

## What is Linux?

Linux® is an open source operating system (OS). An operating system is the software that directly manages a system's hardware and resources, like CPU, memory, and storage. The OS sits between applications and hardware and makes the connections between all of your software and the physical resources that do the work.

## How does Linux work?

Think about an OS like a car engine. An engine can run on its own, but it becomes a functional car when it's connected with a transmission, axles, and wheels. Without the engine running properly, the rest of the car won't work.

Linux was designed to be similar to UNIX, but has evolved to run on a wide variety of hardware from phones to supercomputers. Every Linux-based OS involves the Linux kernel—which manages hardware resources—and a set of software packages that make up the rest of the operating system.

The OS includes some common core components, like the GNU tools, among others. These tools give the user a way to manage the resources provided by the kernel, install additional software, configure performance and security settings, and more. All of these tools bundled together make up the functional operating system. Because Linux is an open source OS, combinations of software can vary between Linux distributions.

## What's a command line?

The command line is your direct access to a computer. It's where you ask software to perform hardware actions that point-and-click graphical user interfaces (GUIs) simply can't ask.

Command lines are available on many operating systems—proprietary or open source. But it's usually associated with Linux, because both command lines and open source software, together, give users unrestricted access to their computer.

Our latest release of Red Hat® Enterprise Linux comes with even more built-in command line capabilities than ever before and includes consoles that bundle those capabilities in easy-to-use modules that exist off of the command line.

## What does Linux include?

- **Kernel**

The base component of the OS. Without it, the OS doesn't work. The kernel manages the system's resources and communicates with the hardware. It's responsible for memory, process, and file management.

- **System user space**

The administrative layer for system-level tasks like configuration and software install. This includes the shell, or command line, daemons, processes that run in the background, and the desktop environment.

- **Applications**

A type of software that lets you perform a task. Apps include everything from desktop tools and programming languages to multiuser business suites. Most Linux distributions offer a central database to search for and download additional apps.

S.NO	Linux	Windows
1.	Linux is a open source operating system.	While windows are the not the open source operating system.
2.	Linux is free of cost.	While it is costly.
3.	It's file name case-sensitive.	While it's file name is case-insensitive.
4.	In linux, monolithic kernel is used.	While in this, micro kernel is used.
5.	Linux is more efficient in comparison of windows.	While windows are less efficient.
6.	There is forward slash is used for Separating the directories.	While there is back slash is used for Separating the directories.
7.	Linux provides more security than windows.	While it provides less security than linux.
8.	Linux is widely used in hacking purpose based systems.	While windows does not provide much efficiency in hacking.