



LXM4 - Version: 1

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# Linux System Management



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 **5 days Course**

## Description:

The Linux System Management course is designed to give experienced Linux users the skills and knowledge needed to be able to manage Linux systems. The basic ideas and concepts encountered in this course are the same for all flavors of Linux. Participants are introduced to the key procedures of system booting and shutdown, maintaining file systems, backing up the system, handling software updates, using and configuring NIS, NFS, Samba, Apache basics and many more. Hands-on exercises will allow you to experience and solve problems in a learning environment. The participant will deal with and solve real-life problems. The participants can discuss the various aspects of the problem, various possible solutions, and try them all.

## Intended audience:

This course is intended for Linux administrators who want to acquire the skills and knowledge needed to manage Linux machines as standalone workstations or in a network environment.

## Prerequisites:

Participants should be proficient with a Linux editor  
Understand file and directory structures  
Understand shell mechanisms as well as basic fundamentals of shell programming.

## Objectives:

Will be able to install and maintain a Linux server  
To connect a Linux server to the network  
To share resources on the network.

## Topics:

### Linux Overview

- Information resources: Books; Internet; Online documents
- System administrator duties and tasks.
- Run levels.
- Processes and daemons.
- Configure startup scripts. (Workshop)
- Virtual File System (VFS)
- Permission mechanism

### User Management

- Add user. (Workshop).
- User groups.
- User and system security.
- ACLs
- /etc/skel
- User environment (Workshop): Shell startup scripts, What not to do in startup scripts, Other dot files..

### File System

- ext3
- mounting fat32 / NTFS

### Network File Sharing (Workshop)

- Samba
- NFS

### Networking.



- Configuring the network
- Services and inetd.(Workshop)
- Monitoring the network
- Security:IPTABLES;NAT;TCP wrappers

## Clustering

- Overview
- DHCP
- NIS
- Mounting file shares
- Install servers
- Kick start

## Installing from Source

- Where can you get the source code?
- What are the benefits of starting from source code products?
- Downloading and extracting the packages.
- Configuring the package.
- Installing the package.

## The Linux Gateway

- Apache web server configuration
- Mail servers
- Proxy

## X11

- The Concept.
- How it works.
- Comparison to MS Windows.
- X11 setup files. (Workshop)
- Window manager and its startup files. (Workshop)



- XDM. (Workshop)

## Boot loaders

- LILO
- GRUB

## Printing.

- Setting a printer
- Printing to a remote printer
- Printing to an MS Windows printer

## Backup

- Backup strategy
- Selecting the backup devices and software
- Automating the backup procedure.(Workshop)

## Operating System Installation. (Workshop)

- System installation.
- Linux installation:
- Methods (CD, Network, Duplicating)
- Patches.
- Installing and removing packages (RPM).
- Download compile and install using source code.

## Kernel reconfig

- Get the kernel source code.
- Add new adapter and update drivers.
- Kernel upgrade. (Workshop)

## Monitoring the System.

- Swap space tunings.
- Detecting physical memory shortage.
- System resource loads: CPU, I/O, Disk.
- Raid disks.
- Setting limits to processes.
- Measuring network load.

## System Administrator Tools.

- Monitor processes:ps, top
- Monitor network:lsof, netstat
- Working with files:strings, awk, od, du, df, find
- Misc:which, whereis, dmesg, Logfiles
- GUI tools:Webmin, Phpmyadmin, fwbuilder