

# What is the difference between Linux distributions?

The following article points out the differences between Linux distributions like Ubuntu, Fedora, Linux Mint, Debian, openSUSE and many others. Why are there so many Linux distributions and what are the differences between them?

If you are looking for a new Linux distro to install, you should note two things: the name and the desktop environment (Desktop Environment).

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## Where are the Linux distributions different?

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## 5 major differences between Linux distributions

Sometimes you wonder why there are so many Linux distributions, when they are all Linux?

You know that Windows 10 also comes in a lot of versions, but they don't appear on the market as isolated operating systems. Meanwhile, macOS has only one type (at least for computers). So why are there so many Linux distributions coming?

The development of Linux distributions is due to several separate but collaborative groups. Since the Linux Kernel version was first released, over the years, this operating system has created a lot of different distributions.

In essence, it is still Linux. But you'll notice the following noticeable differences in Linux versions:

1. Desktop environment
2. Packet manager
3. Display server

4. Uses
5. Open source philosophy

How are these differences specific?

## 1. Desktop environment

Most distributions are based on the desktop environment they use.

For example, the Ubuntu version will provide several desktop environments based on user preferences. You will have:

1. Ubuntu (main version with desktop GNOME)
2. Kubuntu (KDE)
3. Lubuntu (LXQt)
4. Ubuntu Budgie (with Budgie desktop)
5. Ubuntu MATE (classic Ubuntu desktop version)
6. Xubuntu (Xfce)

Other distributions come with a variety of desktop options, however, they often appear as 'spins' that cover different desktop environments. Fedora is an example of this. Meanwhile, Elementary OS has the Pantheon desktop inspired by macOS.

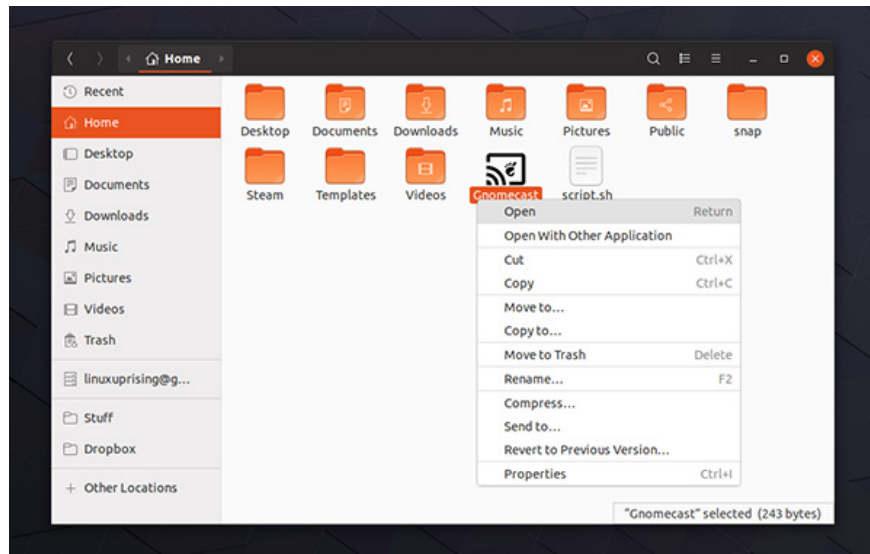


## 2. Packet manager and other technologies

Developers of Linux distributions can choose which software to include, such as a file manager or packet manager.

Linux distro developers have this right because every category on Linux can install multiple applications.

For example, there are several file managers that can be used on Linux, including Nautilus and Konqueror, each of which has its own unique way of opening files.



Another example is about package managers on Linux. There are many methods of installing software on every Linux distribution, but they all have a packet manager running in the background.

Linux distributions like Ubuntu and Linux Mint, dpkg are an option, accessible via apt //. For CentOS, RPM is a packet manager, using the yum command in the command.

### 3. Display Server is different on Linux

In Linux you can find lots of tools, applications, processes, and servers to keep the operating system running smoothly.

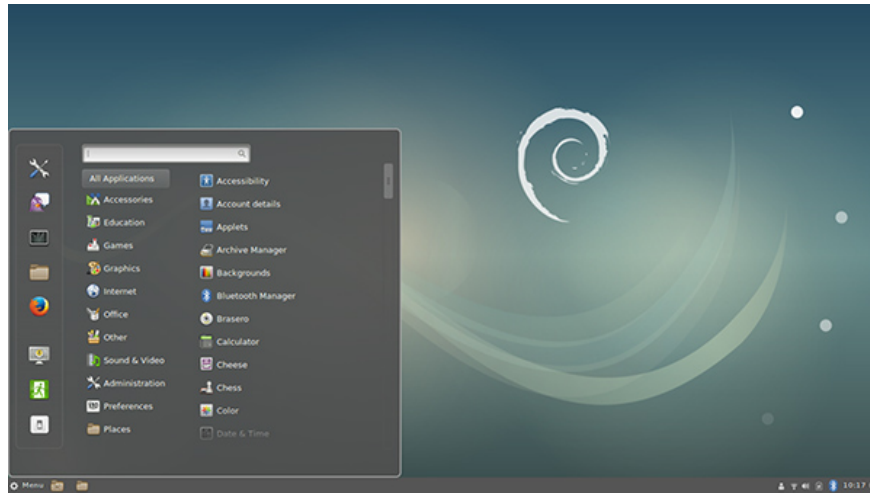
The key example there is the display server. This software coordinates data between the computer hardware and the monitor, allowing users to interact with the graphical interface.

In the past, the X.Org server was commonly used. However, there are many other alternatives like Mir, SurfaceFlinger that are also used on Android. The Wayland display server is considered the future of Linux, when many distributions now use it.

### 4. Purpose of use

Some Linux distributions appear because developers want to change software packages on an existing operating system. Meanwhile, Linux distributions may differ based on their intended use. For example, Linux Mint is based on Ubuntu, but it contains many other system tools, desktop environments, and mint green themes too. The main purpose of this operating system is to create an easy-to-use Linux operating system for newbies migrating from Windows or macOS.

Similarly, Debian also aims to provide a stable operating system (so it has a lot of outdated software).



Some versions of Linux have specific uses. For example, Steam is designed specifically for gaming or the Fedora Design Suite caters for multimedia activities.

## 5. Open source and proprietary philosophy

Although GNU / Linux is a well-known operating system using open source, not all of its distributions have the same open source.

Developers have different views about open source, which can be the deciding factor of pure open sourceists.

For example, Ubuntu is comfortable installing proprietary software on this operating system. Steam also allows users to install graphics drivers from AMD and Nvidia onto their computers. Fedora, in contrast, has an open source policy so strong that no proprietary software can be installed in the operating system.

Of course, you can always do everything you want on your chosen Linux distribution. No matter what its policy, you cannot be completely blocked, you cannot install the software you want.

In short, many Linux distributions have a reputation for being open source but not really open.

## All distributions have one thing in common: Linux Kernel

Although there are many differences, all Linux distributions are considered Linux operating systems. Why?

They all have at least one thing in common: the Linux Kernel. This is the core of the operating system, the bridge between the software and hardware operating in the machine. It can include a lot of device drivers, supporting any kind of hardware.

That's why continually upgrading the kernel is so important. Developers from around the world contribute to the kernel, including its creator, Linus Torvalds.

## Choose the Linux distribution that suits you best

Knowing where your Linux distributions differ can help you a lot with the selection process.

Not all distributions will work, so choose the version that best suits your intended use.

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