



# **Workshop 03 - Productivity and System Tools**

**SLQ Wiki Fabrication Lab 2024/04/25 21:57**

# Workshop 03 - Productivity and System Tools

Operating systems are only as useful as their compatible software.

Let's identify/install compatible Free and Open Source Software (FOSS), and ensure document/file compatibility between systems.

## FOSS Software Alternatives

There are many software alternatives - examples below (non-FOSS software is underlined):

Software	MS Windows/Apple OSX	Linux
Office	<u>MS Office</u>	Libreoffice
Email	<u>Outlook</u>	Thunderbird
Voicechat	<u>Skype</u>	<u>Skype</u>
Video playback	<u>Windows Media Player/Quicktime</u>	VLC
Web browser	<u>Microsoft Edge/Safari</u>	<u>Chrome</u> , Firefox
DVD/Video tool	Handbrake	Handbrake
Publishing	<u>pagemaker</u>	Scribus
Vector graphics	<u>Adobe Illustrator</u>	Inkscape
Audio Editing	Audacity	Audacity

## Xubuntu Software Installation

Most Xubuntu software is provided as *packages* (programs) in the Ubuntu repository.

Easy installation methods include:

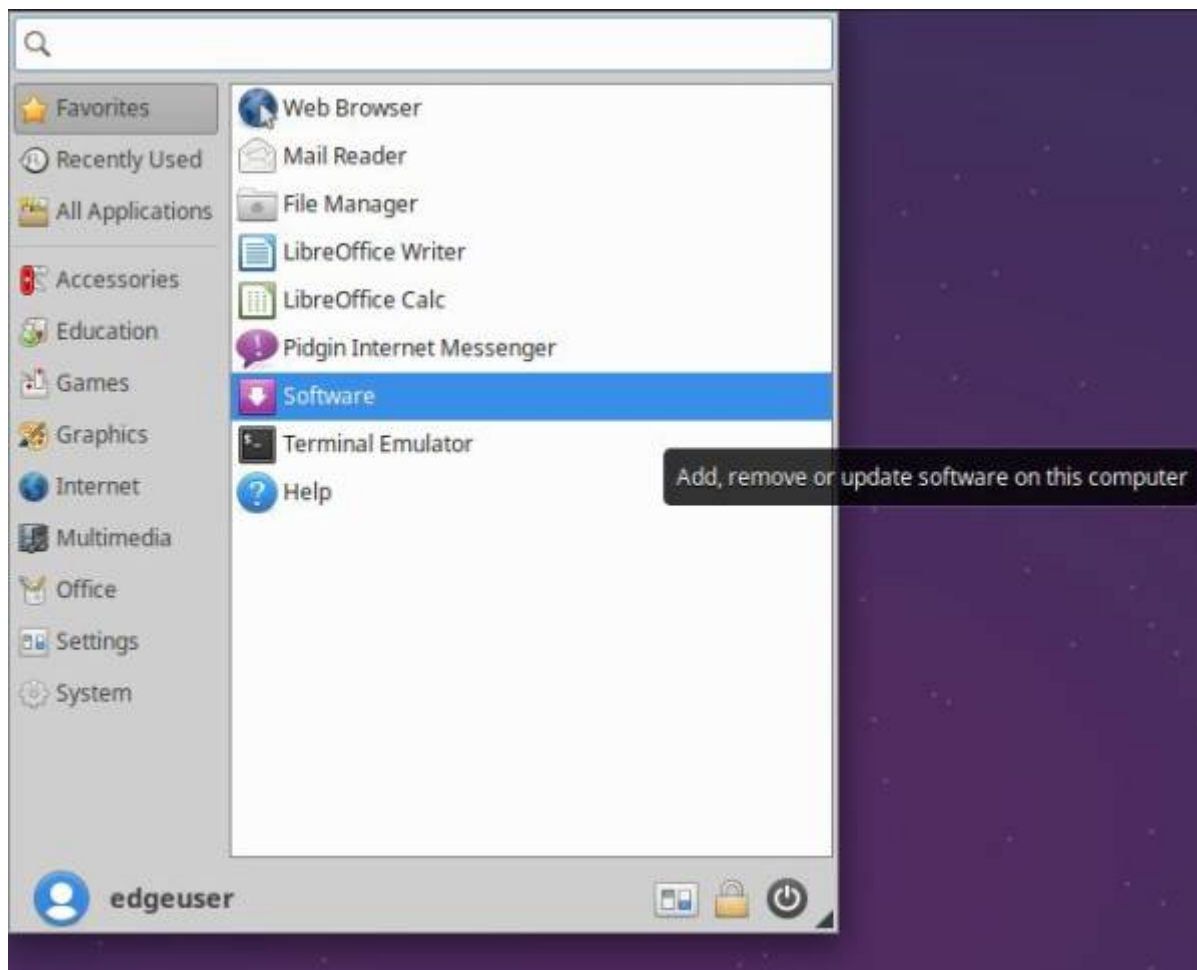
1. Ubuntu Software Centre
2. Using .deb files

We can also install with the Terminal.

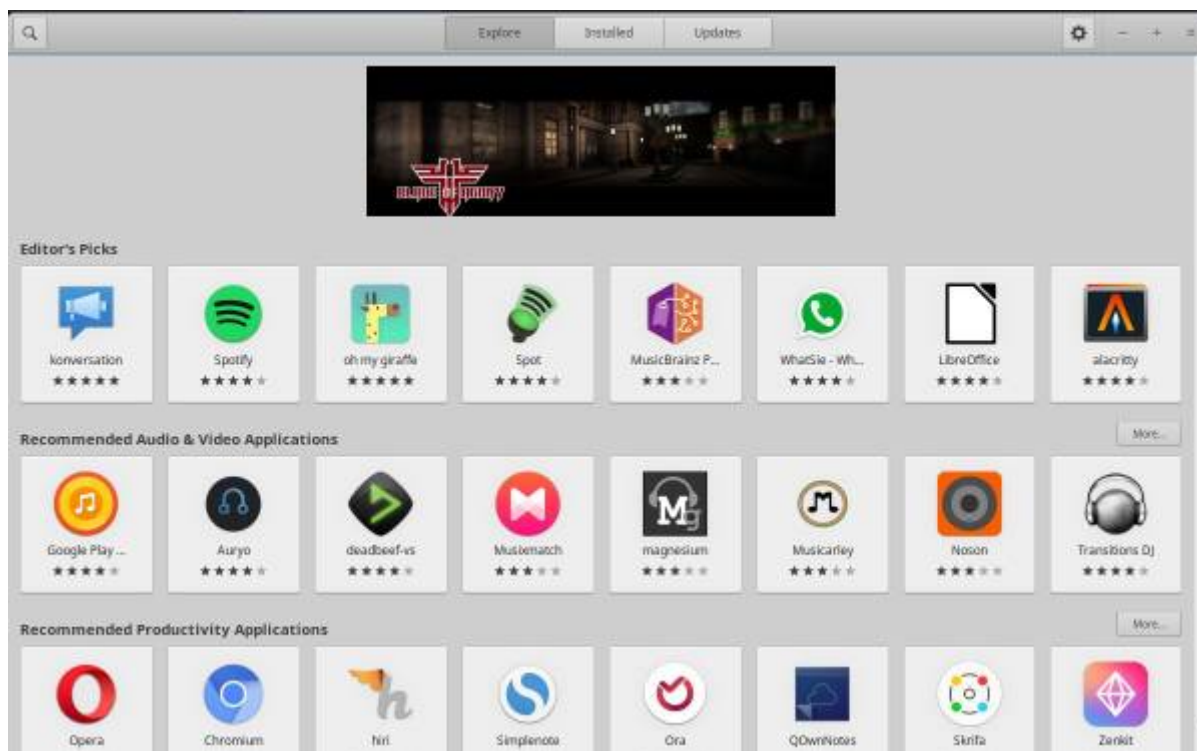
Advanced options include installing from scripts and compiling from source. [View a guide for those methods.](#)

## Software

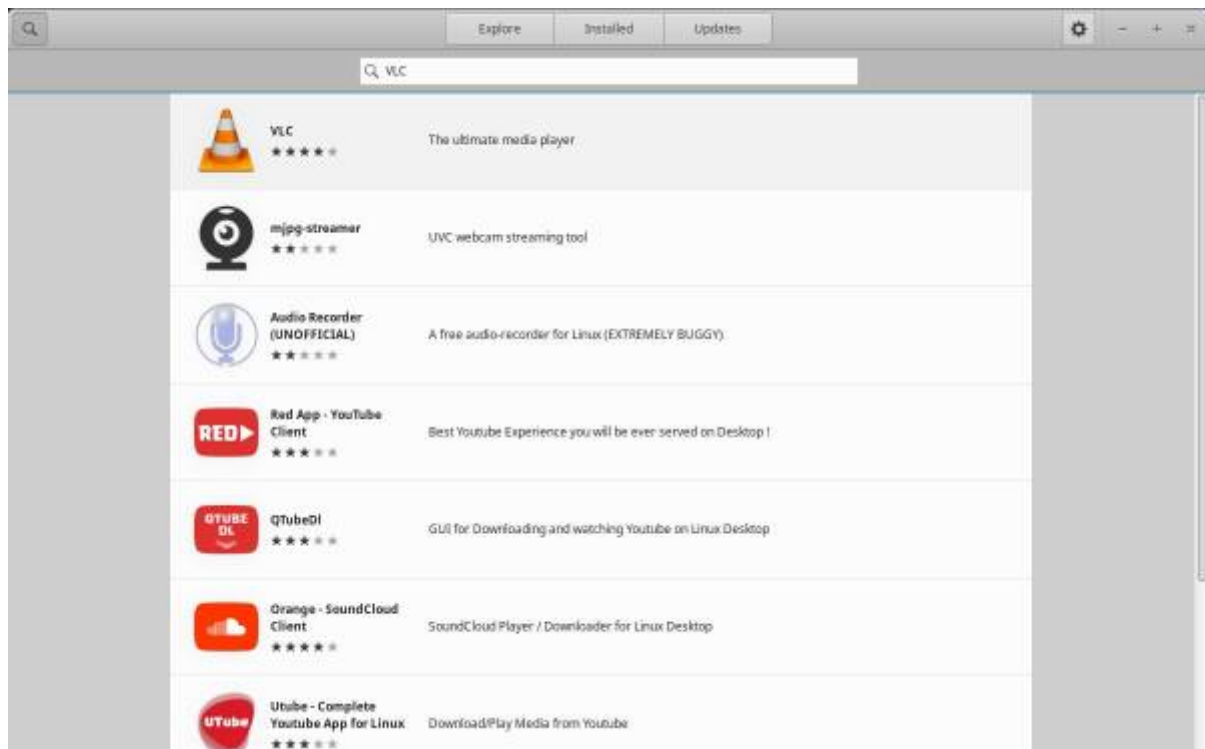
Access new software under 'Software':



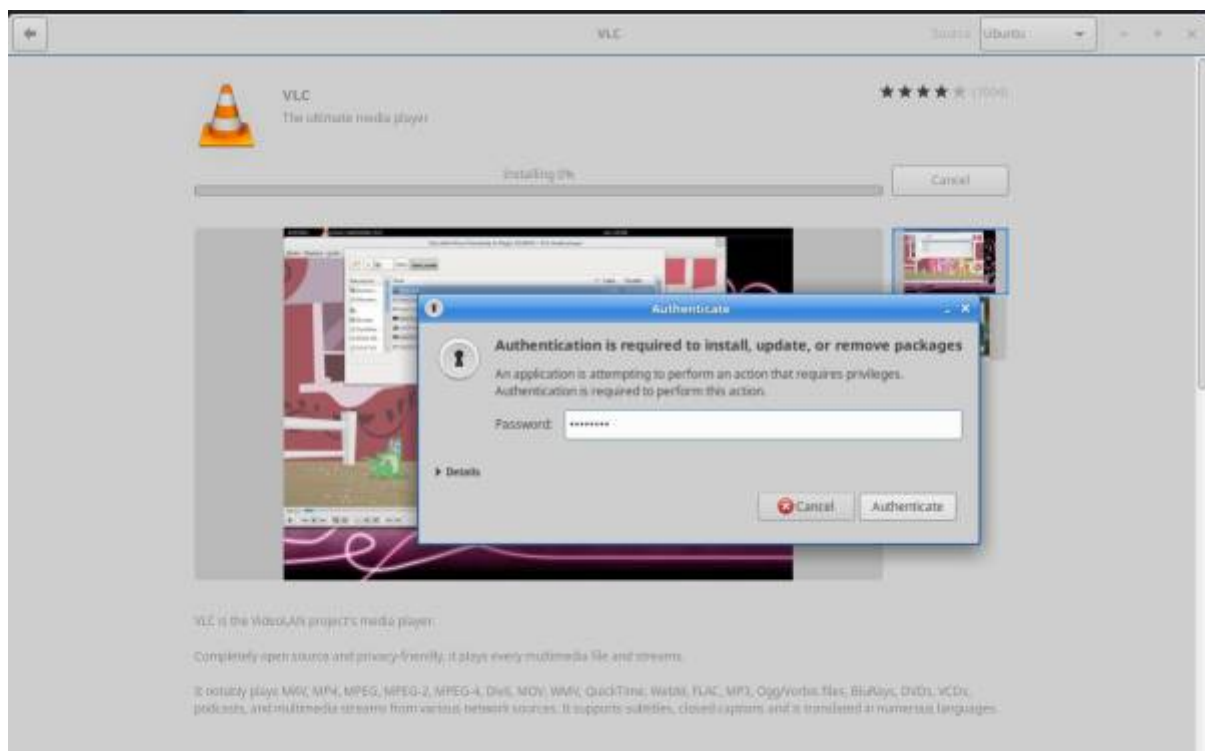
Find/install from here.



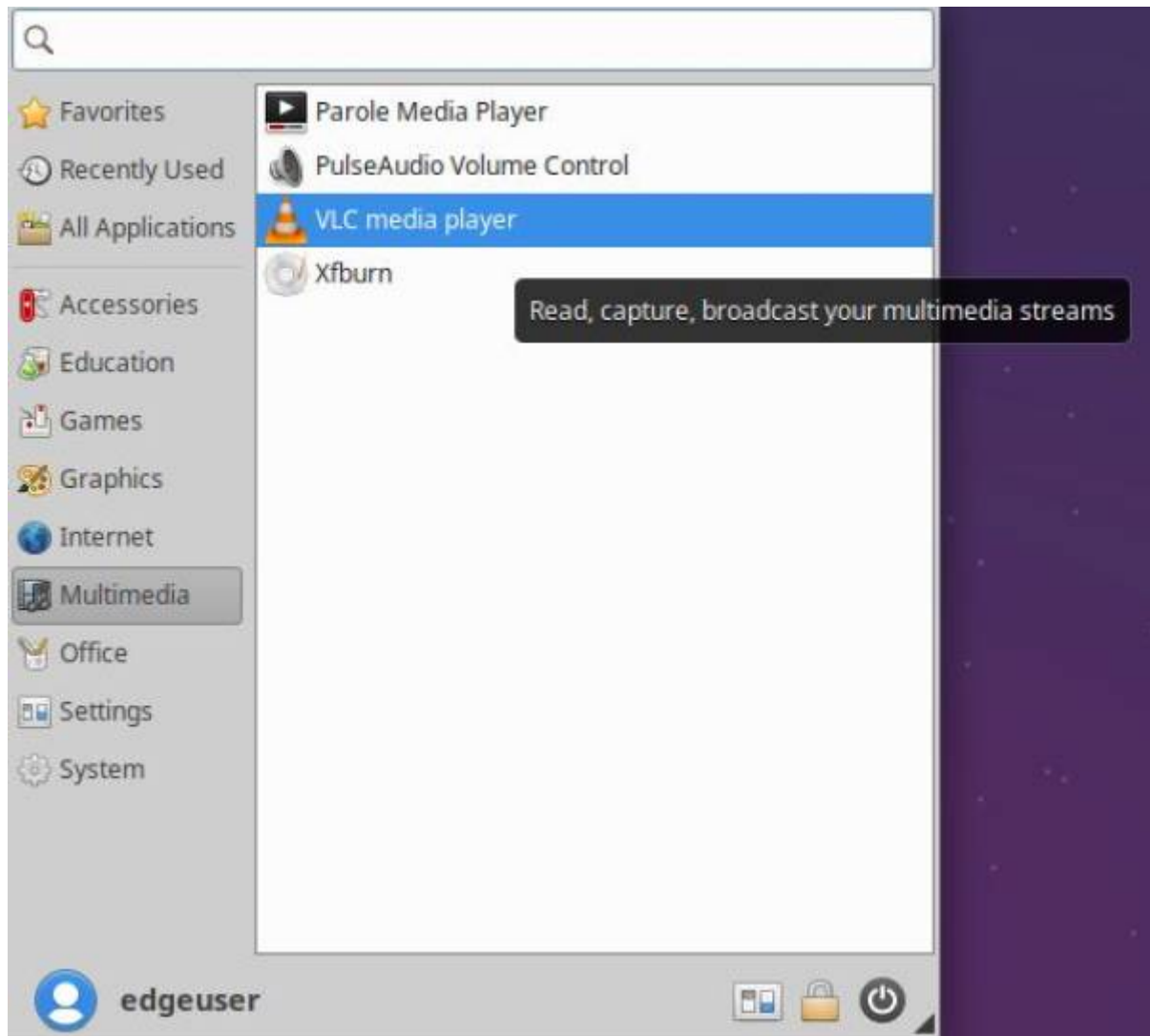
Search for video player, VLC:



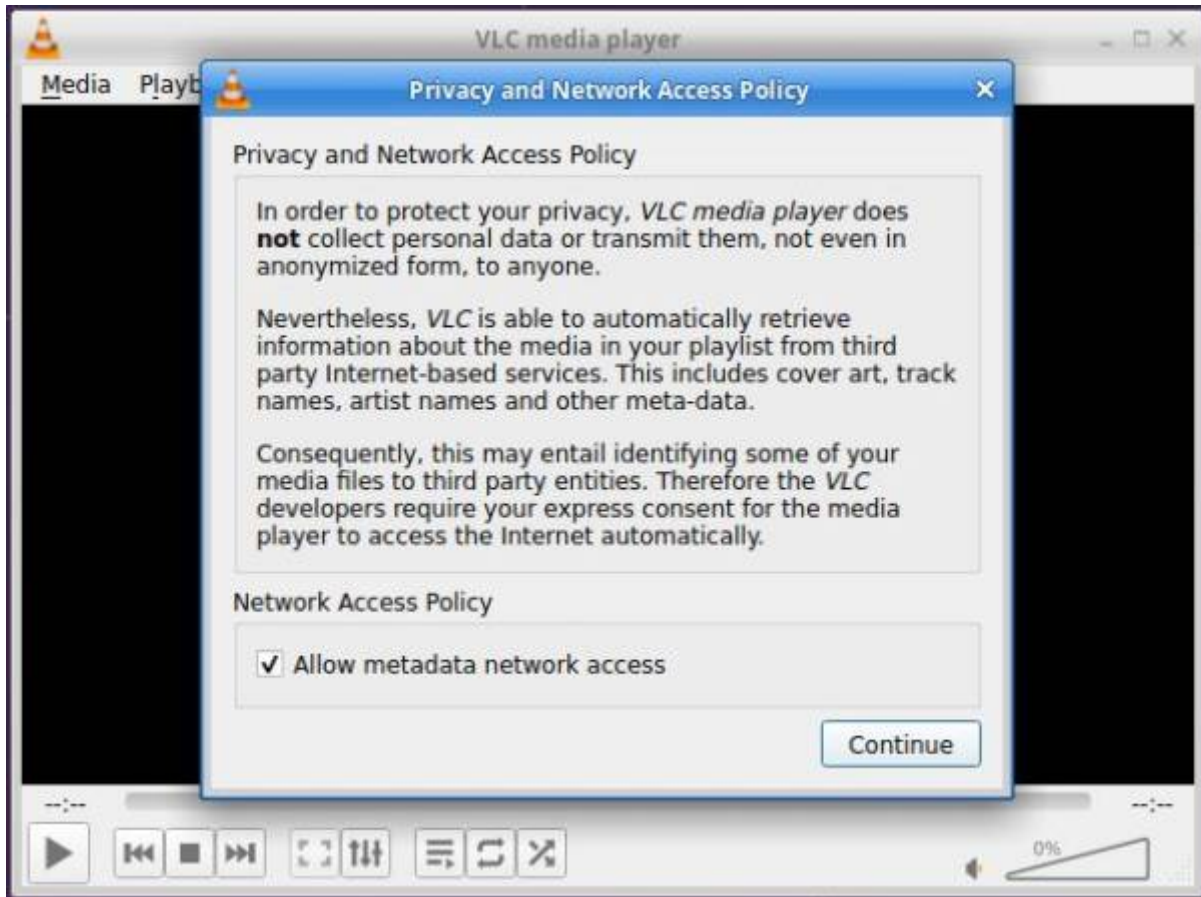
Select and install. It will prompt you to enter your password.



Now find it under 'Multimedia'. Right click to add to favourites.



Launch VLC and enable network access.



Done!

## .deb Files

Software can be installed from .deb files.

Install only from **trusted sources** to avoid malicious software. If in doubt, [search](#) the [user](#) forums.

Let's run an installer for [clementine](#):

1. Download .deb from [clementine.org](#) [downloads](#). (Choose 64bit)
2. Double-click to open.
3. Install as with VLC.

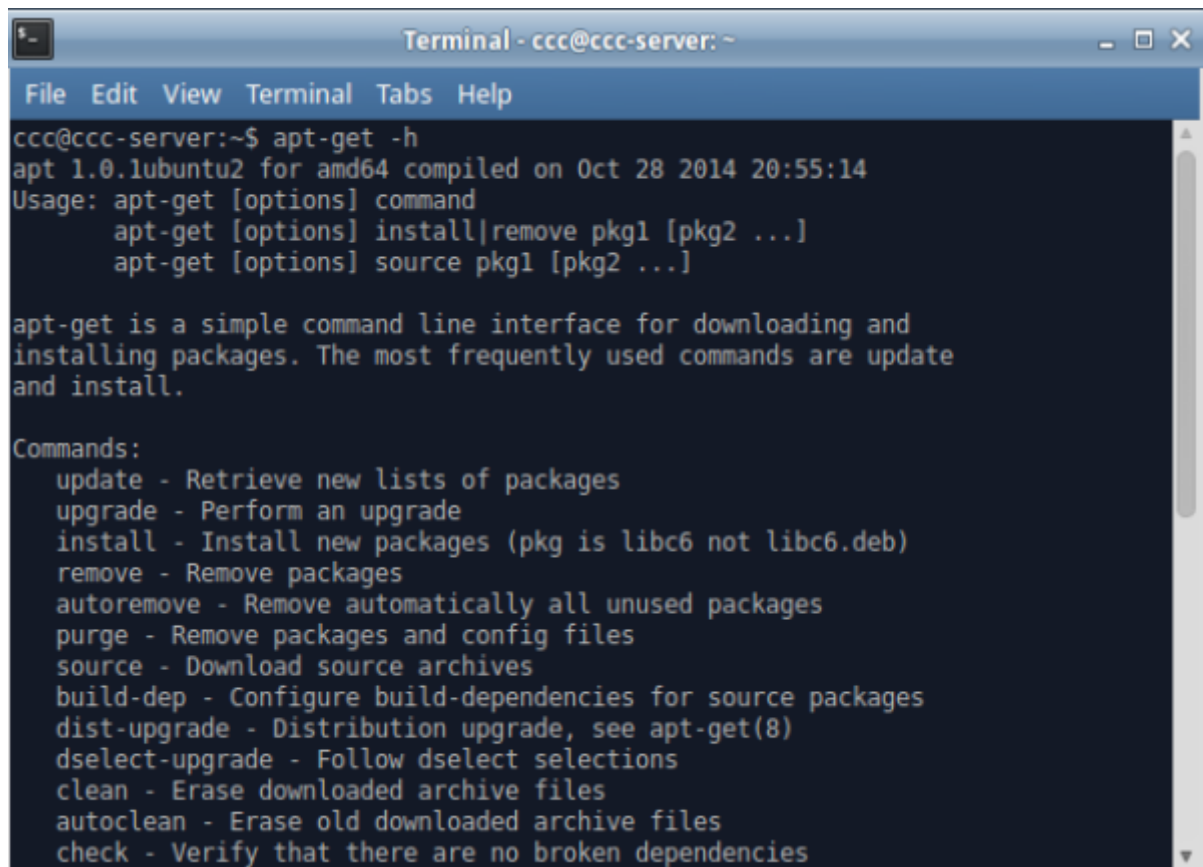
## Package Management

Xubuntu uses a *package management system* (PMS) to find, install, update and upgrade software packages.

Use the Terminal to enter commands such as `dpkg` to install and `apt-get` to search/download from repositories. Try this:



1. Open a terminal emulator from the whisker menu, or with `ctrl+alt_t`.
2. Type `apt-get -h`
3. This displays the help for `apt-get` and gives a simple explanation of what it does.



```
Terminal - ccc@ccc-server: ~
File Edit View Terminal Tabs Help
ccc@ccc-server:~$ apt-get -h
apt 1.0.lubuntu2 for amd64 compiled on Oct 28 2014 20:55:14
Usage: apt-get [options] command
       apt-get [options] install|remove pkg1 [pkg2 ...]
       apt-get [options] source pkg1 [pkg2 ...]

apt-get is a simple command line interface for downloading and
installing packages. The most frequently used commands are update
and install.

Commands:
  update - Retrieve new lists of packages
  upgrade - Perform an upgrade
  install - Install new packages (pkg is libc6 not libc6.deb)
  remove - Remove packages
  autoremove - Remove automatically all unused packages
  purge - Remove packages and config files
  source - Download source archives
  build-dep - Configure build-dependencies for source packages
  dist-upgrade - Distribution upgrade, see apt-get(8)
  dselect-upgrade - Follow dselect selections
  clean - Erase downloaded archive files
  autoclean - Erase old downloaded archive files
  check - Verify that there are no broken dependencies
```

With new installations we usually update/upgrade so we have the most recent packages in our sources. We've already done this with Software Updater, but try it anyway:

1. Type `$ sudo apt-get update`
2. Enter your password when prompted.
3. `Apt-get` will search through its list of software available and provide output.
4. Type `$ sudo apt-get upgrade`
5. `Apt-get` will upgrade the packages found in its update (if not already completed).

## The Terminal

The terminal is text only or *Command Line Interface (CLI)*. Combined with a shell (to interpret commands), it is the most powerful and direct way to use a computer.

Some symbols are used often. Eg, Open Terminal and you will see:

```
sdlw@sdlw-server:~$
```

It indicates:

- Who I am (sdlw)

- What computer I'm on (sdlw-server)
- Where I am in that computer (the home directory (~ is a home directory shortcut))
- My user type (standard user (\$))

Navigate using commands:

- Forward slash (/) shows your current directory (folder).
- Single forward slash (/) is the 'root directory' (it contains all other directories)
- Tilde (~) indicates your home directory. If you are user, then the tilde (~) stands for '/home/user' (where 'user' is your username).

pwd shows your current directory (pwd = "print working directory").

```
sdlw@sdlw-server:~$ pwd  
/home/sdlw
```

ls or *list* shows files in your current directory. Commands can show sizes, dates and permissions of files.

- Try `ls -al` - to show files in the current directory, with information on type and permissions.

cd changes directories. Eg:

- For root directory, use `cd /`
- For home directory, use `cd` or `cd ~`
- Go up one level with `cd ..`
- Go to the previous directory with `cd -`

Change multiple directories by describing the path, separating directory names with `/`.

Eg, `cd /var/www` goes to the `/www` subdirectory of `/var/`.

### **Try to use cd and ~ to get to your desktop!**

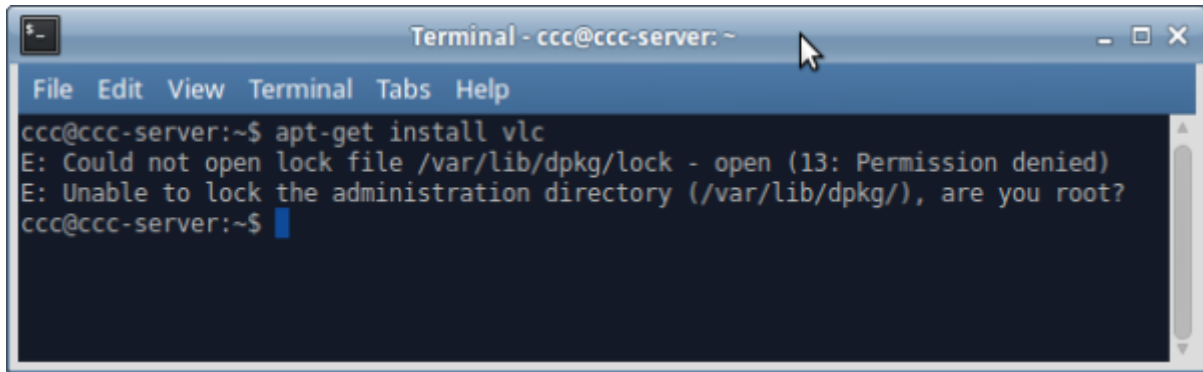
Many commands need `sudo` at the start. This 'elevates privileges to the root-user administrative level temporarily' so you can work with directories/files not owned by your account.

Eg, try running `apt-get install` without `sudo`:

```
$ apt-get install vlc
```

It shows an error:



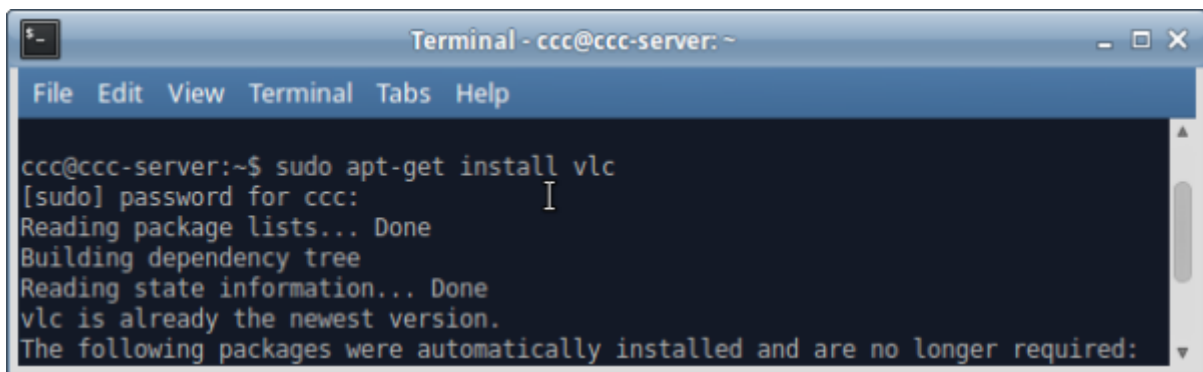
A terminal window titled "Terminal - ccc@ccc-server: ~" with a menu bar (File, Edit, View, Terminal, Tabs, Help). The command prompt shows the user attempting to install VLC using 'apt-get install vlc'. The system returns an error: 'E: Could not open lock file /var/lib/dpkg/lock - open (13: Permission denied)' and 'E: Unable to lock the administration directory (/var/lib/dpkg/), are you root?'. The prompt returns to the user.

```
ccc@ccc-server:~$ apt-get install vlc
E: Could not open lock file /var/lib/dpkg/lock - open (13: Permission denied)
E: Unable to lock the administration directory (/var/lib/dpkg/), are you root?
ccc@ccc-server:~$
```

Try again with:

```
$ sudo apt-get install vlc
```

Enter password, and apt-get will function.

A terminal window titled "Terminal - ccc@ccc-server: ~" with a menu bar (File, Edit, View, Terminal, Tabs, Help). The command prompt shows the user running 'sudo apt-get install vlc'. The system prompts for the password, then shows progress: 'Reading package lists... Done', 'Building dependency tree', and 'Reading state information... Done'. It then states 'vlc is already the newest version.' and 'The following packages were automatically installed and are no longer required:'.

```
ccc@ccc-server:~$ sudo apt-get install vlc
[sudo] password for ccc:
Reading package lists... Done
Building dependency tree
Reading state information... Done
vlc is already the newest version.
The following packages were automatically installed and are no longer required:
```

Learn more with *linux Command Line* by William Shotts. Download [here](#).

## Install Additional Software

Install remaining software (such as Libre Office) via Ubuntu Software Centre, .deb files, or with the terminal.

## Cross-platform Compatibility

There are a number of formats we can use to transfer easily between systems. These include:

- FAT - disk limit of 4GB (Xubuntu/Windows/OSX).
- FAT32 - disk limit of 1000GB, file limit of 4GB (Xubuntu/Windows/OSX).
- NTFS - Large disk/file limits (Xubuntu/Windows. OSX can read with additional software, but cannot write to this format).
- exFAT - Large disk/file limits (Windows/OSX. Xubuntu requires additional setup.)
- HFS and HFS+ (OSX. Xubuntu requires additional setup)

To use exFAT on Xubuntu, install via Terminal:

```
sudo apt-get install exfat-fuse exfat-utils
```

To read HFS/HFS+ and write to HFS, install via Terminal:

```
sudo apt-get install hfsprogs
```

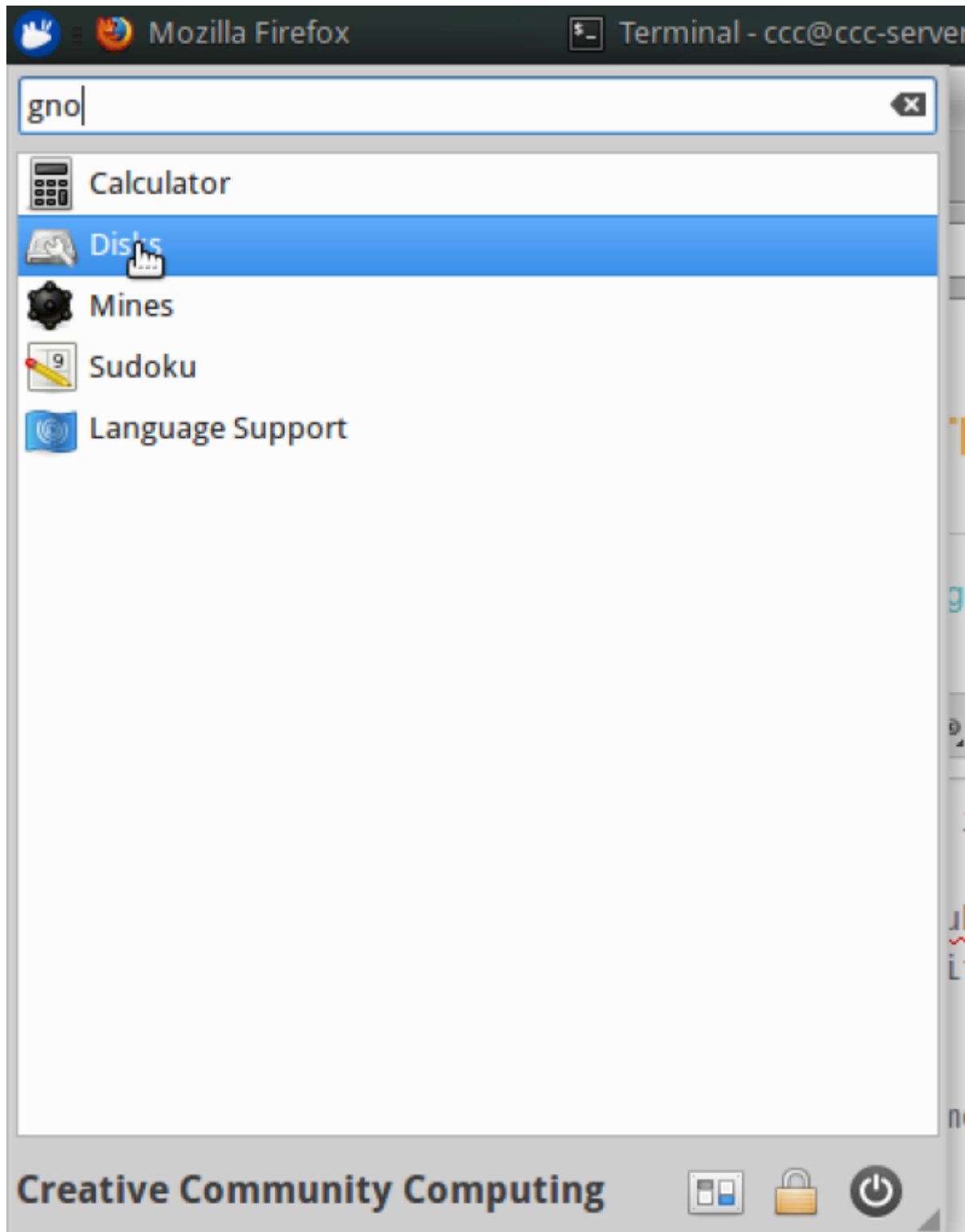
Writing to HFS+ requires additional setup. Consider using ExFAT instead if possible.

## Formatting External/Internal Disks

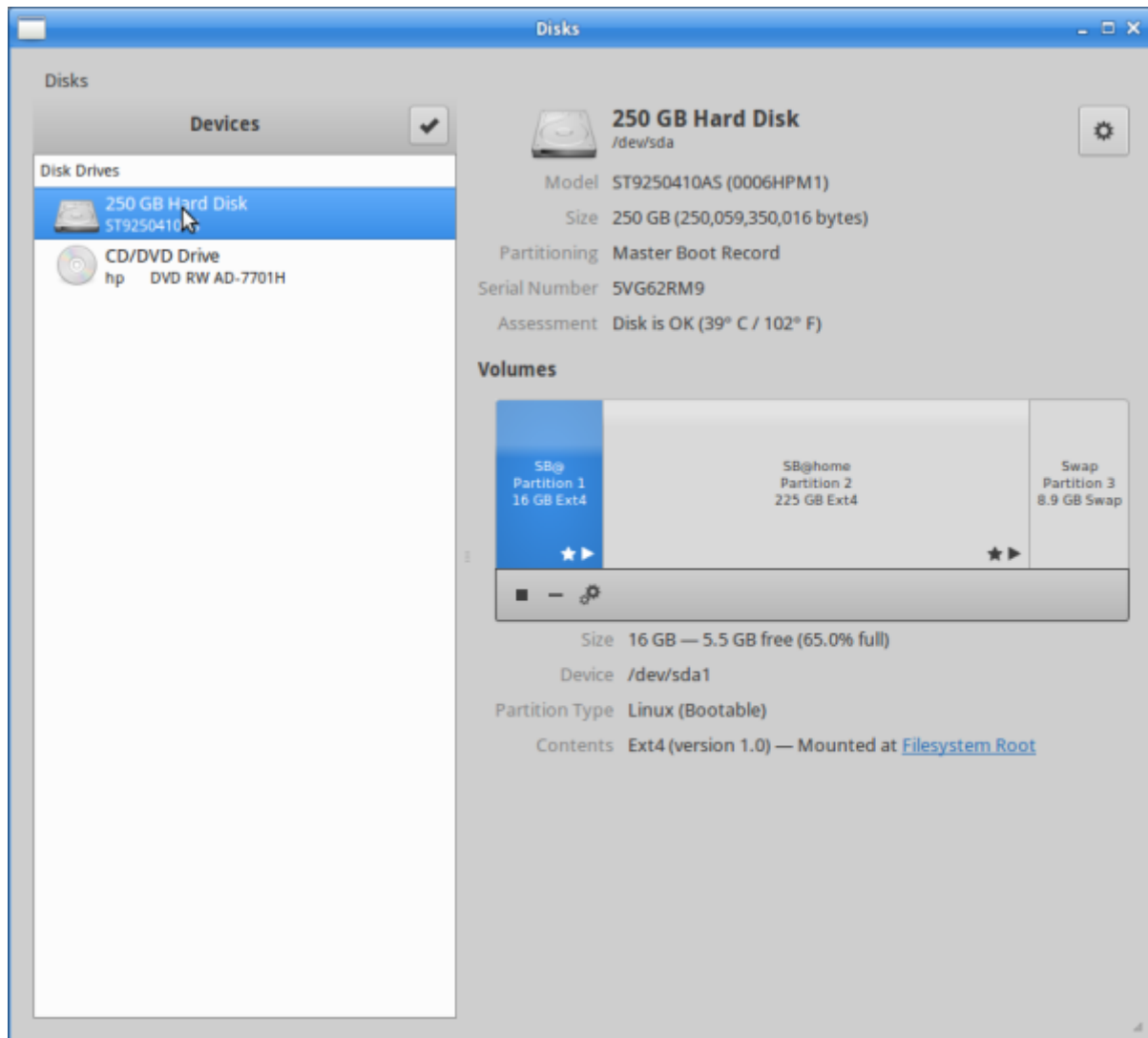
Xubuntu itself can't format drives/removable media, so install Gnome-Disk-Utility:

```
sudo apt-get install gnome-disk-utility
```

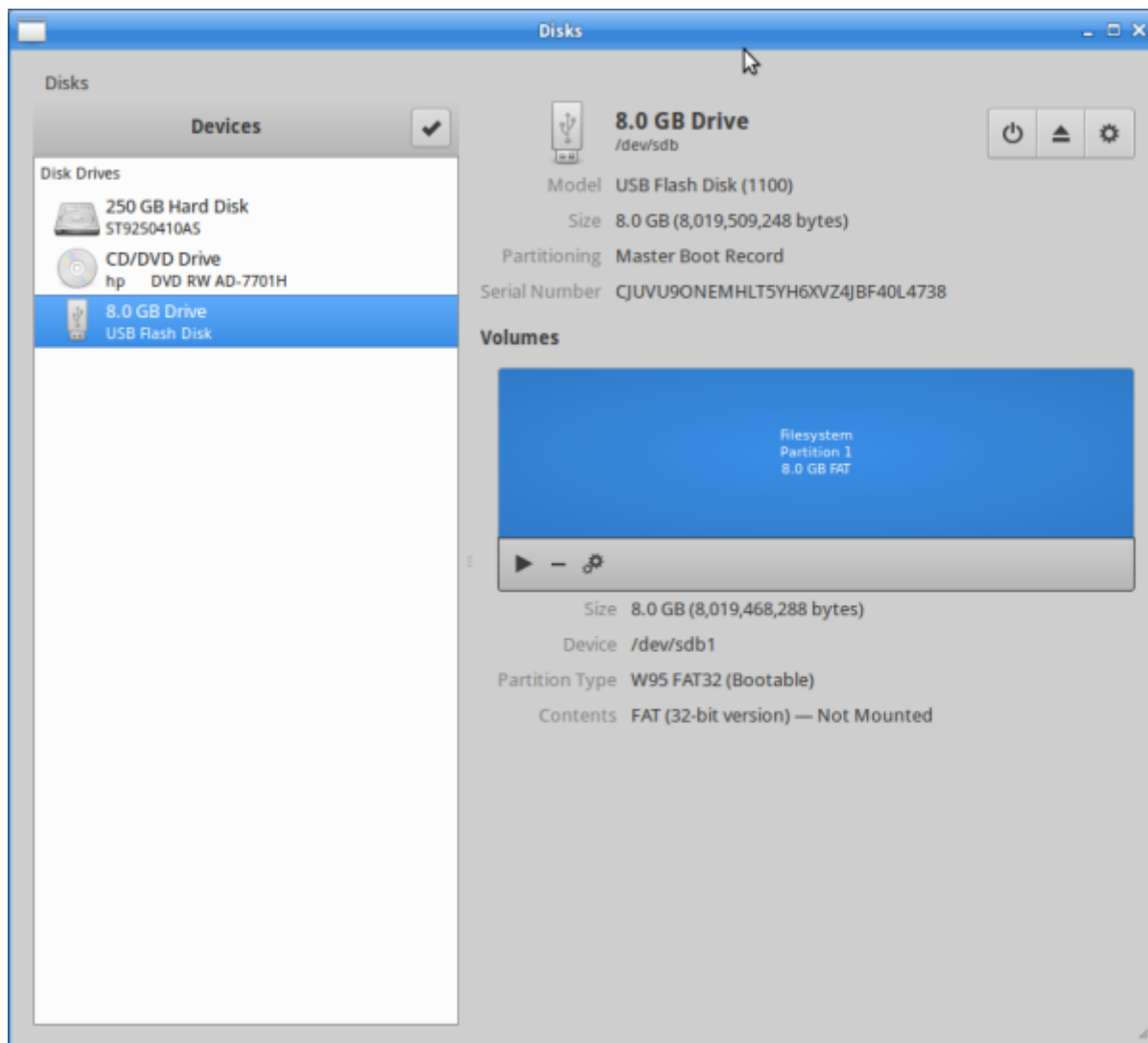
Once installed, open 'Disks' from the whisker menu.



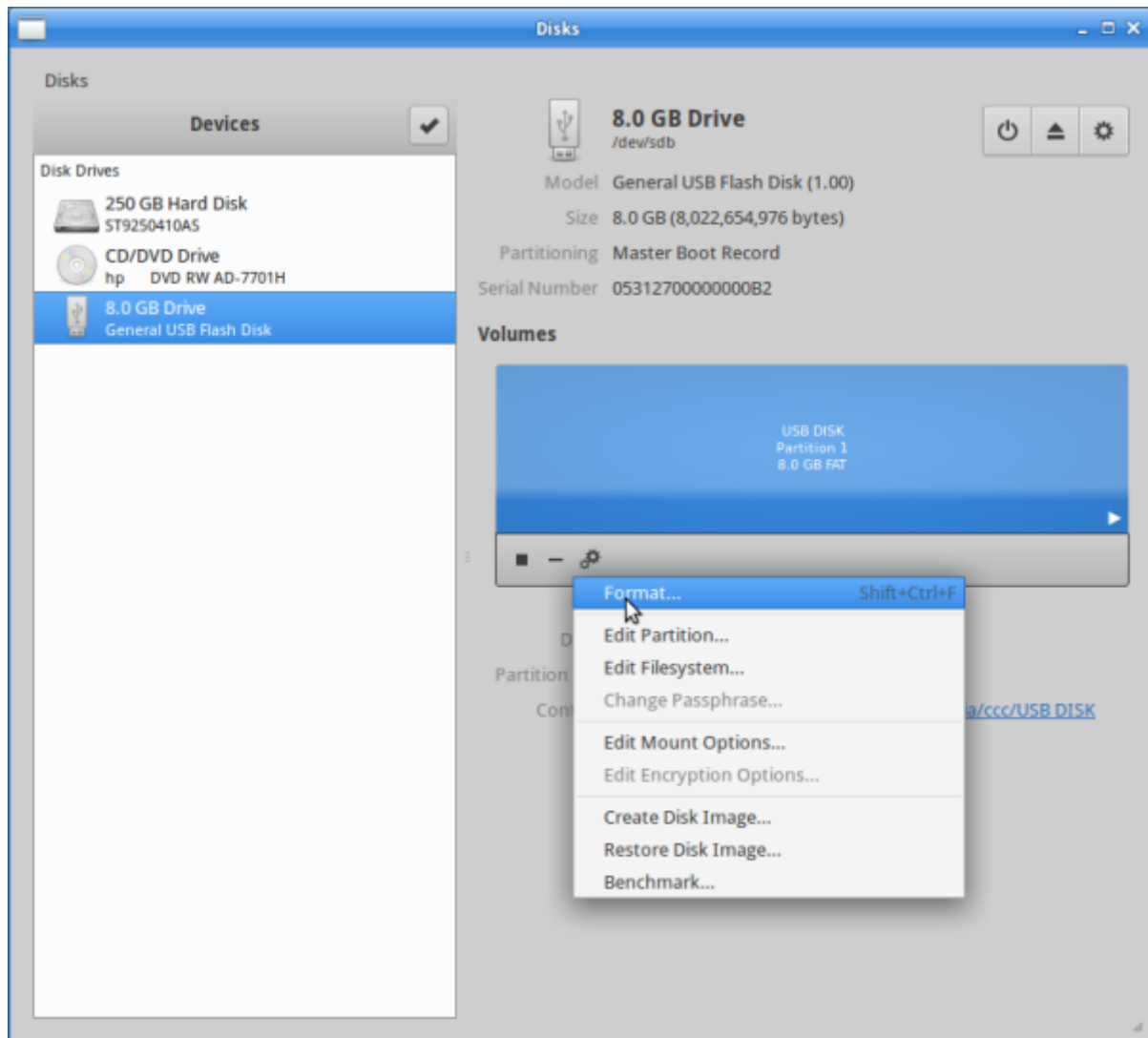
It shows your internal hard drive and any other available drives.



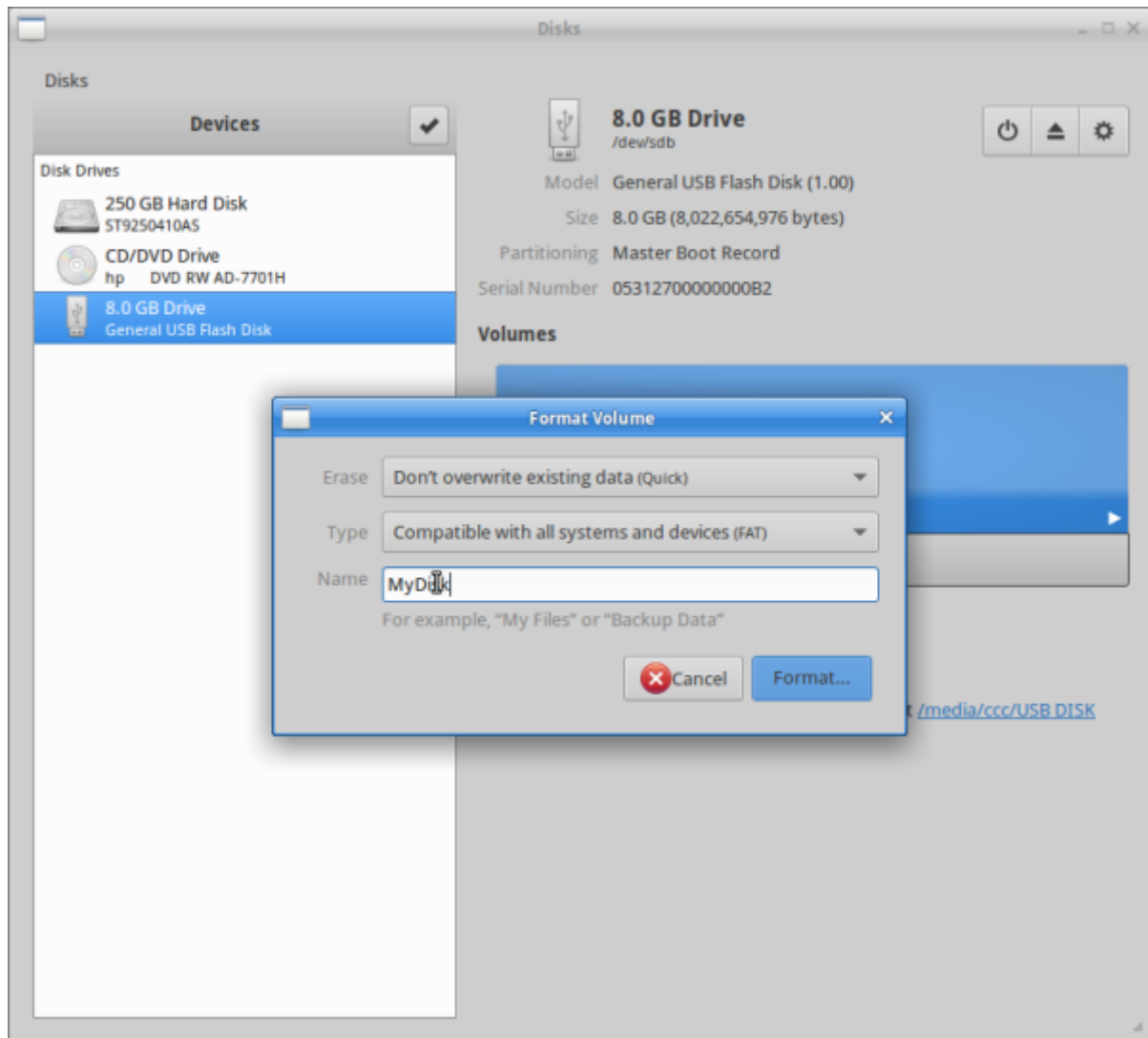
Insert your USB:



To wipe, choose format and name.

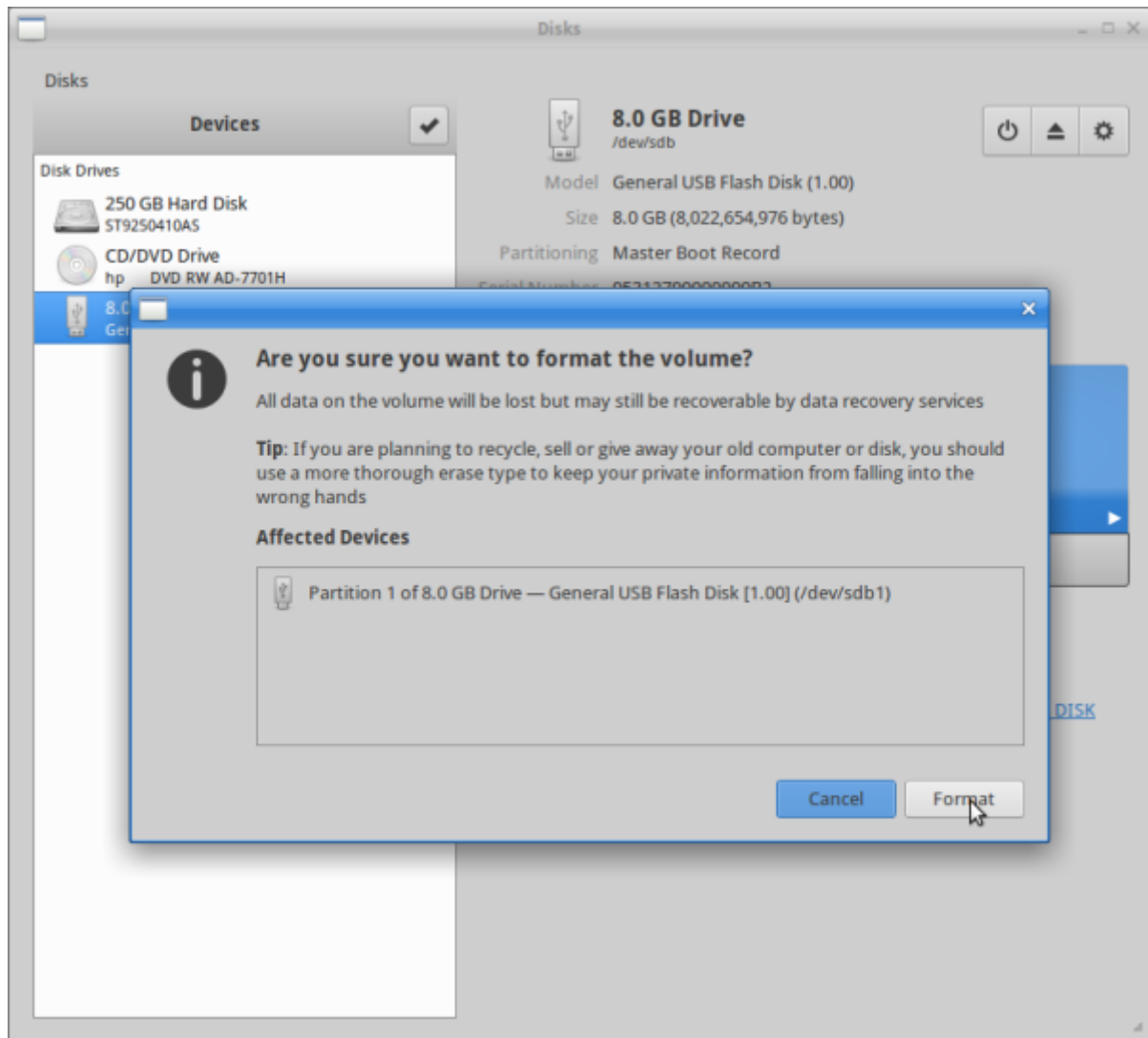


Use [FAT32](#) for cross-platform compatibility.



Confirm.

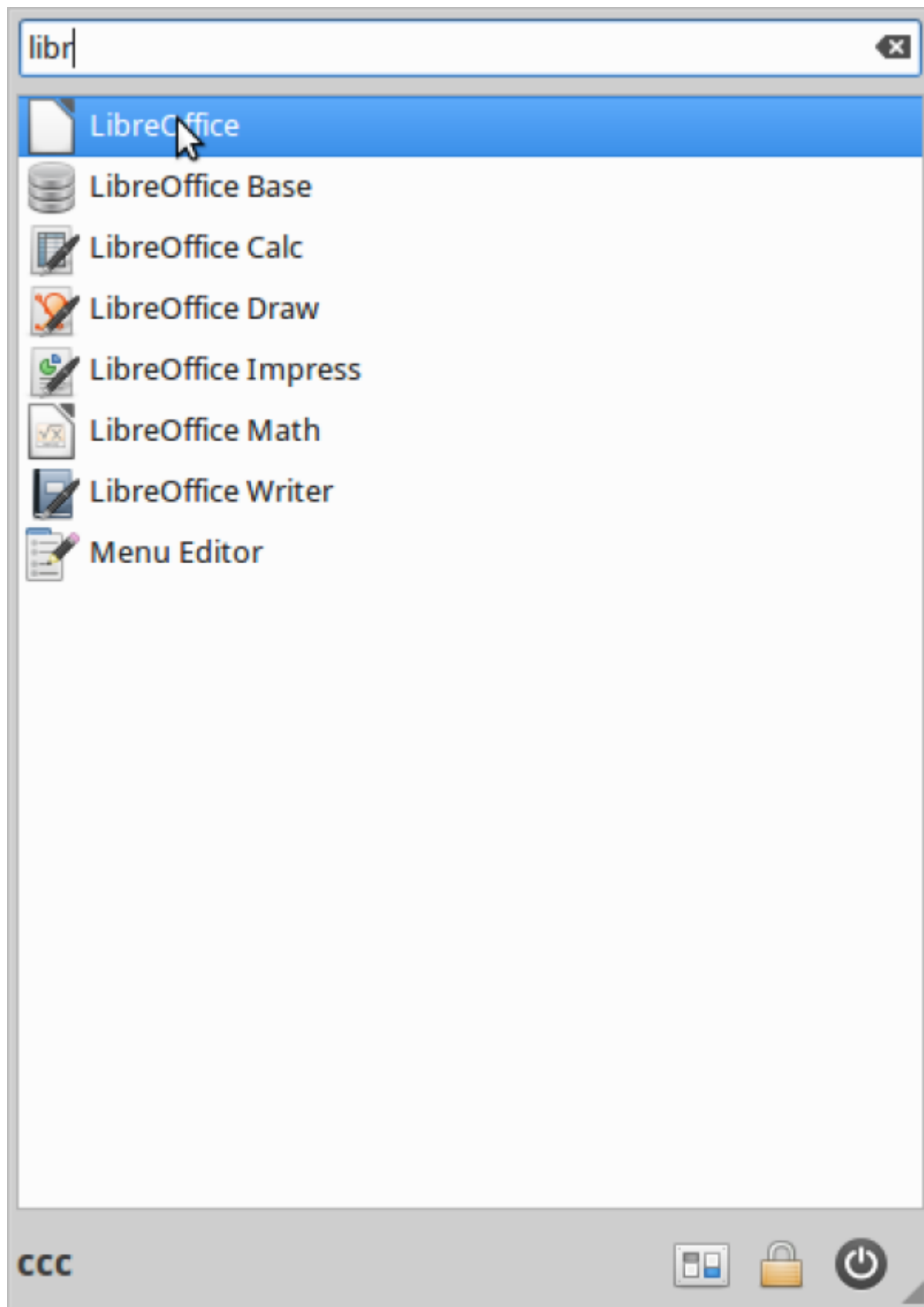




## Libre Office

LibreOffice (a FOSS office productivity) uses the Open Document Format. For Microsoft Office compatibility, let's change default file formats.

Open LibreOffice:



Go to 'Tools', then 'Options'. Select 'Load/Save', then 'General'. Select document type 'Text Document', and change type to 'Microsoft Word 2007 - 365 \*.docx'

INSERT PICTURE HERE.

You can do the same for other file types, eg, spreadsheets. Click 'OK' to confirm.

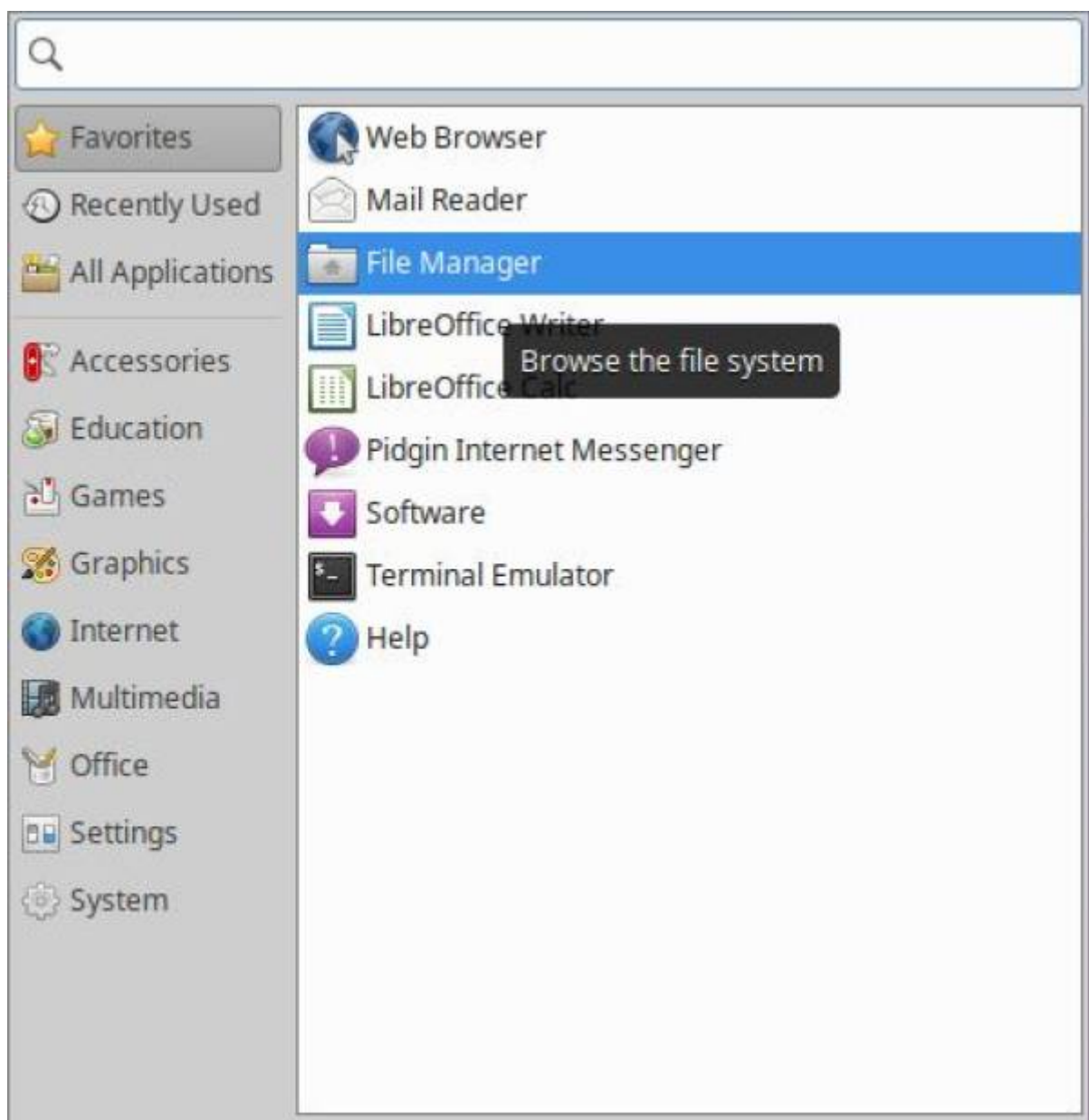
# Backups

*Backups* copy your data so you can *recover* or *restore* if needed. For safety, backups should be stored externally (external drive, USB or other computer) and checked to ensure they work. Try these options.

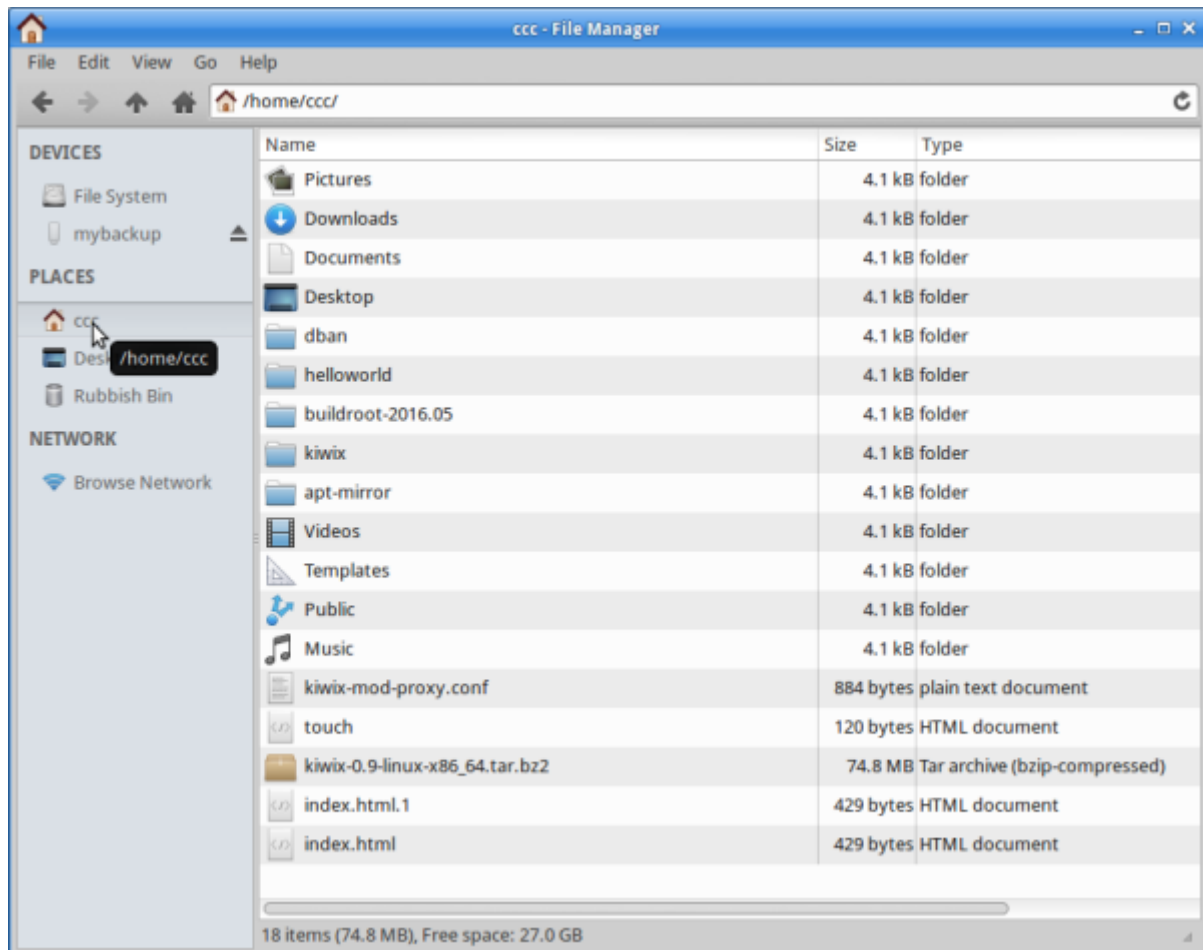
## Copy Your Files

The home directory stores your personal files. Try copying it to USB via File Manager.

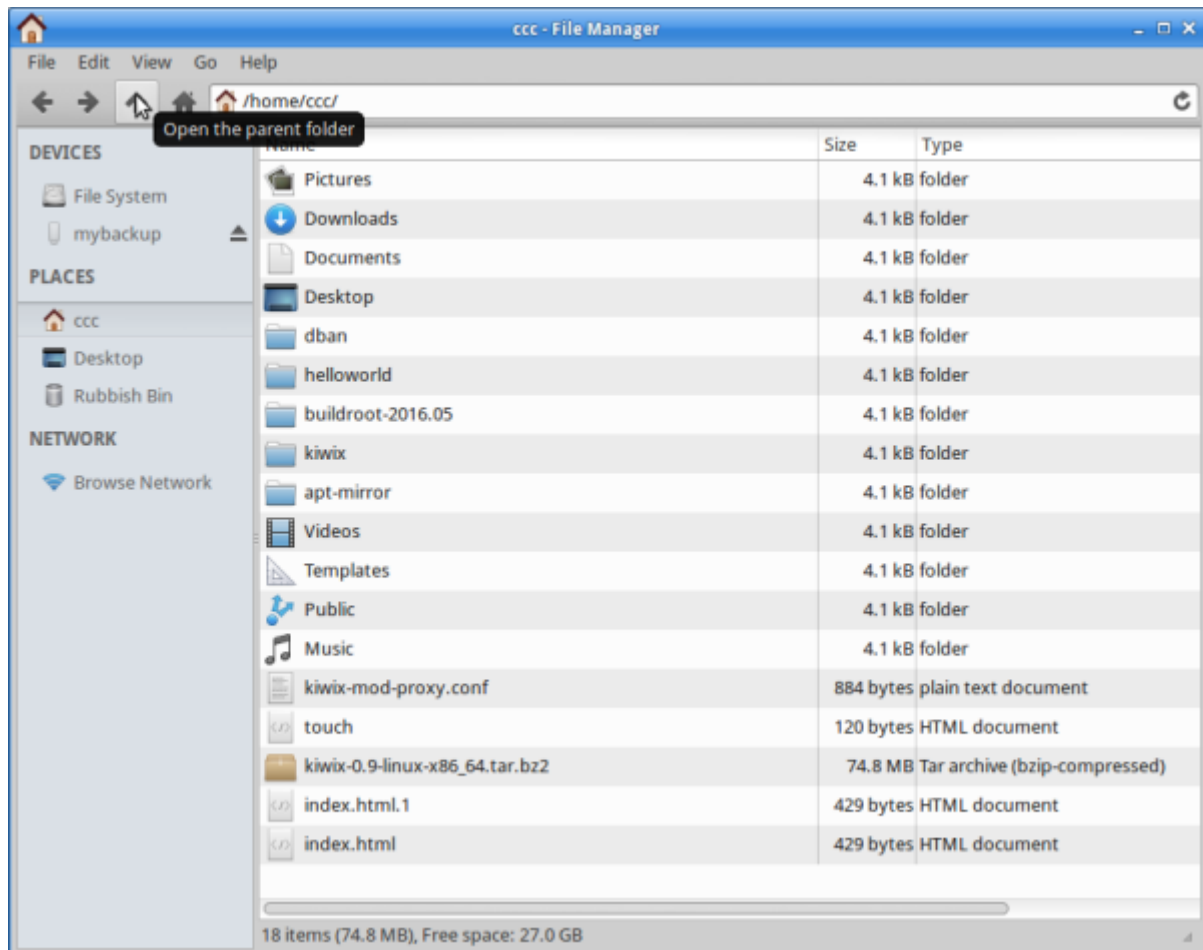
Open File Manager:



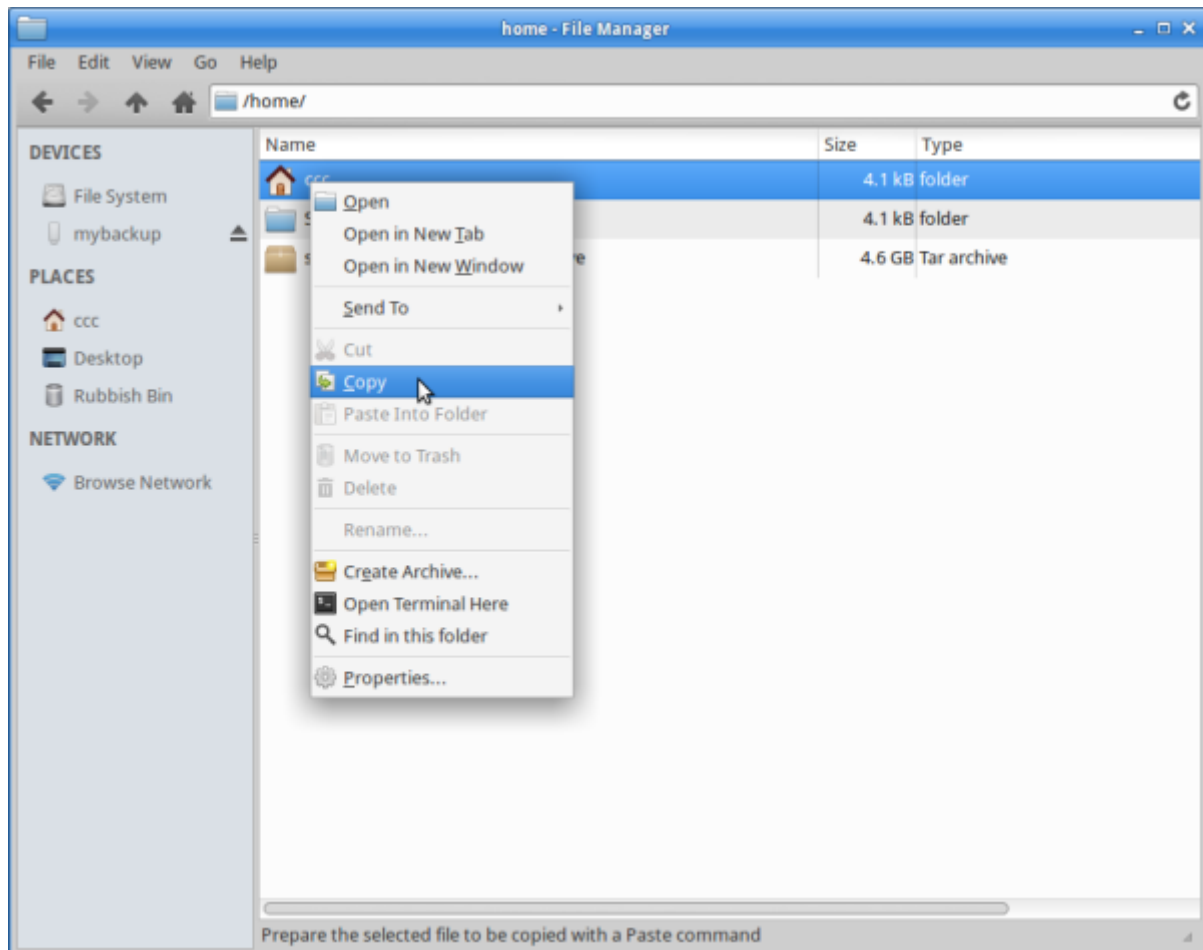
Select your home directory from the sidebar (Here it's 'sdlw'):



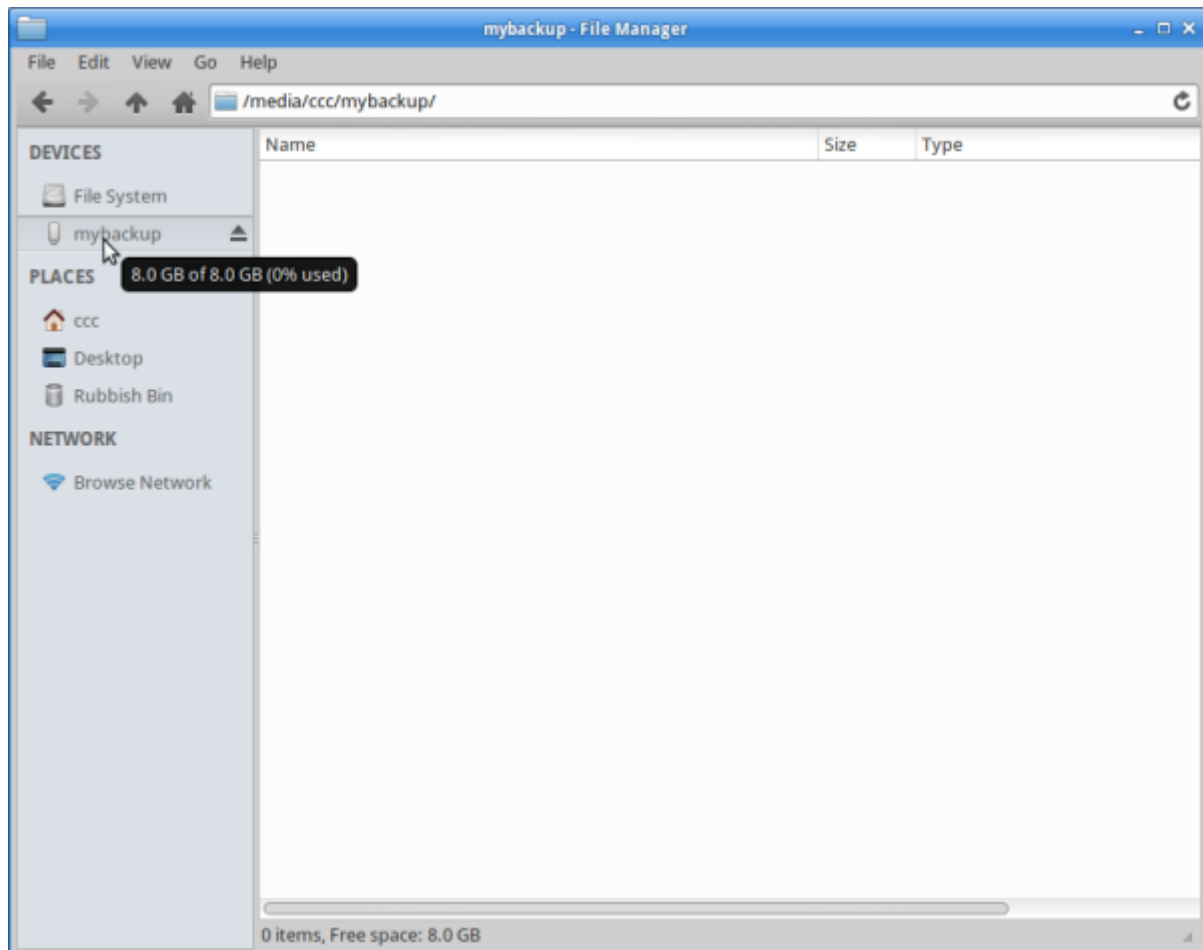
Go up one level to see the home directory folder:



Right click and copy.

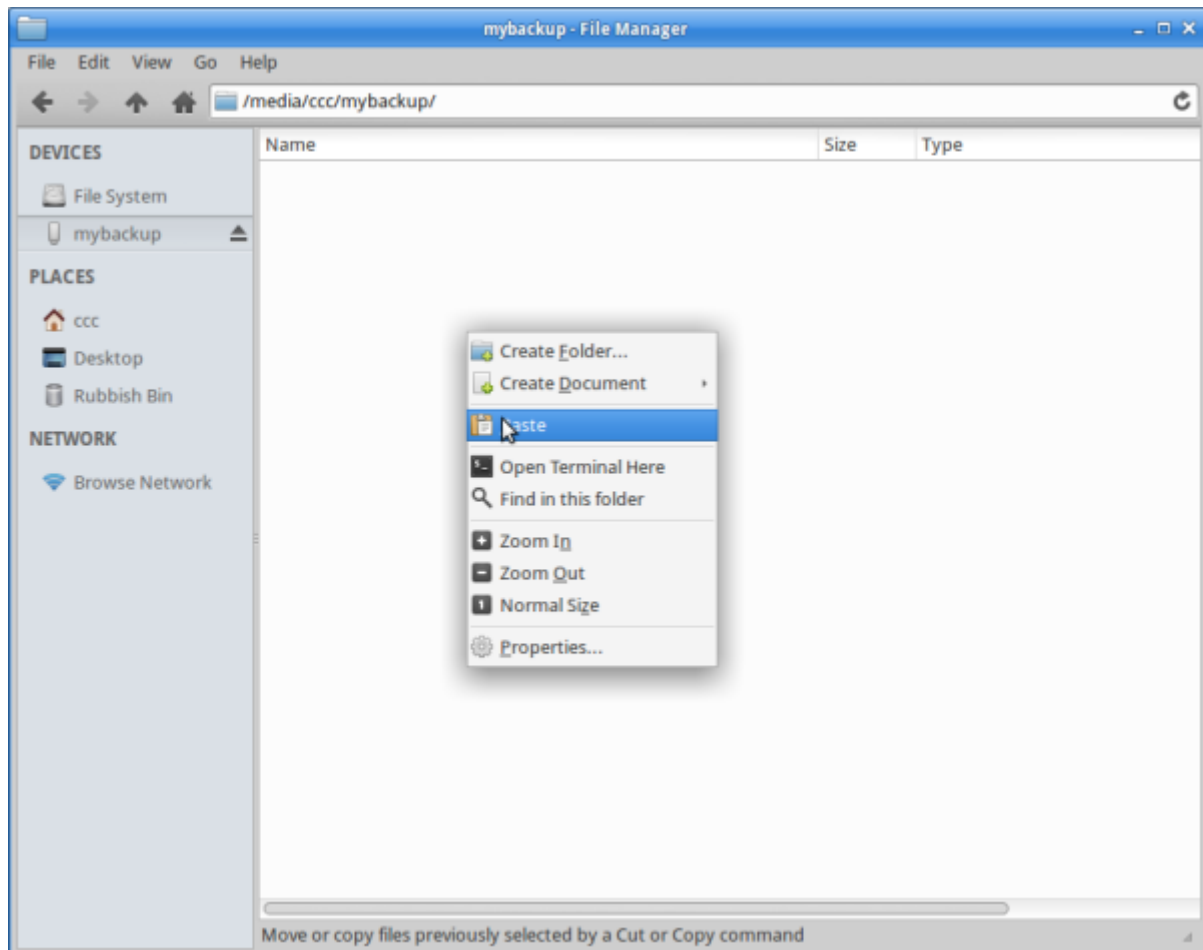


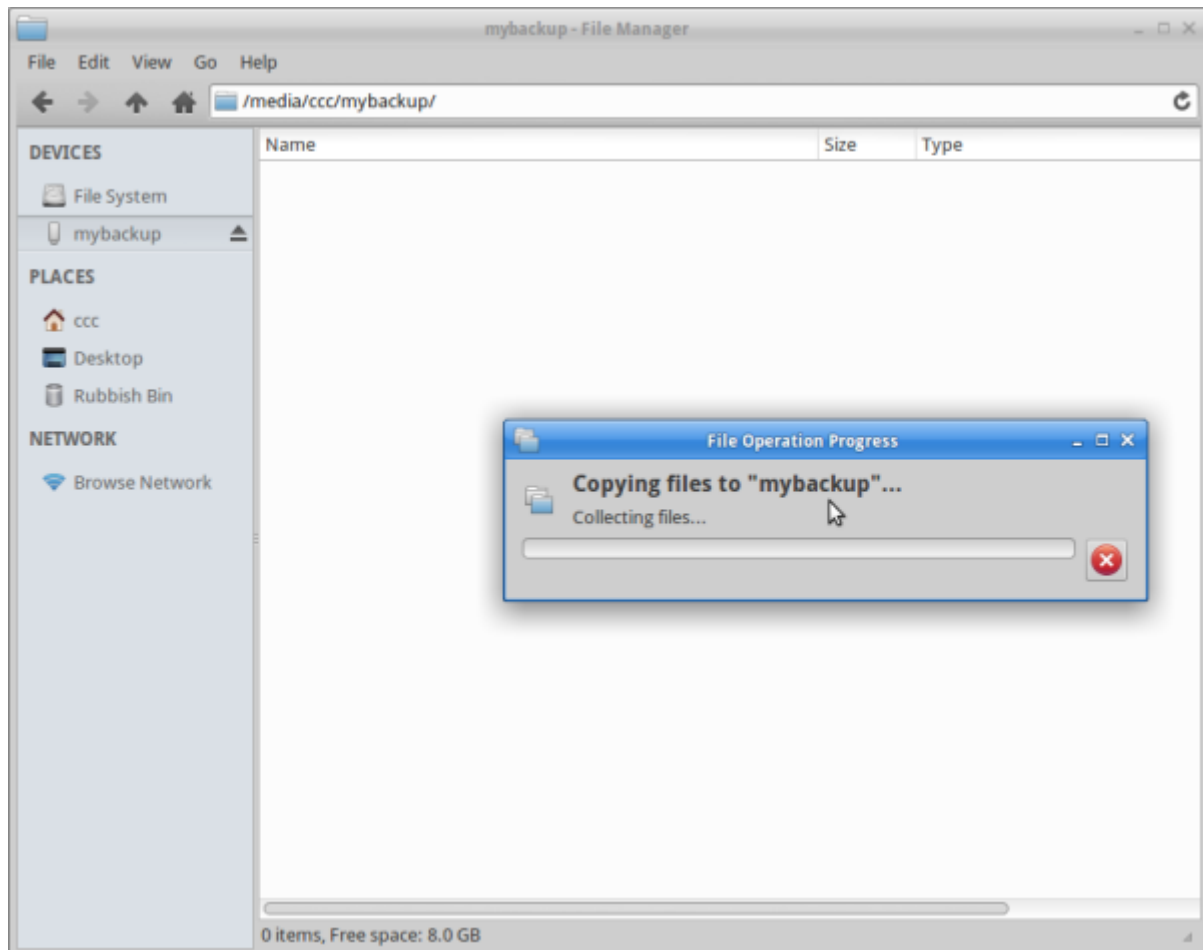
Select your USB:



And paste.





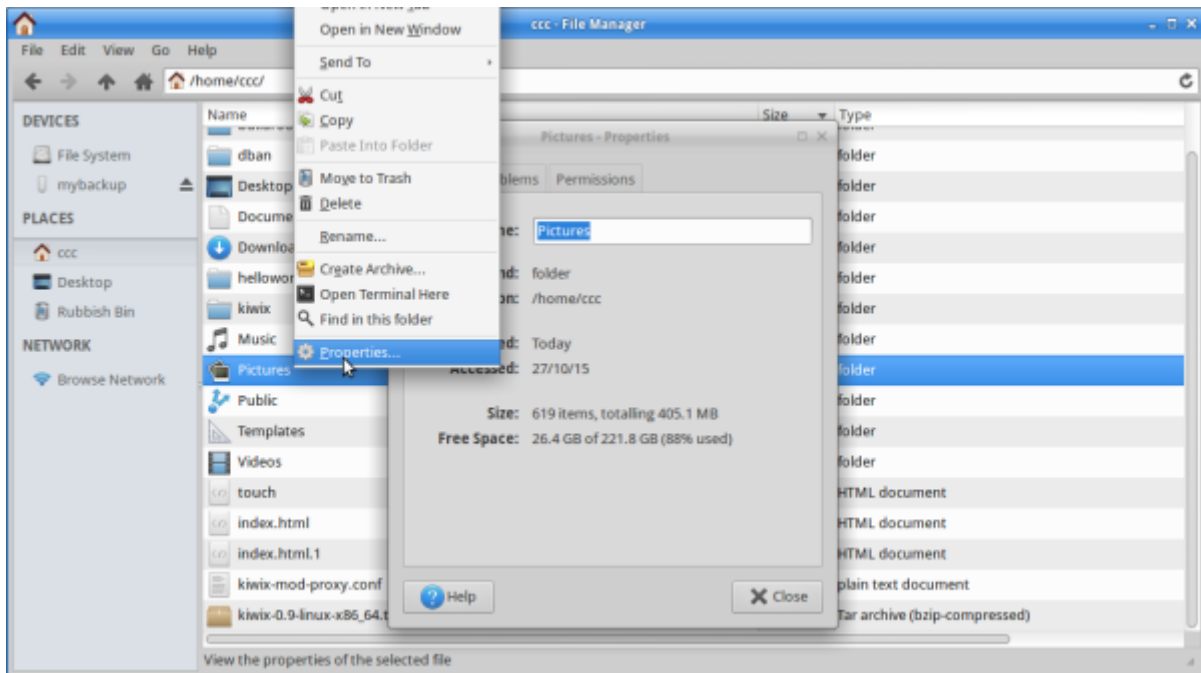


Once complete, check your copied files.

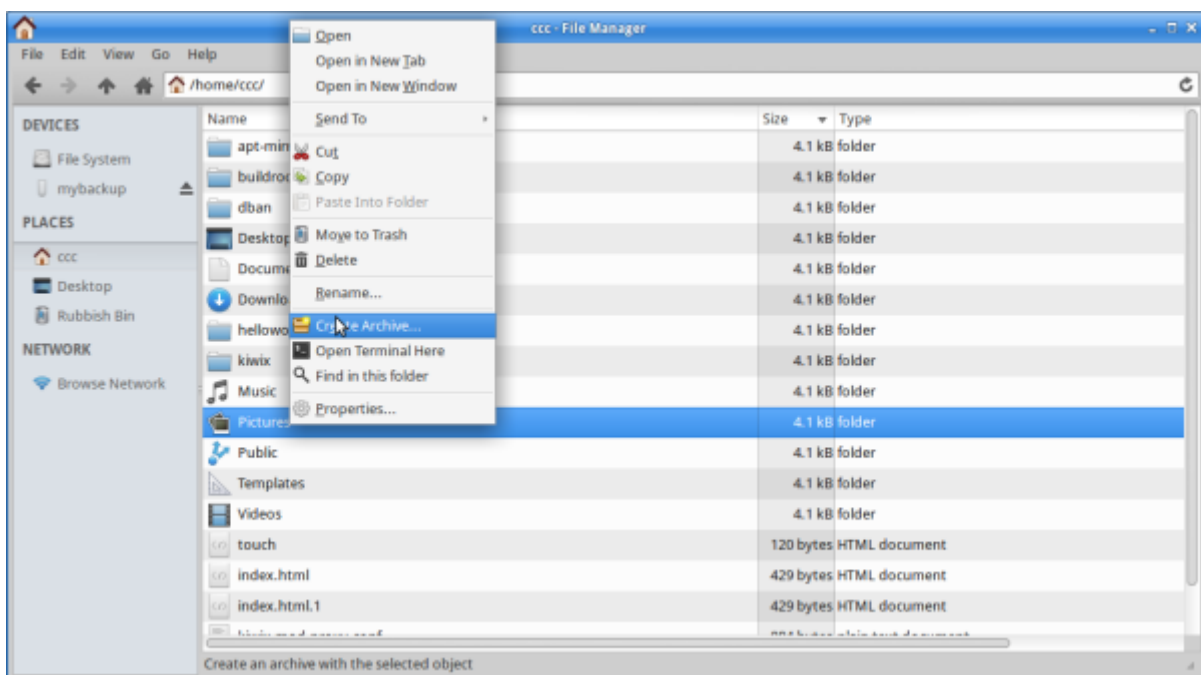
## Archiving

Files too large to fit on your storage? We can compress them to [zip](#).

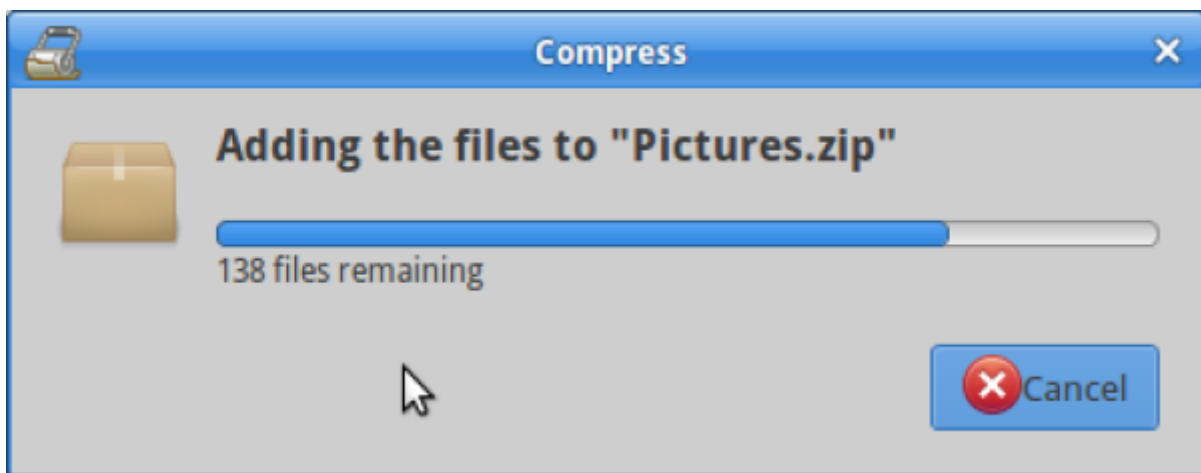
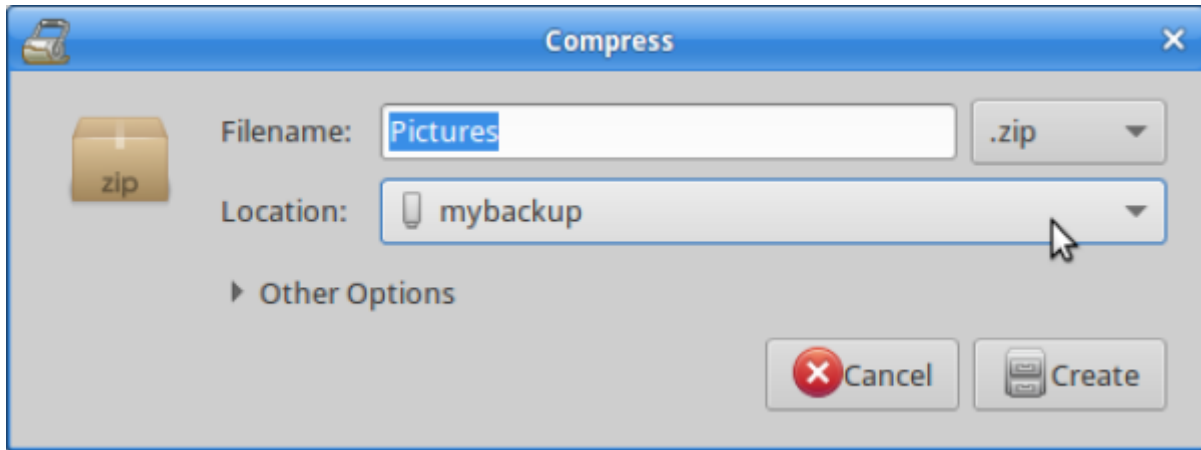
Check your folder's size (Right click, select 'Properties'):



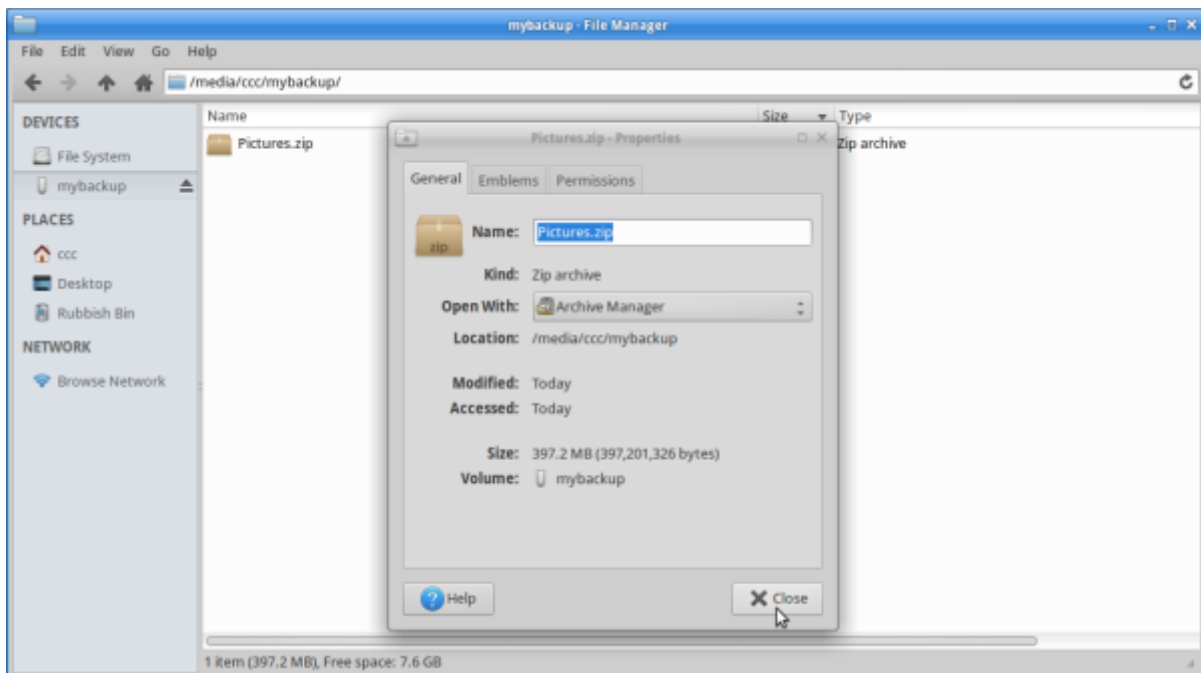
Now right click and choose 'create archive':



Name it, select *zip*, and save to USB:



Check the archive size - it should be smaller now.



Remember: check that your copied files work.

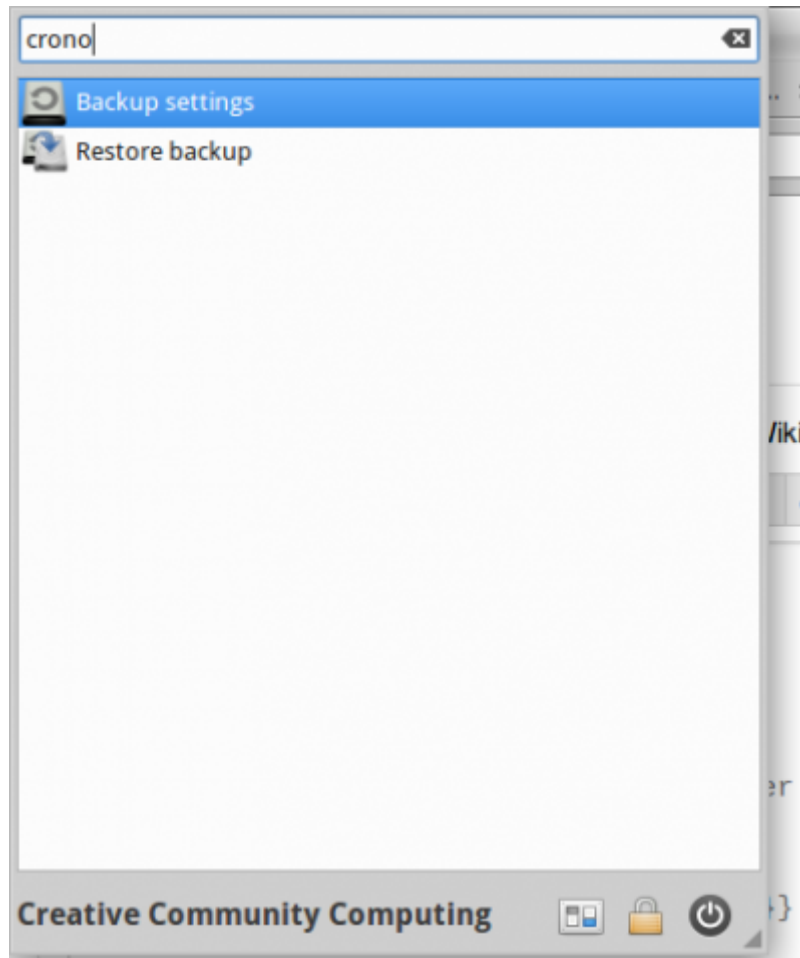
## Cronopete

Cronopete is backup software with a GUI interface. Use it to automate backups and restore files easily.

Download and install Cronopete from <https://rastersoft.com/programas/cronopete.html>.

### Configuration

Select 'backup settings' from the Whisker Menu:



Prepare backup location - select 'Configure now', then 'Change Backup Destination'. Select USB and click 'OK':

INSERT PICTURE

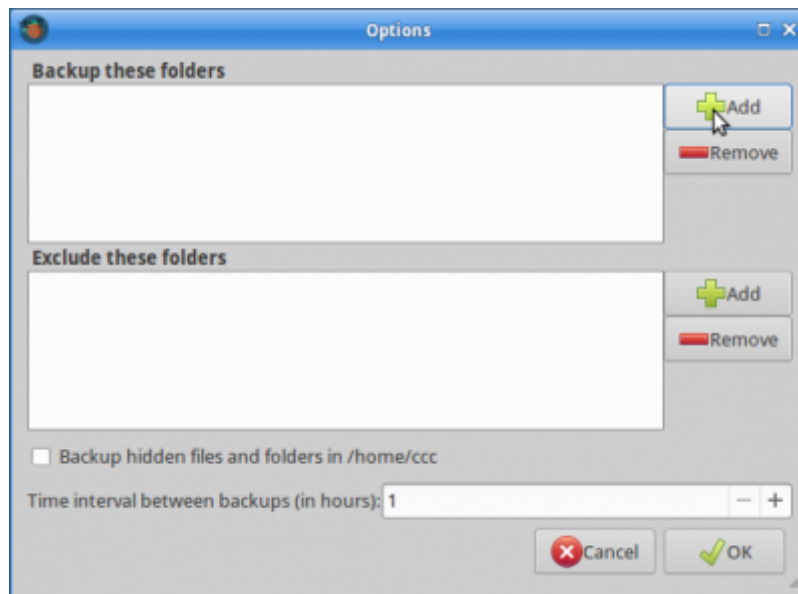
Confirm drive format - **this will erase its contents:**

INSERT PICTURE

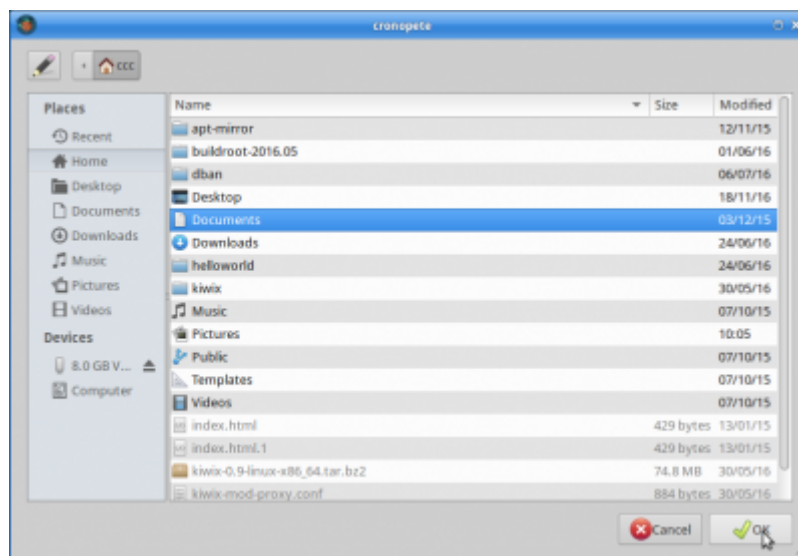
Choose content to back up. Click on 'Folders to Back Up':

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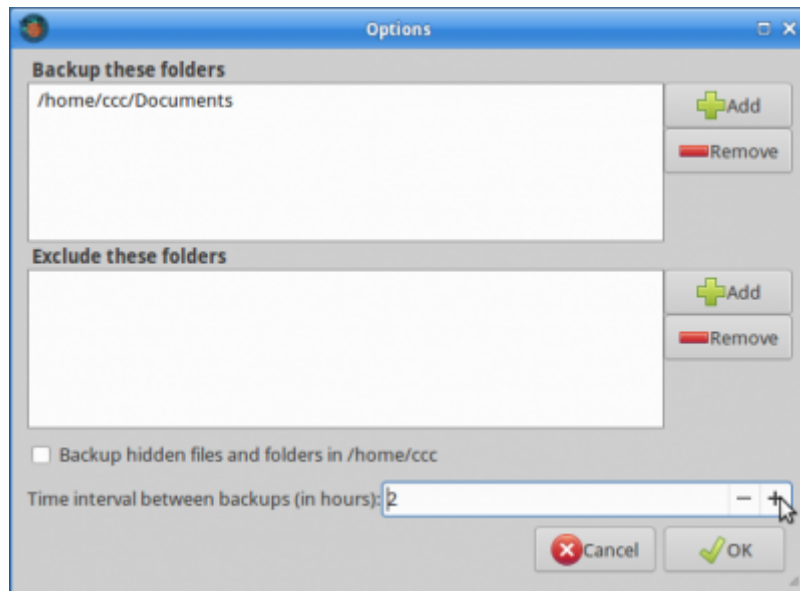
Add folders needed.



Eg:

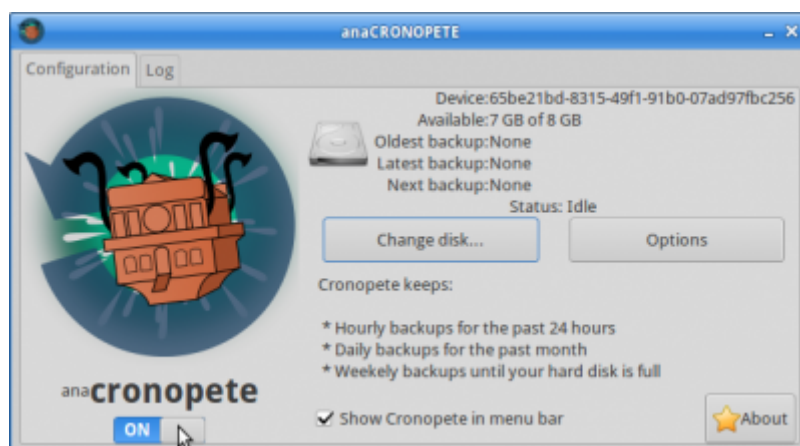


Decide how often to back up:



## Run backup

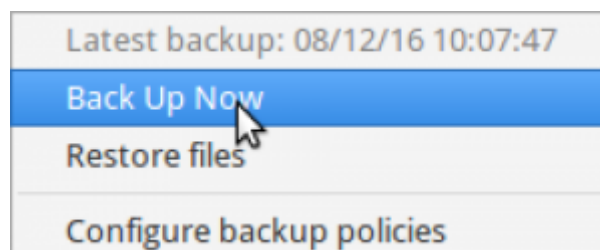
Turn cronopete on - check the menu bar.



Open:

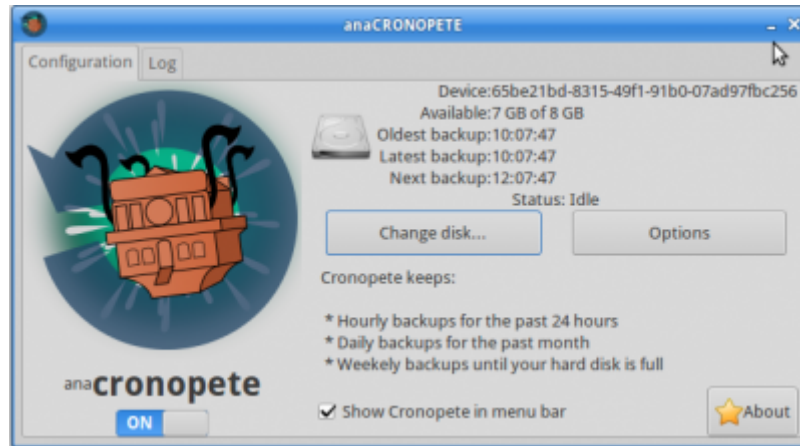


Select 'backup now'.



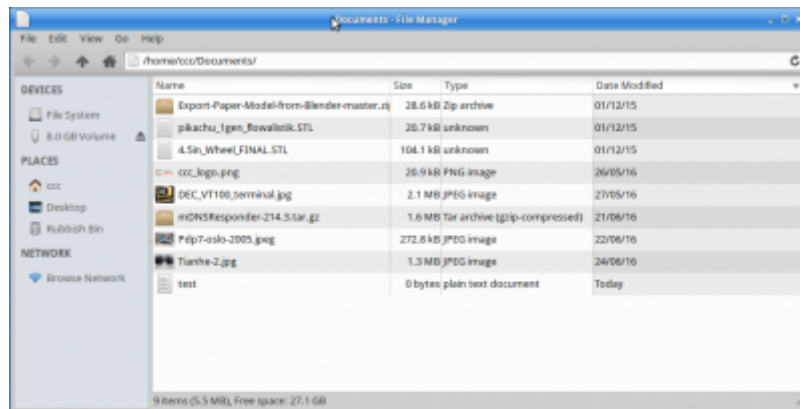
The backup will start immediately.



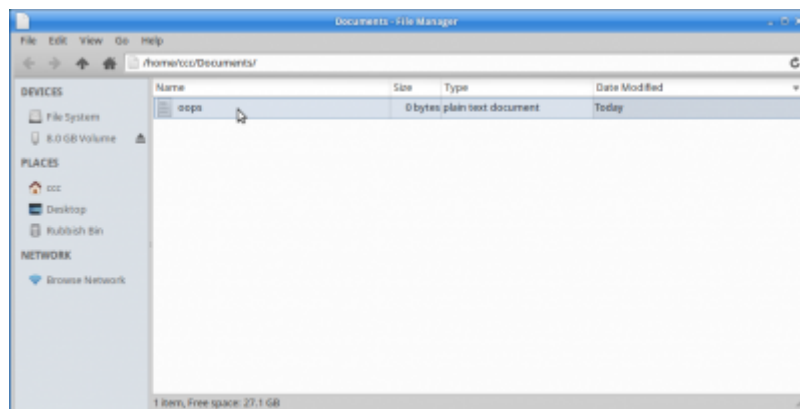


## Let's test it

See the backed-up folder:



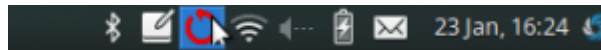
'Accidentally' delete it, create a new one, and run backup.



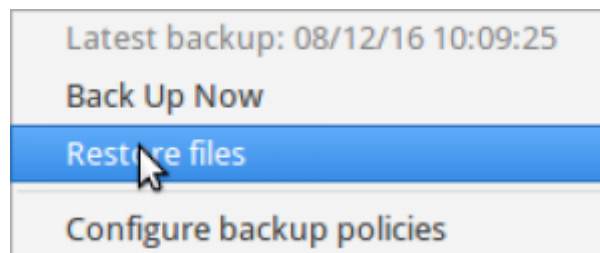
The original files are 'lost'. Lets restore them!

## Backup Restoration

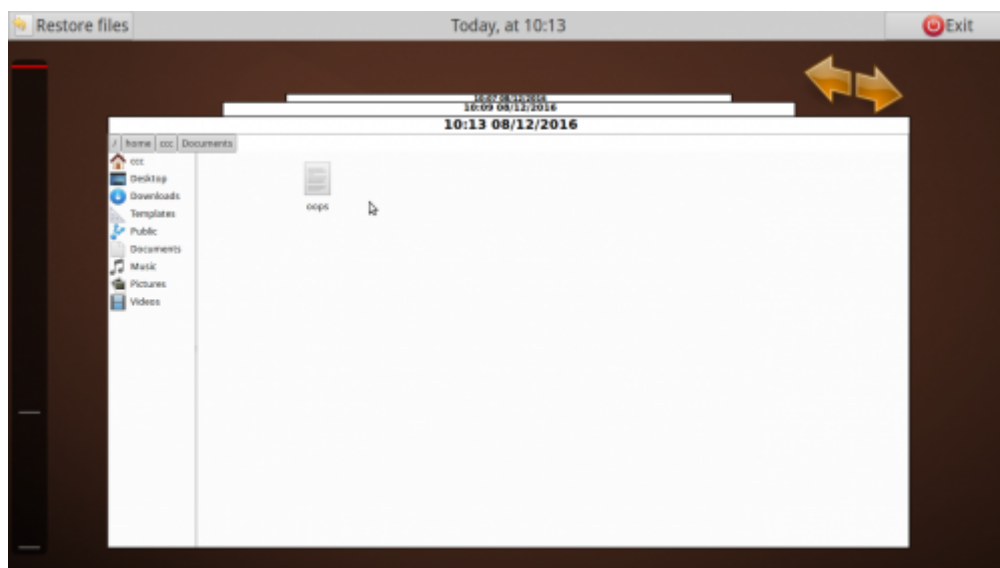
Open from the menu bar.



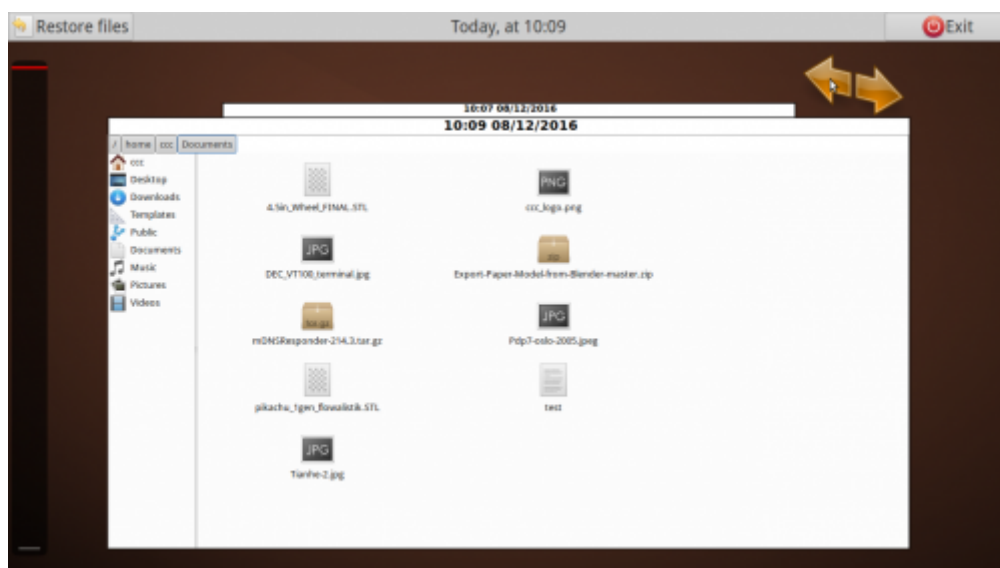
Select 'Restore Files'.



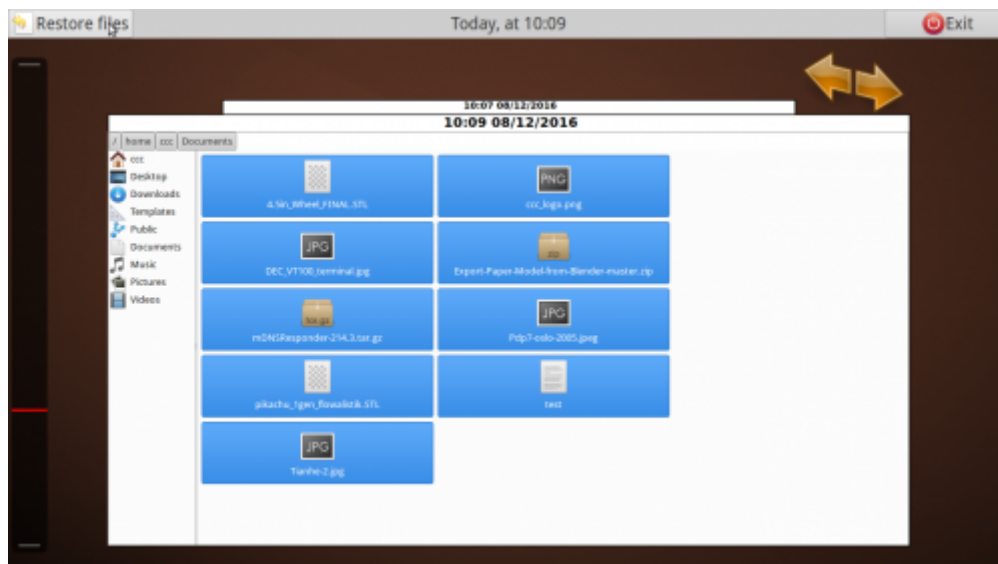
Backups appear from newest to oldest.



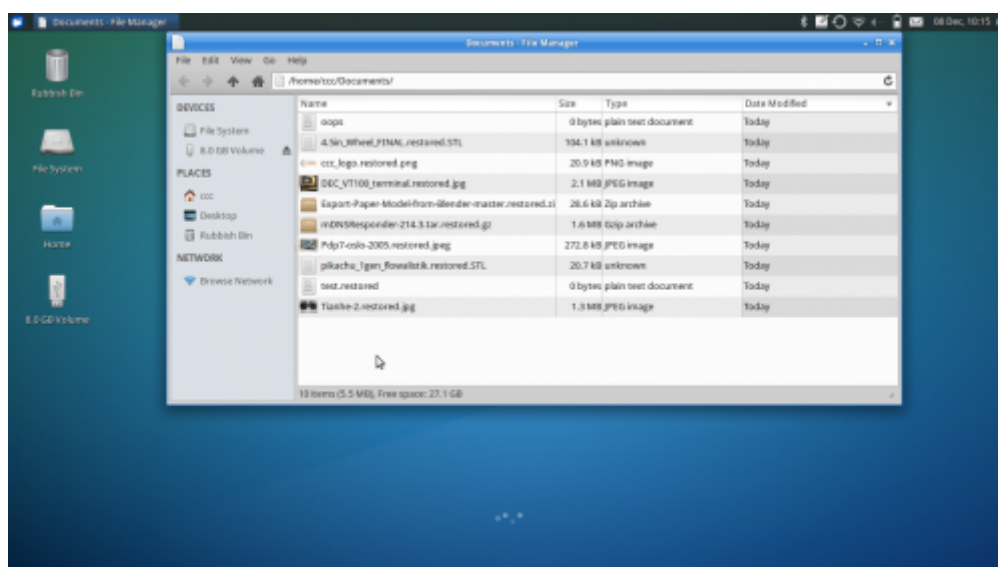
Click 'back' for older backups.



Select and restore.



It restores and renames the restored files.



Workshop 04 - Social Media and Online Safety