

Oracle Database 10g: SQL Tuning Workshop

Descripción del curso:

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.

This course counts towards the Hands-on course requirement for the Oracle Database 10g Administrator Certification. Only instructor-led inclass or instructor-led online formats of this course will meet the Certification Hands-on Requirement. Self Study CD-Rom and Knowledge Center courses **are excellent study and reference tools but DO NOT** meet the Hands-on Requirement **for certification.**

Prerequisites:**Prerequisites Requeridos:**[Oracle Database 10g: SQL Fundamentals I](#)**Prerequisites Sugeridos:**

Oracle Database 10g: PL/SQL Fundamentals

Objetivos Del Curso:

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.

Temas Del Curso:**Database Architecture overview**

Overview of Database architecture

Listing the SQL Statement Processing Steps

Identifying Means to Minimize Parsing

Stating the Use of Bind Variables

Following a Tuning Methodology

Describing the Causes of Performance Problems

Identifying Performance Problems

Using a Tuning Methodology

Designing Applications for performance

Oracle Methodology

Understanding Scalability

System Architecture

Application Design Principles

Deploying New Applications

Introducing the optimizer

Describe the functions of the Oracle optimizer
Identify the factors that the optimizer considers when it selects an execution plan
Set the optimizer approach at the instance and session level
Use dynamic sampling

Optimizer Operations

Execution plans
Types of Joins

Displaying Execution plans

Using the EXPLAIN PLAN Command
Interpreting EXPLAIN Output
Interpreting AUTOTRACE Statistics

Gathering Statistics

Using the DBMS_STATS Package
Identifying Table, Column, and Index Statistics
Building Histograms

Application Tracing

Statspack
End to End tracing
Invoking the SQL Trace Facility
Setting Up Appropriate Initialization Parameters
Formatting Trace Files with TKPROF
Interpreting the Output of the TKPROF Command

Identifying High Load SQL

Use different methods to identify high-load SQL
ADDM
Top SQL
Dynamic Performance views
Statspack

Automatic SQL Tuning

Query Optimizer Modes
Types of Tuning Analysis
SQL Tuning Advisor
SQL Tuning Sets



Top SQL

Introduction to Indexes

Identifying Row Access Methods

Creating B-Tree Indexes

Understanding B-Tree Index Access and Index Merging

Advanced Indexes

Using Bitmapped Indexes

Using Function-Based Key Indexes

Optimizer Hints and Plan Stability

Using Hints

Purpose and Benefits of Optimizer Plan Stability

Materialized Views and Temporary Tables

Using the CREATE MATERIALIZED VIEW