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Module Title : Course RH442 : Red Hat Enterprise Performance Tuning
Duration : 4 days

Course Description

Red Hat® Enterprise Performance Tuning teaches senior Linux® system administrators about performance tuning for Red Hat Enterprise Linux. This course discusses system architecture with emphasis on:

- Understanding the implications on system performance
- Methods for testing the effects of performance adjustments
- Open source benchmarking utilities
- Methods for analyzing system and networking performance
- Tuning configurations for specific application loads

This course can also help you prepare for the Red Hat Certified Specialist in Linux Performance Tuning exam (EX442).

Course summary:

- Tuning for use-case scenarios (for example, HPC, large memory, database, and file server)
- Applying tuning profiles with tuned
- Tuning virtual machines (primarily guest, but host is discussed)
- Tuning memory and caches
- Tuning CPU and memory utilization using cgroups (integrated in systemd)
- Gathering performance metrics and other data for tuning purposes

Audience:

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

Prerequisites:

- Red Hat Certified Engineer (RHCE) certification or equivalent experience
- Candidates who are not an RHCE are encouraged to check their experience levels by taking a free pre-assessment test at redhat.com/training/assessment

Course Outline

Introduction to performance tuning

Understand the basic principles of performance tuning and analysis.

Collecting, graphing, and interpreting data

Gain proficiency using basic analysis tools and evaluating data.

General tuning

Learn basic tuning theory and mechanisms used to tune the system.

Limiting resource usage

Allocate resources for best performance by limiting resource usage.

Hardware profiling

Understand and analyze hardware.

Software profiling

Analyze CPU and memory performance of applications.

Using SystemTap

Use systemtap for profiling software.

Small file tuning

Tune a server for a workload involving frequent reads and writes of small files.

Large memory workload tuning

Understand memory management and tuning.

Tuning for a CPU-intensive workload

Understand tuning for CPU-bound applications.

File server tuning

Understand storage and network tuning in the context of a file server application.

Database server tuning

Tune memory and network performance using a database application as an example.

Power usage tuning

Tune systems with power consumption in mind.

Virtualization tuning

Tune 'host' and 'guest' for efficient virtualization.

Red Hat Performance Tuning Comprehensive Review

Do a comprehensive overview of the course.