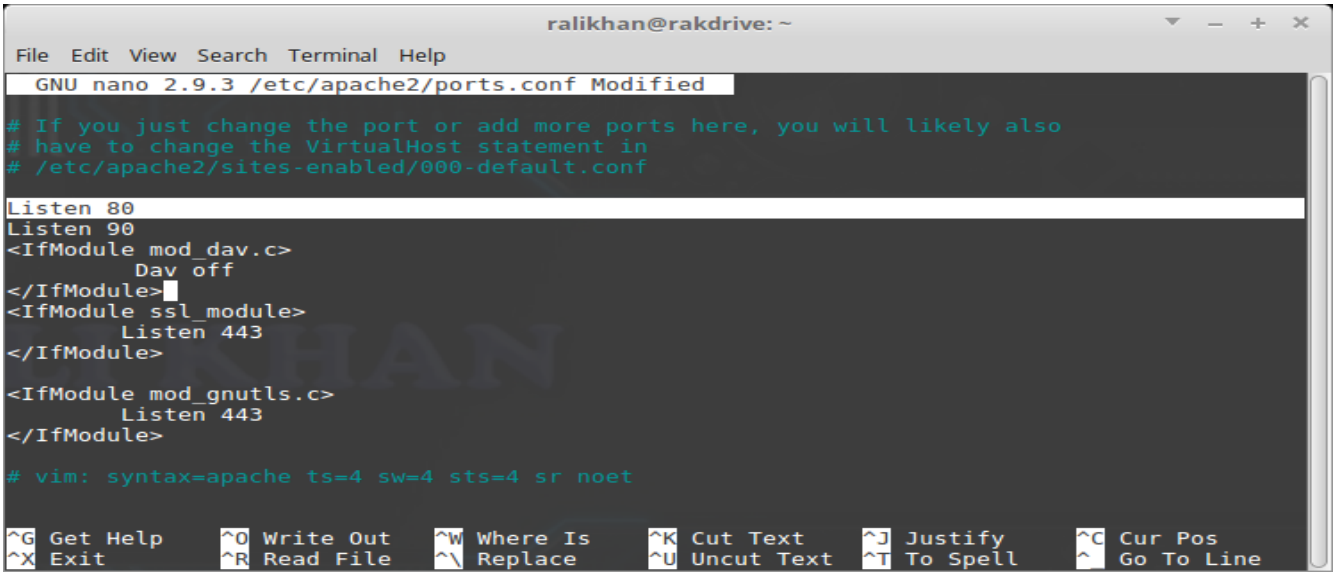


Step 2: *Let the configuration file and ensure that /etc/apache2/ports.conf appears directors:*
*NameVirtualHost **

```
$ sudo nano /etc/apache2/ports.conf
```

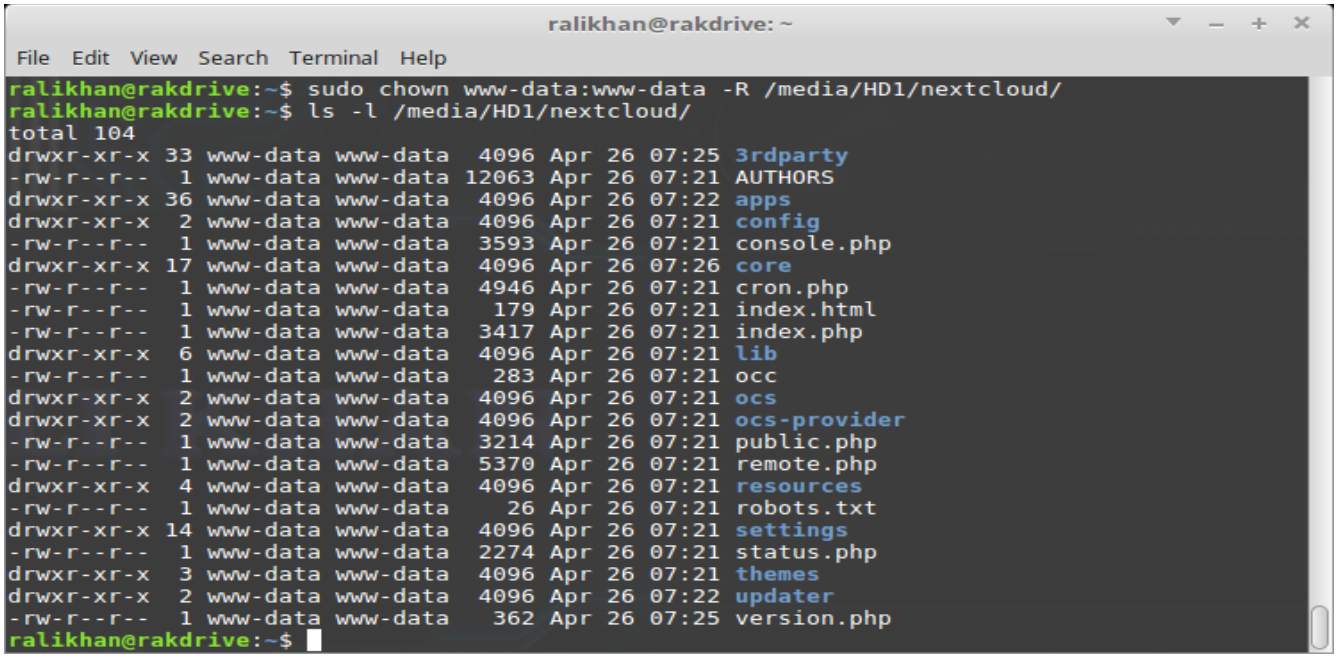
Add

```
Listen 8080

<IfModule mod_dav.c>
        Dav off
</IfModule>
```



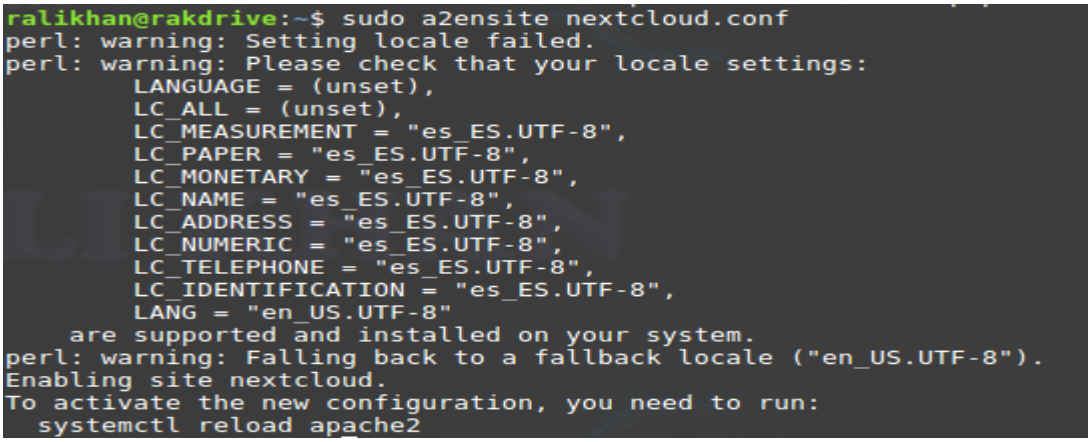
Step 3: Now set permissions to Apache on the NextCloud folder with the following command:

```
$ sudo chown www-data:www-data -R /media/HD1/nextcloud/
```



Step 4: The following will activate the modules needed for Apache by entering one by one the following commands:

```
$ sudo a2ensite nextcloud.conf
```




```
$ sudo a2enmod rewrite
```

```
ralikhan@rakdrive:~$ sudo a2enmod rewrite
perl: warning: Setting locale failed.
perl: warning: Please check that your locale settings:
        LANGUAGE = (unset),
        LC_ALL = (unset),
        LC_MEASUREMENT = "es_ES.UTF-8",
        LC_PAPER = "es_ES.UTF-8",
        LC_MONETARY = "es_ES.UTF-8",
        LC_NAME = "es_ES.UTF-8",
        LC_ADDRESS = "es_ES.UTF-8",
        LC_NUMERIC = "es_ES.UTF-8",
        LC_TELEPHONE = "es_ES.UTF-8",
        LC_IDENTIFICATION = "es_ES.UTF-8",
        LANG = "en_US.UTF-8"
    are supported and installed on your system.
perl: warning: Falling back to a fallback locale ("en_US.UTF-8").
Enabling module rewrite.
To activate the new configuration, you need to run:
  systemctl restart apache2
```

$ sudo a2enmod headers

```
ralikhan@rakdrive:~$ sudo a2enmod headers
perl: warning: Setting locale failed.
perl: warning: Please check that your locale settings:
        LANGUAGE = (unset),
        LC_ALL = (unset),
        LC_MEASUREMENT = "es_ES.UTF-8",
        LC_PAPER = "es_ES.UTF-8",
        LC_MONETARY = "es_ES.UTF-8",
        LC_NAME = "es_ES.UTF-8",
        LC_ADDRESS = "es_ES.UTF-8",
        LC_NUMERIC = "es_ES.UTF-8",
        LC_TELEPHONE = "es_ES.UTF-8",
        LC_IDENTIFICATION = "es_ES.UTF-8",
        LANG = "en_US.UTF-8"
    are supported and installed on your system.
perl: warning: Falling back to a fallback locale ("en_US.UTF-8").
Enabling module headers.
To activate the new configuration, you need to run:
  systemctl restart apache2
```

$ sudo a2enmod env

```
ralikhan@rakdrive:~$ sudo a2enmod env
perl: warning: Setting locale failed.
perl: warning: Please check that your locale settings:
        LANGUAGE = (unset),
        LC_ALL = (unset),
        LC_MEASUREMENT = "es_ES.UTF-8",
        LC_PAPER = "es_ES.UTF-8",
        LC_MONETARY = "es_ES.UTF-8",
        LC_NAME = "es_ES.UTF-8",
        LC_ADDRESS = "es_ES.UTF-8",
        LC_NUMERIC = "es_ES.UTF-8",
        LC_TELEPHONE = "es_ES.UTF-8",
        LC_IDENTIFICATION = "es_ES.UTF-8",
        LANG = "en_US.UTF-8"
    are supported and installed on your system.
perl: warning: Falling back to a fallback locale ("en_US.UTF-8").
Module env already enabled
```

$ sudo a2enmod dir

```
ralikhan@rakdrive:~$ sudo a2enmod dir
perl: warning: Setting locale failed.
perl: warning: Please check that your locale settings:
        LANGUAGE = (unset),
        LC_ALL = (unset),
        LC_MEASUREMENT = "es_ES.UTF-8",
        LC_PAPER = "es_ES.UTF-8",
        LC_MONETARY = "es_ES.UTF-8",
        LC_NAME = "es_ES.UTF-8",
        LC_ADDRESS = "es_ES.UTF-8",
        LC_NUMERIC = "es_ES.UTF-8",
        LC_TELEPHONE = "es_ES.UTF-8",
        LC_IDENTIFICATION = "es_ES.UTF-8",
        LANG = "en_US.UTF-8"
    are supported and installed on your system.
perl: warning: Falling back to a fallback locale ("en_US.UTF-8").
Module dir already enabled
```

$ sudo a2enmod mime

```
ralikhan@rakdrive:~$ sudo a2enmod mime
perl: warning: Setting locale failed.
perl: warning: Please check that your locale settings:
        LANGUAGE = (unset),
        LC_ALL = (unset),
        LC_MEASUREMENT = "es_ES.UTF-8",
        LC_PAPER = "es_ES.UTF-8",
        LC_MONETARY = "es_ES.UTF-8",
        LC_NAME = "es_ES.UTF-8",
        LC_ADDRESS = "es_ES.UTF-8",
        LC_NUMERIC = "es_ES.UTF-8",
        LC_TELEPHONE = "es_ES.UTF-8",
        LC_IDENTIFICATION = "es_ES.UTF-8",
        LANG = "en_US.UTF-8"
    are supported and installed on your system.
perl: warning: Falling back to a fallback locale ("en_US.UTF-8").
Module mime already enabled
```

$ sudo a2enmod setenvif

```
ralikhan@rakdrive:~$ sudo a2enmod setenvif
perl: warning: Setting locale failed.
perl: warning: Please check that your locale settings:
        LANGUAGE = (unset),
        LC_ALL = (unset),
        LC_MEASUREMENT = "es_ES.UTF-8",
        LC_PAPER = "es_ES.UTF-8",
        LC_MONETARY = "es_ES.UTF-8",
        LC_NAME = "es_ES.UTF-8",
        LC_ADDRESS = "es_ES.UTF-8",
        LC_NUMERIC = "es_ES.UTF-8",
        LC_TELEPHONE = "es_ES.UTF-8",
        LC_IDENTIFICATION = "es_ES.UTF-8",
        LANG = "en_US.UTF-8"
    are supported and installed on your system.
perl: warning: Falling back to a fallback locale ("en_US.UTF-8").
Module setenvif already enabled
```

And to save changes restart Apache with:

```
$ sudo systemctl start apache2.service
$ sudo systemctl stop apache2.service
$ sudo systemctl restart apache2.service
$ sudo systemctl status apache2.service
```

```
ralikhan@rakdrive:~$ sudo systemctl restart apache2.service
ralikhan@rakdrive:~$ sudo systemctl status apache2.service
● apache2.service - The Apache HTTP Server
   Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor preset: enabled)
  Drop-In: /lib/systemd/system/apache2.service.d
           └─apache2-systemd.conf
   Active: active (running) since Mon 2018-05-21 23:01:29 UTC; 1min 17s ago
  Process: 2036 ExecStop=/usr/sbin/apachectl stop (code=exited, status=0/SUCCESS)
  Process: 2041 ExecStart=/usr/sbin/apachectl start (code=exited, status=0/SUCCESS)
 Main PID: 2056 (apache2)
    Tasks: 55 (limit: 4915)
   CGroup: /system.slice/apache2.service
           ├─2056 /usr/sbin/apache2 -k start
           ├─2067 /usr/sbin/apache2 -k start
           └─2069 /usr/sbin/apache2 -k start

May 21 23:01:29 rakdrive systemd[1]: Starting The Apache HTTP Server...
May 21 23:01:29 rakdrive systemd[1]: Started The Apache HTTP Server.
```

4.1.6 INSTALLING PHP 7 MODULES IN APACHE:

Step 1: Now we have to go to the SSH terminal and copy the following command to install the PHP modules needed for NextCloud to work:

Use the following set of commands to add PPA for PHP 7 in your Ubuntu system and install PHP 7.0 version.

This for Ubuntu server 18.0

```
$ sudo apt install software-properties-common
```

```
ralikhan@rakdrive:~$ sudo apt install software-properties-comm
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following package was automatically installed and is no lo
  grub-pc-bin
Use 'sudo apt autoremove' to remove it.
The following additional packages will be installed:
  python3-software-properties
The following packages will be upgraded:
  python3-software-properties software-properties-common
2 upgraded, 0 newly installed, 0 to remove and 2 not upgraded.
```

$ sudo add-apt-repository ppa:ondrej/php

```
port 55800 [preauth]
May 21 22:46:02 rakdrive sudo[2895]: ralikhan : TTY=pts/0 ; PWD=/home/ralikhan ; USER=root
; COMMAND=/bin/systemctl stop apache2.service
May 21 22:46:02 rakdrive sudo[2895]: pam_unix(sudo:session): session opened for user root b
y ralikhan(uid=0)
May 21 22:46:02 rakdrive sudo[2895]: pam_unix(sudo:session): session closed for user root
May 21 22:46:04 rakdrive sudo[2898]: ralikhan : TTY=pts/0 ; PWD=/home/ralikhan ; USER=root
; COMMAND=/bin/systemctl restart apache2.service
May 21 22:46:04 rakdrive sudo[2898]: pam_unix(sudo:session): session opened for user root b
y ralikhan(uid=0)
May 21 22:46:04 rakdrive systemd[1]: Starting The Apache HTTP Server...
-- Subject: Unit apache2.service has begun start-up
-- Defined-By: systemd
-- Support: http://www.ubuntu.com/support
--
-- Unit apache2.service has begun starting up.
May 21 22:46:04 rakdrive apachectl[2901]: AH00526: Syntax error on line 178 of /etc/apache2
/apache2.conf:
May 21 22:46:04 rakdrive apachectl[2901]: Unknown Authz provider: All
May 21 22:46:04 rakdrive apachectl[2901]: Action 'start' failed.
May 21 22:46:04 rakdrive apachectl[2901]: The Apache error log may have more information.
May 21 22:46:04 rakdrive systemd[1]: apache2.service: Control process exited, code=exited s
tatus=1
```

$ sudo apt update

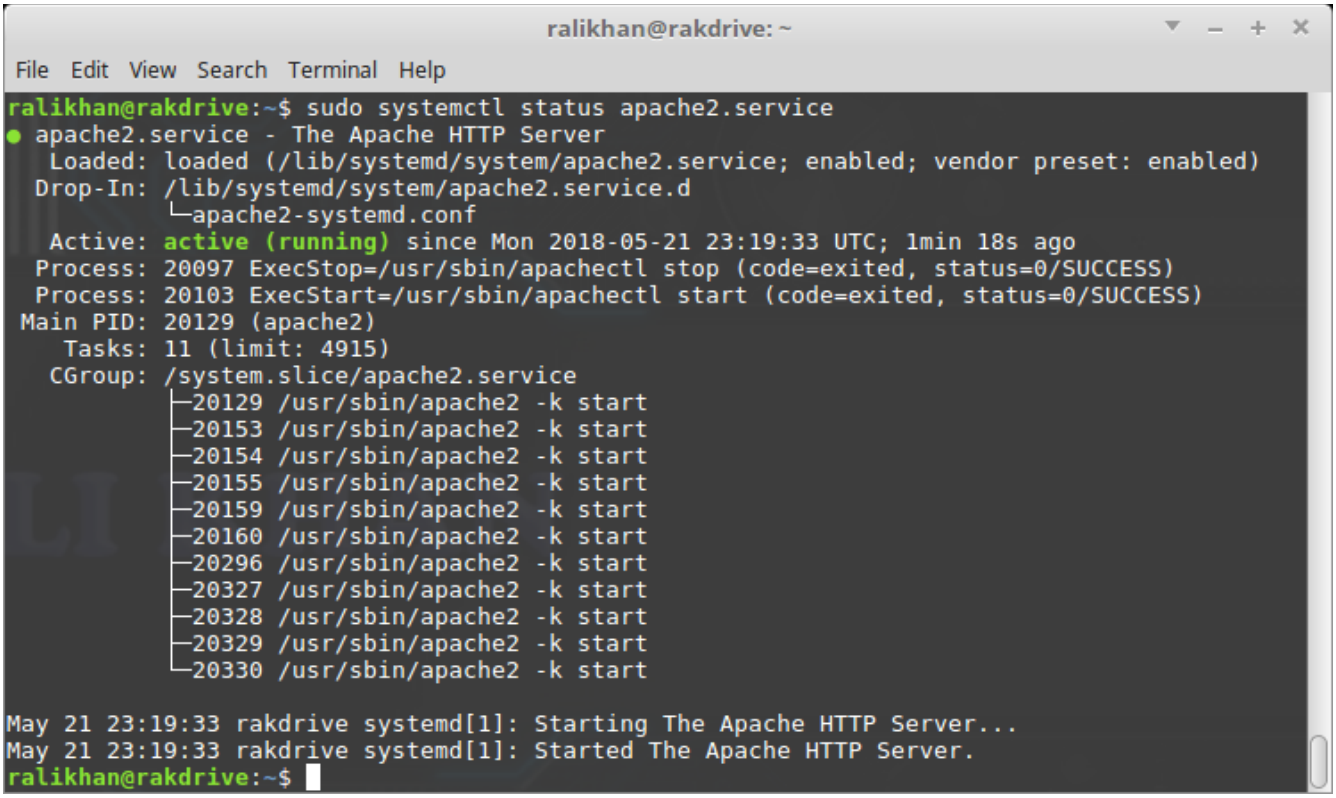
```
ralikhan@rakdrive:~$ sudo apt update
Hit:1 http://ppa.launchpad.net/ondrej/php/ubuntu bionic InRelease
Hit:2 http://archive.ubuntu.com/ubuntu bionic InRelease
Hit:3 http://archive.ubuntu.com/ubuntu bionic-updates InRelease
Hit:4 http://archive.ubuntu.com/ubuntu bionic-backports InRelease
Hit:5 http://security.ubuntu.com/ubuntu bionic-security InRelease
Reading package lists... Done
Building dependency tree
Reading state information... Done
13 packages can be upgraded. Run 'apt list --upgradable' to see them.
```

$ sudo apt-get install libapache2-mod-php7.0 php7.0 php7.0-mysql php7.0-curl php7.0-gd php7.0-intl php-pear php-imagick php7.0-imap php7.0-mcrypt php-memcache php7.0-pspell php7.0-recode php7.0-tidy php7.0-xmlrpc php7.0-xsl php7.0-mbstring php-gettext php7.0-zip

And we will restart Apache to save the changes with:

```
$ sudo systemctl restart apache2.service
```

```
$ sudo systemctl status apache2.service
```



You can install Postgres vs MariaDB

4.1.7 Install and Use PostgreSQL on Ubuntu 14.04

Step 1: Ubuntu's default repositories contain Postgres packages, so we can install them without a hassle using the apt packaging system.

Since we haven't updated our local apt repository lately, let's do that now. We can then get the Postgres package and a "contrib" package that adds some additional utilities and functionality:

```
$ sudo apt update
```

```
$ sudo apt install postgresql postgresql-contrib
```

```
ralikhan@rakdrive:~$ sudo apt install postgresql postgresql-contrib
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following package was automatically installed and is no longer required:
  grub-pc-bin
Use 'sudo apt autoremove' to remove it.
The following additional packages will be installed:
  libpq5 libsensors4 postgresql-10 postgresql-client-10 postgresql-client-common
  postgresql-common sysstat
Suggested packages:
  lm-sensors postgresql-doc locales-all postgresql-doc-10 libjson-perl isag
The following NEW packages will be installed:
  libpq5 libsensors4 postgresql postgresql-10 postgresql-client-10
  postgresql-client-common postgresql-common postgresql-contrib sysstat
0 upgraded, 9 newly installed, 0 to remove and 7 not upgraded.
Need to get 5307 kB of archives.
After this operation, 20.9 MB of additional disk space will be used.
Do you want to continue? [Y/n] Y
```

```
$ sudo systemctl status postgresql.service
```

```
ralikhan@rakdrive:~$ sudo systemctl status postgresql.service
● postgresql.service - PostgreSQL RDBMS
   Loaded: loaded (/lib/systemd/system/postgresql.service; enabled; vendor preset: enabled)
   Active: active (exited) since Mon 2018-05-21 23:23:47 UTC; 44s ago
 Main PID: 21171 (code=exited, status=0/SUCCESS)
    Tasks: 0 (limit: 4915)
   CGroup: /system.slice/postgresql.service

May 21 23:23:47 rakdrive systemd[1]: Starting PostgreSQL RDBMS...
May 21 23:23:47 rakdrive systemd[1]: Started PostgreSQL RDBMS.
```

Step 2: Using PostgreSQL Roles and Databases Postgres role. In order to use Postgres, we'll need to log into that account. You can do that by typing:

```
$ sudo -i -u postgres
```

You can get a Postgres prompt immediately by typing:

```
# psql
```

```
ralikhan@rakdrive:~$ sudo -i -u postgres
postgres@rakdrive:~$ psql
perl: warning: Setting locale failed.
perl: warning: Please check that your locale settings:
        LANGUAGE = (unset),
        LC_ALL = (unset),
        LC_MEASUREMENT = "es_ES.UTF-8",
        LC_PAPER = "es_ES.UTF-8",
        LC_MONETARY = "es_ES.UTF-8",
        LC_NAME = "es_ES.UTF-8",
        LC_ADDRESS = "es_ES.UTF-8",
        LC_NUMERIC = "es_ES.UTF-8",
        LC_TELEPHONE = "es_ES.UTF-8",
        LC_IDENTIFICATION = "es_ES.UTF-8",
        LANG = "en_US.UTF-8"
    are supported and installed on your system.
perl: warning: Falling back to a fallback locale ("en_US.UTF-8").
psql (10.3 (Ubuntu 10.3-1))
Type "help" for help.
```

Create a New Role

We can create a new role by typing:

```
postgres=# CREATE USER ralikhan PASSWORD 'raihak';
```

```
postgres=# CREATE USER ralikhan PASSWORD 'raihak';
CREATE ROLE
```

Create a New Database

```
postgres=# CREATE DATABASE nextcloud;
```

```
postgres=# CREATE DATABASE nextcloud;
CREATE DATABASE
```

Giving Privileges to the user so that he can access the Database:

```
postgres=# grant ALL PRIVILEGES on DATABASE nextcloud to ralikhan;
```

```
postgres=# grant ALL PRIVILEGES on DATABASE nextcloud to ralikhan;
GRANT
```

And finally to exit the panel MariaDB:

```
postgres=# \q
```

4.1.8 INSTALL AND CONFIGURE MARIADB:

Step 1: Just follow the steps indicated by the official website, which for Debian 8 will be the following:
Add Repository and Key MariaDB:

```
$ sudo apt install software-properties-common
```

```
ralikhan@rakdrive:~$ sudo apt install software-properties-common
Reading package lists... Done
Building dependency tree
Reading state information... Done
software-properties-common is already the newest version (0.96.24.32.2).
The following package was automatically installed and is no longer required:
  grub-pc-bin
Use 'sudo apt autoremove' to remove it.
0 upgraded, 0 newly installed, 0 to remove and 7 not upgraded.
```

```
$ sudo apt-key adv --recv-keys --keyserver keyserver.ubuntu.com 0xcbcb082a1bb943db
```

```
ralikhan@rakdrive:~$ sudo apt-key adv --recv-keys --keyserver keyserver.ubuntu.com 0xcbcb08
2a1bb943db
Executing: /tmp/apt-key-gpghome.bCdyClnnZG/gpg.1.sh --recv-keys --keyserver keyserver.ubunt
u.com 0xcbcb082a1bb943db
gpg: key CBCB082A1BB943DB: 32 signatures not checked due to missing keys
gpg: key CBCB082A1BB943DB: public key "MariaDB Package Signing Key <package-signing-key@mar
iadb.org>" imported
gpg: Total number processed: 1
gpg:               imported: 1
```

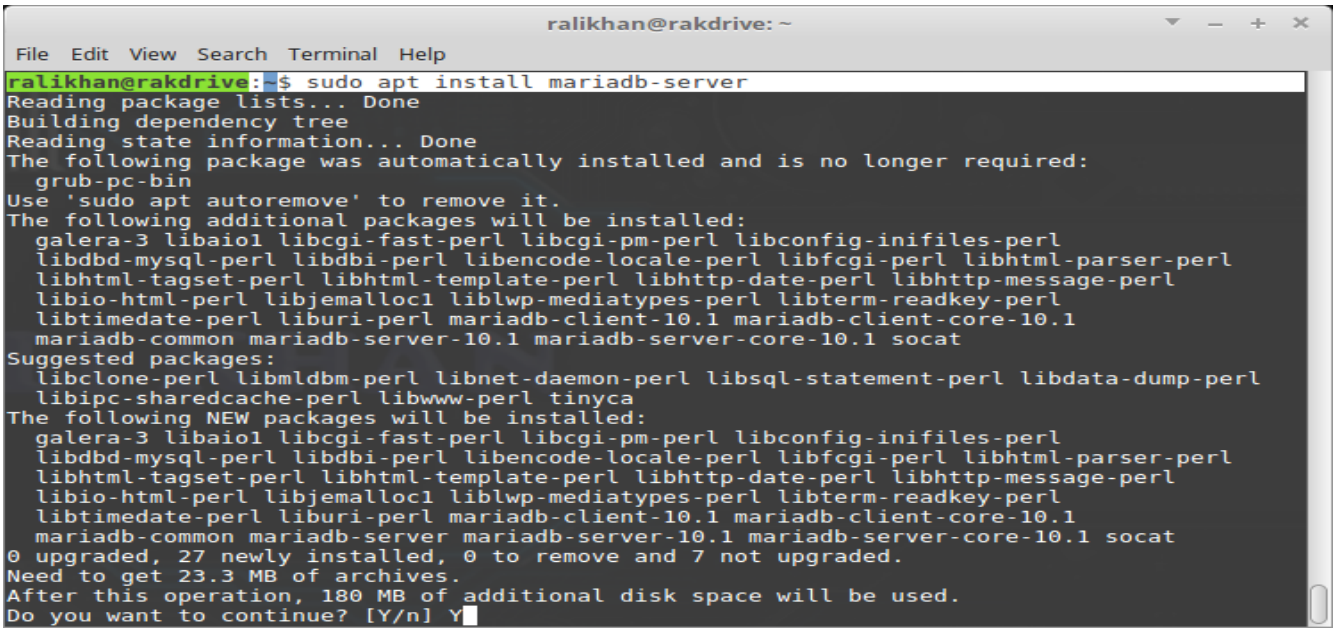
```
$ sudo add-apt-repository 'deb [arch=amd64,i386]
http://tedeco.fi.upm.es/mirror/mariadb/repo/10.1/debian jessie main'
```

```
ralikhan@rakdrive:~$ sudo add-apt-repository 'deb [arch=amd64,i386] http://tedeco.fi.upm.es
/mirror/mariadb/repo/10.1/debian jessie main'
Get:1 http://tedeco.fi.upm.es/mirror/mariadb/repo/10.1/debian jessie InRelease [3234 B]
Hit:2 http://ppa.launchpad.net/ondrej/php/ubuntu bionic InRelease
Hit:3 http://archive.ubuntu.com/ubuntu bionic InRelease
Hit:4 http://security.ubuntu.com/ubuntu bionic-security InRelease
Get:5 http://archive.ubuntu.com/ubuntu bionic-updates InRelease [83.2 kB]
Err:1 http://tedeco.fi.upm.es/mirror/mariadb/repo/10.1/debian jessie InRelease
  The following signatures were invalid: 199369E5404BD5FC7D2FE43BCBCB082A1BB943DB
Hit:6 http://archive.ubuntu.com/ubuntu bionic-backports InRelease
Reading package lists... Done
W: GPG error: http://tedeco.fi.upm.es/mirror/mariadb/repo/10.1/debian jessie InRelease: The
 following signatures were invalid: 199369E5404BD5FC7D2FE43BCBCB082A1BB943DB
E: The repository 'http://tedeco.fi.upm.es/mirror/mariadb/repo/10.1/debian jessie InRelease
' is not signed.
N: Updating from such a repository can't be done securely, and is therefore disabled by def
ault.
N: See apt-secure(8) manpage for repository creation and user configuration details.
```

Install MariaDB:

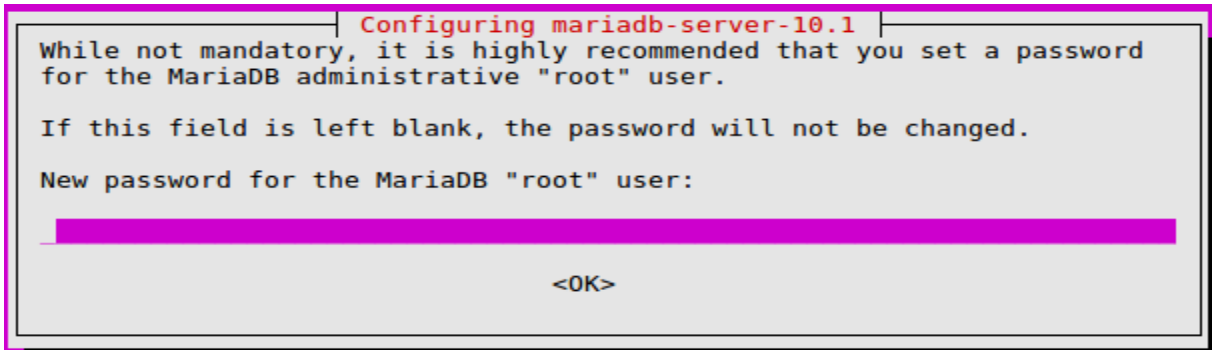
```
$ sudo apt update
```

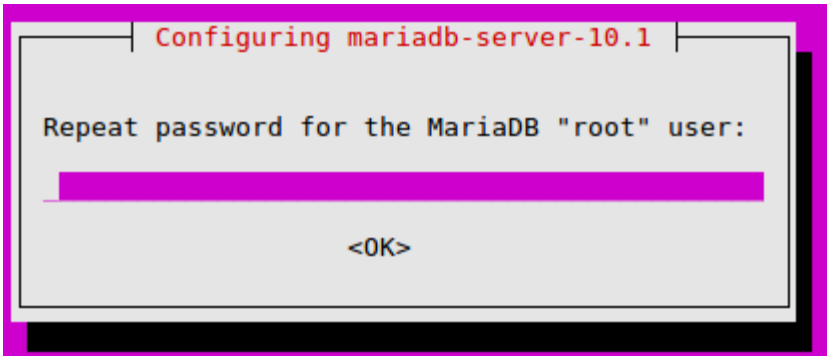
```
$ sudo apt install mariadb-server
```



Step 2: *Configuring mariadb-serber-10.1*

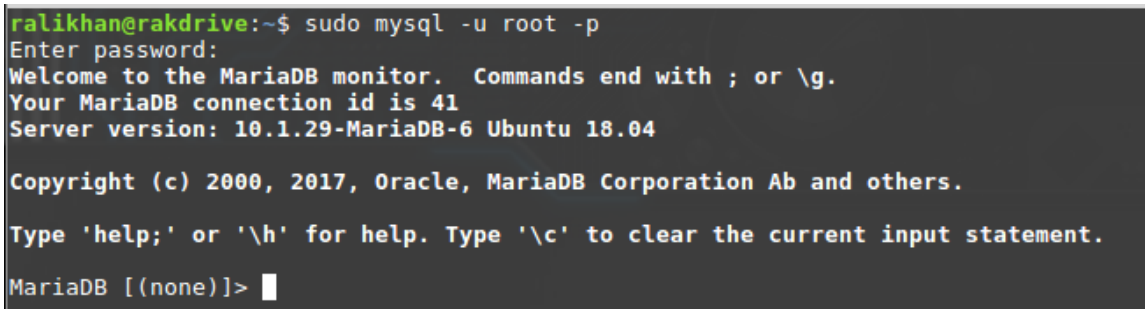
Add new password for the MariaDB "raihak" user





Step 3: To access MariaDB, just like MYSQL we will put the following command in the SSH terminal:

```
$ sudo mysql -u root -p
```



Now you only have to enter the following commands to create the database.

To give an example, we have to create the following data:
Database name: *nextcloud*
User affiliated to the database: *ralikhan*
User Password: *raihak*

Creating Database:

```
MariaDB [(none)]> CREATE DATABASE nextcloud;
```

```
MariaDB [(none)]> CREATE DATABASE nextcloud;
Query OK, 1 row affected (0.00 sec)

MariaDB [(none)]>
```

Creating User:

```
MariaDB [(none)]> CREATE USER ralikhan@localhost identified by 'raihak';
```

```
MariaDB [(none)]> CREATE USER ralikhan@localhost identified by 'raihak';
Query OK, 0 rows affected (0.00 sec)
```

Giving Privileges to the user so that he can access the Database:

```
MariaDB [(none)]> GRANT ALL privileges on nextcloud.* to ralikhan@localhost identified by 'raihak';
```

```
MariaDB [(none)]> GRANT ALL privileges on nextcloud.* to ralikhan@localhost identified by 'raihak';
Query OK, 0 rows affected (0.00 sec)

MariaDB [(none)]>
```

Refresh Privileges:

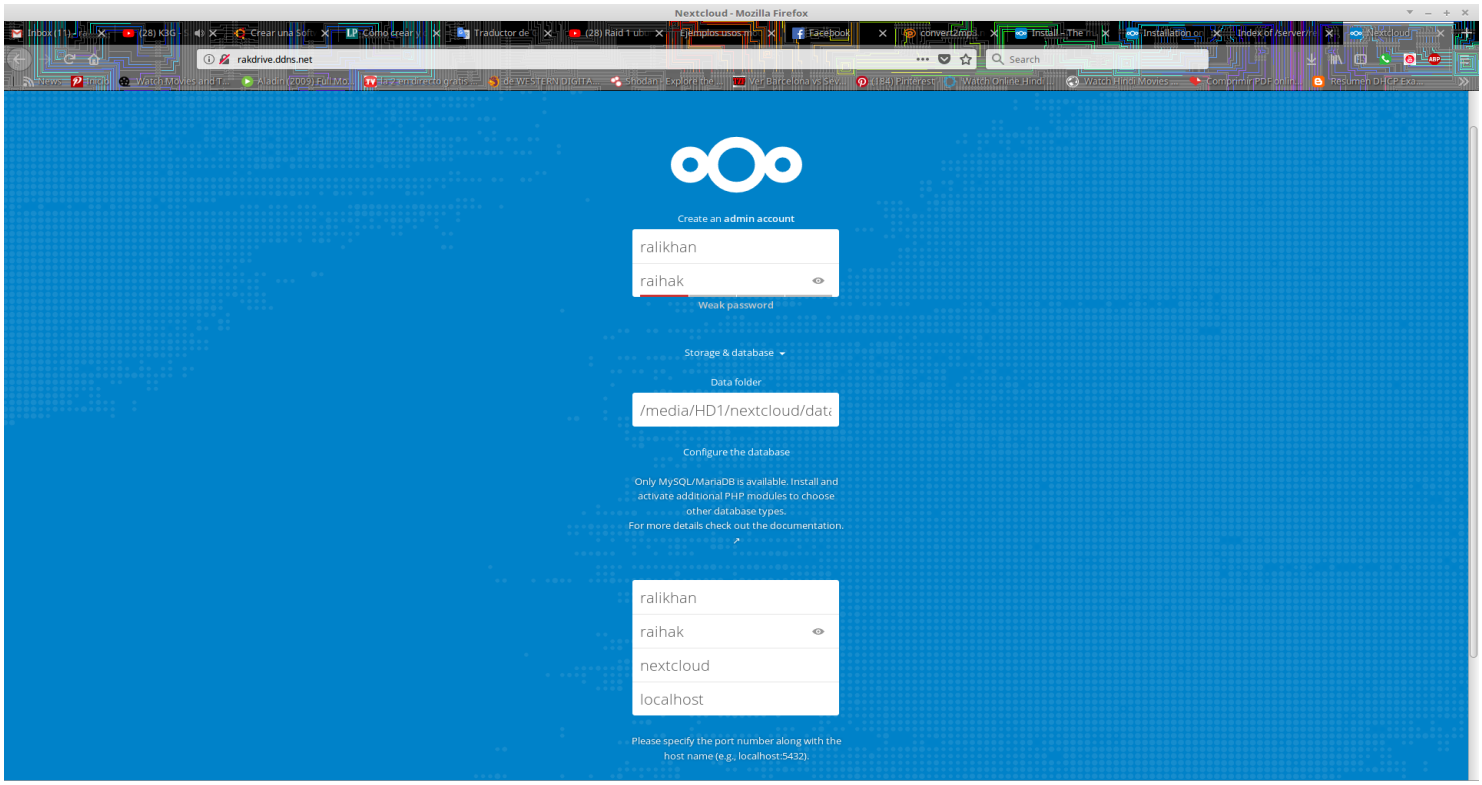
```
MariaDB [(none)]> CREATE USER ralikhan@localhost identified by 'raihak';
```

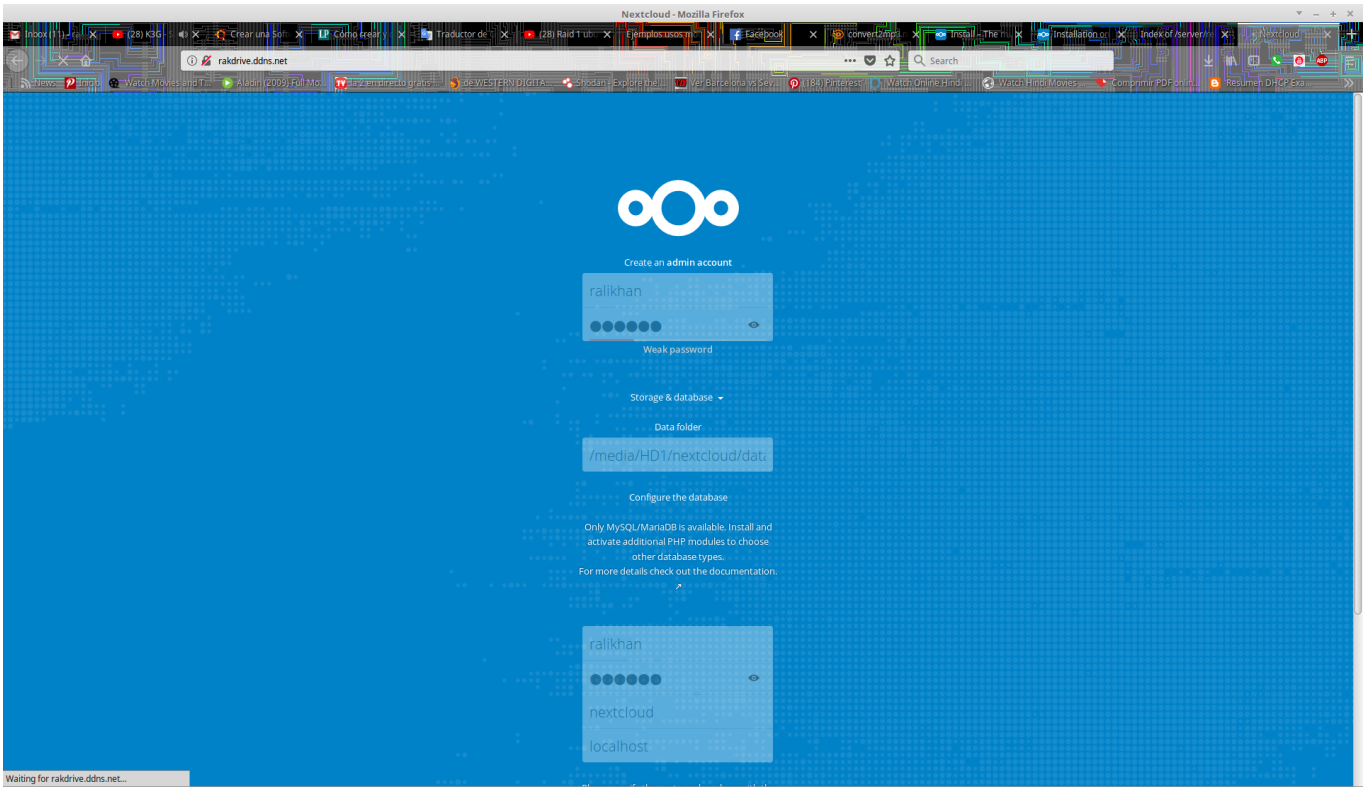
And finally to exit the panel MariaDB:

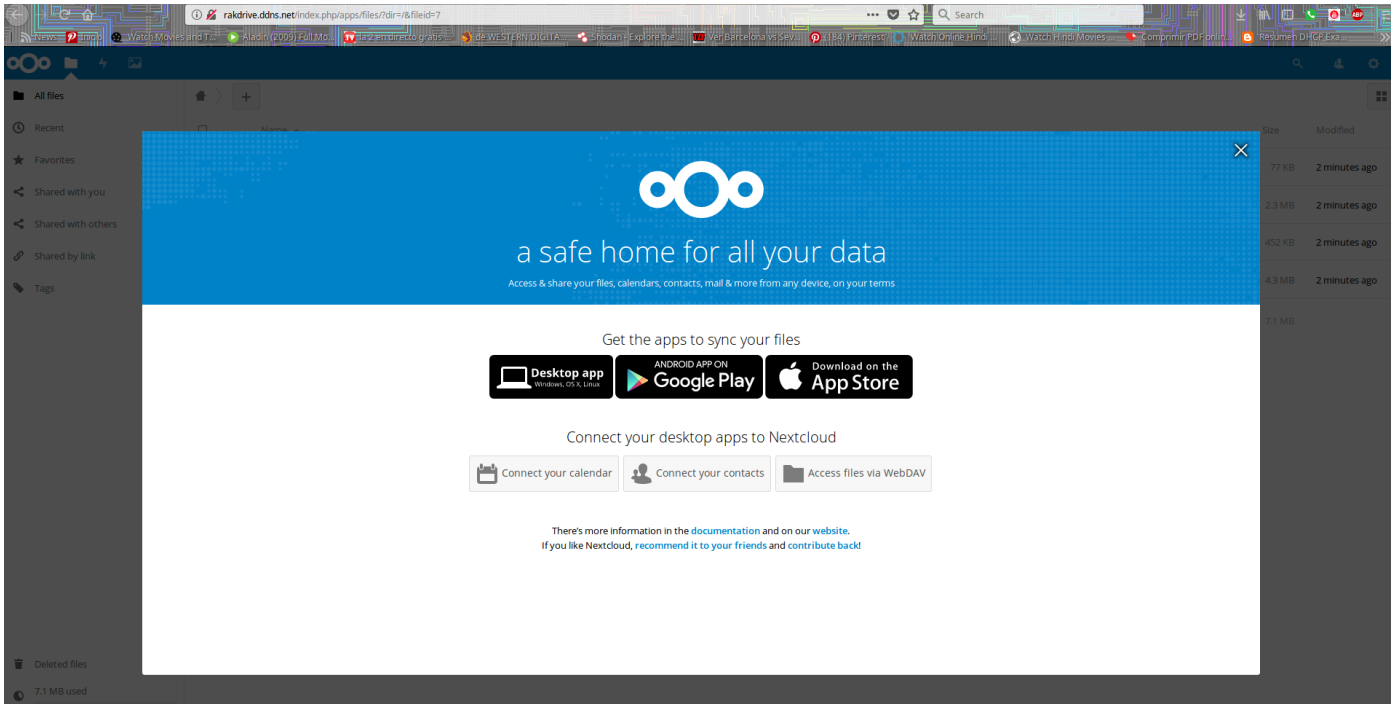
```
MariaDB [(none)]> \q
```

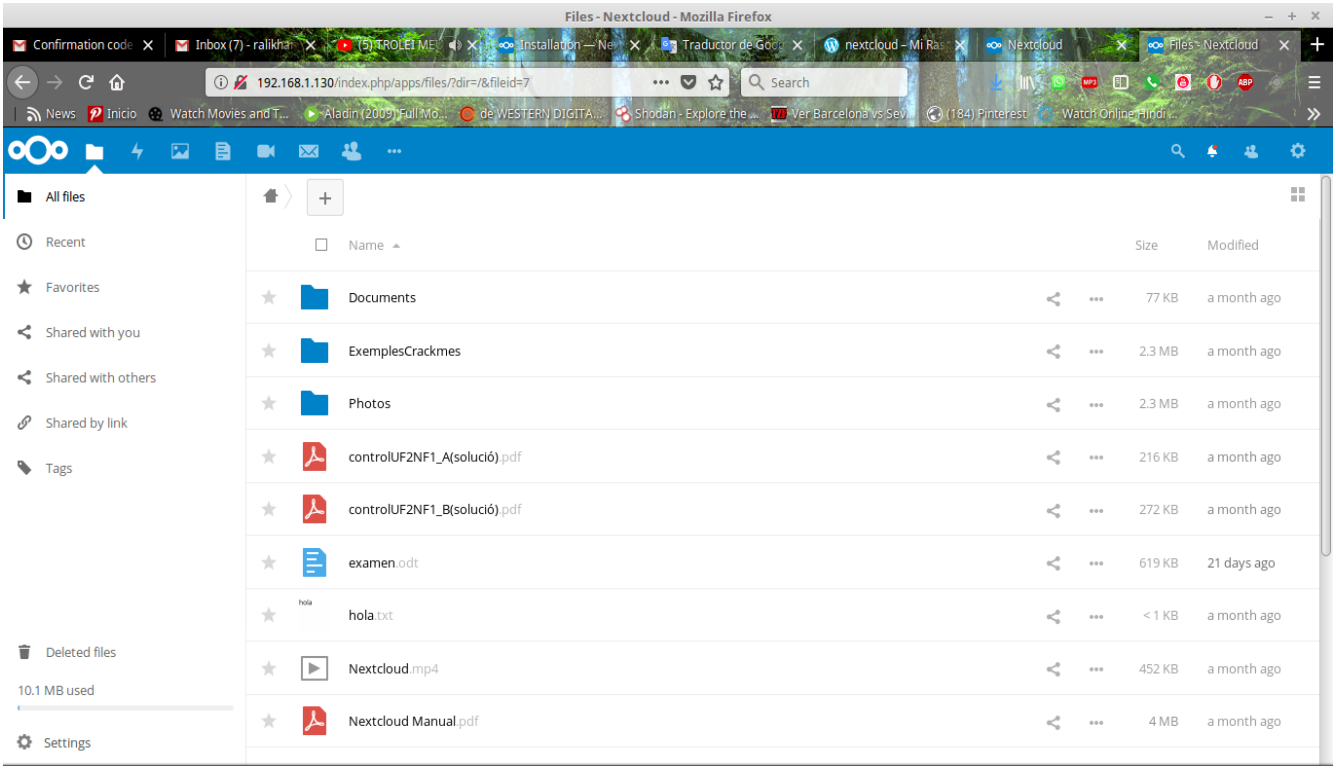
4.1.9 CONFIGURING NEXTCLOUD:

Now once our database has been created, we will enter our Web browser, putting the IP address of our IP o domini: *http://rakdrive.ddns.net/*


Nextcloud - Mozilla Firefox
rakdrive.ddns.net
Search
Create an admin account
ralikhan
raihak
Weak password
Storage & database
Data folder
/media/HD1/nextcloud/data
Configure the database
Only MySQL/MariaDB is available. Install and activate additional PHP modules to choose other database types.
For more details check out the documentation.
ralikhan
raihak
nextcloud
localhost
Please specify the port number along with the host name (e.g., localhost:5432).


Nextcloud - Mozilla Firefox
rakdrive.ddns.net
Create an admin account
ralikhan
Weak password
Storage & database
Data folder
/media/HD1/nextcloud/dat
Configure the database
Only MySQL/MariaDB is available. Install and activate additional PHP modules to choose other database types.
For more details check out the documentation.
ralikhan
nextcloud
localhost
Waiting for rakdrive.ddns.net...


rakdrive.ddns.net/index.php/apps/files/?dir=/&fileid=7
All files
Recent
Favorites
Shared with you
Shared with others
Shared by link
Tags
Deleted files
7.1 MB used
a safe home for all your data
Access & share your files, calendars, contacts, mail & more from any device, on your terms
Get the apps to sync your files
Desktop app
ANDROID APP ON Google Play
Download on the App Store
Connect your desktop apps to Nextcloud
Connect your calendar
Connect your contacts
Access files via WebDAV
There's more information in the documentation and on our website.
If you like Nextcloud, recommend it to your friends and contribute back!



Here we put our User and Password that we will use to enter our NextCloud
And then click on "STORAGE AND DATABASES" as indicated in the previous image.

Under "Configure Database" select MySQL / MariaDB

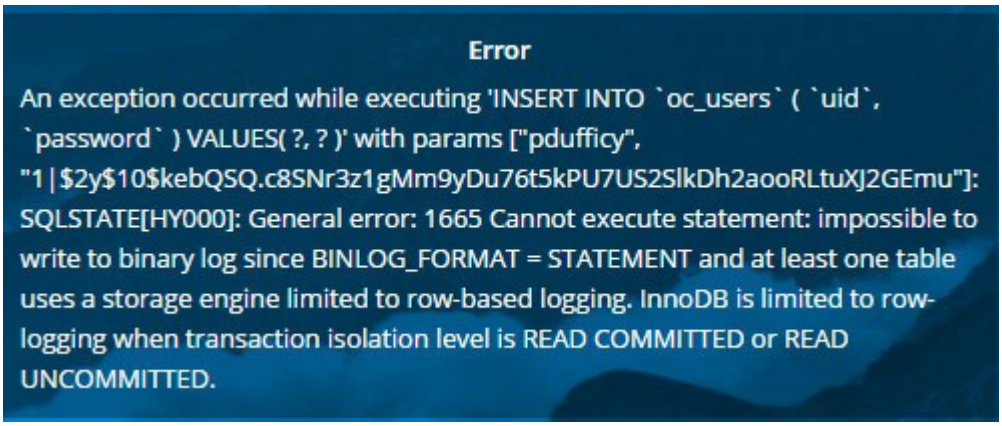
In Data directory, select the folder where we want to save all our files, by default

/var/www/nextcloud/data

Now add the data to what you have created with MariaDB.
User Database: *ralikhan*
Database Password: *raihak*
Database name: *nextcloud*
Database Host (leave LOCALHOST by default): *localhost*

4.1.10 EROR and Solution

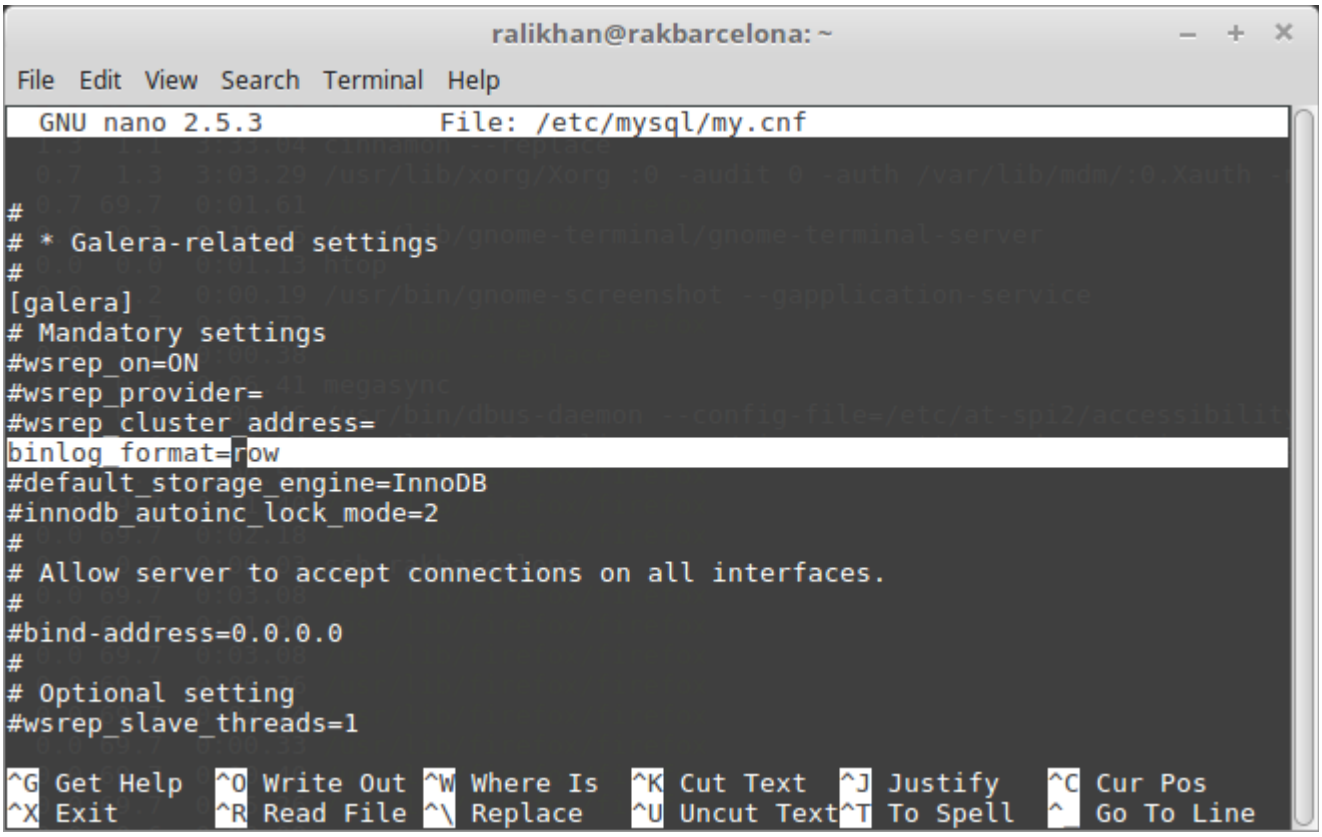
When I try to access my nextcloud account I get an error.
The error is next:



To solve this error I investigated in the end I found a solution. To solve the error we will follow the next step.

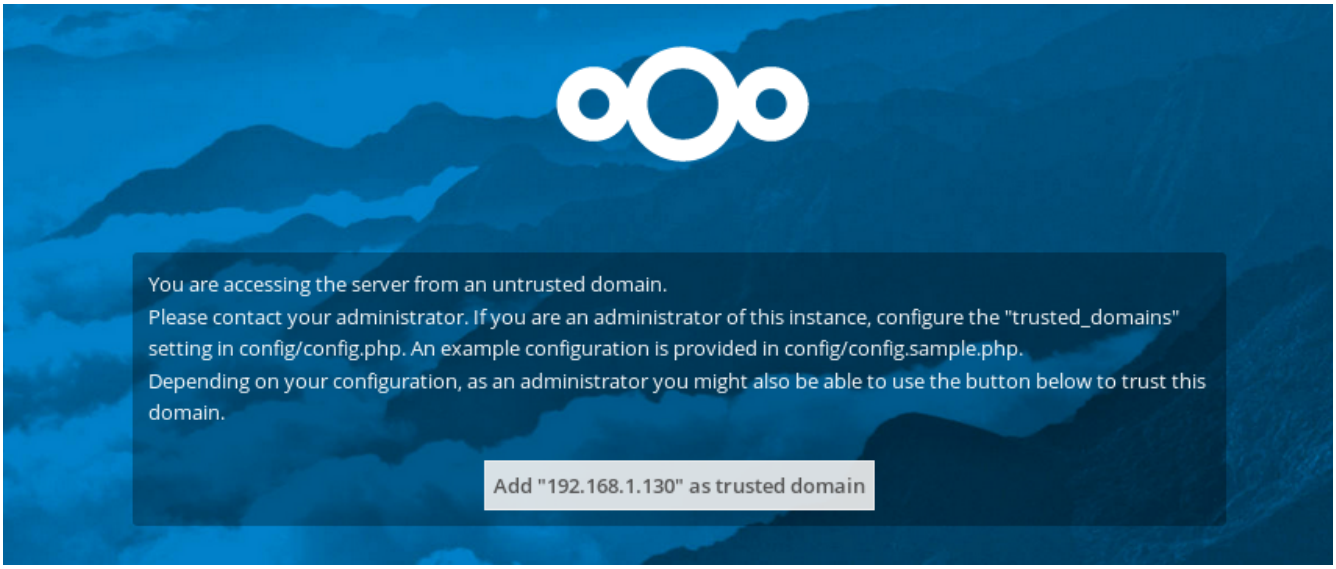
Edit **/etc/mysql/my.cnf** and add **binlog_format=row**

```
$ sudo nano /etc/mysql/my.cnf
```



Now we save the file that we have modified and we are going to restart the machine

Now if we go back to nextcloud we will now find another error. Actually it is not an error. is saying that he does not trust this domain. it's for safety



To solve this problem we have to follow the next step. in my case we are going to edit **/media/HD1/nextcloud/config/config.php** and add **0** => '**http://rakdrive.ddns.net/**' and **0**=> **'192.168.1.130'**

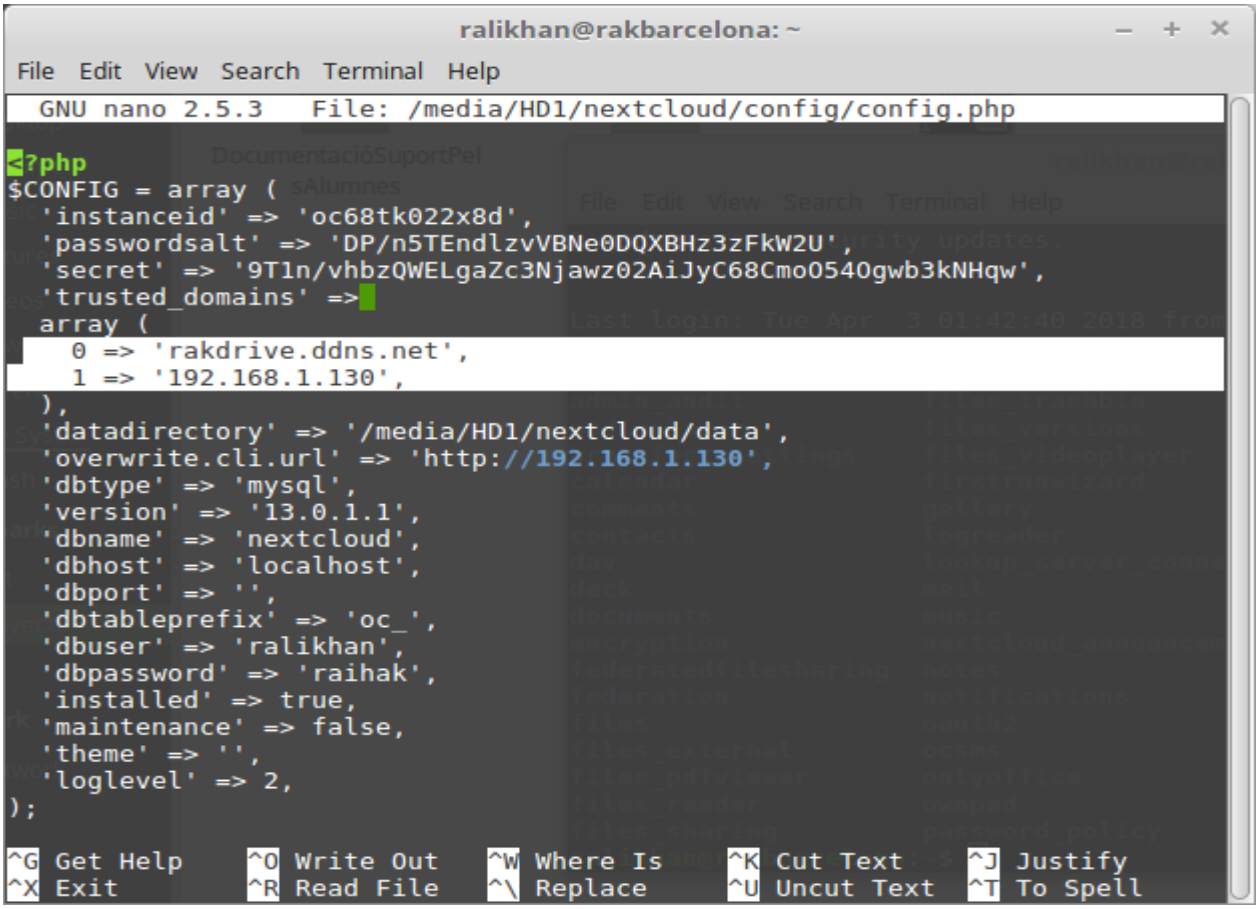
```
$ cd /media/HD1/nextcloud/
```

```
$ sudo nano /config/config.php
```

ADD

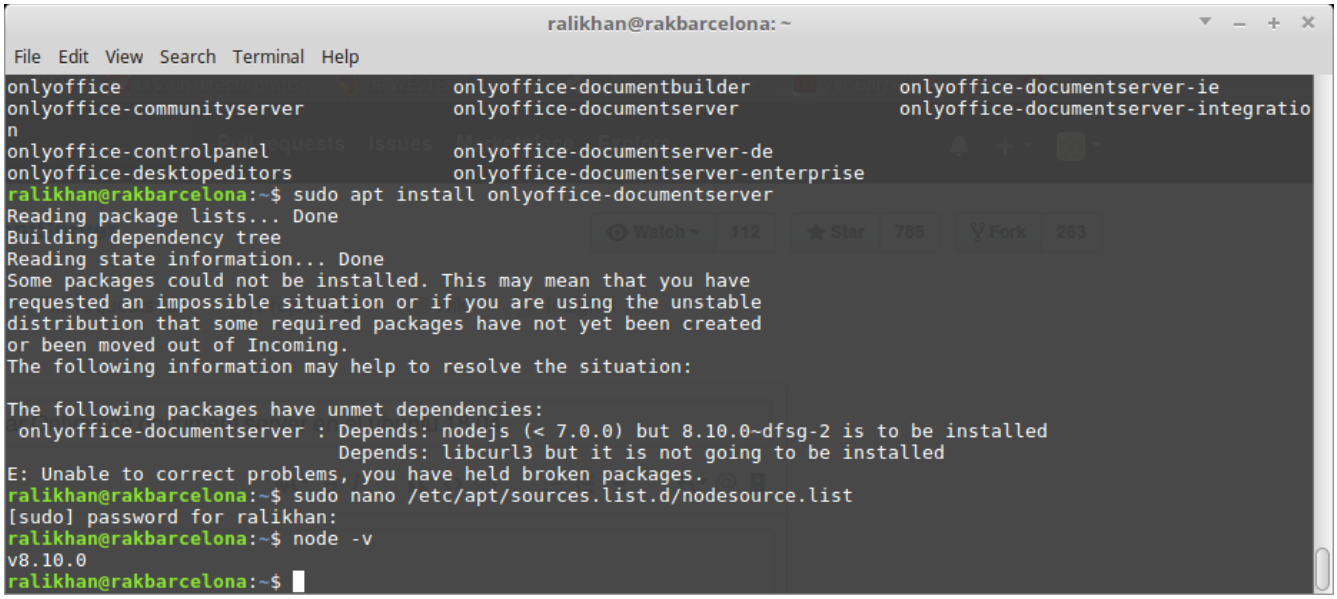
```
'trusted_domains' =>
        array (
          0 => 'rakdrive.ddns.net',
          1 => '192.168.1.130',
        ),
```

Click on "Complete installation", wait a few minutes to create the tables and we will automatically access our NextCloud!



4.2 problem of installing Onlyoffice DocumentServer

I wanted to install **Onlyoffice DocumentServer** on the same server as where I installed **nextcloud**. The problem is that the **nextcloud** is installed on an **ubuntu server 18.04. Onlyoffice** requires **DocumentServer** but DocumentServer depends **nodejs** the lower version than the 7.But in **Ubuntu Server 18.04** does not let install any version that is 8. by default installs **nodejs 7**. for me it is the **ubuntu server** problem to let install any version of the nodejs. Well I have tried many ways to install the version of nodejs 6 but there is no way. I've even done it manually but they do not let me. In the end I wrote my problem in GITHUB. They have told me that the next version of the DocumentServer will be 5.1.4 that will remove the dependencies. That's why I wait until I get version 5.1.4 installed on another server.



GITHUB

https://github.com/ONLYOFFICE/DocumentServer/issues/296#issuecomment-389504247

nodejs and libcurl3 dependency problem on ubuntu 18.04

I was trying to install Onlyoffice Document Server in Ubuntu server 18.04. Time to install Documentserver requires **onlyoffice-documentserver : Depends: nodejs (< 7.0.0) but 8.10.0~dfsg-2 is to be installed**. But it does not let me install node js 6 on the ubuntu server 18.04.

GitHub, Inc. (US) | https://github.com/ONLYOFFICE/DocumentServer/issues/296#issuecomment-389504247

Search or jump to... | Pull requests | Issues | Marketplace | Explore

ONLYOFFICE / DocumentServer

Watch 115 | Star 800 | Fork 268

Code | Issues 77 | Pull requests 0 | Projects 0 | Wiki | Insights

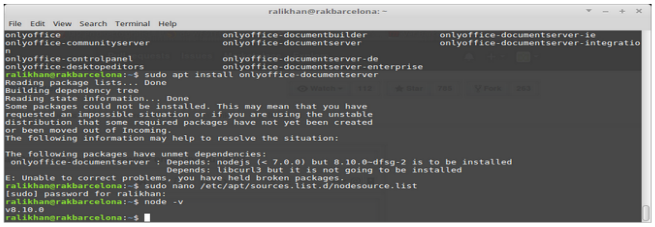
nodejs and libcurl3 dependency problem on ubuntu 18.04 #296

Edit | New Issue

Open **ralikhan** opened this issue 13 days ago · 10 comments

ralikhan commented 13 days ago

Hello, good afternoon. I was trying to install Onlyoffice Document Server in Ubuntu server 18.04. Time to install Documentserver requires **onlyoffice-documentserver : Depends: nodejs (< 7.0.0) but 8.10.0~dfsg-2 is to be installed**. But it does not let me install node js 6 on the ubuntu server 18.04. Thank you very much



Assignees
No one assigned

Labels
bug

Projects
None yet

Milestone
No milestone

Notifications
Unsubscribe
You're receiving notifications because you were mentioned.

3 participants

ShockwaveNN added the bug label 13 days ago

ShockwaveNN commented 13 days ago — Member

@ralikhan Thanks, it's a known problem and will be fixed in `5.1.4`

ralikhan commented 13 days ago

by default I installed node js 8 and it does not let me install another version.
@ShockwaveNN Thanks

ralikhan commented 12 days ago

@ShockwaveNN thank you very much for your help

andyl333 commented 11 days ago

@ralikhan and **@ShockwaveNN** : How did you solve the problem? I have exactly the same problem!

ShockwaveNN commented 11 days ago • edited — Member

@andyl333 yeah, we removed those dependencies and it will be fixed in 5.1.4

andyl333 commented 11 days ago

@ShockwaveNN do you know already, when 5.1.4 will be released?

ShockwaveNN commented 11 days ago — Member

@andyl333 in next several weeks

andyl333 commented 11 days ago

@ShockwaveNN thanks a lot!

ralikhan commented 11 days ago

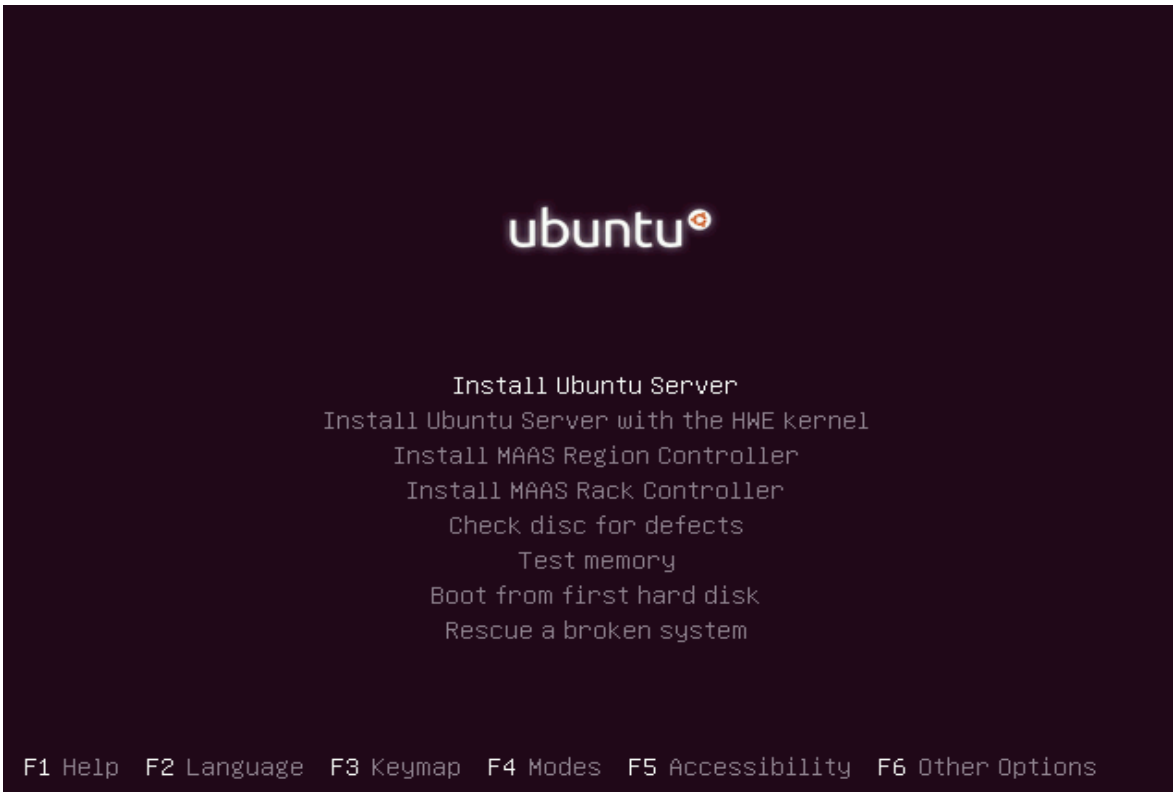
Thank you very much

4.3 Installation in PC2

4.3.1 Installing Ubuntu 16.04 Server

First of all we are going to install Ubuntu server 16.04 with the necessary configuration. We also install the Openssh and configure so that we can connect from any computer remotely. Step of the installation the same as we have done with the ubuntu server 18.04.

Step 1: InstallationUbuntu 16.04 Server



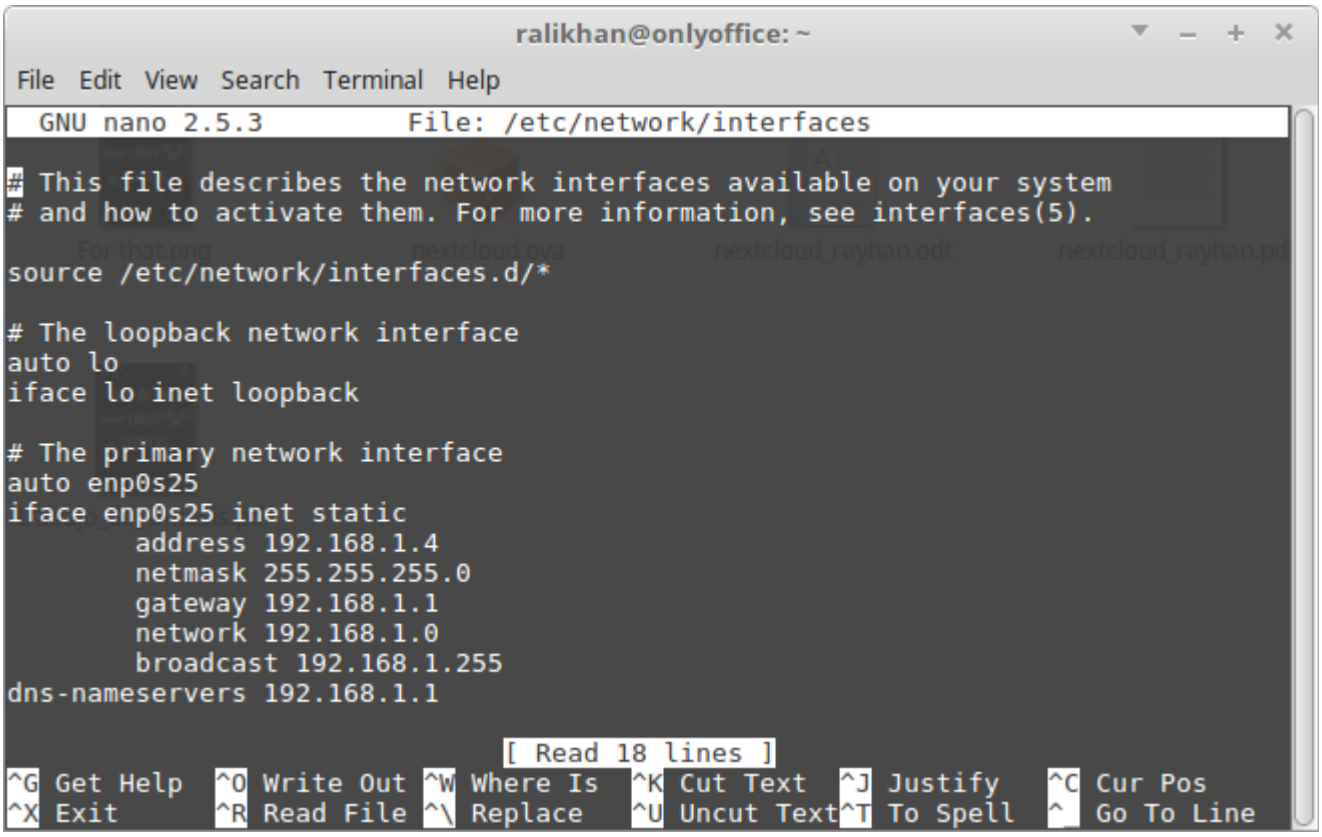
Step 2: Configure static IP address on Ubuntu 16.04 LTS Server

first Edit the /etc/network/interfaces file

```
$ sudo nano /etc/network/interface
```

ADD

```
auto enp0s25
iface enp0s25 inet static
        address 192.168.1.4
        netmask 255.255.255.0
        gateway 192.168.1.1
        network 192.168.1.0
        broadcast 192.168.1.255
```



Once you are confident the change has been made, and if you don't want to reboot you can just restart the networking service.

```
$ sudo systemctl restart networking.service
$ sudo systemctl status networking.service
```

```
ralikhan@onlyoffice:~$ sudo nano /etc/network/interfaces
ralikhan@onlyoffice:~$ sudo systemctl restart networking.service
ralikhan@onlyoffice:~$ sudo systemctl status networking.service
● networking.service - Raise network interfaces
   Loaded: loaded (/lib/systemd/system/networking.service; enabled; vendor prese
  Drop-In: /run/systemd/generator/networking.service.d
           └─50-insserv.conf-$network.conf
   Active: active (exited) since Sun 2018-05-27 20:12:17 CEST; 1min 4s ago
     Docs: man:interfaces(5)
  Process: 1304 ExecStop=/sbin/ifdown -a --read-environment --exclude=lo (code=e
  Process: 1349 ExecStart=/sbin/ifup -a --read-environment (code=exited, status=
  Process: 1341 ExecStartPre=/bin/sh -c [ "$CONFIGURE_INTERFACES" != "no" ] && [
 Main PID: 1349 (code=exited, status=0/SUCCESS)

May 27 20:12:17 onlyoffice systemd[1]: Stopped Raise network interfaces.
May 27 20:12:17 onlyoffice systemd[1]: Starting Raise network interfaces...
May 27 20:12:17 onlyoffice systemd[1]: Started Raise network interfaces.
lines 1-14/14 (END)
```

Verify network **IP** addresses using following command.

```
$ ip -c a
```

```
ralikhan@onlyoffice:~$ ip -c a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group defaul
t qlen 1
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
       valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
       valid_lft forever preferred_lft forever
2: enp0s25: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP
 group default qlen 1000
    link/ether 00:1a:4b:85:d9:0d brd ff:ff:ff:ff:ff:ff
    inet 192.168.1.4/24 brd 192.168.1.255 scope global enp0s25
       valid_lft forever preferred_lft forever
    inet6 fe80::21a:4bff:fe85:d90d/64 scope link
       valid_lft forever preferred_lft forever
```

Step 3: Install SSH Server

```
$ sudo apt install openssh-server
```

```
ralikhan@rakbarcelona:~$ sudo apt install openssh-server
[sudo] password for ralikhan:
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  libwrap0 ncurses-term openssh-sftp-server python3-requests python3-urllib3 ssh-import-id tcpd
Suggested packages:
  ssh-askpass rssh molly-guard monkeysphere python3-ndg-httpsclient python3-openssl python3-pyasn1
The following NEW packages will be installed:
  libwrap0 ncurses-term openssh-server openssh-sftp-server python3-requests python3-urllib3
  ssh-import-id tcpd
0 upgraded, 8 newly installed, 0 to remove and 45 not upgraded.
Need to get 818 kB of archives.
After this operation, 5,898 kB of additional disk space will be used.
Do you want to continue? [Y/n]
```

Configure SSH Server

To **install SSH server** is very easy but making it much more secure requires a bit more work. After the installation is complete, edit the /etc/ssh/sshd_config file. But before you start editing any configuration file, I suggest you backup the original file:

```
$ sudo cp -a /etc/ssh/sshd_config /etc/ssh/sshd_config_backup
```

Now, use the following command to edit the file:

```
$ sudo nano /etc/ssh/sshd_config
```

After you install SSH server and make any changes to the configuration file (sshd_config) you will have to restart the service. Use the following command to restart SSH:

```
$ sudo systemctl restart ssh
$ sudo systemctl stop ssh
$ sudo systemctl start ssh
$ sudo systemctl status ssh
```

```
ralikhan@onlyoffice:~ $ sudo systemctl status ssh
[sudo] password for ralikhan:
● ssh.service - OpenBSD Secure Shell server
   Loaded: loaded (/lib/systemd/system/ssh.service; enabled; vendor preset: enab
   Active: active (running) since Fri 2018-05-25 11:17:56 UTC; 29s ago
  Process: 412 ExecStartPre=/usr/sbin/sshd -t (code=exited, status=0/SUCCESS)
 Main PID: 426 (sshd)
    CGroup: /system.slice/ssh.service
            └─426 /usr/sbin/sshd -D

May 25 11:17:56 onlyoffice systemd[1]: Starting OpenBSD Secure Shell server...
May 25 11:17:56 onlyoffice sshd[426]: Server listening on 0.0.0.0 port 22.
May 25 11:17:56 onlyoffice sshd[426]: Server listening on :: port 22.
May 25 11:17:56 onlyoffice systemd[1]: Started OpenBSD Secure Shell server.
May 25 11:18:13 onlyoffice sshd[427]: Accepted password for ralikhan from 192.16
May 25 11:18:13 onlyoffice sshd[427]: pam_unix(sshd:session): session opened for
lines 1-14/14 (END)
```

Claves SSH

This authentication should, in ideal circumstances, be fully automated (i.e., there should not be a prompt to the user for authentication credentials). This is typically accomplished through the use of SSH keys (normally, of RSA type). Steps are:

Generate the SSH key on the master node being the same user that will execute ansible command:

```
$ ssh-keygen -t rsa
```

```
ralikhan@onlyoffice:~ $ ssh-keygen -t rsa
Generating public/private rsa key pair.
Enter file in which to save the key (/home/ralikhan/.ssh/id_rsa):
Created directory '/home/ralikhan/.ssh'.
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /home/ralikhan/.ssh/id_rsa.
Your public key has been saved in /home/ralikhan/.ssh/id_rsa.pub.
The key fingerprint is:
SHA256:iszyygcJasiqUCwoXxnIOmyVC6ivfr0kd2XAHMcVYh0 ralikhan@onlyoffice
The key's randomart image is:
+---[RSA 2048]----+
|       ..+oEo    |
|.. .. o +...     |
|..oo.  +         |
|=oo .o  .        |
|@+ooo   So       |
|=Oo+ . .o        |
|+ +o=o..         |
|oo +=..          |
|=.+o...          |
+----[SHA256]-----+
```

Step2:-Copy your recently generated public key (stored in ~/.ssh folder with the name of id_rsa.pub) to all the "victims", connecting to them with the same user Ansible will use. This can be achieved in several ways (via e-mail, pendrive, executing *scp* command...or using a specific command for this: ssh-copy-id):

```
$ ssh-copy-id ralikhan@192.168.1.4
```

```
ralikhan@RAK ~ $ ssh-copy-id ralikhan@192.168.1.4
/usr/bin/ssh-copy-id: INFO: attempting to log in with the new key(s), to filter
out any that are already installed
/usr/bin/ssh-copy-id: INFO: 2 key(s) remain to be installed -- if you are prompt
ed now it is to install the new keys
ralikhan@192.168.1.4's password:

Number of key(s) added: 2

Now try logging into the machine, with:   "ssh 'ralikhan@192.168.1.4'"
and check to make sure that only the key(s) you wanted were added.
```

```
$ ssh ralikhan@192.168.1.4
```

```
ralikhan@RAK ~ $ ssh 192.168.1.4
Welcome to Ubuntu 16.04.4 LTS (GNU/Linux 4.4.0-116-generic i686)
 * Documentation:  https://help.ubuntu.com
 * Management:     https://landscape.canonical.com
 * Support:        https://ubuntu.com/advantage

75 packages can be updated.
31 updates are security updates.


Last login: Sun May 27 20:17:09 2018 from 192.168.1.128
```

4.3.2 ONLYOFFICE

About ONLYOFFICE, I can simply say that it is the most beautiful product that I have seen with respect to the online office suite, far superior in all aspects to Libreoffice Online or Collabora, and superior even to Google Apps, if we compare it with the King, Office Online. I dare to say that it even equals, a lot of open source. ONLYOFFICE gives us all the capabilities of an office suite such as editing Word, Excel and Powerpoint files, from our browser and for free and Open Source.

Key functionalities of Document Server:

- Document editor
- Spreadsheet editor
- Presentation editor
- Document editing application for iOS
- Collaborative Edition
- Support for hieroglyphics
- Support for the most common formats: DOC, DOCX, TXT, ODT, RTF, ODP, EPUB, ODS, XLS, XLSX, CSV, PPTX, HTML

Installation process OnlyOffice

System requirements

- CPU: dual-core 2 GHz or higher
- RAM: 2 GB or more
- HDD: at least 20 GB of disk space
- Additional requirements: at least 2 GB for swap
- OS: 64-bit Debian, Ubuntu or any other distribution compatible with the kernel version 3.13 or higher
- Additional software
  - PostgreSQL: version 9.1 or higher
  - nginx: version 1.3.13 or higher
  - nodejs: version 6.9.1 or higher
  - libstdc ++ 6: version 4.8.4 or higher
  - Redis
  - RabbitMQ

Installing the dependencies

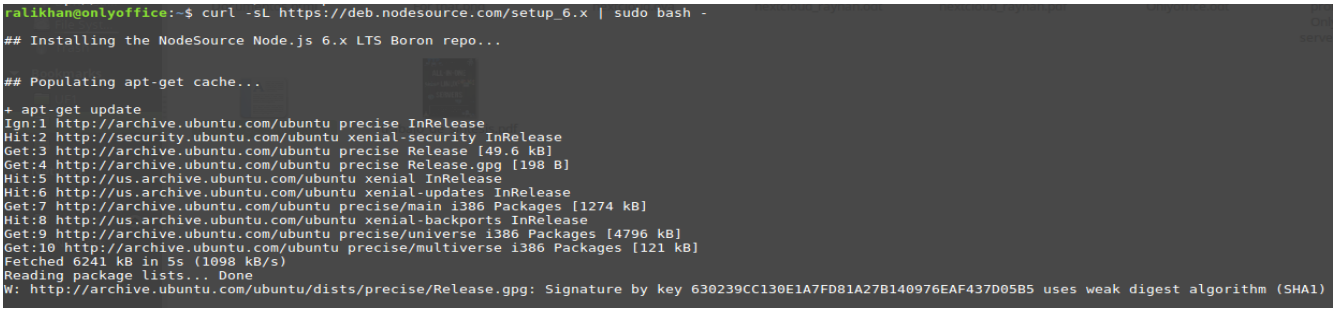
Document Server uses nodejs (version 6.9.1 or higher), nginx and postgresql as the database. The dependencies can be found in the apt repository, and will be installed automatically once we do the apt-get install of the **Document Server**

Add ubuntu repository to be able to use the ttf-mscorefonts installer

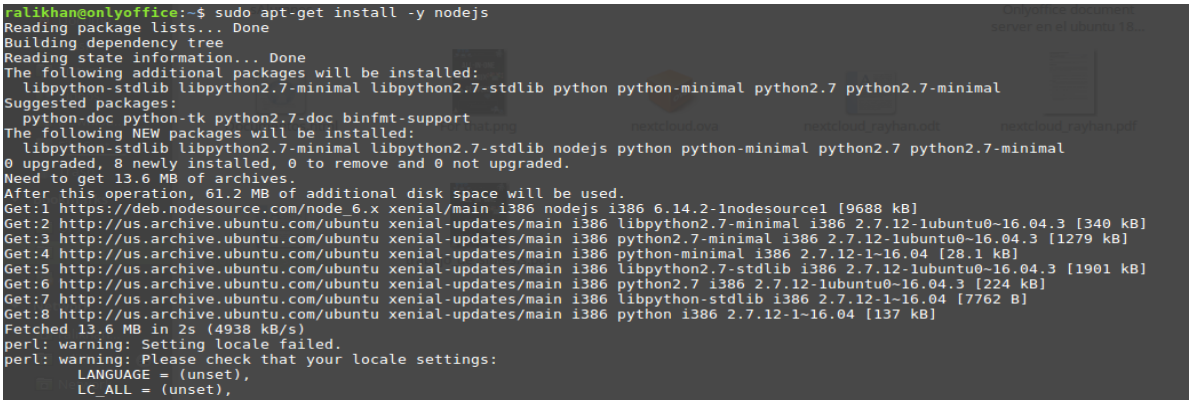
```
$ sudo echo "deb http://archive.ubuntu.com/ubuntu precise main universe multiverse" | sudo tee -a /etc/apt/sources.list
```

Add repository of nodejs packages:

```
$ curl -sL https://deb.nodesource.com/setup_6.x | sudo bash -
```




```
$ sudo apt-get install -y nodejs
```



```
ralikhan@onlyoffice:~$ node -v
v6.14.2
```

Installing and configuring the postgresql database:

```
$ sudo apt install postgresql
$ sudo systemctl status postgresql.service
```

```
ralikhan@onlyoffice:~$ sudo systemctl status postgresql.service
● postgresql.service - PostgreSQL RDBMS
   Loaded: loaded (/lib/systemd/system/postgresql.service; enabled; vendor preset: enabled)
   Active: active (exited) since Sun 2018-05-27 20:50:54 CEST; 29s ago
 Main PID: 17750 (code=exited, status=0/SUCCESS)
   CGroup: /system.slice/postgresql.service

May 27 20:50:54 onlyoffice systemd[1]: Starting PostgreSQL RDBMS...
May 27 20:50:54 onlyoffice systemd[1]: Started PostgreSQL RDBMS.
May 27 20:51:04 onlyoffice systemd[1]: Started PostgreSQL RDBMS.
```

Once we have installed Postgresql now we are going to create database and user and give permission

```
$ sudo -u postgres psql -c "CREATE DATABASE onlyoffice;"
```

```
ralikhan@onlyoffice:~$ sudo -u postgres psql -c "CREATE DATABASE onlyoffice;"
perl: warning: Setting locale failed.
perl: warning: Please check that your locale settings:
        LANGUAGE = (unset),
        LC_ALL = (unset),
        LC_PAPER = "es_ES.UTF-8",
        LC_ADDRESS = "es_ES.UTF-8",
        LC_MONETARY = "es_ES.UTF-8",
        LC_NUMERIC = "es_ES.UTF-8",
        LC_TELEPHONE = "es_ES.UTF-8",
        LC_IDENTIFICATION = "es_ES.UTF-8",
        LC_MEASUREMENT = "es_ES.UTF-8",
        LC_NAME = "es_ES.UTF-8",
        LANG = "en_US.UTF-8"
    are supported and installed on your system.
perl: warning: Falling back to a fallback locale ("en_US.UTF-8").
CREATE DATABASE
```

```
$ sudo -u postgres psql -c "CREATE USER onlyoffice WITH password 'onlyoffice';"
```

```
ralikhan@onlyoffice:~$ sudo -u postgres psql -c "CREATE USER onlyoffice WITH password 'onlyoffice';"
perl: warning: Setting locale failed.
perl: warning: Please check that your locale settings:
        LANGUAGE = (unset),
        LC_ALL = (unset),
        LC_PAPER = "es_ES.UTF-8",
        LC_ADDRESS = "es_ES.UTF-8",
        LC_MONETARY = "es_ES.UTF-8",
        LC_NUMERIC = "es_ES.UTF-8",
        LC_TELEPHONE = "es_ES.UTF-8",
        LC_IDENTIFICATION = "es_ES.UTF-8",
        LC_MEASUREMENT = "es_ES.UTF-8",
        LC_NAME = "es_ES.UTF-8",
        LANG = "en_US.UTF-8"
    are supported and installed on your system.
perl: warning: Falling back to a fallback locale ("en_US.UTF-8").
CREATE ROLE
```

```
$ sudo -u postgres psql -c "GRANT ALL privileges ON DATABASE onlyoffice TO onlyoffice;"
```

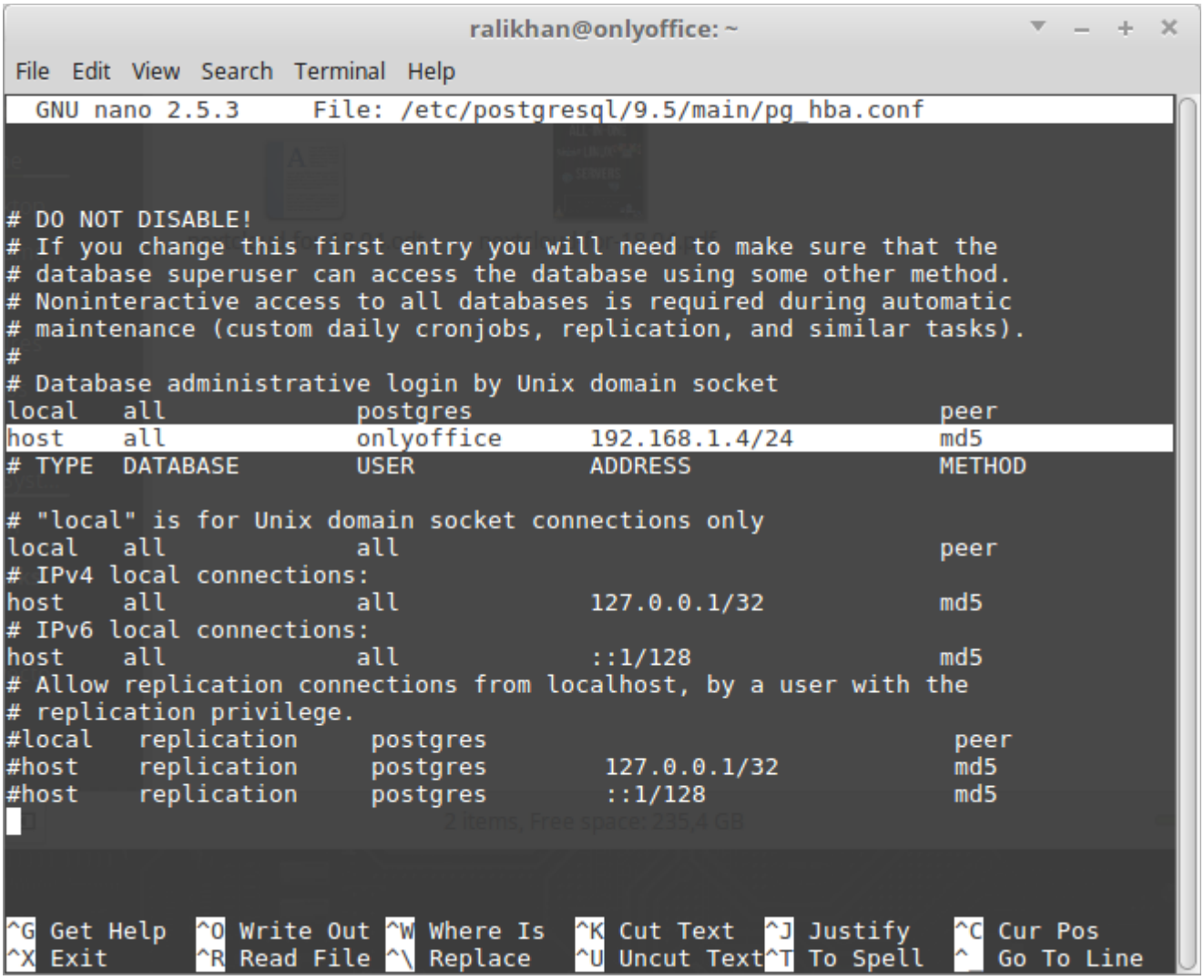
```
ralikhan@onlyoffice:~$ sudo -u postgres psql -c "GRANT ALL privileges ON DATABASE onlyoffice TO onlyoffice;"
perl: warning: Setting locale failed.
perl: warning: Please check that your locale settings:
        LANGUAGE = (unset),
        LC_ALL = (unset),
        LC_PAPER = "es_ES.UTF-8",
        LC_ADDRESS = "es_ES.UTF-8",
        LC_MONETARY = "es_ES.UTF-8",
        LC_NUMERIC = "es_ES.UTF-8",
        LC_TELEPHONE = "es_ES.UTF-8",
        LC_IDENTIFICATION = "es_ES.UTF-8",
        LC_MEASUREMENT = "es_ES.UTF-8",
        LC_NAME = "es_ES.UTF-8",
        LANG = "en_US.UTF-8"
    are supported and installed on your system.
perl: warning: Falling back to a fallback locale ("en_US.UTF-8").
GRANT
```

We are going to configure the postgresql configuration file. So that the user can connect to the postgresql and create and modify things

```
$ sudo nano /etc/postgresql/9.5/main/pg_hba.conf
```

ADD

```
 host    all             onlyoffice      192.168.1.4/24          md5
```



Installing redis:

```
$ sudo apt install redis-server
$ sudo systemctl status redis-server.service
```

```
ralikhan@onlyoffice:~$ sudo systemctl status redis-server.service
● redis-server.service - Advanced key-value store
   Loaded: loaded (/lib/systemd/system/redis-server.service; enabled; vendor preset: enabled)
   Active: active (running) since Sun 2018-05-27 20:56:46 CEST; 19s ago
     Docs: http://redis.io/documentation,
           man:redis-server(1)
 Main PID: 19622 (redis-server)
   CGroup: /system.slice/redis-server.service
           └─19622 /usr/bin/redis-server 127.0.0.1:6379

May 27 20:56:46 onlyoffice systemd[1]: Starting Advanced key-value store...
May 27 20:56:46 onlyoffice run-parts[19611]: run-parts: executing /etc/redis/redis-server.pre-up.d/00_example
May 27 20:56:46 onlyoffice run-parts[19623]: run-parts: executing /etc/redis/redis-server.post-up.d/00_example
May 27 20:56:46 onlyoffice systemd[1]: Started Advanced key-value store.
```

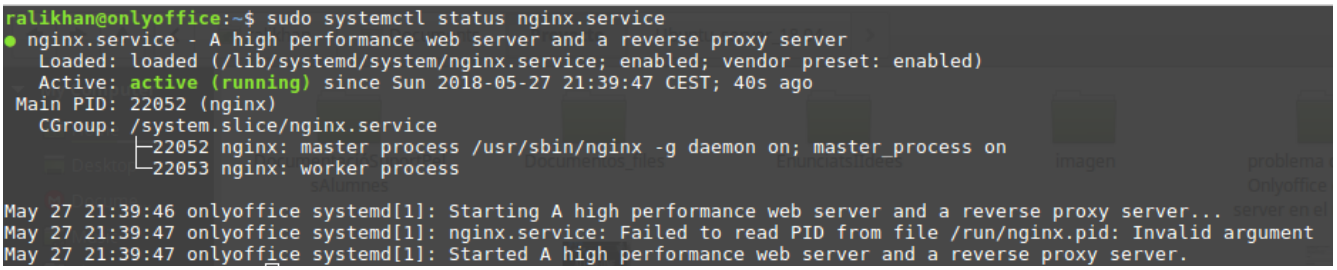
Installing rabbitmq:

```
$ sudo apt install rabbitmq-server
$ sudo systemctl status rabbitmq-server.service
```

Installation and configuration of Nginx in Ubuntu 16.04

To start we update the list of repositories and install Nginx:

```
$ sudo apt update
$ sudo apt install nginx
$ sudo systemctl status nginx.service
```



Installing the Document Server

We will add the GPG key:

```
$ sudo apt-key adv --keyserver hkp://keyserver.ubuntu.com:80 --recv-keys CB2DE8E5
```

```
ralikhan@onlyoffice:~$ sudo apt-key adv --keyserver hkp://keyserver.ubuntu.com:80 --recv-keys CB2DE8E5
Executing: /tmp/tmp.frjAR2PYQN/gpg.1.sh --keyserver
hkp://keyserver.ubuntu.com:80
--recv-keys
CB2DE8E5
gpg: requesting key CB2DE8E5 from hkp server keyserver.ubuntu.com
gpg: key CB2DE8E5: public key "Ascensio System Limited (ONLYOFFICE) <support@onlyoffice.com>" imported
gpg: Total number processed: 1
gpg:               imported: 1  (RSA: 1)
```

We add the repository for Document Server:

```
$ sudo echo "deb http://download.onlyoffice.com/repo/debian squeeze main" | sudo tee /etc/apt/sources.list.d/onlyoffice.list
```

```
ralikhan@onlyoffice:~$ sudo echo "deb http://download.onlyoffice.com/repo/debian squeeze main" | sudo tee /etc/apt/sources.list.d/onlyoffice.list
deb http://download.onlyoffice.com/repo/debian squeeze main
```

We will launch an update of the packages in the repositories:

```
$ sudo apt update
```

```
ralikhan@onlyoffice:~$ sudo apt update
Hit:1 https://deb.nodesource.com/node_6.x xenial InRelease
Ign:2 http://archive.ubuntu.com/ubuntu precise InRelease
Hit:3 http://security.ubuntu.com/ubuntu xenial-security InRelease
Hit:4 http://archive.ubuntu.com/ubuntu precise Release
Get:5 http://download.onlyoffice.com/repo/debian squeeze InRelease [12.0 kB]
Hit:6 http://us.archive.ubuntu.com/ubuntu xenial InRelease
Hit:8 http://us.archive.ubuntu.com/ubuntu xenial-updates InRelease
Get:9 http://download.onlyoffice.com/repo/debian squeeze/main i386 Packages [1938 B]
Hit:10 http://us.archive.ubuntu.com/ubuntu xenial-backports InRelease
Fetched 14.0 kB in 1s (8794 B/s)
Reading package lists... Done
Building dependency tree
Reading state information... Done
All packages are up to date.
W: http://archive.ubuntu.com/ubuntu/dists/precise/Release.gpg: Signature by key 630239CC130E
```

Installing the Document Server

```
$ sudo apt install onlyoffice-documentserver
```

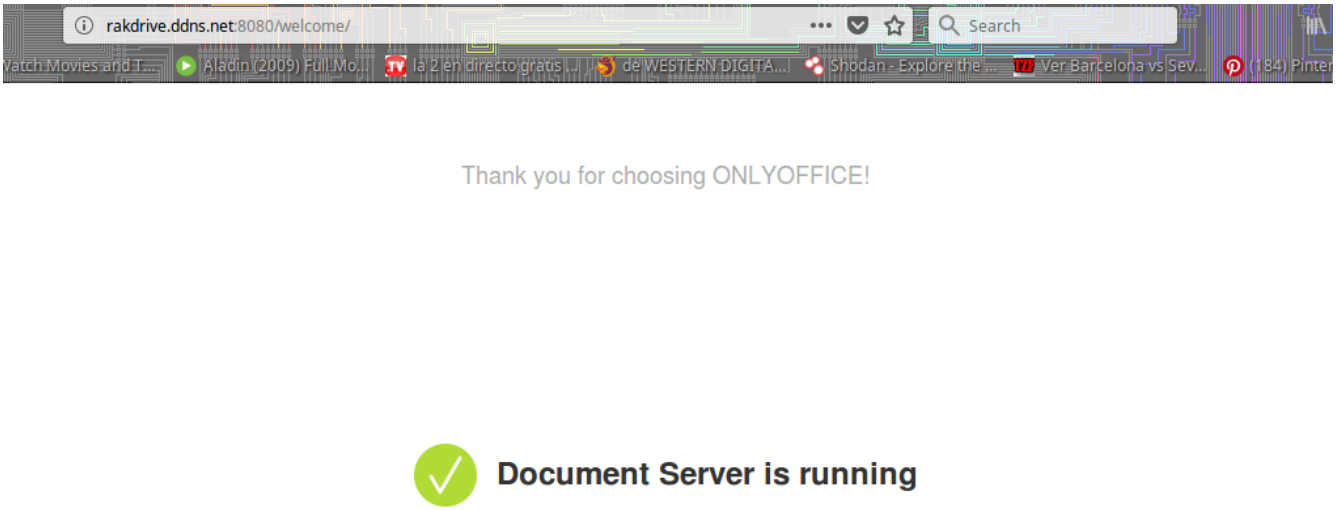
Once the process is finished we will see a message like the following in the console:

```
ralikhan@onlyoffice:~$ sudo apt install onlyoffice-documentserver
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following NEW packages will be installed:
  onlyoffice-documentserver
0 upgraded, 1 newly installed, 0 to remove and 140 not upgraded.
Need to get 0 B/199 MB of archives.
After this operation, 778 MB of additional disk space will be used.
perl: warning: Setting locale failed.
perl: warning: Please check that your locale settings:
        LANGUAGE = "en_US:en",
        LC_ALL = (unset),
        LC_MONETARY = "es_ES.UTF-8",
        LC_ADDRESS = "es_ES.UTF-8",
        LC_TELEPHONE = "es_ES.UTF-8",
        LC_NAME = "es_ES.UTF-8",
        LC_MEASUREMENT = "es_ES.UTF-8",
        LC_IDENTIFICATION = "es_ES.UTF-8",
        LC_NUMERIC = "es_ES.UTF-8",
        LC_PAPER = "es_ES.UTF-8",
        LANG = "en_US.UTF-8"
    are supported and installed on your system.
perl: warning: Falling back to a fallback locale ("en_US.UTF-8").
locale: Cannot set LC_ALL to default locale: No such file or directory
Preconfiguring packages ...
/usr/bin/locale: Cannot set LC_ALL to default locale: No such file or directory
Selecting previously unselected package onlyoffice-documentserver.
(Reading database ... 85705 files and directories currently installed.)
Preparing to unpack .../onlyoffice-documentserver_5.1.4-22_amd64.deb ...
Unpacking onlyoffice-documentserver (5.1.4-22) ...
Setting up onlyoffice-documentserver (5.1.4-22) ...
locale: Cannot set LC_ALL to default locale: No such file or directory
Generating AllFonts.js, please wait...Done
Congratulations, the ONLYOFFICE DocumentServer has been installed successfully!
Processing triggers for libc-bin (2.23-0ubuntu9) ...
```

NOTE: When we install onlyoffice document server will ask for a password you have to put the password that we added when we created the postgres user. We have to put that password

If we go to our URL and the specified port, we will see the following:

http://rakdrive.ddns.net:8080



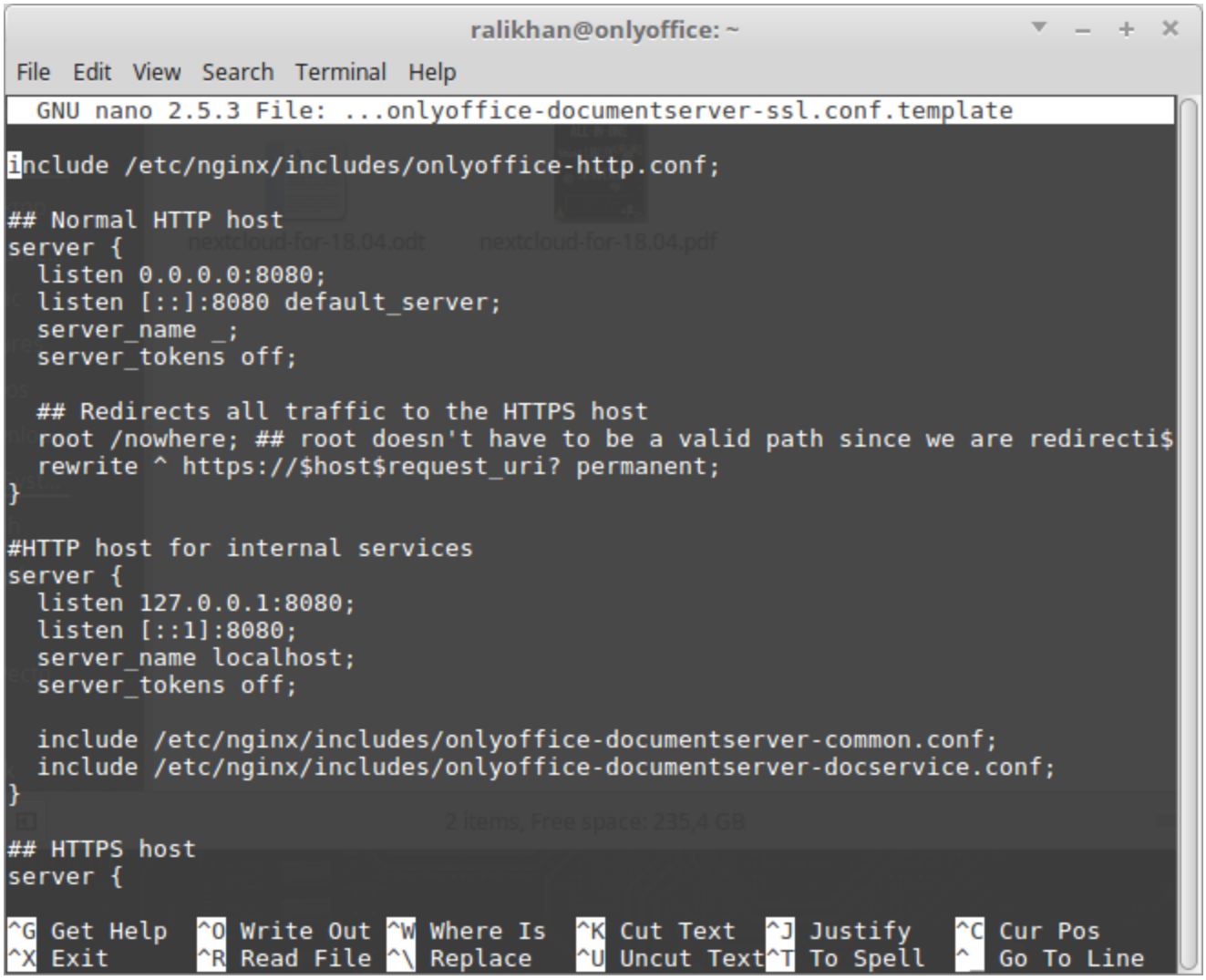
Change the default port by which Document Server listens

By default, Document Server listens for incoming connections through port 80.

```
$ sudo nano /etc/onlyoffice/documentserver/nginx/onlyoffice-documentserver.conf.template
```

```
  GNU nano 2.5.3 File: ...inx/onlyoffice-documentserver.conf.template

include /etc/nginx/includes/onlyoffice-http.conf;
server {
  listen 0.0.0.0:8080;
  listen [::]:8080 default_server;
  server_tokens off;

  include /etc/nginx/includes/onlyoffice-documentserver-*.conf;
}
```

```
$ sudo nano /etc/onlyoffice/documentserver/nginx/onlyoffice-documentserver-ssl.conf.template
```



Note: As we have two servers. Nextcloud server listens to port 80. Then you have to change the server port onlyoffice but it will not work. That is why we have changed the port of onlyoffice 80 to 8080.

4.2.3 Integrating ONLYOFFICE in Nextcloud

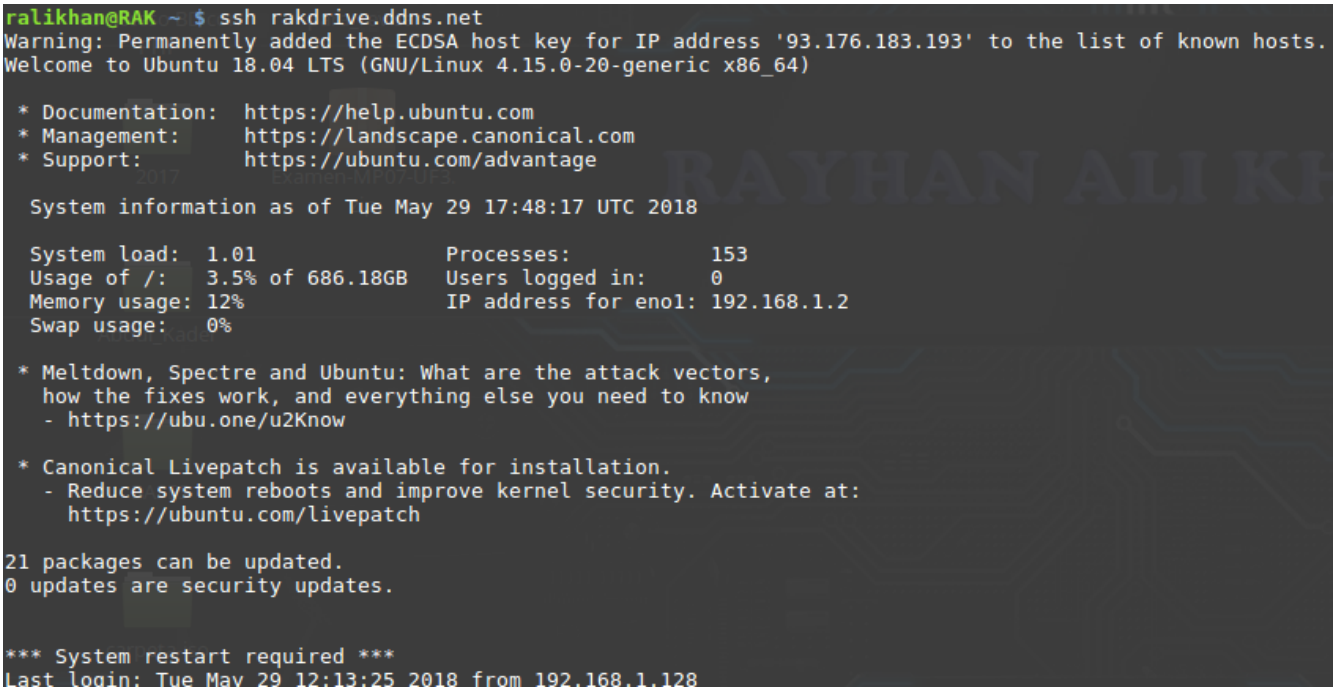
In my case the nextcloud is on one server and onlyoffice on another server.…

- A Nextcloud server
- An ONLYOFFICE server, only the part of the Document Server is necessary,

Well now we will go by SSH to our Nextcloud server and launch the following:

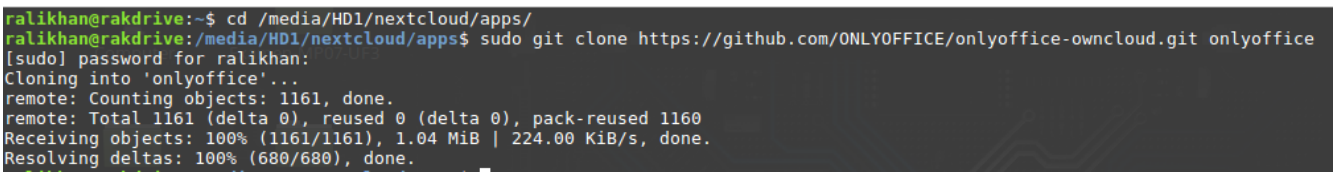
Since we have 2 servers then we are going to connect with ssh to the server where nextcloud is installed.

```
$ ssh rakdrive.ddns.net
```

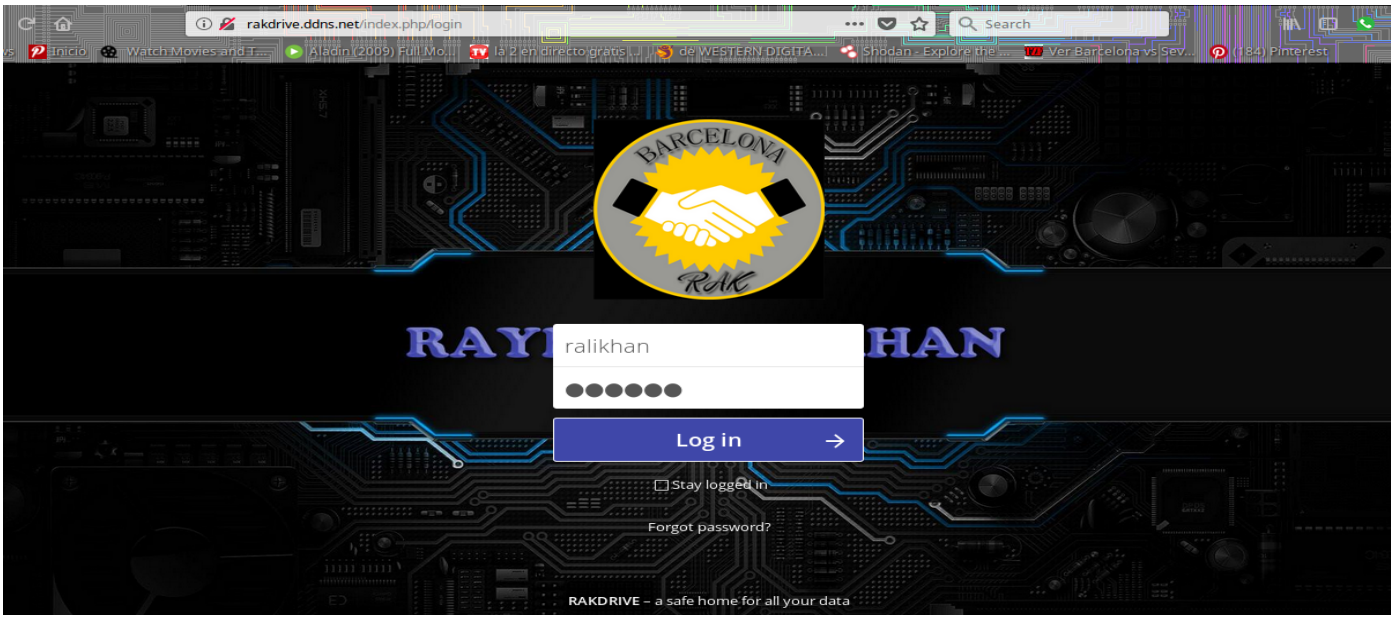



```
$ cd /media/HD1/nextcloud/apps/
```

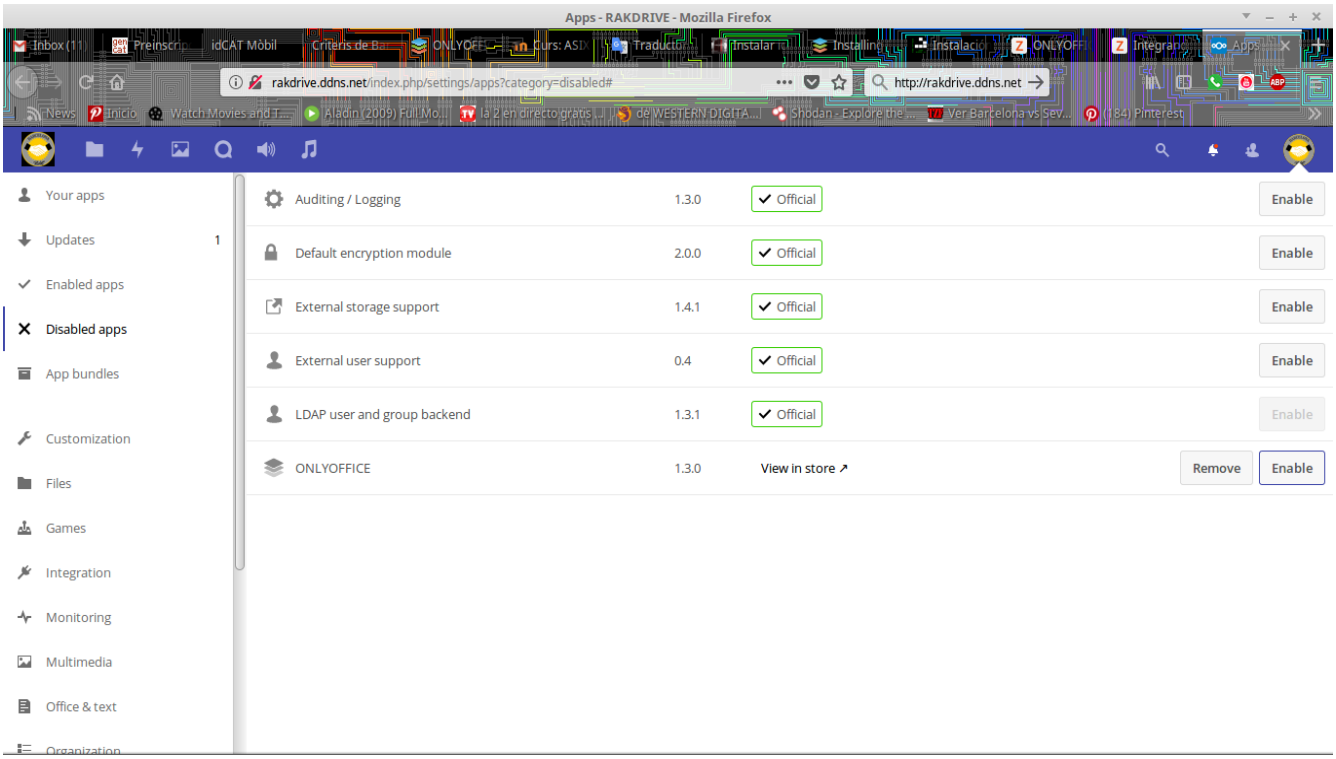
```
$ git clone https://github.com/ONLYOFFICE/onlyoffice-owncloud.git onlyoffice
```



Now when we have added onlyoffice in the nextcloud route. Now we have to enter nextcloud from a browser. http://rakdrive.ddns.net

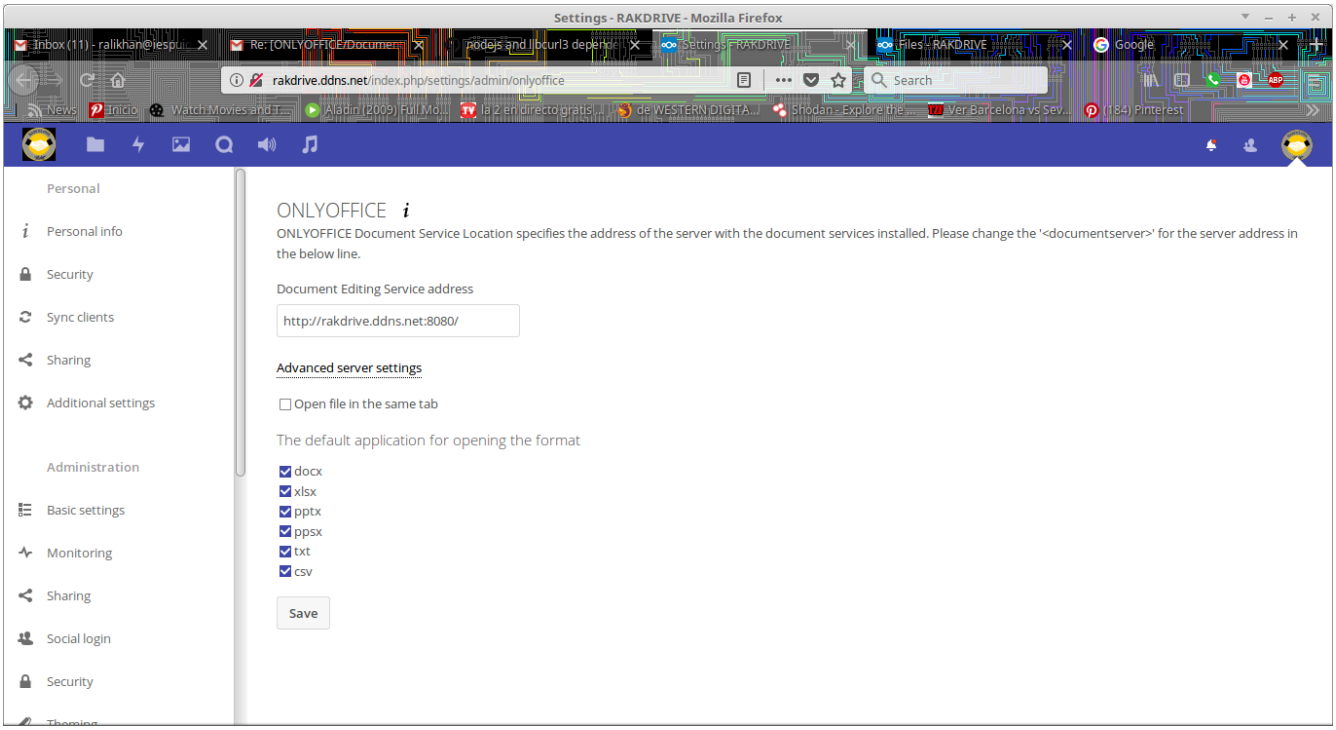


Once we have installed the application we will go to Nextcloud as administrator, we will mark **Not Enabled** and we will make **Enable** in the **OnlyOffice** application, surely we will ask for the administrator password.



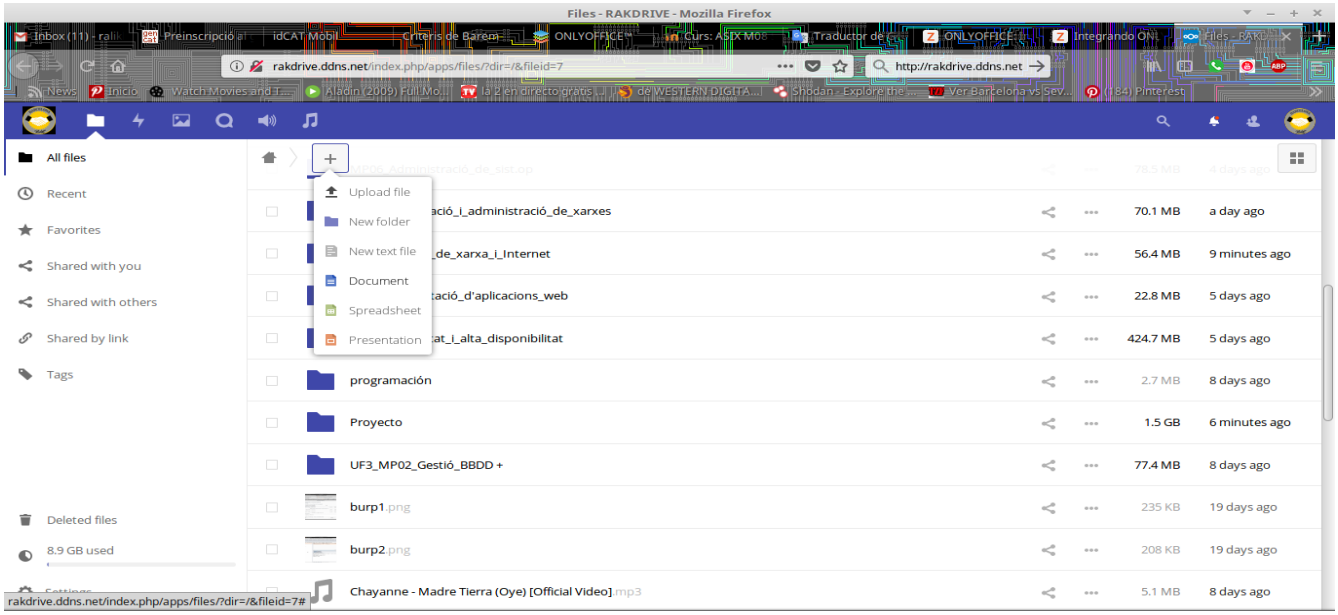
We will now go to the **Administrator - Settings** tab and in the OnylOffice option we will enter

the URL of our OnlyOffice server

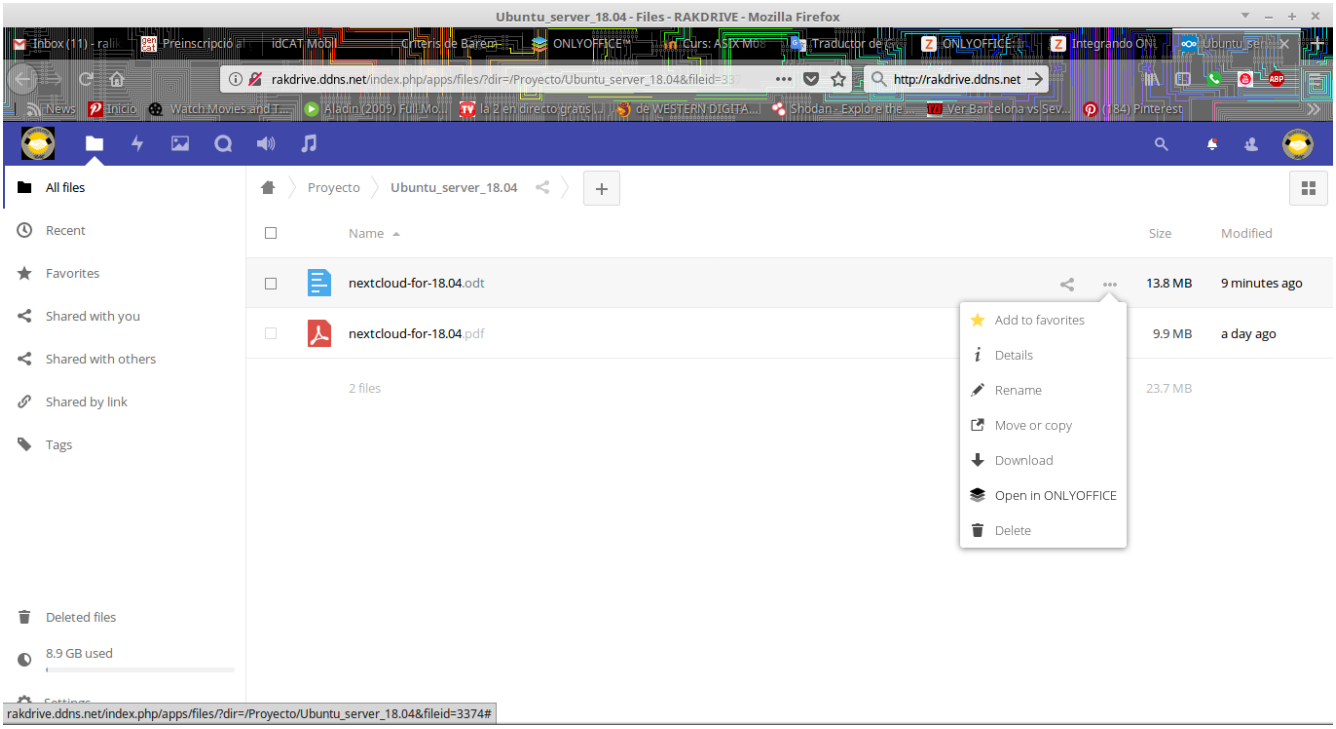


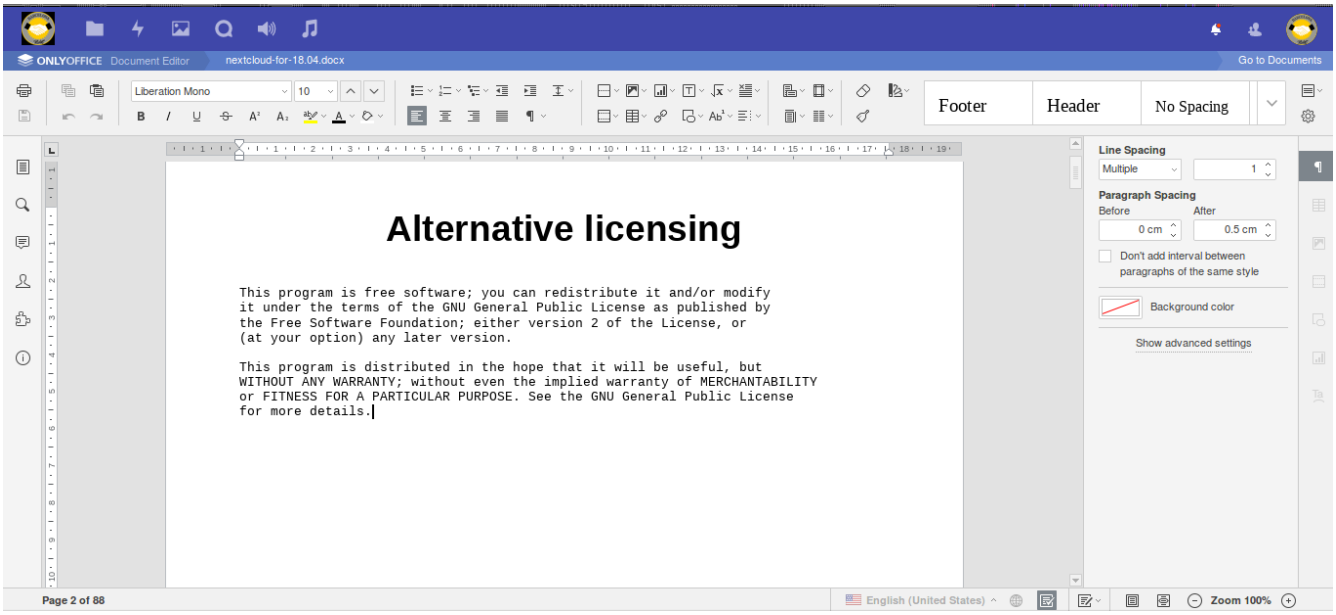
Here we have to put ip of the onlyoffice-documentserver

Everything is set up, now all users can go to their documents as usual, in this case I will upload or create a .docx file:



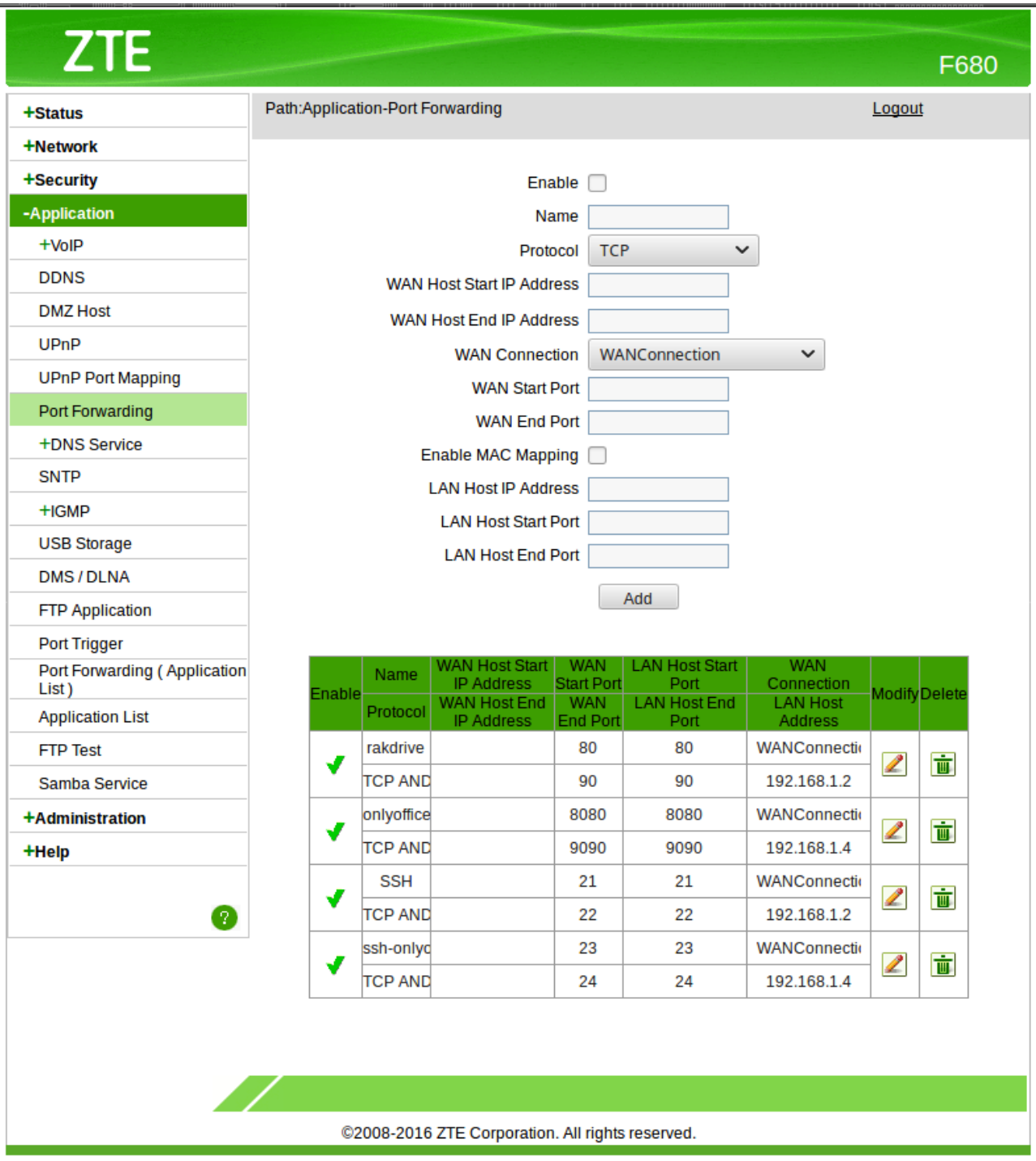
If we click on the file name or on the icon





5 -Router configuration

Note: this configuration is optional. I have made this configuration so that I can access from the router with the public ip. So that we can access with the public ip of the router there is to configure the following router way:



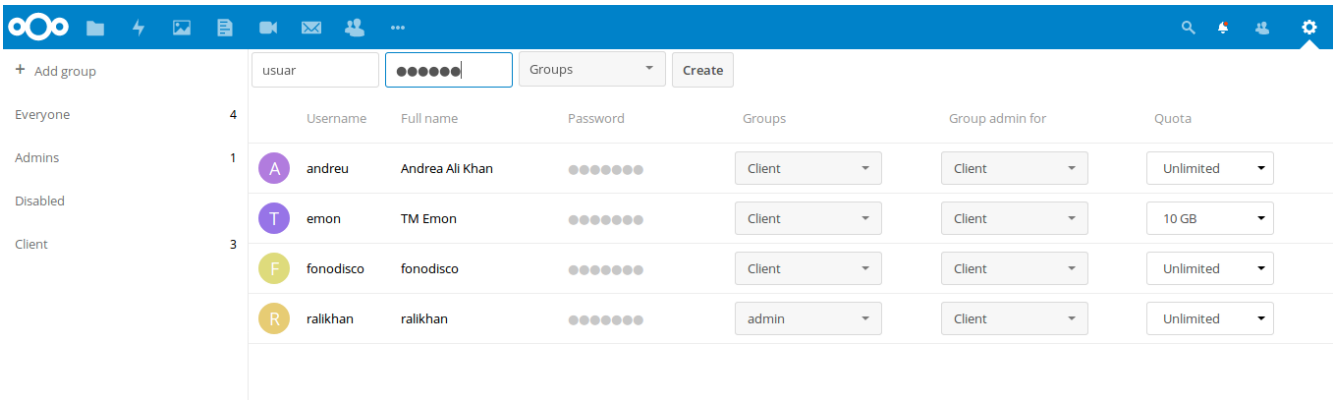
6 - Administration Manual

4.1 User Management

4.1.1 Creating a New User

To create a user account:

- Enter the new user's **Login Name** and their initial **Password**
- Optionally, assign **Groups** memberships
- Click the **Create** button



4.1.2 Reset a User's Password

You cannot recover a user's password, but you can set a new one:

- Hover your cursor over the user's **Password** field
- Click on the **pencil icon**
- Enter the user's new password in the password field, and remember to provide the user with their password

4.1.3 Renaming a User

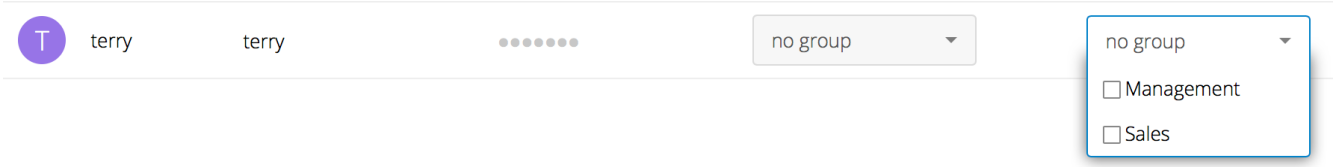
Each Nextcloud user has two names: a unique **Login Name** used for authentication, and a **Full Name**, which is their display name. You can edit the display name of a user, but you cannot change the login name of any user.

To set or change a user's display name:

- Hover your cursor over the user's **Full Name** field
- Click on the **Pencil icon**
- Enter the user's new display name

4.1.4 Granting Administrator Privileges to a User

Nextcloud has two types of administrators: **Super Administrators** and **Group Administrators**. Group administrators have the rights to create, edit and delete users in their assigned groups. Group administrators cannot access system settings, or add or modify users in the groups that they are not **Group Administrators** for. Use the dropdown menus in the **Group Admin** column to assign group admin privileges.



Super Administrators have full rights on your Nextcloud server, and can access and modify all settings. To assign the **Super Administrators** role to a user, simply add them to the `admin` group.

4.1.5 Managing Groups

You can assign new users to groups when you create them, and create new groups when you create new users. You may also use the **Add Group** button at the top of the left pane to create new groups. New group members will immediately have access to file shares that belong to their new groups.

4.1.6 Setting Storage Quotas

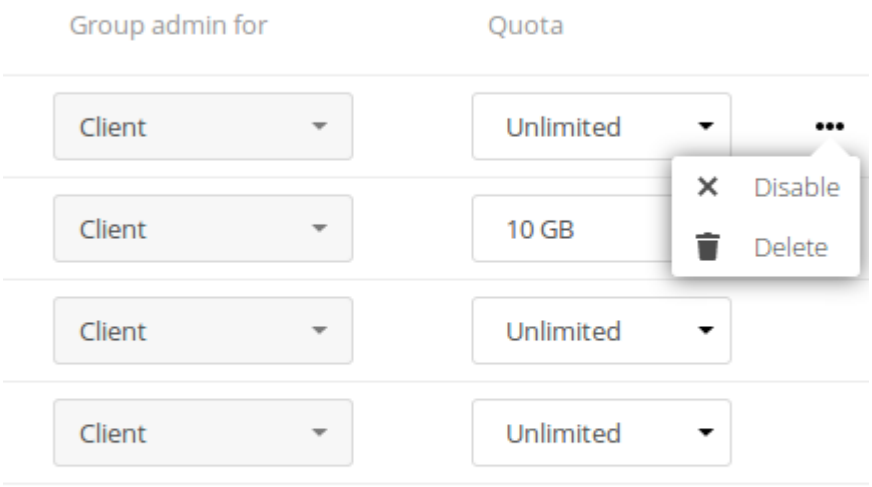
Click the gear on the lower left pane to set a default storage quota. This is automatically applied to new users. You may assign a different quota to any user by selecting from the **Quota** dropdown, selecting either a preset value or entering a custom value. When you

create custom quotas, use the normal abbreviations for your storage values such as 500 MB, 5 GB, 5 TB, and so on.

You now have a configurable option in **`config.php`** that controls whether external storage is counted against user's quotas. This is still experimental, and may not work as expected. The default is to not count external storage as part of user storage quotas. If you prefer to include it, then change the default **`false`** to **`true`**.:

```
'quota_include_external_storage' => false,
```

4.1.7 Disable and Enable users



Sometimes you may want to disable a user without permanently deleting his settings and files. The user can be activated any time again, without data-loss.

Hover your cursor over their name on the **Users** page until the "…"-menu icon appears at the far right. After clicking on it, you will see the **Disable** option.

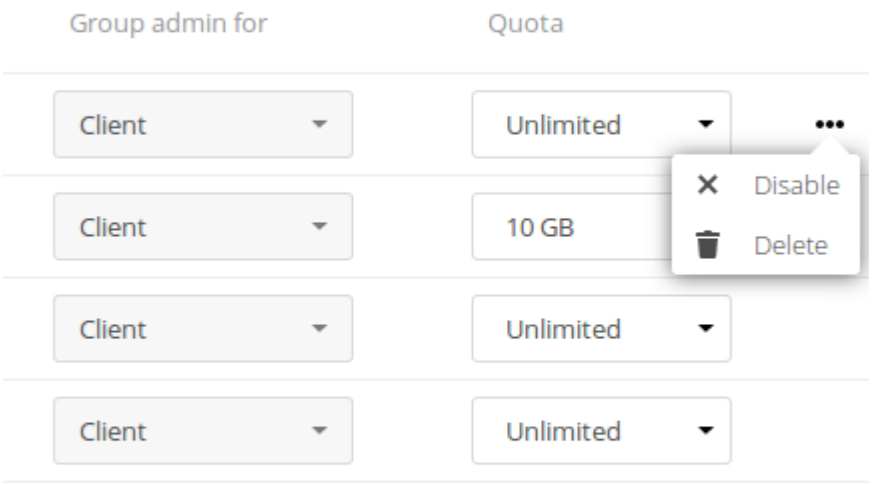
The user will not longer be able to access his Nextcloud until you enable him again. Keep in mind that the files, which were shared by this user will not longer be accessible.

You will find all disabled users in the **disabled**-section on the left pane. Enabling users is as easy as disabling them. Just click on the "…"-menu, and select **Enable**.

4.1.8 Deleting users

Deleting a user is easy: hover your cursor over their name on the **Users** page until the "…"-menu icon appears at the far right. After clicking on it, you will see the **Delete** option. Clicking on it, delets a user with all his data immediately.

You'll see an undo button at the top of the page, which remains for some seconds. When the undo button is gone you cannot recover the deleted user.



4.2 Resetting a Lost Admin Password

The normal ways to recover a lost password are:

1. Click the password reset link on the login screen; this appears after a failed login attempt. This works only if you have entered your email address on your Personal page in the Nextcloud Web interface, so that the Nextcloud server can email a reset link to you.
2. Ask another Nextcloud server admin to reset it for you.

If neither of these is an option, then you have a third option, and that is using the **`occ`** command. **`occ`** is in the **`nextcloud`** directory, for example **`/media/HD1/nextcloud/occ`**. **`occ`** has a command for resetting all user passwords, **`user:resetpassword`**. It is best to run **`occ`** as the HTTP user, as in this example on Ubuntu Linux:

```
$ sudo -u www-data php /media/HD1/nextcloud/occ user:ralikhan admin
Enter a new password:
Confirm the new password:
Successfully reset password for admin
```

If your Nextcloud username is not `admin`, then substitute your Nextcloud username.

You can find your HTTP user in your HTTP configuration file. These are the default Apache HTTP user:group on Linux distros:

- Centos, Red Hat, Fedora: apache:apache
- Debian, Ubuntu, Linux Mint: www-data:www-data
- openSUSE: wwwrun:www

4.3 Resetting a User Password

The Nextcloud login screen displays a **Wrong password. Reset it?** message after a user enters an incorrect password, and then Nextcloud automatically resets their password. However, if you are using a read-only authentication backend such as LDAP or Active

Directory, this will not work. In this case you may specify a custom URL in **your `config.php`** file to direct your user to a server than can handle an automatic reset:

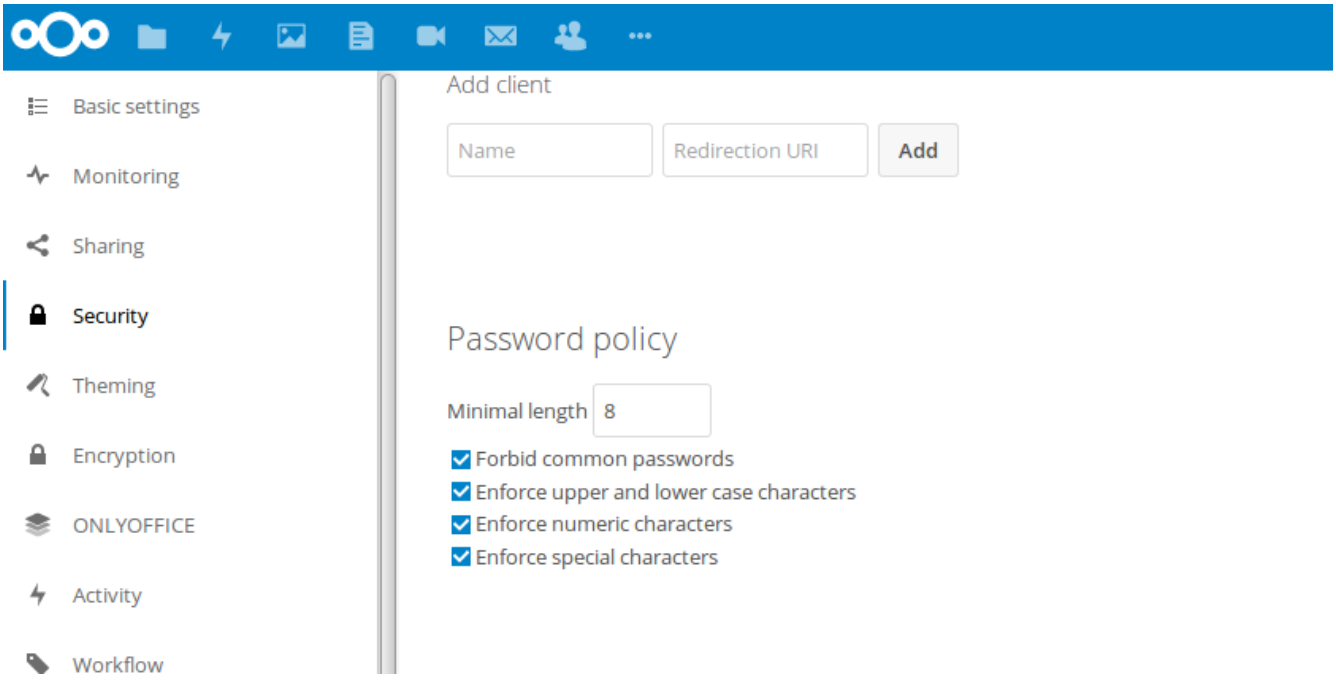
```
'lost_password_link' => 'https://example.org/link/to/password/reset',
```

4.4 User Password Policy App

A password policy is a set of rules designed to enhance computer security by encouraging users to employ strong passwords and use them properly.

You can configure

- a minimal length of a password. Default is 10 characters.
- to forbid common passwords like ‘california’ or ‘enterprise’.
- enforce upper and lower case characters
- Enforce numeric characters
- Enforce special characters like ! or :



4.5 User Authentication with IMAP, SMB, and FTP

You may configure additional user backends in Nextcloud's configuration `config/config.php` using the following syntax:

```
<?php
"user_backends" => array (
    0 => array (
            "class"     => ...,
            "arguments" => array (
                                0 => ...
                                ),
    ),
),
```

4.5.1 IMAP

Provides authentication against IMAP servers

- **Class:** OC_User_IMAP
- **Arguments:** a mailbox string as defined in the PHP documentation
- **Dependency:** php-imap (See Installation on Linux)
- **Example:**

```
<?php
"user_backends" => array (
    0 => array (
            "class"     => "OC_User_IMAP",
            "arguments" => array (
                                0 => '{imap.gmail.com:993/imap/ssl}'
                                ),
    ),
)
```

4.5.2 SMB

Provides authentication against Samba servers

- **Class:** OC_User_SMB
- **Arguments:** the samba server to authenticate against
- **Dependency:** PHP smbclient module or smbclient (see SMB/CIFS)
- **Example:**

```
<?php
"user_backends" => array (
    0 => array (
            "class"     => "OC_User_SMB",
            "arguments" => array (
                           0 => 'localhost'
                           ),
    ),
),
```

4.5.3 FTP

Provides authentication against FTP servers

- **Class:** OC_User_FTP
- **Arguments:** the FTP server to authenticate against
- **Dependency:** php-ftp (See Installation on Linux)
- **Example:**

```
<?php
"user_backends" => array (
    0 => array (
            "class"     => "OC_User_FTP",
            "arguments" => array (
                           0 => 'localhost'
                           ),
    ),
),
```

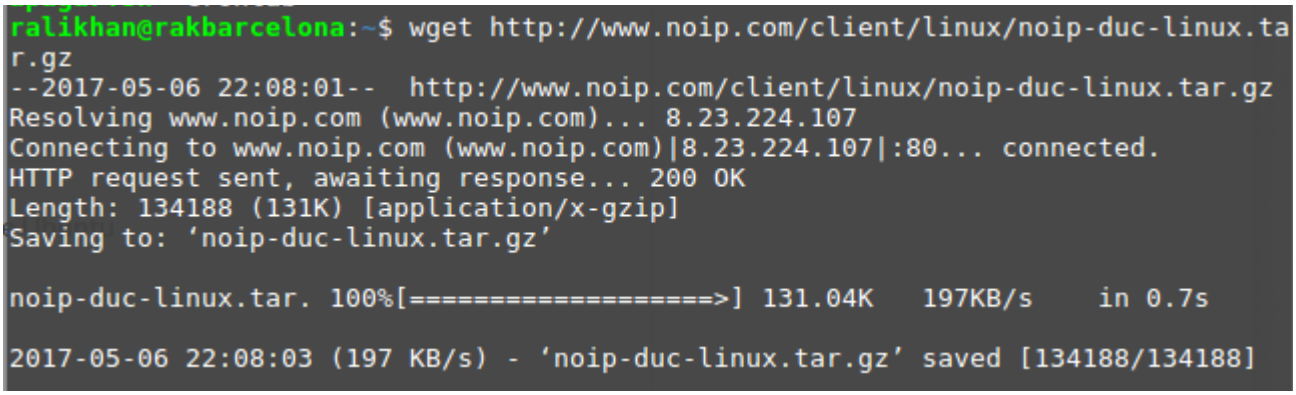
7 - Optional

5.1 INSTALLING NO-IP IN UBUNTU SERVER

The dynamic DNS service of No-IP allows you to identify your PC with an easy-to-remember domain name, such as TuNombre.no-ip.com instead of a strange number of type 213.171.218.201 and to be able to mount an uncomplicated server independently of whether or not we have a static IP.

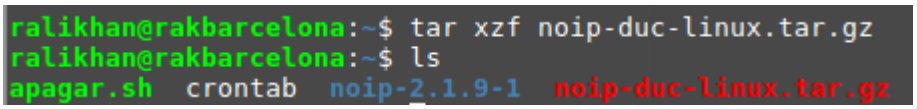
Download the package:

```
$ cd /usr/local/bin/noip2
$ wget http://www.noip.com/client/linux/noip-duc-linux.tar.gz
```



We decompress it:

```
$ tar xzf noip-duc-linux.tar.gz
```



We go to the directory where we unzip it:

```
$ cd noip-2.1.9-1
```

Make:

```
$ sudo make
```

If you have problems doing make, it's because I do not have gcc installed, install it:

```
$ sudo apt install gcc
```

Make install:

```
$ sudo make install
```

To start the application of noip:

```
$ sudo /usr/local/bin/noip2
```

8 -SCRIPT for install nextcloud

```
#!/bin/bash

# NextCloud Installation Script for Ubuntu 18.04
# with SSL certificate provided by Let's Encrypt (letsencrypt.org)
# Author: Autoize (autoize.com)

nextcloud_url='https://rakdrive.net' # Full URL of NextCloud instance
letsencrypt_domains='-d rakdrive.net -d www.rakdrive.net' # Hostname(s) to obtain
SSL certificate for, following -d flag
letsencrypt_email='ralikhan@rakdrive.net' # Admin contact email for Let's Encrypt
nextcloud_version='12.0.3' # Desired NextCloud version
db_root_password='raihak' # MySQL database root password
db_user_password='raihak' # MySQL database user password
datapath='/cloudData' # Path where user data is stored

# DO NOT EDIT BELOW THIS LINE

ocpath='/var/www/nextcloud' # Path where NextCloud is installed
htuser='www-data' # User Apache runs as
htgroup='www-data' # Group Apache runs as
rootuser='ralikhan'

# Check if running as root
if [ "$(id -u)" != "0" ]; then
   echo "This script must be run as root" 1>&2
   exit 1
fi

# Update Repositories and Install Packages

# Add PHP 7.0 Repository
add-apt-repository ppa:ondrej/php -y
apt-get update

# Install Apache, Redis and PHP extensions
```

```
apt-get install apache2 -y
apt-get install php7.0 php7.0-curl php7.0-gd php7.0-fpm php7.0-cli php7.0-opcache
php7.0-mbstring php7.0-xml php7.0-zip -y
apt-get install redis-server php-redis -y

# Install MySQL database server
export DEBIAN_FRONTEND="noninteractive"
debconf-set-selections <<< "mysql-server mysql-server/root_password password
$db_root_password"
debconf-set-selections <<< "mysql-server mysql-server/root_password_again password
$db_root_password"
apt-get install mysql-server php7.0-mysql -y

# Enable Apache extensions
a2enmod proxy_fcgi setenvif
a2enconf php7.0-fpm
service apache2 reload
apt-get install libxml2-dev php7.0-zip php7.0-xml php7.0-gd php7.0-curl php7.0-
mbstring -y
a2enmod rewrite
service apache2 reload

# Download Nextcloud into web directory
printf '<meta http-equiv="refresh"
content="0;URL='"'"$nextcloud_url"'/nextcloud'"'"'" />' >
/var/www/html/index.html
wget https://download.nextcloud.com/server/releases/nextcloud-
$nextcloud_version.zip
apt-get install unzip -y
unzip nextcloud-$nextcloud_version.zip -d /var/www
rm nextcloud-$nextcloud_version.zip

# Create data directory if does not exist yet
mkdir -p $datapath

# Set file and folder permissions
printf "Creating possible missing Directories\n"
mkdir -p $ocpath/data
mkdir -p $ocpath/assets
mkdir -p $ocpath/updater

printf "chmod Files and Directories\n"
find ${ocpath}/ -type f -print0 | xargs -0 chmod 0640
find ${ocpath}/ -type d -print0 | xargs -0 chmod 0750

printf "chown Directories\n"
chown -R ${rootuser}:${htgroup} ${ocpath}/
chown -R ${htuser}:${htgroup} ${ocpath}/apps/
chown -R ${htuser}:${htgroup} ${ocpath}/assets/
chown -R ${htuser}:${htgroup} ${ocpath}/config/
chown -R ${htuser}:${htgroup} ${ocpath}/data/
chown -R ${htuser}:${htgroup} ${datapath}/
chown -R ${htuser}:${htgroup} ${ocpath}/themes/
chown -R ${htuser}:${htgroup} ${ocpath}/updater/
chown -R ${htuser}:${htgroup} /tmp
chmod +x ${ocpath}/occ
```

```
printf "chmod/chown .htaccess\n"
if [ -f ${ocpath}/.htaccess ]
then
 chmod 0644 ${ocpath}/.htaccess
 chown ${rootuser}:${htgroup} ${ocpath}/.htaccess
fi

if [ -f ${ocpath}/data/.htaccess ]
then
 chmod 0644 ${ocpath}/data/.htaccess
 chown ${rootuser}:${htgroup} ${ocpath}/data/.htaccess
fi

# Configure Apache
touch /etc/apache2/sites-available/nextcloud.conf
printf "Alias /nextcloud "/var/www/nextcloud/"\n\n<Directory
/var/www/nextcloud/>\n Options +FollowSymlinks\n AllowOverride All\n\n<IfModule
mod_dav.c>\n Dav off\n</IfModule>\n\nSetEnv HOME /var/www/nextcloud\nSetEnv
HTTP_HOME /var/www/nextcloud\n\n</Directory>" > /etc/apache2/sites-
available/nextcloud.conf
ln -s /etc/apache2/sites-available/nextcloud.conf /etc/apache2/sites-
enabled/nextcloud.conf
a2enmod headers
a2enmod env
a2enmod dir
a2enmod mime
service apache2 reload

# Configure MySQL database
mysql -uroot -p$db_root_password <<QUERY_INPUT
CREATE DATABASE nextcloud;
CREATE USER 'ralikhan'@'localhost' IDENTIFIED BY '$db_user_password';
GRANT ALL PRIVILEGES ON nextcloud.* TO ralikhan@localhost;
FLUSH PRIVILEGES;
EXIT
QUERY_INPUT

# Enable HTTPS with Let's Encrypt SSL Certificate
# Set up cron job for certificate auto-renewal every 90 days
apt-get install git -y
cd /etc
git clone https://github.com/certbot/certbot
cd certbot
./letsencrypt-auto --non-interactive --agree-tos --email $letsencrypt_email
--apache $letsencrypt_domains --hsts
crontab -l > cron
echo "* 1 * * 1 /etc/certbot/certbot-auto renew --quiet" >> cron
crontab cron
rm cron

# Enable NextCloud cron job every 15 minutes
crontab -u www-data -l > cron
echo "*/15  *  *  *  * php -f /var/www/nextcloud/cron.php" >> cron
crontab -u www-data cron
rm cron
```

```
# Install complete
printf "\n\nInstall complete.\nNavigate to your NextCloud instance in a web
browser to complete the setup wizard, before you run the optimization script.\n\n"
```

9 - Biography

https://nextcloud.com/

https://nextcloud.com/install/

http://computingondemand.com/install-nextcloud-ubuntu-server/

https://docs.nextcloud.com/server/12/admin_manual/installation/index.html

https://www.noip.com/download?page=linux

https://www.onlyoffice.com/es/

https://www.jorgedelacruz.es/2017/04/19/integrando-onlyoffice-en-nextcloud-editando-documentos-office-online-y-open-source/

https://www.jorgedelacruz.es/2017/04/27/onlyoffice-instalando-document-server-sobre-ubuntu-16-04-lts/
https://aula128.wordpress.com/2015/02/28/alta-disponibilidad-como-configurar-un-cluster-ha-linux-con-corosync-y-pacemaker-con-recurso-apache2/

https://www.digitalocean.com/community/tutorials/how-to-convert-an-owncloud-installation-to-nextcloud-on-ubuntu-14-04

https://www.collaboraoffice.com/es/collabora-online-development-edition-code/

https://www.youtube.com/watch?v=5AnUkYh2kzA&feature=youtu.be

http://www.tonystech.com/other-tech/ubuntu-linux/create-a-nas-using-ubuntu-linux

https://www.youtube.com/watch?v=-5Z_-3EBIHE&feature=youtu.be

https://quidsup.net/tutorials/?p=ubuntu-create-nas

https://lowendbox.com/blog/how-to-install-next-cloud-on-ubuntu-16-04/

https://nextcloud.com/changelog/#latest13

https://help.nextcloud.com/t/integrating-onlyoffice-in-nextcloud/29861
Tutorial De install-nextcloud-ubuntu-server

https://docs.nextcloud.com/server/11/admin_manual/installation/source_installation.html?highlight=php7

NO-IP

http://lasegundapuerta.com/index.php/informatica/linux-y-software-libre/2119-instalar-no-ip-en-ubuntu-server-12-04-y-14-04

Script

https://gist.githubusercontent.com/autoize/f2574a4d9b42ec44b837d425a230a92b/raw/8547b21db178b2ec60de71418e48481783df5589/installNextCloud-ssl.sh

Onlyoffice

http://www.steinzone.de/wordpress/index.php/2017/07/23/onlyoffice-in-nextcloud-mit-ubuntu-16-04-lts/

https://www.jorgedelacruz.es/2017/04/27/onlyoffice-instalando-document-server-sobre-ubuntu-16-04-lts/

https://blog.hackingcodeschool.net/instalacion-onlyoffice-document-server-on-lxc-root-server/

https://helpcenter.onlyoffice.com/server/linux/document/linux-installation.aspx