

CompTIA Linux+ 2005

- **Course Number:** XK0-002
- **Length:** 5 Day(s)

Certification Exam

This course will help you prepare for the following exam:

- **CompTIA Exam XK0-002:** Linux+

Course Overview

Students learn the fundamentals of the open-source Linux system, including installation, how to manage users, proper backup and restoration routines, scheduling, and basic networking concepts. The course will also address Security issues, Red Hat Package Manager (RPM), and popular Linux services.

Prerequisites

A+ and Network+ certifications or equivalent knowledge recommended but not required.

Audience

This course is appropriate for individuals employed as or seeking a position as a Linux technician or system administrator. This course is also appropriate for individuals currently supporting a competitive platform who want to enhance their job skills with Linux training.

Course Outline

- Chapter 1
- Introduction to Linux
- What is Linux?
- How Linux Began and Origins of Linux
- The GNU Project
- Platforms, Applications & Distributions
- Linux Resources
- Minimum System Requirements
- The Fedora Project
- Red Hat Linux 7,8,9 vs. Enterprise 3.x
- Chapter 1 Review
- Chapter 2
- Linux Installation
- Is Your Hardware Compatible?
- System Requirements Table
- Initiating an Installation
- Hard Disk Requirements
- Selecting an Installation Method
- Virtual Consoles
- Initiation Installation from Boot Media
- Welcome Screen and Boot Options
- Language Selection

- Keyboard & Mouse Configuration
- Installation Type Options
- Disk Partitioning Setup
- Boot Loader Configuration
- Network Configuration
- Firewall Configuration
- Language Support Selection
- Time Zone Configuration
- Root Password Configuration
- Authentication Configuration
- Desktop Configuration
- Demo - Fedora Installation
- Chapter 2 Review
- Chapter 3
- Red Hat Package Manager "RPM"
- What is RPM?
- Demo - Reflection X
- Downloading RPM's
- RPM's 5 Modes of Operation
- Installing with RPM
- Installation Errors/Remedies
- Uninstalling Packages
- Upgrading RPM's
- Freshening RPM's
- Querying RPM's
- Verifying RPM's
- Additional RPM Resources
- Chapter 3 Review
- Chapter 4
- Managing Users
- Linux User Types
- Adding Users
- Usernames
- Passwords
- User Home Directories
- UID and GID
- User Groups
- User Primary vs. Private Groups
- Sharing
- Files Built When Users are Created
- Files Checked by Bash
- Activating the User Manager GUI
- System Created Users & Groups
- Command Line User Deletion
- Chapter 4 Review
- Chapter 5
- Partitioning and Filesystems
- Devices & Device Nodes
- IDE Devices
- SCSI Devices
- IDE Device Naming
- SCSI Chain

- Filesystem Management Commands
- Partition Planning
- Partition Types
- Supported Filesystems
- Creating Filesystems
- Formatting Floppies
- More Filesystem Details
- Link Count
- Mounting Filesystems
- Unmounting Filesystems
- Mount Command Options
- Mounting Remote Filesystems
- fstab File
- Swap Space
- Special Case: Swap
- Special Case: Automounter
- Quotas
- Maintenance & Repair
- Adding a New Hard Drive
- Recovering a Partition
- Demo -fstab File
- Chapter 5 Review
- Chapter 6
- Backup and Restore
- Types of Backups
- Device Naming Conventions
- Tools for Backup & Restore
- mtools
- tar - For Tape Archives
- cpio - Copy Input/Output
- dd - Convert Files
- dump Command
- dump Command Examples
- Testing Your Restore
- Incremental Backup Strategy
- Other Backup Tools
- Common Backup Mistakes
- Drive Imaging
- Linux Recovery Skillset
- Demo - Backup & Restore
- Chapter 6 Review
- Chapter 7
- Startup and Shutdown
- The Boot Process
- Run Levels
- Configuring Process Fields
- Inittab Example
- In The Beginning...Init
- The /etc/rc.d Directory
- /etc/rcX.d Script Sequencing
- Stop & Stop Services
- The /etc/rc.d/rc.local File

- Shutting Down Properly
- Methods of Rebooting
- Booting into Single-User Mode
- Creating a Boot Diskette
- Demo - Startup & Shutdown Procedures
- Chapter 7 Review
- Chapter 8
- Compiling the Kernel
- What is the Linux Kernel?
- Why Compile the Kernel?
- Before You Get Started
- Four Kernel Upgrade Paths
- Check Your Tool Kit
- 4 Stages to Compile the Kernel
- Patching the Kernel
- Demo - Manually Compile the Kernel
- Chapter 8 Review
- Chapter 9
- Scheduling
- 2 Major Scheduling Daemons
- The /etc/crontab File
- Simple /etc/crontab Example
- Complex /etc/crontab Example
- An Actual /etc/crontab File
- Sample /etc/cron.daily Directory
- Use /etc/cron.allow or /etc/cron.deny
- Starting & Stopping cron
- The at Command
- Anacron
- Starting & Stopping Anacron
- Sample /etc/anacrontab File
- Demo - Scheduling
- Chapter 9 Review
- Chapter 10
- Basic Networking Concepts
- Platform Compatibility
- Physical Network Support
- Protocol Suite Support
- Network Device Names
- Network Kernel Modules
- ifconfig Command
- ifup & ifdown Scripts
- Interface Configuration
- Non-root User Control
- Multiple IP's on a Single Interface
- Client DHCP/BOOTP
- Global Parameters
- Configuration Utilities
- Network Tools
- Demo - Reconfigure Network Information
- Demo - Sysconfig Directory
- Chapter 10 Review

- Chapter 11
- Printing
- Linux Printing over the Last 2 Years
- Setup Printing
- Common Unix Printing System "CUPS"
- Printing Flow in a CUPS Environment
- CUPS Browser Interface
- Linux-Supported Printers
- Printer Configuration Tools
- User Command Interface
- Starting & Stopping Printing Services
- lpr Examples
- lpq Examples
- lprm Examples
- lpc Usage
- Printing from Linux Applications
- redhat-config-printer
- Availability
- Troubleshooting Printing
- Chapter 11 Review
- Chapter 12
- Linux Security
- Basic Levels of Security
- Physical Security
- Grub Security
- User-based Security
- User Accounts & Patterns
- Typical User No-No's
- Delegating Root Authority
- Password Security
- Pluggable Authentication Modules "PAM"
- Permissions
- Controlling Permissions
- Files & Filesystem Security
- Filesystem Monitoring
- Avoiding Trojan Horses
- Encryption
- Introduction to iptables
- iptables Examples: Filters
- iptables Examples: SNAT/DNAT
- Response Strategies
- Demo - Base Permissions
- Chapter 12 Review
- Chapter 13
- Popular Linux Services
- SAMBA Naming
- SAMBA Overview
- SAMBA Components
- Exploring/Browsing Directories
- Browsing Resources with Linux Commands
- Letting Linux Use a Windows Printer
- Official SAMBA Website

- Apache Web Server
- Apache Naming Confusion
- Apache Configuration Files
- Official Apache Website
- What is Squid?
- Demo - Connecting to a Linux Machine
- Demo - Getting a list of Running Services
- Linux+ Certification Preparation