

# ODAT-17 - ORACLE DATABASE 19C: PERFORMANCE MANAGEMENT AND TUNING

Categoria: **Database**

## INFORMAZIONI SUL CORSO



**Durata:**  
5 Giorni



**Categoria:**  
Database



**Qualifica Istruttore:**  
Oracle Certified  
Professional



**Dedicato a:**  
Professionista IT



**Produttore:**  
Oracle

## OBIETTIVI

- 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

## PREREQUISITI

### Suggested Prerequisites

- Familiarity with Oracle Database installation
- Familiarity with Oracle Database configuration concepts

### Required Prerequisites

- Oracle Database Administration
- 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

## CONTENUTI

### 1: Overview

- Overview
- Practice 1-1: Preparing the Databases

### 2: Defining the Scope of Performance Issues

- Defining the Scope of Performance Issues Objectives
- Tuning Life Cycle Phases
- Practice 2-1: Using Enterprise Manager to Identify OS Issues

### **3: Using the Time Model to Diagnose Performance Issues**

- Using the Time Model to Diagnose Performance Issues
- Practice 3-1: Viewing the Top Wait Events and the Time Model

### **4: Using Statistics and Wait Events to Diagnose Performance Issues**

- Using Statistics and Wait Events to Diagnose Performance Issues
- Instance Activity and Wait Event Statistics
- Practice 4-1: Viewing System Statistics and Wait Events

### **5: Using Log and Trace Files to Monitor Performance**

- Using Log and Trace Files to Monitor Performance
- Practice 5-1: Viewing Performance Information in the Alert Log

### **6: Using Enterprise Manager Cloud Control and SQL Developer to Monitor Performance**

- Using Enterprise Manager Cloud Control and SQL Developer to Monitor Performance
- Practice 6-1: Using Enterprise Manager to Monitor Performance
- Practice 6-2: Using SQL Developer to Monitor Performance Part 1
- Practice 6-2: Using SQL Developer to Monitor Performance Part 2

### **7: Using Statspack to View Performance Data**

- Using Statspack to View Performance Data
- Practice 7-1: Installing Statspack
- Practice 7-2: Creating Snapshots
- Practice 7-3: Generating Statspack Reports
- Practice 7-4: Using Statspack to Examine Segment Statistics (Optional)

### **8: Using Automatic Workload Repository**

- Using Automatic Workload Repository
- Managing AWR Data in a Multitenant Environment
- Practice 1-1: Creating and Managing AWR Snapshots
- Practice 1-2: Generating and Viewing an AWR Report
- Practice 1-3: Generating and Viewing a Compare Periods Report

### **9: Using Metrics and Alerts**

- Using Metrics and Alerts
- Practice 2-1: Setting Up and Viewing Server-Generated Alerts

### **10: Using Baselines**

- Using Baselines

### **11: Managing Automated Maintenance Tasks**

- Managing Automated Maintenance Tasks
- Practice 1-1: Configuring Automatic Maintenance Tasks (Part 1)
- Practice 1-1: Configuring Automatic Maintenance Tasks (Part 2)

### **12: Using ADDM to Analyze Performance**

- Using ADDM to Analyze Performance
- Compare Periods ADDM: Analysis
- Practice 2-1: Using AWR-Based Tools to Identify Performance Issues

-Practice 2-2: Performing an ADDM Analysis of a PDB

### **13: Using Active Session History Data for First Fault System Analysis**

-Using Active Session History Data for First Fault System Analysis

-Practice 3-1: Generating and Reviewing an ASH Report to Identify Performance Issues

### **14: Using Emergency Monitoring and Real-Time ADDM to Analyze Performance Issues**

-Using Emergency Monitoring and Real-Time ADDM to Analyze Performance

### **15: Overview of SQL Statement Processing**

-Overview

-Processing a DML Statement

### **16: Maintaining Indexes**

-Maintaining Indexes

-Automatic Indexing Task

-Practice 2-1: Coalescing an Index

### **17: Maintaining Tables**

-Maintaining Tables

-Block Space Management with Free Lists

-Shrinking Segments: Overview

-Advanced Index Compression

-Practice 3-1: Analyzing the Impact of Excess Blocks

### **18: Introduction to Query Optimizer**

-Introduction

-Using Initialization Parameters to Control Optimizer Behavior

### **19: Understanding Execution Plans**

-Understanding Execution Plans

-SQL\*Plus AUTOTRACE

-Practice 2-1: Using AUTOTRACE and EXPLAIN PLAN

### **20: Viewing Execution Plans by Using SQL Trace and TKPROF**

-Viewing Execution Plans by Using SQL Trace and TKPROF

-Practice 3-1: Using SQL TRACE and the TKPROF Utility

### **21: Managing Optimizer Statistics**

-Managing Optimizer Statistics

-Extended Statistics

-Practice 4-1: Capturing Extended Statistics

-Practice 4-2: Determining the Impact of Stale Statistics

-Practice 4-3: Using the Optimizer Statistics Advisor to Improve Statistics Collection Quality

### **22: Using Automatic SQL Tuning**

-Using Automatic SQL Tuning

### **23: Using the SQL Plan Management Feature**

-Using the SQL Plan Management Feature

- Practice 6-1: Using SQL Plan Management (Part 1)
- Practice 6-1: Using SQL Plan Management (Part 2)

#### **24: Overview of the SQL Advisors**

- Overview of the SQL Advisors

#### **25: Using the SQL Tuning Advisor**

- Using the SQL Tuning Advisor
- Practice 2-1: Using the SQL Tuning Advisor

#### **26: Using the SQL Access Advisor**

- Using the SQL Access Advisor
- Practice 3-1: Using the SQL Access Advisor to Improve SQL Performance

#### **27: Overview of Real Application Testing Components**

- Overview of Real Application Testing Components

#### **28: Using SQL Performance Analyzer to Determine the Impact of Changes**

- Using SQL Performance Analyzer to Determine the Impact of Changes
- Practice 2-1: Using SQL Performance Analyzer (Part 1)
- Practice 2-1: Using SQL Performance Analyzer (Part 2)
- Practice 2-2: Seeding SQL Plan Baselines from SQL Performance Analyzer

#### **29: Using Database Replay to Test System Performance**

- Using Database Replay to Test System Performance
- Database Replay Packages
- Practice 3-1: Configuring and Using Database Replay at the PDB Level

#### **30: Implementing Real-Time Database Operation Monitoring**

- Implementing Real-Time Database Operation Monitoring
- Practice 1-1: Monitoring a Composite Database Operation
- Practice 1-2: Monitoring a PL/SQL Operation

#### **31: Using Services to Monitor Applications**

- Using Services to Monitor Applications
- Creating Services
- Service Aggregation Configuration
- Practice 2-1: Using Services in a Single-Instance Oracle Database (Part 1)
- Practice 2-1: Using Services in a Single-Instance Oracle Database (Part 2)
- Practice 2-2: Tracing Services in a Single-Instance Environment

#### **32: Overview of Memory Structures**

- Overview
- Practices for Lesson 1: Overview

#### **33: Managing Shared Pool Performance**

- Managing Shared Pool Performance
- Avoid Hard Parses
- Sizing the Shared Pool
- Practice 2-1: Sizing the Shared Pool

- Practice 2-2: Tuning a Hard-Parse Workload
- Practice 2-3: Tuning a Soft-Parse Workload
- Practice 2-4: Keeping Objects in the Shared Pool

### **34: Managing Buffer Cache Performance**

- Managing Buffer Cache Performance
- Buffer Cache Hit Ratio
- Caching Tables
- Multiple Block Sizes
- Practice 3-1: Sizing the Buffer Cache
- Practice 3-2: Using the Keep Pool
- Practice 3-3: Using Force Full Database Caching

### **35: Managing PGA and Temporary Space Performance**

- Managing PGA and Temporary Space Performance
- Monitoring SQL Memory Usage
- Practice 4-1: Adjusting the Value of PGA\_AGGREGATE\_TARGET

### **36: Configuring the Large Pool**

- Configuring the Large Pool

### **37: Using Automatic Shared Memory Management**

- Using Automatic Shared Memory Management
- Using the V\$SYSTEM\_PARAMETER View
- Practice 6-1: Enabling Automatic Shared Memory Management

### **38: Introduction to In-Memory Column Store**

- Introduction

### **39: Configuring the In-Memory Column Store Feature**

- Configuring the In-Memory Column Store Feature
- Practice 2-1: Configuring In-Memory Column Store
- Practice 2-2: Configuring In-Memory Objects
- Practice 2-3: Querying In-Memory Objects and Viewing Execution Plans

### **40: Using In-Memory Column Store with Oracle Database Features**

- Using In-Memory Column Store with Oracle Database Features
- Practice 4-1: Exporting and Importing In-Memory Objects

## **INFO**

**Materiale didattico:** Materiale didattico ufficiale Oracle in formato digitale

**Costo materiale didattico:** incluso nel prezzo del corso a Calendario

**Natura del corso:** Operativo (previsti lab su PC)