

RHCE and RHCT Exam Preparation Guide

Overview

This guide provides information candidates may use in preparing to take the RHCT or RHCE exam. Red Hat is not responsible for the content or accuracy of other guides, books, online resources, or any other information provided by organizations or individuals other than Red Hat Global Learning Services. Red Hat reserves the right to change this Guide when appropriate, and candidates who have enrolled in forthcoming classes or exams are advised to check this guide periodically for changes.

The Red Hat Certified Engineer (RHCE) and Red Hat Certified Technician (RHCT) exams are performance-based evaluations of Red Hat Enterprise Linux system administration skills and knowledge. Candidates perform a number of routine system administration tasks and are evaluated on whether they have met specific objective criteria. Performance-based testing means that candidates must perform tasks similar to what they must perform on the job.

Prospective employers of RHCEs and RHCTs should verify any and all claims by people claiming to hold one of these certificates by requesting their certificate number and [verifying it here](#).

Only Red Hat and Red Hat Certified Training Partners administer the RHCE and RHCT exams. Prospective candidates should exercise due diligence when purchasing a seat in an RHCE or RHCT exam from a provider other than Red Hat itself. They should verify that the provider is, in fact, an authorized training partner in good standing.

Official scores for the RHCE and RHCT exams come exclusively from Red Hat Certification Central. Red Hat does not authorize examiners or training partners to report results to candidates directly. Scores on the exam are usually reported within five working days.

Exam results are reported as section scores. Red Hat does not report performance on individual items, nor will it provide additional information upon request.

Preparation for the RHCT and RHCE Exams

Red Hat encourages all candidates for RHCT and RHCE to consider taking one or more of its official training courses to help prepare for the RHCE or RHCT exam. Attendance in these classes is not required, and one can choose to take just an exam. Many successful candidates who have come to class already possessing substantial skills and knowledge have reported that the class made a positive difference for them.

To help you determine the best courses to take, Red Hat provides [online skills assessment](#).

While attending Red Hat's classes can be an important part of one's preparation to take the RHCE or RHCT exam, attending class does not guarantee success on the exam. Previous experience, practice, and native aptitude are also important determinants of success.

Many books and other resources on system administration for Red Hat's OS products are available. Red Hat does not officially endorse any as preparation guides for the RHCT or RHCE exams. Nevertheless, you may find additional reading deepens understanding and can prove helpful.

Components of the RHCE and RHCT Exams

The RHCT exam is a subset of the RHCE exam, and is organized as follows:

- Troubleshooting and System Maintenance - 1 hour
- Installation and Configuration - 2 hours

In order to earn RHCT, one must successfully complete all the requirements in Troubleshooting and System Maintenance, and must achieve a score of 70 or higher on Installation and Configuration.

For RHCE exams given on Red Hat Enterprise Linux 3 and higher, the exam is organized as follows:

- Troubleshooting and System Maintenance - 2.5 hours
- Installation and Configuration - 3.0 hours

In order to earn RHCE, one must successfully complete all the RHCT-level Troubleshooting and System Maintenance requirements, and successfully complete enough additional RHCE items to earn a score of 80 or higher overall on the section.

In addition, one must score 70 or higher on the RHCT items of Installation and Configuration, and 70 or higher on the RHCE components of that section. We describe the skills associated with RHCT and RHCE below.

Study Points for the RHCE Exam

Prerequisite skills for RHCT and RHCE

Candidates should possess the following skills, as they may be necessary in order to fulfill requirements of the RHCT and RHCE exams:

- use standard command line tools (e.g., ls, cp, mv, rm, tail, cat, etc.) to create, remove, view, and investigate files and directories
- use grep, sed, and awk to process text streams and files
- use a terminal-based text editor, such as vim or nano, to modify text files
- use input/output redirection
- understand basic principles of TCP/IP networking, including IP addresses, netmasks, and gateways for IPv4 and IPv6
- use su to switch user accounts
- use passwd to set passwords
- use tar, gzip, and bzip2
- configure an email client on Red Hat Enterprise Linux
- use text and/or graphical browser to access HTTP/HTTPS URLs
- use lftp to access FTP URLs

RHCT skills

Troubleshooting and System Maintenance

RHCTs should be able to:

- boot systems into different run levels for troubleshooting and system maintenance
- diagnose and correct misconfigured networking
- diagnose and correct hostname resolution problems
- configure the X Window System and a desktop environment
- add new partitions, filesystems, and swap to existing systems

- use standard command-line tools to analyze problems and configure system

Installation and Configuration

RHCTs must be able to:

- perform network OS installation
- implement a custom partitioning scheme
- configure printing
- configure the scheduling of tasks using cron and at
- attach system to a network directory service, such as NIS or LDAP
- configure autofs
- add and manage users, groups, quotas, and File Access Control Lists
- configure filesystem permissions for collaboration
- install and update packages using rpm
- properly update the kernel package
- configure the system to update/install packages from remote repositories using yum or pup
- modify the system bootloader
- implement software RAID at install-time and run-time
- use /proc/sys and sysctl to modify and set kernel run-time parameters
- use scripting to automate system maintenance tasks

RHCE Skills

Troubleshooting and System Maintenance

RHCEs must demonstrate the RHCT skills listed above, and should be able to:

- use the rescue environment provided by first installation CD
- diagnose and correct boot failures arising from bootloader, module, and filesystem errors
- diagnose and correct problems with network services (see *Installation and Configuration* below for a list of these services)
- add, remove, and resize logical volumes
- diagnose and correct networking services problems where SELinux contexts are interfering with proper operation.

Installation and Configuration

RHCEs must demonstrate the RHCT-level skills listed above, and they must be capable of configuring the following network services:

- HTTP/HTTPS
- SMB
- NFS
- FTP
- Web proxy
- SMTP
- IMAP, IMAPS, and POP3
- SSH
- DNS (caching name server, slave name server)

- NTP

For each of these services, RHCEs must be able to:

- install the packages needed to provide the service
- configure SELinux to support the service
- configure the service to start when the system is booted
- configure the service for basic operation
- Configure host-based and user-based security for the service

RHCEs must also be able to:

- configure hands-free installation using Kickstart
- implement logical volumes at install-time
- use iptables to implement packet filtering and/or NAT
- use PAM to implement user-level restrictions

Red Hat Courses Covering These Skills

- RH033 Red Hat Linux Essentials covers prerequisite skills, with the exception of TCP/IP fundamentals. The Network Essentials series covers TCP/IP fundamentals
- RH133 Red Hat Linux System Administration covers RHCT-level skills.
- RH253 Red Hat Linux Networking Services and Security covers RHCE-specific skills in networking services and security. Attendees should attend RH133 first.
- Red Hat RHCE Fast Track Course condenses material from RH133 and RH253. Only experienced Linux and UNIX system administrators with background in networking services should attend.

Source: Above information is derived from <http://www.redhat.com> with due acknowledgements