Oracle Utilities Analytics

Getting Started Guide

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Preface

Welcome to the Oracle Utilities Getting Started Guide. This guide helps you to get started with Oracle Utilities Analytics, Release 2.5.2. and provides a detailed overview about the product.

Audience

The guide is intended for anyone interested in installation, administration, configuration, customization, or to use Oracle Utilities Analytics Dashboards.

Acronyms

- APEX: Oracle Application Express
- CC&B: Oracle Utilities Customer Care and Billing
- CDC: Changed Data Capture
- ELT: Extraction, Loading and Transformation
- ETL: Extraction, Transformation and Loading
- MDM: Oracle Utilities Meter Data Management
- MWM: Oracle Utilities Mobile Workforce Management
- NMS: Oracle Utilities Network Management System
- OBIEE: Oracle Business Intelligence Enterprise Edition
- ODI: Oracle Data Integrator
- ODM: Oracle Utilities Operational Device Management
- OGG: Oracle Golden Gate
- OUA: Oracle Utilities Analytics
- OWB: Oracle Warehouse Builder
- WAM: Oracle Utilities Work and Asset Management

Conventions

The following notational conventions are used in this document:

Notation	Indicates
boldface	Graphical user interface elements associated with an action, terms defined in text, or terms defines in the glossary
italic	Book titles, emphasis, or placeholder variables for which you supply particular values
monospace	Commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter

Organization of this Guide

This section provides references to get started with the Oracle Utilities Analytics product.

About Oracle Utilities Analytics

See the Overview chapter for a detailed overview about the product.

System Requirements

See System Requirements for the browser, operating system, and database combination details for which this Oracle Utilities Analytics release has been tested and supported.

Licensing and Copyright

See License Information for Oracle license agreement details.

Media Pack Components

See Media Pack Components for a complete list of installation and documentation packages.

What's New

See What's New for the new or enhanced features in this release.

User Information

See User Information for details about users of the product and the skill set needed for using it.

Chapter 1

Overview

This chapter provides an overview of Oracle Utilities Analytics, including:

- Data Warehouse
- Oracle Utilities Analytics

Data Warehouse

The data warehouse is a database primarily used for reporting and analysis purpose. It is a central repository for the current, as well as historical data from various operational applications. Data from transactional or operational applications is extracted, transformed, and loaded into the star schema in the data warehouses.

The components of a typical data warehouse environment are:

- Source Application - The source application from where the data is transferred to the data warehouse.
- ETL/ELT - The Extract, Transform and Load (ETL) tools move the data from the source application to the target data warehouse.
- Staging Area - The staging area is a database that stores the raw data extracted from the source application.
- Data Presentation Area - The data storage architecture in the data warehouse such as the star schema.

Source Application

The day-to-day transactions of the system is captured in the source application. Data in the source application is stored in a way that allows for the fast reads and updates. Queries are not expected to be in bulk, but typically arranged, row by row. To achieve this, data is stored in a normalized form in the source application. Generally, the source system does not store historical data.

ETL/ELT

The process of identifying data to be transferred from the source to the data presentation area, extracting the data, and transforming and loading into the data warehouse is called Extraction, Transform and Load (ETL). There are many tools available in the industry. Based on the complexity of the ETL, you need to choose the tools or write the ETL programs.

Staging Area

The data warehouse stores data from various operational sources. The staging area is a database that stores the raw data extracted from the source application. The replication area is similar to the source application in the structure. This area can be used for cleansing the data, resolving domain conflict, merging or combining data from the multiple source applications, data duplication, etc.

Data Presentation Area

Once data is cleansed in the staging area, it is ready to be moved to presentation area. The data is organized in such a way that it is easily available for the presentation. The data is stored in dimensional model, typically in the star schema.

Oracle Utilities Analytics

This section provides an overview of Oracle Utilities Analytics, including:

- Oracle Utilities Analytics
- Architecture

Introduction

The purpose of the data warehouse is to publish the organization's data assets for supporting the decision making. Oracle Utilities Analytics consists of the pre-built analytics applications, as well as a collection of the Extractors and Schema products.

Oracle Utilities Analytics is a suite of pre-built analytics applications for the utilities industry. It is a single data repository with pre-built data integration to the Oracle Utilities Source Applications listed below:

- Oracle Utilities Customer Care and Billing (CC&B)
- Oracle Utilities Meter Data Management (MDM)
- Oracle Utilities Network Management System (NMS)
- Oracle Utilities Work and Asset Management (WAM)
- Oracle Utilities Mobile Workforce Management (MWM)
- Oracle Utilities Operational Device Management (ODM)

Built on world class Oracle Business Intelligence Enterprise Edition (OBIEE) platform with integrated spatial features, Oracle Utilities Analytics supports end-to-end analytic workflows including the ability to drill back to the source applications. The extractors and schema are designed with the pre-built mapping between the source and the target. They support schema extensibility with built-in user-defined fields, dimensions and measures.

Oracle Utilities Analytics data warehouse is a separate database from the operational database. The data warehousing involves large volumes of data used primarily for analysis. The data warehouse includes the following features:

- Includes pre-built star schemas, pre-built metrics, pre-built reports, and pre-built dashboards.
- Makes the data structures easily accessible for reporting needs of the end users.
- Retrieves the large volumes of data quickly. This in turn allows fast rendering of the graphics that showcase the Key Performance Indicators (KPIs).
- Contains star schemas and graphics suited for data retrieved from the various Oracle Utilities source applications.

- Provides you with the ability to add additional star schemas and graphics as per the requirement using the necessary development tools.

Architecture

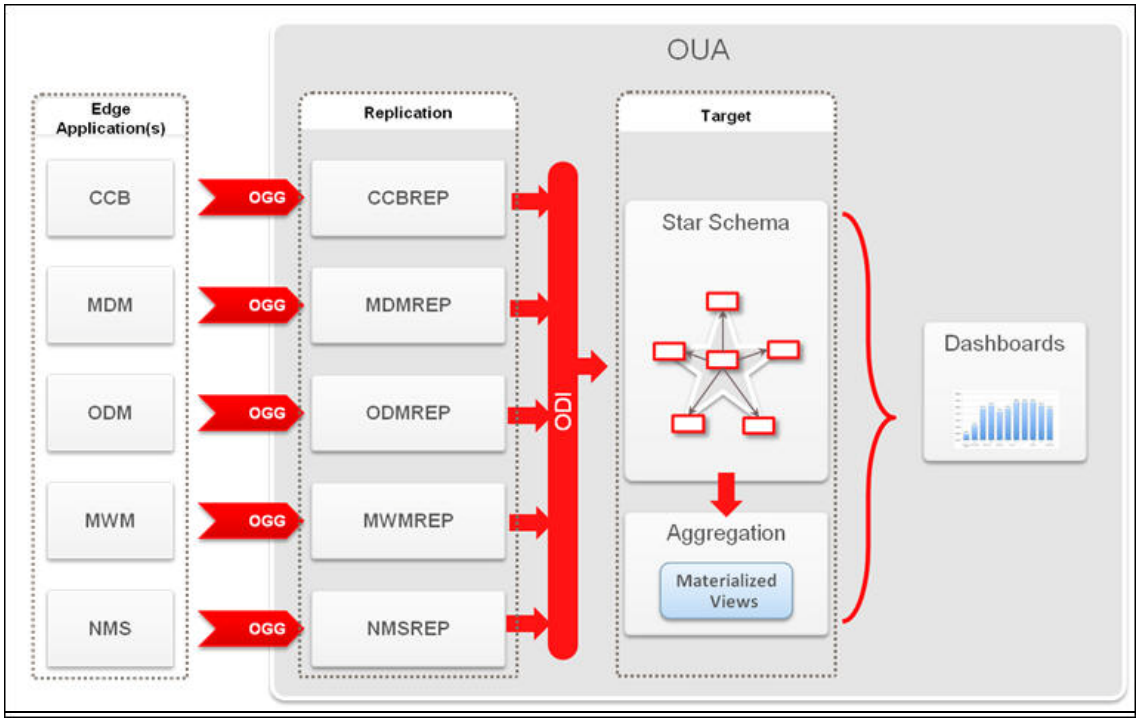
This section provides details on the product architecture and how the different components work together. The objective of this section is to provide you a high level understanding of the key components of the Oracle Utilities Analytics product and how these components work together. And, it covers the following topics:

- Product Overview
- Deployment

Product Overview

The selected tables from the edge applications are replicated to the corresponding replication schema using Oracle GoldenGate. The data in the replication area is transformed into appropriate star schemas using Oracle Data Integrator. Oracle Data Integrator is utilized to generate the aggregated materialized views based on the star schemas. Oracle Business Intelligence Enterprise Edition is used for presenting the data in the star schemas and associated materialized views on dashboards for each subject area.

The following diagram depicts the conceptual components involved in Oracle Utilities Analytics.

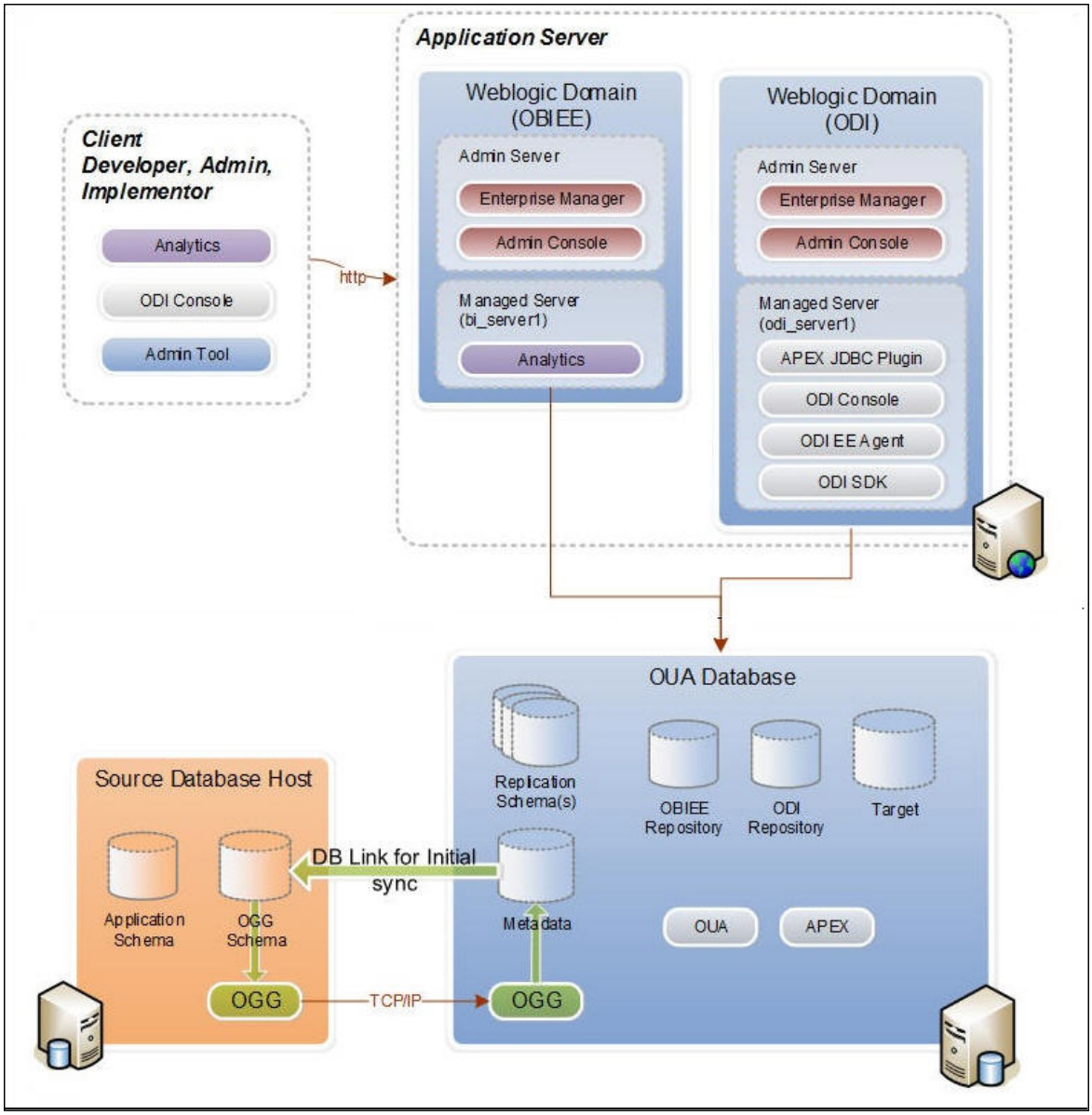


Oracle Utilities Analytics Product Components

Deployment

A standard deployment of the Oracle Utilities Analytics product consists of a database and an application server. Two Weblogic installations are performed on the application server, one for Oracle Business Intelligence Enterprise Edition and another for Oracle Data Integrator. And, Oracle GoldenGate is installed on the source database server and on the target database server.

The diagram below depicts a standard deployment of the Oracle Utilities Analytics product.



Standard Deployment

For more information about the components related to extractors and schemas within Oracle Utilities Analytics and pre-built analytics delivered with the product, see *Oracle Utilities Analytics Administration Guide*.

Chapter 2

System Requirements

This chapter provides the operating system, application server, and source application version details for this release.

- Operating Systems and Application Servers
- Supported Source Application Versions

Operating Systems and Application Servers

Oracle Utilities Analytics v2.5.2 installation is supported to operate on many operating system, application server, and database server combinations.

The following table details the minimum versions of the browser, operating system, and application server combinations on which has been tested and supported:

Browser	Operating System (Client)	Operating System (Server)	Chipset	Application Server	Oracle Business Intelligence Enterprise Edition (OBIEE)	Oracle Data Integrator (ODI)	JDK	Oracle GoldenGate	Oracle REST Data Service	Database
IE 11.x Firefox 34.0ESR + (OBIEE only)	Windows 7/8(64 Bit)	AIX 7.1 (64-bit)	Power 64-bit	WebLogic 10.3.6	11.1.1.7.1	11.1.1.7	1.6.0 (35)	12.1.2.1.0	3.0	Oracle 12.1.0.2.0
		Oracle Linux 6.5 (64-bit)	x86_64	WebLogic 10.3.6	11.1.1.7.1	11.1.1.7	1.6.0 (35)	12.1.2.1.0	3.0	Oracle 12.1.0.2.0
		Oracle Solaris 11 (64-bit)	SPARC	WebLogic 10.3.6	11.1.1.7.1	11.1.1.7	1.6.0 (35)	12.1.2.0.01 2.1.2.1.0	3.0	Oracle 12.1.0.2.0
		Windows 2012 Server (64-bit)	x86_64	WebLogic 10.3.6	11.1.1.7.1	11.1.1.7	1.6.0 (35)	12.1.2.1.0	3.0	Oracle 12.1.0.2.0
		Windows Server 2008 R2 (64-bit)	x86_64	WebLogic 10.3.6	11.1.1.7.1	11.1.1.7	1.6.0 (35)	12.1.2.1.0	3.0	Oracle 12.1.0.2.0

Important Note: Oracle Utilities Analytics supports Oracle Data Integrator based ELT *only* from the following combination of source and target databases.

11g source --> 12c target

12c source --> 12c target

For Oracle Utilities Meter Data Management and Oracle Utilities Mobile Workforce Management source systems, make sure the source database is on Oracle Database Server 12c.

Note: For the latest system requirements and supported platforms details, see the **System Requirements and Supported Platforms for Oracle Utilities Analytics v2.5.2 (Doc ID 2041305.1)** knowledge article available on My Oracle Support (https://support.oracle.com/).

Ensure the software listed below is available:

- Oracle Utilities Analytics version 2.5.2 is supported on Oracle Database Server Standard Edition 12.1.0.2.0 when using ELT component based on Oracle Data Integrator.
- Oracle Business Intelligence Enterprise Edition (OBIEE) 11g is required for Oracle Utilities Analytics Dashboards.
- Oracle Data Integrator, Oracle GoldenGate, Oracle WebLogic and Oracle Application Express are required for Oracle Utilities Analytics ELT component based on Oracle Data Integrator.
- JDK 1.6.0 (35) and JDK 1.7.0+

Supported Source Application Versions

The following are the supported source application versions:

Source Application	Version
Oracle Utilities Customer Care and Billing	2.3.1 2.4.0.2 2.4.0.1 2.5.0
Oracle Utilities Network Management System	1.12.0.1 1.11.0.4.24
Oracle Utilities Work and Asset Management	1.12.0.2
Oracle Utilities Meter Data Management	2.1.0.3
Oracle Utilities Mobile Workforce Management	2.2.0.3
Oracle Utilities Operational Device Management	2.0.1.2
Oracle Utilities Work and Asset Management	1.9.1.2

Note: For the latest supported source application version details, see the **System Requirements and Supported Platforms for Oracle Utilities Analytics v2.5.2 (Doc ID 2041305.1)** knowledge article available on My Oracle Support (https://support.oracle.com/).

For additional notes on supported platforms, see the *Oracle Utilities Analytics Installation Guide*.

Chapter 3

License Information

Oracle Utilities Analytics is a collection of separately licensed products. These products can be broadly classified into two groups:

- Oracle Utilities Analytics Extractors
- Oracle Utilities Analytics Dashboards

See the *Oracle Utilities Analytics License Information User Guide* for detailed information about licensed products within each of these groups.

Chapter 4

Media Pack Components

Oracle Utilities Analytics v2.5.2 media pack consists of the following documentation and installation packages:

Documentation Packages

- Oracle Utilities Analytics v2.5.2 Release Notes
- Oracle Utilities Analytics v2.5.2 Quick Install Guide
- Oracle Utilities Analytics v2.5.2 Installation Guide
- Oracle Utilities Analytics v2.5.2 Administration Guide
- Oracle Utilities Analytics v2.5.2 Developer's Guide
- 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 & Asset Management Data Mapping Guide

Installation Packages

- Oracle Utilities Analytics v2.5.2 Dashboard Component Multiplatform
- Oracle Utilities Analytics v2.5.2 ETL Component Based on OWB Multiplatform
- Oracle Utilities Analytics v2.5.2 ELT Component Based on ODI Multiplatform
- Oracle Utilities Analytics v2.5.2 Oracle Database Multiplatform
- Oracle Utilities Analytics v2.5.2 Demo Data

Chapter 5

What's New

Oracle Utilities Analytics is a set of star schemas, graphic templates, and data processing programs that allows you to build a Business Intelligence (BI) solution to meet your organization's analytic requirements.

In the last few releases, the product has been migrated from Oracle Warehouse Builder (OWB) based ETL to Oracle Data Integrator (ODI) based ELT. This migration is planned in a phased manner, spanning across several releases over a period of time. During this migration cycle, ETL for some of the source applications continues to use Oracle Warehouse Builder, while others use Oracle Data Integrator.

In the release v2.5.2, Oracle Utilities Meter Data Management and Oracle Utilities Mobile Workforce Management source applications start using Oracle Data Integrator (ODI) based ELT. Oracle Data Integrator based ELT component.

If you are an existing user of a previous version of Oracle Utilities Analytics and are interested in knowing what is new in this release, see the *Oracle Utilities Analytics v2.5.2. Release Notes.*

Chapter 6

User Information

This chapter lists the different phases involved in bringing the Oracle Utilities Analytics product up and running. The table below provides detailed information about the user group involved in each of the phases, as well as points to the documents with necessary detail.

Phase	User Group	Recommended Documents
Installation	System Administrator	Oracle Utilities Analytics Installation Guide Oracle Utilities Analytics Quick Install Guide
Administration	Implementor Product Administrator	Oracle Utilities Analytics Administration Guide
Extending Functionality	Developer Implementor	Oracle Utilities Analytics Developer's Guide Oracle Utilities Analytics Administrator's Guide Metric Reference Guide Data Mapping Guide
	End Users	Metric Reference Guide Data Mapping Guide