**Załącznik nr 1 do Ogłoszenia**

**Szczegółowy opis przedmiotu zamówienia**

Przedmiotem zamówienia jest zakup szkoleń certyfikowanych Oracle w zakresie:

1. Oracle Database 12c R2: Administration Workshop Ed 3 lub równoważny poziom wiedzy
2. Oracle Database 12c R2: Backup and Recovery Workshop Ed 3 lub równoważny poziom wiedzy
3. Oracle Database 12c R2: Install and Upgrade Workshop lub równoważny poziom wiedzy
4. Oracle Database 12c R2: Clusterware Administration lub równoważny poziom wiedzy
5. Oracle Database 12c R2: ASM Administration lub równoważny poziom wiedzy
6. Oracle Database 12c R2: RAC Administration lub równoważny poziom wiedzy
7. Oracle Database Security: Preventive Controls Ed 1 lub równoważny poziom wiedzy

Przez szkolenia certyfikowane należy rozumieć szkolenia autoryzowane przez korporację Oracle lub podmiot zapewniający uzyskanie równoważnego poziomu wiedzy i kończące się przyznaniem każdemu uczestnikowi szkolenia autoryzowanego certyfikatu informującego o ukończeniu danego szkolenia. Wspomniany autoryzowany certyfikat ma zagwarantować spełnienie wymagania ukończenia certyfikowanego szkolenia, które jest narzucone przez korporację Oracle przy aplikowaniu o certyfikację na poziomie Oracle Certified Professional w ramach ścieżki certyfikacyjnej Oracle Database 12c R2.

Miejsce przeprowadzenia szkoleń: Warszawa

Planowana liczba uczestników: 5 osób

Język szkolenia: polski

Wykonawca zapewnia:

- autoryzowany podręcznik dla każdego uczestnika szkolenia, w wersji papierowej lub w wersji elektronicznej PDF

- salę szkoleniową wraz z odpowiednio przygotowanymi stanowiskami komputerowymi

- materiały szkoleniowe

- certyfikatu ukończenia każdego cyklu szkolenia dla każdego Uczestnika,

- przerwy kawowe (min. 2 dziennie, kawa, herbata, woda mineralna gazowana i niegazowana bez ograniczeń, ciastka kruche min. 80 gram dziennie na osobę)

- lunch (raz dziennie, min. zupa i drugie danie)

Termin realizacji szkoleń: od czerwca do września 2019 r., w dniach poniedziałek – piątek, w godzinach 8:00-16:00, szkolenia trwają do 8 godzin szkoleniowych (zegarowych) dziennie.

**Szczegółowy zakres tematyczny szkoleń**

|  |  |  |
| --- | --- | --- |
| **Kurs** | **Zakres szkolenia** | **Liczba dni** |
| **Oracle Database 12c R2: Administration Workshop Ed 3** lub równoważny poziom wiedzy | Lesson 1: Exploring Oracle Database ArchitectureLesson 2: Managing Database InstancesLesson 3: Creating PDBsLesson 4: Configuring the Oracle Network Environment | 1 |
| **Oracle Database 12c R2: Backup and Recovery Workshop Ed 3** lub równoważny poziom wiedzy | Lesson 1: IntroductionLesson 2: Getting StartedLesson 3: Configuring for RecoverabilityLesson 4: Using the RMAN Recovery CatalogLesson 5: Backup Strategies and TerminologyLesson 6: Performing BackupsLesson 7: Improving Your BackupsLesson 8: Using RMAN-Encrypted BackupsLesson 9: Diagnosing FailuresLesson 10: Restore and Recovery ConceptsLesson 11: Performing Recovery ILesson 12: Performing Recovery IILesson 13: RMAN and Oracle Secure BackupLesson 14: Using Flashback TechnologiesLesson 15: Flashback DatabaseLesson 16: Transporting DataLesson 17: Performing Point-in-Time RecoveryLesson 18: Duplicating a DatabaseLesson 19: RMAN Troubleshooting and Tuning | 4 |
| **Oracle Database 12c R2: Install and Upgrade Workshop** lub równoważny poziom wiedzy  | Oracle Database 12c Overview:* Oracle Database 12c Introduction
* Oracle Database Architecture Overview
* Oracle Database Instance Configurations
* Oracle Database Memory Structures
* Process Structures
* Database Storage Architecture
* Logical and Physical Database Structures
* Container and Pluggable Database Overview

Installing Oracle Grid Infrastructure for a Standalone Server* Overview of Oracle Grid Infrastructure for a Standalone Server
* System Requirements for Oracle Grid Infrastructure
* Configuring Storage for Oracle Automatic Storage Management (ASM)
* Installing Oracle Grid Infrastructure for a Standalone Server
* Upgrading Oracle Grid Infrastructure for a Standalone Server

Installing Oracle Database Software* Planning Your Installation
* System Requirements for Oracle Database
* Preparing the Operating System
* Using 4 KB Sector Disks
* Setting Environment Variables
* Checking the System Requirements
* Using the Oracle Universal Installer (OUI)
* Performing a Silent Mode Installation

Creating an Oracle Database by Using DBCA* Planning the Database Storage Structure
* Choosing non-CDB or CDB
* Types of Databases (based on workload)
* Choosing the Appropriate Character Set
* Understanding How Character Sets are Used
* Setting the NLS\_LANG Initialization Parameter
* Using the Database Configuration Assistant (DBCA)

Using Oracle Restart * Oracle Restart Overview
* Oracle Restart Process startup
* Controlling Oracle Restart
* Choosing the Correct SRVCTL Utility
* Oracle Restart Configuration
* Using the SRVCTL Utility
* Obtaining Help for the SRVCTL Utility
* Starting Components by Using the SRVCTL Utility

Introduction to Upgrading to Oracle Database 12c* Upgrade Methods
* Data Migration Methods
* Supported Releases for Direct Upgrade
* Overview of Upgrade Process
* Performing a Rolling Upgrade
* Upgrading a CBD

Preparing to Upgrade to Oracle Database 12c* Developing a Test Plan
* Performance Testing
* Requirements for Databases Using Oracle Label Security or Oracle Database Vault
* Requirement for Databases Using Oracle Warehouse Builder
* Using the Pre-Upgrade Information Tool
* Backing Up the Database
* Installing the Oracle Database 12c Software
* Preparing the New Oracle Home

Upgrading to Oracle Database 12c* Upgrading by Using the Database Upgrade Assistant (DBUA)
* Manually Upgrading to Oracle Database 12c
* Migrating a non-CDB to a CDB

Performing Post-Upgrade Tasks* Migrating to Unified Auditing
* Performing Post-Upgrade Tasks Following a Manual Upgrade

Migrating Data by Using Oracle Data Pump* Data Pump Overview
* Migrating by Using Data Pump
* Importing by Using a Network Link
 | 2 |
| **Oracle Database 12c R2: Clusterware Administration** lub równoważny poziom wiedzy | Introduction to Grid Infrastructure* What is a Cluster?
* What is a Flex Cluster?
* Clusterware Characteristics
* Oracle Clusterware
* Hardware and Software Concepts (High level)
* Shared Storage Overview

Oracle Clusterware Architecture* Cluster Storage Requirements
* Clusterware Initialization and OHASD
* Clusterware Process Architecture
* Location Independent Names, Addresses and Name Resolution (GNS, SCAN, VIP..)
* Shared GNS Background and Architecture
* Configuring shared GNS
* Migrating to shared GNS
* Moving GNS to Another Cluster

Flex Cluster Architecture* Flex Cluster Architecture
* Configuring Flex Cluster
* Flex Clusters and Node Failure

Grid Infrastructure Pre-Installation Tasks* Shared Storage for Oracle Clusterware
* Checking System Requirements
* Single Client Access Name for the Cluster
* Redundant Interconnect Usage
* Kernel Requirements
* Groups and Users
* Shell Settings
* Oracle Validated Configuration

Installing Grid Infrastructure* Installing Oracle Grid Infrastructure
* Installing Flex Cluster
* Verifying the Oracle Clusterware Installation

Managing Cluster Nodes* Adding Oracle Clusterware Homes
* Prerequisites for Running addNode.sh
* Adding a Node with addNode.sh
* Configuring the node role
* Removing a Node from the Cluster

Managing Cluster Nodes* Adding Oracle Clusterware Homes
* Prerequisites for Running addNode.sh
* Adding a Node with addNode.sh
* Configuring the node role
* Removing a Node from the Cluster

Policy-Based Cluster Management* Policy-Based Cluster Management Overview
* Server Categorization
* Policy Set

Patching Grid Infrastructure* Out-of-Place Oracle Clusterware Upgrade
* Types of Patches
* Obtaining Oracle Clusterware Patches
* Rolling Patches
* Installing a Rolling Patchset with OUI
* OPatch Overview
* Installing a Rolling Patch with OPatch
* OPatch Automation

Troubleshooting Oracle Clusterware* Diagnostic Framework Support for CRS
* Cluster Health Monitor Enhancements Overview
* Component level checks - cluvfy with -comp
* Resource Debugging - Java Tools and Dynamic Debugging
* Troubleshooting Node Evictions
* Log files and Diagnostic Collection
* The oclumon Utility

Making Applications Highly Available* Overview of Using Oracle Clusterware to Enable HA
* Oracle Clusterware HA Components
* Resource Management Options
* Server Pools
* Overall flow diagram of HA lifecycle (crs\_profile, crs\_register, crs\_start….)
* Clusterware Resource Modeling
* Creating an Application VIP
* ONS and FAN overviews
 | 4 |
| **Oracle Database 12c R2: ASM Administration** lub równoważny poziom wiedzy | Oracle ASM Overview* Overview of ASM
* ASM Placement in Storage Stack
* ASM Cluster Configuration for Oracle RAC
* ASM Software Installation
* ASM Key Components
* ASM Instance Designs
* ASM Utilities

Administering ASM Instance* Operating with Different releases of Oracle ASM and Database Instances
* Managing ASM instance with various tools
* Instance Startup and Shutdown
* ASM Instance Parameters
* Adjusting ASM Instance Parameters in SPFILEs
* ASM System Privileges
* ASM OS Groups and Role Separation
* ASM Instance Connection modes

Flex ASM* Flex ASM Architecture
* Background and Overview
* ASM Deployment Alternatives
* Configuring Flex ASM
* Managing Flex ASM
* Relocating an ASM Client
* ASM IO Services and Configuration

Administering ASM Disk Groups Part 1 & Part 2* ASM Disk Group Overview
* Disk Group Attributes
* Compatibility Attributes
* Disk Group Management
* Disk Group Metadata
* Viewing Connected Clients
* Extending an Existing Disk Group
* Dropping Disks from an Existing Disk Group

Administering ASM Disk Groups Part 1 & Part 2* Adding and Dropping in the same command
* Undropping Disks in Disk Groups
* Replacing Disks in Disk Group
* Renaming Disk Groups
* Resizing Disks in Disk Groups
* Mounting and Dismounting Disk Groups
* Dropping Disk Groups
* ASM Disk Group Rebalance and Priority Ordered Rebalance

Flex ASM Disk Group* ASM Database-Oriented Storage Management
* ASM Flex Disk Groups Characteristics
* ASM File Groups
* ASM Quota Groups
* Administering File Groups and Quota Groups
* Prioritized Rebalancing for File Groups

Administering ASM Files, Directories, and Templates* Interaction Between Database Instances and ASM
* Accessing ASM Files
* Fully Qualified ASM File Names
* ASM File Creation
* View ASM Aliases, Files, and Directories
* ASM Directories Overview
* Managing ASM Directories
* Managing Alias File Names

Administering Oracle ASM Cluster File System* Overview of Oracle ACFS
* Oracle ASM Dynamic Volume Manager
* Oracle ACFS Integration with Oracle ASM
* Oracle ACFS Administration
* Clusterware Resources and ACFS Administration
* ACFS and Dismount or Shutdown Operations
* ACFS Snapshots

ACFS/ADVM Enhancements* Oracle ACFS Automatic Resize
* Oracle ACFS Scrubbing
* Oracle ACFS Defragger
* Oracle ACFS Metadata Collection
* Oracle Metadata Acceleration
* 4K Sector Support for Oracle ACFS and Metadata
* Oracle ACFS Compression
* Oracle ACFS Spare Files

Oracle Database Exadata Cloud Service Overview* Introducing Exadata Cloud Service
* Service Configuration Options & Service Connection Options
* Service Architecture & Availability
* Management Responsibilities
* Storage Configuration & Management Details
* Simple Web-Based Provisioning & Management
* REST APIs
* Migrating to Exadata Cloud Service
 | 2 |
| **Oracle Database 12c R2: RAC Administration** lub równoważny poziom wiedzy | * Grid Infrastructure Overview and Review
* RAC Databases Overview & Architecture
* Installing and Configuring Oracle RAC
* Oracle RAC Administration
* Managing Backup and Recovery for RAC
* RAC Backup and Recovery
* RAC Global Resource Management and Cache Fusion
* RAC Database Monitoring and Tuning
* Managing High Availability of Services in a RAC Environment
* Managing High Availability of Connections
* Application Continuity
* RAC One Node
* Multitenant Architecture and RAC
* Quality of Service Management
* Oracle Database Exadata Cloud Service Overview
 | 4 |
| **Oracle Database Security: Preventive Controls Ed 1** lub równoważny poziom wiedzy | Introduction* Course Objectives
* Related courses and where this fits
* Course Schedule and Appendices

Using Basic and Strong User Authentication* Basic Authentication
* Strong Authentication
* Database Link Passwords Protection
* Security of Roles

Configuring Global User Authentication* About Enterprise User Management (EUS)
* EUS and LDAP Integration

Using Proxy Authentication* Security Challenges of Three-Tier Computing
* Proxy Authentication Solutions

Encryption Concepts and Solutions* Concepts
* Solutions
* Oracle Solutions

Using Built-In Encryption in Applications* Usage

Using Transparent Data Encryption (TDE)* Overview
* The Master Keys and the Keystore
* Hardware Keystore
* Encryption

Database Storage Security* RMAN and OSB Backups
* RMAN Encryption Modes
* Data Pump Export and Import of Encrypted Data

Introduction to Oracle Key Vault* What is Oracle Key Vault?
* Using Oracle Key Vaul

Installing Oracle Key Vault* Installation
* Endpoints

Using Oracle Key Vault* Reviewing or refreshing prerequisite knowledge
* Contrasting Oracle Wallets and OKV Virtual Wallets

Administering Oracle Key Vault* Roles in detail
* Best practice tips for Oracle Key Vault

Automated Sensitive Data Discovery* Overview
* Application Data Modeling
* Managing Application Data Models

Oracle Data Masking and Subsetting overview* Overview

Masking Sensitive Data in Non-Production Environments* Exploring Data Masking Format Library
* Data Masking Transformations

Subsetting Data* Exploring Data Subsetting definitions

Managing Data Masking and Subsetting* Administering Data Masking and Subsetting
* Heterogeneous masking and subsetting
* Best Practices

Oracle Advanced Security - Data Redaction* Need to redact or dynamically mask data
* Implementing Data Redaction
* Data Redaction usage guidelines

Oracle Transparent Sensitive Data Protection (TSDP)* TSDP Implementation

Oracle Database Vault Overview* Understand Database Vault Controls
* What is a Realm? A Rule Set? A Command Rule? A Secure Application Role?
* What are Factors and Identities? Component Relationships and Evaluation?
* Database Vault Effects and Example
* Software Overview: API, Views, and Integration with Other Oracle Products

Configuring Database Vault* Configuring Database Vault
* Database Vault Roles and Schema
* What to Expect After You Enable Database Vault
* Securing Data in Multitenant Environments
* Configuring Database Vault Users in Cloud Control 12c

Analyzing Privileges* Privilege Analysis Overview and Features
* How Does it Work?
* What are The Types of Analysis, Tools, and Prerequisites?
* Managing Privilege Analysis Policies
* Use Cases
 | 5 |