



## Oracle 12c SQL Performance Tuning

**Duration: 2 Days**    **Course Code: O12CSPT**    **Delivery Method: Company Event**

---

### Overview:

This Oracle 12c 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. Versions supported 12c,18c,19c.

### Company Events

These events can be delivered exclusively for your company at our locations or yours, specifically for your delegates and your needs. The Company Events can be tailored or standard course deliveries.

---

### Target Audience:

The Oracle 12c 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:

- 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:

- Oracle PL/SQL (OPI)
  - Oracle Program with PL/SQL (OPPL)
  - Oracle Advanced PL/SQL (OAP)
-

## Content:

### Oracle 12c 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
- Correlated Column Issues
- Automatic Statistics Gathering
- Optimizer Adaptive Parameters
- Dynamic Statistics
- Online Statistics Gathering for Bulk Loads

#### 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 12c 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
- Advanced Index Compression

#### 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 DBMS\_SQL\_TUNE Package
- Using the SQL Tuning Advisor with SQL Developer

#### Session 9: SEQUENCES AND VIEWS

- Sequence Caching
- Views
- View Merging
- Inline Views

#### 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
- The WITH Clause
- Bind Variable Usage
- Result Caching
- Approximate Query Processing
- Some PL/SQL Performance Issues

## Further Information:

For More information, or to book your course, please call us on Head Office 01189 123456 / Northern Office 0113 242 5931

[info@globalknowledge.co.uk](mailto:info@globalknowledge.co.uk)

[www.globalknowledge.com/en-gb/](http://www.globalknowledge.com/en-gb/)

Global Knowledge, Mulberry Business Park, Fishponds Road, Wokingham Berkshire RG41 2GY UK