

## Windows Subsystem for Linux 2

- Download Linux
- Update linux

```
Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/powershell

PS C:\Users\Administrator> wsl --set-default-version 2
For information on key differences with WSL 2 please visit https://aka.ms/wsl2
The operation completed successfully.
PS C:\Users\Administrator> wsl --install
Ubuntu is already installed.
Launching Ubuntu...
bhargava@23372bc849b55ff: ~
[sudo] password for bhargava:
Hit:1 http://archive.ubuntu.com/ubuntu noble InRelease
Get:2 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
Get:3 http://archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:4 http://security.ubuntu.com/ubuntu noble-security/main amd64 Components [8972 B]
Get:5 http://archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:6 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Components [52.0 kB]
Get:7 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 Packages [838 kB]
Get:8 http://security.ubuntu.com/ubuntu noble-security/restricted amd64 Components [208 B]
Get:9 http://security.ubuntu.com/ubuntu noble-security/multiverse amd64 Components [208 B]
Get:10 http://archive.ubuntu.com/ubuntu noble-updates/main Translation-en [191 kB]
Get:11 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 Components [151 kB]
Get:12 http://archive.ubuntu.com/ubuntu noble-updates/universe amd64 Packages [1003 kB]
Get:13 http://archive.ubuntu.com/ubuntu noble-updates/universe Translation-en [250 kB]
Get:14 http://archive.ubuntu.com/ubuntu noble-updates/universe amd64 Components [315 kB]
Get:15 http://archive.ubuntu.com/ubuntu noble-updates/restricted amd64 Components [212 B]
Get:16 http://archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 Packages [16.3 kB]
Get:17 http://archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 Components [940 B]
Get:18 http://archive.ubuntu.com/ubuntu noble-backports/main amd64 Components [208 B]
Get:19 http://archive.ubuntu.com/ubuntu noble-backports/universe amd64 Components [17.7 kB]
Get:20 http://archive.ubuntu.com/ubuntu noble-backports/restricted amd64 Components [212 B]
Get:21 http://archive.ubuntu.com/ubuntu noble-backports/multiverse amd64 Components [212 B]
Fetched 3024 kB in 7s (438 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
67 packages can be upgraded. Run 'apt list --upgradable' to see them.
bhargava@23372bc849b55ff: ~$ sudo apt update
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Calculating upgrade... Done
The following package was automatically installed and is no longer required:
  liblvm2764
```

- Switch Between WSL1 and WSL2
- Set a Default Linux Distribution
- Move or clone your Linux Disk Image

```
Administrator: Windows PowerShell
Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/powershell

PS C:\Users\Administrator> wsl --update
Checking for updates.
The most recent version of Windows Subsystem for Linux is already installed.
PS C:\Users\Administrator> wsl --list --verbose
  NAME      STATE      VERSION
* docker-desktop  Stopped    2
  Ubuntu     Stopped    2
PS C:\Users\Administrator> wsl --set-version Ubuntu 1
Conversion in progress, this may take a few minutes.
The operation completed successfully.
PS C:\Users\Administrator> wsl --set-version Ubuntu 2
For information on key differences with WSL 2 please visit https://aka.ms/wsl2
Conversion in progress, this may take a few minutes.
The operation completed successfully.
PS C:\Users\Administrator> wsl --list
Windows Subsystem for Linux Distributions:
docker-desktop (Default)
Ubuntu
PS C:\Users\Administrator> wsl --setDefault Ubuntu
The operation completed successfully.
PS C:\Users\Administrator> mkdir D:\backup

Directory: D:\

Mode                LastWriteTime         Length Name
----                -
d-----          04-02-2025   12:52         backup

PS C:\Users\Administrator> wsl --export Ubuntu D:\backup\ubuntu.tar
Export in progress, this may take a few minutes.
The operation completed successfully.
PS C:\Users\Administrator> wsl --unregister Ubuntu
Unregistering.
The operation completed successfully.
PS C:\Users\Administrator> wsl --list
Windows Subsystem for Linux Distributions:
docker-desktop (Default)
PS C:\Users\Administrator>
```

```
PS C:\Users\Administrator> wsl --list
Windows Subsystem for Linux Distributions:
docker-desktop (Default)
PS C:\Users\Administrator> mkdir D:\wsl
```

Directory: D:\

Mode	LastWriteTime	Length	Name
d-----	04-02-2025 12:56		wsl

Administrator: Windows PowerShell

```
PS C:\Users\Administrator> wsl --import Ubuntu D:\wsl\ D:\backup\ubuntu.tar
Import in progress, this may take a few minutes.
The operation completed successfully.
PS C:\Users\Administrator> wsl --list
Windows Subsystem for Linux Distributions:
docker-desktop (Default)
Ubuntu
PS C:\Users\Administrator> ubuntu config --default-user bhargava
```

- Access Linux files from Windows
- Map a Network drive

← Map Network Drive

## What network folder would you like to map?

Specify the drive letter for the connection and the folder that you want to connect to:

Drive:

Folder:

Browse...

Example: \\server\share

☒ Reconnect at sign-in

☐ Connect using different credentials

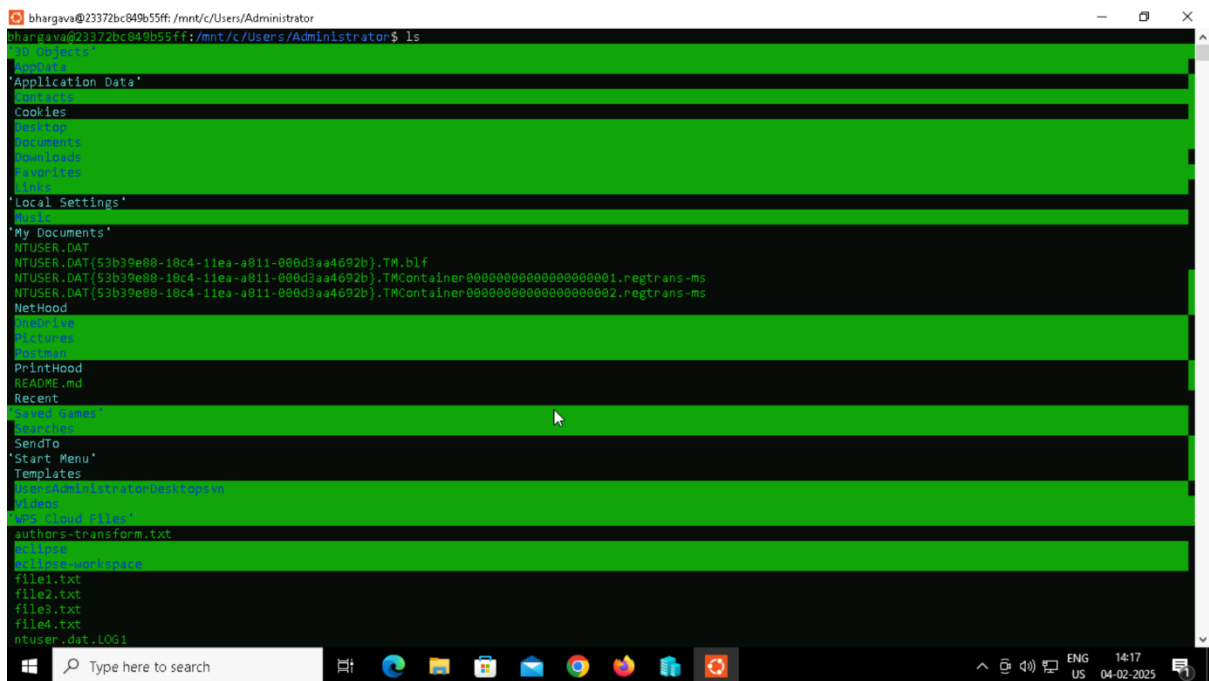
[Connect to a Web site that you can use to store your documents and pictures.](#)

Finish

Cancel

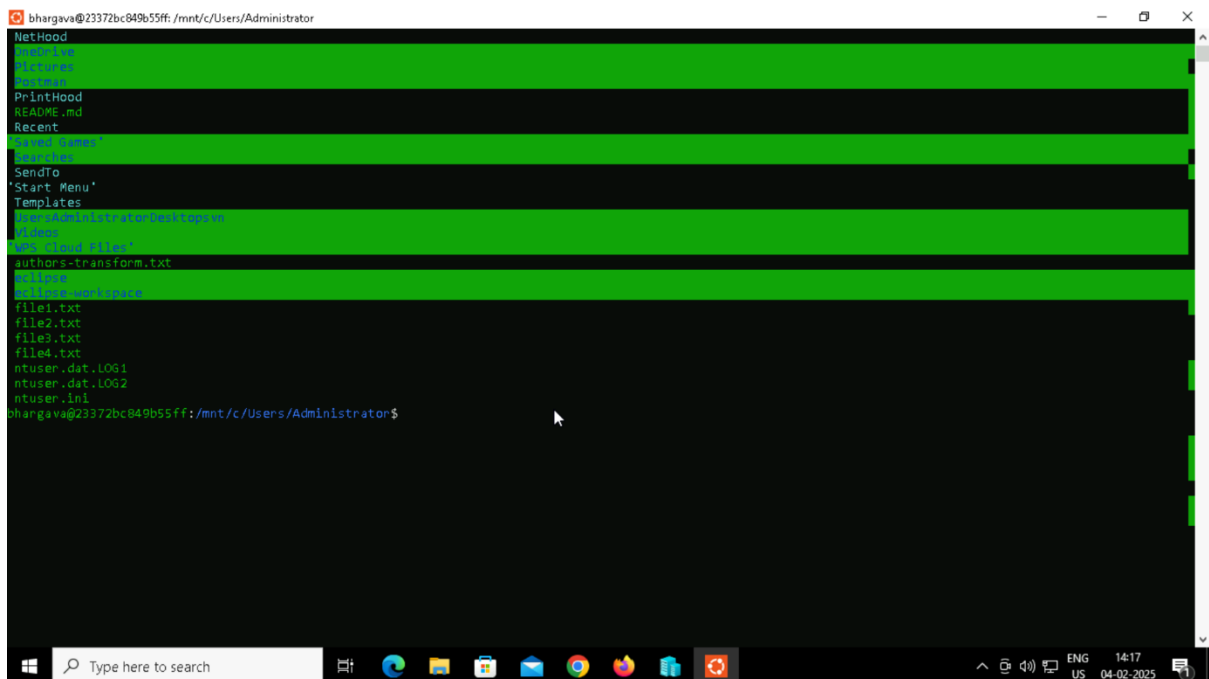
## Accessing Windows Files from Linux

```
72  ls
73  cd mnt/
74  ls
75  cd c/
76  ls
77  cd Users/
78  ls
79  cd Administrator/
80  ls
```



A terminal window titled 'bhargava@23372bc849b55ff: /mnt/c/Users/Administrator' showing the output of the 'ls' command. The directory listing includes folders like 'Application Data', 'Cookies', 'Documents', 'Downloads', 'Favorites', 'Links', 'Local Settings', 'My Documents', and files like 'NTUSER.DAT', 'NTUSER.DAT(53b39e80-18c4-11ea-a011-000d3aa4692b).TM.blf', 'NTUSER.DAT(53b39e80-18c4-11ea-a011-000d3aa4692b).TM.container0000000000000001.regtrans-ms', 'NTUSER.DAT(53b39e80-18c4-11ea-a011-000d3aa4692b).TM.container0000000000000002.regtrans-ms', 'NetHood', 'Recent', 'SendTo', 'Start Menu', and 'Templates'. The Windows taskbar is visible at the bottom.

```
bhargava@23372bc849b55ff: /mnt/c/Users/Administrator$ ls
Application Data
Cookies
Documents
Downloads
Favorites
Links
Local Settings
My Documents
NTUSER.DAT
NTUSER.DAT(53b39e80-18c4-11ea-a011-000d3aa4692b).TM.blf
NTUSER.DAT(53b39e80-18c4-11ea-a011-000d3aa4692b).TM.container0000000000000001.regtrans-ms
NTUSER.DAT(53b39e80-18c4-11ea-a011-000d3aa4692b).TM.container0000000000000002.regtrans-ms
NetHood
Recent
SendTo
Start Menu
Templates
```



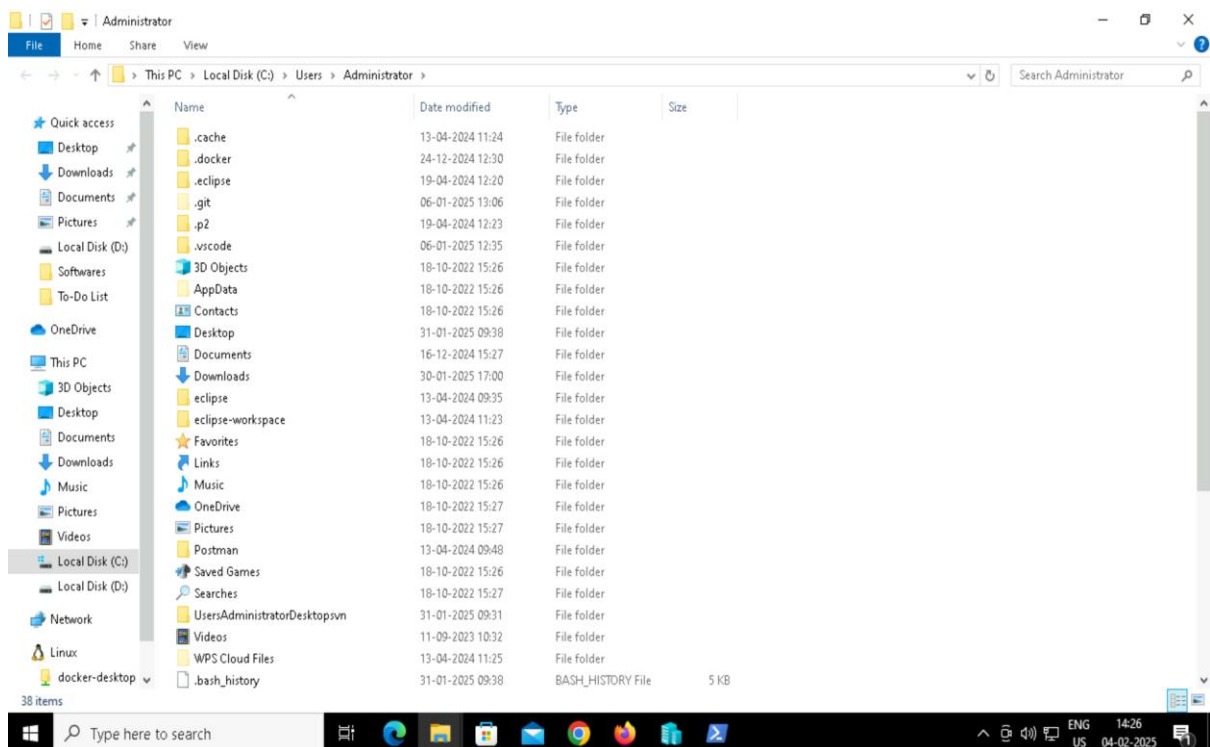
The same terminal window, scrolled down to show more files. The listing continues with 'file1.txt', 'file2.txt', 'file3.txt', 'file4.txt', 'ntuser.dat.LOG1', 'ntuser.dat.LOG2', and 'ntuser.ini'. The prompt is now 'bhargava@23372bc849b55ff: /mnt/c/Users/Administrator\$'.

```
bhargava@23372bc849b55ff: /mnt/c/Users/Administrator$
file1.txt
file2.txt
file3.txt
file4.txt
ntuser.dat.LOG1
ntuser.dat.LOG2
ntuser.ini
bhargava@23372bc849b55ff: /mnt/c/Users/Administrator$
```

[illegible]

## Run Windows Applications from Linux

```
PS C:\Users\Administrator> explorer.exe .
```



## Install Applications

```
bhargava@23372bc849b55ff: ~  
bhargava@23372bc849b55ff:~$ sudo apt update  
[sudo] password for bhargava:  
Hit:1 http://security.ubuntu.com/ubuntu noble-security InRelease  
Hit:2 http://archive.ubuntu.com/ubuntu noble InRelease  
Hit:3 http://archive.ubuntu.com/ubuntu noble-updates InRelease  
Hit:4 http://archive.ubuntu.com/ubuntu noble-backports InRelease  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
2 packages can be upgraded. Run 'apt list --upgradable' to see them.  
bhargava@23372bc849b55ff:~$ sudo apt install git-all  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
The following package was automatically installed and is no longer required:  
  libllvm17t64  
Use 'sudo apt autoremove' to remove it.  
The following additional packages will be installed:  
  cvs cvsps git-cvs git-doc git-email git-gui git-mediawiki gitk gitweb libalgorithm-c3-perl libauthen-sasl-perl  
  libb-hooks-endofscope-perl libb-hooks-op-check-perl libcgi-fast-perl libcgi-pm-perl libclass-c3-perl  
  libclass-c3-xs-perl libclass-data-inheritable-perl libclass-inspector-perl libclass-method-modifiers-perl  
  libclass-singleton-perl libclass-xsaccessor-perl libclone-perl libcommon-sense-perl libdata-dump-perl  
  libdata-optlist-perl libdatetime-format-builder-perl libdatetime-format-iso8601-perl  
  libdatetime-format-strptime-perl libdatetime-locale-perl libdatetime-perl libdatetime-timezone-perl  
  libdbd-sqlite3-perl libdbi-perl libdevel-callchecker-perl libdevel-caller-perl libdevel-lexalias-perl  
  libdevel-stacktrace-perl libdigest-bubblebabble-perl libdigest-hmac-perl libdynaloader-functions-perl  
  libemail-valid-perl libencode-locale-perl libeval-closure-perl libexception-class-perl libfcgi-bin libfcgi-perl  
  libfcgi0t64 libfile-listing-perl libfile-sharedir-perl libfont-afm-perl libhtml-form-perl libhtml-format-perl  
  libhtml-parser-perl libhtml-tagset-perl libhtml-tree-perl libhttp-cookies-perl libhttp-daemon-perl libhttp-date-perl  
  libhttp-message-perl libhttp-negotiate-perl libidn12 libio-html-perl libio-socket-ssl-perl libjson-perl  
  libjson-xs-perl liblwp-mediatypes-perl liblwp-protocol-https-perl libmailtools-perl libmediawiki-api-perl  
  libmodule-implementation-perl libmodule-runtime-perl libmro-compat-perl libnamespace-autoclean-perl  
  libnamespace-clean-perl libnet-dns-perl libnet-dns-sec-perl libnet-domain-tld-perl libnet-http-perl  
  libnet-libidn-perl libnet-smtp-ssl-perl libnet-ssleay-perl libpackage-stash-perl libpackage-stash-xs-perl  
  libpadwalker-perl libparams-classify-perl libparams-util-perl libparams-validate-perl  
  libparams-validationcompiler-perl libperl4-corelibs-perl libreadonly-perl libref-util-perl libref-util-xs-perl  
  librole-tiny-perl librspecio-perl libsub-exporter-perl libsub-exporter-progressive-perl libsub-identify-perl  
  libsub-install-perl libsub-name-perl libsub-quote-perl libtimedate-perl libtry-tiny-perl libtypes-serialiser-perl  
  liburi-perl libvariable-magic-perl libwww-perl libwww-robotrules-perl libxstring-perl perl-openssl-defaults tcl  
  tcl8.6 tk tk8.6  
Suggested packages:
```

## Install Graphical Linux Applications

```
bhargava@23372bc849b55ff: ~  
Setting up git-mediawiki (1:2.43.0-ubuntu7.2) ...  
Setting up git-all (1:2.43.0-ubuntu7.2) ...  
Processing triggers for install-info (7.1-3build2) ...  
Processing triggers for libc-bin (2.39-0ubuntu8.3) ...  
Processing triggers for man-db (2.12.0-4build2) ...  
bhargava@23372bc849b55ff:~$ sudo apt install gedit  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
The following package was automatically installed and is no longer required:  
  libllvm17t64  
Use 'sudo apt autoremove' to remove it.  
The following additional packages will be installed:  
  alsa-topology-conf alsa-ucm-conf aspell aspell-en bubblewrap dictionaries-common docbook-xml emacsens-common enchant-2 gedit-common gir1.2-amtk-5  
  gir1.2-atk-1.0 gir1.2-freedesktop gir1.2-gdkpixbuf-2.0 gir1.2-gtk-3.0 gir1.2-gtksource-300 gir1.2-harfbuzz-0.0 gir1.2-pango-1.0 gir1.2-peas-1.0  
  gir1.2-telepathy-glib-networking-common glib-networking-common glib-networking-services gstreamer1.0-gl gstreamer1.0-plugins-base gstreamer1.0-plugins-good  
  gstreamer1.0-x hunspell-en-us libaa1 libadwaita-1.0 libasound2-data libasound2t64 libaspell15 libasynctns0 libavc1394-0 libcac0  
  libcairo-script-interpreter2 libcdparanoia0 libdv4t64 libenchanted-2.2 libevdev2 libflac12t64 libgedit-amtk-5-0 libgedit-amtk-5-common  
  libgedit-gtksourceview-300-0 libgedit-gtksourceview-300-common libgles2 libgraphene-1.0-0 libgspell-1-2 libgspell-1-common libgstreamer-glib-1.0-0  
  libgstreamer-plugins-base-1.0-0 libgstreamer-plugins-good-1.0-0 libgtk-4-1 libgtk-4-bin libgtk-4-common libgtk-4-media-gstreamer libgudev-1.0-0  
  libhandy-1-0 libharfbuzz-gobject0 libharfbuzz-icu0 libhunspell-1.7-0 libhyphen0 libiec61883-0 libjavascriptcoregtk-4.1-0 libjs-glib-1.0-0  
  libjs-glib-1.0-common libmanette-0.2-0 libmp3lame0 libmpeg123-0t64 libogg0 libopus0 liborc-0.4-0t64 libpangoxft-1.0-0 libpeas-1.0-0 libpeas-common  
  libpipewire-0.3-0t64 libpipewire-0.3-common libproxy1v5 libpulse0 libraw1394-11 libsecret-1-0 libsecret-common libshout3 libsndfile1 libsoup-3.0-0  
  libsoup-3.0-common libspa-0.2-modules libspeex1 libtag1v5 libtag1v5-vanilla libtepl-6-4 libtepl-common libtheora0 libtwolame0 libv4l-0t64  
  libv4lconvert0t64 libvisual-0.4-0 libvorbis0a libvorbisenc2 libvpx9 libwavpack1 libwebkit2gtk-4.1-0 libwebrtc-audio-processing1 libwoff1 libxvi libyelp0  
  python3-cairo python3-gi-cairo sgml-data xdg-dbus-proxy xdg-desktop-portal xdg-desktop-portal-gtk yelp yelp-xsl zenity zenity-common  
Suggested packages:  
  aspell-doc spellutils wordlist docbook docbook-dsssl docbook-xsl docbook-defguide gedit-plugins gvfs hunspell openoffice.org-hunspell  
  | openoffice.org-core alsa-utils libasound2-plugins libdv-bin oss-compat libenchanted-2-voikko libvisual-0.4-plugins opus-tools pipewire pulseaudio  
  libraw1394-doc speex gstreamer1.0-libav gstreamer1.0-plugins-bad gstreamer1.0-alsa perlsgml w3-recs opensp libxml2-utils accountsservice evince  
  xdg-desktop-portal-gnome  
The following NEW packages will be installed:  
  alsa-topology-conf alsa-ucm-conf aspell aspell-en bubblewrap dictionaries-common docbook-xml emacsens-common enchant-2 gedit gedit-common gir1.2-amtk-5  
  gir1.2-atk-1.0 gir1.2-freedesktop gir1.2-gdkpixbuf-2.0 gir1.2-gtk-3.0 gir1.2-gtksource-300 gir1.2-harfbuzz-0.0 gir1.2-pango-1.0 gir1.2-peas-1.0  
  gir1.2-telepathy-glib-networking-common glib-networking-common glib-networking-services gstreamer1.0-gl gstreamer1.0-plugins-base gstreamer1.0-plugins-good  
  gstreamer1.0-x hunspell-en-us libaa1 libadwaita-1.0 libasound2-data libasound2t64 libaspell15 libasynctns0 libavc1394-0 libcac0  
  libcairo-script-interpreter2 libcdparanoia0 libdv4t64 libenchanted-2.2 libevdev2 libflac12t64 libgedit-amtk-5-0 libgedit-amtk-5-common  
  libgedit-gtksourceview-300-0 libgedit-gtksourceview-300-common libgles2 libgraphene-1.0-0 libgspell-1-2 libgspell-1-common libgstreamer-glib-1.0-0  
  libgstreamer-plugins-base-1.0-0 libgstreamer-plugins-good-1.0-0 libgtk-4-1 libgtk-4-bin libgtk-4-common libgtk-4-media-gstreamer libgudev-1.0-0  
  libhandy-1-0 libharfbuzz-gobject0 libharfbuzz-icu0 libhunspell-1.7-0 libhyphen0 libiec61883-0 libjavascriptcoregtk-4.1-0 libjs-glib-1.0-0  
  libjs-glib-1.0-common libmanette-0.2-0 libmp3lame0 libmpeg123-0t64 libogg0 libopus0 liborc-0.4-0t64 libpangoxft-1.0-0 libpeas-1.0-0 libpeas-common  
  libpipewire-0.3-0t64 libpipewire-0.3-common libproxy1v5 libpulse0 libraw1394-11 libsecret-1-0 libsecret-common libshout3 libsndfile1 libsoup-3.0-0  
  libsoup-3.0-common libspa-0.2-modules libspeex1 libtag1v5 libtag1v5-vanilla libtepl-6-4 libtepl-common libtheora0 libtwolame0 libv4l-0t64  
  libv4lconvert0t64 libvisual-0.4-0 libvorbis0a libvorbisenc2 libvpx9 libwavpack1 libwebkit2gtk-4.1-0 libwebrtc-audio-processing1 libwoff1 libxvi libyelp0  
  python3-cairo python3-gi-cairo sgml-data xdg-dbus-proxy xdg-desktop-portal xdg-desktop-portal-gtk yelp yelp-xsl zenity zenity-common
```

