Cel szkolenia:

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.

Plan szkolenia:

- Introduction
  - Course Objectives
  - Course Organization
  - Course Agenda
  - Topics Not Included in the Course
  - Who Tunes?
  - What Does the DBA Tune?
  - How to Tune
  - Tuning Methodology
- Basic Tuning Diagnostics
  - Performance Tuning Diagnostics
  - Performance Tuning Tools
  - Tuning Objectives
○ Top Timed Events
  ○ DB Time
  ○ CPU and Wait Time Tuning Dimensions
  ○ Time Model
  ○ Dynamic Performance Views

○ Using Automatic Workload Repository
  ○ Automatic Workload Repository Overview
  ○ Automatic Workload Repository Data
  ○ Enterprise Manager Cloud Control and AWR
  ○ Snapshots
  ○ Reports
  ○ Compare Periods

○ Defining the Scope of Performance Issues
  ○ Defining the Problem
  ○ Limiting the Scope
  ○ Setting the Priority
  ○ Top SQL Reports
  ○ Common Tuning Problems
  ○ Tuning During the Life Cycle
  ○ ADDM Tuning Session
  ○ Performance Versus Business Requirements

○ Using Metrics and Alerts
  ○ Metrics and Alerts Overview
  ○ Limitation of Base Statistics
  ○ Benefits of Metrics
  ○ Viewing Metric History Information
  ○ Viewing Histograms
  ○ Server-Generated Alerts
  ○ Setting Thresholds
  ○ Metrics and Alerts Views

○ Using Baselines
  ○ Comparative Performance Analysis with AWR Baselines
  ○ Automatic Workload Repository Baselines
  ○ Moving Window Baseline
  ○ Baselines in Performance Page Settings
  ○ Baseline Templates
- AWR Baseslines
- Creating AWR Baselines
- Managing Baselines with PL/SQL

- Using AWR-Based Tools
  - Automatic Maintenance Tasks
  - ADDM Performance Monitoring
  - Using Compare Periods ADDM
  - Active Session History
  - New or Enhanced Automatic Workload Repository Views
  - Emergency Monitoring
  - Real-time ADDM

- Real-Time Database Operation Monitoring
  - Overview
  - Use Cases
  - Defining a Database Operation
  - Scope of a Composite Database Operation
  - Database Operation Concepts
  - Identifying a Database Operation
  - Enabling Monitoring of Database Operations
  - Identifying, Starting, and Completing a Database Operation

- Monitoring Applications
  - What is a Service?
  - Service Attributes
  - Service Types
  - Creating Services
  - Managing Services in a Single-Instance Environment
  - Where are Services Used?
  - Using Services with Client Applications
  - Services and Pluggable Databases

- Identifying Problem SQL Statements
  - SQL Statement Processing Phases
  - Role of the Oracle Optimizer
  - Identifying Bad SQL
  - Top SQL Reports
  - SQL Monitoring
  - What is an Execution Plan?
- Methods for Viewing Execution Plans
- Uses of Execution Plans

- Influencing the Optimizer
  - Functions of the Query Optimizer
  - Selectivity
  - Cardinality and Cost
  - Changing Optimizer Behavior
  - Optimizer Statistics
  - Extended Statistics
  - Controlling the Behavior of the Optimizer with Parameters
  - Enabling Query Optimizer Features

- Reducing the Cost of SQL Operations
  - Reducing the Cost
  - Index Maintenance
  - SQL Access Advisor
  - Table Maintenance for Performance
  - Table Reorganization Methods
  - Space Management
  - Extent Management
  - Data Storage

- Using SQL Performance Analyzer
  - Real Application Testing: Overview
  - Real Application Testing: Use Cases
  - SQL Performance Analyzer: Process
  - Capturing the SQL Workload
  - Creating a SQL Performance Analyzer Task
  - SQL Performance Analyzer: Tasks
  - Parameter Change
  - SQL Performance Analyzer Task Page

- SQL Performance Management
  - Maintaining SQL Performance
  - Maintaining Optimizer Statistics
  - Automated Maintenance Tasks
  - Statistic Gathering Options
  - Setting Statistic Preferences
  - Restore Statistics
- Deferred Statistics Publishing
- Automatic SQL Tuning

- Using Database Replay
  - Using Database Replay
  - The Big Picture
  - System Architecture
  - Capture Considerations
  - Replay Considerations: Preparation
  - Replay Considerations
  - Replay Options
  - Replay Analysis

- Tuning the Shared Pool
  - Shared Pool Architecture
  - Shared Pool Operation
  - The Library Cache
  - Latch and Mutex
  - Diagnostic Tools for Tuning the Shared Pool
  - Avoiding Hard Parses
  - Reducing the Cost of Soft Parses
  - Sizing the Shared Pool

- Tuning the Buffer Cache
  - Oracle Database Architecture: Buffer Cache
  - Buffer Cache: Highlights
  - Database Buffers
  - Buffer Hash Table for Lookups
  - Working Sets
  - Buffer Cache Tuning Goals and Techniques
  - Buffer Cache Performance Symptoms
  - Buffer Cache Performance Solutions

- Tuning PGA and Temporary Space
  - SQL Memory Usage
  - Performance Impact
  - Automatic PGA Memory
  - SQL Memory Manager
  - Configuring Automatic PGA Memory
  - Setting PGA_AGGREGATE_TARGET Initially
- Limiting the size of the Program Global Area (PGA)
- SQL Memory Usage

- Automatic Memory
  - Oracle Database Architecture
  - Dynamic SGA
  - Granule
  - Memory Advisories
  - Manually Adding Granules to Components
  - Increasing the Size of an SGA Component
  - Automatic Shared Memory Management: Overview
  - SGA Sizing Parameters: Overview

- Performance Tuning Summary with Waits
  - Commonly Observed Wait Events
  - Additional Statistics
  - Top 10 Mistakes Found in Customer Systems
  - Symptoms

Wymagania:

Wymagane prerekwizyty:

- [Oracle Database 12c: Administration Workshop](#)

Sugerowane prerekwizyty:

- [Oracle Database 12c: Install and Upgrade Workshop](#)

Poziom trudności

Certyfikaty:

Uczestnicy szkoleń otrzymają zaświadczenia o ukończeniu kursu sygnowane przez firmę Oracle.

Prowadzący:

Autoryzowany wykładowca Oracle.