**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 Architecture  Lesson 2: Managing Database Instances  Lesson 3: Creating PDBs  Lesson 4: Configuring the Oracle Network Environment | 1 |
| **Oracle Database 12c R2: Backup and Recovery Workshop Ed 3** lub równoważny poziom wiedzy | Lesson 1: Introduction  Lesson 2: Getting Started  Lesson 3: Configuring for Recoverability  Lesson 4: Using the RMAN Recovery Catalog  Lesson 5: Backup Strategies and Terminology  Lesson 6: Performing Backups  Lesson 7: Improving Your Backups  Lesson 8: Using RMAN-Encrypted Backups  Lesson 9: Diagnosing Failures  Lesson 10: Restore and Recovery Concepts  Lesson 11: Performing Recovery I  Lesson 12: Performing Recovery II  Lesson 13: RMAN and Oracle Secure Backup  Lesson 14: Using Flashback Technologies  Lesson 15: Flashback Database  Lesson 16: Transporting Data  Lesson 17: Performing Point-in-Time Recovery  Lesson 18: Duplicating a Database  Lesson 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 |