

5 Days

Exadata Database Machine Administration Workshop Ed 3

This Exadata Database Machine Administration Workshop Ed 3 training introduces you to Oracle Exadata Database Machine. You'll learn about the various Exadata Database Machine features and configurations, with emphasis on the unique capabilities delivered by Exadata Storage Server. Describe Exadata Storage Server and how is it different from traditional database storage. List the key capabilities and features of Exadata Database Machine and Exadata Storage Server. Initially configure Exadata Database Machine and make appropriate up-front configuration decisions. Implement Exadata Storage Server security. Use query execution plans, statistics and wait events to examine Exadata Smart Scan. Describe various options and best-practice recommendations for consolidation on Exadata Database Machine. Describe various options for migrating to Database Machine and how to select the best approach. Perform various maintenance tasks on Exadata Database Machine. Configure Enterprise Manager Cloud Control 12c in conjunction with Exadata Database Machine. Monitor Exadata Database Machine using the monitoring infrastructure inherently within Exadata Database Machine, along with the monitoring capabilities exposed through Enterprise Manager Cloud Control 12c. Use other utilities for monitoring Exadata Database Machine which are supplied by Oracle. Maximize the efficiency and effectiveness of your Exadata Database Machines by understanding and implementing the best practices taught in this course. Gain Hands-On Experience Best-practice recommendations are highlighted throughout; and, where possible, the topics are reinforced through participation in structured hands-on lab exercises.

Course Details

Course Outline

Introduction Course Objectives Audience and Prerequisites Course Contents Terminology Additional Resources Introducing the Laboratory Environment Exadata Database Machine Overview Introducing Database Machine Introducing Exadata Storage Server Exadata Storage Server Architecture: Overview Exadata Storage Server Features: Overview Exadata Storage Expansion Racks InfiniBand Network Database Machine Support: Overview Exadata Database Machine Architecture Database Machine Architecture: Overview Database Machine Network Architecture InfiniBand Network Architecture InfiniBand Network Topology Interconnecting Multiple Racks Database Machine Software Architecture: Overview Disk Storage Entities and Relationships Key Capabilities of Exadata Database Machine Classic Database I/O and SQL Processing Model Exadata Smart Scan Model Exadata Smart Storage Capabilities Exadata Hybrid Columnar Compression Exadata Smart Flash Cache Exadata Storage Index Database File System I/O Resource Management Exadata Database Machine Initial Configuration Database Machine Implementation: Overview Database Machine Site Preparation Using Oracle Exadata Deployment Assistant Choosing the Right Disk Redundancy Setting Configuring Oracle Exadata Database Machine The Result After Installation and Configuration Supported Additional Configuration Activities Exadata Storage Server Configuration Exadata Storage Server Administration: Overview Testing Storage Server Performance Using CALIBRATE Configuring the Exadata Cell Server Software Starting and Stopping Exadata Cell Server Software Configuring Cell Disks and Grid Disks Configuring ASM and Database Instances to Access Exadata Cells Reconfiguring Exadata Storage Exadata Storage Security Implementation I/O Resource Management I/O Resource Management Concepts IORM Architecture Getting Started with IORM Enabling Intradatabase Resource Management Setting Database I/O Utilization Limits Interdatabase Plans and Database Roles Using Database I/O Metrics IORM and Exadata Storage Server Flash Memory Recommendations for Optimizing Database Performance Flash Memory Usage Influencing Caching Priorities Choosing the Flash Cache Mode Compression Usage Index Usage ASM Allocation Unit Size Minimum Extent Size Exadata Specific System Statistics Using Smart Scan Exadata Smart Scan: Overview Smart Scan Requirements Monitoring Smart Scan in SQL Execution Plans Smart Scan Join Processing with Bloom Filters Other Situations Affecting Smart Scan Exadata Storage Server Statistics: Overview Exadata Storage Server Wait Events: Overview Consolidation Options and Recommendation Consolidation: Overview Different Consolidation Types Recommended Storage Configuration for Consolidation Alternative Storage Configurations Cluster Configuration Options Isolating Management Roles Schema Consolidation Recommendations Maintenance Considerations Migrating Databases to Exadata Database Machine Migration Best Practices: Overview Performing Capacity Planning Database Machine Migration Considerations Choosing the Right Migration Path Logical Migration Approaches Physical Migration Approaches Post-Migration Best Practices Migrating to Database Machine Using Transportable Tablespaces Bulk Data Loading using Oracle DBFS Bulk Data Loading Using Oracle DBFS: Overview Preparing the Data Files Staging the Data Files Configuring the Staging Area Configuring the Target Database Loading the Target Database Exadata Database Machine Platform Monitoring Introduction Monitoring Technologies and Standards Simple Network Management Protocol (SNMP) Intelligent Platform Management Interface (IPMI) Integrated Lights Out Manager (ILOM) Exadata Storage Server Metrics, Thresholds, and Alerts Automatic Diagnostic Repository (ADR) Enterprise Manager Cloud Control 12c Enterprise Manager Database Control Configuring Enterprise Manager Cloud Control 12c to Monitor Exadata Database Machine Enterprise Manager Cloud Control 12c Architecture: Overview Cloud Control Monitoring Architecture for Exadata Database Machine Configuring Cloud Control to Monitor Exadata Database Machine Pre-discovery Configuration and Verification Deploying the Oracle Management Agent Discovering Exadata Database Machine Discovering Additional Targets Post-discovery Configuration and Verification Monitoring Exadata Storage Servers Exadata Metrics and Alerts Architecture Monitoring Exadata Storage Server with Metrics and Alerts Isolating Faults with Monitoring Exadata Storage Server with Enterprise Manager: Overview Monitoring Hardware Failure and Sensor State Monitoring Exadata Storage Server Availability Comparing Metrics Across Multiple Storage Servers Monitoring Exadata Database Machine Database Servers Monitoring Database Servers: Overview Monitoring Hardware Monitoring the Operating System Monitoring Oracle Grid

Infrastructure Monitoring Oracle Database Monitoring Oracle Management Agent Database Monitoring with Enterprise Manager Cloud Control 12c Monitoring the InfiniBand Network InfiniBand Network Monitoring: Overview InfiniBand Network Monitoring with Monitoring the InfiniBand Switches Monitoring the InfiniBand Switch Ports Monitoring the InfiniBand Ports Monitoring the InfiniBand Fabric: Monitoring the InfiniBand Fabric: Monitoring Other Exadata Database Machine Components Monitoring the Cisco Ethernet Switch Monitoring the Sun Power Distribution Units Monitoring the KVM Switch Other Useful Monitoring Tools Exachk: Overview Running Exachk Exachk Daemon DiagTools: Overview Using ADRCI on Exadata Storage Servers Imageinfo: Overview Imagehistory: Overview OSWatcher: Overview Backup and Recovery Using RMAN with Database Machine General Recommendations for RMAN Disk-Based Backup Strategy Disk-Based Backup Recommendations Disk-Based Backup on Tape-Based Backup Strategy Tape-Based Backup Architecture and Recommendations Backup and Recovery of Database Machine Software Exadata Database Machine Maintenance Tasks Database Machine Maintenance: Overview Powering Database Machine Off and On Safely Shutting Down a Single Exadata Storage Server Replacing a Damaged Physical Disk Replacing a Damaged Flash Card Moving All Disks from One Cell to Another Using the Exadata Cell Software Rescue Procedure Patching Exadata Database Machine Patching and Updating: Overview Maintaining Exadata Storage Server Software Maintaining Database Server Software Assisted Patching Using OPlan Assisted Patching Using Maintaining Other Software Recommended Patching Process Test System Recommendations

Who Should Attend

Database Administrators Sales Consultants System Administrator Technical Administrator Technical Consultant

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