Red Hat Training and Certification

RH442
Red Hat Performance Tuning: Linux in Physical, Virtual, and Cloud

Performance tuning and capacity planning for Red Hat Enterprise Linux

Red Hat Performance Tuning: Linux in Physical, Virtual, and Cloud (RH422) teaches senior Linux® system administrators the methodology of performance tuning. This course discusses system architecture with an emphasis on understanding its implications on system performance, performance adjustments, open source benchmarking utilities, networking performance, and tuning configurations for specific server use cases and workloads.

This course is based on Red Hat® Enterprise Linux 8.

Course content summary

- Analyze and tune for resource-specific scenarios
- Applying tuning profiles with the tuned tool
- Tune in virtual environments (hosts and guests)
- Trace and profile system events and activities
- Tune resource limits and utilization using systemd-integrated cgroups
- Gather performance metrics and benchmarking data

Audience for this course

- Senior Linux system administrators responsible for maximizing resource utilization through performance tuning

Prerequisites for this course

- Become a Red Hat Certified Engineer (RHCE®), or demonstrate equivalent experience

Outline for this course

- **Introduce performance tuning**
  Describe performance tuning concepts and goals.

- **Select performance monitoring tools**
  Evaluate the large selection of performance monitoring tools that are included with Red Hat Enterprise Linux.

- **View hardware resources**
  View and interpret hardware resource listings.

- **Configure kernel tunables and tuned profiles**
  Configure the operating system to tune for different workload requirements.

- **Manage resource limits with control groups**
  Manage resource contention and set limits for resource use on services, applications, and users using cgroup configuration.

- **Analyze performance using system tracing tools**
  Diagnose system and application behaviors using a variety of resource-specific tracing tools.

- **Tune CPU utilization**
  Manage CPU resource sharing and scheduling to control utilization.

- **Tune memory utilization**
  Manage settings for efficient memory utilization for different types of workloads.

- **Tune storage device I/O**
  Manage settings for efficient disk utilization in various use cases.

- **Tune file system utilization**
  Manage application efficiency for file system utilization.

- **Tune network utilization**
  Manage application efficiency for network utilization.

- **Tune in virtualization environments**
  Distinguish the requirements for tuning in virtualized environments.

- **Perform comprehensive review**
  Demonstrate skills learned in this course by observing system performance using the appropriate tools, evaluating system metrics, and configuring settings to improve performance.

Course reference: https://www.redhat.com/en/services/training/rh442-red-hat-enterprise-performance-tuning

As a result of attending this course, you should be able to obtain, analyze, and interpret system performance metrics, then use these metrics to help increase cost effectiveness, maximize application performance, and make better decisions about investment in hardware or cloud resources.

Course reference: https://www.redhat.com/en/services/training/rh442-red-hat-enterprise-performance-tuning