



# Red Hat System Administration III (RH254)

Duration: 5 Days

Method: Instructor-Led Training (ILT)

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**Certification:** Red Hat Certified Engineer (RHCE) — **Exam:** EX300

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## Course Description

The course is focused on deploying and managing network servers running caching Domain Name Service (DNS), MariaDB, Apache HTTPD, Postfix SMTP null clients, network file sharing with Network File System (NFS) and Server Message Block (SMB), iSCSI initiators and targets, advanced networking and firewall configurations, and the use of Bash shell scripting to help automate, configure, and troubleshoot the system. Through lectures and hands-on labs, participants who have already earned the RHCSA certification will be exposed to all competencies covered by the certification exam.

## Target Audience

This course is intended for:

- experienced Linux administrators wishing to learn enterprise-level automation techniques through scripting, how to deploy and secure network services, and how to manage other key security features of Red Hat Enterprise Linux.

## Prerequisites

To attend this course, attendees should have:

- Earned the *RHCSA* certification or equivalent experience
  - For candidates who have not earned their *RHCSA* certification, confirmation of the correct skills and knowledge can be obtained by passing the online skills assessment.



## Course Objectives

Upon successful completion of this course, attendees should be able to demonstrate the following skills:

- Control services and daemons.
- Manage networking.
- Configure link aggregation, bridging, teaming, and bonding.
- Configure filters with firewalls.
- Permit and reject access to network services using SELinux.
- Manage DNS servers.
- Configure SMTP email delivery.
- Provide iSCSI block storage.
- Configure NFS and SAMBA file-based storage.
- Configure MariaDB SQL database.
- Configure Apache HTTPD with TLS-e

## Course Topics

### Control Services and Daemons

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

### Manage IPv6 Networking

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

### Configure Link Aggregation and Bridging

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

### Control Network Port Security

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

### Manage DNS for Servers

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

### Configure Email Delivery

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

### Provide Block-Based Storage

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

### Provide File-Based Storage

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



## Course Topics, *Continued*

### Configure MariaDB Databases

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

### Provide Apache HTTPD Web Service

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

### Write Bash Scripts

- Write simple shell scripts using Bash.

### Bash Conditionals and Control Structures

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

### Configure the Shell Environment

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

### Comprehensive Review

- Practice and demonstrate knowledge and skills learned in Red Hat System Administration III.

## LABS INCLUDED

