

Course Description: This course is designed to teach the methodology of performance tuning and capacity planning for Red Hat Enterprise Linux. This class will cover: a discussion of system architecture with an emphasis on understanding the implications of system architecture on system performance, methods for testing the effects of performance adjustments (benchmarking), open source benchmarking utilities, methods for analyzing system performance and networking performance, tuning configurations for specific application loads. Where possible, emphasis will be placed on using tools that are provided as part of Red Hat Enterprise Linux and Red Hat Network. The EX442 exam will be administered on the 5th day.

Who Should Attend: RH442 is aimed at senior Red Hat Enterprise Linux system administrators and other IT professionals working in enterprise environments and mission-critical systems.

Prerequisites: Participants in RH442 should already be familiar with Red Hat Enterprise Linux. Recommended minimum competency level is completion of the RHCE or equivalent knowledge.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Understand the implications of system architecture on system performance.
- Use methods for testing the effects of performance adjustments (benchmarking).
- Use open source benchmarking utilities.

Course Outline:

Architecture

Overview of System Components and Architecture as They Related to System Performance
Performance Characteristics of current Standard PC Hardware
Translating Manufacturers' Hardware specifications Into Useful Information

Monitoring

Using Standard Monitoring Tools Effectively
Gathering and Analyzing Trend Information

SNMP

Basics of SNMP
Using SNMP to Gather Performance Related Data
Graphing SNMP Based Information with MRTG

Benchmarking

Using Open Source Benchmarking Utilities
Benchmarking Systems as a Holistic Entity
Application/Resource Specific Benchmarking Utilities

Tuning

Using /proc to Tune Operating System Characteristics
Module Level Tuning
Tuning Device Drivers (NIC's SCSI, etc.)
Network Performance Tuning
Application Performance Tuning Considerations
Tuning for Specific Configurations
Evaluating ext3 Performance
Tuning for SMB/CIFS Servers
Tuning for Compute Servers
Tuning for File Servers
Tuning to Tune for Database Servers