

**Oracle® Health Sciences Clinical Development
Analytics**

Installation and Configuration Guide for Informatica

Release 3.2

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Oracle Health Sciences Clinical Development Analytics Installation and Configuration Guide for Informatica, Release 3.2

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Preface

This guide provides information about how to install Oracle Health Sciences Clinical Development Analytics (OHSCDA).

This preface contains the following topics:

- [Audience](#) on page v
- [Documentation Accessibility](#) on page v
- [Finding Certification Information](#) on page vi
- [Finding Information and Patches on My Oracle Support](#) on page vi
- [Finding Documentation on Oracle Technology Network](#) on page vii
- [Related Documents](#) on page viii
- [Conventions](#) on page ix

Audience

This installation guide is intended for users who are responsible for installing Oracle Health Sciences Clinical Development Analytics. You must be familiar with:

- Oracle Database
- Oracle Business Intelligence Enterprise Edition (OBIEE) application
- Oracle Business Intelligence Data Warehouse Administration Console (DAC) application
- Informatica PowerCenter application

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 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 Sun 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 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 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, Oracle Business Intelligence Enterprise Edition Release, Oracle Clinical, Siebel Clinical, and Oracle Health Sciences InForm documentation sets.

Oracle Business Intelligence Data Warehouse Administration Console (DAC) Documentation

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

- *Oracle® Fusion Middleware User's Guide for Oracle Business Intelligence Data Warehouse Administration Console*
- *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 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 Clinical Documentation

The Oracle Clinical documentation set includes:

- *Oracle Clinical Administrator's Guide*

- *Oracle Clinical Getting Started*
- *Interfacing from Oracle Clinical*
- *Oracle Clinical Conducting a Study*
- *Oracle Clinical Creating a Study*
- *Oracle Clinical Installation Guide*

Siebel Clinical Documentation

The Siebel Clinical documentation set includes:

- *Siebel Data Model Reference for Industry Applications*
- *Siebel Life Sciences Guide*

Oracle Health Sciences InForm Documentation

The Oracle Health Sciences InForm documentation set includes:

- *Oracle Health Sciences InForm Upgrade and Migration Guide*
- *Oracle Health Sciences InForm Installation Guide*
- *Oracle Health Sciences InForm Study and Reporting Setup Guide*
- *Oracle Health Sciences InForm User Guide*
- *Oracle Health Sciences InForm Reporting and Analysis*
- *Oracle Health Sciences InForm Utilities Guide*
- *Oracle Health Sciences InForm Clinical Data API Guide*
- *Oracle Health Sciences InForm Reporting Database Schema*
- *Oracle Health Sciences InForm Secure Configuration Guide*
- *Oracle Health Sciences InForm Third Party Licenses and Notices*

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
<i>italic</i>	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.

Before You Begin

This section presents an overview of the Oracle Health Sciences Clinical Development Analytics (OHSCDA) requirements. It also describes the tasks that you must complete before you can install the application.

This chapter includes the following sections:

- [Section 1.1, "Technology Stack and System Requirements"](#)
- [Section 1.2, "Installing the Prerequisite Software"](#)

1.1 Technology Stack and System Requirements

The requisite technology stack for OHSCDA configuration consists of the following products:

- Oracle Database 12.1.0.2.0 with patch 19509982
- Oracle WebLogic Server 10.3.6
- Oracle Business Intelligence Enterprise Edition (OBIEE) 11.1.1.9.0
- Oracle Business Intelligence Data Warehouse Administration Console 11.1.1.6.4
- Informatica PowerCenter 9.5.0 and 9.6.1

Note: Informatica is not part of the media pack. You need to acquire its license separately.

All references to *media pack server* in this document refer to the system onto which you download the media pack for Oracle Health Sciences Clinical Development Analytics.

Make sure that the domain information of the Informatica repository, where you plan to import OHSCDA related Informatica mappings, is added to domains.infa file of the Informatica client.

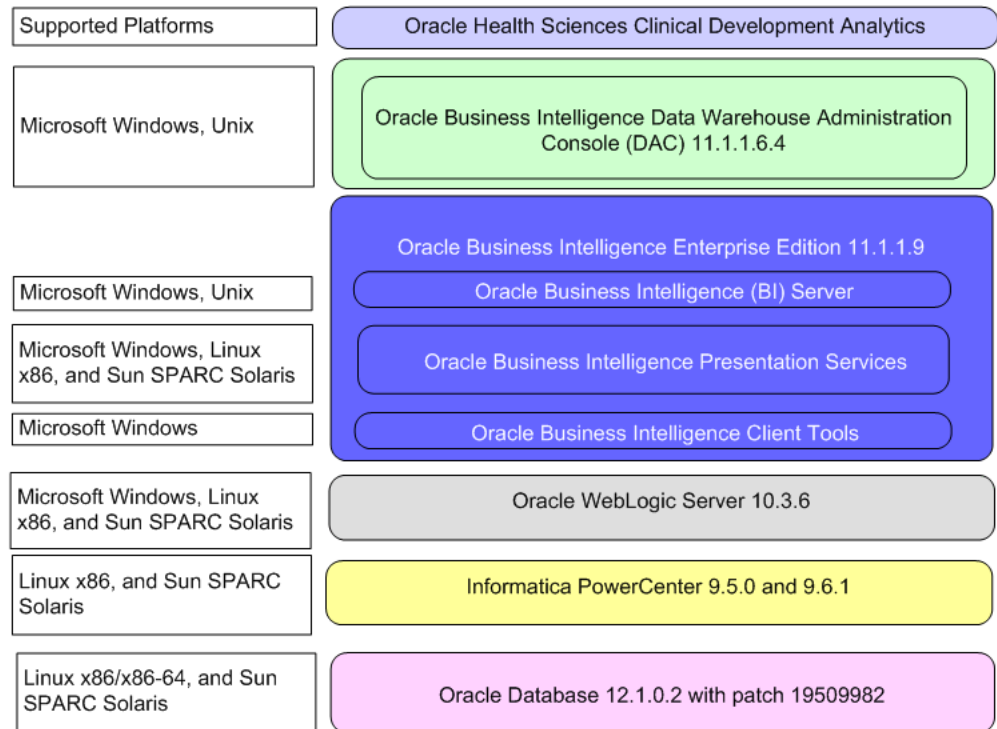
Table 1–1 System Requirements References

Product	Reference
Oracle Database 12.1.0.2.0 with patch 19509982	<i>Database Installation Guide for <platform></i>
Oracle WebLogic Server 10.3.6	<i>Oracle WebLogic Server Documentation Library</i>
Oracle Business Intelligence Enterprise Edition (OBIEE) 11.1.1.9.0	<i>System Requirements and Supported Platforms for Oracle Business Intelligence Suite Enterprise Edition</i> <i>Oracle Business Intelligence Infrastructure Installation and Configuration Guide</i>
Oracle Business Intelligence Data Warehouse Administration Console 11.1.1.6.4	<i>Oracle Business Intelligence Data Warehouse Administration Console Installation, Configuration, and Upgrade Guide</i> <i>Data Warehouse Administration Console User's Guide</i>
Informatica PowerCenter 9.5.0 and 9.6.1	<i>Informatica PowerCenter Installation Guide</i>

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

Installation Considerations

- Determine the computer on which you will install each component of OHSCDA.
- You may select to install each product on a different server, if required. The OHSCDA media pack server does not have to act as server for any of the products, though it may. You may consult [Figure 1–1](#), and the documentation listed in [Table 1–1](#) for information on installing each product.
- Determine the databases you need to create.
- You must create a database schema to serve as the warehouse for OHSCDA.
- It is a good practice to create the schema for the OHSCDA warehouse in a new database.
- You may select to create schemas for repositories for the other OHSCDA components in the same database that will be used for the OHSCDA warehouse. It minimizes the number of databases that you need to maintain for OHSCDA. However, if you will be using the component applications for purposes other than OHSCDA, Oracle recommends that you create their repositories in instances other than the one holding the OHSCDA warehouse.

Figure 1–1 Oracle Health Sciences Clinical Development Analytics Technology

For more information about certifications, see [Finding Certification Information](#).

1.1.1 Supported Web Browsers

OHSCDA supports web browsers that are supported by OBIEE. For the list of the browsers supported by OBIEE, refer to *Oracle Fusion Middleware System Administrator's Guide for Oracle Business Intelligence Enterprise Edition 11g*.

Note: For information on Oracle Software Web Browser Support Policy, see Doc ID 2092205.1 on My Oracle Support (<https://support.oracle.com>).

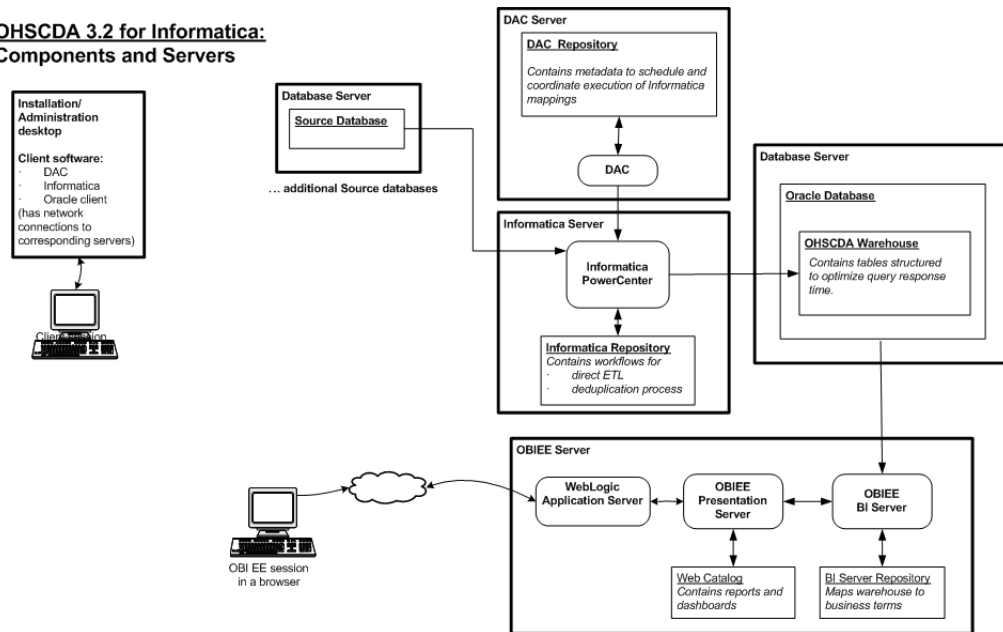
1.1.2 Source Systems

OHSCDA is designed to extract data from the following three systems:

- Oracle Clinical (OC) 4.6 or 5.1
- Siebel Clinical Trial Management System (SC) 8.1.1.15
- Oracle Health Sciences InForm 4.6, 5.5, 6.0, or 6.1

1.2 Installing the Prerequisite Software

[Figure 1–2](#) displays a sample topology of the technology components for OHSCDA.

Figure 1–2 Sample Topology**OHSCDA 3.2 for Informatica:
Components and Servers**

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

- Install Oracle Database 12.1.0.2.0 with patch 19509982. You can download the patch set from My Oracle Support (<https://support.oracle.com>).

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

Follow the instructions in *Oracle Database Installation Guide for <platform>*.

Also, install Oracle Database Client for 12.1.0.2.0 on the system where you are running the OHSCDA installer. Follow the instructions in *Oracle Database Client Installation Guide for <platform>*.

- Install Oracle WebLogic Server 10.3.6
- Follow the instructions in *Oracle WebLogic Server Documentation Library*.
- Install Oracle Business Intelligence Enterprise Edition (OBIEE) 11.1.1.9.0 with the following components:

- Oracle Business Intelligence Server (Supported 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) 11.1.1.6.4

Follow the instructions in *Oracle Business Intelligence Data Warehouse Administration Console Installation, Configuration, and Upgrade Guide*.

- Install Informatica PowerCenter 9.5.0 or 9.6.1
Oracle recommends that you create Informatica repository for OHSCDA with the following settings:

Table 1–2 Informatica Repository Settings

Settings	Value
Character Set	UTF8
Versioning	True
Global Repository	False
Security Audit Trail	No
Operating Mode	Normal

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

For more information, see *Informatica PowerCenter Installation Guide*.

- If you implement multi-byte character support for OHSCDA, set the following:
 - **Operating System Level:** Ensure that the system that hosts Informatica and Database have the following parameters set:
 - * NLS_LANG=AMERICAN_AMERICA.AL32UTF8
 - * LANG=en_US.UTF-8
 - **Database Level:** Ensure that the following parameters are set while creating database:
 - * NLS_CHARACTERSET =AL32UTF8
 - * NLS_NCHAR_CHARACTER= AL16UTF16
 - **Informatica Level:** Oracle recommends that you create Informatica integration service for OHSCDA with the following settings:

Table 1–3 Informatica Integration Service

Settings	Value
Character Set	UTF8
Versioning	True
Global Repository	False

Table 1–3 (Cont.) Informatica Integration Service

Settings	Value
Security Audit Trail	No
Operating Mode	Normal
DataMovementMode	Unicode
Code Page	UTF8

- **Informatica Workflow Relational Connection:** For all relational connection in Informatica (Datawarehouse, Inform_Source, Oracle_Clinical, and Siebel_Clinical), set:
 - Connection Environment SQL to `"alter session set NLS_LENGTH_SEMANTICS = 'CHAR';`
 - Code Page to UTF-8 encoding of Unicode

Installing Oracle Health Sciences Clinical Development Analytics

This chapter describes the OHSCDA Installation tasks that you must complete and includes the following sections:

- [Section 2.1, "Installing Oracle Health Sciences Clinical Development Analytics"](#)
- [Section 2.2, "Adding InForm Studies to the OHSCDA Warehouse"](#)
- [Section 2.3, "Source-specific Procedures"](#)

2.1 Installing Oracle Health Sciences Clinical Development Analytics

This section describes the OHSCDA Installation tasks that you must complete.

Note:

- All references to `${DAC_INSTALL_DIR}` in this document refer to DAC installation folder.
-
-

OHSCDA application installation consists of the following components:

- [Running the OHSCDA Installer](#)
- [Setting Up Relational Connections in the Informatica Workflow for OHSCDA](#)
- [Preparing a DAC Repository for OHSCDA](#)
- [Emplacing the OHSCDA Help and Image Files](#)
- [Preparing the OBIEE Web Catalog and Repository for OHSCDA](#)

2.1.1 Running the OHSCDA Installer

The basic OHSCDA 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 OHSCDA 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.

The Welcome screen provides information about the Oracle Universal Installer. The following function buttons appear on the installation screens:

- **Deinstall Products:** Deinstall individual components or the entire product. This button appears only on the Welcome screen.
 - **About Oracle Universal Installer:** View the version number of the installer in use.
 - **Help:** Access detailed information about the functionality of each screen.
 - **Installed Products:** View currently installed products or deinstall the entire product or components.
 - **Next:** Proceed to the next screen.
 - **Cancel:** Cancel the installation process and exit the installer.
4. Click **Next**.

The Specify Home Details screen appears.

5. Enter the name of the installation and path where all the staged files from the Installer get copied to the local system. This is also the location from where Installer executes the database script.

Example Name: OCDAHome1

Path: C:\OCDA

6. Click **Next**.

The Install or Upgrade OHSCDA screen appears.

7. Select one of the following options:
 - **Install:** If you want to make a fresh installation of OHSCDA.
 - **Upgrade:** If you want to upgrade an existing OHSCDA 3.0 instance.

8. Click **Next**.

The OHSCDA Data Warehouse Details screen appears.

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

9. Enter values in the following fields:
 - **Data Warehouse Connect String:** Connection of the database where OHSCDA Data Warehouse will be deployed.

Note: Make sure the connect string matches the value in the tnsnames.ora file.

- **Database Host Name**
 - **Database Port No**
 - **Database Service Name**
 - **Default Tablespace Name**
 - **Temporary Tablespace Name**
10. Click **Next**.
The OHSCDA Data Warehouse screen appears.
11. Enter and confirm the system password of the database where OHSCDA Data Warehouse will be deployed.
12. Click **Next**.
The OHSCDA Data Warehouse Details screen appears.
13. Enter and confirm the OHSCDA Warehouse schema (RXI) password.
14. Click **Next**.
15. Enter and confirm the OHSCDA RPD (RXI_RPD) password.
The OHSCDA Informatica PowerCenter Details screen appears.
This screen collects all information to connect to the Informatica server.
16. 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.
17. Click **Next**.
The OHSCDA Informatica Details screen appears.
18. Enter and confirm the Informatica password for admin user.
19. Click **Next**.
The OHSCDA Informatica PowerCenter Client Home Directory screen appears.
20. Enter the Informatica PowerCenter client home path.
For example,
Informatica PowerCenter client home: D:\Informatica\9.5.0\clients\PowerCenter client\client
21. Click **Next**.
The National Language Support screen appears.
22. Select one the following options:
- **Yes:** If the source data contains data in English and any other language.
 - **No:** If the source data contains data only in English.

23. Click Next.

The Summary screen appears.

24. Verify the details provided in the Summary screen.**25. Click Install.**

Note: You must record the log file path that appears on the bottom of the screen for future reference.

2.1.2 Setting Up Relational Connections in the Informatica Workflow for OHSCDA

For each database that will be a source for extracting data into the OHSCDA warehouse, perform the following steps to create a Relational Connection in the Informatica Workflow Manager:

1. Launch the Informatica PowerCenter Workflow Manager.
2. Connect to the repository where OHSCDA Informatica mappings are imported.
3. Select **Connections**, and then select **Relational** to display the Relational Connection Browser.
4. Click **New** to display the Select Subtype dialog.
5. Select **Oracle** as database type, and then click **OK**. The Connection Object Definition dialog box is displayed with options for the selected database platform.
6. 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 must be added on Informatica Server.

Note: You must repeat steps 1 through 4 for each required source connection.

2.1.3 Preparing a DAC Repository for OHSCDA

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

1. Create a new DAC repository, as an Administrator.
2. Unzip OCDA_HOME\oracle.pharma.ocda.standard\DAC_Code\CDA_Warehouse.zip onto the computer where you will run DAC client.
3. Import the OHSCDA 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 [Section 2.1.3, "Preparing a DAC Repository for OHSCDA"](#).
 - 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. Select **CDA_Warehouse** application 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. Configure Informatica Repository Service in DAC.
 - a. Navigate to the **Setup** view, and then 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.
 5. 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.
6. Configure source databases (Oracle Clinical, Siebel Clinical, and InForm) and the target database (the OHSCDA warehouse). For each database with which DAC will interact for OHSCDA, perform the following steps:
 - a. Navigate to the **Setup** view, and 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.
 - **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, 2, and 3 for Oracle Clinical, Siebel Clinical, and InForm respectively.

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

OHSCDA Warehouse connection must be the same as provided during OHSCDA installation.

Table 2–1 Sample of Data Source Table W_RXI_DATASOURCE_S

ROW_WID	DATASOURCE_NUM_ID	DATASOURCE_NAME	DELETE_FLG	INTEGRATION_ID	ENTERPRISE_ID	INFORM_STUDY_GUID
1	1	ORACLE_CLINICAL	N	ORACLE_CLINICAL	0	-
2	2	SIEBEL_CLINICAL	N	SIEBEL_CLINICAL	0	-
3	3	INFORM	N	INFORM	0	{FA5BCD87-B858-4F08-8BF8-1914B61C9DDF}
4	101	INFORM_1	N	INFORM_1	0	{CC0DBD73-FA40-4943-BD B3-60752C1A2732}

Note: If InForm is one of your sources and auto merge feature is not used, then the column INFORM_STUDY_GUID must be populated with studyguid for the corresponding InForm study.

You can find the distinct studyguid from table RXI_STUDYVERSIONS in the consolidation database.

From DAC, the value passed for the data source parameter is always 3. Since we have one consolidation DB which holds all study data, the guid, when auto merge is set to N, helps resolving individual data source numbers.

If auto merge is set to Y, then a single entry for data source 3 for INFORM is sufficient and INFORM_STUDY_GUID need not be populated. In this case, the consolidation DB is considered as single source and duplicates are handled by auto merge.

7. Perform the following steps to modify the value for data sources:
 - a. Navigate to the **Execute** view, and then select the **Execution Plans** tab.
 - b. If Oracle Clinical, Siebel Clinical, and InForm are your source systems, select **CDA - Complete Warehouse** from the list.
 If Oracle Clinical is your only source system, select **CDA - Oracle Clinical Warehouse** from the list.
 If Siebel Clinical is your only source system, select **CDA - Siebel Clinical Warehouse** from the list.
 If InForm is your only source system, select **CDA - InForm Warehouse** 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 drop-down list for the field.
- e. Select a relevant value from the list for each of the data sources.
- f. Click **Save**.

Note: ■ If Oracle Clinical, Siebel Clinical, and InForm are your source systems, use CDA - Complete Warehouse.

- If Oracle Clinical is your only source system, use CDA - Oracle Clinical Warehouse.
 - If Siebel Clinical is your only source system, use CDA - Siebel Clinical Warehouse.
 - If InForm is your only source system, use CDA - InForm Warehouse.
-

2.1.3.1 DAC Configurable Parameters

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

Table 2–2 lists the DAC configurable parameters.

Table 2–2 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, 2 for Siebel Clinical, and 3 for InForm.
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
Prune Days	This is used for setting the END_TS for incremental load.
MPI_AUTHFILE	Currently, not in use.
MPI_USER	Currently, not in use.
AUTO_MERGE_FLG	This is used to enable or disable auto-merge. <ul style="list-style-type: none"> ■ Y: Enables auto-merge ■ N: Disables auto-merge
\$OutputFile_OCDA	Currently, not in use.
\$DBConnection_SP_OLAP	Currently, not in use.
\$DBConnection_OLAP	Currently, not in use.

2.1.4 Emplacing the OHSCDA Help and Image Files

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

2.1.4.1 Placement of Files for Oracle WebLogic Managed Server

You need to manually deploy OHSCDA'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\OracleBIPresentationServicesComponent\coreapplication_obips1\analyticsRes\s_ocda\
4. Move customMessages and sk_ocda folders from <MIDDLEWARE_HOME>\instances\<<instancename>\bifoundation\OracleBIPresentationServicesComponent\coreapplication_obips1\analyticsRes\s_ocda\help\ to <MIDDLEWARE_HOME>\instances\<<instancename>\bifoundation\OracleBIPresentationServicesComponent\coreapplication_obips1\analyticsRes\.
5. Add the following tag in instanceconfig.xml, present in <MIDDLEWARE_HOME>\instances\instance1\config\OracleBIPresentationServicesComponent\coreapplication_obips1:


```
<UI><DefaultSkin>ocda</DefaultSkin>
<DefaultStyle>ocda</DefaultStyle></UI>
```
6. Unzip the Images.zip files from OCDA_Home\oracle.pharma.ocda.standard\Reporting\Images to <MIDDLEWARE_HOME>\instances\<<instancename>\bifoundation\OracleBIPresentationServicesComponent\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 on 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\OracleBIPresentationServicesComponent\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 OHSCDA.
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\OracleBIPresentationServicesComponent\coreapplication_obips1\analyticsRes\` in the Source accessibility section.
20. Click **Finish**.
analyticsRes appears in the Deployment section.
21. Click **Activate Changes**.
22. Select **analyticsRes** in the 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 on to Oracle Enterprise Manager Fusion Middleware Control.
27. Restart the BI components.
28. Log on to OBIEE and verify the branding and help links on the dashboards.

See Also:

- *Oracle WebLogic Server Documentation Library*

2.1.5 Preparing the OBIEE Web Catalog and Repository for OHSCDA

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

1. To deploy InForm web catalog, copy OCDA.zip from `OCDA_Home\oracle.pharma.ocda.standard\Reporting\Webcat\Inform_Webcat` to OBIEE server.
Else, copy OCDA.zip from `OCDA_Home\oracle.pharma.ocda.standard\Reporting\Webcat` to OBIEE server.
2. Copy OCDA.rpd files from `OCDA_Home\oracle.pharma.ocda.standard\Reporting\RPD` 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 OHSCDA 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. Modify the connection pools in the RPD as following:
 - a. In the physical layer, expand the OHSCDA Data Warehouse node and double-click **Connection Pool** object to open Connection Pool dialog box.
 - b. Set **Data source name** field to the ODBC entry for the warehouse you created in step 3.
 - c. Change the username to the username of the OHSCDA read-only schema. (RXI_RPD)
 - d. Change the password to the password of the OHSCDA read-only schema. (RXI_RPD)
 - e. Click **OK**.
 - f. Reconfirm the password.
 - g. Click **OK**.
15. From the File menu, select **Save** to save the rpd.
16. Click **Yes** for Do you wish to check global consistency?
17. Click **Close** in the Consistency Check Manager.
18. Click **Save**.
19. Click **File** and then click **Close**.
20. Click **File** and then click **Exit**.
21. Open NQSCfg.xml found at <MIDDLEWARE_HOME>instances\instance1\config\OracleBI\ServerComponent\coreapplication_obis1.
22. Set EVALUATE_SUPPORT_LEVEL =2.
23. Start the Oracle WebLogic Server and BI components.
24. 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.

25. Enter the Oracle Fusion Middleware administrator user name and password and click **Login**.
26. 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.
27. Navigate the Repository tab of the Deployment page.
28. Click **Lock and Edit Configuration**.
29. Click **Close**.
30. In the Upload BI Server Repository section, click **Browse** and navigate to select the RPD.
31. Enter the RPD password in **Repository Password** and **Confirm Password** fields.
32. In the BI Presentation Catalog section, enter <ORACLE_INSTANCE>/bifoundation/OracleBIPresentationServicesComponent/<COMPONENT_NAME>/catalog/OCDA in the **Catalog Location** field.
33. Click **Apply**, and then click **Activate Changes**.
34. Return to the Business Intelligence Overview page and click **Restart**.

2.1.6 Configuring Maps

To configure maps:

1. Go to
<http://www.oracle.com/technetwork/middleware/bi-foundation/obieesamplesarchive-2026956.html>.
2. Navigate to **OBIEE 11.1.1.3 - Sample Application**.
3. Click **Documentation Downloads**.
4. Click **Save**.
5. Unzip the folder.
6. Open SampleApp_Deploy_Instructions_825.pdf.
7. For instructions on how to configure maps, see section 6 *Deploying SampleApp Mapviewer Content*.

2.1.7 Creating Security Groups and Application Roles for OHSCDA

2.1.7.1 Creating Groups

Perform the following steps 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 2–3 Security Group Parameters

Name	Description	Provider
OCD A-CRA	(Optional)	DefaultAuthenticator
OCD A-DataManager	(Optional)	DefaultAuthenticator
OCD A-ExecutiveManager	(Optional)	DefaultAuthenticator
OCD A-RegionManager	(Optional)	DefaultAuthenticator
OCD A-StudyManager	(Optional)	DefaultAuthenticator
OCD A-WebcatAdim	(Optional)	DefaultAuthenticator

2.1.7.2 Creating Application Roles

Perform the following steps to create groups:

1. Log on 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:
 - a. Click the blue button to search. It will display a list of all the groups.

- b. Select from the results returned in the **Available** box.
- c. Use the shuttle controls to move the desired name to the **Selected** box.
- d. Click **OK** to return to the **Create Application Role** page.
- e. Repeat steps 5 and 6 for all the Roles listed in the following table:

Table 2–4 Application Roles and Groups

Role Name	Description	Groups
OCDA-CRA	(Optional)	OCDA-CRA
OCDA-DataManager	(Optional)	OCDA-DataManager
OCDA-ExecutiveManager	(Optional)	OCDA-ExecutiveManager
OCDA-RegionManager	(Optional)	OCDA-RegionManager
OCDA-StudyManager	(Optional)	OCDA-StudyManager
OCDA-WebcatAdim	(Optional)	OCDA-WebcatAdim

2.2 Adding InForm Studies to the OHSCDA Warehouse

2.2.1 OHSCDA InForm Consolidation Schema

This section describes how OHSCDA extracts InForm's operational data and loads it into the OHSCDA warehouse. All of the data for each InForm study is maintained in a transactional database (actually a database schema). InForm maintains one or more InForm databases per Oracle database instance. Each study also has a Reporting and Analysis database (again, a set of objects in a schema, not necessarily an exclusive database instance) which contains data in views designed for query, as opposed to transactional activity.

InForm maintains the Reporting and Analysis database for each study in a study-specific schema. For efficiency and maintainability, OHSCDA has created a program that extracts data from a number of InForm Reporting and Analysis databases and places that data into a single consolidated database. Then, OHSCDA's source-dependent extract code reads from the consolidated database, and writes to the OHSCDA warehouse.

For the remainder of this section, refer to any given InForm Reporting and Analysis database as a source schema and the schema in which OHSCDA consolidates InForm data as the consolidation schema.

OHSCDA consolidates data from selected InForm source schema views, the selected ones being the ones that have data corresponding to columns in the OHSCDA data model. The following are the InForm source views that are consolidated for OHSCDA:

- IRV_AF_SUBJECT_FORMS
- IRV_CUR_QUERY
- IRV_CUR_RULE
- IRV_CUR_SITE
- IRV_CUR_SPONSOR
- IRV_CUR_SUBJECT
- IRV_CUR_USER

- IRV_FORM_REVS
- IRV_ITEMSET_REVS
- IRV_ITEM_REVS
- IRV_QUERY_STATE_CHANGES
- IRV_SECTION_REVS
- IRV_STUDYVERSIONS
- IRV_STUDYVERSION_FORMS
- IRV_STUDYVERSION_VISITS
- IRV_SUBJECT_STATE_CHANGES
- IRV_SV_SUBJECTVISITS
- IRV_USERS_SITES

For each of these source views, the consolidation schema contains a consolidation table. Each consolidation table has the same columns as its source view, except that the consolidation table has three additional columns:

- STUDYGUID
- CONSOLIDATION_DATETIME
- MODIFIEDDATETIME

STUDYGUID is needed to retain the association of each record with its InForm study. CONSOLIDATION_DATETIME and MODIFIEDDATETIME allows OHSCDA ETL to detect which consolidated records have been added or updated since the prior ETL execution.

The names of tables in the consolidation schema match the names of their source views, with the following change:

- *IRV* in the source view name is replaced with *RXI* in the consolidation table name.

Consolidation is the process of getting new or modified records from a source schema and updating the consolidation schema with those records. Consolidation is carried out by periodic execution of a scheduled job in each InForm schema that contributes to the consolidation schema. Execution is done through the DBMS_JOB facility. Each source schema is consolidated on its own schedule.

There is no master job that oversees or coordinates the consolidation of all the source InForm schemas. You can choose to consolidate different InForm schemas at different times, and with different intervals between consolidations. However, the more spread out consolidations are, the wider the time period represented by the records in the consolidation schema. So it is recommended that you schedule consolidation jobs to fall within a small time window. For details on scheduling, see [Section 2.2.7, "Adjusting Scheduling of Consolidation Jobs"](#).

When the Consolidation job executes for a particular source schema, it does the following:

For each source table from which OHSCDA extracts data,

- Identify what records have been created or modified in this table since the previous consolidation
- For each modified source record, drop the corresponding record in the consolidation table

- Insert all new and modified records in the Consolidation schema table, setting their StudyGUID, and modification timestamps

The procedures that does this work reside in each InForm Reporting and Analysis Schema, they are placed there as part of the process of preparing that schema for consolidation.

Preparation for consolidation also creates an access account in the database holding the source schema. This account is the one that reads the Reporting views, and writes to the consolidation tables. This access account is named CDAXxx, where xxx is the Study name.

All movement of data is done by a pull from the Reporting and Analysis Database to the Consolidation database. This ensures that there is no path by which someone who can connect to the consolidation schema is able to modify the InForm database.

The instructions that follow tell how to do the initial setup of the consolidation schema (this also enrolls the first Study to be consolidated as part of the process) and then how to set up each additional InForm study so that it becomes a contributor to the Consolidation schema.

2.2.2 Prerequisites

Before you begin:

1. Navigate to OCDA_HOME\oracle.pharma.ocda.standard\OCDA_Common_Scripts\Inform_Consolidate.zip.
2. Copy and unzip the Inform_consolidate.zip file to a server from which it is possible to access all InForm source database that contain studies that are to be consolidated and also to access the database in which the consolidation schema is located.

2.2.3 Setting up Consolidation Schema

This section describes the steps to create the Consolidation Schema. As part of the process, it enrolls an initial InForm study as a source to be consolidated.

2.2.3.1 Preparing TNSNAMES Files on Source and Target Database Servers

If one does not already exist, create a TNSNAMES.ORA entry for the Consolidation database instance on each InForm database server that contains a study that is to be consolidated.

Note: This is not essential. If you prefer not to create the TNSNAMES entries, you can provide the complete connection string instead of the TNS name when specifying remote databases below.

- On the consolidation schema database server, add a TNSNAMES.ORA entry for each source schema database.

2.2.3.2 Creating a Consolidation Management Root Directory

- On consolidation schema database server, create a root directory for managing the files needed to configure and log consolidation of the source schemas.

We will refer to this directory as <\$ConsolidationMgmtRoot>.

If trial source and target consolidation DB are in the same network, then a single <\$ConsolidationMgmtRoot> is sufficient. Else, replicate the directory in both the servers.

During the setup of the source trial DB, use TrialCDA and logs folders. And, during the setup of the destination consolidation DB, use DestCDA and logs folder.

2.2.4 Initiating Consolidation of InForm Studies

This section describes the steps you must follow to prepare a source schema for consolidation and perform the initial execution of consolidation of that schema. Subsequent consolidations occurs automatically at an interval you define as part of the preparation described here.

The setup and configuration is performed in the following two phases for each study trial:

- [Section 2.2.4.1, "Source Trial Database Configuration"](#)
- [Section 2.2.4.2, "Destination Consolidation Database Configuration"](#)

2.2.4.1 Source Trial Database Configuration

Follow the instructions in this section for each InForm study that is to be consolidated for consumption by OHSCDA.

1. On either source or consolidation schema database server, based on the network architecture as described in [Section 2.2.3.2](#), create a directory within <\$ConsolidationMgmtRoot> /<Study-name> to hold the files for consolidation of this study.
2. Copy the contents of InForm_consolidate.zip into the <\$ConsolidationMgmtRoot>/<Study-name>/TrialCDA directory.
3. Set your current directory to the <\$ConsolidationMgmtRoot>/<Study-name> directory.
4. Edit CONFIGTRIALCDA.sql to set specific values of configuration parameters for this study. Make the following changes:

Table 2–5 Source Trial Configuration Parameters

Parameter	Set value to
Slash	Use \ for Windows or / for Linux
trial_name	The name of the study.
inform_release	For InForm 4.6, enter R46. For later releases, enter R55.
trial_tnsname	Name in the local TNSNAMES file of the source database for the study. Can also supply entire TNS entry for the source database as a string.
trial_schema_user	Username of the InForm source schema.
trial_schema_password	Password of the InForm source schema.
trial_ro_user	This is OHSCDA reporting object schema user name and is defaulted to trail_name prefixed with 'cda'.
trial_ro_password	This is OHSCDA reporting object schema password and is defaulted to trail_name prefixed with 'cda'. You can change this password.

Table 2–5 (Cont.) Source Trial Configuration Parameters

Parameter	Set value to
trial_dba_user	Database username who has the dba privileges.
trial_dba_password	Password for database username.
trial_ts	Name of a tablespace in the source schema database to which the access account for this study will be given access.
trial_ts_temp	Name of a temporary tablespace in the source schema database to which the access account for this study will be given access.

5. Save the file.
6. Connect to SQLPlus. Execute the following command:


```
sqlplus /nolog
```
7. From the command prompt, execute the following command:


```
@Setup_Trial_CDA.sql
```
8. Navigate to the <\$ConsolidationMgmtRoot>/<Study-name>/Logs directory to review the log.

If any errors are found, make necessary corrections and re-execute Setup_Trial_CDA.sql.

2.2.4.2 Destination Consolidation Database Configuration

Follow the instructions in this section for each InForm study that is to be consolidated for consumption by OHSCDA.

1. On the consolidation schema database server, based on the network architecture as described in [Section 2.2.3.2, "Creating a Consolidation Management Root Directory"](#), create or reuse a directory within <\$ConsolidationMgmtRoot>/<Study-name> to hold the files for consolidation of this study.
2. Copy or reuse the contents of InForm_consolidate.zip into the <\$ConsolidationMgmtRoot>/<Study-name> directory.
3. Set your current directory to the <\$ConsolidationMgmtRoot>/<Study-name>/DestCDA directory.
4. Edit CONFIGDESTCDA.sql to set specific values of configuration parameters for this study. Make the following changes:

Note: If you prefer not to create the TNSNAMES entries, you can provide the complete connection string instead of the TNS name when specifying the remote databases below.

The trial parameters mentioned in [Table 2–6](#) must match with the ones defined in [Table 2–5](#).

Table 2–6 Destination Configuration Parameters

Parameter	Set value to
Slash	Use \ for Windows or / for Linux

Parameters for configuring the source schema and database

Table 2–6 (Cont.) Destination Configuration Parameters

Parameter	Set value to
trial_name	The name of the study.
inform_release	For InForm 4.6, enter R46. For later releases, enter R55.
trial_tnsname	Name in the local TNSNAMES file of the source database for the study. Can also supply entire TNS entry for the source database as a string.
trial_schema_user	Username of the InForm source schema.
trial_global_name	Global name of the source schema database. You can get this by connecting to the source schema and running the following query: SELECT * FROM GLOBAL_NAME
trial_ro_user	This is OHSCDA reporting object schema user name and is defaulted to trail_name prefixed with 'cda'.
trial_ro_password	This is OHSCDA reporting object schema password and is defaulted to trail_name prefixed with 'cda'. You can change this password.
Parameters for configuring the target schema and database	
dest_tnsname	Name of the target database in the TNSNAMES file on the source database server for the study. Can also supply entire TNS entry for the target database as a string.
dest_schema_owner	This defaults to and is same as trial_ro_user parameter.
dest_schema_password	This defaults to and is same trial_ro_password parameter.
dest_consolidated_user	This is the consolidation schema username. Default is RXI_INFORM.
dest_consolidated_password	This is the consolidation schema password. Defaults is RXI_INFORM. You can change this password.
dest_dba_user	Database username who has dba privileges on the consolidation database.
dest_dba_password	Password for the database username on the consolidation database.
dest_ts	Name of a tablespace in the target schema database to which the consolidation and access account will be given access.
dest_ts_temp	Name of a temporary tablespace in the target schema database to which the consolidation and access account will be given access.
consolidate_job_interval	The interval between executions of the program to consolidate new and modified data from this study. A value of 1 results in an interval of one day. A value of 1/24 results in an interval of one hour.

5. Save the file.
6. Connect to SQLPlus. Execute the following command:

```
sqlplus /nolog
```
7. From the command prompt, execute the following command:

```
@Setup_Dest_CDA.sql
```

8. Navigate to the <\$ConsolidationMgmtRoot>/<Study-name>/Logs directory to review the log.

If any errors are found, make necessary corrections and re-execute Setup_Dest_CDA.sql.

2.2.5 Creating InForm Auto Merge Tables

If InForm is one of the source systems, connect to the InForm Consolidation database and execute the cda_cdb_automerge_ddl.sql script located in the OCDA_HOME/oracle.pharma.ocda.standard/DataModels/ directory.

2.2.6 Creating OCDA_INFORM_VIEWS

After you have initiated at least one consolidation and created Auto Merge tables, perform the following steps before running ETL against the consolidation schema:

1. Connect to the Consolidation schema database as SYSTEM.
2. Execute script OCDA_INFORM_VIEWS.sql located in the OCDA_HOME/oracle.pharma.ocda.standard/DataModels/ directory.

2.2.7 Adjusting Scheduling of Consolidation Jobs

As mentioned earlier, initial consolidations, especially of large source schemas, should be done in isolation to avoid contention for resources. But once the initial consolidation of a schema is done, subsequent consolidations of that schema are incremental and involve smaller numbers of records (incremental consolidations are limited to new or modified Subjects, CRFs, and Queries accumulated since the previous consolidation).

Once initial consolidation of a source schema is complete, it is useful to adjust the scheduling of its incremental consolidations so that they start near to the time of other incremental consolidation of other source schemas. The closer in time consolidations start across studies, the smaller the time period represented in the consolidation schema.

To adjust the time when a study's consolidation job executes, perform the following steps:

1. Connect as the source schema owner.
2. Determine the consolidation job ID using the following query for InForm 4.6:

```
select job
from user_jobs
where what like 'REFRESH_PROCS.REFRESH_WITH_STREAMS_DELAY%';
```

or the following query for InForm 5.5, 6.0, and 6.1:

```
select job
from user_jobs
where what = 'CDA_PROCS.CONSOLIDATE';
```

3. Change the time for the next execution of the job by using the dbms_job.next_date procedure.

Note: The `next_date` parameter is an Oracle date-time in which you can specify both the date and time for the next execution.

Remember to follow the call with a commit. For example,

```
begin
dbms_job.next_date (
  job => 12345,
  next_date => to_date('21-AUG-2013@01:01:00', 'DD-MON-YYYY@HH24:MI:SS')
);
end;
commit;
/
```

This causes job 12345 to next be executed at 1:01 AM on 21-AUG-2013.

You can also change the interval between subsequent executions of the job using the `dbms_job.interval` procedure. Set the interval parameter to the string `'SYSDATE + <desired-interval>'`, replacing `<desired-interval>` with the number of days, or the fraction of a day to elapse before the next execution.

```
begin
dbms_job.interval(
  job => 12345,
  interval => 'SYSDATE + 1/2'
);
end;
commit;
/
```

This sets the interval between executions of job 12345 to half a day or every 12 hours.

2.3 Source-specific Procedures

This section describes procedures you must perform for certain OHSCDA sources. Please review each section and determine if it applies to the source(s) you are using for OHSCDA. If the section does apply, carry out the procedure. If the section is optional, decide whether it is appropriate for your requirements and act accordingly.

2.3.1 Handling Deletions of Source Records

Different source applications handle the deletion of records in different ways. Oracle Clinical allows deletions of records in a way that avoids orphans, and has built-in auditing of these deletions. Siebel Clinical also allows deletions, properly cascading to maintain referential integrity, but does not have built-in auditing of deletions. InForm does not provide any means to hard-delete records in its transactional database. So, it does not need to be concerned neither with maintaining integrity in the face of deletions nor with auditing deletions.

2.3.1.1 Handling Deletions in Oracle Clinical

OHSCDA's ETL consults the audit trails to determine if source records have been deleted, and then soft-deletes those records in the warehouse.

2.3.1.2 Handling Deletions in Siebel Clinical

OHSCDA defines an optional process that you can use to manage hard deletion of records in Siebel Clinical. You create table and triggers in the source system to handle

deletion of records. For a description of this process, see *Oracle Clinical Development Analytics Administrator's Guide*.

2.3.1.3 Handling Deletions in InForm

Since no deletions are supported through the InForm UI, OHSCDA makes no provision for detecting them. If you need to delete records from an InForm transactional table at the backend and want the OHSCDA warehouse to be consistent with that change, you must identify the warehouse records that arose from the InForm records that are to be deleted. Also, you must remove them from the consolidation schema and the warehouse.

2.3.2 (Optional) Handling Deletion or Deactivation of a Study

Depending on how you use OHSCDA, you may prefer to have reports that give information only on currently active studies. If so, and if source studies are completed or possibly deleted, the recommended approach for removing such a study from OHSCDA is to use OHSCDA's access control capability. That is, enable Study and Study-site access controls, and then exclude the study and its sites from the list of studies (and sites) available to OHSCDA users. Aside from being simpler than identifying and deleting records from the warehouse, this approach has the advantage of being reversible if the decision to remove the study from the warehouse is reconsidered.

If you do not wish to use access control to avoid display of deactivated or deleted studies, there is an alternative solution. In the OHSCDA warehouse, every dimension table, and every base fact table, has a column named `DELETE_FLG`. OHSCDA's OBIEE repository is designed to treat records where `DELETE_FLG` equals 'Y' as if they were not present in the warehouse. OHSCDA's SIL also disregards records with `DELETE_FLG = 'Y'` when calculating values for aggregate tables (those with names ending with `_A`). So you can cause records to be effectively removed from the warehouse by setting their `DELETE_FLG` to 'Y'. Thus, if a study has been removed from a source database, you could identify all dimension and fact records for that study, and set their `DELETE_FLG` to 'Y'. This causes them to be forever invisible to OHSCDA's analytics.

This solution could be used, but only with great caution, for a study that is considered to be deactivated, but still remains in the source. Once marked as deleted, warehouse records for a study will not get their `DELETE_FLG` set back to 'N', but OHSCDA creates new warehouse records if there are changes or additions in the source for that study. So, if the study is truly inactive in the source, soft-deleting warehouse records for the study by setting `DELETE_FLG` to 'Y' will work. But any changes or additions to the study would cause new records to be loaded into the warehouse for the study, and it would re-appear in analyses.

2.3.3 (Optional) Fine-tuning of Oracle Clinical Settings

To optimize source system integration with OHSCDA, perform the following steps:

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:
 - For Oracle Database 11.2.0.2:

```
alter session set optimizer_features_enable='11.2.0.2'
```
 - For Oracle Database 11.2.0.3:

```
alter session set optimizer_features_enable='11.2.0.3'
```

- For Oracle Database 11.1.0.7:

```
alter session set optimizer_features_enable='11.1.0.7'
```

3. Create the following indexes:

- 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")

Upgrading Oracle Health Sciences Clinical Development Analytics

This chapter provides procedures that explain how to upgrade OHSCDA. It includes the following section:

- [Section 3.1, "Upgrading from OHSCDA 3.0 Standard to OHSCDA 3.2"](#)

3.1 Upgrading from OHSCDA 3.0 Standard to OHSCDA 3.2

The Installer automates the upgrade of the warehouse and the Informatica mappings. After running the Installer, to complete the upgrade from OHSCDA 3.0 to OHSCDA 3.2, perform the steps mentioned in [Section 3.1.3, "Performing Next Steps"](#) through [Section 3.1.7, "Executing the ETL Load Plan"](#).

Note: OHSCDA 3.2 is certified on Oracle Database 12.1.0.2.0. For detailed certification information, see [Finding Certification Information](#).

3.1.1 Prerequisites

For information, see [Section 1.1, "Technology Stack and System Requirements"](#).

3.1.2 Running the Installer in Upgrade Mode

1. Run the OHSCDA Installer as described in [Section 2.1.1, "Running the OHSCDA Installer"](#).

3.1.3 Performing Next Steps

After running the installer, perform the following steps:

1. To enable multi-byte character support, execute the Database Migration Assistant for Unicode (DMU) on the CDA warehouse schema.

For information, see *Oracle Database Migration Assistant for Unicode Guide*.

2. Perform the steps listed in [Section 3.1.4, "Migrating Data from OHSCDA 3.0 Standard to OHSCDA 3.2"](#).
3. Perform the steps listed in the following sections:
 - [Section 2.1.4, "Emplacing the OHSCDA Help and Image Files"](#)

- [Section 2.1.5, "Preparing the OBIEE Web Catalog and Repository for OHSCDA"](#)

Note: If you are upgrading from OHSCDA 3.0 and have modified the OBIEE repository or Web Catalog, merge these objects. For more information, refer to *Oracle® Fusion Middleware Metadata Repository Builder's Guide for Oracle Business Intelligence Enterprise Edition 11g*.

- [Section 2.1.6, "Configuring Maps"](#)
- [Section 2.1.7, "Creating Security Groups and Application Roles for OHSCDA"](#)

3.1.4 Migrating Data from OHSCDA 3.0 Standard to OHSCDA 3.2

Perform the following steps to migrate data from OHSCDA 3.0 Standard to OHSCDA 3.2:

Note: Data migration scripts are available in OCDA_HOME\oracle.pharma.ocda\OCDA_Standard\DataModels\Migration_Scripts3.0_to_3.2.zip.

1. Log on to the OHSCDA warehouse schema.

```
<warehouse_user>/<warehouse_password>@<SID>
```

2. Create the following database links:

- `sc_dblink` for Siebel Clinical source

Example (SC):

```
create database link <sc_dblink>
connect to <sc_username> identified by <sc_password>
using
'(DESCRIPTION=(ADDRESS=(PROTOCOL=tcp)(HOST=<hostname>)(PORT=<portno>))(CONNECT_DATA=(SID=<sidname>)))';
```

- `if_dblink` for InForm source

Example (IF):

```
create database link <if_dblink>
connect to <inform_username> identified by <inform_password>
using
'(DESCRIPTION=(ADDRESS=(PROTOCOL=tcp)(HOST=<hostname>)(PORT=<portno>))(CONNECT_DATA=(SID=<sidname>)))';
```

3. Connect to the warehouse schema.
4. Execute the following migration scripts in the sequence as mentioned:
 - a. `drv_Migrate_CDA30_to_32_SC_Set1.sql`
 - b. `drv_Migrate_CDA30_to_32_SC_Set2.sql`
 - c. `drv_Migrate_CDA30_to_32_IF.sql`
 - d. `drv_Migrate_CDA30_to_32_Cleanup.sql`
5. Execute the following command:

```
update W_RXI_RACT_CATEGORY_D set SBR_FLG='N' where row_wid=-1;
commit;
```

3.1.5 Importing the OHSCDA Warehouse Application Metadata into the DAC Repository

1. Unzip <ocda_home>\ oracle.pharma.ocda.standard\DAC_Code\CDA_Warehouse.zip into a local folder.
2. Start the Data Warehouse Administration Console (DAC) client.
3. From the **Tools** menu, select **DAC Repository Management**, and then select **Import**.
4. Click **Change import/export folder** to navigate to the folder where you unzipped CDA_Warehouse.zip.
5. Click **OK** to display the Import dialog box.
6. Select the following categories of metadata you want to import: **Update existing records**, **Logical**, **Overwrite log file**, and **User Data**.
7. Deselect the **System** check box.
8. Click **OK**.
9. Enter the verification code and **OK** in the secondary window that is displayed after the import.
10. Select one of the following execution plan and click **Build**.
 - CDA - Complete Warehouse

Note: Complete warehouse has InForm source extractions ETL added.

- CDA - Siebel Clinical Warehouse
 - CDA - Oracle Clinical Warehouse
 - CDA - InForm Warehouse
11. Execute the execution plan which you built in the earlier step.

Note: The execution plan must be same as the what you had executed in OHSCDA 3.0.

3.1.6 Merging Changes into a New Oracle-supplied Repository

Each OHSCDA release, and some patches, includes a copy of the OHSCDA Repository. If you do modify your copy of the OHSCDA Repository, you must merge your changes into the Oracle-supplied Repository each time you receive a release or patch of OHSCDA that includes a repository. At upgrade time, use the OBIEE Merge Repository Wizard (accessed through File > Merge) in the Repository Administration Tool to merge your modified RPD with the Oracle-supplied RPD.

For information on comparing and merging Repositories, refer to *Oracle Fusion Middleware Metadata Repository Builder's Guide for Oracle Business Intelligence Enterprise Edition 11g*.

3.1.7 Executing the ETL Load Plan

For information, see *Oracle Health Sciences Clinical Development Analytics Administrator's Guide*.