Oracle WebLogic Server 14c: Performance Tuning Workshop

Duration: 3 Days

Course Description:

This course helps you learn how to monitor and tune Oracle WebLogic Server 14c. The lecture content is suitable reinforced with hands-on practices. The lecture content is suitable reinforced with hands-on practices.

Course Objectives:

Upon completion of this course, the student should be able to:

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

Course Outlines:

Course Introduction
- Course Introduction
- Course Practice Environment: Security Credentials

Performance Tuning: Overview
- Performance Tuning: Overview
- Benchmarking
- Performance Testing Methodology Tips
- Section Summary
- Practice 2-1: Setting Up the Practice Environment
- Practice 2-2: Exploring the Course Applications
- Practice 2-3: Executing a Benchmark (Part 01)
- Practice 2-3: Executing a Benchmark (Part 02)
- Practice 2-4: Stress Testing an Application and Identifying Bottlenecks

Tuning Operating System Resources
- Tuning Operating System Resources
- What to Monitor in the Operating System
- File Handles
- Practice 3-1: Monitoring Linux CPU Utilization
- Practice 3-2: Monitoring Linux Disk I/O
- Practice 3-3: Monitoring Linux Virtual Memory and Network
- Practice 3-4: Analyzing and Tuning Linux Kernel Parameters

Tuning HotSpot JVM
- Tuning HotSpot JVM
- Garbage Collection Basics
- G1 Garbage Collector
- GC Tuning Tips
- Using jps
- Java Monitoring and Management Architecture
- Java Mission Control
- Flight Recorder
- Practice 4-1: Tuning JVM Garbage Collection (Part 01)
- Practice 4-1: Tuning JVM Garbage Collection (Part 02)
- Practice 4-2: Using JVM Command-Line Tools (Part 01)
- Practice 4-2: Using JVM Command-Line Tools (Part 02)
- Practice 4-3: Using Java VisualVM
- Practice 4-4: Using VisualGC and jconsole
- Practice 4-5: Using Mission Control (Part 01)
- Practice 4-5: Using Mission Control (Part 02)
- Practice 4-5: Using Mission Control (Part 03)
- Practice 4-6: Using Flight Recorder

Monitoring and Tuning Server Performance
- Monitoring and Tuning Server Performance
- Secure Sockets Layer
- Practice 5-1: Configuring Server Stuck Thread Behavior
- Practice 5-2: Configuring Automatic Restarting of a Failed Server
- Practice 5-3: Configuring WebLogic Overload Protection (Part 01)
- Practice 5-3: Configuring WebLogic Overload Protection (Part 02)

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Monitoring and Tuning Cluster Performance
➢ Monitoring and Tuning Cluster Performance
➢ Cluster Proxy for a Web Application Cluster
➢ HTTP Session Persistence
➢ Practice 6-1: Configuring Unicast and Multicast Clustering (Part 01)
➢ Practice 6-1: Configuring Unicast and Multicast Clustering (Part 02)
➢ Practice 6-2: Tuning Session Persistence (Part 01)
➢ Practice 6-2: Tuning Session Persistence (Part 02)

Tuning JDBC Performance
➢ Tuning JDBC Performance
➢ Connection Testing
➢ Row Prefetch
➢ Exalogic Optimizations
➢ Practice 7-1: Tuning JDBC Connection Pools (Part 01)
➢ Practice 7-1: Tuning JDBC Connection Pools (Part 02)
➢ Practice 7-2: Testing the Performance of JDBC Statement Caching
➢ Practice 7-3: Testing the Performance of Pinned-To-Thread
➢ Practice 7-4: Configuring Batch Updates
➢ Practice 7-5: Tuning an Oracle Database for WebLogic

Configuring Work Managers
➢ Configuring Work Managers
➢ Request Classes
➢ Practice 8-1: Creating and Using Work Managers (Part 01)
➢ Practice 8-1: Creating and Using Work Managers (Part 02)
➢ Practice 8-1: Creating and Using Work Managers (Part 03)
➢ Practice 8-2: Configuring Work Manager Constraints (Part 01)
➢ Practice 8-2: Configuring Work Manager Constraints (Part 02)

Tuning Java EE Applications
➢ Tuning Java EE Applications
➢ The keepgenerated Parameter
➢ Enterprise JavaBeans
➢ Stateful Session Beans
➢ Practice 9-1: Tuning JSP
➢ Practice 9-2: Tuning Stateless EJBs

Oracle Cloud
➢ Oracle Cloud

Oracle Java Cloud Service Overview
➢ Oracle Java Cloud Service Overview

Appendix: Reference Slides
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➢ Other Useful Commands
➢ Load Balancers
➢ Stuck Thread Handling

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