Oracle® Health Sciences Mobile Clinical Research Associate Server

Installation and Configuration Guide

Release 1.0

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Oracle Health Sciences Mobile Clinical Research Associate Server Installation and Configuration Guide, Release 1.0

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Preface

This guide provides information about how to install Oracle Health Sciences Mobile Clinical Research Associate (Mobile CRA) Server application.

This preface contains the following topics:

- "Audience" on page 2-vii
- "Documentation Accessibility" on page 2-vii
- "Related Documents" on page 2-vii
- "Conventions" on page 2-viii

Audience

This guide is intended for the following job classifications:

- System Administrators
- Installation Professionals

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.

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Related Documents

Oracle Database Documentation

- *Oracle Database Concepts* for a comprehensive introduction to the concepts and terminology used in this manual
- *Oracle Database Administrator's Guide* for information about administering the Oracle Database
- *Oracle Database SQL Language Reference* for information on Oracle's SQL commands and functions

- *Oracle Database Advanced Application Developer's Guide* for information about developing database applications within the Oracle Database

You can go directly to the documentation section of the OTN Web site at

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

Oracle Business Intelligence Enterprise Edition (OBIEE) Documentation

The Oracle Business Intelligence Suite Enterprise Edition Online Documentation Library 11.1.1 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)*

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.
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

This section presents an overview of the Mobile Clinical Research Associate (CRA) Server requirements. It also describes the tasks that you must complete before you can install the Mobile CRA Server application. This section includes the following topics:

- Section 1.1, "Technology Stack and System Requirements"
- Section 1.2, "Prerequisites"
- Section 1.3, "Media Pack Contents"

1.1 Technology Stack and System Requirements

The requisite technology stack for Oracle Health Sciences Mobile CRA Server is provided in the media pack. It consists of the following products:

- Oracle Database (DB) 11g Enterprise Edition Release 11.2.0.3.0 - 64-bit Production
- Oracle WebLogic Server (WLS) 10.3.5
- Oracle Application Development Framework (ADF) 11.1.1.6
- Oracle Business Intelligence Enterprise Edition (OBIEE) 11.1.1.6.0
- Oracle Business Intelligence Administration Tool 11.1.1.6.0
- Oracle Internet Directory (OID) 11.1.1.5
- Oracle Clinical Development Analytics (OCDA) 2.1 and above
- Oracle Clinical Trial Management System (CTMS) 8.1.1.9 and above

Note: OCDA and CTMS are not part of the Media Pack. You need to procure them separately.

1.1.1 Other Software Requirements

- Oracle Enterprise Linux 6
- iOS 4.x
- Java 1.6

1.2 Prerequisites

Before you install Mobile CRA Server:

- Install Lightweight Directory Access Protocol (LDAP)
- Configure Mobile CRA Server and CTMS with LDAP
- Contact Oracle support to obtain mobile user credentials

1.3 Media Pack Contents

This media pack software section contains the following:

Table 1–1 Media Pack Contents

File Name	Contains
MobileCRA_Server.zip	Mobile CRA Server files
MobileCRA Server	(Directory)
MobileCRA_Server_CDA_Adapter.zip	Mobile CRA Server CDA Adapter files
MobileCRA_Server_CTMS_ Adapter.zip	Mobile CRA Server CTMS Adapter files
MobileCRA AdminUI	(Directory)
MobileCRAAdminUI.zip	Mobile CRA Administration UI
MobileCRA_Server_Database.zip	Zip file containing Mobile CRA Server schema creation scripts
HSM_SchemaCreation.sql	Control script to create Mobile CRA Server Schemas (without OCDA install)
HSM_SchemaCreation_CDA.sql	Control script to create Mobile CRA Server Schemas (with OCDA install)
HSMRE_1.0_Schema_ddl.sql	Control script to create schema object for Mobile CRA Server Rules Engine (MCRE) schema
HSMRE_1.0_tables_ddl.sql	Script to create table
HSMRE_1.0_synonyms_ddl.sql	Script to create synonym
HSMRE_1.0_views_ddl.sql	Script to create view
HSMRE_1.0_indexes_ddl.sql	Script to create index
HSMRE_1.0_constraints_ddl.sql	Script to create constraint
HSMRE_1.0_sequences_ddl.sql	Script to create sequence
HSMRE_1.0_comments_ddl.sql	Script to create comments
MCRA_RulesEngine_Seed.sql	Script for Rule Engine Seed data
HSMRE_1.0_ResetSeq_ddl.sql	Script for reset sequence (drop and create new sequence objects)
HSMRE_1.0_schemadrop_ddl.sql	Script to drop schema objects
HSMRE_1.0_refresh_mvw.sql	Script to create materialized view scheduler
HSCTMS_1.0_Schema_ddl.sql	Control script to create schema object for Mobile CRA Server Trip Report (MCTR) schema
HSCTMS_1.0_Tables_ddl.sql	Script to create table
HSCTMS_1.0_Indexes_ddl.sql	Script to create index
HSCTMS_1.0_Constraints_ddl.sql	Script to create constraint
HSCTMS_1.0_Sequences_ddl.sql	Script to create sequence
TripReport_SeedData.sql	Script for Trip Report Seed data
HSCTMS_1.0_ResetSeq_ddl.sql	Script for reset sequence (drop and create new sequence objects)
HSMAQ_1.0_schema_ddl.sql	Control script to create schema object for Mobile CRA Server Advance Queue (MCAQ) schema

Table 1–1 (Cont.) Media Pack Contents

File Name	Contains
HSMAQ_1.0_tables_ddl.sql	Script to create table
DB Scripts	(Directory)
HSMAQ_1.0_constraints_ddl.sql	Script to create constraint
HSMAQ_1.0_sequences_ddl.sql	Script to create sequence
HSMAQ_1.0_CreateQ_ddl.sql	Script to create Advance Queue (AQ)
HSMAQ_1.0_PurgeQ_ddl.sql	Script to purge AQ
HSMSV_1.0_Schema_ddl.sql	Control script to create schema object for Mobile CRA Server (MCSV) schema
HSMSV_1.0_tables_ddl.sql	Script to create table
HSMSV_1.0_index_ddl.sql	Script to create index
HSMSV_1.0_constraints_ddl.sql	Script to create constraint
HSMSV_1.0_sequence_ddl.sql	Script to create sequence
HSMSV_1.0_customtypes_ddl.sql	Script to create custom types
HSMSV_1.0_comments_ddl.sql	Script to create comments
HSMSV_1.0_ResetSeq_ddl.sql	Script for reset sequence (drop and create new sequence objects)
HSMSV_1.0_schemadrop_ddl.sql	Script to drop schema objects
OBIEE	(Directory)
MobileCRA_OBIEE.zip	Zip file containing Mobile CRA Server repository and catalogs
MobileCRA_Server_01.rpd	Mobile CRA server repository
dummy.rpd	Dummy repository (empty), which is required for merge process
Mobile CRA Operations.catalog	Mobile CRA Server Operations catalog
Mobile CRA.catalog	Mobile CRA Server catalog (Rules Engine)
Site-At-A-Glance.catalog	Site-at-a-Glance reports

2

Installing the Database Tier

This chapter includes the following sections:

- Section 2.1, "Creating Default Schema Users"
- Section 2.2, "Deploying Mobile Clinical Research Associate Server Schemas (With Clinical Development Analytics Install)"
- Section 2.3, "Deploying Mobile CRA Server Schemas (Without Clinical Development Analytics Install)"
- Section 2.4, "Installing Seed Data"

2.1 Creating Default Schema Users

This section details the default schema users created by the script.

Table 2–1 Database Schema

Schema	Recommended User Name
Mobile Clinical Research Associate (CRA) Server Rules Engine	MCRE_ADMIN
Mobile CRA Server Trip Report	MCTR_ADMIN
Mobile CRA Server	MCSV_ADMIN
Mobile CRA Server AQ	MCAQ_ADMIN
Mobile CRA Server Push Notification Server	MCNS_ADMIN

The script:

- Prompts to enter a password for each user
- Prompts for OCDA user name and password
- Assumes that schema user do not exist

2.2 Deploying Mobile Clinical Research Associate Server Schemas (With Clinical Development Analytics Install)

To deploy Mobile CRA Server schemas for customers with OCDA installation, perform the following:

1. Download and unarchive **Mobile CRA_Server_Database.zip** to a local folder.
2. Modify the value of the repeat_interval variable in the `HSMRE_1.0_refresh_mvw.sql` file to match the schedule of the Mobile CRA Server Rules Engine configured in Section 4.1.4, "Customizing the Configuration File".

You need to schedule this interval before the Mobile CRA Server Rules Engine runs. By default, the FREQ=MINUTELY;INTERVAL value is set to 30.

3. Using SQL*Plus, log in to the Oracle 11gR2 database as SYS user.

> **Note:** Ensure that the SQL*Plus is started from the folder where files are downloaded.

4. Execute the following SQL script using SQL*:

```
HSM_SchemaCreation_CDA.sql
```

5. Enter the OCDA user name and password when prompted.
6. Enter the passwords for MCRE_ADMIN, MCSV_ADMIN, MCAQ_ADMIN, and MCTR_ADMIN schemas user when prompted.

The script creates database objects for MCRE_ADMIN, MCSV_ADMIN, MCAQ_ADMIN, and MCTR_ADMIN schemas.

> **Note:** Passwords will not echo on the screen.

2.3 Deploying Mobile CRA Server Schemas (Without Clinical Development Analytics Install)

To deploy Mobile CRA Server schemas for customers without OCDA installation, perform the following:

1. Download and unarchive **Mobile CRA_Server_Database.zip** to a local folder.
2. Using SQL*Plus, log in to the Oracle 11gR2 database as SYS user.

> **Note:** Ensure that the SQL*Plus is started from the folder where files are downloaded.

3. Execute the following SQL script using SQL*:

```
HSM_SchemaCreation.sql
```

4. Enter the passwords for MCSV_ADMIN, MCAQ_ADMIN, and MCTR_ADMIN schemas when prompted.

The script creates database objects for MCSV_ADMIN, MCAQ_ADMIN, and MCTR_ADMIN schemas.

> **Note:** Passwords will not echo on the screen.

2.4 Installing Seed Data

2.4.1 Trip Report Seed Data

To install trip report seed data, perform the following:

1. From the `server/mobile-admin/database` folder, execute the `TripReport_SeedData.sql` by connecting through a SQL session to the Mobile CRA Server trip report schema.

   For example,

   ```
   SQLPlus> conn <adminui_user>/<adminui_pad>@<adminui_db>

   SQLPlus> @TripReport_SeedData.sql
   ```

2. Review to ensure that there are no errors.

   If you want to spool the results, execute the spool command. For example,

   ```
   SQL> spool abc.log
   ```

2.4.2 XSL Seed Data

To install XSL seed data, perform the following:

1. Connect to the server where the Oracle database for Mobile CRA Server is installed.
2. Set up the necessary environment so that you can run the Oracle utilities such as SQLPlus, imp, and so on.
3. Import the XSL seed data for the out-of-the-box trip reports by using the Oracle imp utility in step 4.
4. While importing the XSL seed data, you need to connect to the Mobile CRA Server CTMS trip report schema by executing the following command:

   ```
   $>imp <adminui_user>/<adminui_pad>@<adminui_db>
   file=server/mobile-admin/database folder/Mobile CRA_xsl.dmp
   ```

5. The import command prompts for other parameters. You can accept the default values except for the following:

   - Ignore creation error due to existence of schema objects <No>?

     The default value is `No`. Select `Yes`, since the table is already created by the TripReport_SeedData.sql and to ignore the object already exists error.

   - Import entire file <No>?

     The default value is `No`. Select `Yes` to import the complete file.

6. After importing the seed data in Mobile CRA Server CTMS trip report schema, perform the following:

   a. Log in to the database using SQLPlus as MCTR_ADMIN schema user.

   b. Execute `HSCTMS_1.0_ResetSeq_ddl.sql` (that is, `<localpath>\server\mobile-admin\database\HSCTMS_1.0_ResetSeq_ddl.sql`).

3

Installing the OBIEE Tier

This section details the deployment of Mobile CRA Server - OCDA OBIEE repository (RPD) in the Mobile CRA Server environment.

This chapter includes the following sections:

- Section 3.1, "Creating Backup"
- Section 3.2, "Before Deploying Mobile Clinical Research Associate Server OBIEE Component"
- Section 3.3, "Configuring OBIEE Admin User"
- Section 3.4, "Configuring Mobile Clinical Research Associate Server Repository"
- Section 3.5, "Upgrading OCDA Repository to Add Mobile Clinical Research Associate Server Rule Engine Data Source (Required for Installation with OCDA)"
- Section 3.6, "Merging Repository"
- Section 3.7, "Deploying Updated OCDA Repository to OBIEE"
- Section 3.8, "Creating User to Access the New OCDA - Mobile Clinical Research Associate Server Repository"
- Section 3.9, "Deploying Mobile Clinical Research Associate Server Pre-defined Alert"
- Section 3.10, "Deploying Mobile Clinical Research Associate Server Reports Alert"
- Section 3.11, "Updating OCDA with Mobile Clinical Research Associate Server Rules Engine"
- Section 3.12, "Deploying Site-At-a-Glance Reports"

For information about OBIEE and RPD in Oracle® Health Sciences Clinical Development Analytics (OHSCDA), see the following:

- http://download.oracle.com/docs/cd/E25587_01/index.htm (for Plus configuration)
- http://download.oracle.com/docs/cd/E26474_01/index.htm (for Standard configuration)

3.1 Creating Backup

Before deploying Mobile CRA Server OBIEE, back up all OBIEE catalogs, RPD, and security profiles.

3.2 Before Deploying Mobile Clinical Research Associate Server OBIEE Component

Before deploying Mobile CRA Server OBIEE component, ensure to collect the following files and DB user information:

- Required RPDs
  - OCDA Repository: Ensure to make a note of the name, location, and the password for RPD (OCDA), which will be upgraded to include Mobile CRA Server Alert feature.
  - Mobile CRA Server Repository (Mobile CRA_Server_01.rpd): This repository contains Mobile CRA Server data source. This is used for Mobile CRA Server operations reports and is provided by Oracle. The default password is `Admin123`.
  - dummy.rpd: This is an empty RPD, which does not contain data source. This is required for merging process. The default password is `Admin123`.
- Database user name and password for the following schemas:
  - Mobile CRA Server
  - Mobile CRA Server Rules Engine (This is required only for installation with OCDA)
  - OCDA (This is required only for installation with OCDA)

3.3 Configuring OBIEE Admin User

To configure OBIEE admin user, perform the following:

1. Look up for OBIEE server in the deployment config file.
   a. From the file system, locate Config.xml under Config folder of the main folder.
   b. Look up for `CdaFeaturedAdapter.wsdlocation` variable, the OBIEE server name is included in the value.
2. Log in to WLS Enterprise Manager as admin by entering the URL using the server address in Step 1 (for example, `http://<server:port number>/console`).
3. Click **Security Realms**.
4. Select **myrealm** from the list.

   The Settings for myrealm screen is displayed in the right-side window panel.
5. Click **Users and Groups**.
6. Click **Users** tab and click **New** to create a user.
7. Enter the name.
8. Enter the description.
9. Retain the default value in the Provider field.
10. Enter a password of your choice.
11. Re-enter the password in the Confirm Password field.
12. Click **OK** to create the user.
13. Assign groups to the user as follows:

a. Click the user **Mobile CRA-admin** and select **Groups**.

b. Assign **Administrator** and **BI Administrator** groups to the user.

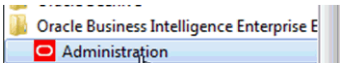
14. Click **Save** to save the user profile.

3.4 Configuring Mobile Clinical Research Associate Server Repository

To configure Mobile CRA Server RPD to point to Mobile CRA Server database, perform the following:

1. Open the OBIEE Administration tool.

Figure 3–1 OBIEE Administration Tool



2. Open **Mobile CRA_Server_01.rpd**.

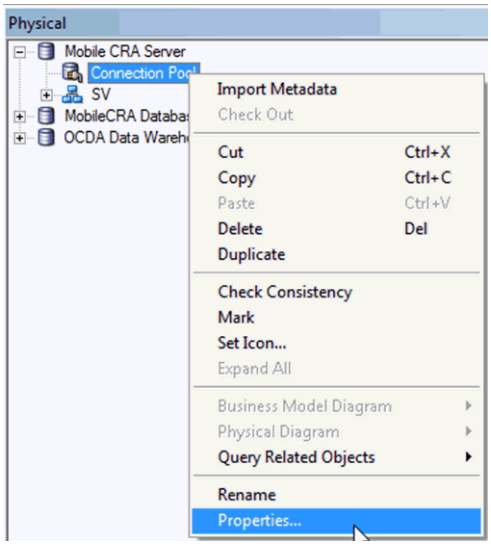
3. Enter the password.

   Oracle recommends you to modify the password of the RPD provided by Oracle. To change the password, perform the following:

   - From the **File** menu, select **Change Password**.
   - Enter the old and new password in the respective fields.

4. To configure Mobile CRA Server, right-click on Mobile CRA Server **Connection Pool**, and choose **Properties**.

Figure 3–2 Connection Pool Properties Screen 1



5. Modify the data source name, user name, and password to the database user created for the Mobile CRA Server data model.

   - Enter the data source name in the following format:

     ```
     (DESCRIPTION=(ADDRESS=(PROTOCOL=tcp)(HOST=<hostname>)(PORT=<port>))
     (CONNECT_DATA=(SID=<oracle db sid>)))
     ```

   - Enter the user name and password for the Mobile CRA Server schema.

6. Repeat Step 5 to redirect Mobile CRA Server database to Rules Engine Data Model.

Figure 3–3 Connection Pool Window Screen 2

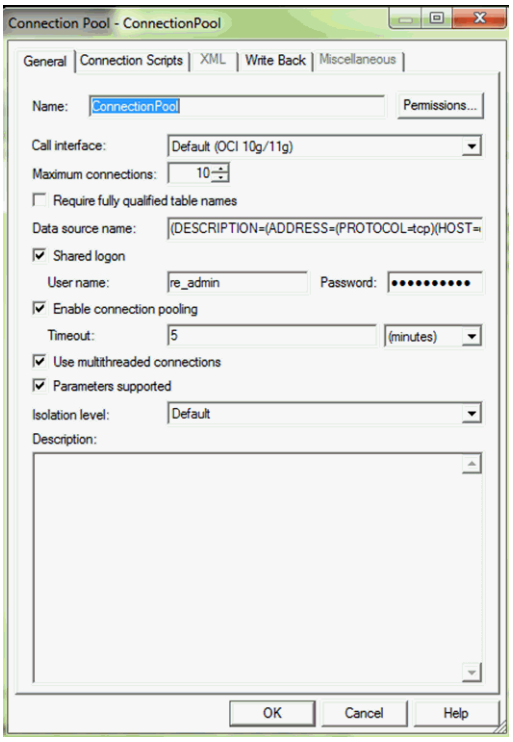
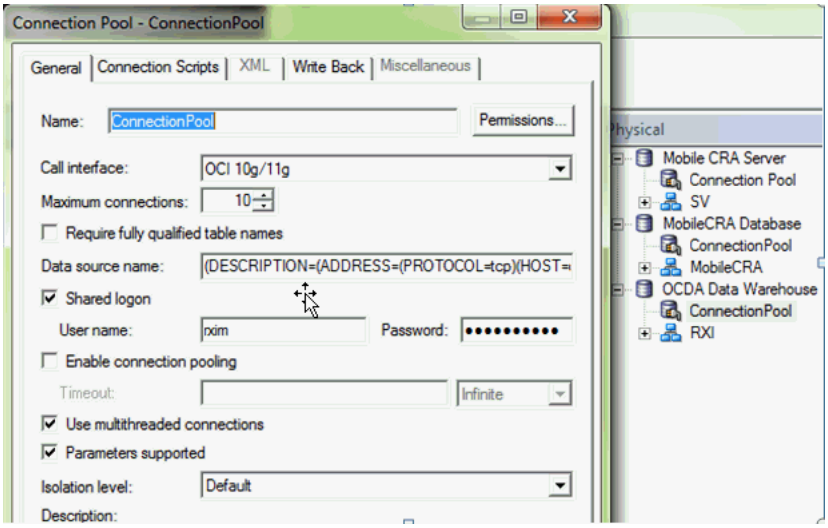
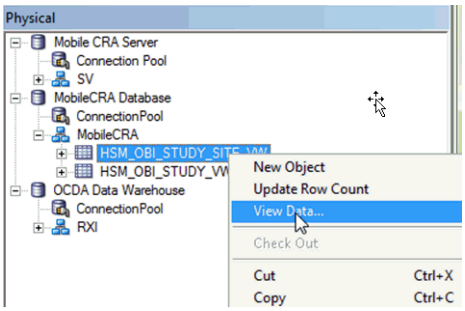


Figure 3–4 Connection Pool Window Screen 3



7. Save the RPD file.
8. Test your connections by viewing data on one of the tables in the datastore.

Figure 3–5 Testing Connections



For example, if you see data return, it indicates that your configuration is working.

9. Click **OK** to save.

3.5 Upgrading OCDA Repository to Add Mobile Clinical Research Associate Server Rule Engine Data Source (Required for Installation with OCDA)

To upgrade OCDA repository to add Mobile CRA Server Rule engine data source, perform the following:

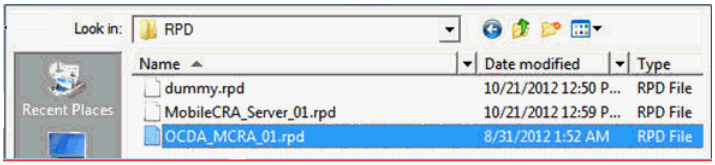
1. Refer to Section 3.11, "Updating OCDA with Mobile Clinical Research Associate Server Rules Engine" for instructions.
2. Save the created RPD as `OCDA_MCRE_01.rpd`.

3.6 Merging Repository

To merge RPD, perform the following:

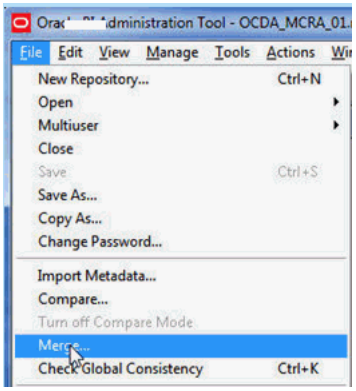
1. Take a backup of the following repository:
   - Updated version of OCDA repository (updated with Mobile CRA Server Rules Engine data source) OCDA_MCRE_01.rpd.
   - Mobile CRA Server Repository - Mobile CRA_Server_01.rpd
2. Open the updated OCDA RPD, that is OCDA_MCRA_01.rpd.

Figure 3–6 Opening RPD



3. From the **File** menu, select **Merge**.

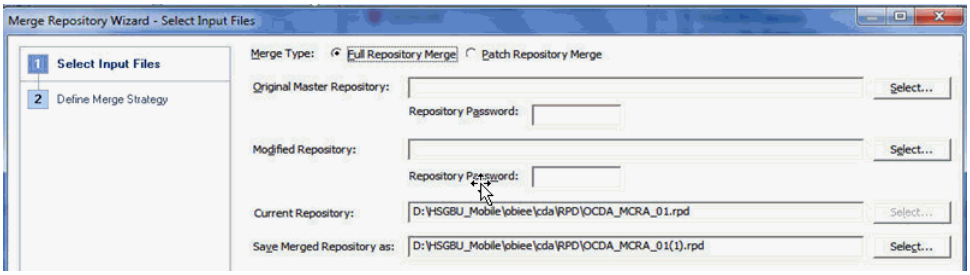
Figure 3–7 Selecting Merge Option



The Merge Repository Wizard is displayed.

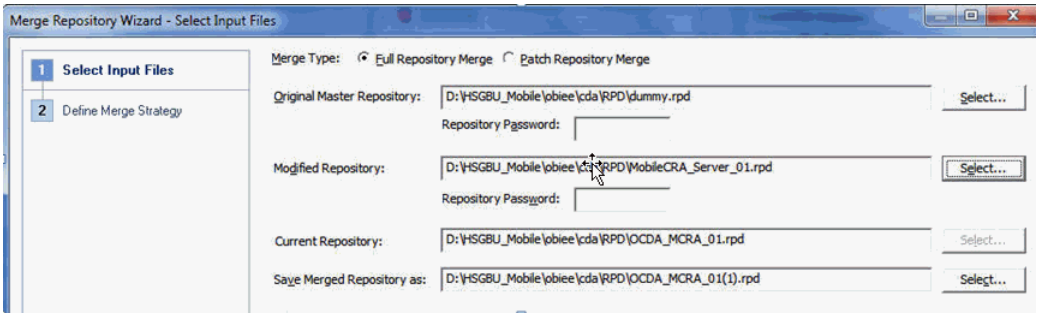
4. Select **dummy.rpd** in the Original Master Repository.

Figure 3–8 Selecting Repository



5. Enter the repository password for the dummy repository.
6. Select **Mobile CRA_Server_01.rpd**.
7. Enter the repository password for Mobile CRA Server repository.
8. Retain Save Merged Repository as is and note down the saved merged repository name and location.
9. Click **Next**.

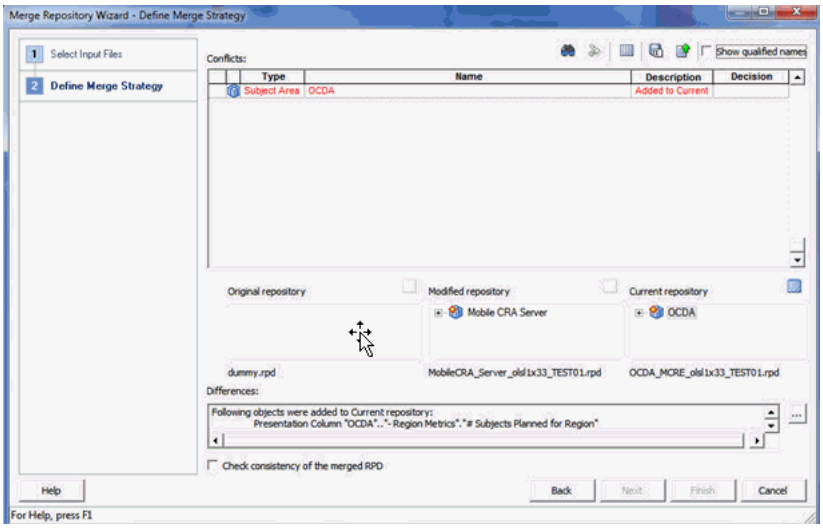
Figure 3–9 Selecting Input Files



A screen is displayed which shows the conflicts.

10. Click the **Decision** column in the conflict row and select **Current**.

Figure 3–10 Defining Merge Strategy



11. Click **Next**.

    The Merge Repository screen is displayed.

12. Verify that the physical layer has Mobile CRA Server, Mobile CRA database, and OCDA data warehouse schemas available in the Physical section.

13. Verify that the Mobile CRA Server and OCDA-DM are available in the Business Model and Mapping section.

14. Open **Dim - Study** in OCDA-DM from the Business Model and Mapping section, and verify that the HSM_OBI_STUDY_VW is included in the source.

15. Open **Dim - Study-site** in OCDA-DM from the Business Model and Mapping section, and verify that the HSM_OBI_STUDY_SITE_VW is included in the source.

16. Verify that the Mobile CRA Server and OCDA are available in the Presentation section.

17. Verify that the Mobile CRA Server Alert Engine, Study, and Study Site presentation tables are available under OCDA.

18. Save the updated OCDA repository (for example, **OCDA_MCRE_MCSV_01.rpd**).

3.7 Deploying Updated OCDA Repository to OBIEE

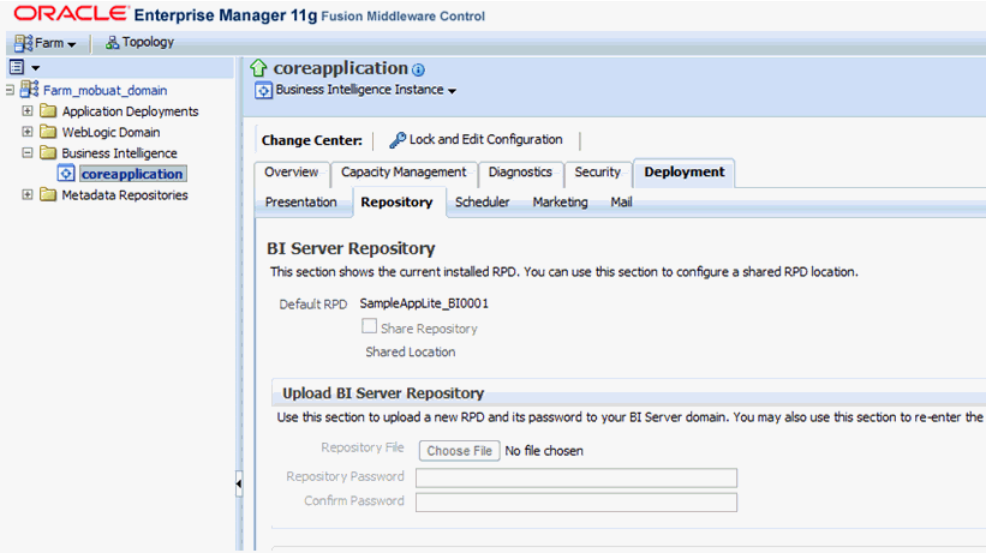
To deploy updated OCDA RPD to OBIEE, perform the following:

1. Log in to Enterprise Manager (for example, `http://<server:port number>/em`).

2. Navigate to **Business Intelligence** and select **Coreapplication**.

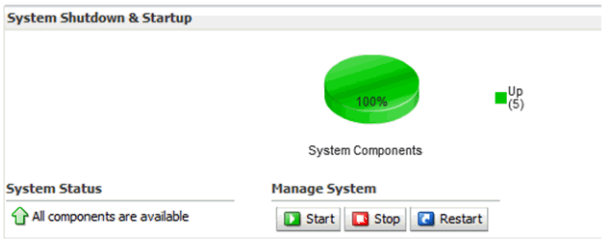
3. Navigate to **Deployment** tab, and then to the **Repository** subtab.

Figure 3–11 Coreapplication Screen



4. Click **Lock and Edit Configuration** to lock the application.
5. In the **Upload BI Server Repository** pane, choose the RPD file that you want to upload, and load the updated OCDA repository (for example, **OCDA_MCRE_MCSV_01.rpd**).
6. Enter the password for updated OCDA repository.
7. Re-enter the password for the updated OCDA repository in the Confirm Password field.
8. Click **Apply**.
9. Click **Activate Change**.
10. Restart to apply recent changes.
11. Restart all BI components.

Figure 3–12 System Shutdown and Startup Screen



12. Click **Yes** in the Confirmation window.

    Once the restart is complete, a message is displayed indicating that the RPD deployment is complete.

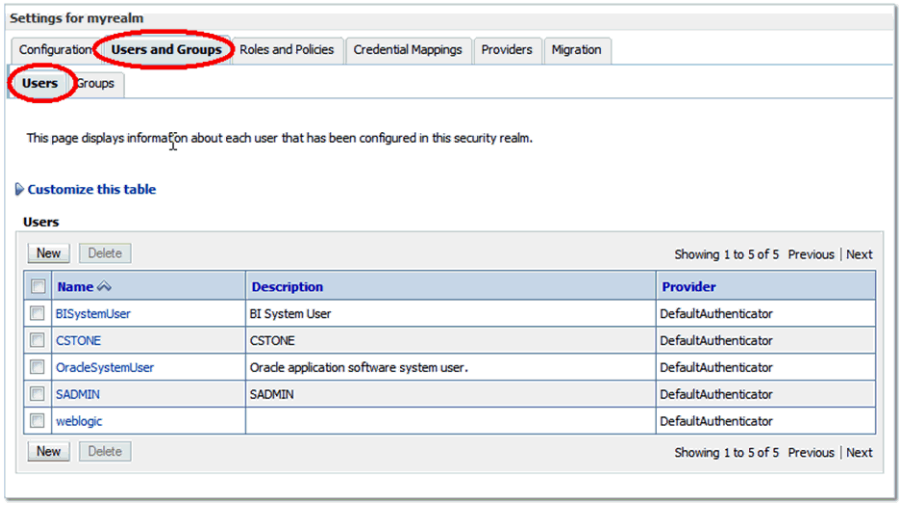
3.8 Creating User to Access the New OCDA - Mobile Clinical Research Associate Server Repository

To create a user to access the new OCDA - Mobile CRA Server RPD, perform the following:

1. Navigate to the Oracle WebLogic server (for example, `http://<servername>/console/login/LoginForm.jsp`).
2. Navigate to **Security Realms** and select **myrealm**.

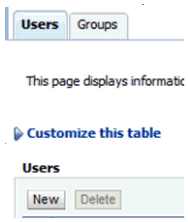
   The Settings for myrealms screen is displayed.

Figure 3–13 Settings for myrealms Screen



3. Click **Users and Groups**.
4. Click **New** in the Users subtab.

Figure 3–14 Users Tab



5. Enter the OBIEE user name (for example, Mobile CRA-admin).
6. Enter the OBIEE password.
7. Click **OK** to create user.
8. Assign groups to the user as follows:
   a. Select the newly created user **Mobile CRA-admin** and navigate to **Groups**.
   b. Assign groups to this user. For example, **Administrator** and **BI Administrator**.
9. Click **Save** to save the user profile.

10. Test the user by navigating to the OBIEE Analytics site (for example, `http://<servername>/analytics`).
11. Enter the user name and password.

    You should be able to log in to OBIEE.
12. Create a new analysis.

    If you see the following subject areas, it indicates that your RPD and user are configured and deployed correctly.

Figure 3–15 Select Subject Area Screen

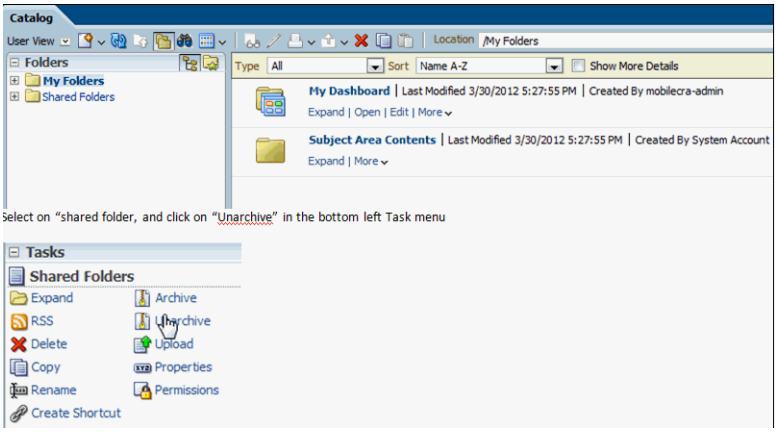
3.9 Deploying Mobile Clinical Research Associate Server Pre-defined Alert

To deploy Mobile CRA Server pre-defined alert, perform the following:

1. Log in to the OBIEE Analytics.
2. Navigate to **Catalog**.

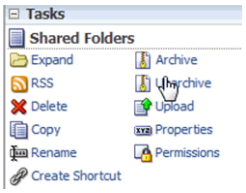
   The Catalog Screen is displayed.

Figure 3–16 Catalog Screen



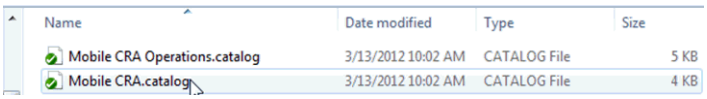
3. Select **Shared Folders** and click **Unarchive** in the bottom-left **Tasks** menu.

Figure 3–17 Tasks Menu



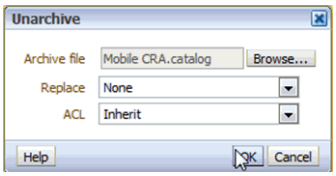
4. Click **Browse** and select the **Mobile CRA.catalog** file.

Figure 3–18 Selecting the Mobile CRA.catalog File



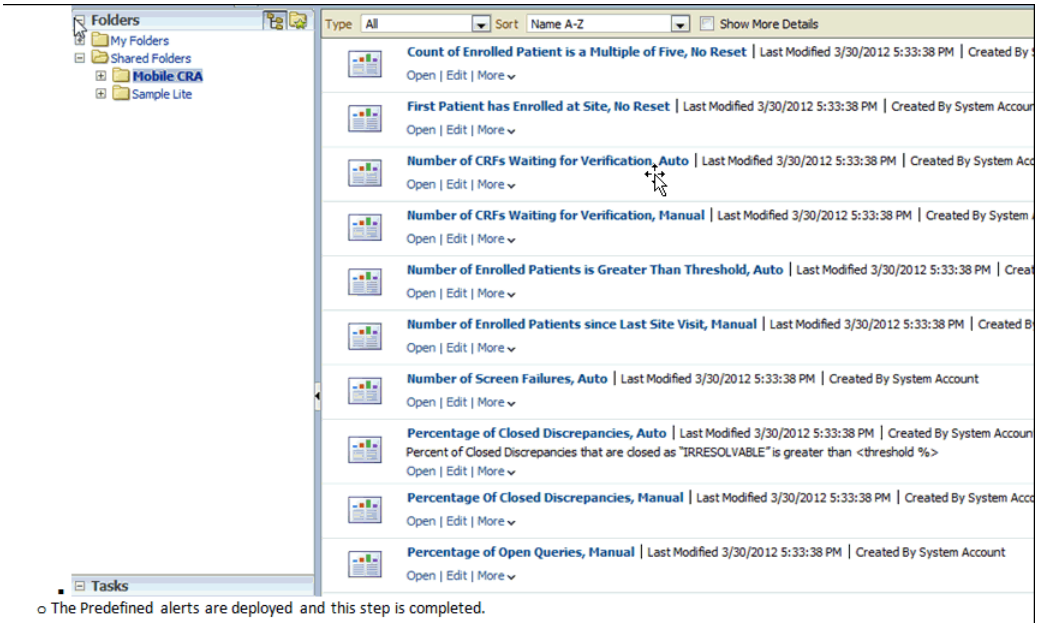
5. Click **OK** to unarchive the catalog.

Figure 3–19 Unarchive Window



6. Navigate to **Shared Folders** and select **Mobile CRA** to see the predefined alert imported.

Figure 3–20 List of Predefined Alert Imported



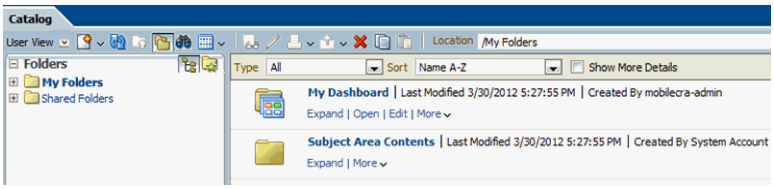
3.10 Deploying Mobile Clinical Research Associate Server Reports Alert

To deploy Mobile CRA Server Reports alert, perform the following:

1. Log in to the OBIEE Analytics.
2. Navigate to **Catalog**.

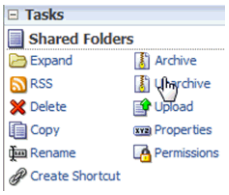
   The Catalog Screen is displayed.

Figure 3–21 Catalog Screen



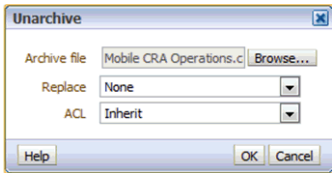
3. Select **Shared Folders** and click **Unarchive** in the bottom-left **Task** menu.

Figure 3–22 Tasks Menu



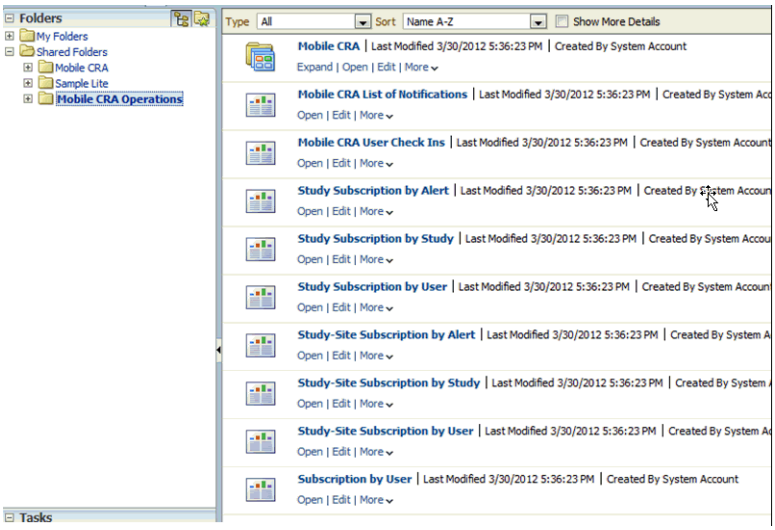
4. Click **Browse** and select the **Mobile CRA.catalog** file.
5. Click **OK** to unarchive the catalog.

Figure 3–23 Unarchive Window



6. Navigate to **Shared Folders** and select **Mobile CRA** to see the predefined alert imported.

Figure 3–24 List of Predefined Alert Imported



3.11 Updating OCDA with Mobile Clinical Research Associate Server Rules Engine

This section contains the following topics:

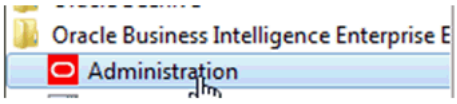
- Section 3.11.1, "Opening OCDA Repository"
- Section 3.11.2, "Adding Mobile Clinical Research Associate Server Rule Engine Data Source (Physical Layer)"
- Section 3.11.3, "Creating Joins Between Mobile Clinical Research Associate Server and OCDA Tables (Physical Layer)"
- Section 3.11.4, "Creating Mobile Clinical Research Associate Server Sources to OCDA Dimensions in the Business Model and Mapping Layer"
- Section 3.11.5, "Creating Presentation Tables for Mobile Clinical Research Associate Server (Presentation Layer)"
- Section 3.11.6, "Saving the Repository"

3.11.1 Opening OCDA Repository

To open OCDA RPD, perform the following:

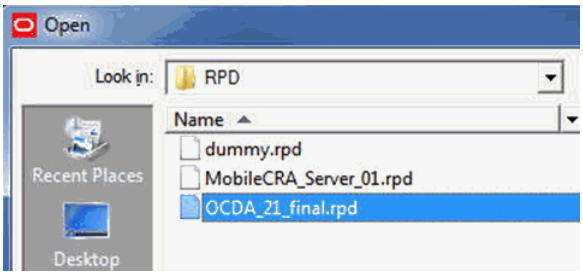
1. Open the Oracle Business Intelligence Enterprise Edition Administration tool.

Figure 3–25 Opening Administration Tool



2. Open the OCDA repository (for example, OCDA_21_final.rpd).

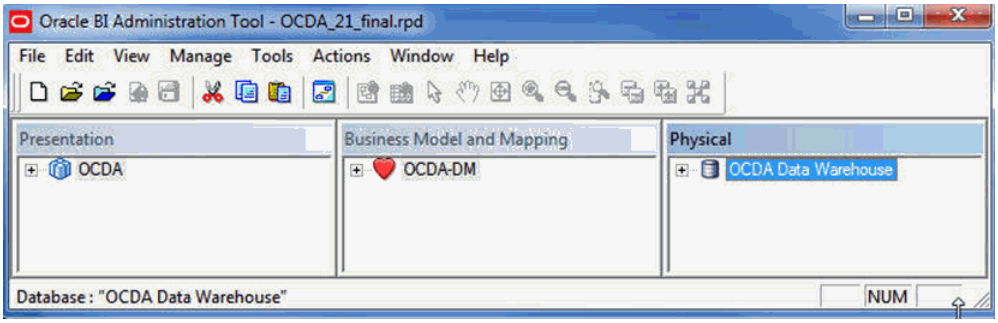
Figure 3–26 Opening OCDA RPD



3. Enter the repository password when prompted.

   OCDA RPD will be loaded in the OBIEE Administration tool.

Figure 3–27 Loaded OCDA RPD

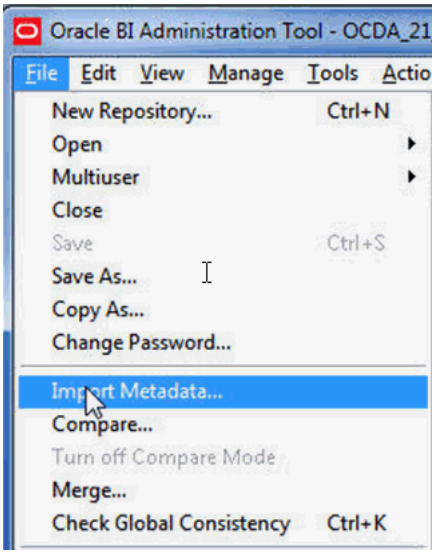


4. Save this RPD and note down the file name (for example, OCDA_MCRE_01.rpd) and the location.

3.11.2 Adding Mobile Clinical Research Associate Server Rule Engine Data Source (Physical Layer)

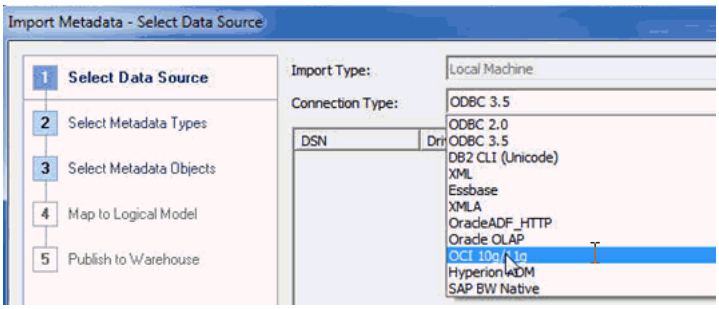
1. From the **File** menu, select **Import Metadata**.

Figure 3–28 Selecting Import Metadata



2. Select **OCI 10g/11g** in the Connection type.

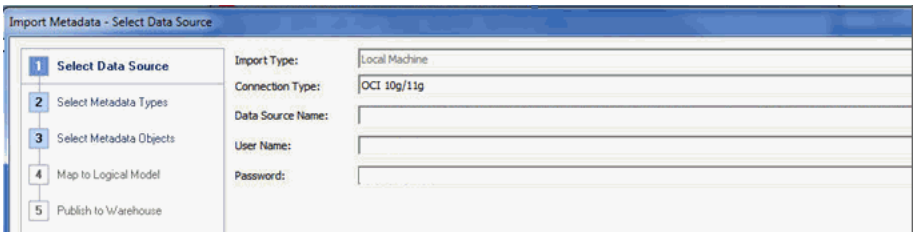
Figure 3–29 Selecting Connection Type



3. Enter complete data source name, database user name, and password in the respective fields. Oracle recommends the following data source name format:

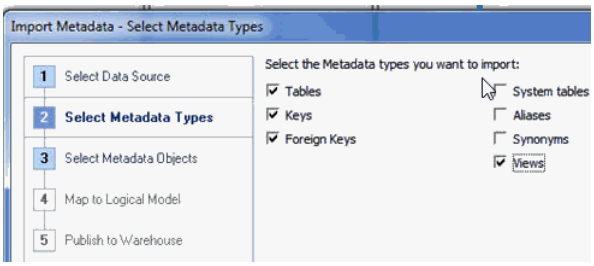
```
(DESCRIPTION=(ADDRESS=(PROTOCOL=tcp)(HOST=<hostname>)(PORT=<port>))(CON
NECT_DATA=(SID=<oracle db sid>)))
```

Figure 3–30 Entering DB Connection Information



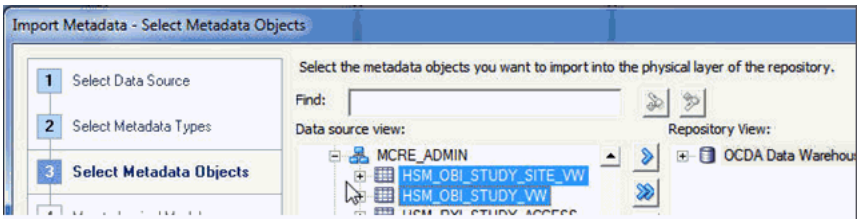
4. Click **Next**.
5. Select **Views** from the Metadata types to be imported.

Figure 3–31 Selecting Views



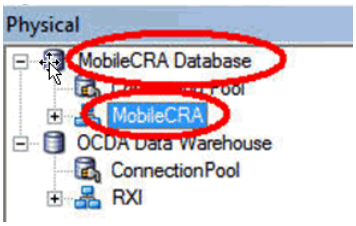
6. Click **Next**.
7. Select the Mobile CRA Server Rule Engine Schema user from the list and select the following View object from the list:
   - HSM_OBI_STUDY_VW
   - HSM_OBI_STUDY_SITE_VW

Figure 3–32 Selecting Metadata Objects



8. Rename the data source to **Mobile CRA Database**.
9. Rename the Physical schema to **Mobile CRA**.

Figure 3–33 Renaming Physical Schema



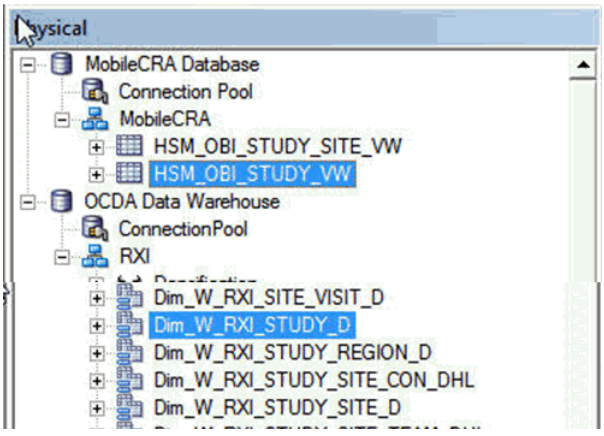
10. Right-click **HSM_OBI_STUDY_VW** and select **Update Row Count**.
11. Right-click **HSM_OBI_STUDY_SITE_VW** and select **Update Row Count**.

3.11.3 Creating Joins Between Mobile Clinical Research Associate Server and OCDA Tables (Physical Layer)

To create joins between Mobile CRA Server and OCDA tables, perform the following:

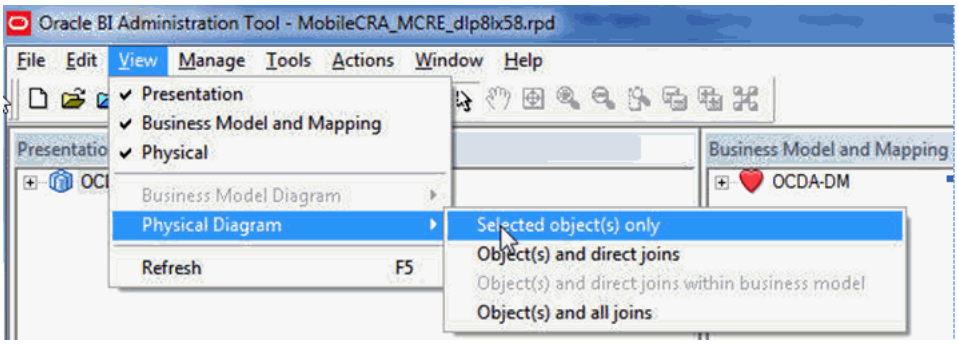
1. Create Join for HSM_OBI_STUDY_VW.
   a. Select **HSM_OBI_STUDY_VW** from MobileCRA schema in the MobileCRA Database and **Dim _W_RXI_STUDY_D** from RXI schema in the OCDA Data Warehouse.

Figure 3–34 Selecting Files



   b. From the **View** menu, select **Physical Diagram**, and then **Selected Object(s) only**.

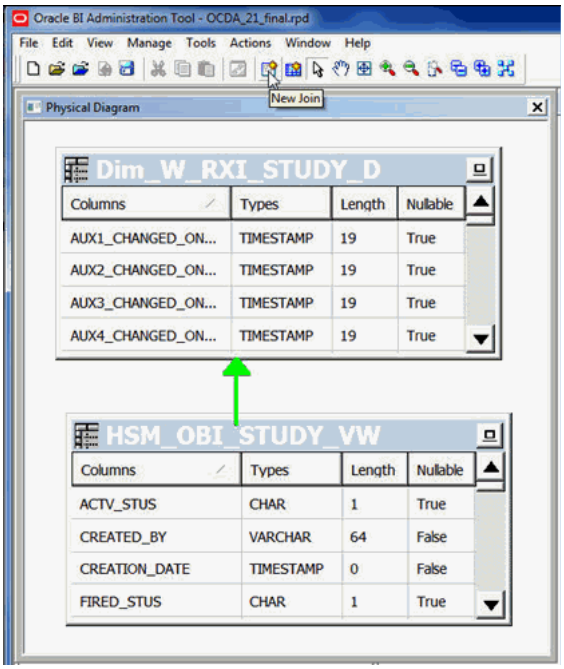
Figure 3–35 View Menu



c. Click **New Join**.

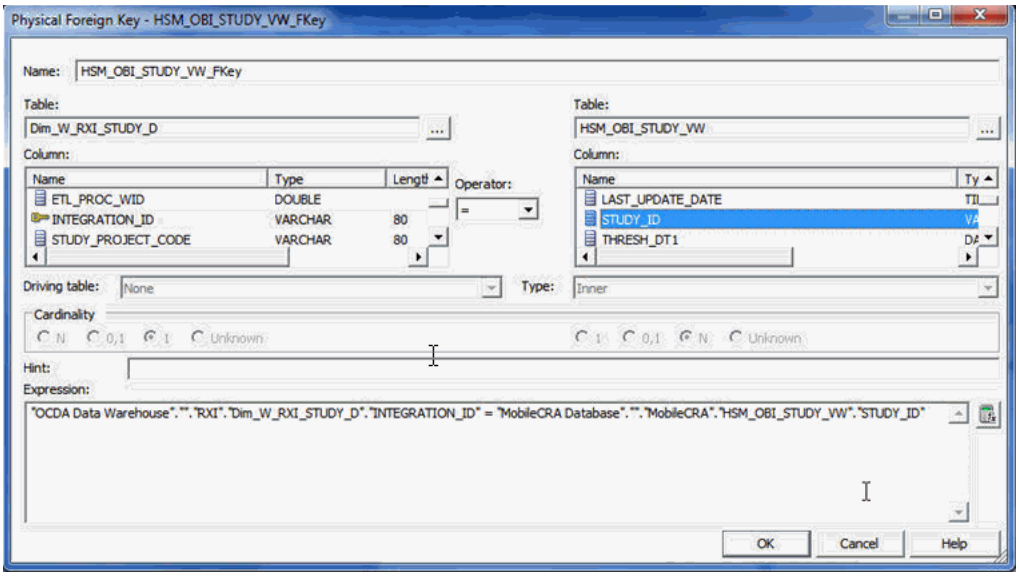
d. Click HSM_OBI_STUDY_VW and drag the cursor (hold the mouse) to Dim_W_RXI_STUDY_D and release the cursor (release the mouse).

Figure 3–36 Creating Join



e. Select **INTEGRATION_ID** column from the Dim_W_RXI_STUDY_D table and **STUDY_ID** column from the HSM_OBI_STUDY_VW table (view).

Figure 3–37 Physical Foreign Key Screen



f. Click **OK**.

g. Close the window.

2. Create Join for HSM_OBI_STUDY_SITE_VW.

The following steps are similar to creating join for HSM_OBI_STUDY_VW in step 1.

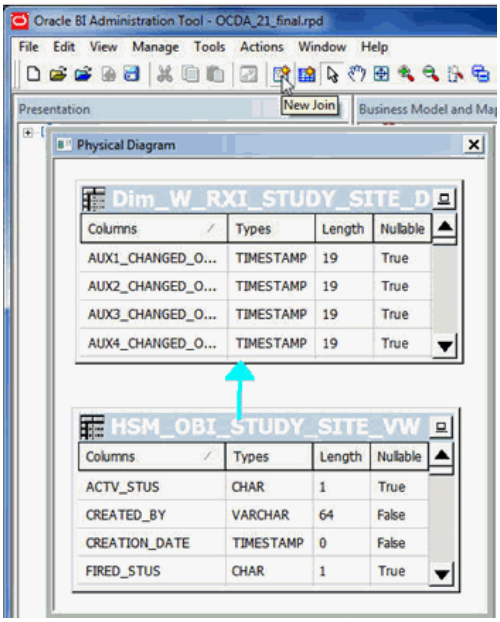
a. Select **HSM_OBI_STUDY_SITE_VW** from the MobileCRA schema in the MobileCRA Database and **Dim _W_RXI_STUDY_SITE_D** from the RXI schema in the OCDA Data Warehouse.

b. From the **View** menu, select **Physical Diagram**, and then select **Selected Object(s) only**.

c. Click **New Join**.

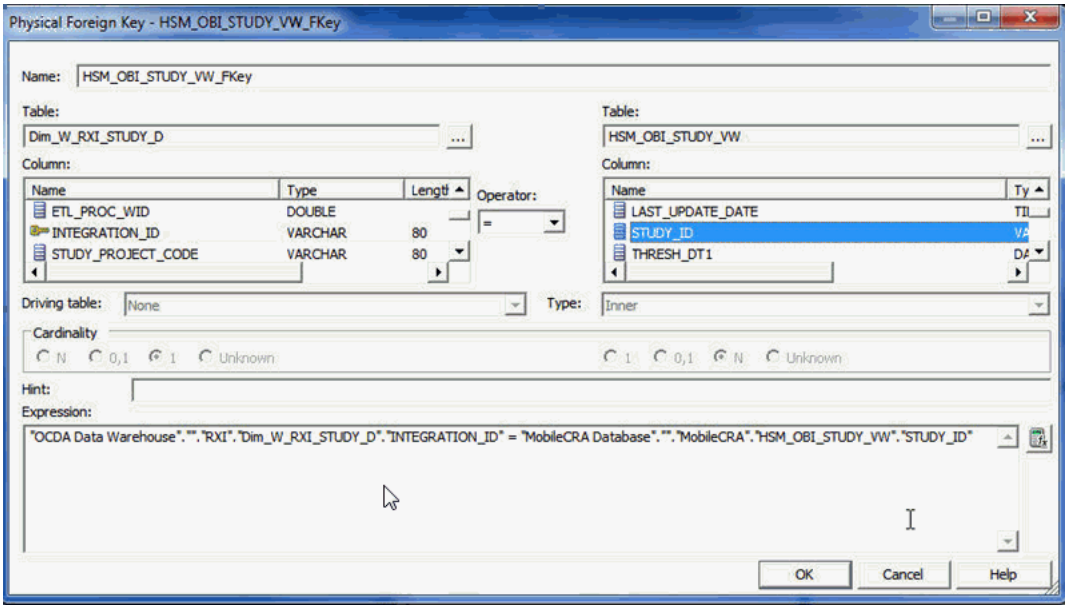
d. Click HSM_OBI_STUDY_SITE _VW and drag the cursor (hold the mouse button) to Dim_W_RXI_STUDY_SITE _D and release the cursor (release the mouse button).

Figure 3–38 Creating Join for HSM_OBI_STUDY_SITE _VW



e. Select **INTEGRATION_ID** column from the Dim_W_RXI_STUDY_SITE_D table and **STUDY_SITE_ID** column from the HSM_OBI_STUDY_SITE_VW table (view).

Figure 3–39 Physical Foreign Key Screen



f. Click **OK**.

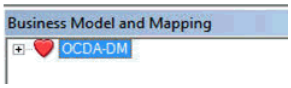
g. Close the window.

3.11.4 Creating Mobile Clinical Research Associate Server Sources to OCDA Dimensions in the Business Model and Mapping Layer

To create Mobile CRA Server sources to OCDA Dimensions in the Business Model and Mapping Layer, perform the following:

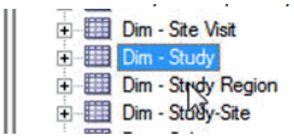
1. Update Dim - Study.
   a. Select **OCDA-DM** and expand by clicking **+**.

Figure 3–40 Selecting OCDA-DM



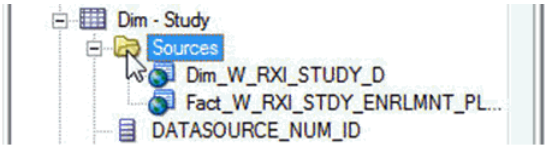
   b. Select **Dim - Study** and expand by clicking **+**.

Figure 3–41 Selecting Dim - Study



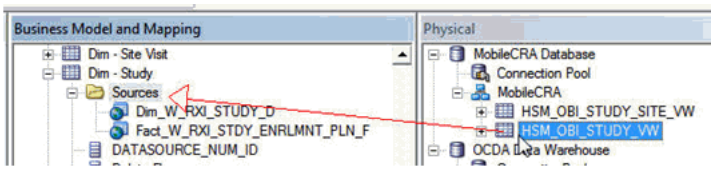
   c. Click **Sources** and expand by clicking **+**.

Figure 3–42 Selecting Source



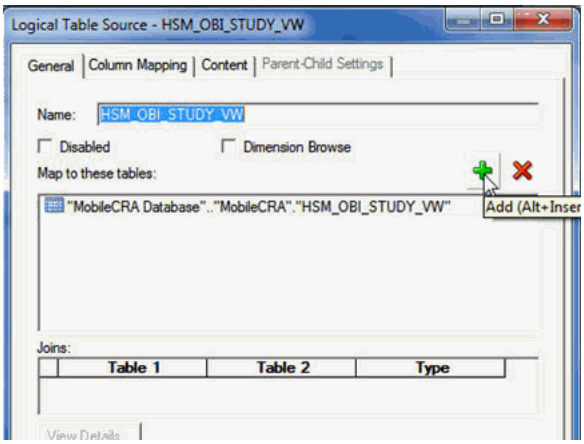
   d. Drag **HSM_OBI_STUDY_VW** from the Physical section and drop on **Dim - Study** in the Business Model and Mapping section.

Figure 3–43 Drag and Drop



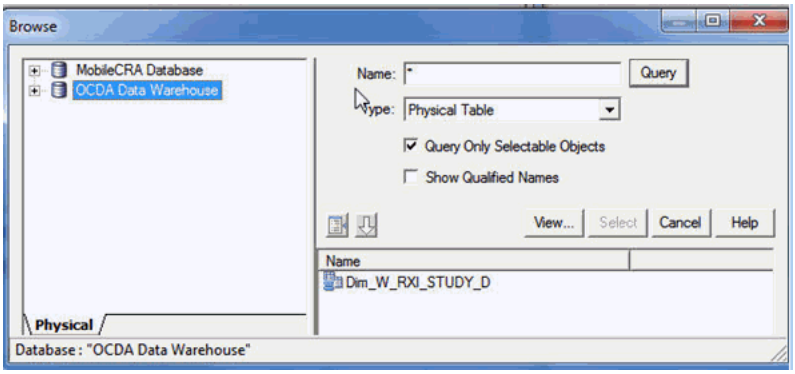
   e. Select **HSM_OBI_STUDY_D** in Sources under Dim - Study.
   f. From the **Edit** menu, select **Properties** to open property window.
   g. Click **Add** to create join with Dim - Study.

Figure 3–44 Creating Join



h. Click **Dim_W_RXI_STUDY_D** from the right side and then click **Select**.

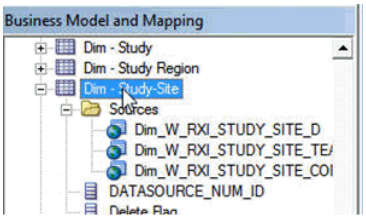
Figure 3–45 Selecting File



2. Update Dim - Study-Site.

a. Select **Dim - Study-Site** and expand by clicking **+**.

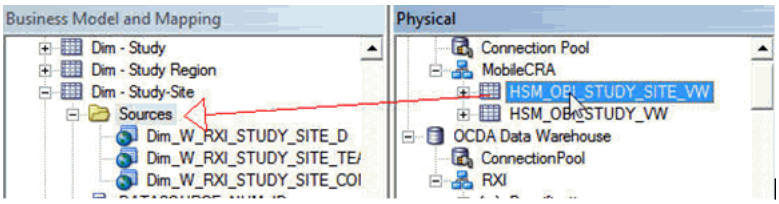
Figure 3–46 Selecting Dim - Study



b. Click **Sources** and expand by clicking **+**.

c. Drag **HSM_OBI_STUDY_SITE_VW** from the Physical section and drop on **Dim - Study-Site** in the Business Model and Mapping section.

Figure 3–47 Drag and Drop

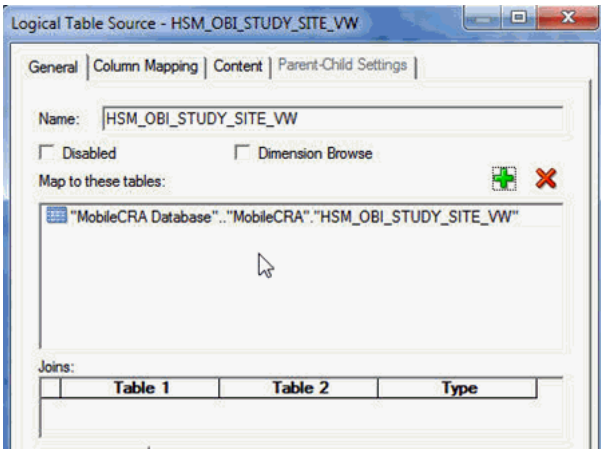


d. Select **HSM_OBI_STUDY_SITE_D** in Sources under Dim - Study.

e. From the **Edit** menu, select **Properties** to open property window.

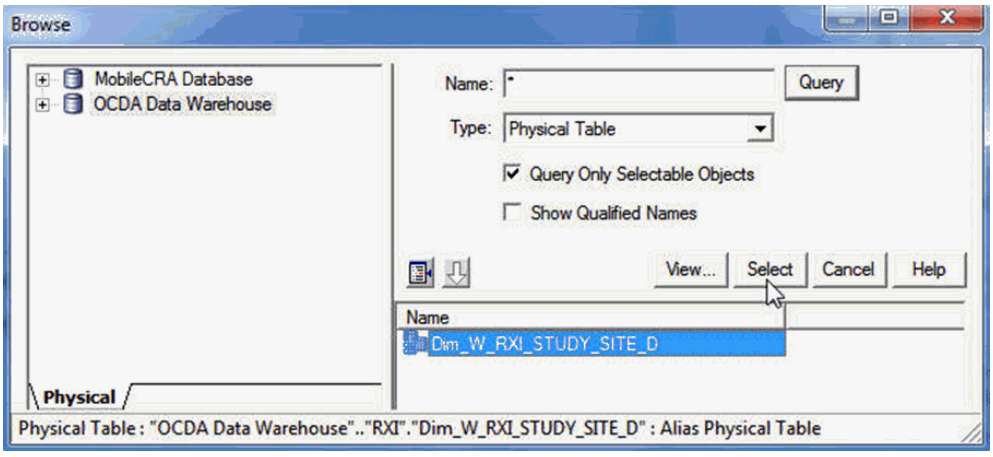
f. Click **Add** to create join with Dim - Study-Site.

Figure 3–48 Creating Join



g. Click **Dim_W_RXI_STUDY_D** from the right side and then click **Select**.

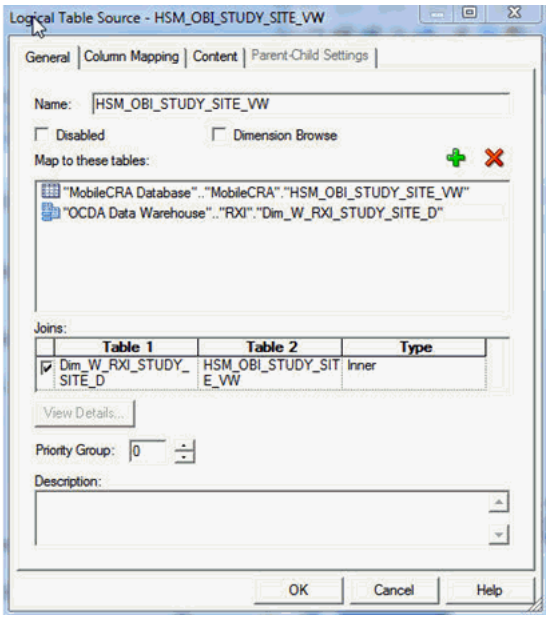
Figure 3–49 Selecting File



h. Click **OK** to close the window.

The created join is displayed.

Figure 3–50 Updated Table



3. Create Custom Columns for HSM_OBI_STUDY_VW.

   a. Create four new columns as follows:

      SUBSCRIPTION LAST_UPDATED_BY

      SUBSCRIPTION LAST_CREATION_DATE

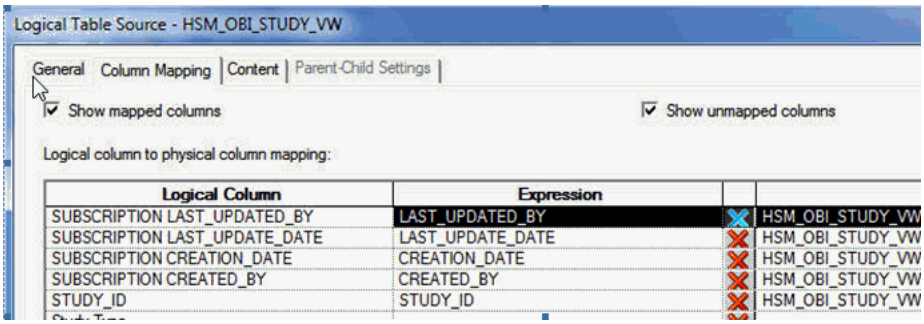
      SUBSCRIPTION CREATION_DATE

      SUBSCRIPTION CREATED_BY

   b. Map these columns to LAST_UPDATED_BY, LAST_UPDATE_DATE, CREATION_DATE, and CREATED_BY respectively from HSM_OBI_STUDY_VW.

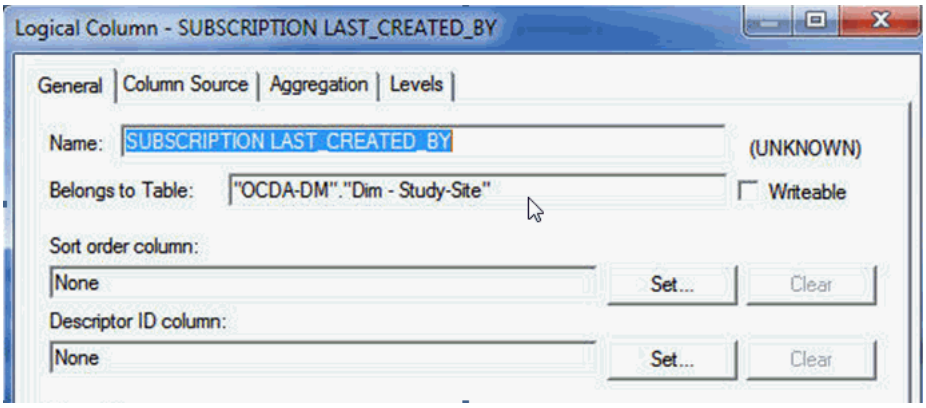
   c. Click **Add New Column**.

Figure 3–51 Logical Table Source



   d. Enter the column name, for example, SUBSCRIPTION LAST_UPDATED_BY, and update the column mapping to select the correct source.

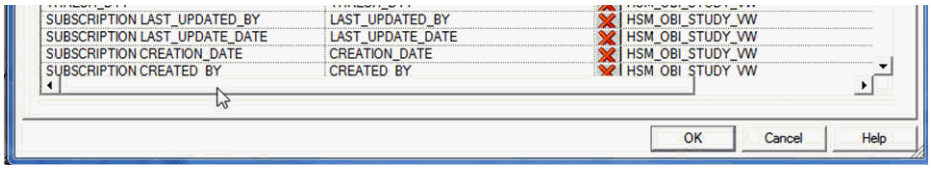
Figure 3–52 Logical Column Screen



e. Update the Physical Table as **HSM_OBI_STUDY_VW** and Expression as **LAST_UPDATED_BY**.

f. Repeat Step 5 for LAST_UPDATE_DATE, CREATION_DATE, and CREATED_BY columns as shown in the Figure 3–53.

Figure 3–53 Update Logical Column



g. Click **OK**.

4. Create Custom Columns for HSM_OBI_STUDY_SITE_VW.

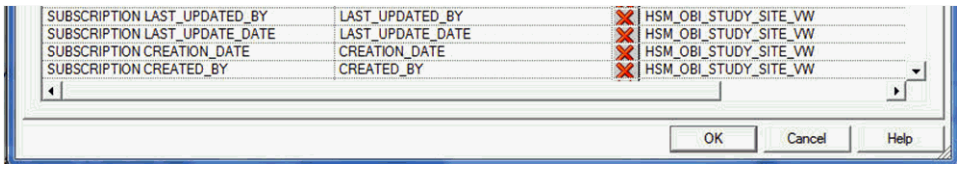
a. Create custom columns for LAST_UPDATED_BY, LAST_UPDATE_DATE, CREATION_DATE and CREATED_BY columns as shown in Figure 3–54.

b. Map these columns to LAST_UPDATED_BY, LAST_UPDATE_DATE, CREATION_DATE, and CREATED_BY respectively from HSM_OBI_STUDY_VW.

c. Add a new column INTEGRATION_ID mapped to INTEGRATION_ID of Dim_W_RXI_STUDY_SITE_D.

d. Follow similar steps defined in Step 3 (Create Custom Columns for HSM_OBI_STUDY_VW).

Figure 3–54 Update Logical Column



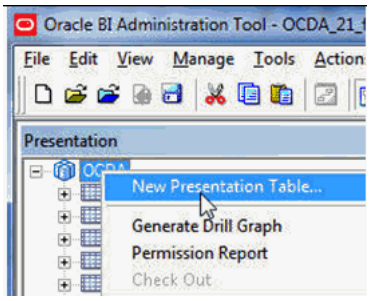
3.11.5 Creating Presentation Tables for Mobile Clinical Research Associate Server (Presentation Layer)

To create presentation tables for Mobile CRA Server (presentation layer), perform the following:

1. Create New Presentation Table for Grouping Purpose.

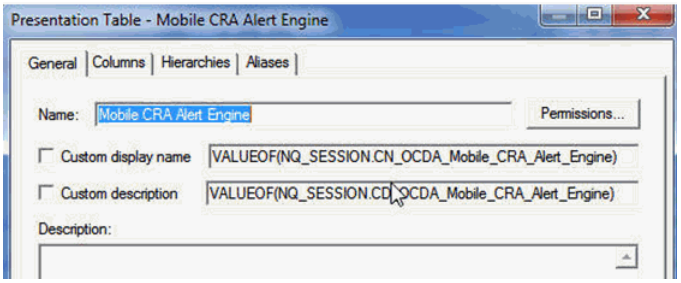
   a. Right-click **OCDA** in the Presentation section and then click **New Presentation Table**.

Figure 3–55 Selecting New Presentation Table



   b. Enter **Mobile CRA Alert Engine** in the Name field and click **OK**.

Figure 3–56 Entering Name



   c. Locate the newly created presentation table (that is, Mobile CRA Alert Engine) in the Presentation section, and then locate Fact for Presentation Foldering.

   d. Drag and drop it on the Mobile CRA Alert Engine table in the presentation section.

2. Create New Presentation Table for Study.

   1. Right-click **OCDA** in the Presentation section and then click the New Presentation table.

   2. Enter **- Study** in the Name field and click **OK**.

   3. Select the following columns from Dim - Study in the Business Model and Mapping section and drop on - Study presentation table in the Presentation section.

      HSM_RULE_SBSCRTIONS_ID

      USER_ID

      HSM_RULES_ID

      HSM_RULES_NAME

HSM_RULES_DESCR

HSM_RULES_FNCTN

STUDY_ID

ACTV_STUS

FIRED_STUS

THRESH_DT1

THRESH_DT1_NM

THRESH_DT2

THRESH_DT2_NM

THRESH_DT3

THRESH_DT3_NM

THRESH_DT4

THRESH_DT4_NM

THRESH_DT5

THRESH_DT5_NM

THRESH_NUM1

THRESH_NUM1_NM

THRESH_NUM2

THRESH_NUM2_NM

THRESH_NUM3

THRESH_NUM3_NM

THRESH_NUM4

THRESH_NUM4_NM

THRESH_NUM5

THRESH_NUM5_NM

THRESH_STR1

THRESH_STR1_NM

THRESH_STR2

THRESH_STR2_NM

THRESH_STR3

THRESH_STR3_NM

THRESH_STR4

THRESH_STR4_NM

THRESH_STR5

THRESH_STR5_NM

SUBSCRIPTION LAST_UPDATED_BY

SUBSCRIPTION LAST_UPDATE_DATE

SUBSCRIPTION CREATION_DATE

SUBSCRIPTION CREATED_BY

3. Create New Presentation Table for Study-Site.
    1. Right-click **OCDA** in the Presentation section and then click **New Presentation Table**.
    2. Enter **- Study Site** in the Name field and click **OK**.
    3. Select the following columns from Dim - Study-Site in the Business Model and Mapping section and drop on - Study Site presentation table in the Presentation section.

        HSM_RULE_SBSCRTIONS_ID

        USER_ID

        HSM_RULES_ID

        HSM_RULES_NAME

        HSM_RULES_DESCR

        HSM_RULES_FNCTN

        STUDY_SITE_ID

        ACTV_STUS

        FIRED_STUS

        THRESH_DT1

        THRESH_DT1_NM

        THRESH_DT2

        THRESH_DT2_NM

        THRESH_DT3

        THRESH_DT3_NM

        THRESH_DT4

        THRESH_DT4_NM

        THRESH_DT5

        THRESH_DT5_NM

        THRESH_NUM1

        THRESH_NUM1_NM

        THRESH_NUM2

        THRESH_NUM2_NM

        THRESH_NUM3

        THRESH_NUM3_NM

        THRESH_NUM4

        THRESH_NUM4_NM

        THRESH_NUM5

        THRESH_NUM5_NM

THRESH_STR1

THRESH_STR1_NM

THRESH_STR2

THRESH_STR2_NM

THRESH_STR3

THRESH_STR3_NM

THRESH_STR4

THRESH_STR4_NM

THRESH_STR5

THRESH_STR5_NM

SUBSCRIPTION LAST_UPDATED_BY

SUBSCRIPTION LAST_UPDATE_DATE

SUBSCRIPTION CREATION_DATE

SUBSCRIPTION CREATED_BY

4. Create a new column **Src Unique Site ID** in Study-Site, which is mapped to logical column INTEGRATION_ID of Dim_Study Site created in Section 3.11.4, "Creating Mobile Clinical Research Associate Server Sources to OCDA Dimensions in the Business Model and Mapping Layer" (Step 4).

3.11.6 Saving the Repository

To save the RPD, perform the following:

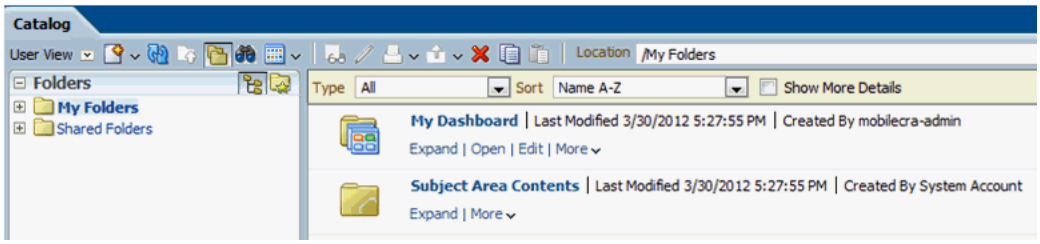
1. From the **File** menu, select **Save**.

3.12 Deploying Site-At-a-Glance Reports

To deploy site-at-a-glance reports, perform the following:

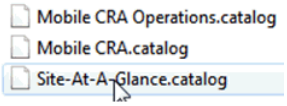
1. Log in to OBIEE analytics.
2. Navigate to **Catalog**.

Figure 3–57 Navigating to Catalog



3. Select **Shared folders** and click **Unarchive** in the bottom-left **Task** menu.
4. Click **Browse** and choose the **Site-At-A-Glance-.catalog** file.

Figure 3–58 Selecting Site-At-A-Glance-.catalog File



5. Click **OK** to unarchive the catalog.
6. Navigate to the Shared folder and select **Site-At-A-Glance**.

   A list of predefined reports that are imported is displayed which will be deployed.

4

Configuring the Oracle WebLogic Server for Mobile Clinical Research Associate Server

This chapter includes the following sections:

- Section 4.1, "Configuring Oracle WebLogic Server"
- Section 4.2, "Configuring Security Using Enterprise Manager"
- Section 4.3, "Setting Up Oracle Advanced Queuing"
- Section 4.4, "Setting Up the Log Level"
- Section 4.5, "Updating the Log Level"

Note: For information about installing Oracle WebLogic Server, see http://docs.oracle.com/cd/E17904_01/doc.1111/e14142/toc.htm.

4.1 Configuring Oracle WebLogic Server

You need to define a data source to point the WebLogic Server (WLS) to the database where the Mobile CRA Server database component is installed.

This section contains the following topics:

- Section 4.1.1, "Configuring Data Source Mobile Server"
- Section 4.1.2, "Configuring Data Source Alert Engine"
- Section 4.1.3, "Installing the Mobile CRA Server"
- Section 4.1.4, "Customizing the Configuration File"

4.1.1 Configuring Data Source Mobile Server

To configure data source mobile server, perform the following:

1. Log in to Oracle WebLogic Server (WLS) as admin by entering the URL (for example, `http://<server:port number>/console`).
2. Click **Lock and Edit** in the **Change Center** panel on the left side.
3. Click **Services** in the **Domain Structure** window.
4. Select **Data Sources**.

   The Summary of JDBC data sources is displayed on the right-side window panel.
5. Click **New** and select **Generic Data Source** from the list.

6. In the JDBC Data Source Properties screen, perform the following:
   a. Enter the name.

      Oracle recommends that the name should match the JNDI name.
   b. Enter `jdbc/mobilecra` as the JNDI name.
   c. Enter `Oracle` as the database type.
   d. Click **Next**.
   e. In the Database Driver field, select the default value, that is, Oracle's Driver (Thin XA) for instance connections (versions: 9.0.1 and above).
   f. Click **Next**.
7. Click **Next** on the Transaction Options screen.
8. In the Connection Properties screen, perform the following:
   a. Enter the SID in the Database Name field.
   b. Enter the server where mobile server database is hosted.
   c. Enter the port number for the database.
   d. Enter the Mobile CRA server database user name where it is hosted.
   e. Enter password for the database user.
   f. Re-enter the password in the Confirm password field.
   g. Click **Next**.

      The **Properties**, **System Properties**, and **Test Table Name** fields are displayed on the screen.
   h. Click **Test Configuration**.

      If the test is successful, the message **Connection test succeeded** is displayed on the screen.
   i. Click **Next**.

      The Select Targets screen is displayed with the list of servers.
9. Select the server where the Mobile CRA Server is installed.
10. Click **Finish**.
11. After creating `jdbc/mobilecra`, click **Activate Changes** in the **Change Center** panel.

4.1.2 Configuring Data Source Alert Engine

To configure data source alert engine, perform the following:

1. Log in to WLS as admin by entering the URL (for example, `http://<server:port number>/console`).
2. Click **Lock and Edit** in the **Change Center** panel on the left side.
3. Click **Services** in the **Domain Structure** window.
4. Select **Data Sources**.

   The Summary of JDBC Data Sources is displayed on the right-side window panel.
5. Click **New** and select **Generic Data Source** from the list.

6. In the JDBC Data Source Properties screen, perform the following:
   a. Enter the name.

      Oracle recommends that the name should match the JNDI name.

   b. Enter `jdbc/ae` as the JNDI name.
   c. Enter `Oracle` as the database type.
   d. Click **Next**.
   e. In the Database Driver field, select the default value, that is, Oracle's Driver (Thin XA) for instance connections (versions: 9.0.1 and above).
   f. Click **Next**.
7. Click **Next** on the Transaction Options screen.
8. In the Connection Properties screen, perform the following:
   a. Enter the SID in the Database Name field.
   b. Enter the server where alert engine database is hosted.
   c. Enter the port number for database.
   d. Enter the alert engine database user name where it is hosted.
   e. Enter password for the database user.
   f. Re-enter the password in the Confirm password field.
   g. Click **Next**.

      The **Properties**, **System Properties**, and **Test Table Name** fields are displayed on the screen.

   h. Click **Test Configuration**.

      If the test is successful, the message **Connection test succeeded** is displayed on the screen.

   i. Click **Next**.

      The Select Targets screen is displayed with the list of servers.
9. Select the server where the Mobile CRA Server is installed.
10. Click **Finish**.
11. After creating `jdbc/ae`, click **Activate Changes** in the **Change Center** panel.
12. Exit the Oracle WebLogic server.

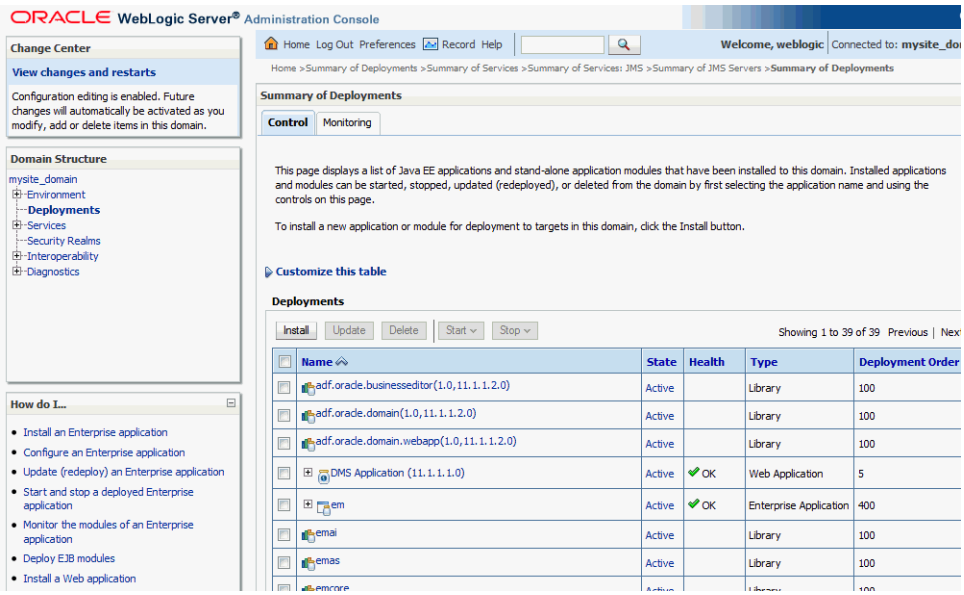
4.1.3 Installing the Mobile CRA Server

4.1.3.1 Installing oracle.hs.Mobile CRA.cda.war on Oracle WebLogic Server

To install oracle.hs.Mobile CRA.cda.war on WebLogic server, perform the following:

1. Download **Mobile CRA_Server_CDA_Adapter.zip** to a local folder and unzip it to extract the oracle.hs.Mobile CRA.cda.war file.
2. Log in to the Oracle WebLogic Server Administration Console.
3. Within Server Administration, select **Deployments**.

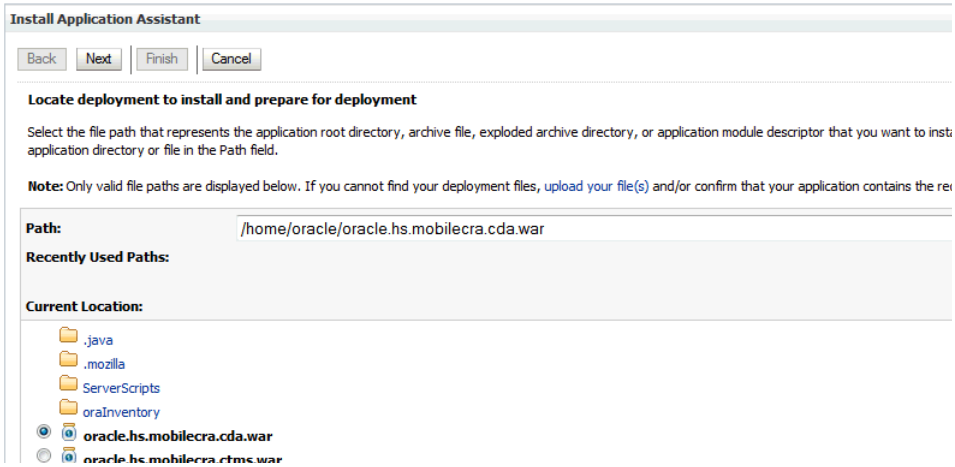
Figure 4–1 Selecting Deployments



The Summary of Deployments screen is displayed.

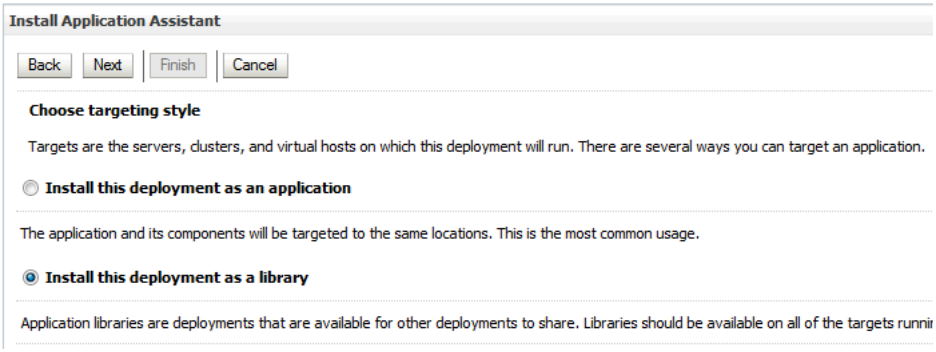
4. Select **Install** to install the application.
5. Browse the directory where the install package is located.

Figure 4–2 Browsing the Directory



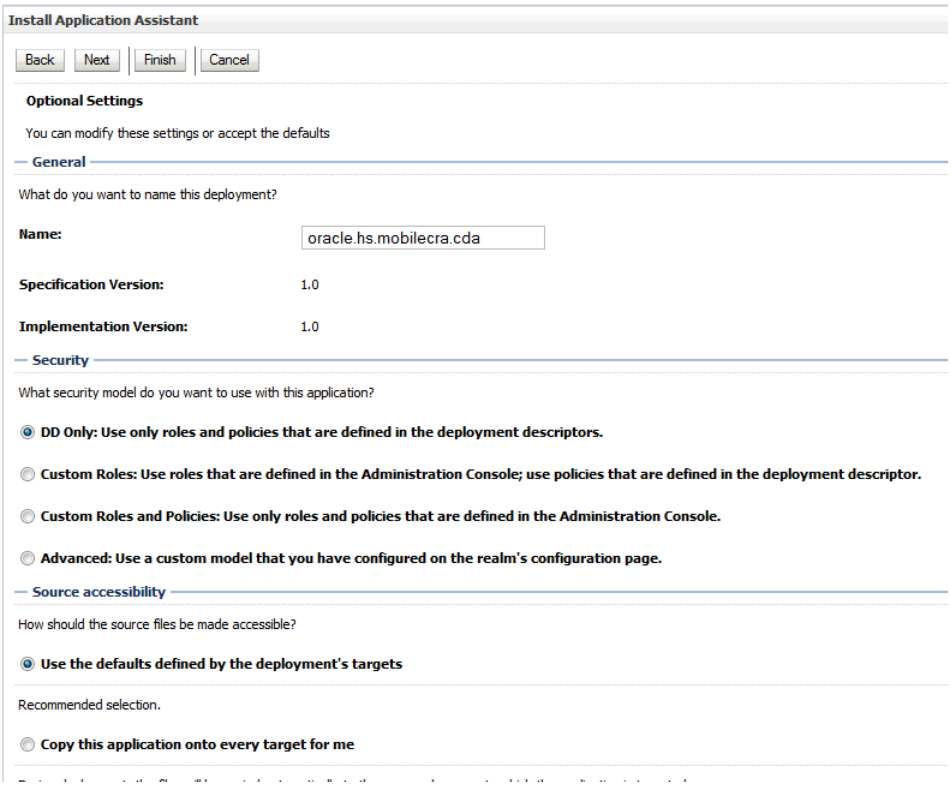
6. Select the **oracle.hs.Mobile CRA.cda.war** file.
7. Select the **Install this deployment as a library** option.

Figure 4–3 Selecting the Targeting Style



8. Select default settings as displayed in Figure 4–4.

Figure 4–4 Selecting the Default Settings



9. Select **Finish** to complete installation.

10. Click **Activate Changes**.

4.1.3.2 Installing oracle.hs.Mobile CRA.ctms.war on Oracle WebLogic Server

To install oracle.hs.Mobile CRA.ctms.war on WLS, follow the similar steps in Section 4.1.3.1, "Installing oracle.hs.Mobile CRA.cda.war on Oracle WebLogic Server".

4.1.3.3 Installing oracle.hs.Mobile CRA.ear on Oracle WebLogic Server

To install oracle.hs.Mobile CRA.ear on WLS, perform the following:

1. Log in to the Oracle WebLogic Server Administration Console.

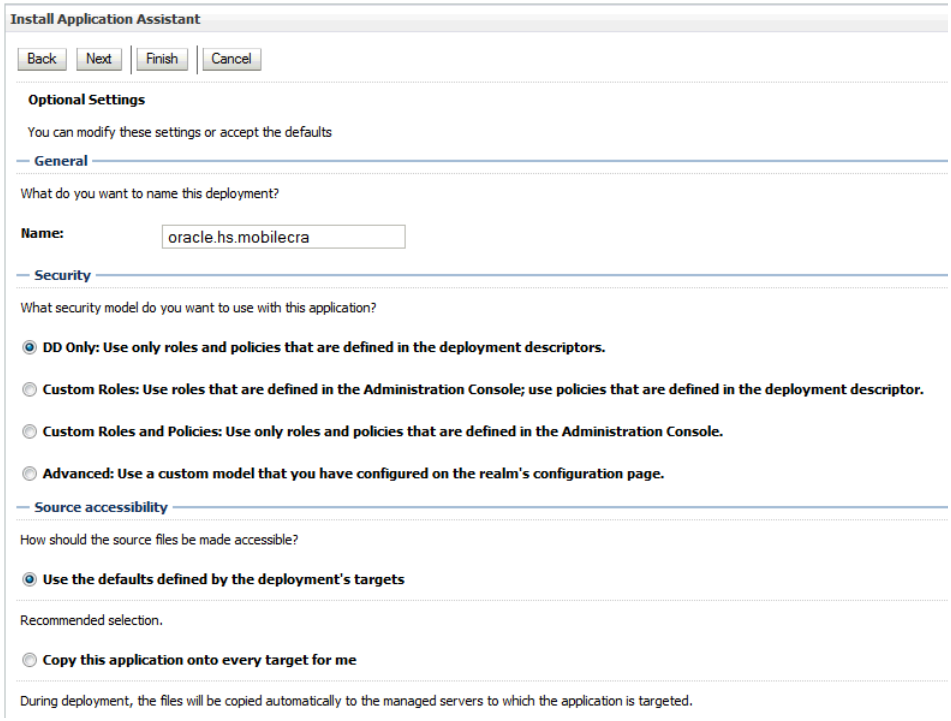
2. Within Server Administration, select **Deployments**.

   The Summary of Deployments screen is displayed.

3. Select **Install** to install the application.
4. Browse the directory where the install package is located.
5. Select the **oracle.hs.Mobile CRA.ear** file.
6. Select the **Install this deployment as an application** option.
7. Select default settings as displayed in Figure 4–5.

   Specify the name as `oracle.hs.mobilecra`.

Figure 4–5 Selecting the Default Settings



8. Select **Finish** to complete installation.
9. Click **Activate Changes**.

4.1.4 Customizing the Configuration File

To customize the configuration file, perform the following:

1. From the File system, locate Config.xml under Config folder of the main folder.

   This is a template file where you have to update values for customization.

2. Create a copy of Config.xml and save it as Plan.xml.

   For examples of Config.xml and Plan.xml files, see Appendix B.2.

3. Modify configuration values for your environment.

   The plan.xml file lets you configure your Mobile CRA Server application to point to the right CTMS and OCDA server, push notification schedule, alert engine schedule, and so on.

Some of the basic configurations such as CTMS server information has to be setup for the application to work but the advanced configuration such as push notification configurations may be modified to suit your schedule and performance needs.

Following are the basic settings to change in the Plan.xml file:

- `ctmsApdater.hostname` -The name of the CTMS host to which the mobile instance should connect for accessing and manipulating data. For example, `server.domain.com`.
- `ctmsAdpater.port` - The CTMS port host. For example, `8080`. If the default port is used, enter a value `0` instead of null.
- `cdaFeaturedAdapter.wsdlLocation` - This is the URL of the OBIEE Web service wsdl location. Mobile CRA Server uses the OBIEE server for alerts and notifications. For example, `http://<localhost>/analytics/saw.dll?WSDL`.
- `pushNotificationService.url` - If you are using alerts and notifications, use this to set the URL of the push notification service. This is the URL of the hosted service provided by Oracle. For example, `https://<servername>/notificationservice`.
- `notificationEngineScheduler.period` and `notificationEngineScheduler.timeUnit` - If you use alerts and notifications, use this to set the schedule for the notification engine.

  notificationEngineScheduler.period along with notificationEngineScheduler.timeUnit defines the schedule for the notification scheduler. A value of 300 for notificationEngineScheduler.period along with a value of **seconds** for notificationEngineScheduler.timeUnit specifies a schedule of 300 seconds. Valid values for notificationEngineScheduler.timeUnit are seconds, minutes, and hours.

Advanced settings:

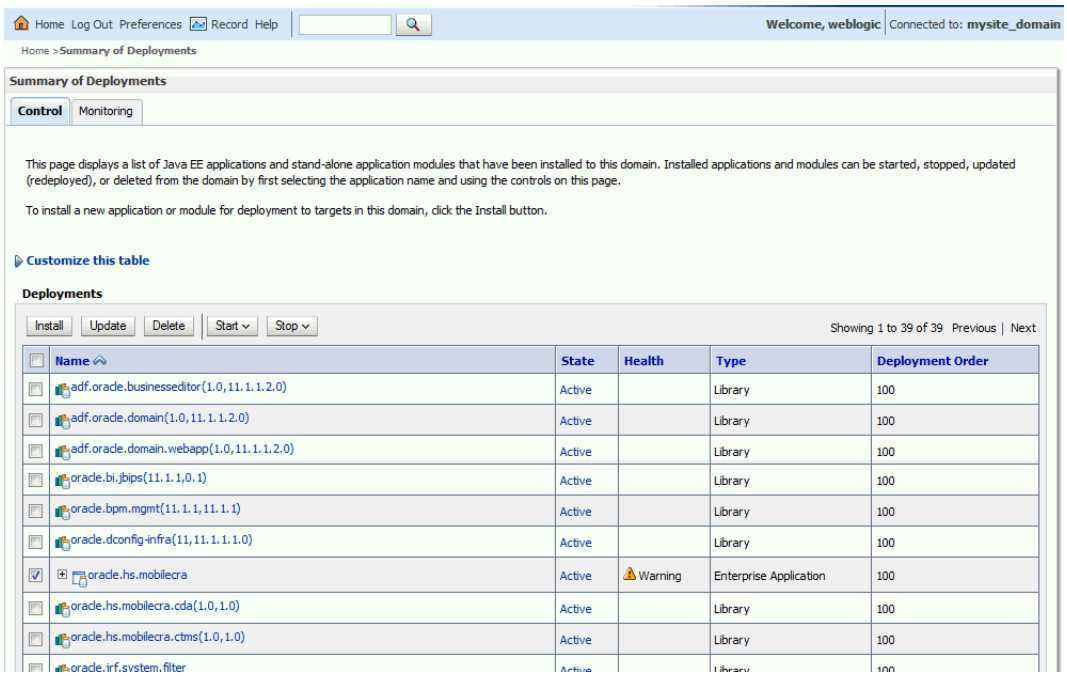
- `pushNotificationEngine.maximumPoolSize` - The maximum number of threads in the pool for the push notification engine. The valid values are integer values.
- `pushNotificationEngine.engineLockTimeout` - The duration the service should wait for the push notification engine to respond.
- `notificationEngineScheduler.initialDelay` - The initial delay after which the notification starts after each WLS restart.

Note: The same settings are applicable for Alert Engine Scheduler.

---

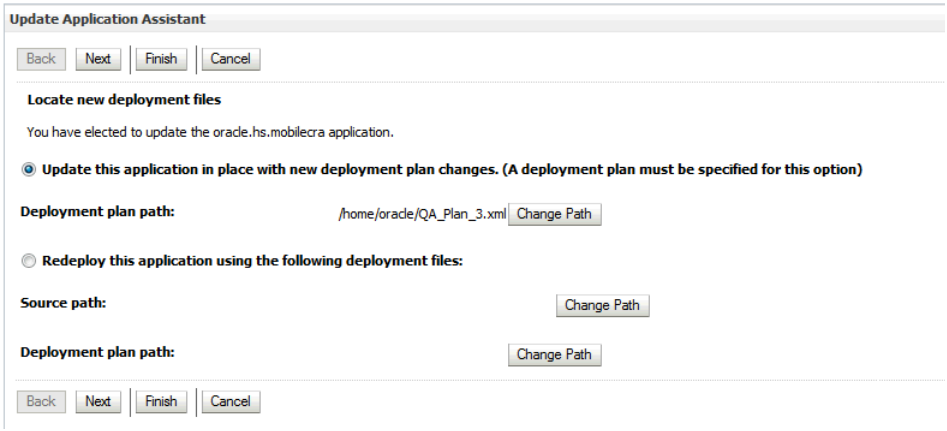
4. Save Plan.xml to the machine where Oracle WebLogic is installed.
5. Upload Plan.xml file on the server as follows:
   a. In the Deployments table, select **oracle.hs.Mobile CRA**.
   b. Click **Update**.

Figure 4–6 Deployments Table



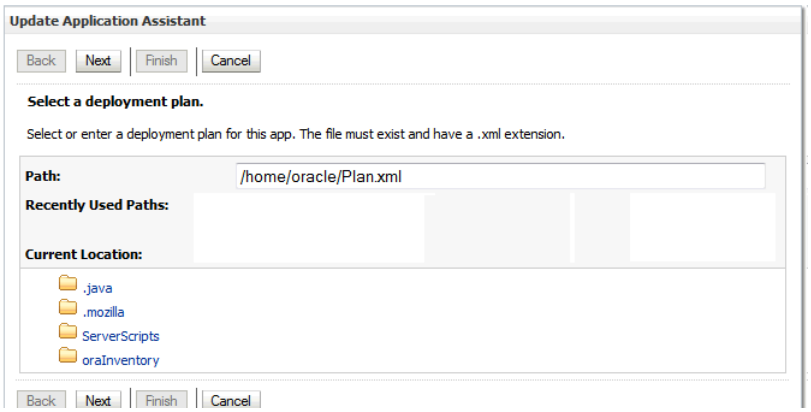
c. In the Update Application Assistant wizard, select **Update this application in place with new deployment plan changes**, and click **Change Path**.

Figure 4–7 Changing the Deployment Plan Path



d. In the Path field, specify the deployment path of your environment specific Plan.xml file to upload it to the server.

Figure 4–8 Specifying the Deployment Path



e. Click **Finish**.

4.2 Configuring Security Using Enterprise Manager

For information about configuring security using Enterprise Manager, see *Oracle Health Sciences Mobile Clinical Research Associate Server Security Guide*.

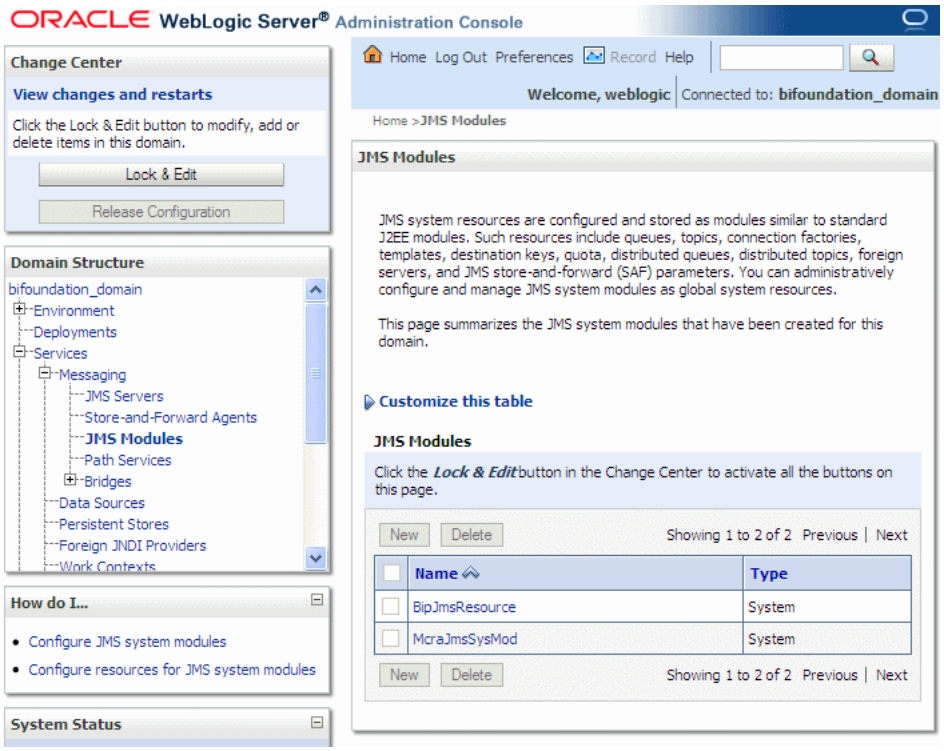
4.3 Setting Up Oracle Advanced Queuing

Mobile CRA Server uses Oracle AQ to send and receive asynchronous messages. Complete the following setup to configure Mobile CRA Server to use Oracle AQ.

1. Navigate to **Services**, select **Messaging**, and then select **JMS Modules**.

   The JMS Module screen is displayed.

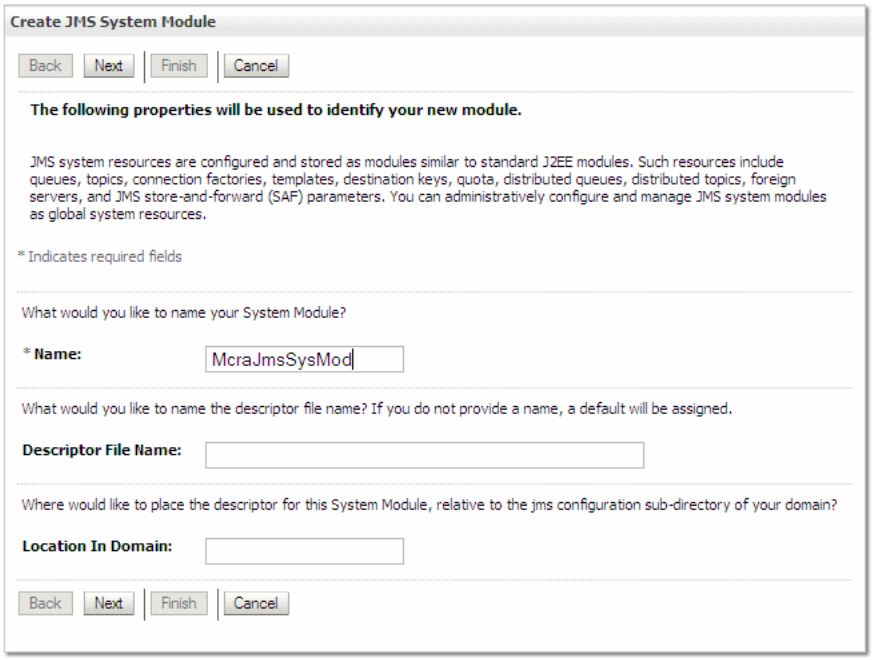
Figure 4–9 JMS Module Screen



2. Click **Lock and Edit**.
3. Click **New** to create a new JMS module.

   The Create JMS System Module screen is displayed.
4. Enter `McraJmsSysMod` as the name of your system module.

Figure 4–10 Creating a New JMS Module



5. Enter a descriptor file name (optional).

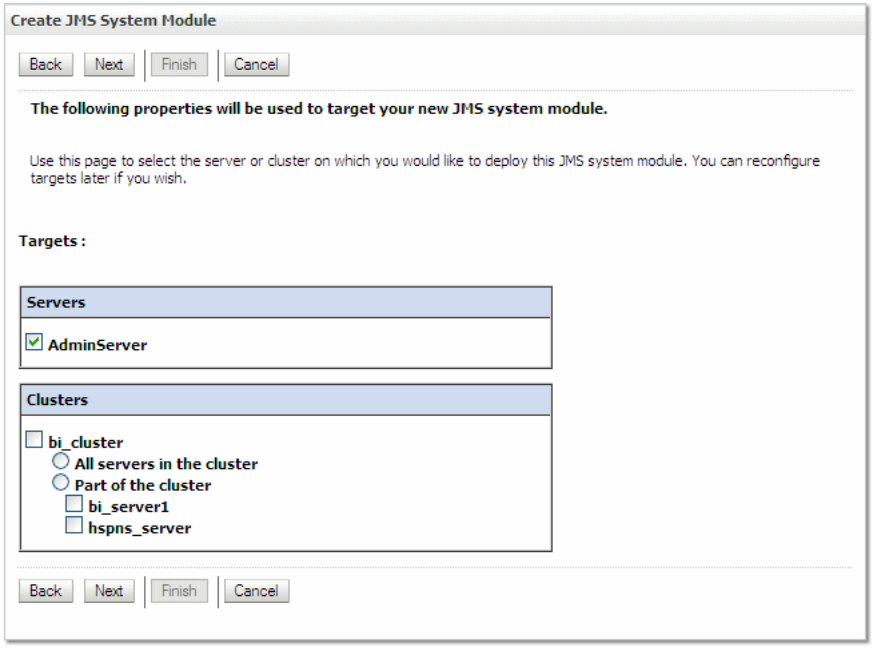
   If you do not provide the descriptor file name, a default file name is assigned.

6. Specify the location where you may want to place the descriptor of this system module (optional).

7. Click **Next**.

8. In the Targets section, select the server or cluster on which you want to deploy this JMS system module.

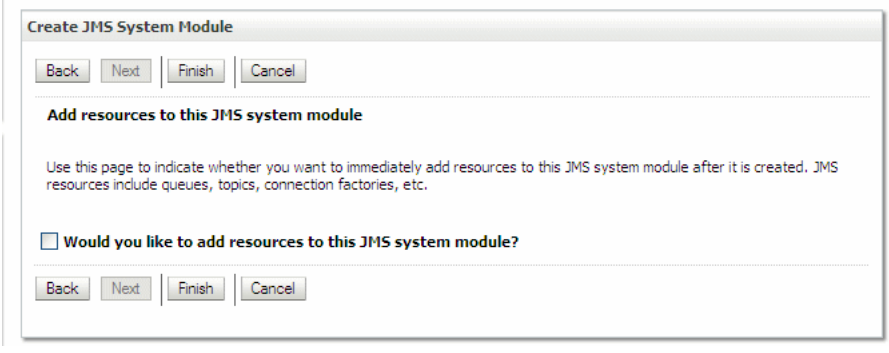
Figure 4–11 Selecting Target Server



9. Click **Next**.

10. Select **Would you like to add resources to this JMS system module?** if you want to add resources.

Figure 4–12 Adding Resources to the JMS System Module

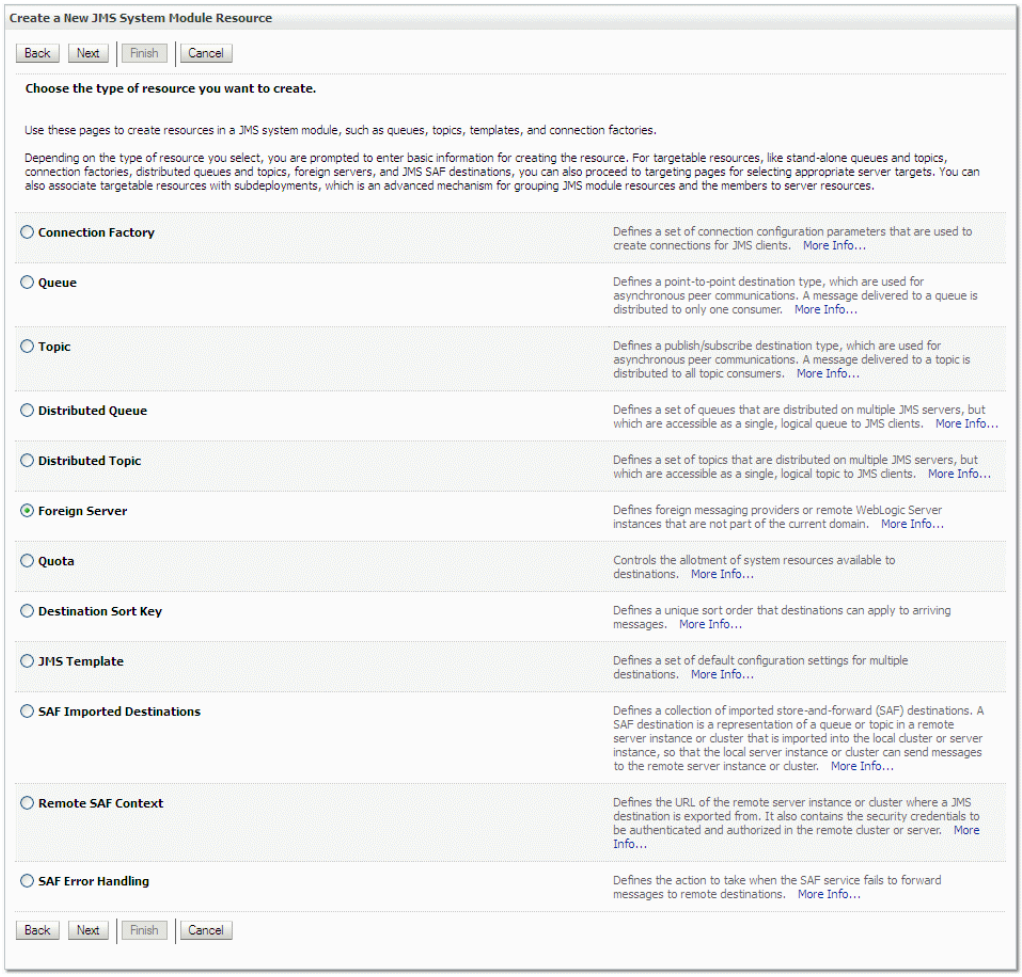


11. Click **Next**.

    The list of resources type is displayed.

12. Select **Foreign Server** as the resource.

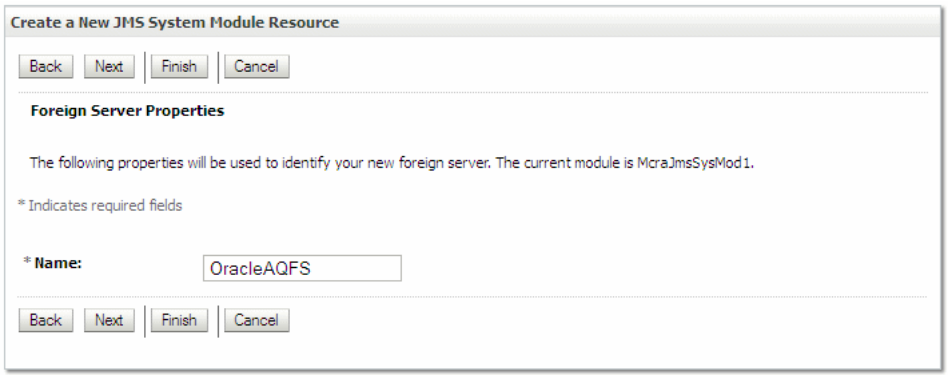
Figure 4–13 Selecting Type of Resource



The Foreign Server Properties screen is displayed.

13. Enter `OracleAQFS` as the foreign server name.

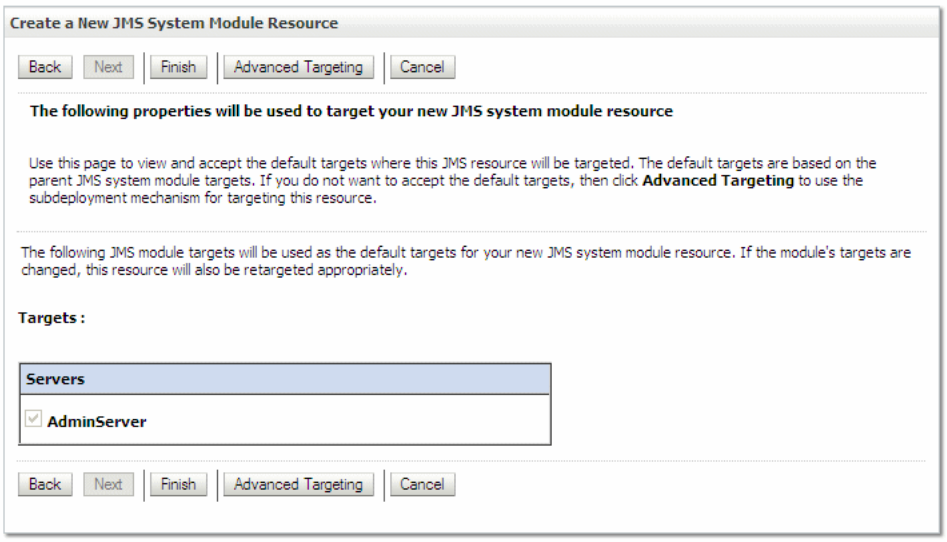
Figure 4–14 Foreign Server Properties



14. Click **Next**.

The Targets screen is displayed. Accept the default targets where the JMS resource is targeted.

Figure 4–15 Accepting Default Target



The foreign server is created successfully.

15. Click **Finish**.
16. In the Setting for OracleAQFS screen, select the **Configuration** tab.
17. Select the **General** subtab and enter the JNDI initial context factory name as `oracle.jms.AQjmsInitialContextFactory`.
18. Click **Save** to save the settings.

    A message is displayed indicating that the settings are updated.
19. Select the **Destinations** subtab and enter the foreign destination properties in the Create a New Foreign JMS Destination screen.

    Name: `jms/aq/tripReportQueue`

    JNDI Name: `jms/aq/tripReportQueue`

    Remote JNDI Name: `Queues/<schema>`, in which mobileaq is installed.

    `mobileaq.trip_report_queue` is the table that queues the trip report in the schema.
20. Select **Connection Factories** subtab and enter the foreign connection factory properties in the Create a New Foreign JMS Connection Factory screen.

    Name: `/jms/aq/mobileQueueCF`

    Local JNDI Name: `/jms/aq/mobileQueueCF`

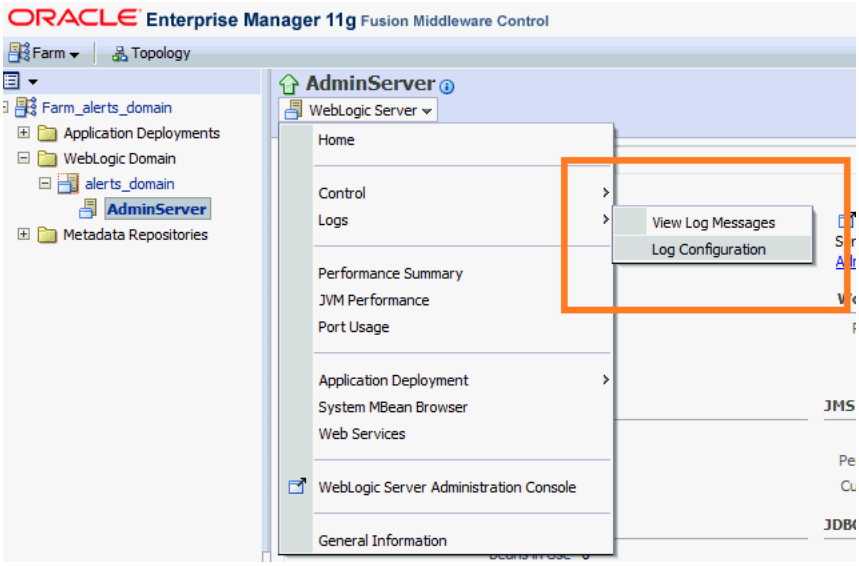
    Remote JNDI Name: `XAQueueConnectionFactory`
21. Click **OK**.
22. Click **Activate Changes**.
23. Restart for changes to take effect.

4.4 Setting Up the Log Level

To set up the log level in the server, perform the following:

1. Log in to Enterprise Manager (for example, `http://<server:port number>/em`).
2. Navigate to WebLogic Domain, select **alerts_domain**, and then select **Admin Server**.
3. From the WebLogic Server drop-down list, select **Logs**, and then select **Log Configuration**.

Figure 4–16 Selecting Log Configuration

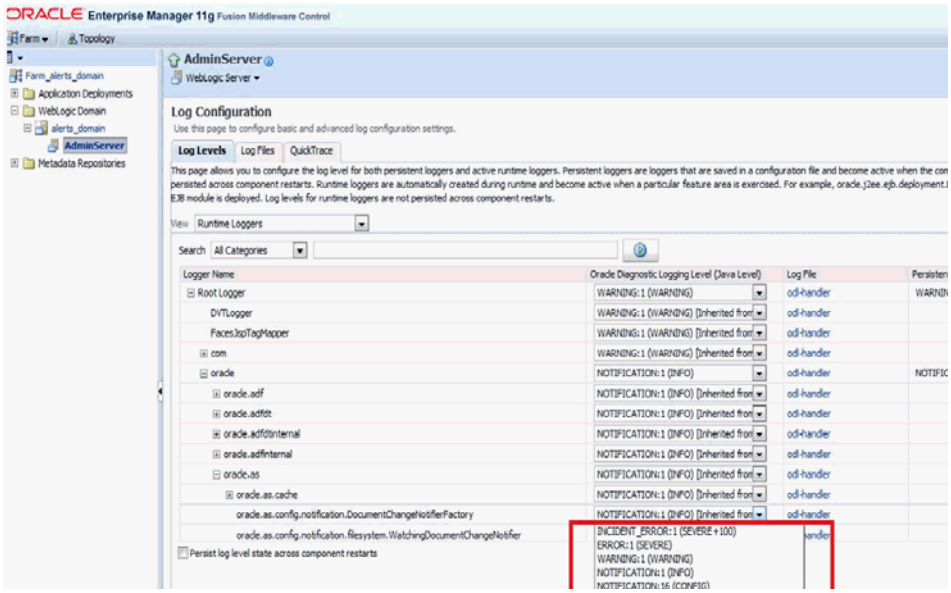


The Log Configuration screen is displayed.

4. In the Log Levels tab, expand Root Logger in the Logger Name column.
5. Expand the package for which the log level needs to be set.

Note: These settings are not persistent and will reset if you restart the server.

Figure 4–17 Log Configuration Screen



4.5 Updating the Log Level

You can update the log file name and path in the Config.xml file.

For example,

```
<property name="Mobile CRALogFile"
value="${domain.home}/servers/${weblogic.Name}/logs/Mobile CRA.log"/>
```

Property name: `Mobile CRALogFile`

Path: `"${domain.home}/servers/${weblogic.Name}/logs/Mobile CRA.log"`

Log file name: `Mobile CRA.log`

5

Deploying the Mobile Clinical Research Associate Server Administration Application

This chapter details the deployment of the Mobile CRA Server Administration application. It includes the following sections:

- Section 5.1, "Verifying the Installation Package"
- Section 5.2, "Configuring Data Sources for Mobile Clinical Research Associate Server"
- Section 5.3, "Configuring Security for Mobile Clinical Research Associate Server"
- Section 5.4, "Using Single Sign On and Lightweight Directory Access Protocol for Mobile Clinical Research Associate Server"
- Section 5.5, "Deploying Mobile Clinical Research Associate Server Application"
- Section 5.6, "Verifying Deployment"

5.1 Verifying the Installation Package

You must validate the installation package before deploying. To validate, ensure that:

- The Install package is deployed as an Enterprise Archive file called Mobile CRA_AdminUI_v#.ear.
- The EAR file contains ADF related application files.
- The EAR file also includes the WAR file, which contains the actual web application.
- The file name contains the build version as mentioned in the Release Notes.

> **Note:** For deploying the Mobile CRA Server application, see *Oracle WebLogic Administration Guide*.

5.2 Configuring Data Sources for Mobile Clinical Research Associate Server

To configure data sources for Mobile CRA Server, you need:

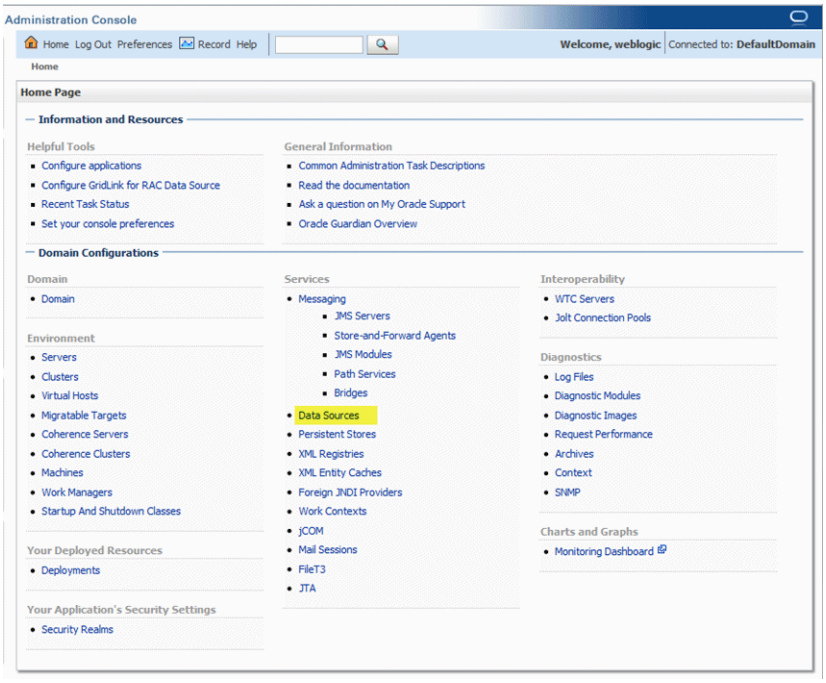
- Two data sources for the Mobile CRA Server Administration application.
- Mobile OCDA data source for the configuration of the Mobile Alert Notification adapter.

- Mobile CTMS data source for the configuration of the Mobile Trip Report adapter.

To create the data sources in the WebLogic Administration Console, perform the following:

1. Within the Server Administration Console, select **Data Sources** under Services.

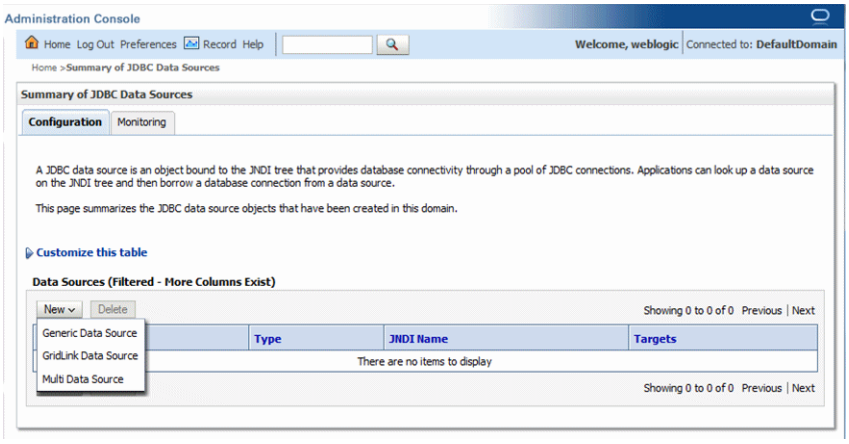
Figure 5–1 Server Administration Console



The Summary of JDBC Data Sources screen is displayed.

2. Select **New** and then select **Generic Data Source** from the drop-down list.

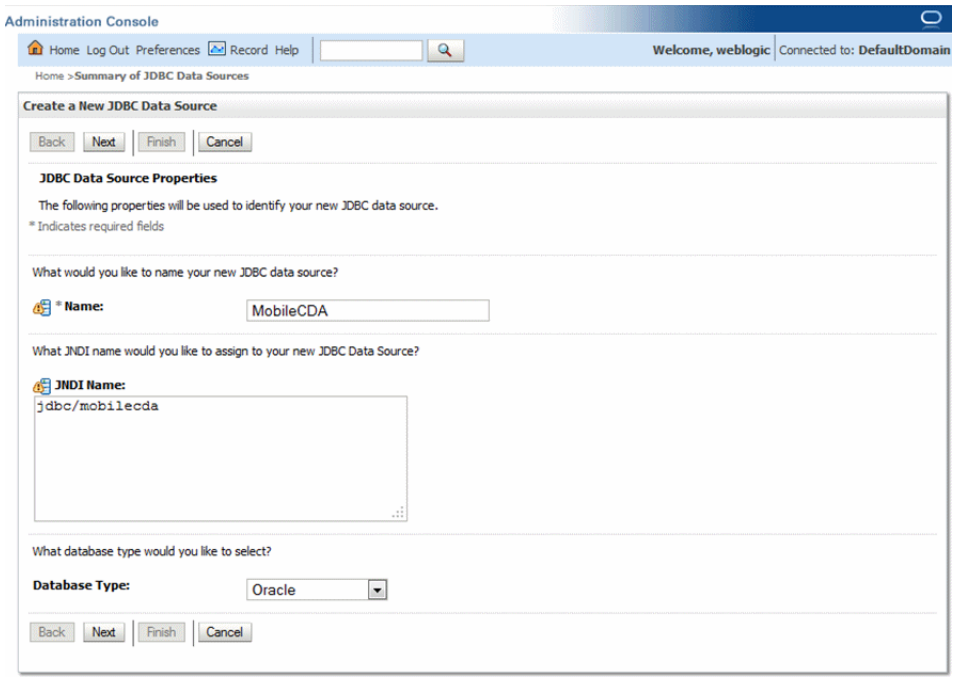
Figure 5–2 Summary of JDBC Data Sources Screen



The Create a New JDBC Data Source screen is displayed.

3. Enter `jdbc/mobilecda` as the name and JNDI name to connect to MCRE_ADMIN schema.

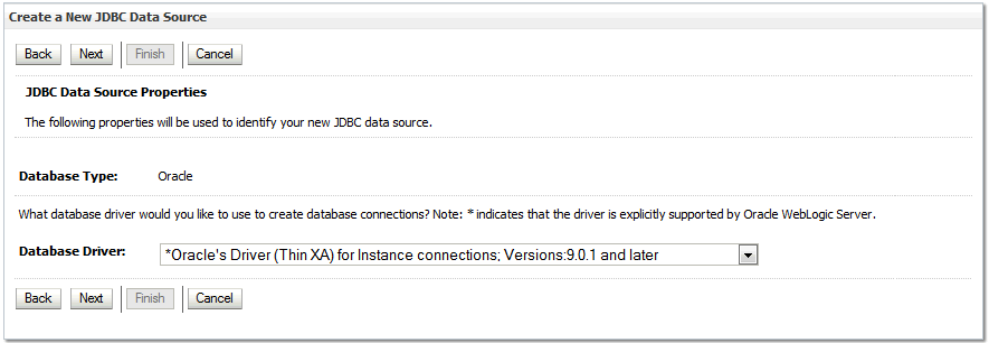
Figure 5–3 Creating a New JDBC Data Source Screen



4. Select database driver as Oracle Driver (Thin XA) (versions: 9.0.1 and later).

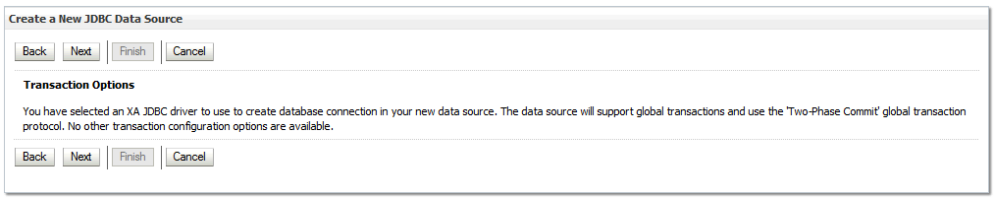
> **Note:** In case the WebLogic Server version is 10.3.6.0 (the default is 10.3.5.0), jdbc/mobilecda should select **Oracle's Driver (Thin)** during the installation.

Figure 5–4 Selecting Database Driver



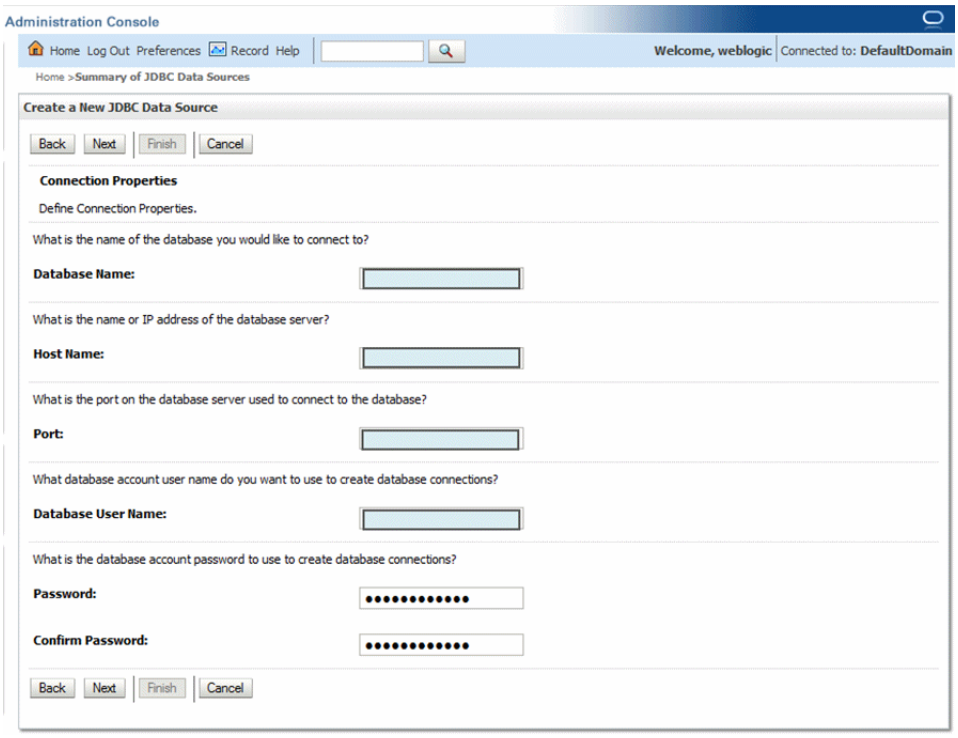
5. Select default settings as displayed in Figure 5–5.

Figure 5–5 Selecting Default Settings



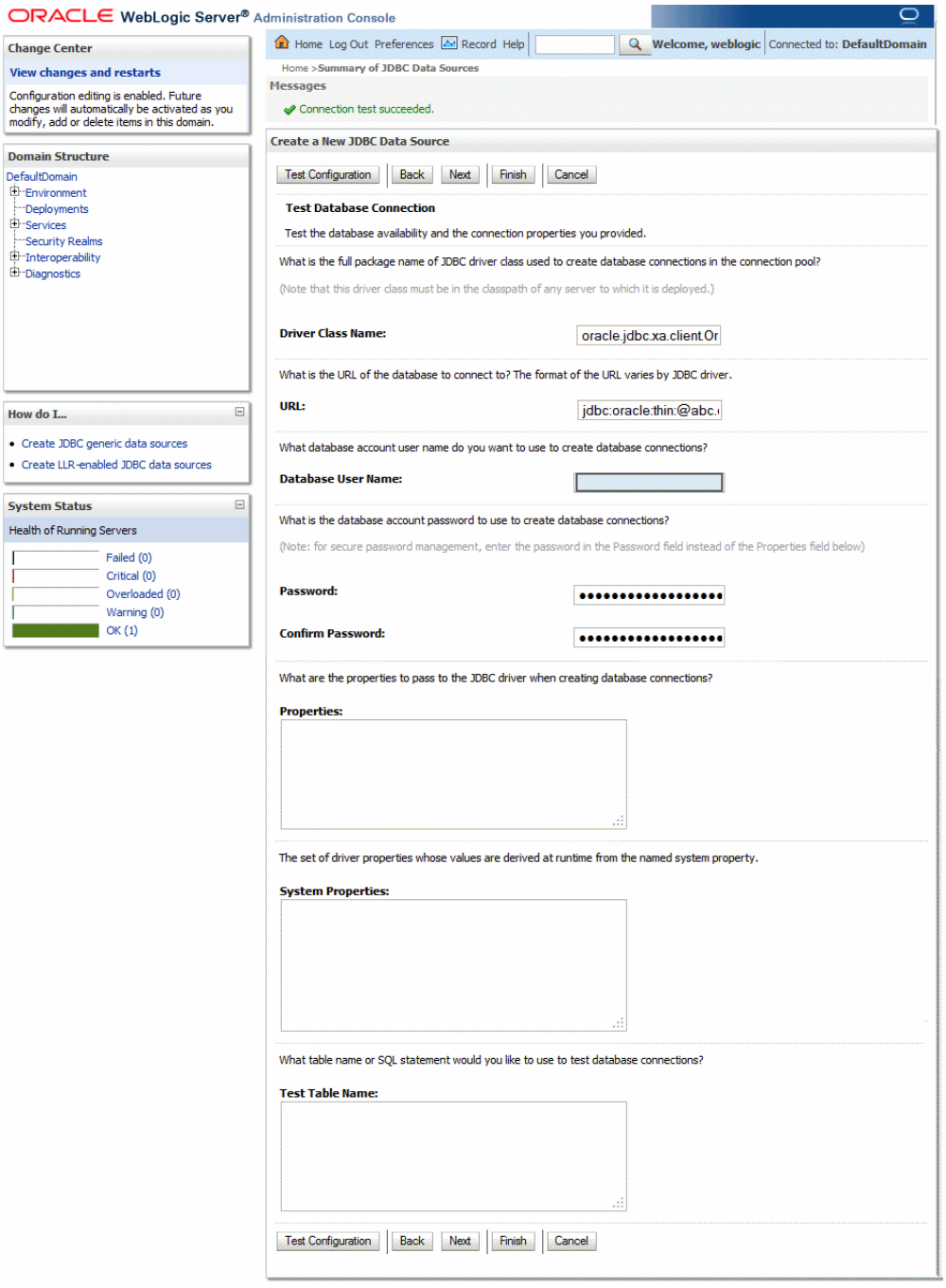
6. Configure connection properties as displayed in Figure 5–6.

Figure 5–6 Configuring Connection Properties



7. Upon completion, select **Test Configuration** to validate the connection.

Figure 5–7 Selecting Test Configuration



The **Connection test succeeded** message is displayed.

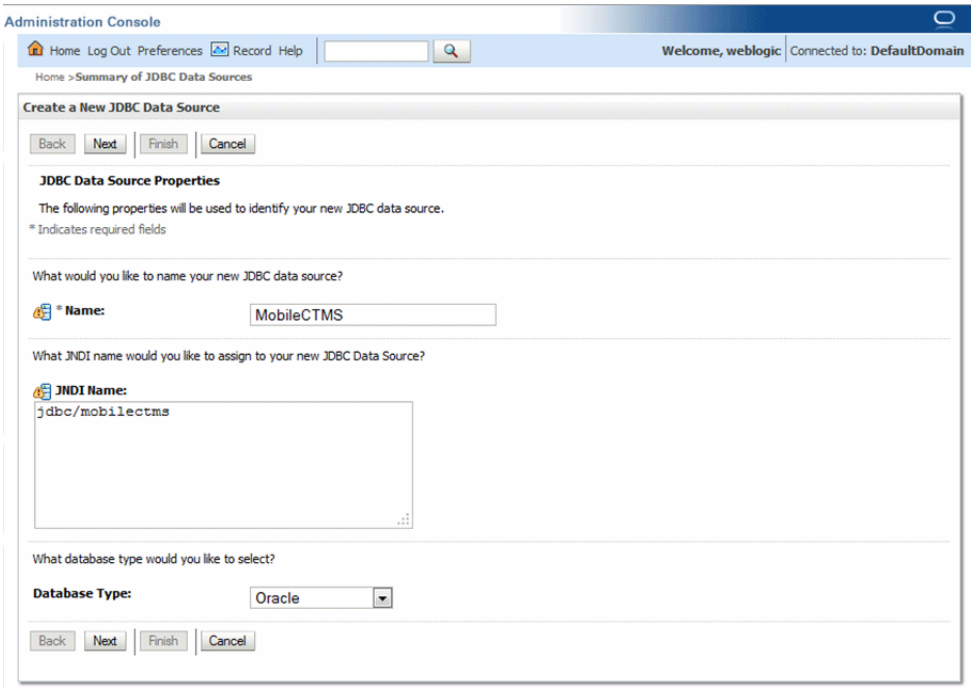
8. Repeat Step 3.

   Enter `jdbc/mobilectms` name as JNDI name to connect to MCTR_ADMIN schema.

Note: In case the WebLogic Server version is 10.3.6.0 (the default is 10.3.5.0), jdbc/mobilectms should select **Oracle's Driver (Thin)** during the installation.

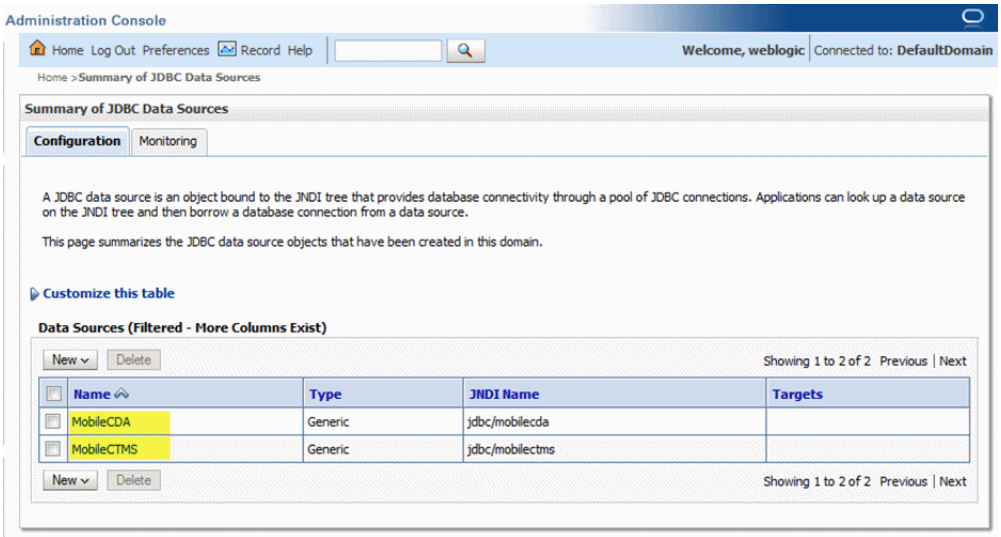
Also, the jdbc/mobilectms datasource should have **Emulate Two-Phase Commit** selected.

Figure 5–8 Creating a New JDBC Data Source Screen



9. After creating both data sources, the Summary of JDBC Data sources screen is displayed with the newly created data sources.

Figure 5–9 Summary of JDBC Data sources Screen



Note: For validating data source content, see *Mobile CRA Server Database Deployment guide*.

5.3 Configuring Security for Mobile Clinical Research Associate Server

For information about configuring security for Mobile CRA Server, see *Oracle Health Sciences Mobile Clinical Research Associate Server Security Guide*.

5.4 Using Single Sign On and Lightweight Directory Access Protocol for Mobile Clinical Research Associate Server

To use Single Sign On (SSO) and Lightweight Directory Access Protocol (LDAP), see the following documents:

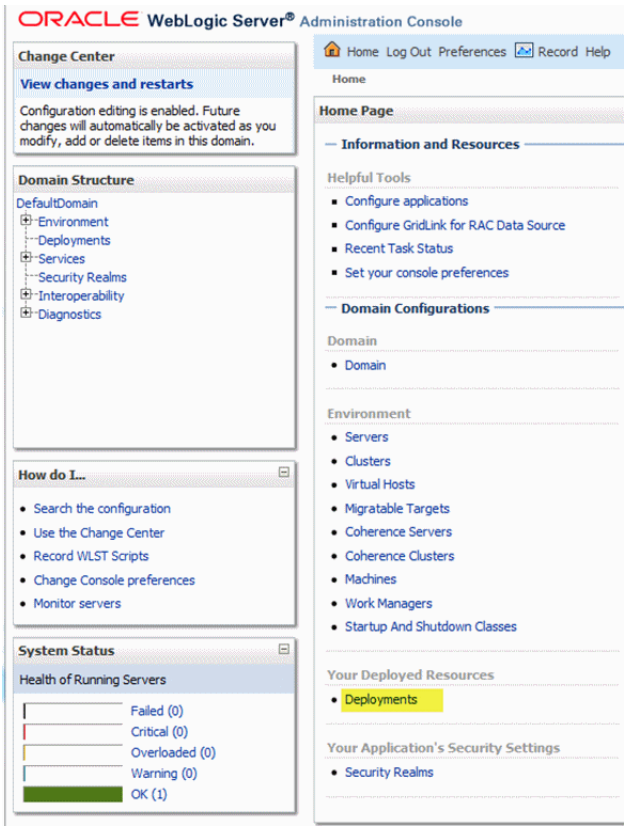
- http://docs.oracle.com/cd/E29306_01/index.htm
- http://docs.oracle.com/cd/E27559_01/index.htm

5.5 Deploying Mobile Clinical Research Associate Server Application

To deploy Mobile CRA Server application, perform the following:

1. Log in to the Oracle WebLogic Server Administration Console.
2. Within Server Administration, select **Deployments**.

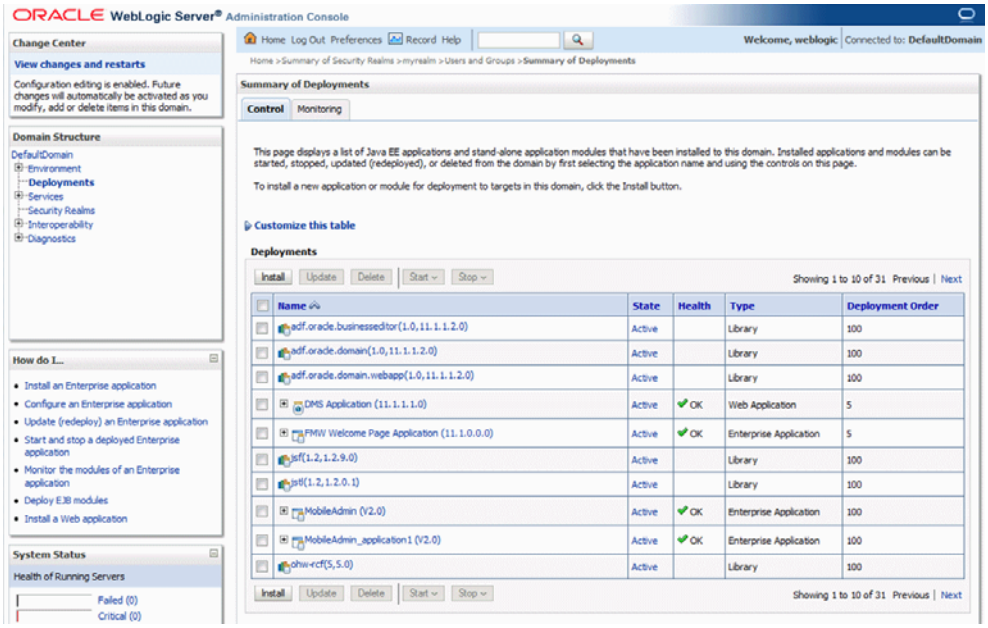
Figure 5–10 Selecting Deployments



The Summary of Deployments screen is displayed.

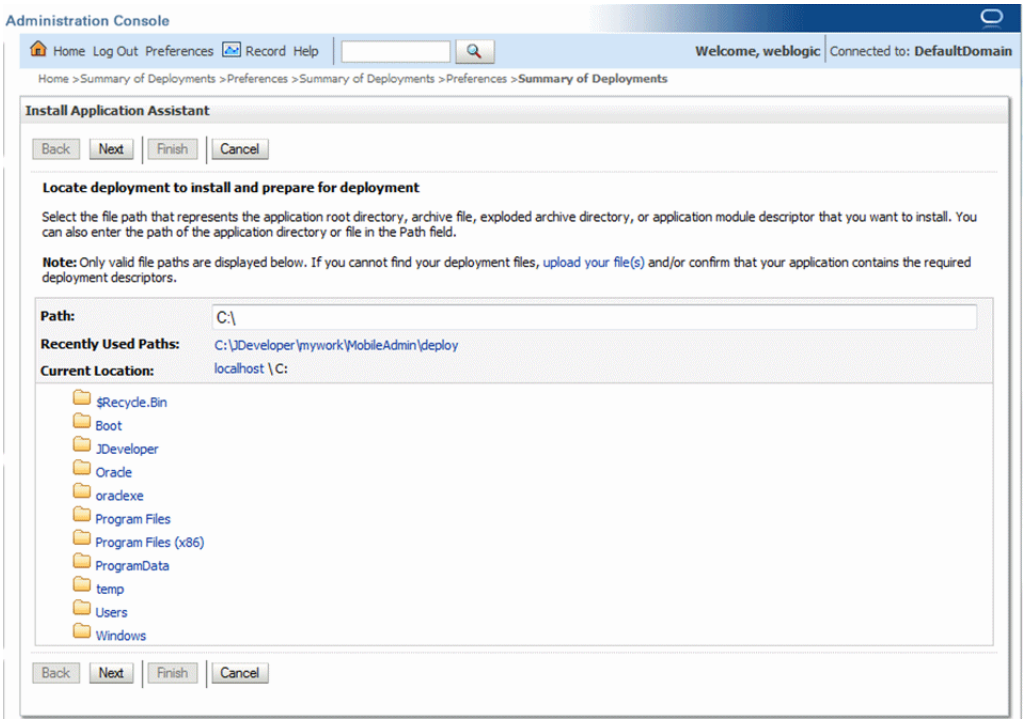
3. Select **Install** to deploy application.

Figure 5–11 Summary of Deployments Screen



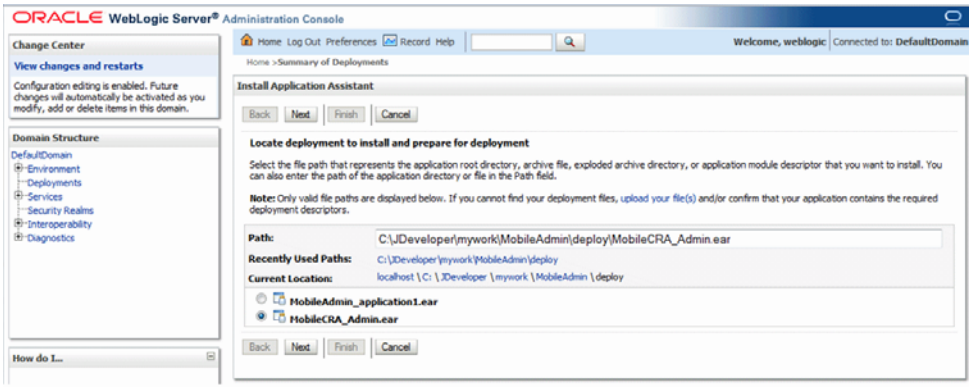
4. Browse the directory where the install package is located.

Figure 5–12 Browsing the Directory



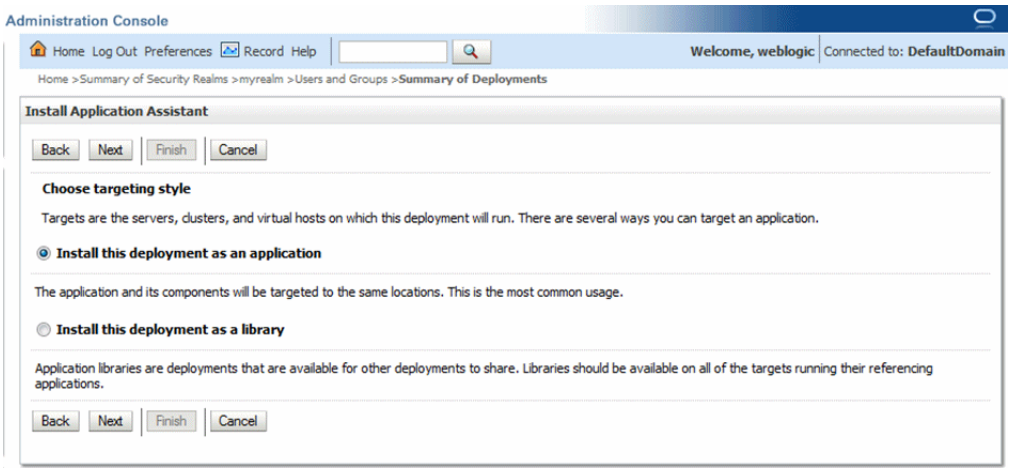
5. Select the **Mobile CRA_AdminUI_v#.ear** file.

Figure 5–13 Selecting the Default File



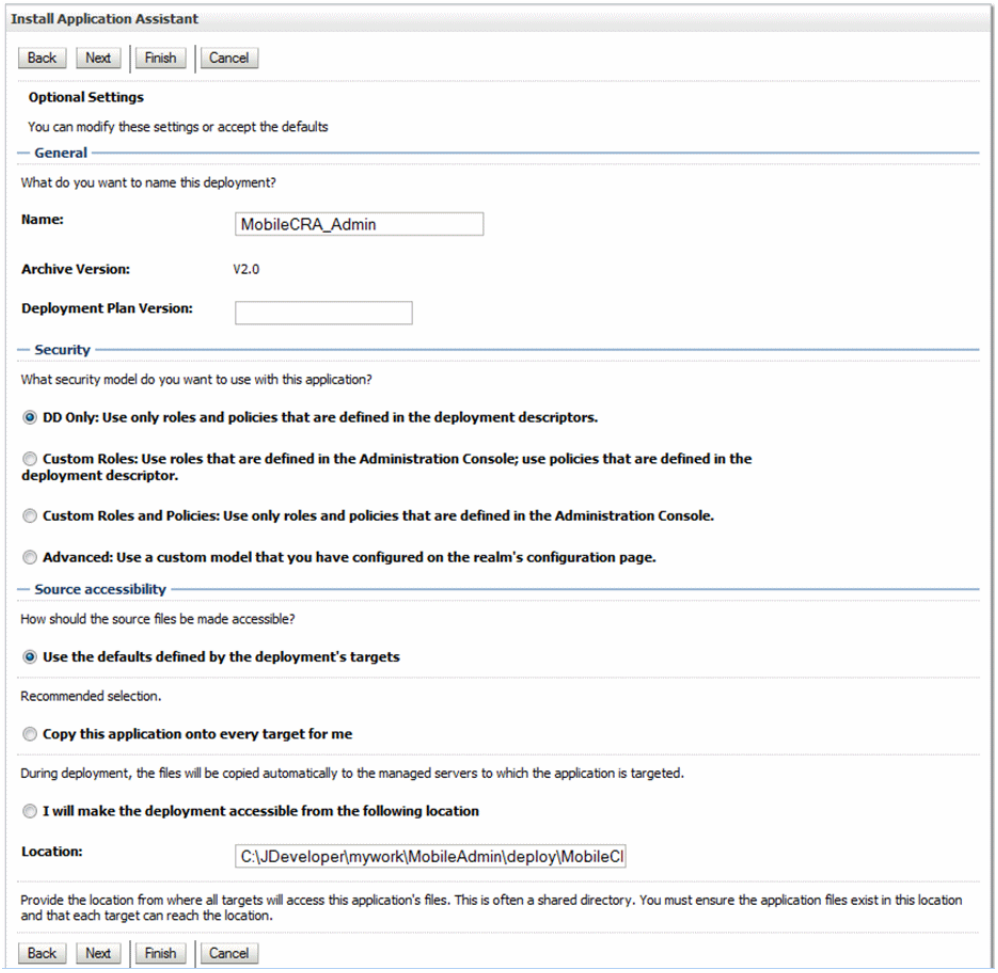
6. Select the **Install this deployment as an application** option.

Figure 5–14 Choosing the Targeting Style



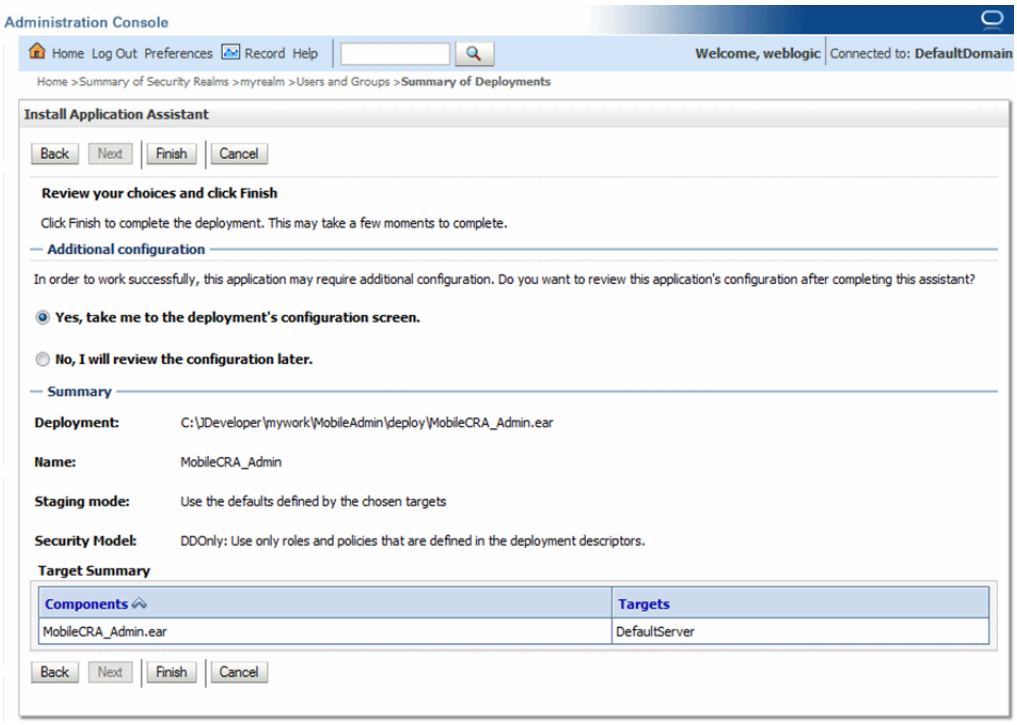
7. Select default settings as displayed in Figure 5–15.

Figure 5–15 Selecting the Default Settings



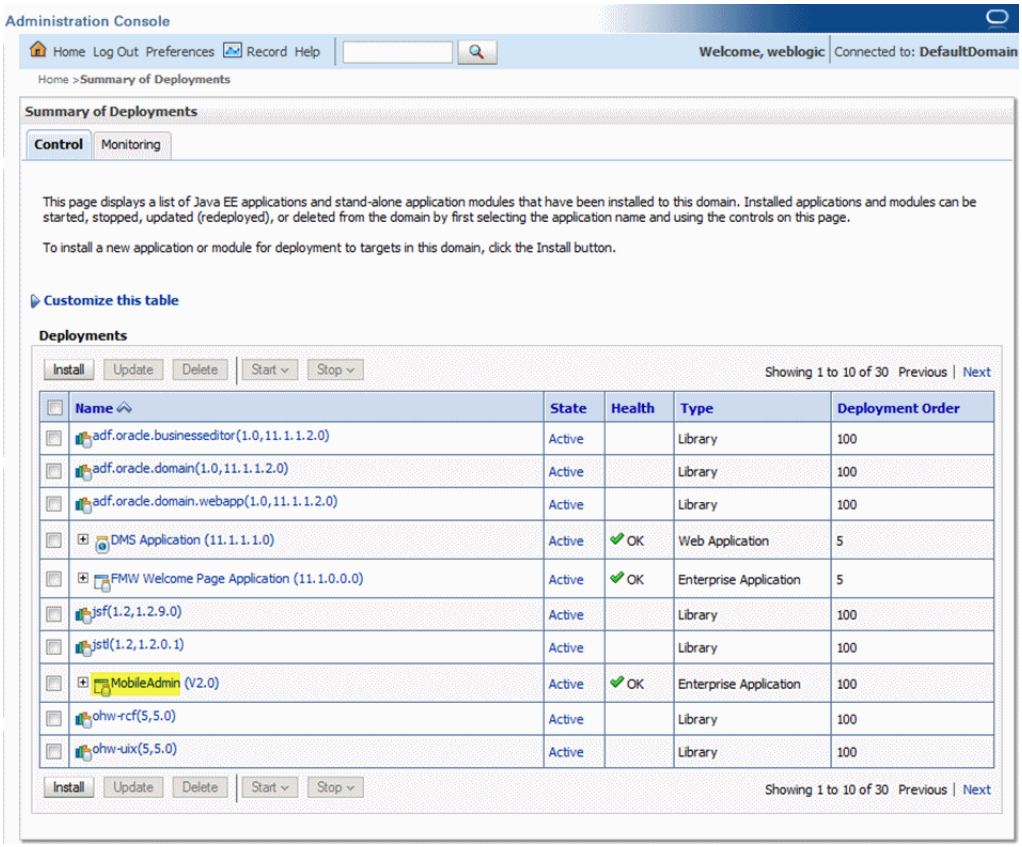
8. Select **Finish** to complete installation.

Figure 5–16 Selecting Finish



9. Validate that the installed application is listed on the Deployments screen.

Figure 5–17 Validating the Application



5.6 Verifying Deployment

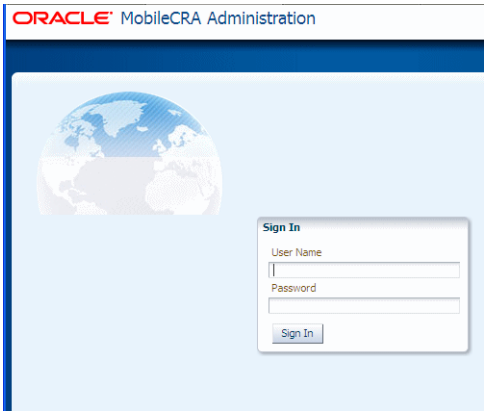
To verify deployment, perform the following:

1. Enter the following URL for the Mobile CRA Server application:

   `http://<server:port>/MobileAdminCRA/faces/login.jspx?`

   The Login page is displayed.

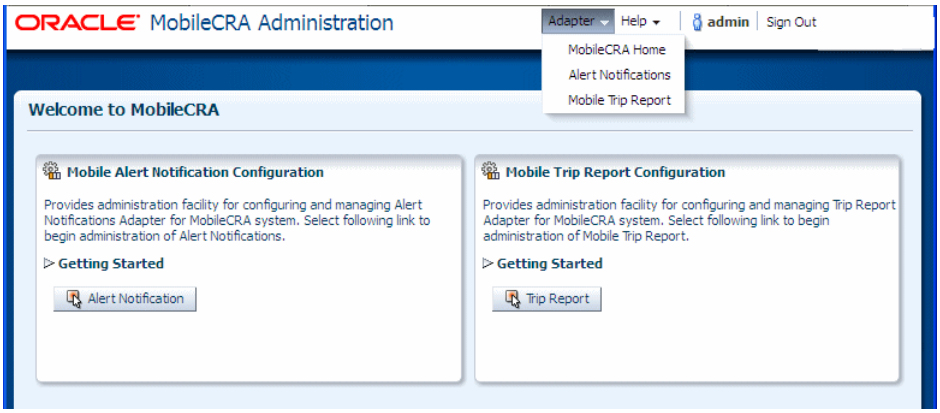
Figure 5–18 Login Page



2. Enter the user name and password.

   The Mobile CRA Home page is displayed.

Figure 5–19 The Mobile CRA AdminUI Home Page



6

Mobile Clinical Research Associate Server Application Setup

You must download and install the Mobile application for iPad or iPhone from the App store. This chapter details the set up of Mobile CRA Server. It includes the following sections:

- Section 6.1, "Setting Up Mobile Clinical Research Associate Server for iPad"
- Section 6.2, "Setting Up Mobile Clinical Research Associate Server for iPhone"

6.1 Setting Up Mobile Clinical Research Associate Server for iPad

6.1.1 Setting Up the Server

To set up the Mobile CRA server, perform the following:

1. Navigate to the iPad Home screen.
2. Tap **Settings**.
3. Tap **Mobile CRA**.

   The Mobile CRA screen is displayed.
4. Set the idle time for a session in the **Time out** field. Once this specified amount of time has passed, you will be logged off from your Mobile CRA Server session.
5. Enter the server address in the format, `http://hostname:port` or `https://hostname:port`.

6.1.2 Running and Logging to the Application

To run and log in to the application, perform the following:

1. Click **Home**.
2. Tap **Mobile CRA**.
3. On the Login screen, enter the user ID and password.
4. Tap **Login**.

6.2 Setting Up Mobile Clinical Research Associate Server for iPhone

6.2.1 Setting Up the Server

To set up the Mobile CRA Server, perform the following:

1. Navigate to the iPhone Home screen.
2. Tap **Settings**.
3. Tap **Mobile CRA**.

   The Mobile CRA screen is displayed.
4. Set the idle time for a session in the **Time out** field. Once this specified amount of time has passed, you will be logged off from your Mobile CRA Server session.
5. Enter the Mobile CRA server address in the format `http://hostname:port` or `https://hostname:port`.
6. Tap **Back**.

6.2.2 Running and Logging to the Application

To run and log in to the application, perform the following:

1. Navigate to the **Home** screen.
2. Tap **Mobile CRA**.

   Wait until the Menu screen is displayed.
3. Tap on the **Alerts** icon on the menu.

   Wait until the Login screen is displayed.
4. On the Login screen, enter the user ID and password.
5. Tap **Login**.

A

Sample Scripts

This appendix provides the following sample SQL scripts:

- Appendix A.1, "Create_user.sql"
- Appendix A.2, "Create_queue_tables.sql"

A.1 Create_user.sql

Use the following script to create the user. The script prompts for the password.

```
create user mobileaq identified by &&mobileaq_pwd;

grant connect, resource to mobileaq;

grant aq_user_role to mobileaq;

Grant execute ON sys.dbms_aqadm TO mobileaq;

Grant execute ON sys.dbms_aq TO mobileaq;

Grant execute ON sys.dbms_aqin TO mobileaq;

Grant execute ON sys.dbms_aqjms TO mobileaq;
```

A.2 Create_queue_tables.sql

```
DECLARE
po dbms_aqadm.aq$_purge_options_t;
BEGIN
po.block := FALSE;
DBMS_AQADM.PURGE_QUEUE_TABLE(
queue_table => 'TRIP_REPORT_QT',
purge_condition => NULL,
purge_options => po);
END;

BEGIN

  dbms_aqadm.drop_queue_table('TRIP_REPORT_QT', TRUE, FALSE);

  dbms_aqadm.create_queue_table(
     queue_table=>'TRIP_REPORT_QT',
     queue_payload_type=>'sys.aq$_jms_text_message');

DBMS_AQADM.CREATE_QUEUE (
```

```
  queue_name => 'trip_report_queue'
, queue_table => 'mobileaq.trip_report_qt'
, queue_type => DBMS_AQADM.NORMAL_QUEUE
, max_retries => 5
, retry_delay => 0
, retention_time => 1800
, dependency_tracking => FALSE
, comment => 'queue for mobile trip report'
, auto_commit => FALSE);

DBMS_AQADM.START_QUEUE('trip_report_queue');

END;


CREATE TABLE "TRIP_REPORT_TRACKING"
  (
    "TRACKING_ID"     NUMBER(10,0),
    "USER_ID"        VARCHAR2(80 BYTE),
    "TRIP_REPORT_ID" VARCHAR2(80 BYTE),
    "TEMPLATE_ID"    VARCHAR2(80 BYTE),
    "CTMS_TRIP_REPORT_QRY_REQUEST" CLOB,
    "QUERIED_CANONICAL_TRIP_REPORT" CLOB,
    "CTMS_TRIP_REPORT_UPD_REQUEST" CLOB,
    "TO_UPD_CANONICAL_TRIP_REPORT" CLOB,
    "STATUS"     VARCHAR2(20 BYTE),
    "ERROR_CODE" VARCHAR2(80 BYTE),
    "ERROR_TEXT" VARCHAR2(2000 BYTE),
    "CREATED_BY" VARCHAR2(80 BYTE),
    "CREATION_TS" DATE,
    "MODIFIED_BY" VARCHAR2(80 BYTE),
    "MODIFICATION_TS" DATE,
    "LAST_REQ_OPERATION" VARCHAR2(15 BYTE),
    PRIMARY KEY ("TRACKING_ID")
  );

create sequence TRIP_REPORT_TRACKING_SEQ start with 1 increment by 1 maxvalue
9999999999 cycle;
```

B

Sample XML Files

This appendix provides the following sample XML files, which you may use to customizing the configuration file:

- Appendix B.1, "Config.xml"
- Appendix B.2, "Plan.xml"

B.1 Config.xml

```
<?xml version='1.0' encoding='UTF-8'?>
<deployment-plan xmlns="http://xmlns.oracle.com/weblogic/deployment-plan"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://xmlns.oracle.com/weblogic/deployment-plan
http://xmlns.oracle.com/weblogic/deployment-plan/1.0/deployment-plan.xsd"
global-variables="false">
  <application-name>oracle.hs.Mobile CRA.ear</application-name>
  <variable-definition>
    <variable>
      <name>ctmsAdapter.hostname</name>
      <value></value>
    </variable>
    <!-- If port is not defined then default it to 0 -->
    <variable>
      <name>ctmsAdapter.port</name>
      <value></value>
    </variable>
<variable>
      <name>pushNotificationEngine.maximumPoolSize</name>
      <value></value>
    </variable>
<variable>
      <name>pushNotificationEngine.timeUnit</name>
      <value></value>
    </variable>
<variable>
      <name>pushNotificationEngine.engineLockTimeout</name>
      <value></value>
    </variable>
<variable>
      <name>notificationEngineScheduler.initialDelay</name>
      <value></value>
    </variable>
<variable>
      <name>notificationEngineScheduler.period</name>
```

```
      <value></value>
    </variable>
<variable>
      <name>notificationEngineScheduler.timeUnit</name>
      <value></value>
    </variable>
<variable>
      <name>CdaFeaturedAdapter.wsdlLocation</name>
      <value></value>
    </variable>
<variable>
      <name>pushNotificationService.registrationUrl</name>
      <value></value>
    </variable>
<variable>
      <name>pushNotificationService.notificationUrl</name>
      <value></value>
    </variable>
  </variable-definition>
  <module-override>
    <module-name>oracle.hs.Mobile CRA.war</module-name>
    <module-type>war</module-type>
    <module-descriptor external="false">
      <root-element>web-app</root-element>
      <uri>WEB-INF/web.xml</uri>
      <variable-assignment>
        <name>ctmsAdapter.hostname</name>

<xpath>/web-app/context-param/[param-name="ctmsAdapter.hostname"]/param-value</xpa
th>
        <operation>replace</operation>
      </variable-assignment>
      <variable-assignment>
        <name>ctmsAdapter.port</name>

<xpath>/web-app/context-param/[param-name="ctmsAdapter.port"]/param-value</xpath>
        <operation>replace</operation>
      </variable-assignment>
      <variable-assignment>
        <name>pushNotificationEngine.maximumPoolSize</name>

<xpath>/web-app/context-param/[param-name="pushNotificationEngine.maximumPoolSize"
]/param-value</xpath>
        <operation>replace</operation>
      </variable-assignment>
      <variable-assignment>
        <name>pushNotificationEngine.timeUnit</name>

<xpath>/web-app/context-param/[param-name="pushNotificationEngine.timeUnit"]/param
-value</xpath>
        <operation>replace</operation>
      </variable-assignment>
      <variable-assignment>
        <name>pushNotificationEngine.engineLockTimeout</name>

<xpath>/web-app/context-param/[param-name="pushNotificationEngine.engineLockTimeou
t"]/param-value</xpath>
        <operation>replace</operation>
      </variable-assignment>
      <variable-assignment>
```

```
        <name>SimpleScheduler.initialDelay</name>

<xpath>/web-app/context-param/[param-name="notificationEngineScheduler.initialDela
y"]/param-value</xpath>
        <operation>replace</operation>
      </variable-assignment>
      <variable-assignment>
        <name>SimpleScheduler.period</name>

<xpath>/web-app/context-param/[param-name="notificationEngineScheduler.period"]/pa
ram-value</xpath>
        <operation>replace</operation>
      </variable-assignment>
      <variable-assignment>
        <name>notificationEngineScheduler.timeUnit</name>

<xpath>/web-app/context-param/[param-name="notificationEngineScheduler.timeUnit"]/
param-value</xpath>
        <operation>replace</operation>
      </variable-assignment>
  <variable-assignment>
        <name>CdaFeaturedAdapter.wsdlLocation</name>

<xpath>/web-app/context-param/[param-name="CdaFeaturedAdapter.wsdlLocation"]/param
-value</xpath>
        <operation>replace</operation>
      </variable-assignment>
      <variable-assignment>
        <name>pushNotificationService.registrationUrl</name>

<xpath>/web-app/context-param/[param-name="pushNotificationService.registrationUrl
"]/param-value</xpath>
        <operation>replace</operation>
      </variable-assignment>
      <variable-assignment>
        <name>pushNotificationService.notificationUrl</name>

<xpath>/web-app/context-param/[param-name="pushNotificationService.notificationUrl
"]/param-value</xpath>
        <operation>replace</operation>
      </variable-assignment>
    </module-descriptor>
  </module-override>
  <config-root></config-root>
</deployment-plan>
```

B.2 Plan.xml

```
<?xml version='1.0' encoding='UTF-8'?>
<deployment-plan xmlns="http://xmlns.oracle.com/weblogic/deployment-plan"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://xmlns.oracle.com/weblogic/deployment-plan
http://xmlns.oracle.com/weblogic/deployment-plan/1.0/deployment-plan.xsd"
global-variables="false">
  <application-name>oracle.hs.Mobile CRA.ear</application-name>
  <variable-definition>
    <variable>
```

```
      <name>ctmsAdapter.hostname</name>
      <value><servername></value>
    </variable>
<variable>
      <name>ctmsAdapter.port</name>
      <value>0</value>
    </variable>
<variable>
      <name>pushNotificationEngine.maximumPoolSize</name>
      <value>5</value>
    </variable>
<variable>
      <name>pushNotificationEngine.timeUnit</name>
      <value>seconds</value>
    </variable>
<variable>
      <name>pushNotificationEngine.engineLockTimeout</name>
      <value>10</value>
    </variable>
<variable>
      <name>notificationEngineScheduler.initialDelay</name>
      <value>40</value>
    </variable>
<variable>
      <name>notificationEngineScheduler.period</name>
      <value>300</value>
    </variable>
<variable>
      <name>notificationEngineScheduler.timeUnit</name>
      <value>seconds</value>
    </variable>
<variable>
      <name>CdaFeaturedAdapter.wsdlLocation</name>
      <value>http://<servername>/analytics/saw.dll?WSDL</value>
    </variable>
<variable>
      <name>pushNotificationService.registrationUrl</name>
      <value><servername>/notificationservice/registrations</value>
    </variable>
<variable>
      <name>pushNotificationService.notificationUrl</name>
      <value><servername>/notificationservice/notifications</value>
    </variable>
  </variable-definition>
  <module-override>
    <module-name>oracle.hs.Mobile CRA.war</module-name>
    <module-type>war</module-type>
    <module-descriptor external="false">
      <root-element>web-app</root-element>
      <uri>WEB-INF/web.xml</uri>
      <variable-assignment>
        <name>ctmsAdapter.hostname</name>

<xpath>/web-app/context-param/[param-name="ctmsAdapter.hostname"]/param-value</xpa
th>
        <operation>replace</operation>
      </variable-assignment>
      <variable-assignment>
        <name>ctmsAdapter.port</name>
```

```
<xpath>/web-app/context-param/[param-name="ctmsAdapter.port"]/param-value</xpath>
        <operation>replace</operation>
      </variable-assignment>
      <variable-assignment>
        <name>pushNotificationEngine.maximumPoolSize</name>

<xpath>/web-app/context-param/[param-name="pushNotificationEngine.maximumPoolSize"
]/param-value</xpath>
        <operation>replace</operation>
      </variable-assignment>
      <variable-assignment>
        <name>pushNotificationEngine.timeUnit</name>

<xpath>/web-app/context-param/[param-name="pushNotificationEngine.timeUnit"]/param
-value</xpath>
        <operation>replace</operation>
      </variable-assignment>
      <variable-assignment>
        <name>pushNotificationEngine.engineLockTimeout</name>

<xpath>/web-app/context-param/[param-name="pushNotificationEngine.engineLockTimeou
t"]/param-value</xpath>
        <operation>replace</operation>
      </variable-assignment>
      <variable-assignment>
        <name>SimpleScheduler.initialDelay</name>

<xpath>/web-app/context-param/[param-name="notificationEngineScheduler.initialDela
y"]/param-value</xpath>
        <operation>replace</operation>
      </variable-assignment>
      <variable-assignment>
        <name>SimpleScheduler.period</name>

<xpath>/web-app/context-param/[param-name="notificationEngineScheduler.period"]/pa
ram-value</xpath>
        <operation>replace</operation>
      </variable-assignment>
      <variable-assignment>
        <name>notificationEngineScheduler.timeUnit</name>

<xpath>/web-app/context-param/[param-name="notificationEngineScheduler.timeUnit"]/
param-value</xpath>
        <operation>replace</operation>
      </variable-assignment>
  <variable-assignment>
        <name>CdaFeaturedAdapter.wsdlLocation</name>

<xpath>/web-app/context-param/[param-name="CdaFeaturedAdapter.wsdlLocation"]/param
-value</xpath>
        <operation>replace</operation>
      </variable-assignment>
      <variable-assignment>
        <name>pushNotificationService.registrationUrl</name>

<xpath>/web-app/context-param/[param-name="pushNotificationService.registrationUrl
"]/param-value</xpath>
        <operation>replace</operation>
      </variable-assignment>
      <variable-assignment>
```

```
        <name>pushNotificationService.notificationUrl</name>

<xpath>/web-app/context-param/[param-name="pushNotificationService.notificationUrl
"]/param-value</xpath>
        <operation>replace</operation>
      </variable-assignment>
    </module-descriptor>
  </module-override>
  <config-root></config-root>
</deployment-plan>
```