Basic Linux Class

Duration: 1 hour

In this one-hour Basic Linux class, we will cover a range of topics to introduce you to the fundamental concepts and commands of Linux. We'll start with an Introduction to Linux, exploring its definition, brief history, and the advantages it offers. Then, we'll delve into Linux Distributions, understanding their significance and discussing popular distributions like Ubuntu, Fedora, and Debian.

Next, we'll explore the **Linux File System**, covering its hierarchy and key directories, as well as the Command-Line Interface (CLI), where we'll learn how to navigate the command line and use basic commands such as ls, cd, and pwd.

Moving on, we'll focus on **Working with Files and Directories**, where you'll learn how to create, rename, delete, copy, and move files and directories. We'll also touch upon File Permissions and Ownership, explaining concepts like read, write, and execute permissions, as well as demonstrating how to change permissions using the chmod command.

Package Management will be our next topic, where we'll explore how to install and remove software packages using package managers like apt and yum. Additionally, we'll cover User and Group Management, teaching you how to create and manage users, as well as assign users to groups.

Process Management will help you understand how to manage running processes and handle unresponsive ones effectively. We'll also introduce popular text editors like Vim and Nano, providing you with basic editing commands to get started.

Networking Basics will cover configuring network interfaces and checking network connectivity. We'll also touch upon File Transfer, demonstrating how to transfer files using SSH and SCP.

System Monitoring will teach you how to monitor system resources such as CPU and memory, as well as view system logs. Additionally, we'll cover File Compression and Archiving, showing you how to compress and extract files using tools like tar and gzip.

Shell Scripting will introduce you to the concept of automating tasks with shell scripts, including creating and executing simple scripts. You'll also learn about Remote Access, where we'll discuss connecting to remote servers using SSH.

Text Processing will demonstrate how to work with text files using command-line tools like grep and sed. System Updates and Upgrades will explain how to update the Linux system and perform distribution upgrades.

Basic Shell Commands will cover advanced command-line techniques such as pipes, redirection, and command substitution.

Lastly, we'll touch upon Troubleshooting and Resources, equipping you with common troubleshooting techniques and providing useful online resources and communities for further assistance.

Please note that due to the time constraint of the class, each topic will be introduced briefly, focusing on essential concepts and commands. For a more hands-on experience, practical examples and exercises can be encouraged for further practice outside the class.

Eduardo Reis Boattini
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Topics:

01 . Introduction to Linux

1. Definition of Linux
2. Brief history and evolution of Linux
3. Advantages of using Linux

02. Linux Distributions

1. Understanding Linux distributions
2. Popular distributions (e.g., Ubuntu, Fedora, Debian)

03. Linux File System

1. File system hierarchy in Linux
2. Key directories and their purposes

04. Command-Line Interface (CLI)

1. Navigating the command line
2. Basic commands (e.g., ls, cd, pwd)

05. Working with Files and Directories

1. Creating, renaming, and deleting files/directories
2. Copying and moving files/directories

06. File Permissions and Ownership

1. Understanding file permissions (e.g., read, write, execute)
2. Changing permissions using chmod

07. Package Management

1. Installing and removing software packages
2. Package managers (e.g., apt, yum)

08. User and Group Management

1. Creating and managing users
2. Assigning users to groups

09. Process Management

1. Managing running processes
2. Killing unresponsive processes

10. Text Editors

1. Introduction to popular text editors (e.g., Vim, Nano)
2. Basic editing commands

11. Networking Basics

1. Configuring network interfaces
2. Checking network connectivity

12. File Transfer

1. Transferring files using SSH and SCP

13. System Monitoring

2. Monitoring system resources (e.g., CPU, memory)
3. Viewing system logs

14. File Compression and Archiving

1. Compressing and extracting files using tar and gzip

15. Shell Scripting

1. Introduction to shell scripting
2. Creating and executing simple scripts

16. Remote Access

1. Connecting to remote servers using SSH

17. Text Processing

1. Working with text files using command-line tools (e.g., grep, sed)

18. System Updates and Upgrades

1. Updating the Linux system
2. Performing distribution upgrades

19. Basic Shell Commands

1. Pipes and redirection
2. Command substitution

20. Troubleshooting and Resources

1. Common troubleshooting techniques
2. Useful online resources and communities

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