Advanced Linux

The Advanced Linux Administration Course is designed for IT professionals who already know the basics of Linux and want to advance into enterprise-level server deployment and management. This course covers in-depth network configuration, package management, and service administration with hands-on practice. Learners will gain experience in setting up and managing critical enterprise servers including NFS, Samba, FTP, SFTP, Apache, DHCP, DNS, Proxy, and Postfix Mail servers.

Participants also explore time synchronization with NTP, centralized logging with Rsyslog, and secure remote access with SSH and SCP. Storage technologies such as RAID and advanced backup solutions are covered to ensure data protection and reliability. Security is a strong focus, with real-world configurations and best practices for hardening Linux servers.

By the end of the program, learners will have the confidence to deploy, secure, and manage Linux servers in enterprise networks, automate administrative tasks, and troubleshoot effectively. This makes it ideal for system administrators, SOC analysts, and IT professionals pursuing certification or aiming for advanced Linux roles.

Advanced Linux

Module 1: Network & Package Management

- Assigning IP Addresses (Temporary & Permanent)
- Configuring Hostname
- Installing Applications with rpm
- Package Management with yum
- Configuring & Using a Yum Server

Module 2: NFS Server

- Installing & Configuring NFS Service
- Exporting Directories for Sharing
- Configuring Client Mounts
- Managing Access Permissions on Shared Directories

Module 3: SFTP Server

- Enabling SFTP in Linux
- Configuring Secure File Transfers with SSH
- Using WinSCP for Linux ⇔ Windows Data Sharing
- Restricting Users to Chroot Directory for Security

Module 4: FTP Server

- Installing & Configuring FTP Server
- Uploading & Downloading Files
- Creating FTP Users & Restricting Access
- Limiting File Transfer Permissions per User

Module 5: Samba Server

• Installing Samba Service
• Sharing Directories between Linux & Windows
• Configuring Access Permissions (Read/Write)
• Persistent Mounting of Samba Shares

Module 6: Samba PDC (Primary Domain Controller)

• Configuring Samba as a Domain Controller
• Integrating Linux Users into Windows Login System
• Managing Authentication & Access Controls

Module 7: DHCP Server

• Installing & Configuring DHCP Service
• Assigning Dynamic IP Addresses to Clients
• Creating IP Address Reservations
• Testing with Linux & Windows Clients

Module 8: DNS Server

• Installing & Configuring BIND DNS Service
• Creating Forward Lookup Zones
• Creating Reverse Lookup Zones
• Adding Records (A, CNAME, MX, PTR)

Module 9: Apache Web Server

• Installing Apache Service
• Hosting Websites via HTTP
• Securing Websites with HTTPS (SSL/TLS Certificates)
• Managing Virtual Hosts for Multiple Sites

Module 10: Proxy Server

• Installing Squid Proxy Server
• Blocking Specific Websites or Domains
• Controlling Internet Access by User/IP
• Configuring Proxy Authentication

Advanced Linux

Module 11: Postfix Mail Server

• Installing & Configuring Postfix
• Sending & Receiving Mails in Text Mode
• Configuring Mail Aliases
• Integrating Mail Logs for Monitoring

Module 12: NTP Server

• Installing & Configuring NTP Service
• Synchronizing Server Time with External Sources
• Configuring Linux Clients for NTP
• Ensuring Time Consistency in Enterprise Networks

Module 13: Rsyslog Server

• Installing & Configuring Rsyslog
• Centralizing Logs from Multiple Systems
• Filtering & Storing Logs by Service
• Monitoring Logs for Security Events

Module 14: Remote Access & Backup

• Remote Login with ssh-keygen
• Passwordless SSH Setup
• Remote Backup using scp
• Backup of User Data using dump

Module 15: Storage Management

• Implementing RAID Level 5 using mdadm
• Monitoring & Maintaining RAID Arrays
• Advanced User Data Backup Strategies