

# Oracle Database: Performance Management and Tuning

Students learn how to use Oracle Database automatic tuning features such as SQL Tuning Advisor, SQL Access Advisor, Automatic Workload Repository and Automatic Database Diagnostic Monitor, and practice these tuning methods. The course focuses on the tuning tasks expected of a DBA: reactive tuning of SQL statements, maintaining SQL statement and operation performance, and tuning the Oracle Database Instance components.

## Learn To

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- Use the Oracle tuning methodology
- Use Oracle-supplied tools for monitoring and diagnosing SQL and instance tuning issues
- Use database advisors to proactively correct performance problems
- Identify problem SQL statements
- Tune SQL performance problems
- Monitor instance performance by using Enterprise Manager
- Tune instance components by primarily using instance parameters

## Prerequisites

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### Suggested Prerequisite

- Oracle Database: Deploy, Patch and Upgrade Workshop
- Familiarity with Oracle Database installation
- Familiarity with Oracle Database configuration concepts

### Required Prerequisite

- Oracle Database: Administration Workshop
- Basic knowledge of Linux operating system
- A working knowledge of SQL and PL/SQL packages
- Basic understanding of Oracle Database architecture
- Familiarity with basic database monitoring procedures

## Audience

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- Administrator
- Database Administrator

## Course Objectives

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- Use the Oracle Database tuning methodology appropriate to the available tools
- Utilize database advisors to proactively tune an Oracle Database Instance
- Use the tools based on the Automatic Workload Repository to tune the database
- Diagnose and tune common SQL related performance problems
- Diagnose and tune common Instance related performance problems
- Use Enterprise Manager performance-related pages to monitor an Oracle Database

## Course Topics

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- Introduction
- Basic Tuning Diagnostics
- Using Automatic Workload Repository
- Defining the Scope of Performance Issues
- Using Metrics and Alerts
- Using Baselines
- Using AWR-Based Tools
- Real-Time Database Operation Monitoring
- Monitoring Applications
- Identifying Problem SQL Statements
- Influencing the Optimizer
- Reducing the Cost of SQL Operations
- Using SQL Performance Analyzer
- SQL Performance Management
- Using Database Replay
- Tuning the Shared Pool
- Tuning the Buffer Cache
- Tuning PGA and Temporary Space
- Automatic Memory
- Performance Tuning Summary with Waits