

Don't rush to spend money on upgrades: Do this when your Linux storage is running low!

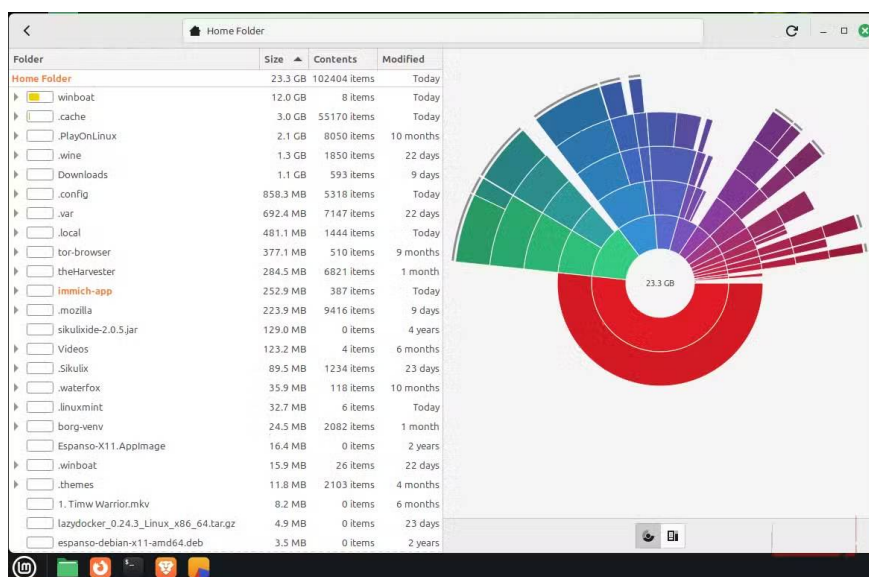
There are good free solutions available when you're running low on storage space on Linux. Some are effective because they are repeatable processes rather than one-time solutions.

Many people never have enough storage space. While this is partly due to the nature of their work, it's also inherent in Linux. It doesn't automatically clean up after use. After a few months, you might start running out of storage. Buying an external hard drive or paying for cloud storage might be a solution. However, not everyone can afford this option, and most storage issues can be resolved without spending money.

There are good, free solutions available when you're running low on Linux storage. Some are effective because they are repeatable processes rather than one-time solutions. They don't just simply delete files; they also help you understand what's actually taking up space.

Check your drive before deleting anything.

Stop guessing and let Linux show you what's really taking up a lot of disk space.



Home Folder winboat

Folder	Size	Contents	Modified
winboat	12.0 GB	8 items	Today
data.img	12.0 GB	0 items	Today
windows.rom	3.7 MB	0 items	22 days
windows.vars	540.7 kB	0 items	Today
windows.base	4.1 kB	0 items	22 days
windows.ver	4.1 kB	0 items	22 days
windows.mac	4.1 kB	0 items	22 days
windows.boot	0 bytes	0 items	22 days

12.0 GB

Home Folder .cache

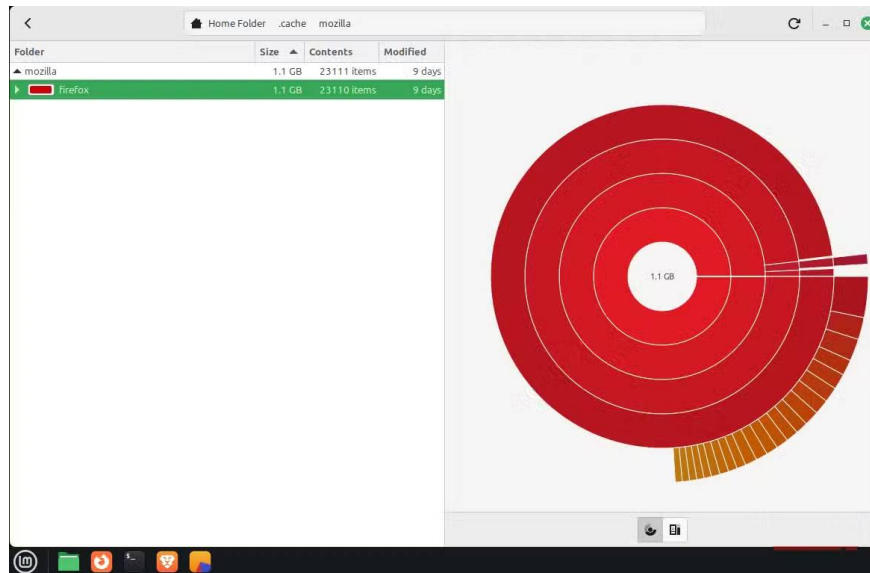
Folder	Size	Contents	Modified
.cache	3.0 GB	55170 items	Today
BraveSoftware	1.6 GB	27247 items	Today
mozilla	1.1 GB	23111 items	9 days
pip	87.2 MB	1327 items	1 month
waterfox	58.0 MB	2143 items	10 months
mintinstall	48.5 MB	39 items	9 days
appstream	43.4 MB	3 items	Today
thumbnails	9.2 MB	377 items	9 days
mesa_shader_cache_db	7.4 MB	153 items	Today
flatpak	7.1 MB	8 items	Today
fontconfig	4.2 MB	93 items	9 days
mesa_shader_cache	3.2 MB	446 items	10 months
gststreamer-1.0	1.5 MB	2 items	6 months
cinnamon	1.4 MB	104 items	Today
wallpaper	999.4 kB	2 items	1 month
cs_backgrounds	847.9 kB	54 items	4 months
espanso	90.1 kB	11 items	23 days
mpv	86.0 kB	10 items	10 months
borg	77.8 kB	9 items	1 month
evolution	53.2 kB	13 items	11 months
xreader	20.5 kB	5 items	6 months
flameshot	12.3 kB	3 items	2 months
pipx	8.2 kB	2 items	1 month
gnome-calculator	8.2 kB	2 items	27 days
cs_themes	8.2 kB	2 items	10 months

3.0 GB

Devices & Locations

This Computer

- Home Folder (/home/fuzo)
- fuzo-HP-Laptop-17-cn0xxx (292.3 GB Available / 398.2 GB Total)
- 102 GB Volume (Unmounted)
- Fedora (Unmounted)
- 385 GB Volume (Unmounted)
- DATA (Unmounted)
- Windows (Unmounted)



Your worst course of action is to immediately start deleting files or programs when you receive a low disk space warning. In experience, deleting many small things rarely solves storage space issues on Linux. It's likely you have one or two programs that are consuming a lot of space and causing the warning. If you can't find them, any cleanup efforts will be futile.

The quickest way to clarify the issue is to use Disk Usage Analyzer (Baobab). This is a GNOME-specific application, pre-installed in Linux Mint, Fedora, Pop!_OS, and also the default application in Ubuntu and Debian. On lighter, non-GNOME distributions, you can install it using one of the following commands:

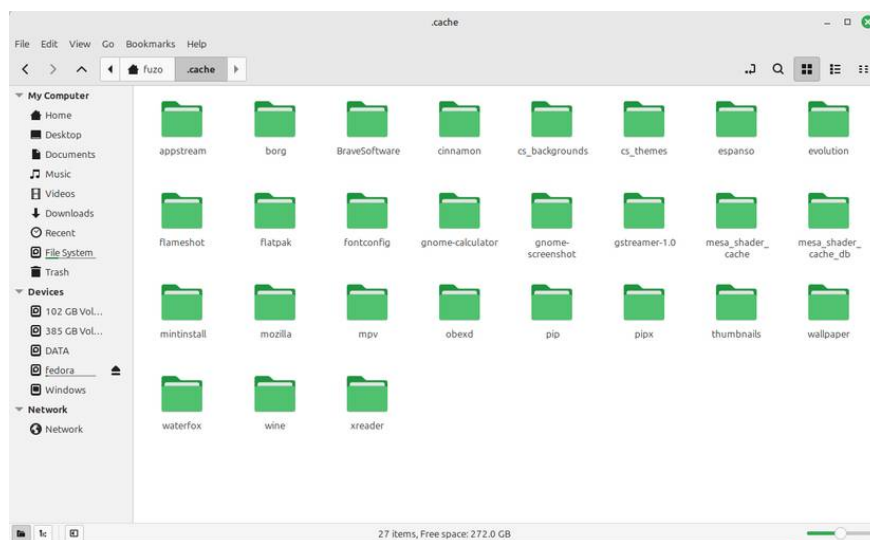
```
sudo apt install baobab sudo dnf install baobab
```

Baobab scans the system and visually displays a directory analysis by size. This is one of the easiest ways to find the culprit, often a virtual machine image, an old ISO image, or a backup folder.

The purpose of using a tool like this isn't just to view large files. It shows you where those files are located, allowing you to take targeted steps. Generally, deleting unnecessary files in the home directory is safe, but you should clean up system directories cautiously, using only built-in maintenance tools.

Delete cache data that Linux never automatically cleans up.

Free up gigabytes from APT cache, application cache, and thumbnails.



Linux is a rather conservative operating system. Typically, after downloading a software package, it will retain application files or data in case they are needed in the future. This is a safety net that quickly turns into an unwanted mess.

APT (used by Debian/Ubuntu/Linux Mint) is one of the main causes, but this is also true for Fedora's DNF package manager and pacman in Arch Linux, which store outdated installation files.

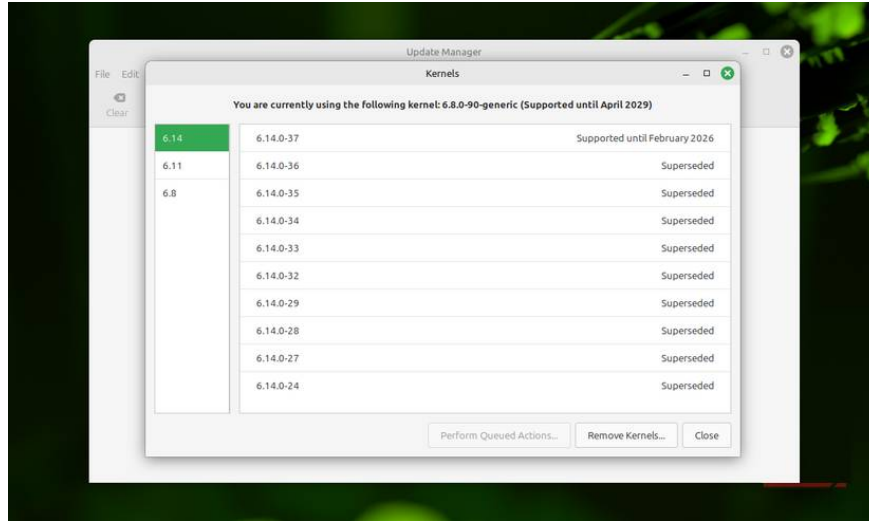
Cache clearing is safe because it doesn't affect the software; it only removes unused packages. After a few months, clearing the cache can free up several gigabytes of space. The table below shows the clearing commands:

Command	Distribution	Impact
<code>Suduk apt clean</code>	Linux Mint / Ubuntu	Delete all local archives of downloaded package files (.deb).
<code>sudo dnf clean all</code>	Fedora	Remove all cached packets and metadata from the system.
<code>sudo paccache -r</code>	Arch / Manjaro	Remove all cached packages except the 3 most recent versions (a safe method for Arch).

However, even application files can accumulate. You should delete thumbnails and temporary files from your browser, media player, and file manager. Deleting all of these is safe; the application will recreate some of them, but usually only the parts it needs, not everything.

Delete leftover system files from updates and installations.

Old kernels, unused dependencies, and forgotten runtimes.



Linux kernel updates aren't automatic like Windows; they're handled in a way that can cause memory bloat. Previous versions remain on the system as backups. This is good for security, but you really don't need dozens of these backups. Each backup can take up a significant amount of disk space. On Ubuntu or Debian, you can use the command below to identify and remove old kernels and their associated files:

```
sudo apt autoremove --purge
```

On Linux Mint, do the following:

1. Navigate to **Update Manager -> View -> Linux Kernels**.
2. Click on **Remove Kernels**, Linux Mint will suggest deleting everything except the current and previous versions.

The same applies to dependency libraries. Even after you uninstall an application, the libraries it depends on are not automatically deleted. Eventually, they become an unnecessary software burden. You can clean them up to free up space using one of the commands below:

Command	Distribution	Why does it work?
sudo apt autoremove	Linux Mint / Ubuntu / Debian	Scan for libraries that no longer have a "parent" application and delete them.
sudo dnf autoremove	Fedora	The functionality is exactly the same as the APT version for Red Hat-based systems.

1. pacman -Qtdq (lists orphan packages)
2. sudo pacman -Rns (Remove package)

Arch

A two-step process forces you to make a conscious decision for each product package.

Tip : Before cleaning up Linux, create a System Snapshot using the built-in Timeshift tool. You can also use reliable backup tools like BorgBackup for your files.

Control of incident logs and data

When background errors silently occupy disk space.

```

fuze@fuze-HP-Laptop-17-cn0xxx-
File Edit View Search Terminal Help
Mar 20 12:20:18 fuze-HP-Laptop-17-cn0xxx bluetoothd[1000]: Endpoint unregistered: sender=1.37 path=/MediaEndpoint/A2DPSource/faststream
Mar 20 12:20:18 fuze-HP-Laptop-17-cn0xxx bluetoothd[1000]: Endpoint unregistered: sender=1.37 path=/MediaEndpoint/A2DPSource/faststream duplex
Mar 20 12:20:18 fuze-HP-Laptop-17-cn0xxx bluetoothd[1000]: Endpoint unregistered: sender=1.37 path=/MediaEndpoint/A2DPSink/opus_05
Mar 20 12:20:18 fuze-HP-Laptop-17-cn0xxx bluetoothd[1000]: Endpoint unregistered: sender=1.37 path=/MediaEndpoint/A2DPSink/opus_05 duplex
Mar 20 12:20:18 fuze-HP-Laptop-17-cn0xxx bluetoothd[1000]: Endpoint unregistered: sender=1.37 path=/MediaEndpoint/A2DPSource/opus_05 duplex
Mar 20 12:20:18 fuze-HP-Laptop-17-cn0xxx bluetoothd[1000]: Endpoint unregistered: sender=1.37 path=/MediaEndpoint/A2DPSource/opus_05 duplex
Mar 20 12:20:18 fuze-HP-Laptop-17-cn0xxx systemd-logind[1031]: Removed session c1.
Mar 20 12:20:18 fuze-HP-Laptop-17-cn0xxx systemd[1]: Created slice user-1000.slice - User Slice of UID 1000.
lines 1-30, skipping...
Mar 20 12:20:14 fuze-HP-Laptop-17-cn0xxx systemd-resolved[990]: Clock change detected. Flushing caches.
Mar 20 12:20:16 fuze-HP-Laptop-17-cn0xxx systemd-journald[333]: Time jumped backwards, rotating.
Mar 20 12:20:14 fuze-HP-Laptop-17-cn0xxx systemd-timesyncd[992]: Contacted time server 105.125.190.58:123 (ntp.ubuntu.com).
Mar 20 12:20:14 fuze-HP-Laptop-17-cn0xxx systemd-timesyncd[992]: Initial clock synchronization to Thu 2025-03-20 12:20:14.992834 GMT.
Mar 20 12:20:17 fuze-HP-Laptop-17-cn0xxx lightdm[1716]: gkr-pam: unable to locate daemon control file
Mar 20 12:20:17 fuze-HP-Laptop-17-cn0xxx lightdm[1716]: gkr-pam: Stashed password to try later in open session
Mar 20 12:20:18 fuze-HP-Laptop-17-cn0xxx systemd[1]: Stopping session-c1.scope - Session c1 of User lightdm...
Mar 20 12:20:18 fuze-HP-Laptop-17-cn0xxx bluetoothd[1000]: Endpoint unregistered: sender=1.37 path=/MediaEndpoint/A2DPSource/ldac
Mar 20 12:20:18 fuze-HP-Laptop-17-cn0xxx bluetoothd[1000]: Endpoint unregistered: sender=1.37 path=/MediaEndpoint/A2DPSink/aptx_hd
Mar 20 12:20:18 fuze-HP-Laptop-17-cn0xxx bluetoothd[1000]: Endpoint unregistered: sender=1.37 path=/MediaEndpoint/A2DPSource/aptx_hd
Mar 20 12:20:18 fuze-HP-Laptop-17-cn0xxx bluetoothd[1000]: Endpoint unregistered: sender=1.37 path=/MediaEndpoint/A2DPSink/aptx
Mar 20 12:20:18 fuze-HP-Laptop-17-cn0xxx bluetoothd[1000]: Endpoint unregistered: sender=1.37 path=/MediaEndpoint/A2DPSource/aptx
Mar 20 12:20:18 fuze-HP-Laptop-17-cn0xxx bluetoothd[1000]: Endpoint unregistered: sender=1.37 path=/MediaEndpoint/A2DPSink/sbc
Mar 20 12:20:18 fuze-HP-Laptop-17-cn0xxx bluetoothd[1000]: Endpoint unregistered: sender=1.37 path=/MediaEndpoint/A2DPSource/sbc
Mar 20 12:20:18 fuze-HP-Laptop-17-cn0xxx bluetoothd[1000]: Endpoint unregistered: sender=1.37 path=/MediaEndpoint/A2DPSink/sbc_xq
Mar 20 12:20:18 fuze-HP-Laptop-17-cn0xxx bluetoothd[1000]: Endpoint unregistered: sender=1.37 path=/MediaEndpoint/A2DPSource/sbc_xq
Mar 20 12:20:18 fuze-HP-Laptop-17-cn0xxx bluetoothd[1000]: Endpoint unregistered: sender=1.37 path=/MediaEndpoint/A2DPSink/aptx_ll_1
Mar 20 12:20:18 fuze-HP-Laptop-17-cn0xxx bluetoothd[1000]: Endpoint unregistered: sender=1.37 path=/MediaEndpoint/A2DPSource/aptx_ll_0
Mar 20 12:20:18 fuze-HP-Laptop-17-cn0xxx bluetoothd[1000]: Endpoint unregistered: sender=1.37 path=/MediaEndpoint/A2DPSink/sbc_xq
Mar 20 12:20:18 fuze-HP-Laptop-17-cn0xxx lightdm[1716]: pam_unix(lightdm-session): session opened for user fuze(uid=1000) by (uid=0)
Mar 20 12:20:18 fuze-HP-Laptop-17-cn0xxx bluetoothd[1000]: Endpoint unregistered: sender=1.37 path=/MediaEndpoint/A2DPSource/aptx_ll_duplex_1
Mar 20 12:20:18 fuze-HP-Laptop-17-cn0xxx systemd[1]: session-c1.scope: Deactivated successfully.
Mar 20 12:20:18 fuze-HP-Laptop-17-cn0xxx bluetoothd[1000]: Endpoint unregistered: sender=1.37 path=/MediaEndpoint/A2DPSource/aptx_ll_duplex_0
Mar 20 12:20:18 fuze-HP-Laptop-17-cn0xxx systemd[1]: Stopped session-c1.scope - Session c1 of User lightdm.
Mar 20 12:20:18 fuze-HP-Laptop-17-cn0xxx systemd[1]: session-c1.scope: Consumed 1.253s CPU time.
Mar 20 12:20:18 fuze-HP-Laptop-17-cn0xxx bluetoothd[1000]: Endpoint unregistered: sender=1.37 path=/MediaEndpoint/A2DPSource/faststream
Mar 20 12:20:18 fuze-HP-Laptop-17-cn0xxx bluetoothd[1000]: Endpoint unregistered: sender=1.37 path=/MediaEndpoint/A2DPSource/faststream duplex
Mar 20 12:20:18 fuze-HP-Laptop-17-cn0xxx bluetoothd[1000]: Endpoint unregistered: sender=1.37 path=/MediaEndpoint/A2DPSink/opus_05
Mar 20 12:20:18 fuze-HP-Laptop-17-cn0xxx bluetoothd[1000]: Endpoint unregistered: sender=1.37 path=/MediaEndpoint/A2DPSink/opus_05 duplex

```

When you encounter system problems, logs help you diagnose them. However, if you leave Linux as is, it will log indefinitely. Systemd's journald stores logs continuously, and these tend to increase rapidly when problems occur on your device.

This can be particularly problematic because the system may not warn you until the drive is nearly full. Until then, everything is working fine: startup, applications, and processes. First, use the command below to check how much space the logs are taking up:

```
journalctl --disk-usage
```

If you have a large log, you can clean it up using any of the commands below:

Command	Impact
sudo journalctl --vacuum-size=100M	Only keep the last 100MB of logs.

Command	Impact
<code>sudo journalctl --vacuum-time=3d</code>	Only keep records for the last 3 days.

Prevent Timeshift from hogging SSD space.

Configure backup settings to protect data without filling up your hard drive.

```

fuzy@fuzy-HP-Laptop-17-cn0xxx:~$ sudo timeshift --list
[sudo] password for fuzy:
Mounted '/dev/sda3' at '/run/timeshift/15157/backup'
Device : /dev/sda3
UUID   : fa61258e-f17d-41a5-9ca9-71259364c731
Path   : /run/timeshift/15157/backup
Mode   : RSYNC
Status : OK
3 snapshots, 272.0 GB free

Num  Name                Tags  Description
-----
0    > 2025-12-12_11-00-02  W
1    > 2025-12-19_21-00-05  W
2    > 2026-01-02_21-00-02  W
fuzy@fuzy-HP-Laptop-17-cn0xxx:~$

```

Timeshift is one of the most important features on many Linux distributions. It keeps the system safe by creating incremental snapshots and restoring the system in case of failure. But when snapshots are not managed well, they accumulate and become a storage space issue.

When storage space is running low, you can move Timeshift to an external hard drive or reduce the frequency of snapshot creation. Properly configuring Timeshift will help you avoid storage space issues. You can clean up Timeshift from the terminal if storage is full and the graphical interface is unresponsive. Follow these steps:

1. Open the command prompt window and run the command below to display the snapshots that are using storage space:

```
sudo timeshift --list
```

2. Delete a specific snapshot using this command, entering the correct timestamp:

```
sudo timeshift --delete --snapshot '2023-10-01_12-00-01'
```

You can use this command in an emergency when you need to reclaim a large amount of storage space: `sudo timeshift --delete-all`. This is an extreme option, deleting all snapshots, and should be used with caution.

You finished reading the article "**Don't rush to spend money on upgrades: Do this when your Linux storage is running low!**" edited by the [TipsMake](#) team. We hope this article has provided you with many useful tech tips and tricks. You can search for similar articles on tips and guides. Thank you for reading and for following us

regularly.
