

Red Hat Enterprise Linux Systems Administration II v7

Course Summary

Description

The Red Hat Enterprise Linux (RHEL) system administration topics covered in this course along with the Red Hat Enterprise Linux Systems Administration I course cover the certification objects of the Red Hat Certified System Administrator (RHCSA) exam.

The topics covered include automating installation with Kickstart, intermediate and advanced level command line building blocks and tools, troubleshooting, network file sharing server configuration, connecting to a directory service, managing advanced security settings, maintenance tasks and kernel tuning.

Topics

- Automated Installation with Kickstart
- Use Regular Expressions with Grep
- Create and Edit Text Files with Vim
- Schedule Future Linux Tasks
- Manage Priority of Linux Processes
- Control Access to Files with Access Control Lists (ACL)
- Manage SELinux Security
- Connect To Network-Defined Users and Groups
- Add Disks, Partitions and File Systems to a Linux System
- Manage Logical Volume Management (LVM) Storage
- Access Networked Attached Storage with Network File System (NFS)
- Access Networked Attached Storage with SMB
- Control and Troubleshoot the Red Hat Enterprise Linux Boot Process
- Linux Network Communication with Firewall
- Comprehensive Review

Prerequisites

Completion of or skills equal to the "Red Hat Enterprise Linux Systems Administration I" course.

Duration

Five days

Red Hat Enterprise Linux Systems Administration II v7

Course Outline

I. Automated Installation With Kickstart

- A. Kickstart
- B. Anaconda: An Overview
- C. Anaconda: Booting the System
- D. Anaconda: Common Boot Options
- E. Anaconda: Loading Anaconda and Packages
- F. Anaconda: Storage Options
- G. Anaconda: Troubleshooting

LAB TASKS

- 1. Linux Installation
- 2. Automating Installation with Kickstart

II. Use Regular Expressions With Grep

- A. Searching Inside Files
- B. The Streaming Editor
- C. Regular Expression Overview
- D. Regular Expressions
- E. RE Character Classes
- F. Regex Quantifiers
- G. RE Parenthesis

LAB TASKS

- 1. Pattern Matching with Regular Expressions
- 2. Extended Regular Expressions
- 3. Using Regular Expressions With sed

III. Create And Edit Text Files With Vim

- A. Text Editing
- B. vi and Vim
- C. Learning Vim
- D. Basic vi
- E. Intermediate vi

LAB TASKS

- 1. Text Editing with Vim

IV. Schedule Future Linux Tasks

- A. Automating Tasks
- B. at/batch
- C. cron
- D. The crontab Command
- E. crontab Format
- F. /etc/cron.*/ Directories
- G. Anacron

LAB TASKS

- 1. Creating and Managing User Cron Jobs
- 2. Adding System cron Jobs

V. Manage Priority Of Linux Processes

- A. Viewing Processes
- B. Managing Processes
- C. Tuning Process Scheduling

LAB TASKS

- 1. Process Management Basics

VI. Control Access To Files With Access Control Lists (Acl)

- A. File and Directory Permissions
- B. File Access Control Lists
- C. Manipulating ACLs
- D. Viewing ACLs
- E. Backing Up ACLs

LAB TASKS

- 1. Using Filesystem ACLs

VII. Manage Selinux Security

- A. SELinux Security Framework
- B. SELinux Modes
- C. SELinux Commands
- D. Choosing an SELinux Policy
- E. SELinux Booleans
- F. Permissive Domains
- G. SELinux Policy Tools
- H. SELinux Troubleshooting
- I. SELinux Troubleshooting Continued

LAB TASKS

- 1. Exploring SELinux Modes
- 2. SELinux File Contexts

VIII. Connect To Network-Defined Users And Groups

- A. system-config-authentication
- B. System Security Services Daemon (SSSD)

LAB TASKS

- 1. Using LDAP for Centralized User Accounts

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Course Outline (cont'd)

IX. Add Disks, Partitions, And File Systems To A Linux System

- A. Partitioning Disks with fdisk & gdisk
- B. Resizing a GPT Partition with gdisk
- C. Partitioning Disks with parted
- D. Filesystem Creation
- E. Filesystem Maintenance
- F. Managing an XFS Filesystem
- G. Swap

LAB TASKS

- 1. Creating and Managing Filesystems
- 2. Hot Adding Swap

X. Manage Logical Volume Management (LVM) Storage

- A. Logical Volume Management
- B. Implementing LVM
- C. Creating Logical Volumes
- D. Manipulating VGs & LVs
- E. Advanced LVM Concepts
- F. gnome-disk-utility

LAB TASKS

- 1. Creating and Managing LVM Volumes

XI. Access Networked Attached Storage With Network File System (NFS)

- A. File Sharing via NFS
- B. NFSv4+
- C. NFS Clients
- D. NFS
- E. NFS Server Configuration

LAB TASKS

- 1. NFS Server Configuration

XII. Access Networked Attached Storage With SMB

- A. Accessing Windows/Samba Shares from Linux
- B. AutoFS
- C. AutoFS Configuration

LAB TASKS

- 1. Using autofs

XIII. Control And Troubleshoot The Red Hat Enterprise Linux Boot Process

- A. System Boot Method Overview
- B. systemd System and Service Manager
- C. systemd Targets
- D. Using systemd

- E. Legacy Support for SysV init

- F. Booting Linux on PCs

- G. GRUB 2

- H. GRUB 2 Configuration

- I. GRUB 2 Security

- J. Boot Parameters

- K. Initial RAM Filesystem

- L. init

- M. Linux Runlevels Aliases

- N. Systemd local-fs.target and sysinit.target

- O. Systemd basic.target and multi-user.target

- P. Legacy local bootup script support

- Q. System Configuration Files

- R. RHEL7 Configuration Utilities

- S. Shutdown and Reboot

LAB TASKS

- 1. Boot Process

- 2. Booting directly to a bash shell

- 3. GRUB Command Line

- 4. Basic GRUB Security

- 5. Managing Services With Systemd's systemctl

- 6. Troubleshooting Practice: Boot Process

XIV. Linux Network Communication With Firewall

- A. Netfilter: Stateful Packet Filter Firewall

- B. Netfilter Concepts

- C. Using the iptables Command

- D. Netfilter Rule Syntax

- E. Targets

- F. Common match_specs

- G. Connection Tracking

- H. FirewallD

LAB TASKS

- 1. Securing Services with Netfilter

- 2. FirewallD

XV. Comprehensive Review

- A. System Administration II

LAB TASKS

- 1. Understand And Use Essential Tools

- 2. Operate Running Systems

- 3. Configure Local Storage and Filesystems

- 4. Users, Groups, and File Permissions

- 5. Maintenance and Recovery