**Oracle® Revenue Management and Billing Analytics**

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**Upgrade Guide**

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**ORACLE®**

Oracle Revenue Management and Billing Analytics Upgrade Guide

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# Preface

## About This Document

This guide helps you to upgrade the Oracle Financial Services Revenue Management and Billing Analytics application from version 2.3.0.0.0 to 2.3.1.0.0.

## Intended Audience

This document is intended for the following audience:

- Administrators
- Development Team
- Consulting Team
- Implementation Team

## Organization of the Document

The information in this document is organized into the following sections:

| Section No. | Section Name | Description |
|---|---|---|
| Section 1 | Preparing for Upgrade | This section provides an overview of the upgrade process. It also lists the prerequisites for upgrading the application. |
| Section 2 | ORMBA Database Component Upgrade | This section explains how to upgrade the database component of ORMBA. |
| Section 3 | ORMBA Admin Tool Upgrade | This section explains how to upgrade the Admin Tool component of ORMBA. |
| Section 4 | ORMBA ETL Component Upgrade | This section explains how to upgrade the ETL component of ORMBA. |
| Section 5 | ORMBA Dashboard Component Upgrade | This section explains how to upgrade the Dashboard component of ORMBA. |
| Section 6 | (Optional) ORMBA Modeling Configuration | This section explains how to upgrade the modeling configuration of ORMBA |
| Appendix A | Known Issues | Lists the known issues in the upgrade pack. |
| Appendix B | Third Party Software Upgrade | Lists of third party software that needs to be upgraded before upgrading ORMBA. |

## Related Documents

You can refer to the following documents for more information:

| Document | Description |
|---|---|
| *Oracle Revenue Management and Billing Analytics Install Guide* | Describes how to install Oracle Revenue Management and Billing Analytics components |

# Change Log

| Revision | Last Update | Updated Section | Comments |
|---|---|---|---|
| 1.0 | July, 2017 | All | New upgrade guide for ORMBA (v2.3.0.0.0 to v2.3.1.0.0) |

# Contents

# 1. Preparing for Upgrade

This document outlines the process to upgrade ORMBA Financial Services (Banking) installation from version 2.3.0.0.0 to 2.3.1.0.0.

Oracle Revenue Management and Billing Analytics upgrade involves upgrade of the following components:

- Star Schema Definitions
- ORMBA Admin Tool
- Extract, Transform and Load (ETL) process built on Oracle Data Integrator (ODI)
- Pre-built Analytics Dashboards based on Oracle Business Intelligence Enterprise Edition (OBIEE)
- Modeling or Simulation feature

**Note**: During the upgrade activity, ensure that there are no data changes in Source and Target databases of ORMBA.

## 1.1 Understanding ORMBA Upgrade Process

The ORMBA upgrade process involves the following high-level tasks:

1. Verifying the source and target system software versions
2. Downloading the upgrade pack
3. Performing the prerequisite tasks
4. Upgrading the Database component
5. Upgrading the Admin Tool component
6. Upgrading the ETL component
7. Upgrading the Dashboard component

## 1.2 Verifying Source and Target Software

In case of ORMBA upgrade from v2.3.0.0.0 to v2.3.1.0.0, there is a change in the source system versions supported. After upgrade, ORMBA supports ORMB 2.6.0.0.0 version also.

### 1.2.1 Supported Source System Version

| Source System | Version |
|---|---|
| Oracle Revenue Management and Billing (ORMB) | 2.6.0.0.0 |
| | 2.5.0.4.0 |
| | 2.5.0.3.0 |

## 1.3   Downloading ORMBA Upgrade Pack

To download the ORMBA upgrade pack, follow the procedure below:

1.  Go to My Oracle Support and open the Patches & Updates tab.

2.  Search for patch **26516675** and download p26516675_23100_Linux-x86-64.zip file to your local machine.

3.  Unzip p26516675_23100_Linux-x86-64.zip file.

4.  Unzip ORMBA-V2.3.1.0.0-Upgrade.zip within it. The component folders within this folder are:

    - ORMBA-V2.3.1.0.0-Database

    - ORMBA-V2.3.1.0.0-ETL

    - ORMBA-V2.3.1.0.0-Web

    - ORMBA-V2.3.1.0.0-RM-Dashboards

    - ORMBA-V2.3.1.0.0-PM-Dashboards

    - ORMBA-V2.3.1.0.0-Ops-Dashboards

5.  Copy each of the folders to respective servers as shown in the matrix below.

| Unzipped Component Folders | Move to: |
|---|---|
| ORMBA-V2.3.1.0.0-Database | Database server |
| ORMBA-V2.3.1.0.0-ETL | Application server |
| ORMBA-V2.3.1.0.0-Web | Application server |
| ORMBA-V2.3.1.0.0-RM-Dashboards | Presentation server |
| ORMBA-V2.3.1.0.0-PM-Dashboards | Presentation server |
| ORMBA-V2.3.1.0.0-Ops-Dashboards | Presentation server |

6.  Create a temporary directory named **TEMPDIR** on Database and Application servers and copy the following unzipped folders to the **TEMPDIR** directories within the respective servers:

    - ORMBA-V2.3.1.0.0-Database

    - ORMBA-V2.3.1.0.0-ETL

    - ORMBA-V2.3.1.0.0-Web

7.  Create a temporary directory named **TEMPDIR_DASH** on the presentation server.

8.  Unzip the following folders:

    - ORMBA-V2.3.1.0.0-RM-Dashboards

    - ORMBA-V2.3.1.0.0-PM-Dashboards

    - ORMBA-V2.3.1.0.0-Ops-Dashboards

9.  Copy the subfolders within the component folders and paste them within the **TEMPDIR_DASH** directory.

10. If you are installing more than one workbench, copy the folders within the subsequent component folders and overwrite them in TEMPDIR_DASH.

# 1.4   Performing Prerequisite Tasks

Before you begin ORMBA Upgrade process, perform the following tasks:

- Stop ODI Jobs
- Stop Oracle Golden Gate Processes

**Note**:  During the upgrade activity, ensure that there are no data changes in Source and Target databases of ORMBA.

## 1.4.1   Stop ODI Jobs

Before you begin the upgrade process, stop the scheduled execution of ODI package, BM_RUN_ALL. To do this, follow the procedure below:

1. Go to the Designer tab of ODI.

2. Open the ORMB Business Intelligence project.

3. Navigate to Configuration > Scheduler > Packages > BM_RUN_ALL > Scenarios > BM_RUN_ALL Version 001 > Scheduling > RMB1 / OracleDIAgent.

4. Right-click **RMB1 / OracleDIAgent** and select Open.

5. Change the Status to **Inactive** and save the definition.

**Note:** If you have scheduled ETL jobs using an external scheduler, ensure that the scheduler job for BM_RUN_ALL package is stopped.

## 1.4.2   Stop Oracle Golden Gate Processes

Prior to ORMBA upgrade, stop the Oracle Golden Gate processes for three models – ICM1, ICM2, and ICM3 by following the procedure below:

**Note:** Check if you have 'Execute' privileges for the script stopGG.sh.

1. Change to the <TEMPDIR>/ORMBA-V2.3.1.0.0-ETL/bin directory, where <TEMPDIR> folder is the location where you have downloaded the ETL component folder of the upgrade pack.

2. Open and edit the `ormba.properties` file by following section 4.1.

3. Validate the `ormba.properties` file by following section 4.1.1.

4. Stop the GG processes corresponding to ICM1, ICM2, and ICM3 models using the below command:

       **./ stopGG.sh CLEANSERVICE=ICM1,ICM2,ICM3**

5. If GG is in ONLINE mode, follow the steps below to verify if the GG processes are stopped:

    i.   Log on to the Source machine, move to GG installation home, and access GG client using the command **./ggsci**

    ii.  Execute the command **info all** to verify if the extracts corresponding to models ICM1, ICM2, and ICM3 are not present.

    iii. Repeat the above steps in Target machine to check if the replicats corresponding to models ICM1, ICM2, and ICM3 are not present.

6. If GG is in OFFLINE mode, follow the steps below:

    i.   Move to the path `ormba.repository.ggscript.location` mentioned in the `ormba.properties` file and verify if Golden Gate scripts for the models I1CM1, I1CM2 and I1CM3 are available within a directory named **STOP**. Separate folders are available for each of the models ICM1, ICM2, and ICM3.

ii.      Navigate to the folder of I1CM1 model and open the Readme.txt file.

iii.     Follow the directions to set up OGG Extracts and Replicats.

iv.     Repeat this for I1CM2 and I1CM3 models also.

# 2.    ORMBA Database Component Upgrade

This section explains how to upgrade the database component of ORMBA.

## 2.1    Upgrading Database Schema

While upgrading ORMBA database schema, the process upgrades the following schemas:

- DWADM

- REP

- MDADM

> **Note:** Upgrading the database schema does not affect the existing data in the system and the data will be intact.

To upgrade the database schema, follow the procedure below:

1. Change to the <TEMPDIR>/ORMBA-V2.3.1.0.0-Database directory.

2. Open the InstallSchemas.sql file to edit the values in following code snippets:

   **define RELEASE_PATH=<TEMPDIR>/ORMBA-V2.3.1.0.0-Database**

3. Log on to the pluggable database (PDB) in the target database server with MDADM credentials using SQL *Plus.

4. Execute the following command to install the schemas: **@InstallSchemas.sql**

   **Note:** Spool the messages to a text file.

5. (Optional) If you have upgraded your source system from a previous version to ORMB 2.6, you need apply the script **alter_rep_004.sql** in RMB1REP schema. To do this, log on to the pluggable database (PDB) in the target database server with RMB1REP credentials using SQL *Plus and apply the script alter_rep_004.sql available in the path: <TEMPDIR>/ORMBA-V2.3.1.0.0-Database/REP/rmb2.6

# 3.   ORMBA Admin Tool Upgrade

This section describes how to upgrade the Admin tool component of Oracle Revenue Management and Billing Analytics. Admin tool upgrade includes the following steps:

- Deploying Admin Tool EAR

- Deploying Admin Tool Online Help EAR

- Logging on to Admin Tool

**Note:** Before proceeding with the Admin Tool installation, ensure that the WebLogic Admin server is up and running in application server.

## 3.1   Deploying Admin Tool EAR

For re-deploying the Admin tool, follow the procedure below:

1.   Log on to Enterprise Manager with Administrator credentials.

2.   Under Target Navigation > WebLogic Domain section, right click on the domain **ormba_domain** and select **Deployments** option.

3.   In the Change Center, click on Lock & Edit option to open a new session.

4.   Under the Deployments section, select **ormba-admin** and click **Undeploy** button.
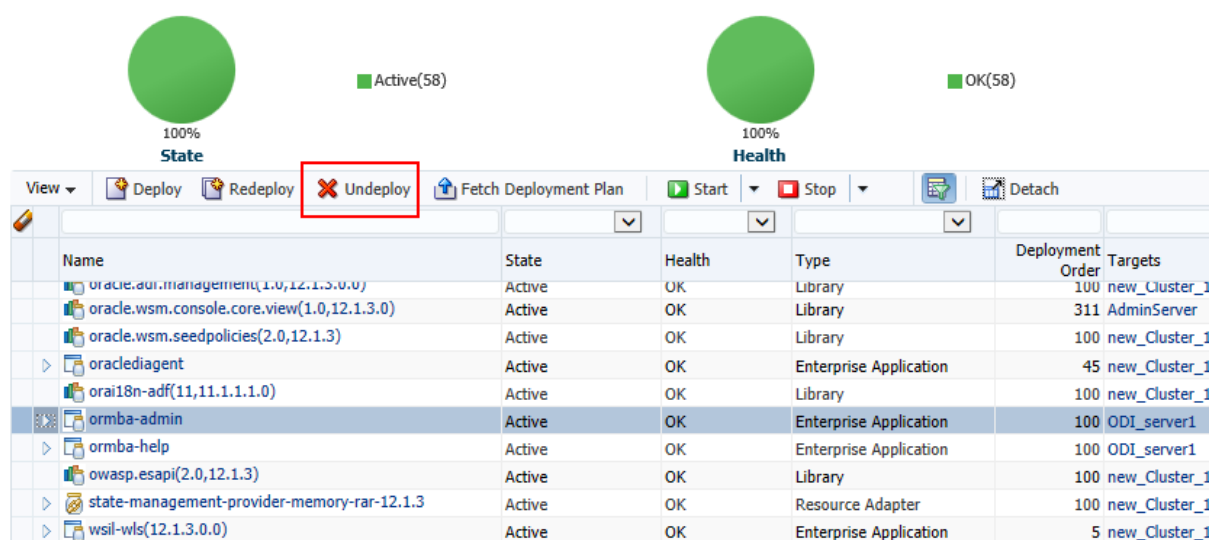


**Figure 1: Undeploy Button**

5.   In the upcoming page, click on **Undeploy** button. The 'Un-deployment Succeeded' pop-up appears.

6.   Close the pop-up window. This takes you to the Deployments list page.

7.   Click on **Activate Changes** option in the Change Center for the deployment changes to be effective.

8.   Navigate to <TEMPDIR>/ORMBA-V2.3.1.0.0-Web/admintool folder.

**Note:** Check if you have 'Execute' privilege to deploy.sh script and if not provide the privileges.

9.   Open the `deploy_configuration.properties` file and edit the following attributes:

    **domain.name**=**ormba_domain**

**admin.url=<Weblogic console URL>** Eg: t3://localhost:7001

**admin.userName=<weblogic username>**

**admin.password=<weblogic password>**

**target.server=<datasource.target parameter in datasource.properties file>** Eg: ODI_server1

**file.location=.**

**file.name=ormba-admin.ear**

**application.name=ormba-admin**

**Note:** Use the same credentials given during installation.

10. Go to <TEMPDIR>/ORMBA-V2.3.1.0.0-Web/admintool folder.

11. Execute **deploy.sh** in application server with **<FMW_HOME>/wlserver/server/bin** as argument.

### 3.1.1    Configuring Admin Tool Security

To configure Admin Tool security, follow the procedure below:

1. Log on to Enterprise Manager.

2. Right-click on the **ormba_domain** node. A shortcut menu appears.

3. Select the **Application Roles** option from the Security sub-menu. The Application Roles page appears on the right pane.

4. Select the **ormba-admin** option from the Application Stripe list and click the **Search** button near the **Role Name** field.

5. Select the required role and then click **Edit**.

6. Add members to the application role and then click **OK**.

**Note:** For more information on how to create users and roles in Admin tool, refer to the *Oracle Revenue Management and Billing Analytics Security Guide*.

### 3.1.2    Post Deployment Verification

To check if the Admin tool EAR is successfully deployed, follow the procedure below:

1. Log on to Enterprise Manager.

2. Go to Application Deployments.

3. Check if **ormba-admin** is available.

4. Try to access ORMBA Administration UI using the URL, http://<hostname>:<port>/ormba where <port> is the Listen Port of the managed server.

5. Log on using WebLogic admin user credentials. If you are able to log on, the deployment was successful.

## 3.2   Deploying Admin Tool Online Help EAR

For re-deploying the online help EAR of Admin tool, follow the procedure below:

1. Log on to Enterprise Manager with Administrator credentials and un-deploy the **ormba-help** application. For detailed instructions on how to do this, refer to section 3.1.

2. Navigate to <TEMPDIR>/ORMBA-V2.3.1.0.0-Web/admintool folder.

**Note:** Check if you have 'Execute' privilege to deploy.sh script and if not provide the privileges.

3. Open the deploy_configuration.properties file and edit the following attributes:

**domain.name=ormba_domain**

**admin.url=<Weblogic Console URL> Eg: t3://localhost:7001**

**admin.userName=<Weblogic username>**

**admin.password=<Weblogic password>**

**target.server=< datasource.target parameter in datasource.properties file>** Eg: ODI_server1

**file.location=.**

**file.name=ormba-help.ear**

**application.name=ormba-help**

**Note:** Use the same WebLogic credentials that were used during ORMBA installation.

4. Go to <TEMPDIR>/ORMBA-V2.3.1.0.0-Web/admintool folder.

5. Execute **deploy.sh** in application server with **<FMW_HOME>/wlserver/server/bin** as argument.

### 3.2.1   Post Deployment Verification

To check if the Admin tool Help EAR is successfully deployed, follow the procedure below:

**Note:** You can follow this procedure only after configuring the Admin Tool security (as explained in section 3.1.1).

1. Log on to Enterprise Manager.

2. Go to Application Deployments.

3. Check if **ormba-help** is available.

4. Log on to ORMBA Administration UI and open a page.

5. Click the Help icon () available near the page title. If you are able to view the Help page, the deployment was successful.
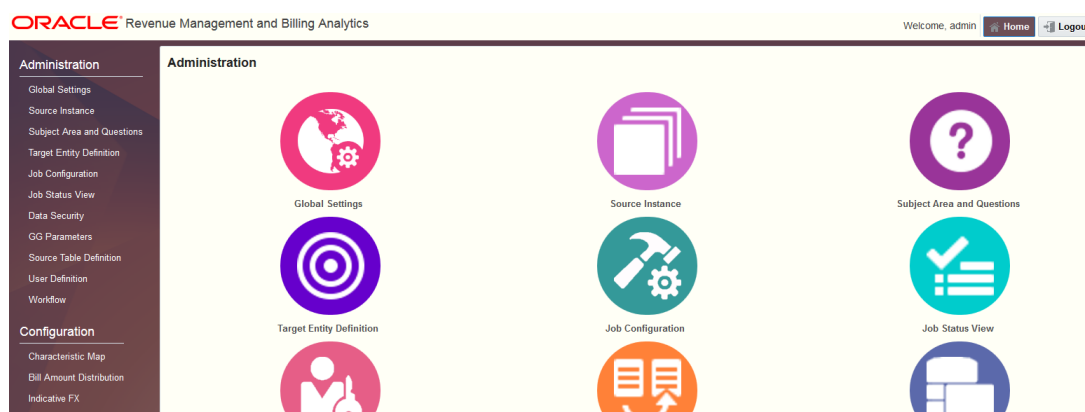
## 3.3   Logging on to Admin Tool

To verify if the Admin Tool installation is successful, follow the procedure below:

1. Access the ORMBA Admin Tool using the URL format: **Error! Hyperlink reference not valid.** where <portno> is the listen port of managed server (e.g. ODI_Server1 managed server port).
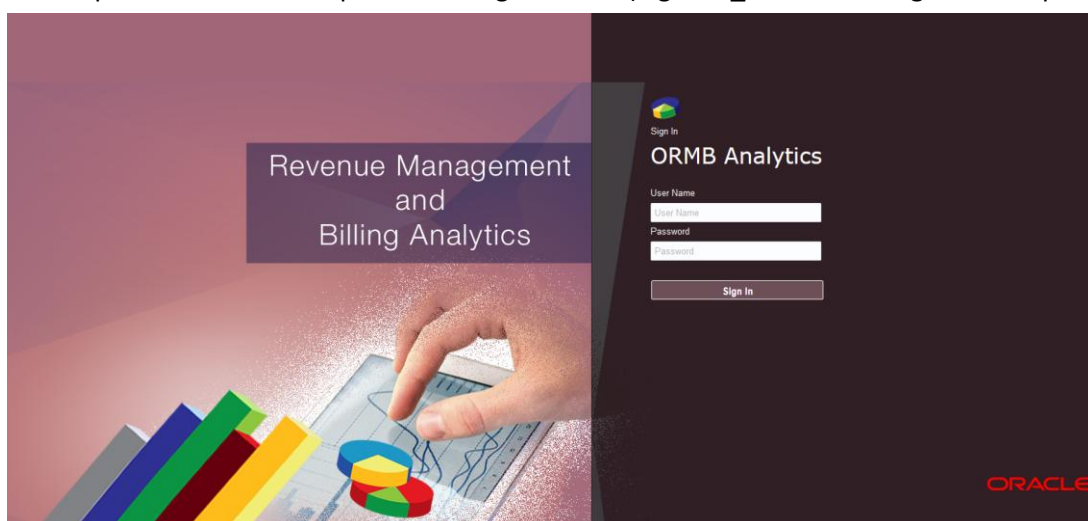


**Figure 2: Admin Tool Login Page**

2. Enter your login credentials and click Sign In.

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**Figure 3: Admin Tool Home Page**

3. You will be able to navigate to any of the pages by clicking on the tiles on the right pane, or selecting from the menu list on the left pane.

# 4.    ORMBA ETL Component Upgrade

This section describes how to upgrade the ETL component and includes the following topics:

- Editing ORMBA.PROPERTIES File
- Upgrading the ETL Component
- Post Upgrade Tasks

## 4.1    Editing ORMBA.PROPERTIES File

1. Change to the <TEMPDIR>/ORMBA-V2.3.1.0.0-ETL/bin directory, where <TEMPDIR> folder is the location where you have extracted the contents of the upgrade pack.

2. Open the **ormba.properties** file and edit the attributes by following the guidelines given in the file against each attribute, or refer to the properties file used during ORMBA 2.3.0.0.0 installation.

**Note:** If your source system operating system is Windows, while updating the path variables, replace '**\**' by '**\\**'.

3. Edit `ormba.project.path` attribute to **<TEMPDIR>/ORMBA-V2.3.1.0.0-ETL/ELTComps**, where <TEMPDIR> folder is the location where you have extracted the contents of the upgrade pack.

4. Edit `ormba.ggscript.location` attribute to a different location from that of 2.3.0.0.0 installation to avoid overwrite.

5. Save the file after updating the attributes.

### 4.1.1    Validating ORMBA.PROPERTIES File

To validate the properties configured in ORMBA.PROPERTIES file, follow the procedure below:

**Note:** Before proceeding with the procedure below, ensure that you have 'Execute' privileges for the script **runPropertyValidator.sh** and the managed server (ODI_server1) is up and running.

1. Navigate to the location: **<TEMPDIR>/ORMBA-V2.3.1.0.0-ETL/bin**, where <TEMPDIR> is the folder where you have extracted the upgrade pack.

2. Execute the script **runPropertyValidator.sh** from the terminal. This validates the properties in the file.

3. If validation of a property fails, it prints a 'failed' message with the property key(s) that failed during testing. You can then edit the ORMBA.PROPERTIES file to correct the errors and proceed with the validation again.

4. Repeat the procedure until you see no 'failed' messages.

**Important**: DO NOT proceed with ETL upgrade without resolving the errors in the ORMBA.PROPERTIES file validation.

# 4.2   Upgrading the ETL Component

ETL Component upgrade involves execution of the following shell scripts in the given order:

1. upgradeETLComps.sh
2. configureGG.sh
3. checkConfiguration.sh
4. createSourceModel.sh
5. importData.sh
6. createReplicationModel.sh

You can find the above shell scripts in the location: **<TEMPDIR>/ORMBA-V2.3.1.0.0-ETL/bin**, where <TEMPDIR> is the folder where you have extracted the media pack. Execution of each of these scripts is explained in detail in the following sections.

**Note:** While executing the scripts, you may see errors from ODI indicating, "Table or view does not exist" in the console. You can ignore these warnings.

## 4.2.1   Prerequisites

Before proceeding with the execution of ETL component upgrade scripts, check the following:

1. Check if you have 'Execute' privileges for each of the above listed shell scripts.
2. Check if the Managed server (ODI_server1) is up and running.

## 4.2.2   Upgrading Knowledge Modules

To upgrade the knowledge modules, follow the procedure below:

1. In the ODI, navigate to Designer > RMBBI_Automation > Knowledge Modules > Journalizing (JKM).
2. Right-click on **JKM BI Oracle to Oracle(OGG)** and select Import Replace option.
3. Select file **KM_JKM_BI_Oracle_to_Oracle_OGG_.xml** from the path <TEMPDIR>/ORMBA-V2.3.1.0.0-ETL/ELTComps/projects/RMBBI_Automation.

## 4.2.3   upgradeETLComps.sh

**Purpose:** This shell script imports all necessary ETL Components to the upgrade environment.

**Prerequisite:** Check if the `ormba.project.path` parameter in ormba.properties file is correctly configured, and the path (<TEMPDIR>/ORMBA-V2.3.1.0.0-ETL/ETLComps) contains the ETL components for import from the upgrade pack.

**Success Criterion:** Check the log for success message.

**Errors:** In case of errors, rectify the error and re-run the script. For example, if the project or model gets partially imported due to insufficient disk space, log on to ODI Studio, delete the partial import and re run the script.

## 4.2.4   configureGG.sh

**Purpose:** This shell script adds GoldenGate configuration to the metadata table.

**Prerequisite:** Check if you have correctly configured the Source and Target GoldenGate Home and Port details in ormba.properties file.

**Success Criterion:** Check the log for success message.

**Errors:** In case of errors, check the log to identify the issue. Rectify the issue and re-run the script.

## 4.2.5    checkConfiguration.sh

**Purpose:** This shell script checks if the instance is configured correctly. If metadata information is missing for any of the source tables, this script also adds the missing metadata.

**Success Criterion:** Check the log for success message.

**Errors:** In case of errors, check the log to identify the issue. Rectify the issue and re-run the script.

## 4.2.6    createSourceModel.sh

**Purpose:** This shell script creates source model in ODI for the tables that are to be replicated (replicate flag is set to **N**). It also sets the Initial Load Data Transfer options for B1_SYNC_MODEL procedure.

**Success Criterion:** Log on to ODI and navigate to Designer tab > Models folder > Source folder and check if the new tables introduced in 2.3.1.0.0 are available within the models I1CM1, I1CM2, and I1CM3.

The new tables introduced in version 2.3.1.0.0 are:

| Model | New Tables |
|-------|-----------|
| I1CM1 | CI_CHAR_TYPE_L |
| I1CM2 | CI_CC_CHAR |
|       | F1_OUTMSG |
|       | CI_CC |
|       | CI_ID_TYPE_L |
|       | CI_CC_CL_L |
|       | CI_CC_LOG |
|       | CI_CC_TYPE |
|       | CI_CC_TYPE_L |
| I1CM3 | CI_ACCT_NBR_TYPE_L |
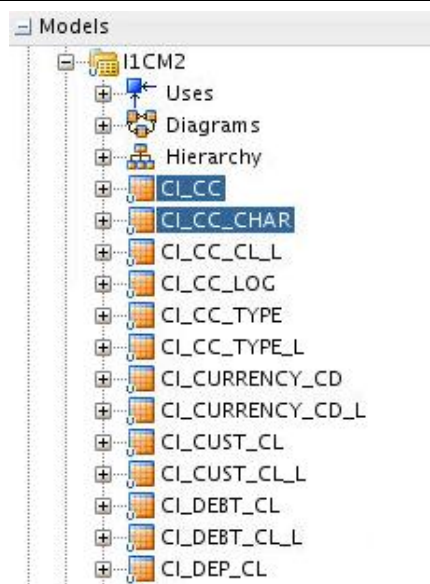


**Figure 4: New Tables in I1CM2**

**Errors:** In case of errors, check the log to identify the issue. Rectify the issue and re-run the script.

## 4.2.7    importData.sh

**Purpose:** This shell script performs the initial load of data for the new tables introduced in 2.3.1.0.0 version, generates GoldenGate scripts and initiates the GoldenGate process in source and target to enable replication. The execution of this script takes some time and you can track the execution of the script in the ODI operator tab.

**Execution Command:** importData.sh MODEL=I1CM1,I1CM2,I1CM3

**Note:** If GG is running in OFFLINE mode, after successful execution of this script, you need to follow the instructions in section 4.2.7.1.

**Success Criterion 1:** Connect to the replication schema as RMB1REP user and check whether the data is available in the newly introduced tables. In case of errors, check the log to identify the failed model (for e.g. I1CM1) and then perform the necessary corrective action.

**(Optional) Success Criterion 2:** Verify the GoldenGate extracts and replicats using the procedure below:

**Note:** This criterion is applicable only if Oracle GoldenGate is in ONLINE mode. If OGG is in OFFLINE mode, follow procedure in section 4.2.7.1.

1. Log on to the Source machine, move to GG installation home, and access GG client using the command: **./ggsci**

2. Execute the command **info all** to check if all extracts are in RUNNING mode.

3. Log on to the Target machine, access GG client using the command: **./ggsci**

4. Execute the command **info all** to check if all replicats are in RUNNING mode.

### 4.2.7.1    Packaging and Execution of GG scripts in OFFLINE mode

If you have Oracle Golden Gate installed in OFFLINE mode, follow the procedure below:

1. Change to <TEMPDIR>/ORMBA-V2.3.1.0.0-ETL/bin directory.

2. Copy the **pack_GGScripts.sh** file to the <ormba.repository.ggscript.location> path and execute the shell. This creates **source.tar** and **target.tar** files in the same path.

3. Copy the **source.tar** to the source database machine and **target.tar** to the target database machine.

4. Copy the **copy.sh** file from <TEMPDIR>/ORMBA-V2.3.1.0.0-ETL/bin directory to both source and target database machines.

**Note:** In source machine, copy the copy.sh file to the same path where source.tar file exists, whereas in target machine, copy it to the same path where target.tar file exists.

5. Edit the **copy.sh** file in both source and target machines and specify the following parameters:

   **GG_HOME=**<GG home directory>

   **Destination=**<source in Source DB and target in Target DB>

6. Execute **copy.sh** file.

7. After the successful execution of copy.sh, log on to the Source machine, move to GG installation home, and access GG client using the command: ./**ggsci**

8. Execute the **execute_src_cmds.oby** file using the command:

   **OBEY <ormba.repository.ggscript.location>/START/execute_src_cmds.oby**

9. Log on to the Target machine, move to GG installation home, and access GG client using the command: **./ggsci**

10. Execute the **execute_trg_cmds.oby** file using the command:

    **OBEY <ormba.repository.ggscript.location>/START/execute_trg_cmds.oby**

11. After executing the OBY files, check whether replicats and extracts corresponding to models I1CM1, I1CM2, and I1CM3 are running and if not, check for errors in **ggserr.log** and fix the issues.

> **Note:** You can use the above-mentioned consolidated **oby** file only in case of installation.

### 4.2.8    createReplicationModel.sh

**Purpose:** This shell script creates the replication model in ODI.

**Success Criterion:** Check the log for success message.

**Errors:**  In case of errors, check the log to identify the issue. Rectify the issue and re-run the script.

## 4.3  Post Upgrade Tasks

### 4.3.1    Post Installation Script

After ETL upgrade, follow the procedure below:

1. Connect to MDADM schema using SQL *Plus.

2. Navigate to    <TEMPDIR>/ORMBA-V2.3.1.0.0-Database folder and execute the following command: **@postInstallationScript.sql**

3. Exit from SQL *Plus.

### 4.3.2    Checking Invalid Objects in ORMBA Schema

Follow the procedure below to verify invalid objects in MDADM, DWADM, RMB1REP, DWSTAGE, and ODI Repository.

1. Change to <TEMPDIR>/ORMBA-V2.3.1.0.0-Database/

2. Connect to the database using any SQL client with **MDADM** credentials.

3. Execute the following command : **set serverout on;**

4. Open **CheckInvalidObjects.sql** file and edit the below statement to include the ODI Repository Name.

    **define ODI_REPO='<Master Repository Name>'**

5. Execute the following command: **@CheckInvalidObjects.sql**

6. If the verification is successful, the SQL console displays success messages. This indicates that the ORMBA upgrade until this point is successful.

7. In case of errors, check the **user_objects** table of each schema to identify the issue. You can fix the issues and re-run the script to verify.

> **Note:** Proceed with the upgrade ONLY if the post upgrade check is successful.

### 4.3.3    ORMBA Admin Tool Settings

Log on to ORMBA Admin tool, navigate to the pages listed below, and verify whether the listed attributes are configured.

> **Note:** Some of the attributes listed here are optional or implementation-specific.

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| Page | Attribute |
|---|---|
| Global Settings | • Date from which all ETL jobs will be configured to end the initial load |
| Source Instance | • Date from which all ETL jobs for the specific product instance will be configured to start the initial load<br>• Date from which all ETL jobs for the specific product instance will be configured to end the initial load |

### 4.3.4 Loading Data to Warehouse

Once ETL upgrade is complete, the data from source system is available in the replication layer. To move data from the replication layer to the data warehouse, you need to execute ETL jobs that are available in ODI. To begin the execution of ETL jobs, re-activate the schedule for BM_RUN_ALL package in ODI by changing the status of the schedule to **Active**.

# 5.   ORMBA Dashboard Component Upgrade

This section describes how to install the dashboard component of Oracle Revenue Management and Billing Analytics. It includes the following topics:

- Updating DB Connection Properties in RPD
- Importing Skins and Deploying in WebLogic
- Deploying the BAR File
- Deploying the RPD File
- Configuring Security

**Note:** In this chapter, <TEMPDIR_DASH> refers to the folder in presentation server where you have extracted the folders within the respective dashboard component.

## 5.1   Updating DB Connection Properties in RPD

The RPD file available within the Dashboard component holds the metadata for OBIEE. As part of installation, you need to update the database connection details in this RPD file by following the procedure below:

1. Open the Oracle BI Administrator Tool from your local Windows machine.

2. In the OBI Administrator Tool, navigate to <TEMPDIR_DASH>/RPD folder and open the **ORMBAv2.3.1.0.0.rpd** file in offline mode.

3. When prompted, enter the Repository Password available in the **ReadMe.txt** file in the **RPD** folder. This opens the RPD as shown in the image below:
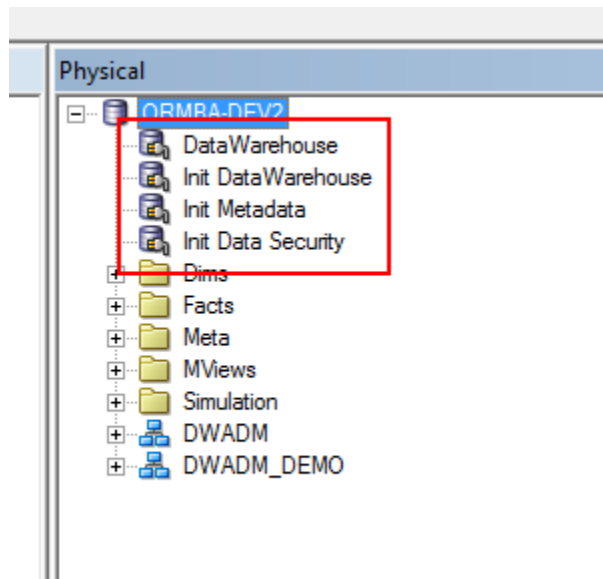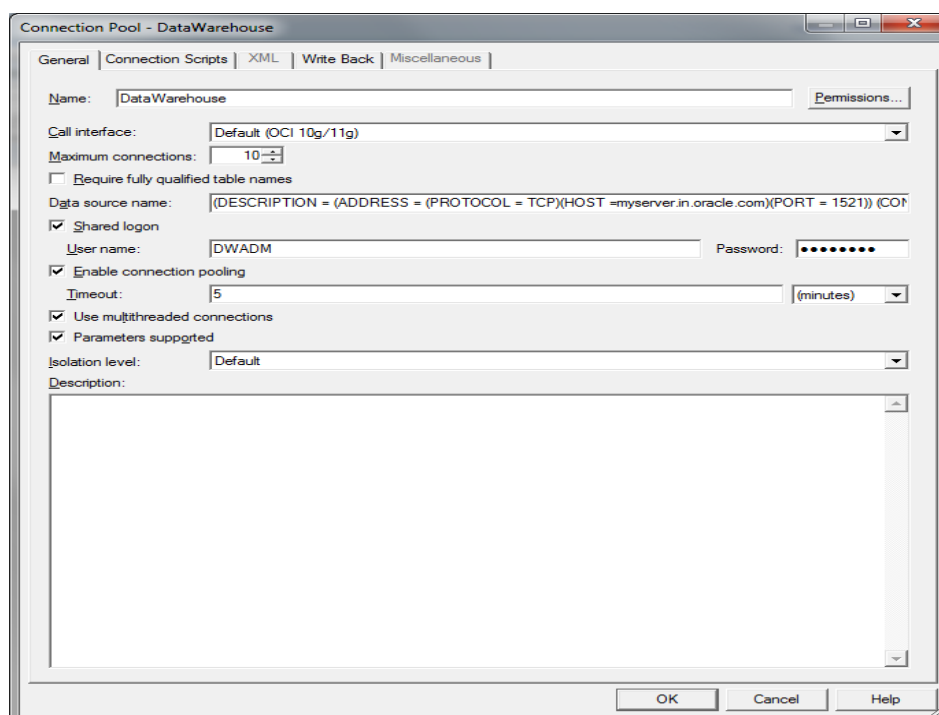


**Figure 5: Oracle BI Administrator Tool**

4. In the Physical pane, double-click the **DataWarehouse** connection pool under the ORMBA-DEV2 node. The Connection Pool – DataWarehouse window appears as shown below:

**Figure 6: Connection Pool – DataWarehouse Window**

5.  Update the connection details to the DWADM schema.

    - Update the connection properties in the **Data source name** field. For example, (DESCRIPTION =(ADDRESS = (PROTOCOL = TCP)(HOST =mum00abn.in.oracle.com)(PORT = 1521)) (CONNECT_DATA = (SERVICE_NAME =pdborcl)))

    - Update the DWADM schema password in the Password field.

6.  Repeat steps 4 and 5 to update the connection details to DWADM schema in **Init Data Warehouse** connection pool.

7.  Repeat steps 4 and 5 to update the connection details to MDADM schema in **Init Metadata** and **Init Data Security** connection pools.

8.  Save the changes made to the **ORMBAv2.3.1.0.0.rpd** file.

9.  Use the updated ORMBAv2.3.1.0.0.rpd file to deploy on OBIEE server.

# 5.2   Importing Skins and Deploying in WebLogic

The Dashboard Component of media pack contains custom styles and skins for ORMBA dashboards. Perform the steps below to copy those custom styles and skins to respective OBIEE directory for custom files and deploy them in OBIEE WebLogic Server.

## 5.2.1    Deploying analyticsRes.war

1.  Go to Enterprise Manager Console (<hostname>:<port>/em) in the presentation server and log on with administrator credentials.

2.  Under Target Navigation, go to Weblogic Domain > bi > bi_cluster.

3.  Click on the Deployments tile on the left pane.

4.  Click on the lock icon (  ) and select **Lock & Edit** option to open a new session.

5.  Under the Deployments section, select the application **analyticsRes** and choose Deployment > Undeploy option.
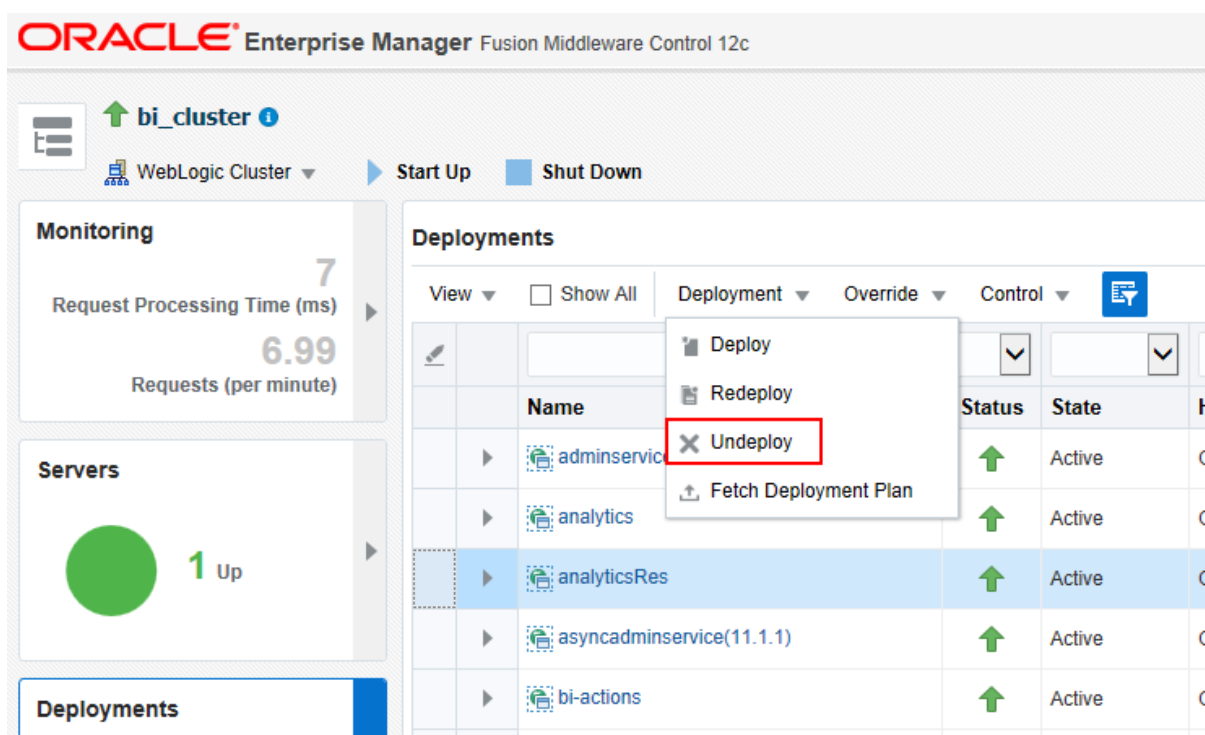
**Figure 7: Undeploy Option**

6. In the subsequent page, click Undeploy button again. If un-deployed successfully, the 'Undeployment Succeeded' pop-up appears.

7. Click on the lock icon ( 🔒 ) and select **Activate Changes** option so that the deployment changes are effective.

8. Click on the Deployments tile on the left pane.

9. Click on the lock icon ( 🔒 ) and select **Lock & Edit** option to open a new session.

10. Under the Deployments section, select Deployment > Deploy option. This opens the application deployment wizard.

11. Click Next.

12. Under the 'Archive or Exploded Directory' section, click Browse and select the **analyticsRes.war** file in the folder: <TEMPDIR_DASH>/PRESENTATION_COMPONENT.

13. Select the first option under Deployment Plan and Deployment Type sections as shown in the image below.



**Figure 8: Deployment Plan and Deployment Type**

14. Click Next.

15. Select **bi_cluster** and within it, select **All configured Servers in this cluster** option.

16. Click Next.

17. Click Next again and move to the last step of the wizard.

18. Click Deploy to deploy the application. If deployed successfully, the 'Deployment Succeeded' pop-up appears.

19. Click Close and close the pop-up window.

20. Click on the lock icon (🔒▾) and select **Activate Changes** option so that the deployment changes are effective.

21. Click on the Deployments tile on the left pane.

22. From the Deployments list, select **analyticsRes** and click Control > Start > Servicing all requests to start the application. The state of the application now changes to Active.

## 5.2.2    Deploying bicustom.ear

1. Go to Enterprise Manager Console (<hostname>:<port>/em) in the presentation server and log on with administrator credentials.

2. Under Target Navigation, go to Weblogic Domain > bi > bi_cluster.

3. Click on the Deployments tile on the left pane.

4. Click on the lock icon (🔒▾) and select **Lock & Edit** option to open a new session.

5. Under the Deployments section, select the application **bicustom** and choose Deployment > Undeploy option. A new page opens up.

6. Click on Undeploy button. If un-deployed successfully, the 'Undeployment Succeeded' pop-up appears.

7. Close the pop-up window.

8. Click on the lock icon (🔒▾) and select **Activate Changes** option so that the deployment changes are effective.

9. Navigate to <TEMPDIR_DASH>/PRESENTATION_COMPONENT folder and copy the file **bicustom.ear** to the following path:

    **<OBIEE_HOME>/user_projects/domains/bi/bidata/components/OBIPS**

**Note:** <OBIEE_HOME> is the path where FMW version 12.2.1.0.0 is installed.

10. Log on to Enterprise Manager and navigate to Target Navigation > Weblogic Domain > bi > bi_cluster.

11. Click on the Deployments tile.

12. Click on the lock icon (🔒▾) and select **Lock & Edit** option to open a new session.

13. Under the Deployments section, select Deployment > Redeploy option. This opens the application deployment wizard.

14. Under the 'Archive or Exploded Directory' section, select the **Archive or exploded directory is on the server where Enterprise Manager is running** option.

15. Enter the path: **<OBIEE_HOME>/user_projects/domains/bi/bidata/components/OBIPS** and click **Browse**.

16. Select **bicustom.ear** and click OK.

17. Click Next.

18. Select **bi_cluster** and within it, select **All configured Servers in this cluster** option.

19. Click Next.

20. Under Distribution section, select **Install and start application (servicing all requests)** option and under Other Options section, perform the following actions:

    o   Against **Application Source Accessibility**, select 'Make the application accessible from the source location that it will be deployed on. You must ensure that each target can reach the location.'

    o   Against **Deployment Plan Source Accessibility**, select 'Make the deployment plan accessible from the source location that it will be deployed on. You must ensure that each target can reach the location.'

21. Click Next.

22. Click Deploy to deploy the application. If deployed successfully, the 'Deployment Succeeded' pop-up appears.

23. Click Close and close the pop-up window. This takes you to the deployments list page.

24. Click on the lock icon (🔒▼) and select **Activate Changes** option to apply the changes to deployment settings done.

## 5.2.3    Updating Instance Configurations

You need to update the default skin or theme applicable for ORMBA Dashboards. To do this, follow the procedure below:

1.   In the presentation server, move to the path:

     <OBIEE_HOME>/user_projects/domains/bi/config/fmwconfig/biconfig/OBIPS

2.   Open the file instanceconfig.xml and find the <UI> tag.

3.   Edit the <DefaultSkin> and <DefaultStyle> tags as shown:

     **<DefaultSkin>Theme1</DefaultSkin>**

     **<DefaultStyle>Theme1</DefaultStyle>**

4.   Edit the <Security> tag to add the following:

     **<HttpOnlyCookies>false</HttpOnlyCookies>**

     **<CookiePath>/</CookiePath>**

     **<ContentSecurityPolicy>**

               **<PolicyDirectives>**

                  **<Directive>**

                       **<Name>connect-src</Name>**

                       **<Value>'self' http://servername:*</Value>**

                  **</Directive>**

               **</PolicyDirectives>**

          **</ContentSecurityPolicy>**

**Note:** In the <Value> tag, replace servername with the name of the server where you have deployed simulation web services, for eg: **<Value>'self' http://abcserver:*</Value>**

5.   Save the file.

## 5.3  Deploying the BAR File

1. In the presentation server, move to the path: <OBIEE_HOME>/oracle_common/common/bin in the terminal.

2. Run the shell **./wlst.sh**. This opens the WebLogic Server Administration Scripting Shell.

**Note:** Check to see if you have 'Execute' privilege for wlst.sh and if not, provide the privileges.

3. Run the command below:

**importServiceInstance('<OBIEE_HOME>/user_projects/domains/bi','ssi','<TEMPDIR_DASH>/BAR/ssi.bar',false)**

**Note:** Replace the values for <OBIEE_HOME> and <TEMPDIR_DASH> in the above command.

4. Wait for a few minutes for the import to complete. Once done, the terminal returns to the shell with 'Successfully imported' message.

5. Enter **exit()** to quit the shell.

6. Restart OBIEE server using the stop and start shell scripts available at the path: <OBIEE_HOME>/user_projects/domains/bi/bitools/bin

   • Run **./stop.sh** to stop the server (if already running), and

   • Run **./start.sh** to start the server again

## 5.4  Deploying the RPD File

For deploying RPD, follow the procedure below:

1. Open a terminal in the presentation server.

2. Move to the folder: <OBIEE_HOME>/user_projects/domains/bi/bitools/bin

3. Run the command below after replacing <adminUser> with the respective BI Administrator username:

**sh data-model-cmd.sh uploadrpd -I <TEMPDIR_DASH>/RPD/ORMBAv2.3.1.0.0.rpd -SI ssi -U <adminUser>**

**Note:** The RPD file referred here is the one updated to change the data source, as explained in section 5.1.

4. When prompted, enter the RPD password and WebLogic Admin user's password.

**Note:** You can find the RPD password in the ReadMe.txt file within the RPD folder.

5. Wait for a few minutes and you will see the 'RPD upload completed successfully' message.

## 5.5  Configuring Security

Dashboard security is implemented through Application Roles created using the Weblogic for ORMBA Dashboards. Each user is assigned an application role, based on which their access to dashboards is defined. It is also possible to configure permissions within the dashboards.

The application roles can be either pre-defined or custom.

You need to create the pre-defined roles in WebLogic. Once the roles are created, you need to create users and map them to the required application roles. To know more about this, see ORMBA Security Guide.

In addition to the pre-defined roles, you can also create custom roles. To know more about creating custom roles, follow the instructions in ORMBA Admin Guide.

## 5.6  Applying Licenses

ORMBA Dashboards are available as three software licenses and purchase of each license entitles access to a specific set of dashboards. On logging on to the dashboards, you should apply the license key(s) for the product(s) you purchased to ensure access to the respective dashboards.

For detailed instructions on how to apply the license key(s), follow the instructions in ORMBA Admin Guide.

# 6.    (Optional) Upgrading ORMBA Modeling Configuration

If you have purchased license for Product Manager's Workbench or Relationship Manager's Workbench, you need to perform the following additional tasks to enable modeling feature:

- Upgrading Modeling Schema
- Deploying Modeling Service

## 6.1   Upgrading Modeling Schema

If you have purchased license for Product Manager's Workbench or Relationship Manager's Workbench, you need to upgrade the modeling schema – **MODELADM** by following the procedure below:

1. Connect to the database using any SQL client (such as SQL*Plus) with **MODELADM** credentials.

2. Open the **InstallMODELADM.sql** file in <TEMPDIR>/ORMBA-V2.3.1.0.0-Database/MODELADM and edit the release path in the following code snippet:

   **define RELEASE_PATH=path upto <TEMPDIR>/ORMBA-V2.3.1.0.0-Database**

3. Execute InstallMODELADM.sql.

4. To check the object count, connect to the database using **MDADM** credentials and execute the checkModeladmObjects.sql file in <TEMPDIR>/ORMBA-V2.3.1.0.0-Database/MODELADM folder using the command: **@checkModeladmObjects.sql**

5. To check for invalid objects in MODELADM schema, execute the CheckModeladmInvalidObjects.sql file in <TEMPDIR>/ORMBA-V2.3.1.0.0-Database/MODELADM folder using the command: **@CheckModeladmInvalidObjects.sql**

## 6.2   Deploying Modeling Service

For deploying the modeling service, follow the procedure below:

1. Log on to Enterprise Manager with Administrator credentials and un-deploy the **ormba-help** application. For detailed instructions on how to do this, refer to section 3.1.

> **Note:** Ensure that you have 'Execute' privileges for deploy.sh script.

2. Open the **deploy_configuration.properties** file in <TEMPDIR>/ORMBA-V2.3.1.0.0-Web/service folder and edit the attributes as shown below:

   **domain.name=ormba_domain**

   **admin.url=<Weblogic console URL>** Eg: t3://localhost:7001

   **admin.userName=<weblogic UserName>**

   **admin.password=<weblogic Password>**

   **target.server=<Weblogic server or cluster on which Modeling EAR is to be deployed>** Eg: ODI_server1

   **file.location=.**

   **file.name=ORMBA-Modelling.ear**

   **application.name=ORMBA-Modelling**

3. Go to the folder <TEMPDIR>/ORMBA-V2.3.1.0.0-Web/service and execute the shell **deploy.sh** with **<FMW_HOME>/wlserver/server/bin** as argument.

# Appendix A :  Known Issues

ORMBA upgrade from 2.3.0.0.0 to 2.3.1.0.0 has no known issues.

# Appendix B :  Third Party Software Upgrade

ORMBA upgrade from 2.3.0.0.0 to 2.3.1.0.0 requires no third party software upgrade.