Deepdive into Exadata Cloud Administration LVC

Data Management

DURATION	MODULES	COURSE CODE
2 Days	**18 Lectures**	**—**

Course Overview

This course teaches you how to administer and manage Deepdive into Exadata Cloud Administration. Gain hands-on experience with configuration, maintenance, and troubleshooting in Data Management environments.

What You Will Learn

- SECTION I: Exadata Overview

Module 1: Introduction to Exadata

- Topics
- Objectives
- Exadata Vision
- Best Infrastructure for a Database Platform
- Full-Stack Integration Reduces Operations Costs
- Unique “Smart” Technologies
- Exadata Advantages: Fastest OLTP, Analytics, Best Consolidation
- Thousands of Critical Deployments (On-Premises & Cloud)
- Summary
- Learning Objectives
- Understand Exadata’s vision and strategic value
- Identify unique features and advantages of Exadata

Module 2: Exadata Database Service Overview

- Topics
- Objectives
- What is Exadata Database Service?
- Database Services on Exadata in Oracle Cloud
- Service Details
- Dedicated Infrastructure vs Cloud@Customer

- High Availability Overview
- Oracle Exadata Database Service Cloud Architecture
- Database Server Architecture
- Hybrid Cloud Concepts
- Elastic OCPU Scaling
- Cost-Effective Licensing Models
- Summary
- Learning Objectives
- Describe the service offerings and architecture of Exadata Database Service
- Understand hybrid cloud deployment and scaling concepts

Module 3: Exadata Security Overview

- Topics
- Objectives
- Integrated Security from Data to Identity
- Data Security Features
- Data Safe – Database Security Control Center
- Operator Access Control (OpCtl)
- Summary
- Learning Objectives
- Understand the security framework for Exadata Database Service
- Identify tools and best practices for data protection
- SECTION II: Infrastructure and Configuration

Module 4: Infrastructure & Storage Configuration

- Topics
- Objectives
- Cloud Infrastructure Configuration Options
- Fixed Shape Infrastructure Options
- Exadata Public Cloud X9M-2 (AMD) Specifications
- Exadata Cloud@Customer X9M-2 (Intel) Specifications
- Storage Configuration Options
- Summary
- Learning Objectives
- Compare different Exadata configurations and hardware options
- Understand storage allocation and design considerations

Module 5: Management Responsibilities & Interfaces

- Topics
- Objectives
- Simple Cloud Management Model
- Cloud Automation for Life Cycle Management

OCI Management Interfaces (Web UI, Console, REST, CLI, SDKs, Terraform, Ansible)

- Summary

- Learning Objectives
- Understand Exadata management responsibilities
- Learn the available tools and interfaces for administration

Module 6: Preparing for Exadata Database Service

- Topics
- Objectives
- Storage configuration planning and allocation
- Exadata Snapshot Databases & Sparse Test Masters
- ASM Storage Allocation Percentages

Site requirements: receiving, space, weight, flooring, power, temperature, humidity

- Summary
- Learning Objectives
- Plan storage and site preparation for Exadata deployments

Module 7: Network Setup

- Topics
- Objectives
- Service and network architecture
- Public and private subnets
- Gateways (Internet, Dynamic Routing, Service)
- DNS resolution
- Security rules and IP planning
- Network requirements for Cloud@Customer
- Data center network services, uplinks, and cabling
- Summary
- Learning Objectives
- Design and configure network architecture for Exadata Database Service
- SECTION III: Provisioning and Resource Management

Module 8: Provisioning Exadata Database Service

- Topics
- Objectives
- Provisioning via OCI Console
- Resource Model Overview (VM Clusters)
- ExaDB-C@C infrastructure activation
- VM cluster network and resources
- Summary
- Learning Objectives
- Provision Exadata instances and configure VM clusters
- Understand resource allocation and planning

Module 9: Managing Cloud Infrastructure Resources

- Topics
- Objectives
- Infrastructure maintenance process and update types
- Automatic maintenance scheduling (ExaDB-D, ExaDB-C@C)
- Compute and storage server scaling considerations
- Terminating cloud infrastructure
- Summary
- Learning Objectives
- Maintain and scale Exadata infrastructure effectively
- Apply automatic maintenance processes

Module 10: Managing VM Cluster Resources

- Topics
- Objectives
- Navigation, power management, licensing, compartment moves
- Network security groups and SSH keys
- Scaling VM cluster resources, multi-VM considerations
- Exadata Public Cloud & Cloud@Customer limits
- Scaling operations: memory, local space, storage
- Provision, expand, and shrink VM clusters
- Summary
- Learning Objectives
- Administer VM clusters and scale resources
- Implement multi-VM and subsetting strategies

Module 11: Managing Oracle Homes & Databases

- Topics
- Objectives
- Overview of database management
- Creating and provisioning databases
- Moving databases to new homes
- Terminating databases
- Summary
- Learning Objectives
- Provision, manage, and move databases within Exadata

Module 12: Managing I/O Resources

- Topics
- Objectives
- I/O Resource Management (IORM) concepts
- Traditional vs Exadata I/O scheduling
- Best practice consolidation architecture

- Intra- and inter-database plans
- Resource Manager controls
- Summary
- Learning Objectives
- Manage I/O resources efficiently using Exadata’s IORM features

Module 13: Managing Encryption and HugePages

- Topics
- Objectives
- Database and tablespace encryption
- Oracle Key Vault
- HugePages management
- Summary
- Learning Objectives
- Secure data with encryption and optimize memory management

Module 14: Backup & Recovery

- Topics
- Objectives
- Backup and recovery overview
- Backup operations and prerequisites (NFS, ZDLRA)
- Automatic and on-demand backups
- Restore operations
- Demos: Editing backup settings, moving backup destinations
- Summary
- Learning Objectives
- Implement backup and recovery strategies for Exadata databases

Module 15: High Availability with Data Guard & ADG

- Topics
- Objectives
- Oracle Data Guard overview
- Standby databases and types of Data Guard services
- Role transitions, protection modes
- Active Data Guard
- Data Guard prerequisites and configuration on Exadata
- Cloud automation, protection out-of-the-box, best practices
- Summary
- Learning Objectives
- Implement and manage high availability using Data Guard and Active Data Guard

Module 16: Patching & Upgrades

- Topics
- Objectives

- VM cluster patch levels, updates, history
- Guest VM OS image updates and upgrades
- Summary
- Learning Objectives
- Apply patches and upgrades to maintain Exadata database and VM cluster health

Module 17: Connecting to Exadata Database Service

- Topics
- Objectives
- Connection prerequisites
- Creating Bastion sessions
- Demo: SSH connection examples
- Summary
- Learning Objectives
- Securely connect to Exadata Database Service instances

Module 18: Monitoring & Managing Storage Servers with ExaCLI

- Topics
- Objectives
- Exadata storage server architecture
- ExaCLI commands, syntax, and parameters
- Examples and usage
- Summary
- Learning Objectives
- Monitor and manage storage servers using ExaCLI commands

This structure organizes the entire Exadata Database Service curriculum into 18 modules, progressing from overview → infrastructure → provisioning → resource management → database management → high availability → patching → monitoring.