Oracle Exadata Database Machine 2014 Implementation Essentials Exam Study Guide

Kay Malcolm
Senior Technical Account Manager, Partner Enablement
WWA&C Partner Enablement
Objective & Audience

Objective
Help you prepare to take the Oracle Exadata Database Machine 2014 Implementation Essentials (1Z0-485)
Exam by providing pointers to resources that you can use in your preparation.

Targeted Audience

- Technical Consultants
- Strong foundation and expertise in implementing Oracle Exadata based solutions
- Candidates must also have knowledge of general infrastructure topics like networking and storage
- Up-to-date training and field experience are recommended
Exam Topics & Objectives

Exam Topics
The Oracle Exadata Database Machine 2014 Implementation Essentials exam consists of ten topics:

1. Oracle Database Software
2. Oracle Exadata Architecture
3. Administration & Configuration
4. Backup & Recovery
5. High Availability
6. Monitoring
7. Software Maintenance
8. Bulk Loading & Migration
9. Resource Management
10. Support
Exam Objectives

The exam objectives are defined by learner or practitioner level of knowledge:

- **Learner-level**: questions require the candidate to recall information to determine the correct answer.

  Example: Define the term network.

- **Practitioner-level**: questions require the candidate to derive the correct answer from the application of their knowledge, which can only be attained by extensive experience with the product.

  Example: The client requests xyz functionality, would you recommend a, b or c?
Training Options

For each exam topic there have been identified alternative training options that are available at Oracle. The training options are divided into three categories:

• **Boot Camps**
  The Boot Camps are designed as a "jump start" training to enhance your skills by providing role-based training on industry-leading Oracle solutions and services. The boot camps are built as concise, intensive, and real-time training to give partners a competitive advantage as they prepare to build powerful solutions for their own customer base. Partners can choose to attend these boot camps in class or in a live virtual class format to maximize the effectiveness and the time allocated to training.

• **Instructor-Led Training (delivered by Oracle University)**
  Partners can take any publicly-scheduled Oracle University courses at steep discounts. Benefit from hands on experience to gain real working skill and work toward Oracle certifications.

• **Online Training**
  Oracle Partners are entitled free access to the Oracle Knowledge Center (OUKC), a vast library of recorded product courses. New courses are regularly added to the library, providing partners with the latest information and training to master new products or to increase proficiency on the new releases.

  **OPN Competency Center** is an intelligent training tool that allows partners to manage their Oracle training with role-focused guided learning paths and measure their achievement toward Specialization:
Topic 1: Oracle Database Software

Objectives

• Use common database features
• Leverage performance features

Training Options

• OPN Competency Center
  – Oracle Exadata Database Machine 2014 Implementation Specialist

Sample Questions:

• Which command would you use to stop your customers entire RAC cluster prior to rebooting the server?
  a) CELLCLI
  b) SRVCTL
  c) CRSCTL
  d) DCLI
Topic 2: Oracle Exadata Architecture

Objectives

- Describe specific uses of offloading processing
- Describe the software architecture used by Oracle Exadata software
- Use Smart Flash Cache
- Enable Flash Cache Write Back
- Describe the different types of caching, their use and benefit
- Enable Advanced Compression and Hybrid Columnar Compression on Exadata table
- Describe all key Oracle Linux related sites like edelivery, ULN, oss,
- Describe how storage indexes operate
- Describe best practices for High Availability configurations
- Enable parallelism for Data Warehouse workloads
- Describe database and Automatic Storage Management Scoped Security Concepts
- Describe the Power Distribution Unit
- Describe memory capabilities of the different models

Level

Learner
Practitioner
Learner
Practitioner
Learner
Practitioner
Learner
Practitioner
Learner
Practitioner
Learner

Training Options

- OPN Competency Center
  - Oracle Exadata Database Machine 2014 Implementation Specialist

Sample Questions:

- Which operations can be performed on the Exadata Storage Servers?
  a) Predicate Filtering
  b) Aggregation
  c) Storage Index Processing
  d) Table Scans
  e) Data Conversion
Topic 3: Administration & Configuration

Objectives

- Compress data using Advanced Compression and Hybrid Columnar Compression
- Use network configuration options
- Create and configure Automatic Storage Management disk groups using Exadata
- Discuss the impact of various diskgroup/failure group choices
- Install software onto the Exadata Database Machine
- Administer physical disks on Exadata
- Describe various tasks that can be done with the Integrated Lights Out Management (ILOM) console
- Reconfigure an 1/8th rack into a 1/4 rack
- Describe network components in Exadata
- Describe Exadata configuration best practices

Training Options

- OPN Competency Center
  – Oracle Exadata Database Machine 2014 Implementation Specialist

Sample Questions:

- Your customer has a very large table that is accessed very infrequently, they would like to load this table onto their Exadata Database Machine, but are critically low on space and like to compress the table as much as possible. They are looking for recommendations on the strategy to use. Select the best method.
  a) Load this table using Advanced Compression
  b) Load this table using a combination of Hybrid Columnar Compression, Advanced Compression and Basic Compression
  c) Load this table with Hybrid Columnar Compression set to ARCHIVE HIGH
  d) Load this table with Hybrid Columnar Compression set to QUERY LOW
Topic 4: Backup & Recovery

Objectives

- Create a backup plan for Exadata
- Implement recovery procedures on different failure scenarios
- Describe troubleshooting tasks for Backup and Recovery processes
- Recover Storage Cells from Disk Failure
- Describe how the Exadata Storage Servers are backed up internally

Training Options

- OPN Competency Center
  - Oracle Exadata Database Machine 2014 Implementation Specialist

Sample Questions:

- Your customer is keen to ensure that they select the best tape based backup strategy on their Exadata Database Machine.
  a) Daily full RMAN backups that take advantage of Exadata’s speed and performance
  b) Weekly full RMAN tape backups and daily incremental RMAN tape backups
  c) Weekly full RMAN disk based backups and daily incremental RMAN backups
  d) Tape based backups are not recommended on the Exadata Database Machine
Topic 5: High Availability

Objectives

• Describe general best practices and guidelines for high availability configurations on Exadata
• Identify failure scenarios and implement recovery procedures
• Install high availability software onto the Exadata Database Machine

Training Options

• OPN Competency Center
  – Oracle Exadata Database Machine 2014 Implementation Specialist

Sample Questions:

• Select the three technologies that contribute to Oracle’s Maximum Availability Architecture in a single Exadata Database Machine?
  a) Automatic Storage Management
  b) Real Application Clusters
  c) Flashback Logs
  d) Exachk
  e) Redundant PDUs
Topic 6: Monitoring

Objectives

• Install Enterprise Manager Exadata Monitoring plug-in
• Setup agent, plugin and Exadata target for Enterprise Manager Cloud Control
• Monitor the storage cell using Cell Command Line Interface and Distributed Command Line Interface
• Describe purpose and uses for Simple Network Management Protocol (SNMP), Intelligent Platform Management Interface (IPMI) and Integrated Lights Out Management for the DB machine
• Use osWatcher and iostat to monitor the Database Machine operating system

Training Options

• OPN Competency Center
  – Oracle Exadata Database Machine 2014 Implementation Specialist

Sample Questions:

• Your customer would like to execute scripts across multiple servers within their full Exadata rack. Which command would you suggest they use to perform this task?
  a) CRSCTL
  b) CELLCLI
  c) SRVCTL
  d) RCLI
  e) DCLI
Topic 7: Software Maintenance

Objectives

• Describe how software components are maintained
• Locate patches for Exadata
• Apply best practices to the patching process for Exadata
• Describe Oracle Configuration Manager
• Explain how to perform planned maintenance of the Exadata machine
• Troubleshoot planned maintenance activities

Level

Learner
Practitioner

Training Options

• OPN Competency Center
  – Oracle Exadata Database Machine 2014 Implementation Specialist

Sample Questions:

• Your customer would like to apply patches to the Exadata Database Machine to match their current patching schedule. Currently, servers are patched twice per year, databases are patched quarterly, operating systems are patched monthly. Will your customer be able to patch the various components of the Exadata Database Machine on the same schedule? Select the best answer and reason.
  
  a) Yes, patches are delivered from Metalink on a monthly schedule
  
  b) No, patches are delivered quarterly and the OS, firmware, storage server and database server patches are delivered together
  
  c) Yes, patches are delivered via Platinum Support. OS and firmware patches are available monthly, CPU patches are available for download once per quarter.
  
  d) No, patches for the os, firmware, storage server and database server are available once per year.
Topic 8: Bulk Loading & Migration

Objectives

- Use Database File System (DBFS) to perform bulk loading operations
- Configure Database for staging input data files
- Use external tables for data loads
- Describe migration strategies for Exadata
- Articulate best practices for choosing a migration strategy

Training Options

- OPN Competency Center
  - Oracle Exadata Database Machine 2014 Implementation Specialist

Sample Questions:

- Select the three physical migration strategies that are supported on Exadata?
  a) Data Pump
  b) ASM Redundancy
  c) Physical Standby
  d) RMAN
  e) Copying Data across the Database Link
Topic 9: Resource Management

Objectives

- Setup Database Resource Management and I/O Resource Management
- Configure I/O Resource Management and Database Resource Management
- Setup instance caging
- Manage I/O on Exadata

Training Options

- OPN Competency Center
  - Oracle Exadata Database Machine 2014 Implementation Specialist

Sample Questions:

- Consider the following setup:
  User HR belongs to resource group High on Database HR
  User DW belongs to resource group Low on Database DW
  User RPTG is a user on Database OLTP without any DBRM setup.
  DBRM setup:
  Database HR: Resource group High gets 80% and Low gets 20%
  Database DW: Resource group High gets 60% and Low gets 40%
  IORM setup
  Database HR: Share = 20, limit=5
  Database DW: Share=30, limit=10
  Database OLTP: 5 shares
  Total number of shares in the IORM setup = 100

  What percent of I/O will each database user theoretically be using when the Exadata storage unit I/O throughput is at 100% and no other databases but HR, DW and OLTP are running?
  a) HR=42%, DW=18%, and OLTP=9%
  b) HR=5%, DW=10% and OLTP=85%
  c) HR=10%, DW=5%, and OLTP=20%
  d) HR=8%, DW=12%, and OLTP=85%
Topic 10: Support

Objectives

- Setup Automatic Service Request on the Database Machine
- Discuss the ASR configuration process
- Describe implementation requirements for Platinum Support

Training Options

- OPN Competency Center
  – Oracle Exadata Database Machine 2014 Implementation Specialist

Sample Questions:

- Your customer would like to setup ASR on their new Exadata Database Machine. Select the Oracle recommended configuration for setting up the ASR process.
  a) Setup ASR on a standalone server
  b) Setup ASR on the Exadata Storage Server
  c) Setup ASR on the Exadata Database Server
Exam Registration

- **How to register for the exam?**
  You can register for all Oracle certification exams with [Pearson VUE](#). Before a registration can be submitted, a Pearson VUE profile must be created using your Company ID. Your Company ID can be obtained by contacting your local Oracle Partner Business Center or by signing in to your OPN account. Your Company ID is located in the section on the right under "Company information".

  Please follow [these instructions](#) in order to properly set-up your Pearson VUE account for the first time.

- **Have you completed an Oracle Certification Exam in the past?**
  Due to systems enhancements, each partner who has completed an Oracle Certification Exam will need to update their Pearson VUE profile in order to receive credit and for those records to appear in the [OPN Competency Center](#).

- **How to get full recognition as Certified Implementation Specialist?**
  To get full recognition as a Certified Implementation Specialist you need to:
  A. Update your Pearson VUE profile with your Company ID
  B. Activate your Certview Account

  Please follow [these instructions](#) and your records will be properly recorded.
SOFTWARE. HARDWARE. COMPLETE.