

# RHCE: REDHAT CERTIFIED SYSTEM ENGINEER

RHCE SYLLABUS | CODE: EX-300 | HOURS: 120

## Course Outline (RH124)

### RED HAT SYSTEM ADMINISTRATION I

#### **Get started with Red Hat Enterprise Linux**

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

#### **Access the command line**

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

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

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

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

Resolve problems by using local help systems.

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

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

#### **Manage local users and groups**

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

#### **Control access to files**

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

#### **Monitor and manage Linux processes**

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

#### **Control services and daemons**

Control and monitor network services and system daemons using systemd.

#### **Configure and secure SSH**

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

#### **Analyse and store logs**

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

#### **Manage networking**

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

#### **Archive and transfer files**

Archive and copy files from one system to another.

#### **Install and update software**

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

#### **Access Linux files systems**

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

#### **Analyse servers and get support**

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

#### **Comprehensive review**

Review the content covered in this course by completing hands-on exercises.

# RHCE: REDHAT CERTIFIED SYSTEM ENGINEER

RHCE SYLLABUS | CODE: EX-300 | HOURS: 120

## Course Outline (RH134)

### RED HAT SYSTEM ADMINISTRATION II

#### **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.

#### **Schedule future tasks**

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

#### **Tune system performance**

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

#### **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.

#### **Manage SELinux security**

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

#### **Manage basic storage**

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

#### **Manage logical volumes**

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

#### **Implement advanced storage features**

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

#### **Access network-attached storage**

Use the NFS protocol to administer network-attached storage.

#### **Control the boot process**

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

#### **Manage network security**

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

#### **Install Red Hat Enterprise Linux**

Install Red Hat Enterprise Linux on servers and virtual machines.

#### **Run Containers**

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

# RHCE: REDHAT CERTIFIED SYSTEM ENGINEER

RHCE SYLLABUS | CODE: EX-300 | HOURS: 120

## Course Outline (RH254)

### RED HAT SYSTEM ADMINISTRATION III

#### **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 firewalld 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.

#### **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 this course.