

Bootcamp 134 | Python

Course 17 | Linux – Part 1



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- Why Linux?
- Linux File System Overview
- Basic Linux Commands
- Introduction to Package Managers
- Using apt (Ubuntu/Debian)
- Key Differences Between Linux and Windows

Why Linux?

- Benefits of Linux vs. Windows
- Where Linux is Used
- Linux Distributions

Why Linux? | Benefits of Linux vs. Windows

- Open-source, free, and customizable.
- Better performance for servers and development.
- Security and community support.

Why Linux? | Where Linux is Used

- Servers, development, embedded systems, and more.

Why Linux? | Linux Distributions

- Introduce common distributions: Ubuntu, Fedora, Debian, Arch Linux.
- Recommendation for beginners: Ubuntu (easy-to-use GUI).

Linux File System Overview

- Linux File System Structure
- File Paths

Linux File System Overview | Linux File System Structure

- Explain
 - / (root)
 - /home
 - /bin
 - /etc
 - /var,
 - /tmp
 - /dev
 - /proc.
- Compare with Windows directory structure (e.g., C:\).

Linux File System Overview | File Paths

- Absolute vs. relative paths.

Basic Linux Commands

- File System Navigation
- Managing Files and Directories
- Viewing File Contents
- Searching
- Utilities

Basic Linux Commands | File System Navigation

- pwd: Print working directory.
- cd: Change directory.
- ls: List directory contents.

Basic Linux Commands | Managing Files and Directories

- `mkdir`: Create directories.
- `touch`: Create files.
- `cp`, `mv`, `rm`, `rmdir`: Copy, move, delete files and directories.

Basic Linux Commands | Viewing File Contents

- `cat`: Display file contents.
- `less` and `more`: View files page by page.

Basic Linux Commands | Searching

- `grep`: Search for text patterns in files.
- `find`: Locate files in directories.

Basic Linux Commands | Utilities

- `clear`: Clear the terminal.
- `file`: Display file type.

Introduction to Package Managers

- What is a Package Manager?
 - Tools for installing, updating, and removing software.
 - Why it's different from Windows (manual downloads).
- Popular Package Managers
 - apt for Debian-based systems (e.g., Ubuntu).
 - yum and dnf for RHEL-based systems.
 - pacman for Arch Linux.

Using apt (Ubuntu/Debian)

► Commands

- `sudo apt update`: Update package lists.
- `sudo apt upgrade`: Upgrade installed packages.
- `sudo apt install <package>`: Install a package.
- `sudo apt remove <package>`: Uninstall a package.
- `sudo apt search <package>`: Search for a package.

Key Differences Between Linux and Windows

- ▶ **System Architecture:**
 - ▶ Explain kernel, shell, and user interface in Linux.
 - ▶ Compare with Windows architecture.
- ▶ **File Systems:**
 - ▶ Linux: Ext4, XFS, etc.
 - ▶ Windows: NTFS, FAT32.
- ▶ **Command Line vs. GUI:**
 - ▶ How Linux emphasizes command-line usage for power users.
- ▶ **Software Installation:**
 - ▶ Centralized repositories vs. individual software websites.
- ▶ **User Permissions:**
 - ▶ root user vs. admin in Windows.

Any question?

Next course

- System and User Commands
- Basic Filters
- File Compression
- File Security
- What is Bash Scripting?
- Basic Syntax
- Key Commands for Scripting