Workshop 03 -Productivity and System Tools

SLQ Wiki Fabrication Lab 2024/04/18 23:08

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

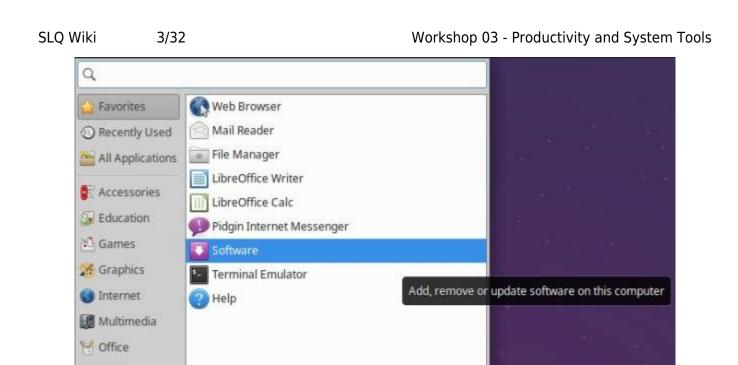
We can also install with the Terminal.

Advanced options include installing from scripts and compiling from source. View a guide for those methods.

Software

Access new software under 'Software':

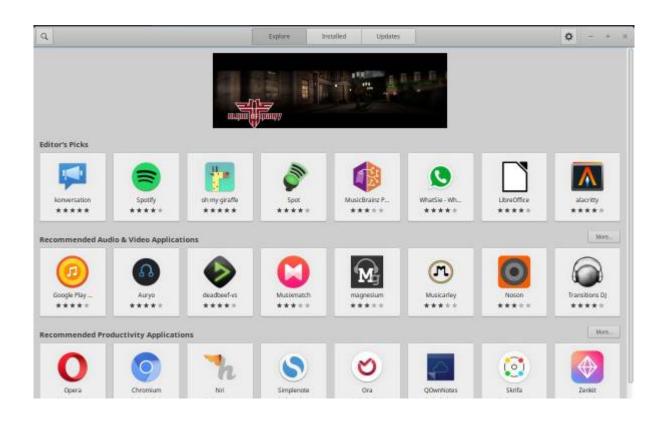
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Find/install from here.

edgeuser

Settings
System

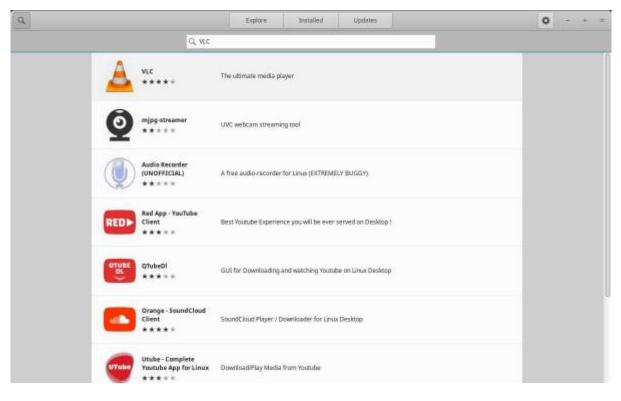


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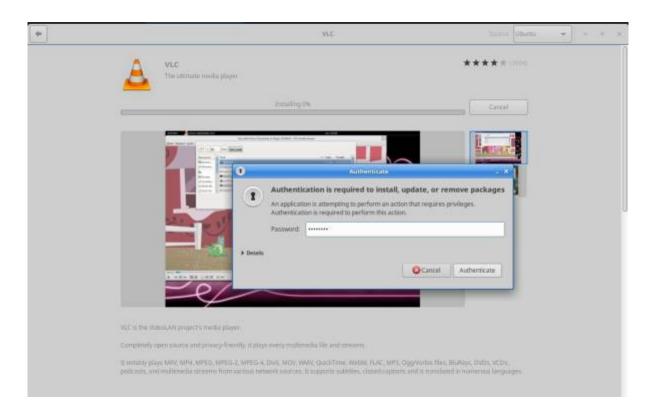
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Workshop 03 - Productivity and System Tools

Search for video player, VLC:

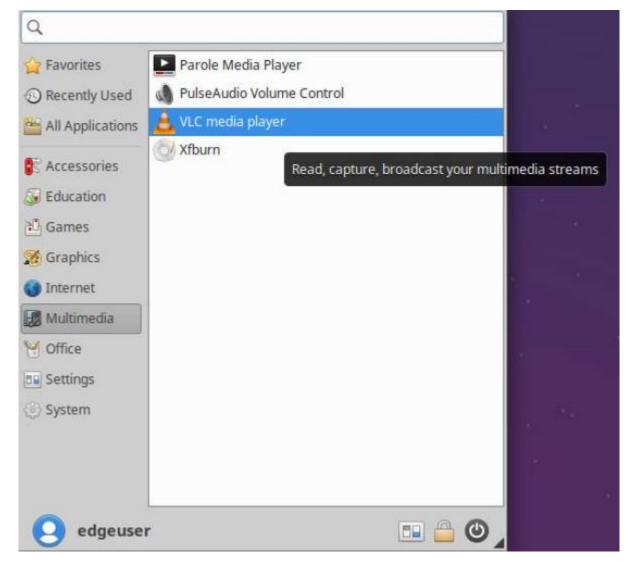


Select and install. It will prompt you to enter your password.

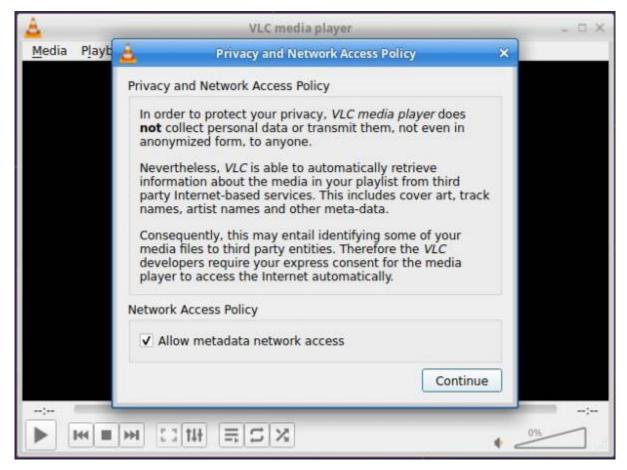


Now find it under 'Multimedia'. Right click to add to favourites.

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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:

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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/.

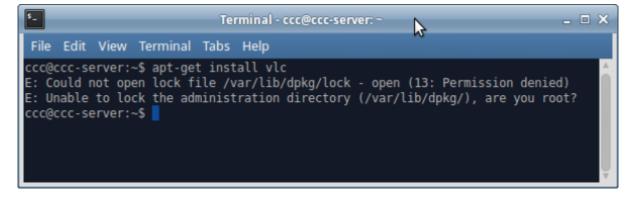
Try to use cd and ~ to get to your desktop!

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:

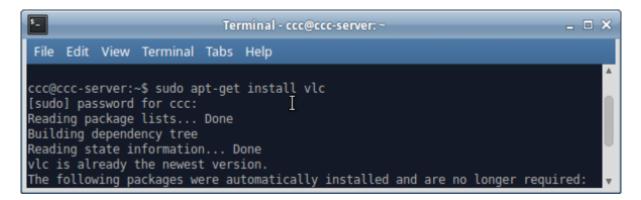


Try again with:

\$ sudo apt-get install vlc

Enter password, and apt-get will function.

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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

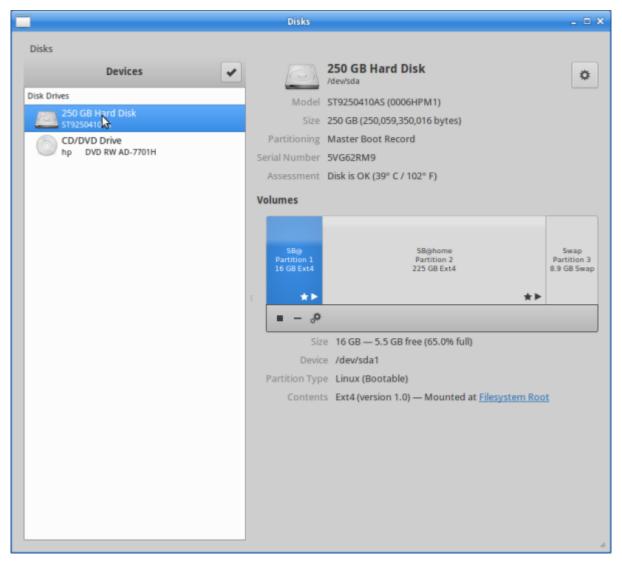
Xubuntu itself can't format drives/removable media, so install Gnome-Disk-Utility:

sudo apt-get install gnome-disk-utility

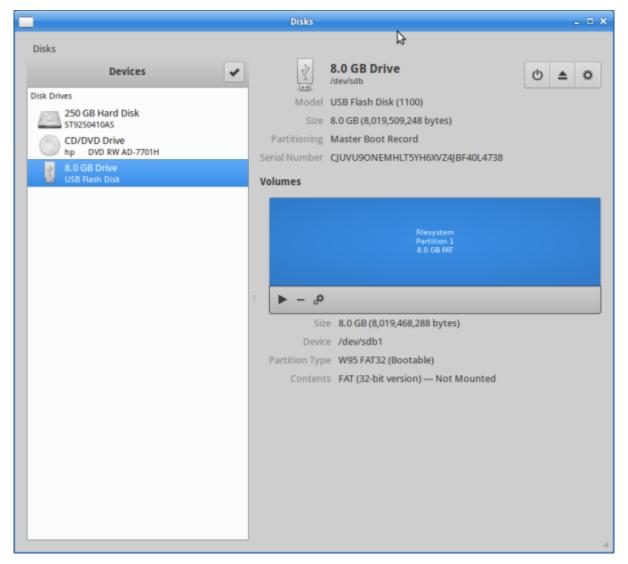
Once installed, open 'Disks' from the whisker menu.

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Calculator	_
🙉 Dis <mark>ks</mark>	
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Sudoku	
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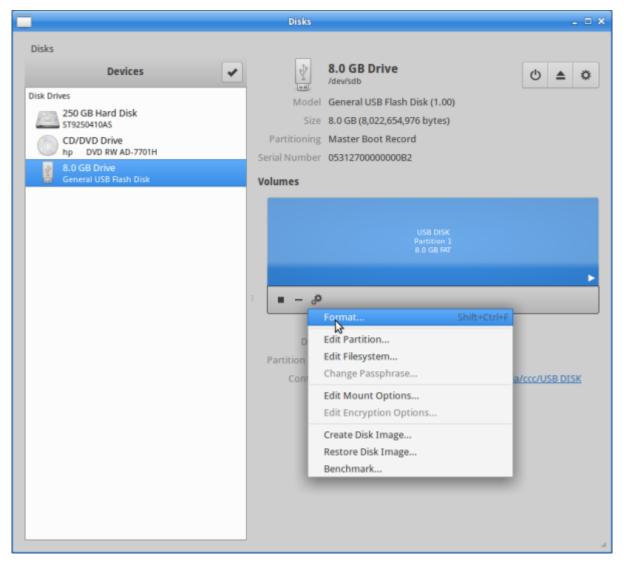
It shows your internal hard drive and any other available drives.



Insert your USB:



To wipe, choose format and name.



Use FAT32 for cross-platform compatibility.

		Disks		- ¤ ×
Disks				
Devices	~	2	8.0 GB Drive /dev/sdb	() ▲ 🌣
Disk Drives		Model	General USB Flash Disk (1.00)	
250 GB Hard Disk ST9250410AS			8.0 GB (8,022,654,976 bytes)	
CD/DVD Drive		Partitioning	Master Boot Record	
hp DVD RW AD-7701H		Serial Number	0531270000000B2	
General USB Flash Disk		Volumes		
		Format V	olume	×
Eras	Donto	verwrite existing d	ata (Quick)	
Clas				
Тур	e Compat	tible with all syste	ms and devices (FAT)	
Nam	e MyDillk			
	For exam	ple, "My Files" or	"Backup Data"	
			Cancel Format	
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Confirm.

	Disks			×
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	Carial Mumber	053137000000000		
2 8.C			×	
Are you sure y	ou want to forma	the volume?		
All data on the volu	ume will be lost but may	still be recoverable by data recovery serv	rices	
		ive away your old computer or disk, you : our private information from falling into t		
wrong hands				
Affected Devices				
Restition 1 o	f 8 0 GR Drive - Genera	l USB Flash Disk [1.00] (/dev/sdb1)		
Partition 1 o	18.0 GB Drive — Genera	I USB Plash Disk [1.00] (/dev/sdb1)		
				DISK
		Cancel	ormat	
			3	
	_			
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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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LibreCfice		
EibreOffice Base		
LibreOffice Calc		
Y LibreOffice Draw		
LibreOffice Impress		
LibreOffice Math		
LibreOffice Writer		
Menu Editor		
ccc	A	•

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.

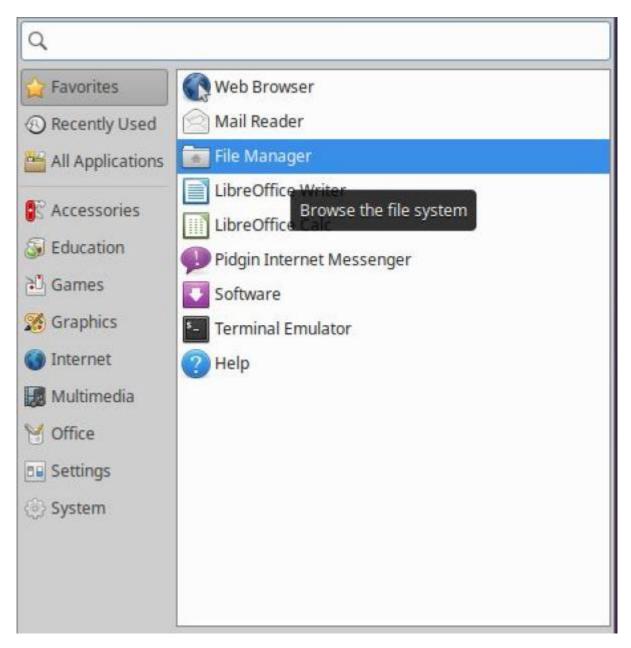
Backups

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:



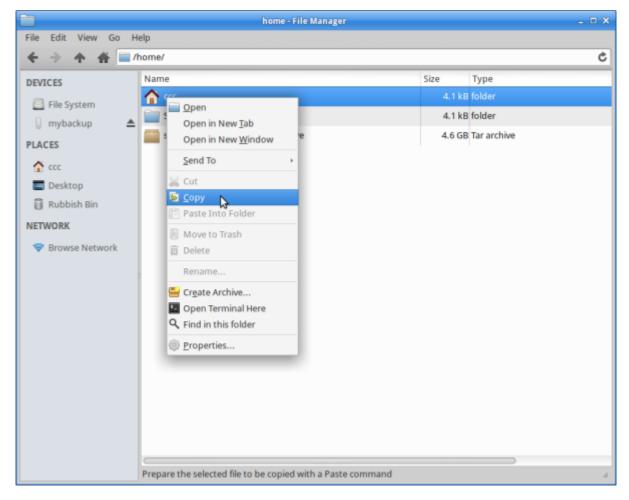
Select your home directory from the sidebar (Here it's 'sdlw'):

^	ccc - File Manager		_ = ×
File Edit View Go He	łp		
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DEVICES	Name	Size	Туре
File System	ictures	4.1 kB	folder
🗌 mybackup 🔺	🕒 Downloads	4.1 kB	folder
PLACES	Documents	4.1 kB	folder
	E 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
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
	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		A

Go up one level to see the home directory folder:

	/home/ccc/	
Open th DEVICES	e parent folder	Size Type
File 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
E Desktop	i helloworld	4.1 kB folder
	buildroot-2016.05	4.1 kB folder
NETWORK	i 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
	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

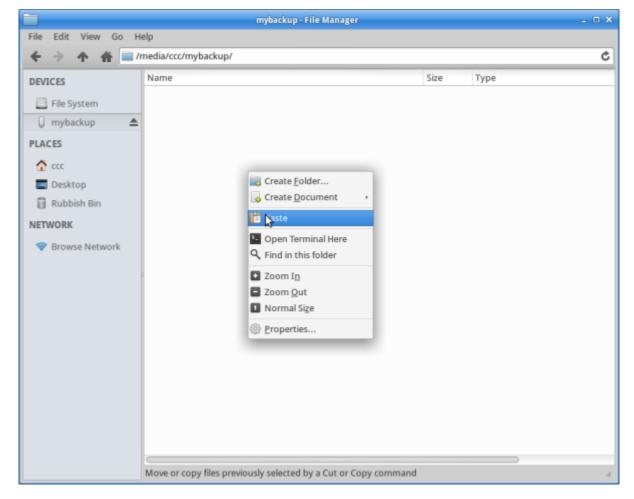
Right click and copy.



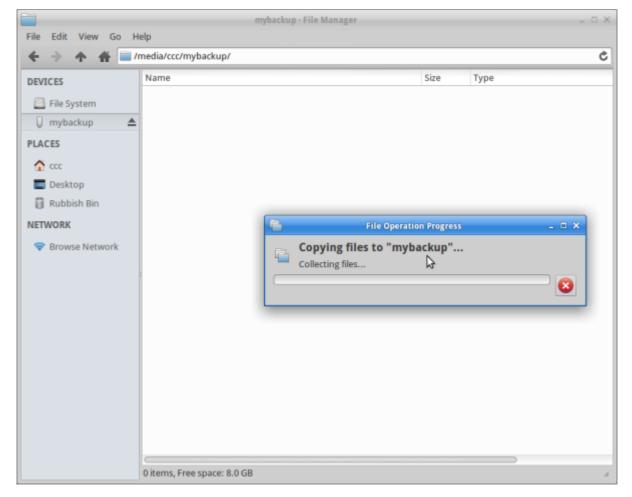
Select your USB:

	mybackup - File Manager			- 🗆 X
File Edit View Go H	elp			
← → ☆ ☆ ≡/	nedia/ccc/mybackup/			Ċ
DEVICES	Name	Size	Туре	
File System				
🖉 mybackup 🔺				
PLACES 8.0 GB of 8.0 G	2 1004 words			
	s (0% used)			
🛣 ccc				
Desktop				
🔋 Rubbish Bin				
NETWORK				
💎 Browse Network				
	C			
	0 items, Free space: 8.0 GB			4

And paste.



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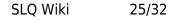


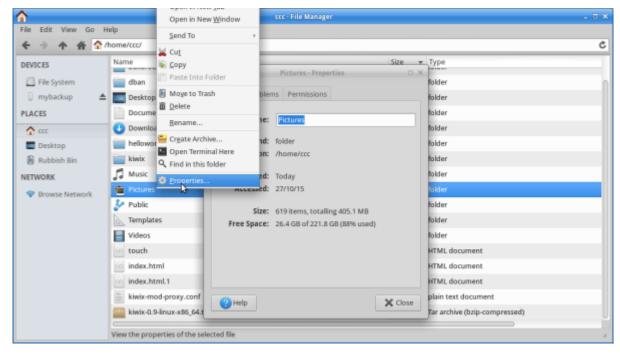
Once complete, check your copied files.

Archiving

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

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



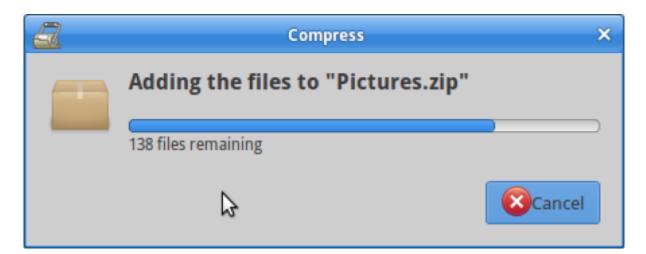


Now right click and choose 'create archive':

File Edit View Go Help	Dpen Open in New <u>T</u> ab	ccc - File Manager . 0 X
🗲 🔶 🋧 🏦 🏠 /home/cci	Open in New Window	0
Ple System mybackup ▲ bu PLACES Desktop Desktop Rubbish Bin NETWORK Ørowse Network ✓ Pruces	sktor Bename Iowo Cright Archive ix Sic Sic Sic Sic Sic Sic Sic Sic	Size Type 4.1 kB folder 4.1 kB folder
	nplates leos lex.html lex.html.1 	4.1 kB folder 4.1 kB folder 120 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	Cancel]



Check the archive size - it should be smaller now.

	mybackup - File Manager	- 0 X
File Edit View Go H	telp	
← → ↑ 番 🖬 //	/media/ccc/mybackup/	Ċ
 ★ → ★ ▲ ■ ∩ DEVICES ☐ File System ☐ mybackup ▲ PLACES ☆ ccc ☐ Desktop ⓐ Rubbish Bin NETWORK ♥ Browse Network 	Name Size Type	c
	Weip Close 1 kem (397.2 MB), Free space: 7.6 GB	A

Remember: check that your copied files work.

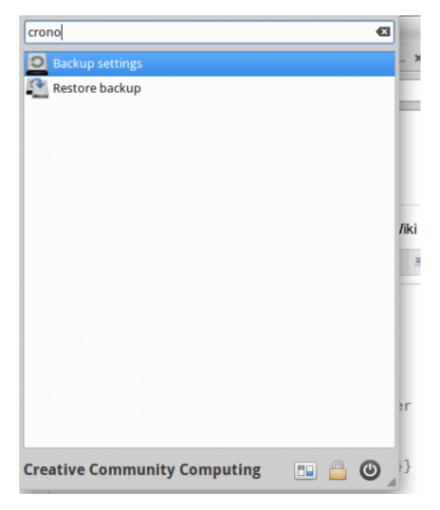
Cronopete

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:

n 🗸 🕹		
Places	Name	* Size Modifier
() Recent	apt-mirror	12/11/15
# Home	i buildroot-2016.05	01/06/16
Desktop	🔜 dban	06/07/16
_	E Desktop	18/11/10
Documents	Documents	03/12/15
Downloads	Opwnloads	24/06/10
JJ Music	iii helloworld	24/06/16
1 Pictures	iiii kiwix	30/05/16
H Videos	J Music	07/10/15
Devices	1 Pictures	10:05
🛛 8.0 GB V 🛔	🐉 Public	07/10/15
Computer	La Templates	07/10/15
m comporter	Videos	07/10/15
	index.html	429 bytes 13/01/15
	index.html.1	429 bytes 13/01/15
	kiwix-0.9-linux-x86_64.tar.bz2	74.8 MB 30/05/16
	kiwix-mod-proxy.conf	884 bytes 30/05/10

Decide how often to back up:

3	Options	5 × 5
Backup these	e folders	
/home/ccc/D	ocuments	Add
		Remove
Exclude thes	e folders	
		Add
		Remove
Backup hid	dden files and folders in /home/ccc	
Time interval h	naturaan harduung (in hours), b	- 4
Time interval t	between backups (in hours): 2	- *3
		Cancel VOK

Run backup

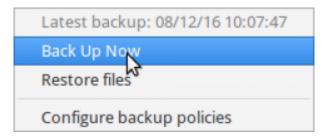
Turn cronopete on - check the menu bar.



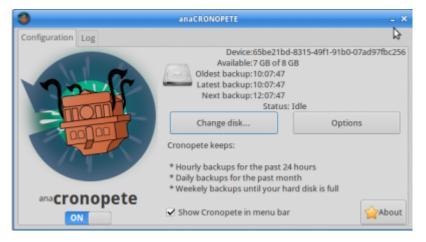
Open:



Select 'backup now'.



The backup will start immediately.



Let's test it

See the backed-up folder:

ile Edit View Go P	seb.				
	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_1gen_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 CCC	DEC_VT100_terminal.jpg	2.1 MB	JPEG image	27/05/16	
Desktop	monsResponder-214.3.tar.gz	1.6 MB	Tar archive (gzip-compressed)	21/06/16	
Rubbish Bin	#20 Pdp7-aslo-2005.jpeg	272.8 kB	JPDG image	22/06/16	
IETWORK.	Tianhe-2.jpg	1.3 MB	JPDG image	24/06/16	
P Browse Network	in test	Obytes	plain text document	Today	

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

File Edit View Go H	nelp				
< > + # 0/	/home/ccc/Decuments/				
DEVICES	Name	Size	Туре	Date Modified	
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8.0 GB Volume					
PLACES					
* ccc					
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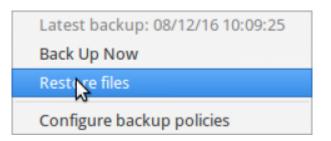
The original files are 'lost'. Lets restore them!

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
	1657 95 10 16 16: 09 03 12 7 30 16	🔶	
	10:13 08/12/2016	16	
/ home ccc Documents	10:13 00/12/201		
2) Internet to Cooursents occ Cooktop Ocontrads. Proplates Originality Ori	oote 🆻		
Documents Marik Pictures Videos			

Click 'back' for older backups.

🤏 Restore files		Today, at 10:09	()Exit
		16:07 03/11/2016	
		10:09 08/12/2016	
/ home ccc Documents		10.05 00/11/2010	
CCE COESTING COESTIN COESTING COESTING COESTING COESTING CO	4.Sin, Wheel, FINAL STL	PINCE ccc.logs.pmg	
Public Documents Musik Pictures	URG DEC,VTIOE,terminal.jpg	Expert-Paper-Model-from-Slender-master.zip	
Uidees	no.ga mONSResponder-214.3.tar.gz	JPG Pdp3-calo-2005.gorg	
	pikachu, tgw. flowalistik. STL	test	
	JPG Tierhe-2 (rg		

Select and restore.

32/32

Restore files		Today, at 10:09		Θ
			4	
		10:07 08/12/2016		
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Public Documents	JPG			
🞵 Musik 📹 Pictures	DEC, VT100, terminal jpg	Expert-Paper-Model-Inorn-Blander-master.zip		
Videos		JPG		
		Pdp7-cslo-2005.jpeg		
	pitacha_tgwt_flowalistik_STL	Ted		
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It restores and renames the restored files.

		Decuments - File Mar	agar		
10	e Bilit View Go	Help			
	· · · · · ·	/home/ccc/Documents/			c
	MECES Prile System E.D.DS Volume ACES Coc Desktop Rubbah Din	Name Astronomic Constraints Astronomic Constraints Astronomic Constraints Const	Size Type O byte: plain test document 196.1 88 withnows 20.9 86 PHO image 2.1 MB /PEG image 28.6 48 2p archise 1.6 MB Gop archise	Date Modified Today Today Today Today Today Today Today	
	TTWDRK	pikacha, Igari, Sowalistik, restored STL.	272.846 JPE6 image 20.740 unknown 0 byte: plain test document 1.3468 JPE6 image	Yoday Today Today Today	
		10 Intern (5.5 MB), Free space: 27.1 GB			

Workshop 04 - Social Media and Online Safety