

Linux Administration & Server Hardening

Course Syllabus

Master Linux server administration, enterprise networking, Apache web hosting, DNS, DHCP, Samba, NFS, VPN, proxy servers, security hardening, monitoring, and infrastructure management with hands-on practical labs.

// COURSE INFORMATION

Course Information

DURATION	4 Months / 16 Weeks / 120 Hours
LEVEL	Beginner to Advanced
MODULES	18
FORMAT	Hands-on Labs / Hybrid (Online + Indore Classroom)

// COURSE OVERVIEW

Course Overview

The Enterprise Linux Server Administration and Networking program is designed to provide practical and industry-ready skills in Linux system administration and enterprise infrastructure management. This course covers Linux fundamentals and command-line administration, user and permission management, package and repository management, file system and storage administration, network configuration and troubleshooting, process management and system monitoring, enterprise security and firewall management, DNS and DHCP server configuration, Apache web server administration, FTP, Samba, NFS, and proxy server configuration, and PXE/TFTP deployment infrastructure.

// LEARNING OBJECTIVES

Learning Objectives

- Install and manage Linux servers in production environments
- Configure enterprise network services (DNS, DHCP, Web, FTP)
- Implement proper user, group, and permission management
- Manage disk storage with LVM, RAID, and quotas
- Configure and harden Linux firewalls (IPTables, UFW)
- Deploy Apache web servers with SSL and virtual hosts
- Set up enterprise file sharing (Samba, NFS)
- Configure proxy servers for content filtering and caching

- Automate server deployment with PXE/TFTP boot
- Monitor system performance and manage processes
- Secure SSH and implement key-based authentication
- Troubleshoot Linux server and network issues

// PREREQUISITES

Prerequisites

- Basic computer knowledge
- Familiarity with operating systems
- Basic networking knowledge (recommended)
- No prior Linux experience required

// MODULE BREAKDOWN

Module Breakdown

01 Introduction to Linux

- UNIX, Linux, and Open Source
- What is Linux?
- History and Evolution of Linux
- Linux Kernel
- Features of Linux
- Linux Distributions
- Linux Directory Structure
- Linux Installation
- Login Methods
- Run Levels in Linux

02 Linux Basic Commands

- File Navigation
- File and Directory Management
- Copying and Moving Files
- Cat Command
- Less and More Commands
- Pipes and Redirects
- Compression and Archiving
- Symbolic Links
- Linux Shortcuts

03 Text Editors

- Cat editor usage
- Nano editor
- Vi/Vim editor mastery
- Editor modes and navigation
- Search and replace operations
- Configuration file editing

04 String Processing & Finding Files

- head and tail commands
- wc (word count)
- sort command
- cut command
- paste command
- grep pattern matching
- awk text processing
- sed stream editor
- tree command
- find command
- which and whereis commands

05 Users, Groups & Permissions

- Types of Shells
- Users and Groups
- /etc/passwd file
- /etc/shadow file
- /etc/group file
- /etc/gshadow file
- User Management commands
- Group Management commands
- Root Access
- su and sudo
- File Permissions (rwx)
- SUID, SGID, Sticky Bit
- ACL Permissions

06 Package Management

- RPM and SRPM Packages
- Linux Architectures
- RPM Package Installation and Management
- Repositories and repo configuration
- Yum Package Manager

07 File System & Disk Management

- Types of Disks
- Parted Utility
- Fdisk Utility
- Mounting File Systems
- /etc/fstab configuration
- Quota Management
- SWAP configuration
- RAID concepts
- RAID Levels (0, 1, 5, 10)

- Logical Volume Manager (LVM)

08 Network Configuration & Controlling Services

- Network Configuration files
- Network Tools (ifconfig, ip)
- traceroute and tracepath
- netstat and ss commands
- SSH remote access
- SCP secure file copy
- FTP client usage
- Wget downloads
- Rsync synchronization
- Managing Services with systemd

09 Security, Process Management & Monitoring

- Securing SSH server
- Changing Default SSH Port
- Disabling Root Login via SSH
- Public/Private Key Authentication
- IP Allow and Deny (hosts.allow/deny)
- Job Management (cron, at)
- Process Management (ps, top, kill, nice)
- Monitoring Tools (htop, iotop, vmstat)
- Antivirus Software (ClamAV)
- Linux Malware Detect (LMD)
- IPTables firewall rules
- UFW (Uncomplicated Firewall)
- TCPdump packet capture

10 Dynamic Host Configuration Protocol (DHCP)

- DHCP Overview and concepts
- Installing DHCP Server
- Configuring DHCP Scopes
- Address Pools configuration
- DHCP Reservations
- MAC-Based Reservations
- IP Exclusions

11 Domain Name System (DNS)

- DNS Overview and architecture
- Installing DNS Server (BIND)
- Forward Lookup Zones
- Reverse Lookup Zones
- DNS Zone Transfers
- DNS Client Tools (dig, nslookup)
- Dynamic DNS configuration

12 Apache Web Server

- Apache Web Server Overview
- Apache Installation and startup
- Apache Configuration Files (httpd.conf)
- Virtual Hosts (Name and IP-based)
- Website Binding
- SSL Certificate Configuration
- Authentication (Basic and Digest)
- Apache Logging and Log Analysis
- User Directories (public_html)
- WebDAV configuration
- CGI Scripts

13 FTP Server (VSFTPD)

- FTP Protocol Overview
- VSFTPD Installation
- User and Group Management for FTP
- FTP Client Configuration
- Uploading and Downloading Files
- File Operations and permissions
- Anonymous FTP configuration
- FTP security hardening

14 Samba/SMB/CIFS Server

- SMB Protocol Overview
- SMB Protocol Versions (v1, v2, v3)
- Samba Installation and configuration
- Shared Folder Configuration
- User Access Permissions
- SMB Authentication
- SMB Client Utilities (smbclient, mount.cifs)

15 NFS Server

- NFS Protocol Overview
- Installing NFS Server
- Configuring NFS Exports (/etc/exports)
- Mounting NFS Shares on clients
- NFS permissions and security

16 Telnet & Remote Desktop Server

- Telnet Overview and risks
- Telnet Server Configuration
- Remote Desktop Protocol (RDP) concepts
- Remote Desktop Installation (XRDP)
- Remote Desktop Client Configuration
- Secure alternatives (SSH, VNC)

17 Proxy Server

- Proxy Server Overview and concepts
- Installing Squid Proxy
- Forward Proxy Configuration
- Transparent Proxy setup
- Content Filtering rules
- Access Control Lists (ACLs)

18 TFTP & PXE Boot Server

- TFTP Protocol Overview
- PXE Boot Overview
- Installing TFTP Server
- PXE Boot Configuration
- DHCP and TFTP Integration
- Network OS deployment

// TOOLS & HANDS-ON LABS

Tools & Hands-On Labs

- Enterprise virtual lab environment
- Multiple Linux distributions (CentOS/RHEL, Ubuntu)
- Server farm with interconnected services
- DNS and DHCP server deployment labs
- Apache web hosting with SSL certificates
- Samba and NFS file sharing scenarios
- Squid proxy server configuration
- PXE network boot environment
- Firewall and security hardening exercises
- Performance monitoring and troubleshooting labs
- SSH hardening and key management practice
- Real-world enterprise infrastructure scenarios

// TRAINING MODE

Training Mode

Every Armour Infosec course runs as a unified programme delivered in two parallel modes — the same curriculum, the same trainers, the same certification, regardless of how you join.

- ✓ Online Live Classes — real-time, instructor-led, fully interactive sessions
- ✓ On-Premise Classroom Training — in-person at our Indore centre (Sudama Nagar)
- ✓ Both modes run concurrently in every batch; switch between them as your schedule needs
- ✓ Same syllabus, lab access, and certification track for online and on-premise students

// CERTIFICATIONS & CAREER OUTCOMES

Certifications & Career Outcomes

This course aligns with industry-recognised certifications and prepares graduates for offensive-security, application-security, and infrastructure-security roles.

- RHCSA (Red Hat Certified System Administrator)
- RHCE (Red Hat Certified Engineer)
- CompTIA Linux+
- LPIC-1 and LPIC-2
- Foundation for Linux privilege escalation courses

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Reach out to discuss enrolment, batch schedule, and lab access. Our Indore training centre runs both in-person and live online cohorts with placement assistance.

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