

## Oracle SQL Performance Tuning Tips & Techniques

### Course Summary

#### Description

Give your technical staff that competitive edge with this local Oracle Workshop.

The focus of this tuning course is to illustrate coding techniques that insure a consistent response time between instances and releases of the Oracle database. This course works closely with performance tuning of actual SQL statements.

This course includes Oracle10, Oracle11, and Oracle12 SQL tuning topics.

The course starts out with a complete overview of the Oracle architecture so students can get an understanding how their SQL and applications can take advantage of the computing environment. This course goes in-depth on understanding and controlling the explain plan (how Oracle retrieves data and in what order). The discussion includes considerable detail, with SQL examples, on how the optimizers (both rule-based and cost-based but mostly cost-based) make their decisions. Students will work with a variety of SQL statements, reviewing explain plans and making changes to make these SQL statements perform better. Lectures include index design, using hints and coding style to control the explain plans, and how to use useful tools such as index monitoring, SQL Trace, and the PL/SQL profiler. This course takes a close look at indexes: how Oracle selects them, why they are sometimes not used, and how to tell if indexes are being used/not being used.

The focus this course is tuning SQL via coding style. The instructor finds that tuning in this fashion maintains the performance of the SQL when migrating to other Oracle environments (upgrades to newer releases).

Lectures and topics are enhanced with live illustrations and hands-on exercises.

#### Objectives

At the end of this course, students will have covered the following topics:

- Oracle10, Oracle11, and Oracle12!
- Oracle Architecture from a SQL Performance point-of-view
- Understanding SQL Tuning Statement Topics
- Reading Explain Plans/Understanding Explain Plans
- Controlling both the Cost-based and Rule-based Optimizers
- A close look at Indexes – how they work and how they are selected
- SQL Tuning via coding style
- A review of how Oracle computes row cardinality
- Important CBO Statistics review
- Oracle Trace Facility – collecting SQL and interpreting using TKProf
- Profiling PL/SQL, PL/SQL Coding Tips

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### Course Summary (cont'd)

#### Topics

- Oracle RDBMS Architecture overview
- Understanding/Reading/Interpreting Explain Plans
- Understanding the Cost-based Optimizer
- Understanding Parallel Explain Plans
- Working with Hints
- Index Review/Tips & Techniques
- A Close Look at Sub-Query Coding Techniques
- SQL Coding Tips
- Where Clause and Controlling Cardinality
- A Close Look at CBO statistics
- Hint Review/Tips & Techniques
- Tuning Tool Review: SQL Tracing/Tkprof
- Profiling and tuning PL/SQL
- PL/SQL Coding Tips

#### Audience

This course is designed for the Oracle professional with novice or no SQL tuning skills.

#### Prerequisites

There are no prerequisites for this course.

#### Duration

Two days