



Red Hat Certifications:

Red Hat Certified Engineer (RHCE)

Overview

Red Hat Certified Engineer (RHCE) is earned by a Red Hat Certified System Administrator (RHCSA) who has demonstrated the knowledge, skill and ability required of a senior system administrator responsible for Red Hat Enterprise Linux systems.

Launched in 1999, the RHCE certification is one of the most respected IT certification programs worldwide. Its success and longevity stem from a solid track record of benchmarking the skills of Linux professionals through Red Hat's unique, pioneering approach to hands-on assessment of skills. Professionals holding this certification have continually helped their companies with successful deployments and migrations.

Certifications for today's marketplace

Hiring RHCEs allows many organizations to increase their ratio of servers to administrators, enabling them to be more cost effective in building out their infrastructure without needing to bring on additional resources. With the launch of Red Hat Enterprise Linux 6, Red Hat has released a refresh of the RHCE exam to ensure the skills required by today's marketplace.

To ensure this certification meets the needs of IT managers, Red Hat conducted an extensive survey and analysis of Red Hat certification holders worldwide. This survey sought to identify the most frequent and critical tasks that today's system administrators perform on the job. This survey helped shape the [RHCSA](#) credential, in addition to validating the more senior-level responsibilities that are tested by the RHCE exam. In addition to the survey, Red Hat has continually sought input on the certification program from its certified community through annual RHCE focus group sessions at Red Hat Summit, online focus groups with Red Hat Certified Architects (RHCA's), and informal discussions at RHCE Loopback events. This input has been central to changes made to the overall program in conjunction with the launch of RHCSA.

About the RHCE exam

Red Hat Certified Engineer (RHCE) is earned by a Red Hat Certified System Administrator (RHCSA) who has demonstrated the knowledge, skill and ability required of a senior system administrator for Red Hat Enterprise Linux systems. The RHCE Exam (EX300) is a hands-on, performance-based, two-hour exam. Red Hat recommends that participants augment their

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skills and build on their expertise by reading the RHCE [exam objectives guide](#) below. In addition, Red Hat offers clear training paths for candidates to learn the required skills.

Red Hat Certified Engineer Preparation Guide

Overview

This guide provides information candidates may use in preparing to take the 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 Training and Certification. Red Hat reserves the right to change this guide when appropriate. Candidates who have enrolled in forthcoming classes or exams are advised to check this guide periodically for changes.

Prospective employers of RHCEs should verify any and all claims by people claiming to hold this certification by requesting their certificate number and verifying it.

In order to earn RHCE, one also **MUST** pass the Red Hat Certified Engineer (RHCSA) exam. One is eligible to take the RHCE exam without first having passed the RHCSA exam, but RHCE will not be issued until both credentials are earned by a candidate.

Performance-based Exams

The Red Hat Certified Engineer exam is a performance-based evaluation 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.

Authorized Training Partners

Only Red Hat and Red Hat Certified Training Partners administer the RHCE exam. Prospective candidates should exercise due diligence when purchasing a seat in an RHCE exam from a provider other than Red Hat itself. They should verify that the provider is, in fact, an authorized training partner or reseller in good standing. Please notify greymarket@redhat.com about organizations that purport to offer the RHCE exam but are not Red Hat Certified Training Partners.

Scores and Reporting

Official scores for the RHCE exams come exclusively from Red Hat Certification Central. Red Hat does not authorize examiners, training partners or other departments or individuals within Red

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Red Hat reports results to candidates. Scores on the exam are reported within three (3) US business 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.

Format of the RHCSA Exam

The RHCE exam is a hands-on, practical exam that lasts 2.0 hours. Internet access is not provided during the exam. Outside materials are not permitted. Documentation that ships with Red Hat Enterprise Linux is included.

Preparation for the RHCSA Exam

Red Hat encourages all candidates for RHCE to consider taking one or more of its official training courses to help prepare. 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 report 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, 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 any exams. Nevertheless, you may find additional reading deepens understanding and can prove helpful.

Exam Objectives

Candidates should be able to do the following:

- diagnose and correct boot failures arising from bootloader, module, and filesystem errors
- use the rescue environment to recover unbootable systems
- diagnose and correct problems with network services
- diagnose and correct problems where SELinux contexts or booleans are interfering with proper operation
- Produce and deliver reports on system utilization (processor, memory, disk, and network)
- use bash shell scripting to automate system maintenance tasks
- install the packages needed to provide the service

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- 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
- Services to be configured (with *additions* to above tasks):
- HTTP/HTTPS: virtual hosting, private directories, stage a CGI script, group managed content
- DNS: caching name server, DNS forwarding
- FTP: anonymous-only download, anonymous "drop-box" upload (provisional)
- NFS: share a directory to specific clients, share for group collaboration
- SMB: share a directory to specific clients, share for group collaboration
- SMTP: null client, outbound smarthost relay, accepting inbound
- SSH: key-based authentication, port forwarding
- rsyslog: remote logging
- NTP: serve to selected clients
- RHCEs are expected to also be able to:
- use /proc/sys and sysctl to modify and set kernel run-time parameters
- use iptables to implement packet filtering
- route IP traffic and use iptables for NAT
- establish IP static routes
- configure Ethernet bonding
- manage default user/group password policies
- build a simple rpm that packages a single file
- configure system as an iSCSI Initiator persistently mounting existing Target
- authenticate to an existing Kerberos V realm (provisional)
- create a private yum repository (provisional)

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