Oracle Life Sciences Data Hub 2 Essentials
Exam Study Guide

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Objective & Audience

Objective
Help you prepare to take Oracle Life Sciences Data Hub 2 Essentials (1Z0-556) Exam by providing pointers to resources that you can use in your preparation.

Targeted Audience

• Technical Consultants, Architects, Application Developers, System Integrators, PreSales Consultants, Implementors
• Designed for individuals who possess a strong foundation and expertise in selling or implementing LSH solutions.
• Strong knowledge and expertise in Oracle LSH 2.1
• Participated in the deployment of an Oracle LSH 2.1 Application to production
• Candidate must also have knowledge of the Java Programming Language, XML, SQL
• Up-to-date training and field experience are recommended
Exam Topics & Objectives

Exam Topics
The **Oracle Life Sciences Data Hub 2 Essentials (1Z0-556) Exam** consists of 10 topics:

1. Intro/Navigating LSH
2. Security & Classification
3. Load Sets and Tables
4. Programs & Parameters
5. Business Areas, Report Sets, Workflows, and Data Marts
6. Validation and Production scenarios
7. Installing LSH & Administering LSH
8. Data Model and APIs
9. LSH Automation / Interface scenarios
10. Building Adapters

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.

- **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.
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**
  Partners can take any publicly-scheduled OPN and Oracle University courses. 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 (OKUC), 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.

A Guided Learning Path for the LSH Implementation Developer Specialization has also been provided through the OPN Competency Center, and features independent learning modules on various LSH developer topics.
Reference Materials

We recommend that partners preparing for the exam should also review the Oracle Life Sciences Data Hub Guided Learning Paths (GLPs) in preparation to take Oracle Life Sciences Data Hub 2 Essentials (1Z0-556) Exam:

- Oracle Life Sciences Data Hub Sales Specialist Guided Learning Path
- Oracle Life Sciences Data Hub PreSales Specialist Guided Learning Path
- Oracle Life Sciences Data Hub Support Specialist Guided Learning Path
- Oracle Life Sciences Data Hub Implementation Specialist Guided Learning Path
- Oracle Life Sciences Data Hub Implementation Boot Camp

The following would be particularly useful as reference materials to be used as well:

- **Oracle eDelivery**
  Provides copies of software and current documentation found at: http://edelivery.oracle.com/

- **Oracle University**
  Provides an on-line courses and information on available courses found at: http://education.oracle.com/

- **My Oracle Support**
  Provides access to patch sets and enables logging of technical system requests found at: https://support.oracle.com

- **Oracle Integration Repository**
  Provides detailed API information found at: http://irep.oracle.com

- **Oracle LSH Release 2.1.4 Online Documentation Library**
  Found at http://docs.oracle.com/cd/E18315_02/index.htm
Topic 1: Intro/Navigating LSH

Objectives:

- Log in and navigate in the systems (i.e. home page, applications tab and reports tab, search, advanced search)  
  Level: Learner
- Look for outputs, print outputs & submit jobs  
  Level: Learner
- Use Snapshots  
  Level: Practitioner
- Use Blinding, Blind Breaks and Dummy Data  
  Level: Practitioner
- Launch Visualizations  
  Level: Learner
- Installing work areas  
  Level: Learner

Training Options:

- Online Training:
  Oracle Life Sciences Data Hub Implementation Specialist Guided Learning Path
- Implementation Boot Camp:
  Oracle Life Sciences Data Hub Implementation Boot Camp

Sample Question:

A user has created a load set instance and an associated table instance in a work area. He or she then writes a program to produce a listing from the table. The user tries to install the program from within the program worksheet, but the program could not be installed. Identify the steps that the user has forgotten to perform.

A. Run the load set to load data into the table.
B. Create a load set definition and table definition in the application area.
C. Create an execution setup for the program before installing it.
D. Install the table and the load set in the work area.
Topic 2: Security & Classification

Objectives:
- Assign Functional Security to users (Learner)
- Create and assign Security Roles, Users and User Groups (Practitioner)
- Create and use Security Subtypes (Practitioner)
- Assign Object Security and Classify Objects (Learner)
- Create Classification Hierarchies and Use Classification Subtypes (Practitioner)

Training Options:
- Online Training:
  Oracle Life Sciences Data Hub Implementation Specialist Guided Learning Path

- Implementation Boot Camp:
  Oracle Life Sciences Data Hub Implementation Boot Camp

Sample Questions:

- Matt has been given access to LSH by Iain and has been granted the LSH Super User role. However, Matt does not have access to any of the LSH tabs. What should Matt and Iain do?
  
  A. Return to the roles and add a justification for each role granted.
  B. Wait.
  C. Create a linked Oracle account for Matt’s LSH account.
  D. Restart the LSH Queues.

- You have been asked to create a Work Area for Jill, an existing LSH user, and grant her programmer access to that Work Area. Which set of actions would give Jill access to the new Work Area?

  A. Create the Work Area on the Admin tab. Create a new user group for the Work Area and add Jill to that user group under the programmer role. Using the Assign Security menu in the Work Area, assign the new user group to the Work Area.
  B. Create the Work Area. Using the Assign Security menu in the Work Area, add Jill to the Work Area security under the programmer role.
  C. Create the Work Area and grant Jill the LSH Definer role from the User menu. Add Jill to the Work Area user group under the programmer role.
  D. Create the Work Area. From the Work Area, select the Assign Security menu. Create a user group for the Work Area and add Jill to the user group under the programmer role.
Topic 3: Load Sets and Tables

Objectives:

- Load Data from Oracle Data Bases i.e. MoveData into LSH and Work with pass through views (Learner)
- Load Data from SAS i.e. from data sets and from transport formats (Learner)
- Load data from Text Files (Learner)
- Build Tables i.e. Columns, Variables, Constraints (Learner)
- Leverage Table Processing Types and Auditing (Practitioner)
- Perform Data Blinding (Practitioner)
- Use authorised tables (Practitioner)

Training Options:

- Online Training:
  Oracle Life Sciences Data Hub Implementation Specialist Guided Learning Path

- Implementation Boot Camp:
  Oracle Life Sciences Data Hub Implementation Boot Camp

Sample Question:

- Which Load Set Adapters can be used to load Oracle Clinical Data Extract Views into LSH?

  A. Oracle Clinical Data Extract Load Set Adapter
  B. Oracle Clinical SAS Data Extract Load Set Adapter
  C. SAS Load Set Adapter
  D. All Adapters are suitable.
Topic 4: Programs & Parameters

Objectives:  
- Create Programs i.e. program source codes, table descriptors, parameters, planned outputs  
- Use existing programs i.e. Searching, Copy and Move, Mapping, Upgrading Instances  
- Program with SAS i.e. Interactive Development Environment and SAS Macros and Formats  
- Program with PL/SQL i.e. Interactive Development and PL/SQL Function and Procedure Libraries  
- Program With Informatica  
- Program with Oracle Reports  
- Program with BI Publisher  
- Create Execution Setups  
- Execute jobs  
- Classify Planned Outputs  
- Use Parameters  
- Use programmatic LOVs and Validation  

Level: Learner

Training Options:  
- Online Training: Oracle Life Sciences Data Hub Implementation Specialist Guided Learning Path  
- Implementation Boot Camp: Oracle Life Sciences Data Hub Implementation Boot Camp

Sample Questions:  
- Table descriptors are mapped to a Table instance, which are located where?  
  A. Domain  
  B. Work Area  
  C. Application Area  
  D. Working Directory  

- The classification of a Planned Output determines the classification of the Actual Output. Identify the examples of how the classification of a Planned Output can be defined.  
  A. Inherited, Explicit, and Taken from a parameter value  
  B. Inherited and Explicit  
  C. Taken from a parameter value  
  D. Inherited only
Topic 5: Business Areas, Report Sets, Workflows, and Data Marts

Objectives:
- Create Business Areas i.e. Create Joins, Hierarchies or OBIEE, Oracle Discoverer, Jreview
- Create Report Sets i.e. Entries, Parameter Propagation, Create Overlay Templates, Post Processing, Execution Setups and running
- Create Workflows i.e. Create Transitions, design workflows, notifications, approvals
- Create Data Marts

Training Options:
- Online Training:
  Oracle Life Sciences Data Hub Implementation Specialist Guided Learning Path
- Implementation Boot Camp:
  Oracle Life Sciences Data Hub Implementation Boot Camp

Sample Question:
- Identify the statements that are true about the OBIEE Business Area.
  A. The OBIEE service location need not be defined in LSH to create an OBIEE Business Area.
  B. During OBIEE Business Area installation, LSH generates the OBIEE RPD file and deploys that even if there is a user-uploaded RPD file present in the Business Area.
  C. If a Business Area is deployed to an OBIEE server that already contains an RPD file, the old RPD file gets overwritten by the Business Area’s RPD file.
  D. The OBIEE DP server need not be up and running for business users to successfully use OBIEE Answers to view data from LSH.
  E. During OBIEE Business Area installation, LSH makes no changes to the user-uploaded RPD file.

- Identify the correct statement about Report Set Entries.
  A. The placeholder flag on a Report Set Entry determines whether more child entries can be added to that Report set Entry or not.
  B. A Report Set Entry can be assigned a Planned Output from any Program Instance in the Report Set.
  C. Report Set Entries are the parent of Program Instances in a Reportset.
  D. Report Set Entries are the parent of mappings in a Program Instance.
  E. On moving a Report Set Entry, the assigned Planned Outputs are always removed.
Topic 6: Validation and Production scenarios

Objectives:

- Implement a Validation Lifecycle i.e. Validation Status, Work Area Cloning, Work Area usage intent
- Implement Standards i.e. Hierarchy (Global / TA / Drug) and Multiple (Internal, CDISC, …)
- Manage protocol amendments (new source table columns, etc)
- Create Snapshots and Interim Analyses
- Pool Data i.e. Setting up indication level, drug level pooled data and Handling addition of new studies
- Build large data warehouses

Level: Practitioner

Training Options:

- Online Training:
  Oracle Life Sciences Data Hub Implementation Specialist Guided Learning Path
- Implementation Boot Camp:
  Oracle Life Sciences Data Hub Implementation Boot Camp

Sample Question:

- At what stage in the development life cycle is it possible to remove a column from a table?
  
  A. Development
  B. Quality Control
  C. Production
  D. It is never possible to remove a column.

- Joan is programming the tables and listings for her study. Data Management has provided her with updated data each week. This week she wants to run an interim analysis. How can Joan make it easy to identify which data load was used for the interim analysis?

  A. Set the reveal audit attribute for the table descriptors in her program.
  B. Apply a snapshot label to this week’s snapshot timestamp for all the data.
  C. Update the validation supporting information to add an interim analysis.
  D. Add a column to all the tables and use this to identify which data was used in the interim analysis.
Topic 7: Installing LSH & Administering LSH

Objectives:

- Configure Hardware
- Install E-Business Suite (Summary only)
- Upgrade the database
- Install Oracle Thesaurus Management
- Configure SAS
- Configure/Set up environment for high availability
- Start And Stop Services And Queues
- Search for and stop LSH Jobs
- Create and manage database accounts
- Manage Statistics and Table Spaces

Level
Practitioner

Training Options:

- Online Training:
  Oracle Life Sciences Data Hub Implementation Specialist Guided Learning Path
- Implementation Boot Camp:
  Oracle Life Sciences Data Hub Implementation Boot Camp

Sample Questions:

- Who is the superuser for Oracle Warehouse Builder (OWB) Workspace?
  
  A. CDR_RTREPOS
  B. OWBSYS
  C. CDR_RTUSER
  D. There is no superuser for Oracle Warehouse Builder (OWB) Workspace.

- As part of an LSH installation you are required to upgrade the database several times. Which statement describes the reason for the multiple upgrades?
  
  A. You have to upgrade the installed version of the database to 9.2.0.8 to allow for the installation of RUP 7.
  B. You have to upgrade the installed version of the database to 9.2.0.8 to allow the installation of the application server.
  C. You have to upgrade the installed version of the database to 11g to allow for the installation of RUP 7.
  D. You do not need multiple upgrades, you can upgrade directly to 11g.
Topic 8: Data Model and APIs

Objectives:
- Use the Data Model i.e. Namings, naming versions, Satellite tables
- Test Database Views
- Execute APIs
- Create, Modify, and Remove Definitional APIs
- Create Classification APIs, Security APIs and Validation APIs

Level
Practitioner
Practitioner
Practitioner
Practitioner
Practitioner

Training Options:
- Online Training:
  * Oracle Life Sciences Data Hub Implementation Specialist Guided Learning Path
- Implementation Boot Camp:
  * Oracle Life Sciences Data Hub Implementation Boot Camp

Sample Questions:
- It is possible to create organizational objects such as Domains, Application Areas, and Work Areas within LSH using API calls. The APIs follow a design pattern where two parameters define how to create the new object. Which best describes the contents of these parameters?

  A. a variable that contains obj_id of the location for the new organizational object and a variable that contains the name of the new object
  B. a PL/SQL table that contains the naming details and containership of the new object and a PL/SQL table that contains object-specific information
  C. a SQL query to return the naming record to contain the new object and a PL/SQL table that contains the naming details of the new object
  D. a naming record that contains the naming details of the new object and a naming record that contains the naming details of the container object

- Thomas is a programmer and he has been asked to write a program to automatically update a classification to reflect the contents of an externally maintained table using the LSH APIs. He has been successfully writing LSH API programs, but has not written a classification program before. He immediately runs into problems because his user cannot access the TMS tables. What does Thomas need to do to get access to the TMS tables?

  A. Thomas needs select access granted to the tms_def_dictionaries, tms_def_levels, and tms_dict_contents tables by the TMS user.
  B. Thomas needs to be added to the TMS users table and given the tms_access and opa_admin roles.
  C. Thomas needs to set his NLS_LANGUAGE parameter to AMERICAN.
  D. Thomas needs to do both A and C to get access to the TMS tables.
Topic 9: LSH Automation / Interface scenarios

Objectives:

- Perform daily data loads of data from Oracle Clinical upon batch validation completion for a study
- Perform a data load of Lab data when files arrive in a pre-defined folder
- Use LSH full and partial Export / Import functions (Metadata, Data, Source code, etc.)

Level
Practitioner

Training Options:

- Online Training :
  Oracle Life Sciences Data Hub Implementation Specialist Guided Learning Path
- Implementation Boot Camp:
  Oracle Life Sciences Data Hub Implementation Boot Camp

Sample Question:

- Patricia has been asked if it is possible to automate the loading of data from Oracle Clinical into LSH. After researching this, she comes to the following conclusions. Which conclusions are valid?

  A. This functionality is part of the LSH Oracle Clinical adapter.
  B. This is possible by using a post batch validation script in Oracle Clinical, but only with Load Sets built with Oracle Clinical Adapter.
  C. This is possible by using a postbatch validation script in Oracle Clinical for all types of Load Sets.
  D. This is not possible as there is no postvalidation entry point in Oracle Clinical batch validation.
Topic 10: Building Adapters

Objectives:
- Build CDR_Adapter_Areas and CDR_Technology_Types | Level: Practitioner
- Build Source Data Adapters i.e. Oracle tables, SAS and OC Adapters | Practitioner
- Build Load Adapter for a file system based adapter | Practitioner
- Build visualization and Reporting Adapters i.e. discoverer, OBIEE | Practitioner
- Build Transformation Adapters i.e. SAS or Informatics | Practitioner
- Build LSH Adaptors | Practitioner

Training Options:
- Online Training:
  Oracle Life Sciences Data Hub Implementation Specialist Guided Learning Path
- Implementation Boot Camp:
  Oracle Life Sciences Data Hub Implementation Boot Camp

Sample Question:
- Which statement is true about the launch of the Visualization tool?
  A. The Adapter’s Security Recalculate Function is invoked for synchronizing the user’s privileges.
  B. The source tables of the business area are enabled for the user as soon as he or she launches the Visualization tool.
  C. The user can launch the Visualization tool only if he or she has read data privileges on all the source tables of the business area.
  D. The user can launch the Visualization tool only if the hierarchies and joins between the source tables have been defined for the business area.
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.