

Training: Red Hat
EX442 Red Hat Certified Specialist in Linux Performance Tuning exam



| FORM OF TRAINING | MATERIALS | PRICE | DURATION |
|-------------------|-----------|---------|----------|
| Traditional | Hardcopy | 700 EUR | 1 day |
| Distance learning | Hardcopy | 700 EUR | 1 day |

LOCATIONS

Krakow - 5 Tatarska Street, II floor, hours: 9:00 am - 4:00 pm

Warsaw - 17 Bielska Street, hours: 9:00 am - 4:00 pm

TRAINING GOALS:

This exam tests candidates' ability to use standard system tools to analyze the performance of Red Hat® Enterprise Linux® and applications running on **Red Hat Enterprise Linux** and to use standard system tools and mechanisms to modify the behavior of the system and applications for the purpose of improving system performance.

Audience for this exam:

- Experienced Linux system administrators responsible for maximizing resource utilization through performance tuning
- An **RHCE** interested in earning **Red Hat Certified Architect (RHCA)**

Exam candidates should:

- Be **Red Hat Certified System Administrators** or have comparable work experience and skills (**Red Hat Certified Engineer** would be even better)
- Have taken the [Red Hat Enterprise Performance Tuning \(RH442\)](#) course or have extensive work experience in performance tuning
- Review the Red **Hat Certificate of Expertise in Performance Tuning exam (EX442)** objectives

CONSPECT:

Study points for the exam

To help you prepare, the exam objectives highlight the task areas you can expect to see covered in the exam. Red Hat reserves the right to add, modify, and remove exam objectives. Such changes will be made public in advance.

Candidates should be able to perform the tasks listed below:

- Use utilities such as vmstat, iostat, mpstat, sar, gnome-system-monitor, top, powertop and others to analyze and report system and application behavior
- Configure systems to provide performance metrics using utilities such as Performance Co-Pilot (PCP)
- Use the Pluggable Authentication Modules (PAM) mechanism to implement restrictions on critical system resources
- Use /proc/sys, sysctl and /sys to examine and modify and set kernel run-time parameters
- Use utilities such as dmesg, dmidecode, x86info, sosreport etc. to profile system hardware configurations
- Analyze system and application behavior using tools such as ps, strace, top and Valgrind
- Configure systems to run SystemTap scripts
- Alter process priorities of both new and existing processes
- Configure systems to support alternate page sizes for applications that use large amounts of memory
- Given multiple versions of applications that perform the same or similar tasks, choose which version of the application to run on a system based on its observed performance characteristics
- Configure disk subsystems for optimal performance using mechanisms such as swap partition placement, I/O scheduling algorithm selection, file system layout and others
- Configure kernel behavior by altering module parameters
- Calculate network buffer sizes based on known quantities such as bandwidth and round-trip time and set system buffer sizes based on those calculations
- Select and configure tuned profiles.
- Manage system resource usage using control groups

As with all Red Hat performance-based exams, configurations must persist after reboot without intervention.

REQUIREMENTS:

In preparation to take this expertise exam, Red Hat recommends:

- **RHEL7 [RH442 Red Hat Enterprise Performance Tuning](#)**

or

- **RHEL7 [RH443 Red Hat Enterprise Performance Tuning with exam](#)**

Difficulty level



CERTIFICATE:

This exam prepares you for these credentials:

- **Red Hat Certified Architect - RHCA** RHCA certification incorporates the skills and knowledge of RHCSA plus advanced networking services security, system monitoring, and performance tuning.
- Certificates of Expertise — Certificates of Expertise are incremental credentials attached to an **RHCE certification** that demonstrate skills and knowledge in specialized areas.

ADDITIONAL INFORMATION:

Length:4 hours