

Oracle WebLogic Server 11g: Monitor and Tune Performance

Duration: 3 Days

What you will learn

This course trains Oracle WebLogic Server administrators and architects to tune the various aspects of Oracle WebLogic Server to attain optimal performance. Participants learn how performance test data is generated, gathered, analyzed, and saved. An appendix is included covering the differences between the 11g (10.3.3) and 12c (12.1.1) product versions with regard to Oracle WebLogic Server administration topics.

Learn To:

- Describe different monitoring and tuning tools such as JvisualVM, JRockit Mission Control, and so on
- Instrument with load testing tool such as Grinder
- Generate and analyze performance data
- Tune Java Virtual Machine (JVM) parameters
- Tune Oracle WebLogic Server parameters
- Describe a typical performance methodology

Audience

- Java EE Developer
- Project Manager
- SOA Architect
- System Integrator
- Web Administrator

Prerequisites

Required Prerequisites

- Basic knowledge of Java programming
- Fair knowledge of administering Oracle WebLogic Server

Course Objectives

- Describe performance tuning methodology and tools
- Configure performance evaluation tools
- Use the JRockit Mission Control to monitor JRockit JVM
- Use JRockit Flight Recorder to record and analyze JRockit performance data
- Use Java Visual VM to monitor Hotspot JVM
- Use the Grinder to record performance test data and tune JVM
- Configure and use Work Manager
- Tune performance of Web applications
- Configure and tune JDBC performance
- Configure and tune EJB performance
- Configure and tune JMS performance

Describe performance considerations for clusters

Course Topics

Introduction to Performance Monitoring

- Overview of Performance Methodology
- Importance of Performance Tests and Benchmarks
- Introduction to Load and Stress Test Tools
- Configuring the Grinder
- Introduction to Oracle Application Testing Suite

Monitoring and Tuning JRockit JVM

- Overview of Java Virtual Machines
- Understanding Garbage Collection and Heap Fragments
- JRockit JVM Benefits
- JRockit Mission Control
- JRockit Flight Recorder
- JRockit Memory Leak Detector
- Tuning JRockit JVM Garbage Collection
- Configuring JVM Parameters

Tuning Hotspot JVM

- Overview of Hotspot JVM
- Tools for Monitoring Hotspot JVM
- Using Java Visual VM
- Command-line Tools to Monitor Hotspot JVM
- Understanding JVM Ergonomics
- Use of Throughput Goal
- Use of Footprint Goal
- Configuring JVM Parameters

Configuring Work Managers

- Introduction to WLS Self-tuning
- What is Work Manager?
- Threadpool and Priority
- Scheduling Guidelines
- Work Manager Configuration
- Work Manager Scope and Sharing Constraints
- Introduction to CommonJ

Configuring Other WebLogic Server Resources

- Domain Startup Mode
- Native IO Performance
- Stuck Threads
- Tuning Chunk Size
- Connection Backlogs

Using the JSP Compiler jspc

- Using the Precompile Option
- Setting JSP Page Check Interval
- Setting Servlet Reload Check Interval

Defining WebLogic Cache Tag

Tuning JDBC

Tuning Connection Pools

Tuning Statement Caches

Performing Batch Updates

Tuning Transactions

Tuning Database Specific Parameters

Tuning EJB

Tuning Pool Size

Tuning Cache Size

Tuning Concurrency Strategy

Tuning Entity Bean Parameters

Tuning Transactions

Tuning EJB Clients

Tuning JMS

Tuning JMS Clients

Defining Aggregation and Message Pipeline

Describing Persistence Techniques

Listing Throttling Techniques

Considerations for Store and Forward message

Tuning WebLogic Server Clusters

Architectural Consideration

Load Balancers and Firewalls

Session Persistence

General Tuning Tips