Oracle 18c SQL Performance Tuning

Duration: 2 Days **Course Code: O18CSPT** **Delivery Method: Virtual Learning**

Overview:

Oracle 18c SQL Performance Tuning Course Overview

This Oracle 18c SQL Performance Tuning course introduces the delegate to the main concepts of Oracle SQL performance tuning. It is designed to give delegates practical experience in analysing and tuning the performance of SQL.
Exercises and examples are used throughout the course to give practical hands-on experience with the techniques covered.
Versions supported 12cR2,18c,19c.

Virtual Learning

This interactive training can be taken from any location, your office or home and is delivered by a trainer. This training does not have any delegates in the class with the instructor, since all delegates are virtually connected. Virtual delegates do not travel to this course, Global Knowledge will send you all the information needed before the start of the course and you can test the logins.

Target Audience:

Who will the Course Benefit?

The Oracle 18c SQL Performance Tuning course is designed for SQL programmers,application developers,designers and technical support professionals who are required to tune the performance of an Oracle application running under an Oracle Database.

Objectives:

- Course Objectives
- To provide the skills needed to monitor and tune an Oracle database application.

Prerequisites:

- A working knowledge of SQL is required. This can be obtained by attendance on the pre-requisite Oracle SQL course.

Follow-on-Courses:

Further Learning

- Oracle PL/SQL
- Oracle Program with PL/SQL
- Oracle Advanced PL/SQL

Content:

Oracle 18c SQL Performance Tuning Training Course Course Contents - DAY 1

Course Introduction

- Administration and Course Materials
- Course Structure and Agenda
- Delegate and Trainer Introductions

Session 1: INTRODUCTION TO ORACLE PERFORMANCE TUNING

- Overview of Oracle Database Tuning
- Application Developer Tuning Responsibilities
- Oracle DBA Tuning Responsibilities
- Oracle Tuning Process
- Plan a Routine Monitoring Regime
- Setting Suitable Goals
- Syntax Considerations

Session 2: TOOLS FOR EVALUATING SQL STATEMENTS

- Overview of SQL Statement Tuning
- Tools to Assist in SQL Tuning
- Use Explain Plan,Autotrace and SQL Trace to Examine the Execution of a SQL Statement
- Interpreting a SQL Trace

Session 3: THE SQL OPTIMIZER

- The SQL Optimizer
- Statement Transformation
- The Optimizer_Mode Initialization Parameter
- Cost Based Optimizer
- Managing Statistics with DBMS_STATS
- Automatic Statistics Gathering
- Dynamic Statistics
- Adaptive Optimization
- Transferring Statistics between Databases

Session 4: SORTS

- How Oracle Processes Sorts
- Temporary Disk Space Assignment
- SQL Operations that Use Sorts

Session 5: INDEXES

- Index Overview
- Selecting Suitable Columns for an Index
- B*Tree Indexes
- Rebuild an Index
- Create Multiple Indexes on the Same Column
- Composite Indexes
- Descending Indexes
- Access Paths with Indexes
- Index Scans
- Conditions That Stop Indexes Being Used
- Parameters that Affect Optimizer Index Choice Oracle 18c SQL Performance Tuning Training Course Course Contents - DAY 2

Session 6: ADVANCED INDEXES

- Bitmap Indexes
- Key Compressed Indexes
- Index Organized Tables
- Function Based Indexes
- Invisible Indexes
- Table Partitioning
- Serial Direct Path Reads

Session 7: JOIN OPERATIONS

- Understand Access Paths
- Joining Tables
- Nested Loops Join
- Merge Join
- Cluster Join
- Hash Join
- Anti Join and Semi Join
- Outer Joins
- Star Join
- Improve Optimization with Different Access Paths

Session 8: SQL TUNING ADVISOR USING SQL DEVELOPER

- Overview of the DBMSSQL_TUNE Package
- Using the SQL Tuning Advisor with SQL Developer

Session 9: SEQUENCES AND VIEWS

- Sequence Caching
- Views
- View Merging
- Inline Views
- The WITH Clause

Session 10: USING HINTS

- Using Hints to Influence Execution Plan
- Optimization Mode and Goals
- Access Methods
- Query Transformations
- Join Orders
- Join Operations
- Hint Examples

Session 11: MISCELLANEOUS

- Tips for Avoiding Problematic Queries
- SQL Performance Settings Options
- Array Size
- The Shared Pool
- Intelligent Cursor Sharing
- Bind Variable Usage
- Virtual Columns
- Result Caching
- Approximate Query Processing
- Some PL/SQL Performance Issues

Further Information:

For More information, or to book your course, please call us on 0800/84.009

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