

Oracle® Retail Data Extractor for Merchandising

Security Guide

Release 15.0

E69297-01

December 2015

Primary Author: Nathan Young

This software and related documentation are provided under a license agreement containing restrictions on use and disclosure and are protected by intellectual property laws. Except as expressly permitted in your license agreement or allowed by law, you may not use, copy, reproduce, translate, broadcast, modify, license, transmit, distribute, exhibit, perform, publish, or display any part, in any form, or by any means. Reverse engineering, disassembly, or decompilation of this software, unless required by law for interoperability, is prohibited.

The information contained herein is subject to change without notice and is not warranted to be error-free. If you find any errors, please report them to us in writing.

If this is software or related documentation that is delivered to the U.S. Government or anyone licensing it on behalf of the U.S. Government, then the following notice is applicable:

U.S. GOVERNMENT END USERS: Oracle programs, including any operating system, integrated software, any programs installed on the hardware, and/or documentation, delivered to U.S. Government end users are "commercial computer software" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, use, duplication, disclosure, modification, and adaptation of the programs, including any operating system, integrated software, any programs installed on the hardware, and/or documentation, shall be subject to license terms and license restrictions applicable to the programs. No other rights are granted to the U.S. Government.

This software or hardware is developed for general use in a variety of information management applications. It is not developed or intended for use in any inherently dangerous applications, including applications that may create a risk of personal injury. If you use this software or hardware in dangerous applications, then you shall be responsible to take all appropriate fail-safe, backup, redundancy, and other measures to ensure its safe use. Oracle Corporation and its affiliates disclaim any liability for any damages caused by use of this software or hardware in dangerous applications.

Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

Intel and Intel Xeon are trademarks or registered trademarks of Intel Corporation. All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. AMD, Opteron, the AMD logo, and the AMD Opteron logo are trademarks or registered trademarks of Advanced Micro Devices. UNIX is a registered trademark of The Open Group.

This software or hardware and documentation may provide access to or information about content, products, and services from third parties. Oracle Corporation and its affiliates are not responsible for and expressly disclaim all warranties of any kind with respect to third-party content, products, and services unless otherwise set forth in an applicable agreement between you and Oracle. Oracle Corporation and its affiliates will not be responsible for any loss, costs, or damages incurred due to your access to or use of third-party content, products, or services, except as set forth in an applicable agreement between you and Oracle.

Value-Added Reseller (VAR) Language

Oracle Retail VAR Applications

The following restrictions and provisions only apply to the programs referred to in this section and licensed to you. You acknowledge that the programs may contain third party software (VAR applications) licensed to Oracle. Depending upon your product and its version number, the VAR applications may include:

- (i) the **MicroStrategy** Components developed and licensed by MicroStrategy Services Corporation (MicroStrategy) of McLean, Virginia to Oracle and imbedded in the MicroStrategy for Oracle Retail Data Warehouse and MicroStrategy for Oracle Retail Planning & Optimization applications.
- (ii) the **Wavelink** component developed and licensed by Wavelink Corporation (Wavelink) of Kirkland, Washington, to Oracle and imbedded in Oracle Retail Mobile Store Inventory Management.
- (iii) the software component known as **Access Via**[™] licensed by Access Via of Seattle, Washington, and imbedded in Oracle Retail Signs and Oracle Retail Labels and Tags.
- (iv) the software component known as **Adobe Flex**[™] licensed by Adobe Systems Incorporated of San Jose, California, and imbedded in Oracle Retail Promotion Planning & Optimization application.

You acknowledge and confirm that Oracle grants you use of only the object code of the VAR Applications. Oracle will not deliver source code to the VAR Applications to you. Notwithstanding any other term or condition of the agreement and this ordering document, you shall not cause or permit alteration of any VAR Applications. For purposes of this section, "alteration" refers to all alterations, translations, upgrades, enhancements, customizations or modifications of all or any portion of the VAR Applications including all

reconfigurations, reassembly or reverse assembly, re-engineering or reverse engineering and recompilations or reverse compilations of the VAR Applications or any derivatives of the VAR Applications. You acknowledge that it shall be a breach of the agreement to utilize the relationship, and/or confidential information of the VAR Applications for purposes of competitive discovery.

The VAR Applications contain trade secrets of Oracle and Oracle's licensors and Customer shall not attempt, cause, or permit the alteration, decompilation, reverse engineering, disassembly or other reduction of the VAR Applications to a human perceivable form. Oracle reserves the right to replace, with functional equivalent software, any of the VAR Applications in future releases of the applicable program.

Contents

Send Us Your Comments	vii
Preface	ix
Audience	ix
Documentation Accessibility	ix
Related Documents	ix
Customer Support	x
Review Patch Documentation	x
Improved Process for Oracle Retail Documentation Corrections	x
Oracle Retail Documentation on the Oracle Technology Network	x
Conventions	xi
1 Overview of Security Features	
Oracle Retail Data Extractor Physical Deployment	1-1
Retail Data Extractor	1-2
Dependent Applications	1-3
Technical Overview of the Security Features	1-3
Retail Data Extractor Security Features	1-3
2 Application Administration	
Common Application Administration	2-1
Application Specific Feature Administration	2-1
A Appendix: Database Security Guide	
Application Schema Owners	A-1
Database Security Considerations	A-1

Send Us Your Comments

Oracle Retail Data Extractor for Merchandising Security Guide, Release 15.0

Oracle welcomes customers' comments and suggestions on the quality and usefulness of this document.

Your feedback is important, and helps us to best meet your needs as a user of our products. For example:

- Are the implementation steps correct and complete?
- Did you understand the context of the procedures?
- Did you find any errors in the information?
- Does the structure of the information help you with your tasks?
- Do you need different information or graphics? If so, where, and in what format?
- Are the examples correct? Do you need more examples?

If you find any errors or have any other suggestions for improvement, then please tell us your name, the name of the company who has licensed our products, the title and part number of the documentation and the chapter, section, and page number (if available).

Note: Before sending us your comments, you might like to check that you have the latest version of the document and if any concerns are already addressed. To do this, access the Online Documentation available on the Oracle Technology Network Web site. It contains the most current Documentation Library plus all documents revised or released recently.

Send your comments to us using the electronic mail address: retail-doc_us@oracle.com

Please give your name, address, electronic mail address, and telephone number (optional).

If you need assistance with Oracle software, then please contact your support representative or Oracle Support Services.

If you require training or instruction in using Oracle software, then please contact your Oracle local office and inquire about our Oracle University offerings. A list of Oracle offices is available on our Web site at <http://www.oracle.com>.

Preface

This document serves as a guide for administrators, developers, and system integrators who securely administer, customize, and integrate the Oracle Retail Data Extractor application. Installation and configuration are covered in more detail in the Installation Guide.

Audience

This document is intended for administrators, developers, and system integrators who perform the following functions:

- Document specific security features and configuration details for the above mentioned product, in order to facilitate and support the secure operation of the Oracle Retail Product and any external compliance standards.
- Guide administrators, developers, and system integrators on secure product implementation, integration, and administration.

We assume that the readers have general knowledge of administering the underlying technologies and the application.

Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc>.

Access to Oracle Support

Oracle customers that have purchased support have access to electronic support through My Oracle Support. For information, visit

<http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info> or visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs> if you are hearing impaired.

Related Documents

For more information, see the following documents in the Oracle Retail Data Extractor for Merchandising Release 15.0 documentation set:

- *Oracle Retail Data Extractor for Merchandising Installation Guide*
- *Oracle Retail Data Extractor for Merchandising Operations Guide*
- *Oracle Retail Data Extractor for Merchandising Implementation Guide*

- *Oracle Retail Data Extractor for Merchandising Release Notes*

Customer Support

To contact Oracle Customer Support, access My Oracle Support at the following URL:

<https://support.oracle.com>

When contacting Customer Support, please provide the following:

- Product version and program/module name
- Functional and technical description of the problem (include business impact)
- Detailed step-by-step instructions to re-create
- Exact error message received
- Screen shots of each step you take

Review Patch Documentation

When you install the application for the first time, you install either a base release (for example, 15.0) or a later patch release (for example, 15.0.1). If you are installing the base release and additional patch releases, read the documentation for all releases that have occurred since the base release before you begin installation. Documentation for patch releases can contain critical information related to the base release, as well as information about code changes since the base release.

Improved Process for Oracle Retail Documentation Corrections

To more quickly address critical corrections to Oracle Retail documentation content, Oracle Retail documentation may be republished whenever a critical correction is needed. For critical corrections, the republication of an Oracle Retail document may at times not be attached to a numbered software release; instead, the Oracle Retail document will simply be replaced on the Oracle Technology Network Web site, or, in the case of Data Models, to the applicable My Oracle Support Documentation container where they reside.

This process will prevent delays in making critical corrections available to customers. For the customer, it means that before you begin installation, you must verify that you have the most recent version of the Oracle Retail documentation set. Oracle Retail documentation is available on the Oracle Technology Network at the following URL:

<http://www.oracle.com/technetwork/documentation/oracle-retail-100266.html>

An updated version of the applicable Oracle Retail document is indicated by Oracle part number, as well as print date (month and year). An updated version uses the same part number, with a higher-numbered suffix. For example, part number E123456-02 is an updated version of a document with part number E123456-01.

If a more recent version of a document is available, that version supersedes all previous versions.

Oracle Retail Documentation on the Oracle Technology Network

Oracle Retail product documentation is available on the following web site:

<http://www.oracle.com/technetwork/documentation/oracle-retail-100266.html>

(Data Model documents are not available through Oracle Technology Network. You can obtain these documents through My Oracle Support.)

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.

Overview of Security Features

This chapter provides an overview of the security features included with Oracle Retail Data Extractor.

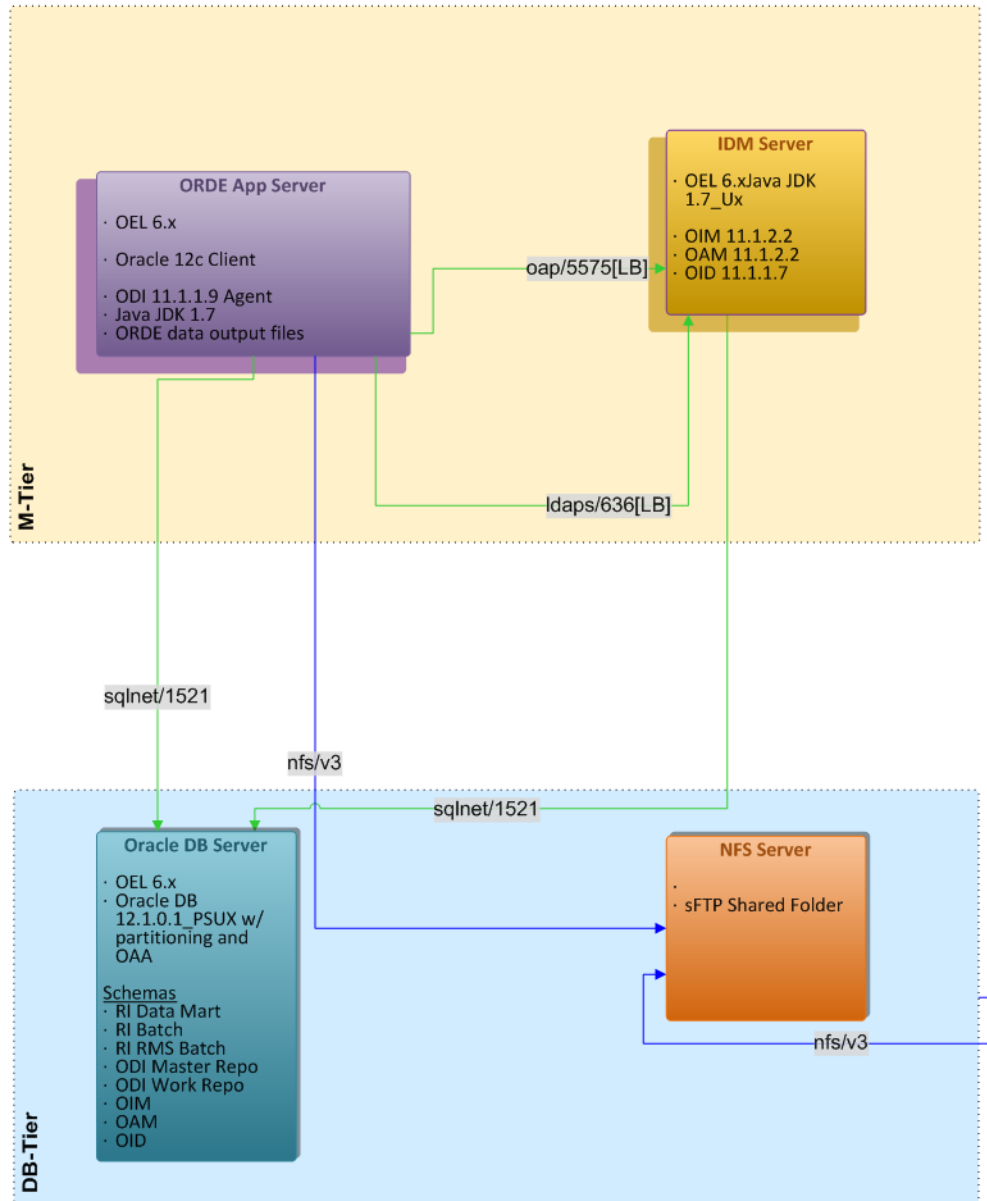
Oracle Retail Data Extractor Physical Deployment

The following diagram provides a high-level overview of the physical deployment of Retail Data extractor.

Figure 1–1 Physical Deployment

Notes:

*The App Server is optional for better security control.



Retail Data Extractor

Oracle Retail Data Extractor (ORDE) is the new application which enables customers to extract data from Retail Merchandising System (RMS) source system for Oracle Retail Insights Cloud Services (RI) consumption previously known as RA (Retail Analytics).

Oracle Retail Analytics (RA) was converted from being an on-premise application to a cloud based service offering named Oracle Retail Insights Cloud Services (RI). Oracle

Data Integrator (ODI) mappings for extracting data from the Retail Merchandising System (RMS) called as SDE Mappings (Source Dependent Extracts) were removed because RMS was an on-premise product and could not be sourced directly from the cloud.

RMS is the primary source of information for the RI application, so there was requirement to be able to extract data from RMS into flat files for uploading and importing into RI staging tables for loading the RI data warehouse.

This new application Oracle Retail Data Extractor (ORDE) 15.0 provides this functionality to integrate with RMS 15.0 and extract data in ORDE staging tables and then unload them in to respective flat files for RI consumption.

Dependent Applications

- Oracle Database 2 Day + Security Guide, 12c Release 1 Oracle® Fusion Middleware Developer's Guide for Oracle Data Integrator

Technical Overview of the Security Features

Retail Data Extractor Security Features

- Authentication is required when Retail Data Extractor batch users execute Retail Data Extractor batch in the back-end. For the batch execution, the authentication, including the storage of the credentials of the database connection, is managed by ODI.
- During the Retail Data Extractor installation, it is required to create a RI RMS batch user in RMS database. This user has the permission to access database objects owned by RMS data user. The permission is only on SELECT and is limited to the objects used by Retail Data Extractor.
- During Retail Data Extractor installation, it is required to create different Retail Data Extractor database users with different permissions. The Retail Data Extractor database can be the same database with RMS. Within these database users, the Retail Insights data mart user is the user who owns target staging tables. The Retail Insights batch user is the user who executes Retail Data Extractor batch. The batch user is granted with SELECT, UPDATE/INSERT, and DELETE permissions to the resources owned by the Retail Insights data user. The Retail Insights batch user has the permission to logon on RMS database as RI RMS user to access RMS objects through a Database Link.

Application Administration

Common Application Administration

- ORDE Retail Insights batch users access RMS and ORDE stored data through DB Link and ODI. Then credentials for ODI and RMS and ORDE Database access are managed through ODI security system. See the *ODI Security Guide* for the detail information.
- Configuration and logs files protection
 - Batch process:

To execute Retail Data Extractor batch, Retail Data Extractor batch scripts, Retail Data Extractor source data files, Retail Data Extractor configuration files, and Retail Data Extractor batch log files need to be placed under Retail Data Extractor base home directory. These files are protected with secured permission. There is no world read for these files. Retail Data Extractor batch scripts have 750 file permission Retail Data Extractor configuration files have 660 permission, and Retail Data Extractor static data files have 640 permission.

Application Specific Feature Administration

- The security and data access for Retail Insights goes beyond simple role based associations. Typically users and groups are associated with roles. The setup of each role determines what object is accessible by the users.
- Retail Insights batch user is the only one who can run the batch scripts and the connections managed by ODI are used by the batch processes to access data sources.
- For file permission, by default the following permissions are given to users to access files packaged with Retail Insights once installation is completed.
 - All Retail Insights scripts should at least have 750 permission
 - All configuration files should at least have 660 permission
 - All static data (csv files) should at least have 640 permission

Based on the permission above, besides owner (the installer user), the group member can also view and execute scripts, read and modify the configuration files, and read the static file. A user out of the group cannot do anything to Retail Insights files and explicit permission needs to be given by the Administrator to users outside of the group.

Appendix: Database Security Guide

The database should be secured using the recommendations from the *Oracle Database 12c Release 1 Security Guide*. The following sections provide additional application specific guidance for securing the database for use with Oracle Retail Stores products.

Application Schema Owners

The following recommendations should be considered for the schema owners:

- Database Administrators should create an individual schema owner for each application, unless the applications share the same data.
For example, the Oracle Retail Point-of-Service and Back Office applications share the same database.
- The schema owners should only have enough rights to install the applications.
- Set the following rights when using an Oracle database:
 - CREATE TABLE
 - CREATE VIEW
 - CREATE INDEX
 - CREATE SEQUENCE
 - CREATE PROCEDURE
 - ALTER SESSION
 - CONNECT
- After the database objects are created, the following rights are no longer needed, and should be revoked:
 - When using an Oracle database, revoke CREATE PROCEDURE.

Database Security Considerations

The following recommendations should be considered for the database:

- The database server should be in a private network.
- The database server should be in a locked secure facility and inaccessible to non-administrator personnel.
- The database should only be accessed via trusted network hosts.

- The database server should have minimal use of ports and any communications should be under secure protocols.
- The database should be on its own dedicated server.
- The database server should be behind a firewall.
- Any database user beyond the schema application owner should be audited.
- Only minimal rights should be granted to the owner of database processes and files such that only that owner has the right to read and write from the database related files, and no one else has the capability to read and write from such files.
- The internal database JVM is required to be Java JVM v7.0 in order to run the optional Universal Adapter ETL component
 - Note that in Oracle 12c, the internal JVM version is configurable
 - For more information regarding the internal JVM, please refer to the Oracle Database Java Developer's Guide

The purge script is usually put into an automation script, which runs once per day. As described above, this script is usually run by a user with limited access (only execute procedure and connect access).