

Foundational Linux

Getting your way around with Linux in 2 days

FA-0210 · 2 days

DevOps, Cloud & Infrastructure

Introduction

Ready to dive into Linux server administration? We'll get you up to speed with Ubuntu 24.04 LTS (Noble Numbat) in this practical two-day course. Whether you're an IT pro or just passionate about tech, Linux skills are more valuable than ever. You'll learn how to set up and manage Ubuntu servers without a graphical interface – just like you would in real-world data centers and cloud environments.

Ubuntu 24.04 LTS gives you the stability of long-term support plus cutting-edge features that work great for both businesses and personal projects. By the end of this hands-on course, you'll be confident managing servers entirely from the command line.

Learning outcomes

- **Installation Proficiency:** Acquire the skills to perform a clean installation of Ubuntu 24.04 LTS on a remote server, ensuring optimal configuration for headless operation.
- **Command-Line Mastery:** Develop competence in navigating and managing the Ubuntu server using command-line interfaces, enhancing efficiency and control.
- **Remote Management:** Learn to securely access and administer the server remotely using SSH, facilitating seamless management from any location.
- **User and Permission Management:** Understand and implement best practices for creating users, managing groups, and setting permissions to maintain a secure server environment.
- **Software Management:** Gain expertise in installing, updating, and removing software packages, ensuring the server remains up-to-date and functional.
- **Service and Process Control:** Learn to manage system services and processes, enabling the configuration of essential server functions and applications.
- **Network Configuration:** Understand the fundamentals of network setup and troubleshooting, ensuring reliable server connectivity.

- **Firewall Implementation:** Implement and configure firewall settings to protect the server from unauthorized access and potential threats.
- **System Monitoring and Logging:** Develop the ability to monitor system performance and interpret logs, aiding in proactive server management and issue resolution.
- **Data Backup and Recovery:** Establish strategies for regular data backups and understand recovery procedures to safeguard against data loss.

Prerequisites

- **Basic Computer Literacy:** Familiarity with general computer operations and terminology.
- **Understanding of Networking Concepts:** A foundational grasp of networking principles, including IP addressing and protocols.
- **Access to a Remote Server:** Participants should have access to a remote server where Ubuntu 24.04 LTS can be installed, or alternatively, the ability to set up a virtual machine for practice purposes.

Training outline

1. Introduction to Ubuntu 24.04 LTS

1. Overview of Ubuntu and its significance in server environments.
2. Key features and enhancements in the "Noble Numbat" release.
3. Understanding Long-Term Support (LTS) and its benefits.

2. Preparing for Installation

1. Hardware and system requirements for Ubuntu 24.04 LTS.
2. Downloading the official Ubuntu 24.04 LTS server ISO.
3. Creating bootable media for installation.
4. Configuring BIOS/UEFI settings for server readiness.

3. Installing Ubuntu 24.04 LTS on a Headless Server

1. Setting up a headless installation environment.
2. Step-by-step walkthrough of the installation process.
3. Configuring initial system settings without a graphical interface.
4. Post-installation tasks and system updates.

4. Navigating the Command Line Interface (CLI)

1. Introduction to the Linux shell and its importance.
2. Basic command-line operations and shortcuts.
3. File system structure and navigation commands.
4. File and directory manipulation techniques.

5. Remote Access and Secure Shell (SSH) Configuration

1. Understanding SSH and its role in remote server management.
2. Installing and configuring the OpenSSH server.
3. Establishing secure remote connections from various clients.
4. Implementing key-based authentication for enhanced security.
5. Troubleshooting common SSH connectivity issues.

6. User and Group Management

1. Creating and managing user accounts.
2. Setting and updating user passwords.
3. Understanding and configuring user groups.
4. Assigning and modifying file and directory permissions.
5. Implementing sudo privileges and security considerations.

7. Package Management with APT

1. Overview of the Advanced Package Tool (APT) system.
2. Searching for and installing software packages.
3. Upgrading and removing installed packages.
4. Adding and managing third-party repositories.
5. Automating updates and understanding unattended upgrades.

8. Managing Services and Processes

1. Introduction to systemd and its role in service management.
2. Starting, stopping, and restarting services.
3. Enabling and disabling services at boot.
4. Monitoring active processes and resource usage.

5. Identifying and terminating unresponsive processes.

9. Network Configuration and Management

1. Understanding network interfaces and configurations.
2. Configuring static and dynamic IP addresses.