**ORACLE DATABASE: PERFORMANCE MANAGEMENT AND TUNING**

Duration: 5 Days; Instructor-led

## WHAT YOU WILL LEARN
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 Behaviour
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 tunables components and describe how you can influence the instance behaviour. 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.

## AUDIENCE
- Administrator
- Database Administrator

## PREREQUISITES
### Suggested Prerequisite
- Oracle Database 12c: Install and Upgrade Workshop Ed 1

## METHODOLOGY
This program will be conducted with interactive lectures, PowerPoint presentations, discussions, and practical exercises.

## COURSE 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

## COURSE OUTLINE

Module 1: Introduction
Module 2: Basic Tuning Diagnostics
Module 3: Using Automatic Workload Repository
Module 4: Defining the Scope of Performance Issues
Module 5: Using Metrics and Alerts
Module 6: Using Baselines

Module 7: Using AWR-Based Tools
Module 8: Real-Time Database Operation Monitoring
Module 9: Monitoring Applications
Module 10: Identifying Problem SQL Statements
Module 11: Influencing the Optimizer
Module 12: Reducing the Cost of SQL Operations
Module 13: Using SQL Performance Analyzer
Module 14: SQL Performance Management
Module 15: Using Database Replay
Module 16: Tuning the Shared Pool
Module 17: Tuning the Buffer Cache
Module 18: Tuning PGA and Temporary Space
Module 19: Automatic Memory
Module 20: Performance Tuning Summary with Waits
Module 21: Oracle Database Cloud Service: Overview