

## Course 522 – Linux Network Administration

Duration: 5 days

### You Will Learn How To

- Perform TCP/IP network configuration
- Create a file server using Samba, FTP, and NFS
- Manage printers and queues
- Install and configure the Apache web server
- Create a mail server using Sendmail and Dovecot
- Set up a proxy server using Squid
- Perform basic host-based security administration
- Write simple Bash shell scripts
- Manage, configure, and update the kernel

### Course Benefits

The full potential of Linux is best seen in a network environment. Linux offers many services including web, file and printer sharing, mail, among others. This Linux training course teaches you how to take advantage of the many network services that Linux provides that are useful in a corporate setting. CentOS - a Linux distribution that is based on Red Hat Enterprise Linux (RHEL) and one of the leading distributions used in server environments, is used for this course.

### Who Should Attend

This Linux training course is designed for individuals who are interested in gaining in depth knowledge of how to administer a Linux server. Extensive experience (several years) using Intel x86 computers, including a strong knowledge of hardware

components and their interaction with basic operating system (OS) components are assumed.

### Course Content

#### The Linux Kernel

- Kernel Types
- Updating Kernel from Precompiled Kernel package
- Installing Kernel from Source
- Customizing Kernel
- Modules Management

#### System Startup

- Boot Sequence
- The GRUB boot loader
- Kernel initialization
- Init initialization
- Controlling Services

#### Printing

- System-config-printer
- Adding Printers
- Using CUPS
- Managing Print Jobs (lpr, lpq, lpm)
- Printing Utilities

#### IP Addressing

- Understanding the IP Address
- Netmasks and Network Classes
- Subnetting and CIDR
- Network and Broadcast Address

### Network Configuration

- Changing Your Hostname
- Activating and Deactivating a Network Interface
- Assigning an IP Address
- IP Aliases
- Network Configuration Tools

### Routing

- Routers
- Displaying the Routing Table
- Adding and Deleting Routes
- Tracing Paths to Other Networks

### TCP/IP

- The TCP/IP Protocol Stack
- TCP vs UDP

### DNS

- The /etc/hosts File
- DNS Concepts
- Installing DNS
- Configuring Clients
- Configuring DNS - named.conf
- Securing DNS Using a chroot Environment

### FTP

- The FTP Protocol
- Installing and Configuring VSFTPD
- Running and Testing FTP
- Listing Files
- Downloading and Uploading Files
- Common FTP Operations
- Monitoring Usage

### NFS

- NFS Overview
- Installing NFS
- Starting and Stopping NFS

- Sharing or Exporting Directories
- Mounting and Unmounting a Remote Share

### Samba

- Introduction to Samba
- Installing Samba
- Configuring Samba
- Sharing Files
- The NetBIOS Name Server
- Running and Testing Samba
- Imposing File Sharing Security

### Sendmail

- Simple Mail Transport Protocol
- Sendmail Overview
- Installing Sendmail
- Configuring Sendmail for Incoming Mail
- Configuring Sendmail for Outgoing Mail
- Inbound Sendmail Aliases
- Imposing SMTP Restrictions
- Common Sendmail Commands

### Post Office Protocol

- POP3 Overview
- Installing dovecot
- Configuring and Testing dovecot

### Apache Web Server

- The HTTP Protocol
- Installing and Configuring Apache
- Running and Testing Apache
- Virtual Domains
- Monitoring Access

### Squid Proxy Server

- Squid
- Installing and Configuring Squid
- Client Configuration



### **xinetd and tcp Wrappers**

- Xinetd Managed Services
- Xinetd Default Controls
- Xinetd Access Controls
- TCP Wrappers Configuration
- Daemon and Client Specification

### **SSH**

- Openssh overview
- Types of authentication
- Installing openssh
- Configuring openssh server
- Using openssh client

### **Using the Firewall (Iptables)**

- The NetFilter Hooks
- Using system-config-securitylevel
- Showing effective setup

### **Shell Scripting**

- Commands and Comments
- Variables and Scripts
- Script Input and Output
- Command Line Argument
- Export Variables
- Shell Operators
- Control Structures

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