



## Oracle Database 12c: Performance Management and Tuning

In the Oracle Database 12c: Performance Management and Tuning course, learn about the performance analysis and tuning tasks expected of a DBA: proactive management through built-in performance analysis features and tools, diagnosis and tuning of the Oracle Database instance components, and diagnosis and tuning of SQL-related performance issues. In this course, you will be introduced to Oracle Database Cloud Service.

### **Learn To:**

- Use the Oracle tuning methodology.
- Use Oracle-supplied tools for monitoring and diagnosing SQL and instance performance issues.
- Use database advisors to proactively correct performance problems.
- Identify and tune problem SQL statements.
- Monitor instance performance by using Enterprise Manager.
- Tune instance components.
- Gain an understanding of the Oracle Database Cloud Service.

### **Benefits To You:**

The DBA will analyze the SQL performance with available tools. The DBA will be introduced to various methods of identifying the SQL statements that require tuning and the diagnostic tools used to find ways to improve performance. This will include the use of statistics, profiles to influence the optimizer, and using the SQL Advisors.

### **Maintain SQL Performance**

A major task of DBAs is to maintain SQL performance across changes. This course introduces Database Replay and SQL Performance Analyzer which help the DBA test and minimize the impact of change.

### **Influence Instance Behavior**

Instance tuning uses the same general method of observing a problem, diagnosing the problem, and implementing a solution. The instance tuning lessons cover the details of major tunable components and describe how you can influence the instance behavior. For each lesson, we will examine the relevant components of the architecture. The course only discusses the architecture to the level required to understand the symptoms and solutions. More detailed explanations are left to other courses, reference material, and the Oracle documentation.

### **Prerequisites**

#### *Suggested Prerequisite*

- Oracle Database 12c: Install and Upgrade Workshop Ed 1

### **Audience**

- Administrator

- Database Administrator

### **Objectives**

- 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
- Gain an understanding of the Oracle Database Cloud Service

### **Topics**

- 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
- Oracle Database Cloud Service: Overview