Course 612:
Red Hat Linux Troubleshooting
(5 Days)

Course Description…

Linux is an extremely stable OS; yet, as with any complex system, it can have problems. The student completing this course will have the knowledge and techniques necessary to quickly find the cause or causes of the anomalous behavior and make informed decisions on how to lessen or fix the problem. After a review area, the course presents typical problems and solutions for the area. Among other topics the course covers the areas of booting, disk problems (iSCSI, LVM, RAID, ext2, and ext3), xen, handling kernel modules, client side DHCP, LDAP, NIS and /DNS, secure networking (IPtable, VPNs) and SELinux . Each section contains a workshop where students solve problems in the area.

Suggested Prerequisites…

This is a third course in Linux system administration. To be successful in this course the student must have the background provided by ROI's ***Red Hat Linux Workstation Administration*** (#603) and ***Red Hat Linux Server Administration*** (#604) courses.

Who should attend…

Administrators responsible for troubleshooting problems on Red Hat Linux systems.

Learning Objectives…

- Learn and practice an approach to troubleshooting Linux systems
- Steps necessary to make sure problems can be easily found and resolved
- Hands on experience with troubleshooting tools
- Know what can be done to recover a lost or deleted filesystem
- Learn about iSCSI on Red Hat
- Troubleshoot LVM problems
- Manage and troubleshoot kernel modules
- Know how to solve the client-side network infrastructure problem
- Troubleshoot VPN problems
- Have worked through the problems of Samba
- Learn the possible problems of NFS4 and the automounter
- Worked with VMware and xen virtualization
- Understand the characteristics of SANs and GFS

See next page for a detailed course outline…

Course Outline…

Unit 1 - The General Troubleshooting Processes

- Documentation what you have
- Where to get host data
- An Approach to troubleshooting
- Commands for checking the hardware
- Commands for system checking
- Remote troubleshooting

Unit 2 - When the System Will Not Boot

- Hardware BIOS problems
- How GRUB works
- Booting from rescue disk
- Booting from a liveCD

Unit 3 - File System Problems

- File system organization
- How corruption occurs
- Preventative measures
- File recovery methods
- MBR recovery methods
- Performance problems

Unit 4 - Multiple Disk Problems

- RAID overview
- Configuring RAID
- What happens when a disk is lost
- What is Logical Volume Management (LVM)
- How does LVM interact with RAID
- How to Setup LVM
- What Happens When a Disk is Lost
- Working with iSCSI
- Introduction to SANs and GFS

Unit 5 - Software Problems

- What software is installed?
- How do I know if the software has been modified?
- Engineering updating/upgrading (patching)
- Permissions problems

Unit 6 - Kernel Considerations

- Kernel Organization
- Handling kernel changes
- Linux Kernel Modules (LKM)

Unit 7 - Host Networking

- Hardware and Address Problems
- Client Side DHCP Problems
- Client Side DNS Problems
- Client Side LDAP Problems
- Reachability Problems

Unit 8 - Secure Networking

- Secure shell commands
- VPN Methods
- Firewalling with IPTables
- SELinux overview

Unit 9 - Network Services

- xinetd considerations
- Setting up NFS and automounter
- Understanding samba
- Bandwidth problems

Unit 10 - Virtualization

- Explore various types of Virtualization
- Virtualization with VMware
- Working with xen

Unit 11 - Where to find help

- Documentation
- General forum help

Please contact your ROI representative to discuss course tailoring!!!