Oracle Exadata + ExaCC/ExaCS Engineered System

Instructor Information

Instructor	Email	Duration
ExaGuru	support@exaguru.com	55 Hours

Description

High-performance on-premises infrastructure optimized for Oracle databases, offering extreme speed, scalability, and efficiency.

Expectations and Goals

Exadata aims to deliver unmatched performance, scalability, and efficiency for Oracle databases, optimizing both OLTP and analytics workloads. ExaCC (Exadata Cloud@Customer) brings the power of Exadata with cloud flexibility, keeping data on-premises while providing Oracle-managed services. Together, they aim to enhance database performance, simplify operations, and support mission-critical applications with maximum reliability and agility.

Course Materials

- Laptop with 2/4 Gb Ram
- Internet Access for Accessing Cloud Services and Live/Recorded training

Bonuses Provided with the Course

- Hands-on lab Exercises prepared by Experts.
- High-quality video access through a dedicated LMS Portal.
- Interview questions and strategy sessions with Experts.
- Latest Questions and Answers for Clearing Certification Exams.
- FREE Lifetime private community Access for discussing problems related to concerned subject.

Course Schedule Exadata (40 hours)

Module	Topic
Exadata Machine Overview & Architecture	**General Configuration** • **Lesson 1:** General Configuration • **Lesson 2:** Classic Database I/O and SQL Processing Model • **Lesson 3:** Exadata Smart Scan Model • **Lesson 4:** Exadata Smart Storage Capabilities • **Lesson 5:** Exadata Hybrid Columnar Compression Data Organization • **Lesson 6:** Exadata Smart Flash Cache Intelligent Caching • **Lesson 7:** Storage Index with Partitions • **Lesson 8:** Database File System • **Lesson 9:** I/O Resource Management: Overview
Exadata Storage Server Configuration	**Exadata Storage Server Administration: Overview** • **Lesson 1:** Exadata Storage Server Administration: Overview • **Lesson 2:** Testing Storage Server Performance Using CALIBRATE • **Lesson 3:** Configuring the Exadata Cell Server Software • **Lesson 4:** Creating Flash-Based Grid Disks • **Lesson 5:** Creating Smart Flash Log • **Lesson 6:** Configuring ASM and Database Instances to Access Exadata Cells • **Lesson 7:** Exadata Storage Security: Overview • **Lesson 8:** Exadata Storage Security Implementation

Module	Topic
Resource Management	**I/O Resource Management: Overview** • **Lesson 1:** I/O Resource Management: Overview • **Lesson 2:** IORM Architecture • **Lesson 3:** Getting Started with IORM • **Lesson 4:** Enabling Inter-database Resource Management • **Lesson 5:** Setting Database I/O Utilization Limits • **Lesson 6:** Inter-database Plans and Database Roles • **Lesson 7:** Using Database I/O Metrics • **Lesson 8:** IORM and Exadata Storage Server Flash Memory
Optimising Database Performance	**Optimising Performance** • **Lesson 1:** Optimizing Performance • **Lesson 2:** Flash Memory Usage • **Lesson 3:** Compression Usage • **Lesson 4:** ASM Allocation Unit Size • **Lesson 5:** Minimum Extent Size • **Lesson 6:** Optimizing Database Performance with Exadata
Smart Scan Overview	**Exadata Smart Scan: Overview** • **Lesson 1:** Exadata Smart Scan: Overview • **Lesson 2:** Smart Scan Requirements • **Lesson 3:** Monitoring Smart Scan in SQL Execution Plans • **Lesson 4:** Smart Scan Join Processing with Bloom Filters

Module	Topic
	• **Lesson 5:** Other Situations Affecting Smart Scan • **Lesson 6:** Exadata Storage Server Statistics: Overview • **Lesson 7:** Other Situations Affecting Smart Scan • **Lesson 8:** Exadata Storage Server Wait Events: Overview • **Lesson 9:** Using Smart Scan
Migrating Database to Exadata/ExaCC	**Migration Best Practices: Overview** • **Lesson 1:** Migration Best Practices: Overview • **Lesson 2:** Performing Capacity Planning Overview • **Lesson 3:** Database Machine Migration Considerations • **Lesson 4:** Choosing the Right Migration Path • **Lesson 5:** Logical Migration Approaches • **Lesson 6:** Physical Migration Approaches • **Lesson 7:** Post-Migration Best Practices • **Lesson 8:** Migrating to Database Machine Using Transportable
Monitoring Exadata Storage Server	**Exadata Metrics and Alerts Architecture** • **Lesson 1:** Exadata Metrics and Alerts Architecture • **Lesson 2:** Monitoring Exadata Storage Server with Metrics • **Lesson 3:** Monitoring Exadata Storage Server with Alerts • **Lesson 4:** Monitoring Exadata with Active Requests

Module	Topic
	• **Lesson 5:** Monitoring Exadata Storage Server with Grid Control: Overview • **Lesson 6:** Monitoring Hardware Failure and Sensor State
Monitoring Database Server	**Monitoring Database Servers: Overview** • **Lesson 1:** Monitoring Database Servers: Overview • **Lesson 2:** Monitoring Hardware • **Lesson 3:** Monitoring the Operating System • **Lesson 4:** Monitoring Oracle Grid Infrastructure • **Lesson 5:** Monitoring Oracle Database • **Lesson 6:** Monitoring Oracle Management Agent
Monitoring Internal Network	**Network Monitoring: Overview** • **Lesson 1:** InfiniBand Network Monitoring: Overview • **Lesson 2:** Manually Monitoring the InfiniBand Switches • **Lesson 3:** Monitoring the InfiniBand Switches with Grid Control • **Lesson 4:** Monitoring the InfiniBand Switch Ports • **Lesson 5:** Monitoring the InfiniBand Ports on Database Machine Servers • **Lesson 6:** Monitoring the InfiniBand Fabric: Subnet Manager Master Location • **Lesson 7:** Monitoring the InfiniBand Fabric: Network Topology and Link Status

Module	Topic
Important Maintenance Tasks	**Database Machine Maintenance: Overview** • **Lesson 1:** Database Machine Maintenance: Overview • **Lesson 2:** Powering Database Machine Off and On • **Lesson 3:** Safely Shutting Down a Single Exadata Storage Server • **Lesson 4:** Moving All Disks from One Cell to Another • **Lesson 5:** Using the Exadata Cell Software Rescue Procedure
Other Monitoring Components	**Exachk: Overview** • **Lesson 1:** Exachk: Overview • **Lesson 2:** Running Exachk • **Lesson 3:** Exachk Output • **Lesson 4:** DiagTools: Overview • **Lesson 5:** Using ADRCI on Exadata Storage Servers • **Lesson 6:** Image Info: Overview • **Lesson 7:** Image History: Overview • **Lesson 8:** OSWatcher: Overview
Backup & Recovery	**Using RMAN with Database Machine** • **Lesson 1:** Using RMAN with Database Machine • **Lesson 2:** General Recommendations for RMAN • **Lesson 3:** Disk-Based Backup Strategy • **Lesson 4:** Disk-Based Backup Recommendations • **Lesson 5:** Tape-Based Backup Strategy • **Lesson 6:** Backup and Recovery of Database Machine Software

Module	Topic
Exadata Patching Overview and Practice Cell CLI on Cracked Machine (Bonus)	**Overview of Exadata Patching** • Practice Cell CLI on Cracked Machine (Bonus) • Cracked VM provided for practice (supports 70% of cell CLI commands) • Cell CLI Command Cheat Sheet provided for practice

Course Schedule ExaCC/ExaCS (15 Hours)

Welcome to Cloud	• What is cloud? • Why do I use it? • Cloud vendors in the market. • Oracle Cloud advantages. • EXACC v/s OCI. • EXADATA v/s EXACC v/s EXACS. • Performance Comparison between AWS, AZURE and OCI/EXACC.
Oracle's Cloud at Customer	• Different types of Cloud at Customer offerings. • Oracle Cloud at Customer. • Oracle Exadata Cloud at Customer. • Prepare for cloud @ customer machine. • Physical Requirements. • Network Requirements. • Cloud ops team and their role.
Connect to Exadata C@C	• Access to Exadata Cloud at Customer. • Secure Shell (SSH) Public/Private Key Pair. • SSH Tunnel to a Compute Node Port. • Custom Host and SCAN Name for Exadata. • Cloud at Customer. • Network Encryption and Integrity. • Data Security. • SQL Developer Web.
Migrating Oracle Database to C@C	• Migrating Oracle Databases to Exadata. Cloud at Customer. • Overview of ZDM • RMAN. • Data Pump. • Data Guard Physical Standby. • Unplugging and Plugging a Pluggable Database. • Plugging in a Non-CDB.

	• Cloning a Remote PDB or Non-CDB.
Administration of Exadata C@C	• Create and Delete an instance. • Database Deployment • Stopping, Starting and Restarting Compute Nodes. • Exadata I/O Resource Management • Administering VM Clusters • Administering Oracle Homes. • Administering a Data Guard Configuration.
Backup & Recovery on C@C	• Backup and Recovery for Databases. • Deleting a Backup. • Backing Up to the Object Storage Cloud. • Customizing the Current Backup Configuration. • Disabling and Re-enabling Scheduled Backups. • Restoring from the Backup – Most important
Scaling on Cloud Machine	• Scaling of Components. • CPU Bursting. • Memory. • Scaling Across Exadata System.
Overview of Rest API (ORDS)	• Creating a database using Oracle rest API. • Deleting database using rest API. • Stop-start the database using rest API. • Stop-start the VM using Rest API. • The difference in db creation with dbaascli and rest API.
Dbaas Commands	• OCI CLI setup. • Create an Exadata database. • Delete the Exadata database. • Database Inventory Info. • Monitor activity progress in detail.

Hands-On LAB EXERCISES

Exadata Patching Overview and Practice Cell Cli on Cracked machine as a Bonus
Cracked VM will be provided for practice which supports almost 70% of cell cli commands
Cell CLi Command Cheat Sheet will be provided for practice on cell cli.