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# Oracle Database 12c: SQL Tuning for Developers

- **Formato do curso:** Presencial
- **Preço:** 1350€
- **Nível:** Avançado
- **Duração:** 18 horas

Neste curso são aprofundadas as técnicas de melhorar o código SQL.

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## Objetivos:

No final da ação de formação os participantes deverão estar aptos a:

- Uso de ferramentas para tratar instruções SQL ineficazes
- Automatic SQL Tuning
- Gerir estatísticas
- Entender o processo do otimizador
- Interpretar planos de execução

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## Destinatários

Para quem já trabalha com SQL e melhorar a performance e corrigir queries menos eficazes.

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## Pré-requisitos

Experiência em SQL.

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## Objectivos

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  - Automatic SQL Tuning.
  - Gerir estatísticas
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# Programa

## Introduction

- Course Objectives, Course Agenda and Appendixes Used in this Course
- Audience and Prerequisites
- Sample Schemas Used in the Course
- Class Account Information
- SQL Environments Available in the Course
- Workshops, Demo Scripts, and Code Example Scripts
- Appendices in the Course

## Introduction to SQL Tuning

- SQL Tuning Session
- SQL Tuning Strategies
- Development Environments: Overview
- SQLTXPLAIN (SQLT) Diagnostic Tool

## Using Application Tracing Tools

- Using the SQL Trace Facility: Overview
- Steps Needed Before Tracing
- Available Tracing Tools: Overview
- The trcsess Utility
- Formatting SQL Trace Files: Overview

## Understanding Basic Tuning Techniques

- Developing Efficient SQL statement
- Scripts Used in This Lesson
- Table Design
- Index Usage
- Transformed Index
- Data Type Mismatch
- NULL usage
- Tune the ORDER BY Clause

## Optimizer Fundamentals

- SQL Statement Representation
- SQL Statement Processing
- Why Do You Need an Optimizer?
- Components of the Optimizer
- Query Transformer
- Cost-Based Optimizer
- Adaptive Query Optimization

- Optimizer Features and Oracle Database Releases

## **Generating and Displaying Execution Plans**

- Execution Plan?
- The EXPLAIN PLAN Command
- Plan Table
- AUTOTRACE
- V\$SQL\_PLAN View
- Automatic Workload Repository
- SQL Monitoring

## **Interpreting Execution Plans and Enhancements**

- Interpreting a Serial Execution Plan
- Adaptive Optimizations

## **Optimizer: Table and Index Access Paths**

- Row Source Operations
- Main Structures and Access Paths
- Full Table Scan
- Indexes
- Common Observations

## **Optimizer Join Operations**

- Join Methods
- Join Types

## **Other Optimizer Operators**

- SQL operators
- Other N-Array Operations
- Result Cache operators

## **Introduction to Optimizer Statistics Concepts**

- Optimizer Statistics
- Types of Optimizer Statistics
- Gather and Manage Optimizer Statistics: Overview

## **Using Bind Variables**

- Cursor Sharing and Different Literal Values
- Cursor Sharing and Bind Variables

## **SQL Plan Management**

- Maintaining SQL Performance

- SQL Plan Management

## **Workshops**

- Workshop 1
- Workshop 2
- Workshop 3
- Workshop 4
- Workshop 5
- Workshop 6
- Workshop 8
- Workshop 9