

ORA700 - Oracle8i Database Performance Tuning

Troubleshoot and Tune and Oracle Database

Hands-on **3 day course**

Course Description

Develop skills necessary to effectively troubleshoot and performance tune an Oracle database server. Analyze performance statistics and tune cache areas to reduce physical I/O. Understand the tuning requirements of online transaction processing systems, decision support systems and batch oriented system. Gain practical hands-on experience.

You Learn to...

- Apply a Tuning Methodology
- Interpret the Utlbstat/Utlestat Report Output
- Distribute I/O
- Utilize Explain Plan, TKPROF and the SQL Trace Diagnostic Tools
- Tune the Shared Pool
- Tune the Database Buffer Cache
- Tune the Redo Mechanisms
- Size and Utilize Blocks Efficiently
- Monitor and Detect Lock Contention
- OLTP vs Batch Tuning
- Tune Sorts

Who Needs to Attend

- Data Analysts
- Data Administrators
- System Administrators
- Developers
- Support Staff

Prerequisites:

You must have knowledge of Oracle Database Administration or attend the Oracle8 Database Administration course.

Follow-On Courses

- Oracle8 Database Backup and Recovery
- Oracle8 Networking



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Course Content:

1. Tuning Overview

- Tuning Goals
- Tuning Steps

2. Troubleshooting Problems

- Collecting Statistics
- Dynamic Performance Views
- UTLBSTAT & UTLESTAT
- Latch Contention
- System Events

3. Database Configuration Tuning

- Architecture Review
- Tablespace Configuration
- Rollback Segments
- Monitor File Use
- Stripping
- Redo Log Files

4. SQLStatement Tuning

- Optimizer Modes
- Setting Optimizer Mode
- TKPROF Utility
- Analyze Performance Statistics
- EXPLAIN PLAN
- Troubleshoot Inefficient SQL Statements

5. Shared Pool Tuning

- Shared Pool Contents
- Library Cache
- Dynamic Views of the Shared Pool
- Analyze Cache Hit Ratio
- Analyze Performance Statistics
- Library Cache Reloads
- Sizing the Library Cache
- Parameters Affecting the Library Cache
- Dictionary Cache
- User Global Area

6. Database Buffer Cache Tuning

- Define/Sizing the Buffer Cache

- Buffer Cache Management
- Tuning Objectives
- Analyze Cache Hit Ratio
- Analyze Performance Statistics
- Latch Contention
- Table Caching

7. Redo Component Tuning

- Avoid Checkpoint Waits
- Regulate Checkpoints
- Sizing the Redo Log Buffer Cache
- Reducing the Amount of Redo Logging
- Analyze Performance Statistics
- Latch Contention

8. Rollback Segment Tuning

- Determining the Number of Rollback Segments
- Sizing Rollback Segments
- Allocating Rollback Segments
- Analyze Performance Statistics

9. OLTP vs DSS

- OLTP and Space Management
- OLTP and Rollback Segments
- Decision Support Systems
- Histograms
- Bitmap Indexes
- Analyze Performance Statistics
- Parameters Affecting Application Performance
- Reconfiguring for Differing Applications

10. Sort Tuning

- When Sorts are Needed
- Memory Requirements
- Allocating Temporary Segments
- Monitor Temporary Tablespaces
- Direct Write Sorts
- Sizing Write Buffers
- Monitor Sorts
- Analyze Performance Statistics



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