

Fundamentals of UNIX & Linux for System Administrators

FUL-02: Linux Environments

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Module 2 : Linux Environments



Learning Outcomes

- Understand the Linux installation types
- Gain knowledge on the various desktop environments available
- Gain knowledge on the Linux server installation types
- Understand the considerations when selecting the Linux installation

Topics

- Desktop vs Server operating systems
- Desktop environments: gnome, kde, mate
- Server: full install, minimal installation Open-source programming
- Consideration for choosing desktop or server install
- KENET Mirrors

Linux Desktop & Server -definitions

Desktop

- Generic term for a personal computer.
- A desktop operating system comes with a graphical user interface where users can use their mouse and keyboard. The primary purpose of a desktop is to give you a system that can be used for web browsing, document editing, viewing/editing pictures and videos, coding and gaming.
- Basically, a general-purpose computer for individuals, end users, or family members.

Linux Desktop & Server -definitions

Server

- A server operating system is specifically created for hosting web services like websites, apps, media servers, databases etc.
- Usually, a server operating system does not come with a graphical interface. If it is Linux based operating system, you have to use the system entirely via commands in terminal.
- Server OS do not need a lot of RAM and computational power because they do not use graphical desktop environment.

Desktop Environments

- *Refresh: A graphical user interface, commonly known as GUI, is the graphical environment of your operating system — where you have a desktop and mouse pointer. Your screen displays your application panels and icons as well.*



Why so many GUIs? Well users like variety based on their preferences and user experience

Desktop Environments

KDE Plasma

- Versatile with lightweight design and customization options
- Convenient features like mobile phone integration with your Linux system using KDE Connect.
- Browser integration allows you to connect with a smartphone browser and use it as a remote control for browsing on your desktop
- Customizable ;colour scheme, move panels, system fonts, download widgets like calendars from their panel.
- Available on Kubuntu, KDE Neon, OpenSUSE and Fedora KDE.
- [Read more](#)

GNOME

- Popular due to its stability, clean, minimalistic look.
- Highly usable and simple for getting the basics done.
- Desktop dock with all available.
- .Customizable but can be heavy on resources. -consider RAM and CPU resources.
- Solid choice for experienced and new users alike.
- Distros that include it by default are Fedora, Ubuntu, Debian and OpenSUSE,etc.
- [Read more](#)

Desktop Environments..

XFCE

- Excellent choice for those who want to have a more lightweight and customizable experience than GNOME offers.
- Balances performance with user experience. It is light on resources but still provides powerful customizations and features.
- Runs well on older hardware and is light on system resources
- [Read more](#)

LXDE

- Lightweight desktop environment that uses system resources sparingly, which means it can be used with a cheaper embedded board (like a Raspberry Pi) or an old, salvaged computer.
- Highly customizable
- Lightweight and fast -uses less.
- Easy-to-use interface that is responsive and simple to learn.
- Limited on the features available
- [Read more](#)

Desktop Environments..

MATE

- Forked from GNOME 2. MATE was created for users that didn't like the direction that GNOME 3 was headed, which means that it has all the features you would expect from a more polished desktop environment.
- Has many applications within it that allow it to work as well as it does. It uses Caja as a filesystem, Pluma as a text editor, Atril for document reading, and much more.
- Stable environment and works well for users with older hardware. It's not as flashy or updated as KDE Plasma or GNOME are currently, but that might be the perfect fit for a project PC.
- Also suited for a hand-me-down computer that is not compute intensive.
- Available on Debian, Fedora, Gentoo, SUSE Linux, LinuxMint, Ubuntu KDE.
- [Read more](#)

What desktop environment to use?

- Choose **KDE** for cross device operation and great visuals for modern machines.
- Choose **GNOME** for a no nonsense, minimalist desktop.
- Choose **XFCE** for a familiar desktop that runs well on older systems.
- Choose **LXDE** for low powered systems that need all the resources you can spare.
- Choose **MATE** for users that long for the familiarity of GNOME with user led enhancements.

Linux installation—desktop vs server

- Desktop install ISO: large with several optional install packages not found on the server install ISO. **Designed for workstation or daily desktop use.**
- Server install ISO: the smallest download from Ubuntu. It is a stripped-down version of the operating **system optimized for server operations.** This version does not have a GUI, by default it is run from the command line.
- Packages are installed via the apt-get package manager system, just like the server install. The difference between the two is that on a desktop install, the apt-get package manager has a nice GUI front end.

The case of Ubuntu

Ubuntu Desktop vs. Server: A Side-by-Side Comparison

	Ubuntu Desktop	Ubuntu Server
Developed by	Canonical Ltd.	Canonical Ltd.
CPU Platforms	x86, x64, ARM, ARM64, RISC-V	x86, x64, ARM, ARM64, RISC-V
Package Manager	GNOME, Snap Store	GNOME, Snap Store
License	Free	Free + some proprietary drivers
First Released	2004	2004
Long Term Support	3 years	5 years
Interface	Graphical user interface (GUI)	Command line interface (CLI)

Ubuntu server vs Ubuntu Desktop – let's watch



KENET Mirrors –get your ISO

- [Ubuntu Mirror](#)
- [Debian Mirror](#)



Q&A

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