

Course Outline



Tel: +44 (0) 118 979 4000 Fax: +44 (0) 118 979 4000

Email: training@ptr.co.uk Web: www.ptr.co.uk

Red Hat Linux System Administration & RHCT Exam

Course Description:

This course is designed for delegates who are responsible for system administration duties on a Red Hat Linux system. This course enables delegates to install, customise and administer the Red Hat Linux operating system in a multi-user environment.

For students studying towards Red Hat Certified Engineer (RHCE) certification this course along with RH253GB (Red Hat Linux Networking and Security Administration) provide the core knowledge for exam RH302GB (Red Hat Certified Engineer).

Pre-requisites:

Delegates should be familiar with basic information technology. They should be able to login to a Linux system, set a user password, execute basic Linux or UNIX commands, manage files and directories, use the vi editor, use and customise the GNOME interface, use basic and power user utilities and understand basic user network utilities. This knowledge can be gained by attending course RH033GB (Introduction to Red Hat Linux I, II).

Course Content:

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- **Hardware Configuration and Installation**
 - Supported Hardware
 - Hardware Considerations
 - X86 System Buses
 - X86 Peripheral Buses
 - X86 Network Interfaces
 - Hardware Abstraction
 - Device Files and Drivers
 - Red Hat Linux Device Aliases
 - Device Configuration
 - Additional PCI Utilities
 - RAM Size and Recognition
 - Block Devices and File Systems
 - File System Schemes
 - The Red Hat Installer
 - Installer Features
 - Red Hat Linux Installation
 - Partitioning Hard Drives
 - Red Hat Linux on FAT: Partitionless Installation
 - Software RAID
 - Network Configuration
 - Package Selection
 - Validating the Installation
 - Post-Install Configuration
 - System Configuration

- **Linux File Systems**
 - Disk Structure
 - Disk Partitioning
 - The fdisk Command
 - Creating File Systems
 - Ext2 File System Attributes
 - Mounting File Systems

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Registered Office: Grenville Court Britwell Road Burnham Bucks SL1 8DF Company Registered No: 2442290 – VAT registration No:532 1929 56

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- **Linux File Systems**
 - Mount Options
 - Important NFS mount Options
 - The /etc/fstab File
 - Unmounting File Systems
 - Auto-mounting
 - Dealing with Floppy Diskettes
 - File System Maintenance
 - Determining Disk Usage

- **System Initialization and Services**
 - Boot Sequence
 - BIOS Initialization
 - LILO - Linux Boot Loader
 - Kernel Initialization
 - Init Initialisation - /etc/rc.sysinit
 - Run Levels
 - The /etc/rc.local File
 - Controlling Scripts
 - Daemon Processes
 - System Shutdown
 - System Reboot

- **User Administration**
 - User Policy Considerations
 - The /etc/passwd File
 - Adding a New User Account
 - Modifying/Deleting Accounts
 - Password Aging Policies
 - Group Administration
 - Switching Accounts
 - File Ownership
 - File Permissions
 - SUID/SGID Executables
 - The Sticky Bit

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- **User Administration**
 - Access Modes
 - Default File Permissions
 - User Private Groups
 - User's Environment

- **Network Configuration**
 - Device Recognition
 - Network Interfaces
 - Address Resolution Protocol
 - The ifconfig Command
 - The ifup/ifdown Commands
 - Interface Configuration Files
 - Multiple NICs
 - Binding Multiple IP Addresses
 - DHCP/BOOTP
 - Configuration Utilities
 - Allowing User Control of Network Interfaces
 - Basic IP Routes
 - The Default Route
 - IP Forwarding
 - Global Network Parameters
 - Name Resolution
 - DNS Client Configuration
 - DNS Troubleshooting
 - PPP Client Configuration
 - Network Diagnostics

- **System Administration Tools**
 - Printer Administration
 - Using printtool
 - LPRng Configuration Files
 - LPRng Utilities
 - Task Automation

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- **System Administration Tools**
 - Using at
 - Controlling Access to at
 - Using cron
 - The crontab File Format
 - System crontab Files
 - Controlling Access to cron
 - Using anacron
 - The anacrontab File
 - Using tmpwatch
 - System Log Configuration
 - System Logging
 - Maintaining Logs
 - Finding Files
 - Managing whatis
 - System Monitoring
 - Back to Tape
 - Controlling Tape Drives
 - Backup/Archive Utilities
 - Using tar
 - Using dump/restore
 - Using cpio
 - Other Backup Software
 - Remote Backups
 - RPM Package Manager
 - RPM Queries
 - RPM Options
 - RPM - Installing and Upgrading
 - Removing Packages with RPM
 - The rpmfind Command
 - The strace Command
 - Posting Information For Users

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- **System Administration Tools**
 - Sending Messages to Users
 - Sources of Help

- **Alternative Installation Methods**
 - Laptops
 - Multiboot Systems
 - LILO Components
 - The LILO Map Installer
 - The LILO Boot Prompt
 - Serial Console Installation
 - Expert Mode
 - Driver Disks
 - Using kickstart to Automate Installation

- **Kernel Services and Recompilation**
 - Kernel Concepts
 - Kernel Modules and kmod
 - Kernel Compilation: Preliminaries
 - Kernel Compilation: Configuration
 - Kernel Compilation: Compilation and Installation
 - Kernel Compilation: Post-Installation
 - Installing Kernel Errata RPMs
 - Software RAID Configuration
 - The Linux Quota System
 - The /proc File System
 - /proc/sys Configuration with sysctl

- **The X Windows System**
 - The X Windows System
 - The X Protocol
 - Network Transparent
 - X Security
 - X Modularity
 - Window Managers
 - Display Managers

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- **The X Windows System**
 - Xfree86 Startup
 - Extensibility
 - X Server Configuration
 - X Server Version 3
 - X Server Version 4
 - The X Font Server

- **Troubleshooting**
 - Things to Check: X
 - Things to Check: Services
 - Things to Check: Networking
 - Things to Check: Booting
 - Recovery Run-Levels
 - File System Corruption
 - Boot Floppies
 - Rescue Environment Utilities

Course Duration:

5 Days