



## Oracle WebLogic Server 12c: Performance Tuning Workshop

This Oracle WebLogic Server 12c: Performance Tuning Workshop teaches you how to monitor the effects of a running Oracle WebLogic Server application on the overall system. Expert instructors will teach you through interactive instruction, walking you through new concepts, and diving into real-world applications.

### Learn how to:

- Describe a typical performance methodology.
- Use a load-testing tool such as the Grinder.
- Use command-line and graphical tools such as jps, jcmd, Java VisualVM, Mission Control, and Flight Recorder.
- Generate and analyze performance data.
- Tune operating system resources.
- Tune Java Virtual Machine (JVM) and Oracle WebLogic Server parameters.

### Benefits to You

Taking this course will help you develop the skills to increase the performance and scalability of your organization's applications and services with the Oracle WebLogic Server -- the world's #1 application server. You'll learn how to simplify deployment and significantly improve time-to-market.

### Tune the System

This training teaches you how to tune the system at different levels to ensure that applications run smoothly without overtaxing available resources. In addition, walk away with an understanding of how performance-test data is generated, gathered, analyzed, and saved.

### Identify Performance Differences

Finally, you'll learn how to use a combination of tools to examine system resource, Java Virtual Machine, and Oracle WebLogic Server runtime metrics so that you can identify performance differences before and after configuration changes. You'll also practice analyzing these differences to determine the settings that optimize application performance.

## Prerequisites

### Suggested Prerequisite

- Basic knowledge of Java programming

### Required Prerequisite

- Oracle WebLogic Server 12c: Administration I Ed 2
- Adequate knowledge of administering Oracle WebLogic Server

## Audience

- Administrator
- Architect
- Developer
- Implementer
- Manager
- System Integrator

## Objectives

- Configure a work manager for an application.
- Monitor and tune Java EE applications.
- Use a standard tuning methodology.
- Tune an operating system to support WebLogic.
- Monitor and tune JVM performance.
- Monitor and tune server performance.
- Monitor and tune cluster performance.
- Monitor and tune JDBC services.
- Monitor and tune a persistent store.

## Topics

- Tuning Methodology
  - Introduction to Performance Tuning
  - Benchmarking
  - Load and Stress Testing
  - Identifying Bottlenecks
  - Performance Monitoring and Testing Tools
- Tuning Operating Systems
  - Operating System Resources
  - Linux Performance Monitoring
- Monitor and Tune JVM Performance
  - JVM Performance: Overview
  - The JVM and Garbage Collection
  - Command-Line JVM Tools
  - GUI JVM Tools
- Monitor and Tune Server Performance
  - Domain Startup Mode
  - On-Demand Deployment
  - Native I/O Performance Pack

- Overload Protection
- Garbage Collection Thresholds
- Connection Backlog
- Secure Sockets Layer (SSL) Tuning
- Logging Considerations
- Monitor and Tune Cluster Performance
  - Clustering: Review
  - Load Balancing and Failover
  - HTTP Session Persistence: Review
  - Deployment Packaging
  - Peer-to-Peer Communication
  - Basic Cluster Architecture
  - Multitier Cluster Architecture
  - Load Balancers
- Monitoring and Tuning Data Sources and Persistent Stores
  - JDBC: Review
  - JDBC and Application Design
  - Connection Pools
  - Logging Last Resource (LLR) Transactions
  - Batch Updates
  - Transactions
  - Persistent Stores
  - Database Tuning
- Configuring Work Managers
  - Monitoring a Server Thread Pool
  - WebLogic Server Thread Tuning
  - Work Manager
  - Work Manager Configuration
  - Tuning Transactions
- Monitoring and Tuning Java EE Applications
  - Tuning Web Applications
  - Tuning Enterprise JavaBeans (EJBs)
  - Tuning JPA
  - Tuning Web Services