# Red Hat Enterprise Performance Tuning: Linux in Physical, Virtual, and Cloud with exam Training

Duration: **5 Day**

BILGINC IT Academy
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The training is an advanced training course designed for senior Linux system administrators.

This course focuses on analyzing, tuning, and optimizing Red Hat Enterprise Linux systems across physical, virtual, and cloud environments.

It is based on **Red Hat Enterprise Linux 8** and includes the exam.

## Prerequisites

Candidates are recommended to:

- Hold Red Hat Certified Engineer (RHCE®) certification
  or
- Demonstrate equivalent Linux system administration experience

## Who Should Attend

- Senior Linux system administrators
- Infrastructure performance specialists
- Data center and cloud administrators
- Professionals responsible for maximizing system utilization

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## What You Will Learn

By the end of this training, you will have gained knowledge and skills in the following areas:

- Collect and analyze system performance metrics
- Understand system architecture and its performance implications
- Optimize kernel and system parameters
- Tune CPU, memory, storage, and network performance
- Perform tuning in virtualized and cloud environments
- Use open-source benchmarking tools

## Business Impact

RH443 enables organizations to:

- Improve infrastructure performance
- Increase system utilization
- Reduce downtime
- Enhance responsiveness to failures
- Make better capacity planning decisions

## Individual Impact

Participants who complete this course will be able to:

- Analyze and interpret system performance metrics
- Understand hardware and software performance interactions
- Tune systems in cloud and virtual environments
- Provide data-driven recommendations for infrastructure investments

## Training Outline

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## Introduction to Performance Tuning

- Performance concepts
- Tuning methodology
- Goal definition

## Performance Monitoring Tools

- Built-in RHEL monitoring tools
- Selecting the right tool for each scenario

## Viewing Hardware Resources

- Interpreting CPU, memory, storage, and network metrics

## Kernel Tunables and tuned Profiles

- Using the tuned tool
- Optimizing for different workloads

## Control Groups (cgroups)

- Managing resource limits with systemd-integrated cgroups
- Controlling service and user resource usage

## System Tracing

- Using tracing tools
- Diagnosing system behavior

## CPU Tuning

- Scheduling policies
- CPU sharing and isolation

## Memory Tuning

- Optimizing memory utilization
- Workload-specific adjustments

## Storage & I/O Tuning

- Disk I/O optimization

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- Storage configuration strategies

### File System Tuning

- Improving file system efficiency
- Enhancing application performance

### Network Tuning

- Optimizing network throughput
- Network performance configuration

### Tuning in Virtualized Environments

- Host and guest tuning considerations
- Virtualization performance requirements

### Comprehensive Review

- Analyzing real system metrics
- Implementing performance improvements

## Exam Information

This course includes the exam. Candidates are expected to:

- Analyze performance metrics
- Interpret system behavior
- Apply appropriate tuning configurations