# Szkolenie: Oracle

## Oracle Database 12c: Performance Management and Tuning

### Forma Szkolenia

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<td>Stacjonarne</td>
<td>Cyfrowe</td>
<td>PLN 7825</td>
<td>5 dni</td>
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<td>Metoda dlearning</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.