Oracle® Health Sciences Clinical Development Analytics

Installation Guide

Release 2.1 for Plus Configuration

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ORACLE®

Oracle Health Sciences Clinical Development Analytics Installation Guide, Release 2.1 for Plus Configuration

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Contents

Preface

This guide describes how to install the Oracle Health Sciences Clinical Development Analytics (CDA) software, Release 2.1.

This section contains the following topics:

Restricted Use License of Oracle Life Sciences Data Hub with Oracle Health Sciences Clinical Development Analytics

Oracle Health Sciences Clinical Development Analytics is licensed with a Restricted Use (RU) license of Oracle Life Sciences Data Hub.

This RU license of Oracle Life Sciences Data Hub permits the following:

- Modification of existing shipped Oracle Health Sciences Clinical Development Analytics Extract Transform Load (ETL), Dimensions or Facts.
- Extension of existing Oracle Health Sciences Clinical Development Analytics staging tables.
- Addition of new Oracle Health Sciences Clinical Development Analytics staging tables.
- Addition of new ETL programs to populate an existing Oracle Health Sciences Clinical Development Analytics fact or dimension from a new data source.
- Addition of new dimensions.

All other changes to Oracle Health Sciences Clinical Development Analytics data model or ETL require a Full Use Oracle Life Sciences Data Hub license.

Intended Audience

This installation guide is intended for users who are responsible for installing Oracle Health Sciences Clinical Development Analytics. You should be familiar with the Oracle Life Sciences Data Hub (Oracle LSH) application and the Oracle Business Intelligence Enterprise Edition (OBIEE) application.

Required Skills

Installing Oracle Health Sciences Clinical Development Analytics requires a level of knowledge equivalent to having mastered the material in Oracle's DBA Architecture and Administration courses.

You must be able to do the following in SQL*Plus:

- Read and edit scripts
- Run scripts and review log files for Oracle errors

You must be able to do the following in UNIX:

- Install Oracle software and patches
- Identify space on a file system for Oracle database tablespaces
- Set and use environment variables
- Edit files using vi or another editor
- Run scripts and review log files

You must have technical and functional expertise in:

- Oracle Life Sciences Data Hub

You also need expertise in:

- Oracle E-Business Suite 11i installation (especially, multi-node installation with split configuration)
- Database upgrades
- Oracle Warehouse Builder installation and configuration
- Oracle Thesaurus Management System installation and configuration
- Oracle Business Intelligence Enterprise Edition installation and configuration
- Oracle Life Sciences Data Hub installation and configuration
- Informatica installation and configuration

Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc.

Access to Oracle Support

Oracle customers have access to electronic support through My Oracle Support. For information, visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info or visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs if you are hearing impaired.

Finding Information and Patches on My Oracle Support

Your source for the latest information about Oracle Health Sciences Clinical Development Analytics is Oracle Support's self-service Web site, My Oracle Support (formerly MetaLink).

Before you install and use an Oracle software release, always visit the My Oracle Support Web site for the latest information, including alerts, release notes, documentation, and patches.

Creating a My Oracle Support Account

You must register at My Oracle Support to obtain a user name and password account before you can enter the Web site.

To register for My Oracle Support:

1. Open a Web browser to http://support.oracle.com.
2. Click the **Register here** link to create a My Oracle Support account. The registration page opens.
3. Follow the instructions on the registration page.

Signing In to My Oracle Support

To sign in to My Oracle Support:

1. Open a Web browser to http://support.oracle.com.
2. Click **Sign In**.
3. Enter your user name and password.
4. Click **Go** to open the My Oracle Support home page.

Searching for Knowledge Articles by ID Number or Text String

The fastest way to search for product documentation, release notes, and white papers is by the article ID number.

To search by the article ID number:

1. Sign in to My Oracle Support at http://support.oracle.com.
2. Locate the Search box in the upper right corner of the My Oracle Support page.
3. Click the sources icon to the left of the search box, and then select Article ID from the list.
4. Enter the article ID number in the text box.
5. Click the magnifying glass icon to the right of the search box (or press the Enter key) to execute your search.

   The Knowledge page displays the results of your search. If the article is found, click the link to view the abstract, text, attachments, and related products.

In addition to searching by article ID, you can use the following My Oracle Support tools to browse and search the knowledge base:

- Product Focus — On the Knowledge page, you can drill into a product area through the Browse Knowledge menu on the left side of the page. In the Browse any Product, By Name field, type in part of the product name, and then select the product from the list. Alternatively, you can click the arrow icon to view the

complete list of Oracle products and then select your product. This option lets you focus your browsing and searching on a specific product or set of products.

- Refine Search — Once you have results from a search, use the Refine Search options on the right side of the Knowledge page to narrow your search and make the results more relevant.
- Advanced Search — You can specify one or more search criteria, such as source, exact phrase, and related product, to find knowledge articles and documentation.

Finding Patches on My Oracle Support

Be sure to check My Oracle Support for the latest patches, if any, for your product. You can search for patches by patch ID or number, or by product or family.

To locate and download a patch:

1. Sign in to My Oracle Support at `http://support.oracle.com`.
2. Click the **Patches & Updates** tab.

   The Patches & Updates page opens and displays the Patch Search region. You have the following options:

   - In the Patch ID or Number is field, enter the primary bug number of the patch you want. This option is useful if you already know the patch number.
   - To find a patch by product name, release, and platform, click the Product or Family link to enter one or more search criteria.
3. Click **Search** to execute your query. The Patch Search Results page opens.
4. Click the patch ID number. The system displays details about the patch. In addition, you can view the Read Me file before downloading the patch.
5. Click **Download**. Follow the instructions on the screen to download, save, and install the patch files.

Finding Certification Information

Certifications provide access to product certification information for Oracle and third party products. A product is certified for support on a specific release of an operating system on a particular hardware platform, for example, Oracle Database 10g Release 2 (10.2.0.1.0) on Oracle Solaris 10 (SPARC). To find certification information:

1. Sign in to My Oracle Support at `http://support.oracle.com`.
2. Click the **Certifications** tab. The Certifications page opens and displays the Find Certifications region.
3. In Select Product, enter `Oracle Health Sciences Clinical Development Analytics`.
4. Click the Go to Certifications icon.

   The right pane displays the certification information.
5. Select a certification to view the certification details.

Finding Documentation on Oracle Technology Network

The Oracle Technology Network Web site contains links to all Oracle user and reference documentation. To find user documentation for Oracle products:

1. Go to the Oracle Technology Network at

http://www.oracle.com/technetwork/index.html and log in.

2. Mouse over the Support tab, then click the **Documentation** hyperlink.

   Alternatively, go to Oracle Documentation page at

   http://www.oracle.com/technology/documentation/index.html

3. Navigate to the product you need and click the link.

   For example, scroll down to the Applications section and click Oracle Health Sciences Applications.

4. Click the link for the documentation you need.

Related Documents

For more information, see the following documents in the Oracle Business Intelligence Data Warehouse Administration Console Release 11.1.1.5 documentation set, the Oracle Business Intelligence Enterprise Edition Release 11.1.1.5 documentation set, Oracle Healthcare Master Person Index Release 1.1 documentation set, and Oracle Life Sciences Data Hub Documentation set.

Oracle Business Intelligence Data Warehouse Administration Console (DAC) Documentation

The Oracle Business Intelligence Data Warehouse Administration Console (DAC) 11.1.1.5 documentation set includes:

- *Oracle Business Intelligence Data Warehouse Administration Console User's Guide*
- *Oracle Business Intelligence Data Warehouse Administration Console Installation, Configuration, and Upgrade Guide*

Oracle Business Intelligence Enterprise Edition (OBIEE) Documentation

The Oracle Business Intelligence Suite Enterprise Edition Online Documentation Library 11.1.1.5 documentation set includes:

- *Oracle® Fusion Middleware User's Guide for Oracle Business Intelligence Enterprise Edition 11g Release 1 (11.1.1)*
- *Oracle® Fusion Middleware Metadata Repository Builder's Guide for Oracle Business Intelligence Enterprise Edition 11g Release 1 (11.1.1)*
- *Oracle® Fusion Middleware System Administrator's Guide for Oracle Business Intelligence Enterprise Edition 11g Release 1 (11.1.1)*
- *Oracle® Fusion Middleware Scheduling Jobs Guide for Oracle Business Intelligence Enterprise Edition 11g Release 1 (11.1.1)*
- *Oracle® Fusion Middleware Security Guide for Oracle Business Intelligence Enterprise Edition 11g Release 1 (11.1.1)*
- *Oracle® Fusion Middleware Developer's Guide for Oracle Business Intelligence Enterprise Edition 11g Release 1 (11.1.1)*
- *Oracle® Fusion Middleware Integrator's Guide for Oracle Business Intelligence Enterprise Edition 11g Release 1 (11.1.1)*

Oracle Healthcare Master Person Index (OHMPI) Documentation

For more information and instructions for implementing and using a master index application, see the following documents in the Oracle Healthcare Master Person Index Release 1.1 documentation set:

- *Oracle Healthcare Master Person Index Installation Guide*
- *Oracle Healthcare Master Person Index Release Notes*
- *Oracle Healthcare Master Person Index User's Guide*
- *Oracle Healthcare Master Person Index Configuration Guide*
- *Oracle Healthcare Master Person Index Configuration Reference*
- *Oracle Healthcare Master Person Index Data Manager's Guide*
- *Oracle Healthcare Master Person Index Match Engine Reference*
- *Oracle Healthcare Master Person Index Standardization Engine Reference*
- *Oracle Healthcare Master Person Index Analyzing and Cleansing Data User's Guide*
- *Oracle Healthcare Master Person Index Loading the Initial Data Set User's Guide*
- *Oracle Healthcare Master Person Index Command Line Reports and Database Maintenance User's Guide*
- *Oracle Healthcare Master Person Index Working With IHE Profiles*
- *Oracle Healthcare Master Person Index WebLogic User's Guide*

Oracle Life Sciences Data Hub Documentation

The Oracle Life Sciences Data Hub 2.2 documentation set includes:

- *Oracle Life Sciences Data Hub Implementation Guide*
- *Oracle Life Sciences Data Hub System Administrator's Guide*
- *Oracle Life Sciences Data Hub Application Developer's Guide*
- *Oracle Life Sciences Data Hub User's Guide*
- *Oracle Life Sciences Data Hub Installation Guide*
- *Oracle Life Sciences Data Hub Adapter Toolkit Guide*
- *Oracle Life Sciences Data Hub Application Programming Interface Guide*
- *Oracle Life Sciences Data Hub Release Notes*
- *Oracle Life Sciences Data Hub Release Content Document*

Conventions

The following text conventions are used in this document:

boldface - Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.

italic - Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.

`monospace` - Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

1

Before You Begin

Oracle Health Sciences Clinical Development Analytics (CDA) is an analytical and a transactional reporting application.

CDA extracts clinical data on the execution of clinical trials from Oracle Clinical and Siebel Clinical, providing a data warehouse containing key metrics across the clinical development business process. From this warehouse, CDA provides key pre-defined reports, and enables the creation of additional custom reports.

In addition to Oracle Clinical and Siebel Clinical, CDA requires the presence of several other products including Oracle Life Sciences Data Hub (Oracle LSH) and Oracle Business Intelligence Enterprise Edition (OBIEE).

This chapter presents an overview of the CDA requirements. It also describes the tasks that you must complete before you can install the CDA application. Specifically, this chapter includes the following topics:

See Also:

Known Installation and Configuration Issues: For up-to-date information about known installation and configuration issues, refer to My Oracle Support document 1138053.1; see Searching for Knowledge Articles by ID Number or Text String on page -xi.

1.1 Getting the Oracle Health Sciences Clinical Development Analytics Media Pack

To receive a physical media pack with all the required DVDs, contact Oracle Support. To expedite your request you can either call Oracle Support directly or open an SR selecting problem category: **Version Update Request**.

To download the media pack from eDelivery:

1. Go to `http://edelivery.oracle.com` and log on.
2. From the **Select a Product Pack** drop-down list, select **Health Sciences**.
3. From the **Platform** drop-down list, select the appropriate operating system.
4. Click **Go**.

> **Note:** If this media pack is the only one available in Health Sciences for the platform you selected, the system takes you immediately to the media pack page from which you can download the software disk by disk.

5. Select **Oracle Health Sciences Clinical Development Analytics 2.1 (Plus Configuration) Media Pack for *platform*** and click **Continue**.
6. Download the software.

1.2 Technology Stack and System Requirements

The required technology stack for CDA consists of the following products:

- Oracle Life Sciences Data Hub (Oracle LSH) 2.2.0.3 with patch 13776046
- Oracle Business Intelligence Enterprise Edition (OBIEE) 11.1.1.5
- Oracle Database 11.2.0.2 with Patch 11666959
- Informatica PowerCenter 9.0.1 HotFix 2

> **Note:** Informatica is not part of the media pack. You will have to acquire its license separately.

- Oracle Business Intelligence Data Warehouse Administration Console 10.1.3.4.1 and patch 13551596.
- Oracle Clinical 4.6
  or
  Oracle Clinical 4.5.3 with Oracle Clinical Patch OC_4.5.3.18 and Oracle Clinical Patch OC_4.5.3.23, or any patch that obsoletes those patches
- Siebel Clinical 8.0.x

  or

  Siebel Clinical 8.1.1
- Oracle Healthcare Master Person Index (OHMPI) 1.1.2 with patch 12735093 (Optional)

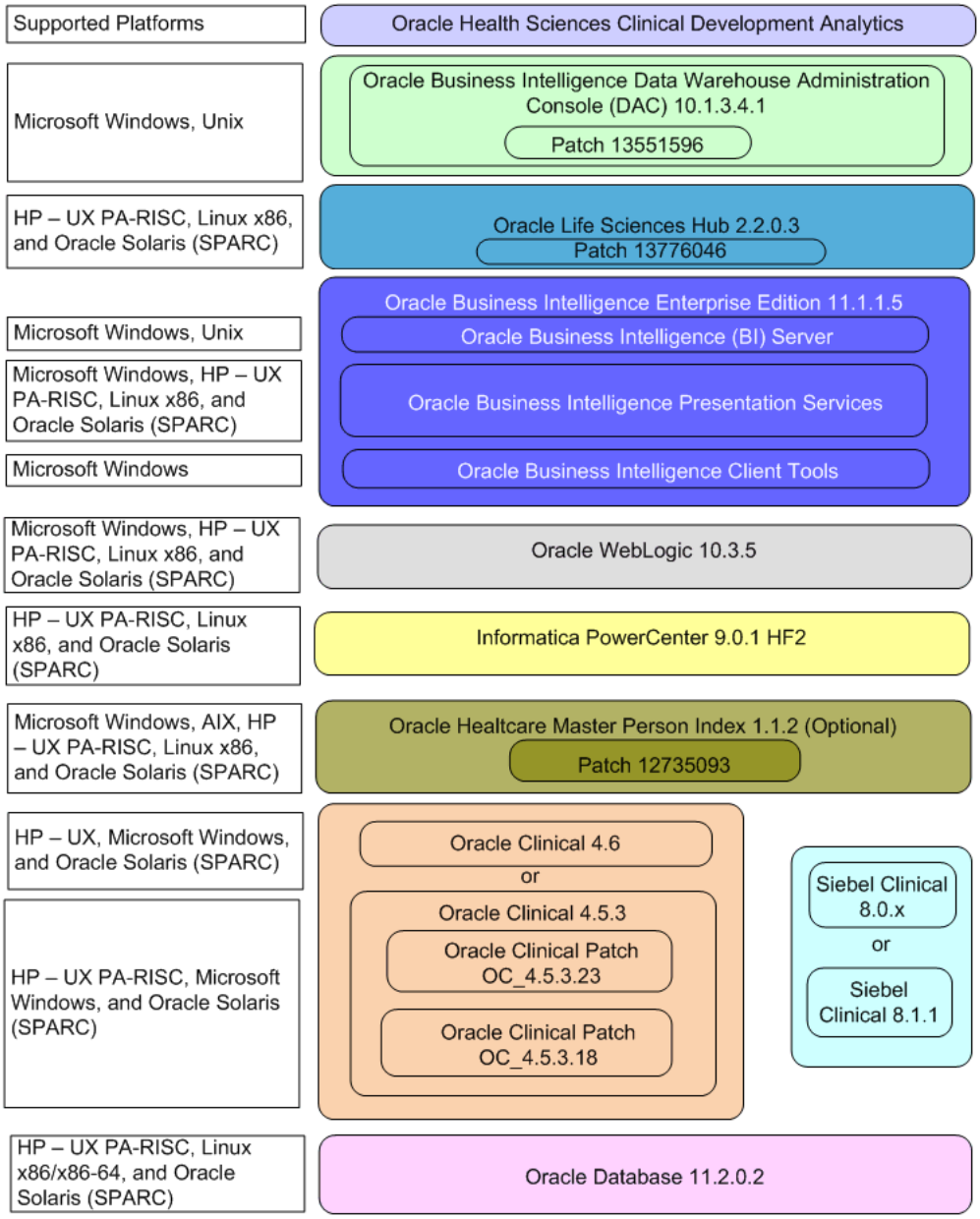
Refer to the following sources for information about system requirements, platforms or configurations supported:

Table 1–1 System Requirements References

Product	Reference
Oracle Business Intelligence Enterprise Edition (OBIEE) 11.1.1.5	*System Requirements and Supported Platforms for Oracle Business Intelligence Suite Enterprise Edition Oracle Business Intelligence Infrastructure Installation and Configuration Guide*
Informatica PowerCenter 9.0.1 HotFix 2	*Informatica Installation Guide*
Oracle WebLogic Server 10.3.5	*Oracle WebLogic Server Documentation Library*
Oracle Business Intelligence Data Warehouse Administration Console 10.1.3.4.1 and patch 13551596	*Oracle Business Intelligence Data Warehouse Administration Console Installation, Configuration, and Upgrade Guide* *Data Warehouse Administration Console User's Guide*
Oracle Healthcare Master Person Index 1.1.2 patch 12735093	*Oracle Healthcare Master Person Index Documentation Library*
Other Technology Stack Components	My Oracle Support / Certifications

Note: It is important to get the technology stack products from the CDA media pack because newer versions of the technology stack products may have become available but may not be compatible with CDA.

Figure 1–1 Oracle Health Sciences Clinical Development Analytics Technology Stack



For more information about certifications, refer to Finding Certification Information on page -xii.

1.2.1 Supported Browsers

CDA supports those Internet browsers supported by OBIEE. Oracle publishes information on system requirements and supported platforms for each release of OBIEE. You can locate this information through the Oracle Technology Network's documentation page for OBIEE. Select the library corresponding to your release of OBIEE. On the Library's Getting Started Tab, follow the link for System Requirements and Supported Platforms. Within that document, look for the Client Environment Requirements section. This will list the supported client operating systems and Web browsers for the OBIEE release.

1.3 General Security Principles

The following principles are fundamental to using any application securely.

1.3.1 Keep Software Up To Date

One of the principles of good security practice is to keep all software versions and patches up to date.

1.3.2 Keep Up To Date on Latest Security Information Critical Patch Updates

Oracle continually improves its software and documentation. Critical Patch Updates are the primary means of releasing security fixes for Oracle products to customers with valid support contracts. They are released on the Tuesday closest to the 17th day of January, April, July and October. We highly recommend customers apply these patches as soon as they are released.

1.3.3 Configure Strong Passwords on the Database

Although the importance of passwords is well known, the following basic rule of security management is worth repeating:

Ensure all passwords are strong passwords.

You can strengthen passwords by creating and using password policies for your organization. For guidelines on securing passwords and for additional ways to protect passwords, refer to the Oracle® Database Security Guide specific to the database release you are using.

You should modify the following passwords to use your policy-compliant strings:

- Passwords for the database default accounts, such as SYS and SYSTEM.
- Passwords for the database application-specific schema accounts, such as RXI.
- The password for the database listener. Oracle recommends that you do not configure a password for the database listener as that will enable remote administration. For more information, refer to the section "Removing the Listener Password" of Oracle® Database Net Services Reference 11g Release 2 (11.2)

1.3.4 Follow the Principle of Least Privilege

The principle of least privilege states that users should be given the least amount of privilege to perform their jobs. Overly ambitious granting of responsibilities, roles, grants — especially early on in an organization's life cycle when people are few and work needs to be done quickly — often leaves a system wide open for abuse. User privileges should be reviewed periodically to determine relevance to current job responsibilities.

1.3.5 Managing Default User Accounts

Lock and expire default user accounts.

1.3.6 Closing All Open Ports Not in Use

Keep only the minimum number of ports open. You should close all ports not in use.

1.3.7 Disabling the Telnet Service

Oracle Health Sciences Clinical Development Analytics Plus Configuration does not use the Telnet service.

Telnet listens on port 23 by default.

If the Telnet service is available on any computer, Oracle recommends that you disable Telnet in favor of Secure Shell (SSH). Telnet, which sends clear-text passwords and user names through a log-in, is a security risk to your servers. Disabling Telnet tightens and protects your system security.

1.3.8 Disabling Other Unused Services

In addition to not using Telnet, the Oracle Health Sciences Clinical Development Analytics Plus Configuration does not use the following services or information for any functionality:

- Simple Mail Transfer Protocol (SMTP). This protocol is an Internet standard for E-mail transmission across Internet Protocol (IP) networks.
- Identification Protocol (identd). This protocol is generally used to identify the owner of a TCP connection on UNIX.
- Simple Network Management Protocol (SNMP). This protocol is a method for managing and reporting information about different systems.

  Restricting these services or information does not affect the use of Oracle Health Sciences Clinical Development Analytics Plus Configuration. If you are not using these services for other applications, Oracle recommends that you disable these services to minimize your security exposure. If you need SMTP, identd, or SNMP for other applications, be sure to upgrade to the latest version of the protocol to provide the most up-to-date security for your system.

1.3.9 Designing for Multiple Layers of Protection

When designing a secure deployment, design multiple layers of protection. If a hacker should gain access to one layer, such as the application server, that should not automatically give them easy access to other layers, such as the database server.

Providing multiple layers of protection may include:

- Enable only those ports required for communication between different tiers, for example, only allowing communication to the database tier on the port used for SQL*NET communications (1521 by default).
- Place firewalls between servers so that only expected traffic can move between servers.

1.3.10 Enabling SSL

Due to the complexity in setting up SSL it is not enabled by default during installation. Communications between the browser and the application servers should be restricted to SSL. See the Oracle WebLogic Server 11g guidelines for instructions on enabling SSL.

1.4 Security Guidelines for Oracle Business Intelligence Data Warehouse Administration Console

While installing and configuring the DAC Server, follow the guidelines documented in Oracle Business Intelligence Data Warehouse Administration Console Installation, Configuration, and Upgrade Guide.

The CDA DAC metadata consists of DAC Repository which must be deployed on the DAC Server.

After deploying the DAC Repository, make sure all connection configurations are altered as described in the DAC Installation Guide to point to the customer database connection parameters.

The DAC Repository contains only metadata for CDA Informatica ETLs. The metadata is used within the context of the DAC Server, follow the security guidelines applicable to the DAC Server while importing the metadata.

1.5 Security Guidelines for Oracle Healthcare Master Person Index

While installing and configuring OHMPI, follow the guidelines documented in Oracle Healthcare Master Person Index Installation Guide.

During installation, the installer prompts for OHMPI username and password which is encrypted and stored in a master schema OHMPI_AUTH" on OHMPI database. Key management is built in, eliminating the complex task of creating, managing and securing encryption keys. Make sure that only the system admin is granted access to modify the objects under this schema.

While importing and setting up CDA's OHMPI projects, follow the guidelines documented in OHMPI documents

The CDA's OHMPI metadata consists of 15 OHMPI projects which are zipped into individual files. Make sure that only an Administrator is given access to these files.

After importing the projects, make sure that the data source connection, JMS Servers, and JMS Topics are created in Oracle WebLogic Server console and the user created in Oracle WebLogic Server is assigned to MasterIndex.Admin group.

1.6 Security Guidelines for Oracle Business Intelligence Enterprise Edition

While installing and configuring the OBIEE Server, you should follow guidelines in the document Oracle® Fusion Middleware Security Guide for Oracle Business Intelligence Enterprise Edition 11g Release 1 (11.1.1)Part Number E10543-02.

1.6.1 Checking External Links that May Expose Account Data

It is possible to add customized links to web applications that are deployed in a web server. Through this mechanism, any information that can be made available through a URL can be made accessible to CDA users. In addition, your customized links may support passing session parameters, such as the log-in user ID, and currently selected Product, Program, Study and Site to a URL. By passing these session parameters, you can access Web pages specific to you current selections on these attributes. However, you should be aware that in links that access external Web sites, passing account data and session information may pose a security risk.

1.7 Installation Types

When you plan CDA installation, you will have the choice of two types of installations:

- Fresh installation
- Upgrade installation

Each installation type requires a specific version of software. It is important to understand how these software relate to each other.

1.7.1 Fresh Installation

You can select to install CDA 2.1 on:

- Oracle LSH 2.2.0.3 with patch 13776046, Oracle Database 11.2.0.2 with patch number 11666959, and Informatica PowerCenter 9.0.1 HotFix 2

  Note: You must set the init parameter, for the database, *processes* to a minimum of 500 and *sessions* to a minimum of 600.

  After installing the requisite technology stack, you must install the CDA Release 2.1

See the Chapter 2, Oracle Health Sciences Clinical Development Analytics Installation for information on installing CDA 2.1.

1.7.2 Upgrade Installation

You must upgrade an existing CDA 2.0.0.3 installation with the following options:

- Upgrade Oracle LSH from 2.1.4 to 2.2.0.3 with patch 13776046. Atop apply CDA 2.1 patch to upgrade CDA 2.0.0.3.

  See the latest *Oracle Life Sciences Data Hub Installation Guide Release 2.1* chapter on upgrading Oracle LSH 2.1.3 for more information.

See the Chapter 4, Upgrade Tasks for information on upgrading CDA 2.0.0.3 to CDA 2.1.

1.8 Installing the Prerequisite Software

Before you can install the CDA application, you must complete the following pre-installation tasks:

❏ Install Oracle Life Sciences Data Hub (Oracle LSH)

Install Oracle LSH 2.2.0.3 with patch 13776046

Follow the instructions in the latest version of *Oracle Life Science Data Hub Installation Guide Release 2.2*.

❏ Install Informatica PowerCenter 9.0.1 HF2

Note that Informatica is a separately licensed product. Follow the instructions in *Informatica Installation Guide*. After installing Informatica, follow the instructions in the ;latest version of the *Oracle Life Sciences Data Hub Installation Guide Release 2.2* to integrate Oracle LSH with Informatica.

Note: If you are using Oracle Database for Informatica repository, Oracle recommends that you use the UTF8 character set.

Oracle recommends that you create Informatica repository for CDA with the following settings:

Table 1–2 Informatica Repository Settings

Settings	Value
Character Set	UTF8
Versioning	False
Global Repository	False
Security Audit Trail	No
Operating Mode	Normal
Informatica Administrator Account	LSHAdmin Note that the Administrator Account name is case sensitive and mandatory.
Informatica Administrator Account Password	Get the password from your system administrator.

You must add the *AggSupprtWithNoPartLic* property in Informatica PowerCenter Administration Console, to use the sorted Aggregator transformation set in Informatica PowerCenter.

Perform the following steps to add the *AggSupprtWithNoPartLic* property:

1. Log in to Informatica PowerCenter Administration Console.
2. Select the PowerCenter Integration Service.
3. In the Custom Properties, click **Edit**.
4. Click **Add**.
5. In Name, enter `AggSupprtWithNoPartLic`.
6. In Value, enter `Yes`.
7. Click **OK** to add the property.

❑ Install Oracle WebLogic Server 10.3.5

Follow the instructions in Oracle WebLogic Server Documentation Library.

Note that if you plan to implement deduplication, you may choose to use the same instance of WebLogic for deploying OHMPI Projects or create a fresh instance of WebLogic.

You must set the MaxPermSize to 2 Giga Bytes (GB).

❑ Install Oracle Business Intelligence Enterprise Edition (OBIEE) 11.1.1.5 with the following components:

- Oracle Business Intelligence Server (Supported only on Windows and Unix)
- Oracle Business Intelligence Presentation Services (Supported on Windows and Unix)
- Oracle Business Intelligence Client Tools (Supported only on Windows)

Follow the instructions in *Oracle Business Intelligence Infrastructure Installation and Configuration Guide*.

- ❑ Install Oracle Business Intelligence Data Warehouse Administration Console (DAC) 10.1.3.4.1
  - – Install Oracle Business Intelligence Data Warehouse Administration Console (DAC)

    Follow the instructions in *Oracle Business Intelligence Data Warehouse Administration Console Installation, Configuration, and Upgrade Guide*.
  - – Install patch number 13551596. The patch is available in OCDA_HOME/software.

    Follow the instructions in the patch readme to install it.

    Note: If DAC and Informatica Servers are on different systems, do not copy infa_command.xml from 13551596 patch.
  - – If you plan to implement deduplication, install Oracle Healthcare Master Person Index (OHMPI) 1.1.2 patch 12735093.

    Note: Oracle recommends that you enable HTTPS on middle-tier computers that are hosting the Web services, since otherwise the trusted user name and password that are passed can be intercepted.

- ❑ Upgrade or install Oracle Clinical
  - – Install Oracle Clinical 4.6 or upgrade to Oracle Clinical 4.6

  or
  - – Install Oracle Clinical 4.5.3 or upgrade to Oracle Clinical 4.5.3

    Follow the instructions in *Oracle Clinical Installation Guide Release 4.5.1* and *Oracle Clinical 4.5.3 readme*.
  - – Apply Oracle Clinical Patch OC_4.5.3.18 and Oracle Clinical Patch OC_4.5.3.23, or any patch that obsoletes those patches

    Follow the installation instructions in the readme.
- ❑ Upgrade or install Siebel Clinical
  - – Install Siebel Clinical 8.0.x or upgrade to Siebel Clinical 8.0.x

  or
  - – Install Siebel Clinical 8.1.1 or upgrade to Siebel Clinical 8.1.1

    For more information, refer to the Installation/Upgrade section of the *Siebel Bookshelf, Version 8.1*, and click the links to the guides that are relevant to your organization's implementation.
- ❑ Install X Window System emulation software.

  The Oracle Universal Installer utility installs the Oracle Health Sciences Clinical Development Analytics application. Because the Installer uses the X Window System to display its interface, you must perform the installation either from a system monitor that supports rasterized graphical displays, or from a computer

with X Window System emulation software. We recommend that you use Hummingbird Exceed 7.0 or later to enable an X Window display on your system.

Note: To prevent screen display problems while running the Oracle Universal Installer in Exceed, go to **XConfig** > **Screen Definition** > **Screen 0** and change Window Manager from Default to Native.

1.9 Creating an Oracle Life Sciences Data Hub User Account and Assigning Required Roles

Before you can install the CDA software, you must create an Oracle LSH user account if one does not already exist.

Once you create the user account, you must assign the following security roles to the account:

- LSH Super User
- LSH Security Bootstrap Admin
- LSH Checkin Admin

During the installation of the CDA software, the Oracle Universal Installer prompts you for the name of the user you created.

See Also:

Oracle Life Sciences Data Hub System Administrator's Guide (Setting Up User Accounts section in Chapter 10, Setting Up the Security System), for more information on Oracle LSH user accounts and security roles.

1.9.1 Creating an Oracle Life Sciences Data Hub User Account

System administrators and security administrators have privileges to create user accounts for the Oracle LSH application. You use the administration tools in the Oracle E-Business Suite to create and update user accounts.

To create an Oracle LSH user account:

1. Log in to the Oracle E-Business Suite application as the sysadmin user. The Oracle User Management screen appears.
2. Select the **User Management** responsibility in the navigator, and then click **Users** from the User Management column. The Oracle User Management User Maintenance screen appears.
3. Click the **Register** field, and then select **External Organization Contact** from the list.
4. Click **Go.** The Register Business Contact screen appears.
5. Enter values in the following fields:
   - **Email Address —** Enter the e-mail address for this user. Oracle LSH uses this address to correspond with the user.
   - **Name Fields —** Enter the name of the user in the fields. The First Name and the Last Name are mandatory. The Prefix, Middle Name, and Suffix are optional.
   - **Organization —** Enter the organization to which the user belongs.

- **Phone Number —** Enter the telephone contact details for this user.
- **Account Information--Password —** Select one of the options. If you select **Generate Automatically,** the system generates the password, and then sends the password to the e-mail address you specified for this user.

  If you select **Enter Manually,** you type and confirm the password, and inform the user what it is. The user will have to reset the password in either case.

6. Click **Submit.** The Confirmation screen appears.
7. Click **OK.** The system creates the user account and returns to the User Management screen.

1.9.2 Creating Oracle Life Sciences Data Hub Database Accounts

To create a database account for a Definer, do the following:

1. Click the **Database Account** subtab under the Administration tab. The Database Account screen opens.
2. Click **Create**. The Create Database Account screen opens.
3. Enter values in the following fields:
   - **User Name**. Click the Search icon and enter search criteria for the Oracle LSH user for whom you are creating a database account.
   - **Database Account Name**. Enter a username for the database account. The text you enter is stored in uppercase.
   - **Password**. Enter a password of 8 characters or more for the Definer to use with the database account.
   - **Confirm Password**. Reenter the password.

   Note: For security reasons, the user should reset the password in his or her Preferences screen.

4. Click **Apply**. The system returns you to the Database Account screen.

1.9.3 Database Accounts for Use in Definition

You must create an Oracle Life Sciences Data Hub (Oracle LSH) database account for Definers who need to use an integrated development environment (IDE) that requires logging back into the Oracle LSH database to view Oracle LSH data. These IDEs include:

- SAS in Connected mode (read-only access)
- Oracle Reports (read-only access)
- SQL*Plus (read and write access)
- Informatica (read-only access)
- Oracle Business Intelligence (read-only access)

When the Definer launches the IDE, he or she is typically prompted to enter an Oracle LSH database account username and password.

Oracle LSH database accounts maintain a mapping between a Definer's regular Oracle LSH application user account and his or her database account. If the Definer enters the

same database account information that is mapped to his or her Oracle LSH user account, the system grants access to the data required by the Program the Definer is working on.

Note: A database account is not required to use Oracle Business Intelligence Enterprise Edition to create visualizations of Oracle LSH data.

If you are using CDA deduplication capabilities, create Database Accounts for the user. This account is used for Message-Based Submissions in LSH, you can use any LSH application user who has privileges to execute the OCDA_PLS_ETL_WORKFLOW_PRG.

1.9.4 Assigning Application Roles to the Oracle Life Sciences Data Hub User Account

To assign the required application roles to the Oracle LSH user account:

1. Select the **User Management** responsibility in the navigator, and then click **Users** from the User Management column. The Oracle User Management User Maintenance screen appears.
2. Search for the user to whom you want to assign one or more roles.
3. Click the Update icon corresponding to the user. The Update User screen appears.
4. Click the **Roles** tab, and then click **Assign Roles.** The Search and Select screen appears.
5. Search for all Oracle LSH predefined roles by selecting Search By Role, entering LSH%, and clicking Go.

   The system displays all the predefined Oracle LSH application roles in the lower part of the screen.
6. Select the following check boxes to assign the required roles:
   - LSH Checkin Admin
   - LSH Security Bootstrap Admin
   - LSH Super User
7. Click **Select.** The system adds the roles to the user and the Update User screen appears.
8. Enter a justification for assigning each role to the user.
9. Click **Apply.** The system assigns the roles to the user and returns to the User Maintenance screen.

2

Oracle Health Sciences Clinical Development Analytics Installation

This chapter presents an overview of the Oracle Universal Installer and CDA installation process. It also describes the CDA Installation tasks that you must complete for different environments. This chapter includes the following topics:

Note: You can install CDA using any OBIEE configuration supported by Oracle LSH.

2.1 About Oracle Health Sciences Clinical Development Analytics Installation

CDA has multi-server architecture. There are two parts of installation:

- Running the CDA Installer on Windows
- Running the CDA Installer on Unix

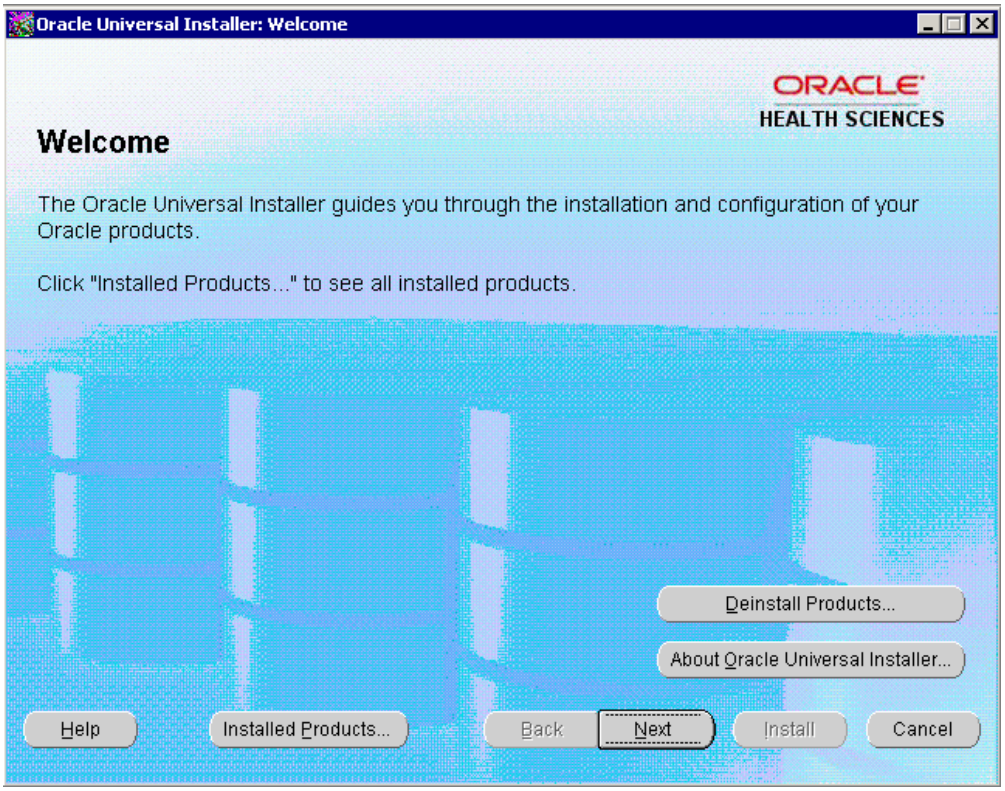
2.2 About the Oracle Universal Installer

CDA uses the Oracle Universal Installer to guide you through each step of the installation process.

The Oracle Universal Installer provides the following features:

- Describes the installation options for CDA.
- Detects pre-set environment variables and configuration settings.
- Sets environment variables and configuration during installation.
- Offers configuration options for a customized installation of CDA.

Figure 2–1 Welcome Screen



- **Deinstall Products —** Uninstalls individual components or the entire product. Note that this button appears only on the Welcome screen.
- **About Oracle Universal Installer —** Displays the version number of the installer in use.
- **Help —** Opens detailed information about the functionality of each screen.
- **Installed Products —** Lists the products currently installed. In addition, provides the option to uninstall entire products or components.
- **Back —** Returns to the previous screen.
- **Next —** Goes to the next screen.
- **Install —** Begins the process of installing the software.
- **Cancel —** Cancels the installation process and exits the installer.

2.2.1 Requirements for Tablespace

Before you run the installer, make sure that the autoextend feature is enabled for the following tablespaces in the Oracle LSH database:

- APPS_TS_MEDIA
- APPS_TS_TX_DATA
- APPS_TS_TX_IDX
- APPS_UNDOTS1
- CTXSYS

Oracle recommends the following tablespace free space (minimum):

- APPS_TS_MEDIA – 1 GB of free space
- APPS_TS_TX_DATA – 2 GB of free space

2.3 Gathering Table Statistics

Before you install CDA, run the *Gather Schema Statistics* concurrent program to gather table statistics. The concurrent program can be run from the System Administrator Responsibility to generate statistics. Perform the following steps:

WARNING: Ensure there are no other concurrent jobs are running when you gather table statistics; else those concurrent jobs might complete with errors.

1. Log in to Oracle LSH with the System Administrator responsibility.

   For example, you can use the sysadmin account and password.

2. Navigate to **System Administrator** > **Run**.

   The Submit a New Request window opens in Oracle Applications Profile Forms.

3. Click **OK**.

   The Submit Request window opens.

4. In Name, select **Gather Schema Statistics**.

5. Click in the Parameters field.

6. In the Parameters window, enter `CDR` as the Schema Name.

   This can be run for specific schemas by specifying the schema name or entering CDR to gather statistics for every schema in the database.

7. Click **OK**.

8. Click **Submit**.

9. Perform step 2 through 8 for APPS schema also.

To check if the *Gather Schema Statistics* concurrent program you submitted has executed successfully, perform the following steps:

1. Log in to Oracle LSH with the System Administrator responsibility.

   For example, you can use the sysadmin account and password.

2. Navigate to **System Administrator** > **View**.

   The Find Requests window opens in Oracle Applications Profile Forms.

3. Select **All My Requests**.

4. Click **Find**.

2.4 Running the CDA Installer on Windows

The basic CDA components are installed using the Oracle Universal Installer. The installer gathers all the information about the database connectivity, data mart, Informatica repository by presenting a sequence of prompt screens and then installs the components accordingly.

Important: Make sure that both the Oracle Database client and the Informatica client are available on the same system where you plan to execute the installer.

Perform the following steps to install the CDA application on Windows:

1. Extract the contents of the media pack into a temporary directory (For example, C:\ocda_temp).
2. Navigate to the \install directory under the extracted temporary folder.
3. Double-click the setup.exe file to launch the Oracle Universal Installer with the Welcome screen.

   The installer will take you through a series of screens having fields. Attend to the Installer's prompts. The following sections describe each Installer screen, and the required action.
4. Review the Oracle Universal Installer Welcome screen and click **Next**. The Welcome screen provides information about the Oracle Universal Installer. The following function buttons appear on the installation screens:
5. Click **Next**.
6. Specify Home Details screen is displayed.

   The OHSCDA Home path is the location where all the staged files from the Installer will get copied to the local system. This is also the location from where Installer would execute the database and Informatica scripts.

   Example Name: OCDAHome1

   Path: C:\OCDA
7. Click **Next**.
8. Install or Upgrade OHSCDA screen is displayed.

   Specify whether you want to make a fresh installation of OHSCDA or upgrade an existing OHSCDA instance.
9. Click **Next**.
10. OHSCDA Data Warehouse Details screen is displayed.

    This screen collects all the information regarding the OHSCDA data warehouse details.

    Enter values in the following fields:

    System Password for OHSCDA Database: This is the System Password of the database where OHSCDA DataWarehouse will be deployed.

    OHSCDA Warehouse Target Connect Name: Logical Name for Connection to be created in Informatica. For example, DataWarehouse. For upgrade, this should be same as the one already configured in Oracle DAC and Informatica PowerCenter.

    Connect String of the Warehouse: Connection of the database where OHSCDA DataWarehouse will be deployed.

    OHSCDA Warehouse Schema (RXI) Password:

    OHSCDA RPD (RXI_MDM) Password:

    Default Table Space:

Temporary Table Space:

11. Click **Next**.
12. OHSCDA Informatica PowerCenter Details screen is displayed.

    This screen collects all information to connect to the Informatica server.

    Enter values in the following fields:

    Informatica Repository Name : Informatica Repository Name where you plan to import OHSCDA Informatica mappings.

    Informatica Domain Name: Domain of the Informatica repository.

    Informatica Hostname: Host name of the Informatica server.

    Informatica Repository Port Number: Port number of the Informatica server.

    Informatica Username with admin privileges: User with Admin privilege to import XMLs.

    Informatica Password for Admin user:

13. Click **Next**.
14. OHSCDA Informatica PowerCenter Client Home Directory screen is displayed.

    The Informatica PowerCenter client home path is required for the installer to run successfully.

    Example:

    Informatica PowerCenter client home: D:\Informatica\9.0.1\clients\PowerCenter client\client

15. Click **Next**.
16. Multi Source Integration screen is displayed.

    Select **Yes** to confirm that you plan to use multi source integration feature of OHSCDA.

    If you do not plan to use multi source integration, select **No** and move to step 21.

17. Click **Next**.
18. Oracle WebLogic Server Details for OHSCDA screen is displayed.

    Enter values in the following fields:

    Username for accessing Oracle WebLogic : Enter a new username. Make sure that the same username is created in Section 3.12.5.4, "Setting Up the User,".

    Password for the user :

19. Click **Next**.
20. Oracle Healthcare Master Person Index screen is displayed.

    Enter values in the following fields:

    System Password for OHMPI Database : System Password of the database where OHMPI model will be deployed

    sys Password for OHMPI Database: SYS password of the database where OHMPI model will be deployed

    Master Password for OHMPI Schemas: Master Password that will be set to all 15 OHMPI schemas.

Connect String of OHMPI Schemas:

Default Table Space:

Temporary Table Space:

21. Click **Next**.
22. Summary screen is displayed.

    Verify setting => details provided in the summary screen.
23. Click **Install**.

    At the completion of the installation, you can inspect the installation log at:

    <ocda_home>\install\ocda_install.log.

2.5 Running the CDA Installer on Unix

Consider the following configuration specific instructions:

- If you have Oracle LSH and the database on the same server, perform the following tasks:
  1. Ensure that you have the required tablespace. For more information, refer Section 2.2.1, Requirements for Tablespace.
  2. Gather table statistics. Perform steps listed in Section 2.3, Gathering Table Statistics.
  3. On the server where you want to install Oracle LSH, perform the steps listed in Section 2.5.1, Installing CDA on the Same Server as Oracle LSH.
- If you have the database is installed on a separate server than Oracle LSH:
  1. Ensure that you have the required tablespace. For more information, refer Section 2.2.1, Requirements for Tablespace.
  2. Gather table statistics. Perform steps listed in Section 2.3, Gathering Table Statistics.
  3. On the database server were you want to install Oracle LSH, perform steps listed in Section 2.5.2, Installing CDA on a Stand-alone Database Server.

2.5.1 Installing CDA on the Same Server as Oracle LSH

To install the CDA application on the Oracle LSH Server on Unix:

Important: This section assumes that the Oracle database is located on the same server as the middle-tier.

---

1. Log in as owner of Oracle Applications middle-tier.
2. Source the APPSORA.env file in $APPL_TOP of your Oracle LSH installation to set the environment variables.
3. Verify that the Oracle Applications variable $APPLPTMP is defined and that the permissions on the directory are correct and set to 777.

   Ensure that both the applmgr user and the database user oracle have read/write permissions on $APPLPTMP. CDA installation uses this standard location to stage a file that needs to be loaded into the Oracle LSH database.

4. Insert the CD labeled Oracle Health Sciences Clinical Development Analytics 2.1 into the CD-ROM drive. Transfer the platform specific zip file on the disc to the Oracle LSH server. Extract the contents of the platform specific zip file.

   If you downloaded the CDA media pack from the Oracle E-Delivery Web site, navigate to the directory where you downloaded and extracted the media pack. Locate the platform specific zip file. Transfer the platform specific zip file to the Oracle LSH server. Extract the contents of the platform specific zip file.

5. Assign 755 permissions to the contents of the install folder where the installer is unzipped

   ```
   chmod -R 755 <Path to directory where the installer is unzipped>
   ```

6. Navigate to the following directory:

   ```
   install
   ```

7. Set the X Window display output to your local computer's IP address. For example:

   ```
   C shell: setenv DISPLAY 123.45.67.89:0l
   ```

8. Invoke the **runInstaller** executable to launch the installer.

   ```
   ./runInstaller
   ```

   The installer opens the Welcome screen, which provides information about the Oracle Universal Installer and its options.

9. Click **Next**

10. If you are running the installer for the first time, the Specify Inventory Directory and Credentials screen appears.

    Click **Browse** to navigate through the available directory to select a location. Select **Operating System Group Name** from the drop-down list.

11. Click **Next** to continue. In the Specify Home Details screen:

    a. Enter a name for this installation.

    b. Enter the full path to Oracle home directory. You can click **Browse** to navigate through the available directories to select a location for the Oracle home directory.

12. Click **Next** to continue. In the Oracle CDA Home Directory screen, enter the full path to Oracle CDA home.

    Oracle CDA home is the directory where the installer puts required installation and log files. It is a permanent directory, retained after installation. Oracle recommends that you create CDA home directory under APPL_TOP (sourced by the APPSORA.env file). For example,

    In Unix, <Path to APPL_TOP>/cda

13. Click **Next** to continue. In Enter Temporary Staging Area for the Domain File screen, do not modify the default location (the value of APPLPTMP). This is the temporary staging area from where OCDA_domain.zip will be loaded into the database.

14. Click **Next**on Application Server screen.

15. Click **Next** to continue. In the Enter Database TNS Name screen, enter a Transparent Network Substrate (TNS) name.

16. Click **Next** to continue. In the Enter User Name for the Oracle Applications screen, enter a user name that you created as part of the Oracle Applications installation.
17. Click **Next** to continue. In the Enter Password for the Oracle Applications User Name screen, enter the password for the Oracle Applications user name you specified, and then confirm the password.
18. Click **Next** to continue. In the Enter User Name for Oracle LSH Application screen, enter an existing user name.

    You created this user as a prerequisite to installing CDA.
19. Click **Next** to continue. In the Enter Password for the Oracle LSH Application User Name screen, enter the password for the Oracle LSH user name you specified, and then confirm the password.
20. Click **Next** to continue. In the Enter Password for the System User screen, enter the password for the System database user, and then confirm the password.
21. Click **Next** to continue. In the Enter Data Tablespace Name screen, enter the name for an existing data tablespace APPS_TS_TX_DATA.
22. Click **Next** to continue. In the Enter Temporary Tablespace Name screen, enter the name for the temporary tablespace that is used for the RXI user.
23. Click **Next** to continue. Information screen reminds you to inspect log files. The following log files are generated in Unix environment:
24. Click **Next** to continue. On the Summary screen, review the information about your CDA installation.
    - setup.txt, ocda_schema_creation.log, and error.txt in CDA home directory
    - OCDA_domain_import.log in APPLPTMP directory.
25. Click **Install** to begin the installation.
26. Verify the log files.

Note: During the OCDA_Domain import, you can monitor QuickLog.log in CDA_home directory. It shows current import activities that are done by LSH release utilit.y

If you observe that OCDA_domain import, during installation, is taking more than 3 hours, gather the schema statistics by following the steps in sectionSection 2.3, "Gathering Table Statistics" on page 2-3

2.5.2 Installing CDA on a Stand-alone Database Server

To install the CDA application when the database is located on a separate server than Oracle LSH (split configuration):

1. Log in as owner of the Oracle Relational Database Management System (RDBMS) software.
2. Insert the CD labeled Oracle Health Sciences Clinical Development Analytics 2.1 into the CD-ROM drive. Transfer the platform specific zip file on the disc to the Oracle LSH server. Extract the contents of the platform specific zip file.

   If you downloaded the CDA media pack from the Oracle E-Delivery Web site, navigate to the directory where you downloaded and extracted the media pack. Locate the platform specific zip file. Transfer the platform specific zip file to the Oracle LSH server. Extract the contents of the platform specific zip file.

3. Assign 755 permissions to the contents of the install folder where the installer is unzipped.

   ```
   chmod -R 755 <Path to directory where the installer is unzipped>
   ```

4. Navigate to the following directory:

   ```
   install
   ```

5. Set the X Window display output to your local computer's IP address. For example:

   ```
   C shell: setenv DISPLAY 123.45.67.89:0l
   ```

6. Invoke the **runInstaller** executable to launch the installer.

   ```
   ./runInstaller
   ```

   The installer opens the Welcome screen, which provides information about the Oracle Universal Installer and its options.

7. Click **Next** to continue. In the Specify Home Details screen:

   a. Enter a name for this installation.

   b. Enter the full path to Oracle home directory. You can click **Browse** to navigate through the available directories to select a location for the Oracle home directory.

8. Click **Next** to continue. In the Oracle CDA Home Directory screen, enter the full path to Oracle CDA home.

   Oracle CDA home is the directory where the installer puts required installation and log files. It is a permanent directory, retained after installation. Oracle recommends that you create CDA home directory under the ORACLE_HOME. For example,

   In Unix, <Path to ORACLE_HOME>/cda

9. Click **Next** to continue. In Enter Temporary Staging Area for the Domain File screen, enter the full path of the temporary staging area from where OCDA_ domain.zip will be loaded into the database.

   This is a temporary directory where the installer will copy a file that needs to be loaded into the Oracle Database. Enter a valid location. Ensure that this directory has full permission for processes to read/write to this directory. The Oracle database must also have access to this directory so that it can read/write. It is necessary that you set up this directory in the database init.ora settings.

10. Click **Next** on Application Server screen.

11. Click **Next** to continue. In the Enter Database TNS Name screen, enter a Transparent Network Substrate (TNS) name.

12. Click **Next** to continue. In the Enter User Name for the Oracle Applications screen, enter a user name that you created as part of the Oracle Applications installation.

13. Click **Next** to continue. In the Enter Password for the Oracle Applications User Name screen, enter the password for the Oracle Applications user name you specified, and then confirm the password.

14. Click **Next** to continue. In the Enter User Name for Oracle LSH Application screen, enter an existing user name.

    You created this user as a prerequisite to installing CDA.

15. Click **Next** to continue. In the Enter Password for the Oracle LSH Application User Name screen, enter the password for the Oracle LSH user name you specified, and then confirm the password.
16. Click **Next** to continue. In the Enter Password for the System User screen, enter the password for the System database user, and then confirm the password.
17. Click **Next** to continue. In the Enter Data Tablespace Name screen, enter the name for an existing data tablespace APPS_TS_TX_DATA.
18. Click **Next** to continue. In the Enter Temporary Tablespace Name screen, enter the name for the temporary tablespace that is used for the RXI user.
19. Click **Next** to continue. Information screen reminds you to inspect log files. The following log files are generated in Unix environment:
20. Click **Next** to continue. On the Summary screen, review the information about your CDA installation.
    - setup.txt, ocda_schema_creation.log, and error.txt in CDA home directory
    - OCDA_domain_import.log in the directory selected in step 8.
21. Click **Install** to begin the installation.
22. Verify the log files.

Note: During the OCDA_Domain import, you can monitor QuickLog.log in CDA_home directory. It shows current import activities that are done by LSH release utility.

If you observe that OCDA_domain import, during installation, is taking more than 3 hours, gather the schema statistics by following the steps in sectionSection 2.3, "Gathering Table Statistics" on page 2-3

After you have finished all the installation tasks, you must perform the post installation tasks listed in Chapter 3, Post Installation Tasks.

3

Post Installation Tasks

This chapter describes post installation tasks that you must complete before you begin to use the CDA. This chapter includes the following topics:

3.1 Creating Informatica Error Logging and Oracle Health Sciences Clinical Development Analytics Auxiliary Tables

To create error logging and auxiliary tables:

1. Log in to LSH database as Apps user.
2. At the SQL prompt, enter:

   ```
   @ocda_ddl_pmerr_table_creation.sql
   ```

   The execution of this script creates four error logging tables used by Informatica.
3. At the SQL prompt, enter:

   ```
   @ocda_ddl_non_lsh_tables.sql
   ```

   The execution of this script creates auxiliary tables required for CDA.

Both the script files are available in the staging area for Windows installer.

Creating Views Atop Siebel Clinical 8.0.x

If your Siebel Clinical version is below 8.1.1, you must create view atop Siebel Clinical 8.0.x.

Following are the prerequisites for creating views:

- Create a user <OCDA_SC_SRC> with grants for connect, resource, create any synonym, and create any view privileges.
- The user who is executing this script should have the create view privilege for the <OCDA_SC_SRC> schema.
- The user <OCDA_SC_SRC> should have privileges to select data from the Siebel source tables listed in the script.
- <OCDA_SC_SRC> schema login is used in the load set OCDA_SC_OLTP_RL which reads Siebel data.

1. Log in to Siebel Clinical source database.
2. At the SQL prompt, enter:

   ```
   @ocda_ddl_view_siebel_8.1.1.sql
   ```

   The execution of this script creates views atop Siebel Clinical.

Creating Synonyms Atop Siebel Clinical 8.0.x

You should use synonym creation script only if:

- You have used the ocda_ddl_view_siebel_8.1.1.sql script to create views, so that rest of the tables needed are created as synonym.
- You would like to create a separate schema and restrict access to selected data from the Siebel tables.

Following are the prerequisites for creating synonyms:

- Create a user <OCDA_SC_SRC> with grants for connect, resource, create any synonym, and create any view privileges.
- The user who is executing this script should have the create synonym privilege for the <OCDA_SC_SRC> schema.
- The user <OCDA_SC_SRC> should have privileges to select data from the Siebel source tables listed in the script.
- <OCDA_SC_SRC> schema login is used in the load set OCDA_SC_OLTP_RL which reads Siebel data.

To create synonyms atop Siebel Clinical 8.0.x:

1. Log in to Siebel Clinical source database.
2. At the SQL prompt, enter:

   ```
   @ocda_ddl_synonym_siebel_8.1.1.sql
   ```

   The execution of this script creates synonyms atop Siebel Clinical.

3.2 Setting Up Service Locations

The following services must be available in OHSCDA:

- OBIEE services
- Informatica service

See Also:

- *Oracle Life Sciences Data Hub System Administrator's Guide* (Defining Service Locations section in Chapter 1, Setting Up Services), for more information on setting up service locations in Oracle LSH.
- *Oracle Life Sciences Data Hub Installation Guide* (Integrating Informatica with the Oracle Life Sciences Data Hub section in Chapter 8, Integrating with Other Systems), for more information on setting up Informatica services in Oracle LSH.

Perform the following steps to confirm which services are shipped with OHSCDA:

You use Oracle LSH to set up the services for CDA. To log in to Oracle LSH, you must have a Web browser on your computer and the URL, user name, and password provided by your company.

1. Log in to Oracle LSH:
   a. Open your Web browser.
   b. Enter the URL provided by your company.
   c. Login as a user with LSH System Administrator role.
2. Click the **Life Sciences Data Hub** link. The system displays all the screens to which you have security access.
3. Click **Applications.** The system opens the Applications tab.
4. Click the **Select Domain** field, and enter `OCDA_domain`.
5. Click **Go.** The Application Area displays its associated Work Areas.
6. Expand **OCDA_OBIEE_CODE_APP_AREA.**
7. Expand **OCDA_OBIEE_WA.**
8. Click **OCDA Data Warehouse.**
9. Look in the Attributes section and write down the OBIEE Service Location Name.
10. Create an OBIEE Service Location with the same name as given in the previous step. There are three types of OBIEE services; OBIEE Business Area Install Service, OBIEE Business Area Deploy Service, and OBIEE Business Area IDE Service. You must create all three. If you want to specify a different name for the service location, do the following:
    a. Check out the business area.
    b. Update the service location name.

> **Caution:** Ensure that the Informatica Distributed Processing (DP) Server is up and running. For more information on setting up DP Server in Oracle LSH, refer to *Oracle Life Sciences Data Hub System Administrator's Guide* (Setting Up the Distributed Processing Server section in Chapter 1, Setting Up Services.

Ensure that the **Number of Service Instances** parameter is as given below. In LSH, navigate to **Administration** > **service locations**. Following are values for:

Informatica service location:

Table 3–1 Values for Informatica Service Location

Service Type	Priority	Status	Number of Service Instances
Informatica for Development	Normal	Enabled	50
Informatica	Normal	Enabled	150

PLSQL service location:

Table 3–2 Values for PLSQL Service Location

Service Type	Priority	Status	Number of Service Instances
PLSQL for Development	Normal	Enabled	10
PLSQL	Normal	Enabled	30

3.3 Setting Up Remote Locations in Oracle Life Sciences Data Hub

OHSCDA installs a default domain OCDA_domain. You must configure remote locations on this domain. The following are the remote locations:

- OCDA_OC_OLTP_RL is the remote location using which you connect to the source Oracle Clinical database to extract data. Configure this remote location, if you use Oracle Clinical as your data source.
- OCDA_SC_OLTP_RL is the remote location using which you connect to the source Siebel Clinical database to extract data. Configure this remote location, if you use Siebel Clinical as your data source.
- OCDA_CUSTOM_OLTP_RL is the remote location to RXI schema, which has OCDA-specific tables. Irrespective of the data source, configure this remote location.

3.3.1 Configuring Remote Locations for Passthrough Views

To configure the remote location OCDA_OC_OLTP_RL:

1. Click the **Remote Location** subtab under the Administration tab. The Maintain Remote Locations screen opens.
2. Click **Add Remote Location**. The Create Remote Location screen appears.
3. Enter values in the following fields:
   - Enter `OCDA_OC_OLTP_RL` as **Remote Location Name**.
   - **Description**. Enter a description of the Remote Location.
   - **DBLINK Prefix**. The name of the database link. If another DBLINK Prefix with the same name exists in the database, the system adds an additional string to make it unique. The DBLINK_NAME is usually the global name or the TNS name of the remote database.
   - **Connect String**. The name of the string that Oracle LSH must use in the USING clause of the create database link SQL statement. Connect string has following format:

```
((DESCRIPTION=(ADDRESS=(PROTOCOL=tcp)(HOST=hostname)(PORT=
dbportnumber))(CONNECT_DATA=(SID=dbsid))))
```

- **Adapter**. Select **Oracle Tables and Views** from the drop-down list.

4. Click **Apply**.

Repeat the above steps to configure the OCDA_SC_OLTP_RL and OCDA_CUSTOM_OLTP_RL remote locations.

See Also:

Oracle Life Sciences Data Hub System Administrator's Guide (Chapter 6, Registering Locations and Connections), for more information on registering locations and connections in Oracle LSH.

3.3.2 Configuring Connections

Once the remote location is created, add connections to the remote location.

To add connections to the remote location:

1. In the main screen for the Remote Location for which you want to create a Connection, click **Create Connection**. The Connection Maintenance screen opens.
2. Click **Create Connection**. The Create Connection screen appears.
3. Enter values in the following fields:

Table 3–3 Connections for OCDA_OC_OLTP_RL

Name	User Name	Password
RXC	RXC	Password to access the RXC schema in Oracle Clinical.
RXA_DES	RXA_DES	Password to access the RXA_DES schema in Oracle Clinical.
OPA	OPA	Password to access the OPA schema in Oracle Clinical.

Table 3–4 Connections for OCDA_SC_OLTP_RL

Name	User Name	Password
siebel	siebel	Password to access the Siebel Clinical schema.

Note: If you have used either the view creation script or the synonym creation script, you must use the same user who is the owner of the schema for setting OCDA_SC_OLTP_RL.

Table 3–5 Connections for OCDA_CUSTOM_OLTP_RL

Name	User Name	Password
RXI	RXI	Password to access the RXI schema.

4. Click **Apply**.

5. Repeat for each connection.

3.3.3 Configuring Load Set Attributes

Perform the following steps in Oracle LSH to configure load set attributes for OCDA_OC_OLTP_RL:

1. Navigate to the OCDA_SOURCES_APP_AREA.
2. Click **OCDA_OC_DATA_WA** work area.
3. Click **OCDA_OC_RXA_DES_LS** load set.
4. Click **Check Out**.
5. Click **Apply**.
6. In the Load Set Attributes section, click **Update**.
7. Click the Search icon for **Remote Location** field.
8. Select **OCDA_OC_OLTP_RL/RXA_DES**.
9. Click **Apply**.
10. Repeat step 4 through 7 for OCDA_OC_RXC_LS and OCDA_OC_OPA_LS.
11. Select **OCDA_OC_OLTP_RL/RXC**and **OCDA_OC_OLTP_RL/OPA** for their respective load sets.
12. Click **Apply**.
13. Reinstall the work area containing the load set and passthrough views.

Perform the following steps in Oracle LSH to configure load set attributes for OCDA_SC_OLTP_RL:

1. Navigate to the OCDA_SOURCES_APP_AREA.
2. Click **OCDA_SC_DATA_WA** work area.
3. Click **OCDA_SC_LS** load set.
4. Click **Check Out**.
5. Click **Apply**.
6. In the Load Set Attributes section, click **Update**.
7. Click the Search icon.
8. Select **OCDA_SC_OLTP_RL/SIEBEL**.
9. Click **Apply**.
10. Reinstall the work area containing the load set and passthrough views.

Perform the following steps in Oracle LSH to configure load set attributes for OCDA_CUSTOM_OLTP_RL:

1. Navigate to the OCDA_SOURCES_APP_AREA.
2. Click **OCDA_CUSTOM_TABLE_WA** work area.
3. Click **OCDA_RXI_LS** load set.
4. Click **Check Out**.
5. Click **Apply**.
6. In the Load Set Attributes section, click **Update**.

7. Click the Search icon.
8. Select **OCDA_CUSTOM_OLTP_RL/RXI**.
9. Click **Apply**.
10. Reinstall the work area containing the load set and passthrough views.

See Also:

Oracle Life Sciences Data Hub Application Developer's Guide (Chapter 12, Using, Installing, and Cloning Work Areas), for more information on using, installing, and cloning work areas.

3.4 Setting Up the Source System

By default, CDA is configured to use both Oracle Clinical and Oracle's Siebel Clinical as the data source. If you want to use *only* Oracle Clinical or *only* Siebel Clinical as a single data source, perform the following steps:

3.4.1 Creating Source Configuration Schema and Tables

The following steps create a user and replica of Oracle Clinical and Siebel Clinical empty source tables:

1. Log in to Oracle LSH as a system user.
2. Execute OCDA_SRC_CONFIG_USER_TABS.sql script from the temporary staging location.

   This prompts you to enter the following information:

   - Password for 'OCDA_CONFIG' Schema user: Enter the Password for OCDA_CONFIG schema user.
   - DEFAULT_TABLESPACE: Enter the default tablespace name.
   - TEMP_TABLESPACE: Enter the temporary tablespace name.
3. Create a new remote location in Oracle LSH with the name OCDA_CONFIG_RL, pointing to the Oracle LSH database. Refer to Configuring Remote Locations for Passthrough Views, on page 3-4 for more details.
4. Follow the steps in Configuring Connections, on page 3-5to create a connection to the schema OCDA_SRC_CONFIG.

If you are disabling Oracle Clinical, perform the following steps in Oracle LSH to configure load set attributes for OCDA_OC_OLTP_RL:

1. Navigate to the OCDA_SOURCES_APP_AREA.
2. Click **OCDA_OC_DATA_WA** work area.
3. Click **OCDA_OC_RXA_DES_LS** load set.
4. Click **Check Out**.
5. Click **Apply**.
6. In the Load Set Attributes section, click **Update**.
7. Click the Search icon for **Remote Location** field.
8. Select **OCDA_CONFIG_RL/OCDA_CONFIG**.
9. Click **Apply**.

10. Repeat step 4 through 7 for OCDA_OC_RXC_LS and OCDA_OC_OPA_LS.
11. Reinstall the work area containing the load set and passthrough views in Full mode.

If you are disabling Siebel Clinical, perform the following steps in Oracle LSH to configure load set attributes for OCDA_SC_OLTP_RL:

1. Navigate to the OCDA_SOURCES_APP_AREA.
2. Click **OCDA_SC_DATA_WA** work area.
3. Click **OCDA_SC_LS** load set.
4. Click **Check Out**.
5. Click **Apply**.
6. In the Load Set Attributes section, click **Update**.
7. Click the Search icon for **Remote Location** field.
8. Select **OCDA_CONFIG_RL/OCDA_CONFIG**.
9. Click **Apply**.
10. Reinstall the work area containing the load set and passthrough views in Full mode.

To Install the OCDA_UTIL_WA Workarea and Execute the Source Configuration Script

1. In Oracle LSH, navigate to **OCDA_domain** > **OCDA_CODE_APP_AREA**.
2. Click **OCDA_UTIL_WA**.
3. Click **Installation**.
4. In the Work Area Install screen, select the following options:
   - Install Mode: **Full**
   - Install Option: **Force Script Re-generation**
5. In Work Area Objects, click **Omit None**.
6. Click **Apply and Install**.
7. Log in to the Oracle LSH database server as an apps user, navigate to the directory where *ocda_src_config.sql* is placed.
8. Run the following command:

   ```
   sqlplus apps/<apps_password>@<DB_INSTANCE> @ocda_config_
   src.sql
   ```

   This prompts you to enter the following information:

   - User Name: Enter the LSH application user account as created in the Creating an Oracle Life Sciences Data Hub User Account section on page 1-11.
   - Password: Enter the LSH application user account password as created in the Creating an Oracle Life Sciences Data Hub User Account section on page 1-11.
   - Source System: Enter the source system ID to disable to disable. The possible values are:

     ```
     1 - ORACLE CLINICAL

     2 - SIEBEL CLINICAL
     ```

```
3 - Exit
```

3.5 Managing Source System Specific Requirements

3.5.1 Fine-tuning Oracle Clinical Settings

To optimize source system integration with CDA, perform the following:

1. For OC 4.6, navigate to **Informatica Relational Connections** > **OC Connection Object** > **Attribute** in Informatica Workflow Manager.
2. Set **Connection Environment SQL** value as :
   - Oracle Database 11.2.0.2 - alter session set optimizer_features_enable='11.2.0.2'
   - Oracle Database 11.1.0.7 - alter session set optimizer_features_enable='11.1.0.7'
3. Create the following indexes on their respective Oracle Clinical tables:
   - Function based index on DISCREPANCY_ENTRIES - NVL ("MODIFICATION_TS", "CREATION_TS")
   - Function based index on DISCREPANCY_ENTRY_REVIEW_HIST - NVL ("NEXT_STATUS_TS", "CREATION_TS")
   - Function based index on RECEIVED_DCIS - NVL ("MODIFICATION_TS", "RECEIVED_DCI_ENTRY_TS")
   - Function based index on RECEIVED_DCMS - NVL ("MODIFICATION_TS", "RECEIVED_DCM_ENTRY_TS")

3.5.2 Handling Deletions in Siebel Clinical

CDA provides an optional feature to manage hard deletion of records in Siebel Clinical. You create triggers in the source system to handle deletion of records. To do this:

1. Navigate to the temporary staging location where the CDA installer copies the installation files.
2. Connect to the Siebel Clinical data source and run the OCDA_HOME/oracle.pharma.ocda.standard/Delete_Script/ocda_sc_del_triggers.sql script delivered with CDA. This script creates the RXI_DELETE_LOG_S table and triggers on tables provided as input. The following are the tables in Siebel Clinical for which CDA supports creating triggers:
   - S_CL_PTCL_LS
   - S_PROD_INT
   - S_CL_SUBJ_LS
   - S_CONTACT
   - S_CL_PGM_LS
   - S_PTCL_SITE_LS
   - S_EVT_ACT
   - S_ORG_EXT

Provide a list of comma separated values of table names for which the triggers needs to be created as the script's input. For example, S_CL_PTCL_LS,S_PROD_INT,S_CL_SUBJ_LS. The tables names that you provide can only be a subset of the tables listed above.

For information on how to handle deletion of records in Siebel Clinical, refer to *Oracle Health Sciences Clinical Development Analytics Administrator's Guide* (Chapter 2, Extract Transform Load Programs).

3.6 Loading Oracle Health Sciences Clinical Development Analytics Seed Tables

Log in to the Oracle LSH database using the rxi account, and run the OCDA_W_RXI_LOV_S_seed.sql script from the temporary staging location.

This script inserts seed data into the W_RXI_LOV_S table.

3.7 Executing Oracle Life Sciences Data Hub Workarea Installation Script

Perform following steps before running the work area install script.

1. Navigate to **OCDA_domain** > **OCDA_CODE_APP_AREA** > **OCDA_WORK_AREA**
2. Select table instance W_LOV_D.
3. Check out the table instance.
4. Select the **Constraints/Indexes** tab.
5. Select **W_LOV_D_U2** constraint and remove it.
6. Navigate to **OCDA_domain** > **OCDA_CODE_APP_AREA** > **OCDA_WORK_AREA**.
7. Select table instance **OCDA_INFA_Party_Dim_SIL_PRG**.
8. Check out the program instance.
9. Select the **Table Descriptors** tab.
10. Select **W_HS_MAPPING_S table descriptor** and remove it.
11. Partially install **OCDA_INFA_Party_Dim_SIL_PRG** program instance and the **W_LOV_D** table instance.

Ensure that all the work areas in OCDA_domain are in Status **Installable**.

The exception OCDA_DWH_WA can be ignored as this is used to fetch definition and is not used during ETL execution.

On the Oracle LSH database server, navigate to the directory where OCDA_domain.zip is placed in staging area, and run the following work area (WA) installation script:

```
sqlplus apps/<apps_password>@<DB_INSTANCE>
@../cdrruwainstall.sql <LSH_APPL_USER> <DB_DIRECTORY> OCDA_
domain.zip
```

where:

<DB_INSTANCE> is the service name for the database where Oracle LSH is installed.

<LSH_APPL_USER> is the LSH user account as created in the Creating an Oracle Life Sciences Data Hub User Account.

<DB_DIRECTORY> is the logical DB directory name mapped to the Operating System (OS) directory containing the OCDA_domain.zip to be imported.

Note: Use the ocda_domain_import.log file to verify if the script has executed successfully.

3.8 Setting Oracle Health Sciences Clinical Development Analytics Repository Password

The default Administrator password for the CDA repository file (rpd) is *Admin123*. To set this default password in the deployed repository file, you must ensure that you set the Administrator password as Admin123 in Oracle LSH under the OBIEE Remote Location. To do this, perform the following tasks:

1. Create an OBIEE Remote Location in Oracle LSH. Perform steps listed in Section 3.8.1, Creating an OBIEE Remote Location.

   IMPORTANT: The Remote Location name must have the same name as the OBIEE service location name set up in the Setting Up Service Locations section.

2. Create an OBIEE Remote Location Connection and set the Administrator password as `Admin123`. Perform steps listed in Section 3.8.2, Creating an OBIEE Remote Location Connection.

3. Navigate to **OCDA_domain** > **OCDA_OBIEE_CODE_APP_AREA** > **OCDA_OBIEE_WA**, and install **OCDA Data Warehouse**.

   Note: Ensure that the work area status is Installable, else navigate to Business Area Instance OCDA Data Warehouse. Map table descriptors to their target table instances in OCDA_domain > OCDA_CODE_APP_AREA > OCDA_WORK_AREA.

You can use Oracle LSH to change the Administrator password once you have deployed the repository file. To do this, perform the following tasks:

1. Use the Oracle BI Administration tool to change the Administrator password in the deployed repository file.
2. Use Oracle LSH to update the new password in the OBIEE Remote Location Connection.
3. Use Oracle LSH to update the new password in the repository file stored in CDA Business Area. For more information about modifying the CDA repository file, refer to *Oracle Health Sciences Clinical Development Analytics User and Administrator Guide* (Chapter 4, Maintaining the Repository and Warehouse).

Note: If you use the Oracle BI Administration tool to make any changes to the repository including changes to the Administrator account password, you must manually upload that modified repository into Oracle LSH. If you do not upload the modified repository, changes are lost the next time you install the CDA Business Area.

3.8.1 Creating an OBIEE Remote Location

Perform the following steps in Oracle LSH to define a Remote Location:

1. Click the **Remote Location** subtab under the Administration tab. The Maintain Remote Locations screen opens.
2. Click **Add Remote Location**. The Create Remote Location screen appears.
3. Enter values in the following fields:
   - **Name**. Enter the exact same name you have given for the OBIEE service location.
   - **Description**. Not required.
   - **DBLINK Prefix**. Enter any value. The system does not use this value.
   - **Connect String**. Enter any value. The system does not use this value.
   - **Adapter**. Select **OBIEE** from the drop-down list.
   - **Conversion Multiplier**. Do not enter a value.
4. **Classification**: The system does not use these values.
5. Click **Apply** to save your work. The system opens the main screen for the new Remote Location.

   By default, the Remote Location inherits the user group assignments of the Adapter Area.

3.8.2 Creating an OBIEE Remote Location Connection

For each OBIEE Remote Location, create a Remote Connection.

Perform the following steps in Oracle LSH to define a Connection:

1. In the main screen for the Remote Location for which you want to create a Connection, click **Create Connection**. The Create Connection screen opens.
2. Enter values in the following fields:
   - **Name**. Enter a name for the Connection.
   - **Description**. Not required.
   - **User Name**. Enter `Administrator`.
   - **Password**. Enter `Admin123` as the password. Oracle LSH encrypts the password for security.
   - **Connection Type**. The system does not use this value.
   - **Remote Location**. The system populates the field with the name of the Remote Location for which you are defining this Connection.
3. **Classification**: The system does not use these values.

4. Click **Apply** to save your work. The system displays the main screen for the new Connection.

See Also:

- *Oracle Life Science Data Hub System Administrator's Guide* (Creating an OBIEE Remote Location and Connection for RPD Password Security)
- *Oracle Health Sciences Clinical Development Analytics Administrator's Guide* (Chapter 3, Implementing Security), for more information on implementing security in OHSCDA.

3.9 Creating Security Groups and Application Roles for CDA

3.9.1 Creating Groups

Perform the following to create groups:

1. Launch Oracle WebLogic Server Administration Console.
2. In Oracle WebLogic Server Administration Console, select **Security Realms** from the left pane and click the realm you are configuring. For example, **myrealm**.
3. Select **Users and Groups** tab, then **Groups**.
4. Click **New**.
5. In the **Create a New Group** page provide the following information:
   - **Name**: Enter the name of the group. Group names are case insensitive but must be unique. See online help for a list of invalid characters.
   - (Optional) **Description**: Enter a description.
   - **Provider**: Select the authentication provider from the list that corresponds to the identity store where the group information is contained. DefaultAuthenticator is the name for the default authentication provider.
6. Click **OK**

   The group name is added to the Group table.
7. Repeat step 4 through 6 with the following values:

Table 3–6 Security Group Parameters

Name	Description	Provider
OCDA-CRA	(Optional)	DefaultAuthenticator
OCDA-StudyManager	(Optional)	DefaultAuthenticator
OCDA-DataManager	(Optional)	DefaultAuthenticator
OCDA-ProjectManager	(Optional)	DefaultAuthenticator
OCDA-WebcatAdmin	(Optional)	DefaultAuthenticator

3.9.2 Creating Application Roles

Perform the following to create groups:

1. Log in to Oracle Enterprise Manager Fusion Middleware Control.

2. From the target navigation pane, open **Business Intelligence** and select **coreapplication**.
3. Right-click **coreapplication**, then select **Security** to display a submenu with **Application Policies** and **Application Roles** as options.
4. Select **Application Roles**. The Application Roles page is displayed.
5. Click **Create** to display the **Create Application Role** page. Complete the fields as follows:

   In the **General** section:

   - **Role Name** - Enter the name of the Application Role
   - (Optional) **Display Name** - Enter the display name for the Application Role.
   - (Optional) **Description** - Enter a description for the Application Role.
6. In the **Members** section, select **Add Group**. To search in the dialog box that displays:
   1. Click the blue button to search. It will display a list of all the groups.
   2. Select from the results returned in the **Available** box.
   3. Use the shuttle controls to move the desired name to the **Selected** box.
   4. Click **OK** to return to the **Create Application Role** page.
   5. Repeat steps 5 through 9 for all the Roles listed in the following table:

Table 3–7 Application Roles and Groups

Role Name	Description	Groups
OCDA-CRA	(Optional)	OCDA-CRA
OCDA-StudyManager	(Optional)	OCDA-StudyManager
OCDA-DataManager	(Optional)	OCDA-DataManager
OCDA-ProjectManager	(Optional)	OCDA-ProjectManager
OCDA-WebcatAdmin	(Optional)	OCDA-WebcatAdmin

3.10 Emplacing the CDA Help and Image Files

You will be using help.zip and images.zip files in this section.

3.10.1 File Placement for Oracle WebLogic Managed Server

You need to manually deploy CDA's help and images files on Oracle WebLogic Managed Server. Perform the following steps:

1. Navigate to <MIDDLEWARE_HOME>\instances\<instancename>\bifoundation\OracleBIPresentationServicesComponent\coreapplication_obips1\analyticsRes\ in Oracle WebLogic Server.
2. Create the following folders at <MIDDLEWARE_HOME>\instances\<instancename>\bifoundation\OracleBIPresentationServicesComponent\coreapplication_obips1\analyticsRes\
   - s_ocda
3. Unzip help.zip from OCDA_Home\oracle.pharma.ocda.standard\Reporting\Help to <MIDDLEWARE_

HOME>\instances\<instancename>\bifoundation\OracleBIPresentationServices Component\coreapplication_obips1\analyticsRes\s_ocda\

4. Move customMessages and sk_ocda folders from <MIDDLEWARE_HOME>\instances\<instancename>\bifoundation\OracleBIPresentationServices Component\coreapplication_obips1\analyticsRes\s_ocda\ to <MIDDLEWARE_HOME>\instances\<instancename>\bifoundation\OracleBIPresentationServices Component\coreapplication_obips1\analyticsRes\
5. Add the following tag in instanceconfig.xml:

   ```
   <UI><DefaultSkin>ocda</DefaultSkin></UI>
   ```

   The file can be found in ORACLE_INSTANCE/config/OracleBIPresentationServicesComponent/coreapplication_obipsn.
6. Unzip the Images.zip files from OCDA_Home\oracle.pharma.ocda.standard\Reporting\Images to <MIDDLEWARE_HOME>\instances\<instancename>\bifoundation\OracleBIPresentationServices Component\coreapplication_obips1\analyticsRes\s_ocda
7. Launch Oracle WebLogic Administration Server Console.

   Example: `https://hostname.domain:port/console`

   This opens the Oracle WebLogic Server Administration Console.
8. Log in to Oracle WebLogic Server Administration Console as an Administrator.
9. In the left pane of the Administration Console, select **Deployments**.
10. On the left pane, click **Lock & Edit**.
11. In the right pane, click **Install**.

    This opens the Install Application Assistant.
12. In the **Path** field browse to <MIDDLEWARE_HOME>\instances\<instancename>\bifoundation\OracleBIPresentationServices Component\coreapplication_obips1\analyticsRes\.
13. Select **analyticsRes** and click **Next**.
14. Select **Install this deployment as an application** and click **Next**.
15. In **Available targets for analytics**, select the servers in the cluster on which you want to deploy CDA.
16. Click **Next**.
17. In the **Deployment targets**, select `bi_server1`.
18. Click **Next**.
19. Select **I will make the deployment accessible from the following location** option for <MIDDLEWARE_HOME>\instances\<instancename>\bifoundation\OracleBIPresentationServices Component\coreapplication_obips1\analyticsRes\ in the Source accessibility section.
20. Click **Finish**. analyticsRes should appear under the Deployments.
21. Click **Activate Changes**.
22. Select **analyticsRes** in Deployment section.

23. Click **Start** to view the list and select **Servicing all requests**. The Start Application Assistant page is displayed.
24. In the content pane of the new page, click **Yes** to start the selected deployment.

    State of analyticsRes should be Active after this deployment. You may confirm the same on Deployments page.
25. Log out from Oracle WebLogic Server Administration Console.
26. Log in to Oracle Enterprise Manager Fusion Middleware Control.
27. Restart the BI components.
28. Log in to OBIEE and verify the branding and help links on the dashboards.

See Also:

- *Oracle WebLogic Server Documentation Library*

3.11 Preparing the OBIEE Web Catalog and Repository for CDA

You will be using OracleClinicalDevelopmentAnalytics.zip and OCDA.rpd files in this section.

1. Copy OracleClinicalDevelopmentAnalytics.zip from <*CDA_Home*>\Reporting\Webcat to OBIEE server.
2. Copy OCDA.rpd files from the location where the RPD was deployed in the sectionSetting Oracle Health Sciences Clinical Development Analytics Repository Password on page 3-11 to OBIEE server.
3. Unzip OCDA.zip in the following folder:
   - Windows32 - <*DRIVE*>:\<MIDDLEWARE_HOME>\instances\instance1\bifoundation\OracleBIPresentationServicesComponent\coreapplication_obips1\catalog
   - UNIX - /<MIDDLEWARE_HOME>/instances/instance1/bifoundation/OracleBIPresentationServicesComponent/coreapplication_obips1/catalog
4. For fresh installation, create a TNS entry of CDA database in %ORACLE_BI%\network\admin.
5. Create an ODBC entry (System DSN) to connect to (RXI) using Oracle Database 11g client driver.
6. In the Oracle BI Administration Tool, select **File**, then **Open**, and then **Offline**.
7. Navigate to the OCDA.rpd, and then click **Open**.

   Password: `Admin123`
8. Click **OK**.
9. In the Oracle BI Administration Tool, select **File**, then **Change Password**.
10. Enter the current (old) password.
11. Enter the new password and confirm it.
12. Confirm the new password.
13. Click **OK**.
14. From the File menu, select **Save** to save the rpd.

15. Click **Yes** for Do you wish to check global consistency?
16. Click **Close** in the Consistency Check Manager.
17. Click **Save**.
18. Click **File** and then click **Close**.
19. Click **File** and then click **Exit**.
20. Start the Oracle WebLogic Server and BI components.
21. Open the Fusion Middleware Control URL from the system where you saved the OCDA.rpd in step 13. The URL includes the name of the host and the port number assigned during the installation. The following shows the format of the URL:

    `https://hostname.domain:port/em`

    The login page is displayed.

    Note: Oracle recommends that you enable HTTPS on middle-tier computers that are hosting the Web services, since otherwise the trusted user name and password that are passed can be intercepted.

22. Enter the Oracle Fusion Middleware administrator user name and password and click **Login**.
23. Expand the **Business Intelligence** folder and select the **coreapplication** node.

    The Overview page displays the current status of the system, by providing information about current availability, performance, and issues identified within the BI domain. The Overview page also enables you to start and stop Oracle Business Intelligence.
24. Navigate the Repository tab of the Deployment page.
25. Click **Lock and Edit Configuration**.
26. Click **Close**.
27. In the Upload BI Server Repository section, click **Browse** and navigate to select the RPD.
28. Enter the RPD password in **Repository Password** and **Confirm Password** fields.
29. In the BI Presentation Catalog section, for **Catalog Location** field, enter<ORACLE_INSTANCE>/bifoundation/OracleBIPresentationServicesComponent/<COMPONENT_NAME>/catalog/OCDA.
30. Click **Apply**, then click **Activate Changes**.
31. Return to the Business Intelligence Overview page and click **Restart**.

3.12 Post Installation Tasks for Deduplication

Perform the following post installation tasks if you plan to use deduplication:

3.12.1 Deploying OCDA_PLS_ETL_WORKFLOW_PROC.SQL

1. Log in using the user account created in Creating Oracle Life Sciences Data Hub Database Accounts on page 12.

2. Execute OCDA_PLS_ETL_WORKFLOW_PROC.SQL script from the temporary staging location for Windows installer.

   This script creates a procedure that invokes OCDA_PLS_ETL_WORKFLOW_PRG using LSH Message-Based Submissions.

3.12.2 Setting Up Relational Connections in the Informatica Workflow for CDA

1. Perform the following to create the Relational Connections for Source Databases in Informatica Workflow Manager:
   a. Launch Informatica PowerCenter Workflow Manager.
   b. Connect to the repository where CDA Informatica mappings are imported.
   c. Select **Connections**, then select **Relational** to display the Relational Connection Browser.
   d. Click **New** to display the Select Subtype dialog.
   e. Select **Oracle** as database type, then click **OK**. The Connection Object Definition dialog box is displayed with options for the selected database platform.
   f. Enter values in the following fields according to the Source database connection:

      Connection Name — Enter the logical connection name.

      User Name — Enter the user name that can access source data (For example, rxa_des for Oracle Clinical.)

      Password — Enter the database password.

      Connection String — Enter the Connect string for connecting to the database.

      Code Page — Enter UTF-8 encoding of Unicode.

      Note: These values will also be required in setting up DAC. Make note of them to ensure that you enter the same during DAC setup.

      The TNS entry for all your source and target databases should be added on Informatica Server.

      Note: You need to repeat step a through d for each required source connection.

2. Connect to Informatica PowerCenter Administration Console.
3. Connect to the Informatica integration service.
4. Navigate to the **Custom Properties** window.
5. Enter `AggSupprtWithNoPartLic` in the **Name** field.
6. Enter `Yes` in the **Value** field.

3.12.3 Preparing a DAC Repository for CDA

You will be using CDA_Warehouse.zip file in this section.

1. Create a new DAC repository, as an Administrator.
2. Unzip OCDA_HOME\soracle.pharma.ocda.standard\DAC_Code\CDA_Warehouse.zip onto the computer where you will run DAC client.
3. Import the CDA Warehouse Application metadata.
   a. Start the Data Warehouse Administration Console (DAC) client.
   b. From the **Tools** menu select **DAC Repository Management**, and then select **Import**.
   c. Click **Change import/export folder** to navigate to the folder where you unzipped CDA_Warehouse.zip in step 2 of the Preparing a DAC Repository for CDA section.
   d. Click **OK** to display the Import dialog box.
   e. Select the following categories of metadata you want to import: **Logical**, **Overwrite log file**, and **User Data**. Deselect the **System** check box.
   f. If you plan to implement deduplication, select all the applications in the ApplicationList.
   g. Click **OK**.
   h. Enter the verification code and **Yes** in the secondary window that is displayed after the import.
   i. You can inspect the import log in *${DAC_ INSTALL_DIR }*\log\import.log to verify if import is successful.
4. Set task level parameter in DAC to trigger OCDA_PLS_ETL_WORKFLOW_PRG using Message-Based Submissions in Oracle LSH.
   a. Select **CDA_Employee_De_Dup** application in the ApplicationList.
   b. Click **Tasks** tab in the top pane.
   c. Select the task PLP_Start_LSH_MasterProgram.
   d. Click **Parameters** subtab in the bottom pane.
   e. Set values for the following parameters:

Table 3–8 Individual Parameters

Parameter	Value
PIN_DOMAIN	OCDA_domain
PIN_APP_AREA	OCDA_UTIL_APP_AREA
PIN_WORKAREA	OCDA_ETL_WORKFLOW_WA
PIN_PROGRAM	OCDA_PLS_ETL_WORKFLOW_PRG
PIN_EXESETUP	OCDA_ES This execution setup in Oracle LSH needs to have Property Triggered Under system parameters. This is used to trigger the OCDA master program, OCDA_PLS_ETL_WORKFLOW_PRG, using Message-Based Submissions in Oracle LSH.

Table 3–8 (Cont.) Individual Parameters

Parameter	Value
PIN_USERID	CDRMGR@ORACLE.COM This is Oracle LSH application user who has access to OCDA_domain and also has privileges to execute the ETL. Make sure that you have a Oracle LSH User Database Account created for the user.
PIN_FL	Y **Caution**: This parameter must be set to N after the initial load else entire warehouse data will be truncated. Only incremental data will be available which is part of the current load.

5. Configure Informatica Repository Service in DAC.
   a. Navigate to the **Setup** view, select the **Informatica Servers** tab.
   b. Click **New** to display the Edit tab below or select an existing Informatica server from the list.

      If you are configuring a new installation, the Informatica Servers tab will be empty. If you are upgrading an existing installation, the Informatica Servers tab might contain existing Informatica servers.
   c. Enter values in the following fields:

      Name — Enter the Logical name for the Informatica server (for example, INFA_REP_SERVER).

      Type — Select `Repository`.

      Hostname — Enter the host system name where Informatica Server is installed.

      Server Port — Enter the port number Informatica Server or Informatica Repository Server use to listen to requests.

      Login — Enter the Informatica user login for the Admin user.

      Password — Enter the Informatica Repository password.

      Repository Name —Enter the Informatica Repository Name.
   d. Test the connection to verify the settings.
   e. Click **Save** to save the details.
6. Configure Informatica Integration Service in DAC.

   Note: Make sure that you use the same Login and Password that you have used in setting up Informatica.

   a. Click **New** to display the Edit tab below or select an existing Informatica server from the list.

      If you are configuring a new installation, the Informatica Servers tab will be empty. If you are upgrading an existing installation, the Informatica Servers tab might contain existing Informatica servers.
   b. Enter values in the following fields:

Name — Enter the Logical name for the Informatica server (for example, INFA_SERVER).

Type — Select `Informatica`.

Service — Informatica Integration Service Name associated with the Informatica repository added in step 5.

Domain — Enter the Informatica domain name.

Login — Enter the Informatica Repository user login (Admin User).

Password — Enter the Informatica Repository password.

Repository Name —Enter the Informatica Repository Name.

c. Test the connection to verify the settings.

d. Click **Save** to save the details.

7. In this step, you configure source databases (Oracle Clinical, Siebel Clinical) and the target database (the CDA warehouse). For each database with which DAC will interact for CDA, perform the following steps:

   a. Navigate to the **Setup** view, then select the **Physical Data Sources** tab.

   b. Click **New** to display the Edit tab below or select an existing database connection from the list.

   c. Enter values in the following fields:

      Name — Enter the Logical name for the database connection.

      Type — Select `Source` when you create the database connection for a transactional (OLTP) database. Select `Warehouse` when you create the database connection for a data warehouse (OLAP) database. Select **Others** when you create the database connection for OHMPI schema.

      Connection Type — Select a connection type for the database connection.

      Instance or TNS Name — Enter the Data Mart database instance name.

      Table Owner — Enter the Data Mart schema name.

      Table Owner Password — Enter the Data Mart schema password.

      DB Host — Enter the Data Mart host name.

      Port — Enter the Data Mart host port.

      Dependency Priority — Enter the user-defined priority of the data source.

      Data Source Number — Enter the user-defined number of the data source.

      Num Parallel Indexes Per Table — Enter a number to specify how many indexes are to be created in parallel.

   d. Test the connection to verify the settings.

   e. Click **Save** to save the details.

Note: By Default, Oracle supports Data Source Number 1 and 2 for Oracle Clinical and Siebel Clinical respectively.

The logical Names of the connections in DAC should be same as the connection names created in Informatica Workflow Manager.

CDA Warehouse connection name should be RXI.

---

8. If you plan to implement deduplication, create the physical data source connections with following details in DAC:

   Type: Other

   Connection Type: Oracle (Thin)

   Instance: Instance name of the database

   Dependency Priority: Enter the user-defined priority of the data source.

   Data Source Number: Enter the user-defined number of the data source.

   Num Parallel Indexes Per Table: Enter a number to specify how many indexes are to be created in parallel.

Table 3–9 Physical Data Source Connection Details

Name	Table Owner
OHMPI_STUDY	ohmpi_study
OHMPI_STUDY_SITE	ohmpi_study_site
OHMPI_STUDY_SUBJ	ohmpi_study_subj
OHMPI_GEO	ohmpi_geo
OHMPI_LOV	ohmpi_lov
OHMPI_SITE	ohmpi_site
OHMPI_INVESTIGATOR	ohmpi_investigator
OHMPI_USER	ohmpi_user
OHMPI_VALDTN_PROC	ohmpi_valdtn_proc
OHMPI_PRODUCT	ohmpi_product
OHMPI_PROGRAM	ohmpi_program
OHMPI_APP_USER	ohmpi_app_user
OHMPI_STUDY_REGION	ohmpi_study_region
OHMPI_CRF	ohmpi_crf
OHMPI_CRF_BOOK	ohmpi_crf_book
LSH_DB_USER	< Oracle LSH Database User Account>

Note: Table Owner Password for all the OHMPI_<dim> connections is the same as the Master password provided on OHMPI screen during CDA installation.

Table Owner for LSH DB USER is the account information which is used to execute the ETL jobs in Oracle LSH. Refer to Creating Oracle Life Sciences Data Hub Database Accounts on page 12for more information about creating the database user.

9. If you plan to implement deduplication, create a Flat File connection with the following details:

   Name: FlatFile_Target

   Type: Other

   Connection Type: Flat File

   Dependency Priority: Enter the user-defined priority of the data source.

Data Source Number : Enter the user-defined number of the data source.

Num Parallel Indexes Per Table : Enter a number to specify how many indexes are to be created in parallel.

10. Perform the following steps to modify the value for data sources:
    a. Navigate to the **Execute** view, then select the **Execution Plans** tab.
    b. If Oracle Clinical and Siebel Clinical are your source systems, select**CDA - Complete Initial De Dup Execution Plan** and **CDA - Complete Warehouse De Dup Execution Plan** from the list.

       If Oracle Clinical is your only source system, select**CDA - Oracle Clinical Warehouse De Dup** from the list.

       If Siebel Clinical is your only source system, select**CDA - Siebel Clinical Warehouse De Dup** from the list.
    c. Click **Parameters** subtab in the bottom pane.
    d. For each row with TYPE equal to DATASOURCE, in the **Value** field, select the appropriate Physical Data Source Name from the dropdown list for the field.
    e. Select a relevant value from the list for each of the data sources.
    f. Click **Save**.
    g. If you plan to implement deduplication, navigate to **CDA - Complete Warehouse De Dup** and set the new Data Source Name from Value list.
    h. Select a relevant value from the list for each of the data sources.
    i. Click **Save**.

> **Note:** If Oracle Clinical and Siebel Clinical are your source systems with deduplication, use CDA - Complete Initial De Dup Execution Plan and CDA - Complete Warehouse De Dup Execution Plan.

DAC Configurable Parameters

Navigate to each of the containers and make sure that values are set for each of the available parameter.

Following is the list of DAC configurable parameters:

Table 3–10 DAC Configurable Parameters

Parameter	Description
START_TS	This is the last refresh time of the source tables minus prune days. (@DAC_SOURCE_PRUNED_REFRESH_TIMESTAMP)
END_TS	Current Execution Plan's actual start time adjusted to source database time zone minus prune days. (@DAC_ETL_START_ TIME_FOR_SOURCE)
DATASOURCE_NUM_ID	The ID associated with every source system. The default ID is 1 for Oracle Clinical and 2 for Siebel Clinical.
ENTERPRISE_ID	The ID associated for every tenant. The default value is 0.
DELETE_FLOW	The default value is N and set it to Y if Deletes have to be captured in the data warehouse.
EMAIL_SUFFIX	You can provide domain name as a suffix to username. For example: oracle.com

Table 3–10 (Cont.) DAC Configurable Parameters

Parameter	Description
Prune Days	This is used for setting the END_TS for incremental load.
MPI_AUTHFILE	Location of the ocda.properties. Refer to Section 3.12.6, "Setting Up Informatica Server" for file details. For example: /u01/oracle/Informatica/9.0.1/server/infa_shared/OCDA_Javalib/ocda.properties
MPI_USER	Login name of the user who can access EJBs deployed on Oracle WebLogic Server (same user that was provided on WebLogic screen during CDA installation).
$OutputFile_OCDA	Location of the flat files generated as part of full dedup load on Informatica server.
$DBConnection_SP_OLAP	Database connection name of the corresponding OHMPI schema.
$DBConnection_OLAP	Database connection name of the warehouse (CDA Warehouse Target Connect Name you had specified during installation).

Note: MPI_AUTHFILE, MPI_USER, $OutputFile_OCDA, $DBConnection_SP_OLAP, and $DBConnection_OLAP are used only for deduplication.

3.12.4 Creating Security Groups and Application Roles for CDA

3.12.4.1 Creating Groups

Perform the following to create groups:

1. Launch Oracle WebLogic Server Administration Console.
2. In Oracle WebLogic Server Administration Console, select **Security Realms** from the left pane and click the realm you are configuring. For example, **myrealm**.
3. Select **Users and Groups** tab, then **Groups**.
4. Click **New**.
5. In the **Create a New Group** page provide the following information:
   - **Name**: Enter the name of the group. Group names are case insensitive but must be unique. See online help for a list of invalid characters.
   - (Optional) **Description**: Enter a description.
   - **Provider**: Select the authentication provider from the list that corresponds to the identity store where the group information is contained. DefaultAuthenticator is the name for the default authentication provider.
6. Click **OK**

   The group name is added to the Group table.
7. Repeat step 4 through 6 with the following values:

Table 3–11 Security Group Parameters

Name	Description	Provider
OCDA-CRA	(Optional)	DefaultAuthenticator
OCDA-StudyManager	(Optional)	DefaultAuthenticator
OCDA-DataManager	(Optional)	DefaultAuthenticator
OCDA-ProjectManager	(Optional)	DefaultAuthenticator
OCDA-WebcatAdmin	(Optional)	DefaultAuthenticator

3.12.4.2 Creating Application Roles

Perform the following to create groups:

1. Log in to Oracle Enterprise Manager Fusion Middleware Control.
2. From the target navigation pane, open **Business Intelligence** and select **coreapplication**.
3. Right-click **coreapplication**, then select **Security** to display a submenu with **Application Policies** and **Application Roles** as options.
4. Select **Application Roles**. The Application Roles page is displayed.
5. Click **Create** to display the **Create Application Role** page. Complete the fields as follows:

   In the **General** section:

   - **Role Name** - Enter the name of the Application Role
   - (Optional) **Display Name** - Enter the display name for the Application Role.
   - (Optional) **Description** - Enter a description for the Application Role.
6. In the **Members** section, select **Add Group**. To search in the dialog box that displays:
   1. Click the blue button to search. It will display a list of all the groups.
   2. Select from the results returned in the **Available** box.
   3. Use the shuttle controls to move the desired name to the **Selected** box.
   4. Click **OK** to return to the **Create Application Role** page.
   5. Repeat steps 5 through 9 for all the Roles listed in the following table:

Table 3–12 Application Roles and Groups

Role Name	Description	Groups
OCDA-CRA	(Optional)	OCDA-CRA
OCDA-StudyManager	(Optional)	OCDA-StudyManager
OCDA-DataManager	(Optional)	OCDA-DataManager
OCDA-ProjectManager	(Optional)	OCDA-ProjectManager
OCDA-WebcatAdmin	(Optional)	OCDA-WebcatAdmin

3.12.5 Setting Up OHMPI Projects (Optional)

Follow the steps in this section only if you plan to implement deduplication. You must install Oracle client on the system where you intend to carry out OHMPI related cleanser and loader process. To set up OHMPI projects:

1. Navigate to OCDA Home.
2. Locate the zipped OHMPI Project files and move all the zipped files to a system where you plan to import and modify projects using Netbeans.
3. Copy and unzip all the 15 project files.
4. On the NetBeans toolbar, click **Open Project**.
5. Navigate to the folder where the OHMPI projects are unzipped.
6. Select a project.
7. Select the check box **Open Required Projects** and click **Open Project**.
8. Once the project is imported, right-click the main project file (OCDA_<dim>) in the Projects window.
9. Right-click the same project and select **Clean**.
10. Right-click and select **Generate Master Index Files**.
11. Right-click and select **Build**.
12. Navigate to <project_home>/src/DatabaseScript, where project_home is the location of the master person index project files.
13. Connect to the project specific database schema, for example, for OCDA_Study project use ohmpi_study as username and the master password provided on Oracle Healthcare Master Person Index screen during OHSCDA installationon.
14. Execute the following files in the following order:
    1. create.sql
    2. systems.sql

       Note:

       The systemcode in systems.sql must be same as data source name provided in W_RXI_DATASOURCE_S. Note that systemcode is case-sensitive.

    3. codelist.sql

       Important:

       For OCDA_Geography project, execute Create_with_LID_changes.sql instead of create.sql.

       For OCDA_User project, execute create_lidchange.sql instead of create.sql.

15. Repeat steps 4 through 14 for each of the 15 OHMPI projects.

3.12.5.1 Creating JDBC Data Resources for an MPI Application Project for Oracle

This section provides instructions for creating the JDBC data resources and defining the JDBC connections for an MPI Application Project for Oracle.

1. For instructions on how to start and stop Oracle WebLogic Server, see *Starting and Stopping Servers: Quick Reference* at http://download.oracle.com/docs/cd/E14571_01/wls.htm.

2. Log in to **Oracle WebLogic Server Administration Console**.
3. On the left panel, under Domain Structure, expand **Services**, and then choose **Data Sources**.

Table 3–13 Application Names for Each Project

Project Name	Application Name
OCDA_StudyStudy	Study
OCDA_Study_Site	Study_Site
OCDA_Study_Subject	subject
OCDA_Geography	Geography
OCDA_LOV	LOV
OCDA_Site	Site
OCDA_Investigator	Investigator
OCDA_User	OCDA_User
OCDA_Valdtn	OCDA_Valdtn
OCDA_Product	Product
OCDA_Program	Program
OCDA_APP_USER	App_User
OCDA_Study_Region	Study_Region
OCDA_CRF	CRF
OCDA_CRF_BOOK	CRF_BOOK

A summary of JDBC Data Sources appears in the right panel.

4. To create a new JDBC Data Source click **New** at the bottom of the right panel.

   Settings for a new JDBC Data Source appear in the right panel of the page. It is here that you will create a new JDBC Data Source.

5. In the Name field, type <*Application name*>`DataSource`.

   The name you enter here will propagate elsewhere, so choose a name that is meaningful (for example, StudyDataSource).

6. In the JNDI Name field, type `jdbc/`<*Application name*>`DataSource`.

   Use the name you entered in step 5 (for example, **jdbc/StudyDataSource**).

7. In the Database Type list, choose the appropriate type (for example: **Oracle**).
8. In the Database Driver list, choose the appropriate driver; for example: **Oracle's Driver (Thin XA) for Instance Connections; Versions: 9.0.1; 9.2.0; 10, 11**.
9. Click **Next**.
10. Click **Next**.

    Connection Properties appears on the Create a New JDBC Data Source panel. Use it to define the connection properties.

11. In the Database Name field, type a name for the database to which you want to connect (for example: `OCDA_Study`).
12. In the Host Name field, type the name or the IP address of the database server (for example: `localhost`).

13. In the Port field, type the port on the database server that is used to connect to the database (for example: `1521`).
14. In the Database User Name field, type the database account user name you want to use to create database connections (for example: `ohmpi_study`).
15. In the Password field, type a password for your database account to use to create database connections.
16. In the Confirm Password field, re-type the password to confirm it.
17. Click **Next**.

    The Settings for StudyDataSource page appears in the right panel.
18. Click the **Connection Pool** tab, click **Test Configuration**, and then click **Next**.

    Select Targets window appears on the Create a New JDBC Data Source page in the right panel. You can select one or more targets to deploy the new JDBC data source.
19. In the Servers check list, select one or more target servers and click **Finish**.

    Note: If you do not select a target, the data source will be created but not deployed. You will need to deploy the data source at a later time.

20. Repeat the above steps to create jdbc/StudySequenceDataSource.

3.12.5.2 Creating JMS Resources for an MPI Application Project

JMS servers act as management containers for the queues and topics in the JMS modules that are targeted to them.

The following procedure includes instructions for creating JMS resources, which includes a:

- JMS Server
- JMS Module
- JMS Connection Factory in the specific JMS Module
- JMS Topic in the specific JMS Module

3.12.5.2.1 To Create JMS Server

1. On the left panel, under Domain Structure, expand **Services**, click **Messaging**, and then choose **JMS Servers**.

   A Summary of JMS Servers appears in the right panel. It includes a table that summarizes the JMS servers that have been created in the current WebLogic Server domain.
2. In the table of previously created JMS Servers, click **New**.

   The Create a New JMS Server panel appears.
3. In the Name field, type the name for your new JMS Server.

   Note: This name already exists in the table of previously created JMS Servers (in the example, **StudyJMSServer**).

4. Click **Next**.

   Select Targets appears in the right panel under Create a New JMS Server.

5. From the Target list select a target server instance or migratable target on which you want to deploy the JMS Server.

   Note: The default server instance is exampleServer.

6. Click **Finish**.

3.12.5.2.2 To Create JMS Module

1. On the left panel, under Domain Structure, expand **Services**, click **Messaging**, and then choose **JMS Modules**.

   The JMS Modules panel appears.

2. In the JMS Modules table, click **New** to add a new JMS Module.

   The Create JMS System Module panel appears.

3. In the Name field, type the new JMS Module name.

   Note: Remain consistent to the name chosen for the JDBC Data Source and the JMS Server (in the previous examples the key word was Study, making this name **StudyJMSModule**).

4. Click **Next**.

   Select Targets appears in the right panel under Create a New JMS System Module.

5. In the Servers area, select the server or cluster on which you want to deploy this JMS system module.

   Note: Retain the default, examplesServer.

6. Click **Finish**.

3.12.5.2.3 To Create JMS Connection Factory

1. On the left panel, under Domain Structure, expand **Services**, click **Messaging**, and then choose **JMS Modules**.

2. Choose the JMS Module (in the example, **StudyJMSModule**) from the table of JMS Modules.

   The Settings for StudyJMSModule page appears in the right panel.

3. In the Summary of Resources table, click **New**.

4. Under the Type column in the Summary of Resources table choose **Connection Factory** and click **Next**.

   Another panel of Create a New JMS System Module Resource appears.

5. In the Name field, type `StudyOutBoundSender`.

6. In the JNDI Name field, type `jms/StudyOutBoundSender`.

7. Click **Next**
8. In the Target field, retain the default server instance, which is exampleServer, and click **Finish**.
9. Click the **Transaction** tab for a newly created connection factory.
10. Select **XA Connection Factory Enabled** and click **Save**.

3.12.5.2.4 To Create JMS Topic

1. On the left panel, under Domain Structure, expand **Services**, click **Messaging**, and then choose **JMS Modules**.
2. In the right panel, choose the JMS Module you created (in the example, **StudyJMSModule**) from the table of JMS Modules.

   Settings for StudyJMSModule appear in the right panel with a Summary of Resources table.
3. In the Summary of Resources table, click **New**, select **Topic**, and then click **Next**.

   The Create a New JMS System Module Resource panel appears on the right side of the window. Use this panel to set the properties that identify the new topic.
4. In the Name field, under JMS Destination Properties, type `<name>Topic` (for example, `StudyTopic`).
5. Set **jms/StudyTopic** as the JNDI Name and click **Next**.

   The Create a New JMS System Module Resource page appears in the right panel. Use this page to set the properties that will be used to target your new JMS system module resource.
6. In the Subdeployments list, select **None** and click **Create a New Subdeployment**.
7. In the Subdeployment Name field, type `<name>Topic` (for example, `StudyTopic`), and click **OK**.
8. In the Targets table of JMS Servers, select **<name>JMSServe**r (for example, **StudyJMSServer**).
9. Click **Finish**.

3.12.5.3 Deploying and Running Applications on Oracle WebLogic Server

This procedure leads you through the steps to deploy and run an MPI Application on Oracle WebLogic Server.

3.12.5.3.1 To Deploy and Run Applications on an Oracle WebLogic Server

1. On the left panel of the WebLogic Server Administration Console, under Domain Structure, select **Environment** and then choose **Deployments**.

   The Summary of Deployments panel appears.
2. On the right side of the panel under Deployments, click **Install**.

   A Summary of Deployments panel with a Deployments table containing a list of EAR files appears.
3. Locate your application EAR and click **Next**.

   The Install Application Assistant page appears in the right panel.
4. Locate the deployment you want to install and prepare for deployment.

Tip: Select the file path that represent the application root directory, archive file, exploded archive directory, or application module descriptor that you want to install. You can also enter the path of the application directory or file in the Path field.

Note: Only valid file paths are displayed. If you cannot find your deployment files, upload your file(s) and/or confirm that your application contains the required deployment descriptors.

5. Click **Next**.

Note: When deploying an MPI EAR file through the WebLogic Admin Console, under Security make sure that you choose **DD Only**. If you choose one of the other options, you will not be able to log into the MIDM.

6. Click **Finish**.
7. Launch **Master Index Data Manager** (MIDM).
8. From a web browser, enter the following:
   - For MPI Application: `https://localhost:7001/StudyMIDM`
9. Log in using your user name and password.

3.12.5.4 Setting Up the User

In this step you create the MasterIndex.Admin and Administrator groups, and then create a new user within the two groups.

1. On the left panel, under Domain Structure, expand **Services**, and then choose **Security Realms**.
2. In the table on the Summary of Security Realms panel, click **myrealm** that is the name of the realm.

   The Settings for myrealm panel appears.
3. Select the **Users and Groups** tab and then click **Groups**.
4. In the Groups table, click **New**.
5. In the Name field, type `MasterIndex.Admin` and click **OK**.
6. In the Groups table, click **New**.
7. In the Name field, type `Administrator` and click **OK**.
8. On the Settings for myrealm panel, select **Users and Groups** and then **Users**.
9. In the Users table, click **New**.
10. Type a name and a password for the new user you are creating and click **OK**.
11. Select **User Group**.
12. To add the two groups you created to the user you created, from the Available list, drag **MasterIndex.Admin** to the **Chosen** list, and then drag Administrator to the **Chosen** list.

Note: Repeat steps in Section 3.12.5.1, "Creating JDBC Data Resources for an MPI Application Project for Oracle", Section 3.12.5.2, "Creating JMS Resources for an MPI Application Project", and Section 3.12.5.3, "Deploying and Running Applications on Oracle WebLogic Server" for each of the 15 OHMPI projects.

3.12.6 Setting Up Informatica Server

Follow the steps in this section only if you plan to implement deduplication. Perform the following steps at the Informatica server:

1. Set the OHMPI project related Jar files on Informatica Server:
    1. Navigate to $PMRootDir on Informatica server and create a folder OCDA_Javalib to store common Jar files. For example, /u01/oracle/Informatica/9.0.1/server/infa_shared/OCDA_Javalib
    2. Copy wlfullclient.jar file from <Weblogic home>/server/lib folder to folder created in the step 1.

       If wlfullclient.jar is not available, run the following command from <Weblogic home>/server/lib dir to generate wlfullclient.jar

       ```
       java -jar wljarbuilder.jar
       ```
2. Create a file ocda.properties file with the following settings to store connection information of Oracle WebLogic server and place it under OCDA_Javalib.

   INITIAL_CONTEXT_FACTORY=weblogic.jndi.WLInitialContextFactory

   PROVIDER_URL= <*URL*> of the Oracle WebLogic server

   SECURITY_PRINCIPAL=<*username*> same username as provided on Weblogic Details Screen during CDA installation
3. Navigate to $PMRootDir on Informatica server and create 15 OHMPI project specific folders. For example, `/u01/oracle/Informatica/9.0.1/server/infa_shared/OCDA_Javalib/OCDA_Study`.

   Following are the folder names:
   - OCDA_INVESTIGATOR
   - OCDA_SITE
   - OCDA_CRF_BOOK
   - OCDA_USER
   - OCDA_VALDTN
   - OCDA_CRF
   - OCDA_STUDY
   - OCDA_PROGRAM
   - OCDA_STUDY_REGION
   - OCDA_APP_USER
   - OCDA_GEOGRAPHY
   - OCDA_LOV

- OCDA_STUDY_SITE
- OCDA_PRODUCT
- OCDA_STUDY_SUBJECT

4. Copy the following jar files from OHMPI Projects lib folder to the respective folders created in step 3.
   - index-core.jar
   - mpi-client-ocda_study.jar (Project name will be the part of this Jar file)
   - net.java.hulp.i18n.jar

4

Upgrade Tasks

This chapter describes CDA upgrade tasks that you must complete before you begin to use the CDA. This chapter includes the following topic:

4.1 Upgrading CDA 2.0.0.3 to CDA 2.1

You must install the CDA Release 2.1 as a patch to CDA Release 2.0.0.3.

4.1.1 Installing CDA 2.1

This section includes following steps:

1. Executing LSH Script to fix source independent RU issues
2. Deleting Informatica Pool Programs.
3. Backing up CDA Rpd and webcat to preserve customizations.
4. Write steps to backup existing CDA warehouse.
5. Installing CDA 2.1.

4.1.1.1 Executing LSH Script to Fix Source Independent Release Utility Issues

To install the patch:

1. Log in to the database as apps user where Oracle LSH is installed.

   sqlplus apps/<apps_password>@<DB_INSTANCE> where: <DB_INSTANCE> is the service name for the database where Oracle LSH is installed.

2. Execute the following commands:

   ```
   create table cdr_ru_imports_bkp as (select * from cdr_ru_
   imports);

   update cdr_ru_imports set original_company_id=src_company_id,
   original_obj_id=src_obj_id;

   commit;
   ```

These commands fix a bug in the LSH Source-Independent Release Utility.

4.1.1.2 Deleting Informatica Pool Programs

CDA pool programs are being modified from program type Informatica to Plsql. Hence older program can be deleted.

1. Navigate to OCDA_domain > OCDA_SOURCES_APP_AREA > OCDA_POOL_WORK_AREA
2. Select check box for the programs listed below.
   - OCDA_INFA_Activity_Fact_SDE_Pool_PRG
   - OCDA_INFA_Application_User_D_SDE_Pool_PRG
   - OCDA_INFA_CRF_Book_Dim_SDE_Pool_PRG
   - OCDA_INFA_CRF_Dim_SDE_Pool_PRG
   - OCDA_INFA_Discrepancy_Fact_SDE_Pool_PRG
   - OCDA_INFA_Discrepancy_Status_SDE_Pool_PRG
   - OCDA_INFA_Employee_Dim_SDE_Pool_PRG
   - OCDA_INFA_Geo_Dim_SDE_Pool_PRG
   - OCDA_INFA_LOV_Dim_SDE_Pool_PRG
   - OCDA_INFA_Party_Per_Dim_SDE_Pool_PRG
   - OCDA_INFA_Product_Dim_SDE_Pool_PRG
   - OCDA_INFA_Program_Dim_SDE_POOL_PRG
   - OCDA_INFA_Received_CRF_Fact_SDE_Pool_PRG
   - OCDA_INFA_Rgn_Enrlmnt_Pln_Fact_SDE_Pool_PRG
   - OCDA_INFA_SS_Con_Dim_SDE_Pool_PRG
   - OCDA_INFA_SS_Team_History_Dim_SDE_Pool_PRG
   - OCDA_INFA_Site_Dim_SDE_Pool_PRG
   - OCDA_INFA_Site_Enrl_Pln_Fact_SDE_Pool_PRG
   - OCDA_INFA_Stdy_Enrlmnt_Pln_Fact_SDE_Pool_PRG
   - OCDA_INFA_Study_Access_Sec_SDE_Pool_PRG
   - OCDA_INFA_Study_Dim_SDE_Pool_PRG
   - OCDA_INFA_Study_Region_Dim_SDE_Pool_PRG
   - OCDA_INFA_Study_Site_Access_Sec_SDE_Pool_PRG
   - OCDA_INFA_Study_Site_Dim_SDE_Pool_PRG
   - OCDA_INFA_Study_Subject_Dim_SDE_Pool_PRG
   - OCDA_INFA_Subject_Prtcptn_Fact_SDE_Pool_PRG
   - OCDA_INFA_Subject_Status_Fact_SDE_Pool_PRG
   - OCDA_INFA_User_Dim_SDE_Pool_PRG
   - OCDA_INFA_Validation_Procedure_SDE_Pool_PRG
3. Use combo list. Select **Object** and **Remove**.
4. Click **Go**.

4.1.1.3 Backing Up CDA RPD and Web Catalog to Preserve Customizations

If you have done any customizations on CDA 2.0.0.3 RPD and Web Catalog, perform the following steps before you start migration and upgrade activities:

1. Log in to the OBIEE Administration Tool, using an Administrator account
2. Open the CDA 2003 repository.
3. Select **Tools**, then select **Utilities**.
4. Select **Oracle BI Event Tables** and click **Execute**
5. Select **W_ETL_RUN_S** table from the Event Tables list, and move it back to the Tables list.
6. Click **OK**.
7. Expand **Dim - Code Data Capture Mode** in Business Model and Mapping Layer.
8. Expand **Sources** under Dim - Code Data Capture Mode.
9. Double-click **Dim_W_LOV_D_Data_Capture_Mode** and remove the trailing space in the name.
10. Click **OK**.
11. Expand **Fact - OCDA - Received CRF** in Business Model and Mapping Layer.
12. Expand **Sources** under Dim - Code Data Capture Mode.
13. Double-click **Avg # of Days pCRF Awaiting First Entry** and remove the trailing space in the name.
14. Click **OK**.
15. On the **Tools** menu, select **Consistency Checker**. Resolve errors, if any.
16. Save the repository file.

Note: If you plan to upgrade CDA 2.0.0.3 Plus Configuration Repository (RPD) and Web Catalog to CDA 2.1 Plus Configuration, refer to Oracle Fusion Middleware Upgrade Guide for Oracle Business Intelligence 11g Release 1 (11.1.1) and Oracle Fusion Middleware Metadata Repository Builder's Guide for Oracle Business Intelligence Enterprise Edition 11g Release 1 (11.1.1).

4.1.1.4 Migrating CDA 2.0.0.3 Data Warehouse to CDA 2.1

If you would like to retain data in warehouse populated by CDA 2.0.0.3, perform the following steps:

4.1.1.4.1 Take Backup of 2.0.0.3 Warehouse Data using Oracle LSH Data Mart

1. Navigate to OCDA_domain > Application Area: OCDA_CODE_APP_AREA > Workarea: OCDA_WORK_AREA.
2. In a Work Area, select **Data Mart** from the **Add** drop-down list.
3. Click **Go**.

   The system displays the Create Data Mart screen.
4. Select **Create a new Data Mart definition and instance**.
5. Enter values in the following fields::

- **Name**: OCDA_2003_DM
- **Data Mart Type**: Oracle Export

6. Click **Apply** to save your work and continue defining the Data Mart.

   The system opens the Properties screen for the new Data Mart instance.

7. In the Program's Properties screen, select **Table Descriptors from Existing Table Instances** from the **Actions** drop-down list and click **Go**.
8. Navigate to OCDA_domain > Application Area: OCDA_CODE_APP_AREA > Workarea: OCDA_WORK_AREA.
9. Select all the table instances by clicking the **Select** checkboxes.
10. Click **Create Table Descriptor**.
11. Repeat step 7 through 10 for the workarea OCDA_CONTROL_TABLE_WA.
12. Install OCDA_2003_DM data mart.
13. Submit the current data mart program.
14. Navigate to **MyHome**.
15. Click the Job id submitted and download OCDA_2003_DM.dmp file.
16. Partially install all table instances in OCDA_WORK_AREA with replace object.

    This cleans old data of all table instances such that new data can be migrated into warehouse. Also, this is required to avoid errors during upgrade of table instanced in further steps.

4.1.1.4.2 Import Data Mart dmp File and Make Exported Data Compatible with Oracle Health Sciences Clinical Development Analytics 2.1

1. Run the installer in upgrade mode. This will extract `upgd_ocda_plus_2.0.0.3_to_2.1_ddl.sql` to the staging area.

   You must install CDA Release 2.1 as a patch to CDA Release 2.0.0.3.

   Run the CDA Installer as described in the sections:

   - Running the CDA Installer on Windows on page 2-3
   - Installing CDA on the Same Server as Oracle LSH on page 2-6 or Installing CDA on a Stand-alone Database Server on page 2-8

   At the completion of the installation, you can inspect the installation log at:

   `<ocda_home>\install\ocda_install.log`

2. Create a database user with privileges needed to import dump file.
3. Import OCDA_2003_DM.dmp file using the user created in step 1.
4. Log in to the schema and execute upgd_ocda_plus_2.0.0.3_to_2.1_ddl.sql script from the temporary staging location.

   The script upgrades CDA 2.0.0.3 to CDA 2.1.

5. Verify the log file.
6. Execute the following SQL statements:

```
UPDATE W_EMPLOYEE_D SET DATASOURCE_NUM_ID=-1 WHERE ROW_WID=-1;
update W_PRODUCT_D set DELETE_FLG='N',MERGE_FLAG='N' where ROW_WID=-1;
update W_GEO_D t1 set integration_id= (select country||':'||state_prov||':'||
city||':'|| zipcode from W_GEO_D t2 where t1.row_wid=t2.row_wid) where t1.row_
```

```
wid<>-1;
UPDATE W_GEO_D SET delete_flg = 'N' where row_wid=-1;
UPDATE W_GEO_D SET merge_flag = 'N';
UPDATE W_LOV_D SET delete_flg = 'N' where row_wid=-1;
UPDATE W_LOV_D SET merge_flag = 'N';
UPDATE W_GEO_D SET delete_flg = 'N';
UPDATE W_LOV_D SET delete_flg = 'N';
COMMIT;
```

7. Follow steps in Post Installation Steps for CDA 2.1 on page 4-7.

4.1.1.4.3 Re-import Migrated Data Back into the Warehouse

Before you re-import data, perform steps listed in Creating Source Configuration Schema and Tables on page 3-7.

After applying CDA 2.1, you can re-import exported data back into LSH CDA warehouse tables.

1. Unmap target table descriptors of all programs in OCDA_WORK_AREA workarea.
    1. Click OCDA_INFA_Activity_Fact_SIL_PRG and check out the program.
    2. Click the icon in the Mapping column for the record which has Is Target value as Yes.
    3. Click **Update**.
    4. Click **Unmap**.
    5. Click **Apply**.

       The system unmaps the Table Descriptor.
    6. Navigate to OCDA_Work_Area and perform step 1 through 5 for all programs.
2. Create a new remote location, for example, ocda2003_upd with adaptor value as Oracle Tables and Views.
3. Create a connection for newly created remote location in step 2. Specify user name of the database which holds the migrated data while specifying connection details.
4. Create new load set , for example, ocda21_LS.
5. Update load set attributes.
    1. Click the Search icon and select the source remote location/connection combination created in step 2 and 3 from the list of values.
    2. Click **Apply**.
    3. Click **Upload** under Table Descriptors tab.
    4. Select all warehouse tablesin the next screen.
    5. Click **Apply**.
    6. Select **Automatic Mapping By Name** from the Actions drop-down list and click **Go**.
    7. Select all table descriptors and click **Map**.
    8. Partially install the ocda21_LS.
    9. Click **Submit** with following parameters:

       Submission Type: Immediate

Force Execution: Yes

10. Set Remote Location parameter, to the same location you have created in step 2 (for example, ocda2003_upd), under Submission Parameters tab.
11. Submit the load set. Navigate to my home and monitor the job for successful execution.
12. Delete the load set from OCDA_WORK_AREA after successful execution.

6. Map target table descriptors of all programs in OCDA_WORK_AREA.
    1. Click OCDA_INFA_Activity_Fact_SIL_PRG.
    2. Select **Automatic Mapping By Name** from the Actions drop-down list and click **Go**.
    3. Select a target table and click **Map**.
    4. Navigate to OCDA_Work_Area and perform step 1 through 3 for all programs.
7. Partially install all program instances in OCDA_WORK_AREA with Replace object Action.
    1. Navigate to OCDA_WORK_AREA and Click **Install**.
    2. Select installation mode as `partial`.
    3. Under **Omitted** column, deselect all program instances.
    4. Click **Apply and Install**.
    5. After successful install, you can continue with Scheduling and Executing Extract Transform Load Jobs.

4.1.1.4.4 Delete Program Entries from Control Table to Facilitate Loading Newly Added Columns

1. Navigate to OCDA_domain > OCDA_SOURCES_APP_AREA > OCDA_CONTROL_TABLE_WA.
2. Click OCDA_CONTROL_TABLE_POPULATE_PRG.
3. Submit the program with following parameters:

    Submission Details

    Submission Type: Immediate

    Submission Mode: Incremental

    Force Execution: Yes

    Submission Parameters

    Delete_mode: Program_Name

    Input_values: <Enter a comma-separated list of following program names>

    OCDA_INFA_Study_Dim_SIL_PRG,OCDA_INFA_Study_Site_Dim_SIL_PRG,OCDA_INFA_Geo_Dim_SIL_PRG,OCDA_INFA_Site_Dim_SIL_PRG,OCDA_INFA_Study_Region_Dim_SIL_PRG,OCDA_INFA_Study_Subject_Dim_SIL_PRG,OCDA_INFA_LOV_Dim_SIL_PRG,OCDA_INFA_User_Dim_SIL_PRG,OCDA_INFA_Product_Dim_SIL_PRG,OCDA_INFA_Program_Dim_SIL_PRG,OCDA_INFA_SS_Team_History_Dim_SIL_PRG

These programs have had changes to their target tables, and therefore need to be reloaded for retrieval of data for newly added columns.

4. Click **Submit**. Navigate to MyHome and monitor the Job_ID which was created for the current submission.

4.1.1.5 Post Installation Steps for CDA 2.1

If you are disabling one of the source systems, perform steps listed in section Creating Source Configuration Schema and Tables on page 3-7

1. Log in to Oracle LSH as a user who can execute ETL Programs.

   For more information, refer to *Oracle Health Sciences Clinical Development Analytics Administrator Guide Release 2.1* (Security).

2. Navigate **OCDA_domain** > **OCDA_SOURCES_APP_AREA** > **OCDA_OC_DATA_WA** and ensure that the following connections are set in Oracle LSH:

Table 4–1 Connections in Oracle LSH

Remote Connection	Load Set
OCDA_OC_OLTP_RL/OPA	OCDA_OC_OPA_LS
OCDA_OC_OLTP_RL/RXA_DES	OCDA_OC_RXA_DES_LS
OCDA_OC_OLTP_RL/RXC	OCDA_OC_RXC_LS

> **Note:** For more information about setting up remote locations in Oracle LSH, refer to *Oracle Clinical Installation Guide* Release 2. 1 (Post Installation Tasks).

3. Install OCDA_OC_DATA_WA work area manually in Full mode.

4. Navigate **OCDA_domain** > **OCDA_SOURCES_APP_AREA** > **OCDA_SC_DATA_WA** and ensure that the following connections are set in Oracle LSH:

Table 4–2 Connections in Oracle LSH

Remote Connection	Load Set
OCDA_SC_OLTP_RL/SIEBEL	OCDA_SC_LS

> **Note:** If you have used either the view creation script or the synonym creation script, you must use the same user who is the owner of the schema for setting OCDA_SC_OLTP_RL.

> **Note:** If Siebel clinical is one of your sources, follow the section Handling Deletions in Siebel Clinical on page 3-9

5. Install OCDA_SC_DATA_WA work area manually in Full mode.

6. Navigate to **OCDA_domain** > **OCDA_SOURCES_APP_AREA** > **OCDA_CUSTOM_TABLE_WA** and ensure that the OCDA_CUSTOM_OLTP_RL/RXI remote connection is set for OCDA_RXI_LS load set.

> **Caution:** Ensure that the Informatica Distributed Processing (DP) Server is up and running. For more information on setting up DP Server in Oracle LSH, refer to *Oracle Life Sciences Data Hub System Administrator's Guide* (Setting Up the Distributed Processing Server section in Chapter 1, Setting Up Services.

7. Install OCDA_CUSTOM_TABLE_WA work area manually in Full mode.
8. Navigate to **OCDA_domain** > **OCDA_SOURCES_APP_AREA** and install the following work areas in upgrade mode, with this specified order:
    1. OCDA_DELETE_LOG_TABLE_WA
    2. OCDA_DWH_PASS_THROUGH_WA
9. Navigate to **OCDA_domain** > **OCDA_SOURCES_APP_AREA** and upgrade install OCDA_CONTROL_TABLE_WA work area.
10. Navigate to **OCDA_domain** > **OCDA_UTIL_APP_AREA** and install the following work:
    a. OCDA_SHARED_PROGRAM_WA
11. Navigate to **OCDA_domain** > **OCDA_CODE_APP_AREA** and install the following work areas in the specified order:
    1. OCDA_SDE_SC_WORK_AREA
    2. OCDA_SDE_OC_WORK_AREA
    3. OCDA_POOL_WORK_AREA
    4. OCDA_UTIL_WA
12. Navigate to **OCDA_domain** > **OCDA_CODE_APP_AREA** >**OCDA_WORK_AREA** .
13. Click **Installation**.
14. In the Work Area Install screen, select the following options:
    - Install Mode: **Partial**
    - Install Option: **Force Script Re-generation**
15. In Work Area Objects, select only the table instances with replace object option.
16. Click **Apply and Install**.

    Perform following steps before running the work area install script:

    1. Navigate to **OCDA_domain** > **OCDA_CODE_APP_AREA** > **OCDA_WORK_AREA**
    2. Select table instance **W_LOV_D**.
    3. Check out the table instance.
    4. Select the **Constraints/Indexes** tab.
    5. Select **W_LOV_D_U2** constraint and remove it.
    6. Navigate to **OCDA_domain** > **OCDA_CODE_APP_AREA** > **OCDA_WORK_AREA**
    7. Select table instance **OCDA_INFA_Party_Dim_SIL_PRG**.

8. Check out the program instance.
9. Select the **Table Descriptors** tab.
10. Select **W_HS_MAPPING_S** table descriptor and remove it.
11. Partially install **OCDA_INFA_Party_Dim_SIL_PRG** program instance and the **W_LOV_D** table instance.

Ensure that all the work areas in OCDA_domain are in Status **Installable**.

The exception OCDA_DWH_WA can be ignored since it is used to fetch definition and is not used during ETL execution.

17. Navigate to **OCDA_domain** > **OCDA_UTIL_APP_AREA** and install the following work:
    a. OCDA_ETL_WORKFLOW_WA
18. On the Oracle LSH database server, navigate to the directory where OCDA_domain.zip is placed in staging area, and run the following work area (WA) installation script:

```
sqlplus apps/<apps_password>@<DB_INSTANCE>
@../cdrruwainstall.sql <LSH_APPL_USER> <DB_DIRECTORY> OCDA_
domain.zip
```

where:

<DB_INSTANCE> is the service name for the database where Oracle LSH is installed.

<LSH_APPL_USER> is the LSH user account as created in the Creating an Oracle Life Sciences Data Hub User Account.

<DB_DIRECTORY> is the logical DB directory name mapped to the Operating System (OS) directory containing the OCDA_domain.zip to be imported.

Note: Use the ocda_domain_import.log file to verify if the script has executed successfully.

Note: After you have successfully run the WA install script, run the Gather Schema Statistics concurrent program to gather table statistics. For more information refer to, Section 2.3, "Gathering Table Statistics" on page 2-3

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19. In Oracle LSH, execute the ETL Programs. Follow steps listed in Oracle Health Sciences Clinical Development Analytics Administrator's Guide Release 2. 1 (Executing the ETL Programs).
20. Perform the steps listed in the following sections:

If you plan to use deduplication:

- Post Installation Tasks for Deduplication on page 3-17

If you do not plan to use deduplication:

- Emplacing the CDA Help and Image Files on page 3-14
- Preparing the OBIEE Web Catalog and Repository for CDA on page 3-16

- Creating Security Groups and Application Roles for CDA on page 3-13

Note: If you plan to upgrade CDA 2.0.0.3 Standard Configuration Repository (RPD) and Web Catalog to CDA 2.1 Standard Configuration, refer to *Oracle Fusion Middleware Upgrade Guide for Oracle Business Intelligence 11g Release 1 (11.1.1)* and *Oracle Fusion Middleware Metadata Repository Builder's Guide for Oracle Business Intelligence Enterprise Edition 11g Release 1 (11.1.1)*.

21. You have now installed the CDA patch. To confirm that the patch has been successfully applied, start Dashboards and confirm that the data is displayed after initial ETL execution.

    See Also:

    Oracle Life Sciences Data Hub System Administrator's Guide

    Oracle Life Sciences Data Hub Installation Guide

4.1.2 Scheduling and Executing Extract Transform Load Jobs

For information on scheduling and executing Extract, Transform, and Load (ETL) jobs, refer to *Oracle Clinical Development Analytics Administrator Guide* (Chapter 2, Extract Transform Load Programs).

Note: Ensure that each ETL program has a default execution setup.

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