Workshop 03 -Productivity and System Tools

SLQ Wiki Fabrication Lab 2024/05/15 03:21

~~REVEAL~~

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 <u>underlined</u>):

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

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Software

Access new software under 'Software':

Q					
🕎 Favorites	Web Browser				
Recently Used	🔗 Mail Reader				
MI Applications	🐻 File Manager				
C Accessories	LibreOffice Writer LibreOffice Calc				
🔁 Games	Software				
🔀 Graphics	Terminal Emulator	-			
🕥 Internet	🕐 Help	Add, remove or	update softw	are on this	computer
🚺 Multimedia					
M Office					
as Settings					
💮 System					
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Find/install from here.

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Search for video player, VLC:

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	Q, WC		
	<u>A</u> vic	The ultimate media player	
	mipg-streamer	UVC webcarn streaming tool	
	Audio Recorder (UNOFFICIAL)	A free audio-recorder for Linux (EXTREMELY BUGGY)	
	RED Red App - YouTube Client * * * * = *	Best Youtube Experience you will be ever served on Desktop (
	CTUBE DL ****	GLI for Downloading and watching Youtube on Linux Desistop	
	Orange - SoundCloud Client ****	SoundCloud Player / Downloader for Linux Desktop	
	Utube - Complete Youtube App for Linux	Download/Play Media from Youtube	

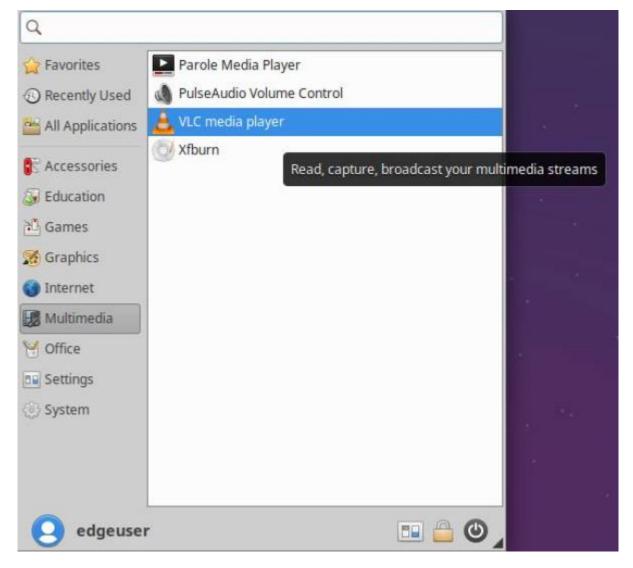
Select and install. It will prompt you to enter your password.

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		projectis media piagen unce and privacy friendly. Ita						
	It could y plays with	, MPA, MPEG, MPEG-2, MPE nadia sinanya fisin sariasi	G-K DHE MOV WMK	Guick Tanic Webb), PLAS			jes.	

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

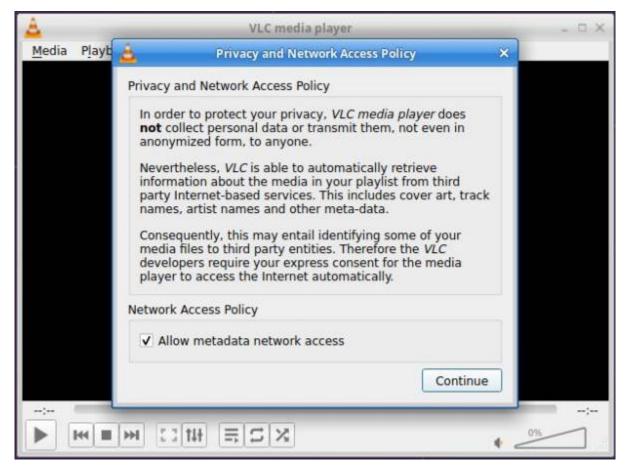


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Launch VLC and enable network access.

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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:

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- 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 1.0.1ubuntu2 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)

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- 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 \sim
- 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/.

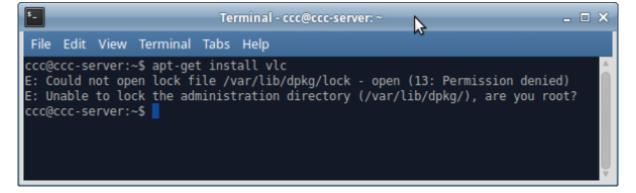
Try to use cd and ~ to get to your desktop!

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

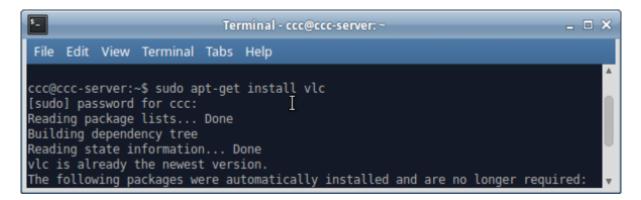
It shows an error:



Try again with:

\$ sudo apt-get install vlc

Enter password, and apt-get will function.



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:

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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

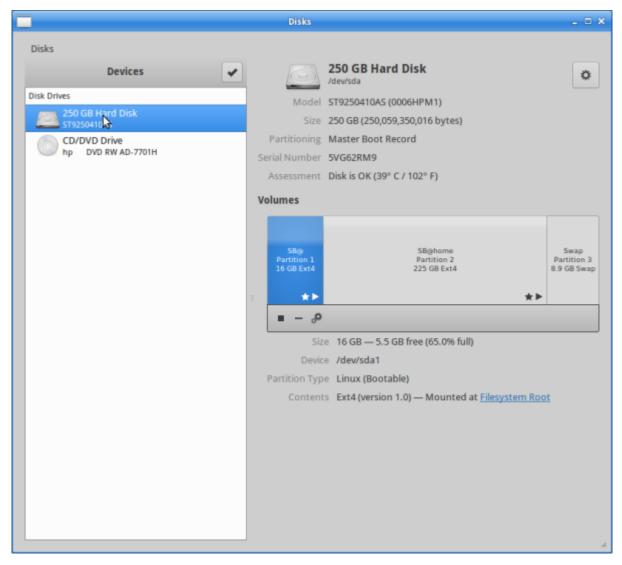
Once installed, open 'Disks' from the whisker menu.



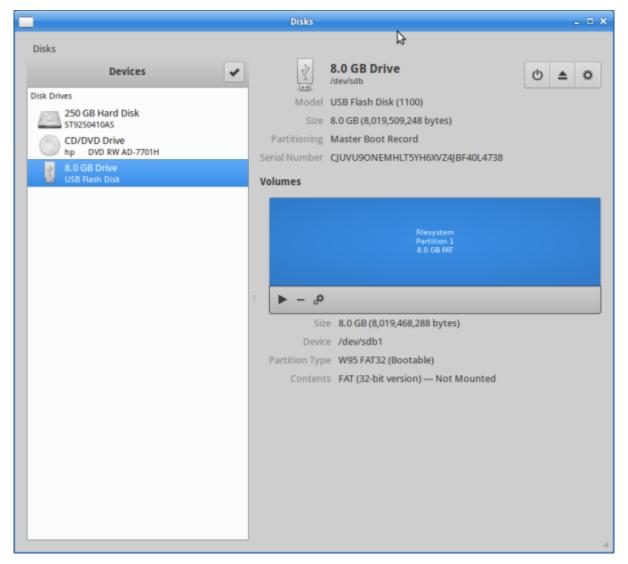
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Creative Community Computing	💶 🔒 🔘 🖌

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

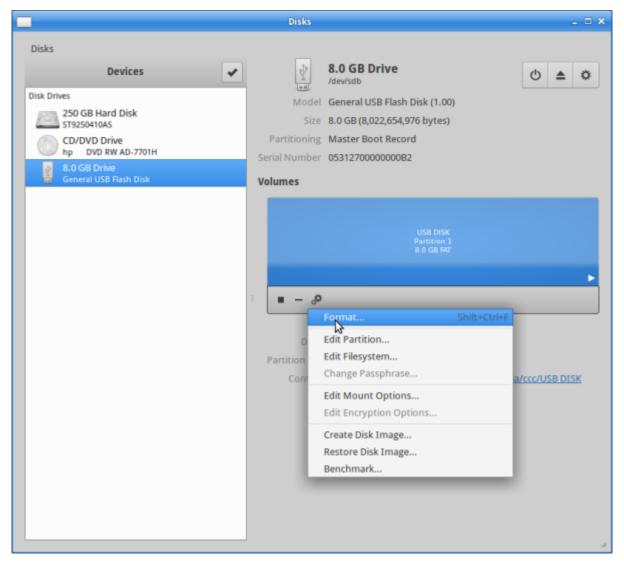


Insert your USB:



To wipe, choose format and name.

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Use FAT32 for cross-platform compatibility.

	Disks		_ 🗆 X
Disks			
Devices	✓	8.0 GB Drive /dev/sdb	₾ ≜ ⊅
Disk Drives	Mode	General USB Flash Disk (1.00)	
250 GB Hard Disk ST9250410AS	Size	8.0 GB (8,022,654,976 bytes)	
CD/DVD Drive hp DVD RW AD-7701H		Master Boot Record	
all a solution and a	Serial Number	0531270000000B2	
General USB Flash Disk	Volumes		
	Format	Volume	×
Erase	Don't overwrite existing	data (Quick) 👻	
Туре	Compatible with all syste	ems and devices (FAT)	•
Name	МуDi		
	For example, "My Files" or	r "Backup Data"	
		Cancel Format	
			t /media/ccc/USB DISK
			-

Confirm.

		Disks			_ = ×
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Disk Drives		Model	General USB Flash Disk (1.00)		
250 GB Hard Disk ST9250410AS		Size	8.0 GB (8,022,654,976 bytes)		
CD/DVD Drive		Partitioning	Master Boot Record		
hp DVD RW AD-7701H		Covial Number	052122000000000		
8.C Ger				×	
Are yo	u sure you w	ant to format	the volume?		
All data d	on the volume w	vill be lost but may	still be recoverable by data recover	ery services	
use a mo	re thorough era	ase type to keep y	ive away your old computer or dis our private information from fallin	g into the	
wrong ha					
Affected	Devices				
😰 Pa	rtition 1 of 9 0 0	P Drive Conora	l USB Flash Disk [1.00] (/dev/sdb1)		
li Pa		36 Drive — Geriera	I OSB Flash Disk [1.00] (/dev/sdb1)		
					DISK
			Cancel	Format	
				3	
					4

Libre Office

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

Open LibreOffice:

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LibreCffice	
EibreOffice Base	
LibreOffice Calc	
Y LibreOffice Draw	
LibreOffice Impress	
LibreOffice Math	
LibreOffice Writer	
Menu Editor	
ccc	0

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.

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

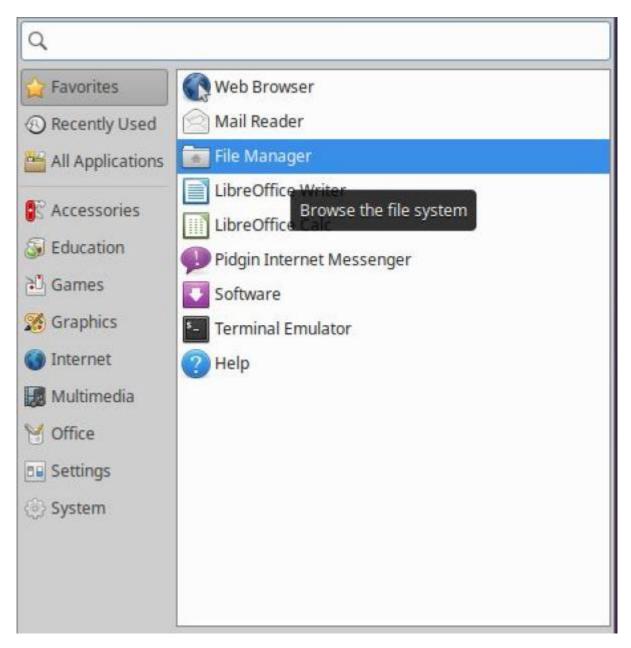
Backups

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'):

	ccc - File Manager	- 0
File Edit View Go	Help	
🗧 🔶 🛧 🛣 😭	home/ccc/	
DEVICES	Name	Size Type
Ele System	e Pictures	4.1 kB folder
	Downloads	4.1 kB folder
PLACES	Documents	4.1 kB folder
	Desktop	4.1 kB folder
	— 🚞 dban	4.1 kB folder
Desi /home/ccc Rubbish Bin	i helloworld	4.1 kB folder
-	buildroot-2016.05	4.1 kB folder
FTWORK	iwix kiwix	4.1 kB folder
	apt-mirror	4.1 kB folder
	Videos	4.1 kB folder
	Templates	4.1 kB folder
	🐉 Public	4.1 kB folder
	5 Music	4.1 kB folder
	kiwix-mod-proxy.conf	884 bytes plain text document
	co touch	120 bytes HTML document
	kiwix-0.9-linux-x86_64.tar.bz2	74.8 MB Tar archive (bzip-compressed)
	index.html.1	429 bytes HTML document
	index.html	429 bytes HTML document
	18 items (74.8 MB), Free space: 27.0 GB	

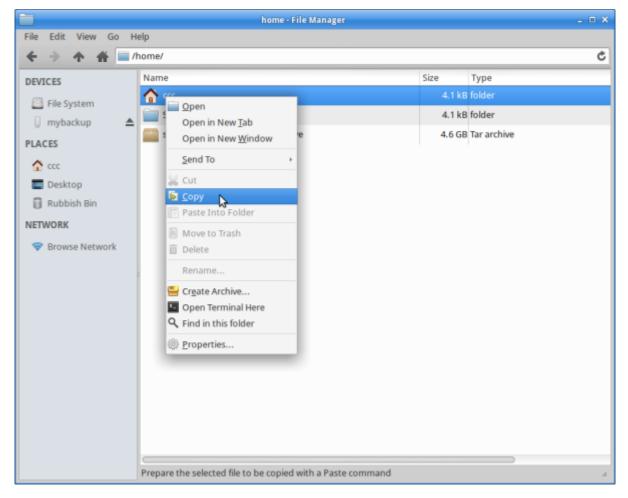
Go up one level to see the home directory folder:

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	/home/ccc/	
Open the DEVICES	e parent folder	Size Type
Eile System	📹 Pictures	4.1 kB folder
	Downloads	4.1 kB folder
PLACES	Documents	4.1 kB folder
	Desktop	4.1 kB folder
	dban 📄	4.1 kB folder
Desktop	i helloworld	4.1 kB folder
🔋 Rubbish Bin	buildroot-2016.05	4.1 kB folder
NETWORK	iiii kiwix	4.1 kB folder
💎 Browse Network	apt-mirror	4.1 kB folder
	Videos	4.1 kB folder
	Templates	4.1 kB folder
	🤣 Public	4.1 kB folder
	Music	4.1 kB folder
	kiwix-mod-proxy.conf	884 bytes plain text document
	o touch	120 bytes HTML document
	kiwix-0.9-linux-x86_64.tar.bz2	74.8 MB Tar archive (bzip-compressed)
	index.html.1	429 bytes HTML document
	index.html	429 bytes HTML document

Right click and copy.

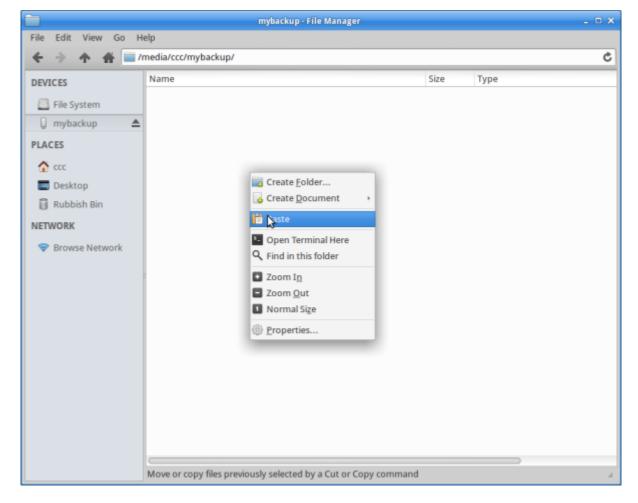
Workshop 03 - Productivity and System Tools

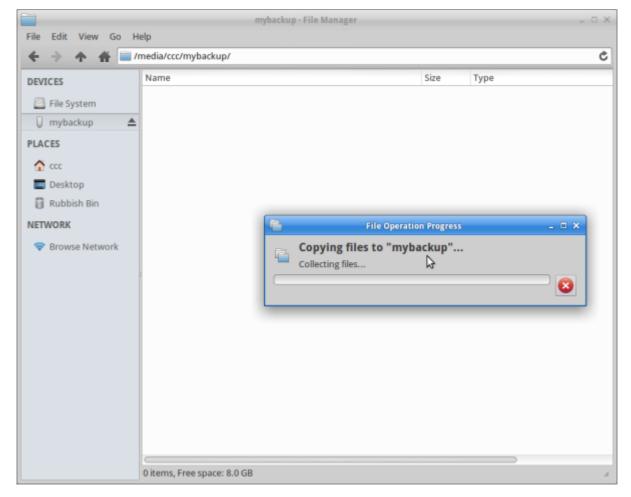


Select your USB:

	mybackup - File Manage	er	_ 🗆 🗙
	Help		
そう 木 希 🖬	/media/ccc/mybackup/		Ċ
DEVICES	Name	Size	Туре
File System			
🛛 myþackup 🔺			
PLACES 8.0 GB of 8.0 G			
🟫 ccc			
Desktop			
🗑 Rubbish Bin			
NETWORK			
🗢 Browse Network			
	0 items, Free space: 8.0 GB		A

And paste.





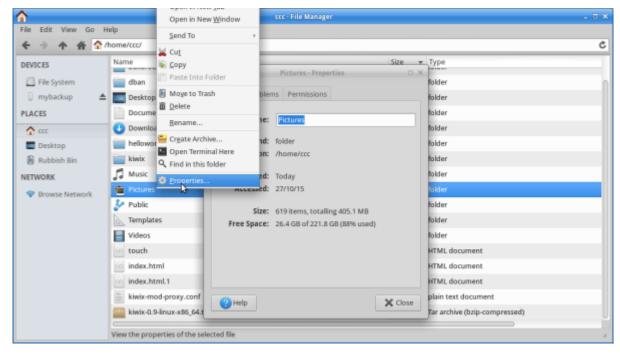
Once complete, check your copied files.

Archiving

Files too large to fit on your storage? We can compress them to zip.

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



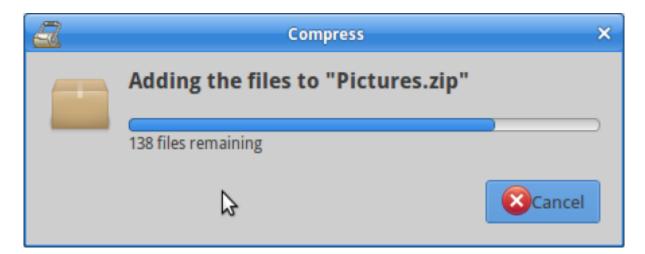


Now right click and choose 'create archive':

File Edit View Go Hi	- Obeu u Mew Tan	ccc - File Manager 💷 🗸 🖉 🗙
🗲 🔶 🛧 🖷 🏠 //	ome/ccc/ Open in New Window	0
DEVICES File System mybackup PLACES Ccc Desktop Rubbish Bin NETWORK Showse Network	Name Send To apt-min Cut buildrox Copy dban Paste Into Folder Docums Moye to Trash Docums Bename hellowo Cg & Archive kwizz Open Terminal Here kwizz Properties	Size Type 4.1 kB folder
		4.1 kB folder 4.29 bytes HTML document 429 bytes HTML document 429 bytes HTML document

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

8		Compress	×
zip	Filename: Location:	Pictures	.zip 💌
	▶ Other Op	otions	M2
			Create



Check the archive size - it should be smaller now.

		mybackup - File Manager	. a x
File Edit View Go H	elp		
← → ☆ ☆ ≡/	media/ccc/mybackup/		Ċ
DEVICES	Name Pictures.zip	Size Type Fictures.zip - Properties zip archive	
File System		General Emblems Permissions	
		vip Name: Pictures.zip	
E Desktop		Kind: Zip archive	
📓 Rubbish Bin		Open With: Archive Manager	
NETWORK		Location: /media/ccc/mybackup	
Prowse Network		Modified: Today	
		Accessed: Today	
		Size: 397.2 MB (397,201,326 bytes)	
		Volume: 🗍 mybackup	
		Close Close	5
	1 item (397.2 MB), Free sp	ace: 7.6 68	a A

Remember: check that your copied files work.

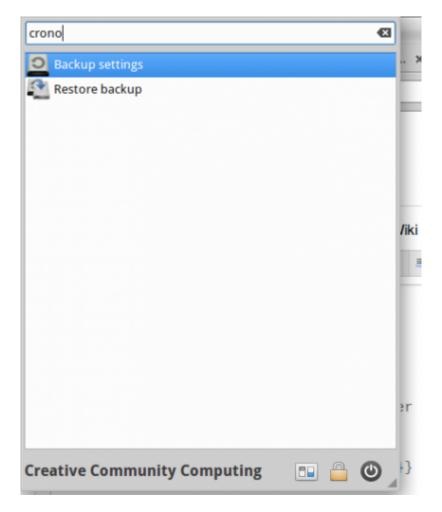
Cronopete

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

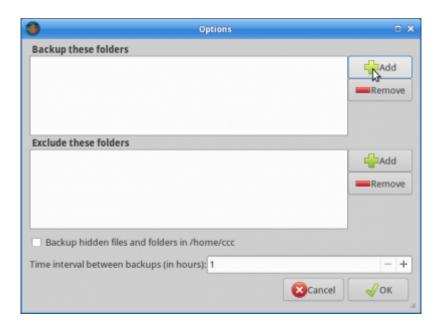
Confirm drive format - this will erase its contents:

INSERT PICTURE

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

INSERT PICTURE

Add folders needed.



Eg:

🖉 🔹 🏠 CCC		
Places	Name	* Size Modifie
() Recent	apt-mirror	12/11/1
# Home	wildroot-2016.05	01/06/1
	🚞 dban	06/07/1
Desktop	E Desktop	18/11/1
Documents	Documents	03/12/1
Downloads	Ownloads	24/06/1
JI Music	🚞 helioworld	24/06/1
1 Pictures	🚞 kiwix	30/05/1
E Videos	J Music	07/10/1
Devices	Pictures	10:05
🛛 8.0 GB V 🛔	& Public	07/10/1
Computer	Templates	07/10/1
m computer	Videos	07/10/1
	🗵 index.html	429 bytes 13/01/1
	🤟 index.html.1	429 bytes 13/01/1
	a kiwix-0.9-linux-x86_64.tar.bz2	74.8 MB 30/05/1
	🚊 kiwix-mod-proxy.conf	884 bytes 30/05/1

Decide how often to back up:

Option	15	Ξ×
Backup these folders		
/home/ccc/Documents		Add
		Remove
Exclude these folders		
		Add
		Remove
Backup hidden files and folders in /home/c	cc	
Time interval between backups (in hours): 2		- +
	Cancel	«Уок

Run backup

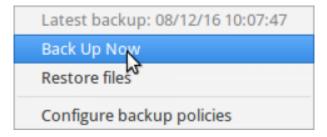
Turn cronopete on - check the menu bar.



Open:

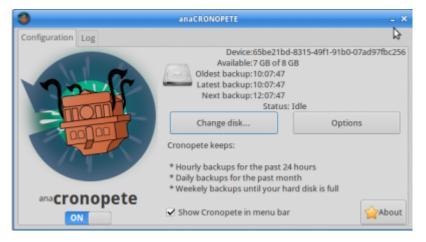


Select 'backup now'.



The backup will start immediately.

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Let's test it

See the backed-up folder:

E 🦻 🛧 🌴 🖬	home/ccs/Documents/				e
EVICES	Name	Size	Туре	Date Modified	
Pile System	Export-Paper-Model-from-Blender-master.zi	28.6 kg	Zip archive	01/12/15	
8.0 GB Volume	pikachu_Igen_flowalistik.STL	20.7 kg	unknown	01/12/15	
LACES	4.Sin_Wheel_FINAL.STL	104.1 kB	unknown	01/12/15	
	c ccc_logo.png	20.9 kB	PNG image	26/05/16	
1 ECE	DEC_VT100_terminal.jpg	2.1 MB	JPEG image	27/05/16	
Desktop	mDN5Responder-214.3.tar.gz	1.6 MB	Tar archive (gzip-compressed)	21/06/16	
🔒 Rubbish Bin	Reg Pdp7-oslo-2005.jpeg	272.8 kB	JPDG image	22/06/16	
ETWORK	Tianhe-2.jpg	1.3 MB	JPDG image	24/06/16	
P Browse Network	text	Obytes	plain text document	Today	
	inst inst	0 bytes	plain text document	Today	

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

File Edit View Go F	Help				
+ + # 0	/home/ccc/Decuments/				
DEVICES	Name	Size	Туре	Date Modified	
Pile System	aoba 🖻	0 bytes	plain text document	Today	
8.0 GB Volume					
PLACES					
1 COE					
Desktop					
Rubbish Bin					
Rubbish Bin					
NETWORK					

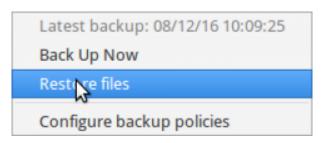
The original files are 'lost'. Lets restore them!

Backup Restoration

Open from the menu bar.

🖇 💆 🔁 🕬 🖓 🖘 🖓 🖄 🕺 23 Jan, 16:24

Select 'Restore Files'.



Backups appear from newest to oldest.

Restore files	Today, at 10:13	() Exit
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	10:13 08/12/2016	
/ home ccc Documents	10115 00/12/2010	
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Docements J Music Marine Moures Videos		
_		

Click 'back' for older backups.

Restore files		Today, at 10:09	()Exit
		16:07 00/12/2016	*
		10:09 08/12/2016	
/ home ccc Documents		10:00 00,11,1010	
Cos Desktap Downloads	4.Sin_Wheel_FINAL.STL	EXC. logs. png	
Vergatares Vergatares Documents Marik Videos	JPG DEC_VTIOE_terminal.jpg	Depent-Paper-Model-from-Stiender-master.zip	
Videos	nONSResponder-2%.3.tar.gz	JPG Pdp3-colo-2005.jpsg	
	pikachu, igen, flowalistik STL	Test	
	UPG Tianhe-2.jpg		

Select and restore.

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Restore files		Today, at 10:09		
			🥧 📥 1	-
		10:07 08/12/2016		
/ home ccc Docume		10:09 08/12/2016		
cer tesktap		_		
Desktap Downloads		PNC		
Templates	4.Sirc.Wheel,FDM4.STL	erc_logs.prg		
Documents	JPG			
🖉 Musik 🍲 Pictures	DEC,VT100,terminal.jpg	Expert-Paper-Model-from-Blander-master.zip		
Videos		JPG		
	nDNSRasponder-214.3.tar.gr	Pdp7-colo-2005.gog		
	pikacha, tgen flowalistik STL	Tech		
	_			
	JPG			
	Tianhe-2 jpg			

It restores and renames the restored files.

_		Decuments - File Mar	ager		
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Workshop 03 - Productivity and System Tools