Oracle® Retail Science Cloud Services

Security Guide

Release 18.0.002

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Value-Added Reseller (VAR) Language

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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 Oracle Retail Science Cloud Services.

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.

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Access to Oracle Support

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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 Science Cloud Services documentation set:

- *Oracle Retail Science Cloud Services Administration Guide*

- *Oracle Retail Science Cloud Services Implementation Guide*

- *Oracle Retail Science Cloud Services Release Notes*

- *Oracle Retail Science Cloud Services User Guide*

- *Oracle Retail Insights Cloud Service Suite/Oracle Retail Science Cloud Services Data Interface*

- *Oracle Retail Insights Cloud Service Suite/Oracle Retail Science Cloud Services Data Interface Details*

Customer Support

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

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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

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.

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.
italic	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.

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Security Features

Oracle Retail Science Cloud Services uses web services to push information to Customer Engagement and to expose configuration as well as application incremental data and reports to customers.

Technology-Specific Guidelines

This section details the security guidelines.

Security Features

Oracle Retail Science CS supports the following security features.

Web Services

The Web service in Oracle Retail Science CS is stateless, so state is not stored or managed. Pagination such as the batch size of data and parameters such as export data time, product, location, and so on are used to manage payload size and to handle session timeouts.

SOAP

Oracle Retail Science CS has an Outbound Interface to push Customer Segment and its members to ORCE (Customer Engagement). This interface supports the following security features.

- Message authentication is enabled in ORCE, and the Oracle Retail Science CS message includes authentication information in the HTTP header for the message. This authentication information is specific to ORCE and is stored in the Credential Stores. The Credential Stores are created or updated from the Data Management task, enabled for an Administrator. The Base64 encoding tool is used to encode the authorization key that is sent as part of the Message HTTP Header request. The Credential Stores use APIs that applications can use to create, read, update, and manage credentials securely and mark code as being "privileged", thus affecting subsequent access determinations.

- Oracle Retail Science CS provides configuration to set up proxy settings for both HTTP and HTTPS.

- XML sent as part of the message relies on marshalling and un-marshalling to and from Java Objects generated using the WSDL/Schema exposed via ORCE. This enforce XML generated is well formed and valid. It is the responsibility of ORCE to convert XML; Oracle Retail Science CS does not perform any XML Conversion. There are no concerns regarding XXE and XEE.

REST

Oracle Retail Science CS has an Outbound Interface to export data (GET request), and it use REST to expose data. These web services are REST-based; it is assumed that callers are familiar with the basic REST principles (such as the usage of HTTP verbs). AC and ASO export web services can serve as a means of obtaining incremental update data from a specified point in time. All services support the query parameter contentType and the HTTP header Content-Type, with supported values application/json and application/xml. The query parameter takes precedence; if no content type is supplied, then application/json serves as the default. Basic authentication is used, so you may use any client software that supports it. Authorization is done for ADF-LDAP (OID) mapped roles, and only administrator roles are used. (That is, the calling user must be in a duty that is mapped to the defined administrator roles.) JSON/XML parsing is done using standard JAXB request parameters that are validated before data is fetched.

Authentication and Authorization

For authorization, Oracle Retail Science CS modules have been built with role-based access. Access to application user interface components is done by assigning application roles. Application roles are defined as part of the application and deployed as part of the installation process. Application roles are mapped to enterprise roles during the initial environment provisioning. Enterprise roles exist as LDAP groups in OID. For IDCS users, it is available in the IDCS import file. Refer to the *Oracle Retail Science Cloud Services User Guide* for the definition of standard user roles.

User Roles

Oracle Retail Science supports the following roles.

Table 1–1   User Roles

Module	Job Role	Role Description
CDT	ANALYTIC_EXPERT_JOB	A user who understands the retailer's business, has some business analytics training, and has been trained in the use of the CDT application.
DT	ANALYTIC_EXPERT_JOB	A user who understands the retailer's business, has some business analytics training, and has been trained in the use of the DT application.
ASO	CATEGORY_MANAGER_JOB	Product-assortment-centric user who is interested in viewing ASO results and in the translation of data between CMPO, Retail Analytics, and ASO.
	SPACE_PLANNER_JOB	A Store Planner is a corporate employee with responsibility for designing the layout of floor plans, department sizes, and locations, the layout of fixtures and aisles, applying health, safety and welfare guidelines, and managing and publishing floor-plan versions. This user is also responsible for day-to-day micro-space optimization activities.
	MERCHANDISING_ANALYST_JOB	Main business user responsible for day-to-day micro-space optimization activities.
	SPACE_ADMINISTRATOR_JOB	Responsible for general system setup and configuration tasks related to the business.
	FORECAST_MANAGER_JOB	Responsible for analytical configuration, testing, and model diagnosis.

Table 1–1   (Cont.) User Roles

Module	Job Role	Role Description
AC	ASSORTMENT_ PLANNER_JOB	The Assortment Planner is responsible for creating the category assortments that meet the roles, strategies, and tactics set for the category by the Category Manager. Multiple category assortments are created for each cluster or store. One planner can be responsible for multiple categories.
	MERCHANDISER _JOB	A Store Merchandiser (or In-Store Merchandiser) is an hourly employee who executes the placement and assembly of retail fixtures, the adjustment of shelves, and the arrangement and placement of products on the shelves in accordance with CAD drawings and planograms.
	CLUSTERING_ ADMINISTRATOR _JOB	Plans, builds, and analyzes store clusters based on a variety of store and category attributes to support assortment, pricing, and space planning business processes in the Store Clustering Module.
CS	ASSORTMENT_ PLANNER_JOB	The Assortment Planner is responsible for creating the category assortments to meet the roles, strategies, and tactics set for the category by the Category Manager. Multiple category assortments are created for each cluster and or store. One planner can be responsible for multiple categories.
	MERCHANDISER _JOB	A Store Merchandiser (or In-Store Merchandiser) is an hourly employee who executes the placement and assembly of retail fixtures, the adjustment of shelves, and the arrangement and placement of products on the shelves in accordance with CAD drawings and planograms.
	CUSTOMER_ ANALYST_JOB	Responsible for developing customer segments and analyzing their customer shopping and buying behavior to determine customer differentiation, trends, and opportunities in the Customer Segmentation Module.
	MARKET_ ANALYST_JOB	Responsible for reviewing customer segments with business experts, suited (distinctly) for targeted promotion, category and assortment planning, targeted pricing, customer, and market basket analytics in the Customer Segmentation Module.
	CUSTOMER_ SEGMENT_ ADMINISTRATOR _JOB	Responsible for analytical defaults and configuration, testing, and model diagnosis. This includes Filter, Sampling, and Attribute Mining in the Customer Segmentation Module.
AE	ATTRIBUTE_ EXTRACTION_ JOB	A user who is familiar with the retailer's product categories and has been trained in the use of the Attribute Extraction.
RSP Administration	ADMINISTRATOR _JOB	A user who understands all the parameters driving the application and is responsible for their configuration. The user is also responsible for integration configuration and management of credential store for CE, RPM, and so on.
RL	RETURN_ LOGISTICS_JOB	A user who is familiar with the retailer's product categories and has been trained in the use of the AE application.
SA	SOCIAL_ ANALYTICS_JOB	A user who understands the retailer's business, has some business analytics training, and has been trained in the use of the SA application.
Attribute Binning	ATTRIBUTE_ BINNING_JOB	A user who understands the retailer's business, has some business analytics training, and has been trained in the use of the CDT application and attribute binning application.

Table 1–1   (Cont.) User Roles

Module	Job Role	Role Description
PRO	PRICING_ ADMINISTRATOR _JOB	Responsible for the general system setup and configuration tasks related to the business.
	PRICING_ MANAGER_JOB	A user who is responsible for the analytical configuration, testing, and model diagnosis. The user oversees the work done by the pricing analyst.
	PRICING_ ANALYST_JOB	Main business user responsible for day-to-day pricing optimization activities (e.g., creating scenarios).
	BUYER_JOB	User who is responsible for a department or departments and who makes the budget decision for pricing recommendations, approves or rejects the OO run, and is responsible for the translation of data between OO and Oracle Retail Price Management (RPM) and Oracle Retail Customer Engagement (CE).
	TARGETED_ OFFER_JOB	User (probably works in marketing department) who is responsible for accepting or rejecting targeted offers that are sent out to customers.
HOS	HOS_FORECAST_ ANALYST_JOB	A user who understands the restaurant's business, has some business analytics training, and has been trained in the use of the Forecasting application.
	HOS_FORECAST_ CORPORATE_ ANALYST_JOB	A Corporate Analyst is responsible for ensuring the efficient running and profitability of multiple stores in a restaurant chain. This user works with the store manager to review and override the daily sales forecasts, as needed.
	HOS_FORECAST_ STORE_ MANAGER_JOB	A Store Manager is responsible for overseeing stock levels and ordering supplies to meet the restaurant's profitability and quality goals.
		This user reviews, overrides, and approves the daily sales forecast of menu item groups. The store manager is typically responsible for one store.
MR	MENU_ RECOMMENDATI ON_JOB	A user who understands the restaurant's business, has some business analytics training, and has been trained in the use of the Menu Recommendation.
IW	DATA_SCIENCE_ ANALYST_JOB	Data Science Retailer Analyst who uses Innovation Workbench using APEX Workspace. This user is a developers who create and edit applications, monitor workspace activity, and view dashboards.
	DATA_SCIENCE_ ADMINISTRATOR _JOB	Data Science Retailer Administrator who uses Innovation Workbench using APEX Workspace. This user is a workspace administrators who perform administrator tasks specific to a workspace such as managing user accounts, monitoring workspace activity, and viewing log files.
	DATA_SCIENCE_ OLDS_ANALYST_ JOB	Data Science Retailer Analyst who uses Innovation Workbench using Python Notebook. This user is a developers who manage and executes paragraphs in Python Notebook
MBI	MARKET_ BASKET_ ANALYSIS_JOB	A user who understands the retailer's business, has some business analytics training, and is responsible for reviewing sales transaction affinity analysis.
Chatbot	CHATBOT_ SERVICE_JOB	Conversational AI Role to enable integration between Retail Science and Oracle Chatbot.
	CHATBOT_QNA_ VIEW_JOB	Conversational AI Role to enable frequently asked question type of bot conversations.
	CHATBOT_VIEW_ JOB	Conversational AI Role to enable real time bot conversations.
SPO	SIZE_PROFILE_ OPT_JOB	A user who understands size and profile estimations and is able to review and submit them for the retailer's business.
POS Log	POSLOGS_ SERVICE_JOB	Point of Sales broadcast listener roles to enable integration between Retail Science and Oracle XStore.

Note that in stage and pre-production environments, users are assigned roles that are appended with _PREPROD.