



Course 608: Red Hat Linux Boot Camp (5 days)

Course Description...

This intense 5-day program helps attendees become experts at managing the hardware, operating system, and software of a Linux system. Specifically, attendees will know how to design a disk storage system using LVM, RAID and journaling. Attendees will also be able to incorporate vfat and ntfs into the system and know the options and best methods for installing Linux.

As a byproduct of completing this rigorous program, attendees will be able to pass the RHCE Exam. ROI is extremely confident we can exceed the pass rate Red Hat shows on the RHCE FAQ site... *"Since inception the failure rate, calculated and averaged quarter over quarter, has oscillated in a range between 42% and 37%."*

Learning Objectives...

- To understand, design and manipulate disk storage systems successfully
- To understand and use the peripheral of Linux
- To install, upgrade and remove software through rpm, FSF and perl tarballs
- To setup and manage local printer
- To manage user account
- To join a network
- To use network services
- To setup mail
- To use iptables to protect your host
- To configure X windows and an introduction to gnome configuration
- To solve problems and trace software startup from initial boot

Who should attend...

Only individuals needing expert knowledge of hardware, operating system, and software of Linux. This is a boot camp for those needing detailed administration knowledge of the hardware, operations, and software of Linux



Prerequisites...

A thorough knowledge of how to use the Linux system in day-to-day work. This must include understanding pipelines, ability to read shell scripts, manipulate files and directories, read and understand man and info pages.

Course Outline

Introduction and Overview

Course Objectives

Unit 1: Introduction to Linux Workstation

- Understanding distributions
- Hardware primer
- Software availability
- Documentation support

Unit 2: Boot, Initialization, Run Levels, and Shutdown

- Tracing the booting process
- Setting up GRUB
- Kernel initialization
- Run levels, Daemons, and `init`
- Managing Daemons
- Shutdown

Unit 3: Disk Storage

- Storage architecture
- Disk characteristics: ATA, SCSI, firewire
- Understand and build RAID
- The file system standard
- Logical file system design
- File system types: `ext2`, `ext3`, `reiserfs`
- File system integrity, security and mounting
- Permissions
- File system management
- Logical volume management

Unit 4: Other File System Types

- Using `tmpfs`
- Understanding `/proc`
- Using Win32 file systems: VFAT, NTFS
- NFS and Automounter



Unit 5: Backup and Recovery

- Management considerations
- Using traditional tools
- Non-traditional tools
- System recovery techniques
- File recovery techniques
- Using recovery disk

Unit 6: Other Peripherals

- USB ports
- Serial ports
- IEEE 1394 (Firewire) ports
- Sound cards
- Floppy disks
- CDRoms, DVDs, and burning

Unit 7: Understanding Kernels

- Naming conventions
- Patching the kernel
- Managing modules
- Managing shared libraries

Unit 8: Software Maintenance

- Correct download procedures
- Managing with RPMs
- How to incorporate a deb
- How to incorporate an FSF tarball
- How to incorporate commercial software

Unit 9: Printing

- Setup and management of local printers
- Setup and management of remote printers
- Accessing network attached printers

Unit 10: Mail

- The mail process
- Interacting with a POP, IMAP server
- Mail filtering on the host
- Mailers for Hosts: Sendmail, Postfix
- Compressing the files

Unit 11: Managing Users and Groups

- Adding an user
- Deleting an user
- Using PAM
- Setting up user environments



Unit 12: Managing Log Files

- Working with `syslogd`
- Other log files
- Using log files
- Managing log files: `logrotate`

Unit 13: Networking

- Overview of TCP/IP
- Joining a network
- Network troubleshooting tools
- Personal firewalls: `iptables`

Unit 14: Network Services

- `xinetd`
- NFS and Automounting
- SAMBA
- DHCP and DNS
- NIS
- LDAP
- Apache
- SQUID
- SSH

Unit 15: GUI Interfaces

- Overview of X
- Desktops and Window managers
- Configuring `Xfree86`
- Managing fonts

Unit 16: Odds and Ends

- Cron and anacron
- `whatis`, `locate`, and `man`
- Configuring `Xfree86`
- System Accounting Tools

Unit 17: Troubleshooting

- How to troubleshoot
- Approaches to take
- File system recover
- Rescue environments
- Specialized tools
- Managing fonts

Unit 18: Installing a Linux Distribution

- Before you begin
- Installing options
- Doing a minimal install
- Doing multiple installations