/training/etc
The Art of Knowledge.

RH133/RH202 Red Hat Linux System Administration and RHCT Exam

Course Length
5 Days
TE1502_20060318

Course Description: This is a course for users of Linux (or UNIX) who want to start building skills in systems administration on Red Hat Enterprise Linux to a level where they can attach and configure a workstation on an existing network. This course provides intensive hands-on training on Red Hat Enterprise Linux 5.4, and includes the RHCT Certification Lab Exam on the last day.

Who Should Attend: Linux or UNIX users who understand the basics of Red Hat Linux and desire further technical training to begin the process of becoming a system administrator will benefit from this course.

Prerequisites: Students should have taken RH033 Red Hat Linux Essentials or have equivalent experience with Red Hat Linux.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Prove competency by passing the RHCT Exam, a realistic performance-based lab exam.
- Install, configure, and attach a new Red Hat Linux system to an existing production network.

Course Outline:

Installation
Hardware Overview
CPU and Memory
Preparing to Install
Multiboot Systems
The RHEL Installer
Installer Features
RHEL Installation Overview
Partitioning Hard Drives
Sample Partition Structure
Configuring File Systems
Software RAID
LVM: Logical Volume Manager
Network Configuration
Firewall Setup
Security Enhanced Linux
SELinux Installation Options and Control
Package Selection
Validating the Installation
noprobe Mode and Driver Disks
Post-Install Configuration

System Initialization And Services
Boot Sequence Overview
BIOS Initialization
Boot Loader Components
GRUB and grub.conf
Kernel Initialization
init Initialization
Run Levels
/etc/rc.d/rc.sysinit
/etc/rc.d/rc
Daemon Processes
System V run levels
/etc/rc.d/rc.local
Virtual Consoles
Controlling Services
System Shutdown and Reboot

Kernel Services And Configuration
Objectives and Agenda
Kernel Modules
Kernel Module Configuration
The /proc filesystem
/proc/sys configuration with sysctl
General Hardware Resources
System Bus Support
Hotswappable Bus Support
System Monitoring and Process Control

Filesystem Management
System Initialization: Device Recognition
Disk Partitioning
Managing Partitions
Managing Data: Filesystem Creation
Journaling for ext2 filesystems: ext3
Mount Options and Configuration
The Auto-Mounter
ext2/ext3 Filesystem Attributes
Virtual Memory Files
Filesystem Maintenance
Adding a Drive

Network Configuration
Device Recognition
Network Interfaces
mii-tool
ifconfig
ifup/ifdown
Interface Configuration Files
Configuration Utilities
Binding Multiple IP Addresses
DHCP/BOOTP
Global Network Parameters
Default Route
Static Routes
Name Resolution
DNS Client Configuration
DNS Utilities
Network Diagnostics

RPM And Kickstart
The RPM Way
RPM Package Manager
Installing and Removing Software
Updating a Kernel RPM
RPM Queries
RPM Verification
Other RPM Utilities and Features
Automatic Dependency
Resolution
Red Hat Network (RHN)
RHN in the Enterprise
RHN Registration
The up2date utility
Remote Administration
Network Installation Server
Using Kickstart to Automate Installation

User Administration
User Policy Considerations
The User Account Database - /etc/passwd
Adding a New User Account
User Private Groups
Group Administration
Modifying/Deleting Accounts
Password Aging Policies
Login Shell Scripts
Non Login Shell Scripts
Switching Accounts
sudo
Network Users
Authentication Configuration
NIS Client Configuration
LDAP Client Configuration
File Ownership
Linux File Permissions
SUID / SGID Executables
The Sticky Bit
The Setgid Access Mode
Default File Permissions
Access Control Lists (ACLs)
SELinux
Controlling SELinux
SELinux Contexts
Troubleshooting SELinux

Printing And Administration Tools
CUPS: Common Unix Printing System
Controlling Access to cron
System crontab Files
System Logging
syslog Configuration
Tape Drives
Using tar/star
Using dump/restore
Using cpio
Remote Backups
Other Backup Software

The X Window System
XOrg: The X11 Server
XOrg Server Design
XOrg Server Configuration
XOrg Modularity
Server and Client Relationship
Configuration Utilities
Remote X Sessions

Advanced Filesystem Management
Software RAID Configuration
Software RAID Recovery
Converting LVM1 to LVM2
Creating Logical Volumes
Resizing Logical Volumes
The Linux Quota System

Troubleshooting
Basic Guidelines
Troubleshooting X
Troubleshooting Networking
Order of the Boot Process
Filesystem Corruption
Filesystem Recovery
Recovery Run-levels
Rescue Environment