

Oracle Utilities Analytics

Installation Guide

Release 2.7.0.2.0

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Preface

Welcome to Oracle Utilities Analytics Installation Guide.

This guide provides information for those installing and configuring Oracle Utilities Analytics on Linux, AIX, and Solaris systems.

Important! Going forward Oracle Utilities Analytics will be known as **Oracle Utilities Analytics Warehouse**.

The preface includes the following:

- [Audience](#)
- [Pre-requisite Knowledge](#)
- [Related Documents](#)
- [Conventions](#)
- [Abbreviations](#)
- [Documentation Accessibility](#)
- [Documentation Roadmap](#)

Audience

This guide is intended for use by anyone who is responsible for installing or upgrading Oracle Utilities Analytics.

Pre-requisite Knowledge

Oracle Utilities Analytics uses several technologies. It is assumed that you have a working knowledge of the following to install and configure Oracle Utilities Analytics.

- Oracle Data Warehouse
<https://docs.oracle.com/en/database/oracle/oracle-database/18/dwhsg/index.html>
- Oracle GoldenGate
<https://docs.oracle.com/en/middleware/goldengate/core/19.1/index.html>
- Oracle Data Integrator
<https://docs.oracle.com/en/middleware/fusion-middleware/data-integrator/12.2.1.4/index.html>
- Oracle GoldenGate Monitor
<https://docs.oracle.com/goldengate/m12212/gg-monitor/index.html>
- Oracle WebLogic Server
<https://docs.oracle.com/en/middleware/fusion-middleware/weblogic-server/12.2.1.4/index.html>
- Oracle Analytics Server
<https://www.oracle.com/in/business-analytics/analytics-server.html>

Related Documents

Refer to the [Oracle Utilities Analytics Warehouse Installation and Configuration Checklist](#) for high-level steps to install and configure the Oracle Utilities Analytics product.

The following documentation is included in this release.

Installation, Administration, and Release Notes

- *Oracle Utilities Analytics Release Notes*
- *Oracle Utilities Analytics Getting Started Guide*
- *Oracle Utilities Analytics License Information User Manual*
- *Oracle Utilities Analytics Installation Guide*
- *Oracle Utilities Analytics Quick Install Guide*
- *Oracle Utilities Analytics Administration Guide*
- *Oracle Utilities Analytics Developer's Guide*

Metric Reference Guides

- *Oracle Utilities Analytics Dashboards for Oracle Utilities Meter Data Analytics Metric Reference Guide*
- *Oracle Utilities Analytics Dashboards for Oracle Utilities Customer Analytics, Revenue Analytics and Credit & Collections Analytics Metric Reference Guide*
- *Oracle Utilities Analytics Dashboards for Oracle Utilities Exception Analytics Metric Reference Guide*

- *Oracle Utilities Analytics Dashboards for Oracle Utilities Mobile Workforce Analytics Metric Reference Guide*
- *Oracle Utilities Analytics Dashboards for Oracle Utilities Distribution Analytics and Outage Analytics Metric Reference Guide*
- *Oracle Utilities Analytics Dashboards for Oracle Utilities Work and Asset Analytics Metric Reference Guide*
- *Oracle Utilities Analytics Dashboards for Oracle Utilities Operational Device Analytics Metric Reference Guide*

Data Mapping Guides

- *Oracle Utilities Extractors and Schema for Oracle Utilities Customer Care and Billing Data Mapping Guide*
- *Oracle Utilities Extractors and Schema for Oracle Utilities Meter Data Management Data Mapping Guide*
- *Oracle Utilities Extractors and Schema for Oracle Utilities Mobile Workforce Management Data Mapping Guide*
- *Oracle Utilities Extractors and Schema for Oracle Utilities Network Management System Data Mapping Guide*
- *Oracle Utilities Extractors and Schema for Oracle Utilities Work and Asset Management Data Mapping Guide*
- *Oracle Utilities Extractors and Schema Data Mapping Guide for Operational Device Management Data Mapping Guide*

You can view the latest documentation at:

http://docs.oracle.com/cd/E72219_01/documentation.html

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
<i>italic</i>	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
monospace	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

Abbreviations

The following table lists the commonly used acronyms and terms in this guide:

Convention	Meaning
APEX	Oracle Application Express
CDC	Changed Data Capture
ELT	Extraction, Loading and Transformation
ETL	Extraction, Transformation, and Loading

Convention	Meaning
OBIEE	Oracle Business Intelligence Enterprise Edition
BI	Business Intelligence
ODI	Oracle Data Integrator
OGG	Oracle GoldenGate
OUA	Oracle Utilities Analytics
WAM	Oracle Utilities Work and Asset Management
CC&B	Oracle Utilities Customer Care and Billing
MDM	Oracle Utilities Meter Data Management
MWM	Oracle Utilities Mobile Workforce Management
NMS	Oracle Utilities Network Management System
ODM	Oracle Utilities Operational Device Management
OSDC	Oracle Software Delivery Cloud
OAS	Oracle Analytics Server

Documentation Accessibility

For information about configuring and using accessibility features for Oracle Utilities Analytics, see the documentation at http://docs.oracle.com/cd/E23943_01/bi.1111/e10544/appaccess.htm#BIEUG2756.

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at <http://www.oracle.com/us/corporate/accessibility/index.html>.

Access to Oracle Support

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

Documentation Roadmap

This guide is organized based on the typical flow you need to follow to install and configure Oracle Utilities Analytics. Use the following documentation roadmap to find the information that you need to install Oracle Utilities Analytics.

1. [Introduction](#)

Includes a general description about Oracle Utilities Analytics and provides information about the installation types and components required to install or upgrade Oracle Utilities Analytics.

2. [Supported Platforms and Hardware Requirements](#)

Shows each of the operating system/server combinations that Oracle Utilities Analytics is certified for.

3. [Planning the Installation](#)

Describes the setup steps or pre-installation tasks that you must complete before you begin an Oracle Utilities Analytics installation or upgrade.

4. [Installing Oracle Utilities Analytics - Initial Installation](#)

Provides the steps for a new Oracle Utilities Analytics installation. It includes procedures to install various components for Oracle Utilities Analytics to be functional.

The [Oracle Utilities Analytics Warehouse Installation and Configuration Checklist](#) includes high-level steps to install and configure the Oracle Utilities Analytics product. Use this checklist to verify and validate the installation at each step.

5. [Upgrading Oracle Utilities Analytics from v2.7.0.0.13](#)

Includes the steps to upgrade Oracle Utilities Analytics from v2.7.0.0.13 to v2.7.0.2.0.

6. [Upgrading Oracle Utilities Analytics from v2.7.0.1.3](#)

Includes the steps to upgrade Oracle Utilities Analytics from v2.7.0.1.3 to v2.7.0.2.0.

7. [Upgrading Oracle Utilities Analytics from v2.6.0.0.10](#)

Includes the steps to upgrade Oracle Utilities Analytics from v2.6.0.0.10 to v2.7.0.2.0.

8. [Installing Demo Database](#)

Provides instructions for installing the demonstration database.

9. [Configuring Spatial Data](#)

Provides information about spatial data setup for the Oracle Business Intelligence Enterprise Edition dashboards in Oracle Utilities Analytics and how to set up the spatial data. It explains the steps to acquire, install import, and load the spatial data.

10. [Installing NMS BI Publisher Reports](#)

Describes the steps to install the Oracle Utilities Network Management System IEEE outage reports in Oracle Utilities Analytics.

Chapter 1

Introduction

This chapter provides an overview of the Oracle Utilities Analytics v2.7.0.2.0 installation. It is a complete installation and does not need to install any of the previous versions.

Note that the instructions in this guide are applicable to Oracle Utilities Analytics v2.7.0.2.0 and v2.7.0.2.1.

For information about configuring and administering Oracle Utilities Analytics (Oracle Utilities Analytics Dashboards and Oracle Utilities Extractors and Schema), refer to the *Oracle Utilities Analytics Administration Guide*.

Important! Going forward Oracle Utilities Analytics will be known as **Oracle Utilities Analytics Warehouse**.

A typical Oracle Utilities Analytics installation involves installing various components across different installation types. The chapter focuses on the following:

- [Installation Components](#)
- [Installation Types](#)
- [Media Pack Components](#)

Installation Components

The Oracle Utilities Analytics installation includes installing the following components. For a successful installation, it is required to install ALL of these components:

- Oracle Utilities Analytics Database - Contains star schemas and product metadata.
- Oracle Utilities Analytics ELT - Based on Oracle Data Integrator (ODI), it includes pre-built ODI objects necessary for ELT processes.

Note: Oracle GoldenGate (OGG) is used to capture the data and is required for ODI-based ELT.

- Oracle Utilities Analytics Administration - An Oracle Application Express (APEX) application used to maintain several Oracle Utilities Analytics configuration parameters.
- Oracle Utilities Analytics Dashboard - Includes the pre-built Oracle Analytics Server Web Catalog, RPD file, and answers, based on Oracle Analytics Server.

Note: Install this component on the server where Oracle Analytics Server is installed. It also includes a demo database with pre-populated data used for training or demonstration purposes. Refer to the [Chapter 8: Installing Demo Database](#) for more information.

Refer to **Prerequisite Software** in [Chapter 3: Planning the Installation](#) for information about the prerequisite software required to install each of the components.

Installation Types

The first step in the installation procedure is to determine the installation type that meets your business requirements. The possible installation types are as follows:

- [Initial Installation](#) - A base installation, typically used for a production environment.
- [Upgrade](#) - An upgrade installation from:
 - v2.7.0.0.13 to v2.7.0.2.0
 - v2.7.0.1.3 to v2.7.0.2.0
 - v2.6.0.0.10 to v2.7.0.2.0
- [Demo Installation](#) - A base installation with pre-populated demo data, typically used for demonstration or training purposes.

The following sections describe these installation types in detail.

Initial Installation

This type is applicable for a new Oracle Utilities Analytics installation. For an initial installation, you must install all of the following components:

- Oracle Utilities Analytics Database
- Oracle Utilities Analytics ELT
- Oracle Utilities Analytics Administration
- Oracle Utilities Analytics Dashboard

Following is a high-level workflow of the installation process:

- **Step 1:** Install the database components
 - Oracle Database 19.7 with Patch 30869156
 - Oracle Utilities Analytics Database

- **Step 3:** Oracle Utilities Analytics ELT
 - WebLogic 12.2.1.4
 - Oracle Data Integrator 12.2.1.4 + ODI Patch 31510501 with Java EE
 - Oracle Utilities Analytics ODI-Based ELT
- **Step 3:** Install the dashboard components
 - Oracle Utilities Analytics Administration
 - Oracle APEX 20.1
- **Step 4:** Install the dashboard components
 - Oracle Client 19C
 - OAS 5.5.0 /6.4.0
 - Oracle Utilities Analytics Dashboard

Refer to [Chapter 3: Planning the Installation](#) for information about the prerequisite software required to install each of the components. Refer to [Chapter 4: Installing Oracle Utilities Analytics - Initial Installation](#) for the respective component installation steps.

Refer to the [Oracle Utilities Analytics Warehouse Installation and Configuration Checklist](#) to verify and validate the installation at each step.

Upgrade

This installation type is applicable while upgrading Oracle Utilities Analytics from the following upgrade paths:

- v2.7.0.0.13 to v2.7.0.2.0
- v2.7.0.1.3 to v2.7.0.2.0
- v2.6.0.0.10 to v2.7.0.2.0

For an upgrade, you must upgrade all of the following components:

- Oracle Utilities Analytics Database
- Oracle Utilities Analytics ELT
- Oracle Utilities Analytics Administration
- Oracle Utilities Analytics Dashboard

Following is a high-level workflow of the upgrade process:

- **Step 1:** Upgrade the database components in the order below:
 - Oracle Database 19C
 - Oracle Utilities Analytics Database
 - Oracle Utilities Analytics Administration
 - Oracle Utilities Analytics ELT
- **Step 2:** Install/upgrade the dashboard components as below:
 - Oracle Client 19C
 - Oracle Analytics Server 5.5.0/6.4.0
 - Oracle Utilities Analytics Dashboard

Refer to [Chapter 3: Planning the Installation](#) for information about the prerequisite software required to install each of the components.

If you are upgrading the product from v2.7.0.0.13, refer to [Chapter 5: Upgrading Oracle Utilities Analytics from v2.7.0.0.13](#) for the steps involved in upgrading each of the required components.

If you are upgrading the product from v2.7.0.1.3, refer to [Chapter 6: Upgrading Oracle Utilities Analytics from v2.7.0.1.3](#) for the steps involved in upgrading each of the required components.

If you are upgrading the product from v2.6.0.0.10, refer to [Chapter 7: Upgrading Oracle Utilities Analytics from v2.6.0.0.10](#) for the steps involved in upgrading each of the required components.

Demo Installation

This installation type is applicable when installing a database component for Oracle Utilities Analytics Dashboards for demonstration or training purposes. For a demo installation, install the following components:

- Oracle Utilities Analytics Demo Database
- Oracle Utilities Analytics Dashboard

Following is a high-level workflow of the demo installation process:

- **Step 1:** Install the database components in the order below:
 - Oracle Database 19C
 - Import demo data
- **Step 2:** Install the dashboard components as below:
 - Oracle Client 19C
 - Oracle Analytics Server 5.5.0 /6.4.0
 - Oracle Utilities Analytics Dashboard

Refer to [Chapter 3: Planning the Installation](#) for information about the prerequisite software required to install each of the components. Refer to [Chapter 8: Installing Demo Database](#) for the respective component installation steps.

Media Pack Components

The Oracle Utilities Analytics Media Pack consists of the following packages:

Documentation Package

- Oracle Utilities Analytics Release Notes
- Oracle Utilities Analytics Quick Install Guide
- Oracle Utilities Analytics Installation Guide
- Oracle Utilities Analytics Administration Guide
- Oracle Utilities Analytics Developer's Guide
- Oracle Utilities Analytics License Information User Manual
- Oracle Utilities Analytics Dashboards for Customer Analytics, Revenue Analytics, and Credit & Collections Analytics Metric Reference Guide
- Oracle Utilities Analytics Dashboards for Exception Analytics Metric Reference Guide
- Oracle Utilities Analytics Dashboards for Mobile Workforce Analytics Metric Reference Guide
- Oracle Utilities Analytics Dashboards for Distribution Analytics and Outage Analytics
- Oracle Utilities Analytics Dashboards for Work and Asset Analytics Metric Reference Guide

- Oracle Utilities Analytics Dashboards for Operational Device Analytics Metric Reference Guide
- Oracle Utilities Extractors and Schema for Oracle Utilities Customer Care and Billing Data Mapping Guide
- Oracle Utilities Extractors and Schema for Oracle Utilities Meter Data Management Data Mapping Guide
- Oracle Utilities Extractors and Schema for Oracle Utilities Mobile Workforce Management Data Mapping Guide
- Oracle Utilities Extractors and Schema for Oracle Utilities Network Management System Data Mapping Guide
- Oracle Utilities Extractors and Schema for Oracle Utilities Operational Device Management Data Mapping Guide
- Oracle Utilities Extractors and Schema for Oracle Utilities Work and Asset Management Data Mapping Guide

Installation Package

- Oracle Utilities Analytics v2.7.0.2.0 Oracle Database Multiplatform
- Oracle Utilities Analytics v2.7.0.2.0 Dashboard Component Multiplatform
- Oracle Utilities Analytics v2.7.0.2.0 ELT Component Based on ODI Multiplatform
- Oracle Utilities Analytics v2.7.0.2.0 Demo Data

Chapter 2

Supported Platforms and Hardware Requirements

This chapter provides an overview of the operating system/server combinations that Oracle Utilities Analytics is certified for. It includes:

- [Operating Systems and Application Servers](#)
- [Additional Notes on Supported Platforms](#)
- [Support for Software Patches and Upgrades](#)

Operating Systems and Application Servers

An Oracle Utilities Analytics installation is tested and supported on a wide variety of operating system, application server, and database server combinations. The following table provides the details of the minimum versions supported.

On the server side:

Operating System (Server)	FMW Application Server	JDK	Oracle Database	Oracle Analytics Server	Oracle Data Integrator (ODI)	Apex	Oracle Golden Gate	Oracle GoldenGate Monitor Agent	Oracle REST Data Service
Oracle Linux 7.x (64-bit)	WebLogic 12.2.1.4	1.8.0_251+	19.7	5.5	12.2.1.4 Patch 31510501	20.1	19.1	12.2.1.2 Patch 26982776.	19.2

Oracle Analytics Server 6.4.0 is now certified with Oracle Utilities Analytics 2.7.0.2. The table below shows the FMW Application Server and JDK versions required for Oracle Analytics Server 6.4.0.

FMW Application Server	JDK	Oracle Analytic Server
WebLogic 12.2.1.4 Patch 34065178 + Patch 34373563	1.8.0_341	OAS 6.4.0 Patch 34373446 + Patch 33877829

Note that the customers installing Oracle Utilities Analytics 2.7.0.2 with Oracle Analytics Server 6.4.0 for the first time must follow the same steps mentioned in the [Installing Oracle Utilities Analytics Dashboards Component](#) section in [Chapter 4: Installing Oracle Utilities Analytics - Initial Installation](#). Changes to instanceconfig.xml is the only difference as part of Oracle Analytics Server 6.4.0 version changes. For additional steps, refer to the respective “Modifying instanceconfig.xml” section in the initial/demo/upgrade installation chapters.

For existing customers that are on Oracle Utilities Analytics 2.7.0.2 with Oracle Analytics Server 5.5.0 to upgrade to Oracle Analytics Server 6.4.0, follow the upgrade instructions described in the Oracle Analytics Server documentation.

<https://docs.oracle.com/en/middleware/bi/analytics-server/migrate-upgrade-oas/upgrading-latest-release-oracle-analytics-server.html#GUID-93B3A0DC-7546-4ABB-946E-593B3AAE444D>

On the client side:

Client Operating System	Browser
Windows 10 (64-bit)	Microsoft Edge 87.0.664.47
	Firefox 78.5.0
	Google Chrome 87.0.4280.66

Important: For the latest system requirements and supported platforms details, refer to the knowledge article **Certification Matrix for Oracle Utilities Products (Doc ID 1454143.1)** available on My Oracle Support (<https://support.oracle.com/>).

Additional Notes on Supported Platforms

Oracle Unbreakable Enterprise Kernel - This version of Oracle Utilities Analytics is supported on Oracle Unbreakable Enterprise Kernel.

Oracle VM Support - This version of Oracle Utilities Analytics is supported on Oracle VM Server for x86 3.3 for the supported releases of Oracle Linux operating system.

Oracle Support Policy on VMWare - Refer to My Oracle Support knowledge base article 249212.1 for Oracle's support policy on VMWare (<https://support.oracle.com>).

Support for Software Patches and Upgrades

Due to the ongoing nature of software improvement, vendors periodically issue patches and service packs for the operating systems, application servers, and database servers on top of specific versions that Oracle products have already been tested against.

If it is necessary to apply an upgrade, it is recommended to do so in a test environment that is running on the same platform as your production environment prior to updating the production environment itself.

Always contact Oracle Support prior to applying vendor updates that do not guarantee backward compatibility.

Chapter 3

Planning the Installation

This chapter provides information to plan an Oracle Utilities Analytics installation, including:

- [Pre-requisite Software](#)
- [Supported Source Application Versions](#)
- [Deployment](#)
- [Installation Checklist](#)

Pre-requisite Software

Before you install Oracle Utilities Analytics, you are required to install the prerequisite software.

Refer to the respective installation documentation of the software for download and installation instructions.

Note: Make sure that the same operating system user is used to install all software prerequisites and Oracle Utilities Analytics components.

The list of prerequisite software required to install Oracle Utilities Analytics is as below:

- [Pre-requisite Software for Oracle Utilities Analytics Database](#)
- [Pre-requisite Software for Oracle Utilities Analytics Installer](#)
- [Pre-requisite Software for ELT Component](#)
- [Pre-requisite Software for Oracle Utilities Analytics Administration](#)
- [Pre-requisite Software for Oracle Utilities Analytics Dashboards](#)

Pre-requisite Software for Oracle Utilities Analytics Database

The prerequisite software for the Oracle Utilities Analytics database component is as follows:

Oracle Database Server Enterprise Edition 19C - This Oracle Utilities Analytics release is supported on Oracle Database Server Enterprise Edition 19C.

Pre-requisite Software for Oracle Utilities Analytics Installer

The prerequisite software for Oracle Utilities Analytics Installer is JDK 1.8.0(251)+.

Pre-requisite Software for ELT Component

The prerequisite software for ELT component of Oracle Utilities Analytics is as follows:

- **JDK**
Download and install the latest version from Oracle Technology Network (<https://www.oracle.com/technetwork/java/javase/downloads/index.html>).
- **Oracle Database Server Enterprise Edition**
Download and install from Oracle Software Delivery Cloud (<https://edelivery.oracle.com/osdc/faces/SoftwareDelivery>).
- **Oracle Fusion Middleware Infrastructure and Oracle Data Integrator**
These components can be downloaded separately from Oracle Software Delivery Cloud (<https://edelivery.oracle.com/osdc/faces/SoftwareDelivery>).
- **Oracle GoldenGate**
Install Oracle GoldenGate on both source application as well target database servers.
Download the latest version from Oracle Software Delivery Cloud.

Oracle GoldenGate Monitor Agent 12.2.1.2 on both source application as well as target database servers. Download the latest version from Oracle Software Delivery Cloud. Apply patch 26982776.

Pre-requisite Software for Oracle Utilities Analytics Administration

The prerequisite software for Oracle Utilities Analytics Administration component is as follows:

- Oracle Database Server Enterprise Edition
Download and install from Oracle Software Delivery Cloud (<https://edelivery.oracle.com/osdc/faces/SoftwareDelivery>).
- Oracle Apex
Download and install Oracle Apex from Oracle Technology Network (<https://www.oracle.com/tools/downloads/apex-downloads.html>).
- Oracle Fusion Middleware Infrastructure
Download and install from Oracle Software Delivery Cloud (<https://edelivery.oracle.com/osdc/faces/SoftwareDelivery>).

Pre-requisite Software for Oracle Utilities Analytics Dashboards

The prerequisite software for Oracle Utilities Analytics dashboard component is as follows:

- Oracle Fusion Middleware Infrastructure and Oracle Analytics Server

Download Oracle Fusion Middleware Infrastructure and Oracle Analytics Server separately from Oracle Software Delivery Cloud (<https://edelivery.oracle.com/osdc/faces/SoftwareDelivery>).

Install Oracle 19C client if Oracle Analytics Server is not installed on the database server. If it is installed, then there is no need to install Oracle client. For installation instructions, refer to the [Installing Oracle Utilities Analytics Dashboards Component](#) section in [Chapter 4: Installing Oracle Utilities Analytics - Initial Installation](#).

After installing Oracle Analytics Server, save a snapshot of the last page of the installation that shows the details of BI Oracle Home, Instance Home, etc. These values are used during the Oracle Utilities Analytics installation.

Supported Source Application Versions

The following source application versions are supported in this Oracle Utilities Analytics release:

Source Application	Version
Oracle Utilities Customer Care and Billing	2.5.0.2
	2.6.0.0
	2.7.0.0
	2.7.0.1
	2.7.0.3
	2.8.0.0
Oracle Utilities Customer To Meter	2.6.0.0
	2.7.0.0
	2.7.0.1
	2.7.0.3
	2.8.0.0
Oracle Utilities Meter Data Management	2.2.0.0
	2.2.0.1
	2.2.0.2
	2.2.0.3
	2.3.0.2
	2.4.0.0

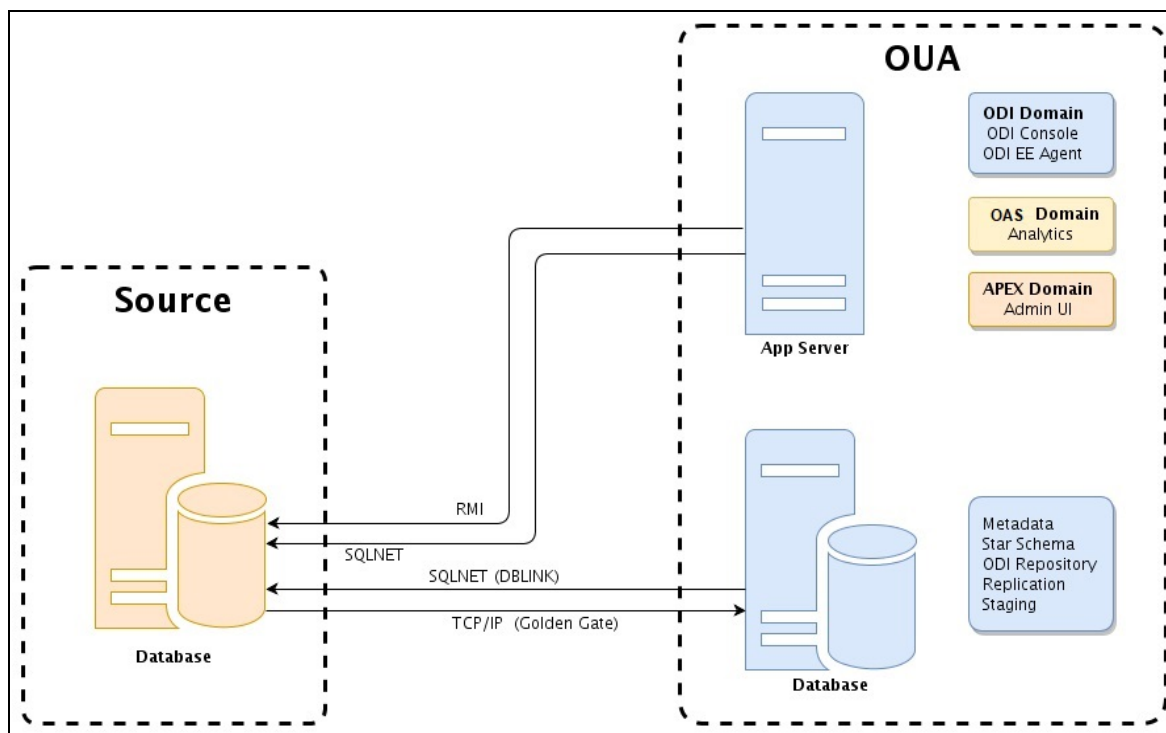
Source Application	Version
Oracle Utilities Mobile Workforce Management	2.2.0.x 2.3.0.3
Oracle Utilities Work and Asset Management	2.1.1.0 2.2.0.0 2.2.0.2 2.2.0.6 2.3.0.0
Oracle Utilities Operational Device Management	2.1.1.0 2.2.0.0 2.2.0.2 2.2.0.6 2.3.0.0
Oracle Utilities Network Management System	2.4.0.0 2.4.0.1 2.5.0.0 2.5.0.1

Note: For latest edge application version details, refer to the knowledge article **Certification Matrix for Oracle Utilities Products (Doc ID 1454143.1)** available on My Oracle Support (<https://support.oracle.com/>).

Deployment

A standard Oracle Utilities Analytics deployment consists of a database and an application server. ODI, Oracle Analytics Server, and WebLogic installation for Oracle Utilities Analytics Administration are performed on the application server. Oracle GoldenGate is installed on both source, as well as target database servers.

The following figure shows a standard Oracle Utilities Analytics deployment.



Installation Checklist

The following checklist guides you through the Oracle Utilities Analytics installation process. The details for each step are provided in respective subsequent chapters.

1. Confirm that the recommended hardware is ready. Refer to [Chapter 2: Supported Platforms and Hardware Requirements](#) for details.
2. Install prerequisite software. Refer to the [Pre-requisite Software](#) section for more details.
3. Determine the installation type. Refer to the [Installation Types](#) section in [Chapter 1: Introduction](#) to determine the installation type for your scenario.
4. Make sure that you have downloaded the Oracle Utilities Analytics v2.7.0.2.0 components.
5. Perform the installation steps as applicable to the installation type.
 - **Initial Installation:** For initial installation, follow the instructions mentioned in [Chapter 4: Installing Oracle Utilities Analytics - Initial Installation](#).
 - **Upgrade:** The following upgrade paths are available to upgrade to v2.7.0.2.0:
 - To upgrade from v2.7.0.0.13, follow the instructions in [Chapter 5: Upgrading Oracle Utilities Analytics from v2.7.0.0.13](#).
 - To upgrade from v2.7.0.1.3, follow the instructions in [Chapter 6: Upgrading Oracle Utilities Analytics from v2.7.0.1.3](#).
 - To upgrade from v2.6.0.0.10, follow the instructions in [Chapter 7: Upgrading Oracle Utilities Analytics from v2.6.0.0.10](#).
 - **Demo Installation:** For instructions to proceed with demo installation, refer to [Chapter 8: Installing Demo Database](#).
6. Configure Oracle Utilities Analytics.

Chapter 4

Installing Oracle Utilities Analytics - Initial Installation

This chapter provides instructions for a new Oracle Utilities Analytics installation. It includes:

- [Before You Install](#)
- [Copying and Decompressing Install Media](#)
- [Installing Oracle Utilities Analytics Database](#)
- [Installing Oracle Data Integrator Based ELT Component](#)
- [Installing Oracle Utilities Analytics Administration Component](#)
- [Installing Oracle Utilities Analytics Dashboards Component](#)

Refer to the [Oracle Utilities Analytics Warehouse Installation and Configuration Checklist](#) to verify and validate the installation at each step.

Before You Install

Refer to My Oracle Support for up-to-date additional information about this Oracle Utilities Analytics release.

Copying and Decompressing Install Media

To copy and decompress install media:

1. Download Oracle Utilities Analytics v2.7.0.2.0 Oracle Database from the **Oracle Utilities Analytics V2.7.0.2 Oracle Database Multiplatform.zip** file.

Download the zip from Oracle Software Delivery Cloud.

2. Create a temporary directory.
For example: /OUA/temp for a Linux machine.

This directory (referred as <TEMPDIR> below) must be located outside any current working Oracle Utilities application environment. After successful installation, all files in this directory that are part of the installation can be deleted.

3. Unzip **Oracle Utilities Analytics V2.7.0.2 Oracle Database Multiplatform.zip** to <TEMPDIR> using any zip utility.

The installation media is decompressed successfully. Proceed with creating the database.

Installing Oracle Utilities Analytics Database

Install the prerequisite software before installing the components. Refer to the [Pre-requisite Software for Oracle Utilities Analytics Database](#) section in [Chapter 3: Planning the Installation](#) for more details.

This section describes the steps to install Oracle Utilities Analytics Database on the database server, including:

- [Creating the Database](#)
- [Creating Users and Tablespaces](#)
- [Installing RELADM Schema](#)
- [Installing MDADM Schema](#)
- [Installing DWADM Schema](#)
- [Configuring Spatial Data](#)

Creating the Database

In an initial installation, it is recommended to use the Database Configuration Assistant (DBCA) utility to create the database.

Note: To know more about DBCA, refer to the Oracle database documentation at: <https://docs.oracle.com/en/database/oracle/oracle-database/19/admq/s/installing-oracle-database-creating-database.html#GUID-6B14A3EB-DD51-43C3-AB26-6978B13E2E1E>

Create the database with the following:

- Same character set as the source database character set
- Open cursor limit to 3000
- Processes to 1000

Creating Users and Tablespaces

To create the required users and tablespaces:

1. Create required tablespaces and proceed with User creation.
2. Create users in the database with the below names (without giving specific roles):
 - DWADM - Contains star schema objects (such as facts and dimensions) containing the data of the data warehouse.
 - DWUSER - User with read/write access to objects in DWADM schema.
 - DWREAD - User with read only access to objects in DWADM schema.
 - MDADM - A metadata schema consisting of database objects used for storing the Oracle Utilities Analytics metadata.
 - RELADM - A metadata schema consisting of database objects used to store the product version and component installation information.
 - OUA_MASTER - ODI Master repository schema
 - OUA_WORK - ODI Work repository schema
 - DWSTAGE - The staging schema of data warehouse.
3. Create roles with the following names:
 - DW_USER - Assigned to DWUSER. It contains all grants for read/write access to objects in the DWADM schema.
 - DW_READ - Assigned to DWREAD. It contains all grants for read only access to objects in the DWADM schema.
 - DW_PRIVS_ROLE - Assigned to MDADM. It contains the privileges necessary for the proper functioning of Oracle Utilities Analytics.
 - DW_REPLICATE - Assigned to various replication users that get created automatically during the source configuration. The privileges necessary for this role are automatically assigned by Oracle Utilities Analytics.
4. Connect to the database as **sys user**.

Execute **Usersgrants.sql** in `<TEMPDIR>/BI2702/Scripts/Usersgrants.sql`. This SQL provides required grants to the users created in step 1.

The required users and tablespaces are created.

Installing RELADM Schema

The RELADM schema is a metadata schema consisting of database objects used to store the product version and component installation information.

This section describes initial installation of the RELADM schema, including:

- [Reviewing Storage.xml File](#)
- [Installation Procedure](#)
- [Generating Database Statistics](#)

Reviewing Storage.xml File

The storage.xml file (included in the package and is in `<TEMPDIR>/BI2702/RELADM/Install-Upgrade`) allocates all the base tables and indexes to the default tablespace CISTS_01.

If few tables or indexes outside of the default tablespace need to be allocated, it should be reflected in the storage.xml file by changing the tablespace name from the default value to a custom value.

Note: If the database does not have CISTS_01 tablespace or RELADM user does not have quota on CISTS_01 tablespace, edit the Storage.xml file to indicate the correct tablespace name on which RELADM has quota.

Installation Procedure

To install the RELADM schema:

Note: Make sure to copy/paste the commands into Notepad. Check for any special characters and extra spaces. If any, delete them and enter the respective characters manually. This helps to avoid any errors at run time.

In Unix:

1. Add Java 8 to the path variable. For example:

```
export PATH=/u01/jdk1.8.0_251/bin:$PATH
```
2. Set CLASSPATH pointing to the location where OraDBI.jar and all dependency jars exist.

```
export CLASSPATH=<TEMPDIR>/BI2702/RELADM/Jarfiles/*
```
3. Navigate to <TEMPDIR>/BI2702/RELADM/Install-Upgrade folder.
4. Execute OraDBI.jar.

```
java com.oracle.ouaf.oem.install.OraDBI -d
jdbc:oracle:thin:@<DATABASE SERVER>:<DATABASE PORT>/<ORACLE SERVICE
NAME>,RELADM,<Password of RELADM User>,,,,RELADM -l 1,2 -o -q true
```

The utility creates the RELADM schema and system data definitions. If an error occurs while executing a SQL or another utility, it logs and displays the error message and allows you to re-execute the current step.

Generating Database Statistics

During the installation process, new database objects may be added to the target database. Before using the database, generate the statistics for these new objects.

Connect to the database as **sys user** and execute the following command:

```
execute DBMS_STATS.GATHER_SCHEMA_STATS ('RELADM');
```

Installing MDADM Schema

The MDADM schema is a metadata schema that consists of the database objects used for storing the Oracle Utilities Analytics metadata.

For example: ETL job execution status, target tables for ETL, Oracle GoldenGate configuration details, etc.

This section describes initial installation of the MDADM schema, including:

- [Reviewing Storage.xml](#)
- [Installation Procedure](#)
- [Generating Database Statistics](#)

Reviewing Storage.xml

The storage.xml file (included in the package located at `<TEMPDIR>/BI2702/MDADM/Install- Upgrade`) allocates all the base tables and indexes to the default tablespace CISTS_01.

If few tables or indexes outside of the default tablespace need to be allocated, it should be reflected in the storage.xml file by changing the tablespace name from the default value to a custom value.

Note: If the database does not have CISTS_01 tablespace or MDADM user does not have quota on CISTS_01 tablespace, edit Storage.xml to indicate the correct tablespace name on which MDADM has quota.

Installation Procedure

To install the MDADM schema, follow these steps for Unix:

Note: Make sure to copy/paste the commands into Notepad. Check for any special characters and extra spaces. If any, delete them and enter the respective characters manually. This helps to avoid any errors at run time.

In Unix:

1. Add Java 8 to the path variable. Example:
`export PATH=/u01/jdk1.8.0_251/bin:$PATH`
2. Set CLASSPATH pointing to the location where OraDBI.jar and all dependency jars exist.
`export CLASSPATH=<TEMPDIR>/BI2702/MDADM/Jarfiles/*`
3. Navigate to the `<TEMPDIR>/BI2702/MDADM/Install-Upgrade` folder.
4. Run OraDBI.jar.

```
java com.oracle.ouaf.oem.install.OraDBI -d
jdbc:oracle:thin:@<DATABASE SERVER>:<DATABASE PORT>/<ORACLE SERVICE
NAME>,MDADM,<Password of MDADM User>,,,,MDADM -l 1,2 -o -q true
```

The utility creates the MDADM schema and system data definitions. If an error occurs while executing a SQL or another utility, it logs and displays the error message and allows you to re-execute the current step.

Generating Database Statistics

During the installation process, new database objects may be added to the target database. Before using the database, generate the statistics for these new objects:

Connect to the database as **sys user** and execute the following command:

```
execute DBMS_STATS.GATHER_SCHEMA_STATS ('MDADM');
```

Installing DWADM Schema

The DWADM schema contains star schema objects (such as facts and dimensions) that contain the data of the data warehouse.

This section describes initial installation of the DWADM schema, including:

- [Reviewing Storage.xml](#)
- [Installation Procedure](#)
- [Generating Database Statistics](#)

Reviewing Storage.xml

The storage.xml file (included in the package located at `<TEMPDIR>/BI2702/DWADM/Install-Upgrade`) allocates all the base tables and indexes to the default tablespace CISTS_01.

If few tables or indexes outside of the default tablespace need to be allocated, it should be reflected in the storage.xml file by changing the tablespace name from the default value to a custom value.

Note: If the database does not have CISTS_01 tablespace or DWADM user does not have quota on CISTS_01 tablespace, edit Storage.xml to indicate the correct tablespace name on which DWADM has quota.

Installation Procedure

To install the DWADM schema, follow these steps in Unix:

Note: Make sure to copy/paste the commands into Notepad. Check for any special characters and extra spaces. If any, delete them and enter the respective characters manually. This helps to avoid any errors at run time.

In Unix:

1. Add Java 8 to the path variable. For example:
`export PATH=/u01/jdk1.8.0_251/bin:$PATH`
2. Set CLASSPATH pointing to the location where OraDBI.jar and all dependency jars exist.
`export CLASSPATH=<TEMPDIR>/BI2702/DWADM/Jarfiles/*`
3. Navigate to the `<TEMPDIR>/BI2702/DWADM/Install-Upgrade` folder.
4. Run OraDBI.jar.

```
java com.oracle.ouaf.oem.install.OraDBI -d
jdbc:oracle:thin:@<DATABASE SERVER>:<DATABASE PORT>/<ORACLE SERVICE
NAME>,DWADM,<Password of DWADM
User>,DWUSER,DWREAD,DW_USER,DW_READ,DWADM -p <Password of
DWUSER>,<Password of DWREAD> -l 1,2 -o -q true
```

The utility creates the DWADM schema and system data definitions. If an error occurs while executing an SQL or another utility, it logs and displays the error message and allows you to re-execute the current step.

Generating Database Statistics

During the installation process, new database objects may be added to the target database. Before using the database, generate the statistics for these new objects:

Connect to the data as **sys user** and execute the following command:

```
execute DBMS_STATS.GATHER_SCHEMA_STATS ('DWADM');
```

Configuring Spatial Data

Refer to [Chapter 9: Configuring Spatial Data](#) for details about spatial configuration.

Installing Oracle Data Integrator Based ELT Component

This section describes the installation procedure of Oracle Data Integrator based ELT component. It includes:

- [Installing Prerequisite Software](#)
- [Setting up Oracle GoldenGate](#)
- [Copying and Decompressing Install Media](#)
- [Starting the Installer](#)
- [Installation Steps](#)
- [Creating a Database Directory](#)
- [Creating WebLogic Domain for Oracle Data Integrator Agent](#)
- [Starting the WebLogic Admin Server](#)
- [Starting the Managed Server \(ODI_server1\)](#)

Installing Prerequisite Software

The Oracle Data Integrator based ELT component is installed on the Oracle Utilities Analytics application server. Refer to [Deployment](#) for information about deploying Oracle Utilities Analytics.

To proceed with installing the ELT component, ensure the following are taken care:

- The operating system user that is used to install all the related software is used to install the ELT component also.
- Set up the source applications with required configurations before proceeding with the ELT component installation. This enables to successfully extract data from them into Oracle Utilities Analytics.
- Verify that the prerequisite software mentioned in [Pre-requisite Software for ELT Component](#) is installed.
- While installing Oracle Data Integrator 12.2.1.4, select **Enterprise Installation** as the installation type. Apply patch 31510501 after installation.
- While running RCU for Oracle Data Integrator 12.2.1.4, on the **Select Components** page, do not select the **Oracle Data Integrator** check box.

Setting up Oracle GoldenGate

This section describes setting up Oracle GoldenGate to work with Oracle Utilities Analytics.

- [Setting up Oracle GoldenGate on Source Database Server](#)
- [Setting up Oracle GoldenGate on Target Database Server](#)
- [Setting up Oracle GoldenGate Monitor JAgent on Target and Source Database Servers](#)
- [Recommended Oracle GoldenGate Parameter Settings](#)

Setting up Oracle GoldenGate on Source Database Server

To set up each source instance:

1. Create a directory on the source database server and install Oracle GoldenGate there. It will be Oracle GoldenGate home (OGG_Home) on the source database server.

Example: `mkdir /u01/OGG_Home`

Note: Make a note of this directory path; it is used in the Oracle Utilities Analytics installation.

2. Install Oracle GoldenGate.

Download Oracle GoldenGate 19.1 from Oracle Software Delivery Cloud.

For installation instructions, refer to the respective Oracle GoldenGate installation documentation.

3. Open a command terminal/window and set the source ORACLE_SID and ORACLE_HOME variables.
4. Set LD_LIBRARY_PATH as follows:

In Unix:

```
export LD_LIBRARY_PATH=$ORACLE_HOME/lib:$LD_LIBRARY_PATH
```

5. In the Command window, change the directory to Oracle GoldenGate Home directory, and then execute the command below:

In Unix:

```
./ggsci
```

The Oracle GoldenGate prompt is shown.

6. At the Oracle GoldenGate prompt, execute the following commands in the order they are listed:

- create SUBDIRS
- start mgr

This command starts the Oracle GoldenGate manager process.

- info all

This command verifies if the manager process is running.

- exit

This command exits Oracle GoldenGate.

7. Make sure that the source database is in the **archivelog** mode.
8. Connect to the source database as the **sys user** and execute the following statements.

```
alter database add supplemental log data (primary key) columns;
alter system set enable_goldengate_replication=TRUE scope=both;
```

10. In the Command window, navigate to the Oracle GoldenGate Home (OGG_Home) directory.

11. Open the **GLOBALS** file in the directory and add the following command:

```
EnableMonitoring
```

12. Connect to the database as **sys user** using SQL*Plus.

Make sure to make OGG_Home the current directory while invoking SQL*Plus.

13. Create a new user.

Example for standalone database: ODM01SRC

Example for multi-tenant database: C##GGOWNER

This user is the Oracle GoldenGate owner. Make sure to assign a tablespace to this user that is not assigned to any other user.

Note: Make sure to note down the GoldenGate Owner Username; it will be used in the Oracle Utilities Analytics installation.

14. Connect to the source database with **sys user**.
15. Run the following commands.

Standalone Database:

Note: Make sure to modify the GoldenGate owner placeholder with actual name of the database user created in step 14.

```
grant CREATE SESSION,CONNECT,RESOURCE,ALTER SYSTEM to <GoldenGate Owner>;
grant unlimited tablespace to <GoldenGate owner> with admin option;
EXECUTE dbms_goldengate_auth.grant_admin_privilege('<GoldenGate Owner>','capture');
grant unlimited tablespace to <GoldenGate Owner> with admin option;
Revoke dba from <GoldenGate Owner>;
grant create any view to <GoldenGate Owner>;
grant select any dictionary to <GoldenGate Owner>;
GRANT CREATE ANY DIRECTORY TO <GoldenGate Owner>;
GRANT DROP ANY DIRECTORY TO <GoldenGate Owner>;
GRANT EXP_FULL_DATABASE TO <GoldenGate Owner>;
GRANT IMP_FULL_DATABASE TO <GoldenGate Owner>;
```

For Multitenant Database:

Note: Make sure to modify the Common user used for GoldenGate owner placeholder <Common user for GG> with actual name of the Container common user created on your Multi-tenant Database.

```
grant CONNECT to <Common user for GG> container=all;
grant IMP_FULL_DATABASE to <Common user for GG> container=all;
grant RESOURCE to <Common user for GG> container=all;
grant EXP_FULL_DATABASE to <Common user for GG> container=all;
grant DROP ANY DIRECTORY to <Common user for GG> container=all;
grant UNLIMITED TABLESPACE to <Common user for GG> container=all;
grant CREATE ANY DIRECTORY to <Common user for GG> container=all;
grant ALTER SYSTEM to <Common user for GG> container=all;
grant SELECT ANY DICTIONARY to <Common user for GG> container=all;
grant CREATE ANY VIEW to <Common user for GG> container=all;
```

16. Connect to the <source application>ADM schema (such as CISADM). Run the following commands.

For the **Oracle Utilities Customer Care and Billing** source database, run the following grants:

```
Grant select on F1_MST_CONFIG to <GoldenGate owner user created in step 15>
Grant select on F1_EXT_LOOKUP_VAL to <GoldenGate owner user created in step 15>
Grant select on F1_BKT_CONFIG to <GoldenGate owner user created in step 15>
Grant select on F1_BKT_CONFIG_VAL to <GoldenGate owner user created in step 15>
```

For the **Oracle Utilities Operational Device Management** source database, run the following grants:

```
Grant select on Fl_MST_CONFIG to <GoldenGate owner user created in
step 15>
Grant select on Fl_EXT_LOOKUP_VAL to <GoldenGate owner user created
in step 15>
```

For **Oracle Utilities Meter Data Management** source database, run the following grants:

```
Grant select on <application ADM Schema>.Fl_MST_CONFIG to
<GoldenGate Owner>;
Grant select on <application ADM Schema>.Fl_EXT_LOOKUP_VAL to
<GoldenGate Owner>;
```

For **Oracle Utilities Work and Asset Management** source database, run the following grants:

```
Grant select on <application ADM Schema>. Fl_EXT_LOOKUP_VAL to
<GoldenGate Owner>;
Grant select on <application ADM Schema>.Fl_MST_CONFIG to
<GoldenGate Owner>;
Grant select on <application ADM Schema>. Fl_BKT_CONFIG to
<GoldenGate Owner>;
Grant select on <application ADM Schema>. Fl_BKT_CONFIG_VAL to
<GoldenGate Owner>;
```

Note: While running the SQL commands in steps 14, 15, and 16, provide the GoldenGate owner user (if prompted for).

All the scripts mentioned below are located in GoldenGate Home directory and must be run after connecting to the database as **sys user**.

17. Run the following commands in the order listed below:

```
@marker_setup.sql
@ddl_setup.sql
@role_setup.sql
```

18. Exit SQL*Plus.
19. Change directory to the Oracle GoldenGate Home directory and run the following:
 - a. Steps in [Configuring Encrypting Data Using ENCKEYS Method](#).
 - b. Steps in [Generating Shared Secret Password](#).

Note: Run these steps before running the Oracle Utilities Analytics installer. Refer to <https://docs.oracle.com/en/middleware/goldengate/core/19.1/index.html> for more details.

Configuring Encrypting Data Using ENCKEYS Method

To configure for encrypting data with the ENCKEYS method:

1. Run the following command:

```
cd <OGG_HOME>
keygen <encryption key length (in bits)> [number of keys to
generate]
```

The key value has to be copied to ENCKEYS file against a logical name.

2. For each key value generated above, provide a logical name (Logical name should not be the same for two different key values). Enter the logical name space and then key value in the ENCKEYS file.

3. Repeat the step above for each key values generated.
4. Save the file with name 'ENCKEYS' (upper case only) without any extension.

Example:

```
cd $OGG_HOME
./keygen 128 1
0x8CE55035DD6893205A7BD6773FA8E670
```

5. Open a new ASCII ENCKEYS file if it does not exist for adding a new entry or open an existing ENCKEYS text file to append.
6. Input the Logical name, space and key value generated.

Sample content of the ENCKEYS file:

```
CCB1KEY 0x8CE55035DD6893205A7BD6773FA8E670
```

7. The source ENCKEYS file entry has to be appended to the intermediate server or target server which would be configured with the source system where target OGG is being configured.

Note: It is recommended to provide a logical key name after <context_code>KEY.

Example: If context code is CCB1, it is recommended to name it as CCB1KEY.

Generating Shared Secret Password

To generate the shared secret password:

1. Run the following command:

```
cd <OGG_HOME>
ggsci
ENCRYPT PASSWORD <GG Owner password> <algorithm> ENCRYPTKEY
<key_name>
```

Example:

```
cd $OGG_HOME
./ggsci
GGSCI (hostname) 1> ENCRYPT PASSWORD CCB01SRC AES128 ENCRYPTKEY
CCB1KEY
Encrypted password:
AADAAAAAAAAAAIAVGNHBFGLGFCHBTCVBFJFHUEJGNCFAOAFEOFBALELISFOEIFWGRB
ZHCCMCYGYBDAZH
Algorithm used: AES128
```

2. Note down the generated ENCKEYS file logical name/key value, algorithm name used, and the generated encrypted password.

Setting up Oracle GoldenGate on Target Database Server

To set up Oracle GoldenGate on the target database server:

1. Create a directory on the target database server.

Example: mkdir /u01/OGG_Home

Oracle GoldenGate should be installed in this directory. It is **Oracle GoldenGate home (OGG_Home)** on the target Oracle Utilities Analytics database server.

Note: Make sure to note down the directory location; it will be used in the Oracle Utilities Analytics installation.

2. Install Oracle GoldenGate and provide the GoldenGate Home location as the directory location created in the step 1.
3. In the Command window, set the target ORACLE_SID and ORACLE_HOME variables. Set LD_LIBRARY_PATH using the following commands:

In Unix:

```
export LD_LIBRARY_PATH=$ORACLE_HOME/lib:$LD_LIBRARY_PATH
```

4. In the Command window, change the directory to **GoldenGate Home** and run the following command:

For Unix:

```
./ggsci
```

The Oracle GoldenGate prompt is shown.

5. At the prompt, run the following commands:

```
create SUBDIRS
start mgr
info all
exit
```

6. Connect to the target database as **sys user** and run the command below:

```
alter system set enable_goldengate_replication=TRUE scope=both;
```

7. In the Command window, navigate to the Oracle GoldenGate Home (OGG_Home) directory.
8. Edit the GLOBALS file in the <GG home> directory and add the following command.:
EnableMonitoring
9. Navigate to the Oracle GoldenGate home (OGG_Home) directory.
10. If the ENCKEYS file does not exist:
 - a. Create and open a new ASCII ENCKEYS file.
 - b. Add the key value/values that are generated on the sources to the ENCKEYS file in target OGG home. This is done for the context codes for which source is configured.

A sample ENCKEYS file in target OGG Home is as below:

```
CCB1KEY 0x8CE55035DD6893205A7BD6773FA8E670
```

Setting up Oracle GoldenGate Monitor JAgent on Target and Source Database Servers

Set up Oracle GoldenGate Monitor (OGG) JAgent on Oracle Utilities Analytics GoldenGate server and on all the source application Oracle GoldenGate servers. The Oracle GoldenGate Monitor JAgent is used to automatically copy the generated Oracle GoldenGate scripts to both source and target Oracle GoldenGate Home directories, and to start the extract and replicate processes on source and target.

To setup Oracle GoldenGate Monitor JAgent on both target and source database servers:

1. Make sure Oracle GoldenGate is installed and Manager is running.

2. Start the rmiregistry services using the following command:

```
rmiregistry <port number> &
```

Example: `rmiregistry 5559 &`

Make sure to note down the port on which RMI server is started. The port number specified in the example is 5559. If it is not specified, the default port 1099 will be used.

3. Download Oracle GoldenGate Monitor and Veridata 12.2.1.2.0 from Oracle Software Delivery Cloud (<https://edelivery.oracle.com/osdc/faces/SoftwareDelivery>).
4. Run the Oracle GoldenGate Monitor and Veridata 12.2.1.2.0 installer.

- a. Choose installation type as Oracle GoldenGate Monitor Agent.
- b. Apply patch 26982776 on top of Oracle GoldenGate Monitor agent home before creating monitor instance.

5. Edit the Config.properties file in the <Oracle GoldenGate Monitor home>/oggmon/ogg_agent/cfg_templates and add/modify the below parameters.

```
<ACTUAL>      : jagent.host=localhost
```

```
<CHANGE TO>   : jagent.host=<<actual hostname on which OGG is installed>>
```

```
<ACTUAL>      : monitor.jmx.username=cmroot
```

```
<CHANGE TO>   : monitor.jmx.username=jmx_src
```

```
<ACTUAL>      : jagent.username=root
```

```
<CHANGE TO>   : jagent.username=<<OGG software installed OS user>>
```

```
<ACTUAL>      : jagent.rmi.port=5559
```

```
<CHANGE TO>   : jagent.rmi.port=5557 or any free port other than the one on which the rmiregistry is started
```

```
<ACTUAL>      : agent.type.enabled=OGGMON
```

```
<CHANGE TO>   : agent.type.enabled=OEM
```

```
<ACTUAL>      : jagent.backward.compatibility=true
```

```
<CHANGE TO>   : jagent.backward.compatibility=false
```

6. Add the following parameter:

```
jagent.ssl=false
```

7. Navigate to <Oracle GoldenGate Monitor home>/oggmon/ogg_agent directory and run the below command:

In Unix:

```
export JAVA_HOME=<JDK home>
```

```
./createMonitorAgentInstance.sh
```

- a. You will be prompted to enter:

- Oracle GoldenGate home directory
- Path to be used for Oracle GoldenGate Monitor Agent instance.

It is recommended to provide a path (such as <Oracle GoldenGate Monitor home>/Agents/OGGMonitorInstance).

- A unique name to replace the timestamp in the name of the file used to start Oracle GoldenGate Monitor agent instance.

Provide a unique name to be used for this Oracle GoldenGate Monitor instance.

- b. Run the command below from <path used for Oracle GoldenGate Monitor instance provided in the step above>/bin.

Example location: <Oracle GoldenGate Monitor home>/Agents/
OGGMonitorInstance/bin

In Unix:

```
export JAVA_HOME=<JDK home>
./pw_agent_util.sh -jagentonly
```

8. Enter the Oracle wallet password.

This password has to be entered as the password for the JAGENT while running the installer (for target gg), and while running the source configuration (for source gg).

Make sure to note the password and jagent.rmi.port value (JAgent Port). This information is required in subsequent installation.

9. Create a folder with the Context_code name in <Oracle GoldenGate Home>/dirdat.
Example: If WAM2 is created for the Oracle Utilities Work and Asset Management source, create a folder with name “WAM2” within the <Oracle GoldenGate Home>/dirdat/ folder.
10. Create a folder with name <Oracle GoldenGate Home>/diroby.
11. Navigate to <Oracle GoldenGate Home>/dirprm and edit jagent.prm file.

Replace COMMAND java with COMMAND <JDK Home>/bin/java.

This makes sure that the correct version of java (1.8) is used while starting JAgent.

12. Navigate to OGG_Home directory and go to the GoldenGate prompt:

```
ggsci
```

13. Start the jAgent process using the following command:

```
start jagent
```

Note: Export LIBPATH with jdk,OGG and RDBMS paths to start JAGENT in AIX environment.

```
$JAVA_HOME/bin
$OGG_HOME
$RDBMS_HOME/lib
```

Example:

```
export LIBPATH=/usr/java8_64/bin:/u01/OGG_Home:/u01/app/product/
19.7/dbhome_1/lib:$LIBPATH
```

The logs for JAgent are created at the following (example) location.

```
<OGG Monitor home>/Agents/OGGMonitorInstance/logs
```

Recommended Oracle GoldenGate Parameter Settings

The recommended Oracle GoldenGate parameter settings are as follows:

1. Update the source <Source GG Home>/dirprm/mgr.prm file.

```
AUTORESTART EXTRACT <Context Code>*, RETRIES 5, WAITMINUTES 2,
RESETMINUTES
60
PURGEOLDEXTRACTS dirdat/<Context Code>*, USECHECKPOINTS,
MINKEEPHOURS 4
DOWNCRITICAL
```
2. Update the Target <Target GG Home>/dirprm/mgr.prm file with the following:

```
AUTORESTART REPLICAT <Context Code>*, RETRIES 5, WAITMINUTES 2,
RESETMINUTES
60
PURGEOLDEXTRACTS dirdat/<Context Code>*, USECHECKPOINTS,
MINKEEPHOURS 4
DOWNCRITICAL
```

3. Restart the mgr process after the changes mentioned above are complete.

The following parameters are optional and depend on the level of alerts required for the environment.

For Oracle Utilities Network Management System sources:

- DOWNREPORTMINUTES 2 - Report any downtime more that 2 minutes
- LAGCRITICALMINUTES 2 - Report any lag > 2 minutes as critical
- LAGINFOSECONDS 30 - Report any lag > 30 seconds as warning
- LAGREPORTMINUTES 1 - Log lag information every minute

For other sources:

- DOWNREPORTMINUTES 10 - Report any downtime more that 10 minutes
- LAGCRITICALMINUTES 10 - Report any lag > 10 minutes as critical
- LAGINFOMINUTES 5 - Report any lag > 5 seconds as warning
- LAGREPORTMINUTES 5 - Log lag information every 5 minutes

Copying and Decompressing Install Media

To download and decompress the install media:

1. Download the Oracle Utilities Analytics v2.7.0.2 Multiplatform part (**Oracle Utilities Analytics V2.7.0.2 Multiplatform.zip**) from Oracle Software Delivery Cloud (<https://edelivery.oracle.com>).
2. Create a temporary directory, such as c:\OUA\temp or /OUA/temp (referred to <TEMPDIR> below). This directory must be located outside any current working Oracle Utilities application environment. All files that are placed in this directory as a part of the installation can be deleted after completing a successful installation.
3. Unzip **Oracle Utilities Analytics V2.7.0.2 Multiplatform.zip** to <TEMPDIR>.

Starting the Installer

For an AIX operating system, set the following environment variable before starting the Oracle Utilities Analytics installation:

```
export IBM_JAVA_OPTIONS="-Xmx2g -XX:PermSize=64m -
XX:MaxPermSize=3200m"
```

To start the Oracle Data Integrator Based ETL component:

1. Navigate to the temporary folder containing the installer.
2. Run the following command from this folder:

```
java -jar <TEMPDIR>/OUA_2.7.0.2.0_generic.jar -logLevel finest
```

Note: The minimum JDK required for running the Oracle Utilities Analytics installer is JDK 1.8.

3. On the **Welcome** page, review this information before you begin the installation. Click **Next** to continue with the installation.
4. Complete the tasks on the navigation pane.

Each item in the navigation pane represents a specific installer screen that prompts you for information required to install the software.

- If you select **Oracle Data Integrator Based ETL** as an **Installation Type**, define the following:
 - Database and Java Home Details
 - Target Database Connection Details
 - Oracle Data Integrator Home and Schema Details
 - Oracle Data Integrator Agent and Repository Details
 - Target Oracle GoldenGate Details
 - Target JAgent Details
- If you select **Dashboard** as an **Installation Type**, define the following:
 - Database and Java Home Details
 - Target Database Connection Details
 - Oracle Analytics Server Home Details
- If you select both **Oracle Data Integrator Based ETL** and **Dashboard** as an **Installation Type**, define the following:
 - Database and Java Home Details
 - Target Database Connection Details
 - Oracle Data Integrator Home and Schema Details
 - Oracle Data Integrator Agent and Repository Details
 - Target Oracle GoldenGate Details
 - Target JAgent Details
 - Oracle Analytics Server Home Details

Installation Steps

To install Oracle Data Integrator Based ETL:

1. Run the Oracle Utilities Analytics Installer. The **Welcome** page appears.
2. Review the information before you begin the installation. Click **Next** to continue with the installation.
3. Provide the inventory location on the **Installation Inventory** page. Click **Next**.

4. On the **Installation Location** page, define the **Installation Location** and click **Next**.

Note: The specified Oracle home directory must be an empty directory.

5. On the **Languages Selection** page, make sure “English” is selected. Click **Next**.
6. On the **Installation Type** page, select **ODI Based ETL** and click **Next**.

Note: Based on the selected installation type, the options on the left navigation panel change.

7. Select **Oracle Data Integrator Based ETL** as an **Installation Type**. Define the following:
 - Database and Java Home Details
 - Target Database Connection Details
 - Oracle Data Integrator Home and Schema Details
 - Oracle Data Integrator Agent and Repository Details
 - Target GoldenGate Details
 - Target Jagent Details
8. On the **Database and Java Home Details** page, enter the following details in the respective fields and click **Next**.

Field Name	Description	Value
Database Client Home	Database client home location	Example: /u01/app/product/19.7/dbhome_1
Java Home	JDK home location	Provide location of JDK 1.8 Example: /u01/jdk_1.8.0_251

9. On the **Target Database Connection Details** page, enter the following details in the respective fields and click **Next**.

Field Name	Description	Value
Host	Host name of the server where the database resides	Oracle Utilities Analytics Database Server
Port	Database port number on the database server used for connecting to the database	Oracle Utilities Analytics Database Port. The default value is 1521.
Service Name	Service name for the database	
Target Schema Password	Password for the target schema (DWADM)	
Confirm Target Schema Password	Confirm password for the target schema (DWADM)	
Metadata Schema Password	Password for the metadata schema (MDADM)	
Confirm Metadata Schema Password	Confirm password for the metadata (MDADM) schema	

10. On **ODI Home and Schema Details** page, enter the following details in the respective fields. Click **Next**.

Field Name	Description	Value
ODI Home	Directory where Oracle Data Integrator (ODI) is installed	
Supervisor User	Name of the Oracle Data Integrator Supervisor	SUPERVISOR
Supervisor Password	Password of the Oracle Data Integrator Supervisor	SUPERVISOR user password
Confirm Supervisor Password	Confirm password of the Supervisor	
Master Repository Schema Name	Oracle Data Integrator master repository schema name	OUA_MASTER
Master Repository Schema Password	Password of the master repository schema	OUA_MASTER user's password
Confirm Master Repository Schema Password	Confirm password of the Oracle Data Integrator master repository schema	
Work Repository Schema Name	Oracle Data Integrator work repository schema name	OUA_WORK
Work Repository Schema Password	Work repository schema password	OUA_WORK user's password
Confirm Work Repository Schema Password	Confirm password of Oracle Data Integrator work repository schema	

11. On the **ODI Agent and Details** page, enter the following details in the respective fields. Click **Next**.

Field Name	Description	Value
ODI Agent Host	Host where Oracle Data Integrator WebLogic Domain is created	Oracle Data Integrator Server host name.
ODI Agent Port	Port on which Oracle Data Integrator WebLogic agent is configured to run. This is the Oracle Data Integrator WebLogic Managed Server port.	Provide available port and ensure to use the same port while creating Oracle Data Integrator managed server.

12. On the **Target GoldenGate Details** page, enter the following details in the respective fields. Click **Next**.

Field Name	Description	Value
GoldenGate Host	Oracle GoldenGate Manager host	
GoldenGate Home	Location where Oracle GoldenGate is installed	Example: /opt/local/ggs_19.1
Target Database Home	Location where database home is installed on the target database server. If GoldenGate for target is not installed on the Oracle Utilities Analytics database server, provide oracle client home location on the server on which GoldenGate is installed.	Example: /u01/app/product/19.7/dbhome_1
GoldenGate Manager Port	The port number on which Oracle GoldenGate Manager is running on the GoldenGate host.	The default value is 7830.
GoldenGate Algorithm	The algorithm configured in Oracle GoldenGate on the target database server.	The default value is BLOWFISH.
GoldenGate Encryptkey	The Encrypt Key configured in Oracle GoldenGate on the target database server.	The default value is "DEFAULT".
GoldenGate Shared Secret	Shared secret key configured in Oracle GoldenGate on the target database server.	Go to the Oracle GoldenGate prompt and run the command: <i>encrypt password <password of MDADM user>, encryptkey DEFAULT</i> Provide the result of above command as the value.

13. On the **Target JAgent Details** page, enter the target server JAgent details in the respective fields. Click **Next**.

Field Name	Description	Value
JAgent Host	Oracle GoldenGate Monitor JAgent host	
JAgent GoldenGate	Oracle GoldenGate installed location where GoldenGate Monitor JAgent is running	Example: /opt/local/ggs_19.1

Field Name	Description	Value
JAgent Port	Use the JAgent RMI port (5557) defined in the config properties file	
JAgent User	OS user used to configure JAgent	
JAgent Wallet Password	JAgent Wallet password	
Confirm JAgent Wallet Password	Re enter JAgent Wallet password to confirm	

14. On the **Java Home Location** page, provide the JAVA_HOME details provided earlier. Click **Next**.
15. On the **Installation Summary** page, verify the installation options selected.
16. Click **Install** to begin the installation.

To change any configurations before starting the installation, use the navigation pane and select the topic to edit.

The **Installation Progress** page appears displaying the progress of the installation. Operations being performed as a part of the installation are logged to the terminal from which the installer was run. The detailed logs of the installation are also available in the logs/system directory under the installation location.

To quit before the installation is complete, click **Cancel**. Doing so will result in a partial installation; the portion of the software that was installed on your system before you click **Cancel** will remain on your system, and you will have to remove it manually.

17. On the **Installation Completed** page, click **Finish** to close the installer.

The Oracle Data Integrator based ETL is now installed.

Note: To configure source, refer to the **Chapter 5: Configuring Oracle Utilities Analytics** in *Oracle Utilities Analytics Administration Guide*.

Creating a Database Directory

Create a database directory 'B1_DATA_DUMP_DIR' on the target database, as well as on each source database. This directory is used for logging the export import task used during the initial ELT load.

The following is a sample SQL that creates the database directory pointing to the file system path /u01/file_data:

```
CREATE DIRECTORY B1_DATA_DUMP_DIR AS '/u01/file_data';
```

Configuring Oracle Data Integrator Repository Creation Utility (RCU)

To configure the Oracle Data Integrator Repository Creation Utility:

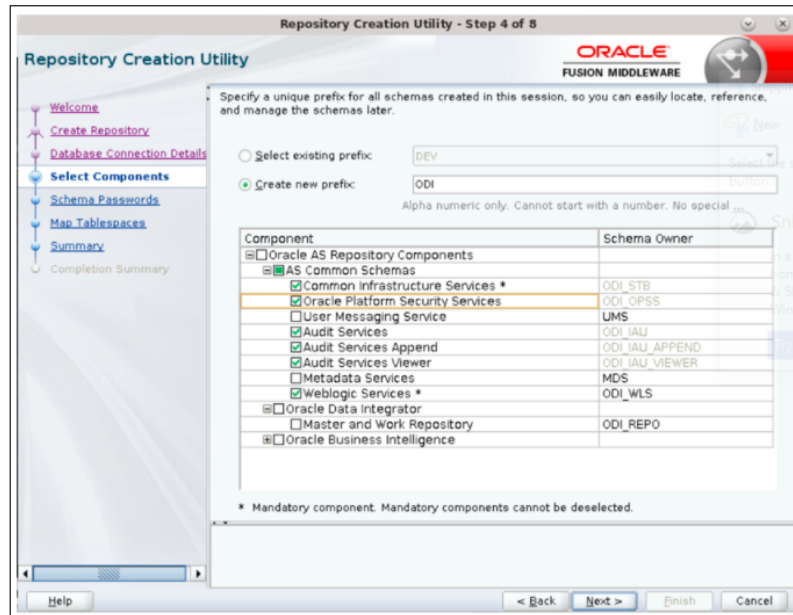
1. Ensure RCU for ODI is run and the required schemas are created in the target database.
ODI_ORACLE_HOME is an Oracle Home path used as Oracle Home while installing FMW Infrastructure and Oracle Data Integrator (ODI).
2. Set or export JAVA_HOME variable to the 1.8.0_251 installed directory.
3. Navigate to \$ODI_ORACLE_HOME/oracle_common/bin.

- Execute the RCU utility.

For example:

```
export JAVA_HOME=/u01/jdk1.8.0_251
cd /u01/Middleware/oracle_common/bin
./rcu
```

- In the Repository Creation Utility, select **Create Repository > System Load and Product Load** option.
- On the page, provide the database connection details.
- On the **Select Components** page, the options are shown as below. Unselect the Oracle Data Integrator component.



- In the next page, make a note of or remember the password given. It will be required while creating the Oracle Data Integrator domain.

Note that a new script to create the ODI domain is described in the [Creating WebLogic Domain for Oracle Data Integrator Agent](#) section. This utility assumes that the same password is used for all RCU schemas. The assumption was made to keep the inputs to the domain creation script simple.

It is not required to create the Oracle Data Integrator domain at this stage. It should be done after running the Oracle Utilities Analytics installer and before running source configuration tool.

Creating WebLogic Domain for Oracle Data Integrator Agent

Create the WebLogic Domain to bring up the WebLogic Agent (ODI Agent) to complete the steps. In this product release, ODI Domain creation is automated, and creation of both clustered and non-clustered domain is supported.

- [Creating a Non-Clustered Domain](#)
- [Creating a Clustered Domain](#)

Note: The following procedures assume that the pre-requisite Java 8/bin is in the PATH variable.

Creating a Non-Clustered Domain

To create a non-clustered domain:

Note: The password fields' values (RCUSCHEMAPWD,WEBLOGIC_PASSWORD) will be cleared from ODI_CONFIG.properties after executing createDomain.sh or createMachine.sh. Ensure these fields are updated for each invocation of createDomain.sh or createMachine.sh.

1. Navigate to the <OUA Environment>/etc directory and provide the following properties in the ODI_CONFIG.properties file.

Property	Description
Mandatory fields	
DOMAIN_PATH	For example: /u01/domains/odi_domain
RCUPREFIX	Repository prefix created in the Configuring Oracle Data Integrator Repository Creation Utility (RCU) section.
RCUSCHEMAPWD	Repository schema password provided in the Configuring Oracle Data Integrator Repository Creation Utility (RCU) section.
WEBLOGIC_USERNAME	WebLogic user name for ODI domain
WEBLOGIC_PASSWORD	WebLogic password for ODI domain
ODI_DBSERVER	ODI database server name (target database server)
ODI_DBPORT	ODI database port (target database port)
ODI_DBNAME	ODI database name (target database name)
ADMIN_PORT	ODI domain admin port
ODI_DOMAIN_HOSTNAME	Host name on which the ODI domain is created
Optional fields	
NONSSL_PORT	If not specified, default port 7001 will be assigned.
MANAGED_SERVER_PORT	If not specified, default port 15101 will be assigned.

2. Navigate to the <OUA Environment>/bin directory and invoke the **createDomain.sh** script.

Refer to the sections [Starting the WebLogic Admin Server](#) and [Starting the Managed Server \(ODI_server1\)](#) to start the Admin server and Managed server.

Creating a Clustered Domain

Important! The scope of the domain creation scripts for clustered domain is limited to creating a 2-node cluster with managed servers running on the same machine but on different ports. If your cluster needs more than two managed servers or if the managed servers run on different machines, the clustered domain should be created manually using ODI documentation as reference.

To create a clustered domain:

Note: The password fields' values (RCUSCHEMAPWD,WEBLOGIC_PASSWORD) will be cleared from ODI_CONFIG.properties after executing createDomain.sh or createMachine.sh. Ensure these fields are updated for each invocation of createDomain.sh or createMachine.sh.

1. Navigate to the <OUA Environment>/etc directory and provide the following properties in the ODI_CONFIG.properties file.

Property	Description
Mandatory fields	
DOMAIN_PATH	For example: /u01/domains/odi_domain
RCUPREFIX	Repository prefix created in the Configuring Oracle Data Integrator Repository Creation Utility (RCU) section.
RCUSCHEMAPWD	Repository schema password provided in the Configuring Oracle Data Integrator Repository Creation Utility (RCU) section.
WEBLOGIC_USERNAME	WebLogic user name for ODI domain
WEBLOGIC_PASSWORD	WebLogic password for ODI domain
ODI_DBSERVER	ODI database server name (target database server)
ODI_DBPORT	ODI database port (target database port)
ODI_DBNAME	ODI database name (target database name)
ADMIN_PORT	ODI domain admin port
ODI_DOMAIN_HOSTNAME	Host name on which the ODI domain is created
CLUSTER_NAME	Additional mandatory field for clustered domain

2. Navigate to the <OUA Environment>/bin directory and invoke the **createDomain.sh** script.
This creates an ODI domain with an Admin server and a Managed server (as 'ODI_server1') and assigned to the cluster.

Refer to the [Starting the WebLogic Admin Server](#) and [Starting the Managed Server \(ODI_server1\)](#) sections to start the Admin server and Managed server.

To create another managed server and add it to the cluster:

1. Bring up the Admin server.
2. Navigate to the <OUA Environment>/etc directory and provide the following mandatory properties in the ODI_CONFIG.properties file:
 - MANAGED_SERVER_NAME
 - MANAGED_SERVER_PORT

3. Provide the following optional properties in the ODI_CONFIG.properties file:
 - MACHINE_NAME
 - MACHINE_PORT
4. Navigate to <OUA_Environment>/bin and invoke createMachine.sh.

A new managed server is created with the specified name and assigned to the cluster.

Refer to the sections [Starting the WebLogic Admin Server](#) and [Starting the Managed Server \(ODI_server1\)](#) to start the Admin server and Managed server.

Modify setDomainEnv Script for ODI Agent Connectivity

To modify the setDomainEnv script for ODI agent connectivity:

1. In the command shell, change the directory to the directory of the ODI Domain Home.

Example:

```
cd /u01/domains/odi_domain/bin
```

2. Add the -Dweblogic.oif.serialFilterScope=weblogic argument to setDomainEnv.sh immediately below an existing JAVA_OPTIONS command.

```
JAVA_OPTIONS="${JAVA_OPTIONS} -
Dweblogic.oif.serialFilterScope=weblogic
```

```
JAVA_PROPERTIES="${JAVA_PROPERTIES} ${WLP_JAVA_PROPERTIES}"
export JAVA_PROPERTIES

JAVA_OPTIONS="${JAVA_OPTIONS} ${JAVA_PROPERTIES}"
export JAVA_OPTIONS

JAVA_OPTIONS="${JAVA_OPTIONS} -Dweblogic.oif.serialFilterScope=weblogic"
```

Starting the WebLogic Admin Server

To start the WebLogic Admin server, perform the following steps:

1. In the command shell, change the directory to <ODI_DOMAIN_HOME>/bin.

Example: /u01/domains/odi_domain/bin

2. Modify startweblogic.sh script before execution. Follow these steps:
 - a. Make sure to take a backup of startweblogic.sh script.
 - b. Edit the startweblogic.sh script in the editor.
 - c. Add the following code after the # START WEBLOGIC pattern.

```
export CONFIG_JVM_ARGS="-Djava.security.egd=file:/dev/./urandom
-Dweblogic.security.SSL.enableJSSE=true -
Dweblogic.security.SSL.ignoreHostnameVerification=true -
Dweblogic.security.TrustKeyStore=DemoTrust -
Dweblogic.security.CustomTrustKeyStoreType=JKS"
```

- d. Insert the following code after the pattern:

```
Djava.security.policy=${WLS_POLICY_FILE}
```

Note: Insert at all the three places where the pattern occurs.

```
-Djava.security.egd=file:/dev/./urandom -
Dweblogic.security.SSL.enableJSSE=true -
Dweblogic.security.SSL.ignoreHostnameVerification=true -
Dweblogic.security.TrustKeyStore=DemoTrust -
Dweblogic.security.CustomTrustKeyStoreType=JKS
```

Example:

Before inserting:

```
${JAVA_HOME}/bin/java ${JAVA_VM} ${MEM_ARGS} ${LAUNCH_ARGS} -
Dweblogic.Name=${SERVER_NAME} -
Djava.security.policy=${WLS_POLICY_FILE} ${JAVA_OPTIONS}
${PROXY_SETTINGS} ${SERVER_CLASS}
```

After inserting:

```
${JAVA_HOME}/bin/java ${JAVA_VM} ${MEM_ARGS} ${LAUNCH_ARGS} -
Dweblogic.Name=${SERVER_NAME} -
Djava.security.policy=${WLS_POLICY_FILE} -
Djava.security.egd=file:/dev/./urandom -
Dweblogic.security.SSL.enableJSSE=true -
Dweblogic.security.SSL.ignoreHostnameVerification=true -
Dweblogic.security.TrustKeyStore=DemoTrust -
Dweblogic.security.CustomTrustKeyStoreType=JKS ${JAVA_OPTIONS}
${PROXY_SETTINGS} ${SERVER_CLASS}
```

3. Execute the startweblogic.sh command.

Unix:

```
nohup ./startWebLogic.sh > startWebLogic.log 2>&1 &
```

Starting the Managed Server (ODI_server1)

To start the ODI_server1 managed server:

1. Change to <ODI_DOMAIN_HOME>/servers/ODI_server1/security.

Example: /u01/domains/odi_domain/servers/ODI_server1/security/

2. Create boot.properties file. Enter the username and password in the respective fields in the file. Save the file.

Below is an example of the boot.properties file:

```
username=<weblogic username>
password=<weblogic password>
```

3. Change the directory to WLS Home to start ODI_server1:

In Unix:

```
cd /u01/domains/odi_domain/bin nohup
./startManagedWebLogic.sh ODI_server1 > StartManagedWeblogic.log
2>&1 &
```

Note: Oracle Data Integrator Studio 12.2.1.4 is not supported in AIX and Solaris operating systems. Install Oracle Data Integrator Studio client in either Linux or Windows machines to connect to the target database.

4. In the Oracle Data Integrator Studio, navigate to **Topology > Agents > OracleDI Agent**.

5. Right-click **OracleDIAgent** and click **Test** to test the connectivity of the configured Oracle Data Integrator Java EE agent.

Installing Oracle Utilities Analytics Administration Component

Oracle Utilities Analytics Administration Tool is an Oracle Application Express (APEX) based configuration tool used to configure Oracle Utilities Analytics.

This section describes how to install the tool to configure Oracle Utilities Analytics and change the default password of the Admin user.

- [Installation Steps](#)
- [Changing Default Password of the Admin User](#)

Note: Install Oracle Utilities Analytics Administration component on the Oracle Utilities Analytics database server.

Installation Steps

To install the Oracle Utilities Analytics Administration Tool:

1. Download Apex 20.1 to the database server under the /temp directory. Unzip the file.
`cd /temp/apex`
2. Connect to the Oracle Utilities Analytics database as the **sys user** and execute the following commands:

```
@apxrtins.sql <Tablespace name> <Tablespace name> <Temp Tablespace name> /i/
```

Example:

```
@apxrtins.sql CISTS_01 CISTS_01 TEMP /i/
```

```
@apxchpwd.sql
ALTER USER APEX_PUBLIC_USER ACCOUNT UNLOCK;
ALTER USER APEX_PUBLIC_USER IDENTIFIED BY APEX_PUBLIC_USER;
@apex_rest_config.sql
```

Note: Ensure to note down the passwords for APEX_Listener user and APEX_REST_PUBLIC_USER.

3. Import the tool to configure Oracle Data Integrator:
 - a. Unzip the **Oracle Utilities Analytics V2.7.0.2 Multiplatform.zip** file. The file includes the AdminTool folder.
 - b. Create the ../AdminTool directory on the database server and copy the contents of the AdminTool directory (from the zip file) to this directory.
 - c. Navigate to the ../AdminTool directory. (`cd ../AdminTool`).
 - d. Connect as the **sys user** and execute the following scripts:
 - To create workspace and configure the users:
`@CreateAppWorkspace.sql`
 - To import application:
`@DeployAdminApp.sql`
 - To deploy supporting objects:
`@DeploySupportingObjects.sql`

- Make sure that the APEX extracted directory is available in the location where the Admin tool is set up.

Example path: Copy it to the server where you want to set it up under the /u01/Softwares/apex_20.1 directory.

- Download Oracle Rest Data service 19.2.0 to the server where you want to set up the Administration Tool.

Example: /u01/apex_listner directory

Note: Create apex_listner directory if it does not exist.

- Navigate to the /u01/apex_listner directory and unzip the ords-19.2.0.199.1647.zip file.

cd /u01/apex_listner

- Create a directory on the server to configure Apex.

For example: mkdir/u01/apex_configuration

- Navigate to the apex_listner directory:

Example: cd /u01/apex_listner

- Execute the following command:

```
java -jar ords.war install advanced
```

Note: Use JDK1.8 to run the command.

Provide the necessary inputs as shown below:

```
bash-4.1$ java -jar ords.war install advanced
This Oracle REST Data Services instance has not yet been configured.
Please complete the following prompts

Enter the location to store configuration data:/scratch/bi oradata 01/apex_configuration
Enter the name of the database server [localhost]:
Enter the database listen port [1521]:
Enter 1 to specify the database service name, or 2 to specify the database SID [1]:
Enter the database service name:
Enter 1 if you want to verify/install Oracle REST Data Services schema or 2 to skip this step [1]:
Enter the database password for ORDS_PUBLIC_USER:
Confirm password:

Please login with SYSDBA privileges to verify Oracle REST Data Services schema. Installation may be required.

Enter the username with SYSDBA privileges to verify the installation [SYS]:sys
Enter the database password for sys:
Confirm password:
Jun 22, 2015 2:08:51 AM oracle.dbtools.rt.config.setup.SchemaSetup addSchemaParams
INFO:
Oracle REST Data Services schema does not exist and will be created.

Enter the default tablespace for ORDS_METADATA [SYSAUX]:
Enter the temporary tablespace for ORDS_METADATA [TEMP]:
Enter the default tablespace for ORDS_PUBLIC_USER [USERS]:
Enter the temporary tablespace for ORDS_PUBLIC_USER [TEMP]:
Enter 1 if you want to use PL/SQL Gateway or 2 to skip this step [1]:
Enter the PL/SQL Gateway database user name [APEX_PUBLIC_USER]:
Enter the database password for APEX_PUBLIC_USER:
Confirm password:
```

```
Enter 1 to specify passwords for Application Express RESTful Services database users (APEX_LISTENER, APEX_REST_PUBLIC_USER) or 2 to skip
this step [1]:
Enter the database password for APEX_LISTENER:
Confirm password:
Enter the database password for APEX_REST_PUBLIC_USER:
Confirm password:
Jun 22, 2015 2:09:36 AM oracle.dbtools.common.config.file.ConfigurationFilesBase update
INFO: Updated configurations: defaults, apex_pu, apex, apex_al, apex_rt
Jun 22, 2015 2:09:36 AM oracle.dbtools.installer.Installer installORDS
INFO:
Installing Oracle REST Data Services version 3.0.0.121.10.23
... Log file written to /scratch/bi_oradata_01/Softwares/apex_listner/logs/ordsinstall_2015-06-22_020936_00353.log
... Verified database prerequisites
... Created Oracle REST Data Services schema
... Granted privileges to Oracle REST Data Services
... Created Oracle REST Data Services database objects
... Created Oracle REST Data Services proxy user
Jun 22, 2015 2:09:48 AM oracle.dbtools.installer.Installer installORDS
INFO: Completed installation for Oracle REST Data Services version 3.0.0.121.10.23. Elapsed time: 00:00:12.203
Enter 1 if you wish to start in standalone mode or 2 to exit [1]:2
```

10. Navigate to the **apex_listner** directory:

Example: `cd /u01/apex_listner`

11. Run the following command:

```
java -jar ords.war static /u01/
apex_20.1/apex/images
```

Note: The command creates i.war file.

12. Create the WebLogic domain.

- a. Navigate to <Middleware Home>/Weblogic_12.2.1.4_Home/oracle_common/common/bin.

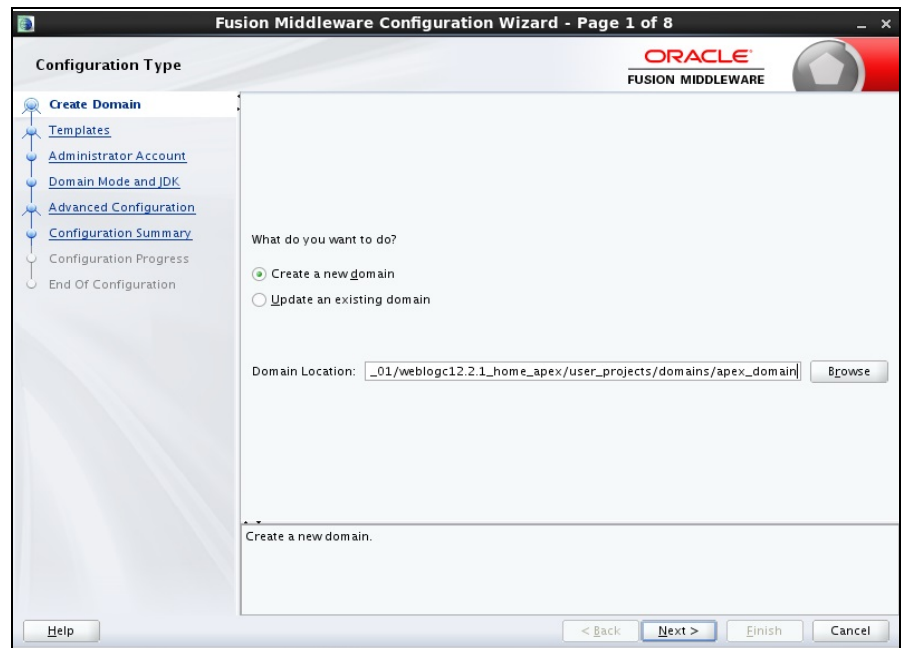
`cd <Middleware Home>/oracle_common/common/bin`

- b. Execute the following command:

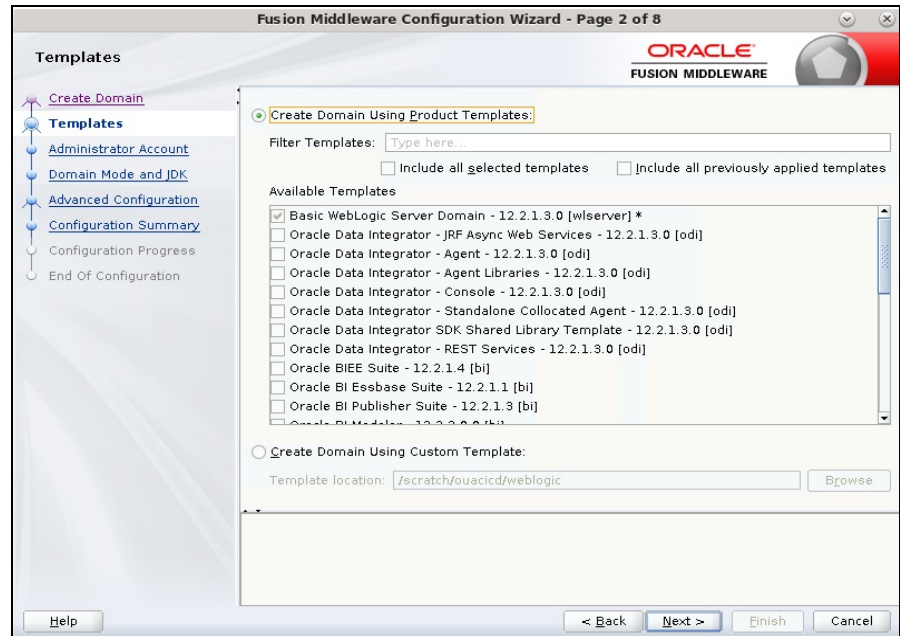
```
./config.sh
```

The **Fusion Middleware Configuration Wizard** window appears.

- a. Select **Create a new WebLogic domain** and click **Next**.



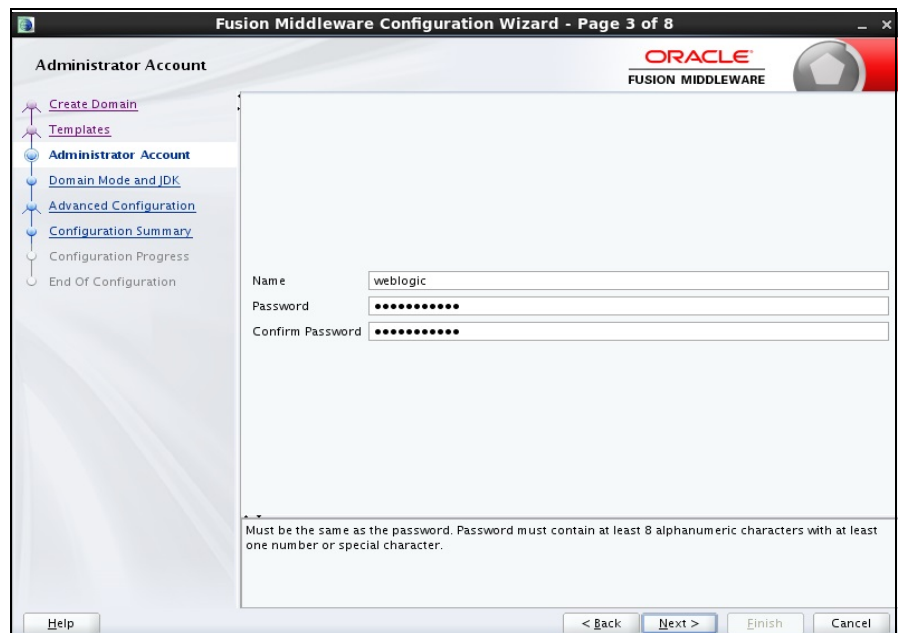
- b. Provide the domain name.



Ensure you do not change the domain location.

Click **Next**.

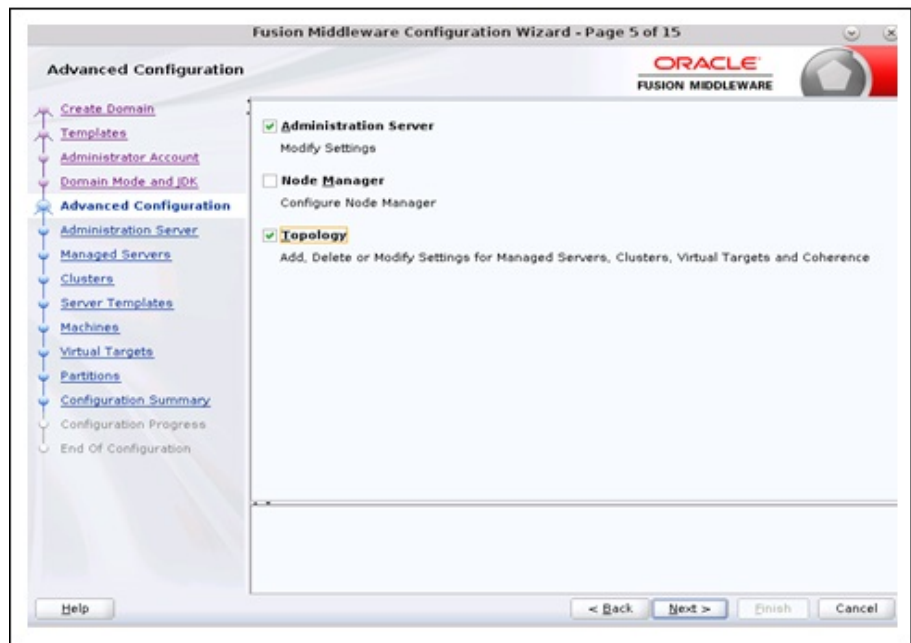
- c. Provide the WebLogic User Password. Ensure you make a note of the password.



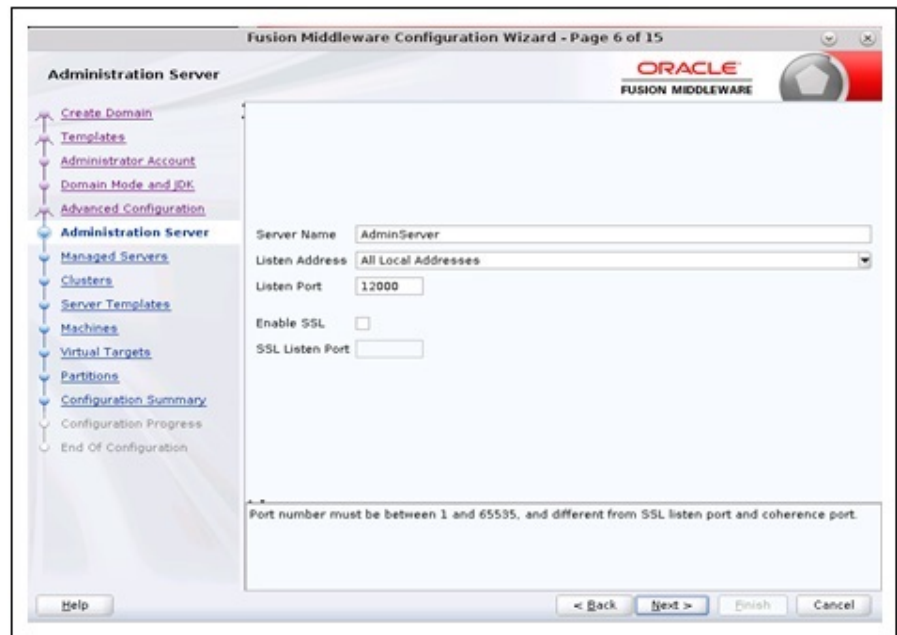
Click **Next**.

- d. Select jdk1.8 and click **Next**.

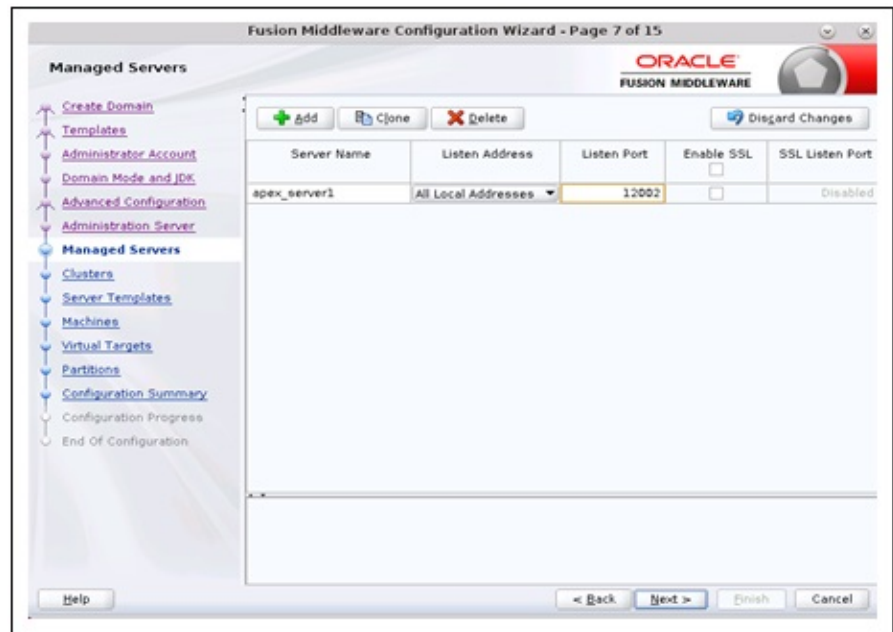
- e. On the **Advanced Configuration** tab, select **Administration Server** and **Topology** options. Click **Next**.



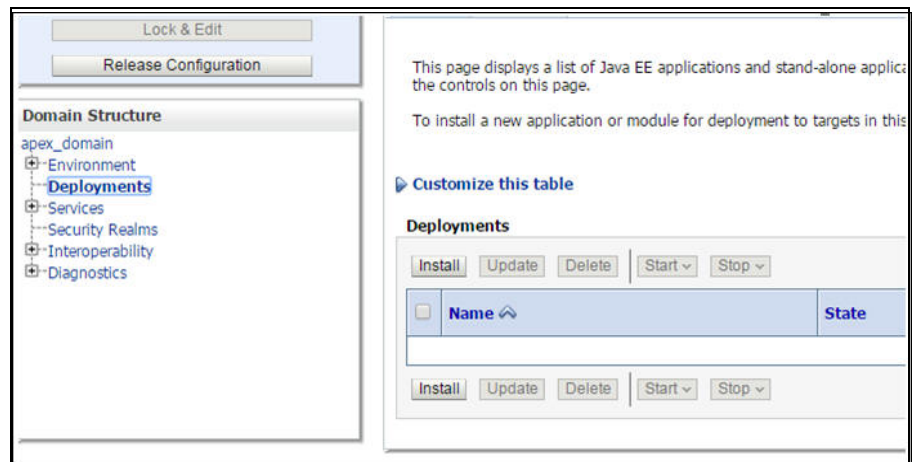
- f. On the **Administration Server** tab, provide the available port as **Listen Port**. Click **Next**.



- i. On the **Managed Servers** tab, click **Add** and provide values as shown below. Click **Next**.



- j. Click **Next** on the **Clusters**, **Server Templates**, **Machines**, **Virtual Targets** and **Partitions** tabs respectively. There are no changes to these pages.
- k. On the **Configuration Summary** page, click **Create**.
13. Create the **boot.properties** file.
14. Start the Admin and Managed server.
15. Login to WebLogic console and click **Lock & Edit**.



16. Click **Install**.
17. Enter the following path and then select the **ords.war** file.

/u01/apex_listner

18. Click **Next**.

19. Select the **apex server** check box and click **Next**.

The screenshot shows the 'Install Application Assistant' window with the 'Select deployment targets' step. The window has a navigation bar at the top with 'Home', 'Log Out', 'Preferences', 'Record', and 'Help'. Below the navigation bar is a breadcrumb 'Home > Summary of Deployments'. The main title is 'Install Application Assistant'. There are four buttons: 'Back', 'Next', 'Finish', and 'Cancel'. The section 'Select deployment targets' includes the instruction: 'Select the servers and/or clusters to which you want to deploy this application. (You can reconfigure deployment targets later)'. Below this, it says 'Available targets for ords :'. A table lists the available targets:

Servers
<input type="checkbox"/> AdminServer
<input checked="" type="checkbox"/> apex_server

At the bottom, there are four buttons: 'Back', 'Next', 'Finish', and 'Cancel'.

20. Select the options as shown in the figure below:

The screenshot shows the 'Install Application Assistant' window with the 'Optional Settings' step. The window has a navigation bar at the top with 'Home', 'Log Out', 'Preferences', 'Record', and 'Help'. Below the navigation bar is a breadcrumb 'Home > Summary of Deployments'. The main title is 'Install Application Assistant'. There are four buttons: 'Back', 'Next', 'Finish', and 'Cancel'. The section 'Optional Settings' includes the instruction: 'You can modify these settings or accept the defaults'. Below this, there are three sections: 'General', 'Security', and 'Source accessibility'. The 'General' section asks 'What do you want to name this deployment?' and has a text input field with 'ords'. The 'Security' section asks 'What security model do you want to use with this application?' and has four radio button options: 'DD Only: Use only roles and policies that are defined in the deployment descriptors.', 'Custom Roles: Use roles that are defined in the Administration Console; use policies that are defined in the deployment descriptor.', 'Custom Roles and Policies: Use only roles and policies that are defined in the Administration Console.', and 'Advanced: Use a custom model that you have configured on the realm's configuration page.'. The 'Source accessibility' section asks 'How should the source files be made accessible?' and has two radio button options: 'Use the defaults defined by the deployment's targets' (which is selected) and 'Copy this application onto every target for me'. Below this, it says 'Recommended selection.' and 'During deployment, the files will be copied automatically to the managed servers to which the application is targeted.'. The 'I will make the deployment accessible from the following location' section has a text input field with '/scratch/bi_oradata_01/Softwares/apex_listener/ords war'. At the bottom, there are four buttons: 'Back', 'Next', 'Finish', and 'Cancel'.

21. Select the options as shown in the figure below:

Install Application Assistant

Back Next Finish Cancel

Review your choices and click Finish
Click Finish to complete the deployment. This may take a few moments to complete.

Additional configuration
In order to work successfully, this application may require additional configuration. Do you want to review this application's configuration after completing this assistant?

☐ Yes, take me to the deployment's configuration screen.

☒ No, I will review the configuration later.

Summary

Deployment: /scratch/bl_oradata_01/Softwares/apex_listner/ords.war

Name: ords

Staging mode: Use the defaults defined by the chosen targets

Security Model: CustomRoles: Use policies that are defined in the deployment descriptor. Create custom role mappings later.

Target Summary

Components	Targets
ords	apex_server

Back Next Finish Cancel

22. Click **Activate Changes**.

View changes and restarts

Pending changes exist. They must be activated to take effect.

Activate Changes

Undo All Changes

23. Repeat the steps 13 to 20 to deploy the **i.war** file.

24. Login to the WebLogic console and navigate to **Deployment > Monitoring**.

25. Select **i** and **ords**. Click **Start > Servicing All Requests**.

Home Log Out Preferences Record Help Welcome, weblog

Home > Summary of Deployments

Summary of Deployments

Configuration Control Monitoring

This page displays the list of Java EE applications and standalone application modules installed to this domain.

You can start and stop applications and modules from the domain by selecting the checkbox next to the application name and then using the controls on this page.

Customize this table

Deployments

Start Stop

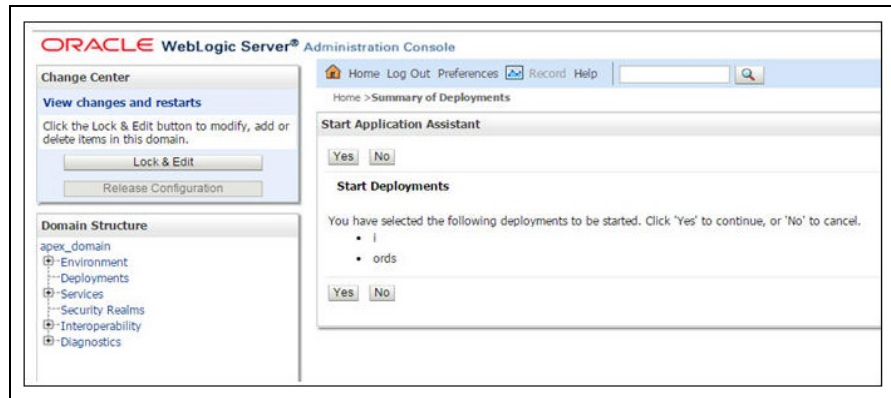
Servicing all requests

Servicing only administration requests

	State	Health	Type	Targets	Scope	Do
<input checked="" type="checkbox"/> i	Prepared	OK	Web Application	apex_server	Global	
<input checked="" type="checkbox"/> ords	Prepared	OK	Web Application	apex_server	Global	

Start Stop

26. Click **Yes**.



27. Restart the Admin and Managed servers.

28. Access the Administration Tool from the following URL.

https://<hostname>:<apex_server1_port>/ords/?p=104

The credentials to access the tool are:

User ID: Admin

Password: Admin_123

Changing Default Password of the Admin User

This section describes the APEX API used to change the password of the admin user. The script should be run after connecting to the database as user SYSTEM.

Replace the string 'New password' with the new password for the admin account before running the script.

```
begin

wwv_flow_api.set_security_group_id(p_security_group_id=>nvl(wwv_flow_application_install.get_workspace_id,2090606133849294));
end;
/
begin
apex_util.edit_user(
  p_user_id      => '2090514487849294',
  p_user_name    => 'ADMIN',
  p_web_password => 'New password',
  p_new_password => 'New password'
);
end;
/

commit;
/
```

Note: It is strongly recommended to change the default password after logging in.

Installing Oracle Utilities Analytics Dashboards Component

Make sure that the same operating system user is used to install all prerequisites software and Oracle Utilities Dashboard Analytics component.

The Oracle Utilities Analytics Dashboards component is installed on the Oracle Utilities Analytics application server.

This section describes the process to install the Oracle Utilities Analytics Dashboards component.

- [Copying and Decompressing Install Media](#)
- [Starting the Installer](#)
- [Installation Steps](#)
- [Deploying Web Catalog](#)
- [Deploying the Repository \(RPD\) File](#)
- [Deploying Writeback Templates in OAS Domain](#)
- [Configuring and Deploying the MapViewer](#)
- [Updating MapViewer Configuration](#)
- [Enabling WriteBack](#)
- [Enabling Auto Complete Feature in Oracle Analytics Server](#)

Copying and Decompressing Install Media

To download and decompress the install media:

1. Download the Oracle Utilities Analytics Dashboards component v2.7.0.2 (**Oracle Utilities Analytics V2.7.0.2 Multiplatform.zip**) from the Oracle Software Delivery Cloud (<https://edelivery.oracle.com>).
2. Create a temporary directory, such as /OUA/temp (referred to <TEMPDIR> below).

This directory must be located outside any current working Oracle Utilities application environment. All files that are placed in this directory as a part of the installation can be deleted after completing a successful installation.

3. Unzip **Oracle Utilities Analytics V2.7.0.2 Multiplatform.zip** to <TEMPDIR>.

Starting the Installer

To start the installer:

1. Navigate to the temporary folder where you downloaded the install. Run the following command from the folder:

```
java -jar <TEMPDIR>/OUA_2.7.0.2.0_generic.jar -logLevel finest
```

Note: The minimum JDK required for running the Oracle Utilities Analytics installer is JDK 1.8.

2. On the **Welcome** page, review the information before you begin the installation.
3. Click **Next** to continue with the installation.
4. Complete the installation by following the tasks on the navigation pane.

Each item in the navigation pane represents a specific installer screen that prompts you for the information required to install the software.

Installation Steps

To install the Dashboards component:

1. Run the Oracle Utilities Analytics Installer.
2. On the **Welcome** page, review the available information before you begin the installation.
3. On the **Installation Inventory** page, provide the inventory location. Click **Next**.
4. On the **Languages Selection** page, make sure to select “English”. Click **Next** to proceed.
5. On the **Installation Location** page, define the **Installation Location** and click **Next**.

Note: The specified Oracle home directory must be an empty directory or a directory where the OUA ODI ETL 2.7.0.2 component was installed successfully.

6. On the **Installation Type** page, select **Dashboards** and click **Next**.

Note: Based on the selected installation type, the options on the left navigation panel change. When you select **Dashboard** as an **Installation Type**, you need to define **Database and Java Home Details**, **Target Database Connection Details** and **OBIEE Home Details**.

7. On the **Database and Java Home Details** page, enter the following details in the respective fields and click **Next**.

Field Name	Description	Value
Database Client Home	Database client home location	Example: /u01/app/product/19.7/dbhome_1
Java Home	JDK home location	JDK 1.8 location Example: /u01/jdk_1.8.0_251

8. On the **Target Database Connection Details** page, enter the following details in the respective fields and click **Next**.

Field Name	Description	Value
Host	The host name of the server where the database resides.	Oracle Utilities Analytics Database Server
Port	The database port number on the database server used for connecting to the database.	Oracle Utilities Analytics Database Port. The default value is 1521.
Service Name	The service name for the database	
Target Schema Password	The password for the target schema (DWADM).	
Confirm Target Schema Password	Confirm the password for the target schema (DWADM) here.	
Metadata Schema Password	The password for the metadata schema (MDADM).	

Field Name	Description	Value
Confirm Metadata Schema Password	Confirm the password for the metadata (MDADM) schema here.	

9. On the **OBIEE Home Details** page, enter the following details in the respective fields and click **Next**.

Field Name	Description	Value
BI Home	The location on the disk where OAS is installed.	Example: /u01/Middleware/bi
BI Domain Home	The domain Home location under the directory where OAS is installed.	Example: /u01/domains/oas_domain
WebLogic Host	The hostname on which WebLogic server for OAS is running.	
WebLogic Port Number	A unique port number within the system that is assigned to the HTTP port. This port number is used as a part of the client URL request to connect to the host. It is the OAS WebLogic console admin port number.	Example: 9500
WebLogic User	WebLogic domain login user name.	

Note: You will be prompted for the Weblogic user's password after installation.

10. On the **Java Home Location** page, provide the same Java Home details provided earlier. Click **Next**.
11. On the **Installation Summary** page, verify the installation options and click **Install** to begin the installation.
- For any changes to the configuration before starting the installation, use the navigation pane and select the topic to edit.
12. The **Installation Progress** page appears allowing you to see the progress of the installation. Operations being performed as part of the installation are logged to the terminal from which the installer was run. Detailed logs of the installation are also available in the logs/system directory under the installation location.
- To quit before the installation is complete, click **Cancel**. It results in a partial installation; the portion of the software that was installed on the system before clicking **Cancel** will remain on the system and it needs to be deleted manually.
13. On the **Installation Completed** page, click **Finish** to close the installer.

The Dashboards component is installed successfully.

Deploying Web Catalog

On the Oracle Analytics Server, deploying the latest catalogs into the environment via online mode is allowed.

To deploy the web catalog:

1. Navigate to <OAS_DOMAIN_HOME>/bitools/bin.
2. Use runcat.sh to deploy the catalogs.
3. Create a new credentials file boot.txt at a standard location, typically in the location where runcat.sh is executed.


```
export OAS_DOMAIN_HOME=/u01/domains/oas_domain
$OAS_DOMAIN_HOME/bitools/bin/boot.txt file login=admin user
pwd=admin password
```
4. For each catalog run the following from the \$OAS_DOMAIN_HOME/bitools/bin location.


```
./runcat.sh -cmd unarchive -folder "/shared" -online http://<OAS
Host>:<OAS SERVER PORT>/analytics-ws/saw.dll -credentials boot.txt
-inputFile "<install_dir>/Catalog/<Catalog Name>" -overwrite all
```

Example:

```
cd $OAS_DOMAIN_HOME/bitools/bin
./runcat.sh -cmd unarchive -folder "/shared" -online http://
Localhost.localdoamin:9502/analytics-ws/saw.dll -credentials
boot.txt
-inputFile "/u01/OUA_DASHBOARD/Catalog/Sample NMS DV
Projects.Catalog" -overwrite all
.....
Command 'unarchive' completed successfully. Return status from
Catalogmanager command : 0
```

5. Deploy 'Spatial Metadata Catalog' on System folder.


```
./runcat.sh -cmd unarchive -folder "/system" -online http://
<<Host>>:<<Port>>/analytics-ws/saw.dll -credentials boot.txt -
inputFile "<install_dir>/Catalog/Spatial Metadata.Catalog" -
overwrite all
```

Example:

```
./runcat.sh -cmd unarchive -folder "/system" -online http://
localhsot.localdomain:9502/analytics-ws/saw.dll -credentials
boot.txt
-inputFile "/u01/OUA_DASHBOARD/Catalog/Spatial Metadata.Catalog" -
overwrite all
```

Note: The 'inputFile' parameter must be in double quotes all the catalog filename includes spaces.

Deploying the Repository (RPD) File

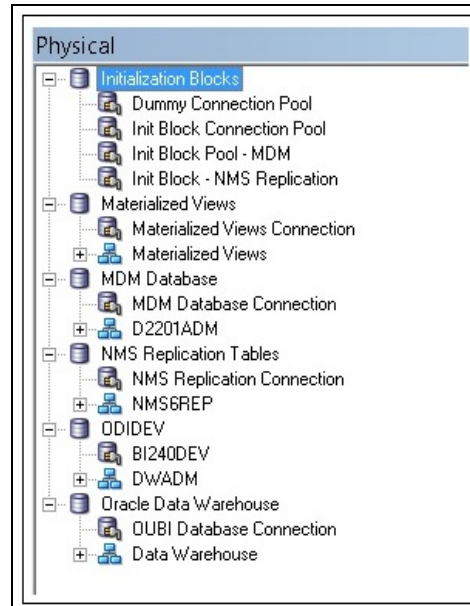
Take the RPD file from the following location, where <install_dir> is the Oracle Utilities Analytics Dashboard Component installation directory:

<install_dir>/Reports/rpd/ UtilitiesBusinessAnalytics.rpd

Note: If you are using the default Oracle Utilities Analytics repository, you must change the default password the first time you open it in the Administration Tool.

To deploy the RPD file:

1. Make sure Oracle Utilities Analytics Client tool 5.5.0 is installed on the Windows machine before proceeding.
2. Click **Start > Programs > Oracle Business Intelligence > Administration**.
3. Click **File > Open > Offline...** to open the RPD in offline mode.
4. Provide the RPD password. The default password is “oracle123”.
5. Double-click the **Connection Pools** to edit them.



- In the **Init Block Connection Pool** group, enter the following:
 Datasource name = BI Database name
 User name = DWREAD
 Password = DWREAD User password
- In the **Init Block Pool - MDM** group, provide the following (only for Oracle Utilities Meter Data Management):
 Datasource name = MDM database name
 User name = CISUSER
 Password = CISUSER User password
- In the **Materialized Views Connection** group, enter the following:
 Datasource name = BI Database name
 User name = DWREAD
 Password = DWREAD User password
- In the **MDM Database Connection** group, provide the following (only for Oracle Utilities Meter Data Management):
 Datasource name = MDM database name
 User name = CISUSER
 Password = CISUSER User password

- In the **NMS Replication Tables** group, provide the following (only for Oracle Utilities Network Management System):

Datasource name = BI database name

User name = DWREAD

Password = DWREAD User password

Note: The default schema name is NMS1REP. If the replication schema name is different, then rename.

- In the **ODIDEV Connection Pool** group, provide the following:

Datasource name = BI database name

User name = DWUSER

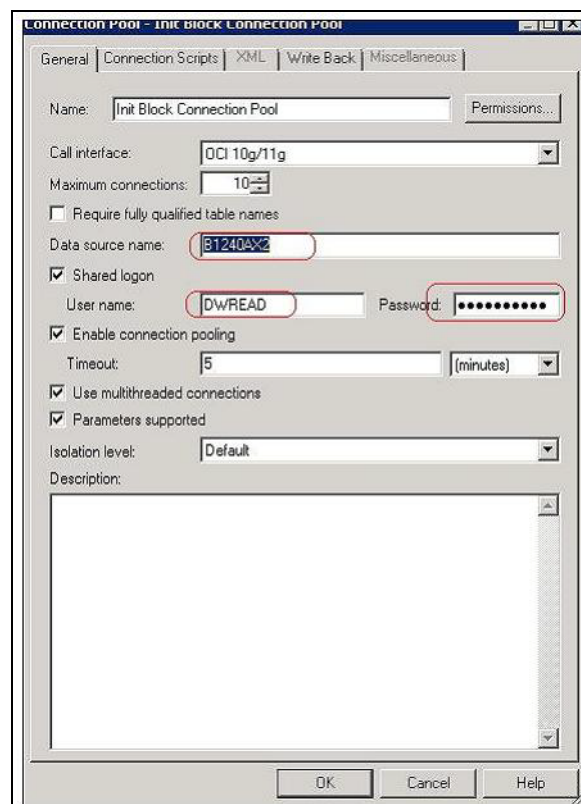
Password = DWUSER User password

- In the **OUBI Database Connection** group, provide the following:

Datasource name = BI database name

User name = DWREAD

Password = DWREAD User password



- Click **Save**.

Note: Click **Yes** when you see the prompt 'Do you wish to check global consistency?' and ignore any warnings that appear after consistency check is complete.

- Copy the modified RPD back to the <install dir>/Reports/rpd/UtilitiesBusinessAnalytics.rpd where <install_dir> is the Oracle Utilities Analytics Dashboard Component installation directory.

8. Login to the server where Oracle Analytics Server is installed.
9. Navigate to **<OAS_DOMAIN>/bitools/bin**.
10. Run the following command to deploy the RPD:

In Unix if SSL is enabled:

```
./datamodel.sh uploadrpd -I <Install_Dir>/Reports/rpd/
UtilitiesBusinessAnalytics.rpd -W <rpd password, default
password is oracle123> -U <Infrastructure user name of OAS
domain> -P <Infrastructure password of OAS domain> -SI ssi -SSL
-TS <keystore> -TSP <keystore_password>
```

In Unix if SSL is disabled:

```
./datamodel.sh uploadrpd -I <Install_Dir>/Reports/rpd/
UtilitiesBusinessAnalytics.rpd -W <rpd password, default
password is oracle123> -U <Infrastructure user name of OAS
domain> -P <Infrastructure password of OAS domain> -SI ssi
```

11. Run the following commands from **<OAS_DOMAIN>/bitools/bin** directory to stop and start the OAS domain services respectively.

```
./stop.sh
./start.sh
```

Deploying Writeback Templates in OAS Domain

WriteBack template is an xml file that takes user inputs and writes it directly to the database using SQL commands. Copy these WriteBack template files to the following location:

```
$OAS_DOMAIN_HOME/bifoundation/web/msgdb/l_en/custommessages/

cp -r <install_dir>/writeback/wbtemplates/* $OAS_INSTALL_DIR/
bifoundation/web/msgdb/l_en/custommessages/
```

If the directory structure in the Oracle Analytics Server domain does not exist, create it by running the command listed above. Below are the list of writeback template files:

- Base_Field_Update_Template.xml
- Configuration_Update_Template.xml
- Custom_Field_Delete_Template.xml
- Custom_Field_Insert_Template.xml
- Custom_Field_Update_Template.xml
- ETL_Job_Control_Update_Template.xml
- Map_Profile_Update_Template.xml

Restart the Oracle Analytics Server services after deploying these writeback templates in the specified path.

Configuring and Deploying the MapViewer

Configuring and deploying the MapViewer involves the following tasks:

- [Configuring the MapViewer](#)
- [Modifying instanceconfig.xml](#)
- [Updating MapViewer Configuration](#)

Configuring the MapViewer

To configure the Mapviewer:

1. Login to the WebLogic console in the Oracle Analytics Server domain.
2. Create the 'MAP_DS' datasource.
3. Lock and edit it.
4. Navigate to **Services > Data Sources**.
5. Select **New > Generic Data Source** and provide the following:
 Name = MAP_DS
 JNDI Name = MAP_DS
 Database Type = oracle
6. Click **Next**.
7. Enter the following:
 Database Driver = *Oracle's Driver (Thin) for Service connections; Versions: Any
8. Click **Next**.
9. On the next page, do not change any values. Click **Next**.
10. Enter the following connection properties:
 - Database Name: BI Database Name
 - Host Name: Database host
 - Port: Database port
 - Database User Name: dwadm
 - Password: dwadm password
11. Click **Next**.
12. On the next page, click **Test Configuration**. After the successful test, click **Next** again.
13. On the **Select Target** page, select AdminServer under **Servers** and bi_cluster under **Clusters**. Click **Finish**.
14. Click **Activate Changes**.
15. Update the mapViewConfig file with the tags mentioned below:
 File location: <OAS_DOMAIN_HOME>/config/fmwconfig/mapviewer/conf
 File: mapViewConfig.xml
16. If there is a proxy used, insert the list of host names for all the third-party service providers in the security_config node.

```
<proxy_enabled_hosts>
elocation.oracle.com
</proxy_enabled_hosts>
```
17. Add the following ns_data_provider node:

```
<ns_data_provider id="obieeNsdp"
class="com.oracle.utilities.birdseye.BirdseyeNSDP" />
```
18. Add the current map_tile_server with the following map_tile_server node:

```
<map_tile_server>
<tile_storage default_root_path="/mytilecache/" />
</map_tile_server>
```

Modifying instanceconfig.xml

Make sure you take a backup before updating the instanceconfig.xml file. Run the following commands in UNIX to go to the directory containing the instanceconfig.xml file.

In Unix:

```
<OAS_DOMAIN_HOME>/config/fmwconfig/biconfig/OBIPS
```

Perform the following changes to the instanceconfig.xml file for OAS 5.5.0:

1. Update the security node with the following values. If the security node is not present, add the following code before `</ServerInstance>`:

```
<Security>
<ClientSessionExpireMinutes>210</ClientSessionExpireMinutes>
<HttpOnlyCookies>>false</HttpOnlyCookies>
<CookieDomain />
<CookiePath>/</CookiePath>
</Security>
```

2. Update the following `<ServerInstance>` element:

```
<LightWriteback>>true</LightWriteback>
```

3. Add the following code between the `<ServerInstance>` `</ServerInstance>` tags.

```
<Prompts>
<MaxDropDownValues>256</MaxDropDownValues>
<AutoApplyDashboardPromptValues>>true</AutoApplyDashboardPromptValues>
<AutoSearchPromptDialogBox>>true</AutoSearchPromptDialogBox>
<AutoCompletePromptDropDowns>
<SupportAutoComplete>>true</SupportAutoComplete>
<CaseInsensitive>>true</CaseInsensitive>
<MatchingLevel>MatchAll</MatchingLevel>
<ResultsLimit>50</ResultsLimit>
</AutoCompletePromptDropDowns>
</Prompts>
<SpatialMaps>
<MapViewerAPIV2Enabled>>false</MapViewerAPIV2Enabled>
</SpatialMaps>
```

Perform the following changes to the instanceconfig.xml file for OAS 6.4.0:

1. Remove `<ServerInstance/>` tag from the instanceconfig.xml file, and add the following XML stanzas before `</WebConfig>`:

```
<ServerInstance>
<LightWriteback>>true</LightWriteback>
<Security>
<HttpOnlyCookies>>false</HttpOnlyCookies>
<CookieDomain/>
<CookiePath>/</CookiePath>
</Security>
<Prompts>
<MaxDropDownValues>256</MaxDropDownValues>
<AutoApplyDashboardPromptValues>>true</AutoApplyDashboardPromptValues>
<AutoSearchPromptDialogBox>>true</AutoSearchPromptDialogBox>
<AutoCompletePromptDropDowns>
<SupportAutoComplete>>true</SupportAutoComplete>
<CaseInsensitive>>true</CaseInsensitive>
<MatchingLevel>MatchAll</MatchingLevel>
<ResultsLimit>50</ResultsLimit>
</AutoCompletePromptDropDowns>
</Prompts>
<SpatialMaps>
```

```

<MapViewAPIV2Enabled>false</MapViewAPIV2Enabled>
</SpatialMaps>
</ServerInstance>

```

Example: After updating the configuration, instanceconfig.xml file should look as below:

```

<WebConfig xmlns="oracle.bi.presentation.services/config/v1.1">
  <ServerInstance>
    <LightWriteback>true</LightWriteback>
    <Security>
      <HttpOnlyCookies>false</HttpOnlyCookies>
      <CookieDomain/>
      <CookiePath>/</CookiePath>
    </Security>
    <Prompts>
      <MaxDropDownValues>256</MaxDropDownValues>
      <AutoApplyDashboardPromptValues>true</AutoApplyDashboardPromptValues>
      <AutoSearchPromptDialogBox>true</AutoSearchPromptDialogBox>
      <AutoCompletePromptDropDowns>
        <SupportAutoComplete>true</SupportAutoComplete>
        <CaseInsensitive>true</CaseInsensitive>
        <MatchingLevel>MatchAll</MatchingLevel>
        <ResultsLimit>50</ResultsLimit>
      </AutoCompletePromptDropDowns>
    </Prompts>
    <SpatialMaps>
      <MapViewAPIV2Enabled>false</MapViewAPIV2Enabled>
    </SpatialMaps>
  </ServerInstance>
</WebConfig>

```

Updating MapViewer Configuration

Important! Note that the Mapviewer URL is not accessible in an AIX environment as it is not supported. Skip this step in AIX platforms.

To update the MapViewer configuration:

1. Login to MapViewer.

<http://<Server>:<port>/mapviewer>

2. To update the MapViewer configuration, navigate to **MapViewer > Administration > Configuration**.
3. Login to the Mapviewer at this location:

<http://<HOST>:<MANAGERPORT>/mapviewer>

4. Add the below code in the mapViewerConfig.xml with the appropriate values:

```

<map_data_source name="mapconn"
  jdbc_host="<DB server name>"
  jdbc_sid="//<DB Service name>"
  jdbc_port="1521"
  jdbc_user="DWADM"
  jdbc_password="!<DWADM user password>"
  jdbc_mode="thin"
  number_of_mappers="32"
  allow_jdbc_theme_based_foi="true"
/>

```

5. Click **Save** and restart.

Enabling WriteBack

To enable the Write Back:

1. Login to Analytics and navigate to **Administration > Manage Privileges > WriteBack > Write Back to Database**.
2. Click **Denied:Authenticated User** and select the **Granted** permission.

Enabling Auto Complete Feature in Oracle Analytics Server

To enable the auto complete feature on Oracle Analytics Server:

1. Restart the Oracle Analytics Server services.
Note: Refer to Oracle Analytics Server documentation for detailed instructions on how to start and stop the services.
2. Login to Analytics.
3. Click **WebLogic User** (top-most-right section of the page).
4. From the drop-down menu, select **My Account**.
5. On the **Preferences** tab, set **Prompt Auto Complete** to **ON**.
6. Click **OK**.

Chapter 5

Upgrading Oracle Utilities Analytics from v2.7.0.0.13

Oracle Utilities Analytics v2.7.0.2.0 supports the direct upgrade path from v2.7.0.0.13 to v2.7.0.2.0. This chapter is applicable **only** to customers upgrading from Oracle Utilities Analytics **v2.7.0.0.13 to v2.7.0.2.0**.

To upgrade to Oracle Utilities Analytics v2.7.0.2.0, you must first upgrade to Oracle Utilities Analytics v2.7.0.0.13 if on an earlier version. Make sure all pre-requisites are met before beginning the upgrade process.

This chapter describes the procedure to upgrade to Oracle Utilities Analytics v2.7.0.2.0, including:

- [Pre-requisites](#)
- [Upgrading Oracle Utilities Analytics Database Component](#)
- [Upgrading Oracle Data Integrator Based ELT Component](#)
- [Upgrading Oracle Utilities Analytics Administration Tool Component](#)
- [Upgrading Oracle Utilities Analytics Dashboards Component](#)

Pre-requisites

Upgrading Oracle Utilities Analytics from v2.7.0.0.13 to v2.7.0.2.0 includes upgrading Oracle Data Integrator based source applications (Oracle Utilities Customer Care and Billing, Oracle Utilities Work and Asset Management, Oracle Utilities Network Management System, Oracle Utilities Mobile Workforce Management, and Oracle Utilities Meter Data Management).

This section describes the steps to configure Oracle Data Integrator based source applications.

Make sure the required JDK 1.8.0(251), Oracle Data Integrator 12.2.1.4.0 (both infrastructure and ODI), and Oracle Analytics Server 5.5 are installed. Also, the existing target applications should be down.

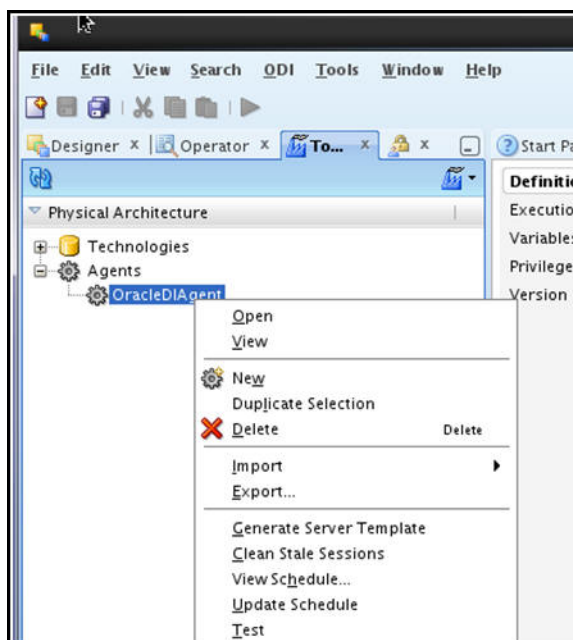
Follow these steps as part of prerequisites:

1. Login to Oracle Utilities Analytics ODI server and start the ODI client.

Note: Oracle Data Integrator Studio 12.2.1.4 is not supported in the AIX and Solaris operating systems. Install Oracle Data Integrator Studio client in either Linux or Windows machines to connect to the target database.

```
cd $ODI_HOME/odi/studio
./odi.sh
```

2. Stop BI_RUN_ALL. Follow these steps:
 - a. Login to Oracle Database Integrator Studio.
 - b. Navigate to Topology > Scheduling > BI_RUN_ALL. Double-click **Global/WLS_AGENT** and select **Inactive**.
 - c. Save the changes.
3. On the Studio, navigate to the **Topology** tab. Right-click **OracleDIAgent** and select **Update Schedule**.



Run the following query to check if all jobs are complete.

```
SELECT
*
FROM mdadm.bl_jobs_vw
WHERE status_flg NOT IN ('D', 'E', 'RP');
```

Note: No rows should be returned from the query mentioned above. If any rows are returned, that means jobs are not yet completed. Wait until all the jobs are completed.

4. Stop the Oracle Data Integrator admin and managed servers.
5. Sync all the Oracle GoldenGate processes.
 - a. Connect to MDADM schema in the Oracle Utilities Analytics database.
 - b. Execute the SQL mentioned below to get all the context codes.


```
Select CONTEXT_CD from bl_prod_instance where CONTEXT_CD<>'B1';
```
 - c. For each context returned by the query, perform the following steps.
 - a. Connect to the source database corresponding to the context code as **sys user**.
 - b. Execute the following command:


```
alter system switch logfile
```
 - c. Connect to MDADM schema in the Oracle Utilities Analytics database.
 - d. Run the SQL mentioned below to get source GoldenGate server and Oracle GoldenGate Home on source server.


```
select DS_HOST,DS_HOME from bl_server_cfg where  
CONTEXT_CD='<Context_code>'
```
 - e. Make sure that the pump processes transfer all the changes to the target server. Lag at the **Chkpt** and **Time Since Chkpt** should be 0.
 - f. On the Oracle Utilities Analytics database server, ensure the replicate processes apply all changes for the context code.
 - Connect to the MDADM schema in Oracle Utilities Analytics database and execute the query below to get the target server and GoldenGate Home details on the target server.


```
select DS_HOST,DS_HOME, DS_FLAG from bl_server_cfg where  
CONTEXT_CD='B1';
```
 - Connect to the target server and login to the GoldenGate prompt. Execute the following commands:


```
cd <GG_Home >  
./ggsci  
dblogin userid MDADM,password <MDADM user password> Send  
replicat <Context_codeXX>,status
```

The current status will be at EOF.
 - g. Check this for each 'replicat' process of the context code.
 - h. Ensure all extracts and replicates of all sources are in sync.
 - i. Stop replicate processes in the target server.
6. Make sure that the alert logs are enabled to capture DDL changes on replication schema after technology upgrade (before Oracle Utilities Analytics upgrade).
 - a. Check and enable auditing at database level.


```
show parameter audit_trail  
alter system set audit_trail=db, extended scope=spfile;
```

- b. Restart the database.

```
shutdown immediate;
startup;
```

- c. Confirmation of audit logs enabled

```
show parameter audit_trail
```

- d. Run the following audit commands to ONLY enable DDL auditing on schema tables.

Note: Replace 'man' below with actual user to be audited.

```
AUDIT TABLE BY <Replication Owner> by ACCESS; --> This will
audit "CREATE TABLE","DROP TABLE","TRUNCATE TABLE"
AUDIT INDEX BY <Replication Owner> by ACCESS; --> This will
audit "CREATE INDEX","DROP INDEX","ALTER INDEX","ANALYZE INDEX"
AUDIT ALTER TABLE by <Replication Owner> BY ACCESS; --> This
will audit alter table statements
```

- e. Run the following query to find audited entries from dba_audit_trail table.

```
select username, to_char(timestamp,'dd-mon hh24:mi') timest ,
owner, obj_name, action_name, sql_text from dba_audit_trail
where username='<Replication Owner>';
```

7. Make sure that the ODI operator logs are available during the course of upgrade and after the upgrade.

This can be ensured by increasing the log retention period to 60 days from the Global Configuration Page in Apex.

8. Make sure the ODI log level is set to maximum in Global Configuration.

This can be ensured by increasing the ODI log level to 5 or 6 from the Global Configuration Page in Apex.

9. Make sure that the primary keys of all replication tables are present. Use the following query to retrieve the tables that have the primary key missing.

```
SELECT *
FROM
MDADM.B1_SOURCE_TABLE S
WHERE PROD_FLG = '<configured source product value>'
AND BASE_REPLICATE_FLG = 'Y'
AND NOT EXISTS (SELECT 1 FROM ALL_CONSTRAINTS C
WHERE CONSTRAINT_TYPE = 'P'
AND OWNER='<replication schema name for configured source>'
AND S.TBL_NAME=C.TABLE_NAME);
```

Example: Oracle Utilities Customer Care and Billing

```
SQL> SELECT *
FROM
MDADM.B1_SOURCE_TABLE S
WHERE PROD_FLG = 'CCB'
AND BASE_REPLICATE_FLG = 'Y'
AND NOT EXISTS (SELECT 1 FROM ALL_CONSTRAINTS C
WHERE CONSTRAINT_TYPE = 'P'
AND OWNER='CCB1REP'
AND S.TBL_NAME=C.TABLE_NAME);
```

If the primary keys are not present, recreate them as follows. Make sure to run these steps **only** if the primary keys of the tables are missing.

1. Retrieve the keys for the tables using the following query from the Source side.

```
SELECT
ST.TABLE_NAME , SC.COL_NAME, rank() OVER (PARTITION BY
ST.TABLE_NAME ORDER BY SKC.POS DESC) KEY_POS
FROM
<work repository schema>.SNP_KEY_COL SKC,
<work repository schema>.SNP_KEY SK,
<work repository schema>.SNP_TABLE ST,
<work repository schema>.SNP_COL SC,
<work repository schema>.SNP_MODEL SM,
(SELECT
TBL_NAME
FROM
MDADM.B1_SOURCE_TABLE S
WHERE PROD_FLG = '<configured source product value>'
AND BASE_REPLICATE_FLG ='Y'
AND NOT EXISTS (SELECT 1 FROM ALL_CONSTRAINTS C
WHERE CONSTRAINT_TYPE ='P'
AND OWNER='<replication schema name for product configured>'
AND S.TBL_NAME=C.TABLE_NAME)) TAB_LIST
WHERE SKC.I_KEY =SK.I_KEY
AND SK.I_TABLE=ST.I_TABLE
AND SKC.I_COL=SC.I_COL
AND ST.I_MOD=SM.I_MOD
AND SM.COD_MOD LIKE '%REP%'
AND ST.TABLE_NAME= TAB_LIST.TBL_NAME AND SK.CONST_TYPE='PK';
```

Example:

```
SELECT
ST.TABLE_NAME , SC.COL_NAME, rank() OVER (PARTITION BY
ST.TABLE_NAME ORDER BY SKC.POS DESC) KEY_POS
FROM
OUA_WORK.SNP_KEY_COL SKC,
OUA_WORK.SNP_KEY SK,
OUA_WORK.SNP_TABLE ST,
OUA_WORK.SNP_COL SC,
OUA_WORK.SNP_MODEL SM,
(SELECT
TBL_NAME
FROM
MDADM.B1_SOURCE_TABLE S
WHERE PROD_FLG = 'CCB'
AND BASE_REPLICATE_FLG ='Y'
AND NOT EXISTS (SELECT 1 FROM ALL_CONSTRAINTS C
WHERE CONSTRAINT_TYPE ='P'
AND OWNER='CCB1REP'
AND S.TBL_NAME=C.TABLE_NAME)) TAB_LIST
WHERE SKC.I_KEY =SK.I_KEY
AND SK.I_TABLE=ST.I_TABLE
AND SKC.I_COL=SC.I_COL
AND ST.I_MOD=SM.I_MOD
AND SM.COD_MOD LIKE '%REP%'
AND ST.TABLE_NAME= TAB_LIST.TBL_NAME AND SK.CONST_TYPE='PK';
```

2. After creating the table list using the query, create the primary key.

```
ALTER TABLE <replication schema name>.<table name>
```

```
ADD CONSTRAINT <constraint name> PRIMARY KEY (<column list-
separated by comma>);
```

Example:

```
SQL> ALTER TABLE CCB1REP.C1_USAGE ADD CONSTRAINT SYS_C0021279
PRIMARY KEY (USAGE_ID);
Table altered.
```

ODI Related Settings

Login to the Oracle Utilities Analytics ODI server and perform the following steps:

1. Launch the ODI Studio. Navigate **Load Plan and Scenario**.
2. Make sure to take a backup of all scenarios.
3. Delete all scenario's which are starting with B1_%, and present outside of the load plan and scenario's out-of-the-box folders.

Upgrading Source Applications to be Compatible with Oracle Utilities Analytics v2.7.0.2.0

The source applications' databases must be in archive log mode during their upgrade. Oracle GoldenGate processes should be up and running on both source and target during the source application(s) upgrade.

Note: After a successful upgrade, **do not** release the source applications to end users. Ensure to stop the source applications, but the source databases should be up and accessible.

Perform the following steps to cleanup the Oracle GoldenGate processes:

1. Connect to MDADM schema in the Oracle Utilities Analytics database. Run the following SQL to get all the context codes.


```
Select CONTEXT_CD from b1_prod_instance where CONTEXT_CD<>'B1';
```
2. For each context returned by the query:
 - a. Connect to MDADM schema in the Oracle Utilities Analytics database. Run the SQL below to get the source GoldenGate db server, SID and Oracle GoldenGate host, home on source server:


```
Select DS_HOST,DS_SID,DS_HOME,CONTEXT_CD,DS_FLAG from
b1_server_cfg where CONTEXT_CD='<Context_code>'
```
 - b. Connect to the source database corresponding to context code as **sys user** and run the following command:


```
alter system switch logfile
```
 - c. Make sure that the pump processes transfer all the changes to the target server. Lag at the **Chkpt** and **Time Since Chkpt** should be zero.
 - d. On the source database server, drop all the GoldenGate processes by following these steps:
 - a. Connect to MDADM schema in the Oracle Utilities Analytics database.
 - b. Run the following query to get GoldenGate Owner name in the source database.

```
select SCHEMA_NAME
from MDADM.B1_CONTEXT_CFG_VW
where LSCHEMA_NAME = 'Journal'
and CONTEXT_CD = '<Context_code>';
```

- c. Login to source GoldenGate prompt.

```
cd <GG_Home>
./ggsci
```

- d. Run the following commands:

```
dblogin userid < GoldenGate Owner >,PASSWORD < GoldenGate
Owner password>
stop <Context_code>*
```

For example:

```
stop CCB1*
delete <Context_code>*
```

```
delete CCB1*
Stop mgr
```

Run the below commands to unregister extracts from database:

```
unregister extract <Context_code>*X database
```

Example:

```
unregister extract CCB1AAX database
```

Similarly, unregister all model extracts.

Note: Note down the source Oracle GoldenGate context_codes of each source and source Oracle GoldenGate Owner info. They will be used to configure the existing sources with same context during the upgrade.

- e. Connect as a **sys user** to the source database server. Run the following command:

```
<GG_Home>/ddl_disable.sql
```

- f. Rename the existing source Oracle GoldenGate Home on the source server.

Note the GoldenGate manager port number and source GoldenGate home before renaming it.

Example: mv <GG_Home> <GG_Home>.bkp

- g. On the Oracle Utilities Analytics database server, make sure the replicate processes apply all changes for the context code.

- a. Connect to MDADM schema in the Oracle Utilities Analytics database. Run the below query to get the target server and GoldenGate Home details on the target server.

```
select DS_HOST,DS_HOME,DS_FLAG from bl_server_cfg where
CONTEXT_CD='B1';
```

- b. Connect to the target server and login to the GoldenGate prompt. Run the following commands:

```
cd <GG_Home >
./ggsci
Dblogin userid MDADM,password <MDADM user password>
```

- c. Check each replicate process for the context code and ensure replicate processes completed writing all the changes.

- d. After checking the current status and each replicate process for the context code, run the following commands:

```
Stop <Context_code>*
```

Example:

```
stop CCB1*
```

```
Delete <Context_code>*
```

Example:

```
delete CCB1*
```

3. After all source applications' changes are in sync in the Oracle Utilities Analytics database, run the following command after connecting to the target Oracle GoldenGate Home prompt.

```
./ggsci  
Stop mgr
```

4. Rename the existing target Oracle GoldenGate Home directory.

Note the Oracle GoldenGate manager port number and target Oracle GoldenGate Home before renaming it.

5. Upgrade the source application databases.

Installing Oracle Fusion Middleware Infrastructure

Note that the Oracle Home path provided in the **Installation Location** page is used while installing the Oracle Data Integrator.

The infrastructure installation type is 'Fusion Middleware Infrastructure'.

During the Oracle Data Integrator 12.2.1.4 installation, provide the same 'Oracle Home' path used as Oracle Home while installing Oracle Fusion Middleware Infrastructure. Select **Enterprise Installation** on the **Installation Type** page.

Apply ODI Patch# 31510501

To summarize, a successful Oracle Data Integrator installation involves installing/applying the following:

- JDK 1.8.0(251)
- Oracle Fusion Middleware Infrastructure 12.2.1.4
- Oracle Data Integrator 12.2.1.4
- ODI Patch# 31510501

Upgrading Oracle Utilities Analytics Database Component

This section describes the steps included to upgrade the Oracle Utilities Analytics database component:

- [Copying and Decompressing the Install Media](#)
- [Creating Users and Tablespaces](#)
- [Installing RELADM Schema](#)
- [Installing MDADM Schema](#)
- [Installing DWADM Schema](#)

Before proceeding with upgrading the Oracle Utilities Analytics Database component, ensure the following are complete:

- Upgrading Oracle Utilities Analytics database to v19.7
- Installing Oracle GoldenGate 19.1 on Oracle Utilities Analytics database server.

Copying and Decompressing the Install Media

To copy and decompress the install media:

1. Download Oracle Utilities Analytics v2.7.0.2 Oracle Database part (**Oracle Utilities Analytics V2.7.0.2 Oracle Database Multiplatform.zip**) from Oracle Software Delivery Cloud ([https:// edelivery.oracle.com](https://edelivery.oracle.com)).
2. Create a temporary directory (such as /OUA/temp for a Linux machine).

This directory (referred to as <TEMPDIR> below) must be located outside any current working Oracle Utilities application environment. All files that are placed in this directory as a part of the installation can be deleted after completing a successful installation.

3. Unzip **Oracle Utilities Analytics V2.7.0.2 Oracle Database Multiplatform.zip** to <TEMPDIR> using any zip utility.

Creating Users and Tablespaces

To create users and tablespaces follow these steps:

1. Ensure to create users in the database with the following names without giving specific roles (if these do not exist already):

DWADM, DWUSER, DWREAD, MDADM, RELADM, OUA_MASTER, OUA_WORK and DWSTAGE

2. Connect as **sys user** and revoke the DBA privilege from the following users (if the DBA privilege has been granted to them):

DWADM, MDADM, RELADM, OUA_MASTER, OUA_WORK and DWSTAGE

3. Ensure to create roles with the following names (if these do not exist already).

DW_USER, DW_READ, DW_REPLICATE and DW_PRIVS_ROLE

4. Connect as **sys user** and execute the **Usersgrants.sql** in <TEMPDIR>/BI2702/Scripts/Usersgrants.sql.

Note: <TEMPDIR> is the location where the database contents are unzipped.

This SQL provides the required grants to the created users.

Installing RELADM Schema

The RELADM schema is a metadata schema that consists of the database objects used for storing the product version and component installation information.

This section describes the RELADM schema initial installation, including:

- [Reviewing the Storage.xml file](#)
- [Installation Steps](#)
- [Generating Database Statistics](#)

Reviewing the Storage.xml file

The storage.xml file (that comes with the product and is in location `<TEMPDIR>/BI2702/RELADM/Install- Upgrade`) allocates all the base tables and indexes to the default tablespace CISTS_01.

If you decide to allocate some tables or indexes outside of the default tablespace, this has to be reflected in the **storage.xml** file by changing the tablespace name from the default value to a custom value.

Note: If database does not have CISTS_01 tablespace or the RELADM user does not have quota on CISTS_01 tablespace, edit the Storage.xml file to indicate the correct tablespace name on which RELADM has quota.

Installation Steps

Note: Make sure to copy/paste the commands into Notepad. Check for any special characters and extra spaces. If any, delete them and enter the respective characters manually. This helps to avoid any errors at run time.

In Unix:

1. Add Java 8 to the path variable as shown in example below:

```
export PATH=/u01/jdk1.8.0_251/bin:$PATH
```

2. Set classpath pointing to OraDBI.jar and all dependency jars.

```
export CLASSPATH=<TEMPDIR>/BI2702/RELADM/Jarfiles/*
```

3. Run OraDBI.jar as shown below:

```
java com.oracle.ouaf.oem.install.OraDBI -d
jdbc:oracle:thin:@<DATABASE SERVER>:<DATABASE PORT>/<ORACLE SERVICE
NAME>,RELADM,<Password of RELADM User>,,,,,RELADM -l 1,2 -o -q true
```

The utility creates the RELADM schema and system data definitions. If an error occurs while executing an SQL or another utility, it logs and displays the error message and allows you to re-execute the current step.

Generating Database Statistics

During the installation process, new database objects may be added to the target database. Before using the database, generate the statistics for these new objects:

Connect as **sys user** and execute the following command:

```
execute DBMS_STATS.GATHER_SCHEMA_STATS('RELADM');
```

Installing MDADM Schema

The MDADM schema is a metadata schema that consists of the database objects used for storing the metadata of Oracle Utilities Analytics.

For example: ETL job execution status, target tables for ETL, Oracle GoldenGate configuration details, etc.

This section describes the MDADM schema initial installation, including:

- [Reviewing Storage.xml File](#)
- [Installation Steps](#)
- [Generating the Database Statistics](#)

Reviewing Storage.xml File

The **storage.xml** file (comes with the product and is in location `<TEMPDIR>/BI2702/MDADM/Install- Upgrade`) allocates all the base tables and indexes to the default tablespace CISTS_01. If you decide to allocate some tables or indexes outside of the default tablespace, then this has to be reflected in the **storage.xml file** by changing the tablespace name from the default value to a custom value.

Note: If the database does not have CISTS_01 tablespace or the MDADM user does not have quota on CISTS_01 tablespace, you must edit the Storage.xml file to indicate the correct tablespace name on which MDADM has quota.

Installation Steps

Important! Make sure to copy/paste the commands into Notepad. Check for any special characters and extra spaces. If any, delete them and enter the respective characters manually. This helps to avoid any errors at run time.

To install the MDADM schema:

- In Unix:

1. Add Java 8 to the path variable as shown in example below:

```
export PATH=/u01/jdk1.8.0_251/bin:$PATH
```

2. Set classpath pointing to OraDBI.jar and all dependency jars.

```
export CLASSPATH=<TEMPDIR>/BI2702/MDADM/Jarfiles/*
```

3. Run OraDBI.jar as shown below:

```
java com.oracle.ouaf.oem.install.OraDBI -d
jdbc:oracle:thin:@<DATABASE SERVER>:<DATABASE PORT>/<ORACLE
SERVICE NAME>,MDADM,<Password of MDADM User>,,,,MDADM -l 1,2 -
o -q true
```

The utility creates the MDADM schema and system data definitions.

If an error occurs while executing an SQL or another utility, it logs and displays the error message and allows you to re-execute the current step.

Generating the Database Statistics

During the installation process, new database objects may be added to the target database. Before using the database, generate the statistics for these new objects.

Connect as **sys user** and execute the following command:

```
execute DBMS_STATS.GATHER_SCHEMA_STATS ('MDADM');
```

Installing DWADM Schema

The DWADM schema contains star schema objects (such as facts and dimensions) that include entire data in the data warehouse.

This section describes the DWADM schema initial installation, including:

- [Reviewing Storage.xml File](#)
- [Installation Steps](#)
- [Generating Database Statistics](#)

Reviewing Storage.xml File

The storage.xml file (comes with the product and is in location `<TEMPDIR>/BI2702/DWADM/Install-Upgrade`) allocates all the base tables and indexes to the default tablespace CISTS_01. If you decide to allocate tables or indexes outside of the default tablespace, then this has to be reflected in the storage.xml file by changing the tablespace name from the default value to a custom value.

Note: If the database does not have CISTS_01 tablespace or the DWADM user does not have quota on CISTS_01 tablespace, you must edit the Storage.xml file to indicate the correct tablespace name on which DWADM has quota.

Installation Steps

Important! Make sure to copy/paste the commands into Notepad. Check for any special characters and extra spaces. If any, delete them and enter the respective characters manually. This helps to avoid any errors at run time.

To install the DWADM schema:

- In Unix:

1. Add Java 8 to the path variable as shown in example below:

```
export PATH=/u01/jdk1.8.0_251/bin:$PATH
```

2. Set classpath pointing to OraDBI.jar and all dependency jars.

```
export CLASSPATH=<TEMPDIR>/BI2701/DWADM/Jarfiles/*
```

3. Run OraDBI.jar.

```
java com.oracle.ouaf.oem.install.OraDBI -d
jdbc:oracle:thin:@<DATABASE SERVER>:<DATABASE PORT>/<ORACLE
SERVICE NAME>,DWADM,<Password of DWADM
User>,DWUSER,DWREAD,DW_USER,DW_READ,DWADM -p <Password of
DWUSER>,<Password of DWREAD> -l 1,2 -o -q true
```

The utility creates the DWADM schema and system data definitions.

If an error occurs while executing an SQL or another utility, it logs and displays the error message and allows you to re-execute the current step.

Generating Database Statistics

During the installation process, new database objects may be added to the target database. Before using the database, generate the statistics for these new objects.

Connect as **sys user** and execute the command:

```
execute DBMS_STATS.GATHER_SCHEMA_STATS ('DWADM');
```

Upgrading Oracle Data Integrator Based ELT Component

This section describes the steps included to upgrade the Oracle Data Integrator based ELT component:

- [Prerequisites for Running Oracle Utilities Analytics Installer](#)
- [Setting up Oracle GoldenGate](#)
- [Copying and Decompressing Install Media](#)
- [Starting the Installer](#)
- [Upgrade Steps](#)

- [Configuring Source Applications](#)
- [Upgrading Oracle Utilities Analytics Administration Tool Component](#)

Before proceeding with upgrading the Oracle Utilities Analytics based ELT component, ensure the following are complete:

- Installing JDK1.8.0(251)
- Installing Oracle Data Integrator 12.2.1.4.0 (both infrastructure and ODI)

Prerequisites for Running Oracle Utilities Analytics Installer

Before running the Oracle Utilities Analytics installer, take a backup of the customized views and recreate them manually after upgrading Oracle Utilities Analytics to v2.7.0.2.

Setting up Oracle GoldenGate

This section describes the following:

- [Setting up Oracle GoldenGate on Source Database Server](#)
- [Setting up Oracle GoldenGate on Target Database Server](#)
- [Setting up Oracle GoldenGate Monitor JAgent on Target and Source Database Servers](#)

Setting up Oracle GoldenGate on Source Database Server

Before proceeding, start the source database and ensure it is accessible. Bring down the source application server.

To set up each source instance:

1. Create a directory on the source database server. (For example: ../GoldenGate Home). and install Oracle GoldenGate in that directory. It is Oracle GoldenGate Home (OGG_Home) on the source database server.

Note: Note this directory location; it is used during the Oracle Utilities Analytics installation.

2. Install Oracle GoldenGate.

Download Oracle GoldenGate 19C from Oracle Software Delivery Cloud (<https://edelivery.oracle.com>).

For installation instructions, refer to the Oracle GoldenGate 19.1 documentation at <https://docs.oracle.com/en/middleware/goldengate/core/19.1/index.html>.

3. Provide the Oracle GoldenGate Home location as the directory location created in the step 1.
4. Open a command terminal or window, and set the source ORACLE_SID and ORACLE_HOME variables.
5. Set the LD_LIBRARY_PATH.

In Unix:

```
export LD_LIBRARY_PATH=$ORACLE_HOME/lib:$LD_LIBRARY_PATH
```

6. In the Command window, change directory to the Oracle GoldenGate Home directory, and run the following command:

In Unix:

```
./ggsci
```

The Oracle GoldenGate prompt is shown.

7. At the Oracle GoldenGate prompt, run the following commands in the order listed:
 - `create SUBDIRS`
 - `start mgr` - Starts the Oracle GoldenGate manager process.
 - `info all` - Verifies if the manager process is running.
 - `exit` - Exits Oracle GoldenGate.
8. Make sure that the source database is in the archive log mode.
9. Connect to the source database as **sys user** and execute the following statements:


```
alter database add supplemental log data (primary key) columns;
alter system set enable_goldengate_replication=TRUE scope=both;
```
10. In the Command window, navigate to the Oracle GoldenGate home (OGG_Home) directory.
11. Open the GLOBALS file in the directory and add the below command:


```
EnableMonitoring
```
12. In the Command window, create a directory “diroby” in the OGG_Home directory.
13. Change directory to the Oracle GoldenGate Home directory. Run the following:
 - a. Steps in [Configuring Encrypting Data Using ENCKEYS Method](#).
 - b. Steps in [Generating Shared Secret Password](#).

Configuring Encrypting Data Using ENCKEYS Method

To configure for encrypting data using the ENCKEYS method:

1. Run the following command:


```
cd <OGG_HOME>
KEYGEN key_length n
```

The above command generates the key value based on the value specified in the parameter “n”. The key value has to be copied to ENCKEYS file against a logical name.
2. For each key value generated above, provide a logical name (Logical name should not be the same for two different key values). Enter the logical name space and then key value in the ENCKEYS file.
3. Repeat the step above for each key values generated.
4. Save the file with name ENCKEYS (Upper case only) without any extension.

For example:

```
cd $OGG_HOME
./keygen 128 1
0x8CE55035DD6893205A7BD6773FA8E670
```

5. Open a new ASCII ENCKEYS file if it does not exist for adding a new entry or open an existing ENCKEYS text file to append.
6. Input the Logical name, space and key value generated.

Sample content of file ENCKEYS:

```
CCB1KEY 0x8CE55035DD6893205A7BD6773FA8E670
```
7. The source ENCKEYS file entry has to be appended to the intermediate server or target server which would be configured with the source system where target OGG is being configured.

Note: It is recommended to name Logical key name after <context_code>KEY.

For example: If context code is CCB1, it is recommended to name it as CCB1KEY.

Generating Shared Secret Password

To generate the shared secret password:

1. Run the following command:

```
cd <OGG_HOME>
ggsci
ENCRYPT PASSWORD <GG Owner password> <algorithm> ENCRYPTKEY
<key_name>
```

For example:

```
cd $OGG_HOME
./ggsci
GGSCI (hostname) 1> ENCRYPT PASSWORD CCB01SRC AES128 ENCRYPTKEY
CCB1KEY
Encrypted password:
AADAAAAAAAAAAIAVGNHBF LGFCHBTCVBFJFHUEJGNCFAOAFEOFBALELISFOEIFWGRB
ZHCCMCYGYBDAZH
Algorithm used: AES128
```

2. Note the above generated ENCKEYS file logical name/key value, algorithm name used, and the generated encrypted password.

Setting up Oracle GoldenGate on Target Database Server

To set up Oracle GoldenGate on the target database server:

1. Create a directory on the target database server.

For example: ../GoldenGateHome

Oracle GoldenGate should be installed in this directory. It is **Oracle GoldenGate home (OGG_Home)** on the target Oracle Utilities Analytics database server.

Note: Make sure to note the directory location; it will be used in the Oracle Utilities Analytics installation.

2. Install Oracle GoldenGate and provide the GoldenGate Home location as the directory location created in the step 1.
3. In the Command window, set the target ORACLE_SID and ORACLE_HOME variables.

Set LD_LIBRARY_PATH using the following commands:

In Unix:

```
export LD_LIBRARY_PATH=$ORACLE_HOME/lib:$LD_LIBRARY_PATH
```

4. In the Command window, change the directory to the **GoldenGate home** directory and execute the below command:

For Unix:

```
./ggsci
The Oracle GoldenGate prompt is shown.
```

5. At the prompt, execute the following commands in the order listed below:
 - create SUBDIRS

- `start mgr` - Starts the Oracle GoldenGate manager process.
 - `info all` - Verifies if the manager process is running.
 - `exit`
6. Create a directory “diroby” in the OGG_Home directory.
 7. Connect to the target database as **sys user** and execute the below query:


```
alter system set enable_goldengate_replication=TRUE scope=both;
```
 8. In the Command window, navigate to the Oracle GoldenGate Home (OGG_Home) directory.
 9. Edit the GLOBALS file in the <GG home> directory and add the following command.:


```
EnableMonitoring
```
 10. Navigate to the Oracle GoldenGate home (OGG_Home) directory.
 11. If the ENCKEYS file does not exist:
 - a. Create and open a new ASCII ENCKEYS file.
 - b. Add the key value/values that are generated on the sources to the ENCKEYS file in target OGG home. This is done for the context codes for which source is configured.

A sample ENCKEYS file in target OGG home is as below:

```
CCB1KEY 0x8CE55035DD6893205A7BD6773FA8E670
```

Setting up Oracle GoldenGate Monitor JAgent on Target and Source Database Servers

Set up Oracle GoldenGate Monitor JAgent on Oracle Utilities Analytics GoldenGate server and on all the source application Oracle GoldenGate servers. The Oracle GoldenGate Monitor JAgent is used to automatically copy the generated Oracle GoldenGate scripts to both source and target Oracle GoldenGate GoldenGate Home directories, and to start the extract and replicate processes on source and target.

To setup Oracle GoldenGate Monitor JAgent on both target and source database servers:

1. Make sure Oracle GoldenGate is installed and manager is running.
2. Start the rmiregistry services using the following command:

```
rmiregistry <port number> &
```

Example:

```
rmiregistry 5559 &
```

Make sure to note down the port on which RMI server is started. The port number specified in the example is 5559. If it is not specified, the default port 1099 will be used.

3. Download Oracle GoldenGate Monitor and Veridata 12.2.1.2.0 from Oracle Software Delivery Cloud (<https://edelivery.oracle.com/osdc/faces/SoftwareDelivery>).
4. Run the Oracle GoldenGate Monitor and Veridata 12.2.1.2.0 installer.
 - a. Select the installation type as Oracle GoldenGate Monitor Agent.
 - b. Apply patch 26982776 on top of Oracle GoldenGate Monitor agent home before creating monitor instance.
5. Edit the Config.properties file in the <Oracle GoldenGate Monitor home>/oggmon/ogg_agent/cfg_templates and add/modify the below parameters.

```
<ACTUAL>      : jagent.host=localhost
```

```

<CHANGE TO> : jagent.host=<<actual hostname on which OGG is
installed>>

<ACTUAL>      : monitor.jmx.username=cmroot
<CHANGE TO> : monitor.jmx.username=jmx_src

<ACTUAL>      : jagent.username=root
<CHANGE TO> : jagent.username=<<OGG software installed OS user>>

<ACTUAL>      : jagent.rmi.port=5559
<CHANGE TO> : jagent.rmi.port=5557 or any free port other than the
one on which the rmiregistry is started

<ACTUAL>      : agent.type.enabled=OGGMON
<CHANGE TO> : agent.type.enabled=OEM
<ACTUAL>      : jagent.backward.compatibility=true
<CHANGE TO> : jagent.backward.compatibility=false

```

6. Add the following parameter:

```
jagent.ssl=false
```

7. Navigate to <Oracle GoldenGate Monitor home>/oggmon/ogg_agent directory and run the following command:

In Unix:

```

export JAVA_HOME=<JDK home>
./createMonitorAgentInstance.sh

```

- a. You will be prompted to enter:

- Oracle GoldenGate Home directory.
- Path to be used for Oracle GoldenGate Monitor Agent instance.

It is recommended to provide a path (such as <Oracle GoldenGate Monitor home>/Agents/OGGMonitorInstance).

- A unique name to replace the timestamp in the name of the file used to start Oracle GoldenGate Monitor agent instance.

Provide a unique name to be used for this Oracle GoldenGate Monitor instance.

- b. Execute the command below from <path used for Oracle GoldenGate Monitor instance provided in the step above>/bin.

Example location: <OGG Monitor home>/Agents/OGGMonitorInstance/bin

In Unix:

```

export JAVA_HOME=<JDK home>
./pw_agent_util.sh -jagentonly

```

8. Enter the Oracle wallet password.

This password has to be entered as the password for the JAGENT while running the installer (for target gg), and while running the source configuration (for source gg).

Ensure to note the password and jagent.rmi.port value (JAgent Port). This information is required in subsequent installation.

9. Create a folder with the Context_code name in <GG Home>/dirdat.
10. Navigate to OGG_Home directory and run the following command at the Oracle GoldenGate prompt:

```
ggsci
```

11. Start the jAgent process.

```
start jagent
```

Note: Export LIBPATH with jdk, OGG and RDBMS paths to start JAGENT in the AIX environment.

```
$JAVA_HOME/bin
$OGG_HOME
$RDBMS_HOME/lib
```

Example:

```
export LIBPATH=/usr/java8_64/bin:/u01/OGG_Home:/u01/app/
product/19.7/dbhome_1/lib:$LIBPATH
```

The logs for JAgent are created at the following (example) location.

```
<OGG Monitor home>/Agents/OGGMonitorInstance/logs
```

Copying and Decompressing Install Media

To download and decompress the install media:

1. Download the Oracle Utilities Analytics v2.7.0.2 Multiplatform part (**Oracle Utilities Analytics V2.7.0.2 Multiplatform.zip**) from Oracle Software Delivery Cloud (<https://edelivery.oracle.com>).
2. Create a temporary directory, such as c:\OUA\temp or /OUA/temp (referred to <TEMPDIR> below). This directory must be located outside any current working Oracle Utilities application environment. All files that are placed in this directory as a part of the installation can be deleted after completing a successful installation.
3. Unzip **Oracle Utilities Analytics V2.7.0.2 Multiplatform.zip** to <TEMPDIR>.

Starting the Installer

For an AIX operating system, set the following environment variable before starting the Oracle Utilities Analytics installation:

```
export IBM_JAVA_OPTIONS="-Xmx2g -XX:PermSize=64m -
XX:MaxPermSize=3200m"
```

To start the Oracle Data Integrator Based ELT component:

1. Navigate to the temporary folder containing the installer.
2. Run the following command from this folder:

```
java -jar <TEMPDIR>/OUA_2.7.0.2_generic.jar -logLevel finest
```

Note: The minimum JDK required for running the Oracle Utilities Analytics installer is JDK 1.8.

The **Welcome** page appears.

3. Review this information before you begin the installation. Click **Next** to continue with the installation.

4. Complete the tasks on the navigation pane.

Each item in the navigation pane represents a specific installer screen that prompts you for information required to install the software.

- If you select **Oracle Data Integrator Based ETL** as an **Installation Type**, define the following:
 - Database and Java Home Details
 - Target Database Connection Details
 - Oracle Data Integrator Home and Schema Details
 - Oracle Data Integrator Agent and Repository Details
 - Target GoldenGate Details
 - Target JAgent Details

Upgrade Steps

To install Oracle Data Integrator Based ETL:

1. Run the Oracle Utilities Analytics Installer. Review the information on the **Welcome** page before you begin the installation.
2. Click **Next** to continue with the installation.
3. On the **Installation Inventory** page, provide the inventory location. Click **Next**.
4. On the **Installation Location** page define an installation location/directory and click **Next**.
5. On the **Languages Selection** page, make sure to select “English”. Click **Next**.
6. On the **Select Installation Type** page, select **ODI Based ETL**. Click **Next**.

Note that the options on the left navigation pane change based on the selected installation type.

7. Select **Oracle Data Integrator Based ETL** as the **Installation Type**.
8. Define the following and click **Next**.
 - Database and Java Home Details
 - Target Database Connection Details
 - Oracle Data Integrator Home and Schema Details
 - Oracle Data Integrator Agent and Repository Details
 - Target GoldenGate Details
 - Target Jagent Details
9. On the **Database and Java Home Details** page, enter the following in the respective fields. Click **Next**.

Field Name	Description	Value
Database Client Home	The database client home location.	Example: /u01/app/product/19.7/ dbhome_1
Java Home	The JDK home location.	Provide location of JDK 1.8. Example: /u01/jdk_1.8.0_251

10. On the **Target Database Connection Details** page, enter the following in the respective fields. Click **Next**:

Field Name	Description	Value
Host	Host name of the server where the database resides.	Oracle Utilities Analytics Database Server
Port	Database port number on the database server used for connecting to the database.	Oracle Utilities Analytics Database Port. The default value is 1521.
Service Name	Service name for the database	
Target Schema Password	Password for the target schema (DWADM)	
Confirm Target Schema Password	Confirm the password for the target schema (DWADM) here.	
Metadata Schema Password	Password for the metadata schema (MDADM)	
Confirm Metadata Schema Password	Confirm the password for the metadata (MDADM) schema here	

11. On the **ODI Home and Schema Details** page, enter the following in the respective fields. Click **Next**:

Field Name	Description	Value
ODI Home	Directory where Oracle Data Integrator (ODI) has been installed.	Example: /u01/Middleware
Supervisor User	Name of the Oracle Data Integrator Supervisor.	SUPERVISOR
Supervisor Password	Password of the Oracle Data Integrator Supervisor.	SUPERVISOR user password
Confirm Supervisor Password	Confirm the password of the Supervisor here.	
Master Repository Schema Name	Oracle Data Integrator master repository schema name.	OUA_MASTER
Master Repository Schema Password	Password of the master repository schema.	OUA_MASTER user's password
Confirm Master Repository Schema Password	Confirm the password of the Oracle Data Integrator master repository schema here.	
Work Repository Schema Name	Oracle Data Integrator work repository schema name.	OUA_WORK

Field Name	Description	Value
Work Repository Schema Password	Password of the work repository schema.	OUA_WORK user's password
Confirm Work Repository Schema Password	Confirm the password of the Oracle Data Integrator work repository schema here.	

12. On the **ODI Agent and Details** page, enter the following details in the respective fields. Click **Next**:

Field Name	Description	Value
ODI Agent Host	Host on which Oracle Data Integrator WebLogic domain is created.	Oracle Data Integrator server host name.
ODI Agent Port	Port on which Oracle Data Integrator WebLogic agent is configured to run. This is the port of Oracle Data Integrator WebLogic Managed Server Port.	Provide available port and ensure to use the same port while creating Oracle Data Integrator managed server.

13. On the **Target GoldenGate Details** page, enter the following details in the respective fields. Click **Next**:

Field Name	Description	Value
GoldenGate Host	Host on the Oracle GoldenGate Manager.	
GoldenGate Home	This is the Oracle GoldenGate installed location.	Example: /opt/local/ggs_19.1
Target Database Home	The database home installed location on the target database server. In case Oracle GoldenGate for target is not installed on the OUA database server, provide oracle client home location on the server on which Oracle GoldenGate is installed.	Example: /u01/oracle/app/oracle/product/19.1/dbhome_1
GoldenGate Manager Port	Port number on which Oracle GoldenGate Manager is running on the Oracle GoldenGate host.	The default value is 7830
GoldenGate Algorithm	Algorithm configured in Oracle GoldenGate on the target database server.	The default value is BLOWFISH.

Field Name	Description	Value
GoldenGate Encryptkey	The Encrypt Key configured in Oracle GoldenGate on the target database server.	The default value is "DEFAULT".
GoldenGate Shared Secret	The shared secret key configured in Oracle GoldenGate on the target database server.	Go to the Oracle GoldenGate prompt and run the command: <pre>encrypt password <password of MDADM user>, encryptkey DEFAULT</pre> <p>Provide the result as the value.</p>

14. On the **Target JAgent Details** page, enter the following details in the respective fields. Click **Next**.

Field Name	Description	Value
JAgent Host	The host of Oracle GoldenGate Monitor JAgent.	
JAgent GoldenGate	The Oracle GoldenGate installed location where Oracle GoldenGate Monitor JAgent is running.	Example: /opt/local/ggs_19.1
JAgent Port	Use the JAgent RMI port which is defined in the config properties file.	
JAgent User	OS user used to configure JAgent	
JAgent Wallet Password	JAgent Wallet password	
Confirm JAgent Wallet Password	Re-enter JAgent Wallet password to confirm.	

15. On the **Java Home Location** page, provide the Java Home details that were provided earlier. Click **Next**.
16. On the **Installation Summary** page, verify the installation options you selected.
17. Click **Install** to begin the installation.

To change any configurations before starting the installation, use the navigation pane and select the topic to edit.

The **Installation Progress** page displays the progress of the installation. Operations being performed as a part of the installation are logged to the terminal from which the installer was run. The detailed logs of the installation are also available in the logs/system directory under the installation location.

To quit before the installation is complete, click **Cancel**. Doing so will result in a partial installation; the portion of the software that was installed on your system before you click **Cancel** will remain on your system, and you will have to remove it manually.

18. On the **Installation Completed** page, click **Finish** to close the installer.

The Oracle Data Integrator based ETL is now installed.

Executing Post-Upgrade Script

Run the following scenarios:

1. Login to ODI Client and navigate to **Designer > Load Plans and Scenario** folders.
2. Run the following scenarios manually from **Framework > Data Correction** folder in GLOBAL context in the specified order. Make sure that these are successfully completed.
 - B1_MDFIX_27011
 - B1_MDFIX_27012
 - B1_DATAFIX_27012
 - B1_MDFIX_27020
 - B1_DATAFIX_27020
3. Start B1_RUN_ALL.
4. Backfilling the **Storm Key** column in the Oracle Utilities Network Management System star schema (only if the Oracle Utilities Network Management System source is configured) .

As a part of Oracle Utilities Analytics 2.7.0.2.0 release, the Storm dimension CD_STORM is modified to have the Control Zone as a part of the natural key. As a result, changes are made to the ETL mappings of the dimension and 12 facts which are dependent on this dimension. While these ETL component changes take care of the incremental data changes post the upgrade, the modification to existing data is handled by the ODI procedures B1_NMS_FACT_STORM_KEY_UPD_2702.

Note that the execution of the procedure B1_NMS_FACT_STORM_KEY_UPD_2702 will be optional and will have to be done only if the customer decides to refresh STORM_KEY value for existing rows as per new logic.

Perform the following steps to execute the B1_NMS_FACT_STORM_KEY_UPD_2702 procedure. If more than one context is configured this scenario need to be trigger for each configured context.

- a. Make sure that the Storm dimension is loaded till the checkpoint timestamp.

Enter the appropriate context below:

```
select entity_name, status_flg, max(slice_end_dttm) -1/
(24*60*60)
from mdadm.b1_jobs_vw
where entity_name = 'CD_STORM' and context_cd = '<context code>'
group by entity_name, status_flg;
```

The value for max(slice_end_dttm) should be same as LAST_UPDATE_TS column value in B1_CHECKPOINT table fetched below:

```
select max(last_update_ts) from mdadm.b1_checkpoint
where group_name like '<context code>%';
```

- b. After the Storm dimension load is completed, stop B1_RUN_ALL. Make sure that B1_RUN_ALL is not running.
- c. Disable all Oracle Utilities Network Management System facts from the Admin tool. Make sure that all running fact jobs are completed.

- d. Navigate to **ODI Designer > Load Plan and Scenarios > Accelerators - Data Correction**.
- e. Right-click **B1_NMS_FACT_STORM_KEY_UPD_2702 Version 001** and click **Run**. Select the appropriate context.
- f. Enable all Oracle Utilities Network Management facts from the Admin tool after the above procedure is completed.
- g. Run the following command:

```
Start B1_RUN_ALL
```
5. Run the **B1_DROP_NMS_WAM_MVS_270012** scenario if either Oracle Utilities Network Management System or Oracle Utilities Work and Asset Management source is configured.
6. Login to the ODI Client and navigate to **Designer > Load Plans and Scenario** folders.
7. Expand **Framework > Data correction > B1_DROP_NMS_WAM_MVS_270012**.
8. Right-click **B1_DROP_NMS_WAM_MVS_270012** and click **Run**.
9. Select the appropriate context (Oracle Utilities Network Management System or Oracle Utilities Work and Asset Management).
10. Click **OK**.

Creating a Database Directory

Create a database directory 'B1_DATA_DUMP_DIR' on the target database, as well as on each source database. This directory is used for logging the export import task used during the initial ELT load.

The following sample SQL creates a database directory pointing to the file system path /u01/file_data:

```
CREATE DIRECTORY B1_DATA_DUMP_DIR AS '/u01/file_data';
```

Configuring Source Applications

This section describes the instructions to be followed to configure source applications.

- [Prerequisites](#)
- [Configuration Steps](#)

Bring down the source application server, and ensure the source applications are stopped but source databases are up and accessible.

Prerequisites

Before running the source configuration tool, ensure to do the following:

- Create the Oracle Data Integrator domain.
- Check if admin and managed servers are running and accessible.

Configuration Steps

To configure the source applications:

1. Navigate to <install dir>/bin and run config.sh. Register a source application.

For instructions to register a source, refer to the **Registering a Source** section in **Chapter 5: Configuring Oracle Utilities Analytics** in *Oracle Utilities Analytics Administration Guide*.

2. Make sure to use the same context_codes to configure the existing sources during the upgrade.

3. Run the B1_INITIAL_SETUP_PKG package.

Note: It is recommended to run B1_INITIAL_SETUP_PKG only once (after all the sources have been configured or after at least one source is configured).

 - a. Login to Oracle Data Integrator Studio.
 - b. Navigate to **Designer > Load Plans and Scenarios > Framework**.
 - c. Right-click **B1_INITIAL_SETUP_PKG**, select **GLOBAL** context code, and then select **Run**.
4. Start all Oracle GoldenGate processes on source and target:
 - a. Login to each source application GoldenGate server.
 - b. Navigate to the respective Oracle GoldenGate Home directory.
 - c. Start manager, JAgent, and all respective context extract processes.
 - d. Login to the target (Oracle Utilities Analytics) GoldenGate server.
 - e. Navigate to the Oracle GoldenGate Home directory.
 - f. Start manager, jagent and all respective context extract processes.

Upgrading Oracle Utilities Analytics Administration Tool Component

Oracle Utilities Analytics Administration Tool is an Oracle Application Express (APEX) based configuration tool used to configure Oracle Utilities Analytics.

This section describes how to install the tool to configure Oracle Utilities Analytics and change the default password of the Admin user.

- [Prerequisites](#)
- [Installation Steps](#)
- [Changing Default Password of Admin User](#)

Note: Install Oracle Utilities Analytics Administration component on the Oracle Utilities Analytics database server.

Prerequisites

To remove the previously created Apex workspace from database:

1. Connect to the database as SYSTEM user.
2. Run the following PL/SQL procedure.

```
BEGIN
APEX_INSTANCE_ADMIN.REMOVE_WORKSPACE ('OBIU_ADM') ;
END;
/
```

3. Make sure no workspace with “OBIU” exists in the database.

```
select WORKSPACE from APEX_WORKSPACES where WORKSPACE like
'%OBIU%';
```

Note: No rows should be returned from this query.

4. Remove **ords** and **i.war** apps from APEX WebLogic console.
 - a. Login to APEX WebLogic console.
 - b. Navigate to **Deployments > Control**.
 - c. Click **Stop** and select **Force Stop Now**.

- d. Click **Yes**.
 - e. On the **Configuration** tab, click **Lock and Edit**.
 - f. Under **Deployments**, select both **i** and **ords**.
 - g. Click **Delete**.
 - h. Confirm deletion and click **Activate Changes** to activate the changes.
5. Uninstall the existing ords.war from the database.
 6. Navigate to the ords.war (ords.3.0.6.178.08.46) file location in server.

Example:

```
cd /u01/apex_setup/apex_listener
```

7. Run the following command:

```
java -jar ords.war uninstall
```

Note: Use JDK1.8 to run the command.

Provide the necessary inputs.

Installation Steps

To install the Oracle Utilities Analytics Administration Tool:

1. Download Apex 20.1. Copy it to the server where you want to set it up under the /u01/apex_20.1 directory.
2. Connect to the Oracle Utilities Analytics database as the **sys user** and run the following commands:

```
EXEC DBMS_XDB.SETHTTPPORT(0);
SELECT DBMS_XDB.GETHTTPPORT FROM DUAL;
```

This query should result in zero(0).

3. Navigate to the Apex unzipped path and run the following scripts. Connect to Oracle Utilities Analytics database as a **sys user**.

```
@apexins.sql <Tablespace name> <Tablespace name> <Temp Tablespace name> /i/
```

Example:

```
@apexins.sql CISTS_01 CISTS_01 TEMP /i/
@apxchpwd.sql
ALTER USER APEX_PUBLIC_USER ACCOUNT UNLOCK;
ALTER USER APEX_PUBLIC_USER IDENTIFIED BY APEX_PUBLIC_USER;
@apex_rest_config.sql
```

Make sure to note the password for these two users: APEX_Listener user and APEX_REST_PUBLIC_USER.

4. Import the Admin Tool to configure Oracle Data Integrator.
 - a. Unzip the Oracle Utilities Analytics v2.7.0.2.0 Multiplatform.zip file. The file includes the AdminTool folder.
 - b. Create ../AdminTool directory on the database server and copy the contents of the AdminTool directory (from the zip file) to this directory.
 - c. Navigate to the ../AdminTool directory (cd ../AdminTool)

- d. Connect as the system user. Execute the following scripts:
 - a. Create workspace and configure the users.
`@CreateAppWorkspace.sql`
 - b. Import the application.
`@DeployAdminApp.sql`
 - c. Deploy supporting objects.
`@DeploySupportingObjects.sql`
5. Download Oracle Rest Data service. Copy it to the server where you want to set it up under the `ords-19.2.0.199.1647.zip` directory.
6. Navigate to the `/u01/apex_listner` directory. Unzip the ords file.
7. Create a directory on the server to configure Apex.
For example: `mkdir /u01/apex_configuration`
8. Navigate to the `apex_listner` directory.
`cd /u01/apex_listner`
9. Run the following command:
`java -jar ords.war install advanced`

Note: Use JDK1.8 or later to execute this command.
10. Navigate to the `apex_listner` directory:
`cd /u01/apex_listner`
11. Run the following command:
`java -jar ords.war static <apex20.1 unzipped path>/apex/images`
For example: `java -jar ords.war static /u01/apex_20.1/apex/images`

Note: The command creates the `i.war` file.
12. Install WebLogic 12.2.1.4 with jdk 1.8.0+.
13. Create the WebLogic domain. Navigate to `<12.2.1.4_weblogic_home>oracle_common/common/bin` directory.
14. Login to WebLogic console and click **Lock & Edit**.
15. Click **Install**.
16. Enter the following path and then select the **ords.war** file.

`/u01/apex_listner`

Click **Next**.

The screenshot shows the 'Install Application Assistant' dialog box with the 'Choose targeting style' step. It has buttons for 'Back', 'Next', 'Finish', and 'Cancel'. The text explains that targets are servers, clusters, and virtual hosts. Two options are available: 'Install this deployment as an application' (selected) and 'Install this deployment as a library'. The first option states that the application and its components will be targeted to the same locations. The second option states that application libraries are deployments available for other deployments to share.

17. Select the **Apex server** check box and click **Next**.

The screenshot shows the 'Install Application Assistant' dialog box with the 'Select deployment targets' step. It has buttons for 'Back', 'Next', 'Finish', and 'Cancel'. The text asks to select servers and/or clusters. Under 'Available targets for ords', there is a table with two rows: 'AdminServer' (unchecked) and 'apex_server' (checked).

Servers
<input type="checkbox"/> AdminServer
<input checked="" type="checkbox"/> apex_server

18. Select the options as shown below:

The screenshot shows the 'Install Application Assistant' dialog box with the 'Optional Settings' step. It has buttons for 'Back', 'Next', 'Finish', and 'Cancel'. The text says 'You can modify these settings or accept the defaults'. There are three sections: 'General', 'Security', and 'Source accessibility'. In 'General', the 'Name' is 'ords'. In 'Security', 'Custom Roles' is selected. In 'Source accessibility', 'Use the defaults defined by the deployment's targets' is selected. At the bottom, 'I will make the deployment accessible from the following location' is selected, and the 'Location' is '/scratch/bi_oradata_01/Softwares/apex_listner/ords war'.

19. Select the options as shown below:

Install Application Assistant

Back Next Finish Cancel

Review your choices and click Finish
Click Finish to complete the deployment. This may take a few moments to complete.

Additional configuration
In order to work successfully, this application may require additional configuration. Do you want to review this application's configuration after completing this assistant?

☐ Yes, take me to the deployment's configuration screen.

☒ No, I will review the configuration later.

Summary

Deployment: /scratch/bl_oradata_01/Softwares/apex_listner/ords.war

Name: ords

Staging mode: Use the defaults defined by the chosen targets

Security Model: CustomRoles: Use policies that are defined in the deployment descriptor. Create custom role mappings later.

Target Summary

Components	Targets
ords	apex_server

Back Next Finish Cancel

20. Click **Activate Changes**.

View changes and restarts

Pending changes exist. They must be activate to take effect.

Activate Changes

Undo All Changes

21. Repeat the steps 14 to 20 to deploy the **i.war** file.

22. Login to the WebLogic console and navigate to **Deployment > Monitoring**.

23. Select **i** and **ords**. Click **Start > Servicing All Requests**.

Home Log Out Preferences Record Help

Welcome, weblog

Home > Summary of Deployments

Summary of Deployments

Configuration Control Monitoring

This page displays the list of Java EE applications and standalone application modules installed to this domain.

You can start and stop applications and modules from the domain by selecting the checkbox next to the application name and then using the controls on this page.

Customize this table

Deployments

	State	Health	Type	Targets	Scope	Do
<input type="checkbox"/> i	Prepared	OK	Web Application	apex_server	Global	
<input checked="" type="checkbox"/> ords	Prepared	OK	Web Application	apex_server	Global	

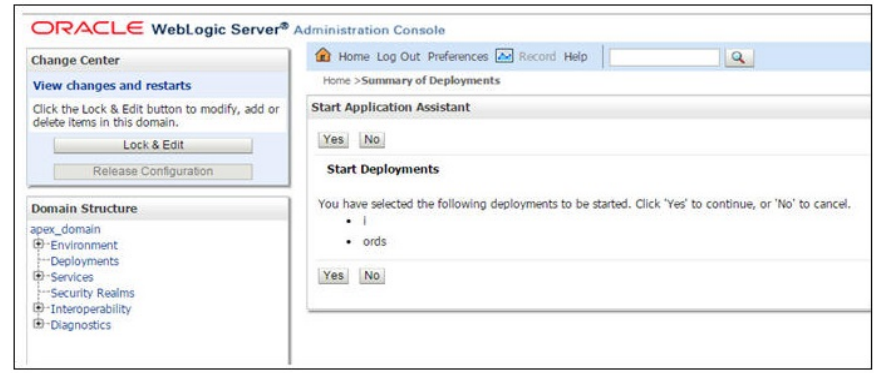
Start Stop

Servicing all requests

Servicing only administration requests

Start Stop

24. Click **Yes**.



25. Restart the Admin and Managed servers.
 26. Go to the following URL to access the Administration Tool:

<http://<hostname>:<managed server port no>/ords/f?p=104>

The credentials to access the tool are:

User ID: Admin

Password: Admin_123

Changing Default Password of Admin User

This section describes the APEX API used to change the password of the admin user. The script should be run after connecting to the database as user SYSTEM.

Replace the string 'New password' with the new password for the admin account before running the script.

```
begin
wwv_flow_api.set_security_group_id(p_security_group_id=>nvl(wwv_flow_application_install.get_workspace_id,2090606133849294));
end;
/

begin
apex_util.edit_user(
p_user_id      => '2090514487849294',
p_user_name    => 'ADMIN',
p_web_password => 'New password',
p_new_password => 'New password'
);
end;
/

commit;
/
```

Note: It is strongly recommended to change the default password after logging in.

Upgrading Oracle Utilities Analytics Dashboards Component

Ensure that the same operating system user used to install the prerequisite software is used to install the Oracle Utilities Analytics Dashboards component as well.

The Oracle Utilities Analytics Dashboards component is installed on the Oracle Utilities Analytics application server.

This section describes how to install the dashboards component of Oracle Utilities Analytics.

- [Prerequisites](#)
- [Copying and Decompressing Install Media](#)
- [Starting the Installer](#)
- [Upgrade Steps](#)
- [Deploying Web Catalog](#)
- [Deploying Repository \(RPD\) File](#)
- [Deploying Writeback Templates in OAS Domain](#)
- [Enabling Auto Complete Feature in Oracle Analytics Server](#)

Prerequisites

Oracle Utilities Analytics Dashboard component v2.7.0.2.0 requires Oracle Analytics Server 5.5.0/6.4.0.

Note: OBIEE 12.2.1.4 should be migrated to Oracle Analytics Server 5.5.0/6.4.0 before proceeding with Oracle Utilities Analytics Dashboard component upgrade.

Refer to Oracle Analytics Server documentation for details about the upgrade from OBIEE 12.2.1.4 to Oracle Analytics Server 5.5.0/6.4.0.

Copying and Decompressing Install Media

To download and decompress the install media:

1. Download the Oracle Utilities Analytics Dashboards component v2.7.0.2 (**Oracle Utilities Analytics V2.7.0.2 Multiplatform.zip**) from the Oracle Software Delivery Cloud (<https://edelivery.oracle.com>).
2. Create a temporary directory, such as c:\OUA\temp or /OUA/temp (referred to <TEMPDIR> below).

This directory must be located outside any current working Oracle Utilities application environment. All files that are placed in this directory as a part of the installation can be deleted after completing a successful installation.

3. Unzip **Oracle Utilities Analytics V2.7.0.2 Multiplatform.zip** to <TEMPDIR>.

Starting the Installer

To start the installer:

1. Navigate to the temporary folder where you downloaded the install. Run the following command from the folder:

```
java -jar <TEMPDIR>/OUA_2.7.0.2_generic.jar -logLevel finest
```

Note: The minimum JDK required for running the Oracle Utilities Analytics installer is JDK 1.8.

2. On the **Welcome** page, review the information before you begin the installation.
3. Click **Next** to continue with the installation.
4. Complete the installation by following the tasks on the navigation pane.

Each item in the navigation pane represents a specific installer screen that prompts you for the information required to install the software.

Upgrade Steps

To install the Dashboards component:

1. Run the Oracle Utilities Analytics Installer.
2. On the **Welcome** page, review the available information before you begin the installation.
3. On the **Installation Inventory** page, provide the inventory location. Click **Next**.
4. On the **Languages Selection** page, make sure “English” is selected. Click **Next**.
5. On the **Installation Location** page, provide the installation location and click **Next**.

Note: The specified Oracle home directory must be an empty directory or a directory where the OUA ODI ETL 2.7.0.2 component was installed successfully.

6. On the **Installation Type** page, select **Dashboards** and click **Next**. Enter the following details in the respective fields and click **Next**.

Note: Based on the selected installation type, the options on the left navigation panel change. When you select **Dashboard** as an **Installation Type**, you need to define **Database and Java Home Details**, **Target Database Connection Details** and **OBIEE Home Details**.

Field Name	Description	Value
Database Client Home	Database client home location	Example: /u01/app/product/19.7/dbhome_1
Java Home	JDK home location	JDK 1.8 location Example: /u01/jdk_1.8.0_251

7. On the **Target Database Connection Details** page, enter the following details in the respective fields and click **Next**.

Field Name	Description	Value
Host	The host name of the server where the database resides.	Oracle Utilities Analytics Database Server
Port	The database port number on the database server used for connecting to the database.	Oracle Utilities Analytics Database Port. The default value is 1521.

Field Name	Description	Value
Service Name	The service name for the database	
Target Schema Password	The password for the target schema (DWADM).	
Confirm Target Schema Password	Confirm the password for the target schema (DWADM) here.	
Metadata Schema Password	The password for the metadata schema (MDADM).	
Confirm Metadata Schema Password	Confirm the password for the metadata (MDADM) schema here.	

8. On the **OBIEE Home Details** page, enter the following details in the respective fields and click **Next**.

Field Name	Description	Value
BI Home	The location on the disk where OAS is installed.	Example: /u01/ Middleware/bi
BI Domain Home	The domain Home location under the directory where OAS is installed.	Example: /u01/domains/oas_domain
WebLogic Host	The hostname on which WebLogic server for OAS is running.	
WebLogic Port Number	A unique port number within the system that is assigned to the HTTP port. This port number is used as a part of the client URL request to connect to the host. It is the OAS WebLogic console admin port number.	Example: 7001
WebLogic User	WebLogic domain login user name.	

Note: You will be prompted for the Weblogic user's password after installation.

9. On the **Java Home Location** page provide the Java Home details that were provided earlier. Click **Next**.
10. On the **Installation Summary** page, verify the installation options and click **Install** to begin the installation.

For any changes to the configuration before starting the installation, use the navigation pane and select the topic to edit.

11. The **Installation Progress** page allows you to view the progress of the installation. Operations being performed as part of the installation are logged to the terminal from which the installer was run. Detailed logs of the installation are also available in the logs/system directory under the installation location.

To quit before the installation is complete, click **Cancel**. Doing so will result in a partial installation; the portion of the software that was installed on your system before you click **Cancel** will remain on your system, and it needs to be deleted manually.

12. On the **Installation Completed** page, click **Finish** to close the installer.

The Dashboards component is installed successfully.

Deploying Web Catalog

Take the backup of existing BI Publisher reports from the catalog location. Oracle Analytics Server no longer supports offline mode to deploy catalogs. Deploy the latest catalogs into the environment via online mode.

Make sure to take a backup of any custom catalog related files in this directory in a separate location.

To deploy the web catalogs:

1. Navigate to <OAS_DOMAIN_HOME>/bitools/bin.
2. Use runcat.sh to deploy the catalogs.
3. Create a new credentials file boot.txt at a standard location, typically in the location where runcat.sh is executed.

```
$OAS_DOMAIN_HOME/bitools/bin/boot.txt file login=admin user
pwd=admin password
```

4. For each catalog run the following from the Oracle Analytics Server domain/bitools/bin location.

```
./runcat.sh -cmd unarchive -folder "/shared" -online http://<OAS
Host>:<OAS_SERVER_PORT>/analytics-ws/saw.dll -credentials boot.txt
-inputFile "<install_dir>/Catalog/<Catalog Name>" -overwrite all
```

Example:

```
cd $OAS_DOMAIN_HOME/bitools/bin
./runcat.sh -cmd unarchive -folder "/shared" -online http://
localhost.localdomain:9502/analytics-ws/saw.dll -credentials
boot.txt
-inputFile "/u01/OUA_DASHBOARD/Catalog/Sample NMS DV
Projects.Catalog" -overwrite all
```

```
.....
Command 'unarchive' completed successfully. Return status from
Catalogmanager command : 0
```

5. Deploy 'Spatial Metadata Catalog' under System folder.

```
./runcat.sh -cmd unarchive -folder "/system" -online http://
<<OAS_Host>>:<<OAS_SERVER_PORT>>/analytics-ws/saw.dll -credentials
boot.txt -inputFile "<install_dir>/Catalog/Spatial
Metadata.Catalog" -overwrite all
```

Example:

```
./runcat.sh -cmd unarchive -folder "/system" -online http://
localhost.localdomain:9502/analytics-ws/saw.dll -credentials
boot.txt
```

```
-inputFile "/u01/OUA_DASHBOARD/Catalog/Spatial Metadata.Catalog" -
overwrite all
```

Note that the 'inputFile' parameter must be in double quotes all the catalog filename includes spaces.

Deploying Repository (RPD) File

If no changes are made to the deployed RPD, take the RPD file from the following location, where <install_dir> is the Oracle Utilities Analytics Dashboard Component installation directory:

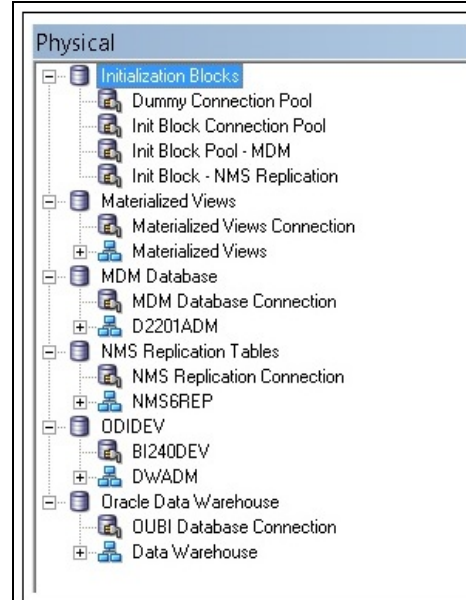
<install_dir>/Reports/rpd/ UtilitiesBusinessAnalytics.rpd

Note: If you are using the default Oracle Utilities Analytics repository, you must change the default password the first time you open it in the Administration Tool.

If it was merged, do the required database changes with the merged RPD. Copy this RPD file to the Windows machine on which Oracle Business Intelligence Developer Client Tool (12.2.1.4.0) is installed.

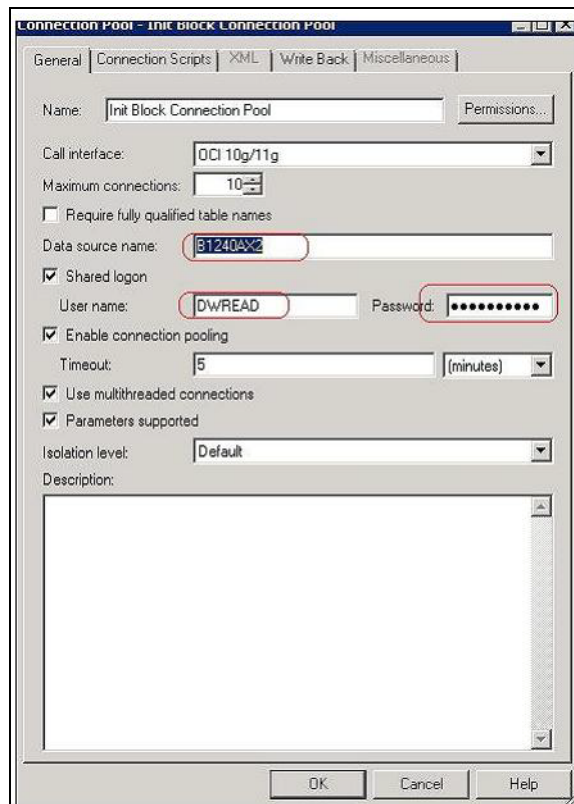
To deploy the RPD file:

1. Make sure Oracle Analytics Server Client Tool (12.2.1.4.0) is installed on the Windows machine before proceeding.
2. Click **Start > Programs > Oracle Business Intelligence > Administration**.
3. Click **File > Open > Offline...** to open the RPD in offline mode.
4. Provide the RPD password. The default password is "oracle123".
5. Double-click the **Connection Pools** to edit them.



- In the **Init Block Connection Pool** group, enter the following:
 Datasource name = BI Database name
 User name = DWREAD
 Password = DWREAD User password

- In the **Init Block Pool - MDM** group, provide the following (only for Oracle Utilities Meter Data Management):
Datasource name = MDM database name
User name = CISUSER
Password = CISUSER User password
 - In the **Init Block Pool - NMS Replication** group, provide the following (only for Oracle Utilities Network Management System):
Datasource name = BI database name
User name = DWREAD
Password = DWREAD User password
 - In the **Materialized Views Connection** group, enter the following:
Datasource name = BI Database name
User name = DWREAD
Password = DWREAD User password
 - In the **MDM Database Connection** group, provide the following (only for Oracle Utilities Meter Data Management):
Datasource name = MDM database name
User name = CISUSER
Password = CISUSER User password
 - In the **NMS Replication Tables** group, provide the following (only for Oracle Utilities Network Management System):
Datasource name = BI database name
User name = DWREAD
Password = DWREAD User password
- Note:** The default schema name is NMS1REP. If the replication schema name is different, then rename it.
- In the **ODIDEV Connection Pool** group, provide the following:
Datasource name = BI database name
User name = DWUSER
Password = DWUSER User password
 - In the **OUBI Database Connection** group, provide the following:
Datasource name = BI database name
User name = DWREAD
Password = DWREAD User password



6. Click **Save**.

Note: Click **Yes** when you see the prompt '*Do you wish to check global consistency?*' and ignore any warnings that appear after consistency check is complete.

7. Copy the modified RPD back to the <install_dir>/Reports/rpd/UtilitiesBusinessAnalytics.rpd where <install_dir> is the Oracle Utilities Analytics Dashboard Component installation directory.
8. Login to the server where OAS is installed.
9. Navigate to <OAS_DOMAIN>/bitools/bin.
10. Run the following command to deploy the RPD:

In Unix:

```
./datamodel.sh uploadrpd -I <OUA home>/Reports/rpd/
UtilitiesBusinessAnalytics.rpd -W <rpd password, default
password is oracle123> -U <Weblogic user name of OAS domain> -
P <Weblogic password of OAS domain> -SI ssi
```

11. Run the following commands from <OAS_DOMAIN>/bitools/bin directory to stop and start the OAS domain services respectively.

```
./stop.sh
```

```
./start.sh
```

Note: Since Oracle Analytics Server 5.5.0 Mapviewer is not supported on AIX platforms, the Mapviewer URL is not accessible.

Deploying Writeback Templates in OAS Domain

WriteBack template is an xml file that takes user inputs and writes it directly to the database using SQL commands. Copy these WriteBack template files to the following location:

```
$OAS_DOMAIN_HOME/bifoundation/web/msgdb/l_en/custommessages/  
cp -r <install_dir>/writeback/wbtemplates/* $OAS_INSTALL_DIR/  
bifoundation/web/msgdb/l_en/custommessages/
```

If the directory structure in the Oracle Analytics Server domain does not exist, create it by running the command listed above.

Below are the list of writeback template files:

- Base_Field_Update_Template.xml
- Configuration_Update_Template.xml
- Custom_Field_Delete_Template.xml
- Custom_Field_Insert_Template.xml
- Custom_Field_Update_Template.xml
- ETL_Job_Control_Update_Template.xml
- Map_Profile_Update_Template.xml

Restart the Oracle Analytics Server services after deploying these writeback templates in the specified path.

Enabling Auto Complete Feature in Oracle Analytics Server

To enable the auto complete feature on Oracle Analytics Server:

1. Restart the Oracle Analytics Server services.

Note: Refer to Oracle Analytics Server documentation for detailed instructions on how to start and stop the services.

2. Login to Analytics.

<http://<Server>:<port>/analytics>

3. Click **WebLogic User** (top-most-right section of the page).
4. From the drop-down menu, select **My Account**.
5. On the **Preferences** tab, set **Prompt Auto Complete** to **ON**.
6. Click **OK**.

Chapter 6

Upgrading Oracle Utilities Analytics from v2.7.0.1.3

Oracle Utilities Analytics v2.7.0.2.0 supports the direct upgrade path from v2.7.0.1.3 to v2.7.0.2.0.

Important! This chapter is applicable **only** to customers upgrading from Oracle Utilities Analytics **v2.7.0.1.3 to v2.7.0.2.0**.

To upgrade to Oracle Utilities Analytics v2.7.0.2.0, customers must first upgrade to the latest supported technology stack of Oracle Utilities Analytics v2.7.0.1.3.

This chapter describes the procedure to upgrade to Oracle Utilities Analytics v2.7.0.2.0, including:

- [Pre-requisites](#)
- [Upgrading Oracle Utilities Analytics Database Component](#)
- [Upgrading Oracle Data Integrator Based ELT Component](#)
- [Upgrading Oracle Utilities Analytics Administration Tool Component](#)
- [Upgrading Oracle Utilities Analytics Dashboards Component](#)

Pre-requisites

Upgrading Oracle Utilities Analytics from v2.7.0.1.3 to v2.7.0.2.0 includes upgrading Oracle Data Integrator based source applications (Oracle Utilities Customer Care and Billing, Oracle Utilities Work and Asset Management, Oracle Utilities Network Management System, Oracle Utilities Mobile Workforce Management, and Oracle Utilities Meter Data Management).

Important! Make sure that the Oracle Utilities Analytics v2.7.0.1.3 certified software versions are installed and available.

Make sure the required JDK 1.8.0(251) and Oracle Data Integrator 12.2.1.4.0 are installed on the Oracle Data Integrator server. Also, the target OBIEE applications should be down.

Follow these steps as part of prerequisites:

1. Login to Oracle Utilities Analytics ODI server and start the ODI (studio) client.

Note: Oracle Data Integrator Studio 12.2.1.3 is not supported in the AIX and Solaris operating systems. Install Oracle Data Integrator Studio client in either Linux or Windows machines to connect to the work repository.

```
cd $ODI_HOME/odi/studio
./odi.sh
```

2. Stop BI_RUN_ALL. Follow these steps:
 - a. Login to Oracle Database Integrator Studio.
 - b. Double-click **Global/WLS_AGENT** and select **Inactive**.
 - c. Save the changes.
 - d. On the Studio, navigate to the **Topology** tab. Right-click **OracleDI Agent** and select **Update Schedule**.
3. Execute the following query to check if all jobs are complete.

```
SELECT
*
FROM mdadm.bl_jobs_vw
WHERE status_flg NOT IN ('D', 'E', 'RP');
```

4. Stop the Oracle Data Integrator admin and managed servers. Navigate to the ODI domain bin location and run the stop scripts.

Example:

```
cd /u01/domains/odi_domain/bin
./stopManagedWebLogic.sh ODI_server1
./stopWebLogic.sh
```

5. Sync all the Oracle GoldenGate processes.
 - a. Connect to MDADM schema in the Oracle Utilities Analytics database.
 - b. Run the SQL mentioned below to get all the context codes.


```
Select CONTEXT_CD from bl_prod_instance where CONTEXT_CD<>'B1';
```
 - c. For each context returned by the query:
 - a. Connect to the source database corresponding to the context code as sys user.
 - b. Run the following command:


```
alter system switch logfile
```
 - c. Connect to MDADM schema in the Oracle Utilities Analytics database.

- d. Run the SQL mentioned below to get source GoldenGate server and Oracle GoldenGate Home on source server.

```
select DS_HOST,DS_HOME from bl_server_cfg where
CONTEXT_CD='<Context_code>'
```

- e. Make sure that the pump processes transfer all the changes to the target server. Lag at the Chkpt and Time Since Chkpt should be 0.

- f. On the Oracle Utilities Analytics database server, make sure the replicate processes apply all changes for the context code.

- Connect to the MDADM schema in Oracle Utilities Analytics database and run the query below to get the target server and GoldenGate Home details on the target server.

```
select DS_HOST,DS_HOME, DS_FLAG from bl_server_cfg where
CONTEXT_CD='B1';
```

- Connect to the target server and login to the GoldenGate prompt. Run the following commands:

```
cd <GG_Home >
./ggsci
dblogin userid MDADM,password <MDADM user password> Send
replicat <Context_codeXX>,status
```

Make sure you see the current status to be at EOF. Check this for each 'replicat' process of the context code.

- g. Make sure all extracts and replicates of all sources are in sync.

- h. Stop replicate processes in the target server.

6. Make sure that the alert logs are enabled to capture DDL changes on replication schema after technology upgrade (before Oracle Utilities Analytics upgrade).

- a. Check and enable auditing at database level.

```
show parameter audit_trail
alter system set audit_trail=db, extended scope=spfile;
```

- b. Restart the database.

```
shutdown immediate;
startup;
```

- c. Confirmation of audit logs enabled.

```
show parameter audit_trail
```

- d. Run the following audit commands to ONLY enable DDL auditing on schema tables.

Note: Replace 'man' with actual user to be audited.

```
AUDIT TABLE BY <Replication Owner> by ACCESS; --> This will
audit "CREATE TABLE","DROP TABLE","TRUNCATE TABLE"
AUDIT INDEX BY <Replication Owner> by ACCESS; --> This will
audit "CREATE INDEX","DROP INDEX","ALTER INDEX","ANALYZE INDEX"
AUDIT ALTER TABLE by <Replication Owner> BY ACCESS; --> This
will audit alter table statements
```

- e. Run the following query to find audited entries from dba_audit_trail table.

```
select username, to_char(timestamp,'dd-mon hh24:mi') timest ,
owner, obj_name, action_name, sql_text from dba_audit_trail
where username='<Replication Owner>';
```

7. Make sure that the ODI operator logs are available during the course of upgrade and after the upgrade.

This can be ensured by increasing the log retention period to 60 days from the Global Configuration Page in Apex.

8. Make sure the ODI log level is set to maximum in Global Configuration.

This can be ensured by increasing the ODI log level to 5 or 6 from the Global Configuration Page in Apex.

9. Make sure that the primary keys of all replication tables are present. Use the following query to retrieve the tables that have the primary key missing.

```
SELECT *
FROM
MDADM.B1_SOURCE_TABLE S
WHERE PROD_FLG = '<configured source product value>'
AND BASE_REPLICATE_FLG = 'Y'
AND NOT EXISTS (SELECT 1 FROM ALL_CONSTRAINTS C
WHERE CONSTRAINT_TYPE = 'P'
AND OWNER='<replication schema name for configured source>'
AND S.TBL_NAME=C.TABLE_NAME);
```

Example: Oracle Utilities Customer Care and Billing

```
SQL> SELECT *
FROM
MDADM.B1_SOURCE_TABLE S
WHERE PROD_FLG = 'CCB'
AND BASE_REPLICATE_FLG = 'Y'
AND NOT EXISTS (SELECT 1 FROM ALL_CONSTRAINTS C
WHERE CONSTRAINT_TYPE = 'P'
AND OWNER='CCB1REP'
AND S.TBL_NAME=C.TABLE_NAME);
```

If the primary keys are not present, recreate them as follows. Make sure to run these steps **only** if the primary keys of the tables are missing.

1. Retrieve the keys for the tables using the following query from the Source side.

```
SELECT
ST.TABLE_NAME , SC.COL_NAME, rank() OVER (PARTITION BY
ST.TABLE_NAME ORDER BY SKC.POS DESC) KEY_POS
FROM
<work repository schema>.SNP_KEY_COL SKC,
<work repository schema>.SNP_KEY SK,
<work repository schema>.SNP_TABLE ST,
<work repository schema>.SNP_COL SC,
<work repository schema>.SNP_MODEL SM,
(SELECT
TBL_NAME
FROM
MDADM.B1_SOURCE_TABLE S
WHERE PROD_FLG = '<configured source product value>'
AND BASE_REPLICATE_FLG = 'Y'
AND NOT EXISTS (SELECT 1 FROM ALL_CONSTRAINTS C
WHERE CONSTRAINT_TYPE = 'P'
AND OWNER='<replication schema name for product configured>'
AND S.TBL_NAME=C.TABLE_NAME)) TAB_LIST
WHERE SKC.I_KEY =SK.I_KEY
AND SK.I_TABLE=ST.I_TABLE
AND SKC.I_COL=SC.I_COL
```

```

AND ST.I_MOD=SM.I_MOD
AND SM.COD_MOD LIKE '%REP%'
AND ST.TABLE_NAME= TAB_LIST.TBL_NAME AND SK.CONST_TYPE='PK';

```

Example:

```

SELECT
ST.TABLE_NAME , SC.COL_NAME, rank() OVER (PARTITION BY
ST.TABLE_NAME ORDER BY SKC.POS DESC) KEY_POS
FROM
OUA_WORK.SNP_KEY_COL SKC,
OUA_WORK.SNP_KEY SK,
OUA_WORK.SNP_TABLE ST,
OUA_WORK.SNP_COL SC,
OUA_WORK.SNP_MODEL SM,
(SELECT
TBL_NAME
FROM
MDADM.B1_SOURCE_TABLE S
WHERE PROD_FLG = 'CCB'
AND BASE_REPLICATE_FLG ='Y'
AND NOT EXISTS (SELECT 1 FROM ALL_CONSTRAINTS C
WHERE CONSTRAINT_TYPE ='P'
AND OWNER='CCB1REP'
AND S.TBL_NAME=C.TABLE_NAME)) TAB_LIST
WHERE SKC.I_KEY =SK.I_KEY
AND SK.I_TABLE=ST.I_TABLE
AND SKC.I_COL=SC.I_COL
AND ST.I_MOD=SM.I_MOD
AND SM.COD_MOD LIKE '%REP%'
AND ST.TABLE_NAME= TAB_LIST.TBL_NAME AND SK.CONST_TYPE='PK';

```

2. After creating the table list using the query, create the primary key.

```

ALTER TABLE <replication schema name>.<table name>
ADD CONSTRAINT <constraint name> PRIMARY KEY (<column list-
separated by comma>);

```

Example:

```

SQL> ALTER TABLE CCB1REP.C1_USAGE ADD CONSTRAINT SYS_C0021279
PRIMARY KEY (USAGE_ID);
Table altered.

```

ODI Related Settings

Login to the Oracle Utilities Analytics ODI server and perform the following steps:

1. Launch the ODI Studio. Navigate **Load Plan and Scenario**.
2. Delete all scenarios starting with B1_% and present outside the load plan and scenarios out-of-the-box folder. Make sure to take a backup of these scenarios.

Upgrading Source Applications to be Compatible with Oracle Utilities Analytics v2.7.0.2

Important! Ignore this section if the existing source application version is certified with Oracle Utilities Analytics v2.7.0.2.0.

If the existing source application version is not certified with Oracle Utilities Analytics v2.7.0.2.0 or if you want to upgrade to a higher supported source

version, perform the following steps before upgrading Oracle Utilities Analytics.

- The source applications' databases must be in archive log mode during their upgrade. Oracle GoldenGate processes should be up and running on both source and target during the source application(s) upgrade.
- Upgrade the source application databases. If the source database version is prior to 11.2.0.4, upgrade to 12C or a later version.

Note: After a successful upgrade, do not release the source applications to end users. Make sure to stop the source applications, but the source databases should be up and accessible.

Since the Oracle GoldenGate version to be used for Oracle Utilities Analytics v2.7.0.2.0 is the same as that in Oracle Utilities Analytics v2.7.0.1.3, there is no need to clean up the existing Oracle GoldenGate processes on the source and target servers.

Upgrading Oracle Utilities Analytics Database Component

This section describes the steps included to upgrade the Oracle Utilities Analytics database component:

- [Copying and Decompressing the Install Media](#)
- [Creating Users and Tablespaces](#)
- [Installing RELADM Schema](#)
- [Installing MDADM Schema](#)
- [Installing DWADM Schema](#)

Before proceeding with upgrading the Oracle Utilities Analytics Database component, ensure the following are complete:

- Upgrading Oracle Utilities Analytics database to v19.7

Copying and Decompressing the Install Media

To copy and decompress the install media:

1. Download Oracle Utilities Analytics v2.7.0.2 Oracle Database part (**Oracle Utilities Analytics V2.7.0.2 Oracle Database Multiplatform.zip**) from Oracle Software Delivery Cloud ([https:// edelivery.oracle.com](https://edelivery.oracle.com)).
2. Create a temporary directory (such as /OUA/temp for a Linux machine).

This directory (referred to as <TEMPDIR> below) must be located outside any current working Oracle Utilities application environment. All files that are placed in this directory as a part of the installation can be deleted after completing a successful installation.

3. Unzip **Oracle Utilities Analytics V2.7.0.2 Oracle Database Multiplatform.zip** to <TEMPDIR> using any zip utility.

Creating Users and Tablespaces

To create users and tablespaces:

1. Make sure to create users in the database with the following names without giving specific roles (if these do not exist already):

DWADM, DWUSER, DWREAD, MDADM, RELADM, OUA_MASTER, OUA_WORK and DWSTAGE

2. Connect as **sys user** and revoke the DBA privilege from the following users (if the DBA privilege has been granted to them):

DWADM,MDADM,RELADM,OUA_MASTER, OUA_WORK and DWSTAGE

3. Make sure to create roles with the following names (if these do not exist already).

DW_USER, DW_READ, DW_REPLICATE and DW_PRIVS_ROLE

4. Connect as **sys user** and execute the **Usersgrants.sql** in <TEMPDIR>/BI2702/Scripts/Usersgrants.sql.

Note: <TEMPDIR> is the location where the database contents are unzipped.

This SQL provides the required grants to the created users.

Installing RELADM Schema

The RELADM schema is a metadata schema that consists of the database objects used for storing the product version and component installation information.

This section describes the RELADM schema initial installation, including:

- [Reviewing the Storage.xml file](#)
- [Installation Steps](#)
- [Generating Database Statistics](#)

Reviewing the Storage.xml file

The storage.xml file (that comes with the product and is in location <TEMPDIR>/BI2702/RELADM/Install- Upgrade) allocates all the base tables and indexes to the default tablespace CISTS_01.

If you decide to allocate some tables or indexes outside of the default tablespace, this has to be reflected in the **storage.xml** file by changing the tablespace name from the default value to a custom value.

Note: If database does not have CISTS_01 tablespace or the RELADM user does not have quota on CISTS_01 tablespace, edit the Storage.xml file to indicate the correct tablespace name on which RELADM has quota.

Installation Steps

Note: Make sure to copy/paste the commands into Notepad. Check for any special characters and extra spaces. If any, delete them and enter the respective characters manually. This helps to avoid any errors at run time.

In Unix:

1. Add Java 8 to the path variable as shown in example below:

```
export PATH=/u01/jdk1.8.0_251/bin:$PATH
```

2. Set classpath pointing to OraDBI.jar and all dependency jars.

```
export CLASSPATH=<TEMPDIR>/BI2702/RELADM/Jarfiles/*
```

3. Run OraDBI.jar as shown below:

```
java com.oracle.ouaf.oem.install.OraDBI -d
jdbc:oracle:thin:@<DATABASE SERVER>:<DATABASE PORT>/<ORACLE SERVICE
NAME>,RELADM,<Password of RELADM User>,,,,,RELADM -l 1,2 -o -q true
```

The utility creates the RELADM schema and system data definitions. If an error occurs while executing an SQL or another utility, it logs and displays the error message and allows you to re-execute the current step.

Generating Database Statistics

During the installation process, new database objects may be added to the target database. Before using the database, generate the statistics for these new objects:

Connect as **sys user** and execute the following command:

```
execute DBMS_STATS.GATHER_SCHEMA_STATS('RELADM');
```

Installing MDADM Schema

The MDADM schema is a metadata schema that consists of the database objects used for storing the metadata of Oracle Utilities Analytics.

For example: ETL job execution status, target tables for ETL, Oracle GoldenGate configuration details, etc.

This section describes the MDADM schema initial installation, including:

- [Reviewing Storage.xml File](#)
- [Installation Steps](#)
- [Generating the Database Statistics](#)

Reviewing Storage.xml File

The **storage.xml** file (comes with the product and is in location `<TEMPDIR>/BI2702/MDADM/Install- Upgrade`) allocates all the base tables and indexes to the default tablespace CISTS_01. If you decide to allocate some tables or indexes outside of the default tablespace, then this has to be reflected in the **storage.xml file** by changing the tablespace name from the default value to a custom value.

Note: If the database does not have CISTS_01 tablespace or the MDADM user does not have quota on CISTS_01 tablespace, you must edit the Storage.xml file to indicate the correct tablespace name on which MDADM has quota.

Installation Steps

Important! Make sure to copy/paste the commands into Notepad. Check for any special characters and extra spaces. If any, delete them and enter the respective characters manually. This helps to avoid any errors at run time.

To install the MDADM schema:

- In Unix:

1. Add Java 8 to the path variable as shown in example below:

```
export PATH=/u01/jdk1.8.0_251/bin:$PATH
```

2. Set classpath pointing to OraDBI.jar and all dependency jars.

```
export CLASSPATH=<TEMPDIR>/BI2702/MDADM/Jarfiles/*
```

3. Run OraDBI.jar as shown below:

```
java com.oracle.ouaf.oem.install.OraDBI -d
jdbc:oracle:thin:@<DATABASE SERVER>:<DATABASE PORT>/<ORACLE
SERVICE NAME>,MDADM,<Password of MDADM User>,,,,MDADM -l 1,2 -
o -q true
```

The utility creates the MDADM schema and system data definitions.

If an error occurs while executing an SQL or another utility, it logs and displays the error message and allows you to re-execute the current step.

Generating the Database Statistics

During the installation process, new database objects may be added to the target database. Before using the database, generate the statistics for these new objects.

Connect as **sys user** and execute the following command:

```
execute DBMS_STATS.GATHER_SCHEMA_STATS ('MDADM');
```

Installing DWADM Schema

The DWADM schema contains star schema objects (such as facts and dimensions) that include entire data in the data warehouse.

This section describes the DWADM schema initial installation, including:

- [Reviewing Storage.xml File](#)
- [Installation Steps](#)
- [Generating Database Statistics](#)

Reviewing Storage.xml File

The storage.xml file (comes with the product and is in location `<TEMPDIR>/BI2702/DWADM/Install-Upgrade`) allocates all the base tables and indexes to the default tablespace CISTS_01. If you decide to allocate tables or indexes outside of the default tablespace, then this has to be reflected in the storage.xml file by changing the tablespace name from the default value to a custom value.

Note: If the database does not have CISTS_01 tablespace or the DWADM user does not have quota on CISTS_01 tablespace, you must edit the Storage.xml file to indicate the correct tablespace name on which DWADM has quota.

Installation Steps

Important! Make sure to copy/paste the commands into Notepad. Check for any special characters and extra spaces. If any, delete them and enter the respective characters manually. This helps to avoid any errors at run time.

To install the DWADM schema:

- In Unix:
 1. Add Java 8 to the path variable as shown in example below:


```
export PATH=/u01/jdk1.8.0_251/bin:$PATH
```
 2. Set classpath pointing to OraDBI.jar and all dependency jars.


```
export CLASSPATH=<TEMPDIR>/BI2701/DWADM/Jarfiles/*
```
 3. Run OraDBI.jar.

```
java com.oracle.ouaf.oem.install.OraDBI -d
jdbc:oracle:thin:@<DATABASE SERVER>:<DATABASE PORT>/<ORACLE
SERVICE NAME>,DWADM,<Password of DWADM
User>,DWUSER,DWREAD,DW_USER,DW_READ,DWADM -p <Password of
DWUSER>,<Password of DWREAD> -l 1,2 -o -q true
```

The utility creates the DWADM schema and system data definitions.

If an error occurs while executing an SQL or another utility, it logs and displays the error message and allows you to re-execute the current step.

Generating Database Statistics

During the installation process, new database objects may be added to the target database. Before using the database, generate the statistics for these new objects.

Connect as **sys user** and execute the command:

```
execute DBMS_STATS.GATHER_SCHEMA_STATS ('DWADM');
```

Upgrading Oracle Data Integrator Based ELT Component

This section describes the steps to upgrade the Oracle Data Integrator based ELT component:

1. [Prerequisites for Running Oracle Utilities Analytics Installer](#)
2. [Copying and Decompressing Install Media](#)
3. [Copying and Decompressing Install Media](#)
4. [Starting the Installer](#)
5. [Upgrade Steps](#)
6. Upgrading Oracle Utilities Analytics Administration Tool Component

Before proceeding with upgrading the Oracle Utilities Analytics based ELT component, make sure the following are complete:

7. Installing JDK1.8.0(251)
8. Make sure that Oracle Fusion Middleware Infrastructure 12.2.1.4 is installed on the target server. It can be fresh installation or you can reuse the existing Oracle Fusion Middleware Infrastructure 12.2.1.4 used for Oracle Analytics Server.

During the Oracle Data Integrator 12.2.1.4 installation, provide the same 'Oracle Home' path used as Oracle Home while installing Oracle Fusion Middleware Infrastructure. Select **Enterprise Installation** on the **Installation Type** page.

9. Installing Oracle Data Integrator 12.2.1.4.0.0 (both infrastructure and ODI)

Prerequisites for Running Oracle Utilities Analytics Installer

Before running the Oracle Utilities Analytics installer, take a backup of the customized views and recreate them manually after upgrading Oracle Utilities Analytics to v2.7.0.2.

Copying and Decompressing Install Media

To download and decompress the install media:

1. Download the Oracle Utilities Analytics v2.7.0.2 Multiplatform part (**Oracle Utilities Analytics V2.7.0.2 Multiplatform.zip**) from Oracle Software Delivery Cloud (<https://edelivery.oracle.com>).
2. Create a temporary directory, such as c:\OUA\temp or /OUA/temp (referred to <TEMPDIR> below). This directory must be located outside any current working Oracle Utilities application environment. All files that are placed in this directory as a part of the installation can be deleted after completing a successful installation.
3. Unzip **Oracle Utilities Analytics V2.7.0.2 Multiplatform.zip** to <TEMPDIR>.

Starting the Installer

To start the Oracle Data Integrator Based ETL component:

1. Navigate to the temporary folder containing the installer.
2. Run the following command from this folder:

```
java -jar <TEMPDIR>/OUA_2.7.0.2_generic.jar -logLevel finest
```

Note: The minimum JDK required for running the Oracle Utilities Analytics installer is JDK 1.8.

The **Welcome** page appears.

3. Review this information before you begin the installation. Click **Next** to continue with the installation.
4. Complete the tasks on the navigation pane.

Each item in the navigation pane represents a specific installer screen that prompts you for information required to install the software.

- If you select **Oracle Data Integrator Based ETL** as an **Installation Type**, define the following:
 - Database and Java Home Details
 - Target Database Connection Details
 - Oracle Data Integrator Home and Schema Details
 - Oracle Data Integrator Agent and Repository Details
 - Target GoldenGate Details
 - Target JAgent Details

Upgrade Steps

To install Oracle Data Integrator Based ETL:

1. Run the Oracle Utilities Analytics Installer. Review the information on the **Welcome** page before you begin the installation.
2. Click **Next** to continue with the installation.
3. On the **Installation Inventory** page, provide the inventory location. Click **Next**.
4. On the **Installation Location** page define an installation location/directory and click **Next**.
5. On the **Languages Selection** page, make sure to select “English”. Click **Next**.
6. On the **Select Installation Type** page, select **ODI Based ETL**. Click **Next**.

Note that the options on the left navigation pane change based on the selected installation type.

7. Select **Oracle Data Integrator Based ETL** as the **Installation Type**.
8. Define the following and click **Next**.
 - Database and Java Home Details
 - Target Database Connection Details
 - Oracle Data Integrator Home and Schema Details
 - Oracle Data Integrator Agent and Repository Details

- Target GoldenGate Details
 - Target Jagent Details
9. On the **Database and Java Home Details** page, enter the following in the respective fields. Click **Next**.

Field Name	Description	Value
Database Client Home	The database client home location.	Example: /u01/app/product/19.7/dbhome_1
Java Home	The JDK home location.	Provide location of JDK 1.8 Example: /u01/jdk_1.8.0_251

10. On the **Target Database Connection Details** page, enter the following in the respective fields. Click **Next**:

Field Name	Description	Value
Host	Host name of the server where the database resides.	Oracle Utilities Analytics Database Server
Port	Database port number on the database server used for connecting to the database.	Oracle Utilities Analytics Database Port. The default value is 1521.
Service Name	Service name for the database	
Target Schema Password	Password for the target schema (DWADM)	
Confirm Target Schema Password	Confirm the password for the target schema (DWADM) here.	
Metadata Schema Password	Password for the metadata schema (MDADM)	
Confirm Metadata Schema Password	Confirm the password for the metadata (MDADM) schema here	

11. On the **ODI Home and Schema Details** page, enter the following in the respective fields. Click **Next**:

Field Name	Description	Value
ODI Home	Directory where Oracle Data Integrator (ODI) has been installed.	Example: /u01/Middleware
Supervisor User	Name of the Oracle Data Integrator Supervisor	SUPERVISOR
Supervisor Password	Password of the Oracle Data Integrator Supervisor	SUPERVISOR user password

Field Name	Description	Value
Confirm Supervisor Password	Confirm the password of the Supervisor here	
Master Repository Schema Name	Oracle Data Integrator master repository schema name	OUA_MASTER
Master Repository Schema Password	Password of the master repository schema	OUA_MASTER user's password
Confirm Master Repository Schema Password	Confirm the password of the Oracle Data Integrator master repository schema here	
Work Repository Schema Name	Oracle Data Integrator work repository schema name	OUA_WORK
Work Repository Schema Password	Password of the work repository schema	OUA_WORK user's password
Confirm Work Repository Schema Password	Confirm the password of the Oracle Data Integrator work repository schema here	

12. On the **ODI Agent and Details** page, enter the following details in the respective fields.
Click **Next**:

Field Name	Description	Value
ODI Agent Host	Host on which Oracle Data Integrator WebLogic domain is created.	Oracle Data Integrator server host name
ODI Agent Port	Port on which Oracle Data Integrator WebLogic agent is configured to run. This is the port of Oracle Data Integrator WebLogic Managed Server Port.	Provide available port and ensure to use the same port while creating Oracle Data Integrator managed server.

13. On the **Target GoldenGate Details** page, enter the following details in the respective fields.
Click **Next**.

Field Name	Description	Value
GoldenGate Host	Host on the Oracle GoldenGate Manager.	
GoldenGate Home	This is the Oracle GoldenGate installed location.	Example: /opt/local/ggs_18.1

Field Name	Description	Value
Target Database Home	The database home installed location on the target database server. In case Oracle GoldenGate for target is not installed on the OUA database server, provide oracle client home location on the server on which Oracle GoldenGate is installed.	Example: /u00/oracle/app/oracle/product/19.7/dbhome_1
GoldenGate Manager Port	Port number on which Oracle GoldenGate Manager is running on the Oracle GoldenGate host.	The default value is 7830
GoldenGate Algorithm	Algorithm configured in Oracle GoldenGate on the target database server.	The default value is BLOWFISH.
GoldenGate Encryptkey	The Encrypt Key configured in Oracle GoldenGate on the target database server.	The default value is "DEFAULT".
GoldenGate Shared Secret	The shared secret key configured in Oracle GoldenGate on the target database server.	Go to the Oracle GoldenGate prompt and run the command: <pre>encrypt password <password of MDADM user>, encryptkey DEFAULT</pre> Provide the result as the value.

14. On the **Target JAgent Details** page, enter the following details in the respective fields. Click **Next**.

Field Name	Description	Value
JAgent Host	The host of Oracle GoldenGate Monitor JAgent.	
JAgent GoldenGate	The Oracle GoldenGate installed location where Oracle GoldenGate Monitor JAgent is running.	Example: /opt/local/ggs_19C
JAgent Port	Use the JAgent RMI port which is defined in the config properties file.	
JAgent User	OS user used to configure JAgent	
JAgent Wallet Password	JAgent Wallet password	

Field Name	Description	Value
Confirm JAgent Wallet Password	Re-enter JAgent Wallet password to confirm.	

15. On the **Java Home Location** page, provide the Java Home details that were provided earlier. Click **Next**.
16. On the **Installation Summary** page, verify the installation options you selected.
17. Click **Install** to begin the installation.

To change any configurations before starting the installation, use the navigation pane and select the topic to edit.

The **Installation Progress** page displays the progress of the installation. Operations being performed as a part of the installation are logged to the terminal from which the installer was run. The detailed logs of the installation are also available in the logs/system directory under the installation location.

To quit before the installation is complete, click **Cancel**. Doing so will result in a partial installation; the portion of the software that was installed on your system before you click **Cancel** will remain on your system, and you will have to remove it manually.

18. On the **Installation Completed** page, click **Finish** to close the installer.

The Oracle Data Integrator based ETL is now installed.

Running Post ETL Upgrade Steps

To run the post ETL upgrade steps:

1. Start the scheduler 'BI_RUN_ALL'.
2. Start Oracle GoldenGate processes in both source and target.
3. Run view generator with source context.

Example:

```
cd <install_dir>/OUA_ETL/bin
./runviewGenerator.sh -c NMS1
```

4. Enable the source application.
5. Backfill the **Storm Key** column in Oracle Utilities Network Management System star schema (only if the Oracle Utilities Network Management System source is configured).

As a part of the 2.7.0.2.0 release, the Storm dimension (CD_STORM) has been modified to have the Control Zone as a part of the natural key. As a result, changes are made to the ETL mappings of the dimension table and 12 fact tables that are dependent on this dimension. While these ETL component changes take care of the incremental data changes post upgrade, the modification to existing data is handled by the ODI procedure B1_NMS_FACT_STORM_KEY_UPD_2702.

Note: The execution of the procedure B1_NMS_FACT_STORM_KEY_UPD_2702 is optional and has to be done only if the customer decides to refresh STORM_KEY value for existing rows as per new logic. If more than one context is configured, this scenario needs to be triggered for each configured context.

6. Perform the following steps to run the B1_NMS_FACT_STORM_KEY_UPD_2702 procedure. If more than one context is configured this scenario needs to be triggered for each configured context.
 - a. Make sure that the Storm dimension is loaded till the checkpoint timestamp.

- b. Enter the appropriate context below:

```
select entity_name, status_flg, max(slice_end_dttm) -1/ (24*60*60)
from mdadm.b1_jobs_vw
where entity_name = 'CD_STORM' and context_cd = '<context code>'
group by entity_name, status_flg;
```

The value for max(slice_end_dttm) should be same as LAST_UPDATE_TS column value in B1_CHECKPOINT table fetched below:

```
select max(last_update_ts) from mdadm.b1_checkpoint where
group_name like '<context code>%';
```

- c. After the Storm dimension load is completed, stop B1_RUN_ALL. Make sure that B1_RUN_ALL is not running.
- d. Disable all Oracle Utilities Network Management System fact tables from the Admin tool.
- e. Make sure that all running fact jobs are completed.
- f. Navigate to **ODI Designer > Load Plan and Scenarios > Accelerators - Data Correction**.
- g. Right-click **B1_NMS_FACT_STORM_KEY_UPD_2702 Version 001** and click **Run**. Select the appropriate context.
- h. Enable all Oracle Utilities Network Management facts from the Admin tool after the above procedure is completed.
- i. Run the following command:

```
Start B1_RUN_ALL
```

Upgrading Oracle Utilities Analytics Administration Tool Component

Oracle Utilities Analytics Administration Tool is an Oracle Application Express (APEX) based configuration tool used to configure Oracle Utilities Analytics.

This section describes how to install the tool to configure Oracle Utilities Analytics and change the default password of the Admin user.

- [Prerequisites](#)
- [Installation Steps](#)
- [Changing Default Password of Admin User](#)

Note: Install Oracle Utilities Analytics Administration component on the Oracle Utilities Analytics database server.

Prerequisites

To remove the previously created Apex workspace from database:

1. Connect to the database as SYSTEM user.
2. Run the following PL/SQL procedure.

```
BEGIN
APEX_INSTANCE_ADMIN.REMOVE_WORKSPACE ('OBIU_ADM') ;
END;
/
```

3. Make sure no workspace with “OBIU” exists in the database.

```
select WORKSPACE from APEX_WORKSPACES where WORKSPACE like '%OBIU%';
```

Note: No rows should be returned from this query.

4. Remove **ords.war** and **i.war** apps from APEX WebLogic console.
 - a. Login to APEX WebLogic console.
 - b. Navigate to **Deployments > Control**.
 - c. Click **Stop** and select **Force Stop Now**.
 - d. Click **Yes**.
 - e. On the **Configuration** tab, click **Lock and Edit**.
 - f. Under **Deployments**, select both **i** and **ords**.
 - g. Click **Delete**.
 - h. Confirm deletion and click **Activate Changes** to activate the changes.
5. Uninstall the existing ords.war from the database.
6. Navigate to the ords.war (ords.3.0.6.178.08.46) file location in server.

Example:

```
cd /u01/apex_19/apex_listener
```

7. Run the following command:

```
java -jar ords.war uninstall
```

Note: Use JDK1.8 to run the command.

Provide the necessary inputs.



```
bash-4.2$ cd /scratch/bi_oradata_01/apex_setup/apex_listener
bash-4.2$ java -jar ords.war uninstall
Enter the name of the database server (sic14utn.us.oracle.com):
Enter the database listener port (1521):
Enter 1 to specify the database service name, or 2 to specify the database SID (1):
Enter the database service name (B1272901):
Please login with SYSDBA privileges to verify Oracle REST Data Services schema.
Enter the username with SYSDBA privileges to verify the installation (SYS):
Enter the database password for SYS:
Confirm password:
Uninstalling Oracle REST Data Services
... Log file written to /scratch/bi_oradata_01/apex_setup/apex_listener/logs/ords_uninstall_core_2019-05-17_234904_00800.log
Completed uninstall for Oracle REST Data Services. Elapsed time: 00:00:16.953
bash-4.2$
```

Installation Steps

To install the Oracle Utilities Analytics Administration Tool, download Apex 20.1. Copy it to the server where you want to set it up under the /u01/temp/apex_20.1 directory.

For detailed steps to install Apex, refer to the **Upgrading to the Latest Oracle Application Express Release** section at <https://docs.oracle.com/en/database/oracle/application-express/19C/htmig/upgrading-to-latest-AE-release.html#GUID-4B4A2BDC-11AA-4ACF-88B2-E320D6361596>.

```
@apexins.sql <Tablespace name> <Tablespace name> <Temp Tablespace name> /i/
```

Example: @apexins.sql CISTS_01 CISTS_01 TEMP /i/

Run the following from SQLPlus prompt using the same location.

```
@apex_epg_config.sql <directory path of apex 20.1 software>
```

Example: @apex_epg_config.sql /u01/APEX_20.1/

```
@apxchpwd.sql
```

To install Apex for the first time:

1. Connect to the Oracle Utilities Analytics database as the **sys user** and run the following commands:

```
EXEC DBMS_XDB.SETHTTPPORT(0);
SELECT DBMS_XDB.GETHTTPPORT FROM DUAL;
```

This query should result in zero(0).

2. Run the following SQL.

```
ALTER USER APEX_PUBLIC_USER ACCOUNT UNLOCK;
ALTER USER APEX_PUBLIC_USER IDENTIFIED BY APEX_PUBLIC_USER;
@apex_rest_config.sql
```

Make sure to note the password for these two users: APEX_Listener user and APEX_REST_PUBLIC_USER.

3. Import the Admin Tool to configure Oracle Data Integrator.
 - a. Unzip the Oracle Utilities Analytics v2.7.0.2.0 Multiplatform.zip file. The file includes the AdminTool folder.
 - b. Create ../AdminTool directory on the database server and copy the contents of the AdminTool directory (from the zip file) to this directory.
 - c. Navigate to the ../AdminTool directory (cd ../AdminTool)
 - d. Connect as the system user. Execute the following scripts:
 - a. Create workspace and configure the users.


```
@CreateAppWorkspace.sql
```
 - b. Import the application.


```
@DeployAdminApp.sql
```
 - c. Deploy supporting objects.


```
@DeploySupportingObjects.sql
```
4. Download Oracle Rest Data service. Copy it to the server where you want to set it up under the ords-19.2.0.199.1647.zip directory.
5. Navigate to the /u01/apex_listner directory. Unzip the ords-19.2.0.199.1647.zip file.
6. Create a directory on the server to configure Apex.

Example: mkdir /u01/apex_configuration
7. Navigate to the /u01/Softwares/apex_listner directory.


```
cd /u01/apex_listner
```
8. Run the following command:


```
java -jar ords.war install advanced
```

Note: Use JDK1.8 or later to run this command.

9. Navigate to the /u01/apex_listner directory.

```
java -jar ords.war static <apex20.1 unzipped path>/apex/images
```

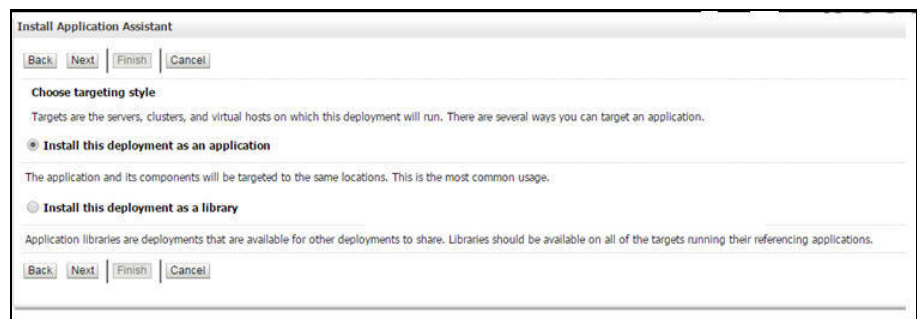
For example: java -jar ords.war static /u01/apex_20.1/apex/images

Note: The command creates the i.war file.

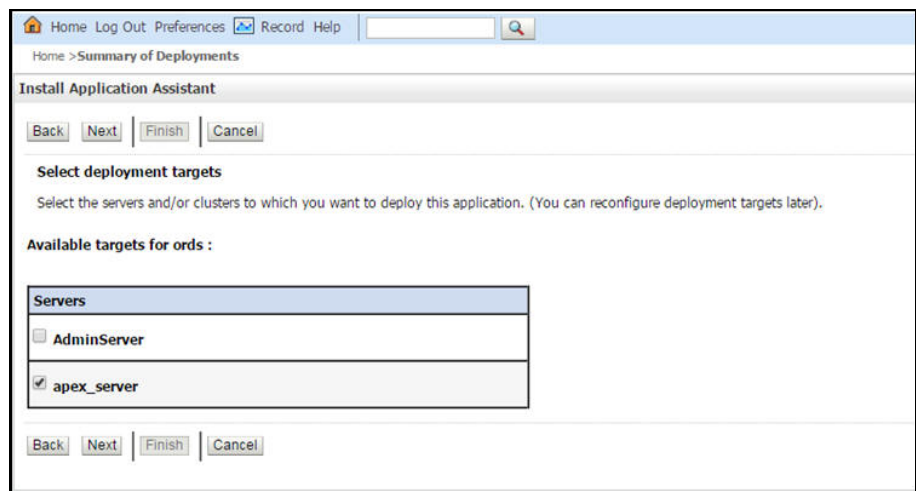
10. Use the existing WebLogic domain (apex_domain). Navigate to the domain directory and start the Admin and Managed servers.
11. Login to WebLogic console and click **Lock & Edit**.
12. Click **Install**.
13. Enter the following path and select the **ords.war** file.

/u01/apex_listner

Click **Next**.



14. Select the **apex_server** checkbox and click **Next**.



15. Select the options as shown below:

Install Application Assistant

Back Next Finish Cancel

Optional Settings
You can modify these settings or accept the defaults.

General
What do you want to name this deployment?
Name: ords

Security
What security model do you want to use with this application?
☐ DD Only: Use only roles and policies that are defined in the deployment descriptors.
☒ Custom Roles: Use roles that are defined in the Administration Console; use policies that are defined in the deployment descriptor.
☐ Custom Roles and Policies: Use only roles and policies that are defined in the Administration Console.
☐ Advanced: Use a custom model that you have configured on the realm's configuration page.

Source accessibility
How should the source files be made accessible?
☒ Use the defaults defined by the deployment's targets

Recommended selection:
☐ Copy this application onto every target for me

During deployment, the files will be copied automatically to the managed servers to which the application is targeted.
☒ I will make the deployment accessible from the following location

Location: /scratch/bl_oradata_01/Softwares/apex_listener/ords.war

Provide the location from where all targets will access this application's files. This is often a shared directory. You must ensure the application files exist in this location and that each target can reach the location.

Back Next Finish Cancel

16. Select the options as shown below:

Install Application Assistant

Back Next Finish Cancel

Review your choices and click Finish
Click Finish to complete the deployment. This may take a few moments to complete.

Additional configuration
In order to work successfully, this application may require additional configuration. Do you want to review this application's configuration after completing this assistant?
☐ Yes, take me to the deployment's configuration screen.
☒ No, I will review the configuration later.

Summary
Deployment: /scratch/bl_oradata_01/Softwares/apex_listener/ords.war
Name: ords
Staging mode: Use the defaults defined by the chosen targets
Security Model: CustomRoles: Use policies that are defined in the deployment descriptor. Create custom role mappings later.

Target Summary

Components	Targets
ords	apex_server

Back Next Finish Cancel

17. Click **Activate Changes**.

View changes and restarts

Pending changes exist. They must be activated to take effect.

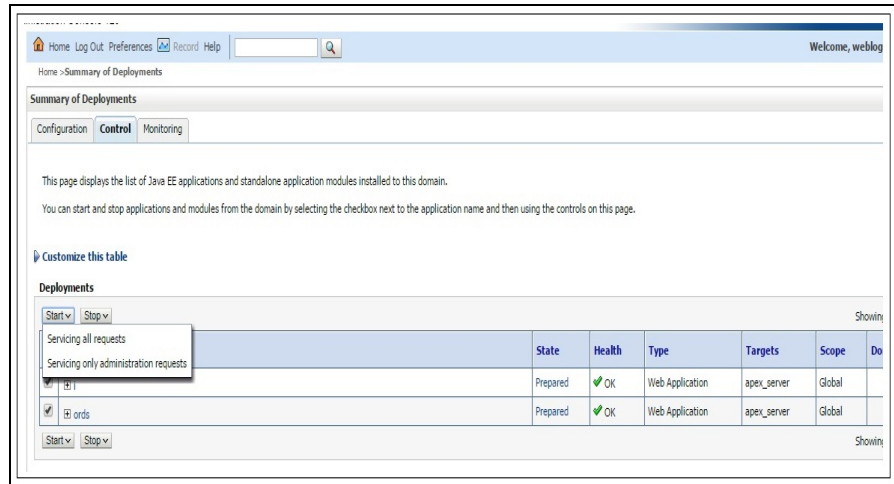
Activate Changes

Undo All Changes

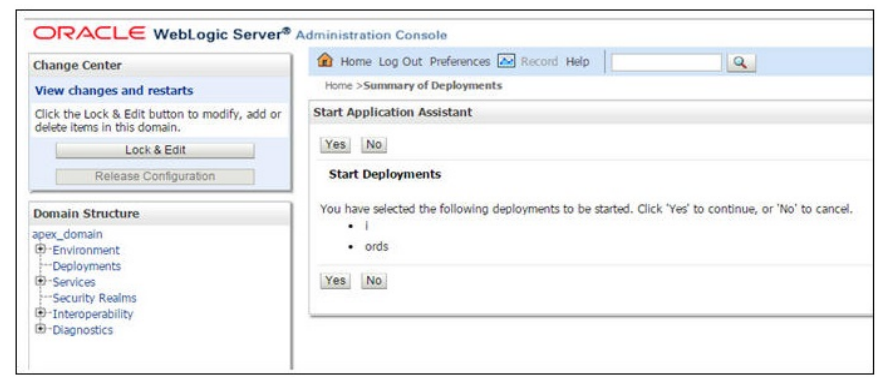
18. Repeat the steps 14 to 20 to deploy the **i.war** file.

19. Login to the WebLogic console and navigate to **Deployment > Monitoring**.

20. Select **i** and **ords**. Click **Start > Servicing All Requests**.



21. Click **Yes**.



22. Restart the Admin and Managed servers.
 23. Go to the following URL to access the Administration Tool:

<http://<hostname>:<managed server port no>/ords/f?p=104>

The credentials to access the tool are:

User ID: Admin
 Password: Admin_123

Changing Default Password of Admin User

This section describes the APEX API used to change the password of the admin user. The script should be run after connecting to the database as user SYSTEM.

Replace the string 'New password' with the new password for the admin account before running the script.

```
begin
wwv_flow_api.set_security_group_id(p_security_group_id=>nvl(wwv_flow_application_install.get_workspace_id,2090606133849294));
end;
/
```

```

begin apex_util.edit_user(
  p_user_id      => '2090514487849294', p_user_name => 'ADMIN',
  p_web_password => 'New password', p_new_password => 'New password'
);
end;
/

commit;
/

```

Note: It is strongly recommended to change the default password after logging in.

Upgrading Oracle Utilities Analytics Dashboards Component

Make sure that the same operating system user used to install the prerequisite software is used to install the Oracle Utilities Analytics Dashboards component as well.

The Oracle Utilities Analytics Dashboards component is installed on the Oracle Utilities Analytics application server.

This section describes how to install the dashboards component of Oracle Utilities Analytics.

- [Prerequisites](#)
- [Copying and Decompressing Install Media](#)
- [Starting the Installer](#)
- [Upgrade Steps](#)
- [Deploying Web Catalog](#)
- [Deploying Repository \(RPD\) File](#)

Prerequisites

Oracle Utilities Analytics Dashboards component v2.7.0.2 requires Oracle Analytics Server version 5.5.0/6.4.0. Oracle Analytics Server 5.5.0 may already exist since it is used for v2.7.0.1.3.

For more information refer to the Oracle Analytics Server upgrade documentation at:

<https://docs.oracle.com/en/middleware/bi/analytics-server/migrate-upgrade-oas/upgrading-oracle-analytics-server.html>

Copying and Decompressing Install Media

To download and decompress the install media:

1. Download the Oracle Utilities Analytics Dashboards component v2.7.0.2 (**Oracle Utilities Analytics V2.7.0.2 Multiplatform.zip**) from the Oracle Software Delivery Cloud (<https://edelivery.oracle.com>).
2. Create a temporary directory, such as c:\OUA\temp or /OUA/temp (referred to <TEMPDIR> below).

This directory must be located outside any current working Oracle Utilities application environment. All files that are placed in this directory as a part of the installation can be deleted after completing a successful installation.

3. Unzip **Oracle Utilities Analytics V2.7.0.2 Multiplatform.zip** to <TEMPDIR>.

Starting the Installer

To start the installer:

1. Navigate to the temporary folder where you downloaded the install.

Run the following command from the folder (VNC client for Linux platform):

```
java -jar <TEMPDIR>/OUA_2.7.0.2_generic.jar -logLevel finest
```

Note: The minimum JDK required for running the Oracle Utilities Analytics installer is JDK 1.8.

2. On the **Welcome** page, review the information before you begin the installation.
3. Click **Next** to continue with the installation.
4. Complete the installation by following the tasks on the navigation pane.

Each item in the navigation pane represents a specific installer screen that prompts you for the information required to install the software.

Upgrade Steps

To install the Dashboards component:

1. Run the Oracle Utilities Analytics Installer.
2. On the **Welcome** page, review the available information before you begin the installation.
3. On the **Installation Inventory** page, provide the inventory location. Click **Next**.
4. On the **Languages Selection** page, make sure “English” is selected. Click **Next**.
5. On the **Installation Location** page, provide the installation location and click **Next**.

Note: The specified Oracle home directory must be an empty directory or a directory where the OUA ODI ETL 2.7.0.2 component was installed successfully.

6. On the **Installation Type** page, select **Dashboards** and click **Next**. Enter the following details in the respective fields and click **Next**.

Note: Based on the selected installation type, the options on the left navigation panel change. When you select **Dashboard** as an **Installation Type**, you need to define **Database and Java Home Details**, **Target Database Connection Details** and **OBIEE Home Details (OAS)**.

Field Name	Description	Value
Database Client Home	Database client home location	Example: /u01/app/product/12.1.0/ dbhome_1
Java Home	JDK home location	JDK 1.8 location

7. On the **Target Database Connection Details** page, enter the following details in the respective fields and click **Next**.

Field Name	Description	Value
Host	The host name of the server where the database resides.	Oracle Utilities Analytics Database Server
Port	The database port number on the database server used for connecting to the database.	Oracle Utilities Analytics Database Port. The default value is 1521.
Service Name	The service name for the database	
Target Schema Password	The password for the target schema (DWADM).	
Confirm Target Schema Password	Confirm the password for the target schema (DWADM) here.	
Metadata Schema Password	The password for the metadata schema (MDADM).	
Confirm Metadata Schema Password	Confirm the password for the metadata (MDADM) schema here.	

8. On the **OBIEE Home Details** page, enter the following details in the respective fields and click **Next**.

Field Name	Description	Value
BI Home	The location on the disk where OAS is installed.	Example: /u01/Middleware/bi
BI Domain Home	The domain Home location under the directory where OAS is installed.	Example: /u01/domains/oas_domain
WebLogic Host	The hostname on which WebLogic server for OAS is running.	
WebLogic Port Number	A unique port number within the system that is assigned to the HTTP port. This port number is used as a part of the client URL request to connect to the host. It is the OAS WebLogic console admin port number.	Example: 9500
WebLogic User	WebLogic domain login user name.	

Note: You will be prompted for the WebLogic user's password after installation.

9. On the **Java Home Location** page provide the Java Home details that were provided earlier. Click **Next**.
10. On the **Installation Summary** page, verify the installation options and click **Install** to begin the installation.

For any changes to the configuration before starting the installation, use the navigation pane and select the topic to edit.

11. The **Installation Progress** page allows you to view the progress of the installation. Operations being performed as part of the installation are logged to the terminal from which the installer was run. Detailed logs of the installation are also available in the logs/system directory under the installation location.

To quit before the installation is complete, click **Cancel**. Doing so will result in a partial installation; the portion of the software that was installed on your system before you click **Cancel** will remain on your system, and it needs to be deleted manually.

12. On the **Installation Completed** page, click **Finish** to close the installer.

The Dashboards component is installed successfully.

Deploying Web Catalog

Take the backup of existing BI Publisher reports from the catalog location. Oracle Analytics Server no longer supports offline mode to deploy catalogs. Deploy the latest catalogs into the environment via online mode.

Make sure to take a backup of any custom catalog related files in this directory in a separate location.

To deploy the web catalogs:

1. Navigate to <OAS_DOMAIN_HOME>/bitools/bin.
2. Use runcat.sh to deploy the catalogs.
3. Create a new credentials file boot.txt at a standard location, typically in the location where runcat.sh is executed.

```
$OAS_DOMAIN_HOME/bitools/bin/boot.txt file login=admin user
pwd=admin password
```

4. For each catalog run the following from the Oracle Analytics Server domain/bitools/bin location.

```
./runcat.sh -cmd unarchive -folder "/shared" -online http://<OAS
Host>:<OAS SERVER PORT>/analytics-ws/saw.dll -credentials boot.txt
-inputFile "<install_dir>/Catalog/<Catalog Name>" -overwrite all
```

Example:

```
cd $OAS_DOMAIN_HOME/bitools/bin
./runcat.sh -cmd unarchive -folder "/shared" -online http://
localhost.localdomain:9502/analytics-ws/saw.dll -credentials
boot.txt
-inputFile "/u01/OUA_DASHBOARD/Catalog/Sample NMS DV
Projects.Catalog" -overwrite all
.....
```

```
Command 'unarchive' completed successfully. Return status from
Catalogmanager command : 0
```

5. Deploy 'Spatial Metadata Catalog' under System folder.

```
./runcat.sh -cmd unarchive -folder "/system" -online http://
<<OAS_Host>>:<<OAS_SERVER_PORT>>/analytics-ws/saw.dll -credentials
boot.txt -inputFile "<install_dir>/Catalog/Spatial
Metadata.Catalog" -overwrite all
```

Example:

```
./runcat.sh -cmd unarchive -folder "/system" -online http://
localhsot.localdomain:9502/analytics-ws/saw.dll -credentials
boot.txt
-inputFile "/u01/OUA_DASHBOARD/Catalog/Spatial Metadata.Catalog" -
overwrite all
```

Note that the 'inputFile' parameter must be in double quotes all the catalog filename includes spaces.

Deploying Repository (RPD) File

If no changes are made to the deployed RPD, take the RPD file from the following location, where <install_dir> is the Oracle Utilities Analytics Dashboard Component installation directory:

<install_dir>/Reports/rpd/ UtilitiesBusinessAnalytics.rpd

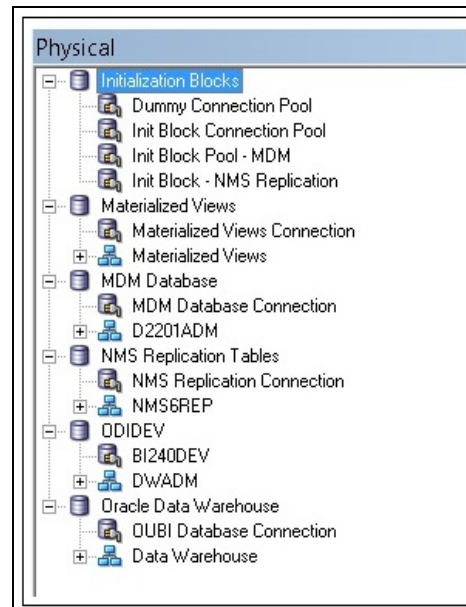
Note: If you are using the default Oracle Utilities Analytics repository, you must change the default password the first time you open it in the Administration Tool.

If it was merged, do the required database changes with the merged RPD. Copy this RPD file to the Windows machine on which Oracle Business Intelligence Developer Client Tool (12.2.1.4.0) is installed.

To deploy the RPD file:

1. Make sure Oracle Analytics Server Client Tool is installed on the Windows machine before proceeding.
2. Click **Start > Programs > Oracle Business Intelligence > Administration**.
3. Click **File > Open > Offline...** to open the RPD in offline mode.
4. Provide the RPD password. The default password is "oracle123".

5. Double-click the **Connection Pools** to edit them.



- In the **Init Block Connection Pool** group, enter the following:
 Datasource name = BI Database name
 User name = DWREAD
 Password = DWREAD User password
- In the **Init Block Pool - MDM** group, provide the following (only for Oracle Utilities Meter Data Management):
 Datasource name = MDM database name
 User name = CISUSER
 Password = CISUSER User password
- In the **Init Block Pool - NMS Replication** group, provide the following (only for Oracle Utilities Network Management System):
 Datasource name = BI database name
 User name = DWREAD
 Password = DWREAD User password
- In the **Materialized Views Connection** group, enter the following:
 Datasource name = BI Database name
 User name = DWREAD
 Password = DWREAD User password
- In the **MDM Database Connection** group, provide the following (only for Oracle Utilities Meter Data Management):
 Datasource name = MDM database name
 User name = CISUSER
 Password = CISUSER User password

- In the **NMS Replication Tables** group, provide the following (only for Oracle Utilities Network Management System):

Datasource name = BI database name

User name = DWREAD

Password = DWREAD User password

Note: The default schema name is NMS1REP. If the replication schema name is different, then rename it.

- In the **ODIDEV Connection Pool** group, provide the following:

Datasource name = BI database name

User name = DWUSER

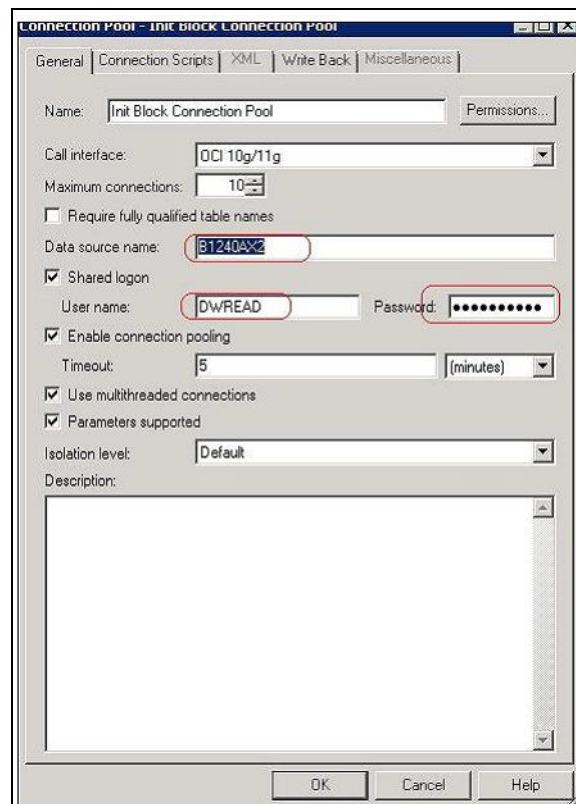
Password = DWUSER User password

- In the **OUBI Database Connection** group, provide the following:

Datasource name = BI database name

User name = DWREAD

Password = DWREAD User password



- Click **Save**.

Note: Click **Yes** when you see the prompt 'Do you wish to check global consistency?' and ignore any warnings that appear after consistency check is complete.

- Copy the modified RPD back to the <install dir>/Reports/rpd/UtilitiesBusinessAnalytics.rpd where <install_dir> is the Oracle Utilities Analytics Dashboard Component installation directory.

8. Login to the server where OAS is installed.
9. Navigate to **<OAS_DOMAIN>/bitools/bin**.
10. Run the following command to deploy the RPD:

In Unix:

```
./datamodel.sh uploadrpd -I <OUA home>/Reports/rpd/  
UtilitiesBusinessAnalytics.rpd -W <rpd password, default  
password is oracle123> -U <Weblogic user name of OAS domain> -  
P <Weblogic password of OAS domain> -SI ssi
```

11. Run the following commands from **<OAS_DOMAIN>/bitools/bin** directory to stop and start the OAS domain services respectively.

```
./stop.sh
```

```
./start.sh
```

Note: Since Oracle Analytics Server 5.5.0 Mapviewer is not supported on AIX platforms, the Mapviewer URL is not accessible.

Chapter 7

Upgrading Oracle Utilities Analytics from v2.6.0.0.10

Oracle Utilities Analytics v2.7.0.2.0 supports the direct upgrade path from v2.6.0.0.10 to v2.7.0.2.0.

Important! This chapter is applicable **only** to customers upgrading from Oracle Utilities Analytics **v2.6.0.0.10 to v2.7.0.2.0**.

To upgrade to Oracle Utilities Analytics v2.7.0.2.0, you must first upgrade to Oracle Utilities Analytics v2.6.0.0.10 if on an earlier version. Make sure all pre-requisites (JDK and ODI) are taken care before beginning the upgrade process.

This chapter describes the procedure to upgrade to Oracle Utilities Analytics v2.7.0.2.0, including:

- [Pre-requisites](#)
- [Upgrading Oracle Utilities Analytics Database Component](#)
- [Upgrading Oracle Data Integrator Based ELT Component](#)
- [Upgrading Oracle Utilities Analytics Administration Tool Component](#)
- [Upgrading Oracle Utilities Analytics Dashboards Component](#)

Pre-requisites

Upgrading Oracle Utilities Analytics from v2.6.0.0.10 to v2.7.0.2.0 includes upgrading Oracle Data Integrator based source applications (Oracle Utilities Customer Care and Billing, Oracle Utilities Work and Asset Management, Oracle Utilities Network Management System, Oracle Utilities Mobile Workforce Management, or Oracle Utilities Meter Data Management).

Important! Make sure the required JDK 1.8.0(251) or later, Oracle Data Integrator 12.2.1.4.0 (both infrastructure and ODI) and Oracle Analytics Server 5.5 are installed. Also, the target existing target applications should be down.

Follow these steps as part of prerequisites:

1. Login to Oracle Utilities Analytics ODI server and start the ODI client.

Note: Oracle Data Integrator Studio 12.2.1.4 is not supported in the AIX and Solaris operating systems. Install Oracle Data Integrator Studio client in either Linux or Windows machines to connect to the work repository.

```
cd $ODI_HOME/odi/studio
./odi.sh
```

2. Stop BI_RUN_ALL. Follow these steps:

- a. Login to Oracle Database Integrator Studio.
- b. Navigate to the **Topology** tab > **Scheduling** > **BI_RUN_ALL**.
- c. Double-click **Global/WLS_AGENT** and select **Inactive**.
- d. Save the changes.
- e. In the Studio, navigate to the **Topology** tab. Right-click **OracleDIAGENT** and select **Update Schedule**.

3. Execute the following query to check if all jobs are complete. No rows should be returned from the query mentioned above. If any rows are returned, it means the jobs are not yet completed. Wait until all the jobs are completed.

```
SELECT
*
FROM mdadm.bl_jobs_vw
WHERE status_flg NOT IN ('D', 'E', 'RP');
```

4. Stop the Oracle Data Integrator admin and managed servers. Navigate to the ODI domain bin location and execute the stop scripts.

Example:

```
cd /u01/domains/odi_domain/bin
./stopManagedWebLogic.sh ODI_server1
./stopWebLogic.sh
```

5. Sync all the Oracle GoldenGate processes.

- a. Connect to MDADM schema in the Oracle Utilities Analytics database.
- b. Run the below SQL to get all context codes.

Select CONTEXT_CD from bl_prod_instance where CONTEXT_CD<>'B1';
- c. For each context returned by the query:
 - a. Connect to the source database corresponding to the context code as sys user.
 - b. Run the following command:

alter system switch logfile

c. Connect to MDADM schema in the Oracle Utilities Analytics database.

d. Run the SQL mentioned below to get source GoldenGate server and Oracle GoldenGate Home on source server.

```
select DS_HOST,DS_HOME from bl_server_cfg where
CONTEXT_CD='<Context_code>'
```

e. Make sure that the pump processes transfer all the changes to the target server. Lag at the Chkpt and Time Since Chkpt should be 0.

f. On the Oracle Utilities Analytics database server, make sure the replicate processes apply all changes for the context code.

- Connect to the MDADM schema in Oracle Utilities Analytics database and run the query below to get the target server and GoldenGate Home details on the target server.

```
select DS_HOST,DS_HOME, DS_FLAG from bl_server_cfg where
CONTEXT_CD='B1';
```

- Connect to the target server and login to the GoldenGate prompt. Run the following commands:

```
cd <GG_Home >
./ggsci
dblogin userid MDADM,password <MDADM user password> Send
replicat <Context_codeXX>,status
```

Make sure you see the current status to be at EOF.

g. Check this for each 'replicat' process of the context code.

h. Make sure all extracts and replicates of all sources are in sync.

i. Stop replicate processes in the target server.

6. Make sure that the alert logs are enabled to capture DDL changes on replication schema after technology upgrade (before Oracle Utilities Analytics upgrade).

a. Check and enable auditing at database level.

```
show parameter audit_trail
alter system set audit_trail=db, extended scope=spfile;
```

b. Restart the database.

```
shutdown immediate;
startup;
```

c. Check and enable confirmation of audit logs.

```
show parameter audit_trail
```

d. Run the following audit commands to ONLY enable DDL auditing on schema tables.

Note: Replace 'man' with actual user to be audited.

```
AUDIT TABLE BY <Replication Owner> by ACCESS; --> This will
audit "CREATE TABLE","DROP TABLE","TRUNCATE TABLE"
AUDIT INDEX BY <Replication Owner> by ACCESS; --> This will
audit "CREATE INDEX","DROP INDEX","ALTER INDEX","ANALYZE INDEX"
AUDIT ALTER TABLE by <Replication Owner> BY ACCESS; --> This
will audit alter table statements
```

- e. Run the following query to find audited entries from dba_audit_trail table.

```
select username, to_char(timestamp,'dd-mon hh24:mi') timest ,
owner, obj_name, action_name, sql_text from dba_audit_trail
where username='<Replication Owner>;
```

7. Make sure that the ODI operator logs are available during the course of upgrade and after the upgrade.
8. Make sure the ODI log level is set to maximum in Global Configuration.

This can be ensured by increasing the ODI log level to 5 or 6 from the Global Configuration Page in Apex.

9. Make sure that the primary keys of all replication tables are present. Use the following query to retrieve the tables that have the primary key missing.

```
SELECT *
FROM
MDADM.B1_SOURCE_TABLE S
WHERE PROD_FLG = '<configured source product value>'
AND BASE_REPLICATE_FLG ='Y'
AND NOT EXISTS (SELECT 1 FROM ALL_CONSTRAINTS C
WHERE CONSTRAINT_TYPE ='P'
AND OWNER='<replication schema name for configured source>'
AND S.TBL_NAME=C.TABLE_NAME);
```

Example: Oracle Utilities Customer Care and Billing

```
SQL> SELECT *
FROM
MDADM.B1_SOURCE_TABLE S
WHERE PROD_FLG = 'CCB'
AND BASE_REPLICATE_FLG ='Y'
AND NOT EXISTS (SELECT 1 FROM ALL_CONSTRAINTS C
WHERE CONSTRAINT_TYPE ='P'
AND OWNER='CCB1REP'
AND S.TBL_NAME=C.TABLE_NAME);
```

If the primary keys are not present, recreate them as follows. Make sure to run these steps **only** if the primary keys of the tables are missing.

1. Retrieve the keys for the tables from the source database using the following query on target database.

```
SELECT
ST.TABLE_NAME , SC.COL_NAME, rank() OVER (PARTITION BY
ST.TABLE_NAME ORDER BY SKC.POS DESC) KEY_POS
FROM
<work repository schema>.SNP_KEY_COL SKC,
<work repository schema>.SNP_KEY SK,
<work repository schema>.SNP_TABLE ST,
<work repository schema>.SNP_COL SC,
<work repository schema>.SNP_MODEL SM,
(SELECT TBL_NAME FROM
MDADM.B1_SOURCE_TABLE S
WHERE PROD_FLG = '<configured source product value>'
AND BASE_REPLICATE_FLG ='Y'
AND NOT EXISTS (SELECT 1 FROM ALL_CONSTRAINTS C
WHERE CONSTRAINT_TYPE ='P'
AND OWNER='<replication schema name for product configured>'
AND S.TBL_NAME=C.TABLE_NAME)) TAB_LIST
WHERE SKC.I_KEY =SK.I_KEY
```

```

AND SK.I_TABLE=ST.I_TABLE
AND SKC.I_COL=SC.I_COL
AND ST.I_MOD=SM.I_MOD
AND SM.COD_MOD LIKE '%REP%'
AND ST.TABLE_NAME= TAB_LIST.TBL_NAME AND SK.CONST_TYPE='PK';

```

Example:

```

SELECT
ST.TABLE_NAME , SC.COL_NAME, rank() OVER (PARTITION BY
ST.TABLE_NAME ORDER BY SKC.POS DESC) KEY_POS
FROM
OUA_WORK.SNP_KEY_COL SKC,
OUA_WORK.SNP_KEY SK,
OUA_WORK.SNP_TABLE ST,
OUA_WORK.SNP_COL SC,
OUA_WORK.SNP_MODEL SM,
(SELECT
TBL_NAME
FROM
MDADM.B1_SOURCE_TABLE S
WHERE PROD_FLG = 'CCB'
AND BASE_REPLICATE_FLG ='Y'
AND NOT EXISTS (SELECT 1 FROM ALL_CONSTRAINTS C
WHERE CONSTRAINT_TYPE ='P'
AND OWNER='CCB1REP'
AND S.TBL_NAME=C.TABLE_NAME)) TAB_LIST
WHERE SKC.I_KEY =SK.I_KEY
AND SK.I_TABLE=ST.I_TABLE
AND SKC.I_COL=SC.I_COL
AND ST.I_MOD=SM.I_MOD
AND SM.COD_MOD LIKE '%REP%'
AND ST.TABLE_NAME= TAB_LIST.TBL_NAME AND SK.CONST_TYPE='PK';

```

2. After creating the table list using the query, create the primary key.

```

ALTER TABLE <replication schema name>.<table name>
ADD CONSTRAINT <constraint name> PRIMARY KEY (<column list-
separated by comma>);

```

Example:

```

SQL> ALTER TABLE CCB1REP.C1_USAGE ADD CONSTRAINT SYS_C0021279
PRIMARY KEY (USAGE_ID);
Table altered.

```

ODI Related Settings

Login to the Oracle Utilities Analytics ODI server and perform the following steps:

1. Launch the ODI Studio. Navigate **Load Plan and Scenario**.
2. Make sure to take a backup of these scenarios.
3. Delete all scenarios starting with B1_% and present outside the load plan and scenarios out-of-the-box folder.
4. Delete the **Accelerators and Framework Scenario** from **Load Plan and Scenarios**.

Note: In Oracle Utilities Analytics v2.7.0.2.0, the Oracle Utilities Application Framework folder structure was modified. While upgrading from v2.6.0.0.10 to v2.7.0.2.0, remove the **Accelerators and Framework Scenario** folder from the **Load Plan and Scenario** section.

Upgrading Source Applications to be Compatible with Oracle Utilities Analytics v2.7.0.2.0

Important! Ignore this section if the existing source application version is certified with Oracle Utilities Analytics v2.7.0.2.0.

If the existing source application version is not certified with Oracle Utilities Analytics v2.7.0.2.0 or if you want to upgrade to a higher supported source version, perform the following steps before upgrading Oracle Utilities Analytics.

- The source applications' databases must be in archive log mode during their upgrade. Oracle GoldenGate processes should be up and running on both source and target during the source application(s) upgrade.
- Upgrade the source application databases. If the source database version is prior to 12.1, upgrade it to 12.2 or a later version (19C).

Note: After a successful upgrade, do not release the source applications to end users. Make sure to stop the source applications, but the source databases should be up and accessible.

Perform the following steps to cleanup the Oracle GoldenGate processes:

1. Connect to MDADM schema in the Oracle Utilities Analytics database. Run the following SQL to get all the context codes.


```
Select CONTEXT_CD from bl_prod_instance where CONTEXT_CD<>'B1';
```
2. For each context returned by the query:
 - a. Connect to MDADM schema in the Oracle Utilities Analytics database. Run the SQL below to get the source GoldenGate db server, SID and Oracle GoldenGate host, home on source server.


```
Select DS_HOST,DS_SID,DS_HOME,CONTEXT_CD,DS_FLAG from  
bl_server_cfg where CONTEXT_CD='<Context_code>'
```
 - b. Connect to the source database corresponding to context code as **sys user** and run the following command:


```
alter system switch logfile
```
 - c. Make sure that the pump processes transfer all the changes to the target server. Lag at the **Chkpt** and **Time Since Chkpt** should be zero.
 - d. On the source database server, drop all the GoldenGate processes by following these steps:
 - a. Connect to MDADM schema in the Oracle Utilities Analytics database.
 - b. Run the following query to get GoldenGate Owner name in the source database.


```
select SCHEMA_NAME  
from MDADM.B1_CONTEXT_CFG_VW  
where LSCHEMA_NAME = 'Journal'  
and CONTEXT_CD = '<Context_code>';
```
 - c. Login to source GoldenGate prompt.


```
cd <GG_Home>  
./ggsci
```
 - d. Run the following commands: cleanup and delete the process extract/replicat process.

```
dblogin userid < GoldenGate Owner >,PASSWORD < GoldenGate
Owner password>
stop <Context_code>*
```

For example:
stop CCB1*
delete <Context_code>*

```
delete CCB1*
Stop mgr
```

- e. Run the below commands to unregister extracts from database:

```
unregister extract <Context_code>*X database
```

Example:

```
unregister extract CCB1AAX database
```

- f. Similarly, unregister all model extracts.

Note: Note down the source Oracle GoldenGate context_codes of each source and source Oracle GoldenGate Owner info. They will be used to configure the existing sources with same context during the upgrade.

- e. Connect as a **sys user** to the source database server. Run the following command:

```
<GG_Home>/ddl_disable.sql
```

- f. Rename the existing source Oracle GoldenGate Home on the source server.

Note the GoldenGate manager port number and source GoldenGate home before renaming it.

Example: mv <GG_Home> <GG_Home>.bkp

- g. On the Oracle Utilities Analytics database server, make sure the replicate processes apply all changes for the context code.

- a. Connect to MDADM schema in the Oracle Utilities Analytics database. Run the below query to get the target server and GoldenGate Home details on the target server.

```
select DS_HOST,DS_HOME,DS_FLAG from bl_server_cfg where
CONTEXT_CD='B1';
```

- b. Connect to the target server and login to the GoldenGate prompt. Run the following commands:

```
cd <GG_Home >
```

```
./ggsci
```

```
Dblogin userid MDADM,password <MDADM user password>
```

- c. Check each replicate process for the context code and ensure replicate processes completed writing all the changes.

- d. After checking the current status and each replicate process for the context code, run the following commands:

```
Stop <Context_code>*
```

Example:

```
stop CCB1*
```

```
Delete <Context_code>*
```

Example:

```
delete CCB1*
```

3. After all source applications' changes are in sync in the Oracle Utilities Analytics database, run the following command after connecting to the target Oracle GoldenGate Home prompt.

```
./ggsci  
Stop mgr
```

4. Rename the existing target Oracle GoldenGate Home directory.

Note the Oracle GoldenGate manager port number and target Oracle GoldenGate Home before renaming it.

Installing Oracle Fusion Middleware Infrastructure

Note that the Oracle Home path provided in the **Installation Location** page is used while installing the Oracle Data Integrator.

The infrastructure installation type is 'Fusion Middleware Infrastructure'.

During the Oracle Data Integrator 12.2.1.4 installation, provide the same 'Oracle Home' path used as Oracle Home while installing Oracle Fusion Middleware Infrastructure. Select **Enterprise Installation** on the **Installation Type** page.

Apply ODI Patch# 31510501

To summarize, a successful Oracle Data Integrator installation involves installing/applying the following:

- JDK 1.8.0(251)
- Oracle Fusion Middleware Infrastructure 12.2.1.4
- Oracle Data Integrator 12.2.1.4
- ODI Patch# 31510501

Upgrading Oracle Utilities Analytics Database Component

For steps to upgrade the Oracle Utilities Analytics database component, refer to the [Upgrading Oracle Utilities Analytics Database Component](#) section in [Chapter 5: Upgrading Oracle Utilities Analytics from v2.7.0.0.13](#).

Before proceeding with upgrading the Oracle Utilities Analytics Database component make sure the following are complete:

- Upgrading Oracle Utilities Analytics database to 19.7
- Installing Oracle GoldenGate 19.1 on Oracle Utilities Analytics database server

Configuring Spatial Data

This section describes how to load spatial metadata in the USER_SDO* tables for Oracle Utilities Analytics.

To load spatial metadata in the target database:

1. Create the **dump_dir** directory in the database and copy the **user_sdo.dmp** file from ../BI2702/Spatial-Metadata folder to that location.

2. Import the released spatial tables to the target database.

```
impdp directory=dump_dir dumpfile=user_sdo.dmp logfile=
impdp_user_sdo.log schemas=DWADM
remap_tablespace=cists_01:<tablespace_name>
```

Note: Run this command from database server. Make sure to change the tablespace_name to tablespace name on which DWADM has the quota. If DWADM user have quota on cists_01 tablespace, then exclude whole remap_tablespace clause from command.

3. Review the **impdp_user_sdo.log** file to make sure the tables are imported successfully.
4. After importing the tables, run the following SQL scripts from the ../BI2702/Spatial-Metadata folder.

```
sqlplus dwadm/<dwadm user password>@database-name
@copy_spatial_metadata.sql
```

```
sqlplus dwadm/<dwadm user password>@database-name
@clean_sdo_release_tbls.sql
```

5. Review the log files.

Upgrading Oracle Data Integrator Based ELT Component

This section describes the steps to upgrade the Oracle Data Integrator based ELT component:

1. [Prerequisites for Running Oracle Utilities Analytics Installer](#)
2. [Setting up Oracle GoldenGate](#)
3. [Copying and Decompressing Install Media](#)
4. [Starting the Installer](#)
5. [Upgrade Steps](#)
6. [Configuring Source Applications](#)
7. Upgrading Oracle Utilities Analytics Administration Tool Component

Before proceeding with upgrading the Oracle Utilities Analytics based ELT component, make sure the following are complete:

8. Installing JDK1.8.0(251)
9. Make sure that Oracle Fusion Middleware Infrastructure

Note that the Oracle Home path provided in the **Installation Location** page is used while installing the Oracle Data Integrator.

The infrastructure installation type is **Fusion Middleware Infrastructure**.

During the Oracle Data Integrator 12.2.1.4 installation, provide the same 'Oracle Home' path used as Oracle Home while installing Oracle Fusion Middleware Infrastructure. Select **Enterprise Installation** on the **Installation Type** page.

10. Installing Oracle Data Integrator 12.2.1.4.0.0 (both infrastructure and ODI)

Prerequisites for Running Oracle Utilities Analytics Installer

Before running the Oracle Utilities Analytics installer, take a backup of the customized views and recreate them manually after upgrading Oracle Utilities Analytics to v2.7.0.2.0.

Setting up Oracle GoldenGate

This section describes the following:

- [Setting up Oracle GoldenGate on Source Database Server](#)
- [Setting up Oracle GoldenGate on Target Database Server](#)
- [Setting up Oracle GoldenGate Monitor JAgent on Target and Source Database Servers](#)

Setting up Oracle GoldenGate on Source Database Server

Before proceeding, start the source database and ensure it is accessible. Bring down the source application server.

To set up each source instance:

1. Create a directory on the source database server. (Example: ../GoldenGate Home). and install Oracle GoldenGate in that directory. It is Oracle GoldenGate Home (OGG_Home) on the source database server.

Note: Note this directory location; it is used during the Oracle Utilities Analytics installation.

2. Install Oracle GoldenGate.

Download Oracle GoldenGate 19.1 from Oracle Software Delivery Cloud (<https://edelivery.oracle.com>).

For installation instructions, refer to the respective **Oracle GoldenGate 19.1** installation documentation.

3. Provide the Oracle GoldenGate Home location as the directory location created in the step 1.
4. Open a command terminal or window, and set the source ORACLE_SID and ORACLE_HOME variables.
5. Set the LD_LIBRARY_PATH.

In Unix:

```
export LD_LIBRARY_PATH=$ORACLE_HOME/lib:$LD_LIBRARY_PATH
```

6. In the Command window, change directory to the Oracle GoldenGate Home directory, and run the following command:

In Unix:

```
./ggsci
```

At the Oracle GoldenGate prompt, run the following commands in the order listed:

- `info all` - Verifies if the manager process is running
- `exit` - Exits Oracle GoldenGate

7. Make sure that the source database is in the archivelog mode.
8. Connect to the source database as **sys user** and run the following statements:

```
alter database add supplemental log data (primary key) columns;
alter system set enable_goldengate_replication=TRUE scope=both;
```

9. In the Command window, navigate to the Oracle GoldenGate home (OGG_Home) directory.
10. Open the GLOBALS file in the directory and add the below command:

```
EnableMonitoring
```

11. In the Command window, create a directory “diroby” in the OGG_Home directory.
12. Change directory to the Oracle GoldenGate Home directory. Run the following:
 - a. Steps in [Configuring Encrypting Data Using ENCKEYS Method](#).
 - b. Steps in [Generating Shared Secret Password](#).

Configuring Encrypting Data Using ENCKEYS Method

To configure for encrypting data using the ENCKEYS method:

1. Run the following command:

```
cd <OGG_HOME>
KEYGEN key_length n
```

The above command generates the key value based on the value specified in the parameter “n”. The key value has to be copied to ENCKEYS file against a logical name.

2. For each key value generated above, provide a logical name (Logical name should not be the same for two different key values). Enter the logical name space and then key value in the ENCKEYS file.
3. Repeat the step above for each key values generated.
4. Save the file with name ENCKEYS (upper case only) without any extension.

Example:

```
cd $OGG_HOME
./keygen 128 1
0x8CE55035DD6893205A7BD6773FA8E670
```

5. Open a new ASCII ENCKEYS file if it does not exist for adding a new entry or open an existing ENCKEYS text file to append.
6. Input the Logical name, space and key value generated.

Sample content of file ENCKEYS:

```
CCB1KEY 0x8CE55035DD6893205A7BD6773FA8E670
```

7. The source ENCKEYS file entry has to be appended to the intermediate server or target server which would be configured with the source system where target OGG is being configured.

Note: It is recommended to name Logical key name after <context_code>KEY.

Example: If context code is CCB1, it is recommended to name it as CCB1KEY.

Generating Shared Secret Password

To generate the shared secret password:

1. Run the following command:

```
cd <OGG_HOME>
ggsci
ENCRYPT PASSWORD <GG Owner password> <algorithm> ENCRYPTKEY
<key_name>
```

Example:

```
cd $OGG_HOME
./ggsci
```

```
GGSCI (hostname) 1> ENCRYPT PASSWORD CCB01SRC AES128 ENCRYPTKEY
CCB1KEY
Encrypted password:
AADAAAAAAAAAAIAVGNHBFGLGFCHBTCVBFJFHUEJGNCFAOAFEOFBALELISFOEIFWGRB
ZHCCMCYGYBDAZH
Algorithm used: AES128
```

2. Note the above generated ENCKEYS file logical name/key value, algorithm name used, and the generated encrypted password.

Setting up Oracle GoldenGate on Target Database Server

To set up Oracle GoldenGate on the target database server:

1. Create a directory on the target database server.

Example: ../GoldenGateHome

Oracle GoldenGate should be installed in this directory. It is **Oracle GoldenGate home (OGG_Home)** on the target Oracle Utilities Analytics database server.

Note: Make sure to note the directory location; it will be used in the Oracle Utilities Analytics installation.

2. Install Oracle GoldenGate and provide the GoldenGate Home location as the directory location created in the step 1.
3. In the Command window, set the target ORACLE_SID and ORACLE_HOME variables.

Set LD_LIBRARY_PATH using the following commands:

In Unix:

```
export LD_LIBRARY_PATH=$ORACLE_HOME/lib:$LD_LIBRARY_PATH
```

4. In the Command window, change the directory to the **GoldenGate home** directory and run the below command:

For Unix:

```
./ggsci
```

5. At the prompt, run the following commands in the order listed below:
 - info all - Verifies if the manager process is running
 - exit
6. Create a directory “diroby” in the OGG_Home directory.
7. In the Command window, navigate to the Oracle GoldenGate Home (OGG_Home) directory.
8. Edit the GLOBALS file in the <GG home> directory and add the following command:


```
EnableMonitoring
```
9. Navigate to the Oracle GoldenGate home (OGG_Home) directory.
10. If the ENCKEYS file does not exist:
 - a. Create and open a new ASCII ENCKEYS file.
 - b. Add the key value/values that are generated on the sources to the ENCKEYS file in target OGG home. This is done for the context codes for which source is configured.

A sample ENCKEYS file in target OGG home is as below:

```
CCB1KEY 0x8CE55035DD6893205A7BD6773FA8E670
```

Setting up Oracle GoldenGate Monitor JAgent on Target and Source Database Servers

Set up Oracle GoldenGate Monitor JAgent on Oracle Utilities Analytics GoldenGate server and on all the source application Oracle GoldenGate servers. The Oracle GoldenGate Monitor JAgent is used to automatically copy the generated Oracle GoldenGate scripts to both source and target Oracle GoldenGate GoldenGate Home directories, and to start the extract and replicate processes on source and target.

To setup Oracle GoldenGate Monitor JAgent on both target and source database servers:

1. Make sure Oracle GoldenGate is installed and manager is running.
2. Start the rmiregistry services using the following command:

```
rmiregistry 5559 &
```

Make sure to note down the port on which RMI server is started. The port number specified in the example is 5559. If it is not specified, the default port 1099 will be used.

3. Download Oracle GoldenGate Monitor and Veridata 12.2.1.2.0 from Oracle Software Delivery Cloud (<https://edelivery.oracle.com/osdc/faces/SoftwareDelivery>).
4. Run the Oracle GoldenGate Monitor and Veridata 12.2.1.2.0 installer.
 - a. Select the installation type as Oracle GoldenGate Monitor Agent.
 - b. Apply patch 26982776 on top of Oracle GoldenGate Monitor agent home before creating monitor instance.
5. Edit the Config.properties file in the <Oracle GoldenGate Monitor home>/oggmon/ogg_agent/cfg_templates and add/modify the below parameters.

```
<ACTUAL>      : jagent.host=localhost
```

```
<CHANGE TO>  : jagent.host=<<actual hostname on which OGG is installed>>
```

```
<ACTUAL>      : monitor.jmx.username=cmroot
```

```
<CHANGE TO>  : monitor.jmx.username=jmx_src
```

```
<ACTUAL>      : jagent.username=root
```

```
<CHANGE TO>  : jagent.username=<<OGG software installed OS user>>
```

```
<ACTUAL>      : jagent.rmi.port=5559
```

```
<CHANGE TO>  : jagent.rmi.port=5557 or any free port other than the one on which the rmiregistry is started
```

```
<ACTUAL>      : agent.type.enabled=OGGMON
```

```
<CHANGE TO>  : agent.type.enabled=OEM
```

```
<ACTUAL>      : jagent.backward.compatibility=true
```

```
<CHANGE TO>  : jagent.backward.compatibility=false
```

6. Navigate to <Oracle GoldenGate Monitor home>/oggmon/ogg_agent directory and run the following command:

In Unix:

```
export JAVA_HOME=<JDK home>
```

```
./createMonitorAgentInstance.sh
```

- a. You will be prompted to enter:
 - Oracle GoldenGate Home directory.
 - Path to be used for Oracle GoldenGate Monitor Agent instance.

It is recommended to provide a path (such as <Oracle GoldenGate Monitor home>/Agents/OGGMonitorInstance).

- A unique name to replace the timestamp in the name of the file used to start Oracle GoldenGate Monitor agent instance.

Provide a unique name to be used for this Oracle GoldenGate Monitor instance.

- Run the command below from <path used for Oracle GoldenGate Monitor instance provided in the step above>/bin.

Example location: <OGG Monitor home>/Agents/OGGMonitorInstance/bin

In Unix:

```
export JAVA_HOME=<JDK home>
./pw_agent_util.sh -jagentonly
```

- Enter the Oracle wallet password.

This password has to be entered as the password for the JAGENT while running the installer (for target gg), and while running the source configuration (for source gg).

Make sure to note the password and jagent.rmi.port value (JAgent Port). This information is required in subsequent installation.

- Create a folder with the Context_code name in <GG Home>/dirdat.

Example: If WAM2 is created for the WAM source, create a folder with name “WAM2” within the <GG Home>/dirdat/ folder.

- Navigate to <GG Home>/dirprm and edit jagent.prm file.

Replace COMMAND java with COMMAND <JDK Home>/bin/java.

This ensures that the correct version of java (1.8) is used while starting JAgent.

- Navigate to OGG_Home directory and run the following command at the Oracle GoldenGate prompt:

```
ggsci
```

- Start the jAgent process.

```
start jagent
```

Note: Export LIBPATH with jdk, OGG and RDBMS paths to start JAGENT in the AIX environment.

```
$JAVA_HOME/bin
$OGG_HOME
$RDBMS_HOME/lib
```

Example:

```
export LIBPATH=/usr/java8_64/bin:/u01/OGG_Home:/u01/app/
product/19.7/dbhome_1/lib:$LIBPATH
```

The logs for JAgent are created at the following (example) location.

```
<OGG Monitor home>/Agents/OGGMonitorInstance/logs
```

Copying and Decompressing Install Media

To download and decompress the install media:

1. Download the Oracle Utilities Analytics v2.7.0.2 Multiplatform part (**Oracle Utilities Analytics V2.7.0.2 Multiplatform.zip**) from Oracle Software Delivery Cloud (<https://edelivery.oracle.com>).
2. Create a temporary directory, such as c:\OUA\temp or /OUA/temp (referred to <TEMPDIR> below). This directory must be located outside any current working Oracle Utilities application environment. All files that are placed in this directory as a part of the installation can be deleted after completing a successful installation.
3. Unzip **Oracle Utilities Analytics V2.7.0.2 Multiplatform.zip** to <TEMPDIR>.

Starting the Installer

For an AIX operating system, set the following environment variable before starting the Oracle Utilities Analytics installation:

```
export IBM_JAVA_OPTIONS="-Xmx2g -XX:PermSize=64m -XX:MaxPermSize=3200m"
```

To start the Oracle Data Integrator Based ETL component:

1. Navigate to the temporary folder containing the installer.
2. Run the following command from this folder:

```
java -jar <TEMPDIR>/OUA_2.7.0.2_generic.jar -logLevel finest
```

Note: The minimum JDK required for running the Oracle Utilities Analytics installer is JDK 1.8.

The **Welcome** page appears.

3. Review this information before you begin the installation. Click **Next** to continue with the installation.
4. Complete the tasks on the navigation pane.

Each item in the navigation pane represents a specific installer screen that prompts you for information required to install the software.

- If you select **Oracle Data Integrator Based ETL** as an **Installation Type**, define the following:
 - Database and Java Home Details
 - Target Database Connection Details
 - Oracle Data Integrator Home and Schema Details
 - Oracle Data Integrator Agent and Repository Details
 - Target GoldenGate Details
 - Target JAgent Details

Upgrade Steps

To install Oracle Data Integrator Based ETL:

1. Run the Oracle Utilities Analytics Installer. Review the information on the **Welcome** page before you begin the installation.

2. Click **Next** to continue with the installation.
3. On the **Installation Inventory** page, provide the inventory location. Click **Next**.
4. On the **Installation Location** page define an installation location/directory and click **Next**.
5. On the **Languages Selection** page, make sure to select “English”. Click **Next**.
6. On the **Select Installation Type** page, select **ODI Based ETL**. Click **Next**.
Note that the options on the left navigation pane change based on the selected installation type.
7. Select **Oracle Data Integrator Based ETL** as the **Installation Type**.
8. Define the following and click **Next**.
 - Database and Java Home Details
 - Target Database Connection Details
 - Oracle Data Integrator Home and Schema Details
 - Oracle Data Integrator Agent and Repository Details
 - Target GoldenGate Details
 - Target Jagent Details
9. On the **Database and Java Home Details** page, enter the following in the respective fields. Click **Next**.

Field Name	Description	Value
Database Client Home	The database client home location	Example: /u01/app/product/19.7/dbhome_1
Java Home	The JDK home location	Provide location of JDK 1.8 Example: /u01/jdk_1.8.0_251

10. On the **Target Database Connection Details** page, enter the following in the respective fields. Click **Next**:

Field Name	Description	Value
Host	Host name of the server where the database resides	Oracle Utilities Analytics Database Server
Port	Database port number on the database server used for connecting to the database	Oracle Utilities Analytics Database Port. The default value is 1521.
Service Name	Service name for the database	
Target Schema Password	Password for the target schema (DWADM)	
Confirm Target Schema Password	Confirm the password for the target schema (DWADM) here	
Metadata Schema Password	Password for the metadata schema (MDADM)	

Field Name	Description	Value
Confirm Metadata Schema Password	Confirm the password for the metadata (MDADM) schema here	

11. On the **ODI Home and Schema Details** page, enter the following in the respective fields. Click **Next**:

Field Name	Description	Value
ODI Home	Directory where Oracle Data Integrator (ODI) has been installed	Example: /u01/Middleware
Supervisor User	Name of the Oracle Data Integrator Supervisor	SUPERVISOR
Supervisor Password	Password of the Oracle Data Integrator Supervisor	SUPERVISOR user password
Confirm Supervisor Password	Confirm the password of the Supervisor here	
Master Repository Schema Name	Oracle Data Integrator master repository schema name	OUA_MASTER
Master Repository Schema Password	Password of the master repository schema	OUA_MASTER user's password
Confirm Master Repository Schema Password	Confirm the password of the Oracle Data Integrator master repository schema here	
Work Repository Schema Name	Oracle Data Integrator work repository schema name	OUA_WORK
Work Repository Schema Password	Password of the work repository schema	OUA_WORK user's password
Confirm Work Repository Schema Password	Confirm the password of the Oracle Data Integrator work repository schema here	

12. On the **ODI Agent and Details** page, enter the following details in the respective fields. Click **Next**:

Field Name	Description	Value
ODI Agent Host	Host on which Oracle Data Integrator WebLogic domain is created.	Oracle Data Integrator server host name
ODI Agent Port	Port on which Oracle Data Integrator WebLogic agent is configured to run. This is the port of Oracle Data Integrator WebLogic Managed Server Port.	Provide available port and ensure to use the same port while creating Oracle Data Integrator managed server.

13. On the **Target GoldenGate Details** page, enter the following details in the respective fields. Click **Next**.

Field Name	Description	Value
GoldenGate Host	Host on the Oracle GoldenGate Manager	
GoldenGate Home	This is the Oracle GoldenGate installed location	Example: /opt/local/ggs_18.1
Target Database Home	The database home installed location on the target database server. In case Oracle GoldenGate for target is not installed on the OUA database server, provide oracle client home location on the server on which Oracle GoldenGate is installed.	Example: /u00/oracle/app/oracle/product/19.7/dbhome_1
GoldenGate Manager Port	Port number on which Oracle GoldenGate Manager is running on the Oracle GoldenGate host.	The default value is 7830
GoldenGate Algorithm	Algorithm configured in Oracle GoldenGate on the target database server.	The default value is BLOWFISH.
GoldenGate Encryptkey	Encrypt Key configured in Oracle GoldenGate on the target database server.	The default value is "DEFAULT".
GoldenGate Shared Secret	Shared secret key configured in Oracle GoldenGate on the target database server.	Go to the Oracle GoldenGate prompt and run the command: encrypt password <password of MDADM user>, encryptkey DEFAULT Provide the result as the value.

14. On the **Target JAgent Details** page, enter the following details in the respective fields. Click **Next**.

Field Name	Description	Value
JAgent Host	Host of Oracle GoldenGate Monitor JAgent	
JAgent GoldenGate	Oracle GoldenGate installed location where Oracle GoldenGate Monitor JAgent is running.	Example: /opt/local/ggs_19C

Field Name	Description	Value
JAgent Port	Use the JAgent RMI port which is defined in the config properties file.	
JAgent User	OS user used to configure JAgent	
JAgent Wallet Password	JAgent Wallet password	
Confirm JAgent Wallet Password	Re-enter JAgent Wallet password to confirm	

15. On the **Java Home Location** page, provide the Java Home details that were provided earlier. Click **Next**.

16. On the **Installation Summary** page, verify the installation options you selected.

17. Click **Install** to begin the installation.

To change any configurations before starting the installation, use the navigation pane and select the topic to edit.

The **Installation Progress** page displays the progress of the installation. Operations being performed as a part of the installation are logged to the terminal from which the installer was run. The detailed logs of the installation are also available in the logs/system directory under the installation location.

To quit before the installation is complete, click **Cancel**. Doing so will result in a partial installation; the portion of the software that was installed on your system before you click **Cancel** will remain on your system, and you will have to remove it manually.

18. On the **Installation Completed** page, click **Finish** to close the installer.

The Oracle Data Integrator based ETL is now installed.

Running Post-Upgrade Script

To run the post-upgrade script:

1. Login to ODI Client and navigate to **Designer > Load Plans and Scenario** folders.
2. Expand **Framework > Data Correction**.
3. Manually run B1_MDFIX_#### and B1_DATAFIX_##### in global context in the sequence mentioned below.
 - B1_MDFIX_27000
 - B1_MDFIX_27003
 - B1_MDFIX_27004
 - B1_MDFIX_27005
 - B1_MDFIX_27006
 - B1_MDFIX_27007
 - B1_MDFIX_27010
 - B1_DATAFIX_270
 - B1_DATAFIX_27009
 - B1_DATAFIX_27010

- B1_DATAFIX_270010
- B1_DATAFIX_27000

Note: There may be an error message “SnpScen.getScenarioLastVersion: SnpScen does not exist” while executing the B1_DATAFIX_27000 scenario. Ignore it and proceed further. The error is due to few existing older objects that are deprecated as of the 2.7.0.2.0 release. Except for the step with an obsolete reference, all necessary steps in that scenario will be executed successfully.

- Run the B1_DROP_NMS_WAM_MVS_270012 scenario if either Oracle Utilities Network Management System or Oracle Utilities Work and Asset Management source is configured.
 - Expand **Framework > Data correction > B1_DROP_NMS_WAM_MVS_270012**.
 - Right-click **B1_DROP_NMS_WAM_MVS_270012** and click **Run**.
 - Select the appropriate context (Oracle Utilities Network Management System or Oracle Utilities Work and Asset Management).
 - Click **OK**.
- Backfilling of Storm Key** column in Oracle Utilities Network Management System star schema (only if Oracle Utilities Network Management System source is configured).
 - As a part of the 2.7.0.2.0 release, the Storm dimension CD_STORM has been modified to have the Control Zone as a part of the natural key. As a result, changes have been made to the ETL mappings of the dimension and 12 facts which are dependent on this dimension. While these ETL component changes will take care of the incremental data changes post the upgrade, the modification to existing data will be taken care of the ODI procedure B1_NMS_FACT_STORM_KEY_UPD_2702.
 - The execution of the procedure B1_NMS_FACT_STORM_KEY_UPD_2702 is optional and should be done only if the customer decides to refresh STORM_KEY value for existing rows as per new logic. If more than one context is configured, this scenario needs to be triggered for each configured context.
 - Perform the following steps to run the B1_NMS_FACT_STORM_KEY_UPD_2702 procedure:
 - Check that the Storm dimension must be loaded till the checkpoint timestamp.
 - Enter the appropriate context as below:


```
select entity_name, status_flg, max(slice_end_dttm) -1/
(24*60*60)
from mdadm.b1_jobs_vw
where entity_name = 'CD_STORM' and context_cd = '<context
code>'
group by entity_name, status_flg;
```

The value for max(slice_end_dttm) should be same as the LAST_UPDATE_TS column value in the B1_CHECKPOINT table fetched below.

```
select max(last_update_ts) from mdadm.b1_checkpoint
where group_name like '<context code>%';
```
 - Make that B1_RUN_ALL is not running.
 - Disable all Oracle Utilities Network Management System facts from the Admin tool and ensure that all running fact jobs are completed.
 - Navigate to **ODI Designer > Load Plan and Scenarios > Accelerators - Data Correction**.
 - Right-click **B1_NMS_FACT_STORM_KEY_UPD_2702 Version 001** and click **Run**. Select the appropriate context.

- g. Enable all Oracle Utilities Network Management System facts from the Admin tool after running the procedure.
- h. Start **B1_RUN_ALL**.

Configuring Source Applications

This section describes the instructions to be followed to configure source applications.

- [Configuration Steps](#)

Bring down the source application server, and ensure the source applications are stopped but source databases are up and accessible.

Configuration Steps

To configure the source applications:

1. Register a source application.

For instructions to register a source, refer to the **Registering a Source** section in **Chapter 5: Configuring Oracle Utilities Analytics** in *Oracle Utilities Analytics Administration Guide*.

2. Make sure to use the same context_codes to configure the existing sources during the upgrade.
3. Run the B1_INITIAL_SETUP_PKG package.

Note: It is recommended to run B1_INITIAL_SETUP_PKG only once (after all the sources have been configured or after at least one source is configured).

 - a. Login to Oracle Data Integrator Studio.
 - b. Navigate to **Designer > Load Plans and Scenarios > Framework**.
 - c. Right-click B1_INITIAL_SETUP_PKG, select GLOBAL context code, and click **Run**.
4. Start all Oracle GoldenGate processes on source and target.
 - a. Login to each source application Oracle GoldenGate server.
 - b. Navigate to the respective Oracle GoldenGate Home directory.
 - c. Start manager, JAgent, and all respective context extract processes.
 - d. Login to the target (Oracle Utilities Analytics) GoldenGate server.
 - e. Navigate to the Oracle GoldenGate Home directory.
 - f. Start manager, jagent and all respective context extract processes.

Upgrading Oracle Utilities Analytics Administration Tool Component

Oracle Utilities Analytics Administration Tool is an Oracle Application Express (APEX) based configuration tool used to configure Oracle Utilities Analytics.

This section describes how to install the tool to configure Oracle Utilities Analytics and change the default password of the Admin user.

- [Prerequisites](#)
- [Installation Steps](#)
- [Changing Default Password of Admin User](#)

Note: Install Oracle Utilities Analytics Administration component on the Oracle Utilities Analytics database server.

Prerequisites

To remove the previously created Apex workspace from database:

1. Connect to the database as SYSTEM user.
2. Run the following PL/SQL procedure.

```
BEGIN
APEX_INSTANCE_ADMIN.REMOVE_WORKSPACE('OBIU_ADM');
END;
/
```

3. Make sure no workspace with “OBIU” exists in the database.

```
select WORKSPACE from APEX_WORKSPACES where WORKSPACE like
'%OBIU%';
```

Note: No rows should be returned from this query.

4. Uninstall **ords** from the database and from WebLogic if it is already installed.
 - a. Remove **ords.war** and **i.war** apps from APEX WebLogic console.
 - a. Login to APEX WebLogic console.
 - b. Navigate to **Deployments > Control**.
 - c. Click **Stop** and select **Force Stop Now**.
 - d. Click **Yes**.
 - e. On the **Configuration** tab, click **Lock and Edit**.
 - f. Under **Deployments**, select both **i** and **ords**.
 - g. Click **Delete**.
 - h. Confirm deletion and click **Activate Changes** to activate the changes.
 - b. Uninstall the existing **ords.war** from the database.
 - a. Navigate to the **ords.war** (ords.3.0.6.178.08.46) file location in server.

Example:

```
cd /u01/apex_19/apex_listener
```

- b. Run the following command:

```
java -jar ords.war uninstall
```

Note: Use JDK1.8 to run the command.

Provide the necessary inputs.

```
bash-4.2$ cd /scratch/bi_oradata_01/apex_setup/apex_listener
bash-4.2$ java -jar ords.war uninstall
Enter the name of the database server (slic14utn.us.oracle.com):
Enter the database listener port (1521):
Enter 1 to specify the database service name, or 2 to specify the database SID (1):
Enter the database service name (SLT72701):
Please login with SYSDBA privileges to verify Oracle REST Data Services schema.
Enter the username with SYSDBA privileges to verify the installation (SYS):
Enter the database password for SYS:
Confirm password:
Uninstalling Oracle REST Data Services
... Log file written to /scratch/bi_oradata_01/apex_setup/apex_listener/logs/ords_uninstall_core_2019-05-17_234904_00800.log
Completed uninstall for Oracle REST Data Services. Elapsed time: 00:00:16.953
bash-4.2$
```

Installation Steps

To install the Oracle Utilities Analytics Administration Tool, download Apex 20.1. Copy it to the server where you want to set it up under the /u01/temp/apex_20.1 directory.

```
@apexins.sql <Tablespace name> <Tablespace name> <Temp Tablespace name> /i/
```

Example:

```
@apexins.sql CISTS_01 CISTS_01 TEMP /i/
```

Run the following from SQLPlus prompt using the same location.

```
@apex_epg_config.sql <directory path of apex 20.1 software>
```

Example:

```
@apex_epg_config.sql /u01/APEX_20.1/
@apxchpwd.sql
```

To install Apex with ORDS for the first time:

1. Download Apex 20.1. Copy it to the server where you want to set it up under the /u01/apex_20.1 directory.
2. Connect to the Oracle Utilities Analytics database as the **sys user** and run the following commands:

```
SELECT DBMS_XDB.GETHTTPPORT FROM DUAL; -- if returns 8080 then do
following
EXEC DBMS_XDB.SETHTTPPORT(0);
SELECT DBMS_XDB.GETHTTPPORT FROM DUAL;
```

This query should result in zero(0).

3. Navigate to the Apex unzipped path and run the following scripts. Connect to Oracle Utilities Analytics database as a sys user.

```
@apexins.sql <Tablespace name> <Tablespace name> <Temp Tablespace name> /i/
```

Example:

```
@apexins.sql CISTS_01 CISTS_01 TEMP /i/
@apxchpwd.sql
ALTER USER APEX_PUBLIC_USER ACCOUNT UNLOCK;
ALTER USER APEX_PUBLIC_USER IDENTIFIED BY APEX_PUBLIC_USER;
@apex_rest_config.sql
```

Make sure to note the password for these two users: APEX_Listener user and APEX_REST_PUBLIC_USER.

4. Import the Admin Tool to configure Oracle Data Integrator.
 - a. Unzip the Oracle Utilities Analytics v2.7.0.2.0 Multiplatform.zip file. The file includes the AdminTool folder.
 - b. Create ../AdminTool directory on the database server and copy the contents of the AdminTool directory (from the zip file) to this directory.
 - c. Navigate to the ../AdminTool directory (cd ../AdminTool)
 - d. Connect as the system user. Run the following scripts:
 - a. Create workspace and configure the users.
`@CreateAppWorkspace.sql`
 - b. Import the application.
`@DeployAdminApp.sql`
 - c. Deploy supporting objects.
`@DeploySupportingObjects.sql`
5. Download Oracle Rest Data service. Copy it to the server where you want to set it up under the ords-19.2.0.199.1647.zip directory.
6. Navigate to the /u01/apex_listner directory. Unzip the ords-19.2.0.199.1647.zip file.
7. Create a directory on the server to configure Apex.
 Example: `mkdir /u01/apex_configuration`
8. Navigate to the /u01/apex_listner directory.
`cd /u01/apex_listner`
9. Run the following command:
`java -jar ords.war install advanced`

Note: Use JDK1.8 or later to run this command.
10. Run the following from the apex_listner directory.
`java -jar ords.war static <apex20.1 unzipped path>/apex/images`

Example:
`java -jar ords.war static /u01/apex_20.1/apex/images`

Note: The command creates the **i.war** file.
11. Install WebLogic 12.2.1.4 (if it does not exist already) with JDK 1.8.0+.
12. Create the WebLogic domain to deploy apex.
 - a. Navigate to <12.2.1.4_weblogic_home>/oracle_common/common/bin directory.
 - b. Run the following command:
`./config.sh`

The **Fusion Middleware Configuration Wizard** window appears.

- c. On the **Create Domain** tab, select **Create a new domain**. Click **Next**. Do not change the domain location.
- d. On the **Template** tab, select the template category. Click **Next**.
- e. On the **Administrator Account** tab, provide the WebLogic username and password. Make sure to note down the username and password. Click **Next**.
- f. On the **Domain Mode and JDK** tab, select **jdk1.8** and click **Next**.
- g. On the **Advanced Configuration** tab, select the **Administration Server** and **Topology** options. Click **Next**.
- h. On the **Administration Server** tab, provide the available ports as **Listen Port**. Click **Next**.

The screenshot shows the 'Administration Server' configuration page. The left sidebar lists the configuration steps: Create Domain, Templates, Administrator Account, Domain Mode and JDK, Advanced Configuration, **Administration Server** (selected), Managed Servers, Clusters, Server Templates, Machines, Virtual Targets, Partitions, Configuration Summary, Configuration Progress, and End Of Configuration. The main area contains the following fields:

- Server Name: AdminServer
- Listen Address: All Local Addresses
- Listen Port: 12000
- Enable SSL: ☐
- SSL Listen Port: (empty)

A note at the bottom states: "Port number must be between 1 and 65535, and different from SSL listen port and coherence port." Navigation buttons at the bottom include Help, < Back, Next >, Finish, and Cancel.

- i. On the **Managed Servers** tab, click **Add** and provide values as shown below. Click **Next**.

The screenshot shows the 'Managed Servers' configuration page. The left sidebar is similar to the previous page, with 'Managed Servers' selected. The main area features a table with columns: Server Name, Listen Address, Listen Port, Enable SSL, and SSL Listen Port. Above the table are buttons for Add, Clone, Delete, and Discard Changes. The table contains one entry:

Server Name	Listen Address	Listen Port	Enable SSL	SSL Listen Port
apex_server1	All Local Addresses	12002	<input type="checkbox"/>	Disabled

Navigation buttons at the bottom include Help, < Back, Next >, Finish, and Cancel.

- j. Click **Next** on the **Clusters, Server Templates, Machines, Virtual Targets** and **Partitions** tabs respectively. There are no changes to these pages.
 - k. On the **Configuration Summary** tab, click **Create** to create the domain.
13. Login to WebLogic console and click **Lock & Edit**.
 14. Click **Install**.
 15. Enter the following path and select the **ords.war** file.
/u01/apex_listner
 16. In the **Servers** section, select the **apex_server** checkbox and click **Next**.
 17. Select the options as shown below:

Install Application Assistant

Back Next Finish Cancel

Optional Settings
You can modify these settings or accept the defaults.

General
What do you want to name this deployment?
Name: ords

Security
What security model do you want to use with this application?
☐ DD Only: Use only roles and policies that are defined in the deployment descriptors.
☒ Custom Roles: Use roles that are defined in the Administration Console; use policies that are defined in the deployment descriptor.
☐ Custom Roles and Policies: Use only roles and policies that are defined in the Administration Console.
☐ Advanced: Use a custom model that you have configured on the realm's configuration page.

Source accessibility
How should the source files be made accessible?
☒ Use the defaults defined by the deployment's targets

Recommended selection.
☐ Copy this application onto every target for me

During deployment, the files will be copied automatically to the managed servers to which the application is targeted.
☐ I will make the deployment accessible from the following location

Location: /scratch/bi_oradata_01/Softwares/apex_listner/ords.war

Provide the location from where all targets will access this application's files. This is often a shared directory. You must ensure the application files exist in this location and that each target can reach the location.

Back Next Finish Cancel

18. Select the options as shown below. Click **Next**.

Install Application Assistant

Back Next Finish Cancel

Review your choices and click Finish
Click Finish to complete the deployment. This may take a few moments to complete.

Additional configuration
In order to work successfully, this application may require additional configuration. Do you want to review this application's configuration after completing this assistant?
☐ Yes, take me to the deployment's configuration screen.
☒ No, I will review the configuration later.

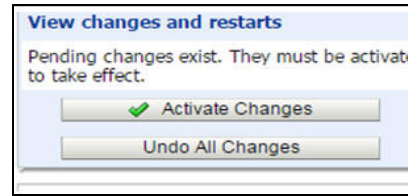
Summary
Deployment: /scratch/bi_oradata_01/Softwares/apex_listner/ords.war
Name: ords
Staging mode: Use the defaults defined by the chosen targets
Security Model: CustomRoles: Use policies that are defined in the deployment descriptor. Create custom role mappings later.

Target Summary

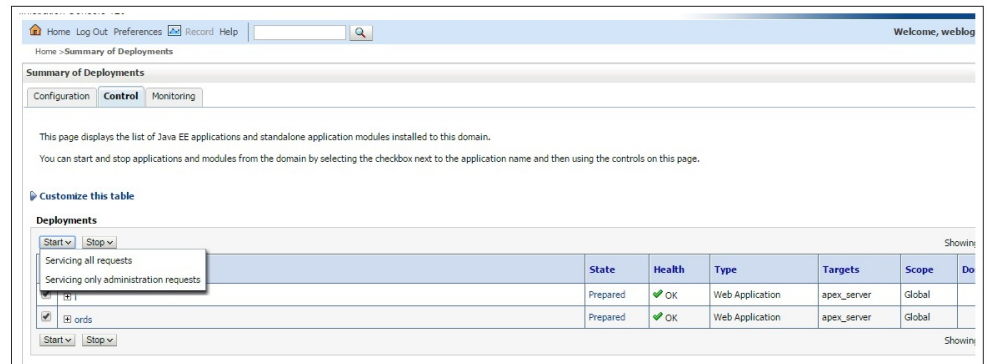
Components	Targets
ords	apex_server

Back Next Finish Cancel

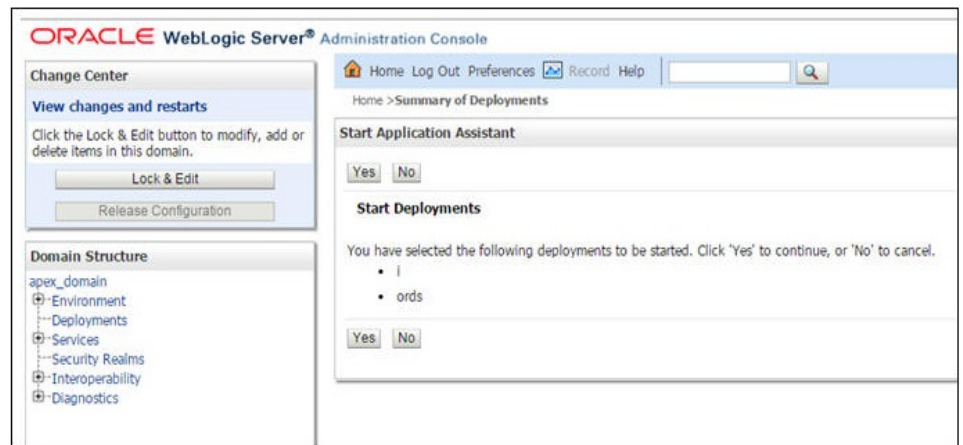
19. Click **Activate Changes**.



20. Repeat the steps 13 to 20 to deploy the **i.war** file.
21. Login to the WebLogic console and navigate to **Deployment > Monitoring**.
22. Select **i** and **ords**. Click **Start > Servicing All Requests**.



23. Click **Yes**.



24. Restart the Admin and Managed servers.

The credentials to access the tool are:

User ID: Admin

Password: Admin_123

Changing Default Password of Admin User

This section describes the APEX API used to change the password of the admin user. The script should be run after connecting to the database as user SYSTEM.

Replace the string 'New password' with the new password for the admin account before running the script.

```

begin
wwv_flow_api.set_security_group_id(p_security_group_id=>nvl(wwv_flow_application_install.get_workspace_id,2090606133849294));
end;
/

begin apex_util.edit_user(
p_user_id      => '2090514487849294', p_user_name => 'ADMIN',
p_web_password => 'New password', p_new_password => 'New password'
);
end;
/

commit;
/

```

Note: It is strongly recommended to change the default password after logging in.

Upgrading Oracle Utilities Analytics Dashboards Component

Make sure that the same operating system user used to install the prerequisite software is used to install the Oracle Utilities Analytics Dashboards component as well.

The Oracle Utilities Analytics Dashboards component is installed on the Oracle Utilities Analytics application server.

This section describes how to install the dashboards component of Oracle Utilities Analytics.

- [Prerequisites](#)
- [Copying and Decompressing Install Media](#)
- [Starting the Installer](#)
- [Upgrade Steps](#)
- [Deploying Web Catalog](#)
- [Deploying Repository \(RPD\) File](#)
- [Deploying Writeback Templates in OAS Domain](#)
- [Configuring and Deploying the MapViewer](#)
- [Enabling WriteBack](#)
- [Enabling Auto Complete Feature in Oracle Analytics Server](#)

Prerequisites

Oracle Utilities Analytics Dashboards component v2.7.0.2 requires Oracle Analytics Server version 5.5.0/6.4.0.

Note: OBIEE 11.1.1.9 should be upgraded to Oracle Analytics Server 5.5.0/6.4.0 before proceeding with Oracle Utilities Analytics Dashboard component upgrade.

Copying and Decompressing Install Media

To download and decompress the install media:

1. Download the Oracle Utilities Analytics Dashboards component v2.7.0.2 (**Oracle Utilities Analytics V2.7.0.2 Multiplatform.zip**) from the Oracle Software Delivery Cloud (<https://edelivery.oracle.com>).

2. Create a temporary directory, such as c:\OUA\temp or /OUA/temp (referred to <TEMPDIR> below).

This directory must be located outside any current working Oracle Utilities application environment. All files that are placed in this directory as a part of the installation can be deleted after completing a successful installation.

3. Unzip **Oracle Utilities Analytics V2.7.0.2 Multiplatform.zip** to <TEMPDIR>.

Starting the Installer

To start the installer:

1. Navigate to the temporary folder where you downloaded the install.

Run the following command from the folder (VNC client for Linux platform):

```
java -jar <TEMPDIR>/OUA_2.7.0.2_generic.jar -logLevel finest
```

Note: The minimum JDK required for running the Oracle Utilities Analytics installer is JDK 1.8.

2. On the **Welcome** page, review the information before you begin the installation.
3. Click **Next** to continue with the installation.
4. Complete the installation by following the tasks on the navigation pane.

Each item in the navigation pane represents a specific installer screen that prompts you for the information required to install the software.

Upgrade Steps

To install the Dashboards component:

1. Run the Oracle Utilities Analytics Installer.
2. On the **Welcome** page, review the available information before you begin the installation.
3. On the **Installation Inventory** page, provide the inventory location. Click **Next**.
4. On the **Languages Selection** page, make sure “English” is selected. Click **Next**.
5. On the **Installation Location** page, provide the installation location and click **Next**.

Note: The specified Oracle home directory must be an empty directory or a directory where the OUA ODI ETL 2.7.0.2 component was installed successfully.

6. On the **Installation Type** page, select **Dashboards** and click **Next**. Enter the following details in the respective fields and click **Next**.

Note: Based on the selected installation type, the options on the left navigation panel change. When you select **Dashboard** as an **Installation Type**, you need to define **Database and Java Home Details**, **Target Database Connection Details** and **OBIEE Home Details**.

Field Name	Description	Value
Database Client Home	Database client home location	Example: /u01/app/product/19.7/ dbhome_1

Field Name	Description	Value
Java Home	JDK home location	JDK 1.8 location Example: /u01/jdk_1.8.0_251

7. On the **Target Database Connection Details** page, enter the following details in the respective fields and click **Next**.

Field Name	Description	Value
Host	The host name of the server where the database resides.	Oracle Utilities Analytics Database Server
Port	The database port number on the database server used for connecting to the database.	Oracle Utilities Analytics Database Port. The default value is 1521.
Service Name	The service name for the database	
Target Schema Password	The password for the target schema (DWADM).	
Confirm Target Schema Password	Confirm the password for the target schema (DWADM) here.	
Metadata Schema Password	The password for the metadata schema (MDADM).	
Confirm Metadata Schema Password	Confirm the password for the metadata (MDADM) schema here.	

8. On the **OBIEE Home Details** page, enter the following details in the respective fields and click **Next**.

Field Name	Description	Value
BI Home	The location on the disk where OAS is installed.	Example: /u01/Middleware/bi
BI Domain Home	The domain Home location under the directory where OAS is installed.	Example: /u01/domains/oas_domain
WebLogic Host	The hostname on which WebLogic server for OAS is running.	

Field Name	Description	Value
WebLogic Port Number	A unique port number within the system that is assigned to the HTTP port. This port number is used as a part of the client URL request to connect to the host. It is the OAS WebLogic console admin port number.	Example: 7001
WebLogic User	WebLogic domain login user name.	

Note: You will be prompted for the WebLogic user's password after installation.

9. On the **Java Home Location** page provide the Java Home details that were provided earlier. Click **Next**.
10. On the **Installation Summary** page, verify the installation options and click **Install** to begin the installation.

For any changes to the configuration before starting the installation, use the navigation pane and select the topic to edit.

11. The **Installation Progress** page allows you to view the progress of the installation. Operations being performed as part of the installation are logged to the terminal from which the installer was run. Detailed logs of the installation are also available in the logs/system directory under the installation location.

To quit before the installation is complete, click **Cancel**. Doing so will result in a partial installation; the portion of the software that was installed on your system before you click **Cancel** will remain on your system, and it needs to be deleted manually.

12. On the **Installation Completed** page, click **Finish** to close the installer.

The Dashboards component is installed successfully.

Deploying Web Catalog

Take the backup of existing BI Publisher reports from the catalog location. Oracle Analytics Server no longer supports offline mode to deploy catalogs. Deploy the latest catalogs into the environment via online mode.

Make sure to take a backup of any custom catalog related files in this directory in a separate location.

To deploy the web catalogs:

1. Navigate to <OAS_DOMAIN_HOME>/bitools/bin.
2. Use runcat.sh to deploy the catalogs.
3. Create a new credentials file boot.txt at a standard location, typically in the location where runcat.sh is executed.

```
$OAS_DOMAIN_HOME/bitools/bin/boot.txt file login=admin user
pwd=admin password
```

4. For each catalog run the following from the Oracle Analytics Server domain/bitools/bin location.

```
./runcat.sh -cmd unarchive -folder "/shared" -online http://<OAS
Host>:<OAS_SERVER_PORT>/analytics-ws/saw.dll -credentials boot.txt
-inputFile "<install_dir>/Catalog/<Catalog Name>" -overwrite all
```

Example:

```
cd $OAS_DOMAIN_HOME/bitools/bin
./runcat.sh -cmd unarchive -folder "/shared" -online http://
localhost.localdomain:9502/analytics-ws/saw.dll -credentials
boot.txt
-inputFile "/u01/OUA_DASHBOARD/Catalog/Sample NMS DV
Projects.Catalog" -overwrite all
.....
Command 'unarchive' completed successfully. Return status from
Catalogmanager command : 0
```

5. Deploy 'Spatial Metadata Catalog' under System folder.

```
./runcat.sh -cmd unarchive -folder "/system" -online http://
<<OAS_Host>>:<<OAS_SERVER_PORT>>/analytics-ws/saw.dll -credentials
boot.txt -inputFile "<install_dir>/Catalog/Spatial
Metadata.Catalog" -overwrite all
```

Example:

```
./runcat.sh -cmd unarchive -folder "/system" -online http://
localhsot.localdomain:9502/analytics-ws/saw.dll -credentials
boot.txt
-inputFile "/u01/OUA_DASHBOARD/Catalog/Spatial Metadata.Catalog" -
overwrite all
```

Note that the 'inputFile' parameter must be in double quotes all the catalog filename includes spaces.

Deploying Repository (RPD) File

If no changes are made to the deployed RPD, take the RPD file from the following location, where <install_dir> is the Oracle Utilities Analytics Dashboard Component installation directory:

<install_dir>/Reports/rpd/ UtilitiesBusinessAnalytics.rpd

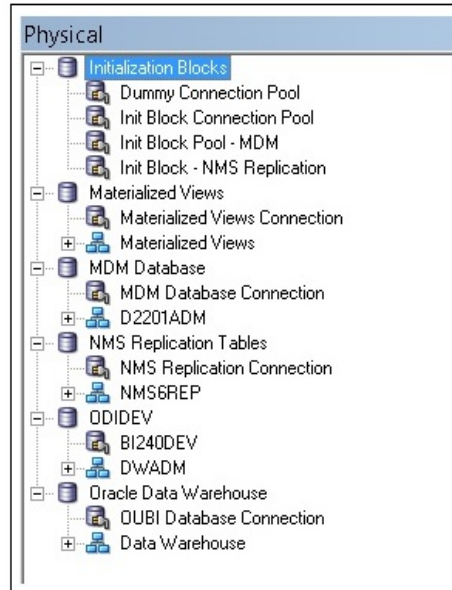
Note: If you are using the default Oracle Utilities Analytics repository, you must change the default password the first time you open it in the Administration Tool.

If it was merged, do the required database changes with the merged RPD. Copy this RPD file to the Windows machine on which Oracle Business Intelligence Developer Client Tool (12.2.5.5.0) is installed.

To deploy the RPD file:

1. Make sure Oracle Analytics Server Client Tool (12.2.5.5.0) is installed on the Windows machine before proceeding.
2. Click **Start > Programs > Oracle Business Intelligence > Administration**.
3. Click **File > Open > Offline...** to open the RPD in offline mode.
4. Provide the RPD password. The default password is "oracle123".

5. Double-click the **Connection Pools** to edit them.



- In the **Init Block Connection Pool** group, enter the following:
 Datasource name = BI Database name
 User name = DWREAD
 Password = DWREAD User password
- In the **Init Block Pool - MDM** group, provide the following (only for Oracle Utilities Meter Data Management):
 Datasource name = MDM database name
 User name = CISUSER
 Password = CISUSER User password
- In the **Init Block Pool - NMS Replication** group, provide the following (only for Oracle Utilities Network Management System):
 Datasource name = BI database name
 User name = DWREAD
 Password = DWREAD User password
- In the **Materialized Views Connection** group, enter the following:
 Datasource name = BI Database name
 User name = DWREAD
 Password = DWREAD User password
- In the **MDM Database Connection** group, provide the following (only for Oracle Utilities Meter Data Management):
 Datasource name = MDM database name
 User name = CISUSER
 Password = CISUSER User password

- In the **NMS Replication Tables** group, provide the following (only for Oracle Utilities Network Management System):
 - Datasource name = BI database name
 - User name = DWREAD
 - Password = DWREAD User password

Note: The default schema name is NMS1REP. If the replication schema name is different, then rename it.
 - In the **ODIDEV Connection Pool** group, provide the following:
 - Datasource name = BI database name
 - User name = DWUSER
 - Password = DWUSER User password
 - In the **OUBI Database Connection** group, provide the following:
 - Datasource name = BI database name
 - User name = DWREAD
 - Password = DWREAD User password
6. Click **Save**.

Note: Click **Yes** when you see the prompt '*Do you wish to check global consistency?*' and ignore any warnings that appear after consistency check is complete.
 7. Copy the modified RPD back to the <install_dir>/Reports/rpd/UtilitiesBusinessAnalytics.rpd where <install_dir> is the Oracle Utilities Analytics Dashboard Component installation directory.
 8. Login to the server where OAS is installed. Navigate to <OAS_DOMAIN>/bitools/bin.
 9. Run the following command to deploy the RPD:

In Unix:

```
./datamodel.sh uploadrpd -I <OUA home>/Reports/rpd/UtilitiesBusinessAnalytics.rpd -W <rpd password, default password is oracle123> -U <Weblogic user name of OAS domain> -P <Weblogic password of OAS domain> -SI ssi
```
 10. Run the following commands from <OAS_DOMAIN>/bitools/bin directory to stop and start the OAS domain services respectively.


```
./stop.sh
./start.sh
```

Deploying Writeback Templates in OAS Domain

WriteBack template is an xml file that takes user inputs and writes it directly to the database using SQL commands. Copy these WriteBack template files to the following location:

<OAS_INSTALL_DIR>/bifoundation/web/msgdb/l_en/custommessages/

Example:

```
cp -r <install_dir>/writeback/wbtemplates/* $OAS_INSTALL_DIR/bifoundation/web/msgdb/l_en/custommessages/
```

If the directory structure in the Oracle Analytics Server domain does not exist, create it by running the command listed above.

Below are the list of writeback template files:

- Base_Field_Update_Template.xml
- Configuration_Update_Template.xml
- Custom_Field_Delete_Template.xml
- Custom_Field_Insert_Template.xml
- Custom_Field_Update_Template.xml
- ETL_Job_Control_Update_Template.xml
- Map_Profile_Update_Template.xml

Restart the Oracle Analytics Server services after deploying these writeback templates in the specified path.

Configuring and Deploying the MapViewer

Configuring and deploying the MapViewer involves the following tasks:

- [Configuring the MapViewer](#)
- [Modifying instanceconfig.xml](#)
- [Updating MapViewer Configuration](#)

Configuring the MapViewer

To configure the Mapviewer:

1. Login to the WebLogic console in the Oracle Analytics Server domain.
2. Create the 'MAP_DS' datasource.
3. Lock and edit it.
4. Navigate to **Services > Data Sources**.
5. Select **New > Generic Data Source** and provide the following:
 Name = MAP_DS
 JNDI Name = MAP_DS
 Database Type = oracle
6. Click **Next**.
7. Enter the following:
 Database Driver = *Oracle's Driver (Thin) for Service connections; Versions:Any
8. Click **Next**.
9. On the next page, do not change any values. Click **Next**.
10. Enter the following connection properties:
 - Database Name: BI Database Name
 - Host Name: Database host
 - Port: Database port
 - Database User Name: dwadm
 - Password: dwadm password

11. Click **Next**.
12. On the next page, click **Test Configuration**. After the successful test, click **Next**.
13. On the **Select Target** page, select AdminServer under **Servers** and bi_cluster under **Clusters**. Click **Finish**.
14. Click **Activate Changes**.
15. Update the mapViewConfig file with the tags mentioned below:
 File location: <OAS_DOMAIN>/config/fmwconfig/mapviewer/conf
 File: mapViewConfig.xml
16. If there is a proxy used, insert the list of host names for all the third-party service providers in the security_config node.

```
<proxy_enabled_hosts>
elocation.oracle.com
</proxy_enabled_hosts>
```
17. Add the following ns_data_provider node:

```
<ns_data_provider id="obieeNsdp"
class="com.oracle.utilities.birdseye.BirdseyeNSDP" />
```
18. Add the current map_tile_server with the following map_tile_server node:

```
<map_tile_server>
<tile_storage default_root_path="/mytilecache/" />
</map_tile_server>
```

Modifying instanceconfig.xml

Make sure you take a backup before updating the instanceconfig.xml file. Run the following commands in UNIX to go to the directory containing the instanceconfig.xml file.

In Unix:

```
<OAS_DOMAIN>/config/fmwconfig/biconfig/OBIPS
```

Perform the following changes to the instanceconfig.xml file for OAS 5.5.0:

1. Update the security node with the following values. If the security node is not present, add the following code before </ServerInstance>:

```
<Security>
<ClientSessionExpireMinutes>210</ClientSessionExpireMinutes>
<HttpOnlyCookies>>false</HttpOnlyCookies>
<CookieDomain />
<CookiePath></CookiePath>
</Security>
```
2. Update the following <ServerInstance> element:

```
<LightWriteback>>true</LightWriteback>
```
3. Add the following code between the <ServerInstance> </ServerInstance> tags.

```
<Prompts>
<MaxDropDownValues>256</MaxDropDownValues>
<AutoApplyDashboardPromptValues>>true</AutoApplyDashboardPromptValues>
<AutoSearchPromptDialogBox>>true</AutoSearchPromptDialogBox>
<AutoCompletePromptDropDowns>
<SupportAutoComplete>>true</SupportAutoComplete>
<CaseInsensitive>>true</CaseInsensitive>
<MatchingLevel>MatchAll</MatchingLevel>
```

```

<ResultsLimit>50</ResultsLimit>
</AutoCompletePromptDropDowns>
</Prompts>
<SpatialMaps>
<MapViewerAPIV2Enabled>>false</MapViewerAPIV2Enabled>
</SpatialMaps>

```

Perform the following changes to the instanceconfig.xml file for Oracle Analytics Server 6.4.0:

1. Remove <ServerInstance/> tag from the instanceconfig.xml file and add the following XML before </WebConfig>:

```

<ServerInstance>
<LightWriteback>>true</LightWriteback>
<Security>
<HttpOnlyCookies>>false</HttpOnlyCookies>
<CookieDomain/>
<CookiePath></CookiePath>
</Security>
<Prompts>
<MaxDropDownValues>256</MaxDropDownValues>
<AutoApplyDashboardPromptValues>>true</AutoApplyDashboardPromptValues>
<AutoSearchPromptDialogBox>>true</AutoSearchPromptDialogBox>
<AutoCompletePromptDropDowns>
<SupportAutoComplete>>true</SupportAutoComplete>
<CaseInsensitive>>true</CaseInsensitive>
<MatchingLevel>MatchAll</MatchingLevel>
<ResultsLimit>50</ResultsLimit>
</AutoCompletePromptDropDowns>
</Prompts>
<SpatialMaps>
<MapViewerAPIV2Enabled>>false</MapViewerAPIV2Enabled>
</SpatialMaps>
</ServerInstance>

```

Example: After updating the configuration as mentioned in step 1, make sure the instanceconfig.xml file is as below:

```

<WebConfig xmlns="oracle.bi.presentation.services/config/v1.1">
<ServerInstance>
<LightWriteback>>true</LightWriteback>
<Security>
<HttpOnlyCookies>>false</HttpOnlyCookies>
<CookieDomain/>
<CookiePath></CookiePath>
</Security>
<Prompts>
<MaxDropDownValues>256</MaxDropDownValues>
<AutoApplyDashboardPromptValues>>true</AutoApplyDashboardPromptValues>
<AutoSearchPromptDialogBox>>true</AutoSearchPromptDialogBox>
<AutoCompletePromptDropDowns>
<SupportAutoComplete>>true</SupportAutoComplete>
<CaseInsensitive>>true</CaseInsensitive>
<MatchingLevel>MatchAll</MatchingLevel>
<ResultsLimit>50</ResultsLimit>
</AutoCompletePromptDropDowns>
</Prompts>
<SpatialMaps>
<MapViewerAPIV2Enabled>>false</MapViewerAPIV2Enabled>
</SpatialMaps>

</ServerInstance>
</WebConfig>

```

Updating MapViewer Configuration

Note: The Mapviewer URL is not accessible in AIX environment since it is not supported. Skip the following steps in AIX platforms.

To update the MapViewer configuration:

1. Login to MapViewer.

<http://<Server>:<port>/mapviewer>

2. To update the MapViewer configuration, navigate to **MapViewer > Administration > Configuration**. Login to the Mapviewer at this location:

<http://<HOST>:<MANAGERPORT>/mapviewer>

3. Add the below code in the mapViewerConfig.xml with the appropriate values:

```
<map_data_source name="mapconn"
jdbc_host="<DB server name>"
jdbc_sid="//<DB Service name>"
jdbc_port="1521"
jdbc_user="DWADM"
jdbc_password="!<DWADM user password>"
jdbc_mode="thin"
number_of_mappers="32"
allow_jdbc_theme_based_foi="true"
/>
```

4. Click **Save** and restart.

Enabling WriteBack

To enable the Write Back:

1. Login to Analytics.
2. Navigate to **Administration > Manage Privileges > WriteBack > Write Back to Database**.
3. Click **Denied:Authenticated User** and select the **Granted** permission.

Enabling Auto Complete Feature in Oracle Analytics Server

To enable the auto complete feature in Oracle Analytics Server:

1. Restart the Oracle Analytics Server services.

Note: Refer to Oracle Analytics Server documentation for detailed instructions on how to start and stop the services.

2. Login to Oracle Utilities Analytics.

<http://<Host Name>:<port>/analytics>

3. Click **WebLogic User** (top-most-right section of the page).
4. From the drop-down menu, select **My Account**.
5. On the **Preferences** tab, set **Prompt Auto Complete** to **ON**.
3. Click **OK**.

Chapter 8

Installing Demo Database

This chapter provides instructions to install the demo database.

Note: The demo installation does not support ETL functionality. The **ETL Job Control** dashboard accesses Oracle Data Integrator tables, and the demo dump does not have Oracle Data Integrator objects. Hence, the ETL dashboard is not supported in the demo installation.

- [Installing Oracle Utilities Analytics Demo Database Component](#)
- [Installing Oracle Utilities Analytics Dashboards Component](#)

Installing Oracle Utilities Analytics Demo Database Component

This section describes how to install the demo database component of Oracle Utilities Analytics, including:

- [Copying and Decompressing Install Media](#)
- [Creating Database and Importing the Dump File](#)
- [Configuring Security](#)
- [Configuring Spatial Data](#)

Copying and Decompressing Install Media

To copy and decompress install media:

1. Download Oracle Utilities Analytics v2.7.0.2 Oracle Demo Data part from the **Oracle_Utility_Analytics_v2.7.0.2_Demo_Data.zip** file.

Download the zip from Oracle Software Delivery Cloud ([https:// edelivery.oracle.com](https://edelivery.oracle.com)).

2. Create a temporary directory.

For example: In Linux:
/OUA/temp

This directory (referred as <TEMPDIR>) should be located outside any current working Oracle Utilities application environment. After a successful installation, delete all files in this directory that are part of the installation.

3. Unzip **Oracle_Utility_Analytics_v2.7.0.2_Demo_Data.zip** to <TEMPDIR> using any zip utility.

The installation media is decompressed successfully. Proceed with creating the database.

Creating Database and Importing the Dump File

This section describes how to create the demo database with AL32UTF8 character set using dbca. It includes the following:

- [Importing Demo Data Manually](#)
- [Post-Import Tasks](#)

Ensure that Oracle Database Server Enterprise Edition 19C is already installed on the machine to create the database.

Create at least one tablespace for storing the application objects before running the installation. The default name of the application tablespace is CISTS_01.

1. Create database using the dbca utility.
2. Run users.sql under <TEMPDIR>/BI2702/Demo directory after replacing tablespace name as required.
3. Create the database directory in the database.

Example: create directory dump_dir as '/u01/dumps';

Note: If the following error messages occur while importing the demo data; it is recommended to ignore them.

ORA-31684: Object type USER:"MDADM" already exists

ORA-31684: Object type USER:"RELADM" already exists

```

ORA-31684: Object type USER:"DWADM" already exists
Failing sql is:
CREATE INDEX "DWADM"."STATES54004_SDX" ON "DWADM"."STATES54004"
("GEOMETRY") INDEXTYPE IS "MDSYS"."SPATIAL_INDEX" PARALLEL 1
Failing sql is:
CREATE INDEX "DWADM"."Q1_STATES54004_SDX" ON
"DWADM"."Q1_STATES54004" ("GEOMETRY") INDEXTYPE IS
"MDSYS"."SPATIAL_INDEX" PARALLEL 1
ORA-39083: Object type INDEX:"DWADM"."STATES54004_SDX" failed
to create with error:
ORA-29855: error occurred in the execution of ODCIINDEXCREATE
routine
ORA-39082: Object type VIEW:"MDADM"."B1_JOBS_VW" created with
compilation warnings
ORA-39082: Object type VIEW:"MDADM"."B1_CONTEXT_CFG_VW" created
with compilation warnings

```

Ignore any errors related to grants, views or spatial indexes.

Importing Demo Data Manually

To import demo data manually:

1. After the successful database creation, import the Demo data. Run the commands from the database server.

Note: Make sure to change the `tablespace_name` to the tablespace name on which DWADM, RELADM, and MDADM have the quota. If DWADM, RELADM, and MDADM users have quota on `cists_01` tablespace, then exclude whole `remap_tablespace` clause from the command.

- a. Set the correct `ORACLE_SID` and `ORACLE_HOME`. Run the below command to import demo dump.

Note: Gunzip the `exp_demo.dmp.gz` to obtain `exp_demo.dmp`.

```

impdp directory=dump_dir dumpfile=exp_demo.dmp
logfile=exp_demo.log schemas=DWADM,RELADM,MDADM
remap_tablespace=cists_01:<tablespace_name>

```

- b. Provide the user as system and system user's password when prompted.

Post-Import Tasks

Connect to MDADM schema and execute the following commands:

```

create public synonym B1_TARGET_ENTITY for B1_TARGET_ENTITY;
create public synonym B1_PROD_INSTANCE for B1_PROD_INSTANCE;
create public synonym B1_JOB_CONFIG for B1_JOB_CONFIG;

grant select on B1_TARGET_ENTITY to public;
grant select on B1_PROD_INSTANCE to public;
grant select on B1_JOB_CONFIG to public;

```

Configuring Security

The security scripts have to be executed after the initial load and the Materialized views are created for the given source product instance.

To configure the security:

1. In the Oracle Utilities Analytics database component installation package, navigate to the `..\BI2702\DWADM\Install-Upgrade\` folder.

2. Run OraGenSec.

In **Unix** environment:

- a. Add Java 8 to path variable as shown in example below:

```
export PATH=/u01/jdk1.8.0_251/bin:$PATH
```

- b. Set classpath pointing to OraDBI.jar and all dependency jars.

```
export CLASSPATH=<Path to BI2702>/BI2702/DWADM/Jarfiles/*
```

- c. Run OraGenSec.

```
java com.oracle.ouaf.oem.install.OraGenSec -d
DWADM,DWADM,jdbc:oracle:thin:@<DATABASE SERVER>:<DATABASE
PORT>/<ORACLE SERVICE NAME> -u DWUSER,DWREAD -r DW_USER,DW_READ
-p DWUSER,DWREAD -a A CAPTION:Configuring Security LANGUAGE:ALL
```

Configuring Spatial Data

This section describes how to load spatial metadata in the USER_SDO* tables for Oracle Utilities Analytics.

Use the following procedure to load spatial metadata in the target database:

1. Create the **dump_dir** directory in the database and copy the **user_sdo.dmp** file from ../BI2702/Spatial-Metadata folder to that location.
2. Import the released spatial tables to the target database.

```
impdp directory=dump_dir dumpfile=user_sdo.dmp logfile=
impdp_user_sdo.log schemas=DWADM
remap_tablespace=cists_01:<tablespace_name>
```

Note: Run this command from database server. Ensure to change the tablespace_name to tablespace name on which DWADM has the quota. If DWADM user have quota on cists_01 tablespace, then exclude whole remap_tablespace clause from command.

3. Review the **impdp_user_sdo.log** file to ensure the tables are imported successfully.
4. After importing the tables, run the following SQL scripts from the ../BI2702/Spatial-Metadata folder.

```
sqlplus dwadm/<dwadm user password>@database-name
@copy_spatial_metadata.sql
```

```
sqlplus dwadm/<dwadm user password>@database-name
@clean_sdo_release_tbls.sql
```

5. Review the log files.

Installing Oracle Utilities Analytics Dashboards Component

Note: Ensure that the same operating system user to install the prerequisite software is used to install the Oracle Utilities Analytics Dashboards component as well.

The Oracle Utilities Analytics Dashboards component is installed on the Oracle Utilities Analytics application server. This section describes how to install the dashboards component of Oracle Utilities Analytics.

- [Copying and Decompressing Install Media](#)

- [Starting the Installer](#)
- [Installation Steps](#)
- [Deploying Web Catalog](#)
- [Deploying the Repository \(RPD\) File](#)
- [Configuring and Deploying the MapViewer](#)
- [Updating MapViewer Configuration](#)
- [Enabling WriteBack](#)
- [Enabling Auto Complete Feature in Oracle Analytics Server](#)

Copying and Decompressing Install Media

To download and decompress the install media:

1. Download the Oracle Utilities Analytics Dashboards component v2.7.0.2 (**Oracle Utilities Analytics V2.7.0.2 Multiplatform.zip**) from the Oracle Software Delivery Cloud (<https://edelivery.oracle.com>).
2. Create a temporary directory, such as /OUA/temp (referred to <TEMPDIR> below).

This directory must be located outside any current working Oracle Utilities application environment. All files that are placed in this directory as a part of the installation can be deleted after completing a successful installation.

3. Unzip **Oracle Utilities Analytics V2.7.0.2 Multiplatform.zip** to <TEMPDIR>.

Starting the Installer

To start the installer:

1. Navigate to the temporary folder where you downloaded the install. Run the following command from the folder:

```
java -jar <TEMPDIR>/OUA_2.7.0.2.0_generic.jar -logLevel finest
```

Note: The minimum JDK required for running the Oracle Utilities Analytics installer is JDK 1.8.

2. On the **Welcome** page, review the information before you begin the installation.
3. Click **Next** to continue with the installation.
4. Complete the installation by following the tasks on the navigation pane.

Each item in the navigation pane represents a specific installer screen that prompts you for the information required to install the software.

Installation Steps

To install the Dashboards component:

1. Run the Oracle Utilities Analytics Installer.
2. On the **Welcome** page, review the available information before you begin the installation.
3. On the **Installation Inventory** page, provide the inventory location. Click **Next**.
4. Click **Next** to continue with the installation.
5. On the **Installation Location** page, define the **Installation Location**. Click **Next**.

Note: The specified Oracle home directory must be an empty directory or a directory where the OUA ODI ETL 2.7.0.2.0 component was installed successfully.

6. On the **Languages Selection** page, select “English”. Click **Next**.
7. On the **Select Installation Type** page, select **Dashboards**. Click **Next**.

Note: Based on the selected installation type, the options on the left navigation panel change. When you select **Dashboard** as an **Installation Type**, you need to define **Database and Java Home Details**, **Target Database Connection Details** and **OAS Home Details**.

8. On the **Database and Java Home Details** page, enter the following details in the respective fields and click **Next**.

Field Name	Description	Value
Database Client Home	Database client home location	Example: /u01/app/product/19.7/dbhome_1
Java Home	JDK home location	JDK 1.8 location Example: /u01/jdk_1.8.0_251

The **Target Database Connection Details** page appears.

9. Enter the following details in the respective fields and click **Next**.

Field Name	Description	Value
Host	The host name of the server where the database resides.	Oracle Utilities Analytics Database Server
Port	The database port number on the database server used for connecting to the database.	Oracle Utilities Analytics Database Port. The default value is 1521.
Service Name	The service name for the database	
Target Schema Password	The password for the target schema (DWADM).	
Confirm Target Schema Password	Confirm the password for the target schema (DWADM) here.	
Metadata Schema Password	The password for the metadata schema (MDADM).	
Confirm Metadata Schema Password	Confirm the password for the metadata (MDADM) schema here.	

The **OBIEE Home Details** page appears.

10. Enter the following details in the respective fields and click **Next**.

Field Name	Description	Value
BI Home	The location on the disk where OAS is installed.	Example: /u01/Middleware/bi
BI Domain Home	The domain Home location under the directory where OAS is installed.	Example: /u01/domains/oas_domain
WebLogic Host	The hostname on which WebLogic server for OAS is running.	
WebLogic Port Number	A unique port number within the system that is assigned to the HTTP port. This port number is used as a part of the client URL request to connect to the host. It is the OAS WebLogic console admin port number.	Example: 9500
WebLogic User	WebLogic domain login user name.	

Note: You will be prompted for the WebLogic user's password after installation.

- On the **Java Home Location** page, enter the Java Home details provided earlier. Click **Next**.
- On the **Installation Summary** page, verify the installation options and click **Install** to begin the installation.

For any changes to the configuration before starting the installation, use the navigation pane and select the topic to edit.

- The **Installation Progress** page allows you to see the progress of the installation. Operations being performed as part of the installation are logged to the terminal from which the installer was run. Detailed logs of the installation are also available in the logs/system directory under the installation location.

To quit before the installation is complete, click **Cancel**. Doing so will result in a partial installation; the portion of the software that was installed on your system before you click **Cancel** will remain on your system, and it needs to be deleted manually.

- On the **Installation Completed** page, click **Finish** to close the installer.

The Dashboards component is now installed successfully.

Deploying Web Catalog

On the Oracle Analytics Server(OAS) to deploy the latest catalogs into the environment via online mode is allowed.

To deploy web catalog:

- Navigate to <OAS_DOMAIN_HOME>/bitools/bin.
- Run runcat.sh to deploy the catalogs.

3. Create a new credentials file boot.txt at a standard location, typically in the location where runcat.sh is executed.

```
$OAS_DOMAIN_HOME/bitools/bin/boot.txt file login=admin user
pwd=admin password
```

4. For each catalog run the following from the Oracle Analytics Server domain/bitools/bin location.

```
./runcat.sh -cmd unarchive -folder "/shared" -online http://<OAS
Host>:<OAS_SERVER_PORT>/analytics-ws/saw.dll -credentials boot.txt
-inputFile "<install_dir>/Catalog/<Catalog Name>" -overwrite all
```

Example:

```
cd $OAS_DOMAIN_HOME/bitools/bin
./runcat.sh -cmd unarchive -folder "/shared" -online http://
localhost.localdomain:9502/analytics-ws/saw.dll -credentials
boot.txt
-inputFile "/u01/OUA_DASHBOARD/Catalog/Sample NMS DV
Projects.Catalog" -overwrite all
.....
Command 'unarchive' completed successfully. Return status from
Catalogmanager command : 0
```

5. Deploy the 'Spatial Metadata Catalog' under System folder. Run the following command.

```
./runcat.sh -cmd unarchive -folder "/system" -online http://
<<OAS_Host>>:<<OAS_SERVER_PORT>>/analytics-ws/saw.dll -credentials
boot.txt -inputFile "<install_dir>/Catalog/Spatial
Metadata.Catalog" -overwrite all
```

Example:

```
./runcat.sh -cmd unarchive -folder "/system" -online http://
localhsot.localdomain:9502/analytics-ws/saw.dll -credentials
boot.txt
-inputFile "/u01/OUA_DASHBOARD/Catalog/Spatial Metadata.Catalog" -
overwrite all
```

Note that the 'inputFile' parameter must be in double quotes. All the catalog filename includes spaces.

Deploying the Repository (RPD) File

The RPD file is available in the following location, where <install_dir> is the Oracle Utilities Analytics Dashboard Component installation directory:

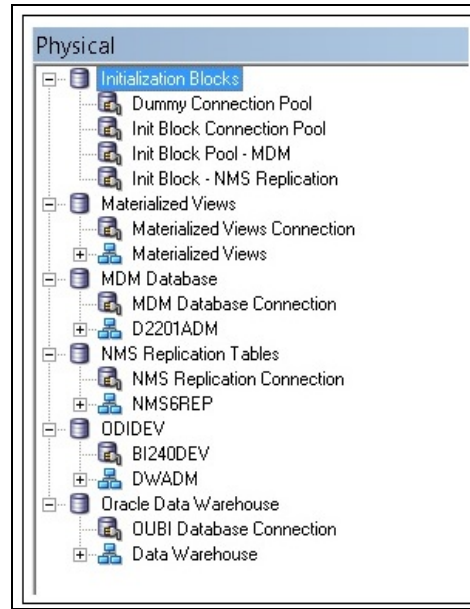
```
<install_dir>/Reports/rpd/ UtilitiesBusinessAnalytics.rpd
```

Note: If you are using the default Oracle Utilities Analytics repository, you must change the default password the first time you open it in the Administration Tool.

To deploy the RPD file:

1. Make sure that Oracle Analytics Client Tool (5.5.0) is installed on the Windows machine before proceeding.
2. Click **Start > Programs > Oracle Business Intelligence > Administration**.
3. Click **File > Open > Offline...** to open the RPD in offline mode.
4. Provide the RPD password. The default password is "oracle123".

5. Double-click the **Connection Pools** to edit them.



- In the **Init Block Connection Pool** group, enter the following:
 Datasource name = BI Database name
 User name = DWREAD
 Password = DWREAD User password
- In the **Init Block Pool - MDM** group, provide the following (only for Oracle Utilities Meter Data Management):
 Datasource name = MDM database name
 User name = CISUSER
 Password = CISUSER User password
- In the **Init Block Pool - NMS Replication** group, provide the following (only for Oracle Utilities Network Management System):
 Datasource name = BI database name
 User name = DWREAD
 Password = DWREAD User password
Note: The schema name is NMS1REP by default. Rename it if the replication schema name is different.
- In the **Materialized Views Connection** group, enter the following:
 Datasource name = BI Database name
 User name = DWREAD
 Password = DWREAD User password
- In the **MDM Database Connection** group, provide the following (only for Oracle Utilities Meter Data Management):
 Datasource name = MDM database name
 User name = CISUSER
 Password = CISUSER User password

- In the **NMS Replication Tables** group, provide the following (only for Oracle Utilities Network Management System):

Datasource name = BI database name

User name = DWREAD

Password = DWREAD User password

Note: The default schema name is NMS1REP. If the replication schema name is different, then rename.

- In the **ODIDEV Connection Pool** group, provide the following:

Datasource name = BI database name

User name = DWUSER

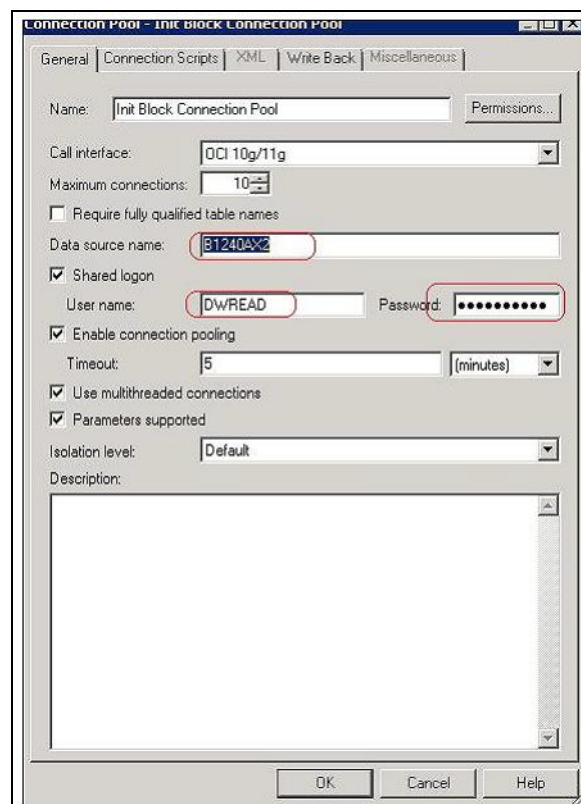
Password = DWUSER User password

- In the **OUBI Database Connection** group, provide the following:

Datasource name = BI database name

User name = DWREAD

Password = DWREAD User password



- Click **Save**.

Note: Click **Yes** when you see the prompt 'Do you wish to check global consistency?' and ignore any warnings that appear after consistency check is complete.

- Copy the modified RPD back to the <install dir>/Reports/rpd/UtilitiesBusinessAnalytics.rpd where <install_dir> is the Oracle Utilities Analytics Dashboard Component installation directory.

8. Login to the server where Oracle Analytics Server Enterprise Manager is installed.
9. Navigate to **<OAS_DOMAIN>/bitools/bin**.
10. Run the following command to deploy the RPD:

In Unix if SSL is enabled:

```
./datamodel.sh uploadrpd -I <Install_Dir>/Reports/rpd/
UtilitiesBusinessAnalytics.rpd -W <rpd password, default
password is oracle123> -U <WebLogic user name of OAS domain> -P
<WebLogic password of OAS domain> -SI ssi -SSL
-TS <keystore> -TSP <keystore_password>
```

In Unix if SSL is disabled:

```
./datamodel.sh uploadrpd -I <OUA home>/Reports/rpd/
UtilitiesBusinessAnalytics.rpd -W <rpd password, default
password is oracle123> -U <Weblogic user name of OAS domain> -
P <Weblogic password of OAS domain> -SI ssi
```

11. Run the following commands from **<OAS_DOMAIN>/bitools/bin** directory to stop and start the Oracle Analytics Server domain services respectively.

```
./stop.sh
```

```
./start.sh
```

Configuring and Deploying the MapViewer

Configuring and deploying the MapViewer involves the following tasks:

- [Configuring the MapViewer](#)
- [Modifying instanceconfig.xml](#)

Configuring the MapViewer

To configure the Mapviewer, follow these steps:

1. Login to the WebLogic console.
2. Create the 'MAP_DS' datasource.
3. Lock and edit it.
4. Navigate to **Services > Data Sources**.
5. Select **New > Generic Data Source** and provide the following:
Name = MAP_DS
JNDI Name = MAP_DS
Database Type = oracle
6. Click **Next**.
7. Enter the following:
Database Driver = *Oracle's Driver (Thin) for Service connections; Versions:Any
8. Click **Next**.
9. On the next page, do not change any values. Click **Next**.
10. Enter the following connection properties:
 - Database Name: BI Database Name
 - Host Name: Database host

- Port: Database port
 - Database User Name: dwadm
 - Password: dwadm password
11. Click **Next**.
 12. On the next page, click **Test Configuration**. After the successful test click **Next**.
 13. On the **Select Target** page, select AdminServer under **Servers** and bi_cluster under **Clusters**. Click **Finish**.
 14. Click **Activate Changes**.
 15. Update the mapViewConfig file with the tags mentioned below:
File location: <OAS_DOMAIN>/config/fmwconfig/mapviewer/conf
File: mapViewConfig.xml
 16. If there is a proxy used, insert the list of host names for all the third-party service providers in the security_config node.

```
<proxy_enabled_hosts>
elocation.oracle.com
</proxy_enabled_hosts>
```
 17. Add the following ns_data_provider node:

```
<ns_data_provider id="obieeNsdp"
class="com.oracle.utilities.birdseye.BirdseyeNSDP" />
```
 18. Add the current map_tile_server with the following map_tile_server node:

```
<map_tile_server>
<tile_storage default_root_path="/mytilecache/" />
</map_tile_server>
```

Modifying instanceconfig.xml

Ensure you take a backup before updating the instanceconfig.xml file. Run the following commands in UNIX to go to the directory containing the instanceconfig.xml file.

In Unix:

```
<OAS_DOMAIN>/config/fmwconfig/biconfig/OBIPS
```

Perform the following changes to the instanceconfig.xml file for Oracle Analytics Server 5.5.0:

1. Update the security node with the following values. If the security node is not present, add the following code before </ServerInstance>:

```
<Security>
<ClientSessionExpireMinutes>210</ClientSessionExpireMinutes>
<HttpOnlyCookies>>false</HttpOnlyCookies>
<CookieDomain />
<CookiePath></CookiePath>
</Security>
```
2. Update the following <ServerInstance> element:

```
<LightWriteback>>true</LightWriteback>
```
3. Add the following code between the <ServerInstance> </ServerInstance> tags.

```
<Prompts>
<MaxDropDownValues>256</MaxDropDownValues>
<AutoApplyDashboardPromptValues>>true</AutoApplyDashboardPromptValues>
```

```

<AutoSearchPromptDialogBox>true</AutoSearchPromptDialogBox>
<AutoCompletePromptDropDowns>
<SupportAutoComplete>true</SupportAutoComplete>
<CaseInsensitive>true</CaseInsensitive>
<MatchingLevel>MatchAll</MatchingLevel>
<ResultsLimit>50</ResultsLimit>
</AutoCompletePromptDropDowns>
</Prompts>
<SpatialMaps>
<MapViewerAPIV2Enabled>>false</MapViewerAPIV2Enabled>
</SpatialMaps>

```

Perform the following changes to the instanceconfig.xml file for Oracle Analytics Server 6.4.0:

1. Remove <ServerInstance/> tag from the instanceconfig.xml file, and add the following XML stanzas before </WebConfig>:

```

<ServerInstance>
<LightWriteback>true</LightWriteback>
<Security>
<HttpOnlyCookies>>false</HttpOnlyCookies>
<CookieDomain/>
<CookiePath>/</CookiePath>
</Security>
<Prompts>
<MaxDropDownValues>256</MaxDropDownValues>
<AutoApplyDashboardPromptValues>true</AutoApplyDashboardPromptValues>
<AutoSearchPromptDialogBox>true</AutoSearchPromptDialogBox>
<AutoCompletePromptDropDowns>
<SupportAutoComplete>true</SupportAutoComplete>
<CaseInsensitive>true</CaseInsensitive>
<MatchingLevel>MatchAll</MatchingLevel>
<ResultsLimit>50</ResultsLimit>
</AutoCompletePromptDropDowns>
</Prompts>
<SpatialMaps>
<MapViewerAPIV2Enabled>>false</MapViewerAPIV2Enabled>
</SpatialMaps>
</ServerInstance>

```

Example: After updating the configuration mentioned in step 1, make sure the instanceconfig.xml file is as below:

```

<WebConfig xmlns="oracle.bi.presentation.services/config/v1.1">
<ServerInstance>
<LightWriteback>true</LightWriteback>
<Security>
<HttpOnlyCookies>>false</HttpOnlyCookies>
<CookieDomain/>
<CookiePath>/</CookiePath>
</Security>
<Prompts>
<MaxDropDownValues>256</MaxDropDownValues>
<AutoApplyDashboardPromptValues>true</AutoApplyDashboardPromptValues>
<AutoSearchPromptDialogBox>true</AutoSearchPromptDialogBox>
<AutoCompletePromptDropDowns>
<SupportAutoComplete>true</SupportAutoComplete>
<CaseInsensitive>true</CaseInsensitive>
<MatchingLevel>MatchAll</MatchingLevel>
<ResultsLimit>50</ResultsLimit>
</AutoCompletePromptDropDowns>
</Prompts>
<SpatialMaps>
<MapViewerAPIV2Enabled>>false</MapViewerAPIV2Enabled>
</SpatialMaps>

```

```
</ServerInstance>
</WebConfig>
```

Updating MapViewer Configuration

Note: The Mapviewer URL is not accessible in AIX environment since it is not supported. Skip the following steps in AIX platforms.

To update the MapViewer configuration:

1. Login to MapViewer.

<http://<Server>:<port>/mapviewer>

2. To update the MapViewer configuration, navigate to **MapViewer > Administration > Configuration**. Login to the Mapviewer at this location:

<http://<HOST>:<MANAGERPORT>/mapviewer>

3. Add the below code in the mapViewerConfig.xml with the appropriate values:

```
<map_data_source name="mapconn"
jdbc_host="<DB server name>"
jdbc_sid="//<DB Service name>"
jdbc_port="1521"
jdbc_user="DWADM"
jdbc_password="!<DWADM user password>"
jdbc_mode="thin"
number_of_mappers="32"
allow_jdbc_theme_based_foi="true"
/>
```

4. Click **Save** and restart.

Enabling WriteBack

To enable the Write Back:

1. Login to Analytics.
2. Navigate to **Administration > Manage Privileges > WriteBack > Write Back to Database**.
3. Click **Denied:Authenticated User** and select the **Granted** permission.

Enabling Auto Complete Feature in Oracle Analytics Server

To enable the auto complete feature in Oracle Analytics Server:

1. Restart the Oracle Analytics Server services.

Note: Refer to Oracle Analytics Server documentation for detailed instructions on how to start and stop the services.

2. Login to Oracle Utilities Analytics.

<http://<Server>:<port>/analytics>

3. Click **WebLogic User** (top-most-right section of the page).
4. From the drop-down menu, select **My Account**.
5. On the **Preferences** tab, set **Prompt Auto Complete** to **ON**.
3. Click **OK**.

Chapter 9

Configuring Spatial Data

This chapter contains information on how to setup spatial data for the Oracle Business Intelligence Enterprise Edition dashboards in Oracle Utilities Analytics and how to set up the spatial data. The mapping between the spatial columns and the dimensional columns, such as City, State from the Address dimension is defined in the spatial metadata catalog, which is available as a part of the Web Catalog component in Oracle Utilities Analytics. Using the spatial data and the map metadata, users can view the star schema data in on the map reports delivered out-of-the-box as part of Oracle Utilities Analytics.

The chapter focuses on the following:

- [Acquiring the Spatial Data](#)
- [Installing Spatial Data](#)
- [Importing Spatial Data into Oracle Utilities Analytics Spatial Data Tables](#)
- [Loading the Oracle Utilities Specific Themes](#)

Acquiring the Spatial Data

Oracle Utilities Analytics does not include any spatial data. The spatial data can be loaded from the various third party vendors. Some of the spatial data vendors who partner with Oracle can be found in the below Oracle Technology Network page:

<http://www.oracle.com/technetwork/database/options/spatialandgraph/community/partners/spatial-partners-095101.html>

Some of these vendors might require you to purchase a separate license for the spatial data. You need to get in touch with the vendor directly for the same. After this, you would be able to download a spatial data dump from the spatial data vendor.

Installing Spatial Data

The spatial data acquired from a third party vendor can be in various formats. Typical vendors provide shape files (.shp) or a database dump for download. The exact spatial data model varies from vary to vendor and there is no generic format to this. Hence, the documentation that comes along with the spatial data is of utmost importance. This is required to identify what type of spatial data is available in which table.

The first task is to import the data in the shape file into the DWADM schema. A database dump can be imported by the standard oracle impdp command. A shape file can also contain the spatial data tables along with the data that can be imported by Oracle MapBuilder.

Follow the steps mentioned below for this:

1. Unzip the .zip file (Typically, the shape file is zipped for data compression) to a temp directory.

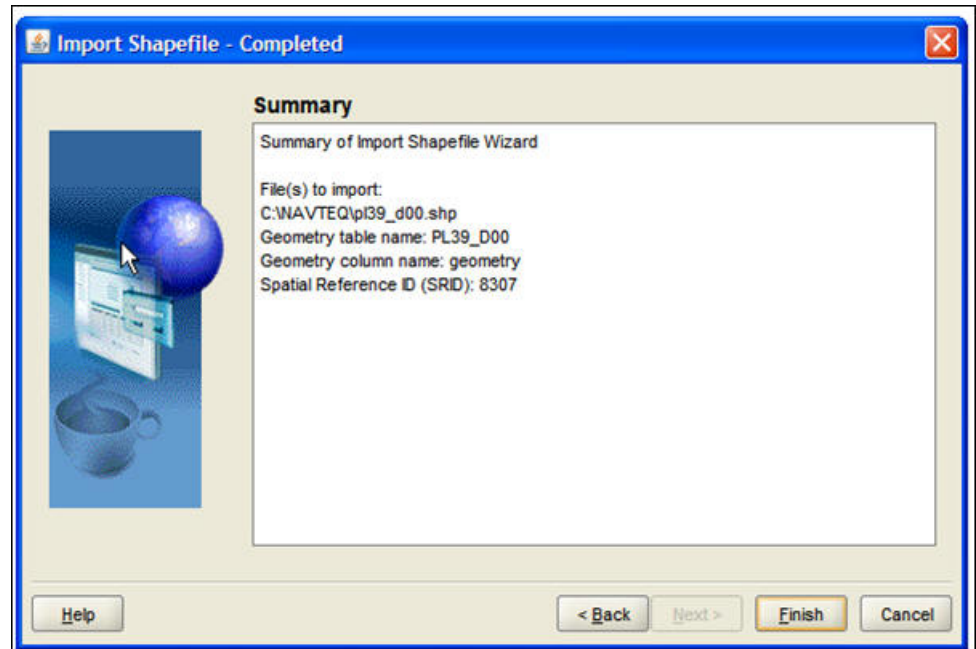
For example: /u01/Spatial/

2. Download the standalone MapBuilder application from this site:
<http://www.oracle.com/technetwork/middleware/mapviewer/downloads/index-100641.html>
3. Start the **MapBuilder**.

Note: Refer to the MapViewer documentation for detailed instructions on installing and running MapBuilder from this site: <http://www.oracle.com/technetwork/middleware/mapviewer/documentation/index.html>

4. Create a connection to the DWADM schema in the Oracle Utilities Analytics Data Warehouse database by navigating to **File > New Connection**.
5. Navigate to **Tools > Import Shapefile**, and click **Next**.
6. Click the **Shapefile**.
7. Browse to the **C:\Spatial** directory, select the **.shp** file, and click **Open**.
8. Click **Next**.
9. Ensure the **Create Predefined Theme** box is unchecked, and click **Next**.

10. Review the summary information and click **Finish**. A sample screenshot is shown below.



Importing Spatial Data into Oracle Utilities Analytics Spatial Data Tables

Once the spatial data tables from a third party vendor have been imported into the DWADM schema, the next step is to import the spatial data needed by Oracle Utilities Analytics into certain specific tables. This step to import a certain subset of the data into a standardized set of Oracle Utilities Analytics tables is for decoupling. This decoupling helps the Oracle Business Intelligence Enterprise Edition map reports and other Oracle Business Intelligence Enterprise Edition map configuration to remain oblivious to the variations in the spatial data schema coming from various vendors. This way you need not touch any of the spatial metadata catalog or modify any of the map reports being delivered out-of-the-box.

Oracle Utilities Analytics needs the administrative boundary type of spatial data at four levels - State, City, County and Postal Code. All map reports in Oracle Utilities Analytics are using one of these levels. Since the spatial data model varies from vendor to vendor, further details provided in this section is based on a sample spatial data from a specific vendor.

The following sections describe how to import the data based on a sample spatial data dump provided by HERE maps (formerly NAVTEQ). This sample data set contains administrative boundary data for the OHIO city in the US country. The sample data set from the Oracle partner can be downloaded from the Oracle Utilities Analytics OTN (Oracle Technology Network) page:

<http://www.oracle.com/technetwork/database/options/spatialandgraph/downloads/spatial-partners-data-087203.html>

However, the steps can be used with a little variation to setup the spatial data for Oracle Utilities Analytics for any city from any country. The extent of the changes need to be done varies based on the vendor used to purchase the spatial data. Read through the documentation of the spatial data model provided by the vendor to understand what type of data lies in what table.

Below table provides a simple mapping based on the HERE maps sample data.

Spatial Data Level	Table in Navteq Sample Data	Additional Filters	Oracle Utilities Analytics Spatial Data Table
State	WOM_AREA	Feature Type = 90996 ISO Country Code = 'USA'	Q1_STATES54004
City	PL39_d00	Q1_CITY54004	lsad_trans = 'city', 'village'
County	CO39_D00		Q1_COUNTY54004
Postal Code	ZT39_D00		Q1_USZIP54004

Apart from these four levels, there are also some standard themes and styles that need to be imported.

Below sub-sections contain the SQL statements to create and populate the various spatial data tables for Oracle Utilities Analytics. The prerequisite is that spatial data has been purchased by you and the spatial data dump has been imported into the DWADM schema. It is assumed that the eLocation website is being used as the base map in the Oracle Business Intelligence Enterprise Edition mapviewer setup, for which the SRID (Spatial Reference System Identifier) is 54004. The SRID is a unique value used to identify the coordinate system used in a Geographic Information System (GIS) application. If some other base map is used, then the transform parameter in the insert statements should specify the SRID of the base map being used.

Importing Theme Related Spatial Data into Oracle Utilities Analytics

The sdo_ tables are standard tables expected to be present in the spatial data from any vendor.

```
INSERT INTO user_sdo_maps SELECT * FROM sdo_maps;
INSERT INTO user_sdo_themes SELECT * FROM sdo_themes;
INSERT INTO user_sdo_styles SELECT * FROM sdo_styles;
INSERT INTO user_sdo_cached_maps SELECT * FROM sdo_cached_maps;
```

Importing State Spatial Data into Oracle Utilities Analytics

In Oracle Utilities Analytics, the table Q1_STATES54004 is used to store the state related administrative boundary. Create the table based on the DDL below and insert the values from one of the spatial data tables obtained from the vendor.

```
CREATE TABLE Q1_STATES54004
(
    feature_id      NUMBER,
    feature_name    VARCHAR2(255),
    area_id         NUMBER,
    name_langcode   VARCHAR2(35),
    feature_type    VARCHAR2(30),
    country_code_3  VARCHAR2(5),
    geometry        SDO_GEOMETRY,
    carto_id        NUMBER(10,0)
);

INSERT INTO Q1_STATES54004_SDX
SELECT NULL, name, NULL, lang_code, feature_type,
ISO_COUNTRY_CODE, sdo_cs.transform(geometry, 3857), carto_id
FROM WOM_AREA WHERE feature_type = 909996 AND iso_country_code =
'ISO';
```

Note: Customize the table name WOM_AREA, the feature type value and the ISO country code as per the spatial data model obtained by you. The below insert statement is to define the Q1_ table as a spatial table and update the spatial metadata view to reflect the dimensional information for the areas. The parameters for the insert statement are table name, geometry column name, and X and Y boundaries (the latitude and the longitude) based on the data and the tolerance value.

```
INSERT INTO user_sdo_geom_metadata VALUES
('Q1_STATES54004', 'GEOMETRY',
MDSYS.SDO_DIM_ARRAY(MDSYS.SDO_DIM_ELEMENT('X', -
20500000,20500000,0.0005),MDSYS.SDO_DIM_ELEMENT('X', -
50000000,19000000,0.0005)), 3857 );

CREATE INDEX Q1_STATES54004_SDX ON Q1_STATES54004 (geometry)
indextype IS MDSYS.SPATIAL_INDEX;
```

Importing City Spatial Data into Oracle Utilities Analytics

In Oracle Utilities Analytics, the table Q1_CITY54004 is used to store the city related administrative boundary. Create the table based on the DDL below and insert the values from one of the spatial data tables obtained from the vendor.

```
CREATE TABLE Q1_CITY54004 AS
SELECT upper(name) FEATURE_NAME, sdo_cs.transform(geometry, 3857)
geometry, 'OHIO' state FROM pl39_d00 WHERE lsad_trans IN ('city',
'village');
```

Note: Customize the table name pl39_d00 and additional filters as per the spatial data model obtained by you. Map the state name dynamically for the current city record in the spatial data. The below insert statement is to define the Q1_ table as a spatial table and update the spatial metadata view to reflect the dimensional information for the areas. The parameters for the insert statement are table name, geometry column name, and X and Y boundaries (the latitude and the longitude) based on the data and the tolerance value.

```
INSERT INTO user_sdo_geom_metadata VALUES
('Q1_CITY54004', 'GEOMETRY',
MDSYS.SDO_DIM_ARRAY(MDSYS.SDO_DIM_ELEMENT('X', -
20500000,20500000,0.0005),MDSYS.SDO_DIM_ELEMENT('X', -
50000000,19000000,0.0005)), 3857 );

CREATE INDEX Q1_CITY54004_sdx ON Q1_CITY54004 (geometry) indextype
IS MDSYS.SPATIAL_INDEX;

UPDATE Q1_CITY54004 SET geometry =
SDO_UTIL.RECTIFY_GEOMETRY(geometry, .05);
```

Importing County Spatial Data into Oracle Utilities Analytics

In Oracle Utilities Analytics, the table Q1_COUNTY54004 is used to store the county related administrative boundary. Create the table based on the DDL below and insert the values from one of the spatial data tables obtained from the vendor.

```
CREATE TABLE Q1_COUNTY54004 AS
SELECT name FEATURE_NAME, sdo_cs.transform(geometry, 3857)
geometry, 'OHIO' state FROM CO39_D00;
```

Note: Customize the table name CO39_D00 as per the available spatial data model. The below insert statement is to define the Q1_ table as a spatial table and update the spatial metadata view to reflect the dimensional information for the areas. The parameters for the insert statement are table name, geometry column name, and X and Y boundaries (the latitude and the longitude) based on the data and the tolerance value.

```
INSERT INTO user_sdo_geom_metadata VALUES
('Q1_COUNTY54004', 'GEOMETRY',
MDSYS.SDO_DIM_ARRAY(MDSYS.SDO_DIM_ELEMENT('X', -
20500000, 20500000, 0.0005), MDSYS.SDO_DIM_ELEMENT('Y', -
50000000, 19000000, 0.0005)), 3857 );

CREATE INDEX Q1_COUNTY54004_sdx ON q1_county54004 (geometry)
indextype IS MDSYS.SPATIAL_INDEX;

UPDATE Q1_COUNTY54004 SET geometry =
SDO_UTIL.RECTIFY_GEOMETRY(geometry, .05);
```

Importing Postal Code Spatial Data into Oracle Utilities Analytics

In Oracle Utilities Analytics, the table Q1_USZIP54004 is used to store the county related administrative boundary. Create the table based on the DDL below and insert the values from one of the spatial data tables obtained from the vendor.

```
CREATE TABLE Q1_USZIP54004 AS
SELECT zcta ZCTA5CE, sdo_cs.transform(geometry, 3857) geom. FROM
ZT39_D00;
```

Note: Customize the table name ZT39_D00 as per the available spatial data model. The below insert statement is to define the Q1_ table as a spatial table and update the spatial metadata view to reflect the dimensional information for the areas. The parameters for the insert statement are table name, geometry column name, and X and Y boundaries (the latitude and the longitude) based on the data and the tolerance value.

```
INSERT INTO user_sdo_geom_metadata VALUES
('Q1_USZIP54004', 'GEOM',
MDSYS.SDO_DIM_ARRAY(MDSYS.SDO_DIM_ELEMENT('X', -
20500000, 20500000, 0.0005), MDSYS.SDO_DIM_ELEMENT('Y', -
50000000, 19000000, 0.0005)), 3857 );

CREATE INDEX Q1_USZIP54004_SDX ON Q1_USZIP54004 (geom) indextype
IS MDSYS.SPATIAL_INDEX;

UPDATE Q1_USZIP54004 SET geom = SDO_UTIL.RECTIFY_GEOMETRY(geom,
.05);
```

Improving Performance by Prefetching the Map Tiles

Rendering map tiles dynamically can affect system performance. To avoid this, you may consider prefetching tiles by issuing an admin request to MapViewer on a non-production server or when the server is not under load. When MapViewer receives a prefetching request, it issues many concurrent map tile requests to itself, which are basically XML map requests, and stores them in the cache. This improves the system's performance as the images are readily available.

Follow the following procedure to prefetch map tiles. These instructions are for MapViewer 11.1.1.9.1 version. If you are using a different version, refer to the MapViewer documentation for instructions.

1. In the **MapView** console, click **Admin** in the top-right corner of the page and log into the Admin Console page.
2. In the **Admin Console** page, click **Management > Manage Map Tile Layers**.
3. Select the required online map tile and click **View map/Manage Tiles**.

The **Prefetching** wizard opens:

4. Enter the X, Y coordinates of the center of the map, the SRID and zoom level, and click **Show Map**.

To prefetch map images, enter the latitude and longitude values. You need to know the latitude and longitude values of the center of the location in interest. The SRID is a unique value used to identify the coordinate system used in a GIS application.

The X and Y axis used in the following example is for Ohio:

5. When you see the map, turn on the **Area Selection** tool and select the area on the map for which you want to prefetch the tiles.
6. Select one or more zoom-levels for which you want to prefetch the tiles.

Loading the Oracle Utilities Specific Themes

This section describes how to load spatial metadata in the USER_SDO* tables for Oracle Utilities Analytics.

Use the following procedure to load spatial metadata in the target database:

1. Create the **dump_dir** directory in the database and copy the **user_sdo.dmp** file from ../BI270/Spatial-Metadata folder to that location.
2. Import the released spatial tables to the target database using the following command:

```
impdp directory=dump_dir dumpfile=user_sdo.dmp logfile=
impdp_user_sdo.log schemas=DWADM
remap_tablespace=cists_01:<tablespace_name>
```

Note: Run this command from database server.

Make sure to change the `tablespace_name` to tablespace name on which DWADM has the quota. If DWADM user have quota on `cists_01` tablespace, then exclude whole `remap_tablespace` clause from command.

3. Review the **impdp_user_sdo.log** file to ensure the tables are imported successfully.
4. After importing the tables, run the following SQL scripts from the `../BI2701/Spatial-Metadata` folder:

```
sqlplus dwadm/<dwadm user password>@database-name
@copy_spatial_metadata.sql
```

```
sqlplus dwadm/<dwadm user password>@database-name
@clean_sdo_release_tbls.sql
```

5. Review the log files.

Additional Setup for Oracle Utilities Outage Analytics

The Outage Analytics product within Oracle Utilities Analytics needs some additional spatial data setup. The reason is that Outage Analytics alone uses point information from spatial data for plotting outage event related information on maps. This section should be skipped if NMS is not one of the source systems for Oracle Utilities Analytics.

The very first step is to replicate the `DIAGRAM_OBJECTS` table into the Oracle Utilities Analytics database. However, a suitable mechanism needs to be built to refresh this table with the latest data from Oracle Utilities Network Management System whenever there are changes in the source system.

Once this is done, then after replicating the `DIAGRAM_OBJECTS` table, the following steps set the Oracle Utilities Analytics dashboards up to use the data in this replicated table.

1. Create the required spatial metadata:

```
INSERT INTO user_sdo_geom_metadata
VALUES ('DIAGRAM_OBJECTS','LL_GEOMETRY',
MDSYS.SDO_DIM_ARRAY (
    SDO_DIM_ELEMENT ('X', -20037508, 20037508, .05),
    SDO_DIM_ELEMENT ('Y', -45884542, 45884542, .05)
), 3857);
```

2. Ensure that the spatial index is created on the `LL_GEOMETRY` column. The `LL_GEOMETRY` column by default stores spatial data using SRID 54004, so this works without changes with the eLocation base map:

```
create index Q1_DIAGRAM_OBJECTS_SDX
on diagram_objects (ll_geometry)
indextype is mdsys.spatial_index;
```

Once `DIAGRAM_OBJECTS` table is replicated to the Oracle Utilities Analytics database, follow the below steps to create `Q1_DIAGRAM_OBJECTS_54004` table:

1. Connect to the DWADM schema of Oracle Utilities Analytics database and execute the following:

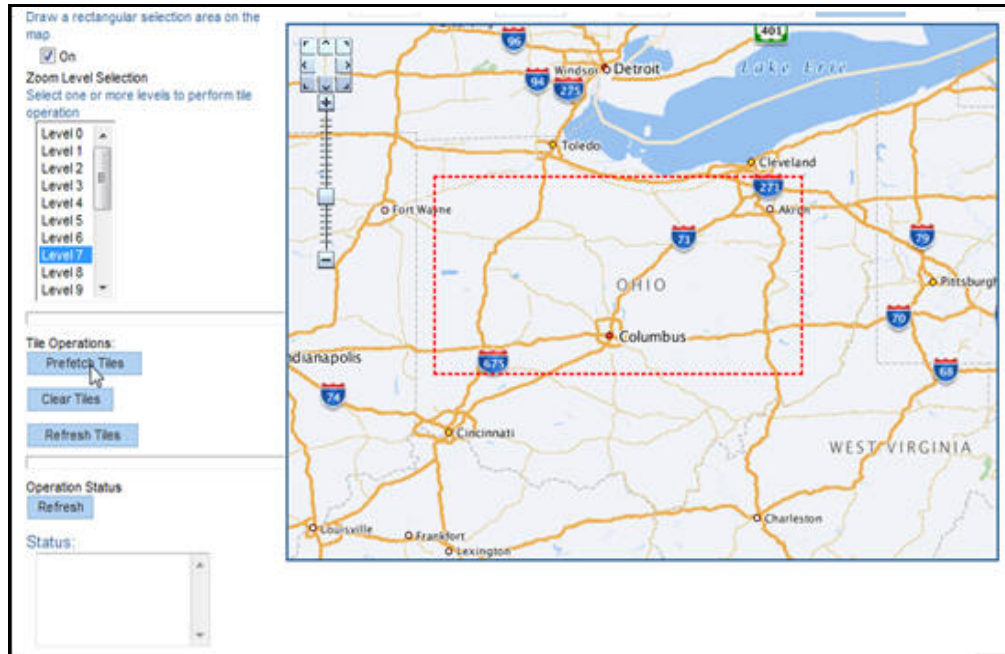
```
CREATE TABLE Q1_DIAGRAM_OBJECTS_54004 as select * from
DIAGRAM_OBJECTS;
```

2. INSERT INTO user_sdo_geom_metadata:

```
VALUES ('Q1_DIAGRAM_OBJECTS_54004','LL_GEOMETRY',
MDSYS.SDO_DIM_ARRAY (
    SDO_DIM_ELEMENT ('X', -20037508, 20037508, .05),
    SDO_DIM_ELEMENT ('Y', -45884542, 45884542, .05)
```

```
), 3857);
```

3. CREATE INDEX Q1_DIAGRAM_OBJECTS_SDX_54004 on Q1_DIAGRAM_OBJECTS_54004 (ll_geometry) indextype is mdsys.spatial_index;
4. CREATE INDEX Q1_DIAGRAM_OBJECTS_IDX_54004 ON Q1_DIAGRAM_OBJECTS_54004(H_CLS,H_IDX);
5. Under **Tile Operations**, click on **Prefetch Tiles**. Here is a snapshot of the area selection and the tile operation.



This process takes some time, depending upon the hardware configuration of the system and the amount of data to be prefetched. To check the current status of the operation, click **Refresh** under the **Operation Status**. The status will change to “Finished” when the operation is done.

Chapter 10

Installing NMS BI Publisher Reports

To install the Oracle Utilities Analytics Oracle Utilities Network Management System IEEE outage reports:

1. Unzip the IEEE outage reports contained in **OUA NMS BI Publisher reports.zip** from the installation media to a temporary directory (example: TEMPDIR) on the server where Oracle BI Publisher is installed.
2. Log into Oracle BI Publisher (<http://<BI Publisher server name>:9704/xmlpserver/>) as an Administrator from a browser that has access to the TEMPDIR folder from the step 1.
3. Set up a database connection.
 - a. Navigate to **Oracle BI Publisher Administration > Data Sources > JDBC Connection**.
 - b. Click **Add Data Source**.
 - c. In the **Data Source Name** field, enter *NMS BI Publisher* or a name of your choice.
 - d. Set the **Driver Type** to Oracle 12c.
 - e. Set the **Database Driver Class** to `oracle.jdbc.OracleDriver`.
 - f. Set the **Connection string**
`to:jdbc:oracle:thin:@<yourmachine>:<Port>:<ORACLE_SID>`

Note: The database connection referring to OUA have to be setup here.
 - g. Set the **username** and **password** to match your Oracle Utilities Analytics database login values.

Note: The username should be “MDADM” and the password corresponding to this user.
 - h. Click **Test Connection** and verify that it is properly configured.
 - i. Click **Apply**.
4. From the **BI Publisher Catalog** page, select **Shared Folders** from the folders tree.
5. On top of the folders section, click the **New** drop-down list and select **Folder** from the list.
6. Enter *NMS IEEE Reports* as the folder name (or a name of your choice). Click **Create**. The new folder is added. You may have to click **Refresh** button to update the Folders list.
7. Select the *NMS IEEE Reports* folder in the folder list.
Under the **NMS IEEE Reports** folder, create another new folder named **NMS IEEE Data Models**.

8. Select the **NMS IEEE Data Models** directory, and then click **Upload** in the **Tasks** section on the bottom left.
 - a. Browse to the directory where the NMS IEEE BI Publisher reports exist (TEMPDIR from step 1).
 - b. Locate all of the data model files and upload them to the **NMS IEEE Data Models** directory. These files contain the xdmz extension and include the following files:
 - CELID DataModel.xdmz
 - CEMI Data Model.xdmz
 - DailyTroubleReport.xdmz
 - DeviceOutageHistory.xdmz
 - Feeder Impact on System Metrics.xdmz
 - IEEE Benchmarking Model.xdmz
 - IEEE_TMED_Calculations.xdmz
 - IEEEIndicesCalculations.xdmz
 - RecurringDeviceOutages.xdmz
9. Select the **NMS IEEE Reports** directory and click **Upload** in the **Tasks** section.
 - a. Browse to the directory where the OUA NMS IEEE BI Publisher reports exist (TEMPDIR from step 1).
 - b. Locate all of the report files and upload them to the **NMS IEEE Reports** directory. These files contain xdoz extension and include the following files:
 - CELID DataModel.xdoz
 - CEMI Data Model.xdoz
 - DailyTroubleReport.xdoz
 - DeviceOutageHistory.xdoz
 - Feeder Impact on System Metrics.xdoz
 - IEEE Benchmarking Model.xdoz
 - IEEE_TMED_Calculations.xdoz
 - IEEEIndicesCalculations.xdoz
 - RecurringDeviceOutages.xdoz
10. Assign the appropriate JDBC connection to the imported data models.
 - a. Click **Catalog**.
 - b. Select the **NMS IEEE Data Models** directory and select the CriticalCustomerOutages.xdmz data model.
 - c. Click **Data Model** on the top left.
 - d. In the **Properties** frame on the right, make sure that **Default Data Source** points to the data source you created earlier. This defaults to **NMS BI Publisher**.
 - e. You must perform this step for all of the data models under the NMS IEEE Data Models directory.
11. Assign the appropriate data model to all the NMS IEEE Reports.
 - a. Click **Catalog**.

- b. Select the **NMS IEEE Reports** directory. Click **Edit** for the **CriticalCustomerOutages** report.
- c. At the top-left of the page, click **Search**.
- d. Browse and select the appropriate data model file (will match the name of the report with an extension of xdmz).
- e. Save the current report by clicking **Save** on the top-right of the page.

You should now be able view the standard IEEE indices reports from BI Publisher by simply selecting the desired report from the **NMS IEEE Reports** directory under the **Catalog**.