

# **Oracle Product Lifecycle Analytics**

Installation and Setup Guide

Release 3.5

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# Preface

Agile PLM is a comprehensive enterprise PLM solution for managing your product value chain.

## Audience

This document is intended for administrators and users of the Agile PLM products.

## 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's Agile PLM documentation set includes Adobe® Acrobat PDF files. The Oracle Technology Network (OTN) Web site <http://www.oracle.com/technetwork/documentation/agile-085940.html> contains the latest versions of the Agile PLM PDF files. You can view or download these manuals from the Web site, or you can ask your Agile administrator if there is an Agile PLM Documentation folder available on your network from which you can access the Agile PLM documentation (PDF) files.

## Conventions

The following text conventions are used in this document:

Convention	Meaning
<b>boldface</b>	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
<i>italic</i>	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.

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<b>Convention</b>	<b>Meaning</b>
monospace	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

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# Overview of Oracle Product Lifecycle Analytics

Oracle Product Lifecycle Analytics (OPLA) is a comprehensive, pre-built Business Intelligence solution that delivers pervasive intelligence and provides key insights into your Product Lifecycle Management (PLM) data. The Oracle Product Lifecycle Analytics Application provides an integrated view of the product to enable greater alignment of information across product organizations. It is built on Oracle Data Integrator (ODI) ETL and Oracle Business Intelligence Enterprise Edition (OBIEE) platforms.

## Introduction

OPLA addresses the business use cases specific to Product Quality Management (PQM), Product Collaboration (PC), and Product Portfolio Management (PPM), Agile PLM for Process: New Product Development (NPD) and Global Specification Management (GSM).

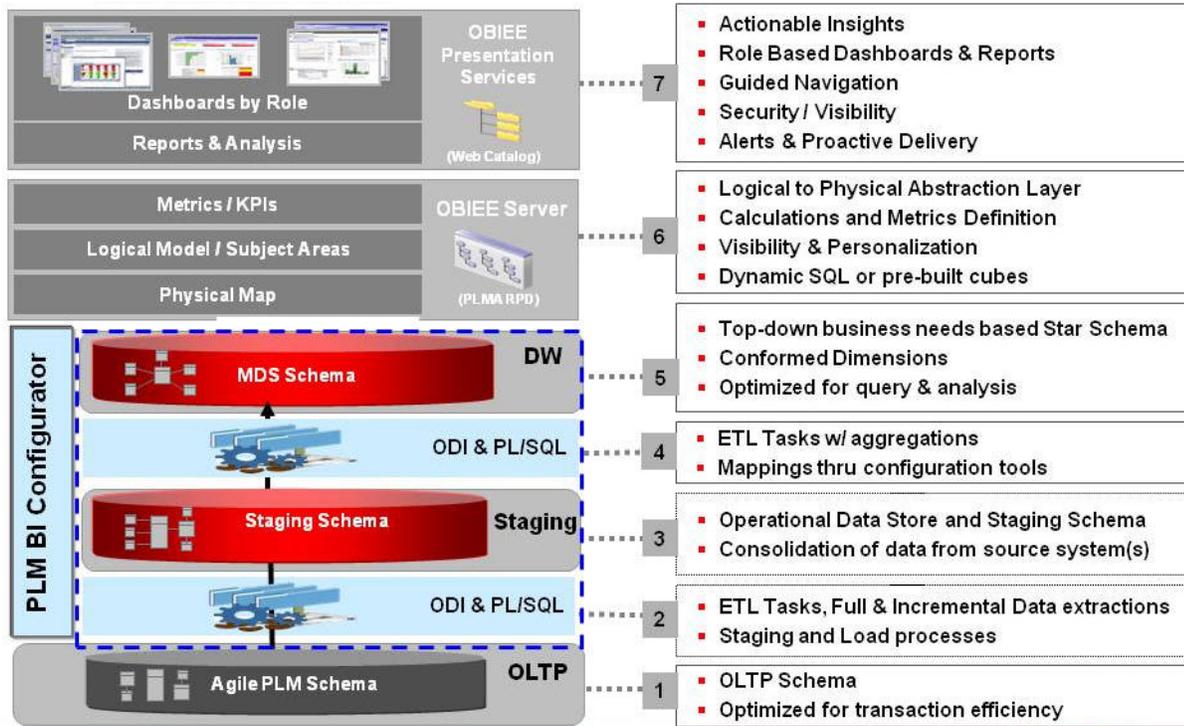
OPLA provides you with the ability to use different source systems. Data is transferred from the source systems to the OPLA target analytical data store. In OPLA, the transactional data sources are either Agile PLM 9.x or Agile PLM for Process.

## Oracle Product Lifecycle Analytics Architecture

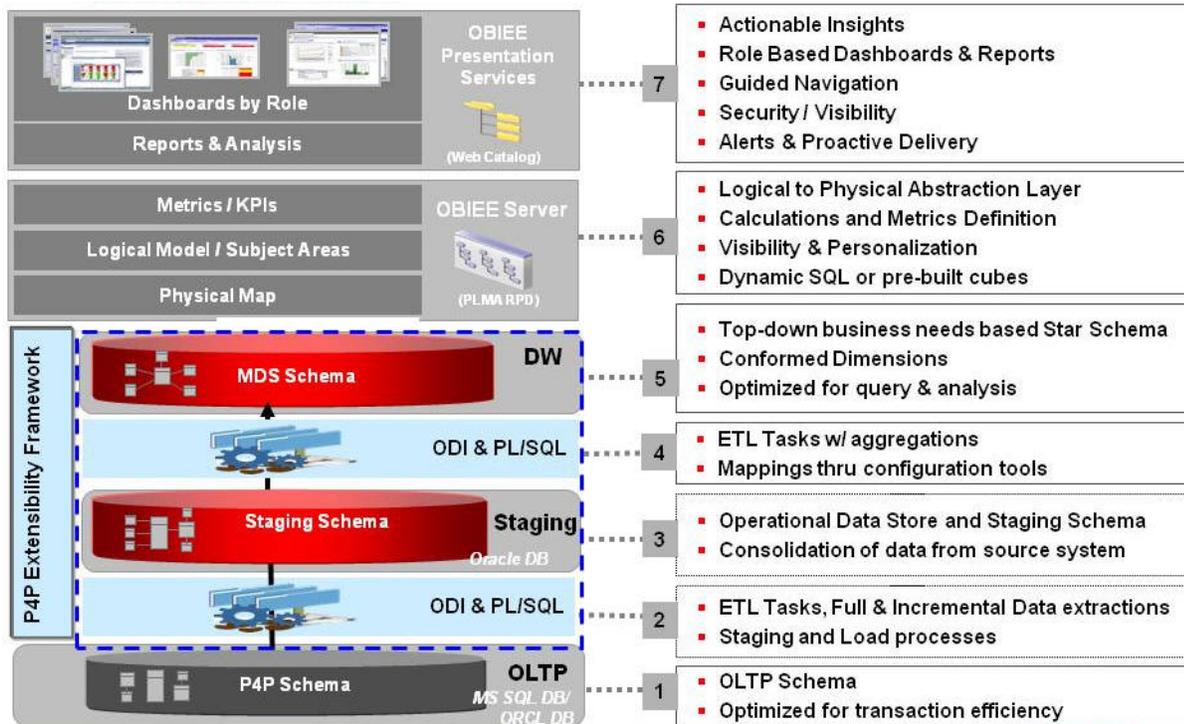
OPLA is designed and developed using a layered Data Warehouse and OLAP architecture on Oracle enterprise technologies. At the bottom of the stack is the Agile PLM OLTP Agile PLM for Process OLTP database which is optimized for core transactions. The database is the source data system for OPLA, but it can be extended to load data from other data sources.

Layer 2 includes the ODI and PL/SQL ETL tasks for extracting data, including metadata, from the Agile PLM source system and loads it into the Staging Schema (Layer 3). Layer 4 provides ETL tasks using ODI and PL/SQL for extracting data from the operational data store, then transforms, aggregates, and loads data to the pre-defined multi-dimensional schema in Layer 5. MDS as a set of star schemas that were designed based on top-down business analytical requirements. Layer 6 provides the pre-built analytical repository for OBIEE and its metadata repository. Layer 7 has the pre-built roles-based and functional dashboards with a pre-defined set of reports and KPIs along with alerts and guided navigation for providing actionable insights into PLM data.

### Oracle Product Lifecycle Analytics with Agile PLM



Oracle Product Lifecycle Analytics with Agile PLM for Process



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# Overview of Oracle Product Lifecycle Analytics Installation

This guide provides instructions and guidelines to successfully install or upgrade to OPLA 3.5. You should be familiar with or have working knowledge of Oracle Data Integrator, Oracle Business Intelligence Enterprise Edition, Agile Product Lifecycle Management (PLM), Agile PLM for Process, and the Oracle Database Server to work with OPLA.

This document does not explain the basics of Oracle Databases, Oracle Data Integrator (ODI), and Oracle Business Intelligence (OBI). Refer to the Oracle Technology Network <http://www.oracle.com/technology/documentation/index.html> for documentation related to these products.

This chapter outlines the tasks for installation of the OPLA software. In addition, it provides the information required to access the necessary software.

## What's New in 3.5

OPLA Release 3.5 contains the following certifications and additions:

- Certification for Agile PLM 9.3.5
- Certification for Agile PLM for Process 6.2
- Operational Schema enhancements
- Certification for ODI 11.1.1.9.0
- Certification for OBIEE 11.1.1.9.0
- Performance improvements for Datamart and MDS full loads for Agile PLM (A9) only
- Stage Modularization to select which modules to run

## Task Overview

The Oracle Product Lifecycle Analytics installation requires you to:

1. Verify hardware and software requirements.
2. Download OPLA.
3. Install the OPLA application.

## Obtaining Software

Oracle products are distributed as "Product Packs". A Product Pack is an electronic version of the software. Refer to the Media Pack description or the list of products that you purchased on your Oracle ordering document. Then, view the Quick Install Guide License List to help you decide which Product Pack you need. Prior to downloading, verify that the product you are looking for is in the License and Options section of the Product Pack Readme. Oracle recommends that you print the Readme for reference.

There will be an itemized part list within each of the packs and you will need to download all items in order to have the complete download for the desired Oracle Agile release.

All Oracle Software Delivery Cloud files have been archived using Info-ZIP's highly portable Zip utility. After downloading one or more of the archives, you will need the UnZip utility or the Winzip utility to extract the files. You must unzip the archive on the platform for which it was intended. Verify that the file size of your downloaded file matches the file size displayed on Oracle Software Delivery Cloud. Unzip each Zip file to its own temporary directory.

**To download the Oracle Product Lifecycle Analytics Software from Oracle Software Delivery Cloud (<http://edelivery.oracle.com>):**

1. On the Oracle Software Delivery Cloud Welcome page, click **Sign In / Register**.
2. Read the Terms & Restrictions. If you agree with the License Terms and Export Restrictions, select the check boxes and click **Continue**.
3. On the Media Pack Search screen, select **Oracle Agile Applications** in the **Select a Product Pack** drop-down list box. Select a **Platform value**. Click **Go** to view the applicable Agile release downloads.
4. Select the appropriate link. Click **Continue**. The Download page displays downloadable release parts, including customer guides.
5. Click **Download** for the appropriate media pack.
6. Extract the contents of the media pack, unzip the contents, and navigate to the product folder. The installers for all platforms are available within the product folder, regardless of the operating system on which you have chosen to install the software.

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## System Requirements

Various database and application components of Oracle Product Lifecycle Analytics outlined in the chapter Overview of Oracle Product Lifecycle Analytics on page 1 may be deployed in different hardware/machine configurations. This depends on performance criteria set based on the source (Agile PLM or Agile PLM for Process) database size, volume of data changes in the source database, IT network and infrastructure constraints, and business requirements. The amount of time required to complete an installation depends on the complexity of your deployment configuration.

This chapter describes the minimum software and hardware requirements for the Oracle Product Lifecycle Analytics installation.

### Software Requirements for New Installation of OPLA

If you are installing OPLA for the first time, the table below lists all the software requirements for this type of OPLA installation.

Software Component	Name	Version
Browsers	Internet Explorer	Refer to the <i>Oracle Business Intelligence Infrastructure Installation and Configuration Guide</i> for supported versions.
	Firefox	
	Safari	
Oracle Business Intelligence - BI server and Presentation services	Enterprise Edition	11.1.1.6.3+ 11.1.1.7.x 11.1.1.9.0
Database server	Oracle Enterprise Edition	11gR2 (11.2.0.3+) 12cR1(12.1.0.1+)
	Microsoft SQL Server (Agile PLM for Process only)	2005 SP2 or higher, 2008 SP1 or higher, 2008 R2, 2012 R2
Data Integration Component	Oracle Data Integrator	11.1.1.7.x 11.1.1.9.0
Software Development Package	Java Development Kit	1.7

Software Component	Name	Version
Operating Systems	Microsoft Windows Server	2008 R2, 2012, 2012 R2
	Oracle Enterprise Linux	6, 5 (x86-64)
	Red Hat Enterprise Linux	6, 5 (x86-64)
	SUSE Linux	11 (x86-64)
	Oracle Solaris	11, 10 (SPARC 64, x86-64)
	AIX	7, 6 (POWER 64-bit)
	HP-UX	11 (Itanium64)
Data Source	Agile PLM Releases	9.2.2.4, 9.3.x, 9.3.0.1, 9.3.0.2, 9.3.0.3, 9.3.1, 9.3.1.1, 9.3.1.2, 9.3.2, 9.3.3, 9.3.4, 9.3.5
	Agile PLM for Process	6.1, 6.1.1, 6.2
***Oracle Business Intelligence may have some restrictions on a 64-bit platform. Refer to the <i>Oracle Business Intelligence Infrastructure Installation and Configuration Guide</i> for additional details.		

Higher patch releases or family pack releases within a minor release of OBIEE, ODI, Oracle Database, Agile PLM, and Agile PLM for Process listed in this document are also supported.

## Installation Notes

1. Make sure that sufficient disk space is available on the server(s) before you begin the installation of OPLA which includes both the database and ETL components.
2. It is recommended to have dedicated servers for OPLA. Try to avoid installing any other software which may cause conflict or consume a lot of disk space on the systems where OPLA is installed.
3. Do not use the OPLA database server as a Primary Domain Controller (PDC) or Dynamic Host Configuration Protocol (DHCP) server.
4. Do not enable Disk Compression on OPLA database servers.
5. Disk compression should be disabled.
6. Virus protection should be disabled. If virus protection is enabled, components used in the Installer can be falsely identified as being infected and lock the installation. You can turn on virus protection after the installation is complete.

We recommend that the computer systems, on which you install Oracle Product Lifecycle Analytics and the Oracle Database, have at least two physical drives or two disk partitions. This enables you to install the Operating system and the Oracle installation components on separate drives/partitions, thus ensuring better performance.

## Hardware Requirements

When you choose a hardware configuration, it is important to consider details such as the total number of users, the number of concurrent users, the size of your database, network and I/O configurations for optimal data throughputs, the number of objects processed per day, and the number of transactions in the database.

The following are the minimum hardware requirements for the Database Server that hosts the Data Mart Database schema components (Staging and MDS Schema):

<b>Environment</b>	<b>CPU</b>	<b>RAM</b>	<b>Minimum Disk Space</b>
Development (DEV)	4	16 GB	6 x Source DB size
Testing or Staging (STAGE)	4	16 GB	6 x Source DB size
Production (PROD)	4	16 GB	6 x Source DB size

The minimum hardware requirements provided in this document are not sized for optimal ETL and BI Reports performance. Appropriate data warehouse, ETL, and BI technical experts are required to evaluate performance criteria and then size the hardware configuration based on the source database size taking into account the volume of future data growth that will be attributed to changes in the source application.



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## Upgrade Considerations

You can upgrade from OPLA 3.4.0.0.0 to OPLA 3.5, if you are using the Agile PLM database. Upgrading involves a full installation of OPLA 3.5 as well as manual steps to migrate the existing OPLA 3.4 content

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**Note:** The OPLA 3.5 Installer does not include upgrade for any customizations done on the Staging Schema, MDS schema, or ODI ETL components installed with a previous release of OPLA. Take appropriate backups, then re-implement and verify customizations after following the upgrade steps.

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### Before You Upgrade

- Current Environment (Environment 1) should not be dropped. This environment is required while performing the upgrade steps.

### Upgrade Steps

To complete the upgrade, perform the following steps:

1. Install Database components and ETL components using the OPLA 3.5 Installer. Refer to "[Installing Oracle Product Lifecycle Analytics for Agile PLM](#)" on page 5-5.

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**Note:** This environment will now be referred to as Environment 2.

Do not run ETL until the completion of Step 2.

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2. In order to migrate the configurations done in Environment 1 through the OPLA Configurator into Environment 2, refer to [Chapter 11, "Environment Propagation."](#)
3. Run one Full ETL.
4. Install BI Components using the OPLA 3.5 installer. Refer to "[Installing BI Components](#)" on page 5-15.

### Deploying OPLA Webcatalog in OBIEE 11g

**Note** You can find the webcatalog at the following location: <OPLA\_HOME>\Patches\OPLA35\OBIEE11g\webcatalog

To deploy the OBIEE 11g Webcatalog:

1. Copy PLMA\_11g (11g catalog) to the location:

<OBIEEHomeDirectory>\instances\instance1\bifoundation\OracleBIPresentationServicesComponent\coreapplication\_obips1\catalog

If you are using Windows 2008, follow this step: **Cut** PLMA\_11g (11g catalog) to the location:

<OBIEEHomeDirectory>\instances\instance1\bifoundation\OracleBIPresentationServicesComponent\coreapplication\_obips1\catalog

**Note** Make sure you check the status of the BI services by opening the Enterprise Manager using the URL <http://localhost:7001/em>.

2. Open the Enterprise Manager and enter the WebLogic username and password.
3. Click on **Business Intelligence** and select **Coreapplication**.
4. Click on the **Lock and Edit Configuration** tab. You will notice the **Deployment** tab displayed.
5. Close the confirmation window displaying the following message *Lock and Edit Configuration - Completed Successfully*.
6. Select **Deployment > Repository**.
7. Enter the following location for PLMA\_11g in the **Catalog Location** field located in the **BI presentation Catalog** section.  

```
$ORACLE_
INSTANCE/bifoundation/OracleBIPresentationServiceComponent/$COMPONENT_NAME/catalog/
```
8. Click **Apply** (displayed in the top right corner of the screen).
9. Select **Change Center**, click **Activate Changes**.
10. Close the confirmation window displaying the message: *Activate Changes - Completed Successfully*.
11. To restart the services and apply the changes, in the **Overview** page select **Restart**.
12. After completing the restart process, check the status of the presentation services using the URL <http://localhost:7001/analytics>.

## Upgrading Repositories

For Repository upgrade, refer to the "Merging Oracle BI Repositories" section in the *OBIEE Server Administration Guide*.

## Upgrading Webcatalog and Permissions in the Presentation Layer

For Webcatalog and Presentation Layer upgrade, refer to the "Managing Presentation Catalog Using Oracle BI Catalog Manager" section in the *OBIEE Presentation Services Administration Guide*.

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## OPLA Installation

This section lists the prerequisites for installation, the installation procedure, the post-installation guidelines and uninstallation of the OPLA application. In addition, this section describes the execution of ETL after you complete the installation.

### Preinstallation Checklist

Verify the prerequisites for the installation of OPLA using the following preinstallation checklist:

#	Check point	Done
1	Make sure the Database Server and Listener services are running. You can check this by using Oracle Database tools, such as Connection Manager, SQL Plus, or tnsping.  <b>Note</b> All database instances hosting the OPLA schema components should support NLS_CHARACTERSET as UFT8/AL32UFT8 and NLS_LENGTH_SEMANTICS as CHAR/BYTE.	
2	Install and configure Oracle Data Integrator.  For information on installation and configuration of ODI, refer to the <i>Oracle Data Integrator Installation and Configuration Guide</i> .	
3	Install and configure Oracle Business Intelligence Enterprise Edition.  For information on installation and configuration of OBIEE, refer to the <i>Oracle Business Intelligence Infrastructure Installation and Configuration Guide</i>	
4	Make sure the Oracle BI Server and Presentation Services are running.	
5	Install American English Unicode (en_US.UTF-8) Full Locale package in Solaris system to ensure successful installation and allow the complete functionality of OPLA application.	

#	Check point	Done
6	For Agile PLM for Process ETL: If the source is Microsoft SQL Server, download Microsoft SQL Server JDBC Driver 3.0 from the Microsoft website, Microsoft Download Center <a href="http://www.microsoft.com/downloads/en/details.aspx?FamilyID=a737000d-68d0-4531-b65d-da0f2a735707">http://www.microsoft.com/downloads/en/details.aspx?FamilyID=a737000d-68d0-4531-b65d-da0f2a735707</a> . If you are using ODI 11g, follow the installation instructions and then copy the sqljdbc4.jar file to the C:\Documents and Settings\ <user>\Application Data\odi\oracledi\userlib directory (in Windows), and to the &lt;User HOME&gt;/.odi/oracledi/userlib directory in (Linux/Solaris).</user>	

#	Check point	Done
<p>For Agile PLM for Process: Create views on the PLM for Process (PLM4P) source schema, if the source is an Oracle DB server.</p> <p>Using the command prompt or shell, login to the source schema and create the following views:</p> <pre>CREATE OR REPLACE FORCE VIEW VWBINPDUNINITIATED ACT1 (PKID, FKACTIVITYTEMPLATE, FKPARENT, PRJPKID, REQUIRED, HASPARENTWORKFLOW DEPENDENCY) AS SELECT ata.fkactivitytemplate    ' '    prj.pkid pkid, ata.fkactivitytemplate, ata.fkParent, prj.pkid AS prjpkid, ata.required, ata.hasparentworkflowdep endency FROM npdacttemplateassociations ata INNER JOIN NPDSTAGETEMPLATES STEMP ON STEMP.PKID = ATA.FKPARENT INNER JOIN NPDPROJECTS PRJ ON PRJ.FKPROJECTTEMPLAT E = STEMP.FKPROJECTTEMP LATE;  CREATE OR REPLACE FORCE VIEW VWBINPDUNINITIATED ACT2 (PKID, FKMASTERACTIVITYTE MPLATE, FKPROJECT) AS SELECT DISTINCT acttemp.fkmasteractivityte mplate    ' '    act.fkproject pkid, acttemp.fkmasteractivityte mplate, act.fkproject FROM NPDACTIVITIES ACT INNER JOIN npdactivitytemplates acttemp ON act.fkactivitytemplate = acttemp.pkid;</pre>		
7	<p>For Agile PLM: Create TNS entry for the source (PLM) database on the target database machine.</p> <p>If you are creating a new OPLA Data Mart database instance, refer to Adding Database Services to the Listener on page 38.</p>	

#	Check point	Done
8	Make sure you log in with a userid that has administrative privileges on the machine where OPLA components are to be installed.	
9	Make sure you can connect to the Agile PLM or Agile PLM for Process source database.	
10	The ODI_JAVA_HOME environment variable contains the path to the supported JDK installation directory.	
11	The JAVA_HOME environment variable contains the path to the supported JDK installation directory and is added to the PATH environment variable.	
12	Before creating an Oracle 12c database instance using the OPLA installer on a non-Windows platform, add the following entry to the sqlnet.ora file: SQLNET.ALLOWED_LOGON_VERSION=8	

It is important to gather the following information before you begin the installation:

- Deployment Configuration specification determined based on ETL and BI Reports performance criteria
- Start date of the Fiscal year for your business
- Name of the email server specific to your email configuration
- Location of the ODI details
- Location of the RDBMS and database details
- Names of the tablespaces to be used during the installation
- Name and location of the Oracle BI (OBIEE) Server
- Name and location of the Oracle BI (OBIEE) Presentation Server

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**Important:** Install and test this release on a designated test server before installing it on your production environment. Resolve the issues or questions that you might observe during the system testing before you install this software on your production environment.

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## Installing Oracle Product Lifecycle Analytics

The OPLA installation process includes the following steps:

1. Installing the Data Mart Schema and ETL Components
2. Installing BI components

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**Note:** You must start the installer twice to complete the installation process. In some implementation scenarios, there is a need to manually install the Data Mart schema. This section also describes the steps involved in the manual installation of the Data Mart Schema. For more information, refer to Manually Installing the Data Mart Components.

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**Note:** If you want to use Data Mart only, you do not need to install BI components and you are not required to run ETL for MDS. Refer to the Oracle Product Lifecycle Analytics Configurator and Data Mapping Guide for information on how to disable MDS in the section, “ETL Run Time Property Names.”

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## Starting the Oracle Product Lifecycle Analytics Installer

The installer launches an installation wizard powered by *InstallAnywhere* to install OPLA.

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**Note:** Click **Help** in the wizard windows for information about each step. You can keep the Help window open during the installation. The content in the **Help** window is refreshed dynamically as you progress with the installation.

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## Starting Oracle Product Lifecycle Analytics Installer in Windows

To start the OPLA installer in Windows:

Double-click **Windows\OPLASetup.exe** in the list of files available as part of the Installer kit.

## Starting the Oracle Product Lifecycle Analytics Installer in UNIX

To start the Oracle Product Lifecycle Analytics installer in UNIX:

1. Navigate to the folder where the file exists, in your UNIX terminal.
2. Provide full (Read, Write, Execute) permissions to the setup file:

**AIX:** OPLASetup.bin

**HPUX:** OPLASetup.bin

**Linux:** OPLASetup.bin

**Solaris:** OPLASetup.bin

3. Enter the following command on your UNIX prompt:

**AIX:** ./OPLASetup.bin

**HP-UX:** ./OPLASetup.bin

**Linux:** ./OPLASetup.bin

**Solaris:** ./OPLASetup.bin

**Important** Install Oracle Product Lifecycle Analytics in Linux as a non-root user.

## Installing Oracle Product Lifecycle Analytics for Agile PLM

To select the Agile PLM Source Database:

1. Start the OPLASetup.exe installer.

For more information, refer to Starting the Oracle Product Lifecycle Analytics Installer.

2. In the *Welcome to Oracle Product Lifecycle Analytics Installation* dialog box click **Next**.

3. In the *Choose Agile PLM Source* dialog box click **Agile PLM**. Click **Next**. The *Choose Install Set* dialog box is displayed.
4. In the *Choose Install Set* dialog-box, click **Data Mart Database and ETL**. Click **Next**. The *Install Data Mart Components* dialog box is displayed.

There are two options in the *Choose Install Set* dialog box. When running the OPLASetup.exe installer for the first time you must select the **Data Mart Database and ETL** option.

The second time you run the OPLASetup.exe select the **Business Intelligence** option.

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**Important:** You must select Agile PLM if you plan to install database components by generating SQL scripts.

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## Selecting which Data Mart Components to Install

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**Important:** Database instance creation is **not** supported on Oracle Exadata. OPLA works on existing database instances of Exadata only if the value of NLS\_CHARACTERSET is UFT8/AL32UFT8 and NLS\_LENGTH\_SEMANTICS is CHAR/BYTE.

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Next you must choose which Data Mart components to install. The OPLA installer provides the following installation options:

- Install Database Components only
- Install ETL Components only
- Both (Database and ETL components)

If you plan to install the Database and ETL components separately you must install the Database first. Install the ETL components *after* the Database is installed and successfully configured.

To install database components by generating SQL scripts, select **Install Database Components only --> Generate SQL Scripts**.

## Installing Database Components Only

If you plan to install the Database and ETL components separately you must install the Database first. Install the ETL components *after* the Database is installed and successfully configured.

When installing database components note down the options selected and any paths and information given. You will need this information when installing ETL components.

**To install database components only:**

1. In the *Install Data Mart Components* dialog box, select the component that you want to install. In this case, click **Install Database Components only**. Click **Next**. The *Data Mart Destination Location* dialog box is displayed.
2. In the Destination Location box type the location for the database components. To navigate to the destination location click **Choose**. In the *Browse For Folder* window navigate to the home directory location and click **OK**. Click **Next**. The *Schema Creation Options* dialog box is displayed.

3. In the *Schema Creation Options* dialog box you must choose between:
  - Create New Database
  - Use Existing Database and Table space
  - Generate SQL Scripts
4. Select the schema creation option you require and click **Next**.

Depending on the option you chose in Step 3 and the option you choose in Step 6 you will be asked to enter the Oracle home directory location and/or the Database Datafile directory location.

If you chose "Generate SQL Scripts", a screen appears with an option to choose Service or SID to connect to the database, only if the database is ORACLE.
5. For any of the options you chose in Step 3 you will be asked to choose a schema option:
  - Default
  - Single Schema Installation
6. Choose **Default** to install data mart, MDS, ODI work repository, and ODI master repository in different database schemas. Choose **Single Schema Installation** to install data mart, MDS, ODI work repository, and ODI master repository in a single database schema. To continue with the installation see Note.

If you choose the **Single Schema Installation** option, there will be no more options to select. Continue entering information and locations for database, datafile, tablespace and so on. Remember to note down the options you choose and the information you enter! You will need this information when installing ETL components.
7. If you choose to install the **Default** schema option, you must choose between:
  - Create ODM and MDS on a Single Schema
  - Create ODM and MDS on Different Schema
8. Choose **Create ODM and MDS on a Single Schema** to create data mart and MDS on a single schema. Choose **Create ODM and MDS on Different Schema** to create data mart and MDS on two different database schemas.
9. Continue entering information and locations for database, datafile, ODI repository, tablespace and so on.
10. Review all the information in the *Pre-Installation Summary* dialog box.

If there are any mistakes or changes you need to make:

  - a. Click **Previous** until you reach the dialog box where you need to make changes.
  - b. Make the required changes.
  - c. Click **Next** until you come back to the *Pre-Installation Summary* dialog box.
  - d. Click **Install**.

If you do not need to make any changes:  
In the *Pre-Installation Summary* dialog box click **Install**.

## Manually Installing the Data Mart Schema Components

If you selected the option *Generate SQL scripts* in the **Select schema creation** window during the installation of the Data Mart module, the installer generates a set of SQL files and stores them in **Schema** folder in the **Install Directory**. This option involves running these scripts in SQL\*Plus to manually create Data Mart schema components.

### Step 1: Run the Installer using the Generate Scripts Option

### Step 2: Run the Generated SQL Scripts

1. Go to the directory where the installation files are located.
2. Change to the schema directory.

The directory contains one of the following subdirectories, based on the schema option chosen during installation:

- `Analytics_A9_Script_Single_Schema`, if the Single Schema option was chosen.
  - `Analytics_A9_Script_Default1_Schema`, if the Default Schema - ODM and MDS in Same Schema option was chosen.
  - `Analytics_A9_Script_Default2_Schema`, if the Default Schema - ODM and MDS in Different Schema option was chosen.
3. If the machine where the scripts are generated is different from the machine where the schema is created, then copy the entire schema directory to the location where you want to create the Data Mart schema.
  4. Open a Command window and change to the directory based on the selected schema option.
  5. In the Command window, run the following commands:

(Windows) `set ORACLE_SID=<SID_NAME>`

(UNIX) `export ORACLE_SID=<SID_NAME>`

`sqlplus sys/<password> as sysdba`

`@ExecuteScript.sql`

The script prompts for tablespace names, schema usernames, and schema passwords. The schema users and schema components are created.

## Installing ETL Components Only

If you plan to install the Database and ETL components separately you must install the Database first. Install the ETL components *after* the Database is installed and successfully configured.

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**Caution:** When installing **ETL components only** it is critical that you enter the same information you gave when you installed database components only!

Do not use ODI repository IDs 102 and 103 for MASTER and WORK repositories during ETL Components Only installation!

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**To install ETL components only:**

1. In the *Install Data Mart Components* dialog box, select the component that you want to install. In this case, click **Install ETL Components only**. Click **Next**. The *Data Mart Destination Location* dialog box is displayed.
2. In the Destination Location box type the location for the ETL components. To navigate to the destination location click **Choose**. In the *Browse For Folder* window navigate to the home directory location and click **OK**. Click **Next**. The *Oracle Home Directory* dialog box opens.
3. In the Oracle Home Directory box, enter Oracle Database Home Directory path. Click **Next**. The Oracle Data Integrator Home Directory dialog opens
4. In the Oracle Data Integrator Home Directory box enter the ODI path. Click **Next**. The *PLM Database Details* dialog box opens.
5. Verify that the information in the PLM Database Details dialog box is correct. If not, simply edit the respective fields. Click **Next**. The *Choose Schema Option* dialog box opens.
6. Select the same options and enter the same information you gave when installing database components only.
7. Review all the information in the *Pre-Installation Summary* dialog box.  
If there are any mistakes or changes you need to make:
  - a. Click **Previous** till you arrive at the dialog box where you need to make changes.
  - b. Make the required changes.
  - c. Click **Next** till you come back to the *Pre-Installation Summary* dialog box.
  - d. Click **Install**.
 If you do not need to make any changes:  
In the *Pre-Installation Summary* dialog box click **Install**.

## Installing Both Database and ETL Components

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**Caution:** Do not use ODI repository IDs 102 and 103 for MASTER and WORK repositories during both Database and ETL Component installation

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### To install both database and ETL components:

1. In the *Install Data Mart Components* dialog box, select the component that you want to install. In this case, click **Both (Database and ETL components)**. Click **Next**. The *Data Mart Destination Location* dialog box is displayed.
2. In the Destination Location box type the location for the Database and ETL components. To navigate to the destination location click **Choose**. In the *Browse For Folder* window navigate to the home directory location and click **OK**. Click **Next**. The *Schema Creation Options* dialog box is displayed.
3. In the *Schema Creation Options* dialog box you must choose between:
  - Create New Database
  - Use Existing Database and Table space
4. Select the schema creation option you require and click **Next**.

Depending on the option you chose in Step 3 you will be asked to enter the Oracle home directory location and/or the Database Datafile directory location.

5. In the *Oracle Data Integrator Home Directory* dialog box enter the ODI path. Click **Next**. The *PLM Database Details* dialog box opens.
6. Verify that the information is correct. Click **Next**. The *Choose Schema Option* dialog box opens.
7. For any of the options you chose in Step 3 you will be asked to choose a schema option:
  - Default
  - Single Schema Installation Click **Next**.
8. Choose **Default** to install data mart, MDS, ODI work repository, and ODI master repository in different database schemas. To continue with the installation go to Step 7. Choose **Single Schema Installation** to install data mart, MDS, ODI work repository, and ODI master repository in a single database schema. To continue with the installation see Note.

If you choose the **Single Schema Installation** option, there will be no more options to select. Continue entering information and locations for database, datafile, tablespace and so on.
9. If you choose to install the **Default** schema option, you must choose between:
  - Create ODM and MDS on a Single Schema
  - Create ODM and MDS on Different Schema Click **Next**.
10. Choose **Create ODM and MDS on a Single Schema** to create data mart and MDS on a single schema. Choose **Create ODM and MDS on Different Schema** to create data mart and MDS on two different database schemas.
11. Continue entering information and locations for database, datafile, ODI repository, tablespace and so on.
12. Review all the information in the *Pre-Installation Summary* dialog box.

If there are any mistakes or changes you need to make:

- a. Click **Previous** till you arrive at the dialog box where you need to make changes.
- b. Make the required changes.
- c. Click **Next** till you come back to the *Pre-Installation Summary* dialog box.
- d. Click **Install**.

If you do not need to make any changes:

In the *Pre-Installation Summary* dialog box click **Install**.

## Installing Oracle Product Lifecycle Analytics for Agile PLM for Process

To select the Agile PLM Source Database:

1. Start the OPLASetup.exe installer.
2. In the *Welcome to Oracle Product Lifecycle Analytics Installation* dialog box click **Next**.
3. In the *Choose Agile PLM Source* dialog box click **Agile PLM for Process**. Click **Next**. The *Choose Install Set* dialog box is displayed.

4. In the *Choose Install Set* dialog-box, click **Data Mart Database and ETL**. Click **Next**. The *Install Data Mart Components* dialog box is displayed.

There are two options in the *Choose Install Set* dialog box. When running the OPLASetup.exe installer for the first time you must select the **Data Mart Database and ETL** option.

The second time you run the OPLASetup.exe select the **Business Intelligence** option.

## Selecting which Data Mart Components to Install

Next you must choose which Data Mart components to install. The OPLA installer provides the following installation options:

- Install Database Components only
- Install ETL Components only
- Both (Database and ETL components)

If you plan to install the Database and ETL components separately you must install the Database first. Install the ETL components *after* the Database is installed and successfully configured.

## Installing Database Components Only

If you plan to install the Database and ETL components separately you must install the Database first. Install the ETL components *after* the Database is installed and successfully configured.

When installing database components note down the options selected and any paths and information given. You will need this information when installing ETL components.

### To install database components only:

1. In the *Install Data Mart Components* dialog box, select the component that you want to install. In this case, click **Install Database Components only**. Click **Next**. The *Data Mart Destination Location* dialog box is displayed.
2. In the Destination Location box type the location for the database. To navigate to the destination location click **Choose**. In the *Browse For Folder* window navigate to the home directory location and click **OK**. Click **Next**. The *Schema Creation Options* dialog box is displayed.
3. In the *Schema Creation Options* dialog box you must choose between:
  - Create New Database
  - Use Existing Database and Table space

The option of selecting *Generate SQL scripts* in the **Select schema** creation window is not available if you are installing Agile PLM for Process.

4. Select the schema creation option you require and click **Next**.

Depending on the option you chose in Step 3 you will be asked to enter the Oracle home directory location and/or the Database Datafile directory location.

5. For any of the options you chose in Step 3 you will be asked to choose a schema option:
  - Default

- Single Schema Installation Click **Next**.
6. Choose **Default** to create three different database schemas. The first database schema for data mart and MDS, the second database schema for ODI work repository, and the third database schema for ODI Master repository. Choose **Single Schema Installation** to install data mart, MDS, ODI work repository, and ODI master repository in a single database schema.
  7. Continue entering information and locations for database, datafile, ODI repository, tablespace and so on.
  8. Review all the information in the *Pre-Installation Summary* dialog box.

If there are any mistakes or changes you need to make:

- a. Click **Previous** till you arrive at the dialog box where you need to make changes.
- b. Make the required changes.
- c. Click **Next** till you come back to the *Pre-Installation Summary* dialog box.
- d. Click **Install**.

If you do not need to make any changes:

In the *Pre-Installation Summary* dialog box click **Install**.

## Installing ETL Components Only

If you plan to install the Database and ETL components separately you must install the Database first. Install the ETL components *after* the Database is installed and successfully configured.

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**Caution:** When installing **ETL components only** it is critical that you enter the same information you gave when you installed database components only!

Do not use ODI repository IDs 102 and 103 for MASTER and WORK repositories during ETL Components Only installation!

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### To install ETL components only:

1. In the *Install Data Mart Components* dialog box, select the component that you want to install. In this case, click **Install ETL Components only**. Click **Next**. The *Data Mart Destination Location* dialog box is displayed.
2. In the Destination Location box type the location for the ETL components. To navigate to the destination location click **Choose**. In the *Browse For Folder* window navigate to the home directory location and click **OK**. Click **Next**. The *Oracle Database Home Directory* dialog box is displayed.
3. In the Oracle Home Directory box enter the home directory's location. Click **Next**. The *Oracle Data Integrator Home Directory* dialog box opens.
4. In the Oracle Data Integrator Home Directory box enter the home directory's location. Click **Next**. The *PLM Database Details* dialog box opens.
5. In the Source Type list, choose between:
  - Oracle
  - MSSQLServer

6. Verify that the rest of the information in the *PLM Database Details* dialog box is correct. If not, simply edit the respective fields. Click **Next**. The *Choose Schema Option* dialog box opens.
7. For the rest of the installation select the same options and enter the same information you gave when installing database components only.
8. Review all the information in the *Pre-Installation Summary* dialog box.

If there are any mistakes or changes you need to make:

- a. Click **Previous** till you arrive at the dialog box where you need to make changes.
- b. Make the required changes.
- c. Click **Next** till you come back to the *Pre-Installation Summary* dialog box.
- d. Click **Install**.

If you do not need to make any changes:

In the *Pre-Installation Summary* dialog box click **Install**.

## Installing Both Database and ETL Components

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**Caution:** Do not use ODI repository IDs 102 and 103 for MASTER and WORK repositories during both Database and ETL Component installation!

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### To install both the database and ETL components:

1. In the *Install Data Mart Components* dialog box, select the component that you want to install. In this case, click **Both (Database and ETL components)**. Click **Next**. The *Data Mart Destination Location* dialog box is displayed.
2. In the Destination Location box type the location for the Database and ETL components. To navigate to the destination location click **Choose**. In the *Browse For Folder* window navigate to the home directory location and click **OK**. Click **Next**. The *Schema Creation Options* dialog box is displayed.
3. In the *Schema Creation Options* dialog box you must choose between:
  - Create New Database
  - Use Existing Database and Table Space

The rest of the installation depends on which schema option you choose. See the following section for installing both the database and ETL components using the **Create New Database** option, and for installing both the database and ETL components using the **Use Existing Database and Table Space** option.

### To install both the database and ETL components using the create new database option:

1. In the *Schema Creation Options* dialog box choose **Create New Database**. Click **Next**. The *Oracle Database Home & Default Tablespace Directory* dialog box is displayed.
2. In the Oracle Home Directory box enter the Oracle home directory's location. To navigate to the home directory location click **Choose**. In the *Browse For Folder* window navigate to the home directory location and click **OK**.

3. In the Database Datafile Directory box enter the database datafile directory's location. Click **Next**. The *Oracle Data Integrator Home Directory* dialog box opens.
4. In the Oracle Data Integrator Home Directory box enter the home directory's location. Click **Next**. The *PLM Database Details* dialog box opens.
5. In the Source Type list, choose between:
  - Oracle
  - MSSQLServer
6. Verify that the rest of the information in the *PLM Database Details* dialog box is correct. If not, simply edit the respective fields. Click **Next**. The *Choose Schema Option* dialog box opens.
7. Choose **Default** to create three different database schemas. The first database schema for data mart and MDS, the second database schema for ODI work repository, and the third database schema for ODI Master repository. Choose **Single Schema Installation** to install data mart, MDS, ODI work repository, and ODI master repository in a single database schema. Click **Next**.
8. Continue entering information and locations for database, datafile, ODI repository, tablespace and so on.
9. Review all the information in the *Pre-Installation Summary* dialog box.

If there are any mistakes or changes you need to make:

- a. Click **Previous** till you arrive at the dialog box where you need to make changes.
- b. Make the required changes.
- c. Click **Next** till you come back to the *Pre-Installation Summary* dialog box.
- d. Click **Install**.

If you do not need to make any changes:

In the *Pre-Installation Summary* dialog box click **Install**.

**To install both the database and ETL components by using the existing database and tablespace option:**

1. In the *Schema Creation Options* dialog box choose **Use Existing Database and Table Space**. Click **Next**. The *Oracle Database Home Directory* dialog box is displayed.
2. In the Oracle Home Directory box enter the home directory's location. To navigate to the home directory location click **Choose**. In the *Browse For Folder* window navigate to the home directory location and click **OK**. Click **Next**. The *Oracle Data Integrator Home Directory* dialog box opens.
3. In the Oracle Data Integrator Home Directory box enter the home directory's location. Click **Next**. The *PLM Database Details* dialog box opens.
4. In the Source Type list, choose between:
  - Oracle
  - MSSQLServer
5. Verify that the rest of the information in the *PLM Database Details* dialog box is correct. If not, simply edit the respective fields. Click **Next**. The *Choose Schema Option* dialog box opens.

6. Choose **Default** to create three different database schemas. The first database schema for data mart and MDS, the second database schema for ODI work repository, and the third database schema for ODI Master repository. Choose **Single Schema Installation** to install data mart, MDS, ODI work repository, and ODI master repository in a single database schema. Click **Next**.
7. Continue entering information and locations for database, datafile, ODI repository, tablespace and so on.
8. Review all the information in the *Pre-Installation Summary* dialog box.  
If there are any mistakes or changes you need to make:
  - a. Click **Previous** till you arrive at the dialog box where you need to make changes.
  - b. Make the required changes.
  - c. Click **Next** till you come back to the *Pre-Installation Summary* dialog box.
  - d. Click **Install**.
 If you do not need to make any changes:  
In the *Pre-Installation Summary* dialog box click **Install**.

## Installing BI Components

After you complete the installation of Data Mart Schema and ETL components, you need to install the BI components.

### To install the BI Components:

1. Start the installer.
2. In the **Welcome** window, click **Next**.
3. In the *Choose Agile PLM Source* window, select either Agile PLM or Agile PLM for Process. Click **Next**.
4. In the **Choose Install Set** window, select the **PLM Business Intelligence** option.
5. In the **Business Intelligence Application Temp Directory** window, enter the path to a folder or use the **Choose** button to select a folder as the Business Intelligence Application Temp Directory. The next steps vary based on your selection. Click **Help** on the wizard window for details on values to be entered in each step of the installation wizard.
6. Verify the installation details of the selected component that appear in the **Pre-installation Summary** window.
7. Click **Install**.
8. In the **Installation Completed** window, click **Done**.
9. To deploy the OBIEE 11g RPD and Webcatalog, follow all the steps shown in Deploying Oracle PLA Model (PLMA RPD) and Web Catalog in OBIEE on page 40 before proceeding to the next step.
10. Restart BI Services.

## Postinstallation Tasks

This section describes the post-installation tasks and recommendations.

## Installation Folder Structure

After you complete the installation of Oracle Product Lifecycle Analytics, the installation directory should contain the following subfolders:

Name of the Folder	Description
\ant	Used to execute ANT scripts
\bin	Configuration tools and Miscellaneous entities
\common	Common Components such as PL/SQL logging libraries
\config	All Oracle Product Lifecycle Analytics configurations including the ANT install configuration file
\images	Contains images used in the Configurator tool.
\install	Installation components such as SQL scripts, ETL objects, and Java classes
\jdk	Contains JRE 1.5, used to install ETL components and to launch Configurator.
\lib	Dependent libraries that the OPLA installer and Configurator uses.
\logs	Centralized location for logs specific to Oracle Product Lifecycle Analytics.
\ETL_logs This folder is not created if only the database is installed.	Contains the log file for every ETL run.
\Schema This folder is created only for the Generate SQL option that you select during the installation of Data Mart DB Schema and ETL components.	SQL scripts to Create, update or delete schema Create pre and post-populate scripts
\olap This folder is created only for the OBIEE Privilege Issue, RPD and Web Catalog installation.	BI Repository and Web Catalog
\uninstaller	Executable files to uninstall the software. This folder also includes executable file to remove any installed Hot Fix or Service Pack for Analytics.

## Adding Database Services to the Listener

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**Note:** This is only applicable for Agile PLM deployments creating a new Oracle PLA Data Mart database instance.

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Upon completion of the Installation process, you are required to add database services to the Listener. Use the Oracle Net Manager to specify:

- Global Database Name [eg, PLMDM]
- Oracle Home Directory [eg, D:\ORACLE\product\11.2.0\db\_1]
- SID [eg, PLMDM]

Stop and restart the Listener after you have added the services.

## Enabling ECO Cumulative Fact Table Population

The ECO Cumulative fact table population task is disabled by default. CUMULATIVE column in the ETL\_PARAMETER table will populate to the default value 0.

To enable the ECO Cumulative fact table population task, update the CUMULATIVE column in the ETL\_PARAMETER table to 1.

## Verifying ODI Repositories

Log in to **ODI Designer** to verify the following:

1. Projects tab lists the AGILE\_PLM\_ANALYTICS project for Agile PLM and AGILE\_PLM4P\_ANALYTICS project for Agile PLM for Process.
2. Open **ODI Topology Manager** and make sure the Source PLM Database SID and schema user details are populated:
  - a. Double-click **Physical Architecture tab > Technologies > Oracle > SRC\_CONN\_PHYSICAL** and verify the Instance and Schema name details in the **Definition** tab.
  - b. Click the **JDBC** tab and verify that the JDBC URL is pointing to the correct SID on the Source PLM Database machine.
3. Open **ODI Topology Manager** and make sure the Data Mart Database SID and schema user (default: MDS) details are populated:
  - a. Double-click **Physical Architecture tab > Technologies > Oracle > TRG\_BI\_PHYSICAL** and verify the Instance and Schema name details in the **Definition** tab.
  - b. Click the **JDBC** tab and verify that the JDBC URL is pointing to the correct SID on the Target MDS Database machine.
4. (Optional) Open **ODI Topology Manager** and make sure the Staging Database SID and schema user (default: ODM) details are populated, if installed as a separate schema:
  - a. Double-click **Physical Architecture tab > Technologies > Oracle > TRG\_ODMCONN\_PHYSICAL** and verify the Instance and Schema name details in the **Definition** tab.
  - b. Click the **JDBC** tab and verify that the JDBC URL is pointing to the correct SID on the Staging Database machine.

## Starting Services

Make sure to start the following services or processes in the listed order:

1. Oracle BI Java Host
2. Oracle BI Server
3. Oracle BI Presentation Server

For OBIEE 11g, start the BI server, which will in turn start the WebLogic Admin Server, WebLogic Managed Server, and Oracle Process Manager (OPMN).

## Administering Users and Passwords in OBIEE

User names and passwords are used to log in and authenticate with OPLA and OBIEE components. In order to administer the OPLA system, you should be aware of the various users and passwords in OBIEE. For 11g, you will have to provide both Administrator and Repository passwords.

For more information on administering users and passwords, see the Oracle Business Intelligence Enterprise Edition Deployment Guide.

## Deploying Oracle PLA Model (PLMA RPD) and Webcatalog in OBIEE

Following table provides the naming conventions for OBIEE 11g RPD and Webcatalog files:

Agile PLM		Agile PLM for Process	
Oracle PLA Model (PLMA RPD)	PLMA9_11g.rpd	Oracle PLA Model (PLMA RPD)	P4P_11g.rpd
Oracle PLA Web Catalog	PLMA_11g	Oracle PLA Web Catalog	PLMA_11g

You can find the above files in the location:*For Oracle PLA Installer:* <PLMBI>\olap\rpd and <PLMBI>\olap\webcatalog. If <PLMBI> is not set as the temporary installation location, i.e., if you have installed the Oracle PLA BI RPD and Web catalog files in a different location, replace <PLMBI> with the location you have specified.

### To deploy OBIEE11g RPD and Webcatalog:

- Copy the 11g RPD file from the install location to:  
<OBIEEHomeDirectory>\instances\instance1\bifoundation\OracleBIServerComponent\coreapplication\_obis1\repository
- Check for TNS entries in the tnsnames file located at  
<OBIEEHomeDirectory>\Oracle\_BI1\network\admin to connect RPD without errors. Add the entries if you do not find the SID entries.
- Open the RPD file that you have copied to connect to the database. Set the MDS user name, password, and TNSNAME instance to connect to SID.  
**Note** The default password for RPD is oracle123.
- Save and close the RPD file after changing the two connection details.
- Select **No** in the **Check Global Consistency** window.
- Copy PLMA\_11g (11g catalog) to the location<OBIEEHomeDirectory>\instances\instance1\bifoundation\OracleBIPresentationServicesComponent\coreapplication\_obips1\catalog

If you are using Windows 2008, follow this step: **Cut** PLMA\_11g (11g catalog) to the location  
<OBIEEHomeDirectory>\instances\instance1\bifoundation\OracleBIPresentationServicesComponent\coreapplication\_obips1\catalog

**Note** Make sure you check the status of the BI services by opening the Enterprise Manager using the URL <http://localhost:7001/em>.

7. Open the Enterprise Manager and enter the WebLogic username and password.
8. Click on **Business Intelligence** and select **Coreapplication**.
9. Click on the **Lock and Edit Configuration** tab. You will notice the Deployment tab displayed.
10. Close the confirmation window that displays a message *Lock and Edit Configuration - Completed Successfully*.
11. Select **Deployment > Repository** and click **Browse** in the **Upload BI Server Repository** section.
12. Navigate to the location where 11g RPD has been copied as shown in step 1 and click **Open**.
13. Enter the password in the **Repository Password** and **Confirm Password** fields.
14. Enter the following location for *PLMA\_11g* in the **Catalog Location** field located in the **BI presentation Catalog** section. `$ORACLE_INSTANCE/bifoundation/OracleBIPresentationServiceComponent/$COMPONENT_NAME/catalog/`.
15. Click on **Apply** displayed at the top right corner of the screen.
16. Select **Change Center** and click **Activate Changes**.
17. Close the confirmation window that displays a message *Activate Changes - Completed Successfully*.
18. In the **Overview** page, select **Restart** to restart the services and apply the changes.
19. After completing the restart process, check the status of the presentation services using the URL <http://localhost:9704/analytics>.
20. Check `NQSCfg.ini` file located in `<OBIEEHomeDirectory>\instances\instance1\config\OracleBIServerComponent\corapplication_obis1` to confirm if all the changes have been configured.

## Uninstalling Oracle Product Lifecycle Analytics

The uninstaller application is available in the **Uninstaller** folder within the installation base directory for Windows installer.

### Example:

```
<Oracle_PLA_Home>\Uninstaller
```

It is recommended that you create a backup copy of the folder before you begin the un-installation of the application.

For Windows, double-click the file named **UninstallOracle Product Lifecycle Analytics.exe** to uninstall the Oracle Product Lifecycle Analytics application.

For Linux, run the script **UninstallOracle\_Product\_Lifecycle\_Analytics.sh** to uninstall the Oracle Product Lifecycle Analytics application.

You must manually remove the schemas after uninstalling the Oracle Product Lifecycle Analytics application.

If the install folder is not deleted automatically after you uninstall the application, you need to manually delete the `<Oracle_PLA_Home>` folder.

## Enabling PLM Reference Attributes in Configurator

If Agile PLM version is lower than 9.3, run:

```
<OPLA_INSTALL_HOME>\install\schema\mds\DictionaryUpdate922x.sql
```

 on MDS to enable the PLM reference attributes in Configurator.

## Executing ETL

The following sections provide information on executing ETL.

### Optimizing ETL Performance

Before you execute ETL, it is recommended that you configure the following parameters to optimize ETL performance:

- DB Session and process parameters
- Heap Size in ODI
- ODITimeOut Parameter in ODI

### DB Session and Process Parameters

Verify that the database has enough database sessions (>500) to execute ETL in ODI.

**To verify the DB session and process parameters:**

1. Login using sys as sysdba in command prompt using SQLPlus
2. Execute SHOW PARAMETER SESSIONS
3. Execute SHOW PARAMETER PROCESSES
4. Execute 'Alter system set processes=1000 scope=spfile

Alternatively,

Execute 'Alter system set processes=1000 scope=both

5. Restart the instance. For more information, see the Oracle Database documentation.

### Heap Size in ODI

The recommended sort\_area\_size is 209715200.

The heap size in ODI should be modified to enhance the ETL performance by updating the odi\_init\_heap and odi\_max\_heap parameters in the odi.conf and ide.conf files. The optimal value of the heap size depends on the source database size and the total amount of memory available on the ODI server. The default values are:

- ODI\_INIT\_HEAP: 32M
- ODI\_MAX\_HEAP: 256M

The recommended settings are:

- ODI\_INIT\_HEAP: 256M
- ODI\_MAX\_HEAP: 1024M

Depending on the available memory in the ODI server, odi\_max\_heap size can be increased, but it should not be greater than or close to the available memory size.

**To increase the heap size:**

1. Navigate to <ODI Home>/oracledi/client/odi/bin/ and change the odi\_init\_heap and odi\_max\_heap parameters in the **odi.conf** file.
2. Navigate to <ODI Home>/oracledi/client/ide/bin/ and change the odi\_init\_heap and odi\_max\_heap parameters in the **ide.conf** file.

**ODI Timeout Parameter in ODI**

Set the ODITimeOut Parameter to 180 seconds. Use **File > User Parameters** in the ODI Designer Tool Menu Bar to modify this value. The default value is 30 seconds.

**Setting up ODI Users**

To run ETL tasks and operate on data, you can use ODI.

ODI User setup requires the information entered during installation, such as, user names and passwords.

**To configure a user:**

1. On Windows, run the program from **Start > Programs > Oracle > Oracle Data Integrator > ODI Studio**.

The *Oracle Data Integrator Start Page* appears.

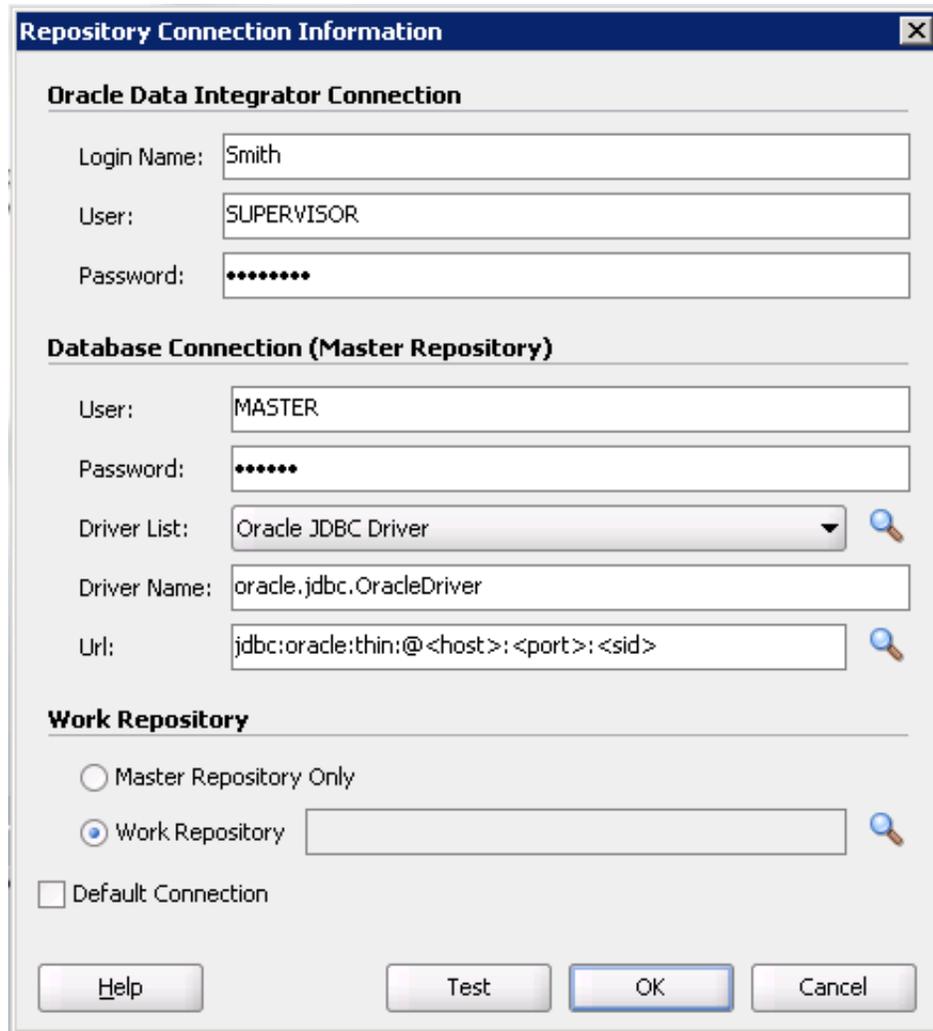
2. Click the **Connect to Repository...** icon

The *Oracle Data Integrator Login* dialog box is displayed.

3. Click the + icon to create a new Work Repository Connection.

The *Repository Connection Information* screen appears.

**Figure 5–1 Repository Connection Information**



4. Enter **Login Name**, **User** (name) and **password** for ODI connection.  
 These can be of your choice. The default User Name is **SUPERVISOR** and the password is **SUNOPSIS** (case sensitive).  
 The default password for the SUPERVISOR account is SUNOPSIS. You should change this password immediately. To configure additional users or change the password for SUPERVISOR, refer to the ODI documentation.
5. Enter the **User name** and **password** for Master Repository DB connection that you specified during installation.
6. Select **Oracle JDBC Driver** from **Driver List**.  
 The **Driver Name** field is automatically filled with *oracle.jdbc.driver.OracleDriver*.
7. Enter the following URL:  
 jdbc:oracle:thin:@<host>:<port>:<sid>  
 where

<host>	Host name of Oracle Product Lifecycle Analytics DB Server
--------	---

<port>	Port Number of Oracle Product Lifecycle Analytics DB Server
<sid>	SID or the Instance name of Oracle Product Lifecycle Analytics DB

8. Enter the **Repository Name** for Work Repository.
9. Click **Test** button to verify the connection works.
10. Click **OK**. You are prompted to enter the Work Repository Password.
11. Enter the Work Repository Password that was assigned during installation and click **OK**.
12. Click **OK** to finish.

For complete information on installation and usage of ODI, refer to its documentation available at the Oracle Technology Network (OTN) Web site <http://www.oracle.com/technology/documentation>.

## Starting ETL

After the Installation of OPLA is complete and ODI users are configured, execute the Data integration task using the ODI Operator to load data into Data Mart. You can also execute ETL from the command prompt. Before you execute the ETL, it is recommended that you follow the guidelines mentioned in the section Optimizing ETL Performance.

ETL loads data in batches into target tables independently. It is likely that the queries executed by the server or any other downstream application may find that the data in these tables is not available or the data is inconsistent during ETL loads. For consistent and high availability of data during the ETL load windows, refer to and leverage various Oracle database technology options to enable maximum data availability solutions.

If you want to see the status of all the tasks that are under execution, increase the Operator Display Limit to 1000 (the default value is 100). Click **ODI > User parameter > Setoperator Display limit** to change the operator display limit.

### To execute ETL from ODI:

1. On Windows, run the program from **Start > Programs > Oracle > Oracle Data Integrator > ODI Studio**.

The *Oracle Data Integrator 11g Start Page* appears.

2. Click the **Connect to Repository...** icon

The *Oracle Data Integrator Login* dialog box is displayed.

3. Click the + icon to create a new Work Repository Connection.

The *Work Repository Connection* screen appears.

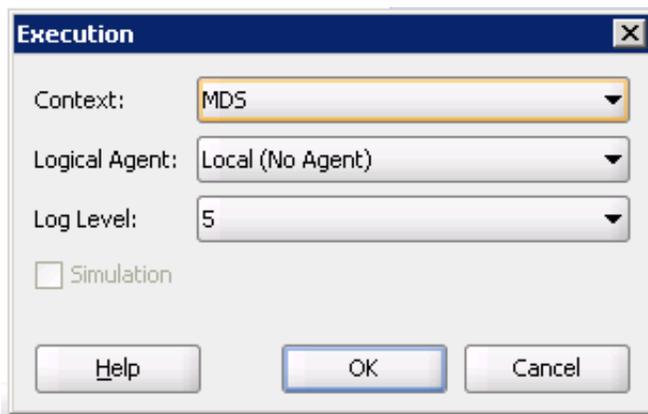
4. Enter **Login Name**, **User** (name) and **password** for ODI connection.

These can be of your choice. The default User Name is **SUPERVISOR** and the password is **SUNOPSIS** (case sensitive).

The default password for the SUPERVISOR account is SUNOPSIS. You should change this password immediately. To configure additional users or change the password for SUPERVISOR, refer to the ODI documentation.

5. Enter the **User name** and **password** for Master Repository DB connection that you specified during installation.
6. Select the **Operator** tab, and navigate to **Load Plans and Scenarios** section.
7. Right-click the **ANALYTICS\_ETL Version 001** component for Agile PLM or the **AGILEP4P\_ETL\_LOAD** component for Agile PLM for Process and select **Execute**. The **Execution** window appears.

**Figure 5–2 Execution window**



8. Select MDS as **Context**.
9. Click **OK**. The **Information** window stating that the message *Session started* appears.
10. Click **OK**. The ETL process begins.

After ETL is executed, ODI sends a success or failure notification to the email users configured during installation. Email user configurations can be changed in the ETL\_PARAMETER table in the MDS schema. The ETL\_PARAMETER table is in the ODM schema if ODM and MDS were installed in separate schemas. These parameters can also be changed using the Configurator for Agile PLM deployments only.

## Executing ETL from Command Prompt

To execute ETL from command prompt:

1. Modify "update Repository Connection Information", " User credentials for agent startup program" and "Work Repository Name" details in the below mentioned files. On Windows: **odiparams.bat** On UNIX: **odiparams.sh**
2. Open a Command Prompt window, change to the **<ODI\_HOME>\oracledi\agent\bin** directory.
3. Type the following command: On Windows: **startscen.bat ANALYTICS\_ETL 001 MDS 5** On UNIX: **sh startscen.sh ANALYTICS\_ETL 001 MDS 5** where **startscen** is the batch/shell file that executes ODI tasks **ANALYTICS\_ETL** is the ETL Package **001** is the version number associated with the ETL Package **MDS** is the ETL Context.

## Viewing the ETL Process Status

To view the ETL process status:

1. Launch the ODI Studio and select **Login**.

2. Enter the user name and password. Click **OK**.

The user name and password populate automatically on subsequent launches.

3. In the **Operator > Sessions List** tab, select **All Executions** in the left frame which shows all running tasks.

Alternately, in the **Hierarchical Operator > Sessions list** tab, select **Status** or **All Executions** in the left frame to check overall progress.

After ETL is executed, ODI sends a success or failure notification to the e-mail users configured during installation. E-mail user configurations can be changed in the **ETL\_PARAMETER** table in the MDS schema. The **ETL\_PARAMETER** table is in the ODM schema if ODM and MDS were installed in separate schemas. These parameters can also be changed using the Configurator for Agile PLM deployments only.



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# OPLA Installation on Real Application Cluster

This chapter lists the prerequisites, installation procedure, and post-installation guidelines for installing OPLA on Real Application Cluster.

## Prerequisites

1. Install Oracle Database cluster. For more information, see Oracle Database documentation.
2. Install supported ODI version. For more information, see ODI Installation documentation.

## Installing Oracle PLA on Real Application Cluster

1. Create TNS entries for Agile PLM source on each node in the cluster.  
ETL will fail if the TNS entries are not created. This is not required while installing Agile PLM for Process.
2. Install OPLA in any of the nodes in the cluster environment by following the installation procedure provided.

## Post Installation Tasks

After you install OPLA on RAC, perform the following steps:

1. Launch the ODI Operator.  
**Note** OPLA can be installed on any of the nodes in the cluster.
2. In the **Work Repository Connection** window, the **URL** is displayed in the format `Jdbc:oracle:thin:@<host>:port:sid`. Replace the **URL** with the corresponding details of the two nodes.

**For example:**

```
Jdbc:oracle:thin:@(DESCRIPTION=(LOAD_BALANCE=on)
(ADDRESS=(PROTOCOL=TCP) (HOST=<NODE # 1 HOSTNAME>
(PORT=1521))
(ADDRESS=(PROTOCOL=TCP)(HOST=<NODE # 2 HOSTNAME>
(PORT=1521))
(CONNECT_DATA=(SERVICE_NAME=<SID NAME>)))
```

For more information on setting up ODI Users, refer to Setting up ODI Users.

3. Launch the **Topology Manager** and update the target JDBC database configuration for both Staging and MDS. Please refer to the example provided in *Step 2*.

For more information, see ODI documentation or contact Oracle Support.

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## Troubleshooting

This chapter lists common errors and troubleshooting guidelines for your reference. If you experience errors other than those listed here, contact Oracle Support.

**Note** All issues are applicable for Agile PLM and Agile PLM for Process, unless stated otherwise.

### Installation Issues

#### **Unsupported Operating systems error**

I use Windows XP operating system. I get a warning that states 'Unsupported Operating System' when I run the OPLASetup.exe file. There are options to quit or continue the installation. If I continue the installation what is the impact?

Cause:

You are running the installer on a computer that is not a Server. This warning indicates that Oracle does not support any issues that might come up after the installation of the software on a desktop at work or a Personal Computer (PC) used for software demonstrations.

Action:

There are no known adverse impacts if you continue with the installation. This warning does not appear if you install OPLA on a Server.

You can choose to quit the installation if you do not want to install the application on your work desktop or Home PC.

#### **Installation Unsuccessful**

During the installation of OPLA, I get an error message: Installation unsuccessful.

Action:

If the Database and ETL are installed together, check the Logs\DataMartInstall.log file. If the Database and ETL are installed separately, including on different machines, check the database install log at logs\DatamartDBInstall.log and the ETL install log at logs\DataMartETLInstall.log.

Repeat the installation using the latest download of the OPLASetup file.

#### **Unable to select the same installation directory if I install Oracle Product Lifecycle Analytics database and ETL components separately**

I have installed the OPLA database. I am unable to install the OPLA application in the same system and in the same directory where the database is installed.

Action:

If you are installing both the database and ETL on the same system, you can select both options together in the installer. If you install them separately in the same system, you will need to use two separate install folders.

### **Page cannot be displayed**

I completed the installation successfully but when I launch the OPLA application URL, I get a 'Page cannot be displayed' screen.

Action:

Make sure to start the following services in the listed order:

1. OC4J
2. Oracle BI Java Host
3. Oracle BI Server
4. Oracle BI Presentation Server

Installer failed to create Data Mart schema, ODI Work repository and/or ODI Master repository schemas

Look for possible root causes in **DatamartInstall.log**, located in the logs folder of the Oracle PLA Data Mart install home directory.

Possible root causes could be:

- Database version specified is different from the one installed in the system. For example, Oracle 11g option is selected during installer while the machine has Oracle 12c.
- Path specified for Oracle Target DB Tablespaces could be invalid.
- Oracle Database path specified is incorrect.
- Database Instance exists, but the System user does not have proper privileges required to create and grant appropriate roles to schema users.

### **Incorrect installation of Oracle database**

Database name specified when you create the database, may pre-exist. Choose another data base name to resolve the issue.

### **Installer failed to create ODI Work repository and ODI Master repository**

Look for possible root causes under **ODIRepCreation**: tag in **DatamartInstall.log**:

- Work Repository and Master Repository schemas are not created for possible root causes outlined in #1.
- Tablespace specified for Work & Master repository are invalid.
- JAVA\_HOME and JAVA\_ODI\_HOME environment variables are incorrect.
- Specified ODI directory is incorrect or ODI is not installed at specified path.

### **ODI Project "AGILE PLM ANALYTICS" does not have any packages**

Besides the root causes outlined in #2, look for errors under **ODI-PHY-Creation** section in **DatamartInstall.log** for other issues:

- OdiImportObject failed to execute for incorrect JRE specified
- JDK version specified is either less than 1.5.x or 1.6 or above.
- Specified Work Repository Name is already used in existing ODI

- ODI already has projects that have conflicting Work and Master Repository IDs. Oracle PLA Data Mart uses following repository IDs:

Work Repository ID = 102

Master Repository ID = 103

#### **Data Mart installation failed in Solaris.**

If you are using Solaris installer for ODI, the Data Mart Installation fails. To avoid this installation error, use ODI Linux installer and manually install ODI as outlined in the ODI Installation Guide.

#### **Installation fails with non-default Listener**

If you are installing OPLA Data Mart on a database with a non-default listener on a non-default port, make sure the listener is added to the listener.ora file in order to be recognized by the installer.

#### **Installer unable to find Oracle Database Server**

If you are installing OPLA Data Mart on a 64-bit Windows system, an error message may display stating that the Oracle Database server was not found, even though it is installed. Ignore this message and continue with the installation.

#### **Data Mart database instance not recognized by Oracle Database Configuration Assistant when using the Oracle Product Lifecycle Analytics Installer.**

A user with Admin privileges must manually add the database as an entry to the oratab file, located in either the /etc or var/opt/oracle/ directory, based on the operating system.

#### **Unable to update RPD and Web Catalog**

The Oracle Product Lifecycle Analytics Installation is unsuccessful. I am unable to update RPD and Web Catalog.

Action:

Ensure that the OC4J server is running before you begin the installation.

#### **My OC4J server is not starting after deploying the RPD.**

Make sure that you have configured appropriate Connection Pool settings in OBIEE Administrator.

#### **To configure connection pool settings:**

1. Log in to the OBIEE Administration tool.
2. Verify in the Physical layer that **Data Source Name** is PLMA and its username/password is PLMBIMDS/PLMBIMDS.  
**Note** The login details provided are default logins and may differ from those on your system, if changed during installation.
3. In the Connection Pool window of Physical Layer, if the Data Source Name is not PLMA, then replace the Name in the **Data Source Name** field.
4. In the Connection Pool window of Physical Layer, if the username and password of the MDS Database are not PLMBIMDS, then replace the username and password in the **User name** and **Password** fields. Click **OK**.
5. Confirm the new password.

## ETL Runtime Issues

### Connection Identifier error on ETL run with Agile PLM source (Agile PLM)

When I run ETL, the ODI\_INT\_CREATE\_DBLINK task displays a connection identifier error message.

Cause:

The TNSNAMES.ORA file does not have the correct information that enables connection to the source database.

Action:

Add a TNSNAME entry in the target database that points to the source database before you run the ETL.

If the database SID name of the source and target database are different (Example: Source SID = AGILE9 and Target SID = PLMDM), then modify the TNS Service name to the name of the source database name in the tnsname.ora file, like AGILE9, in this example.

If the database SID name of the source and target database are the same (Example: Source SID = AGILE9 and Target SID = AGILE9), to eliminate DBLINK errors:

1. Modify the TNS entry as follows:

```
AGILE9_LAB1 =  
(DESCRIPTION =  
(ADDRESS_LIST =  
(ADDRESS = (PROTOCOL = TCP)(HOST = LAB1)(PORT = 1521))  
)  
(CONNECT_DATA =  
(SERVICE_NAME = AGILE9)  
)  
)
```

2. Start > Oracle > Oracle Data Integrator > Topology Manager

In the Topology Manager select Physical Architectures  
>Technologies>Oracle>SRC\_CONN\_PHYSICAL.

3. Replace the added TNSNAME (Example: AGILE9\_LAB1) in the DB link column.

### Credential retrieval failure error on ETL run (Agile PLM)

My Database server and ODI/ETL systems are in two different domains. When I run ETL, the ODI\_INT\_CREATE\_DBLINK scenario returns the following message:

ORA-12638: Credential retrieval failed.

Cause:

The source DB and target DB are in different domains.

Action:

To eliminate the DBLINK errors:

1. Navigate to the %oracle\_home%\network\admin directory.

2. Modify the SID and HOSTNAME in the TNSNAME entry to reflect the domain name.
3. Start > Oracle > Oracle Data Integrator > Topology Manager.
4. In the Topology Manager, select  
Physical Architectures > Technologies > Oracle > SRC\_CONN\_PHYSICAL.
5. Replace the added TNSNAME ( Example: AGILE9.ALAB01) in the DB link column.

**To verify DBLINK:**

Execute the scenario ODI\_INT\_CREATE\_DBLINK from ODI operator in ODI.

If the scenario fails, the following message appears again:

Link AGILE9.ALAB01 error: ORA-12638: Credential retrieval failed

**To resolve this issue:**

1. Navigate to the %oracle\_home%\network\admin directory
2. Modify the value of SQLNET.AUTHENTICATION\_SERVICES in sqlnet.ora file as follows:  
Original Entry - SQLNET.AUTHENTICATION\_SERVICES= (NTS)  
Modified Entry - SQLNET.AUTHENTICATION\_SERVICES= (NONE)
3. Restart the database instance.
4. Re-run the scenario ODI\_INT\_CREATE\_DBLINK from ODI operator in ODI.

**Unable to run ETL after a configuration change**

If there are any PLM configuration changes, such as the renaming of an attribute, it is recommended that you run a full ETL. Consult Oracle Support if you need help in resetting your ETL to full load.

**Errors when using external .csv files**

Do not add deleted Projects to the prj\_cost.csv and prj\_forecast.csv files.

**If any ETL task fails during run-time the best option is to check the Execution tab of the ETL task in ODI Operator:**

1. Log in to ODI Operator.
2. Select the **Sessions List** tab.
3. Expand **All Executions** in the left pane.
4. Select the task that is failing by double-clicking on it.
5. Select the **Execution** tab to view error details. Optionally, you can also export entire log file as an XML file thru Operator to check for multiple errors.
6. If the scenario name starts with **ODI\_PRO**, look for PL/SQL errors logged in the VLOG table. See **PL/SQL Logging** section for more details on how to enable "debug mode" for detailed PL/SQL traces. Debug Mode for PL/SQL should be enabled if you need to further debug the issue.

**If any ETL task hangs during run-time, check the Execution tab of the ETL task in ODI Operator:**

1. Log in to ODI Operator.
2. Select the **Sessions List** tab.

3. Expand **All Executions** in the left pane.
4. Identify the task that is hanging by double-clicking on it.
5. Consult your DBA and provide the details noted in the previous step to help research and possibly identify any long-running SQL in the Data Mart schema.
6. Enable the Debug Mode for PL/SQL and look for errors in the VLOG table.

## PL/SQL Logs

The log details are stored in the following table/view in the Data Mart schema:

- TLOG (Table)—This table contains information like timestamp, ID, etc.
- VLOG (View)—This is a view created for the TLOG table and contains only the ERROR messages.

The values for LOG\_LEVEL in the ETL\_parameter table can be set as follows:

LOG_LEVEL	Mode	Value
	OFF	10
	FATAL	20
	ERROR	30
	WARN	40
	INFO	50
	DEBUG	60
	ALL	70
	The default value of LOG_LEVEL is '30'.	

## Database Issues

### Connectivity Errors

- Agile PLM or Agile PLM for Process source database is available and accessible from the Oracle PLA Staging machine
- Verify source database schema details
- Target (OPLA Data Mart) database is available
- Verify Target database schema details

### **DB Link does not work when source and target schema are created in the same database (Agile PLM)**

Create a TNS name that is different from the database name and SID. In the ODI Topology Manager, go to Physical Architecture>Technologies>Oracle>SRC\_CONN\_PHYSICAL. Manually update the Instance/Data Server field.

### **Data Issues such as column width**

Check the column in both Source and Target schema (refer to Schema documentation for table/column details).

### **Disk space**

Check the Target database machine to ensure enough space is available for ETL to execute and add data.

**Database Sessions to execute ETL**

Check the database for enough sessions (>500) with which the ODI will run smoothly. To check database session and process parameters:

1. Login as sys/<PWD> as sysdba in command prompt using sqlplus.

SHOW PARAMETER SESSIONS

SHOW PARAMETER PROCESSES

2. Alter system set processes=1000 scope=spfile; OR

3. Alter system set processes=1000 scope=both;

4. After altering the Database, restart the instance.

**Linux/Unix Specific only**

- If you receive a 'cannot execute' message, re-run the command with the following options: `chmod u+x OPLASetup*.bin`
- Make sure the TNS Listener is running with the `ps -ef | grep tns` command. If nothing shows, then it is not running.
- If the TNS Listener is running, check the status with the `lsnrctl status` command.

**Unable to view reports**

When I login to the Oracle Product Lifecycle Analytics Application, I am unable to view any report. The window displays ODBC Driver errors.

Action:

If either TNSNAMES or MDS schema names or both are not default, reconfigure the TNSNAMES.ORA file, CONNECTION POOL details and MDS Schema Name in OBIEE Administrator, as appropriate.

## OBIEE 11g Privilege Issues

**Unable to view the Edit Dashboard option even though relevant privileges are set to edit the dashboard**

Perform the following steps to enable the dashboard:

1. Deploy system-jazn-data.xml file
2. Import LDIF file into the Embedded LDAP server
3. Refresh the user GUIDs

**To deploy system-jazn-data.xml file**

1. Shutdown all processes in the BI EE system, specifically the following:
  - Administration server
  - All managed servers in the cluster (*bi\_cluster*)
  - All OPMN managed processes

2. Backup and rename the existing <DOMAIN\_HOME>\config\fmwconfig\system-jazn-data.xml.

For example, if the BI EE root folder is named OracleBIEE11g, then the domain folder location (on Windows) will be <OracleBIEE11g>\user\_projects\domains\bifoundation\_domain\config\fmwconfig.

3. Copy the **system-jazn-data.xml** file from <PLMBI>\olap\OBIEEPrivilegeIssue to <DOMAIN\_HOME>\config\fmwconfig.

**Note** <PLMBI> refers to Oracle Product Lifecycle Analysis Business Intelligence application temp directory where the RPD and Web Catalog folders are also located.

4. Start all the processes in the BI EE system for the Oracle BI Applications security policy to take effect, specifically the following:
  - Administration server
  - All managed servers in the cluster (*bi\_cluster*)
  - All OPMN managed processes

#### To import the OPLA Identity Store (LDIF) File into the Embedded LDAP Server:

Perform the following steps to import the OPLA LDIF file:

1. Log in to the WebLogic Server Administration Console. For example: `http://<hostname>:7001/console`.
2. Select the name of the security realm into which the LDIF file is to be imported. For example, *myrealm*.
3. Select **Providers > Authentication** and choose the provider into which the LDIF file is to be imported. For example, DefaultAuthenticator.
4. Select **Migration > Import**. Enter the full path of LDIF file in the text box **Import File on Server**. For example, <PLMBI>\olap\OBIEEPrivilegeIssue.
5. Click **Save**.

**Note** You need to import the standard (out-of-the-box) **OPLA LDIF** file into the WebLogic Server (embedded LDAP server) available in the installer location (<PLMBI>\olap\OBIEEPrivilegeIssue).

#### To refresh the user GUIDs

Perform the following steps to refresh the user GUIDs:

1. Open the **NQSConfig.INI** file in the Edit mode. For more information, refer to the *Oracle Fusion Middleware System Administrator's Guide for Oracle Business Intelligence Enterprise Edition*.
2. Locate **FMW\_UPDATE\_ROLE\_AND\_USER\_REF\_GUIDS** and set its value to **YES**.
3. Modify the **instanceconfig.xml** file to instruct the Presentation Services to refresh GUIDs on restart. Edit the file to add the last line in the following instruction.
 

```
<ps:Catalog xmlns:ps="oracle.bi.presentation.services/config/v1.1">
<ps:UpgradeAndExit>false</ps:UpgradeAndExit>
<ps:UpdateAccountGUIDs>UpdateAndExit</ps:UpdateAccountGUIDs>
```
4. From a terminal window, stop and restart the managed processes using the *opmnctl* parameters *stopall* and *startall*.

**Note** You can use the parameter status to verify process status throughout.

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## Frequently Asked Questions

**Note** All questions are applicable for Agile PLM and Agile PLM for Process, unless stated otherwise.

### Installation and Maintenance Issues

**Can I install the Data Mart Schema, ETL, and OBIEE application in one system?**

You can install ETL components including ODI in the system which has the Database installation. However, we recommend that you install OBIEE and Product Lifecycle Analytics Application components in separate systems for better performance results.

**If I modify the SID and User Name of the Data Mart database can I continue to use the existing installation of Product Lifecycle Analytics?**

You need to reinstall the application for the changes to take effect.

**How do I modify Passwords after the installation of Product Lifecycle Analytics?**

In Oracle Product Lifecycle Analytics, two different encryption techniques are used.

1. Encryption using OPLA encryption methods.

The passwords encrypted using this method are stored in `<Oracle_PLA_Home>\bin\DataMartConfig.properties`

2. Encryption using the ODI Agent.

These encryptions are used during ODI Imports and are stored in `<Oracle_PLA_Home>\bin\startdmparms.bat` (or `.sh`) and in `<Oracle_PLA_Home>\bin\startbiparms.bat` (or `.sh`)

<b>DataMartConfig.properties</b>	<b>Property Name</b>	<b>How to generate the password</b>
Agile PLM Source schema password	PLM_DB_PWD	DMEncoder.bat or .sh
Agile PLM for Process Source schema password	PLM4P_DB_USER_PWD	DMEncoder.bat or .sh
Data Mart Database sys schema password	SYS_USER_PASSWORD	DMEncoder.bat or .sh
Data Mart Database system schema password	DB_SYSTEM_PWD	DMEncoder.bat or .sh
Data Mart schema password	MDS_USER_PASSWORD	DMEncoder.bat or .sh

<b>DataMartConfig.properties</b>	<b>Property Name</b>	<b>How to generate the password</b>
Source schema Password, if installed as a separate schema	ODM_USER_PASSWORD	DMEncoder.bat or .sh
Master Repository schema password	MASTER_PWD	DMEncoder.bat or .sh
Work Repository schema password	WORK_PWD	DMEncoder.bat or .sh
Work Repository password	WORK_REP_PWD	DMEncoder.bat or .sh
<b>startdmparams.bat or .sh</b>	<b>Property Name</b>	<b>How to generate the password</b>
Master Repository Schema Password	ODI_SECU_USER	agent.bat or .sh (Located in the ODI Install\bin directory)

In addition, you need to change the password of the Data Mart connection details in the Physical Repository of ODI Topology Manager. For more information, refer to the *Oracle Data Integrator Installation and Configuration Guide*. Also, you may need to change the password of the PLMA.RPD repository file using the OBIEE Admin Tool. For more information, refer to the *OBIEE Installation and Configuration Guide*.

**What are the possible causes of failure in installation?**

The possible causes of installation failure are:

- Failure in the Import of ODI packages during installation
- Drop in database connections
- Out-of-space errors in database tablespaces
- Unsupported database, ODI, and OBIEE versions

**When I install OBIEE on Windows, the command prompt window for OC4J is always on. What should I do so I don't see this window?**

When you install OBIEE on Windows, the command prompt window for OC4J is always on when you start the computer. You can set OC4J to run as a Windows service to avoid seeing this command prompt.

**To set OC4J to run as a Windows service:**

1. Download JavaService -2.0.1.0
2. Extract the file to a directory.

**Example:**

C:\JavaService

3. Note the directory path of your oc4j.jar file in the OBIEE installation folder.

**Example:**

C:\OracleBI\oc4j\_bi\j2ee\home\oc4j.jar

4. In a Command Prompt window, navigate to the folder which has the extracted JavaService files.

**Example:**

cd C:\JavaService\

5. Type the following command using the two installation paths:

```
javaservice -install "Oracle BI EE OC4J" "C:\Program
Files\Java\jdk1.5\jre\bin\client\jvm.dll" -XX:MaxPermSize=128m
"-Djava.class.path=C:\OracleBI\oc4j_bi\j2ee\home\oc4j.jar" -start
oracle.oc4j.loader.boot.BootStrap -description "Oracle BI EE OC4J Service"
```

6. In **Start > Run**, type `services.msc` to open the Service manager and set the Oracle BI EE OC4J service to run in the 'Automatic' or 'Manual' mode.

**Can I use the Oracle Product Lifecycle Analytics Installer for remote installation (i.e. launch installer in machine A to install the software in machine B)?**

No, the installer does not support remote installation. However, you can manually install the database schema. See Manual Installation Steps for manual DB schema installation.

**How do I check if OC4J server is up and running?**

In `<OBIEE_Home>\oc4j_bi\j2ee\home\log\rmi.log` file, check for log entries similar to the following:

```
08/08/21 13:22:39.325 10.1.3.1.0 Started
```

```
08/08/21 13:34:40.392 10.1.3.1.0 Stopped (JVM termination)
```

This entry displays the Start time and End time of the OC4J server. If the OC4J is running, the log file will display only the Start time.

**How do I install and configure Oracle Product Lifecycle Analytics in a RAC environment?**

Contact Oracle Support for information on installing in a RAC environment.

**How do we localize the Oracle Product Lifecycle Analytics application?**

The Oracle Product Lifecycle Analytics application is built on Oracle Business Intelligence Enterprise Edition that is designed to work in multiple languages. Please refer to Appendix B "Localizing Oracle Business Intelligence Deployments" in the *Oracle® Business Intelligence Infrastructure Installation and Configuration Guide*.

The externalize strings utility in the BI Administrator displays the strings (names and descriptions) used specifically in the PLM Quality Presentation and Product Collaboration catalogs. Please note that an additional effort is required to translate them to the desired language before you can view the localized version of the application. Contact Oracle Support for additional information.

**What are the maintenance requirements?**

We recommend you to create periodic backup copies of the Data Mart schema and ODI repositories (Master and Work Repository).

## Reports and Dashboards Issues

**How do I ensure that the graphs in the BI Interactive Dashboards have the latest data?**

The Report Data refreshes with the successful completion of MDS. Contact your BI Administrator for the latest MDS ETL scheduling and completion information.

**What are the possible root causes for Reports/Dashboard issues?**

The possible causes for BI Reports/Dashboard Issues are:

- Patches or Minor release upgrades to BI
- Unsupported versions of OBIEE Server Upgrades
- Reports or Dashboard Configuration Changes
- Database or OBIEE Password Changes which do not reflect in Data Mart and ODI environments.
- LDAP Group Changes

#### **How do I configure the out-of-box Static Repository variables in the RPD, used for Oracle PLA Reports?**

There are two Static Repository variables in the RPD. The 'Default Initializer' value for both needs to be updated with the PLM source system URL details. This should be done during time of deployment.

The variables are as follows:

URLHOST: <Agile PLM for Process Source System URL>

A9URLHOST: <Agile PLM Source System URL>

**Note** Currently none of the OOB Agile PLM reports are using 'A9URLHOST' variable but this can be leveraged for customized reports.

If you are an Agile PLM for Process Business Intelligence customer, there are several reports (in Project Portfolio | Details page and Specification Dashboard) that leverage this variable. Consult with Oracle Support if further assistance is needed.

#### **How do I improve report performance during ETL?**

OPLA's ETL loads the data from the source database schema and Staging schema into the target MDS schema tables in batches. It is likely that the database queries executed by the BI server may find that the data in these MDS tables is partially available or is not consistent while the batch ETL tasks are running. You should leverage appropriate Oracle Database platform high availability options and appropriate OBIEE platform features to enable a solution that allows BI users to access reports without any errors or shows accurate data during ETL load windows.

## **ETL Issues**

#### **I made configuration changes in OPLA Configurator. What do I need to do? (Agile PLM)**

Whenever you make any configuration changes using OPLA Configurator, always execute a Full ETL Load.

**Note** You can use OPLA Configurator to change the ETL mode to Full, if it is not already. Refer to the question, Which scenarios can I configure using the Configurator, for more details.

#### **What are the possible causes for ETL run time failures?**

The possible causes for ETL run time failures are as follows:

- Agile PLM Server Upgrades such as HotFix Patches, and unsupported minor/major releases
- Agile PLM Configuration Changes
- Data Mart Configuration Changes
- Unsupported Database Server Version Upgrade

- Database Password Changes which do not reflect in Data Mart and ODI environments.
- Unsupported version of ODI Server Upgrade or Repository Changes

**Tablespaces assigned for Data Mart data and indexes grows after successive ETL runs. What are the steps that I can take to prevent this?**

After successful every ETL run, purge unused database objects using the following command:

```
PURGE TABLESPACE <Tablespace_Name>;
```

```
PURGE TABLESPACE agileodm;
```

```
PURGE TABLESPACE agileodm_indx;
```

**Are triggers shipped with the Agile PLM database disabled? (Agile PLM)**

Agile PLM sets up triggers in the Agile PLM database to update the last modified date columns for the rows in source tables. OPLA ETL uses the last modified date column value from the source database tables to extract changed data. If these source database triggers are disabled, CDC ETL does not capture the changed data. Make sure they are enabled.

To check if source triggers are enabled on the Agile PLM database schema, run the following SQL statement:

```
select * from user_triggers where trigger_name like '%_T';
```

If the Agile PLM triggers cannot be enabled, execute ETL in FULL Mode only and not in CDC mode.

**What steps do I follow to execute ETL always in FULL load type or always in CDC load type?**

ETL loads to both Stage and MDS schemas can be executed always in FULL load type by changing the values for the MDS and STAGE columns in the ETL\_PARAMETER table to Y.

Similarly, ETL loads to both Stage and MDS schemas can be executed always in CDC load by changing the values for the MDS and STAGE columns in the ETL\_PARAMETER table to N. However, note that the CDC load type uses the following rules:

1. The first ETL run is always executed as a FULL load, regardless of the configuration setting.
2. The last FULL load ETL run should be completed successfully. If not, successive ETL runs will be FULL load, regardless of the configuration.

For Agile PLM 9.x deployments, use the Configurator to configure the Stage and MDS load type parameters either to FULL or CDC instead of directly updating the ETL\_PARAMETER table. For more information, see the Oracle Product Lifecycle Analytics Configurator Guide.

**Note** ETL\_PARAMETER table is available on the ODM schema, if ODM and MDS are installed on separate schemas.

**Can I run Stage in CDC and MDS in Full?**

Yes, you can do this by updating the ETL\_PARAMETER table's MDS columns with Y and the STAGE column with N. However, ETL to Staging will run in FULL load if the last executed FULL load has failed.

**Can I run Stage always FULL and MDS in CDC?**

No, this is not a supported configuration.

**What are all the possible ETL run scenarios and how can I configure them?**

ETL behavior can be controlled by using the Configurator's ETL Runtime Configuration or by updating the ETL\_PARAMETER table manually.

Column Name in ETL_PARAMETER table	Value	Value in Configurator (ETL Runtime Configuration Window)	Description
MDS ETL Load Type	NULL/D	Disable	MDS module will not run.
MDS ETL Load Type	Y	FULL	MDS will always run Full Load.
MDS ETL Load Type	N	CDC	MDS may run Full or CDC depending on other conditions, like Configurator or last ETL status.
STAGE ETL Load Type	NULL/D	Disable	Stage module will not run.
STAGE ETL Load Type	Y	FULL	Stage will always run Full Load.
STAGE ETL Load Type	N	CDC	Stage may run Full or CDC depending on other conditions, like last ETL status.

Refer to the *Oracle Product Lifecycle Analytics Configurator Guide* for more information about ETL Runtime Configuration.

## DB Privileges

The DB privileges vary for single schema and multiple schema installations.

### Single Database Schema Privileges

The following are the privileges required when you use a single schema to host the DataMart, ODI Master, and ODI Work Repository objects:

Privilege	Purpose
CONNECT,RESOURCE	Basic privilege for the Schema User.
CREATE DATABASE LINK	Create DBLink to Agile PLM source system for every ETL run.
CREATE JOB	Creates a job in the schema
CREATE TABLE	Create table privilege for the schema.
CREATE SYNONYM*	Create a synonym for the source table.
CREATE MATERIALIZED VIEW*	Create materialized view on the schema.
SELECT ON V_\$DATABASE	Read platform information.
ALL ON SYS.DBMS_PIPE	PL/SQL logger privileges
EXECUTE ON, SYS.DBMS_SYSTEM	
CREATE VIEW	Create a view on the schema.
*Denotes Agile PLM databases only	

### Privileges for Multiple Schemas

The following are the privileges required when you install the Data Mart (ODM and MDS) on one schema and the ODI Master and ODI Work repositories on a separate schema:

Privilege	Purpose
CONNECT, RESOURCE	Required for MDS and ODI Repository schemas
CREATE SYNONYM	Create a synonym for the source table.
CREATE DATABASE LINK	Create DBLink to Agile PLM source database for every ETL run.
CREATE JOB	Creates a job in the schema

<b>Privilege</b>	<b>Purpose</b>
CREATE MATERIALIZED VIEW	Create materialized view on the schema.
CREATE VIEW	Create a view privilege for the schema.
CREATE TABLE	Create table privilege for the schema.
SELECT ON V_\$DATABASE	Reads Platform information.
ALL ON SYS.DBMS_PIPE	PL/SQL Logger Privileges
EXECUTE ON SYS.DMBS_SYSTEM	

The following are the privileges required when you install ODM and MDS in different schemas:

<b>Privilege</b>	<b>Purpose</b>
CONNECT, RESOURCE	Basic privilege for schema user
CREATE MATERIALIZED VIEW	Create a materialized view on the schema.

Log files are located in the Logs folder within the Oracle Product Lifecycle Analytics Home Folder. These log files are useful to troubleshoot the installation issues. The following table lists the various log files and descriptions:

Name of the Log file	Description
<b>Agile PLM</b>	
BRIDGE_SD.log	Status of MDS Bridge Control table seed data insert
LIST_DIM_SD.log	Status of MDS List dimension control table seed data insert
MDS_TEMP_DDL.log	Status of the MDS temp table creation
MDS_VIEWS.log	Status of the MDS views creation
PC_DDL.log	Status of the MDS PC table creation
PLSQLLogger.log	Status of the PL\SQL logger objects creation
SEED_DATA_GLOBAL.log	Status of the BI Measures and Dimension names seed data insert
USERDEF_OBJ.log	Status of the User Defined Dimension and Multi list table creation
UsersCreation.log	Log file for ODM user creation.
UsersCreation_mds.log	Log file for MDS user creation.
MDS_COMMENT.log	Status of Comments created on tables and columns
MDS_DDL.log	Status of MDS PQM tables and index creation
MDS_PROCS.log	Status of MDS Packages, procedures and function creation
MDS_SD.log	Status of static dimension table seed data insert
WorkSchemaUpd4BI.log	Status of snp_subscriber table which internally inserts the data of J\$tables.
LoadParameter4BI.log	Status of parameter details (such as mail id).
BI_DATA_DICT_PC_SD.log	Status of MDS PC module data dictionary seed data insert
BI_DATA_DICT_PPM_SD.log	Status of MDS PPM module data dictionary seed data insert.

<b>Name of the Log file</b>	<b>Description</b>
BI_DATA_DICT_PQM_SD.log	Status of MDS PQM module data dictionary seed data insert
PPM_DDL.log	Status of MDS PPM tables and comments creation.
ControlTables.log	Execution log for Control Table DDLs.
DBCcreation.log	Execution log for DBCreation script. This log file is created when you choose the new database option.
postDBCcreation.log	Log file for Post DBCreation script. This log file is created when you choose the new database option.
TablespaceCreation.log	Log file for TableSpace Creation script. This log file is created when you choose the new database option.
install_logger4odm.log	Execution log for PL/SQL logger package and DDLs.
LIST_DIM_SD.log	Execution log for List Dimension Seed data.
MDS_IND.log	Execution log for the Index Creation for MDS Schema.
ODM_DDL.log	Log file for the ODM Schema DDL execution.
ODM_DDL_COMMENTS.log	Execution log for ODM Table and Column Comment.
ODM_PROC.log	Log for ODM Procedure Creation.
ODM_SD.log	Log file for ODM Data Dictionary Seed data.
RepositoryCreation.log	ODI Repository creation log
BIInstall.log	Business Intelligence components installation log. This log file is generated only when BI components are installed.
DataMartInstall.log	Consolidated log file for DB and ETL installation.
DataMartETLInstall.log	Consolidated log file for ETL Component installation.
DataMartDBInstall.log	Consolidated log file for DB Component installation.
<b>Agile PLM for Process</b>	
commonDDLs.log	Log file for the DDL execution of metadata tables, such as ETL_Parameter and ETL_RUN_INFO.
install_logger4p4p.log	Execution log for PL/SQL logger package and DDLs.
LoadParameter4BI.log	Log file for inserting metadata into the ETL_Parameter table.
MDS_COMMENT.log	Status of comments created on tables and columns.

<b>Name of the Log file</b>	<b>Description</b>
MDS_DDL.log	Log file for the MDS Schema DDL execution
P4P_DDL.log	
P4P_MDS_PROCS.log	
PC_DDL.log	
PPM_DDL.log	
P4P_STAGING_ETL.log	Log file for PLM for Process procedure creation.
RepositoryCreation.log	ODI Repository creation log
SEED_DATA_GLOBAL.log	Log file for BI Presentation layer externalized string inserting into metadata table.
UsersCreation.log	User creation log
BIInstall.log	Business Intelligence components installation log. This log file is generated only when BI components are installed.
DataMartInstall.log	Consolidated log file for DB and ETL installation.
DataMartETLInstall.log	Consolidated log file for ETL Component installation.
DataMartDBInstall.log	Consolidated log file for DB Component installation.



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## Environment Propagation

One of the important features of Oracle Product Lifecycle Analytics is the Configurator, which supports mapping of source fields to Multi-Dimensional Schema tables and columns to enable report relevant data. These mapping details or metadata changes have to be propagated from one environment to another environment during deployment to ensure the configurations are the same on both of the source PLM systems.

If the Agile PLM configuration is the same in both environments, the propagation of source column mappings to the MDS schema from the first environment to the second environment is supported. An ACP-migrated Agile PLM configuration is **not** supported.

### Environment Propagation Process

The steps to propagate the environment are as follows:

1. Create the Agile PLM configuration in environment 1.
2. Run ODM ETL, perform the configuration mappings, then run MDS ETL in environment 1.
3. Verify that the Agile PLM configurations are the same in both environment's source systems.
4. Follow the ODM Propagation steps to propagate the Flexcols metadata.
5. Run ODM ETL in environment 2.
6. Follow the MDS Propagation on page 77 steps to propagate the Configurator mappings.
7. Run MDS ETL in environment 2.

### ODM Propagation

**To propagate the ODM configurations:**

1. Connect the ODM user in environment 1 and run the following SQL statements:

```
CREATE TABLE ETL_PARAMETER_BACKUP AS SELECT stage, MDS FULL_LOAD, PQM, PC, PPM, PCM, PGC, FISCAL_START_DATE, fiscal_year_offset, snapshot_freq, snapshot_freq_type, calendar_type, eco_wkly_aggr,since FROM ETL_PARAMETER; CREATE TABLE ODM_CLASS_METADATA_BACKUP AS SELECT sc.subclass_id, sc.subclass, dd.tgt_table p3_view FROM odm_class_metadata sc, (SELECT DISTINCT tgt_table, subclass_id FROM odm_data_
```

dictionary WHERE tgt\_table LIKE '%\_P3' ) dd WHERE sc-subclass\_id=dd.subclass\_id;

2. Export the following tables:
  - a. ETL\_PARAMETER\_BACKUP
  - b. ODM\_FLEXCOLS\_METADATA (Export as INSERT statements)
  - c. ODM\_CLASS\_METADATA\_BACKUP
3. Connect the ODM user in environment 2, then perform the following steps:
  - a. Import the table ETL\_PARAMETER\_BACKUP and run the following SQL statement:
 

```
MERGE INTO ETL_PARAMETER p2 USING ETL_PARAMETER_BACKUP p1
ON (1=1) WHEN MATCHED THEN UPDATE SET p2.stage =p1.stage, p2.MDS
=p1.MDS, p2.FULL_LOAD =p1.FULL_LOAD, p2.PQM =p1.PQM, p2.PC =p1,PC,
p2.PPM =p1.PPM, p2.PCM =p1.PCM, p2.PGC =p1.PGC, p2.FISCAL_START_
DATE =p1.FISCAL_START_DATE, p2.fiscal_year_offset =p1.fiscal_year_offset,
p2.snapshot_freq =p1.snapshot_freq_type, p2.calendar_type =p1.calendar_type,
p2.eco_wkly_aggr_since =p1.eco_wkly_aggr_since;
```
  - b. Truncate the ODM\_FLEXCOLS\_METADATA table.
  - c. Run the INSERT statements generated from ODM\_FLEXCOLS\_METADATA in environment 1.

## MDS Propagation

### To propagate the configurator mappings:

1. Connect the MDS user in environment 1 and run the following SQL statements:
 

```
CREATE TABLE BI_DATA_DICTIONARY_BACKUP AS SELECT * FRP, BI_
DATA_DICTIONARY WHERE is_conf=1 AND SRC_TABLE IS NOT NULL AND
SRC_COL IS NOT NULL;
```
2. Export the following tables:
  - ÿ PPM\_ACTIVITY\_DOMAINS (Export as INSERT statements)
  - ÿ BI\_DATA\_DICTIONARY\_BACKUP
3. Connect the MDS user in environment 2 and perform the following steps:
  - a. Import the ODM\_CLASS\_METADATA\_BACKUP table.
  - b. Import the BI\_DATA\_DICTIONARY\_BACKUP table.
  - c. Truncate the PPM\_ACTIVITY\_DOMAINS table.
  - d. Run the INSERT statements generated from PPM\_ACTIVITY\_DOMAINS in environment 1.
4. Run the following SQL statements to update the Configured Columns:
 

```
MERGE INTO BI_DATA_DICTIONARY B2
USING BI_DATA_DICTIONARY_BACKUP B1
ON (b2.is_conf=1 AND b2.tgt_table=b1.tgt_table
AND b2.tgt_col=b1.tgt_col)
WHEN matched THEN
UPDATE
set
```

```

b2.att_id=b1.att_id,
B2.SRC_TABLE=B1.SRC_TABLE,
b2.src_col=b1.src_col,
B2.TGT_DIM_TABLE=B1.TGT_DIM_TABLE,
B2.TGT_DIM_COL_NAME=B1.TGT_DIM_COL_NAME,
B2.TGT_MAP_TABLE=B1.TGT_MAP_TABLE,
B2.TGT_MAP_DIM_COL_NAME=B1.TGT_MAP_DIM_COL_NAME,
B2.LIST_ID=B1.LIST_ID,
B2.MASTER_LIST_ID=B1.MASTER_LIST_ID,
b2.class_id=b1.class_id;

```

5. Run the following script to update the List ID in the BI\_DATA\_DICTIONARY table:

```

UPDATE BI_DATA_DICTIONARY A
SET list_id=
(SELECT SELECTION_ID
 FROM ODM_ATTR_METADATA
 WHERE CUST_ATT_ID=A.ATT_ID
 AND class_id=a.class_id
 )
WHERE IS_CONF=1 ;

```

6. Run the following script to update the PPM\_ACTIVITY\_DOMAINS table with the updated subclass ID:

```

UPDATE PPM_ACTIVITY_DOMAINS ACT SET subclass_wid= (SELECT
SUBCLASS_ID FROM ODM_CLASS_METADATA WHERE SUBCLASS=
act.subclass_name);

```

7. Run the following script to create a Subclass Views lookup table:

```

CREATE TABLE bi_subclass_view_lkp AS SELECT sc.subclass, acp.subclass_id AS
old_subclass_id, sc.subclass_id AS new_subclass_id, acp.p3_view AS p3_view_
old, dd.tgt_table AS p3_view_new FROM ODM_CLASS_METADATA_BACKUP
acp, odm_class_metadata sc, (SELECT DISTINCT tgt_table, subclass_id FROM
odm_data_dictionary WHERE tgt_table LIKE '%_P3' ) dd WHERE acp.subclass =
sc.subclass AND sc.subclass_id = dd.subclass_id;

```

8. Run the following script to update the P3 View in the BI\_DATA\_DICTIONARY table:

```

UPDATE bi_data_dictionary bi SET (bi.src_table) = (SELECT lkp.p3_view_new
FROM bi_subclass_view_lkp lkp WHERE lkp.p3_view_old = bi.src_table )
WHERE EXISTS (SELECT 1 FROM bi_subclass_view_lkp lkp WHERE lkp.p3_
view_old = bi.src_table );

```

9. Commit the changes.

```

Commit;

```

## PPM Snapshot Data

Perform the following steps to propagate PPM snapshot data to your new environment:

1. Export the data of PPM\_SNAPSHOT\_F as insert scripts in your old environment.
2. Import the data into your new environment.

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**Note:** The snapshot parameters (Snapshot frequency type and Snapshot frequency) of the old and new environments should be the same for a successful migration.

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## Using External .csv Files

External data templates help you to analyze and make improved Product and Project decisions by enabling other enterprise data to be available for analysis, such as Units Shipped and Demand and Inventory. Oracle Product Lifecycle Analytics supports the following templates:

Template	Description	File Name	OPLA Subject Area	Example Analysis
<b>Project Summary</b>	<b>Product Performance</b>			
Project Revenue	Planned or actual cost entered on a date. There can be more than one entry per Project	PRJ_FORECAST.CSV	X	Impact of Project delays on revenue
Project Cost	Planned or actual cost entered on a date. There can be more than one entry per Project.	PRJ_COST.CSV	X	Budget vs. Actual analysis (if Project Cost is managed external to Agile PPM)
Product Revenue	Planned or actual revenue by customer on a date. If Customer is not entered, it is assumed to be undefined.	PPM_PRD_REVENUE.CSV	X	Revenue to SKU ratio for better SKU management
Product Demand	Product Demand on a certain date	PPM_PRD_DEMAND.CSV	X	Impact of Project delays based on Product Demand
Product Units Shipped	Units shipped by customer on a date. If Customer is not entered, it is assumed to be undefined	PPM_PRD_UNIT_SHIP.CSV	X	Parts per million defects
Product Units Received	Units received from supplier on a date. If Supplier is not entered, it is assumed to be undefined.	PPM_PRD_UNIT_REC.CSV	X	Parts per million defects for Supplier

Template	Description	File Name	OPLA Subject Area	Example Analysis
Product Inventory (Product Inventory Quantity)	Units available on a certain date	PPM_PRD_INV_QTY.CSV	X	Impact of Change based on Inventory.
Product Inventory (Product Inventory Value)	Value of units available on a certain date	PPM_PRD_INV_VALUE.CSV	X	Cost Impact of Change based on Inventory value

**Note** All external data templates are supported for Agile PLM customers. For Agile PLM for Process customers, only the PRJ\_COST.CSV and PRJ\_FORECAST.CSV templates are supported.

## Preparing the Data

After the data is extracted from the Enterprise system, it must be prepared to load into Oracle Product Lifecycle Analytics. Make sure that the required fields are correctly populated, lengths are not exceeded, and data types are consistent with those specified, to avoid ETL failures.

The ETL process loads each data source file as Full load each time. So, make sure that only the most relevant and latest data is available. Also, there are no validations performed on the data, so verify that the data type complies exactly with the listed data types.

## Project Cost

Field	Data Type	Field Required	Field Description
PROJECT_NO Project Number	VARCHAR2(150 CHAR)	Required	The exact Project Number in Agile PLM against which the data is being loaded.
TRANSACTION_TYPE Transaction Type	VARCHAR2(256 CHAR)	Optional	This optional field is not exposed in Oracle Product Lifecycle Analytics.
EXT_TEMPLATE_DATE External Template Date	DATE	Required	This date is used as a date dimension for analyzing the external measures.
REF_NO Reference Number	VARCHAR2(256 CHAR)	Optional	This field may be used as an external template dimension to refer to that brings in the reference number from an external source.

Field	Data Type	Field Required	Field Description
PLAN_VS_ACTUAL Plan vs. Actual	VARCHAR2(256 CHAR)	Required	This field is used to identify if the row is Planned or Actual
AMOUNT Project Total Cost Amount	NUMBER(22, 7)	Required	This field denotes the cost of the Project.

## Project Revenue

Field	Data Type	Field Required	Field Description
PROJECT_NO Project Number	VARCHAR2(150 CHAR)	Required	The exact Project Number in Agile PLM against which the data is being loaded.
TRANSACTION_TYPE Transaction Type	VARCHAR2(256 CHAR)	Optional	This field is not exposed in Oracle Product Lifecycle Analytics
EXT_TEMPLATE_DATE External Template Date	DATE	Required	This date is used as a date dimension for analyzing the external measures.
REF_NO Reference Number	VARCHAR2(256 CHAR)	Optional	This field may be used as an external template dimension to bring in the reference number from an external source.
PLAN_VS_ACTUAL Plan vs. Actual	VARCHAR2(256 CHAR)	Required	This field is used to identify if the row is Planned or Actual.
AMOUNT Amount	NUMBER(22,7)	Required	This field is used to denote the revenue for the Project.

## Product Revenue

Field	Data Type	Field Required	Field Description
ITEM_NO Item Number	VARCHAR2(256 CHAR)	Required	The exact Item Number in Agile PLM that represents the Product against which the data is being loaded
ERP_ITEM_NO ERP Item Number	VARCHAR2(256 CHAR)	Optional	This field may be used as an external template dimension to bring in the ERP Item number.

Field	Data Type	Field Required	Field Description
TRANSACTION_ TYPE Transaction Type	VARCHAR2(256 CHAR)	Optional	This field is not exposed in Oracle Product Lifecycle Analytics.
EXT_TEMPLATE_ DATE External Template Date	DATE	Required	This date is used as a date dimension for analyzing the external measures.
REF_NO Reference Number	VARCHAR2(256 CHAR)	Optional	This field may be used as an external template to bring in the reference number from an external source.
AMOUNT Amount	NUMBER(22,7)	Required	This field denotes the revenue for the Item Number referred to in this row.
PLAN_VS_ACTUAL Plan vs. Actual	VARCHAR2(256 CHAR)	Required	This field is used to identify if the row is Planned or Actual.
CUSTOMER_NO Customer Number	VARCHAR2(256 CHAR)	Required	This field contains the exact Customer number for this customer in Agile PLM.
SITE Site	VARCHAR2(256 CHAR)	Required	Enter <b>Global</b> if you do not use Sites within Agile PLM. Enter the name of the specific site, if you use Agile PLM and wish to count the Units shipped against a particular site.

## Product Demand

Field	Data Type	Field Required	Field Description
ITEM_NO Item Number	VARCHAR2(256 CHAR)	Required	The exact Item Number in Agile PLM that represents the Product against which the data is being loaded
ERP_ITEM_NO ERP Item Number	VARCHAR2(256 CHAR)	Optional	This field may be used as an external template dimension to bring in the ERP Item number.
TRANSACTION_ TYPE Transaction Type	VARCHAR2(256 CHAR)	Optional	This field is not exposed in Oracle Product Lifecycle Analytics.

Field	Data Type	Field Required	Field Description
EXT_TEMPLATE_DATE External Template Date	DATE	Required	This date is used as a date dimension for analyzing the external measures.
REF_NO Reference Number	VARCHAR2(256 CHAR)	Optional	This field may be used as an external template to bring in the reference number from an external source.
NO_OF_UNITS Number of Units	NUMBER(22)	Required	This field contains the number of units.
PLAN_VS_ACTUAL Plan vs. Actual	VARCHAR2(256 CHAR)	Required	This field is used to identify if the row is Planned or Actual.
CUSTOMER_NO Customer Number	VARCHAR2(256 CHAR)	Required	This field contains the exact Customer number for this customer in Agile PLM.
SUPPLIER_NO Supplier Number	VARCHAR2(256 CHAR)	Optional	This field contains the exact Supplier number for this customer in Agile PLM.
SITE Site	VARCHAR2(256 CHAR)	Required	Enter <b>Global</b> if you do not use Sites within Agile PLM. Enter the name of the specific site, if you use Agile PLM and wish to count the Units shipped against a particular site.

## Product Units Received

Field	Data Type	Field Required	Field Description
ITEM_NO Item Number	VARCHAR2(256 CHAR)	Required	The exact Item Number in Agile PLM that represents the Product against which the data is being loaded
ERP_ITEM_NO ERP Item Number	VARCHAR2(256 CHAR)	Optional	This field may be used as an external template dimension to bring in the ERP Item number.
TRANSACTION_TYPE Transaction Type	VARCHAR2(256 CHAR)	Optional	This field is not exposed in Oracle Product Lifecycle Analytics.

Field	Data Type	Field Required	Field Description
EXT_TEMPLATE_DATE External Template Date	DATE	Required	This date is used as a date dimension for analyzing the external measures.
REF_NO Reference Number	VARCHAR2(256 CHAR)	Optional	This field may be used as an external template to bring in the reference number from an external source.
NO_OF_UNITS Number of Units	NUMBER(22)	Required	This field contains the number of units being received.
PLAN_VS_ACTUAL Plan vs. Actual	VARCHAR2(256 CHAR)	Required	This field is used to identify if the row is Planned or Actual.
SUPPLIER_NO Supplier Number	VARCHAR2(256 CHAR)	Optional	This field contains the exact Supplier number for this customer in Agile PLM.
SITE Site	VARCHAR2(256 CHAR)	Required	Enter <b>Global</b> if you do not use Sites within Agile PLM. Enter the name of the specific site, if you use Agile PLM and wish to count the Units received against a particular site.

## Product Units Shipped

Field	Data Type	Field Required	Field Description
ITEM_NO Item Number	VARCHAR2(256 CHAR)	Required	The exact Item Number in Agile PLM that represents the Product against which the data is being loaded
ERP_ITEM_NO ERP Item Number	VARCHAR2(256 CHAR)	Optional	This field may be used as an external template dimension to bring in the ERP Item number.
TRANSACTION_TYPE Transaction Type	VARCHAR2(256 CHAR)	Optional	This field is not exposed in Oracle Product Lifecycle Analytics.
EXT_TEMPLATE_DATE External Template Date	DATE	Required	This date is used as a date dimension for analyzing the external measures.

Field	Data Type	Field Required	Field Description
REF_NO Reference Number	VARCHAR2(256 CHAR)	Optional	This field may be used as an external template to bring in the reference number from an external source.
NO_OF_UNITS Number of Units	NUMBER(22)	Required	This field contains the number of units being shipped.
PLAN_VS_ACTUAL Plan vs. Actual	VARCHAR2(256 CHAR)	Required	This field is used to identify if the row is Planned or Actual.
CUSTOMER_NO Customer Number	VARCHAR2(256 CHAR)	Required	This field contains the exact Customer number for this customer in Agile PLM.
SUPPLIER_NO Supplier Number	VARCHAR2(256 CHAR)	Optional	This field contains the exact Supplier number for this customer in Agile PLM.
SITE Site	VARCHAR2(256 CHAR)	Required	Enter <b>Global</b> if you do not use Sites within Agile PLM. Enter the name of the specific site, if you use Agile PLM and wish to count the Units shipped against a particular site.

## Product Inventory Quantity

Field	Data Type	Field Required	Field Description
ITEM_NO Item Number	VARCHAR2(256 CHAR)	Required	The exact Item Number in Agile PLM that represents the Product against which the data is being loaded
ERP_ITEM_NO ERP Item Number	VARCHAR2(256 CHAR)	Optional	This field may be used as an external template dimension to bring in the ERP Item number.
TRANSACTION_ TYPE Transaction Type	VARCHAR2(256 CHAR)	Optional	This field is not exposed in Oracle Product Lifecycle Analytics.
EXT_TEMPLATE_ DATE External Template Date	DATE	Required	This date is used as a date dimension for analyzing the external measures.

Field	Data Type	Field Required	Field Description
REF_NO Reference Number	VARCHAR2(256 CHAR)	Optional	This field may be used as an external template to bring in the reference number from an external source.
NO_OF_UNITS Number of Units	NUMBER(22)	Required	This field contains the number of units.
PLAN_VS_ACTUAL Plan vs. Actual	VARCHAR2(256 CHAR)	Required	This field is used to identify if the row is Planned or Actual.
SUPPLIER_NO Supplier Number	VARCHAR2(256 CHAR)	Optional	This field contains the exact Supplier number for this customer in Agile PLM.
SITE Site	VARCHAR2(256 CHAR)	Required	Enter <b>Global</b> if you do not use Sites within Agile PLM. Enter the name of the specific site, if you use Agile PLM and wish to count the Units shipped against a particular site.

## Product Inventory Value

Field	Data Type	Field Required	Field Description
ITEM_NO Item Number	VARCHAR2(256 CHAR)	Required	The exact Item Number in Agile PLM that represents the Product against which the data is being loaded
ERP_ITEM_NO ERP Item Number	VARCHAR2(256 CHAR)	Optional	This field may be used as an external template dimension to bring in the ERP Item number.
TRANSACTION_ TYPE Transaction Type	VARCHAR2(256 CHAR)	Optional	This field is not exposed in Oracle Product Lifecycle Analytics.
EXT_TEMPLATE_ DATE External Template Date	DATE	Required	This date is used as a date dimension for analyzing the external measures.
REF_NO Reference Number	VARCHAR2(256 CHAR)	Optional	This field may be used as an external template to bring in the reference number from an external source.

Field	Data Type	Field Required	Field Description
AMOUNT Amount	NUMBER(22,7)	Required	This field denotes the value for the Item Number referred to in this row.
PLAN_VS_ACTUAL Plan vs. Actual	VARCHAR2(256 CHAR)	Required	This field is used to identify if the row is Planned or Actual.
SUPPLIER_NO Supplier Number	VARCHAR2(256 CHAR)	Optional	This field contains the exact Supplier number for this customer in Agile PLM.
SITE Site	VARCHAR2(256 CHAR)	Required	Enter <b>Global</b> if you do not use Sites within Agile PLM. Enter the name of the specific site, if you use Agile PLM and wish to count the Units shipped against a particular site.

## Loading the Data

To load the data:

1. Save the correctly formatted data as a .csv file.
2. Run the ETL.
3. Observe the results in Reports that use external metrics and dimensions.

