

Course Description: This course takes Linux System Administrators to the next level of maintaining Linux systems and implementing advanced levels of security and administration.

Who Should Attend: The course is intended for those people who will be responsible for the operation and management of LINUX systems.

Prerequisites: Participants are expected to have completed the Linux System Administration Course or have equivalent experience.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Create and manage Linux filesystems.
- Manage user and group accounts.
- Add and remove devices.
- Install and compile new Linux kernels.
- Perform administrator level networking tasks.
- Setup and manage access to network services such as ftp, telnet, and NTP.
- Enable or disable services according to runlevel.
- Setup and configure sendmail.
- Setup and configure apache.
- Setup and configure NFS.
- Setup a DHCP server and manage client access.
- Manage network security.
- Learn basic firewall configuration.
- Perform network Linux installations.

Course Outline:

What You Should Already Know

Booting Linux
LILO
GRUB
Modules.conf
dmesg
/var/log/messages
System Runlevels
/etc/inittab
Overview of Red Hat Printing
Printer Configuration
CUPS
Filesystems
Kinds of Partitions
Device Naming Conventions
The root Filesystem
Partitioning Disks
Creating Filesystems
Introduction
The /etc/passwd File
The /etc/group File
The useradd Program
The /etc/shadow File
Scheduling Automatic Job Execution
Backups
tar
The mt Command
cpio
dd
dump and restore
The dump Command
The restore Command
Naming Services Overview
The NIS+ Environment
The NIS Environment
NIS Servers and Clients
NIS Components

Devices, Filesystems, And The Filesystem Hierarchy Standard

Maintaining the Integrity of Filesystems
Monitoring Free Disk Space and Inodes
The df Command
The du Command
The fsck Command
Controlling Filesystem Mounting and Unmounting
The mount Command and /etc/fstab
Unmounting Filesystems
Setting and Viewing Disk Quotas
Using Quotas
Controlling Access to Files
Establishing Permissions for Files and Directories
umask

Special Permissions
chmod
Managing File Ownership
Creating Hard and Symbolic Links
Soft Links
Preserving Links and Finding Links
The Linux Filesystem Structure
Specific Filesystems
Helpful Commands Used to Locate Files
Troubleshooting

Administrative Tasks

User Administration Commands
More on useradd
Group Management
Tuning the User Environment
Using System Log Files
Linux Time
NTP

Documentation

Paginators
man
Organization of man Pages
Creating Your Own man Pages
Other Documentation
info
Finding Information on the Internet
Communicating with Users

Kernel

Kernel Modules
The lsmod Command
The insmod Command
The rmmod Command
The modprobe Command
The modinfo Command
Installing a Custom Kernel
Configuring the Linux Kernel
Configuring the Linux Kernel
Installing a Custom Kernel
Configuring your Boot Manager
Installing a Kernel RPM

Linux Networking Fundamentals

Introduction
Network Models
The TCP/IP Model
TCP/IP Protocols
Packets
Internet Addresses
Subnets
CIDR
Ports
Domain Name System
dig
host

whois
ftp
vsFTP
telnet
ping
ifconfig
route
netstat
tcpdump
traceroute
Miscellaneous Commands

Configuring Networking Services

Networking Services
Enabling Services
xinetd
xinetd
DHCP
Configuring a DHCP Server
The dhcpd.conf File
The dhcpd.conf File
DHCP Clients
sendmail
Configuring sendmail
Configuring Apache
The Network File System (NFS)
DNS
Secure Shell
PPP
Samba Configuration

Security

TCP Wrappers
Finding Executable SUID Files
Verifying Packages
Host-Level Security
ulimit
Security Announcements
The proc Filesystem
Network Security Applications
tcpdump
nmap
netcat

Firewalls

Introduction
iptables
Logging
iptables Logging
iptables Logging
The nat Table
nat
The mangle Table

Network Installation

Introduction
Server Setup

FTP and HTTP Installation
NFS Installation
The Kickstart File
Editing The Kickstart File
Installation