Oracle WebLogic Server 12c: Performance Tuning Workshop

Duration: 3 Days

What you will learn

This course teaches you how to monitor the effects of a running Oracle WebLogic Server application on the overall system.

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
You develop 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 learn how to simplify deployment and significantly improve time-to-market.

Tune the System
You learn how to tune the system at different levels to ensure that applications run smoothly without overtaxing available resources. In addition, you develop an understanding of how performance-test data is generated, gathered, analyzed, and saved.

Identify Performance Differences
You 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 also practice analyzing these differences to determine the settings that optimize application performance.

Audience
Administrator
Java EE Developers
Project Manager
SOA Architect
Support Engineer
System Integrator
Technical Consultant
Web Administrator

Related Training

Required Prerequisites

Adequate knowledge of administering Oracle WebLogic Server

Suggested Prerequisites
Basic knowledge of Java programming

Course 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.

Course 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

Using the JSP Compiler: jspc
Using the Precompile Option
Setting JSP Page Check Interval
Setting Servlet Reload Check Interval
Defining WebLogic Cache Tag

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