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## Linux Administration

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# Linux Administration Certification Training

## Learning Path:

1. Red Hat System Administration I (RH124)
2. Red Hat System Administration II (RH 134)
3. Red Hat System Administration III (RH 254)

## Red Hat System Administration I (RH124)

### Course Overview:

Red Hat System Administration I (RH124) equips you with Linux® administration "survival skills" by focusing on foundational Linux concepts and core tasks. You will learn how to apply command-line concepts and enterprise-level tools, starting you on your journey toward becoming a full-time Linux system administrator. This path continues with the follow-on course, Red Hat System Administration II (RH134)

### Course Outline:

#### 1. Get started with Red Hat Enterprise Linux

- Describe and define open source
- Linux distributions
- Red Hat Enterprise Linux.

#### 2. Access the command line

- Log into a Linux system and run simple commands using the shell.

### **3. Manage files from the command line**

- Copy, move, create, delete, and organize files while working from the bash shell.

### **4. Get help in Red Hat Enterprise Linux**

- Resolve problems by using local help systems.

### **5. Create, view, and edit text files**

- Manage text files from command output or in a text editor.

### **6. Manage local users and groups**

- Create, manage, and delete local users and groups, as well as administer local password policies.

### **7. Control access to files**

- Set Linux file system permissions on files and interpret the security effects of different permission settings.

### **8. Monitor and manage Linux processes**

- Evaluate and control processes running on a Red Hat Enterprise Linux system.

### **9. Control services and daemons**

- Control and monitor network services
- System daemons using systemd.

### **10. Configure and secure SSH**

- Configure secure command line service on remote systems, using OpenSSH.

### **11. Analyze and store logs**

- Locate and accurately interpret logs of system events for troubleshooting purposes.

### **12. Manage networking**

- Configure network interfaces and settings on Red Hat Enterprise Linux servers.

### **13. Archive and transfer files**

- Archive and copy files from one system to another.

### **14. Install and update software**

- Download, install, update, and manage software packages from Red Hat and yum package repositories.

### **15. Access Linux files systems**

- Access, inspect, and use existing file systems on storage attached to a Linux server.

### **16. Analyze servers and get support**

- Investigate and resolve issues in the web-based management interface, getting support from Red Hat to help solve problems.

## **Red Hat System Administration II (RH 134)**

### **Course Overview:**

Red Hat System Administration II (RH134) serves as the second part of the RHCSA training track for IT professionals who have taken Red Hat System Administration I (RH124). The course goes deeper into core Linux system administration skills in storage configuration and management, installation and deployment of Red Hat® Enterprise Linux®, management of security features such as SELinux, control of recurring system tasks, management of the boot process and troubleshooting, basic system tuning, and command-line automation and productivity.

### **Course Outline:**

#### **1. Improve command line productivity**

- Run commands more efficiently by using advanced features of the Bash shell, shell scripts, and various utilities provided by Red Hat Enterprise Linux.

#### **2. Schedule future tasks**

- Schedule commands to run in the future, either one time or on a repeating schedule.

#### **3. Tune system performance**

- Improve system performance by setting tuning parameters and adjusting scheduling priority of processes.

#### **4. Control access to files with ACLs**

- Interpret and set access control lists (ACLs) on files to handle situations requiring complex user and group access permissions.

#### **5. Manage SELinux security**

- Protect and manage the security of a server by using SELinux.

#### **6. Manage basic storage**

- Create and manage storage devices, partitions, file systems, and swap spaces from the command line.

#### **7. Manage logical volumes**

- Create and manage logical volumes containing file systems and swap spaces from the command line.

#### **8. Implement advanced storage features**

- Manage storage using the Stratis local storage management system and use VDO volumes to optimize storage space in use.

#### **9. Access network-attached storage**

- Use the NFS protocol to administer network-attached storage.

#### **10. Control the boot process**

- Manage the boot process to control services offered and to troubleshoot and repair problems.

#### **11. Manage network security**

- Control network connections to services using the system firewall and SELinux rules.

#### **12. Install Red Hat Enterprise Linux**

- Install Red Hat Enterprise Linux on servers and virtual machines.

#### **13. Run Containers**

- Obtain, run, and manage simple, lightweight services as containers on a single Red Hat Enterprise Linux server.

# Red Hat System Administration III (RH 254)

## Course Overview:

The course is focused on deploying and managing network servers running caching domain name service (DNS), MariaDB, Apache HTTPD, Postfix SMTP nullclients, network file sharing with network file system (NFS) and server message block (SMB), iSCSI initiators and targets, advanced networking and firewalld configurations, and the use of bash shell scripting to help automate, configure, and troubleshoot the system. Through lectures and hands-on labs, students who have already earned the RHCSA credential will be exposed to all competencies covered by the Red Hat Certified Engineer (RHCE) exam (EX300).

## Course Outline:

### 1. Control services and daemons

- Review how to manage services and the boot-up process using systemctl.

### 2. Manage IPv6 networking

- Configure and troubleshoot basic IPv6 networking on Red Hat Enterprise Linux systems.

### 3. Configure link aggregation and bridging

- Configure and troubleshoot advanced network interface functionality including bonding, teaming, and local software bridges.

### 4. Control network port security

- Permit and reject access to network services using advanced SELinux and firewalld filtering techniques.

### 5. Manage DNS for servers

- Set and verify correct DNS records for systems and configure secure DNS caching.

### 6. Configure email delivery

- Relay all email sent by the system to an SMTP gateway for central delivery.

### 7. Provide block-based storage

- Provide and use networked iSCSI block devices as remote disks.

## **8. Provide file-based storage**

- Provide NFS exports and SMB file shares to specific systems and users.

## **9. Configure MariaDB databases**

- Provide a MariaDB SQL database for use by programs and database administrators.

## **10. Provide Apache HTTPD web service**

- Configure Apache HTTPD to provide Transport Layer Security (TLS)-enabled websites and virtual hosts.

## **11. Write bash scripts**

- Write simple shell scripts using bash.

## **12. Bash conditionals and control structures**

- Use bash conditionals and other control structures to write more sophisticated shell commands and scripts.

## **13. Configure the shell environment**

- Customize bash startup and use environment variables, bash aliases, and bash functions.

## **14. Comprehensive review**

Practice and demonstrate knowledge and skills learned in this course.

### **Prerequisites:**

- Basic technical user skills with computer applications on some operating systems are expected.

### **Who Can attend:**

This course is geared toward Windows system administrators, network administrators, and other system administrators who are interested in supplementing current skills or

backstopping other team members, in addition to Linux system administrators who are responsible for these tasks:

- Configuring, installing, upgrading, and maintaining Linux systems using established standards and procedures
- Providing operational support
- Managing systems for monitoring system performance and availability
- Writing and deploying scripts for task automation and system administration

 **Number of Hours: 50hrs**

 **Certification: RHCE & RHCSA**

 **Key Features:**

- One to One Training
- Online Training
- Fastrack & Normal Track
- Resume Modification
- Mock Interviews
- Video Tutorials
- Materials
- Real Time Projects
- Virtual Live Experience
- Preparing for Certification