Szkolenie: Oracle
Oracle Database 12c: Performance Management and Tuning

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<th>CENA</th>
<th>CZAS TRWANIA</th>
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<td>Cyfrowe</td>
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* (+VAT zgodnie z obowiązującą stawką w dniu wystawienia faktury)

LOKALIZACJE

Kraków - ul. Tatarska 5, II piętro, godz. 9:00 - 16:00
Warszawa - ul. Bielska 17, godz. 9:00 - 16:00

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 otrzymują zaświadczenia o ukończeniu kursu sygnowane przez firmę Oracle.

Prowadzący:

Autoryzowany wykładowca Oracle.