

Course Description: This course is designed to give the experienced SQL Developer or DBA a firm foundation in SQL tuning techniques. The participant learns the necessary knowledge and skills to effectively tune SQL in the Oracle Database 10g. They learn about tuning methodology as well proactive tuning and reactive tuning methods. Students are introduced to the benefits of the new automatic tuning mechanisms available in Oracle Database 10g. On completion of the course they are able to compare and contrast the steps involved to tune manually as in prior releases as well as use the automatic SQL tuning features provided in the current release. Students gain a thorough conceptual understanding of the Oracle Optimizer, and reinforce instructor-led learning with structured hands-on practices. The course uses a series of challenge-level workshops, allowing students to "play, discover, and learn" at their own level and pace. The students learn to use the Oracle diagnostic tools and facilities: Automatic SQL Tuning components, EXPLAIN, SQL Trace and TKPROF, SQL*Plus AUTOTRACE. Students also learn to influence the behavior of the Optimizer by changing the physical schema and modifying SQL statement syntax.

Who Should Attend: This course is for Technical Consultants, Forms Developers, Java Developers, PL/SQL Developers, Reports Developers, and Business Intelligence Developers.

Prerequisites: Students should be experienced Developers or DBAs.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Describe the basic steps in processing SQL statements.
- Describe the causes of performance problems.
- Understand where SQL tuning fits in an overall tuning methodology.
- Describe Automatic SQL Tuning.
- Use the diagnostic tools to gather information about SQL statement processing.
- Understand Optimizer behavior.
- Influence the optimizer behavior.
- Influence the physical data model so as to avoid performance problems.

Course Outline:

Database Architecture overview

Following a Tuning Methodology

Designing Applications for performance

Introducing the optimizer

Optimizer Operations

Displaying Execution plans

Gathering Statistics

Application Tracing

Identifying High Load SQL

Automatic SQL Tuning

Introduction to Indexes

Advanced Indexes

Optimizer Hints and Plan Stability

Materialized Views and Temporary Tables