



Oralogic Education Systems

Next Generation IT Education Systems

Introduction:

Oracle Exadata is the best-performing, most available, and most secure architecture for running Oracle Database. Maintain high availability of your business-critical workloads and gain business productivity benefits worth US\$70,000+ per 100 users with Oracle Exadata.

To stay competitive, you need predictable, reliable, high performance around the clock. With Oracle Exadata, you get exactly that. It's the highest-performing, most available, and most secure architecture for running Oracle Database.

Forget about the disruptions, delays, and application and database downtime many businesses have come to expect. With Oracle Exadata, you can run more transactions and analytics up to 100x faster.

Access the data you need, exactly when you need it.

Oracle Exadata is a fully-integrated platform, engineered and optimized for Oracle Database. It can manage data spikes and unexpected changes, which is why it's been adopted by the top four companies in manufacturing, government, telecoms, retail, and finance.

Oracle Exadata can significantly reduce your data-center footprint, slashing power-consumption costs and reducing data center floor-space consumption. You get operational cost savings in excess of US\$10,000 per year, a return on your investment within 11 months, and a total, five-year ROI of 429 percent (on average).

With Oracle Exadata, the financial gains are both immediate and long-term. For starters, you'll get higher performance and greater capacity at a lower total cost of ownership than from competitor platforms. It's all thanks to our unique Oracle-only architecture and software algorithms—coengineered to work seamlessly together.

With Oracle Database Exadata Machine, you'll need fewer commodity systems to run your existing database workloads. And, with less complex infrastructure to manage, you can cut OpEx such as floor space, power, and cooling, as well as database and other license costs.

And to help you manage your budgets further, there are a number of subscription options available too.

Oralogic Education Systems provide quality education in this key technology. We have most experienced professional who have extensive experience in managing and configuring Oracle Exadata Machine in most mission critical environments.

Course Contents:

Introduction

- Course Objectives
- Audience and Prerequisites
- Course Scope
- Course Contents
- Terminology
- Additional Resources

Exadata Overview

- Traditional Enterprise Database Storage Deployment
- Exadata Storage Deployment & Exadata Implementation Architecture Overview
- Introducing Exadata
- Exadata Hardware Details (Sun Fire X4270 M2) & Exadata Specifications
- InfiniBand Network
- Classic Database I/O and SQL Processing Model
- Exadata Smart Scan Model & Exadata Smart Storage Capabilities
- Exadata Hybrid Columnar Compression Architecture Overview, Exadata Smart Flash Cache & Exadata Storage Index

Exadata Architecture

- Exadata Software Architecture Overview
- Exadata Software Architecture Details
- Exadata Smart Flash Cache Architecture
- Exadata Monitoring Architecture
- Disk Storage Entities and Relationships
- Interleaved Grid Disks
- Flash Storage Entities and Relationships
- Disk Group Configuration

Exadata Configuration

- Exadata Installation and Configuration Overview
- Initial Network Preparation
- Configuration of New Exadata Servers
- Exadata Administrative User Accounts
- Configuring a New Exadata Cell
- Important I/O Metrics for Oracle Databases
- Testing Performance Using CALIBRATE
- Configuring the Exadata Cell Server Software & Configuring ASM and Database Instances for Exadata

Exadata Performance Monitoring and Maintenance

- Exadata Metrics and Alerts Architecture
- Monitoring Exadata with Metrics, Monitoring Exadata Cells with Alerts & Monitoring Exadata Cells with Active Requests
- Monitoring SQL Execution Plans & Smart Scan Execution Plan Example

- Monitoring Exadata from Your Database, Monitoring Exadata with Wait Events & Monitoring Exadata with Enterprise Manager
- Additional Monitoring Tools and Utilities & Cell Maintenance Overview
- Automated Cell Maintenance Operations
- Replacing a Damaged Physical Disk & Replacing a Damaged Flash Card
- Moving All Disks from One Cell to Another & Using the Exadata Software Rescue Procedure

Exadata and I/O Resource Management

- I/O Resource Management Concepts & Plans
- IORM Architecture
- Enabling Intra database Resource Management
- Intra database Plan Example
- Enabling IORM for Multiple Databases
- Inter database Plan Example & Category Plan Example
- Complete Example
- Using Database I/Os Metrics

Optimizing Database Performance with Exadata

- Optimizing Performance
- Flash Memory Usage
- Compression Usage
- Index Usage
- ASM Allocation Unit Size
- Minimum Extent Size

Database Machine Overview and Architecture

- Introducing Database Machine
- Database Machine X2-2 Full Rack & X2-2 Database Server Hardware Details (Sun Fire X4170 M2)
- Database Machine X2-8 Full Rack
- X2-8 Database Server Hardware Details (Sun Fire X4800)
- Database Machine Capacity & Database Machine Performance
- Database Machine X2-2 Architecture & InfiniBand Network Architecture
- X2-2 Leaf Switch Topology & Full Rack Spine and Leaf Topology
- Scale Performance and Capacity & Scaling Out to Multiple Full Racks

Database Machine Configuration

- Database Machine Implementation Overview & Configuration Worksheet Overview
- Configuration Worksheet Example
- Configuring ASM Disk Groups with Configuration Worksheet
- Generating the Configuration Files
- Other Pre-Installation Tasks
- The Result After Installation and Configuration
- Supported Additional Configuration Activities
- Unsupported Configuration Activities

Migrating Databases to Database Machine

- Migration Best Practices Overview

- Performing Capacity Planning
- Database Machine Migration Considerations
- Choosing the Right Migration Path
- Logical Migration Approaches
- Physical Migration Approaches
- Other Approaches
- Post-Migration Best Practices

Bulk Data Loading with Database Machine

- Bulk Data Loading Overview
- Preparing the Data Files
- Staging the Data Files
- Configuring the Staging Area
- Configuring the Target Database
- Loading the Target Database

Backup and Recovery with Database Machine

- Using RMAN with Database Machine
- General Recommendations for RMAN
- Disk Based Backup Strategy
- Disk Based Backup Configuration
- Tape Based Backup Strategy & Tape Based Backup Configuration
- Hybrid Backup Strategy
- Restore and Recovery Recommendations
- Backup and Recovery of Database Machine Software

Monitoring and Maintaining Database Machine

- ILOM Overview
- DCLI Overview
- InfiniBand Diagnostic Utilities
- Database Machine Support Overview
- Patching and Updating Overview
- Maintaining Exadata Software
- Maintaining Database Server Software
- Maintaining Other Software

New Features in Update Release 11.2.1.3.1

- New Features Overview
- Auto Service Request (ASR)
- The ASR process
- ASR requirements
- Oracle Linux 5.5
- Enhanced operating system security
- Pro-active disk quarantine
- Other new features

Other Information:

Course #	DBAEXD01
Instructor	Industry Professional
Course	Oracle Exadata
Version	Oracle11g, 12c
Duration	One Month
Class Duration	3 Session a week, 2 hours
Medium	In-Class, Online