

Oracle® Cloud

Administering Oracle Fusion Data Intelligence



G27911-12
August 2025



Oracle Cloud Administering Oracle Fusion Data Intelligence,

G27911-12

Copyright © 2019, 2025, Oracle and/or its affiliates.

Primary Author: Padma Rao

Contributing Authors: Jenny Smalling

Contributors: Oracle Fusion Data Intelligence development, product management(contributors), and quality assurance teams

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, software documentation, data (as defined in the Federal Acquisition Regulation), 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 embedded, installed, or activated on delivered hardware, and modifications of such programs) and Oracle computer documentation or other Oracle data delivered to or accessed by U.S. Government end users are "commercial computer software," "commercial computer software documentation," or "limited rights data" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, the use, reproduction, duplication, release, display, disclosure, modification, preparation of derivative works, and/or adaptation of i) Oracle programs (including any operating system, integrated software, any programs embedded, installed, or activated on delivered hardware, and modifications of such programs), ii) Oracle computer documentation and/or iii) other Oracle data, is subject to the rights and limitations specified in the license contained in the applicable contract. The terms governing the U.S. Government's use of Oracle cloud services are defined by the applicable contract for such services. 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®, Java, MySQL, and NetSuite are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

Intel and Intel Inside 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, Epyc, and the AMD 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.

Contents

Preface

Audience	i
Documentation Accessibility	i
Diversity and Inclusion	i
Related Documentation	i
Conventions	ii

1 Get Started with Oracle Fusion Data Intelligence

About Oracle Fusion Data Intelligence	1
About Oracle Fusion Data Intelligence Service Level Objective	2
About Oracle Fusion Data Intelligence Releases	2
About Oracle Fusion Data Intelligence Components	3
About Oracle Fusion Data Intelligence Console	4
Comparison of Capabilities between Analytics Cloud Associated with Fusion Data Intelligence and Standalone Analytics Cloud	4
Usage Guidelines for Autonomous Data Warehouse Associated with Fusion Data Intelligence	6
Preview Features	7
Generally Available Features	9
Third Party Data Connectors	10
Region Availability	16
Billing Metrics of Autonomous Data Warehouse Associated with Fusion Data Intelligence	17

2 Activate Oracle Fusion Data Intelligence

Before You Begin with Oracle Fusion Data Intelligence	1
Typical Workflow to Activate Oracle Fusion Data Intelligence	2
About Activating Your Oracle Fusion Data Intelligence Subscription	2
Activate the Oracle Fusion Data Intelligence Subscription	5
Typical Workflow to Administer Oracle Fusion Data Intelligence	13
Sign In to the Oracle Cloud Infrastructure Console	14
Access Your Service	14
Add Users with Administrator Permissions	15

3 Set Up Oracle Fusion Data Intelligence

Prerequisites for Oracle Fusion Data Intelligence	1
Typical Workflow to Set Up Oracle Fusion Data Intelligence	2
Set Up User Access to Oracle Fusion Data Intelligence Using Single Sign-On	2
About Setting Up User Access to Oracle Fusion Data Intelligence Using Single Sign-On	3
Set Up User Access in case of a Single Cloud Account	3
Set Up User Access in case of Separate Cloud Accounts	4
Configure Single Sign-on Between Two Identity Domains	5
Create an Oracle Fusion Data Intelligence Instance	7
About Creating an Instance	7
Create an Integrated Oracle Fusion Data Intelligence Instance	9
Create an Oracle Fusion Data Intelligence Standalone Instance	11
Enter Details for an Oracle Fusion Data Intelligence Subscription Instance	14
Verify Your Instance and Sign In	18
Create an Oracle Fusion Data Intelligence Instance without Oracle Fusion Cloud Applications Source	19
Deploy Oracle Fusion Data Intelligence with a Private Endpoint	22
About Private Endpoints	22
Prerequisites for a Private Endpoint	23
Create an Oracle Fusion Data Intelligence Private Instance	25
Make Preview Features Available	28
Enable Generally Available Features	29
View Work Requests	30
View Subscriptions	30
Update the Data Source Connection Details	31
Update Your Subscriptions	32
Update the Administrator Password for Oracle Autonomous Data Warehouse	33
Reset the Password for OAX_USER Schema	35
Reset the Password for Custom Schemas	36
Terminate Instances	36
Move the Oracle Fusion Data Intelligence Instance to Another Compartment	37
Update the Notification Email	38
Scale Up Oracle Autonomous Data Warehouse	39
Change Oracle Analytics Cloud Capacity	42
Activate the Universal Credits Subscription	44
Provide Your Encryption Key for Oracle Autonomous Data Warehouse	46
Configure Advanced Options	47
About Advanced Configuration	47
Performance and Compatibility Options	47

Preview Options	50
Email Delivered by Agents Options	51
View Options	52
Other Options	54
Security Options	57
Analytic Content Options	60
Format Options	62
Prompt Options	63
Set Advanced Options	64

4 Configure Oracle Fusion Data Intelligence Data

Typical Workflow to Configure Data	2
About Data Pipelines for Functional Areas	4
Allowed Actions for Data Pipelines	4
About Data Refresh Performance	5
About Pipeline Parameters	6
Set Up the Pipeline Parameters	7
Create a Data Pipeline for a Functional Area	9
Edit a Data Pipeline for a Functional Area	11
Activate a Data Pipeline for a Functional Area	11
About Global Parameters	12
Set Up the Global Report Parameters	13
About Reporting Configurations	13
About the Reporting Configuration for Enterprise Resource Planning	13
About the Reporting Configuration for Human Capital Management	14
About the Reporting Configuration for Supply Chain Management	15
Set Up the Reporting Configurations for Enterprise Resource Planning	15
Set Up the Reporting Configurations for Human Capital Management	16
Set Up the Reporting Configurations for Supply Chain Management	17
Deactivate a Data Pipeline for a Functional Area	18
Delete a Data Pipeline for a Functional Area	19
Refresh a Data Pipeline for a Functional Area	19
Reload Data for a Data Pipeline	21
Reset the Data Warehouse	22
Reset the Cache	23
Reset and Reload the Data Source	24
View Load Request History	25
About Request Types and Statuses	26
View the Audit Log	27
View Records Rejected in Extraction	28
About Augmenting Your Data	28

Augment Your Data	29
Create Dimension Augmentation Type	32
Create Fact Augmentation Type	34
Extend an Entity	35
Create Dataset Augmentation Type	36
Create a Dimension Alias	37
Manage Data Connections	39
Connect With On-premises Sources	41
Set up the Remote Agent to Load Data into Fusion Data Intelligence (Preview)	41
Load Data from On-premises E-Business Suite into Fusion Data Intelligence (Preview)	50
Load Data from On-premises MySQL Database into Fusion Data Intelligence (Preview)	53
Load Data from On-premises PeopleSoft into Fusion Data Intelligence (Preview)	56
Load Data from On-premises JD Edwards into Fusion Data Intelligence (Preview)	59
Load Data from SQL Server into Oracle Fusion Data Intelligence (Preview)	62
Connect with Cloud File Storage Sources	65
About OpenCSV Standards	65
About Date and Timestamp Formatting for CSV File-based Extractors	66
Load Data from Amazon Simple Storage Service into Oracle Fusion Data Intelligence (Preview)	67
Load Data from Oracle Object Storage into Fusion Data Intelligence	69
Load Data from a Secure FTP Source into Fusion Data Intelligence (Preview)	74
Load Data from Azure Storage into Oracle Fusion Data Intelligence (Preview)	78
Connect With Cloud Sources	81
Load Data from Azure SQL into Oracle Fusion Data Intelligence (Preview)	82
Connect with Your Oracle Eloqua Data Source (Preview)	84
Load Data from Enterprise Data Management Cloud into Fusion Data Intelligence (Preview)	87
Load Data from Oracle Enterprise Performance Management into Fusion Data Intelligence (Preview)	90
Load Data from EPM Export Data Instance into Fusion Data Intelligence (Preview)	94
Load Data from Google Analytics into Fusion Data Intelligence	98
Load Data from MongoDB into Fusion Data Intelligence (Preview)	103
Load Data from MySQL Cloud Database into Fusion Data Intelligence (Preview)	106
Load Data from Salesforce into Fusion Data Intelligence	109
Load Data from Shopify into Fusion Data Intelligence (Preview)	112
Load Data from Oracle Autonomous Database into Oracle Fusion Data Intelligence (Preview)	115
Load Data from Snowflake into Oracle Fusion Data Intelligence (Preview)	119
Load Data from Taleo into Fusion Data Intelligence (Preview)	122
Load Data from Oracle Analytics Publisher into Fusion Data Intelligence (Preview)	125
Load Data from Oracle Database Using JDBC into Fusion Data Intelligence (Preview)	130

Load Data from Oracle Transportation Management Cloud Service into Oracle Fusion Data Intelligence (Preview)	133
Load Data from QuickBooks Online into Oracle Fusion Data Intelligence (Preview)	137
Disable the Data Pipeline	139
View Notifications and Emails	140
Enable Event Notifications (Preview)	141
Schedule Frequent Data Refreshes for Functional Areas	142
About Scheduling Frequent Data Refreshes	142
Schedule Frequent Refreshes of Data	143
Schedule Periodic Full Reload of Functional Area Data	144
Schedule Frequent Refreshes of Warehouse Tables (Preview)	146
Override Data Pipeline Schedules for Functional Areas (Preview)	147
Prioritize Datasets for Incremental Refresh (Preview)	148
Schedule Data Maintenance	149
Extend Data with Custom Data Configurations	151
About Extending Data with Custom Data Configurations	151
About Extending Data with the Descriptive Flex Fields Attribute Mapper	151
Select Descriptive Flex Fields and Map Attributes	152
Activate the Descriptive Flex Fields	154
Deactivate the Descriptive Flex Fields	155
Connect to an Autonomous Data Warehouse	155
Configure Autonomous Data Warehouse Credentials for Fusion Data Intelligence	156
Connect Fusion Data Intelligence to an Autonomous Data Warehouse with Database Actions (SQL Developer Web)	156
Query Tables for Fusion Data Intelligence from Autonomous Data Warehouse as OAX_USER	157
Query the Autonomous Data Warehouse System Tables as ADMIN	157
Connect Fusion Data Intelligence to an Autonomous Data Warehouse with Oracle Analytics Cloud	157
Configure the Connection for OAX_USER in Oracle Analytics Cloud	157
Create an Oracle Analytics Cloud Dataset	158
Connect Fusion Data Intelligence to an Autonomous Data Warehouse with SQL Developer Desktop Client	158
Configure the Connection to Autonomous Data Warehouse for ADMIN with SQL Developer Desktop Client	159
Configure the Connection to Autonomous Data Warehouse for OAX_USER with SQL Developer Desktop Client	159

5 Validate Oracle Fusion Data Intelligence Data

About Validating Your Data	1
Prerequisites for Data Validation	1
Data Validation Recommendations and Tips	2
Create a User to Validate the Extracted Data	3

Create a Custom BI Abstract Role	3
Validate Your Data	4

6 Manage Users, Groups, Application Roles, and Data Access

About Managing Users, Groups, Application Roles, and Data Access	1
About Users	2
About Groups	2
System Groups	3
Job-Specific Groups	4
Other Groups	5
About Application Roles	5
Duty Roles	5
Data Roles	7
Licensed Roles	7
About Data Access through Security Assignments	19
Typical Workflow to Manage Users, Groups, Application Roles, and Data Access	20
Manage Users	21
Create Users	21
Synchronize Users from Your Oracle Fusion Cloud Applications Instance	22
Create Users in Oracle Identity Cloud Service	22
License the Users to Access Oracle Fusion Data Intelligence	22
Assign Licensed Groups to Users	22
Add Security Assignments to a User	23
Remove Security Assignments Granted to a User	24
Copy Data Security Assignments	24
View the Excluded Data Security Assignments	24
Manage Groups	25
Add Application Roles to a Group	25
Copy Application Roles to a Group	26
Remove Application Roles from a Group	26
Create an Application Role While Mapping	26
Enable Easy Data Access to People Leaders	27
Manage Application Roles	29
Create an Application Role	29
Delete an Application Role	29
Assign Groups to Application Roles	29
Remove a Group Mapped to an Application Role	30
Manage Data Access	30
Create a Security Assignment	31
Delete a Security Assignment	31
Remove Users from a Security Assignment	32

Manage Users for a Security Assignment	32
Set Exclusion Rules for Security Assignments	33
Update Security Assignments Automatically	33
Define and Assign Custom Security Contexts	34
Specify Data Access Rules	37
Configure Permissions for Metadata and Front-End Objects	38
View Activity History	38
Manage Uploads and Downloads	38
About Uploading and Downloading Your Data	39
Upload and Download Data Security Assignments	39
Security Object Tables	40
Upload and Download Financial Categories	48
Upload and Download Financial Category Assignments	48
Download and Upload Area of Responsibility Data	50
Download and Upload Custom Job Roles Mappings	52
Download and Upload Data Security Exclusion Rules	53
Set Up Custom Security	55

7 Customize Oracle Fusion Data Intelligence

About Semantic Model Customization	1
Recommendations and Tips to Extend the Semantic Model	2
Extend the Semantic Model Using the Sandbox Framework	5
Create Sandbox	6
Manage Subject Areas	7
Create Subject Area	7
Modify Subject Area	8
Manage Logical Star	9
Create Logical Star	9
Edit Logical Star	15
Manage Variables	16
Create Variable	16
Modify Variable	17
Apply Changes	17
Merge Customization Sandbox to Main Sandbox	18
Validate Model	18
Publish Model	19
Use Cases: Extend the Semantic Model Using the Sandbox Framework	20
Upload Samples for the Semantic Model Extensions Use Cases	21
Use Case 1: Extend a Conformed Dimension	22
Use Case 2: Extend a Degenerate Dimension	29
Use Case 3: Add Custom Dimension to a Prebuilt Fact	36

Use Case 4: Add a Custom Fact	46
Use Case 5: Add a Degen Custom Fact	56
Use Case 6: Add Derived Columns	63
Use Case 7: Create Custom Dim with Hierarchy	69
Use Case 8: Create a Subject Area Based on an Existing Subject Area	79
Use Case 9: Create a Subject Area	85
Extend the Semantic Model Using the Branch Framework	96
Migrate to the Sandbox Framework for Semantic Model Extensions	97
Perform the Pre-Migration Tasks	98
Validate the Main Branch	98
Schedule the Migration	100
Perform the Post Migration Verifications	100
Revert to the Branch Framework for Semantic Model Extensions	101
Create a Branch	102
Edit a Branch	103
Add a Step to a Branch	103
Add a Dimension	103
Add a Fact Table	105
Add a Hierarchy	107
Add Session Variables	108
Extend a Dimension	109
Add Derived Columns	111
Create a Subject Area	112
Modify a Subject Area	113
Edit or Delete a Branch Step	113
Reapply a Branch Step	114
Disable and Enable the Disabled Steps	114
Copy Steps from One Branch to Another	115
View Details of Failed Branch Steps	115
Merge the Customization Branches with the Main Branch	115
Reorder Steps of Customization Branches	116
Delete a Main Branch Step	116
Tag the Main Branch's Steps	116
Publish the Model	117
Load Customization Data to the Autonomous Data Warehouse	118
Add Security Configurations	118
Configure Data Security	119
Configure Object Permissions	120
View Activity History of Semantic Model Extensions	120
Move Your Customizations to Another Environment	121
Republish Your Customizations	121
Merge Your External Applications	121

Create a Custom Database Schema	123
Migrate or Create Database Objects	123
Grant Semantic Model Access	123
Configure Oracle Analytics Client Tools (Oracle BI Administration Tool)	123
Export the Semantic Model Template	124
Bring in Custom Database Objects	125
Import Custom Database Objects	125
Model the Custom Semantic Model Objects	125
Merge External Applications	126
Import the Semantic Model	126
Replace the Application	128
Import the Application	130
Publish the Merged Model	131
Remove the External Application	131
Download the Imported Semantic Model	132
Validate the Results	132
Bundle the Merged Semantic Model	133

8 Manage Oracle Fusion Data Intelligence

Manage Application Updates	1
About Application Updates	1
Update Your Application	2
View Release Update Activity	3
Bundle Your Application Artifacts	4
About Bundles	4
What's Available In Bundles	6
Create a Bundle	7
Edit a Bundle	12
Publish a Bundle	12
Export a Bundle	13
Import a Bundle	13
Deploy a Bundle	14
Delete a Bundle	15
View the Activity History of Bundles	15
Share Bundles	16
About the Bundle Repository	16
Publish a Bundle to the Repository	17
Import a Shared Bundle	18
Deploy a Shared Bundle	20
Configure a Virus Scanner	21
About Backup and Restore	22

About Disaster Recovery	22
About Scaling Resources	23
About Licensing	25

9 Frequently Asked Questions

Top FAQs for Activation	1
Top FAQs for Instance Creation	2
Top FAQs for Data Configuration	4
Top FAQs for Security Setup	6
Top FAQs for Customization and Data Augmentation	7
Top FAQs for Managing Oracle Fusion Data Intelligence	10

10 Troubleshooting

11 Certification Information

Certification - Supported Browsers	1

A Resolve Common Errors in Semantic Model Extensions

B Preregistered Events

C Conformed Dimensions to Merge External Applications

Abstract

Documentation for administrators who implement, configure, and manage Oracle Fusion Data Intelligence.

Preface

Learn how to get started with Oracle Fusion Data Intelligence.

Topics

- [Audience](#)
- [Documentation Accessibility](#)
- [Diversity and Inclusion](#)
- [Related Documentation](#)
- [Conventions](#)

Audience

This document is intended for administrators who implement, configure, and manage Oracle Fusion Data Intelligence.

Documentation Accessibility

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

Access to Oracle Support

Oracle customers that have purchased support have access to electronic support through My Oracle Support. For information, visit <https://support.oracle.com/portal/> or visit [Oracle Accessibility Learning and Support](#) if you are hearing impaired.

Diversity and Inclusion

Oracle is fully committed to diversity and inclusion. Oracle respects and values having a diverse workforce that increases thought leadership and innovation. As part of our initiative to build a more inclusive culture that positively impacts our employees, customers, and partners, we are working to remove insensitive terms from our products and documentation. We are also mindful of the necessity to maintain compatibility with our customers' existing technologies and the need to ensure continuity of service as Oracle's offerings and industry standards evolve. Because of these technical constraints, our effort to remove insensitive terms is ongoing and will take time and external cooperation.

Related Documentation

These related Oracle resources provide more information.

- Oracle Cloud <http://cloud.oracle.com>

- Getting Started with Oracle Cloud
- [Managing and Monitoring Oracle Cloud](#)
- Using Oracle Fusion Data Intelligence
- Getting Started with Oracle Analytics Cloud
- Visualizing Data and Building Reports in Oracle Analytics Cloud
- Preparing Data in Oracle Analytics Cloud

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.

1

Get Started with Oracle Fusion Data Intelligence

Let's explore Oracle Fusion Data Intelligence and what you need to know to get started with administration.

Topics:

- [About Oracle Fusion Data Intelligence](#)
- [About Oracle Fusion Data Intelligence Service Level Objective](#)
- [About Oracle Fusion Data Intelligence Releases](#)
- [About Oracle Fusion Data Intelligence Components](#)
- [About Oracle Fusion Data Intelligence Console](#)
- [Comparison of Capabilities between Analytics Cloud Associated with Fusion Data Intelligence and Standalone Analytics Cloud](#)
- [Usage Guidelines for Autonomous Data Warehouse Associated with Fusion Data Intelligence](#)
- [Preview Features](#)
- [Generally Available Features](#)
- [Third Party Data Connectors](#)
- [Region Availability](#)
- [Billing Metrics of Autonomous Data Warehouse Associated with Fusion Data Intelligence](#)

About Oracle Fusion Data Intelligence

Oracle Fusion Data Intelligence is a family of prebuilt, cloud native analytics applications for Oracle Cloud Applications that provides line-of-business users with prebuilt insights to improve decision-making.

It empowers business users with industry-leading, AI-powered, self-service analytics capabilities for data preparation, visualization, enterprise reporting, augmented analysis, and natural language processing. It's a Cloud application that delivers best-practice key metrics and deep analyses to help decision-makers run their business. Oracle Fusion Data Intelligence is built on top of Oracle Analytics Cloud and Oracle Autonomous Data Warehouse. This packaged service starts with Oracle Fusion Cloud Applications, and you can deploy rapidly, personalize, and extend it. The service extracts and loads data from your Oracle Fusion Cloud Applications into an instance of Oracle Autonomous Data Warehouse. Business users can then create and customize dashboards in Oracle Analytics Cloud.

This service consists of a data pipeline, data warehouse, semantic model, and best-practice content such as prebuilt key metrics, workbooks, and visualizations. Oracle manages the service starting with deployment through performance monitoring, upgrades, and maintenance for the prebuilt content. You can customize the prebuilt content as defined in the [Customize Oracle Fusion Data Intelligence](#) section. Apart from your Oracle Fusion Cloud Applications

data, you can load external data from non-Oracle Fusion Cloud Applications sources such as Salesforce or EBusiness Suite into Oracle Autonomous Data Warehouse associated with Oracle Fusion Data Intelligence. See [Manage Data Connections](#).

Oracle Fusion Data Intelligence incorporates the appropriate cache management strategy to optimize performance. You must configure the included semantic model only with the embedded Oracle Fusion Data Intelligence tools and deployed only on the Oracle Fusion Data Intelligence service instance. You mustn't configure the included semantic model with non-Oracle Fusion Data Intelligence tools including Oracle Analytics Client Tools, Oracle Analytics Administration Tool, or APIs.

Oracle Fusion Data Intelligence runs on Oracle Cloud Infrastructure and is integrated with many infrastructure services. Before you begin using Oracle Fusion Data Intelligence, familiarize yourself with Oracle Cloud Infrastructure. See [Welcome to Oracle Cloud Infrastructure](#).

To familiarize yourself with the Oracle Fusion Data Intelligence user experience, see [Learn About the New Oracle Fusion Data Intelligence Experience](#).

About Oracle Fusion Data Intelligence Service Level Objective

Oracle Fusion Data Intelligence is built on Oracle Cloud Infrastructure and leverages the Oracle PaaS Cloud services.

Oracle Fusion Data Intelligence availability is tied to dependent Oracle services such as Oracle Identity Cloud Service, Oracle Analytics Cloud, Oracle Autonomous Data Warehouse, and Oracle Cloud IaaS services, including compute and storage. Each of these services has published service level agreements under [Oracle Cloud SLA](#). See the Oracle PaaS and IaaS Public Cloud Services Pillar Document (PDF).

Oracle Fusion Data Intelligence has a service-level objective (SLO) of 99.9%.

About Oracle Fusion Data Intelligence Releases

Updates to Oracle Fusion Data Intelligence are mainly released as Application and Platform releases with major features and minor, security, and emergency patches.

Here are the details:

- Platform Releases:
 - Platform Releases contain updates to your service; for example they may security patches and updates to the Console accessible to administrators.
 - You don't need to schedule the upgrade, make any selection, or take any action because Oracle applies the release patches automatically. These updates include operating system and security patches, and are applied for all customers on the same day.
 - Because these releases don't change the data model or content, business users aren't affected.
 - All reports and dashboards are available during the upgrade process. Pipelines (incremental daily schedule) may get delayed if the pipeline coincides with the upgrade.
 - You can expect a major release every quarter (February, May, August, and November), a minor patch every month, and patches as needed for emergency fixes.
- Application Releases:

- Application Releases contain updates to the data model and new content when available.
- You'll receive notification emails about these releases.
- You'll find the release numbers listed in the Release Updates tile of the Console, where you can view the available releases and apply them as appropriate.
- You'll notice an auto-update target date for major releases. You can update to a release any time before the predefined date by changing it to a date that's convenient for you. See [Update Your Application](#). On the predefined date, if you haven't yet updated, then Oracle Fusion Data Intelligence automatically updates your data model and content.
- All reports and dashboards are available during the upgrade process.
- You can expect a major release every quarter (February, May, August, and November) and optional updates or emergency patches. Each patch is cumulative. For example, if you choose to apply the 22.R1.P3 patch, then the previous patches (such as 22.R1.P1 and 22.R1.P2) are also applied with the 22.R1.P3 patch. You won't see the older patches listed in the Release Updates tile of the Console when the release changes to the current one (such as 22.R1.P3).
- You aren't impacted by major application releases which have undergone testing to negate the impact to existing business users. Major application releases don't cause service downtime.

About Oracle Fusion Data Intelligence Components

Oracle Fusion Data Intelligence consists of several core components such as Oracle Cloud Infrastructure Identity and Access Management, Oracle Fusion Data Intelligence Console, data pipeline infrastructure, Oracle Autonomous Data Warehouse, and Oracle Analytics Cloud.

It has prebuilt components that Oracle manages and extensible components that you can manage. Though Oracle manages these components, you can customize and extend them:

- Data pipeline to Oracle Fusion Cloud Applications
- Data model
- Semantic model
- Best practice content such as key metrics, workbooks, and reports

You can:

- Add external data sources into the same Oracle Autonomous Data Warehouse as the Oracle Fusion Cloud Applications data.
- Use any ETL tool or the robust Oracle Data Integrator with its many connectors to load data into the custom schemas and tables in the same Oracle Autonomous Data Warehouse repository.
- Connect to data using the more than 30 self-service connectors rather than loading data into Oracle Autonomous Data Warehouse.
- Import Microsoft Excel files or spreadsheets.
- Extend the semantic model.
- Create key metrics, dashboards, and reports.

About Oracle Fusion Data Intelligence Console

You must have the Oracle Fusion Data Intelligence service administrator role to access the Console and perform administration tasks.

The following table outlines the tasks that you can perform on the Oracle Fusion Data Intelligence Console.

Task	More information
Security	Manage users and their access to subject areas and data. See Manage Users, Groups, Application Roles, and Data Access .
Release Updates	Decide upon and apply the application updates (except the emergency patches that are deployed automatically). See Manage Application Updates .
Virus Scanner	Use the Virus Scanner option on the Console to connect to your virus scanning server. See Configure a Virus Scanner .
Advanced Configuration	Advanced data and content configurations will be available in a future release.
Data Configuration	Use the Data Configuration option to: - Configure connections to several source systems and managed pipelines. - Modify pipeline settings, data augmentations, and application-specific configurations. See Configure Oracle Fusion Data Intelligence Data .
Semantic Model Extensions	Configure extensions and customizations to the semantic model. Join with custom data objects or import external semantic models. See Customize Oracle Fusion Data Intelligence .
Data Validation	Validate data after loading it from the Oracle Fusion Cloud Applications source into your data warehouse. See Validate Oracle Fusion Data Intelligence Data .
Uploads	Upload and download data related to security and financial categories to your data warehouse using files. See Manage Uploads and Downloads .
Bundles	Manage snapshots of your application artifacts as bundles. Promote changes to the semantic model, security configurations, and customized key metrics from non-production to Production environments. See Bundle Your Application Artifacts .
Session and Query Cache	See which users are signed in and troubleshoot report queries. This is also accessible from the Console in Oracle Analytics Cloud. See Monitor Users and Activity Logs.
Issue SQL	Test and debug SQL queries. See Run Test SQL Queries.

Comparison of Capabilities between Analytics Cloud Associated with Fusion Data Intelligence and Standalone Analytics Cloud

As an Oracle Fusion Data Intelligence service administrator, you perform certain tasks differently in the Oracle Analytics Cloud instance associated with Oracle Fusion Data Intelligence than the standalone Oracle Analytics Cloud instance.

Service administrators have access to two console user interfaces, and administrative tasks span both the consoles. The Oracle Fusion Data Intelligence Console allows administrators to manage central tasks that are common to both users as well as the application. The Oracle Analytics Cloud Console allows administrators to configure features that are specific to

analytics. An Oracle Analytics Cloud instance associated with Oracle Fusion Data Intelligence is directly connected to the Oracle Autonomous Data Warehouse instance and doesn't support connections to external systems. For example, connections to social media platforms aren't supported through an Oracle Analytics Cloud instance associated with an Oracle Fusion Data Intelligence instance. You can use the Oracle Fusion Data Intelligence Console to define external connections and extensions to the repository file but you can't directly access the repository (rpd) file.

The following table outlines the tasks that you can and can't perform on the Oracle Analytics Cloud instance Console that's included with Oracle Fusion Data Intelligence. You must have the Oracle Fusion Data Intelligence service administrator role to access the Console and perform administration tasks.

Tasks	More Information
Maps	Define how users display their data on maps. See Manage Map Information for Analyses .
Extensions	Upload custom visualization types or custom data actions. See Manage Custom Plug-ins .
Social	Not available. External connections to social media platforms aren't allowed in Oracle Fusion Data Intelligence.
Search Index	Set up how content is indexed and crawled so users always find the latest information when they search. See Schedule Regular Content Crawls and Monitor Search Crawl Jobs .
Safe Domains	Don't change the default details. Authorize access to safe domains. See Register Safe Domains .
Users and Roles	Not available. Use the Security option on the Console in Oracle Fusion Data Intelligence to define users and roles. See Manage Users, Groups, Application Roles, and Data Access .
Snapshots	Not available. Use the Bundles option on the Console in Oracle Fusion Data Intelligence to manage snapshots. See Bundle Your Application Artifacts .
Semantic Model Connections	Don't change the default details. Additional database connections for the semantic model aren't supported through the Oracle Analytics Cloud Console. Only the connection to Oracle Autonomous Data Warehouse is supported. However, all direct connections from the visualization layer in the Oracle Analytics Cloud instance are supported.
Virus Scanner	Don't change the default details. Use the Virus Scanner option on the Console in Oracle Fusion Data Intelligence to connect to your virus scanning server. See Configure a Virus Scanner .
Session and Query Cache	See which users are signed in and troubleshoot report queries. This is also accessible from the Console in Oracle Fusion Data Intelligence. See Monitor Users and Activity Logs .
Issue SQL	Test and debug SQL queries. See Run Test SQL Queries .
Mail Server	Connect to your email server. See Set Up an Email Server to Deliver Reports .
Monitor Deliveries	Track deliveries sent by the email server. See Track the Reports You Distribute by Email or Through Agents .
System Settings	Not authorized. Oracle Fusion Data Intelligence doesn't allow configuration of advanced options for the associated Oracle Analytics Cloud instance. Oracle directly manages the Oracle Analytics Cloud system settings for each of the Oracle Fusion Data Intelligence instances and tunes the instances to provide an optimized user experience.

Tasks	More Information
Remote Data Connectivity	Register one or more Data Gateway agents for remote connectivity to visualization workbooks. See Configure and Register Data Gateway for Visualization .
Vanity URL	Not available.
Early access to Oracle Analytics Cloud updates	Not available. Oracle Fusion Data Intelligence manages platform updates. See About Oracle Fusion Data Intelligence Releases .

Usage Guidelines for Autonomous Data Warehouse Associated with Fusion Data Intelligence

Oracle Fusion Data Intelligence provisions instances of Oracle Autonomous Data Warehouse to store data. As part of the integrated SaaS offering of Oracle Fusion Data Intelligence, Oracle doesn't allow or recommend certain Oracle Autonomous Data Warehouse administration tasks.

As a service administrator, you can access the Oracle Autonomous Data Warehouse instance associated with Oracle Fusion Data Intelligence using the Oracle Cloud Infrastructure Console. The following table outlines the tasks that aren't allowed or recommended.

Task	More information
Database lifecycle management	You can't stop, delete, pause, or restart the database. Oracle Fusion Data Intelligence controls these activities for the instance. You can't rename the database or use the Auto start/stop schedule option for the Oracle Autonomous Data Warehouse instance associated with Oracle Fusion Data Intelligence.
Changes to auto-provisioned resources	You can scale up resources such as ECPU's for additional capacity or terabytes for additional storage. However, you can't scale down such resources to levels below those automatically provisioned with Oracle Fusion Data Intelligence. Auto-scale for ECPU's is turned on by default by Oracle Fusion Data Intelligence and you can't turn it off. By default, the Storage auto scaling toggle under the Manage resource allocation option is turned off and you can't turn it on for the Oracle Autonomous Data Warehouse instance associated with Oracle Fusion Data Intelligence.
Autonomous Data Guard	Even though you can turn on Autonomous Data Guard, this isn't recommended because Oracle Fusion Data Intelligence doesn't currently support failover to the instance populated through Data Guard.
Restore from backups	Oracle Autonomous Data Warehouse provides daily backups. While restoring to a new instance may be useful to view or copy data from backup, it isn't recommended to restore backups against the Oracle Autonomous Data Warehouse instance associated with Oracle Fusion Data Intelligence. Doing so may put the data pipelines and factory content in an inconsistent state.

The Oracle Autonomous Data Warehouse instance created by Oracle Fusion Data Intelligence is primarily for use by the service. While you can insert custom data and query the database, it has an impact on the database storage and compute. Following are some guidelines:

Custom Usage	Guidance
Adding data to custom schemas	You can add as many as 50 gigabytes of custom data to the service. For more than 50 gigabytes, you must scale up the storage through the Oracle Cloud Infrastructure Console, which is charged to your Oracle Cloud account. If you intend to do compute-intensive queries and transformations on your custom data, then you can scale up additional ECPUs using the Oracle Cloud Infrastructure Console, which is charged to your Oracle Cloud account. See Scale Up Oracle Autonomous Data Warehouse .
Adding additional ECPUs	Ensure that you have adequate ECPUs configured in Oracle Autonomous Data Warehouse (and corresponding sessions) to be able to run custom ETL. For every ECPU that's allocated as part of the Oracle Fusion Data Intelligence instance creation, you shouldn't exceed 5 low service concurrent sessions for custom ETL. Exceeding this can impact the ETL or reporting performance and therefore isn't supported. If you need to run more sessions, then ensure that you've additional ECPUs added to your Oracle Autonomous Data Warehouse instance. Each additional ECPU that you add this way allows as many as 300 low sessions. You must avoid Medium or High sessions in all cases because they block the ETL pipeline.
Adding database connections	See Tutorial . Follow these guidelines: • If you plan to run compute-intensive queries or create many concurrent database connections, then you can scale up additional ECPUs through the Oracle Cloud Infrastructure Console, which is charged to your Oracle Cloud account. • Aim for fewer than 10 concurrent database connections. • When you configure the connections, ensure that you select the service with the <i>low</i> prefix in its name. Don't select the service with the <i>high</i> prefix because it can lead to performance issues in reports and delays in completion of daily data refreshes in Oracle Fusion Data Intelligence. • Close unused sessions in a timely manner to ensure no adverse impact on the performance of Oracle Fusion Data Intelligence.

Preview Features

Oracle Fusion Data Intelligence offers certain functionality as preview features for you to try. Preview features are high-confidence features that are complete from design, specification, and implementation perspective. These features have a roadmap commitment but may change before they become generally available.

You can evaluate the Preview features for production use as-is based on your specific requirements. If you've questions on the feasibility of deploying a specific Preview feature for production use in your instance, contact Oracle Support.

Preview features are disabled by default but administrators can enable them for use. See [Make Preview Features Available](#).

Application Settings

Feature	Description
Bundle Repository	You can share bundles from one instance to another using the Bundle Repository capability. You can share them within the same tenancy as private bundles or share as public bundles for tenancies with specific entitlements. See Share Bundles .

Connectors

See [Third Party Data Connectors](#)

Functional Areas

See *Features Available for Preview* in:

- Fusion CX Analytics
- Fusion ERP Analytics
- Fusion HCM Analytics
- Fusion SCM Analytics

Notifications

Feature	Description
Event Notification	This feature publishes data pipeline events to the Oracle Cloud Infrastructure Audit service. See Enable Event Notifications (Preview) .

Pipeline Features

Feature	Description
Data Refresh Estimate	This feature enables prediction of completion time for a data refresh. You can see the predicted time under Data Pipeline in the Pipeline Parameters section on the Pipeline Settings page. See About Data Refresh Performance. • On – Display the Estimated Refresh Completion detail under Data Pipeline in the Pipeline Parameters section on the Pipeline Settings page. • Off – Hide the Estimated Refresh Completion detail under Data Pipeline in the Pipeline Parameters section on the Pipeline Settings page. Default: Off Restart Required: No
Frequent Refresh Tables	This feature enables custom warehouse tables for frequent data refresh. See Schedule Frequent Refreshes of Warehouse Tables (Preview). • On – Display the Frequent Refresh Tables tab on the Pipeline Settings page. • Off – Hide the Frequent Refresh Tables tab on the Pipeline Settings page. Default: Off Restart Required: No
Functional Area Schedule Override	This feature enables you to override the schedules for data pipelines by specifying a different refresh schedule. See Override Data Pipeline Schedules for Functional Areas (Preview). • On – Display the Functional Area Schedule Override tab on the Pipeline Settings page. • Off – Hide the Functional Area Schedule Override tab on the Pipeline Settings page. Default: Off Restart Required: No

Feature	Description
Prioritized Data Refresh	This feature enables you to configure the warehouse tables for prioritized refresh ahead of other data in the regularly scheduled daily refresh cycles. See Prioritize Datasets for Incremental Refresh (Preview). • On – Display the Prioritized Data Refresh tab on the Pipeline Settings page. • Off – Hide the Prioritized Data Refresh tab on the Pipeline Settings page. Default: Off Restart Required: No

Generally Available Features

Oracle Fusion Data Intelligence offers certain functionality as generally available that you must enable using the Console. Generally available features are publicly available features that you can use for production workloads.

Generally available features are disabled by default but the administrators can make these features available for use; see [Enable Generally Available Features](#).

Pipeline Features

Feature	Description
Frequent Refresh	This feature provides an ability to configure the Frequent Data Refresh process. Ensure to configure the frequent data refresh on the Pipeline Settings page by selecting the frequency and functional areas. This feature enables certain pipeline refresh schedules to be set to a frequency of 4 hours or more. See Schedule Frequent Refreshes of Data. • On – Display the Frequent Refresh option on the Pipeline Settings page. • Off – Hide the Frequent Refresh option on the Pipeline Settings page. Default: Off Restart Required: No
Scheduled Full Data Reload	For select functional areas, an administrator can schedule a full refresh on a weekly, monthly, or quarterly basis. This feature requires incremental data refresh to be scheduled for a daily frequency. See Schedule Periodic Full Reload of Functional Area Data. • On – Display the Scheduled Full Data Reload on the Pipeline Settings page. • Off – Hide the Scheduled Full Data Reload on the Pipeline Settings page. Default: Off Restart Required: No

Feature	Description
Reset and Reload the Data Source	This feature enables reset and reload of a data source. You can reset and reload data for all the activated functional areas, augmentations, and custom data configurations. See Reset and Reload the Data Source. • On – Display the Data Source Reset and Reload detail under Data Pipeline in the Pipeline Parameters section on the Pipeline Settings page. • Off – Hide the Data Source Reset and Reload detail under Data Pipeline in the Pipeline Parameters section on the Pipeline Settings page. Default: Off Restart Required: No
Reset Data Warehouse	This feature enables the option to reset the data warehouse (hard reset) and delete all data. The action is irreversible. During the data warehouse reset, all the activated functional areas are moved to "Saved" state and you must reactivate them. See Reset the Data Warehouse. • On – Display the Reset Data Warehouse action on the Pipeline Settings page. • Off – Hide the Reset Data Warehouse action on the Pipeline Settings page. Default: Off Restart Required: No
SME Options for Data Augmentation	This feature enables the semantic modeling options of Dimension, Extend Entity, and Fact in the Data Augmentation wizard. Augmentations that are configured as dimensions, custom fact, or extend entity won't be available for semantic model extensions. See About Augmenting Your Data. • On – Display the Create Dimension, Create Fact, and Extend Entity in the Augmentation Type list of values in the Data Augmentation wizard. • Off – Hide the Create Dimension, Create Fact, and Extend Entity in the Augmentation Type list of values in the Data Augmentation wizard. Default: Off Restart Required: No

Third Party Data Connectors

Oracle Fusion Data Intelligence enables you to connect to a variety of data sources and remote applications to provide the background information for reports. Certain data connectors are available as preview features while some are available by default.

Data Connectors Available as Preview Features

Preview features are disabled by default but administrators can enable them for use. See [Make Preview Features Available](#).

Connector	Description
AWS S3	This feature enables connecting to the data in the AWS S3 storage. See Load Data from Amazon Simple Storage Service into Oracle Fusion Data Intelligence (Preview). • On – Display the AWS S3 option in the Create Connection dialog. • Off – Hide the AWS S3 option in the Create Connection dialog.
Azure SQL	This feature enables connecting to a Azure SQL instance to bring data into Oracle Analytics Warehouse for data augmentation. See Load Data from Azure SQL into Oracle Fusion Data Intelligence (Preview). • On – Display the Azure SQL option in the Create Connection dialog. • Off – Hide the Azure SQL option in the Create Connection dialog.
Azure Storage Connector	This feature enables connecting to the data in the Azure Storage to extract it and build data augmentation for running analytics. See Load Data from Azure Storage into Oracle Fusion Data Intelligence (Preview). • On – Display the Azure Storage option in the Create Connection dialog. • Off – Hide the Azure Storage option in the Create Connection dialog.
Oracle Autonomous Database	This feature enables connecting to the custom data in Oracle Autonomous Database. You can create up to five connections to different Oracle Autonomous Database instances which are denoted as Oracle Autonomous Database 1, Oracle Autonomous Database 2, Oracle Autonomous Database 3, Oracle Autonomous Database 4, and Oracle Autonomous Database 5. See Load Data from Oracle Autonomous Database into Oracle Fusion Data Intelligence (Preview). • On – Display the Oracle Autonomous Database option such as Oracle Autonomous Database 1 in the Create Connection dialog. • Off – Hide the Oracle Autonomous Database option such as Oracle Autonomous Database 1 in the Create Connection dialog.
Oracle BI Publisher	This feature enables connecting to a BIP instance to bring data into Oracle Analytics Warehouse for data augmentation. See Load Data from Oracle Analytics Publisher into Fusion Data Intelligence (Preview). • On – Display the Oracle BI Publisher option in the Create Connection dialog. • Off – Hide the Oracle BI Publisher option in the Create Connection dialog.
Oracle Enterprise Data Management Cloud	This feature enables connecting to Oracle Enterprise Data Management Cloud instance to build data augmentation with data from that instance. See Load Data from Enterprise Data Management Cloud into Fusion Data Intelligence (Preview). • On – Display the Oracle Enterprise Data Management Cloud option in the Create Connection dialog. • Off – Hide the Oracle Enterprise Data Management Cloud option in the Create Connection dialog.

Connector	Description
EPM Financial Close and Consolidation Data Export	This feature enables connecting to a EPM Export Data instance to bring data into Oracle Analytics Warehouse for data augmentation. See Load Data from EPM Export Data Instance into Fusion Data Intelligence (Preview). • On – Display the EPM Financial Close and Consolidation Data Export option in the Create Connection dialog. • Off – Hide the EPM Financial Close and Consolidation Data Export option in the Create Connection dialog.
EPM Planning and Budgeting Data Export	This feature enables connecting to a EPM Export Data instance to bring data into Oracle Analytics Warehouse for data augmentation. See Load Data from EPM Export Data Instance into Fusion Data Intelligence (Preview). • On – Display the EPM Planning and Budgeting Data Export option in the Create Connection dialog. • Off – Hide the EPM Planning and Budgeting Data Export option in the Create Connection dialog.
EPM Profitability and Cost Management Data Export	This feature enables connecting to an Oracle EPM instance to build a managed data pipeline with data from that instance. See Load Data from EPM Export Data Instance into Fusion Data Intelligence (Preview). • On – Display the EPM Profitability and Cost Management Data Export option in the Create Connection dialog. • Off – Hide the EPM Profitability and Cost Management Data Export option in the Create Connection dialog.
Oracle E-Business Suite On-Prem	This feature enables configuring a remote agent to load data from on-premises Oracle E-Business Suite (EBS) to build a managed data pipeline with data from that instance. See Load Data from On-premises E-Business Suite into Fusion Data Intelligence (Preview). • On – Display the Oracle E-Business Suite On-Prem option in the Create Connection dialog. • Off – Hide the Oracle E-Business Suite On-Prem option in the Create Connection dialog.
Oracle Eloqua	This feature enables connecting to an Oracle Eloqua instance to bring business relevant marketing and sales campaign data to build a managed data pipeline with data from that instance. See Connect with Your Oracle Eloqua Data Source (Preview). • On – Display the Oracle Eloqua option in the Create Connection dialog. • Off – Hide the Oracle Eloqua option in the Create Connection dialog.
Oracle EPM - Enterprise Data Management	This feature enables connecting to Oracle EPM instance and build a complete managed data pipeline with that data. See Load Data from Oracle Enterprise Performance Management into Fusion Data Intelligence (Preview). • On – Display the Oracle EPM - Enterprise Data Management option in the Create Connection dialog. • Off – Hide the Oracle EPM - Enterprise Data Management option in the Create Connection dialog.

Connector	Description
Oracle EPM - Financial Close and Consolidation	This feature enables connecting to an Oracle EPM instance to build a managed data pipeline with data from that instance. See Load Data from Oracle Enterprise Performance Management into Fusion Data Intelligence (Preview). • On – Display the Oracle EPM - Financial Close and Consolidation option in the Create Connection dialog. • Off – Hide the Oracle EPM - Financial Close and Consolidation option in the Create Connection dialog.
Oracle EPM - Planning and Budgeting	This feature enables connecting to an Oracle EPM instance to build a managed data pipeline with data from that instance. See Load Data from Oracle Enterprise Performance Management into Fusion Data Intelligence (Preview). • On – Display the Oracle EPM - Planning and Budgeting option in the Create Connection dialog. • Off – Hide the Oracle EPM - Planning and Budgeting option in the Create Connection dialog.
Oracle EPM - Profitability and Cost Management	This feature enables connecting to an Oracle EPM instance to build a managed data pipeline with data from that instance. See Load Data from Oracle Enterprise Performance Management into Fusion Data Intelligence (Preview). • On – Display the Oracle EPM - Profitability and Cost Management option in the Create Connection dialog. • Off – Hide the Oracle EPM - Profitability and Cost Management option in the Create Connection dialog.
Oracle JD Edwards On-Prem	This feature enables connecting to various data sources in an on-premises Oracle JD Edwards instance to build a managed data pipeline with data from that instance. See Load Data from On-premises JD Edwards into Fusion Data Intelligence (Preview). • On – Display the Oracle JD Edwards On-Prem option in the Create Connection dialog. • Off – Hide the Oracle JD Edwards On-Prem option in the Create Connection dialog.
Oracle JDBC	This feature enables connecting Remote Agent managed connectivity to Oracle database using JDBC. You can create up to five connections and they're denoted as Oracle JDBC 1, Oracle JDBC 2, Oracle JDBC 3, Oracle JDBC 4, and Oracle JDBC 5. See Load Data from Oracle Database Using JDBC into Fusion Data Intelligence (Preview). • On – Display the Oracle JDBC option such as Oracle JDBC 1 in the Create Connection dialog. • Off – Hide the Oracle JDBC option such as Oracle JDBC 1 in the Create Connection dialog.
MongoDB	This feature enables connecting to MongoDB instance to build a managed data pipeline with data from that instance. See Load Data from MongoDB into Fusion Data Intelligence (Preview). • On – Display the MongoDB option in the Create Connection dialog. • Off – Hide the MongoDB option in the Create Connection dialog.

Connector	Description
MySQL Cloud	This feature enables connecting to MySQL Cloud instance to build data augmentation with data from that instance. See Load Data from MySQL Cloud Database into Fusion Data Intelligence (Preview). • On – Display the MySQL Cloud option in the Create Connection dialog. • Off – Hide the MySQL Cloud option in the Create Connection dialog.
MySQL On-Prem	This feature enables connecting to MySQL On-Prem instance to build data augmentation with data from that instance. See Load Data from On-premises MySQL Database into Fusion Data Intelligence (Preview). • On – Display the MySQL On-Prem option in the Create Connection dialog. • Off – Hide the MySQL On-Prem option in the Create Connection dialog.
Oracle PeopleSoft On-Prem - Campus Solutions	This feature enables connecting to various data sources in an on-premises Oracle PeopleSoft instance to build a managed data pipeline with data from that instance. See Load Data from On-premises PeopleSoft into Fusion Data Intelligence (Preview). • On – Display the Oracle PeopleSoft On-Prem - Campus Solutions option in the Create Connection dialog. • Off – Hide the Oracle PeopleSoft On-Prem - Campus Solutions option in the Create Connection dialog.
Oracle PeopleSoft On-Prem - Financials	This feature enables connecting to various data sources in an on-premises Oracle PeopleSoft instance to build a managed data pipeline with data from that instance. See Load Data from On-premises PeopleSoft into Fusion Data Intelligence (Preview). • On – Display the Oracle PeopleSoft On-Prem - Financials option in the Create Connection dialog. • Off – Hide the Oracle PeopleSoft On-Prem - Financials option in the Create Connection dialog.
Oracle PeopleSoft On-Prem - Human Resources	This feature enables connecting to various data sources in an on-premises Oracle PeopleSoft instance to build a managed data pipeline with data from that instance. See Load Data from On-premises PeopleSoft into Fusion Data Intelligence (Preview). • On – Display the Oracle PeopleSoft On-Prem - Human Resources option in the Create Connection dialog. • Off – Hide the Oracle PeopleSoft On-Prem - Human Resources option in the Create Connection dialog.
Oracle PeopleSoft On-Prem - Learning Management	This feature enables connecting to various data sources in an on-premises Oracle PeopleSoft instance to build a managed data pipeline with data from that instance. See Load Data from On-premises PeopleSoft into Fusion Data Intelligence (Preview). • On – Display the Oracle PeopleSoft On-Prem - Learning Management option in the Create Connection dialog. • Off – Hide the Oracle PeopleSoft On-Prem - Learning Management option in the Create Connection dialog.

Connector	Description
QuickBooks Online	This feature enables connecting to a QuickBooks instance to bring data into Oracle Analytics Warehouse for data augmentation. See Load Data from QuickBooks Online into Oracle Fusion Data Intelligence (Preview). • On – Display the QuickBooks Online option in the Create Connection dialog. • Off – Hide the QuickBooks Online option in the Create Connection dialog.
Remote Agent	This feature enables bringing data from on-premises applications like Oracle E-Business Suite and Oracle JD Edwards into Oracle Analytics Warehouse. See Set up the Remote Agent to Load Data into Fusion Data Intelligence (Preview). • On – Display the Remote Agent option in the Create Connection dialog. • Off – Hide the Remote Agent option in the Create Connection dialog.
Oracle Transportation Management	This feature enables connecting to an Oracle Transportation Management Cloud Service instance and creating augmentations using that data. See Load Data from Oracle Transportation Management Cloud Service into Oracle Fusion Data Intelligence (Preview). • On – Display the Oracle Transportation Management option in the Create Connection dialog. • Off – Hide the Oracle Transportation Management option in the Create Connection dialog.
SFTP	This feature enables connecting to a Secure FTP source to build a managed data pipeline with data from that instance. See Load Data from a Secure FTP Source into Fusion Data Intelligence (Preview). • On – Display the SFTP option in the Create Connection dialog. • Off – Hide the SFTP option in the Create Connection dialog.
Shopify	This feature enables connecting to a Shopify instance to build a managed data pipeline with data from that instance. See Load Data from Shopify into Fusion Data Intelligence (Preview). • On – Display the Shopify option in the Create Connection dialog. • Off – Hide the Shopify option in the Create Connection dialog.
Snowflake	This feature enables connecting to a Snowflake instance to bring data into Oracle Analytics Warehouse for data augmentation. See Load Data from Snowflake into Oracle Fusion Data Intelligence (Preview). • On – Display the Snowflake option in the Create Connection dialog. • Off – Hide the Snowflake option in the Create Connection dialog.
SQL Server	This feature enables connecting to a SQL Server instance to bring data into Oracle Analytics Warehouse for data augmentation. See Load Data from SQL Server into Oracle Fusion Data Intelligence (Preview). • On – Display the SQL Server option in the Create Connection dialog. • Off – Hide the SQL Server option in the Create Connection dialog.

Connector	Description
Taleo	This feature enables connecting to a Taleo instance to bring data into Oracle Analytics Warehouse for data augmentation. See Load Data from Taleo into Fusion Data Intelligence (Preview). • On – Display the Taleo option in the Create Connection dialog. • Off – Hide the Taleo option in the Create Connection dialog.

Data Connectors Available By Default

Connector	Description
Google Analytics	This feature enables connecting to a Google Analytics instance and building a complete managed data pipeline with that data. See Load Data from Google Analytics into Fusion Data Intelligence.
Oracle Object Storage Service	This managed pipeline connects to Oracle Object Storage to ingest datasets into Oracle Fusion Data Intelligence followed by data augmentation. See Load Data from Oracle Object Storage into Fusion Data Intelligence.
Salesforce	This feature enables an administrator to connect to a Salesforce SaaS source and build a complete managed data pipeline with that data. See Load Data from Salesforce into Fusion Data Intelligence.

Region Availability

Oracle Fusion Data Intelligence is available in the following regions currently:

Table 1-1 Commercial

Region Location	Region Name	Region Key
Amsterdam, Netherlands	eu-amsterdam-1	AMS
Ashburn, VA	us-ashburn-1	IAD
Dubai, UAE	me-dubai-1	DXB
Frankfurt, Germany	eu-frankfurt-1	FRA
Hyderabad, India	ap-hyderabad-1	HYD
Jeddah, Saudi Arabia	me-jeddah-1	JED
London, United Kingdom	uk-london-1	LHR
Melbourne, Australia	ap-melbourne-1	MEL
Milan, Italy	eu-milan-1	LIN
Montreal, Canada	ca-montreal-1	YUL
Mumbai, India	ap-mumbai-1	BOM
Newport, United Kingdom	uk-cardiff-1	CWL
Osaka, Japan	ap-osaka-1	KIX
Phoenix, AZ	us-phoenix-1	PHX
Santiago, Chile	sa-santiago-1	SCL
Sao Paulo, Brazil	sa-saopaulo-1	GRU
Singapore, Singapore	ap-singapore-1	SIN
Sydney, Australia	ap-sydney-1	SYD

Table 1-1 (Cont.) Commercial

Region Location	Region Name	Region Key
Tokyo, Japan	ap-tokyo-1	NRT
Toronto, Canada	ca-toronto-1	YYZ
Vinhedo, Brazil	sa-vinhedo-1	VCP
Zurich, Switzerland	eu-zurich-1	ZRH

Table 1-2 Government

Region Location	Region Name	Region Key
UK Gov South (London), United Kingdom	uk-gov-london-1	LTN
UK Gov West (Newport), United Kingdom	uk-gov-cardiff-1	BRS

Table 1-3 EU Sovereign

Region Location	Region Name	Region Key
Frankfurt, Germany	eu-frankfurt-2	STR
Madrid, Spain	eu-madrid-2	VLL

Billing Metrics of Autonomous Data Warehouse Associated with Fusion Data Intelligence

Oracle Autonomous Database introduced the ECPU billing metric and is now retiring the legacy OCPU billing metric for Oracle Autonomous Data Warehouse.

ECPUs provide the same price-performance as OCPUs with continuous improvements over time. Updating to the ECPU and storage billing metrics provides the following additional benefits:

- Lower entry cost.
- Finer granularity for scaling the data warehouse.
- Lower storage costs.

Refer to the [ECPU billing metric FAQ](#) for more details about ECPUs and associated benefits.

Using ECPU impacts your service in the following ways:

- When you sign into Oracle Autonomous Data Warehouse from the Oracle Cloud Infrastructure Console, you'll see the provisioned capacity stated in ECPUs.
- Any scale up done by you for Oracle Autonomous Data Warehouse will thereafter be billed against the replacement ECPU billing metrics based on your rate card for OCI billing.
- All database tools will be turned off by default. If you've already been using any of these tools such as APEX, then no data loss occurs when they're turned off. You can turn them on from the Oracle Autonomous Data Warehouse Oracle Cloud Infrastructure Console. If you wish to use database tools such as Oracle Machine Learning (OML), Graph Studio, or Data Transforms, then you must allocate dedicated ECPUs that'll consume credits against

your Universal Credits (UCC) subscription. For more information, see [Manage Autonomous Database Built-in Tools](#).

Reach out to your Oracle contact and review the Universal Credits (UCC) subscription agreement and make sure you understand the ECPU billing metric. If you have general questions about preparing for this change, contact your Oracle account team, or connect through [Fusion Data Intelligence customer forum](#), or create a service request (SR) on [My Oracle Support](#).

2

Activate Oracle Fusion Data Intelligence

As the cloud account administrator, activate the subscription for Oracle Fusion Data Intelligence to get started with the service.

Topics:

- [Before You Begin with Oracle Fusion Data Intelligence](#)
- [Typical Workflow to Activate Oracle Fusion Data Intelligence](#)
- [Typical Workflow to Administer Oracle Fusion Data Intelligence](#)

Before You Begin with Oracle Fusion Data Intelligence

Oracle Fusion Data Intelligence is available on Oracle Cloud Infrastructure and uses a few other Oracle Cloud Infrastructure services.

When you order Oracle Fusion Data Intelligence, you get access to Oracle Autonomous Data Warehouse and an Oracle Analytics Cloud Subscription.

When you activate your Oracle Fusion Data Intelligence order, you get the Service Administrator role. This role gives you full administration privileges on the service, so you can complete all aspects of Oracle Fusion Data Intelligence setup and create other users. There's no need to delegate this responsibility, but if you want someone else to set up Oracle Fusion Data Intelligence, you can add more users and assign them to the required roles.

Here's the information about how Oracle Fusion Data Intelligence uses other Oracle Cloud Infrastructure services and what you need to do if you're setting up Oracle Fusion Data Intelligence for the first time.

Service	What is it for?	Do I need to do anything?
Identity domains from Oracle Cloud Infrastructure Identity and Access Management	When you subscribe to Oracle Fusion Data Intelligence, you automatically receive identity domains that provides the core identity and access management capabilities. Oracle Fusion Data Intelligence uses identity domains for authentication, single sign-on (SSO), and identity lifecycle management.	As a security administrator, you can perform user-group management in the identity domains. See IAM with Identity Domains .
Oracle Autonomous Data Warehouse	Oracle Fusion Data Intelligence uses Oracle Autonomous Data Warehouse to store the data extracted from the Oracle Fusion Cloud Applications sources.	Provide the autonomous data warehouse details while creating a service instance for Oracle Fusion Data Intelligence. See Create an Integrated Oracle Fusion Data Intelligence Instance .
Oracle Analytics Cloud	Oracle Fusion Data Intelligence uses Oracle Analytics Cloud to analyze data, create visualizations, and generate reports from the Oracle Fusion Cloud Applications data stored in Oracle Autonomous Data Warehouse.	No

Typical Workflow to Activate Oracle Fusion Data Intelligence

You're now on step 2 of the required steps to getting up and running with Oracle Fusion Data Intelligence. You've completed step 1 of these required steps and are ready to activate the Oracle Fusion Data Intelligence subscription to start using the service:

1. Order your Oracle Fusion Data Intelligence subscription through your sales representative.
2. Activate your Oracle Fusion Data Intelligence subscription.
3. Set up user access using single sign-on. See [Set Up User Access to Oracle Fusion Data Intelligence Using Single Sign-On](#).
4. Create your Oracle Fusion Data Intelligence instance. Oracle highly recommends that you create an Oracle Fusion Data Intelligence instance integrated with your Oracle Fusion Cloud Applications instance. See [Create an Integrated Oracle Fusion Data Intelligence Instance](#).
5. Configure Oracle Fusion Data Intelligence. See [Configure Oracle Fusion Data Intelligence Data](#).

To activate Oracle Fusion Data Intelligence, follow these tasks as a guide.

Task	Description	More Information
Review the subscription confirmation email	After processing your Oracle Fusion Data Intelligence subscription, Oracle confirms your subscription through an email. Review the email to ensure the subscriptions match your order.	Activate the Universal Credits Subscription
Activate the Oracle Fusion Data Intelligence subscription.	After your order for the Oracle Fusion Data Intelligence subscription has been processed, you receive a Welcome email asking you to activate your Oracle Fusion Data Intelligence subscription. Use your Oracle Fusion Cloud Applications credentials to sign into your cloud account. Upon signing in, you're taken to the Add Subscription page in the Oracle Cloud Infrastructure Console where you'll add the Oracle Fusion Data Intelligence subscription to the cloud account.	Activate the Oracle Fusion Data Intelligence Subscription
Review the activation confirmation email	After successfully activating your Oracle Fusion Data Intelligence subscription, Oracle confirms the activation through an email.	Not applicable

About Activating Your Oracle Fusion Data Intelligence Subscription

After Oracle processes your subscription, you receive a Welcome email confirming your subscription.

In the body of this Welcome email for your Oracle Fusion Data Intelligence subscription, the name of the service is "Oracle Fusion <pillar-name> Analytics," where <pillar-name> represents the Oracle Fusion Data Intelligence application you subscribed to such as Fusion HCM Analytics and Fusion ERP Analytics.

To start using Fusion Data Intelligence, you must activate your subscription. You can activate multiple Oracle Fusion Data Intelligence subscriptions in a single tenancy, but you can't split one subscription and activate the split parts into multiple tenancies. You can create multiple development, test, and production instances in one tenancy using the multiple subscription IDs. However, note that you can create one instance per one subscription; you can't split a

subscription and provision the split parts across instances. If a subscription has expired and you bought a new one to replace it, then at the time of updating the offering, you can update that instance to use the new subscription ID.

On receiving the Welcome email, follow these steps:

1. Review the [Important – Read Before Activating](#) section.
2. Write down the name of your Oracle Fusion Cloud Applications account or tenancy.

Note

A Cloud account is also known as a tenancy.

3. Ensure that you're a cloud administrator in your Oracle Fusion Cloud Applications account and have been granted the OCI_Administrator role or added to the Administrators group, whichever is available. See the [Role Needed to Activate](#) section.
4. Use your Oracle Fusion Cloud Applications credentials to sign into your cloud account.
5. Activate the Oracle Fusion Data Intelligence subscription into the same existing Oracle Fusion Cloud Applications account.
 - Wait until you receive a confirmation email from Oracle Cloud stating that your services are ready before signing back into your Oracle Fusion Cloud Applications account and verifying that your Oracle Fusion Data Intelligence entitlements appear and that the "Create Instance" button is enabled.
 - It's also feasible to activate your Oracle Fusion Data Intelligence subscription into a non-Oracle Fusion Cloud Applications account but this is discouraged. See [Important – Read Before Activating](#) for further details.

Important – Read Before Activating

- *Best practice* is to always activate Oracle Fusion Data Intelligence into your Oracle Fusion Cloud Applications account. Doing so saves you time, cost, and complexity when setting up your security integration between Oracle Fusion Data Intelligence and your Oracle Fusion Cloud Applications, as well as improved ongoing synchronization performance.
- Activating the Oracle Fusion Data Intelligence subscription into a non-Oracle Fusion Cloud Applications account goes against best practices. It will cost you additional time, money, and complexity when setting up your security integration between Oracle Fusion Data Intelligence and your Oracle Fusion Cloud Applications, and reduced performance in its ongoing synchronization.
- From Release Platform 25.R1.P2, Universal Credits (UCC) are no longer a prerequisite for activating Oracle Fusion Data Intelligence. You can activate Oracle Fusion Data Intelligence without relying on UCC. However, you may require UCC in specific scenarios to access or scale Oracle Cloud Infrastructure services that support Oracle Fusion Data Intelligence and for enhanced performance. Ensure that you have an UCC subscription in these scenarios to pay for additional charges:
 - When you want to add OCPUs in the associated Oracle Analytics Cloud for enhanced processing power and analytics. Use the **Change Capacity** capability to increase the OCPU count. See [Change Oracle Analytics Cloud Capacity](#).
 - When you want to add ECPUs in the associated Oracle Autonomous Data Warehouse for compute resources and increase storage capacity for long-term backups and database tools. Use the **Manage Scaling** capability. See [Scale Up Oracle Autonomous Data Warehouse](#).

- If you plan on extending Oracle Fusion Data Intelligence with more than 50GB of non-Oracle Fusion Cloud Applications data.
- When you want to use these additional Oracle Cloud Infrastructure services:
 - * Key Management - for example, if you opt for customer-managed encryption keys, you need to use Oracle Key Management and you can use universal credits to pay for:
 - * Additional key versions beyond the first free 20 key versions
 - * Key creation and storage
 - * Key rotation and API requests
 - * AI/ML Services for advanced analytics and automation.
 - * Object Storage Service (OSS) for scalable data storage.
- For the specific scenarios that may require universal credits, note these:
 - If an UCC subscription exists in your Oracle Fusion Cloud Applications account, then you don't need another UCC subscription.
 - Activate a new UCC subscription in your Oracle Fusion Cloud Applications account. See [Activate the Universal Credits Subscription](#).
 - UCC Pay As You Go (PAYG) subscriptions expire within 30 days of receiving the UCC Welcome email. It's very important that you activate UCC into your Oracle Fusion Cloud Applications account within 30 days of receiving it. If the UCC PAYG subscription expires, then UCC activation will fail and you'll need to submit a service request.

Role Needed to Activate

You must be a cloud administrator with the OCI_Administrator role or be in the OCI_Administrators group for the Oracle Cloud account that you're trying to activate your subscriptions into to activate successfully both UCC and Oracle Fusion Data Intelligence subscriptions. If you aren't a cloud administrator with this role, then follow either of these options:

1. Ask the current cloud administrator of the cloud account to add you as a cloud administrator and assign the OCI_Administrator role or add you to the Administrators group before you try to activate. However, be mindful of your account's location when asking:
 - If you've an account in an Oracle Cloud Infrastructure Identity and Access Management default or local domain, then a user with the Oracle Cloud Infrastructure administrator privileges needs to add you to the Administrators group.

Note

The prebuilt read-only Tenant Admin Policy grants administration privileges to the prebuilt Administrators group.

- If you've an account in an Oracle Identity Cloud Service stripe, then a user with the Oracle Cloud Infrastructure administrator privileges needs to ensure that the Oracle Identity Cloud Service OCI_Administrators group is mapped to the Identity and Access Management Administrators group, and then add you to the Oracle Identity Cloud Service OCI_Administrators group.

Note

The prebuilt OCI_Admistrators group in an Oracle Identity Cloud Service stripe is mapped to the Administrators group in the Identity and Access Management local domain.

- If you've an account in a migrated Oracle Identity Cloud Service identity domain, then a user with the Oracle Cloud Infrastructure administrator privileges needs to add you to the OCI_Admistrators group and create the following policy rule:

Allow Group *OracleIdentityCloudService/OCI_Admistrators* to Manage All-Resources in Tenancy

Note

A migrated OCI_Admistrators group doesn't have administrative privileges immediately after a migration.

- If you've an account in any other identity domain, then a user with the Oracle Cloud Infrastructure administrator privileges needs to add you to the Domain_Admistrators group and create the following policy rule:

Allow Group *<Name of Domain>/Domain_Admistrators* to Manage All-Resources in Tenancy

2. Forward the activation emails to a person who has the OCI_Administrator role or is in the Administrators group and have them follow the activation instructions.

Note these:

- If this Oracle Cloud account uses identity domains, then see the *Creating Users* section in [Using the Console](#) to create a user and assign the OCI_Admistrators or Administrators group, whichever is available.
To add this group to an existing user in an identity domain, see the *Adding Users to Groups* section in [Using the Console](#).
- If this Oracle Cloud account uses Oracle Identity Cloud Service to manage users, then see [Create User Accounts](#) to create a user and assign the OCI_Administrator role or Administrators group, whichever is available.
To add this group to an existing user in Oracle Identity Cloud Service, see [Assign Groups to the User Account](#).
- To know if your tenancy uses identity domains or Oracle Identity Cloud Service, see [Do You Have Access to Identity Domains?](#)

Activate the Oracle Fusion Data Intelligence Subscription

Activate your Oracle Fusion Data Intelligence subscription into the Oracle Cloud account where you've Oracle Fusion Cloud Applications.

After Oracle processes your subscription order, you receive an email asking you to activate the subscription. As part of the activation process, you sign into the Cloud account that has your Oracle Fusion Cloud Applications already in it. Upon signing in, you're taken to the Add Subscription page in the Oracle Cloud Infrastructure Console where you'll add the Oracle Fusion Data Intelligence subscription to the Cloud account.

Note

Your subscriptions are linked and activated into the home region of your tenancy. After activating a subscription, you can create the Oracle Fusion Data Intelligence instance in the regions where Oracle Fusion Data Intelligence is available and you have subscribed for such regions. Use the Manage Regions option in the Oracle Cloud Infrastructure Console to subscribe for a region. See [Region Availability](#) and [Managing Regions](#).

After you add the Oracle Fusion Data Intelligence subscription, it can take up to an hour for the activation process to complete. You'll receive another email confirming that your subscription is ready. Don't proceed to the next step until you've received this email.

1. Locate your Oracle Fusion Data Intelligence Welcome email that you received from Oracle Cloud.

Note

The name of the service in the body of this Welcome email is "Oracle Fusion XXX Analytics..." where XXX represents the Fusion Data Intelligence pillar(s) you subscribed to such as Fusion HCM Analytics and Fusion ERP Analytics.

Action Required: Welcome to New Oracle Cloud Service Subscription(s)

Oracle Cloud <[redacted]>

Thu 9/15/2022 7:10 AM

To: [redacted]

ORACLE

Add subscriptions to a cloud account

Hi [redacted]

Thank you for subscribing to Oracle Cloud. Your first step is to link the service(s) to an Oracle Cloud Account. With an Oracle Cloud Account, you can manage services, add users, and configure access to resources.

Your first step is to **activate your service(s) by adding them to an Oracle Cloud Account**, which allows you to manage services, add users, and more. Either add your services to an existing account associated with your organization, or create a new account (see options below).

If you are not the correct person to manage your company's subscriptions, simply forward this email to the right person to activate your service(s).

Once you have added your service(s) to an Oracle Cloud Account, you will receive an email from Oracle (oracle.com) that will guide you to take the next onboarding steps. Depending on your order, you may receive additional activation emails for other services. If you have purchased more than one cloud service, it is recommended to use a single cloud account. Please use one of the welcome emails to create a cloud account and wait for the confirmation email with cloud account credentials to activate the remaining cloud services into the same cloud account. Refer [Activating Your Services](#) if you have questions about the distinctions between adding services to an existing versus creating a new Oracle Cloud account.

2. In the email, click **Add to existing cloud account**.

Subscription ID: [REDACTED]

- Oracle Fusion HCM Analytics - Hosted Employee ([REDACTED])

[Add to existing cloud account](#)[Create new cloud account](#)**Order Details:**

Order Number: [REDACTED]

Order Date: Thu, Sep 15, 2022, 01:39 AM UTC

Customer Support Identifier (CSI): [REDACTED]

Organization Name: [REDACTED]

Questions?Please contact your account representative or [Oracle Support](#).**Additional resources:**

Join the [Cloud Customer Connect community](#) to submit ideas for product enhancements directly to Oracle development or engage in real-time dialogues with other Oracle customers, Oracle experts, and Oracle partners about lessons learned and best practices for cloud adoption and business transformation.

Oracle University is offering [free training on Oracle Cloud](#) for a limited time.

ORACLE
Cloud

Please do not reply directly to this email.
Copyright © 2020 Oracle. All rights reserved.
[Contact Us](#) | [Legal Notices and Terms of Use](#) | [Privacy Statement](#)

3. On the Oracle Cloud page, click **Sign In using a Cloud Account Name**.

ORACLE
Cloud[Next](#)Forgot your cloud account name? [Get help](#)[Sign In](#) using a Cloud Account Name**Not an Oracle Cloud customer yet?**[Sign Up](#)

4. In **Cloud Account Name**, enter the tenancy name of the existing Oracle Cloud account that has Oracle Fusion Cloud Applications and then click **Next**.

ORACLE Cloud

Cloud Account Name ?[Next](#)Forgot your cloud account name? [Get help](#)Do you have a Traditional Cloud Account? [Sign In](#)

Not an Oracle Cloud customer yet?

[Sign Up](#)

If you don't see your existing Oracle Cloud account that has Oracle Fusion Cloud Applications in it, stop and submit a service request against "Fusion Data Intelligence" in My Oracle Support so that it gets routed to the correct team. For this service request, select **Significant Impairment** as **Issue Type** and in **Problem Type**, click **Activate, Create, Delete, Manage FDI Instance** and then select **FDI Activation**. Ensure that you include the account name you are trying to activate into along with a screen shot showing that you've been assigned this role in that Cloud account.

5. On the Oracle Cloud Account Sign In page, sign in as follows:
 - If the tenancy is set up with single sign-on, then in the Single Sign-On (SSO) section, select the applicable identity provider and click **Continue** to display the sign-in details.

Change tenancy

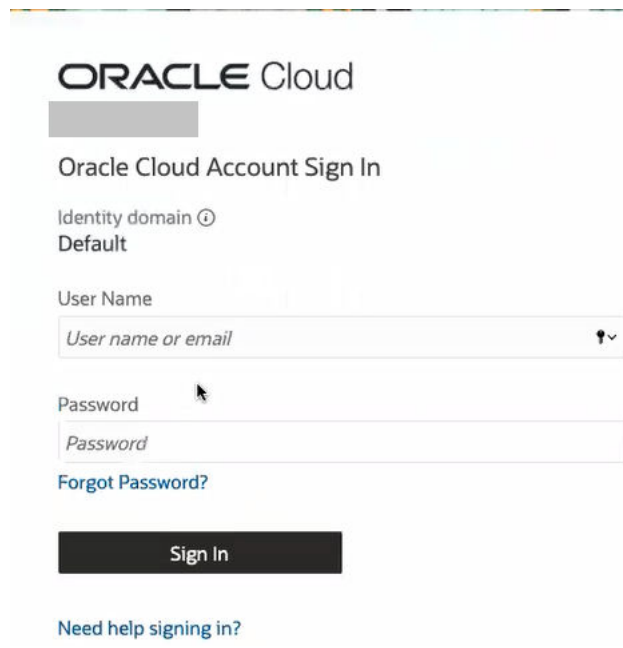
Single Sign-On (SSO)

We have detected that your tenancy has been federated to another Identity Provider.

Select your Identity Provider below.

Continue

In the Oracle Cloud Account sign-in details, verify that the tenancy name is your Oracle Fusion Cloud Applications account, enter your credentials, and then click **Sign In** that takes you to the Add Subscription page in Oracle Cloud Infrastructure.



ORACLE Cloud

Oracle Cloud Account Sign In

Identity domain ⓘ
Default

User Name

Password

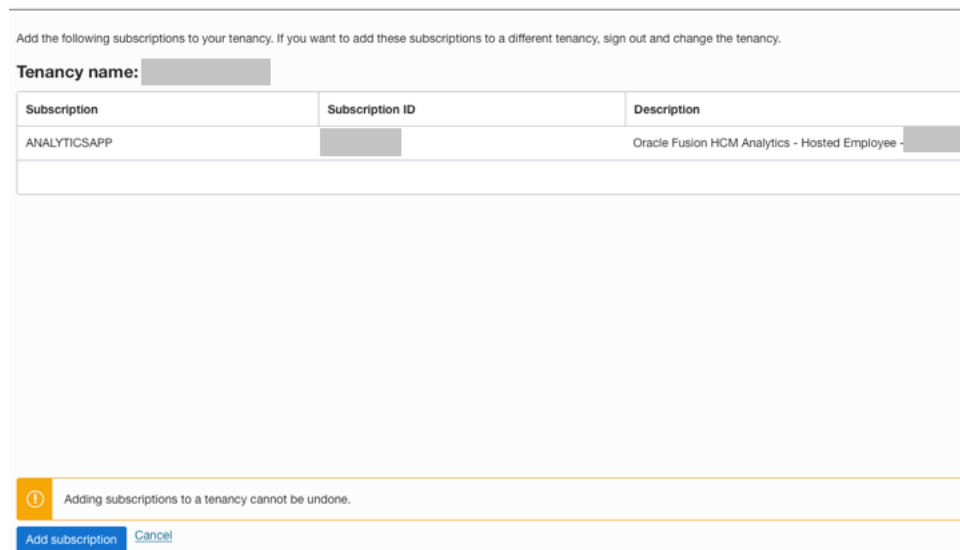
[Forgot Password?](#)

Sign In

[Need help signing in?](#)

- If the tenancy isn't set up with single sign-on, then in the Oracle Cloud Account sign-in details, verify that the tenancy name is your Oracle Fusion Cloud Applications account, enter your credentials, and then click **Sign In** which takes you to the Add Subscription page in Oracle Cloud Infrastructure.
6. On the Add subscription page, click the applicable row to select the subscription that matches the subscription listed in the activation email, and then click **Add subscription**.

Add subscription



Add the following subscriptions to your tenancy. If you want to add these subscriptions to a different tenancy, sign out and change the tenancy.

Tenancy name:

Subscription	Subscription ID	Description
ANALYTICSAPP		Oracle Fusion HCM Analytics - Hosted Employee -

Adding subscriptions to a tenancy cannot be undone.

Add subscription [Cancel](#)

Note

Stop here if you don't see the subscription that you wish to activate.

- It likely means that you don't have the OCI_Administrator role or Administrators group (whichever is available) assigned to you. You must contact your cloud account administrator.
- If you've been assigned the OCI_Administrator role or are part of the Administrators group, then enter a service request against "Fusion Data Intelligence" in My Oracle Support so that it gets routed to the correct team. For this service request, select **Significant Impairment** as **Issue Type** and in **Problem Type**, click **Activate, Create, Delete, Manage FDI Instance** and then select **FDI Activation**. Ensure that you include the account name you're trying to activate into along with a screen shot showing that you've been assigned this role in that Cloud account.

7. In the **Thanks for adding your subscriptions** message, click **Close**.

Thanks for adding your subscriptions. You're almost done!

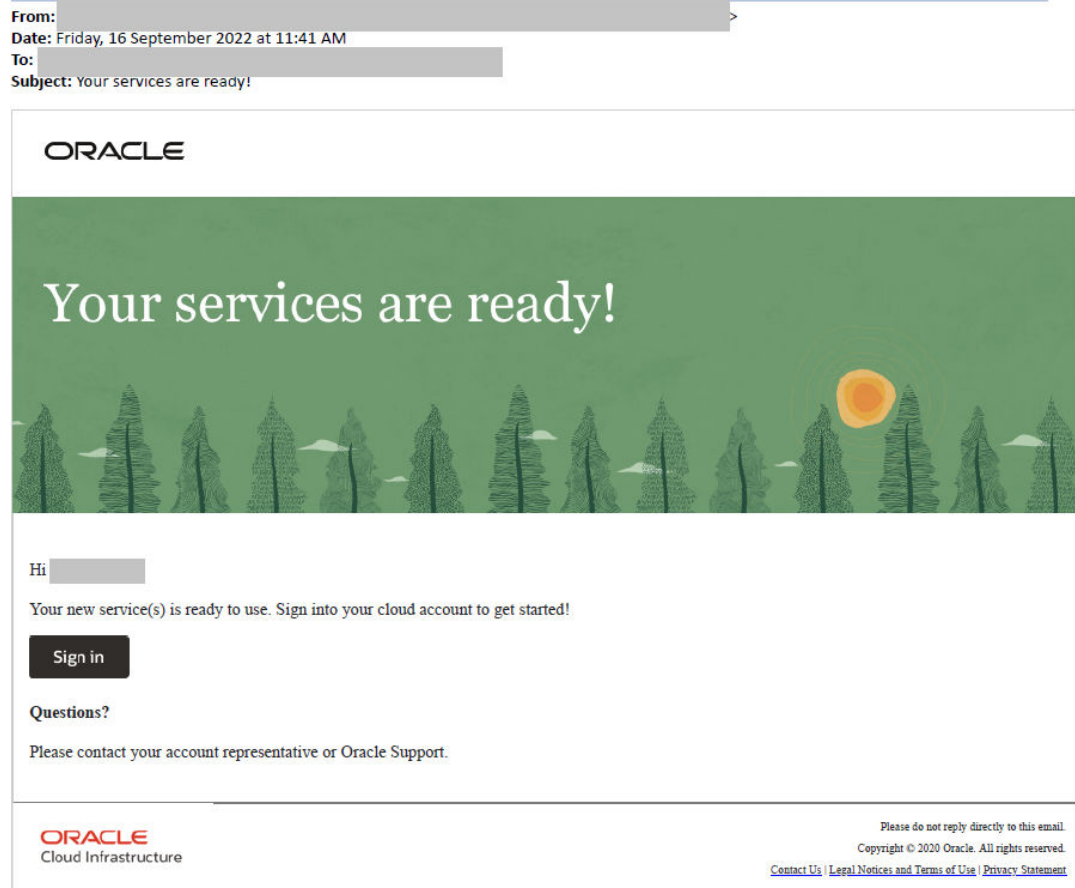
We'll email you with further instructions when your subscriptions are ready, so you can get your services up and running.

[Learn more about managing your administrative roles](#)

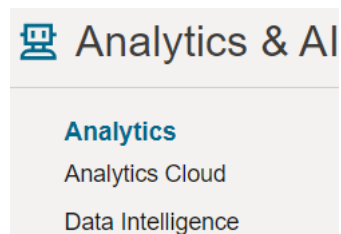
Close

It can take upto an hour to receive an email with the subject "Your services are ready!".

8. Open the email that you received from Oracle Cloud stating that your services are ready and click **Sign in**. Use your Cloud account credentials.



9. In Oracle Cloud Infrastructure Console, click the Navigator menu icon, click **Analytics & AI**, and then under Analytics & AI, click **Data Intelligence**.



10. On the Fusion Data Intelligence Instances page, verify that the subscriptions listed in the Compartment banner match your Oracle Fusion Data Intelligence order and the **Create Instance** button is enabled.

Before you click the **Create Instance** button, ensure the following:

- You have the User Administrator permission in the domains that you plan to create the Oracle Fusion Data Intelligence instance.
- You set up user access using single sign-on. See [Set Up User Access to Oracle Fusion Data Intelligence Using Single Sign-On](#).

Oracle highly recommends that you create an Oracle Fusion Data Intelligence instance integrated with your Oracle Fusion Cloud Applications instance. To create an integrated, see [Create an Integrated Oracle Fusion Data Intelligence Instance](#).

11. If you run into issues, then enter a service request against “Fusion Data Intelligence” in My Oracle Support so that it gets routed to the correct team. For this service request, select **Significant Impairment** as **Issue Type** and in **Problem Type**, click **Activate, Create, Delete, Manage FDI Instance** and then select **FDI Activation**. Prior to creating the service request, ensure that you have noted down the Cloud account, order number, subscription details, and the failed step information.

Typical Workflow to Administer Oracle Fusion Data Intelligence

If you're setting up Oracle Fusion Data Intelligence for the first time, then follow these tasks as a guide after activating your Oracle Fusion Data Intelligence subscription.

Task	Description	More Information
Sign into the Oracle Cloud Infrastructure Console.	After you activate the service, use the cloud account credentials to access your services. If you're planning to use single sign-on to access Oracle Fusion Data Intelligence, then Set Up User Access to Oracle Fusion Data Intelligence Using Single Sign-On before proceeding with this and the subsequent tasks.	Sign In to the Oracle Cloud Infrastructure Console
Use the Oracle Cloud Infrastructure Console to access the service pages.	When you sign in to the Console, you'll see the home page. Use the navigation menu in the upper left to navigate to the service pages where you create, manage, and view your cloud resources.	Access Your Service
(Optional) Add a user with administrator permissions for the service.	Add a user with full administrator permissions of the default administrator of the service.	Add Users with Administrator Permissions
Create a user to extract data.	If you want to use the password-based basic authentication to connect to your source system, then you must provide credentials of a user who has the appropriate privileges to extract data from Oracle Fusion Cloud Applications into Oracle Fusion Data Intelligence.	Create a User in Oracle Fusion Cloud Applications to Extract Data
Set up user access to Oracle Fusion Data Intelligence using single sign-on.	You can set up how users from Oracle Fusion Cloud Applications access Oracle Fusion Data Intelligence using single sign-on. This setup eases the management of various user names and passwords. It enables you to synchronize users and roles in Oracle Fusion Cloud Applications with Oracle Identity Cloud Service and then enable these users to access Oracle Fusion Data Intelligence.	Set Up User Access to Oracle Fusion Data Intelligence Using Single Sign-On
Create an instance for Oracle Fusion Data Intelligence.	Create your Oracle Fusion Data Intelligence instance. Oracle highly recommends that you create an Oracle Fusion Data Intelligence instance integrated with your Oracle Fusion Cloud Applications instance.	Create an Integrated Oracle Fusion Data Intelligence Instance
Verify the Oracle Fusion Data Intelligence instance.	You receive an email when your instance is ready. Check that you can sign in and that your instance is up and running.	Verify Your Instance and Sign In

Task	Description	More Information
Create and associate users and groups.	When you set up provisioning with single sign-on, you enable synchronization of users and their associated roles from Oracle Fusion Cloud Applications to your Oracle Fusion Data Intelligence instance. After the initial synchronization, if you add users in your Oracle Fusion Cloud Applications instance, they're automatically available in your identity provider because you've enabled synchronization. You can also add additional users in your identity provider if you've the User Administrator role in it. In Oracle Fusion Data Intelligence, you can view the users and groups on the Security page but you can't create, modify, or delete them. When you set up provisioning without single sign-on, to access Oracle Fusion Data Intelligence, manually create Oracle Fusion Cloud Applications users and groups (these are the equivalent of job roles in Oracle Fusion Cloud Applications) in your identity provider and then assign the groups (job roles) to users.	Set Up User Access to Oracle Fusion Data Intelligence Using Single Sign-On
Configure data security.	Ensure that users have appropriate access to use Oracle Fusion Data Intelligence. Access to subject areas and data depends on the roles assigned to the users.	Manage Users, Groups, Application Roles, and Data Access
Configure Oracle Fusion Data Intelligence data.	Set up global and reporting configurations, and create data pipelines for functional areas to copy your Oracle Fusion Cloud Applications data to the data warehouse.	Configure Oracle Fusion Data Intelligence Data

Sign In to the Oracle Cloud Infrastructure Console

After you activate the service, use the cloud account credentials to sign in to the Oracle Cloud Infrastructure Console to access your services.

If you're the first user on the account and were invited by Oracle Cloud, then you're automatically added to the Administrators group. You can invite other members of the organization by adding users in Oracle Cloud Infrastructure Identity and Access Management. See [Signing In to the Console](#).

Access Your Service

Sign in to the Oracle Cloud Infrastructure Console and use the navigation menu in the upper left to navigate to the service pages where you create, manage, and view your cloud resources.

See [Using the Console](#).

Add Users with Administrator Permissions

If you want another user to administer the service, then provide the user with the same permissions as the default administrator of the service.

- If you're an Oracle Cloud Infrastructure Identity and Access Management administrator and want to add another Oracle Cloud Infrastructure Identity and Access Management user with administrator privileges, then complete the following tasks:
 - Create a group and add a non-administrator user to the group. Name the group, for example, FAWAdmin.grp. See [Managing Groups](#).
 - Create a compartment for the Oracle Fusion Data Intelligence instances to limit the access of non-administrator users to only those services within the compartment. Name the compartment, for example, FAWServicesCompartment. See [Managing Compartments](#).
 - Define the policies for the non-administrator user to access the Oracle Fusion Data Intelligence instances. Name the policy, for example, FAWAdmin.pl. Add the policy statements such as:
 - * ALLOW GROUP FAWAdmin.grp TO MANAGE analytics-warehouses IN COMPARTMENT FAWServicesCompartment
 - * ALLOW GROUP FAWAdmin.grp TO READ analytics-warehouse-work-requests IN COMPARTMENT FAWServicesCompartment
- See [Managing Policies](#).
- Add the policy to grant the non-administrator user permission to view and manage Autonomous Data Warehouse (ADW) along with operations such as scale ADW and enable or disable the ADW tools in the Oracle Cloud Infrastructure Console of ADW. You must add this policy in the compartment that you created, for example, FAWServicesCompartment. Ensure that the compartment in which you grant the manage ADW permissions is the same as the compartment in which the non-administrator user has a manage permission for Oracle Fusion Data Intelligence instances. Name the ADW-specific policy, for example, FAWADWAdmin.pl and add a policy statement such as:

```
ALLOW GROUP FAWAdmin.grp TO MANAGE autonomous-database-family IN
COMPARTMENT
FAWServicesCompartment
```

- Add the policy to grant the non-administrator user permission to view and manage Oracle Analytics Cloud along with operations such as scale Oracle Analytics Cloud in the Oracle Analytics Cloud Console. You must add this policy in the compartment that you created, for example, FAWServicesCompartment. Ensure that the compartment in which you grant the manage Oracle Analytics Cloud permissions is the same as the compartment in which the non-administrator user has a manage permission for Oracle Fusion Data Intelligence instances. Name the Oracle Analytics Cloud-specific policy, for example, FAWOACAdmin.pl and add a policy statement such as:

```
ALLOW GROUP FAWAdmin.grp TO MANAGE analytics-instances IN COMPARTMENT
FAWServicesCompartment
```

- Add the policy to grant the non-administrator user permission to view Oracle Analytics Cloud work requests such as the activity log for the Oracle Analytics Cloud instance in the Oracle Analytics Cloud Console. Add the policy such as:

```
ALLOW GROUP FAWAdmin.grp TO READ analytics-instance-work-requests IN  
COMPARTMENT  
FAWServicesCompartment
```

- If your tenancy uses Oracle Identity Cloud Service to manage user logins and passwords for the Oracle Cloud Infrastructure Console, then to add a user with administrator permissions. See [Managing Oracle Identity Cloud Service Users and Groups in the Oracle Cloud Infrastructure Console](#).

Create a User in Oracle Fusion Cloud Applications to Extract Data

If you want to use the password-based basic authentication to connect to your source system, then you must provide credentials of a user who has the appropriate privileges to extract data from Oracle Fusion Cloud Applications into Oracle Fusion Data Intelligence.

In Oracle Fusion Cloud Applications, ensure that you've the Security Manager role and access the Security Console to create a user to extract data into Oracle Fusion Data Intelligence. Ensure that the password for this user doesn't contain any special characters or spaces.

Oracle counts this user as an Oracle Fusion Cloud Applications licensed user. You must assign the appropriate data security privileges to this user for bulk data extraction. Later, specify this user while providing the source details when you're creating your Oracle Fusion Data Intelligence instance and updating the source details after creating the instance.

If you're using the password-based basic authentication to connect to your source system, then you won't be able to reset the password for the prebuilt FAWService user in Oracle Fusion Cloud Applications. You can continue to use the FAWService user until the existing password expires. The recommendation is to update the connection details with the new user created to extract data, such as MyFAWExtractUser, before the password for the FAWService user expires to ensure continuation of data extraction. See [Update the Data Source Connection Details](#). To provide the user credentials while creating a Oracle Fusion Data Intelligence instance, see [Enter Details for an Oracle Fusion Data Intelligence Subscription Instance](#).

If you want to use the credentials of the user such as MyFAWExtractUser for validating the extracted data, then ensure that you also assign to this user the custom data BI - Abstract Role that was created for data validation; for example, FAW_CUSTOM_DATA_VALIDATION_ROLE. See [Create a Custom BI Abstract Role](#). Otherwise, create a user such as MyFAWValidationUser and assign the custom data BI - Abstract Role created for data validation. See [Create a User to Validate the Extracted Data](#).

1. Sign in to Oracle Fusion Cloud Applications and in the Navigator, click **Tools**, and then click **Security Console**.
2. In the Console, click the Users tab and create a user that you want to use to extract data into Oracle Fusion Data Intelligence; for example, MyFAWExtractUser.
See [Add User Accounts](#).
3. Click the Roles tab and then click **Create**.
4. On the Basic Information page, enter FAW_EXTRACT_ADMIN in Role Name, FAW_EXTRACT_ADMIN in Role Code, and BI - Abstract Roles in Role Category.
5. Click **Next** to navigate to the subsequent pages. You can skip entering details on the Function Security Policies and Data Security Policies pages.

6. On the Role Hierarchy page, click **Add Role** and in the Add Role Membership dialog, search for the following roles and click **Add Role Membership** to add them:
 - ESS Administrator Role: To create and manage schedules for global data extracts or jobs.
 - ORA_ASM_APPLICATION_IMPLEMENTATION_ADMIN_ABSTRACT: To provide access to global offerings and data stores or jobs.
7. Close the Add Role Membership dialog and click **Next**.
8. Skip entering details on the Segregation of Duties page and click **Next**.
9. On the Users page, click **Add User** and in the Add User dialog, search for and select the user to whom you want to assign this role; for example, MyFAWExtractUser. Click **Add Selected Users** and close the Add User dialog.
10. Click **Next**. Review the summary and click **Save and Close**.

3

Set Up Oracle Fusion Data Intelligence

As the cloud account administrator, create the service instance for Oracle Fusion Data Intelligence.

Topics:

- [Prerequisites for Oracle Fusion Data Intelligence](#)
- [Typical Workflow to Set Up Oracle Fusion Data Intelligence](#)
- [Set Up User Access to Oracle Fusion Data Intelligence Using Single Sign-On](#)
- [Create an Oracle Fusion Data Intelligence Instance](#)
- [Deploy Oracle Fusion Data Intelligence with a Private Endpoint](#)
- [Make Preview Features Available](#)
- [Enable Generally Available Features](#)
- [View Work Requests](#)
- [View Subscriptions](#)
- [Update the Data Source Connection Details](#)
- [Update Your Subscriptions](#)
- [Update the Administrator Password for Oracle Autonomous Data Warehouse](#)
- [Reset the Password for OAX_USER Schema](#)
- [Reset the Password for Custom Schemas](#)
- [Terminate Instances](#)
- [Move the Oracle Fusion Data Intelligence Instance to Another Compartment](#)
- [Update the Notification Email](#)
- [Scale Up Oracle Autonomous Data Warehouse](#)
- [Change Oracle Analytics Cloud Capacity](#)
- [Activate the Universal Credits Subscription](#)
- [Provide Your Encryption Key for Oracle Autonomous Data Warehouse](#)
- [Configure Advanced Options](#)

Prerequisites for Oracle Fusion Data Intelligence

The prerequisites needed to set up Oracle Fusion Data Intelligence pillars ensure you can use all the features of those products.

Table 3-1 Prerequisites for Pillars

Pillar	Prerequisites
Oracle Fusion CX Analytics	See Prerequisites for Fusion CX Analytics.
Oracle Fusion ERP Analytics	See Prerequisites for Fusion ERP Analytics.
Oracle Fusion HCM Analytics	See Prerequisites for Fusion HCM Analytics.
Oracle Fusion SCM Analytics	See Prerequisites for Fusion SCM Analytics.

Typical Workflow to Set Up Oracle Fusion Data Intelligence

If you're setting up Oracle Fusion Data Intelligence for the first time, then follow these tasks as a guide.

Task	Description	More Information
Set up user access to Oracle Fusion Data Intelligence using single sign-on.	You can set up how users from Oracle Fusion Cloud Applications access Oracle Fusion Data Intelligence using single sign-on. This setup simplifies how you manage user names and passwords. It enables you to synchronize users and roles in Oracle Fusion Cloud Applications with Oracle Identity Cloud Service and then enable these users to access Oracle Fusion Data Intelligence.	Set Up User Access to Oracle Fusion Data Intelligence Using Single Sign-On
Create an Oracle Fusion Data Intelligence instance.	Create a service instance to manage your cloud resources. Oracle highly recommends that you create an Oracle Fusion Data Intelligence instance integrated with your Oracle Fusion Cloud Applications instance.	Create an Integrated Oracle Fusion Data Intelligence Instance
Verify your instance and sign in.	Verify your service instance when you receive an email from Oracle that your Oracle Fusion Data Intelligence service instance is ready.	Verify Your Instance and Sign In

Set Up User Access to Oracle Fusion Data Intelligence Using Single Sign-On

You can set up how users from Oracle Fusion Cloud Applications access Oracle Fusion Data Intelligence using single sign-on. This setup simplifies how you manage user names and passwords. You must complete this setup before you create your Oracle Fusion Data Intelligence instances except where mentioned that further setup is required after you create the Oracle Fusion Data Intelligence instance.

Topics:

- [About Setting Up User Access to Oracle Fusion Data Intelligence Using Single Sign-On](#)

- [Set Up User Access in case of a Single Cloud Account](#)
- [Set Up User Access in case of Separate Cloud Accounts](#)

About Setting Up User Access to Oracle Fusion Data Intelligence Using Single Sign-On

Using single sign-on simplifies managing user access across applications.

Users of Oracle Fusion Data Intelligence are mostly Oracle Fusion Cloud Applications users and those whom you create specifically for Oracle Fusion Data Intelligence in the identity provider. Setting up access to Oracle Fusion Data Intelligence for these users using single sign-on depends on the identity domains available in your cloud accounts.

Oracle Cloud regions use the Oracle Cloud Infrastructure Identity and Access Management (IAM) identity domains. See [Identity Domain Overview](#). It's easy to determine the presence of identity domains in your cloud account. In Oracle Cloud Infrastructure Console, navigate to **Identity & Security**. Under **Identity**, check for **Domains**.

Set up user access to Oracle Fusion Data Intelligence using single sign-on if:

- Oracle Fusion Cloud Applications and Oracle Fusion Data Intelligence are activated in the same cloud account. This approach is highly recommended because it saves you time, cost, and complexity when setting up your security integration between Oracle Fusion Data Intelligence and your Oracle Fusion Cloud Applications, as well as improved ongoing synchronization performance.
- Oracle Fusion Cloud Applications and Oracle Fusion Data Intelligence are activated in different cloud accounts. This approach costs you additional time, money, and complexity when setting up your security integration between Oracle Fusion Data Intelligence and your Oracle Fusion Cloud Applications, and reduced performance in the ongoing synchronization.

Set Up User Access in case of a Single Cloud Account

Set up user access to Oracle Fusion Data Intelligence using single sign-on when Oracle Fusion Cloud Applications and Oracle Fusion Data Intelligence are activated in the same cloud account and the cloud account offers identity domains.

If you're a new user of Oracle Fusion Cloud Applications with Oracle Fusion Data Intelligence activated in the same cloud account as Oracle Fusion Cloud Applications and your cloud account offers identity domains, then perform these steps:

1. Set up the JWT Based authentication for Oracle Fusion Data Intelligence.
See [Configure JWT Authentication Provider](#). While [configuring the token-based authentication](#), ensure that you enter FAWServiceJWTIssuer as the trusted issuer.
2. Use the Oracle Cloud Infrastructure Console and add these policies to enable users from the identity domain associated with Oracle Fusion Cloud Applications to access the Oracle Fusion Data Intelligence compartments:

```
Allow group '<DomainName>'/'<GroupName>' to manage analytics-warehouses in
tenancy
Allow group '<DomainName>'/'<GroupName>' to manage
analytics-instances in
tenancy
Allow group '<DomainName>'/'<GroupName>' to manage
```

```

    autonomous-database-family
  in tenancy
  Allow group '<DomainName>'/'<GroupName>' to manage all-resources
  in
  compartment <compartment name>

```

See "To create a policy" in [Managing Policies](#).

3. Copy and paste into a text file the URL of your Oracle Fusion Cloud Applications instance for later use. You specify this URL as the source Oracle Fusion Cloud Applications while creating the Oracle Fusion Data Intelligence instance.
4. In Oracle Cloud Infrastructure, sign in to the cloud account where both Oracle Fusion Cloud Applications and Oracle Fusion Data Intelligence services have been activated using your cloud account administrator credentials.
5. On the Oracle Cloud Infrastructure Sign-in page, choose the domain that's corresponding to the Oracle Fusion Cloud Applications instance that you want to specify as the source while creating the Oracle Fusion Data Intelligence instance.
6. In the Oracle Cloud Infrastructure Console, click the **Navigation** menu icon, click **Analytics & AI** and then click **Data Intelligence** to create the Oracle Fusion Data Intelligence instance.

See [Create an Oracle Fusion Data Intelligence Subscription Instance](#).

Set Up User Access in case of Separate Cloud Accounts

Set up user access to Oracle Fusion Data Intelligence using single sign-on when Oracle Fusion Cloud Applications and Oracle Fusion Data Intelligence are activated in separate cloud accounts and both the cloud accounts offer identity domains.

If you're a new user of Oracle Fusion Cloud Applications in a cloud account that offers identity domains with Oracle Fusion Data Intelligence activated in a different new cloud account that offers identity domains, then perform these steps:

1. Copy and paste into a text file the URL of your Oracle Fusion Cloud Applications instance for later use.

You specify this URL as the source Oracle Fusion Cloud Applications while creating the Oracle Fusion Data Intelligence instance.

2. Create a domain in the cloud account in which you activated Oracle Fusion Data Intelligence to control the authentication and authorization of the users who can sign in to Oracle Fusion Data Intelligence.

Ensure that you select **Free** domain type but ignore the limits mentioned for the Free domain type because they aren't applicable for Oracle Fusion Data Intelligence. See [Creating Identity Domains](#) and *Creating an Identity Domain* in [Using the Console](#).

3. Configure the GenericSCIM Template in the identity domain that you created in the cloud account in which you activated Oracle Fusion Data Intelligence for enabling synchronization of users, groups, and group mappings from the identity domain associated with the Oracle Fusion Cloud Applications instance.

While configuring the GenericSCIM template, use the **GenericScim - Client Credentials** template and in **Select Provisioning Operation**, choose **Authoritative Sync**. In the Configure connectivity section, ensure that the host name is in this sample format (without the https): `idcs-123456abcde123.identity.oraclecloud.com`. See [Configure the Generic SCIM App Template](#).

4. Configure single sign-on between the identity domain associated with Oracle Fusion Cloud Applications and the identity domain associated with Oracle Fusion Data Intelligence.

See [Configure Single Sign-on Between Two Identity Domains](#).

5. In Oracle Cloud Infrastructure Console, create an Oracle Cloud Infrastructure policy to enable a domain user to create the Oracle Fusion Data Intelligence instance.

While creating the policy, select the identity domain in which you plan to create the Oracle Fusion Data Intelligence instance and enter these policy statements:

- Allow group '<DomainName>/'<GroupName>' to manage analytics-warehouses in tenancy
- Allow group '<DomainName>/'<GroupName>' to manage analytics-instances in tenancy
- Allow group '<DomainName>/'<GroupName>' to manage autonomous-database-family in tenancy

See [To create a policy](#).

6. In the Oracle Cloud Infrastructure Console, click the **Navigation** menu icon to navigate to **Data Intelligence** and create the Oracle Fusion Data Intelligence instance.

See [Create an Oracle Fusion Data Intelligence Subscription Instance](#).

7. Create an identity provider policy for single sign-on to ensure that the Oracle Fusion Data Intelligence sign-in page has an option to sign in with the Oracle Fusion Cloud Applications credentials.

See *Adding an Identity Provider Policy* in [Using the Console](#).

On the Add IdP Rule page, in **Assign identity providers** select the SAML IDP that you created in [Add an SAML Application](#); for example, the *FAW-SSO SAML* identity provider.

8. Assign the *ANALYTICSAPP_<faw-instance-name>* and *ANALYTICSINST_oax<faw-instance-name>-<id>* analytics apps to the identity provider policy for single sign-on.

When you attempt to authenticate through these apps, the only identity providers that appear in the Sign In page of these apps are the ones you assigned to the identity provider policy for single sign-on. For example, the *FAW-SSO SAML* identity provider. These apps were created when you created the Oracle Fusion Data Intelligence instance. See *Adding Apps to the Policy* in [Using the Console](#).

Configure Single Sign-on Between Two Identity Domains

Configure single sign-on between the the identity domain associated with Oracle Fusion Cloud Applications and the identity domain associated with Oracle Fusion Data Intelligence to ensure that users can sign into Oracle Fusion Data Intelligence with their existing Oracle Fusion Cloud Applications credentials.

To configure single sign-on between the identity domain associated with Oracle Fusion Cloud Applications and the identity domain associated with Oracle Fusion Data Intelligence, you must create a Security Assertion Markup Language (SAML) application using the Oracle Cloud Infrastructure Console. You then configure this SAML application with the details from the metadata XML file of the Oracle Fusion Data Intelligence identity domain.

Topics:

- [Add an SAML Application](#)
- [Copy Details from the Identity Domain Metadata File](#)
- [Configure the SAML Application](#)

Add an SAML Application

Add a Security Assertion Markup Language (SAML) application in the identity domain associated with your Oracle Fusion Cloud Applications instance to provide a way to authenticate a user once and then communicate that authentication to multiple applications.

1. Sign in to the Oracle Cloud Infrastructure Console using the credentials of the cloud account associated with Oracle Fusion Cloud Applications.
2. In the **Navigator** menu, click **Applications** and on the Applications page, click **Add**.
3. In Add Application, select **SAML Application**.
4. On the Add SAML Application page, in the Details section, enter a name such as FAW-SSO and select the **User can request access** check box to enable the user to access the app.
5. In the SSO Configuration section, click **Download Identity Provider Metadata** to download the metadata XML file of the identity domain associated with your Oracle Fusion Cloud Applications instance and save the metadata XML file to your local machine.
6. Save and pause the configuration of this SAML application temporarily to collect certain values from the metadata XML file of the Oracle Fusion Data Intelligence identity domain.

Copy Details from the Identity Domain Metadata File

Copy details from the metadata XML file of the Oracle Fusion Data Intelligence identity domain into a text file to use while configuring the SAML Application that you created.

1. Sign in to the Oracle Cloud Infrastructure Console using your Oracle Fusion Data Intelligence service administrator credentials.
2. In the Oracle Cloud Infrastructure **Navigator** menu, click **Identity & Security** and then in the Identity & Security pane, under **Identity**, click **Domains**.
3. On the Domains page, navigate to the identity domain that you created in this cloud account and on the identity domain details page, click **Security** and then click **Identity Providers**.
4. On the Identity provider (IdP) policies in the identity domain page, click **Add IdP**, and select **Add SAML IdP** from the dropdown list.
5. On the Add SAML identity provider page, in the Add Details section, enter **Name** such as Fusion SSO Login.
6. In the Configure IdP section, select the **Import identity provider metadata** radio button to choose and import the metadata XML file of the identity domain associated with your Oracle Fusion Cloud Applications instance that you previously downloaded to your local machine.
7. In the Map Attributes section, select **Unspecified** if the **Username** for the identity domain associated with your Oracle Fusion Cloud Applications instance can be email or short name. If the **Username** is email, then select **EmailAddress**.
8. In the Export section, download the metadata XML file of the Oracle Fusion Data Intelligence identity domain and its signing certificate.
9. Open the metadata XML file of the Oracle Fusion Data Intelligence identity domain in a text editor and copy the values for **entityID**, **AssertionConsumerService**, and **SingleLogoutService** into another text file to use while configuring the SAML Application that you created.

10. Return to configuring the SAML Application in the Oracle Cloud Infrastructure Console that you had previously signed into using the credentials of the cloud account associated with Oracle Fusion Cloud Applications.

Configure the SAML Application

Use the details from the metadata XML file of the Oracle Fusion Data Intelligence identity domain to configure the SAML Application that you created in the identity domain associated with your Oracle Fusion Cloud Applications instance.

Return to creating the SAML application that you had paused in [Add an SAML Application](#).

1. On the Add SAML Application page, use the metadata XML file of the Oracle Fusion Data Intelligence identity domain and the signing certificate to enter values for **Entity ID** and **Assertion Consumer URL** in the General section.
2. In Signing Certificate, click **Upload** to select the signing certificate of the Oracle Fusion Data Intelligence identity domain that you had previously downloaded and upload it.
3. In **NameID Format**, select **Unspecified** and in **NameID Value**, select **User Name**.
4. In the Advanced Settings section, select the **Include Signing Certificate in Signature** and **Enable Single Logout**. Use the metadata XML file of the Oracle Fusion Data Intelligence identity domain and the signing certificate to enter values for **Single Logout URL** and **Logout Response URL**.
5. Expand the Authentication and Authorization section and ensure that the **Enforce Grants as Authorization** option isn't selected.
6. Click **Finish** and then click **Activate**.
7. Navigate to the Oracle Fusion Data Intelligence identity domain, click the SAML application that you created to edit it.
8. In Edit SAML identity provider, click **Test Login** to verify that you're able to login successfully.

Create an Oracle Fusion Data Intelligence Instance

As an administrator, create instances for Oracle Fusion Data Intelligence to enable your users to start using it.

Topics:

- [About Creating an Instance](#)
- [Create an Integrated Oracle Fusion Data Intelligence Instance](#)
- [Create an Oracle Fusion Data Intelligence Standalone Instance](#)
- [Create an Oracle Fusion Data Intelligence Instance without Oracle Fusion Cloud Applications Source](#)

About Creating an Instance

You can create an Oracle Fusion Data Intelligence instance in either of these ways:

- Use Integrations in Oracle Fusion Cloud Applications that redirects to the Create Instance page in Oracle Fusion Data Intelligence. See [Create an Integrated Oracle Fusion Data Intelligence Instance](#).

- Use the Create Instance page in Oracle Fusion Data Intelligence directly. See [Create an Oracle Fusion Data Intelligence Standalone Instance](#).
- Use the Create Instance page in Oracle Fusion Data Intelligence directly without specifying the data source. See [Create an Oracle Fusion Data Intelligence Instance without Oracle Fusion Cloud Applications Source](#)

Oracle highly recommends that you create an Oracle Fusion Data Intelligence instance integrated with your Oracle Fusion Cloud Applications instance. On the Data Intelligence Instances page in Oracle Cloud Infrastructure, when you click **Create Instance**, the system presents you with a dialog that suggests the recommended instance creation approach.

Wait! Are you following the recommended approach?

Oracle recommends creating a Fusion Data Intelligence instance integrated with your Fusion Cloud Applications instance. This approach:

- Pre-fills Fusion Cloud Applications-specific data on the Create Instance page in Fusion Data Intelligence.
- Uses OAuth authentication and shares users, groups, and roles between both the applications.
- Reuses the Fusion Cloud Applications sign-on for Fusion Data Intelligence.

To [create an integrated instance](#) click **Close**, go to your Fusion Applications Environment details page, select Integrations under Resources, and click **Add Fusion Data Intelligence**.



Prefer a standalone instance? Click Continue, if you:

- [Do not have Fusion Cloud Applications](#) source or do not meet the [criteria for an integrated instance](#).
- Want an [Energy and Water Data Intelligence](#) instance.

Close

Continue

When you create an Oracle Fusion Data Intelligence instance using the Integrations option in Oracle Fusion Cloud Applications, you automatically get:

- The Oracle Fusion Cloud Applications identity provider and cloud tenancy for the Oracle Fusion Data Intelligence instance.
- Pre-filled Oracle Fusion Cloud Applications-specific data on the Create Instance page in Oracle Fusion Data Intelligence.
- The Oracle Fusion Cloud Applications instance attached to the Oracle Fusion Data Intelligence instance.
- The users, groups, and roles from Oracle Fusion Cloud Applications. Also, you don't have to set up how users from Oracle Fusion Cloud Applications access Oracle Fusion Data Intelligence using single sign-on, if single sign-on is already set up in Oracle Fusion Cloud Applications.
- OAuth authentication.

When you create an instance using the Create Instance page directly, you can:

- Decide which compartment to use.
- Use a tenancy different from the Oracle Fusion Cloud Applications tenancy.
- Point to any Oracle Fusion Cloud Applications instance of your choice, irrespective of the regions of these services.
- Set up the identity provider of your choice.
- Terminate the instance from the instance details page in Oracle Fusion Data Intelligence.

When you create an instance using the Create Instance page directly without specifying the Oracle Fusion Cloud Applications source, you can:

- Start using Oracle Fusion Data Intelligence even if you don't have any Oracle Fusion Cloud Applications product.
- Analyze data from non-Oracle Fusion Cloud Applications sources such as Oracle Eloqua without initially specifying an Oracle Fusion Cloud Applications URL.
- Bring data from third-party products even if you don't have any Oracle Fusion Cloud Applications product.
- Bring data from a non-Oracle Fusion Cloud Applications source and an Oracle Fusion Cloud Applications source in the same instance. You must provide Oracle Fusion Cloud Applications details prior to loading data from Oracle Fusion Cloud Applications.
- Terminate the instance from the instance details page in Oracle Fusion Data Intelligence.

After the instance is created, you must complete these tasks:

- Create a data connection to an applicable source. See [Manage Data Connections](#).
- Set up and manage your users and groups in Oracle Identity Cloud Service.
- Later if you want to connect to Oracle Fusion Cloud Applications, then you can update the source details. See [Update the Data Source Connection Details](#).

After the instance is created, as an administrator, assign the FAW Service Administrator group to the applicable users to manage the instances in the tenancy. If your tenancy uses identity domains, see the *Adding Users to Groups* section in [Using the Console](#). To add this group to an existing user in Oracle Identity Cloud Service, see [Assign Groups to the User Account](#). To sign into the instance, a user must have any of the groups mentioned in [System Groups](#) assigned to them.

Create an Integrated Oracle Fusion Data Intelligence Instance

In your Oracle Fusion Cloud Applications service, if you've selected integration with Oracle Fusion Data Intelligence, then you can create an integrated Oracle Fusion Data Intelligence instance.

See [Self-Service Integration with Fusion Data Intelligence](#) for the prerequisites to add the Oracle Fusion Data Intelligence integration from Oracle Fusion Cloud Applications.

Note

An integrated instance mandatorily uses the same cloud tenancy, identity domain, region, compartment, and instance type as that of the Oracle Fusion Cloud Applications instance. The authentication setup between Oracle Fusion Data Intelligence and Oracle Fusion Cloud Applications is OAuth only. If you want to use a different tenancy, identity domain, region, compartment, and instance type from that of the Oracle Fusion Cloud Applications instance, then see [Create an Oracle Fusion Data Intelligence Standalone Instance](#) or [Create an Oracle Fusion Data Intelligence Instance without Oracle Fusion Cloud Applications Source](#). If you want an instance with restricted access through a private endpoint, then see [Deploy Oracle Fusion Data Intelligence with a Private Endpoint](#).

An Oracle Fusion Data Intelligence integrated instance is directly attached to your Oracle Fusion Cloud Applications service. This enables you to use the Oracle Fusion Cloud Applications resources such as users, groups, roles seamlessly in Oracle Fusion Data

Intelligence. This is the highly recommended method to create your Oracle Fusion Data Intelligence instance. The integrated instance uses OAuth authentication to verify the user permissions automatically.

Prior to creating the instance, you may want to view the service limits of Oracle Autonomous Data Warehouse and Oracle Analytics Cloud using the Limits, Quotas and Usage page in the Oracle Cloud Infrastructure Console. See [Viewing Your Service Limits, Quotas and Usage](#). If you're unable to create the instance with an error due to inadequate capacity, then you can either get in touch with the administrator for the tenancy or submit a request to increase your service limits from the Limits, Quotas, and Usage page in the Oracle Cloud Infrastructure Console. See [Requesting a Service Limit Increase](#).

1. Sign in to Oracle Fusion Cloud Applications.
2. Navigate to the Environment page and add **Fusion Data Intelligence** to an Oracle Fusion Cloud Applications environment.

See [Self-Service Integration with Fusion Data Intelligence](#).

After completing this step, you're redirected to the Create Instance page in Oracle Fusion Data Intelligence.

3. On the Create Instance page, verify that these are prefilled:
 - **Name** - derived from the name of your Oracle Fusion Cloud Applications instance.
 - **Display Name** - derived from the name of your Oracle Fusion Cloud Applications instance.
 - **Tags** - as applicable.
 - **Notification Email** - pre-filled with the email ID of the current user signed into Oracle Fusion Cloud Applications.
 - **Intended Use** - same as the intended use of your Oracle Fusion Cloud Applications instance.
 - **Offerings** - Subscription related information from your Oracle Fusion Data Intelligence subscription order.
 - **Fusion Application Connection** - Name and URL derived from your Oracle Fusion Cloud Applications instance. The authentication type must be OAuth.

Fusion Application Connection

Fusion Application Environment: exrd-test

Fusion Application URL: http://[redacted].om

Authentication Type: OAuth

- Oracle Autonomous Data Warehouse **Username** - defaults as ADMIN.

Note

In **Description**, enter text such as Oracle Fusion Data Intelligence instance linked to Oracle Fusion Cloud Applications name.

You can modify these, if required:

- Name
- Display Name
- Tags
- Notification Email

4. In **Autonomous Data Warehouse Administrator Credentials**, provide an administrator password for the Oracle Autonomous Data Warehouse that's provisioned in your tenancy to store the transformed data.

Autonomous Data Warehouse Credentials

Username *Read-only*

OAX_USER

Password

Password must be 12 to 30 characters and contain at least one uppercase letter, one lowercase letter, and one number. The password cannot contain the double quote (") character or the username.

Confirm Password

5. Click **Create Instance**.

Oracle sends an email to the designated email address when your service is ready. If the Oracle Fusion Data Intelligence integrated instance creation fails or if the integrated Oracle Fusion Data Intelligence instance fails to attach to the Oracle Fusion Cloud Applications instance, then reach out to Oracle Support to get help about the next steps. After the integrated instance is successfully created, the Integrations page in Oracle Fusion Cloud Applications displays the integrated Oracle Fusion Data Intelligence instance details such as Service (name that appears here is along the lines of analytics_warehouse_<name of Oracle Fusion Cloud Applications>), Integration status (active), Source (self-service), Type (Fusion Data Intelligence), and Application URL (URL of Oracle Fusion Data Intelligence). Clicking on "Service" takes you to the Oracle Fusion Data Intelligence Oracle Cloud Infrastructure Console for that instance and clicking on the URL launches the Oracle Fusion Data Intelligence user interface. The Oracle Fusion Data Intelligence Instance details page shows the information of the attached Oracle Fusion Cloud Applications along with the Oracle Fusion Cloud Applications url to help you navigate to Oracle Fusion Cloud Applications.

After you create an instance, for at least one hour you see the message that system initialization is in progress. During this period, Oracle Fusion Data Intelligence runs an initialization process that involves extraction of setup data from the source Oracle Fusion Cloud Applications system. You must wait for the system initialization process to complete before creating data pipelines for the functional areas.

Create an Oracle Fusion Data Intelligence Standalone Instance

Create a service instance to manage your cloud resources.

Prior to creating the instance, you may want to view the service limits of Oracle Autonomous Data Warehouse and Oracle Analytics Cloud using the Limits, Quotas and Usage page in the

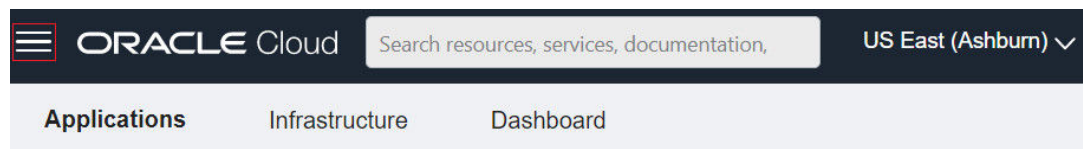
Oracle Cloud Infrastructure Console. See [Viewing Your Service Limits, Quotas and Usage](#). If you're unable to create the instance with an error due to inadequate capacity, then you can either get in touch with the administrator for the tenancy or submit a request to increase your service limits from the Limits, Quotas, and Usage page in the Oracle Cloud Infrastructure Console. See [Requesting a Service Limit Increase](#).

If you're planning to access your instance from a virtual cloud network only, then prior to creating an instance with private network access, you must ensure that the prerequisites are in place. See [Deploy Oracle Fusion Data Intelligence with a Private Endpoint](#).

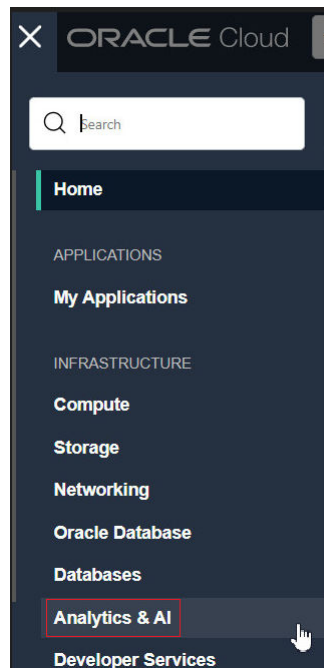
The recommended practice is to create the Oracle Fusion Data Intelligence instance in your Oracle Fusion Cloud Applications domain. If you choose to create the instance in a non-Oracle Fusion Cloud Applications domain, then you must set up the synchronization between the domains. See [Configure Single Sign-on Between Two Identity Domains](#).

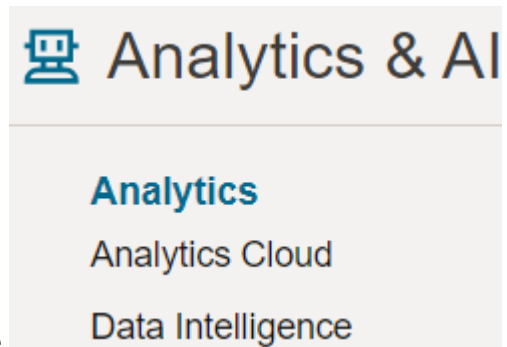
You can create an instance with a single subscription ID. However, you can't split a subscription across instances.

1. Sign in to the Oracle Cloud Infrastructure Console.
2. In Oracle Cloud Infrastructure Console, click the **Navigation** menu icon.



3. In the Navigation menu, click **Analytics & AI**.





4. Under Analytics & AI, click **Data Intelligence**.
5. On the Instances page, in **Compartment**, select a compartment if you want to place the service instance in a compartment other than the default root compartment that Oracle created for you.

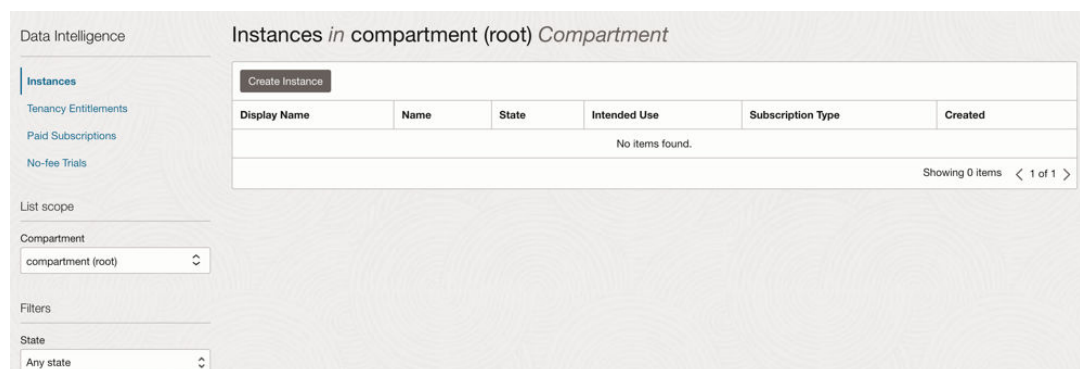
Note

Ensure that you have created a compartment before you select it here. See [Managing Compartments](#).

6. On the Instances page, click **Create Instance**.

Note

If you haven't purchased a subscription, then the **Create Instance** button isn't active.



7. In the Wait! Are you following the recommended approach? dialog, click **Continue**.

Wait! Are you following the recommended approach?

Oracle recommends creating a Fusion Data Intelligence instance integrated with your Fusion Cloud Applications instance. This approach:

- Pre-fills Fusion Cloud Applications-specific data on the Create Instance page in Fusion Data Intelligence.
- Uses OAuth authentication and shares users, groups, and roles between both the applications.
- Reuses the Fusion Cloud Applications sign-on for Fusion Data Intelligence.

To [create an integrated instance](#), click **Close**, go to your Fusion Applications Environment details page, select Integrations under Resources, and click **Add Fusion Data Intelligence**.



Prefer a standalone instance? Click Continue, if you:

- [Do not have Fusion Cloud Applications](#) source or do not meet the [criteria for an integrated instance](#).
- Want an [Energy and Water Data Intelligence](#) instance.

Close

Continue

- On the Create Instance page, enter a **Display Name** for the service using alphanumeric and special characters.

Create Instance - Data Intelligence

Compartment	
Display Name	
Name ⓘ	
Name must begin with a letter and not contain any special characters.	
Description <i>Optional</i>	
Notification Email	

- Enter a **Name** for the instance that's unique in your tenancy using only alphanumeric characters without spaces or reuse the name of a deleted instance.
- Optional: Enter a **Description** for the service using up to 255 alphanumeric and special characters.
- In **Notification Email**, enter a valid email address if the field doesn't have a value.

Follow the steps in *Enter Details for an Oracle Fusion Data Intelligence Standalone Instance* to provide further information regarding the instance.

Enter Details for an Oracle Fusion Data Intelligence Subscription Instance

After specifying basic details for your instance such as compartment, name, and description, verify your subscriptions and provide details such as whether it's a test or production instance, connection details of your source data, and email to receive notifications regarding your instance.

These details ensure that you have an instance that meets your business requirements. Oracle Fusion Data Intelligence automatically displays your subscription details in the Offerings section. If you've activated multiple subscriptions in your tenancy, then you see details of all the subscriptions. On selecting a subscription, you see the single or multiple offerings within the subscription based on what you subscribed for. For example, if you've subscribed for Oracle

Fusion ERP Analytics, Oracle Fusion HCM Analytics, and an additional test environment in a single subscription number such as "1820598", then you see those details on selecting the subscription "1820598".

If you plan to use JWT based authentication, you can opt to use the private key and public certificate files stored in a vault. Ensure that you've created a vault, stored the private key and public certificate files in it, and added the most appropriate policy in your tenancy from these options for reading the JWT key from your vault:

- Option 1:

```
allow any-user to read secret-bundles in compartment <compartment-name>
where all {request.principal.type in ('fawservice',
'fawextsvc', 'fawcontentservice')}
```

- Option 2:

```
allow any-user to read secret-bundles in compartment <compartment-name>
where all { request.principal.type in ('fawservice',
'fawextsvc', 'fawcontentservice'), target.secret.id in ('<Vault Secret OCID
of Private Key>', '<Vault Secret OCID of Public Key>')}
```

See [Vault](#).

- On the Create Instance page, under **Offerings**, select **Development/Test** in **Intended Use** as your first instance.
- In **Select a subscription**, select the subscription that you want to use to create the instance and verify the subscription details to ensure that the displayed subscriptions match your Oracle Fusion Data Intelligence order.

Offerings ⓘ

☒ Paid Subscription ☐ No-fee Trial

Intended Use ⓘ

Development/Test

Select a subscription

Subscription ID	Start Date	End Date	State
☒ 1820598	Jul 11, 2023	Jul 30, 2024	Active
☐ 3045701	Jul 11, 2023	Jul 30, 2024	Active

1 selected Showing 2 items < 1 of 1 >

Service Name	Quantity	Start Date	End Date
Fusion ERP Analytics - Hosted Named User per Month	100	Jul 11, 2023	Jul 30, 2024
Fusion HCM Analytics - Hosted Employee	50	Jul 11, 2023	Jul 30, 2024
Additional Test Environment for Oracle Fusion Data Intelligence	1	Jul 11, 2023	Jul 30, 2024

Showing 3 items < 1 of 1 >

- In **Fusion Application Connection**, provide the URL of your Oracle Fusion Cloud Applications instance.

Create Instance - Data Intelligence

4. In **Authentication**, select the type of authentication you want to use: **JWT Based** (recommended) or **Password Based**.
 - If you choose **JWT Based** (JSON web token), provide the private key and public certificate files by either uploading, or copying and pasting, or by reading from your vault. Select **Keys have been uploaded to Fusion Source** to enable **Test Connection**.

Note

See [Configure JWT Authentication Provider](#). While [configuring the token-based authentication](#), ensure that you enter FAWServiceJWTIssuer as the trusted issuer.

Ensure that the generated RSA encryption private key contains at least 2048 characters and that you wait at least 15 minutes for the uploaded public certificate to become effective in your Oracle Fusion Cloud Applications instance.

- If you choose **Password Based**, then enter the credentials of an applicable user, such as MyFAWExtractUser from your Oracle Fusion Cloud Applications instance. Prior to entering the user credentials, ensure that the applicable user is created in Oracle Fusion Cloud Applications. See [Create a User in Oracle Fusion Cloud Applications to Extract Data](#).
5. Click **Test Connection** to check the connection to the Oracle Fusion Cloud Applications instance and confirm whether the credentials are valid.
 6. In **Autonomous Data Warehouse Credentials**, provide an administrator password for the Oracle Autonomous Data Warehouse that's provisioned in your tenancy to store the transformed data.

Autonomous Data Warehouse Credentials

Username *Read-only*

OAX_USER

Password

Password must be 12 to 30 characters and contain at least one uppercase letter, one lowercase letter, and one number. The password cannot contain the double quote (") character or the username.

Confirm Password

7. In **Network Access**:

- Select **Public** to access the instance from anywhere.

Network Access

Public

Access your instance from anywhere.



Private

Access your instance from a Virtual Cloud Network only.

- Select **Private** to access your instance from a virtual cloud network only. Prior to creating an instance with private network access, you must ensure that the prerequisites are in place. See [Deploy Oracle Fusion Data Intelligence with a Private Endpoint](#).

8. Click **Create Instance**.

Add tags to organize your resources. [What can I do with tagging?](#)

Tag namespace	Tag key	Tag value
None (add a free-form tag)		

[Add tag](#)

[Create Instance](#) [Cancel](#)

Oracle sends an email to the designated email address when your service is ready. You can display the Activity page to check the current status. When the status changes from CREATING to ACTIVE, the service is ready to use.

Navigate to the Details page for the new service to access the Oracle Fusion Data Intelligence URL and associated Oracle Autonomous Data Warehouse. From here, you can also view or modify details such as the password for your Oracle Fusion Cloud Applications instance and the administrator password for the Oracle Autonomous Data Warehouse. You can also delete the service instance that's no longer required.

If you had set up provisioning of Oracle Fusion Data Intelligence with single sign-on, then your service is associated with the federated Oracle Identity Cloud Service instance. If you hadn't set up single sign-on for Oracle Fusion Data Intelligence, then your service is associated with the default Oracle Identity Cloud Service instance that you received with your Oracle Cloud account.

After you create an instance, for at least one hour you see the message that system initialization is in progress. During this period, Oracle Fusion Data Intelligence runs an initialization process that involves extraction of setup data from the source Oracle Fusion Cloud Applications system. You must wait for the system initialization process to complete before creating data pipelines for the functional areas.

Verify Your Instance and Sign In

Oracle sends an email to the designated email address when your Oracle Fusion Data Intelligence service instance is ready.

1. Sign in to the Oracle Cloud Infrastructure Console.
2. In Oracle Cloud Infrastructure Console, click the Navigation menu icon.
3. In the navigation options, click **Analytics & AI**. Under Analytics, click **Data Intelligence**.
4. Navigate to your service instances page.
5. On the instance details page,
 - If you've chosen public network, click **URL** to verify that your Oracle Fusion Data Intelligence service instance is up and running.

Data Intelligence » Data Intelligence Details

DI
ACTIVE

Demo Instance creation

Update fusion connection Update offerings Update password Update notification email More actions

Instance Information Tags

General Information

Name: [redacted]
URL: [redacted]
OCID: ...650ov7ka [Show](#) [Copy](#)
Created: Wed, Feb 16, 2022, 04:25:45 UTC
Compartment: FAW
Notification Email: [redacted]
Intended Use: Development/Test
Subscription Type: No-fee Trial
Identity Domain: ... [Show](#) [Copy](#)

Analytics Cloud

Name: [redacted]
URL: [redacted]

Autonomous Data Warehouse

Name: [redacted]

Fusion Application

URL: [redacted]
Authentication Type: JSON Web Token

Resources

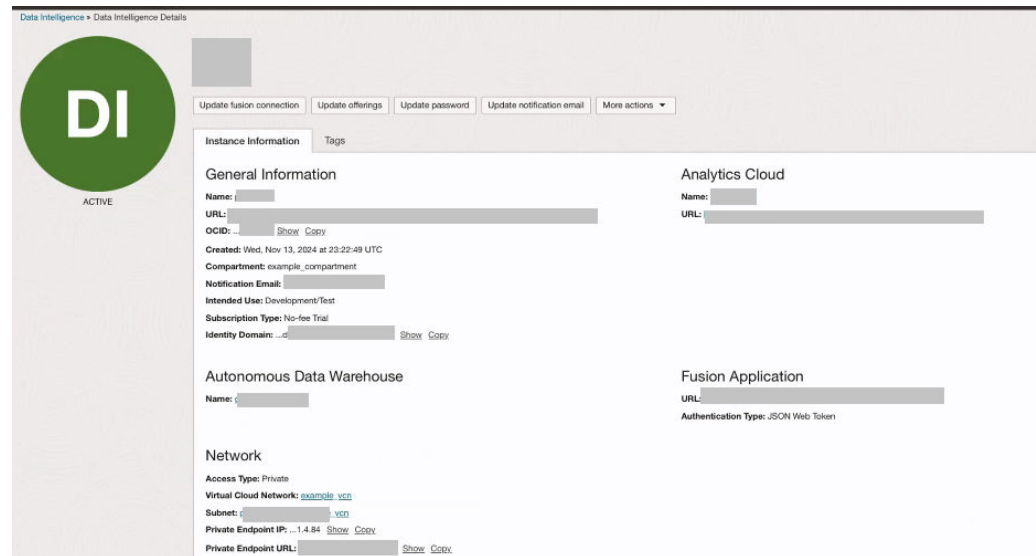
[Subscriptions](#)
[Work Requests](#)

Subscriptions

Name	Quantity	Start Date	End Date
Oracle Fusion ERP Analytics - Hosted Named User	10	---	---
Oracle Fusion HCM Analytics - Hosted Employee	10	---	---
Oracle Fusion SCM Analytics - Hosted Named User	10	---	---
Oracle Fusion CX Analytics - Hosted Named User	10	---	---

Showing 4 items < 1 of 1 >

- If you've chosen private network, then contact your networking team for access to the Oracle Fusion Data Intelligence URL.



Create an Oracle Fusion Data Intelligence Instance without Oracle Fusion Cloud Applications Source

Create an Oracle Fusion Data Intelligence instance to connect and analyze data from non-Oracle Fusion Cloud Applications sources even if you don't have any Oracle Fusion Cloud Applications products. This instance doesn't require an Oracle Fusion Cloud Applications source to start using Oracle Fusion Data Intelligence.

Prior to creating the instance, you may want to view the service limits of Oracle Autonomous Data Warehouse and Oracle Analytics Cloud using the Limits, Quotas and Usage page in the Oracle Cloud Infrastructure Console. See [Viewing Your Service Limits, Quotas and Usage](#). If you're unable to create the instance with an error due to inadequate capacity, then you can either get in touch with the administrator for the tenancy or submit a request to increase your service limits from the Limits, Quotas, and Usage page in the Oracle Cloud Infrastructure Console. See [Requesting a Service Limit Increase](#).

If you're planning to access your instance from a virtual cloud network only, then prior to creating an instance with private network access, you must ensure that the prerequisites are in place. See [Deploy Oracle Fusion Data Intelligence with a Private Endpoint](#).

Oracle Fusion Data Intelligence automatically displays your subscription details in the Offerings section. For example, if you're subscribed for 20 Oracle Fusion ERP Analytics users, then you see the number of users for the instance automatically configured for 20 Oracle Fusion ERP Analytics users. If you've multiple subscriptions such as Oracle Fusion ERP Analytics and Oracle Fusion HCM Analytics, then you see details of all the subscriptions.

1. Sign in to the Oracle Cloud Infrastructure Console.
2. In Oracle Cloud Infrastructure Console, click the **Navigation** menu icon, click **Analytics & AI**, and then under Analytics & AI, click **Data Intelligence**.
3. On the Instances page, in **Compartment**, select a compartment if you want to place the service instance in a compartment other than the default root compartment that Oracle created for you.

Note

Ensure that you have created a compartment before you select it here. See [Managing Compartments](#).

- On the Instances page, click **Create Instance**.

Note

If you haven't purchased a subscription, then the **Create Instance** button isn't active.

- In the Wait! Are you following the recommended approach? dialog, click **Continue**.

Wait! Are you following the recommended approach?

Oracle recommends creating a Fusion Data Intelligence instance integrated with your Fusion Cloud Applications instance. This approach:

- Pre-fills Fusion Cloud Applications-specific data on the Create Instance page in Fusion Data Intelligence.
- Uses OAuth authentication and shares users, groups, and roles between both the applications.
- Reuses the Fusion Cloud Applications sign-on for Fusion Data Intelligence.

To [create an integrated instance](#), click **Close**, go to your Fusion Applications Environment details page, select Integrations under Resources, and click **Add Fusion Data Intelligence**.



Prefer a standalone instance? Click Continue, if you:

- [Do not have Fusion Cloud Applications](#) source or do not meet the [criteria for an integrated instance](#).
- Want an [Energy and Water Data Intelligence](#) instance.

Close

Continue

- On the Create Instance page, enter a **Display Name**, **Name**, **Description**, and an email to receive notifications about the instance in **Notification Email**.

Create Instance - Data Intelligence

Compartment
Display Name
Name ⓘ
Name must begin with a letter and not contain any special characters.
Description <i>Optional</i>
Notification Email

7. On the Create Instance page, under **Offerings**, verify that the displayed subscriptions match your Oracle Fusion Data Intelligence order and select **Development/Test** as your first instance.

Offerings ⓘ

☒ Paid Subscription ☐ No-fee Trial

Intended Use ⓘ

Development/Test

Service Name	Quantity	Start Date	End Date
Fusion ERP Analytics - Hosted Named User	101	Mar 16, 2023	Dec 30, 2023
Fusion HCM Analytics - Hosted Employee	101	Mar 16, 2023	Dec 30, 2023
Oracle Fusion CX Analytics Cloud Service - Hosted Named User	101	Mar 16, 2023	Dec 30, 2023

8. In **Fusion Application Connection**, ensure to deselect the **Set up Fusion Connection** check box.

Create Instance - Data Intelligence

Fusion Application Connection

☐ Set up Fusion Connection

9. In **Autonomous Data Warehouse Credentials**, provide the password for the OAX_USER user who can access the Oracle Autonomous Data Warehouse that's provisioned in your tenancy to store the transformed data.

To reset the password for this user, see [Reset the Password for OAX_USER Schema](#).

Autonomous Data Warehouse Credentials

Username *Read-only*

OAX_USER

Password

Password must be 12 to 30 characters and contain at least one uppercase letter, one lowercase letter, and one number. The password cannot contain the double quote (") character or the username.

Confirm Password

10. In **Network Access**:

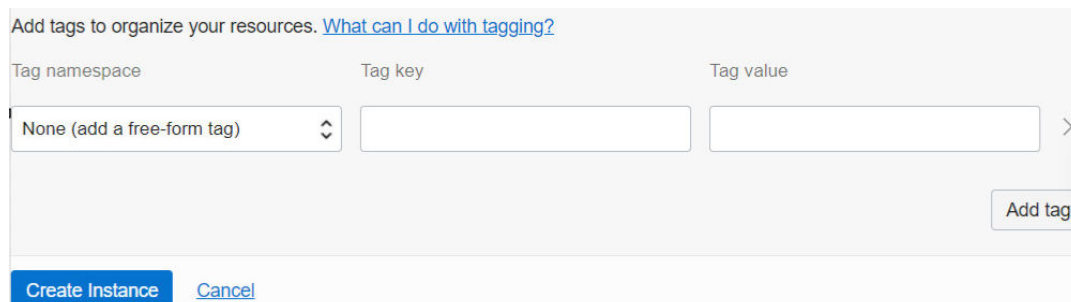
- Select **Public** to access the instance from anywhere.

Network Access

Public Access your instance from anywhere. ✓	Private Access your instance from a Virtual Cloud Network only.

- Select **Private** to access your instance from a virtual cloud network only. Prior to creating an instance with private network access, you must ensure that the prerequisites are in place. See [Deploy Oracle Fusion Data Intelligence with a Private Endpoint](#).

11. Click **Create Instance**.



Oracle sends an email to the designated email address when your service is ready. You can display the Activity page to check the current status. When the status changes from CREATING to ACTIVE, the service is ready to use.

Navigate to the Details page for the new service to access the Oracle Fusion Data Intelligence URL and the associated Oracle Autonomous Data Warehouse and Oracle Analytics Cloud instances. Because you didn't set up a connection to an Oracle Fusion Cloud Applications source, Oracle Fusion Data Intelligence displays a message on the Data Configuration page asking you to set up a data source connection as an initial step.

If you had set up provisioning of Oracle Fusion Data Intelligence with single sign-on, then your service is associated with the federated Oracle Identity Cloud Service instance. If you hadn't set up single sign-on for Oracle Fusion Data Intelligence, then your service is associated with the default Oracle Identity Cloud Service instance that you received with your Oracle Cloud account.

Deploy Oracle Fusion Data Intelligence with a Private Endpoint

When you set up an Oracle Fusion Data Intelligence instance, you have the option to restrict access through a private endpoint.

A private endpoint is accessible through private network traffic and direct public internet access is prohibited. When you deploy Oracle Fusion Data Intelligence with a private endpoint, Oracle Autonomous Data Warehouse and Oracle Analytics Cloud use private endpoints in your private subnet. You can provide access to Oracle Fusion Data Intelligence from an Oracle Cloud Infrastructure VCN that's deployed in any regions, tenancies, and on-premises too.

Topics:

- [About Private Endpoints](#)
- [Prerequisites for a Private Endpoint](#)
- [Create an Oracle Fusion Data Intelligence Private Instance](#)

About Private Endpoints

Private endpoint refers to a network setup for your Oracle Fusion Data Intelligence instance where all network traffic moves through a private endpoint within a virtual cloud network in your tenancy.

Using a private endpoint for Oracle Fusion Data Intelligence meets the organization's security requirement that restricts the use of public endpoints. Private endpoint configuration doesn't use public subnets and allows you to keep all traffic to and from your Oracle Fusion Data Intelligence instance away from the public internet.

See *About Private Endpoints* in [Private Access](#).

Prerequisites for a Private Endpoint

To provision an Oracle Fusion Data Intelligence instance with a private endpoint, you must have the following resources already created:

1. A virtual cloud network (VCN) within the region where you plan to deploy Oracle Fusion Data Intelligence and a private subnet in your VCN with availability of /28 (14 IP addresses) IP address or more. You can change this after provisioning.

To avoid instance creation failures, ensure the following toggles are enabled:

- The **Use DNS hostnames in this VCN** toggle, while creating the VCN.
- The **Use DNS hostnames in this Subnet** toggle, while creating the subnet.

See [Working with VCNs and Subnets](#).

2. Ensure that you (or whoever plans to create the Oracle Fusion Data Intelligence instance) have the required policies to access the VCN.

Choose the most appropriate level for you from these options:

Limited Resource Access Policy

- Allow any-user to **use vnics** in tenancy where `request.principal.type = 'fawservice'`
- Allow any-user to **read vcns** in tenancy where `request.principal.type = 'fawservice'`
- Allow any-user to **use network-security-groups** in tenancy where `request.principal.type = 'fawservice'`
- Allow any-user to **use private-ips** in tenancy where `request.principal.type = 'fawservice'`
- Allow any-user to **use subnets** in tenancy where `request.principal.type = 'fawservice'`

If you want to view and manage your virtual network family from the Oracle Cloud Infrastructure Console, then you may want to create these policies:

- Allow group **FAWAdmin.grp** to **read virtual-network-family** <in compartment your-compartment or in tenancy>
- Allow group **FAWAdmin.grp** to **manage vnics** <in compartment your-compartment or in tenancy>

- Allow group **FAWAdmin.grp** to use **subnets** <in compartment your-compartment or in tenancy>
- Allow group **FAWAdmin.grp** to use **private-ips** <in compartment your-compartment or in tenancy>

Broad Resource Access Policy

Allow any-user to **manage virtual-network-family** in tenancy where
`request.principal.type = 'fawservice'`

If you want to view and manage your virtual network family from the Oracle Cloud Infrastructure Console, then you may want to create this policy:

Allow group **FAWAdmin.grp** to **manage virtual-network-family** <in compartment compartment-name or in tenancy>

Apart from these, you must create the following general service policies:

- Allow group **FAWAdmin.grp** to **manage analytics-warehouse** <in compartment your-compartment or in tenancy>
 - Allow group **FAWAdmin.grp** to **read analytics-warehouse-work-requests** <in compartment your-compartment or in tenancy>
 - Allow group **FAWAdmin.grp** to **manage autonomous-database-family** <in compartment your-compartment or in tenancy>
 - Allow group **FAWAdmin.grp** to **manage analytics-instances** <in compartment your-compartment or in tenancy>
 - Allow group **FAWAdmin.grp** to **read analytics-instance-work-requests** <in compartment your-compartment or in tenancy>
3. Optional: If you plan to restrict traffic (ingress and egress) using network security group rules, then you must do so when you create your Oracle Fusion Data Intelligence instance. You can specify up to 5 network security groups to meet your business requirements. Ensure that the network security groups exist in the same VCN as your Oracle Fusion Data Intelligence and you have this required policy to use network security groups:
- Allow group **FAWAdmin.grp** to **use network-security-groups** <in compartment your-compartment or in tenancy>
- See “To create an NSG” in [Network Security Groups](#).
4. Inbound traffic specified on Port 1522 for Oracle Autonomous Data Warehouse and Port 443 for Oracle Analytics Cloud while entering the security rule information for the network security group or VCN. Ensure that the VCN/SUBNET CIDR block allows ingress and egress in the rules to ports 443 and 1522.

Note

Both of these ports are required for the functioning of Oracle Fusion Data Intelligence instance with a private endpoint.

Networking » Virtual Cloud Networks » privatevcn » Security List Details

Default Security List for privatevcn

Instance traffic is controlled by firewall rules on each instance in addition to this Security List

Move resource Add tags Terminate

Details Tags

Security List Information

OCID: ywtf00q Show Copy
Created: Wed, May 1, 2024, 20:05:24 UTC
Compartment: Adh-oc

Ingress Rules

Add Ingress Rules Edit Remove

	Stateless	Source	IP Protocol	Source Port Range	Destination Port Range	Type and Code	Allows	Description
☐	No	10.0.1.0/24	TCP	All	443		TCP traffic for ports: 443 HTTPS	TCP Traffic for 443 - HTTPS
☐	No	10.0.1.0/24	TCP	All	1522		TCP traffic for ports: 1522	TCP Traffic for 1522

0 selected Showing 2 items < 1 of 1 >

Networking » Virtual Cloud Networks » privatevcn » Security List Details » Egress Rules

Default Security List for privatevcn

Instance traffic is controlled by firewall rules on each instance in addition to this Security List

Move resource Add tags Terminate

Details Tags

Security List Information

OCID: ywtf00q Show Copy
Created: Wed, May 1, 2024, 20:05:24 UTC
Compartment: Adh-oc

Egress Rules

Add Egress Rules Edit Remove

	Stateless	Destination	IP Protocol	Source Port Range	Destination Port Range	Type and Code	Allows	Description
☐	No	0.0.0.0/0	TCP	All	443		TCP traffic for ports: 443 HTTPS	Allows 443 traffic
☐	No	0.0.0.0/0	TCP	All	1522		TCP traffic for ports: 1522	Allows 1522 traffic

0 selected Showing 2 items < 1 of 1 >

Create an Oracle Fusion Data Intelligence Private Instance

After your Oracle Fusion Data Intelligence private access service has been provisioned by Oracle, create an Oracle Fusion Data Intelligence private instance.

Oracle sends an email to the designated email address when your service is ready. When the status changes from creating to active, the service is ready to use.

You must ensure that the prerequisites are in place. See [Prerequisites for a Private Endpoint](#).

1. Sign in to the Oracle Cloud Infrastructure Console.
2. In Oracle Cloud Infrastructure Console, click the **Navigation** menu icon in the top left corner.
3. Click **Analytics & AI**. Under Analytics, click **Data Intelligence**.

4. On the Instances page, in **Compartment**, select a compartment if you want to place the service instance in a compartment other than the default root compartment that Oracle created for you.

Note

Ensure that you have created a compartment before you select it here. See [Managing Compartments](#).

5. On the Instances page, click **Create Instance**.

Note

If you haven't purchased a subscription, then the **Create Instance** button isn't active.

6. Enter a **Display Name** for the service using alphanumeric and special characters.
7. Enter a **Name** for the instance that's unique in your tenancy using only alphanumeric characters without spaces or reuse the name of a deleted instance.
8. Optional: Enter a **Description** for the service using up to 255 alphanumeric and special characters.
9. Select **Development/Test** as your first instance.
10. Under Offerings, enable **Subscription Configuration**.

Oracle Fusion Data Intelligence automatically configures the offerings based on your subscription details. For example, if you've subscribed for 20 ERP users, then you see the number of users for the instance automatically configured to 20 ERP users.
11. In **Fusion Application Connection**, provide the URL of your Oracle Fusion Cloud Applications instance.
12. In **Authentication**, select the type of authentication you want to use: Oracle recommended **JWT Based** or **Password Based**.
 - If you choose **JWT Based** (JSON web token), then upload or copy and paste the private key and public certificate files. Select **Keys have been uploaded to Fusion Source** to enable **Test Connection**.

Note

See [Configure JWT Authentication Provider](#).

Ensure that the generated RSA encryption private key contains at least 2048 characters and that you wait at least 15 minutes for the uploaded public certificate to become effective in your Oracle Fusion Cloud Applications instance.

- If you choose **Password Based**, then enter and confirm the password of the default FAWService user from your Oracle Fusion Cloud Applications instance. The FAWService user is a predefined user provisioned in Oracle Fusion Cloud Applications and is used by the data pipeline functionality in Oracle Fusion Data Intelligence. This user account has the appropriate data security privileges granted on

the Oracle Fusion Cloud Applications view objects to bulk extract data from Oracle Fusion Cloud Applications into the data warehouse.

Note

Use the Security Console of Oracle Fusion Cloud Applications to assign the BIACM_ADMIN and BICC_UCM_CONTENT_ADMIN roles to the user that you created for extracting data. See [Overview of Access Provisioning](#).

Ensure that you have reset the password for the FAWService user in Oracle Fusion Cloud Applications prior to entering the new password. See [Reset Passwords](#).

13. Click **Test Connection** to check the connection to the Oracle Fusion Cloud Applications instance and confirm whether the credentials are valid.
14. In **Autonomous Data Warehouse Administrator Credentials**, provide an administrator password for the Oracle Autonomous Data Warehouse that's provisioned in your tenancy to store the transformed data.
15. In Network Access, click **Private**.

Network Access

Public
Access your instance from anywhere.

Private
Access your instance from a Virtual Cloud Network only.

Virtual Cloud Network in oaxprodmgmt2 (root) [\(Change compartment\)](#)
autotrialvcn

Subnet in oaxprodmgmt2 (root) [\(Change compartment\)](#)
publicSubnet

Number of IP addresses must be at least 16

[Hide advanced options](#)

Network Security Groups

+ Network Security Group

16. Select the **Virtual Cloud Network**, **Subnet**, and **Network Security Group** that you had set up and want to use to access Oracle Fusion Data Intelligence.

See [Prerequisites for a Private Endpoint](#).

17. The email address for notification is pre-populated from the user name. If the user name isn't an email address, then provide a valid email address for notifications.

You receive an email notification, for example, when your Oracle Fusion Cloud Applications password is invalid.

18. Optional: Add tags to your instance.
19. Click **Create Instance**.

Navigate to the Details page for the new service to access the Oracle Fusion Data Intelligence URL and associated Oracle Autonomous Data Warehouse. From here, you can also view or modify details such as the password for your Oracle Fusion Cloud Applications instance and the administrator password for the Oracle Autonomous Data Warehouse. You can also delete the service instance that's no longer required.

If you had set up provisioning of Oracle Fusion Data Intelligence with single sign-on, then your service is associated with the federated Oracle Identity Cloud Service instance. If you hadn't set up single sign-on for Oracle Fusion Data Intelligence, then your service is associated with the default Oracle Identity Cloud Service instance that you received with your Oracle Cloud account.

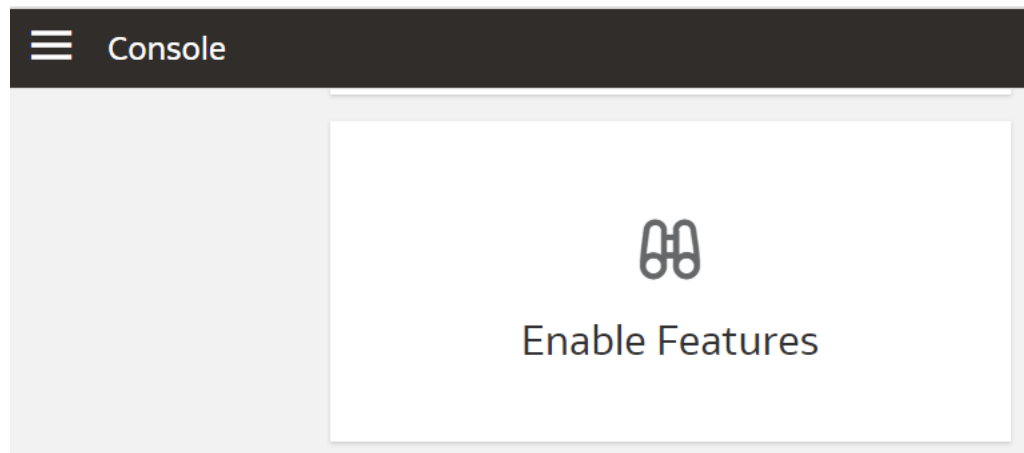
Make Preview Features Available

As a functional administrator, you can enable the functionality available as a preview feature to try it out.

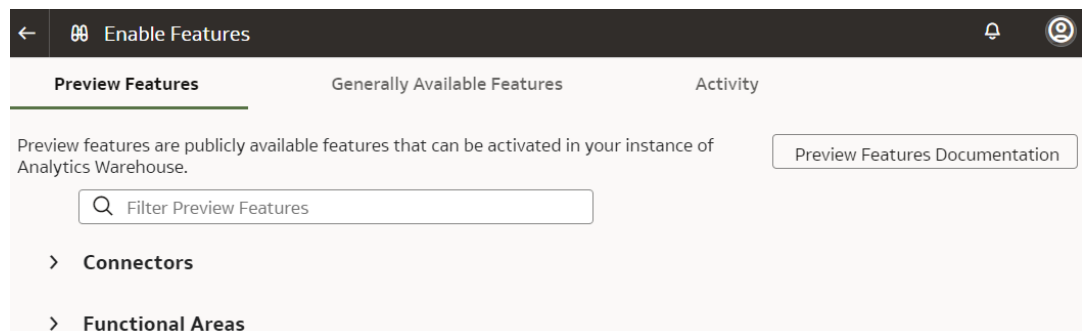
Preview features allow your organization to explore and try new features before they roll out by default. See [Preview Features](#).

The preview features aren't available by default, but administrators can turn individual preview features on or off at any time. Administrators can find the latest preview features in the Enable Features tile on the Console and switch them on for others to use.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Enable Features** under **Application Administration**.



3. On the Enable Features page, under the Preview Features tab, expand the categories such as **Functional Areas** and select the features that you want to make available for your organization.



4. Navigate to the location of the preview feature you want to use. For example, if you've enabled **AWS S3** in the **Connectors** category, then navigate to the Create Connections dialog from the Manage Connections page to use this feature.

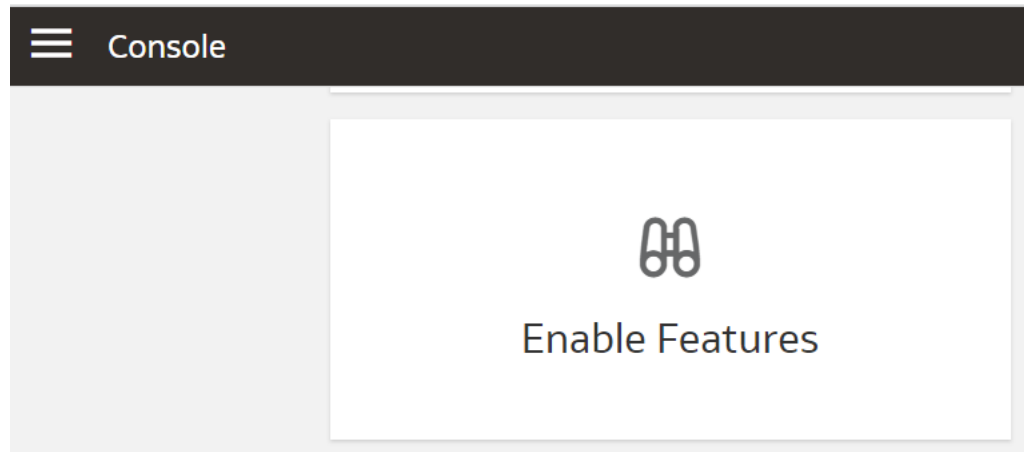
Enable Generally Available Features

As a functional administrator, you can enable the functionality that's generally available but needs you to enable it to use the specific functionality.

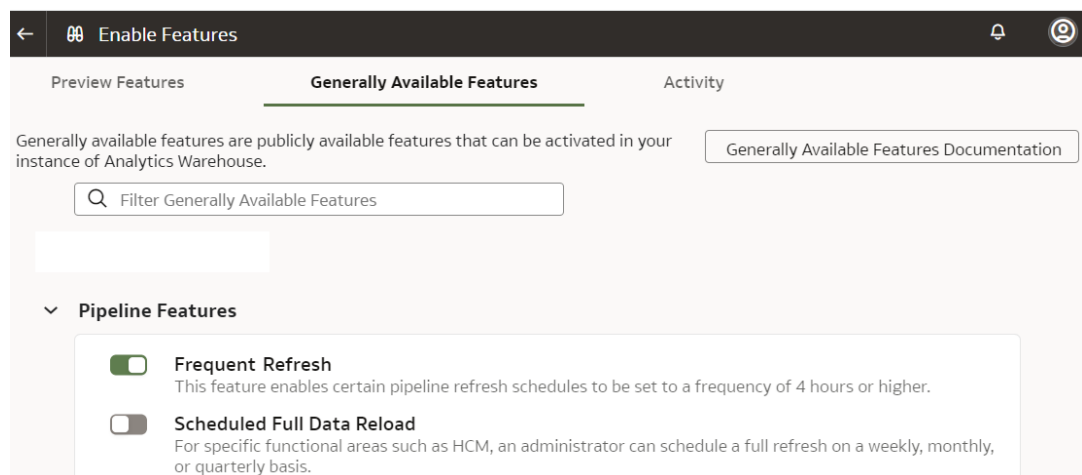
The generally available features aren't available by default, but administrators can turn individual features on or off at any time. Administrators can find the latest generally available features in the Enable Features tile on the Console and switch them on for others to use.

To find out about features that are generally available currently, see Generally Available Features.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Enable Features** under **Application Administration**.



3. On the Enable Features page, under the Generally Available Features tab, expand the categories such as **Pipeline Features** and select the features that you want to make available for your organization.



4. Navigate to the location of the feature you want to use. For example, if you've enabled **Frequent Refresh** in the **Pipeline Features** category, then navigate to the Pipeline Settings page and click Frequent Data Refresh Schedule to use this feature.

View Work Requests

View the actions performed on your instance such as create, update, and terminate an instance as a work request.

Each work request shows when the event was triggered, how much time it took, result (success or failure). If the work request went through successfully, then there is no further action that you can take. However, if it failed, then you can take a look at the error mentioning the cause of the failure.

1. Sign in to the Oracle Cloud Infrastructure Console.
2. In Oracle Cloud Infrastructure Console, click the Navigation menu icon in the top left corner.
3. Click **Analytics & AI**. Under Analytics, click **Data Intelligence**.
4. Navigate to your service instances page.
5. On the Instances page, click the instance for which you want to view the list of actions that have been performed.
6. On the instance details page, under Resources, click **Work Requests**.

Resources

Subscriptions

Work Requests (67)

Work Requests

Status	Type	OCID	Started	Finished
Succeeded	PATCH_SERVICE	...vrhcpiuleq Show Copy	Fri, Nov 10, 2023, 01:57:27 UTC	Fri, Nov 10, 2023, 01:58:18 UTC
Succeeded	UPDATE_SERVICE	...i5yhybojmq Show Copy	Sat, Oct 21, 2023, 07:03:12 UTC	Sat, Oct 21, 2023, 07:04:12 UTC
Succeeded	PATCH_SERVICE	...n43tqtoipq Show Copy	Tue, Oct 17, 2023, 00:01:53 UTC	Tue, Oct 17, 2023, 00:02:53 UTC

You see the tasks that have been performed on the instance.

View Subscriptions

View the subscriptions associated with your instance.

1. Sign in to the Oracle Cloud Infrastructure Console.
2. In Oracle Cloud Infrastructure Console, click the Navigation menu icon in the top left corner.
3. Click **Analytics & AI**. Under Analytics, click **Data Intelligence**.
4. Navigate to your service instances page.
5. On the Instances page, click the instance for which you want to view the list of actions that have been performed.
6. On the instance details page, under Resources, click **Subscriptions**.

Resources		Subscriptions			
Subscriptions Work Requests	Name		Quantity	Start Date	End Date
	▼ Subscription_1820598			Jul 11, 2023	Jul 30, 2024
	Fusion ERP Analytics - Hosted Named User per Month		100	Jul 11, 2023	Jul 30, 2024
	Fusion HCM Analytics - Hosted Employee		50	Jul 11, 2023	Jul 30, 2024

Update the Data Source Connection Details

Update your data source connection details such as the URL for the Oracle Fusion Cloud Applications instance that you specified while creating the standalone Oracle Fusion Data Intelligence instance and the credentials of an applicable user, such as MyFAWExtractUser.



[LiveLabs Sprint](#)

See [Create a User in Oracle Fusion Cloud Applications to Extract Data](#).

You can update the source URL to point to another source environment for Oracle Fusion Cloud Applications if you want data from another Oracle Fusion Cloud Applications source. However, the identity domain remains the same as that used during the initial creation of the Oracle Fusion Data Intelligence instance and you can't change it.

You can update the applicable user credentials when your source Oracle Fusion Cloud Applications instance has been refreshed with data from another environment, for example, due to a Production to Test refresh. You also update the user credentials if the passwords differ between environments or if the password for the applicable user has expired. Prior to entering the new password, ensure that you have reset the password for the applicable user, such as MyFAWExtractUser, in Oracle Fusion Cloud Applications. See [Reset Passwords](#).

1. Sign in to the Oracle Cloud Infrastructure Console.
2. In Oracle Cloud Infrastructure Console, click the Navigation menu icon in the top left corner.
3. Click **Analytics & AI**. Under Analytics, click **Data Intelligence**.
4. On the Instances page, click the instance for which you want to update the Oracle Fusion Cloud Applications password.
5. On the instance details page, click **Update Fusion Connection**.
6. In Update Fusion Application Credentials, enter the new URL and select the type of authentication you want to use: **JWT Based** or **Password Based**.
 - If you choose **JWT Based**, provide the private key and public certificate files by either uploading, or copying and pasting, or by reading from your vault. Select **Keys have been uploaded to Fusion Source** to enable **Test Connection**.

Note

See [Configure JWT Authentication Provider](#). While [configuring the token-based authentication](#), ensure that you enter FAWServiceJWTIssuer as the trusted issuer.

Ensure that the generated RSA encryption private key contains at least 2048 characters and that you wait at least 15 minutes for the uploaded public certificate to become effective in your Oracle Fusion Cloud Applications instance.

- If you choose **Password Based**, then enter the credentials of an applicable user, such as MyFAWExtractUser from your Oracle Fusion Cloud Applications instance in **Username** and **Password**.

Update Fusion Application Credentials

Fusion Application URL

Authentication
Choose how to authenticate to Fusion Applications ⓘ

JWT Based
JSON Web Token (Recommended) ✓

Password Based

☒ Upload Files ☐ Paste Content ☐ Download Files

Private Key ⓘ

Drop private key file here. [Or browse.](#)

Public Certificate

Drop public certificate file here. [Or browse.](#)

[Cancel](#)



7. Click **Test Connection** to verify the updated connection details.
8. Click **Save Changes**.

Update Your Subscriptions

You can increase the number of users in an existing Oracle Fusion Data Intelligence subscription or add a new subscription to your existing Oracle Fusion Data Intelligence subscription by contacting your sales representative.

For example, you can add the Oracle Fusion HCM Analytics service to your existing Oracle Fusion Data Intelligence subscription that already has Oracle Fusion ERP Analytics. You can replace an expired subscription with an active subscription that meets your business requirements.

After your order for addition or modification of subscriptions is processed, you'll receive an email informing you that your order has been processed and the subscriptions have been updated.

1. Sign in to the Oracle Cloud Infrastructure Console.
2. In Oracle Cloud Infrastructure Console, click the Navigation menu icon in the top left corner.
3. Click **Analytics & AI**. Under Analytics, click **Data Intelligence**.
4. On the Instances page, click the instance for which you want to update the subscriptions.
5. On the instance details page, click **Update Offerings**.
6. In Offerings, select applicable subscription and verify that the changes to your subscriptions match the “update subscriptions” order.

Offerings

Subscription ID	Start Date	End Date	State
☒ 1820598 (Current)	Jul 11, 2023	Jul 30, 2024	Active
☐ 3045701	Jul 11, 2023	Jul 30, 2024	Active

1 selected Showing 2 items

Service Name	Existing	New
Fusion ERP Analytics - Hosted Named User per Month	100	100
Fusion HCM Analytics - Hosted Employee	50	100
Oracle Fusion SCM Analytics Cloud Service - Hosted Named User	Not enabled	1000

Showing 3 items

Type in "UPDATE" to confirm making changes to the offerings

Save Changes Cancel

7. Enter Update to confirm the changes and then click **Save Changes**.

Update the Administrator Password for Oracle Autonomous Data Warehouse

Update the ADMIN schema password for the Oracle Autonomous Data Warehouse that's provisioned in your tenancy if the password for that ADMIN schema has changed.

Prior to updating the ADMIN schema password in your Oracle Fusion Data Intelligence instance, ensure that you have updated the administrator password in the Oracle Autonomous Data Warehouse instance associated with your Oracle Fusion Data Intelligence instance. Both the passwords must be the same. See [Unlock or Change the ADMIN Database User Password](#).

Note

You need to be either an Oracle Cloud Infrastructure administrator or an administrator user with the necessary privileges to sign in and reset the password for the ADMIN schema.

 [LiveLabs Sprint](#)

1. Sign in to the Oracle Cloud Infrastructure Console.
2. In Oracle Cloud Infrastructure Console, click the Navigation menu icon in the top left corner.
3. Click **Analytics & AI**. Under Analytics, click **Data Intelligence**.
4. On the Instances page, click the instance for which you want to update the administrator password for the Oracle Autonomous Data Warehouse that's provisioned in your tenancy.
5. On the instance details page, click the **Name** URL under **Autonomous Data Warehouse**.
6. On the Autonomous Data Warehouse Details page, from the **More actions** drop-down list, select **Administrator password**.
7. In the Administrator password dialog, enter the new password, confirm, and then click **Change**.
8. Navigate to your Oracle Fusion Data Intelligence instance details page and click **Update password**.
9. In the Update Autonomous Data Warehouse Credentials dialog, in **Username**, select **ADMIN**, select the **Updated ADMIN password in ADW console** check box, enter the same password provided on the Autonomous Data Warehouse Details page, confirm the password, and then click **Save Changes**.

Update Autonomous Data Warehouse Credentials

Username

ADMIN

☐ Updated ADMIN password in ADW console

Password

Password must be 12 to 30 characters and contain at least one uppercase letter, one lowercase letter, and one number. The password cannot contain the double quote (") character or the username.

Confirm Password

Save Changes

[Cancel](#)

Reset the Password for OAX_USER Schema

Oracle Fusion Data Intelligence provides default schemas (also known as users) such as the ADMIN schema and OAX_USER schema.

From release Platform 23.R4 onwards, Oracle Fusion Data Intelligence provides only OAX_USER as the default schema and you can only use OAX_USER during instance creation.

The ADMIN schema enables you to access the Oracle Autonomous Data Warehouse instance associated with your Oracle Fusion Data Intelligence instance. The OAX_USER schema enables you to run your own SQL queries against the database or sign in and view the data in the tables of the associated Oracle Autonomous Data Warehouse instance. The security policy of Oracle Autonomous Data Warehouse requires you to change the passwords for the default schemas every 365 days.

Note

You need to be either an Oracle Cloud Infrastructure administrator or an administrator user with the necessary privileges to sign in and reset the password for the OAX_USER schema.

To change the password for the ADMIN schema, see [Update the Administrator Password for Oracle Autonomous Data Warehouse](#).

1. Sign in to the Oracle Cloud Infrastructure Console.
2. Navigate to your Oracle Fusion Data Intelligence Data Intelligence Details page and click **Update password**.
3. In the Update Autonomous Data Warehouse Credentials dialog, in **Username**, select **OAX_USER**, enter a password, confirm the password, and then click **Save Changes**.

Update Autonomous Data Warehouse Credentials

Username

OAX_USER

⌵

Password

Password must be 12 to 30 characters and contain at least one uppercase letter, one lowercase letter, and one number. The password cannot contain the double quote (") character or the username.

Confirm Password

Save Changes

[Cancel](#)

Reset the Password for Custom Schemas

Oracle Fusion Data Intelligence provides default schemas (also known as users) such as the ADMIN schema and OAX_USER schema. You can create custom schemas to meet your customization requirements.

The custom schemas enables you to run your own SQL queries against the database or sign in and view the data in the tables of the associated Oracle Autonomous Data Warehouse instance. The security policy of Oracle Autonomous Data Warehouse requires you to change the passwords for the custom schemas every 365 days.

Note

You need to be either an Oracle Cloud Infrastructure administrator or an administrator user with the necessary privileges to sign in and reset the password for the custom schemas.

You can change the password for the custom schemas using either SQL Developer or the Oracle Cloud Infrastructure Console. To change the password using SQL Developer, sign in to SQL Developer using the credentials of the ADMIN schema and run the command that's suggested to use while changing the password from the Oracle Cloud Infrastructure Console.

1. Sign in to the Oracle Cloud Infrastructure Console.
2. Navigate to your Oracle Fusion Data Intelligence instance details page.
3. On the instance details page, click the URL of the Oracle Autonomous Data Warehouse instance.
4. On the Oracle Autonomous Data Warehouse instance details page, click **Database Actions**. At this point, you need to sign in to the database using the ADMIN schema credentials.
5. On the Database Actions page, click **SQL** and run the following command to change the password for a custom schema:

```
Alter user <custom schema name> identified by <Password>;
```

Terminate Instances

You can terminate instances that are active or have failed and you don't need them anymore.

When you terminate an active instance, the associated Oracle Analytics Cloud and Oracle Autonomous Data Warehouse instances along with data and customizations get deleted. However, the users and groups that were created in Oracle Identity Cloud Service aren't deleted during this process.

1. Sign in to the Oracle Cloud Infrastructure Console.
2. In Oracle Cloud Infrastructure Console, click the Navigation menu icon in the top left corner.
3. Click **Analytics & AI**. Under Analytics, click **Data Intelligence**.
4. On the Instances page, use either of the options:

- Click **Actions** for an instance with **Failed** status, and then from **Actions**, click **Terminate**.
 - Click the instance with **Failed** status to open the instance details page and then on the instance details page, click **Terminate**.
5. In Confirm Terminate, verify the instance name and click **Terminate Instance**.

Confirm Terminate

Are you sure you want to terminate the instance named **instanceName**? Terminating the instance permanently deletes it and removes all automatic backups. You cannot recover a terminated instance.

Type in the instance name to confirm the termination.

Terminate Instance

[Cancel](#)

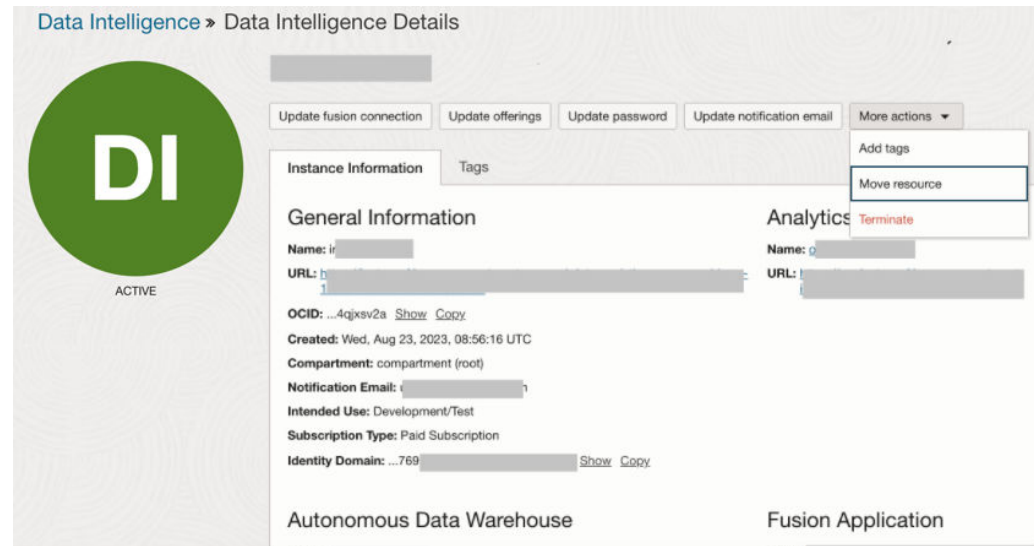
Move the Oracle Fusion Data Intelligence Instance to Another Compartment

As the cloud account administrator, you can move your Oracle Fusion Data Intelligence instance to another Oracle Cloud Infrastructure compartment after you've created the instance.

 [LiveLabs Link](#)

You may want to move the instance from one compartment to another if you're redesigning or modifying the compartment structure. When you move the Oracle Fusion Data Intelligence instance to another compartment, the Oracle Analytics Cloud and Oracle Autonomous Data Warehouse instances associated with your Oracle Fusion Data Intelligence instance automatically move to the new compartment of your Oracle Fusion Data Intelligence instance.

1. Sign in to the Oracle Cloud Infrastructure Console.
2. In Oracle Cloud Infrastructure Console, click the Navigation menu icon.
3. Click **Analytics & AI**. Under Analytics, click **Data Intelligence**.
4. On the Instances page, use either of the options:
 - Click **Actions** for an instance whose compartment you want to move, and then from **Actions**, click **Move Resource**.
 - Click the instance whose compartment you want to move to open the instance details page and then on the instance details page, click **More Actions** and then click **Move**

Resource.

5. In Move Resource, select a compartment in **Destination Compartment** and then click **Move Resource**.

Move resource

Move the resource from the **compartment (root)** compartment to the selected compartment.

Destination compartment

compartment (root) 

Move resource [Cancel](#)

Update the Notification Email

You can view and update the notification email address set for an instance on the instance details page.



1. Sign in to the Oracle Cloud Infrastructure Console.
2. In Oracle Cloud Infrastructure Console, click the Navigation menu icon in the top left corner.
3. Click **Analytics & AI**. Under Analytics, click **Data Intelligence**.
4. On the Instances page, click an instance to open the instance details page.
5. On the instance details page, click **Update Email** to modify the current notification email address.
6. In Update Notification Email, enter the email address and click **Save Changes**.

Update Notification Email

Notification Email

user.email@oracle.com

Save Changes [Cancel](#)

Scale Up Oracle Autonomous Data Warehouse

Oracle Fusion Data Intelligence provides the associated Oracle Autonomous Data Warehouse with certain capacities that are within its service limits.

If you require additional storage or compute units (ECPUs) to meet your workload requirements, then you can scale up Oracle Autonomous Data Warehouse associated with Oracle Fusion Data Intelligence. Any scale up of the ECPUs or storage initially provisioned by Oracle Fusion Data Intelligence *is metered immediately resulting in Oracle Cloud Infrastructure charges*; see [Cost and Usage Reports](#) to view the additional usage and cost of your added Oracle Autonomous Data Warehouse ECPUs or storage.

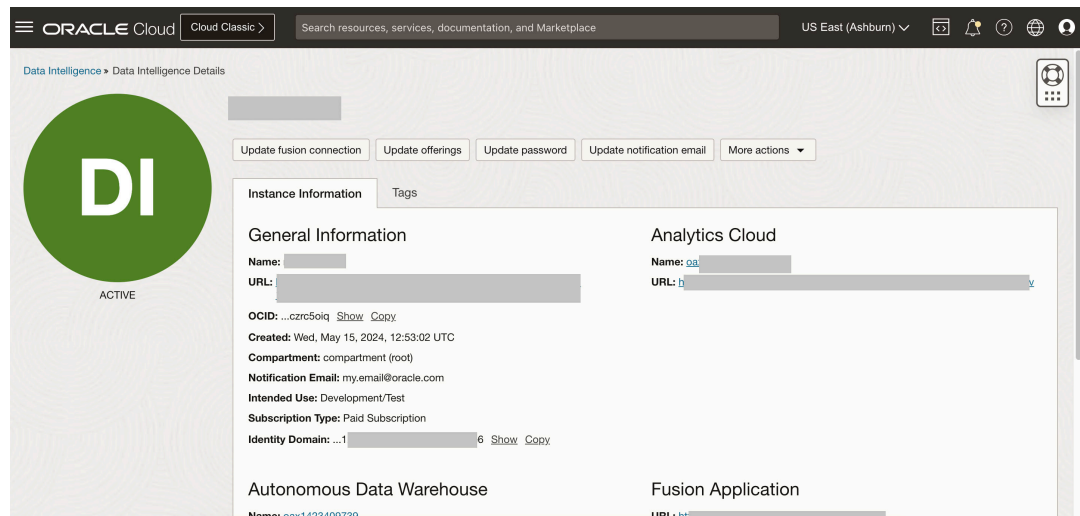
As a service administrator, you can scale up the default capacities within the service limits. You can view the service limits of Oracle Autonomous Data Warehouse associated with your Oracle Fusion Data Intelligence service using the Limits, Quotas and Usage page in the Oracle Cloud Infrastructure Console. See [Viewing Your Service Limits, Quotas and Usage](#). You can submit a request to increase your service limits from **Limits, Quotas, and Usage** page in Oracle Cloud Infrastructure Console. See [Requesting a Service Limit Increase](#).

Note

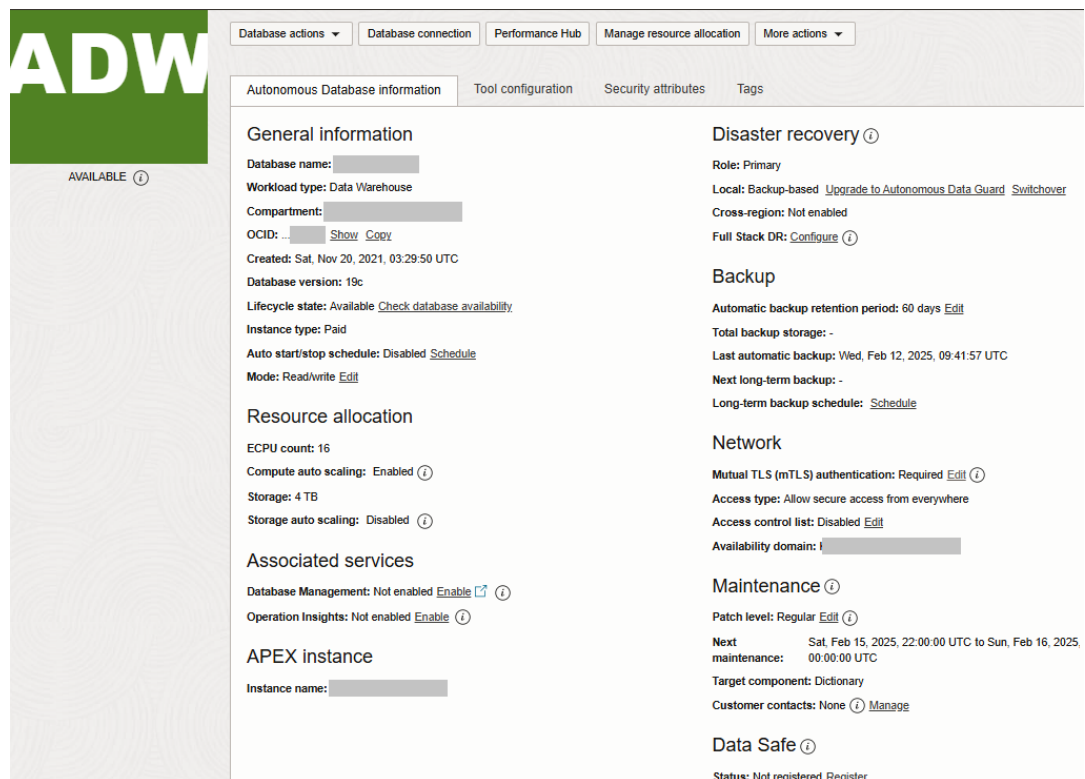
While scaling up the initial ECPU count or storage, if you see a message that says the service limits were exceeded, you must subscribe for universal credits. See [Important – Read Before Activating](#) and [Activate the Universal Credits Subscription](#).

After increasing or decreasing the ECPU count, you must run a pipeline incremental job for the ECPU count changes to take effect. After the incremental run, perform the following for the new maximum connection limit to be applied:

- Publish the semantic model in your test or development instance. See [Publish Model](#).
 - Import and deploy a semantic model bundle in your production instance. See [Import a Bundle](#) and [Deploy a Bundle](#).
1. Sign in to the Oracle Cloud Infrastructure Console.
 2. In Oracle Cloud Infrastructure Console, click the Navigation menu icon.
 3. In the navigation options, click **Analytics & AI**. Under Analytics, click **Data Intelligence**.
 4. Navigate to your service instances page.
 5. On the Instances page, click the instance for which you want to view the details.
 6. On the instance details page, click the **Name** under Autonomous Data Warehouse.



7. On the Oracle Autonomous Data Warehouse instance details page, click **Manage resource allocation**.



The screenshot shows the Oracle Autonomous Data Warehouse (ADW) console interface. On the left, a green banner displays 'ADW' and 'AVAILABLE'. The main content area is titled 'Autonomous Database information' and includes several tabs: 'Database actions', 'Database connection', 'Performance Hub', 'Manage resource allocation' (selected), and 'More actions'. The 'Manage resource allocation' tab is active, showing the following sections:

- General information:**
 - Database name: [redacted]
 - Workload type: Data Warehouse
 - Compartment: [redacted]
 - OCID: [redacted] [Show](#) [Copy](#)
 - Created: Sat, Nov 20, 2021, 03:29:50 UTC
 - Database version: 19c
 - Lifecycle state: Available [Check database availability](#)
 - Instance type: Paid
 - Auto start/stop schedule: Disabled [Schedule](#)
 - Mode: Read/write [Edit](#)
- Resource allocation:**
 - ECPUs count: 16
 - Compute auto scaling: Enabled [ⓘ](#)
 - Storage: 4 TB
 - Storage auto scaling: Disabled [ⓘ](#)
- Associated services:**
 - Database Management: Not enabled [Enable](#) [ⓘ](#)
 - Operation Insights: Not enabled [Enable](#) [ⓘ](#)
- APEX instance:**
 - Instance name: [redacted]
- Disaster recovery:**
 - Role: Primary
 - Local: Backup-based [Upgrade to Autonomous Data Guard](#) [Switchover](#)
 - Cross-region: Not enabled
 - Full Stack DR: [Configure](#) [ⓘ](#)
- Backup:**
 - Automatic backup retention period: 60 days [Edit](#)
 - Total backup storage: -
 - Last automatic backup: Wed, Feb 12, 2025, 09:41:57 UTC
 - Next long-term backup: -
 - Long-term backup schedule: [Schedule](#)
- Network:**
 - Mutual TLS (mTLS) authentication: Required [Edit](#) [ⓘ](#)
 - Access type: Allow secure access from everywhere
 - Access control list: Disabled [Edit](#)
 - Availability domain: [redacted]
- Maintenance:**
 - Patch level: Regular [Edit](#) [ⓘ](#)
 - Next maintenance: Sat, Feb 15, 2025, 22:00:00 UTC to Sun, Feb 16, 2025, 00:00:00 UTC
 - Target component: Dictionary
 - Customer contacts: None [ⓘ](#) [Manage](#)
- Data Safe:**
 - Status: Not registered [Register](#)

8. In Manage resource allocation:

- a. To increase the compute units, in **ECPUs count**, enter the required value or select **Compute auto scaling** to enable expansion of the provisioned compute units as workload expands.
- b. To increase storage capacity, in **Storage (TB)** enter a value or click the up arrow to select a value and then click **Apply**.

Manage resource allocation

ECPU count ⓘ

16

Select an ECPU count.

☒ **Compute auto scaling**
Allows system to expand up to three times the specified ECPU count as demand increases. [Learn more](#) about auto scaling.

Storage (TB)

4

The amount of storage to allocate.

☐ **Storage auto scaling**
Allows system to expand up to three times the reserved storage.

Allocated storage: 0.315 TB
Approximate used storage: 0.077 TB

Shrink

Shrink storage manually. Use after deletion of a significant amount of data. [Learn more](#).

Show advanced options

Apply

Cancel

Change Oracle Analytics Cloud Capacity

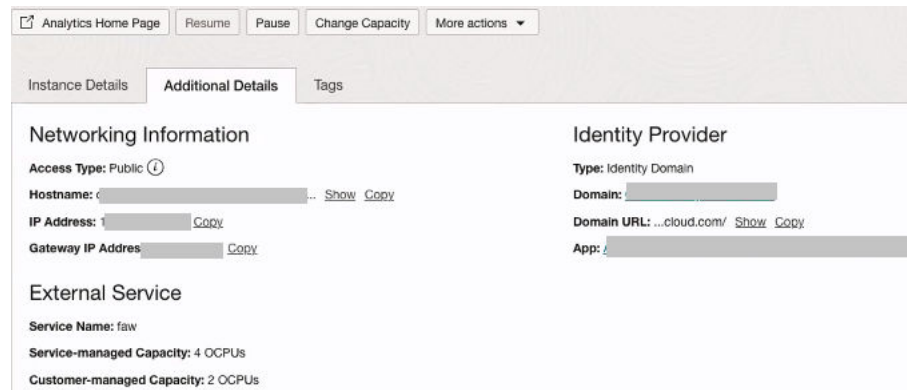
Oracle Fusion Data Intelligence provides the associated Oracle Analytics Cloud with certain OCPUs that are within its service limits.

As a service administrator, you can scale up the default Oracle Analytics Cloud OCPUs within the Oracle Analytics Cloud service limits. Any added Oracle Analytics Cloud OCPUs are *metered immediately resulting in Oracle Cloud Infrastructure charges*; see [Cost and Usage Reports](#) to view the additional usage and cost of your added Oracle Analytics Cloud OCPUs.

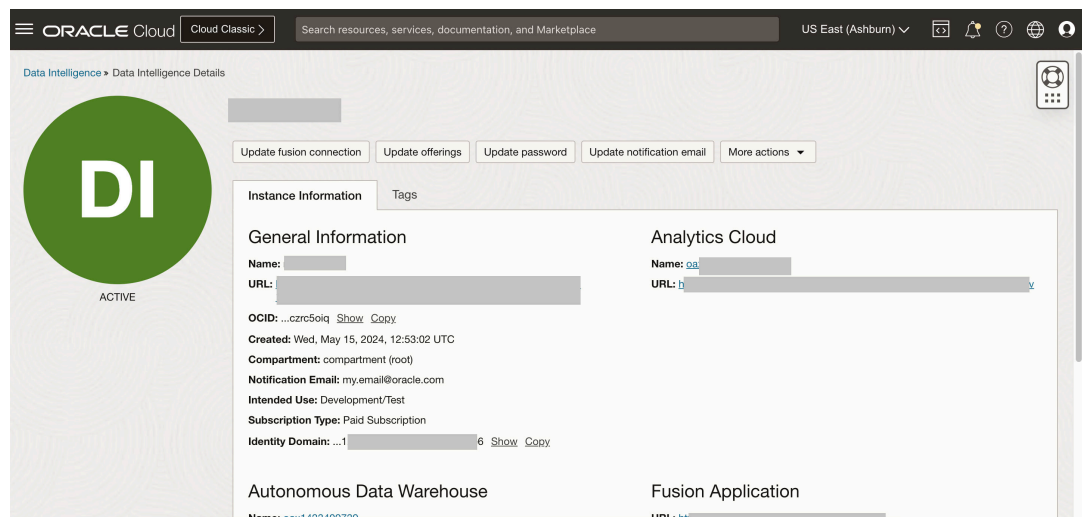
You can view the service limits of Oracle Analytics Cloud associated with your Oracle Fusion Data Intelligence service using the Limits, Quotas and Usage page in the Oracle Cloud Infrastructure Console. See [Viewing Your Service Limits, Quotas and Usage](#). You can submit a request to increase your service limits from **Limits, Quotas, and Usage** page in Oracle Cloud Infrastructure Console. See [Requesting a Service Limit Increase](#).

You can view the service managed and customer managed capacity for the associated Oracle Analytics Cloud instance in the Additional Details tab on the Oracle Analytics Cloud instance details page. For example, if you've a total capacity of 6 OCPUs, you may see 4 as Service Managed Capacity and 2 as Customer Managed Capacity. You can only change the customer managed capacity and you can't change the capacity below the service managed capacity, for example, you can't change total capacity to 2 OCPU. All Oracle Analytics Cloud OCPUs under Customer Managed Capacity are *metered immediately resulting in Oracle Cloud Infrastructure*

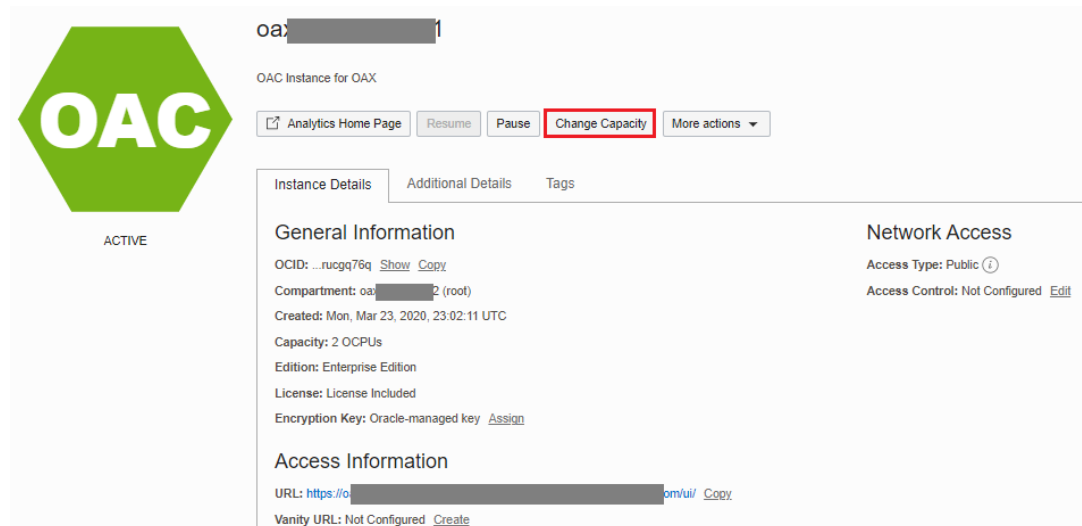
charges; see [Cost and Usage Reports](#) to view the additional usage and cost of your customer managed Oracle Analytics Cloud OCPUs.



1. Sign in to the Oracle Cloud Infrastructure Console.
2. In Oracle Cloud Infrastructure Console, click the Navigation menu icon.
3. In the navigation options, click **Analytics & AI**. Under Analytics, click **Data Intelligence**.
4. Navigate to your service instances page.
5. On the Instances page, click the instance for which you want to view the details.
6. On the instance details page, click the **Name** under Analytics Cloud.



7. On the Oracle Analytics Cloud instance details page, click **Change Capacity**.



8. In Change Capacity, select the number of **OCPU Count** you want, and then click **Save Changes**.

Note

The values available to you depend on how many OCPUs your service currently uses. Remember that you can add or remove capacity within the OCPU range of your service.

Change Capacity

OCPU Count

2

Save Changes Cancel

Activate the Universal Credits Subscription

If you need universal credits for the specific scenarios described in the Important – Read Before Activating section, subscribe for UCC.

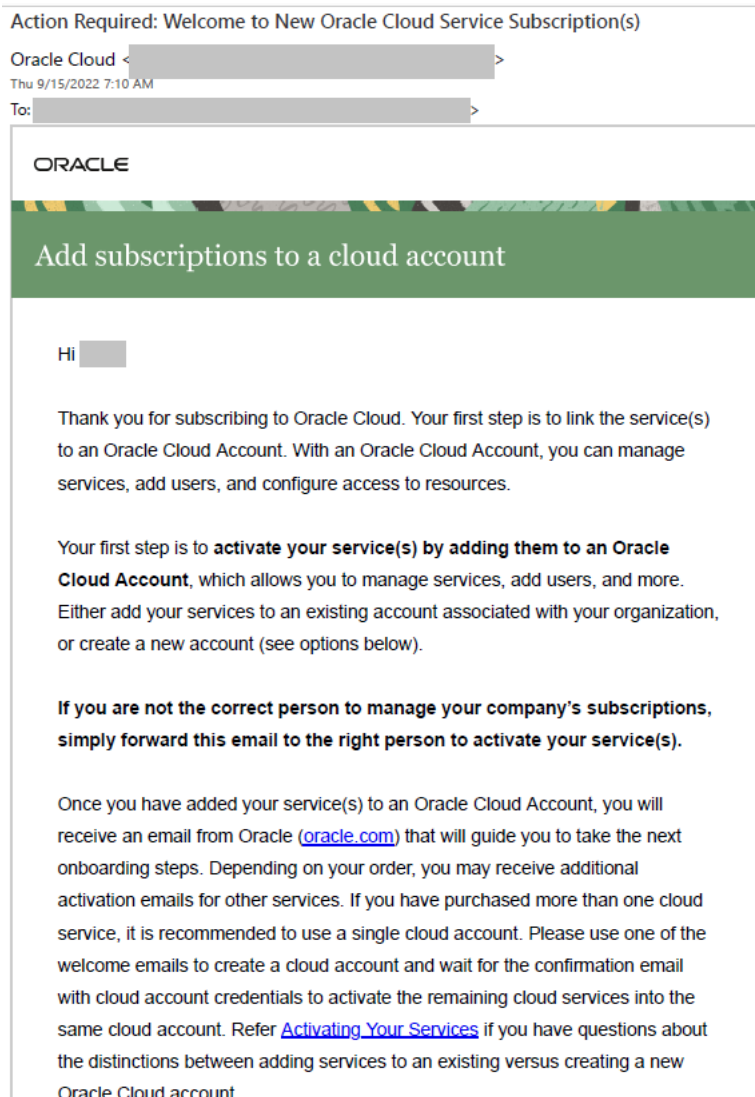
On receiving the Welcome email, activate the new Universal Credits (UCC) subscription into your existing Oracle Fusion Cloud Applications account using the **Add to existing cloud account** option in the UCC Welcome email. See [Important – Read Before Activating](#).

Note

If universal credits exist in your cloud account that has Oracle Fusion Cloud Applications, you don't need to subscribe and activate a new UCC subscription. You can use the existing universal credits for the specific scenarios.

If you don't see your existing Oracle Fusion Cloud Applications account when selecting the cloud account to activate into, stop and submit a service request against "Fusion Data Intelligence" in My Oracle Support so that it gets routed to the correct team. For this service request, select **Significant Impairment** as **Issue Type** and in **Problem Type**, click **Activate, Create, Delete, Manage FDI Instance** and then select **FDI Activation**. Ensure that you include the account name you're trying to activate into, along with a screen shot showing that you've been assigned this role in that Cloud account.

1. Locate your UCC Welcome email.



2. In the UCC Welcome email, click **Add to existing cloud account**.

Note

The name of the service in the body of this Welcome email is "Oracle PaaS and IaaS Universal Credits".

Subscription ID: [REDACTED]

- Oracle PaaS and IaaS Universal Credits ([REDACTED])

[Add to existing cloud account](#)[Create new cloud account](#)**Order Details:**

Order Number: [REDACTED]

Order Date: Thu, Sep 15, 2022, 01:39 AM UTC

Customer Support Identifier (CSI): [REDACTED]

Organization Name: [REDACTED]

Questions?Please contact your account representative or [Oracle Support](#).**Additional resources:**

Join the [Cloud Customer Connect community](#) to submit ideas for product enhancements directly to Oracle development or engage in real-time dialogues with other Oracle customers, Oracle experts, and Oracle partners about lessons learned and best practices for cloud adoption and business transformation.

Oracle University is offering [free training on Oracle Cloud](#) for a limited time.**ORACLE**
Cloud

Please do not reply directly to this email.

Copyright © 2020 Oracle. All rights reserved.
Contact Us | Legal Notices and Terms of Use | Privacy Statement

3. Follow the instructions in [Add the New Cloud Service to an Existing Oracle Cloud Account](#).

Note

It can take up to an hour for the activation process to finish. Once it completes, you'll receive an email with the subject "Your services are ready!". Ensure that you don't proceed to the next step until you have received this email.

Provide Your Encryption Key for Oracle Autonomous Data Warehouse

You can change the default encryption key for Oracle Autonomous Data Warehouse associated with your Oracle Fusion Data Intelligence instance if your security policies require it.

Oracle Autonomous Data Warehouse provides two options for Transparent Data Encryption (TDE) to encrypt your database: Oracle-managed encryption keys and Customer-managed encryption keys. By default, the Oracle Autonomous Data Warehouse associated with Oracle Fusion Data Intelligence is set up using the Oracle-managed key. If your organization's security policies require customer-managed encryption keys, then you can configure Oracle Autonomous Data Warehouse to use an Oracle Cloud Infrastructure Vault master encryption

key. With customer-managed master encryption keys, Oracle Autonomous Data Warehouse uses the master encryption key to generate the TDE master key. However, if your organizational policies change, you can revert to the Oracle-managed key. See [Manage Encryption Keys on Autonomous Database](#).

Configure Advanced Options

You can set several advanced options using the Console.

Topics:

- [About Advanced Configuration](#)
- [Set Advanced Options](#)

About Advanced Configuration

Administrators can set more advanced, service-level options through the Systems Settings page.

Topics:

- [Performance and Compatibility Options](#)
- [Preview Options](#)
- [Email Delivered by Agents Options](#)
- [View Options](#)
- [Other Options](#)
- [Security Options](#)
- [Analytic Content Options](#)
- [Format Options](#)
- [Prompt Options](#)

Performance and Compatibility Options

You use these options to configure performance and compatibility settings between Oracle BI Enterprise Edition and Oracle Analytics.

System Setting	More Information
Query Limit Extension	Determines whether the query limit can extend to 60 minutes to accommodate the occasional, longer running query. • On — The query limit can be extended to 60 minutes. • Off — The Maximum Query Limit setting on this page is used and never extends. Default: Off Edition: Professional and Enterprise

System Setting	More Information
Mobile Data Watch Service Frequency	Specifies the frequency at which the Data Watch service must scan the server for changes based on the frequency of changes in your data sources. The default is 240 (4 hours). You can disable this service by changing this setting frequency to 0 or by toggling the Mobile Watch Service Enabled setting to off. Valid Values: 0-10139 Default: 240 Edition: Professional and Enterprise
Strong Datetime Type Checking	Specifies whether to enforce strict checking for date and time data types and whether to reject queries that contain incompatibilities in date and time data types. • On — Enforces strict checking for date and time data types. • Off — Relaxes strict checking for date and time data types. However, invalid queries or queries with severe date and time incompatibilities may still be rejected. For example, date and time incompatibilities might be rejected if your relational database uses strict checking for those data types. Default: On Edition: Professional and Enterprise
Load Semantic Models Using Multiple Threads	Specifies if semantic models load using multiple threads. If you find that your large datasets load slowly and impact system processing times, enabling this option may improve performance. • On — Semantic models load in parallel. • Off — Semantic models don't load in parallel. Default: Off Edition: Enterprise only
Enable Auto Insights on Datasets	Specifies whether the Auto Insights feature is available when datasets are created or modified. • On — The Enable Insights option is available in the Dataset Inspect dialog and insights are automatically generated and available for workbooks that use datasets with the Enable Insights option selected. • Off — Auto Insights and its related features are disabled. Default: On Apply Change Required: No, but when you change this setting, it may take a few minutes to take effect. Edition: Professional and Enterprise
Enable Immediate Dashboard Rendering	Specifies whether to display available dashboard content immediately or wait until all the dashboard content is ready. • On — Display dashboard content immediately even if some content is unavailable. • Off — Wait for all the dashboard content to be ready before displaying content. Default: Off Edition: Enterprise only

System Setting	More Information
Mobile Data Watch Service Enabled	Specifies if the Data Watch service is active. • On — The Data Watch service is active and all mobile users can specify the threshold value for bring backs. • Off — The Data Watch service is inactive. Default: On Edition: Professional and Enterprise
Evaluate Support Level	Specifies who can issue database functions: EVALUATE, EVALUATE_ANALYTIC, EVALUATE_AGGR, and EVALUATE_PREDICATE. By default (0), the EVALUATE database functions are disabled. • 1 — Service administrators only. Users with the BI Service Administrator application role can invoke EVALUATE database functions. • 2 — Anyone. Any user who signs in to Oracle Analytics can invoke EVALUATE database functions. • 0 (or any other value) — No one. All EVALUATE database functions are disabled in Oracle Analytics. Valid Values: 0, 1, 2 Default: 0 Edition: Professional and Enterprise
Enable Database Analytics Node in Data Flows	Specifies whether the Database Analytics node is displayed in data flows. • On — The Database Analytics node is available in data flows so that data flow designers can apply database analytics functions to the data. • Off — The Database Analytics node isn't available in data flows. This prevents data flow designers from generating a potentially high number of SQL statements and slowing database performance. Default: On Edition: Professional and Enterprise
Restrict Data Export and Delivery	Restricts the maximum number of rows users can export or deliver by email in formatted and unformatted content. Data export and delivery limits depend on the size of your Oracle Analytics service. Valid Values: Maximum - no restriction, 90% of Maximum, 80% of Maximum, 70% of Maximum, 60% of Maximum, 50% of Maximum, 40% of Maximum, 30% of Maximum, 20% of Maximum, 10% of Maximum, Minimum - 1000 rows Default: Maximum - no restriction Edition: Professional and Enterprise
Maximum Query Limit (seconds)	Specifies the maximum length of time a single query can run before it's canceled and users see a timeout message. The default is 660 seconds (11 minutes). Valid Values: 60-660 Default: 660 Edition: Professional and Enterprise

System Setting	More Information
Brushing Enabled for Subject Areas	Specifies whether brushing is enabled by default for workbooks that use data from subject areas. • On — Brushing is on by default for workbooks that use subject area data. • Off — Brushing is off by default for workbooks that use subject area data. Users can override this setting in the workbook and canvas properties. Default: On Edition: Enterprise only
Cache Enable	Specifies whether data query caching is enabled or disabled. • On — Data caching is enabled. • Off — Caching is disabled. Default: On Edition: Professional and Enterprise
Brushing Enabled for Datasets	Specifies whether brushing is enabled by default for workbooks that use dataset data. • On — Brushing is on by default for workbooks that use dataset data. • Off — Brushing is off by default for workbooks that use dataset data. Users can override this setting in the workbook and canvas properties. Default: On Edition: Professional and Enterprise

Preview Options

Administrators can turn some preview features on and off. This way, your organization can evaluate and learn how to use new features before they roll out by default.

System Setting	More Information
Enable Geometry Type	Specifies whether the geometry data type is available for data columns. • On — Enables you to use geometry columns in map visualizations and spatial geometry calculations. • Off — Disables the geometry data type. Default: Off Apply Change Required: Yes Edition: Enterprise only

Email Delivered by Agents Options

You can use these options to customize the way agents deliver email.

System Setting	More Information
Use RFC 2231 Encoding	Specifies how to encode MIME email parameters. By default, RFC 2047 is used. On — Use RFC 2231 to encode MIME email parameter values. RFC 2231 supports multi-byte languages. Select On if you deliver emails that contain multi-byte characters and use an email server that supports RFC 2231, such as Microsoft Outlook for Office 365 or Google Gmail. Off — Use RFC 2047 to encode MIME email parameter values. Default: Off Edition: Enterprise only
Use BCC	Specifies whether to include the names of email recipients in the To: or Bcc: line. By default, email recipients are added to the Bcc: line. On — Add email recipients to the Bcc: line. Names of email recipients are hidden. Off — Add email recipients to the To: line. Everyone who receives the email sees the recipient list. Default: On Edition: Enterprise only
Safe Domains	If you want to restrict the email domain that Oracle Analytics can send emails to, enter the name of the domain. For example, examplemaildomain.com. Use a comma to separate multiple domain names. For example, exampledomain1.com, exampledomain2.com. By default, there are no restrictions. Edition: Enterprise only
Maximum Number of Recipients per Email	Specifies the maximum number of recipients allowed in the To: or Bcc: line for a single email. You can set the maximum number of email recipients to avoid some SMTP servers from filtering out these emails as spam. If the recipient list exceeds the set limit, the list is split into smaller lists with the maximum number of allowed recipients in each list. Valid Values: 0-1024 Default: 0 (unlimited number of email recipients) Edition: Enterprise only
Maximum Email Size (KB)	Specifies the maximum size (KB) of a single email. If you set a maximum email size, you can avoid situations when SMTP servers reject emails that are too large, and in the event that an email exceeds the set limit, the email recipients receive an error message instead of the agent failing and just alerting the email author. Valid Values: 0-20480 Default: 0 (unlimited email size) Edition: Enterprise only

View Options

You can use these options to configure default search and viewing settings for users working with analyses and dashboards.

System Setting	More Information
Default Scrolling Enabled	Specifies how data scrolls in tables, pivots, heat matrix, and simple and advanced trellis visualizations. • On — Data displays with a fixed header and content scrolling controls for users to browse the data. • Off — Data displays with content paging controls for users to browse the data. Default: On Edition: Enterprise only
View Interactions: Display/Hide Running Sum	Specifies whether the Display/Hide Running Sum option is selected by default in the Analysis Properties dialog: Interactions tab. • On — The Display/Hide Running Sum option is selected by default in the Analysis Properties dialog: Interactions tab. • Off — The Display/Hide Running Sum option isn't selected by default in the Analysis Properties dialog: Interactions tab. Default: Off Edition: Enterprise only
View Interactions: Display/Hide Sub-totals	Specifies whether the Display/Hide Sub-totals option is selected by default in the Analysis Properties dialog: Interactions tab. • On — The Display/Hide Sub-totals option is selected by default in the Analysis Properties dialog: Interactions tab. • Off — The Display/Hide Sub-totals option isn't selected by default in the Analysis Properties dialog: Interactions tab. Default: Off Edition: Enterprise only
View Interactions: Drill	Specifies whether the Drill (when not a primary interaction) option is selected by default in the Analysis Properties dialog: Interactions tab. • On — The Drill (when not a primary interaction) option is selected by default in the Analysis Properties dialog: Interactions tab. • Off — The Drill (when not a primary interaction) option isn't selected by default in the Analysis Properties dialog: Interactions tab. Default: Off Edition: Enterprise only
View Interactions: Include/Exclude Columns	Specifies whether the Include/Exclude Columns option is selected by default in the Analysis Properties dialog: Interactions tab. • On — The Include/Exclude Columns option is selected by default in the Analysis Properties dialog: Interactions tab. • Off — The Include/Exclude Columns option isn't selected by default in the Analysis Properties dialog: Interactions tab. Default: On Edition: Enterprise only

System Setting	More Information
Prompt Auto Complete Matching Level	Specifies whether the auto-complete functionality uses matching to find the prompt value that the user enters into the prompt field. This setting doesn't apply if the user accesses the Search dialog to locate and specify a prompt value. • StartsWith — Searches for a match that begins with the text that the user types. For example, the user types M and the following stored values are displayed: MicroPod and MP3 Speakers System. • WordStartsWith — Searches for a match at the beginning of a word or group of words. For example, the user types C and the following values are displayed: ComCell, MPEG Camcorder, and 7 Megapixel Digital Camera. • MatchAll — Searches for any match within the word or words. Valid Values: StartsWith, WordStartsWith, MatchAll Default: MatchAll Edition: Enterprise only
View Interactions: Add/Remove Values	Specifies whether the Add/Remove Values option is selected by default in the Analysis Properties dialog: Interactions tab. • On — The Add/Remove Values option is selected by default in the Analysis Properties dialog: Interactions tab. • Off — The Add/Remove Values option isn't selected by default in the Analysis Properties dialog: Interactions tab. Default: Off Edition: Enterprise only
Enable Enrichments in Workbooks	Specifies whether workbook editors can add dataset enrichments to a visualization directly from the Data Panel. This setting enables enrichments in workbooks for all users. Workbook editors who own a dataset or have editing privileges for it can enable or disable knowledge enrichments for that dataset using the Enable Knowledge Enrichments option. • On — Workbook editors can drag and drop enrichment based data elements to visualization canvases. • Off — Knowledge enrichments are not available for datasets. Default: On Edition: Professional and Enterprise
View Interactions: Create/Edit/Remove Calculated Items	Specifies whether the Create/Edit/Remove Calculated Items option is selected by default in the Analysis Properties dialog: Interactions tab. • On — The Create/Edit/Remove Calculated Items option is selected by default in the Analysis Properties dialog: Interactions tab. • Off — The Create/Edit/Remove Calculated Items option isn't selected by default in the Analysis Properties dialog: Interactions tab. Default: Off Edition: Enterprise only
Table/Pivot View: Maximum Visible Rows	Specifies the maximum number of rows you want displayed for content paging in table and pivot table views in analyses and dashboards. The minimum number of rows you can specify to display is 100. Valid Values: 100-5000 Default: 5000 Edition: Enterprise only

System Setting	More Information
View Interactions: Move Columns	Specifies whether the Move Columns option is selected by default in the Analysis Properties dialog: Interactions tab. On — The Move Columns option is selected by default in the Analysis Properties dialog: Interactions tab. Off — The Move Columns option isn't selected by default in the Analysis Properties dialog: Interactions tab. Default: On Edition: Enterprise only
View Interactions: Sort Columns	Specifies whether the Sort Columns option is selected by default in the Analysis Properties dialog: Interactions tab. On — The Sort Columns option is selected by default in the Analysis Properties dialog: Interactions tab. Off — The Sort Columns option isn't selected by default in the Analysis Properties dialog: Interactions tab. Default: On Edition: Enterprise only
Enable Personalization in Workbooks	Specifies whether users can personalize workbooks. On — Content designers can enable or disable personalization options (Filter and Parameter) in their workbooks. Off — Personalization options aren't available for workbooks. Default: On Edition: Professional and Enterprise

Other Options

These system setting options in the Console enable you to set the behavior for a variety of actions such as database queries, default URLs, display defaults, and sorting.

System Setting	More Information
Hide Loading Messages	Specifies if a detailed message is displayed during data load processing. On — Detailed loading messages are hidden and a simplified message Loading... is displayed instead. Off — Detailed loading messages are displayed. Default: Off Edition: Professional and Enterprise
Portal Path	Specifies the path of the dashboard page that's displayed by default when users sign in to Oracle Analytics. For example, /shared/<folder>/_portal/<name>. You can specify a single path for all users and multiple paths by user role, for example {"application role 1": "catalog dashboard path 1", "application role 2": "catalog dashboard path 2", "default": "catalog dashboard path 3"}. This setting applies to all users, but users can override it after they've signed in. You can enter a maximum of 5,000 characters in this field. Edition: Enterprise only

System Setting	More Information
Enable Subrequest Shipping	Specifies if sub-requests to source databases are executed separately as standalone queries or executed together. By default, sub-requests are shipped separately which can improve performance if you execute complex reports with a large group of sub-requests, that is, you prefer to ship the sub-requests separately in multiple simplified queries rather than ship a large single complicated query all at once. In Oracle BI Enterprise Edition, the default is set to NO. If you used Oracle BI Enterprise Edition and want to retain the previous default behavior, set this property to NO to continue executing database sub-requests together. • Default — Database sub-requests are shipped separately. This is the same as the value YES. • YES — Database sub-requests are shipped separately. • NO — Database sub-requests are shipped together, all at once. Default: Default Edition: Professional and Enterprise
Sort Order Locale	Applies to content migrated from Oracle BI Enterprise Edition. After you migrate content from your Oracle BI Enterprise Edition environment to Oracle Analytics, you may experience different sorting behaviors in analyses. For example, if you look at a migrated analysis in Polish, the upper case and lower case letters might sort based on the Oracle Analytics default locale, not the original Oracle BI Enterprise Edition locale. To preserve the Oracle BI Enterprise Edition sort behavior in Oracle Analytics, change this setting to Polish. Edition: Professional and Enterprise
Locale	Applies to content migrated from Oracle BI Enterprise Edition. After you migrate content from your Oracle BI Enterprise Edition environment to Oracle Analytics, you may see a different language in messages, dates, or currencies within analyses. For example, if you look at a migrated analysis in Polish, the currencies or dates might display based on the Oracle Analytics default locale, not the original Oracle BI Enterprise Edition locale. To preserve the Oracle BI Enterprise Edition currencies and dates in Oracle Analytics, change this setting to Polish. Edition: Professional and Enterprise
Enforce Safe Domains in Actions	Determines whether action links that users add to analyses and dashboards can invoke any URL or only URLs that administrators specify in the safe domains list. • On — Don't allow actions to invoke any URL that's not in the safe domain list. • Off — Allow actions to invoke any URL, even if the URL isn't listed as a safe domain. Default: On for a brand new service and Off for an existing service. Apply Change Required : No Edition: Enterprise only

System Setting	More Information
Recursive Datetime Type Checking	Specifies whether to enforce strict recursive data type checking for comparisons between identical data types (for example, integer to integer) or non-compatible data types (for example, integer to short integer) on all data sources or with all datasets. • On — Enforces strict recursive checking for identical or non-compatible data types on all data sources or datasets. • Off — Relaxes strict recursive checking for date and time data types on all data sources or datasets. However, if there are too many data type inconsistencies, you may want to change the data types to be compatible or use constants of the correct data type when comparing a column to a value. For example, after you migrate content from Oracle BI Enterprise Edition to Oracle Analytics, you might start seeing this type of check error in your reports because early versions of Oracle BI Enterprise Edition didn't enforce strict checks: [nQSError: 22024] A comparison is being carried out between non-compatible types <type1> and <type2>. Default: On Edition: Professional and Enterprise
Repeat Rows on Excel Reports for Tables and Pivots	Specifies whether cells that span rows and cells that span columns are repeated when exporting tables and pivot tables to Excel. • On — If switched on, cells that span rows and cells that span columns are repeated, regardless of the Value Suppression setting in the Analysis editor. • Off — If switched off, the Value Suppression setting in the Analysis editor is honored and cells that span rows and cells that span columns don't repeat when exporting tables and pivot tables to Excel. Default: Off Edition: Enterprise only
Sort Null Values First	Specifies whether to sort NULL values before other values (On) or after (Off). Select the value that matches your database. If this setting doesn't match your database setting, then the database setting takes precedence. • On — Sorts NULL values before other values. • Off — Sorts NULL values after other values. Default: Off Edition: Professional and Enterprise

System Setting	More Information
Disable Right Trim for VARCHAR Data	Specifies whether the automatic removal of trailing spaces from varchar columns is enabled (Off) or disabled (On). For example, when this property is enabled (Off), when a user starts entering values in a field, the filter dialog automatically trims any trailing spaces. On — Preserves trailing whitespaces in varchar columns. If you primarily use Oracle Database sources, you might want to keep the default Oracle Database behavior of preserving trailing whitespaces rather than removing them. When you toggle this property on, you avoid the overhead of trimming spaces, and this can improve performance. If you disable this property (set it to On) and you construct a filter such as <code>PRODUCT_DESCRIPTION = 'My Product '</code>, you must make sure the amount of trailing whitespace used exactly matches the varchar column value. If you don't, the filter won't correctly match the data values. Off — Trims trailing whitespaces in varchar columns when processing queries. This is the default for Oracle Analytics. For example, if a user enters the text 'My Product ', it trims it to 'My Product'. Default: Off Edition: Professional and Enterprise
Use Vanity URL to Share Content in Email	Specifies the Oracle Analytics Cloud URL format that's used to share links to workbook visualizations in scheduled emails. If your organization set up a vanity URL for your system, enter the existing vanity URL that you want to use in the format: <code>https://myvanity.com/ui/</code> Alternatively, leave the setting blank to use the standard URL format in emails. See <i>Share Visualizations Using Workbook Email Schedules</i>. Edition: Professional and Enterprise

Security Options

Use Security options to control how users can perform specific actions in analyses and dashboards.

These options apply only to analyses and dashboards. They don't apply to data visualizations.

System Setting	More Information
Enable Push Notifications	Specifies if mobile application push notifications are enabled (on) or disabled (off). On — Enables mobile application push notifications to receive alerts and messages. Off — Disables mobile application push notifications to stop receiving alerts and messages. Default: Off Edition: Professional and Enterprise

System Setting	More Information
Save Workbook Thumbnail	To help people identify workbook content, Oracle Analytics can display thumbnail images for workbooks on the Home page. The information that's shown in these thumbnails is blurred to protect sensitive data from being exposed to users that don't have the same access as data authors. This setting overrides any Save thumbnails value set in the Workbook Properties dialog at the individual workbook level. Note This setting doesn't apply to watchlists because they don't use thumbnails. Instead, watchlists display miniaturized visualizations that reload whenever you refresh the Home page. • On — Display blurred workbook thumbnails on the Home page. If this setting enabled (on), workbook owners can hide the thumbnail for individual workbooks if they need to. • Off — Don't display any workbook thumbnails on the Home page. Instead, show the standard icon for all workbooks. Default: On Edition: Professional and Enterprise
User Inactivity Timeout (minutes)	Specifies the number of minutes users are inactive before their browser or mobile connection must be re-authenticated. • Valid Values: 5 - 480 • Default: 60 • Edition: Professional and Enterprise
Sign Out Inactive Users Automatically	Specifies whether to automatically sign out users after the inactivity timeout is reached. • On — Users are automatically signed out when the inactivity timeout is reached. • Off — Users remain signed in even if the inactivity timeout is reached. • Default: Off • Edition: Professional and Enterprise

System Setting	More Information
Export Data to CSV and Tab-Delimited Files as Text	Specifies if leading apostrophes are added when data is exported to CSV or tab-delimited files, so all fields are treated as text. • On — Leading apostrophes are automatically added to CSV and tab-delimited files during exports. • Off — Data is exported to CSV files as-is.  Caution When Off, opening exported CSV files may invoke unwanted formulas.  Note This setting applies only to visualizations and analyses. It doesn't apply to pixel-perfect reports. Default: Off Edition: Professional and Enterprise
URL for Browser Script Actions	Specifies the URL for the JavaScript file containing custom Browser Script Actions. Edition: Enterprise only

System Setting	More Information
Allow HTML/JavaScript/CSS Content	Determines whether users can apply and save HTML, JavaScript, and CSS markup in various text fields for analyses and dashboards, and how any previously saved markup is used. • Always — Enables users to apply markup. Displays the Contains HTML/JavaScript/CSS Markup option in dialogs where additional formatting might be useful. For example: – For analyses: Various dialogs in the analysis editor, Analysis Properties dialog, Column Properties (Column Format) dialog, Edit Column Formula dialog, Narrative dialog, Ticker dialog, Static Text dialog, and New Calculated Measure dialog. – For dashboards: Various dialogs in the dashboard editor, Text Properties dialog, and Edit Header and Edit Footer dialogs (under Print and Export Options). • Never — Prevents users from applying markup. Hides the Contains HTML/JavaScript/CSS Markup option. Users can only enter plain text. Oracle Analytics ignores any markup that users previously entered and saved for their analyses and dashboards. • HTML Only — Enables users to apply HTML markup. Displays the Contains HTML/JavaScript/CSS Markup option in dialogs where additional formatting might be useful but only safe HTML is allowed (no JavaScript or CSS). When an analysis or dashboard opens, Oracle Analytics sanitizes any markup that users have entered and applies only the HTML markup. • On Open — Prevents users from applying additional markup (existing markup is retained). Hides the Contains HTML/JavaScript/CSS Markup option so users can enter only plain text. Any previously saved markup for analyses and dashboards continues to be applied. Note: The On Open option was previously named "Off". Edition: Enterprise only

Analytic Content Options

You use these options to set defaults and customizations for dashboards, analyses, and reports. For example, you can configure the analysis editor to open by default to the Criteria tab or the Results tab.

System Setting	More Information
Answers Subject Area Sorting Order	Sets the default sort order for subject area content trees. Users can override this default setting in the My Account: Subject Area Sort Order dialog. • asc — Sorts A to Z. • desc — Sorts Z to A. • rpdc — Uses the subject area sort order specified in the original analyses. Valid Values: asc, desc, rpdc Default: rpdc Edition: Enterprise only
URL for Blocking Queries in Analyses	Specifies the URL for the JavaScript file to validate query criteria and block queries. Edition: Enterprise only

System Setting	More Information
Custom Links XML	Specifies the XML code containing Classic Home page header customizations. You can use this XML code to customize the global header section of the Home page to better meet the needs of your users. For example, you can disable certain links or add custom ones. Edition: Enterprise only
Writeback Template XML	Defines the XML configuration for performing writeback on data elements. For example, you can use an XML template to enable users of a dashboard page or an analysis with the ability to modify, or write back, the data that they see in a table view. Edition: Enterprise only
Answers Editor Start Tab	Specifies whether the analysis editor opens by default to the Criteria tab or the Results tab. This setting applies when users click an Edit link for an analysis from a dashboard, the Home page, or the Catalog page. Users can override this default setting by specifying the Full Editor option in the My Account dialog. • answerResults — Opens the analysis editor by default to the Results tab. • answerCriteria — Opens the analysis editor by default to the Criteria tab. Valid Values: answerResults, answerCriteria Default: answerResults Edition: Enterprise only
Analytics Publisher Reporting Toolbar Mode	Configures an alternate toolbar for pixel-perfect reports that are included in a dashboard. • 1 — Doesn't display a toolbar for pixel-perfect reports. • 2 — Displays the URL to the report without the logo, toolbar, tabs, or navigation path. • 3 — Displays the URL to the report without the header or any parameter selections. Controls such as Template Selection, View, Export, and Send are still available. • 4 — Displays the URL to the report only. No other page information or options are displayed. • 6 — Displays parameter prompts for the report in a toolbar. Valid Values: 1,2,3,4,6 Default: 1 Edition: Enterprise only

Format Options

You use these options to configure default currency and time zone settings for analyses and dashboards.

System Setting	More Information
Default Data Offset Time Zone	Specifies a time zone offset of the original data that users see in analyses and dashboards. Enter an offset value that indicates the number of hours away from Greenwich Mean Time (GMT) time. For example, to display values in United States Eastern Standard Time (EST), which is Greenwich Mean Time (GMT) - 5 hours, enter the value GMT-05:00 or the equivalent value in minutes -300. If you don't set this option, no time zone conversion occurs because the value is "unknown". Specifying a different offset value for each user If you want to specify a different offset value where session variables can be used (for example, expressions, calculations), don't use the Default Data Offset Time Zone setting. Instead, set the system session variable DATA_TZ in the semantic model. Edition: Enterprise only
Currencies XML	Defines the default currency that's displayed for currency data in analyses and dashboards. For example, you can change from American dollars (\$) to Euros (E). Edition: Enterprise only
Default User Preferred Time Zone	Specifies a default preferred time zone that users see in analyses and dashboards before they select their own in the My Account Preferences dialog. If you don't set this option, Oracle Analytics uses the local time zone. Specifying a different time zone for each user If you want to specify a different offset value where session variables can be used (for example, expressions, calculations), don't use the Default User Preferred Time Zone setting. Instead, set the system session variable TIMEZONE in the semantic model. Edition: Enterprise only
Default Time Zone for Date Calculations	Specifies the time zone used for evaluating date calculations such as getting the current date/time, truncating datetime values to a date, and extracting time fields from date/time expressions. Edition: Professional and Enterprise
User Currency Preferences XML	Determines whether users see a Currency option in their My Account preferences dialog and the list of currencies available to them. If you provide the Currency option, users can select in which currency they prefer to view columns of currency data in analyses and dashboards. Edition: Enterprise only

Prompt Options

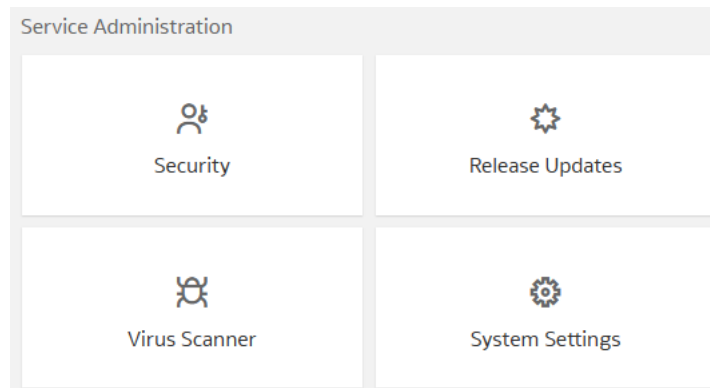
You use these options to configure prompt behavior in analyses and dashboards. For example, you can enable search results to automatically display as highlighted when users enter search parameters, without the need to click **Search**.

System Setting	More Information
Auto Apply Dashboard Prompt Values	Enables the option to hide the Apply button so that prompt values can be applied without clicking any button. If this is property is On: - Displays the Show Apply Button and Show Reset Button fields in the Edit Page Settings dialog. - Displays the Prompts Apply Buttons and Prompts Reset Buttons fields in the Dashboard Properties dialog. - Displays the Prompt Buttons on Current Page option on the dashboard builder's Tools menu. Default: On Edition: Enterprise only
Support Auto Complete	Enables or disables the auto-complete functionality available in prompts. On — Enables auto-complete, which means that the Prompts Auto-Complete field is displayed and set to On in the My Account dialog and in the Dashboard Properties dialog. Off — Disables auto-complete, which means that the auto-complete fields in the My Account and Dashboard Properties dialogs aren't available. Default: On Edition: Enterprise only
Case Insensitive Auto Complete	Specifies whether, when a user enters a prompt value in analyses and dashboards, the auto-complete functionality is case-insensitive. On — Case isn't considered when a user enters a prompt value such as "Oracle" or "oracle." Off — Case is considered when a user enters a prompt value, so the user must enter "Oracle" and not "oracle" to find the Oracle record. Default: On Edition: Enterprise only
Show Null Value when Column is Nullable	Specifies whether to show the term "NULL" at runtime in the column prompt above the column separator in the drop-down list when the database allows null values. always — Always shows the term "NULL" above the column separator in the drop-down list. never — Never shows the term "NULL" in the drop-down list. asDataValue — Displays the data value in the drop-down list, not the term "NULL" above the separator in the drop-down list. Valid Values: always, never, asDataValue Default: always Edition: Enterprise only
Auto Search on Prompt Value Search Dialog	Enables search results to automatically display and highlight when users enter search parameters, without the need to click Search. Default: On Edition: Enterprise only

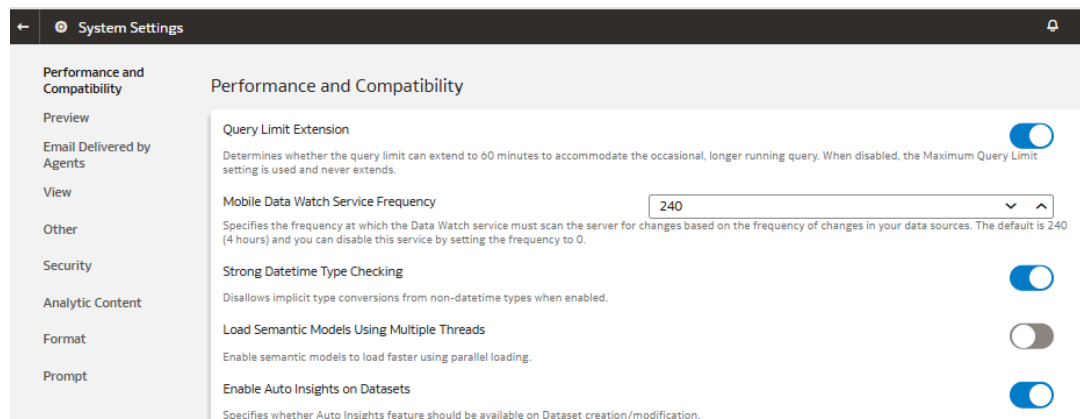
Set Advanced Options

Use the service instance console to set advanced options for Oracle Fusion Data Intelligence.

1. In Oracle Fusion Data Intelligence, click **Console**.
2. Under **Service Administration**, click **System Settings**.



3. On the System Settings page, update the toggle option for the applicable advanced option.



4

Configure Oracle Fusion Data Intelligence Data

As the cloud account administrator with the Functional Administrator or System Administrator application role, you specify the data load and reporting configuration details, and create data pipelines for functional areas that determine how the source data from Oracle Fusion Cloud Applications is loaded and displayed in the data warehouse.

For example, you might specify the Initial Extract Date as January 1, 2019, specify the global currency as US Dollars (USD), and select the exchange rate to convert transactions to the global currency.

Note

The times visible in the Console are in local time zone. However, Oracle Fusion Data Intelligence stores the values for the **Warehouse Refresh Date Time** and **Scheduled Date** in the Coordinated Universal Time (UTC) in the autonomous data warehouse.

Any data you load into the autonomous data warehouse in Oracle Fusion Data Intelligence is subject to the data access controls that may not always match those in the source system. For example, if User1 doesn't have the rights to access some data in your source system, then when you bring that data over to the autonomous data warehouse in Oracle Fusion Data Intelligence, this User1 can access that particular data. If you want to have the same controls on the data, then you must ensure that this particular User1 has the same data access rights as your source system in your Oracle Fusion Data Intelligence user setup.

After every data pipeline load, the system clears the cache in the back-end as a standard step. You don't have to take any action.

Topics:

- [Typical Workflow to Configure Data](#)
- [About Data Pipelines for Functional Areas](#)
- [About Data Refresh Performance](#)
- [About Pipeline Parameters](#)
- [Set Up the Pipeline Parameters](#)
- [Create a Data Pipeline for a Functional Area](#)
- [Edit a Data Pipeline for a Functional Area](#)
- [Activate a Data Pipeline for a Functional Area](#)
- [About Global Parameters](#)
- [Set Up the Global Report Parameters](#)
- [About Reporting Configurations](#)
- [Set Up the Reporting Configurations for Enterprise Resource Planning](#)

- [Set Up the Reporting Configurations for Human Capital Management](#)
- [Set Up the Reporting Configurations for Supply Chain Management](#)
- [Deactivate a Data Pipeline for a Functional Area](#)
- [Delete a Data Pipeline for a Functional Area](#)
- [Refresh a Data Pipeline for a Functional Area](#)
- [Reload Data for a Data Pipeline](#)
- [Reset the Data Warehouse](#)
- [Reset the Cache](#)
- [Reset and Reload the Data Source](#)
- [View Load Request History](#)
- [View the Audit Log](#)
- [View Records Rejected in Extraction](#)
- [About Augmenting Your Data](#)
- [Create a Dimension Alias](#)
- [Connect to an Autonomous Data Warehouse](#)
- [Manage Data Connections](#)
- [Disable the Data Pipeline](#)
- [View Notifications and Emails](#)
- [Enable Event Notifications \(Preview\)](#)
- [Schedule Frequent Refreshes of Data](#)
- [Schedule Periodic Full Reload of Functional Area Data](#)
- [Schedule Frequent Refreshes of Warehouse Tables \(Preview\)](#)
- [Override Data Pipeline Schedules for Functional Areas \(Preview\)](#)
- [Prioritize Datasets for Incremental Refresh \(Preview\)](#)
- [Extend Data with Custom Data Configurations](#)
- [Schedule Data Maintenance](#)

Typical Workflow to Configure Data

Follow these tasks as a guide to configure Oracle Fusion Data Intelligence data.

Task	Description	More Information
Set up the pipeline parameters	Set up the pipeline parameters for your data model file before running your data pipelines for the functional areas.	Set Up the Pipeline Parameters
Create a data pipeline for a functional area	To start analyzing your Oracle Fusion Cloud Applications data, create data pipelines for the functional areas to copy data to the data warehouse.	Create a Data Pipeline for a Functional Area

Task	Description	More Information
Edit a data pipeline for a functional area	You can change any details of your data pipelines for the functional areas prior to activating them.	Edit a Data Pipeline for a Functional Area
Activate a data pipeline for a functional area	You must activate the data pipeline for a functional area to run and load data into the data warehouse.	Activate a Data Pipeline for a Functional Area
Set up the global report parameters	As part of the reporting configurations, specify the parameter that you want to use across your Oracle Fusion Data Intelligence offerings. You can set up this parameter only after activating a data pipeline for a functional area.	Set Up the Global Report Parameters
Set up reporting configurations	Set up the reporting configurations for your data model file after activating a data pipeline for a functional area. Based on the functional area for which you've activated a data pipeline, you see the applicable reporting configurations. For example, if you've activated a data pipeline for a functional area in Oracle Fusion ERP Analytics, then you see the reporting configurations applicable for Oracle Fusion ERP Analytics.	Set Up the Reporting Configurations for Enterprise Resource Planning Set Up the Reporting Configurations for Human Capital Management
Deactivate a data pipeline for a functional area	You can deactivate all the incremental set up and ETL jobs of data pipelines for the functional areas.	Deactivate a Data Pipeline for a Functional Area
Delete a data pipeline for a functional area	You can delete data pipelines for the functional areas prior to activating them.	Delete a Data Pipeline for a Functional Area
Refresh a data pipeline for a functional area	Perform this action to refresh the data for the selected functional area.	Refresh a Data Pipeline for a Functional Area
Reload a data pipeline for a functional area	You can reset an activated data pipeline for a functional area. Resetting the data pipeline deletes all data from your data warehouse.	Reload Data for a Data Pipeline
View load request history	View the load request history by functional area, load type, and status.	View Load Request History
Augment your data	Augment your reports by using datasets that you create with specific columns from various data stores.	Augment Your Data

About Data Pipelines for Functional Areas

Data pipelines for functional areas load data specific to a functional area into the data warehouse.

These pipelines hold configuration parameters specific to a functional area such as General Ledger functional area under Finance and Sales functional area under NetSuite.

Allowed Actions for Data Pipelines

Here's a list of the actions allowed for data pipelines when they are in various states. This information enables you to know which actions you can and can't perform when a data pipeline is in a particular state.

Pipeline status	Available actions	Additional information
Saved	Edit and Delete	You can activate a data pipeline using the Edit wizard or can delete the data pipeline.
InActive	Edit, Activate, and Delete	You can activate a data pipeline using the Edit wizard or can delete the data pipeline.
Activation Scheduled	Edit and Delete	If you edit a scheduled data pipeline, then the previous data pipeline is unscheduled and a new data pipeline is scheduled.
Activation in Progress	View	You can view the data pipeline in Read-only mode.

Pipeline status	Available actions	Additional information
Activation Complete	Edit, Delete, Reset, Deactivate, and Refresh Data	You can perform these actions: - Edit only the Attribute Selection, Column Options, Entity Options, Dimension Keys, Schedule, and Save steps. - After the Edit action is completed, the data pipeline is ready for Refresh Data or AdHoc run. View the information icon that's displayed. - Perform a reset that marks the data pipeline for data reset and view the displayed information icon. The next incremental job performs the actual action or you can perform the Refresh Data action to immediately reset the data. - Refresh the data. If an incremental job isn't running, then the Refresh Data action initiates an AdHoc run immediately to refresh the data. It performs a full refresh if you had edited the data pipeline or performed a reset earlier. - Deactivate the data pipeline to change its state to InActive.

About Data Refresh Performance

Oracle strives constantly to improve performance for data loading in pipelines.

The performance of loading data for your instance will vary. The time to complete data processing, both full warehouse loads and incremental data loads, depends on various factors. A data pipeline load includes the following:

- Extracting data from the Oracle Fusion Cloud Applications.
- Loading the data into Oracle Autonomous Data Warehouse.
- Transforming the data into the prebuilt schema.

The time to complete each of these steps is determined by various factors including:

- The availability of the source system.
- The size and complexity of the source data.
- The activated functional areas.
- Custom SQL queries that impact Oracle Autonomous Data Warehouse.
- Your queries running concurrently.

- Customizations made on the source system objects (which require a full load for those objects).
- The patching of source and target systems.

For daily refresh of data and pipeline execution to update all the resulting key metrics and dashboards, the execution time depends on many factors such as the amount of data getting incrementally refreshed. In order to plan your downstream workflow needs, ensure to perform these actions:

- Turn on the pipeline execution estimation using the Data Refresh Estimate preview feature on the Enable Features page. The estimated refresh completion details are visible on the Pipeline Settings page.
- Trigger any subsequent operations based on the estimated refresh completion time.
- Reach out to Oracle Support if the refresh isn't completed by the estimated completion time.
- Subscribe to Event Notifications, so you can receive an email notification as soon as there is any issue with the pipeline execution. See [Enable Event Notifications \(Preview\)](#).

Data refresh is typically completed daily unless the data pipeline jobs are turned off or stuck. You can observe data loading times for your specific source and warehouse configuration to estimate the time it takes for an incremental daily refresh and for a full warehouse load. This information can help you plan for the optimal time in the day to start your daily data refresh. You may want to schedule the data load to run during off-peak hours, for example, run initial full warehouse loads during weekends and incremental loads during weeknights to ensure that users aren't impacted.

You can view the estimated refresh completion time for daily pipelines on the Pipeline Settings page in the Estimated Refresh Completion field as a Preview feature. This enables you to plan your tasks in the application.

Data Pipeline

Data Pipeline Status	 Enabled
Last Refresh Date	May 26, 2023 10:32:48 AM IST
Estimated Refresh Completion	May 27, 2023 03:30:00 AM IST

The incremental data refresh process refreshes objects as Primary and Secondary datasets. The Primary datasets are objects that are part of the core pipeline and sourced directly from Oracle Fusion Cloud Applications and needed for core content (for example, transactions and dimensions). The Secondary datasets are based on data that require additional processing (for example, datasets used in prebuilt machine learning use cases). The incremental refresh process refreshes the Primary datasets first to ensure essential data is made available quickly. The system predicts and displays the incremental load completion time but doesn't do the same for Secondary datasets. If you haven't activated content that has Secondary datasets, then you won't see this information on the Pipeline Settings page in the Data Pipeline section.

About Pipeline Parameters

The pipeline parameters apply to all functional areas.

The pipeline parameters that apply at the functional area levels are currency, exchange rate type, and initial extraction date and time to schedule the incremental job to run.

- **Analytics Language:** Specify the language in which you want the data to be extracted. The language that you can select in the **Analytics Language** parameter is based on the initialized Oracle Fusion Cloud Applications languages. You can only select one language at a time. Changes to this global parameter don't take effect immediately even after next refresh and may cause inconsistent results because the refresh brings in only the incremental data in the selected language. You must reset the warehouse to ensure that the changes are effective.
- **Analytics Currency:** Currency conversions are required because your business might have transactions captured in multiple currencies. To create meaningful enterprise-wide analyses, you must use a common currency. Oracle Fusion Data Intelligence allows you to specify an analytics currency to store amounts in the data warehouse using this common currency. The load process checks the specified currency value and determines the corresponding exchange rate based on the exchange rate basis defined for each subject area to convert the amounts to the analytics currency. You can review the details of the exchange rate basis used in each subject area in the respective subject area metric details page. Analytic currency isn't a substitute for translation or reporting ledger specific requirements related to Reconciliation or Statutory reporting. For example, if your organization is a multinational enterprise that has its headquarters in the United States, you probably want to choose **US dollars** (USD) as the analytics currency.
- **Exchange Rate Type:** Specify an exchange rate type that you want to use when converting the transaction amounts to the analytics currency. For example, you may set up **Corporate** as a standard exchange rate across your organization for a stable currency.
- **Initial Extract Date:** Initial extract date is used when you extract data for a full load. Transactional data created after the initial extract date processes and loads to the warehouse. It reduces the initial data load volume. After extracting the data for a functional area, avoid changing the initial extract date. If you need to change the initial extract date, then after changing the date, reset the data warehouse and reactivate the functional areas. See [Reset the Data Warehouse](#).
- **Data Refresh Schedule:** Specify the frequency and when you want the incremental data load to happen. While specifying the timezone, the recommendation is to use city names to handle the daylight savings. For example, instead of selecting timezone such as EST or PST, select Europe/Bucharest or America/Los_Angeles. In this case, the data refresh process calculates the value mentioned in the Time field based on the local time irrespective of daylight savings.

Set Up the Pipeline Parameters

Set up the pipeline parameters for your data model file before running your data pipelines for the functional areas.



[LiveLabs Sprint: How do I configure the Pipeline Parameters?](#)



[LiveLabs Sprint: Change Data Refresh Schedule](#)



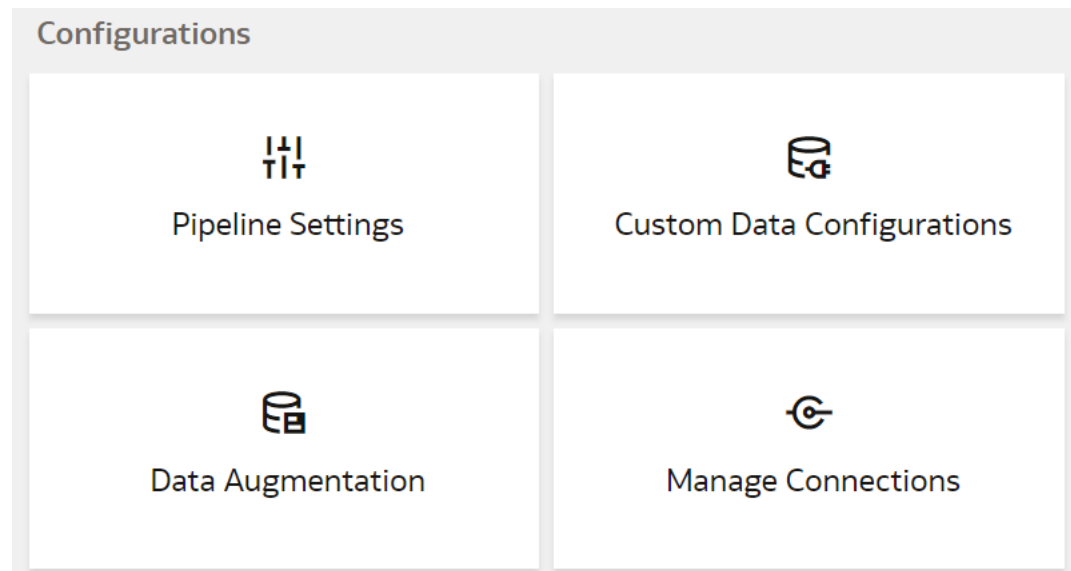
[LiveLabs Sprint: Verify Data Refresh Schedule](#)

Oracle Fusion Data Intelligence releases application updates at regular intervals that are visible on the Release Updates tile of the Console. See [About Application Updates](#). Some of the application updates involve an upgrade of the underlying data model. If a data model upgrade is available at the time that you specify for the daily incremental refresh, then the data model upgrade overrides the incremental refresh for the day. The data model upgrade is a

lengthier process and the data refresh for the specific day may take much longer than the regular daily incremental refresh.

Any country that exercises time change forwards the time by an hour. For example, in the U.S.A., standard time changes to day light saving time on 2nd saturday of March, forwarding the time from 2 am to 3 am. As a result, any refresh schedules set between 2 am to 3 am of a day won't execute on that day. If you need to guarantee daily refresh, then ensure to schedule it either before 2 am or after 3 am.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Data Configuration** under **Application Administration**.
3. On the Data Configuration page, under **Configurations**, click **Pipeline Settings**.



4. On the Pipeline Settings page, under Global Parameters, from the **Analytics Language** list, select the language in which you want to extract the data.

Global Parameters

Analytics Language	American English (US)
Analytics Currency	US Dollar (USD)
Use Fusion Default Exchange Rate Type	NO (N)
Exchange Rate Type	Corporate (Corporate)
Initial Extract Date	Jan 1, 2015

5. From the **Analytics Currency** list, select the currency of the transaction data.
6. In **Use Fusion Default Exchange Rate Type**, specify whether you want to use the default exchange rate type from Oracle Fusion Cloud Applications.
7. From the **Exchange Rate Type** list, select an exchange rate type that you want to use when converting the transaction amounts to the global currency.

8. In **Initial Extract Date**, select the date from which to load the transaction data.
9. Under Data Refresh Schedule, from the **Interval** list, select the frequency of the data refresh. Depending on the selected interval, specify the time, day, and month when you want the incremental data load to happen.

Data Refresh Schedule

Interval	Daily
Time	02:00 PM
Timezone	GMT

10. Click **Save**.

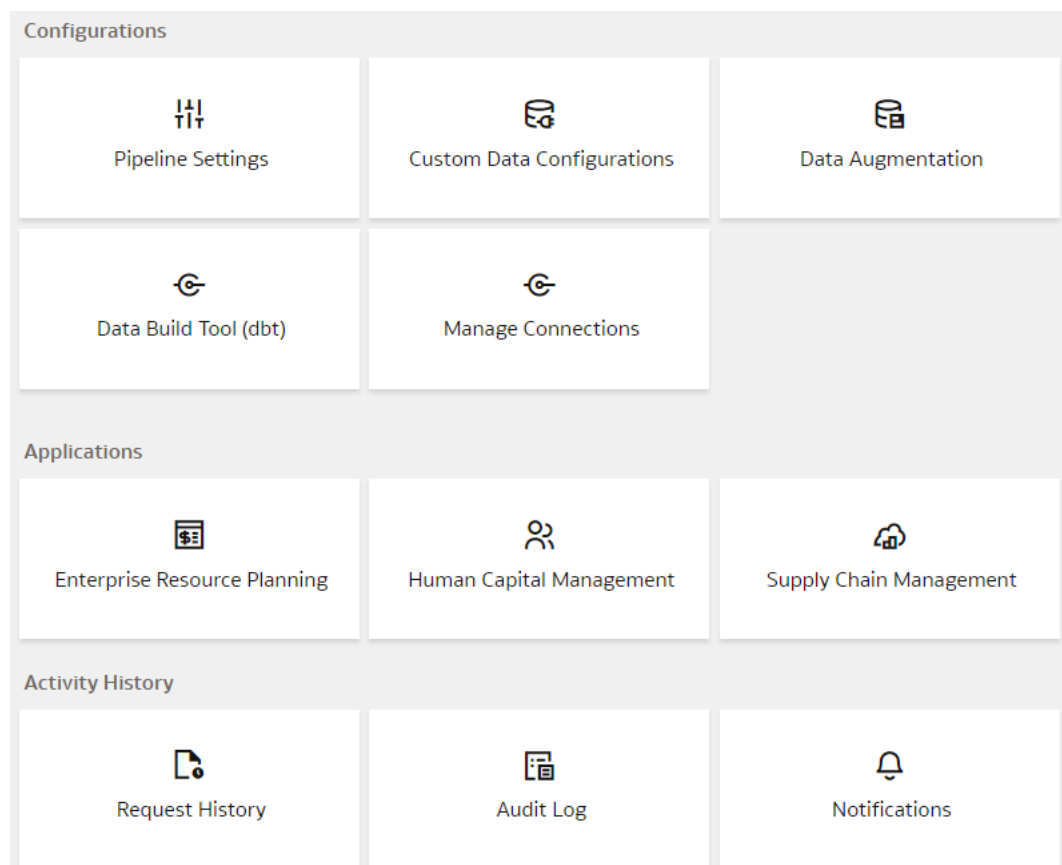
Create a Data Pipeline for a Functional Area

As a functional administrator, create a data pipeline for a functional area to copy data to the data warehouse. Use these steps to select and schedule runs to update the Oracle Autonomous Data Warehouse instance with the latest data.

 [LiveLabs Sprint](#)

Perform this task only after you have set up the pipeline and report parameters. You can schedule an activation of a functional area even if activation of another functional area is in progress. However, you can't update the activation of a functional area that's in progress.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Data Configuration** under **Application Administration**.
3. On the Data Configuration page, click your service. For example, under Applications, click **Enterprise Resource Planning**.



4. On the service page, for example, the Data Configuration: Oracle Financial Analytics page, click **Create**.

Offering	Functional Area	Activated On	Created On	Created By	Updated On
Financial Analytics	Account Reconciliation		Nov 12, 2021 11:47:10 PM IST		Sep 7, 2022 08:16:48 PM IST
Financial Analytics	Accounts Payable	Apr 27, 2022 10:57:11 PM IST	Nov 12, 2021 02:29:13 AM IST		Sep 7, 2022 08:16:48 PM IST
Financial Analytics	Accounts Receivable	Apr 27, 2022 10:57:38 PM IST	Nov 12, 2021 02:29:25 AM IST		Sep 7, 2022 08:16:48 PM IST

5. On the Enterprise Resource Planning page, shown as an example, use the wizard to select your application areas to transfer data to the warehouse, and then click **Next**.

Cancel

1 — 2 — 3 — 4

Select your application areas to transfer data to the warehouse.

Offering

Functional Area

Next >

6. Review the parameters and click one of the options:
 - **Cancel**: To cancel the data pipeline for the functional area.

- **Save:** To save the data pipeline for the functional area but not activate it.
- **Activate:** To schedule when to run the data pipeline for the functional area. See [Activate a Data Pipeline for a Functional Area](#).

Oracle Fusion Data Intelligence extracts data only from the initial extract date that you specify. For example, if the initial extract date is 10th March and you've added data on 9th March in your source, then the data added on 9th won't be part of this data pipeline activation plan. You can see the data pipeline activation plan listed on the Data Configuration page.

Edit a Data Pipeline for a Functional Area

You can change any details of your data pipeline for a functional area prior to activating it.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Data Configuration** under **Application Administration**.
3. On the Data Configuration page, click your service. For example, under Applications, click **Enterprise Resource Planning**.
4. On the service page, for example, the Data Configuration: Oracle Financial Analytics page, click the **Action** menu for the data pipeline for a functional area that you want to edit, and click **Edit**.

Offering	Functional Area	Activated On	Created On	Created By	Updated On	Updated By	Status
Financial Analytics	Account Reconciliation	Apr 27, 2022 10:57:11 PM IST	Nov 12, 2021 11:47:10 PM IST	oracle.com	Sep 7, 2022 08:16:48 PM IST	...	...
Financial Analytics	Accounts Payable	Apr 27, 2022 10:57:11 PM IST	Nov 12, 2021 02:29:13 AM IST	oracle.com	Sep 7, 2022 08:16:48 PM IST	...	...
Financial Analytics	Accounts Receivable	Apr 27, 2022 10:57:38 PM IST	Nov 12, 2021 02:29:25 AM IST	oracle.com	Sep 7, 2022 08:16:48 PM IST	...	...
Financial Analytics	Assets	Apr 27, 2022 10:48:26 PM IST	Nov 16, 2021 07:27:38 PM IST	om	Sep 7, 2022 08:16:48 PM IST	...	...
Financial Analytics	Customer Collections Risk Prediction		Nov 19, 2021 04:07:15 PM IST	im	Sep 7, 2022 08:16:48 PM IST	...	...

5. Make the changes, review the changes, and then click **Save** or **Activate**.

Activate a Data Pipeline for a Functional Area

You must activate the data pipeline for a functional area to run it and load the data into the data warehouse.

Ensure that you don't activate a data pipeline for a functional area in the following situations:

- Load in progress: If an incremental load is in progress.
- An impending load: If an incremental load is scheduled to run in the next hour.
- Exceeded the number of daily refresh requests: The maximum number of ad hoc data refresh requests for the day is four. If you've exceeded this number, then you can submit a request the following day.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Data Configuration** under **Application Administration**.
3. On the Data Configuration page, click your service. For example, under Applications, click **Enterprise Resource Planning**.

- On the service page, for example, the Data Configuration: Oracle Financial Analytics page, click the **Action** menu for the saved data pipeline for the functional area that you want to activate, and click **Edit**.
- Review the details of the data pipeline for the functional area and then click **Activate**.

Cancel

1 2 3 4 Save Activate >

Review your selections and save the functional area activation.

Data Selections:

Global Parameters	
Extend Due Date by Days	0
Analytics Currency	US Dollar
Exchange Rate Type	Corporate
Analytics Language	American English
Initial Extract Date	2016-01-01

- In step 4 of the Data Configuration wizard, select **Scheduled Execution Data** to specify the date and time on which to run the data pipeline for the functional area. Select **Run Immediately** to create and run the data pipeline for the functional area immediately. Click **Finish**.

Cancel

1 2 3 4 Finish

Select when to initiate the functional area activation

☒ Scheduled Execution Date

Asia/Calcutta

Extract Time 09/27/2022 12:00 AM

☐ Run Immediately

Oracle Fusion Data Intelligence runs the data pipeline for the functional area, loads data into your data warehouse, and displays your data pipeline for the functional area on the Data Configuration page. Once data is successfully loaded, the system updates the status of the data pipeline for the functional area to **Activation Completed**.

About Global Parameters

As part of the reporting configurations, you specify a value for the Enterprise Calendar parameter to configure the reporting calendar used in Oracle Fusion Data Intelligence. All time options seen in the reporting layer are based off the calendar that you select as the parameter value.

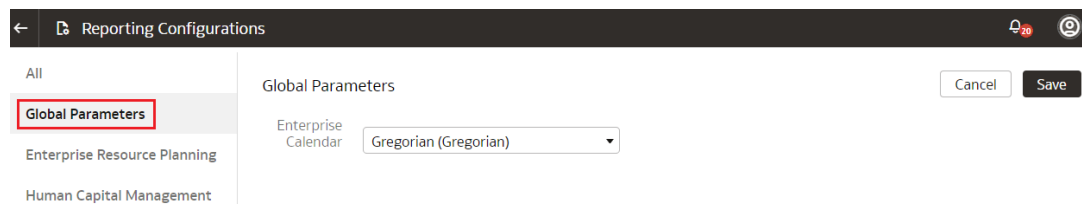
You must activate a data pipeline for a functional area to be able to set up the reporting configurations.

Set Up the Global Report Parameters

Specify the report parameter that you want to use across your Oracle Fusion Data Intelligence offerings.



1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Reporting Configuration** under **Application Administration**.
3. On the Reporting Configuration page, click **Global Parameters**.



4. In the Global Parameters region, select a calendar to configure the reporting calendar used in Oracle Fusion Data Intelligence.
5. Click **Save**.

About Reporting Configurations

Set up the reporting configurations to specify how data is presented on the key metrics, workbooks, visualizations, dashboards, and reports in Oracle Fusion Data Intelligence.

You must activate a data pipeline for a functional area to be able to set up the reporting configurations. Based on the functional area for which you've activated a data pipeline, you see the applicable reporting configurations. For example, if you've activated a data pipeline for a functional area in Oracle Fusion ERP Analytics, then you see the reporting configurations applicable for Oracle Fusion ERP Analytics.

Topics

- [About the Reporting Configuration for Enterprise Resource Planning](#)
- [About the Reporting Configuration for Human Capital Management](#)
- [About the Reporting Configuration for Supply Chain Management](#)

About the Reporting Configuration for Enterprise Resource Planning

Specify a value for the Allow Financial Category Upload parameter as you configure reporting for Enterprise Resource Planning.

This parameter provides the ability to upload the financial category in Oracle Fusion Data Intelligence and maintain the mapping independent of Oracle Fusion Cloud Applications. The default value for this parameter is No. If you retain the default value, then Oracle Fusion Data Intelligence uses the financial Category mapping defined in Oracle Fusion Cloud Applications.

About the Reporting Configuration for Human Capital Management

You specify values for these parameters as you configure reporting for Human Capital Management:



- Human Capital Management Analytics parameters:
 - Worker Age Band: This parameter specifies the grouping of the ages of workers by certain ranges. For example, less than 30, 30 to 50, and greater than 50 years. Key metrics and analyses related to the headcount of the workers use these age bands. For example, the percentage of workers who are aged 50 and older.
 - Tenure Band: This parameter specifies the grouping of the service years of workers by certain ranges. For example, less than 5, 5 to 10, and greater than 10 years. Key metrics and analyses related to the headcount or diversity factors of the workers use these bands. For example, you can use this parameter to answer a business question such as "Show me the percentage of workers in my organization of various years of service."
 - Months of Service Band: This parameter specifies the grouping of the service months of workers by certain ranges. For example, less than 6 months, 6 to 12 months, and greater than 12 months. Key metrics and analyses related to the headcount or diversity factors of the workers use these bands. For example, you can use this parameter to answer a business question such as "Show me the number of hires grouped by their service months."
 - Performance Band: This parameter specifies the grouping of the performance ratings of workers by certain ranges. For example, high, medium, and low. Key metrics and analyses related to the performance rating of the workers use these performance bands. For example, you can use this parameter to answer a business question such as "Who are the top performers for the current review period in my organization."
 - Potential Band: This parameter specifies the grouping of potential ratings under various headers. For example, High, Medium, and Low. You can configure the rating ranges under these bands.
 - Compa-Ratio Band: This parameter specifies the grouping of worker compa-ratios under various headers. For example, Band 1 with range as 0-80 and Band 2 with range as 81-120.
 - Risk of Loss Band: This parameter specifies the grouping of risk of loss ratings under various headers. For example, High, Medium, and Low. You can configure the rating ranges under these bands.
 - Impact of Loss Band: This parameter specifies the grouping of impact of loss ratings under various headers. For example, High, Medium, and Low. You can configure the rating ranges under these bands.
 - Custom Performance Band: This parameter specifies the grouping of the performance ratings of workers by certain ranges and names defined by you. The other performance band leverages the predefined band names like high, low, and medium. However, in the custom performance band, you can specify custom names and the ranges for the performance ratings. Key metrics and analyses related to the performance rating of the workers can use these custom performance bands. For example, you can use this parameter to answer a business question such as "Who are the outstanding performers for the current review period in my organization." In this

example, "Outstanding" could be one of the band names with certain performance rating range.

- Custom Potential Band: This parameter specifies the grouping of the potential ratings of workers by certain ranges and names defined by the customers. The other potential band leverages the predefined band names like high, low, and medium. However, in the custom potential band, you can specify custom names and the ranges for the potential ratings. Key metrics and analyses related to the potential rating of the workers can use these custom potential bands. For example, you can use this parameter to answer a business question such as "What percentage of the workers have been rated as uber high in their potential." In this example, "uber high" could be one of the band names with certain potential rating range.
- Learning Overdue Days Band: This parameter specifies the grouping of the learning records by the number of days that its overdue. For example, you can use this parameter to answer a business question such as "Provide the number of learning enrolments grouped by the number of days that they are overdue for completion."
- Workforce Management parameter specifies the reason for reorganization to compute the headcount gain or losses based on the reorganization factor.
- Succession Management parameter specifies the grouping of readiness levels of worker for their change in career under various headers.

About the Reporting Configuration for Supply Chain Management

You specify values for these parameters as you configure reporting for Supply Chain Management:

For the Inventory FSN Analysis parameters under Supply Chain Management, you can configure the "Cumulative Annual Usage Percentage" value range under the FSN Analysis band:

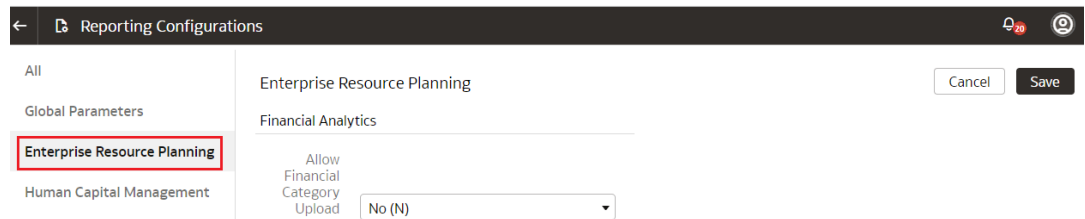
- Fast Moving(F): This parameter is the grouping of Items as "Fast Moving" based on the "Cumulative Annual Usage Percentage" values by certain range specified in the Min(%) and Max(%) columns. Example: If cumulative annual usage value(%) is between 0% to 90% , then classify the item as Fast (F).
- Slow Moving(S): This parameter is the grouping of Items as "Fast Moving" based on the "Cumulative Annual Usage Percentage" values by certain range specified in the Min(%) and Max(%) columns. Example: If cumulative annual usage value(%) is between 91% to 97% , then classify the item as Slow (S).
- Non Moving(N): This parameter is the grouping of Items as "Fast Moving" based on the "Cumulative Annual Usage Percentage" values by certain range specified in the Min(%) and Max(%) columns. Example: If cumulative annual usage value(%) is between 98% to 100% , then classify the item as Non-moving (N).
- The values in the Min(%) and Max(%) columns shouldn't be greater than 100.

Set Up the Reporting Configurations for Enterprise Resource Planning

Set up the reporting configurations for the Enterprise Resource Planning data model file to specify how the Enterprise Resource Planning-related data is presented on the key metrics, workbooks, visualizations, dashboards, and reports.



1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Reporting Configuration** under **Application Administration**.
3. On the Reporting Configuration page, click **Enterprise Resource Planning**.



4. Optional: On the Enterprise Resource Planning page, in **Allow Financial Category Upload**, select **Yes** to enable the upload of financial categories to the applicable environment.
5. Click **Save**.

Set Up the Reporting Configurations for Human Capital Management

Set up the report parameters for your data model file to specify how the Human Capital Management-related data is presented on the key metrics, workbooks, visualizations, dashboards, and reports.

You can use or update the default parameter values where available or set applicable values that meet your business requirements. The Custom Performance and Custom Potential bands don't work with metrics that use the performance ratings in their computation. For example, metrics such as High Performer Turnover, High Performer Retention, and Top Talent Worker Count. Additionally, the 9-box visualization of Performance versus Potential matrix doesn't work with these bands.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Reporting Configuration** under **Application Administration**.
3. On the Reporting Configuration page, click **Human Capital Management**.

4. On the Human Capital Management page, for **Worker Age Band**, specify the age range of the workers.
5. For **Tenure Band**, specify the range of service years of the workers.
6. For **Months of Service Band**, specify the range of service months of the workers.
7. For **Performance Band**, specify the range of worker performance ratings.
8. For **Potential Band**, specify the range of potential ratings for the workers.
9. For **Compa-Ratio Band**, specify the range of compa-ratio values for the workers.
10. For **Risk of Loss Band**, specify the range of risk of loss ratings for the workers.
11. For **Impact of Loss Band**, specify the range of impact of loss ratings for the workers.
12. For **Custom Performance Band**, specify the custom band names and the range of worker performance ratings.
13. For **Custom Potential Band**, specify the custom band names and the range of worker potential ratings.
14. For **Learning Overdue Days Band**, specify the band names and the range of overdue days.
15. In the Workforce Management region, select one or more reasons for reorganization to compute the headcount gain or losses based on the reorganization factor.
16. In the Succession Management region, select the readiness value for each of the readiness levels of the workers.
17. Click **Save**.

Set Up the Reporting Configurations for Supply Chain Management

Specify the report parameters for your data model file to specify how the Supply Chain Management-related data is presented on the visualizations, dashboards, and reports.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Reporting Configuration** under **Application Administration**.

- On the Reporting Configuration page, under the Basic tab, click **Supply Chain Management**.

Reporting Configuration

Basic Advanced

Supply Chain Management

Inventory FSN Analysis

FSN Analysis Band	Name	Min(%)	Max(%)	ⓘ
Fast moving (F)		0	90	
Slow moving (S)		91	97	
Non-moving (N)		98	100	

Cancel Save

- In the Inventory FSN Analysis region:
 - Fast Moving(F): Enter the values in the Min(%) and Max(%) columns to specify the range for cumulative annual usage percentage for Fast Moving items.
 - Slow Moving(S): Enter the values in the Min(%) and Max(%) columns to specify the range for cumulative annual usage percentage for Fast Moving items.
 - Non Moving(N): Enter the values in the Min(%) and Max(%) columns to specify the range for cumulative annual usage percentage for Fast Moving items.
- Click **Save**.

Deactivate a Data Pipeline for a Functional Area

You can deactivate all the incremental setup and jobs of a data pipeline for a functional area.

Deactivating a data pipeline for a functional area ensures that future incremental jobs don't select the specific functional area when the data pipeline runs. You can view the deactivated status of the data pipeline on the Data Configuration page.

- Sign in to your service.
- In Oracle Fusion Data Intelligence **Console**, click **Data Configuration** under **Application Administration**.
- On the Data Configuration page, click your service. For example, under Applications, click **Enterprise Resource Planning**.
- On the service page, for example, the Data Configuration: Oracle Financial Analytics page, click the **Action** menu for the active data pipeline for the functional area that you want to deactivate, and click **Deactivate**.

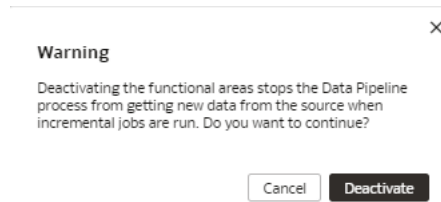
Enterprise Resource Planning

All Offerings Type to Filter

Scheduled Run Time: 6:00 AM (GMT)

Offering	Functional Area	Activated On	Created On	Created By	Updated On	Updated By	Status	Action
Financial Analytics	Account Reconciliation		Nov 12, 2021 11:47:10 PM IST		Sep 7, 2022 08:16:48 PM IST		Active	Cancel
Financial Analytics	Accounts Payable	Apr 27, 2022 10:57:11 PM IST	Nov 12, 2021 02:29:13 AM IST		Sep 7, 2022 08:16:48 PM IST		Active	Deactivate
Financial Analytics	Accounts Receivable	Apr 27, 2022 10:57:38 PM IST	Nov 12, 2021 02:29:25 AM IST		Sep 7, 2022 08:16:48 PM IST		Active	Deactivate
Financial Analytics	Assets	Apr 27, 2022 10:48:26 PM IST	Nov 16, 2021 07:27:38 PM IST		Sep 7, 2022 08:16:48 PM IST		Active	Deactivate
Financial Analytics	Customer Collections Risk Prediction		Nov 19, 2021 04:07:15 PM IST		Sep 7, 2022 08:16:48 PM IST		Active	Deactivate
Financial Analytics	Employee Expense	Apr 27, 2022 10:48:06 PM IST	Nov 12, 2021 02:29:01 AM IST		Sep 7, 2022 08:16:48 PM IST		Active	Deactivate

- Review the warning message and then click **Deactivate**.



Delete a Data Pipeline for a Functional Area

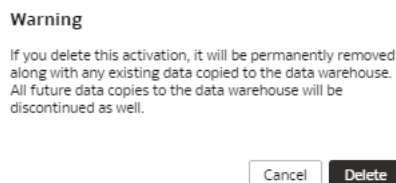
You can delete a data pipeline for a functional area prior to activating it.

Deleting a data pipeline for a functional area permanently removes it, so data refreshes of the warehouse won't occur.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Data Configuration** under **Application Administration**.
3. On the Data Configuration page, click your service. For example, under Applications, click **Enterprise Resource Planning**.
4. On the service page, for example, the Data Configuration: Oracle Financial Analytics page, click the **Action** menu for the data pipeline for the functional area that you want to delete, and click **Delete**.

Offering	Functional Area	Activated On	Created On	Created By	Updated On	Updated By	Status
Financial Analytics	Account Reconciliation	Nov 12, 2021 11:47:10 PM IST	Nov 12, 2021 02:29:13 AM IST	xcle.com	Sep 7, 2022 08:16:48 PM IST	o	...
Financial Analytics	Accounts Payable	Apr 27, 2022 10:57:11 PM IST	Nov 12, 2021 02:29:13 AM IST	xcle.com	Sep 7, 2022 08:16:48 PM IST	o	Activation Complete
Financial Analytics	Accounts Receivable	Apr 27, 2022 10:57:38 PM IST	Nov 12, 2021 02:29:25 AM IST	xcle.com	Sep 7, 2022 08:16:48 PM IST	o	Action
Financial Analytics	Assets	Apr 27, 2022 10:48:26 PM IST	Nov 16, 2021 07:27:38 PM IST	yi	Sep 7, 2022 08:16:48 PM IST	o	Action
Financial Analytics	Customer Collections Risk Prediction		Nov 19, 2021 04:07:15 PM IST	yi	Sep 7, 2022 08:16:48 PM IST	o	Action

5. Review the warning message and then click **Delete**.



Refresh a Data Pipeline for a Functional Area

Refresh an activated data pipeline for a functional area to bring in new data for the selected functional area.



[LiveLabs Sprint](#)

When you refresh the data pipeline, the system executes an incremental load immediately. The next scheduled run could take additional time to complete because of any new data. If you had reset a data pipeline for the functional area before refreshing data, then the system runs a full load immediately for that functional area.

Note

Executing an on-demand data refresh while working on the data could cause temporary inconsistencies.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Data Configuration** under **Application Administration**.
3. On the Data Configuration page, click your service. For example, under Applications, click **Enterprise Resource Planning**.
4. On the service page, for example, the Data Configuration: Oracle Financial Analytics page, click the **Action** menu for the data pipeline for the functional area whose data you want to refresh, and then click **Refresh Data**.

Offering	Functional Area	Activated On	Created On	Created By	Updated On	Updated By	Status
Financial Analytics	Account Reconciliation		Nov 12, 2021 11:47:10 PM IST	racle.com	Sep 7, 2022 08:16:48 PM IST	io	...
Financial Analytics	Accounts Payable	Apr 27, 2022 10:57:11 PM IST	Nov 12, 2021 02:29:13 AM IST	racle.com	Sep 7, 2022 08:16:48 PM IST	io	Activation Complete
Financial Analytics	Accounts Receivable	Apr 27, 2022 10:57:38 PM IST	Nov 12, 2021 02:29:25 AM IST	racle.com	Sep 7, 2022 08:16:48 PM IST	io	...
Financial Analytics	Assets	Apr 27, 2022 10:48:26 PM IST	Nov 16, 2021 07:27:38 PM IST	im	Sep 7, 2022 08:16:48 PM IST	io	...
Financial Analytics	Customer Collections Risk Prediction		Nov 19, 2021 04:07:15 PM IST	m	Sep 7, 2022 08:16:48 PM IST	io	...

5. Review the warning message and then click **Refresh Data**.

Warning

Executing an on-demand data refresh while working on the data may cause temporary inconsistencies. Do you want to continue?

Cancel

Refresh data

Reload Data for a Data Pipeline

When you reload data for a data pipeline, you start the process of completely refreshing the data in the data warehouse for the functional area.

Note

If you're reloading data for a functional area that depends on other functional areas, then you must also reload the data for the dependent functional areas to avoid incremental refresh failures. Alternatively, you can reset and reload the data source rather than reloading data for individual functional areas. See [Reset and Reload the Data Source](#).

To understand dependencies between functional areas refer to:

- Fusion CX Analytics - Offerings and Functional Areas
- Fusion ERP Analytics - Offerings and Functional Areas
- Fusion SCM Analytics - Offerings and Functional Areas

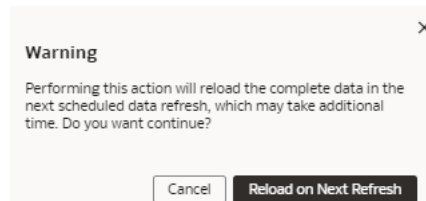
When you issue a request to reload data, the Request History page shows that the request is received and accepted. After you reload the data, the previous data still exists in the data warehouse related to the functional area. On the next data refresh, Oracle Fusion Data Intelligence discards the existing data and loads new data. After reloading the data for the data pipeline, you see the data pipeline for the functional area on the Data Configuration page with the **Completed** status.

In a 24-hour period, you can reload the data for only 4 functional areas's data pipelines.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Data Configuration** under **Application Administration**.
3. On the Data Configuration page, click your service. For example, under Applications, click **Enterprise Resource Planning**.
4. On the service page, for example, the Data Configuration: Oracle Financial Analytics page, click the **Action** menu for the data pipeline for the functional area that you want to reload, and click **Reload Data**.

Offering	Functional Area	Activated On	Created On	Created By	Updated On	Updated By	Status	Action
Financial Analytics	Account Reconciliation	Apr 27, 2022 10:57:11 PM IST	Nov 12, 2021 11:47:10 PM IST	racle.com	Sep 7, 2022 08:16:48 PM IST	.0	Completed	Reload Data, Deactivate, Refresh Data
Financial Analytics	Accounts Payable	Apr 27, 2022 10:57:38 PM IST	Nov 12, 2021 02:29:13 AM IST	racle.com	Sep 7, 2022 08:16:48 PM IST	.0	Completed	Reload Data, Deactivate, Refresh Data
Financial Analytics	Accounts Receivable	Apr 27, 2022 10:57:38 PM IST	Nov 12, 2021 02:29:25 AM IST	racle.com	Sep 7, 2022 08:16:48 PM IST	.0	Completed	Reload Data, Deactivate, Refresh Data
Financial Analytics	Assets	Apr 27, 2022 10:48:26 PM IST	Nov 16, 2021 07:27:38 PM IST	em	Sep 7, 2022 08:16:48 PM IST	.0	Completed	Reload Data, Deactivate, Refresh Data
Financial Analytics	Customer Collections Risk Prediction		Nov 19, 2021 04:07:15 PM IST	in	Sep 7, 2022 08:16:48 PM IST	.0	Completed	Reload Data, Deactivate, Refresh Data

5. Review the warning message and then click **Reload on Next Refresh**.



Reset the Data Warehouse

Reset your data warehouse when your data source instance is refreshed from another environment, for example, when the environment is refreshed from production to a test environment. You may also want to reset the data warehouse when the data becomes corrupt.



Prior to resetting the data warehouse, you must have at least one activated functional area. After resetting the data warehouse, the last refresh date shows the last increment details. You must reactivate all the data pipelines for the functional areas to load data. See [Activate a Data Pipeline for a Functional Area](#)

Note

Your data isn't available until Oracle Fusion Data Intelligence completes all the activations after resetting the data warehouse.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence Console, click **Enable Features**, click Generally Available tab, and then under Pipeline Features, enable **Reset Data Warehouse**.
3. Navigate to **Data Configuration** under **Application Administration** in the **Console**.
4. On the Data Configuration page, under **Configurations**, click **Pipeline Settings**.
5. On the Pipeline Settings page, click **Actions** and then click **Reset Data Warehouse**.



6. Review the warning message, provide the details, and then click **Reset**.

Warning

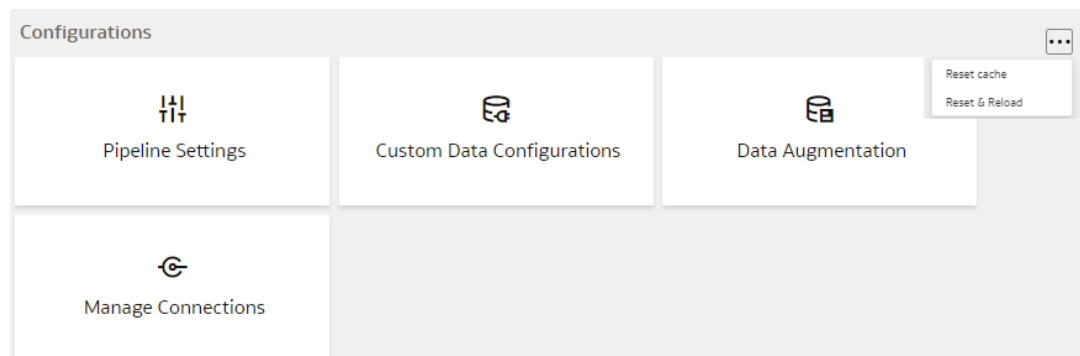
Resetting your data warehouse will delete all your data. This action is irreversible. All the activated functional areas will be moved to Saved state and they need to be reactivated again. Do you want to continue?

Instance Authorized By Name

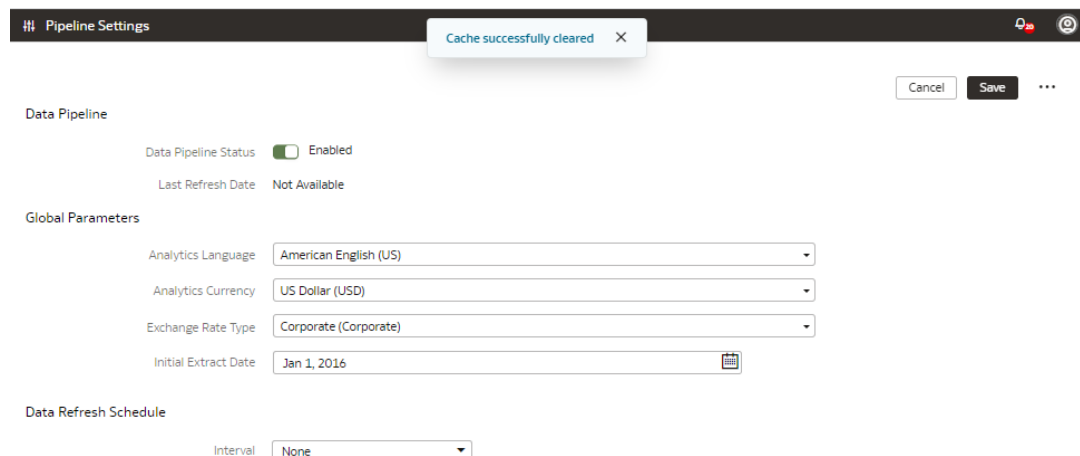
Reset the Cache

The data augmentation source column information is cached in the browser cache and is maintained for a week. If your source has new columns and they don't display in the Data Augmentation wizard, then you can reset the browser cache and retry data augmentation.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Data Configuration** under **Application Administration**.
3. On the Data Configuration page, click the **Reset Cache** menu option.



You see a message that cache has been cleared successfully.



Reset and Reload the Data Source

As a functional administrator, you can reset and reload the data source for several reasons.

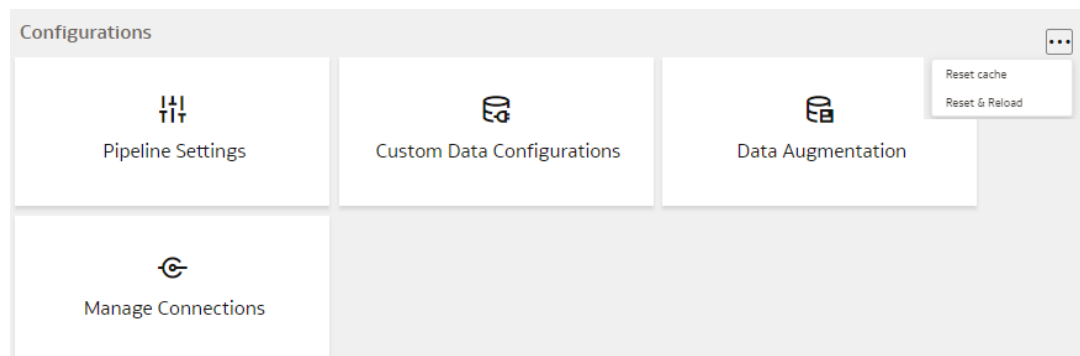
For example:

- If you need to change the data source for some reason, then you may want to reset the present data source back to the original state.
- If there is any data issue with the source system and you need to start the entire pipeline all over again.
- Initially if you set up the connection and the pipeline to test some things and then want to start from the beginning again.
- Whenever you perform a Production to Test (P2T) refresh, you must complete a full reload of the source to avoid data issues.

You can reset and reload data for all the activated functional areas, augmentations, and custom data configurations. This request may take a long time as it requires all data to be discarded and fetched again. Other requests like the incremental and full load won't start until this request completes.

Ensure that **Reset and Reload the Data Source** is enabled in **Pipeline Features** under the Generally Available Features tab on the Enable Features page prior to resetting and reloading the data source. See [Enable Generally Available Features](#).

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Data Configuration** under **Application Administration**.
3. On the Data Configuration page, click **Reset & Reload**.



4. Review the warning message, provide the details, and then click **Submit**.

Reset & Reload

Reset and reload data for all activated functional areas, augmentations and custom data configurations. Note that this request may take a long time as it requires all data discarded and fetched again. Also other requests like Incremental and full load will not be started until this request completes.

⚠ Once the request is submitted, it can't be canceled.

Select one or more source data to reload

Datasource

Schedule

☐ Run Immediately

☒ Schedule for later

Time ⓘ ⓘ

Timezone Asia/Calcutta

Notes

Authorized By

Comments

Close
Submit

View Load Request History

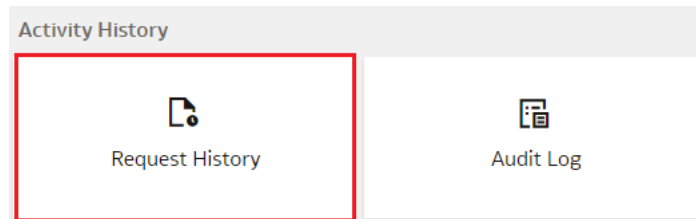
You can view the data pipeline load request history by functional area, load type, and status along with other details for tracking, reference, and auditing purposes.

The request history doesn't display the incremental loads. Because the request history shows only past load requests, any unscheduled loads don't affect the existing pipelines and you can reactivate any functional area or augmentation.



[LiveLabs Sprint](#)

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Data Configuration** under **Application Administration**.
3. On the Data Configuration page, under **Activity History**, click **Request History**.



4. On the Request History page, view the history of loads that have been performed.

Fusion > Request History							
Type to filter entities		Request Type	All	Status	All	Submitted By	Submitted By
Entity	Type	Received On	Started On	Completed On	Submitted By	Status	Export Request History summary
Sustainability	Refresh Data	Sep 10, 2024 12:04:4...	Sep 10, 2024 01:02:0...	Sep 10, 2024 01:28...		Completed	
Sustainability	Refresh Data	Sep 5, 2024 11:32:31 ...	Sep 5, 2024 11:33:32 ...	Sep 5, 2024 11:58...		Completed	
Work Order Costing	Full Load (Adhoc)	Aug 28, 2024 11:32:2...	Aug 28, 2024 11:33:2...	Aug 29, 2024 12:08...		Completed	
Sustainability	Full Load (Adhoc)	Aug 28, 2024 03:35:5...	Aug 28, 2024 10:40:0...	Aug 28, 2024 11:08...		Completed	
Reload Contract Party	Full Load (Adhoc)	Aug 28, 2024 12:25:5...	Aug 28, 2024 10:14:0...	Aug 28, 2024 10:38...		Completed	

5. Optional: On the Request History page, click the Export Request History icon to download the request history in the csv format.

About Request Types and Statuses

When you perform tasks on a functional area, you can review the different types of requests involved with those tasks in the Request History area.

Request Types

Request Type	Description
Data Source Reset	A request to reload complete data for a data source.
Delete Custom Data Configuration	A request to delete a custom data configuration.
Delete Source Connection	A request to delete a connection to a data source.
Deploy Custom Data Configuration	A request to deploy a custom data configuration in the data warehouse.
Full Load (Adhoc)	A full load run that happens immediately upon request.
Full Load (Scheduled)	A request to schedule a full load run.
Generate Custom Data Configuration	A request to generate a custom data configuration.
Module Reset	A request to refresh the data in the data warehouse for the functional area.
Publish Custom Data Configuration	A request to generate and deploy a custom data configuration in the data warehouse.
Refresh Data	The system ran a request to refresh data.
Rejected	When any request is rejected.
Reload Data (Next Refresh)	A request to reload warehouse data in the next scheduled data refresh.
Reset & Reload	A request to reload warehouse data for a data source.
Reset Data Warehouse	A request to reset the warehouse. This reset deletes all the customer-added warehouse data.

Request Type	Description
Target Model Upgrade	A request to upgrade the target model to the latest available version.
Test Connection	A request to initiate test connection for a data source.
Undeploy Custom Data Configuration	A request to remove data from the warehouse while retaining the custom data configuration.

Request Statuses

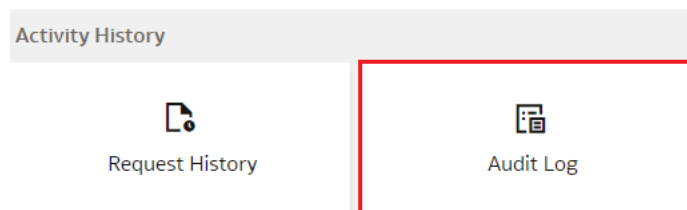
Request Status	Description
Completed	The job ran successfully and is now complete.
Completed (Publish Data)	The data publish process has completed.
Failed	The job has failed.
In Progress	- The job is running. - The job is resolving.
Not Required	The job isn't required.
Queued	The job request is queued.
Received	The job request is submitted.
Rejected	The job request is rejected.
Scheduled	- Job is scheduled to run within one minute. - Job is scheduled to run at the specified date and time.
Skipped	The job has been skipped.
Troubleshooting	The job is taking a long time and Oracle is investigating it.
Unscheduled	The job has been unscheduled.

View the Audit Log

You can view the data configuration-related actions that were performed such as activation of a data pipeline for a functional area, setting up of reporting parameters, and saving a data augmentation.



1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Data Configuration** under **Application Administration**.
3. On the Data Configuration page, under **Activity History**, click **Audit Log**.



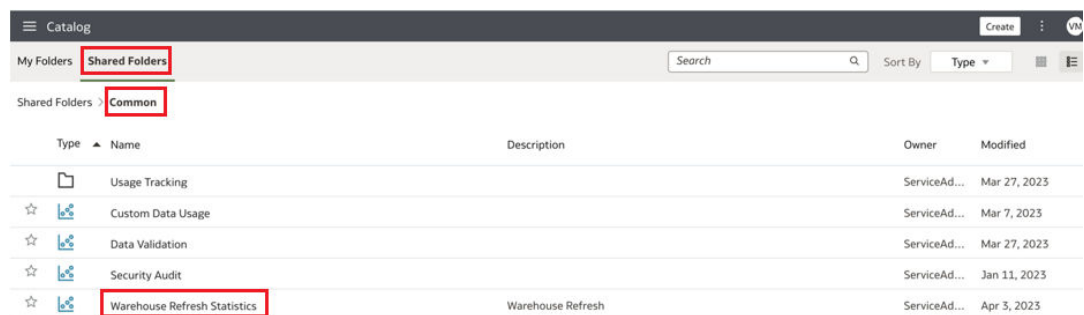
4. On the Audit Log page, view the list of all the performed actions.

View Records Rejected in Extraction

The extraction service stores rejected records in the Warehouse Refresh Statistics dashboard. You can view this dashboard to see which records were rejected and analyze why they were rejected.

For example, you can currently view the rejected records in Oracle Fusion HCM Analytics. See [Tables With Data Rejection Details](#).

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence click **Projects**.
3. On the Catalog page, click **Shared Folders**, click **Common**, and then click **Warehouse Refresh Statistics**.



4. In the Warehouse Refresh Statistics dashboard, click the Related Reject Records tab to view the records that were rejected.

Key Values	Primary Key Columns	Count of Reject Records
0	EvalItemid	2
0 null null 0 null	CandProfileUsageld EffectiveEndDate EffectiveLatestChange EffectiveSequence EffectiveStartDate	2
10000023505497 300000142100870 S-005-10001	InventoryItemid LotNumber OrganizationId	2
100000471894766 300000178327892 BBL100000	InventoryItemid LotNumber OrganizationId	2
100000471894766 300000178327892 FFL100000	InventoryItemid LotNumber OrganizationId	2
100000471894766 300000178327892 FFL100001	InventoryItemid LotNumber OrganizationId	2
100000471894766 300000180500778 BBL10001	InventoryItemid LotNumber OrganizationId	2
100000471894766 300000180500778 FFL10001	InventoryItemid LotNumber OrganizationId	2
100000471894766 300000180500787 BBL10001	InventoryItemid LotNumber OrganizationId	2
100000471894766 300000180500787 FFL10001	InventoryItemid LotNumber OrganizationId	2
100000471894766 300000180500796 BBL10001	InventoryItemid LotNumber OrganizationId	2
100000471894766 300000180500796 FFL10001	InventoryItemid LotNumber OrganizationId	2
100000490929546	PROFILE_ITEM_ID	85
100000490929548	PROFILE_ITEM_ID	85
100000490929568	PROFILE_ITEM_ID	85
100000490929570	PROFILE_ITEM_ID	85
100000490929585	PROFILE_ITEM_ID	85

About Augmenting Your Data

Enhance the data used in your analytics with additional data, various calculations, and combinations to enable comprehensive analytics and multi-faceted visualizations. By

augmenting the data, you can reduce or even eliminate the manual intervention in developing meaningful insight of the business data.



Data augmentation enables you to augment the data you bring from Oracle Fusion Cloud Applications and other sources that you can connect to using the Oracle Fusion Data Intelligence connectors. See the *Connectors* section in [Preview Features](#). You can add data to your reports from various data stores (Business Intelligence view objects) of the Oracle Fusion Cloud Applications data sources.

Select the columns from data stores, create an augmentation dataset, and use that dataset to create data pipelines for functional areas. Using an augmentation dataset enables you to seamlessly extract and load data from additional Oracle Fusion Cloud Applications data stores and make the data available to tables in the data warehouse. You can then use the data for visualization and analysis. To find the data stores that are available for extraction using augmentation, see the *Data Stores* section in *Reference for Oracle Fusion SCM Analytics*, *Reference for Oracle Fusion HCM Analytics*, and *Reference for Oracle Fusion ERP Analytics*. Although there is no technical limit, you can create a maximum of hundred data augmentations for a single tenant to ensure optimal performance of all data pipelines. Contact Oracle Support if you have further questions.

If you enable the **SME Options for Data Augmentation** under the Generally Available Features tab on the Enable Features page, then you can augment your reports with datasets created by extending an existing entity or group of facts, by adding a new dimension in the target instance, and by adding a new fact in the target instance. When you run these data augmentation pipeline jobs, they publish these datasets to the semantic model. However, this isn't the recommended practice. The recommended method is not to enable the **SME Options for Data Augmentation** feature and use the default **Dataset** augmentation type to bring varied data into the warehouse. When you run the Dataset data augmentation pipeline job, it doesn't publish anything to the semantic model. You can then use the semantic model extensions to create your own semantic model. This method supports complex semantic modelling to meet your business requirements. Use the Data augmentation capability to bring data into the warehouse and then use the Semantic Model Extensibility capability to create the joins and expose that data to the subject areas that you want. This enables flexibility and better performance of both the capabilities. Additionally, this method allows better lifecycle management. For example, if you need to make any adjustments to the semantic model, then you can make the changes directly in the semantic model. You don't need to adjust the data augmentation that brought the data into the warehouse.

Here are a few use cases when augmenting your Oracle Fusion Cloud Applications data with data from several data stores enables in-depth and focused insights:

- Product sales – Add similar product information from different data sources to create a report that compares similar products in a specific region.
- Average of expense invoices – Add various expense invoices to create an average of periodic expenses.

Augment Your Data

You can supplement the data in your reports by using datasets that you create with specific columns from various data stores (Business Intelligence view objects) of the Oracle Fusion Cloud Applications data sources.

Refer to [Review Database Lineage Mappings and View Objects](#) while deciding which view objects to use in the data augmentations.

While creating a data augmentation, you can select these:

- **Augmentation Type:** Dataset is the augmentation type available by default. Select this to bring varied data into the warehouse and then use the semantic model extensions to create your own semantic model with this data. If you enable the **SME Options for Data Augmentation** under the Generally Available Features tab on the Enable Features page, then you can select the **Create Dimension**, **Create Fact**, and **Extend Entity** type of augmentations. If you select any of these three augmentation types and want to create a data augmentation on the data loaded from a connector or from the Oracle Fusion Cloud Applications source, you need to create a dimension with a column identified as "primary key" and then join this dimension table with a fact table where the same column is assigned the Dimension attribute, so that column is your join key. In this drop-down list, you can select the appropriate step.
- **Source Dataset Type:** For a dataset that doesn't require any transform, select Supplemental Data. If transform is required, then select the Transformation option.
- **Pillar:** This option is available if your source is Oracle Fusion Cloud Applications. Select the applicable pillar as the data source. For sources that have only one pillar or don't have any pillars, this option isn't visible.
- **Source Table Type:** You can use the system provided or customer provided source tables. The system provided tables are pre-validated by Oracle Fusion Data Intelligence. The customer provided tables are other source tables that are available for extraction but aren't validated by Oracle Fusion Data Intelligence. As a user with the functional administrator or system administrator application role, you can allow usage of a particular table that isn't pre-validated by Oracle Fusion Data Intelligence. However, Oracle can't ensure the success of processing such custom tables or any performance impacts, such as delays in the daily refreshing of data. For the remote agent sources like on-premises E-Business Suite, PeopleSoft, and JD Edwards, use the system provided source tables option. The extract service can't connect to these remote sources directly to fetch the column list for the customer provided table.
- **Source Table:** You can provide a single table name or a comma separated list of source table names in this field.

While creating a data augmentation, you can change the size of a column. However, you must ensure that the maximum size is within the allowed permission limit for a given datatype in the target database. To determine the maximum permissible size for each data type, see the "Oracle Built-in Data Types" section in the Oracle database documentation. Currently, the allowed datatypes in data augmentation are DATE, NUMBER, TIMESTAMP, and VARCHAR2.

After you create the augmentations, you see them on the Data Augmentation page with one of these statuses:

- **Activation in Progress** - You can't edit, delete, or schedule a data augmentation pipeline job while activation is in progress.
- **Activation Completed** - You can edit the data augmentation to add or delete attributes of the view objects and save the changes. You can't modify the schedule in this status.
- **Activation Scheduled** - You can edit the data augmentation to add attributes of the view objects, save the changes while retaining the existing schedule, reschedule the execution date and time, or execute the plan immediately.

Note

During the activation process, if the number of invalid records is substantial, then Oracle Fusion Data Intelligence rejects the data augmentation. You can view the DW_ERR_RECORDS table to understand why the input data has been rejected.

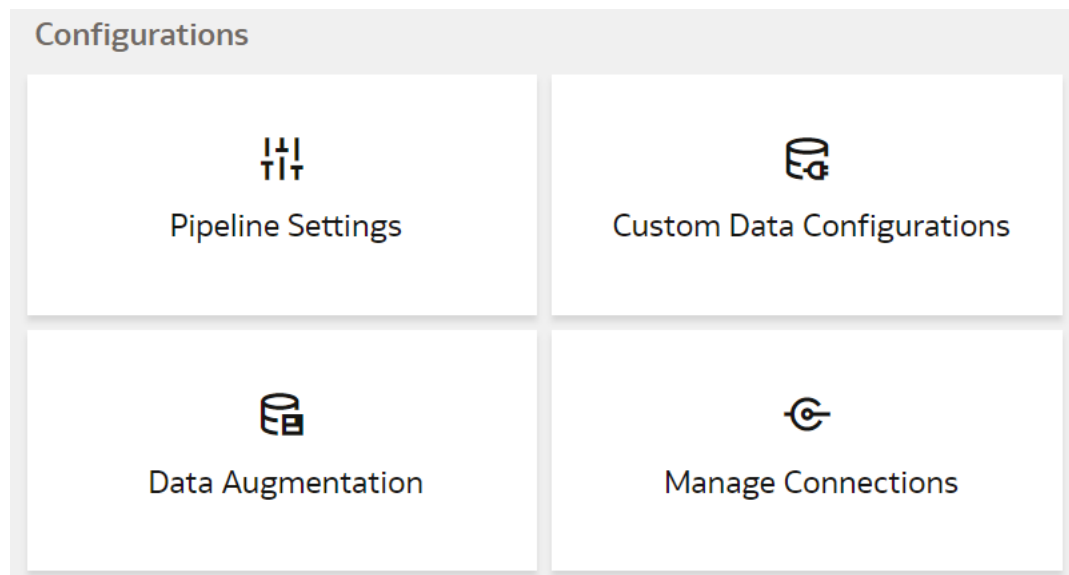
You can change the names of the columns that you've added from the various data sources in your data augmentation. Later if you delete a data augmentation, then you must wait for the daily incremental run to complete to see the change in the reports, visualizations, and workbooks.

When you edit an augmentation, Oracle Fusion Data Intelligence submits a request to refresh the data immediately. During this time, you can't perform another edit action. You must ensure not to modify the definition of the data augmentation pipeline job while the job is in process. In case you need to modify the job definition while in process, then you must resubmit the data augmentation pipeline job.

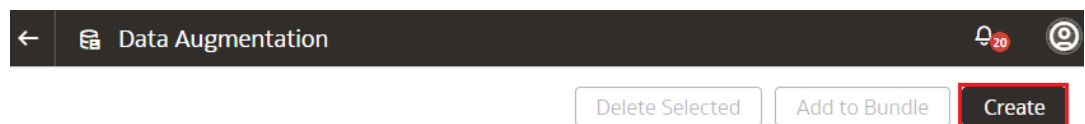
You can't run an adhoc refresh after editing a data augmentation, if the data augmentation is used in the Data Share process.

Recommended practices:

- Don't name two data augmentations the same to avoid failure.
 - Specify incremental keys to ensure daily refresh.
 - Ensure that the concatenation of the Primary Key columns doesn't exceed the maximum length of 8192 to avoid failure of your data augmentation.
 - Don't specify a subject area if you've a complex semantic model; not specifying results in extract, transfer, and load only.
 - Data augmentations have lower priority than the prebuilt pipelines and may get rejected if they overlap during the scheduled pipeline incremental runs.
 - If using frequent data refresh for specific datasets, then don't schedule data augmentations on the same sources or targets. For example, don't run Extend Entity for an invoice, while frequent data refresh for invoice is on.
 - Use data augmentations for specific, targeted extracts. For larger scale or complex projects, consider custom ETL.
 - If the one primary key that you defined might not make the record unique, then consider changing the primary key to include more columns to make the record unique.
 - Ensure that you apply a filter on the column selection if the data augmentation takes a long time and fails with timeout error. This avoids long running data augmentations.
 - If you've enabled the Extract Date option in a data augmentation, then the records that are created before the extract date won't be available in Oracle Fusion Data Intelligence. To bring the data before the extract date, deselect the Extract Date option by editing the data augmentation. Once changes are done, reset and refresh data to enable the data augmentation to re-extract in full.
1. Sign in to your service.
 2. In Oracle Fusion Data Intelligence **Console**, click **Data Configuration** under **Application Administration**.
 3. On the Data Configuration page, under Configurations, click **Data Augmentation**.



4. On the Data Augmentation page, click **Create**.



You can create the following augmentation types:

- [Create a dimension](#)
- [Create a fact](#)
- [Extend an entity](#)
- [Create a dataset](#)

Create Dimension Augmentation Type

You can augment your reports with datasets created by adding a new dimension in the target instance.

Ensure that the custom dimensions that you create in augmentations are used by facts. If they aren't used, then the custom dimensions aren't visible in the subject areas. See [Create Fact Augmentation Type](#).

You must ensure that any column with primary key doesn't have null values, otherwise the extract process rejects the entire dataset or table. If there are multiple columns with primary keys, then you must ensure that none of those columns have null values. If any of them have null values, then Oracle Fusion Data Intelligence rejects the entire extraction job. If Oracle Fusion Data Intelligence rejects the extraction job, then the corresponding augmentation is also rejected.

Ensure that **SME Options for Data Augmentation** is enabled in Pipeline Features section under the Generally Available Features tab on the Enable Features page. See [Enable Generally Available Features](#).

1. In step 1 of the Data Augmentation wizard, select **Create Dimension** in **Augmentation Type** to add a new dimension in the target instance.

Cancel

1 2 3 4 5 6

Source Selection Attribute Selection Column Options Entity Options Dimension Keys Schedule and Save

Next →

Select a pillar and a source table to add a data augmentation to the warehouse.

Augmentation Type **Create Dimension**

Source Dataset Type Select Source Dataset type

Pillar Select Pillar

Source Table Type System Provided

Source Table Select Source Table

Versioned Dataset ☐ ⓘ

2. Select **Supplemental Data (Regular)** in **Source Dataset Type**.
3. In **Pillar**, select a product pillar; for example, **Enterprise Resource Planning**.
4. In **Source Table Type**, specify the source table type using either of the options:
 - Select **System Provided** and then in **Source Table**, select a table to which you want to add the new dimension.
 - Select **Customer Provided** and then in **Source Table**, enter the name of the table to which you want to add the new dimension.
5. Optional: Select the **Versioned Dataset** check box to enable full load of the source table data everytime and then click **Next**.
6. In step 2 of the wizard, select the check box for the attributes from the source table that you want in your new dimension, and then click **Next**.
7. In step 3 of the wizard, click **Action** icon for each of the selected attributes to specify the **Type** and **Treat as** settings, and then click **Next**.
8. In step 6 of the wizard, provide the following details and click **Finish** to save and schedule your data augmentation pipeline job:
 - a. Name your augmentation pipeline job; for example, Customer Class Code.
 - b. Enter a suffix for the target table name using underscore in place of spaces between words and don't use special characters; for example, Customer_Class_D. The augmentation process automatically creates the target table name.
 - c. Provide a description.
 - d. Select the functional area and one or multiple subject areas in which you want to include this augmentation pipeline job.
 - e. Specify the options to save the data augmentation pipeline job without executing it, or schedule the execution date and time, or execute it immediately.

Create Fact Augmentation Type

You can augment your reports with datasets created by adding a new fact in the target instance.

If you've created custom dimensions for augmentations, then you can select such dimensions to map to the column that you identify as the Dimension entity type. This enables the custom dimensions to be visible in the subject areas.

You must ensure that any column with primary key doesn't have null values, otherwise the extract process rejects the entire dataset or table. If there are multiple columns with primary keys, then you must ensure that none of those columns have null values. If any of them have null values, then Oracle Fusion Data Intelligence rejects the entire extraction job. If Oracle Fusion Data Intelligence rejects the extraction job, then the corresponding augmentation is also rejected.

Ensure that **SME Options for Data Augmentation** is enabled in Pipeline Features section under the Generally Available Features tab on the Enable Features page. See [Enable Generally Available Features](#).

1. In step 1 of the Data Augmentation wizard, select **Create Fact in Augmentation Type** to add a new fact table in the target instance.

Cancel

1 2 3 4 5 6

Source Selection Attribute Selection Column Options Entity Options Dimension Keys Schedule and Save

Select a pillar and a source table to add a data augmentation to the warehouse.

Augmentation Type: Create Fact

Source Dataset Type: Select Source Dataset type

Pillar: Select Pillar

Source Table Type: System Provided

Source Table: Select Source Table

Versioned Dataset ☐ ⓘ

Next →

2. Select **Supplemental Data (Regular)** in **Source Dataset Type**.
3. In **Pillar**, select a product pillar; for example, **Enterprise Resource Planning**.
4. In **Source Table Type**, specify the source table type using either of the options:
 - Select **System Provided** and then in **Source Table**, select a table to which you want to add the new dimension.
 - Select **Customer Provided** and then in **Source Table**, enter the name of the table to which you want to add the new dimension.
5. Optional: Select the **Versioned Dataset** check box to enable full load of the source table data everytime and then click **Next**.
6. In step 2 of the wizard, select the check box for the attributes from the source table that you want in your new fact, and then click **Next**.
7. In step 3 of the wizard, click **Action** icon for each of the selected attributes to specify the **Type** and **Treat as** settings and then click **Next**.

Ensure that you select at least one attribute as a measure to proceed through the wizard.

8. In step 5 of the wizard, specify the dimension in the data warehouse that you want to map to the column that you identified as the Dimension entity type and then click **Next**.
9. In step 6 of the wizard, provide the following details and click **Finish** to save and schedule your data augmentation pipeline job:
 - a. Name your augmentation pipeline job; for example, AP Distribution.
 - b. Enter a suffix for the target table name using underscore in place of spaces between words and don't use special characters; for example, AP_DISTRIBUTION_F. The augmentation process automatically creates the target table name.
 - c. Provide a description.
 - d. Select the functional area and one or multiple subject areas in which you want to include this augmentation pipeline job.
 - e. Specify the options to save the data augmentation pipeline job without executing it, or schedule the execution date and time, or execute it immediately.

Extend an Entity

You can augment your reports with datasets created by extending an existing entity or group of facts.

While extending an entity or group of facts, ensure that you select Descriptive Flex Field (New) as the source dataset type to select the necessary columns for the augmentation. The existing approach of skipping the column selection is deprecated and won't be available from a future release.

You must ensure that any column with a primary key doesn't have null values, otherwise the extract process rejects the entire dataset or table. If there are multiple columns with primary keys, then you must ensure that none of those columns have null values. If any of them have null values, then Oracle Fusion Data Intelligence rejects the entire extraction job. If Oracle Fusion Data Intelligence rejects the extraction job, then the corresponding augmentation is also rejected.

Ensure that **SME Options for Data Augmentation** is enabled in Pipeline Features section under the Generally Available Features tab on the Enable Features page. See [Enable Generally Available Features](#).

1. In step 1 of the Data Augmentation wizard, select **Extend Entity in Augmentation Type**.

Cancel

1 2 3 4 5 6

Source Selection Attribute Selection Column Options Entity Options Dimension Keys Schedule and Save

Next →

Select a pillar and a source table to add a data augmentation to the warehouse.

Augmentation Type Extend Entity

Source Dataset Type Select Source Dataset type

Pillar Select Pillar

Source Table Type System Provided

Source Table Select Source Table

Versioned Dataset ☐ ⓘ

2. Select **Descriptive Flex Field (New)** in **Source Dataset Type**.
3. In **Pillar**, select a product pillar; for example, **Enterprise Resource Planning**.
4. In **Source Table Type**, specify the source table type using either of the options:
 - Select **System Provided** and then in **Source Table**, select a table from the list of view objects that support descriptive flex fields.
 - Select **Customer Provided** and then in **Source Table**, enter the name of the table that supports descriptive flex fields.
5. Optional: Select the **Versioned Dataset** check box to enable full load of the source table data everytime and then click **Next**.
6. In step 2 of the wizard, select the check box for the attributes from the source table that you want in your target table, and then click **Next**.
7. In step 3 of the wizard, click the **Action** icon for each of the selected attributes to specify the **Type** and **Treat as** settings, and then click **Next**.
8. In step 4 of the wizard, select the entity or group of fact tables to extend and its primary keys, and then click **Next**. For example, if you select **ARTransaction** as the entity to extend, then this process joins the prebuilt **InvoiceID** descriptive flex field using the **s_k_5000** primary join key with all the fact tables in the ARTransaction entity.
9. In step 5 of the wizard, choose the primary keys for the attributes that you had specified to be treated as dimensions.
10. In step 6 of the wizard, provide the following details and click **Finish** to save and schedule your data augmentation pipeline job:
 - a. Name your augmentation pipeline job; for example, AP Invoice Header.
 - b. Enter a suffix for the target table name using underscore in place of spaces between words and don't use special characters; for example, AP_Invoice_Header_DFF. The augmentation process automatically creates the target table name.
 - c. Provide a description.
 - d. Select the functional area and one or multiple subject areas in which you want to include this augmentation pipeline job.
 - e. Specify the options to save the data augmentation pipeline job without executing it, or schedule the execution date and time, or execute it immediately.

Create Dataset Augmentation Type

You may require a dataset to be copied into a target warehouse table, as is, and then perform semantic model extension on it. In such cases, create an input dataset.

This dataset isn't associated with any other augmentations. Based on the incremental schedule, the data in this dataset gets refreshed during scheduled pipeline refresh. But unlike other augmentations, this augmentation isn't linked to other augmentations, and you can't change the attributes as dimension or measure. This dataset isn't associated with any subject area because it copies the dataset from source and creates a warehouse table. You can perform semantic model extension after the table is created. To use this dataset to build the joins or incorporate an object from the dataset into your semantic model, you must run an incremental load prior to using it because the incremental load populates the dataset.

1. In step 1 of the Data Augmentation wizard, select **Dataset** in **Augmentation Type** to add a new warehouse table.

2. Select **Supplemental Data** in **Source Dataset Type**.
3. In **Pillar**, select a product pillar; for example, **Enterprise Resource Planning**.
4. In **Source Table Type**, specify the source table type using either of the options:
 - Select **System Provided** and then in **Source Table**, select a table whose attributes you want to add into the input dataset.
 - Select **Customer Provided** and then in **Source Table**, enter the name of the table whose attributes you want to add into the input dataset
5. Optional: Select the **Versioned Dataset** check box to enable full load of the source table data everytime and then click **Next**.
6. In step 2 of the wizard, select the check box for the attributes from the source table to add to the target table, and then click **Next**.
7. In step 3 of the wizard, select the settings for the selected columns, and then click **Next**.
8. In step 6 of the wizard, provide the following details and click **Finish** to save and schedule your data augmentation pipeline job:
 - a. Provide a name and description for your augmentation.
 - b. Enter a suffix for the target table name using underscore in place of spaces between words and don't use special characters; for example, Customer_Class_D. The augmentation process automatically creates the target table name.
 - c. Specify the options to save the data augmentation pipeline job without executing it, or schedule the execution date and time, or execute it immediately.

Create a Dimension Alias

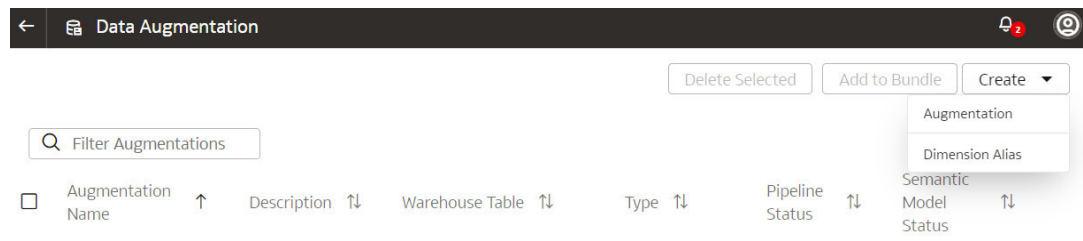
Dimension alias are alias names on the warehouse dimension tables. You can specify the alias names for the Dimension type augmentations and the data that's in the warehouse already as dimensions. The alias names enable you to reuse the existing warehouse tables with different names in the subject areas.

You create dimension aliases as a type of augmentation. This is useful when you want to reinstate a dimension for analysis. For example, if the Purchase Requisition has columns such as "Requested By", "Ordered By", and "Received By", all of which are different types of employees, and you need to analyze for each type, then you need to join the fact table to the employee table for each type. In this case, the employee dimension is aliased as "Requested

By Employee Dim”, “Ordered By Employee Dim” and “Received By Employee Dim” and joined to the fact table using the appropriate keys.

When you create the aliases, Oracle Fusion Data Intelligence doesn’t copy the data for the dimension aliases. These augmentations don’t have a pipeline status, but they are visible in the subject area.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Data Configuration** under **Application Administration**.
3. On the Data Configuration page, under **Configurations**, click **Data Augmentation**.
4. On the Data Augmentation page, click **Create**, and select **Dimension Alias**.



5. In the Add Dimension Alias dialog, in **Source Dimension**, select a dimension from the source tables such as Employee.

Add Dimension Alias ✕

Select a source dimension to present with an aliased name in selected Subject Areas.

Source Dimension *

Select a dimension ▼

Dimension alias *

Provide an alias name for display

Table Name *

DW_FA_X_

Subject Areas to expose alias

Select one or more Subject Areas

Description *

Enter dimension alias description

Cancel Save

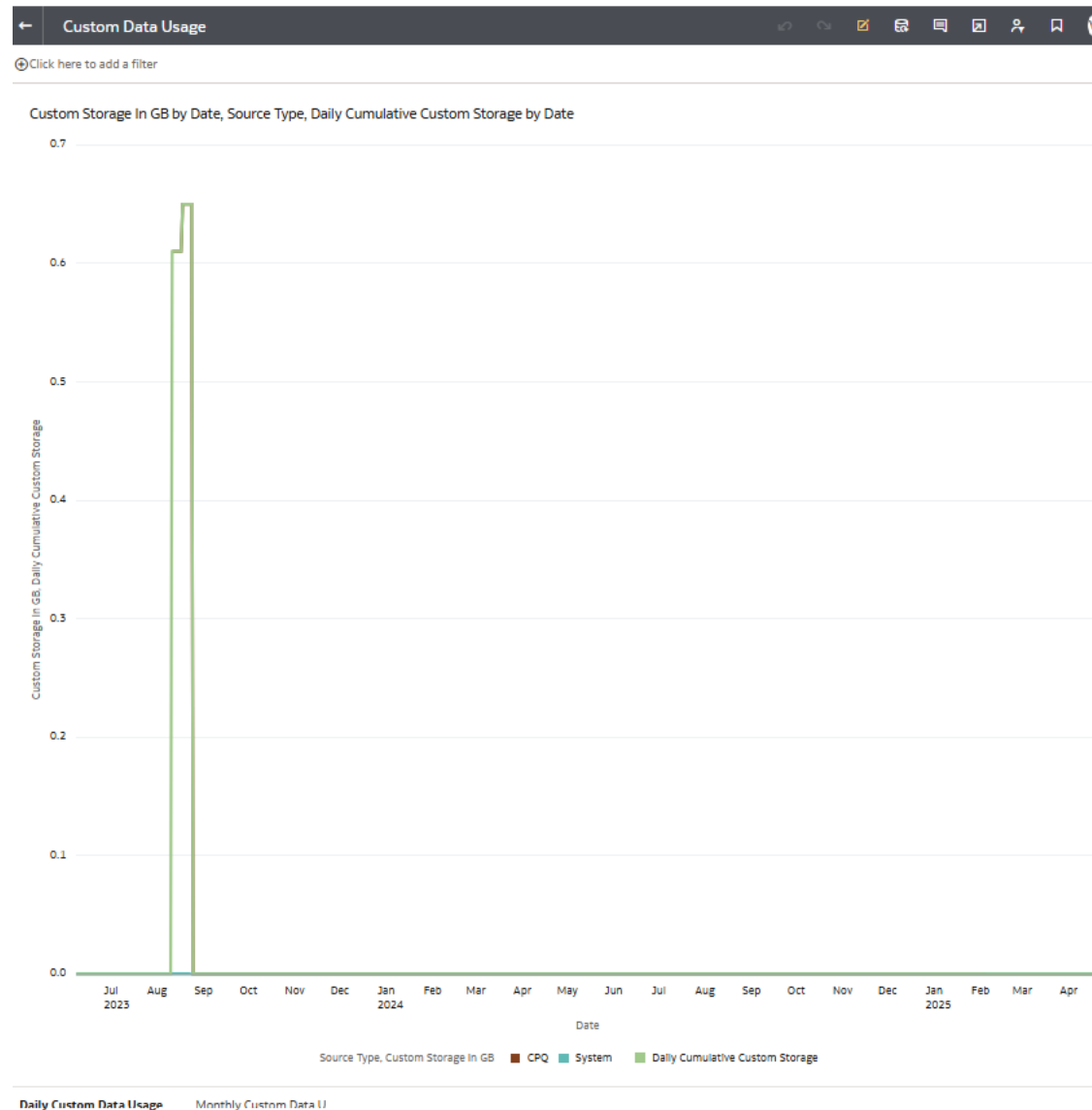
6. In **Dimension Alias**, enter a name such as Employee Dim.
In **Table Name**, Oracle Fusion Data Intelligence displays the name such as DW_FA_X_EMPLOYEE_DIM.
7. In **Subject Areas to expose alias**, select one or more subject areas from the subject areas where the original source dimension exists.
8. Add a description of the dimension alias.
9. Click **Save**.

Manage Data Connections

You can connect to a variety of data sources and remote applications to provide the background information for reports. You can blend the additional data from the various data sources with the prebuilt datasets to enhance business analysis.

Oracle Fusion Data Intelligence can connect to other pre-validated data sources such as Oracle Object Storage, cloud applications such as Google Analytics, and on-premises applications such as Oracle E-Business Suite.

You can view the usage of capacity for custom data that's loaded into Oracle Fusion Data Intelligence through the connectors in the Custom Data Usage dashboard available in the Common folder. The dashboard shows data loaded daily and monthly from each of the activated external data sources.



Topics

- [Connect With On-premises Sources](#)
- [Connect with Cloud File Storage Sources](#)
- [Connect With Cloud Sources](#)

Connect With On-premises Sources

Connect with your on-premises applications to provide the background information for reports.

You can blend the additional data from these data sources with the prebuilt datasets to enhance business analysis.

Topics

- [Set up the Remote Agent to Load Data into Fusion Data Intelligence \(Preview\)](#)
- [Load Data from On-premises E-Business Suite into Fusion Data Intelligence \(Preview\)](#)
- [Load Data from On-premises JD Edwards into Fusion Data Intelligence \(Preview\)](#)
- [Load Data from On-premises MySQL Database into Fusion Data Intelligence \(Preview\)](#)
- [Load Data from On-premises PeopleSoft into Fusion Data Intelligence \(Preview\)](#)
- [Load Data from SQL Server into Oracle Fusion Data Intelligence \(Preview\)](#)
- [Load Data from Oracle Database Using JDBC into Fusion Data Intelligence \(Preview\)](#)

Set up the Remote Agent to Load Data into Fusion Data Intelligence (Preview)

As a service administrator, you can use an extract service remote agent to connect to your on-premises systems such as E-Business Suite, Peoplesoft, and JD Edwards, load data from these on-premises systems into Oracle Fusion Data Intelligence, and then use the on-premises data to create data augmentations.

After connecting to your on-premises system, the remote agent extracts the data and loads it into the autonomous data warehouse associated with your Oracle Fusion Data Intelligence instance. You can extract and load the on-premises data into Oracle Fusion Data Intelligence only once in 24 hours.

Configuring an extract service remote agent to connect to your on-premises systems and load data from these on-premises systems into Oracle Fusion Data Intelligence involves the following steps:

1. [Perform Remote Agent Connection Prerequisites.](#)
2. [Configure TLS for Remote Agent Configuration \(Optional\).](#)
3. Run the Remote Agent docker container and use the Remote Agent command line interface tool.
 - a. For Windows users, see [Run the Remote Agent Docker on Windows](#) and [Configure the Remote Agent Using the Command Line Interface Tool on Windows](#).
 - b. For Linux users, see [Run the Remote Agent Docker on Linux](#) and [Configure the Remote Agent Using the Command Line Interface Tool on Linux](#).
4. [Create the Remote Agent Connection.](#)

Perform Remote Agent Connection Prerequisites

As a service administrator, you must perform setup steps before configuring an extract service remote agent to connect to your on-premises systems and load data from these on-premises systems into Oracle Fusion Data Intelligence.

1. Ensure that **Remote Agent** is enabled on the Enable Features page prior to creating this connection. See [Make Preview Features Available](#).

2. Sign into [Oracle Container Registry](#) and accept the license agreement.
3. Use the following instructions [Generating an Authentication Token for Use With the Oracle Container Registry](#) to generate an OCI authentication token. This value will be used in place of <Auth_Token> in command used to sign in to the docker registry.
4. Identify a host to deploy the remote agent.

The host that you identify must meet these minimum system requirements for the basic configuration of a single source agent:

- CPU: 4 (CORE/CPU)
- Memory: 8 GB
- Storage: 8 GB

Note

Ensure that the host is able to make a JDBC connection to the applicable database.

Configure TLS for Remote Agent Configuration (Optional)

You can configure your remote agent to use your TLS certificate instead of the default.

You can either use the default TLS certificate provided in the keystore with the remote agent or provide your own keystore and TLS certificate.

1. If you don't have a keystore, then generate one using the keytool CLI command such as:

```
keytool -genkeypair -alias springboot -keyalg RSA -keysize 4096 -storetype PKCS12 -keystore springboot.p12 -validity 3650 -storepass password -ext SAN=dns:test.example.com
```

Instructions on how to use the keytool CLI command can be found [here](#).

2. To provide your own keystore and TLS certificate, complete these steps:
 - a. After generating the keystore, place it in the /faw/software/remoteagent/config (C:\faw\software\remoteagent\config on Windows) directory of your local instance. Once in this directory, you must create a startup-config.properties file. This properties file contains the keystore information and credentials needed by the remote agent to connect to it and fetch the TLS certificate.
 - b. In the startup-config.properties file, add the following key-value properties:

```
server.ssl.enabled=true
server.ssl.key-store=</PATH/TO/KEYSTORE_FILE>
server.ssl.key-store-password=<KEYSTORE_PASSWORD>
server.ssl.key-store-type=<KEYSTORE_TYPE>
server.ssl.key-alias=<KEYSTORE_ALIAS>
server.ssl.key-password=<KEY_PASSWORD>
```

The values for each key pair are as follows:

- </PATH/TO/KEYSTORE_FILE> - File location of the keystore file
- <KEYSTORE_PASSWORD> - Password specified for the keystore

- <KEYSTORE_TYPE> - Type specified for the keystore, should be either JKS or PKCS12
 - <KEYSTORE_ALIAS> - Alias specified for the keystore
 - <KEY_PASSWORD> - Certificate password, NOT the password for the keystore
3. After specifying all the required properties in the startup-config.properties file, restart the remote agent docker. The remote agent uses your TLS certificate instead of the default.

Run the Remote Agent Docker on Windows

Run the Remote Agent docker container as part of the remote agent connection configuration for Oracle Fusion Data Intelligence.

The docker image name for release 25.R2 is container-registry.oracle.com/fdi/remoteagent:22.5.0. Use this name in any commands that call for <docker_image>.

1. Open a terminal on the host VM and run the following commands to create required directories and apply appropriate permissions.

```
icacls "C:/faw/software/remoteagent/" /grant Everyone:F /t
icacls "C:/faw/logs/RemoteAgent/" /grant Everyone:F /t
```

Note

- icacls: This is a command-line tool used to manage file and directory access control lists (ACLs).
- "C:/faw/software/remoteagent/": This specifies the target directory where ACL changes will be applied.
- /grant Everyone:F: This grants the "Everyone" group Full Control (F) permissions to the specified directory and all subdirectories and files recursively due to the "/t" switch. The user needs write permissions, hence "F" (full control was given). To use user-specific permission, replace "Everyone" with username.

2. Log in to the docker registry with the following command, replacing <username> with the email ID used to log into Oracle Container Registry, and <Auth-Token> with the [value created earlier](#).

```
docker login container-registry.oracle.com -u <username> -p <Auth-Token>
```

3. Create and run the docker container with the appropriate docker image name in place of <docker_image>

```
docker run -d -p 9091:9091 --name remoteagent -v /faw/software/remoteagent/config:/faw/software/remoteagent/config/ -v /faw/logs/RemoteAgent:/faw/logs/RemoteAgent <docker_image>
```

For example:

```
docker run -d -p 9091:9091 --name remoteagent -v /faw/software/remoteagent/  
config:/faw/software/remoteagent/config/ -v /faw/logs/RemoteAgent:/faw/  
logs/RemoteAgent container-registry.oracle.com/fdi/remoteagent:22.5.0
```

4. Verify that the container has started successfully using this script:

```
run '$ docker ps'
```

5. If you need to upgrade the remote agent in the Windows host, then use the following script:

```
docker run -d -p 9091:9091 --name remoteagent -v C:/faw/software/  
remoteagent/config:/faw/software/remoteagent/config/Z  
-v C:/faw/logs/RemoteAgent:/faw/logs/RemoteAgent <docker_image>
```

Configure the Remote Agent Using the Command Line Interface Tool on Windows

Use the Remote Agent command line interface (CLI) tool to configure the remote agent.

- Ensure that Windows Subsystem for Linux (WSL) is installed on your system.
 - Administrator access is required.
1. Open WSL in Administrator Mode.
 2. Run the following command to check if the jq package is already installed:

```
jq --version
```

If the output displays a version number, that means jq is installed. If you see any other output or an error, run the following commands to install jq. Use your WSL Linux user password if you are prompted for credentials.

```
sudo apt update  
sudo apt install jq -y
```

3. Run the following command to verify that jq is now installed.

```
jq --version
```

You should see the version number of jq that you just installed.

4. If you do not know your WSL Linux user password:
 - a. Open PowerShell and run the following command to display the list of installed WSL distributions. Note the distribution name, such as "Ubuntu": `wsl -l -v`.
 - b. Run the following command, replacing <distroName> with your actual distribution name: `wsl -d <distroName> -u root`. For example, `wsl -d Ubuntu -u root`.
 - c. In the root shell, reset your user password with the following command: `passwd <username>`, replacing username with your Linux username. You can find your Linux username with the following command: `ls /home`. Enter a new password when prompted.
 - d. Exit the root shell with the command `exit`.

- e. Open your WSL terminal and use the newly created password.
5. On the machine running docker, navigate to the remote agent setup directory:

```
cd C:\faw\software\remoteagent\config\setup
```

6. Run the Remote Agent CLI script.

```
./remoteAgentCLI.sh
```

7. Type 1 in RemoteAgentCLI and press Enter.

You can form the extract service URL based on your Oracle Fusion Data Intelligence URL by replacing `ui/oax/` with the extract service context path. For example, if your product URL is `https://myinstance.example.com/ui/oax/` then the extract service URL would be `https://myinstance.example.com:443/extractservice`.

The default save location for configuration details (`config.json`) is `C:\faw\software\remoteagent\config\config_json\`. You may also choose to specify a save location.

8. Optional: Type 3 in RemoteAgentCLI to generate RemoteAgent logs (`remote_agent_logs.zip`), which are saved by default to `C:\faw\logs\RemoteAgent`. You may also choose to specify a save location.
9. `config.json` needs to be on the same system as the one that will access the `oax` URL. Copy the full `config.json` file or copy the contents of the file (and save it in JSON format) from the VM to your local machine. You will use it to set up the connection on the Data Configuration page in Oracle Fusion Data Intelligence.

Run the Remote Agent Docker on Linux

Run the Remote Agent docker container as part of the remote agent connection configuration for Oracle Fusion Data Intelligence.

The docker image name for release 25.R2 is `container-registry.oracle.com/fdi/remoteagent:22.5.0`. Use this name in any commands that call for `<docker_image>`.

1. Open a terminal on the host VM and run the following commands to create required directories and apply appropriate permissions.
 - a. `mkdir /faw/software/remoteagent/`
 - b. `chmod -R 0777 /faw/software/remoteagent/`
 - c. `mkdir /faw/logs/RemoteAgent/config`
 - d. `chmod -R 0777 /faw/logs/RemoteAgent/config`
2. Log in to the docker registry with the following command, replacing `<username>` with the email ID used to log into Oracle Container Registry, and `<Auth-Token>` with the [value created earlier](#).

```
docker login container-registry.oracle.com -u <username> -p <Auth-Token>
```

3. Create and run the docker container with the appropriate docker image name in place of `<docker_image>`

```
docker run -d -p 9091:9091 --name remoteagent -v /faw/software/remoteagent/
config:/faw/software/remoteagent/config/ -v /faw/logs/RemoteAgent:/faw/
logs/RemoteAgent <docker_image>
```

For example:

```
docker run -d -p 9091:9091 --name remoteagent -v /faw/software/remoteagent/  
config:/faw/software/remoteagent/config/ -v /faw/logs/RemoteAgent:/faw/  
logs/RemoteAgent container-registry.oracle.com/fdi/remoteagent:22.5.0
```

If the remote agent user interface isn't accessible, then run this script:

```
sudo docker run -d -p 9091:9091 --name remoteagent --network host -v /faw/  
software/remoteagent/config:/faw/software/remoteagent/config/ -v /faw/  
logs/RemoteAgent:/faw/logs/RemoteAgent <docker_image>
```

Note

Ensure that the logs directory in /faw/logs/RemoteAgent/ has write permissions and the config folder in /faw/software/remoteagent/config/ is present in case you need to add custom properties.

4. Verify that the container has started successfully using this script:

```
run '$ docker ps'
```

5. If you need to upgrade the remote agent in the Linux host, then use the following script:

```
Stop Remoteagent docker  
sudo docker stop remoteagent
```

```
Remove Remoteagent docker  
sudo docker rm remoteagent
```

```
Run the image:  
sudo docker run -d -p 9091:9091 --name remoteagent -v /faw/software/  
remoteagent/config:/faw/software/remoteagent/config:Z -v /faw/logs/  
RemoteAgent:/faw/logs/RemoteAgent:Z <docker_image>
```

Configure the Remote Agent Using the Command Line Interface Tool on Linux

Use the Remote Agent command line interface (CLI) tool to configure the remote agent.

1. On the machine running docker, navigate to the remote agent setup directory:

```
cd /faw/software/remoteagent/config/setup/
```

2. Run the Remote Agent CLI script.

```
./remoteAgentCLI.sh
```

3. Type 1 in RemoteAgentCLI and press Enter.

You can form the extract service URL based on your Oracle Fusion Data Intelligence URL by replacing ui/oax/ with the extract service context path. For example, if your product

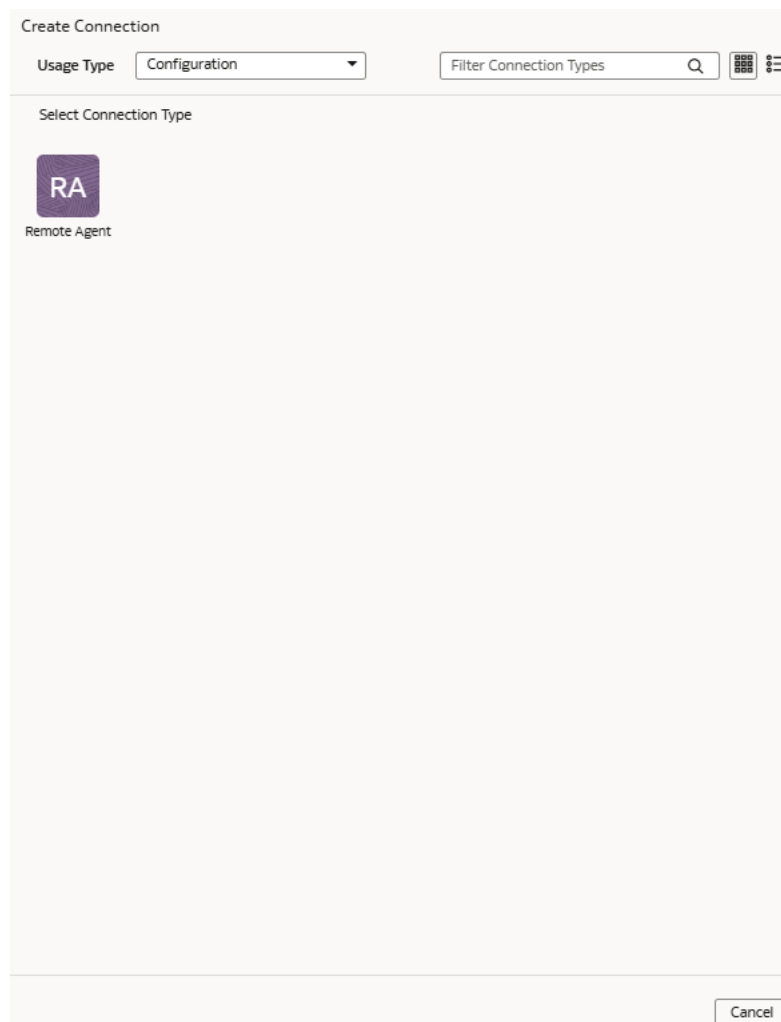
URL is `https://myinstance.example.com/ui/oax/` then the extract service URL would be `https://myinstance.example.com:443/extractservice`.
The default save location for configuration details (`config.json`) is `/faw/software/remoteagent/config/config.json`. You may also choose to specify a save location.

4. Optional: Type 3 in `RemoteAgentCLI` to generate `RemoteAgent` logs (`remote_agent_logs.zip`), which are saved by default to `/faw/logs/RemoteAgent/`. You may also choose to specify a save location.
5. `config.json` needs to be on the same system as the one that will access the `oax` URL. Copy the full `config.json` file or copy the contents of the file (and save it in JSON format) from the VM to your local machine. You will use it to set up the connection on the Data Configuration page in Oracle Fusion Data Intelligence.

Create the Remote Agent Connection

Configure the remote agent connection on the Data Configuration page in Oracle Fusion Data Intelligence using these instructions.

1. On the Console, click **Data Configuration** under **Application Administration**.
2. On the Data Configuration page, click **Manage Connections**.
3. On the Manage Connections page, click **Create** and then click **Connection**.
4. In Create Connection, select **Configuration** in **Usage Type**, and then select **Remote Agent** as the connection type.



5. In the Create Connection Remote Agent dialog, in **Connection Name**, you can modify the default name and verify that **Remote** is displayed in **Connectivity Type**.

← Create Connection

RA
Remote Agent

Usage Type

Connection Name

* Connectivity Type

Notification Email

* Identifier

* Host

* Public Key

6. Populate the Create Connection page.
 - a. Enter an email address to receive notifications in **Notification Email**.
 - b. Click and drag [config.json](#) into the dialog, or click **Upload File or Drop Above** and navigate to select `config.json`.
 - c. To manually populate this page, open `config.json`, and enter the appropriate values for **Identifier**, **Host**, and **Public Key**.
 - d. Click **Save**

Note

After configuring the remote agent on the Data Configuration page, wait for few minutes, refresh the remote agent page, and when you see the Agent Initialised message, you can proceed with other operations such as testing the connection to the remote agent, testing the connection to the remote source like EBusiness Suite, and refreshing the metadata. This enables you to run these jobs without timeout failures because data pipeline has a default timeout of 15 minutes.

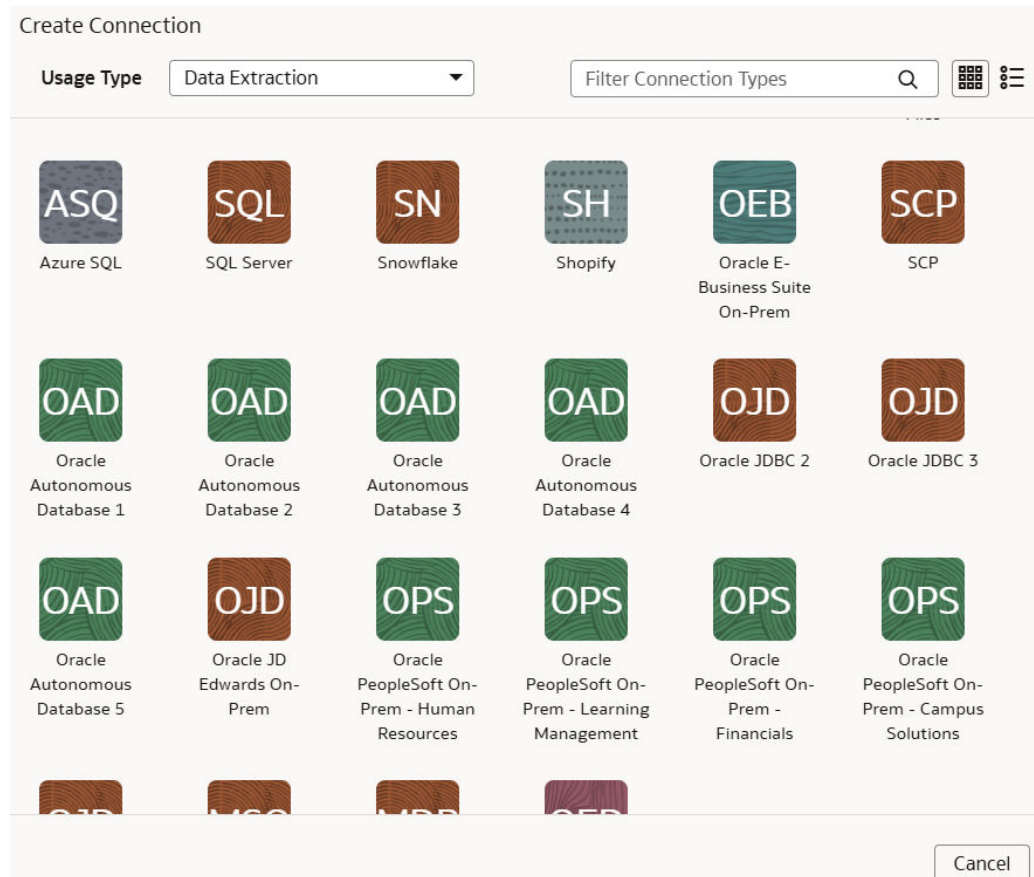
Load Data from On-premises E-Business Suite into Fusion Data Intelligence (Preview)

As a service administrator, you can use an extract service remote agent to connect to your on-premises Oracle E-Business Suite system.

After connecting to your on-premises system, the remote agent extracts the data and loads it into the autonomous data warehouse associated with your Oracle Fusion Data Intelligence instance. The remote agent pulls the metadata through the public extract service REST API and pushes data into object storage using the object storage REST API. You can extract and load the on-premises data into Oracle Fusion Data Intelligence only once a day. Ensure that the user credentials you provide have access to the specific tables they need to extract data from within the EBS schema, whose URL you provide while creating the connection.

Ensure that **Oracle E-Business Suite On-Prem** is enabled on the Enable Features page prior to creating this connection. See [Make Preview Features Available](#).

1. Set up the remote agent to load data from your on-premises Oracle E-Business Suite system into Oracle Fusion Data Intelligence.
See [Set up the Remote Agent to Load Data into Fusion Data Intelligence \(Preview\)](#).
2. Configure the remote agent and E-Business Suite data source on the Data Configuration page in Oracle Fusion Data Intelligence using these instructions:
 - a. On the **Console**, click **Data Configuration** under **Application Administration**.
 - b. On the Data Configuration page, click **Manage Connections**.
 - c. On the Manage Connections page, click **Create** and then click **Connection**.
 - d. In Create Connection, select **Data Extraction** in **Usage Type**, and select **Oracle E-Business Suite On-Prem** as the connection type.



- e. In Create Connection for Oracle E-Business Suite On-Prem, select **Remote** as connectivity type.

← Create Connection

OEB
Oracle E-Business Suite On-Prem

Usage Type

Connection Name

* Connectivity Type

* Remote Agent

❌ The remote agent doesn't exist. Create the remote agent prior to creating a remote connection.

Notification Email

* User Name

* Password

* URL

* Offerings

Refresh Metadata ☒

Cancel

- f. In the **Remote Agent** field, select the remote agent connection that you created, for example, **EBS-Remote Agent**. Enter an email address to receive notifications in **Notification Email**, provide the credentials in **User Name** and **Password**, the E-Business Suite connection using the JDBC format such as `jdbc:oracle:thin:@<HOST>:<PORT>/<DB_NAME/SID_NAME>` in **URL**, and select **Application Object Library** and **General Ledger** offerings mandatorily, and any other E-Business Suite offerings that you want to load data from in **Offerings**.
- g. Verify that the **Refresh Metadata** toggle is enabled to ensure that the metadata is refreshed when you save the connection. You can later refresh the metadata from the Actions menu on the Manage Connections page, if required.

Note

You can't create augmentations for E-Business Suite On-Prem unless you perform a metadata extract.

- h. Confirm that you see the Remote Agent and E-Business Suite connections on the Manage Connections page.

- i. Test both the connections by selecting the **Test Connection** option in **Actions**. You can check the statuses of all these requests on the Data Configuration Request History page.
- j. To delete a connection, on the Manage Connections page, click **Actions** for the applicable connection and select **Delete**.

Note

Ensure that you delete the functional areas, data augmentations, and custom data configurations related to the data connection before deleting it. You can't update or load data from deleted data connections to the warehouse.

3. After the connections are successfully established, navigate to the Data Configuration page, select the connection in **Data Source**, then click the Data Augmentation tile, and create a data augmentation using the E-Business Suite data. Select the applicable E-Business Suite source tables. See [Augment Your Data](#).

Load Data from On-premises MySQL Database into Fusion Data Intelligence (Preview)

As a service administrator, you can use an extract service remote agent to connect to your on-premises MySQL database.

After connecting to your on-premises system, the remote agent extracts the data and loads it into the autonomous data warehouse associated with your Oracle Fusion Data Intelligence instance. The remote agent pulls the metadata through the public extract service REST API and pushes data into object storage using the object storage REST API. You can extract and load the on-premises data into Oracle Fusion Data Intelligence only once a day.

Ensure that **MySQL On-Prem** is enabled on the Enable Features page prior to creating this connection. See [Make Preview Features Available](#).

1. Set up the remote agent to load data from your on-premises MySQL database into Oracle Fusion Data Intelligence.
See [Set up the Remote Agent to Load Data into Fusion Data Intelligence \(Preview\)](#).
2. Check the port number for your on-premises MySQL database and create a service request with server host and port details to enable network connectivity to the on-premises MySQL server.
3. Specify the remote agent and configure the on-premises MySQL database on the Data Configuration page in Oracle Fusion Data Intelligence by following these steps:
 - a. On the **Console**, click **Data Configuration** under **Application Administration**.
 - b. On the Data Configuration page, click **Manage Connections**.
 - c. On the Manage Connections page, click **Create** and then click **Connection**.
 - d. In Create Connection, select **Data Extraction** in **Usage Type**, and then select **MySQL On-Prem** as the connection type.

Create Connection

Usage Type: Data Extraction Filter Connection Types

Select Connection Type

MSQ MySQL On-Prem	GA Google Analytics	OEP Oracle EPM - Financial Close and Consolidation	OEP Oracle EPM - Planning and Budgeting	OEP Oracle EPM - Profitability and Cost Management	OEP Oracle EPM - Enterprise Data Management
QBO QuickBooks Online	BIP BI Publisher	EPM EPM Financial Close and Consolidation Data Export	EPM EPM Profitability and Cost Management Data Export	EPM EPM Planning and Budgeting Data Export	SA Salesforce
AWS AWS S3	AZ Azure	SFT SFTP	TAL TALEO	OOT Oracle OTM	LCD LoCode Data Files

Cancel

- e. In **Connectivity Type**, select **Remote**.
- f. In the **Remote Agent** field, select the remote agent connection that you created, for example, **MySQL-Remote Agent**. Enter an email address to receive notifications in **Notification Email**, and provide these details:
 - **Host Name**: Enter the host name of MySQL server such as 100.111.252.64
 - **Port Number**: Enter the port number where the server is listening such as 3306
 - **Database**: Enter the database name you need to connect to such as airportdb
 - Credentials to access the database in **User Name** and **Password**
 - **Last Update Date Column Pattern**: Enter "%r%a%o%"

Note

If column name matches with pattern provided, then Fusion Data Intelligence marks the column name with `isLastUpdateDate = true` and uses it for the incremental extract. For example, if pattern provided is "%mo%fi%te%", then the column name `modifiedDate` is marked as `isLastUpdateDate = true`.

- **Initial Extract Date Column Pattern**: Enter "%e%art%new"

Note

If column name matches with pattern provided, then Fusion Data Intelligence marks the column name with `isCreationDate = true` and uses it for the initial extract date extraction. For example, if pattern provided is: `"%cr%ted%te%"`, then the column name `createdDate` is marked as `isCreationDate = true`.

← Create Connection

MSQ
MySQL On-Prem

Usage Type: Data Extraction

Connection Name: MySQL On-Prem

* Connectivity Type: Remote

* Remote Agent:
 ● The remote agent doesn't exist. Create the remote agent prior to creating a remote connection.

Notification Email: Enter Notification Email

* Host Name:

Port Number: 3306

* Database:

* User Name:

* Password:

Last Update Date Column Pattern:

Initial Extract Date Column Pattern:

Refresh Metadata ☒

Cancel

- g. Verify that the **Refresh Metadata** toggle is enabled to ensure that the metadata is refreshed when you save the connection. You can later refresh the metadata from the Actions menu on the Manage Connections page, if required.

Note

You can't create augmentations for on-premises MySQL database unless you perform a metadata extract.

- h. Confirm that you see the Remote Agent and on-premises MySQL database connections on the Manage Connections page.

- i. Test both the connections by selecting the **Test Connection** option in **Actions**. You can check the statuses of all these requests on the Data Configuration Request History page.
- j. To delete a connection, on the Manage Connections page, click **Actions** for the applicable connection and select **Delete**.

Note

Ensure that you delete the functional areas, data augmentations, and custom data configurations related to the data connection before deleting it. You can't update or load data from deleted data connections to the warehouse.

4. After the connections are successfully established, navigate to the Data Configuration page, select the connection in **Data Source**, then click the Data Augmentation tile, and create a data augmentation using the on-premises MySQL database data. Select the applicable on-premises MySQL database source tables. See *Augment Your Data*.

Load Data from On-premises PeopleSoft into Fusion Data Intelligence (Preview)

As a service administrator, you can use an extract service remote agent to connect to your on-premises Oracle PeopleSoft system.

After connecting to your on-premises system, the remote agent extracts the data and loads it into the autonomous data warehouse associated with your Oracle Fusion Data Intelligence instance. The remote agent pulls the metadata through the public extract service REST API and pushes data into object storage using the object storage REST API. You can extract and load the on-premises data into Oracle Fusion Data Intelligence only once in 24 hours.

Ensure that **Remote Agent** and depending on the functional module you want to connect to, the applicable feature is enabled on the Enable Features page prior to creating this connection:

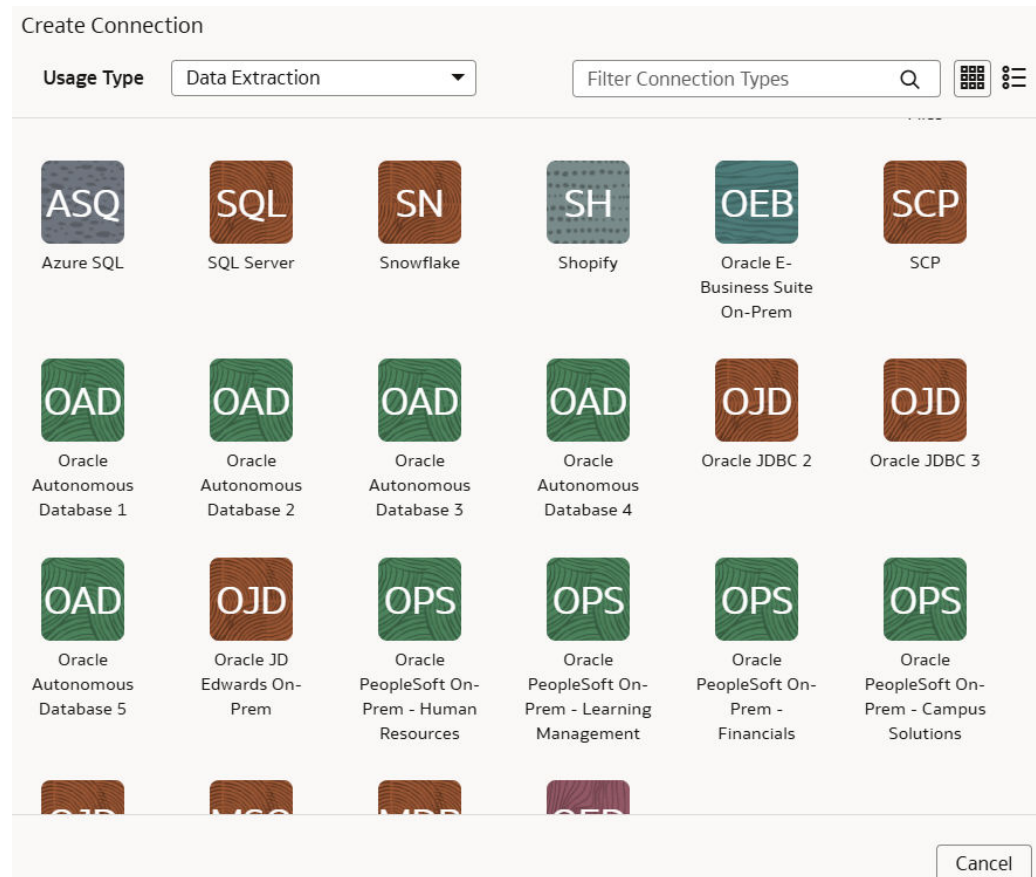
- **Oracle PeopleSoft On-Prem - Campus Solutions**
- **Oracle PeopleSoft On-Prem - Financials**
- **Oracle PeopleSoft On-Prem - Human Resources**
- **Oracle PeopleSoft On-Prem - Learning Management**

See [Make Preview Features Available](#).

1. Set up the remote agent to load data from your on-premises Oracle E-Business Suite system into Oracle Fusion Data Intelligence.

See [Set up the Remote Agent to Load Data into Fusion Data Intelligence \(Preview\)](#).

2. Configure the remote agent and PeopleSoft data source on the Data Configuration page in Oracle Fusion Data Intelligence using these instructions:
 - a. On the **Console**, click **Data Configuration** under **Application Administration**.
 - b. On the Data Configuration page, click **Manage Connections**.
 - c. On the Manage Connections page, click **Create** and then click **Connection**.
 - d. In Create Connection, select **Data Extraction** in **Usage Type**, and then select the connection type based on the functional module that you want to connect to. For example, to connect to the "Financials" module, select **Oracle PeopleSoft On-Prem - Financials** as the connection type.



- e. In Create Connection for Oracle PeopleSoft On-Prem - Financials dialog, in **Connectivity Type**, verify that **Remote** is selected automatically.

← Create Connection


 Oracle PeopleSoft On-Prem - Financials

Usage Type	Data Extraction
Connection Name	Oracle PeopleSoft On-Prem - Financials
* Connectivity Type	Remote
* Remote Agent	 ❌ The remote agent doesn't exist. Create the remote agent prior to creating a remote connection.
Notification Email	Enter Notification Email
* User Name	
* Password	
* URL	
* Offerings	

Refresh Metadata ☒

- f. In **Remote Agent**, select the remote agent connection that you created earlier, for example, **Remote Agent**.
- g. Enter an email address to receive notifications in **Notification Email**, provide credentials for your PeopleSoft source in **User Name** and **Password**, and the URL of your PeopleSoft source in **URL**.
- h. Verify that the **Refresh Metadata** toggle is enabled to ensure that the metadata is refreshed when you save the connection. You can later refresh the metadata from the Actions menu on the Manage Connections page, if required.

Note

You can't create augmentations for PeopleSoft unless you perform a metadata extract.

- i. Click **Save**.
- j. On the Manage Connections page, select **Actions** for the PeopleSoft connection and then select **Test Connection**. You can check the statuses of all these requests on the Data Configuration Request History page.
- k. To delete a connection, on the Manage Connections page, click **Actions** for the applicable connection and select **Delete**.

Note

Ensure that you delete the functional areas, data augmentations, and custom data configurations related to the data connection before deleting it. You can't update or load data from deleted data connections to the warehouse.

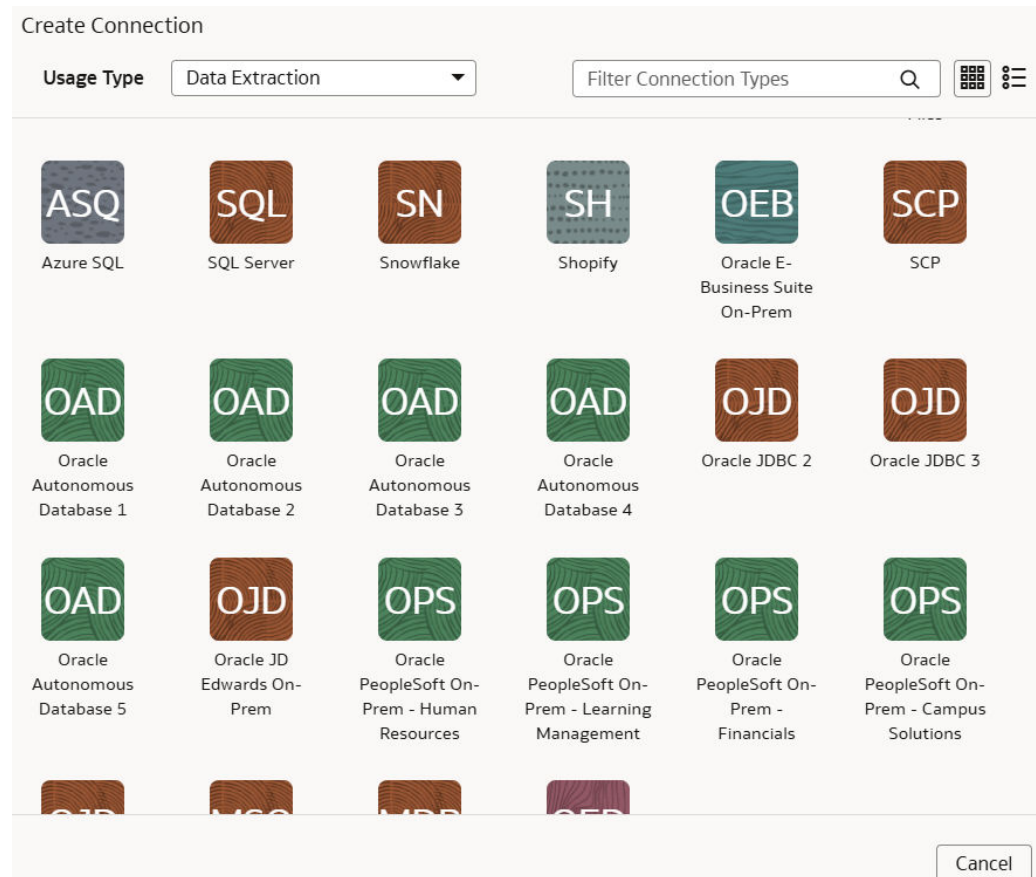
3. After the connections are successfully established, navigate to the Data Configuration page, select the connection in **Data Source**, then click the Data Augmentation tile, and create a data augmentation using the PeopleSoft data. Select the applicable PeopleSoft source tables. See [Augment Your Data](#).

Load Data from On-premises JD Edwards into Fusion Data Intelligence (Preview)

As a service administrator, you can use an extract service remote agent to connect to your on-premises JD Edwards system and use the JD Edwards data to create data augmentations.

After connecting to your on-premises system, the remote agent extracts the data and loads it into the autonomous data warehouse associated with your Oracle Fusion Data Intelligence instance. The remote agent pulls the metadata through the public extract service REST API and pushes data into object storage using the object storage REST API. You can extract and load the on-premises data into Oracle Fusion Data Intelligence only once in 24 hours. Ensure that **Remote Agent** and **Oracle JD Edwards On-Prem** are enabled on the Enable Features page prior to creating this connection. See [Make Preview Features Available](#).

1. Set up the remote agent to load data from your on-premises Oracle JD Edwards system into Oracle Fusion Data Intelligence.
See [Set up the Remote Agent to Load Data into Fusion Data Intelligence \(Preview\)](#).
2. Configure the remote agent and JD Edwards data source on the Data Configuration page in Oracle Fusion Data Intelligence using these instructions:
 - a. On the **Console**, click **Data Configuration** under **Application Administration**.
 - b. On the Data Configuration page, click **Manage Connections**.
 - c. On the Manage Connections page, click **Create** and then click **Connection**.
 - d. In Create Connection, select **Data Extraction** in **Usage Type**, and then select **Oracle JD Edwards On-Prem** as the connection type.



- e. In Create Connection for Oracle JD Edwards On-Prem, in **Connectivity Type**, verify that **Remote** is selected automatically.

← Create Connection

OJD
Oracle JD Edwards On-Prem

Usage Type: Data Extraction

Connection Name: Oracle JD Edwards On-Prem

* Connectivity Type: Remote

* Remote Agent:
 ● The remote agent doesn't exist. Create the remote agent prior to creating a remote connection.

Notification Email: Enter Notification Email

* User Name:
 * Password:
 * URL:
 * Schema Names:

Refresh Metadata: ☒

Cancel

- f. In **Remote Agent**, select the remote agent connection that you created earlier, for example, **Remote Agent**.
- g. Enter an email address to receive notifications in **Notification Email**, provide credentials for your JD Edwards source in **User Name** and **Password**, and the URL of your JD Edwards source in **URL**.
- h. Verify that the **Refresh Metadata** toggle is enabled to ensure that the metadata is refreshed when you save the connection. You can later refresh the metadata from the Actions menu on the Manage Connections page, if required.

Note

You can't create augmentations for JD Edwards unless you perform a metadata extract.

- i. Confirm that you see the Remote Agent and JD Edwards connections on the Manage Connections page.
- j. Test both the connections by selecting the **Test Connection** option in **Actions**. You can check the statuses of all these requests on the Data Configuration Request History page.

- k. To delete a connection, on the Manage Connections page, click **Actions** for the applicable connection and select **Delete**.

Note

Ensure that you delete the functional areas, data augmentations, and custom data configurations related to the data connection before deleting it. You can't update or load data from deleted data connections to the warehouse.

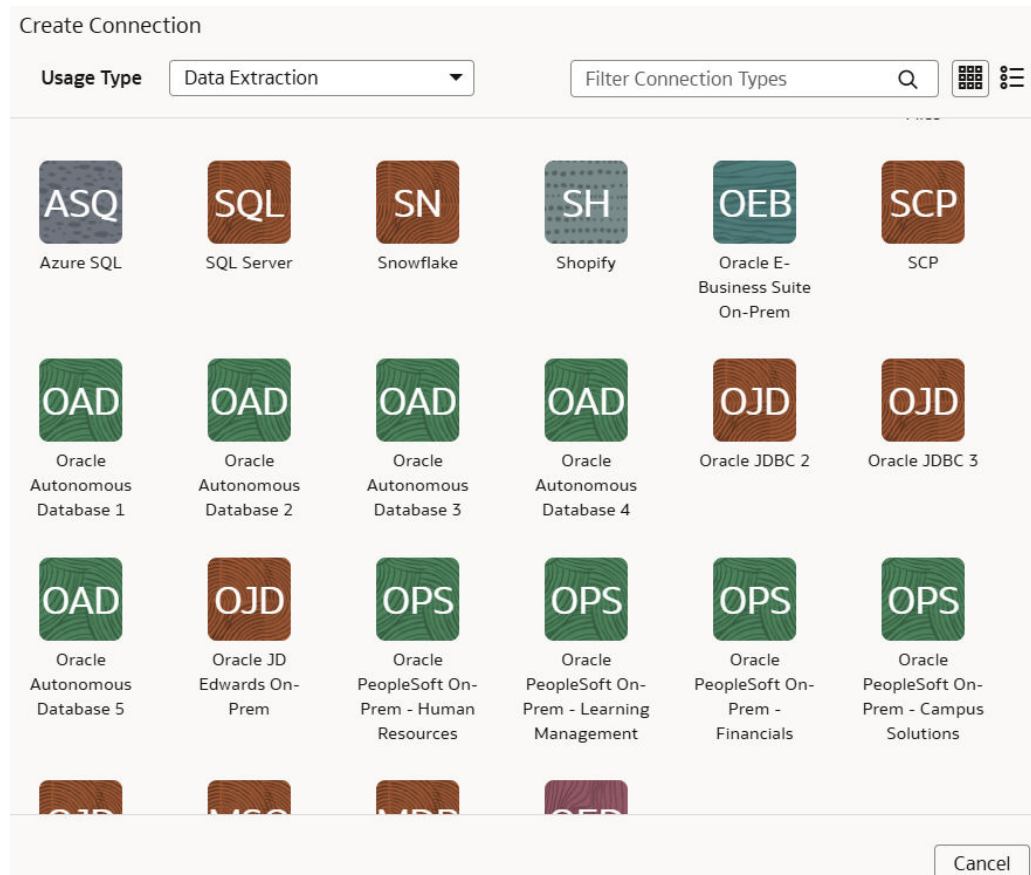
3. After the connections are successfully established, navigate to the Data Configuration page, select the connection in **Data Source**, then click the Data Augmentation tile, and create a data augmentation using the JD Edwards data. Select the applicable JD Edwards source tables. See *Augment Your Data*.

Load Data from SQL Server into Oracle Fusion Data Intelligence (Preview)

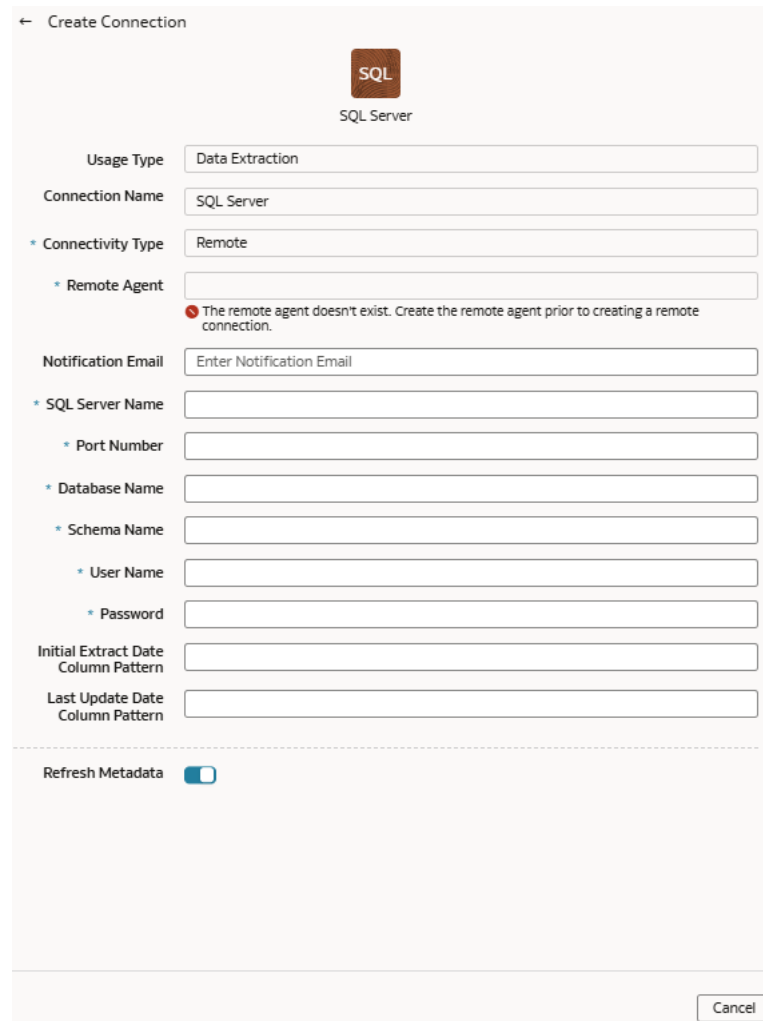
As a service administrator, you can use the Oracle Fusion Data Intelligence extract service to acquire data from SQL Server and use it to create data augmentations.

Ensure that **SQL Server** is enabled on the Enable Features page prior to creating this connection. See [Make Preview Features Available](#).

1. Set up the remote agent to load data from your SQL Server into Oracle Fusion Data Intelligence.
See [Set up the Remote Agent to Load Data into Fusion Data Intelligence \(Preview\)](#).
2. In Oracle Fusion Data Intelligence, create the SQL Server data connection using these instructions:
 - a. In Oracle Fusion Data Intelligence **Console**, click **Data Configuration** under **Application Administration**.
 - b. On the Data Configuration page, click **Manage Connections**.
 - c. On the Manage Connections page, click **Create** and then click **Connection**.
 - d. In Create Connection, select **Data Extraction** in **Usage Type**, and then select **SQL Server** as the connection type.



- e. In the dialog for the SQL Server connection, enter these details and click **Save**:
- **Connectivity Type:** Select **Remote**.
 - **Remote Agent:** Select the remote agent that you had set up to load data from your SQL Server.
 - **Notification Email:** Enter an email address to receive notifications.
 - **SQL Server Name:** Enter the SQL server name.
 - **Port Number:** Enter the port number on which your SQL server is available.
 - **Database Name:** Enter the database name in your SQLServer instance.
 - **Schema Name:** Enter the name of the schema for the dataset you want to load to run analytics on.
 - **User Name and Password:** Enter the credentials for your SQL Server instance.
 - **Initial Extract Date Column Pattern:** MM/dd/yyyy is the date format in your initial extract column; sample date is 1/23/1998.
 - **Last Update Date Column Pattern:** Last update date shows when the last update was done in your SQL Server database.



← Create Connection

SQL Server

Usage Type: Data Extraction

Connection Name: SQL Server

* Connectivity Type: Remote

* Remote Agent:
 The remote agent doesn't exist. Create the remote agent prior to creating a remote connection.

Notification Email: Enter Notification Email

* SQL Server Name:
 * Port Number:
 * Database Name:
 * Schema Name:
 * User Name:
 * Password:
 Initial Extract Date Column Pattern:
 Last Update Date Column Pattern:

Refresh Metadata ☒

Cancel

- f. Verify that the **Refresh Metadata** toggle is enabled to ensure that the metadata is refreshed when you save the connection.

You can later refresh the metadata from the Actions menu on the Manage Connections page, if required.

Note

You can't create augmentations for SQL Server unless you perform a metadata extract.

- g. Click **Save**.
- On the Manage Connections page, select **Actions** for the SQL Server connection and then select **Test Connection**.
 - To delete a connection, on the Manage Connections page, click **Actions** for the applicable connection and select **Delete**.

Note

Ensure that you delete the functional areas, data augmentations, and custom data configurations related to the data connection before deleting it. You can't update or load data from deleted data connections to the warehouse.

5. After the connections are successfully established, navigate to the Data Configuration page, select the connection in **Data Source**, then click the Data Augmentation tile, and create a data augmentation using the SQL Server data. Select the applicable SQL Server source tables. See *Augment Your Data*.

Connect with Cloud File Storage Sources

Connect with your file storage-based cloud sources to provide the background information for reports.

You can blend the additional data from these data sources with the prebuilt datasets to enhance business analysis. The file-based connectors support only UTF-8 encoding for data files that you upload.

Topics

- [About OpenCSV Standards](#)
- [About Date and Timestamp Formatting for CSV File-based Extractors](#)
- [Load Data from Amazon Simple Storage Service into Oracle Fusion Data Intelligence \(Preview\)](#)
- [Load Data from Azure Storage into Oracle Fusion Data Intelligence \(Preview\)](#)
- [Load Data from Oracle Object Storage into Fusion Data Intelligence](#)
- [Load Data from a Secure FTP Source into Fusion Data Intelligence \(Preview\)](#)

About OpenCSV Standards

The CSV parser in the extract service for file extractors uses Opencsv. The csv files that are processed by extractservice must be compliant with the Opencsv standards.

See [Opencsv File Standards](#). In addition to the CSV parser, the extract service supports files that are compliant with RFC4180 specification. The RFC 4180 CSV parser enables you to ingest single-line and multi-line data within your .csv files. The RFC 4180 parser supports ingesting data records with up to 99 line breaks. For more information on the RFC 4180 specification, see [Common Format and MIME Type for Comma-Separated Values \(CSV\) Files](#).

Keep in mind the following:

- While using special characters:
 - For strings without special characters, quotes are optional.
 - For strings with special characters, quotes are mandatory. For example, if a string has a comma, then you must use quotes for the string such as "Abc, 123".
 - Escapes (backslash character) are optional.
 - Backslash characters must always be escaped. For example, if there is a backslash in your data, use the following format: "Double backslash (\\) abc".

- To manage quotes inside a quoted string, use a backslash inside the quotes: "Asd \"asd\"".
- The Opencsv parser allows you to select one of these available characters as a delimiter:
- Comma (,)
- Semi-colon (;)
- Pipe (|)
- Tab ()

About Date and Timestamp Formatting for CSV File-based Extractors

Extractors such as Secure FTP (SFTP), Amazon Simple Storage Service (AWS S3), and Oracle Object Storage Service use CSV data files that have date and timestamp fields.

For the CSV file-based extractors, use the format examples to provide the values in the CSV Date Format, and CSV Timestamp Format fields while entering the source connection details.

Note

Ensure that the date and timestamp formats for the data files match the date and timestamp formats in your source; for example, if you've used MM/dd/yyyy and MM/dd/yyyy hh:mm:ss in your source, then you must specify the same formats while creating the applicable data connections.

Examples

Example	Pattern
1/23/1998	MM/dd/yyyy
1/23/1998 12:00:20	MM/dd/yyyy hh:mm:ss
12:08 PM	h:mm a
01-Jan-1998	dd-MMM-yyyy
2001-07-04T12:08:56.235-0700	yyyy-MM-dd'T'HH:mm:ss.SSSZ

The guidelines to define the format are:

Letter	Meaning
M	Month
d	Day
y	Year
h	Hour (0-12)
H	Hour (0-23)
m	Minute
s	Second
S	Milli Second
a	AM/PM
Z	Timezone

Load Data from Amazon Simple Storage Service into Oracle Fusion Data Intelligence (Preview)

As a service administrator, you can use the Oracle Fusion Data Intelligence extract service to acquire data from Amazon Simple Storage Service (AWS S3) and use it to create data augmentations.

Ensure that **AWS S3** is enabled on the Enable Features page prior to creating this connection. See [Make Preview Features Available](#).

1. In Oracle Fusion Data Intelligence, create the AWS S3 data connection using these instructions:
 - a. In Oracle Fusion Data Intelligence **Console**, click **Data Configuration** under **Application Administration**.
 - b. On the Data Configuration page, click **Manage Connections**.
 - c. On the Manage Connections page, click **Create** and then click **Connection**.
 - d. In Create Connection, select **Data Extraction** in **Usage Type**, and then select **AWS S3** as the connection type.

Create Connection

Usage Type: Data Extraction

Filter Connection Types

Select Connection Type

MSQ MySQL On-Prem	GA Google Analytics	OEP Oracle EPM - Financial Close and Consolidation	OEP Oracle EPM - Planning and Budgeting	OEP Oracle EPM - Profitability and Cost Management	OEP Oracle EPM - Enterprise Data Management
QBO QuickBooks Online	BIP BI Publisher	EPM EPM Financial Close and Consolidation Data Export	EPM EPM Profitability and Cost Management Data Export	EPM EPM Planning and Budgeting Data Export	SA Salesforce
AWS AWS S3	AZ Azure	SFT SFTP	TAL TALEO	OOT Oracle OTM	LCD LoCode Data Files

Cancel

- e. In the dialog for the AWS S3 connection, select **Standard** in **Connectivity Type**, enter an email address to receive notifications in **Notification Email**, and provide applicable details of your AWS S3.

← Create Connection

AWS
AWS S3

Usage Type: Data Extraction

Connection Name: AWS S3

* Connectivity Type: Standard

Notification Email: Enter Notification Email

File Type: CSV

* Access Key:

* Secret Key:

* Region:

* Bucket Name:

* Remote Host Extract Files Directory:

CSV Delimiter: ,

CSV Date Format:

SV Timestamp Format:

Refresh Metadata: ☒

Cancel | Paste from clipboard | Upload File or Drop Above | Save

- f. Verify that the **Refresh Metadata** toggle is enabled to ensure that the metadata is refreshed when you save the connection.

You can later refresh the metadata from the Actions menu on the Manage Connections page, if required.

Note

You can't create augmentations for AWS S3 unless you perform a metadata extract.

- g. Click **Save**.
- On the Manage Connections page, select **Actions** for the AWS S3 connection and then select **Test Connection**.
 - To delete a connection, on the Manage Connections page, click **Actions** for the applicable connection and select **Delete**.

Note

Ensure that you delete the functional areas, data augmentations, and custom data configurations related to the data connection before deleting it. You can't update or load data from deleted data connections to the warehouse.

4. After the connections are successfully established, navigate to the Data Configuration page, select the connection in **Data Source**, then click the Data Augmentation tile, and create a data augmentation using the AWS S3 data. Select the applicable AWS S3 source tables. See *Augment Your Data*.

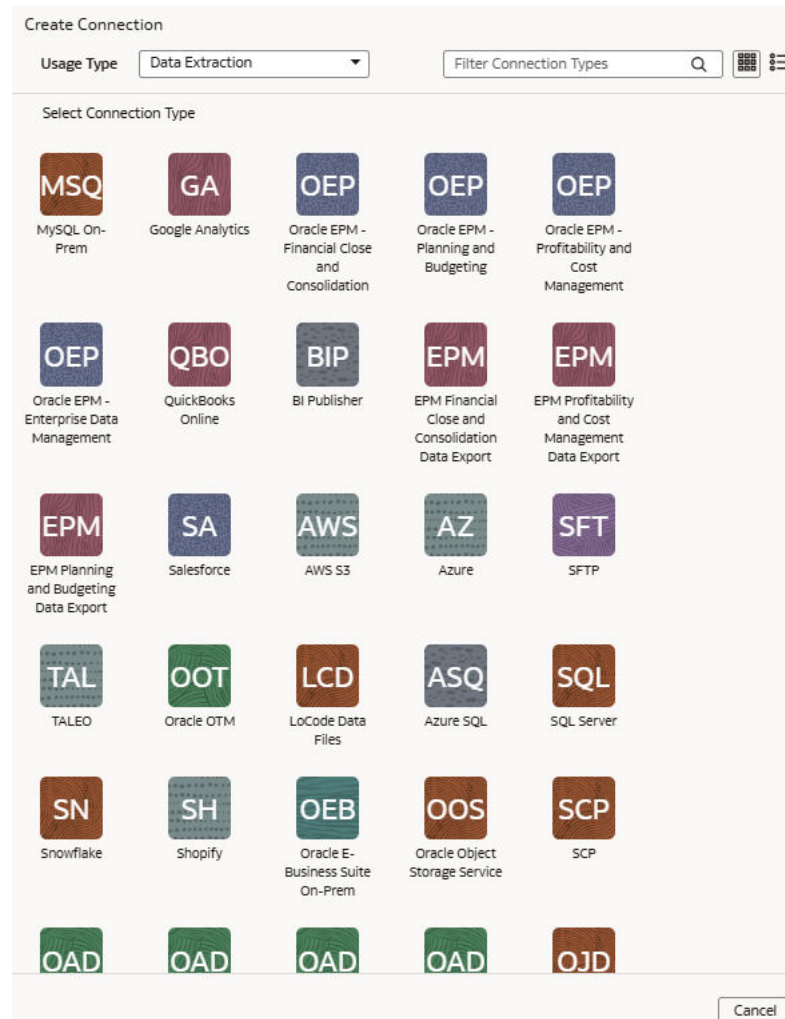
Load Data from Oracle Object Storage into Fusion Data Intelligence

As a service administrator, you can use the Fusion Data Intelligence extract service to acquire data from Oracle Object Storage Service and use it to create data augmentations.

The recommended approach is to create one augmentation from one source table after acquiring data from Oracle Object Storage Service. After completion of augmentation, Fusion Data Intelligence renames the source table in this case and if you create more than one augmentation from the same source, all other augmentations may fail with a message that the source file wasn't found.

1. Store the following details in a text file to use while creating the connection to Oracle Object Storage Service in Fusion Data Intelligence:
 - a. In Oracle Object Storage Service, create the Remote Host Extract Files directory as the base folder in which you must place all your data files. Note down the name of this directory. See the "To create a folder or subfolder" section in [Using the Console](#).
 - b. Obtain the URL of the Oracle Object Storage Service by signing into the Oracle Cloud Infrastructure Console and navigating to the bucket to get the details of the region, namespace, and bucket name. For example, the URL must be in the `https://objectstorage.<region>.oraclecloud.com/n/<namespace>/b/<name of the bucket>` format. See the "To view bucket details" section in [Using the Console](#).
 - c. Obtain a user's OCID by navigating in the Oracle Cloud Infrastructure Console to **Identity & Security**, and then **Users**. On the Users page, search for a user who has access to the bucket used in the connector and copy the **OCID**. Obtain the tenancy ID by clicking your profile icon and then **Tenancy** in the Oracle Cloud Infrastructure Console. Under Tenancy information, copy the **OCID**. See [Where to Get the Tenancy's OCID and User's OCID](#).
 - d. Obtain the fingerprint for a user from the Oracle Cloud Infrastructure Console. Navigate to **API Keys** under **Resources** on the user page, and then click **Add API Keys**. In the Add API Keys dialog, ensure that **Generate API Key Pair** is selected. Download the private and public keys using the **Download Private Key** and **Download Public Key** options. You must copy the entire text of the private key along with the comments before and after the actual key. These comments could be as simple as: "-----Begin RSA Private Key -----" and "-----End of RSA Private Key-----". Don't copy only the alphanumeric key without the header and footer comments. In the Add API Keys dialog, select **Choose Public Key File** to upload your file, or **Paste Public Key**, if you prefer to paste it into a text box and then click **Add**. Copy the fingerprint that you see after you upload the public key in the Console. It looks something like
`this:12:34:56:78:90:ab:cd:ef:12:34:56:78:90:ab:cd:ef.`
2. In Fusion Data Intelligence, create the Oracle Object Storage connection using these instructions:

- a. In Fusion Data Intelligence **Console**, click **Data Configuration** under **Application Administration**.
- b. On the Data Configuration page, click **Manage Connections**.
- c. On the Manage Connections page, click **Create** and then click **Connection**.
- d. In Create Connection, select **Data Extraction** in **Usage Type**, and then select **Oracle Object Storage Service** as the connection type.



- e. In the dialog for the Oracle Object Storage Service connection, select **Standard** in **Connectivity Type** and enter these details:
 - **Connection Name:** Object Storage
 - **Connection Type:** Standard
 - **Notification Email:** An email address to receive notifications
 - **Remote Host Extract Files Directory:** Name of the base folder in which you must place all your data files in Oracle Object Storage Service
 - **URL:** URL of the Oracle Object Storage Service that you noted down in a text file
 - **User ID:** OCID of a user that has access to the applicable bucket in Oracle Object Storage Service

- **Finger Print:** The fingerprint that you saw and copied after you uploaded the public key in the Console. It looks something like this:
12:34:56:78:90:ab:cd:ef:12:34:56:78:90:ab:cd:ef
- **Tenant ID:** Tenancy in the Oracle Infrastructure Cloud Console that you noted down in the text file
- **Private Key:** Paste the private key contents that you previously downloaded
- **File Type:** csv
- **CSV Delimiter:** Delimiter for the data files
- Date format for the data files must match the date format in your Oracle Object Storage Service source; for example, if you've used MM/dd/yyyy (01/23/1998) in your source, then you must specify the same format in **CSV Date Format**. See [About Date and Timestamp Formatting for CSV File-based Extractors](#).
- Timestamp format for the data files must match the timestamp format in your Oracle Object Storage Service source; for example, if you've used MM/dd/yyyy hh:mm:ss (01/23/1998 12:00:20) in your source, then you must specify the same format in **CSV Timestamp Format**

← Create Connection

OOS
Oracle Object Storage Service

Usage Type: Data Extraction

Connection Name: Oracle Object Storage Service

* Connectivity Type: Standard

Notification Email: Enter Notification Email

File Type: CSV

* Remote Host Extract Files Directory

* URL

* User ID

* Finger Print

* Tenant ID

* Private Key

CSV Delimiter: ,

CSV Date Format

CSV Timestamp Format

Refresh Metadata ☒

Cancel Paste from clipboard Upload File or Drop Above Save

- f. Verify that the **Refresh Metadata** toggle is enabled to ensure that the metadata is refreshed when you save the connection.

You can later refresh the metadata from the Actions menu on the Manage Connections page, if required.

Note

You can't create augmentations for the Oracle Object Storage Service unless you perform a metadata extract.

- g. Click **Save**.
3. In Oracle Object Storage Service:
 - a. Create the folder structure in the Bucket using these guidelines:

Objects

☐	Name	Last Modified
	> FAW	-

- The base folder in the bucket must match with the details provided in the connection.
- Inside the base folder, ensure to place each file in its own folder.
- Ensure that the Prefix of Data_Store_Name (same as Folder name) and Files in the target folder match exactly.

See the "To create a folder or subfolder" section in [Using the Console](#).

- b. Inside the base folder, create the metadata file for the Data Store List. This file lists the supported data stores. Each data store is a folder that has the actual file used in data augmentation, for example, ASSETS. Ensure that the file name and folder name match and there aren't any special characters (including space) in the datastore, folder or file names.

Objects

Location:

☐	Name	Last Modified
	..	-
	> ACTIVITY TYPES	-
	> ASSETS	-
	> INVOICES	-
☐	META_DATASTORES.csv	Tue, Dec 13, 2022, 21:36:42 UTC

- c. Create the metadata file for each data file under the data store folder using these guidelines:

The META_DATASTORES.csv must have these columns:

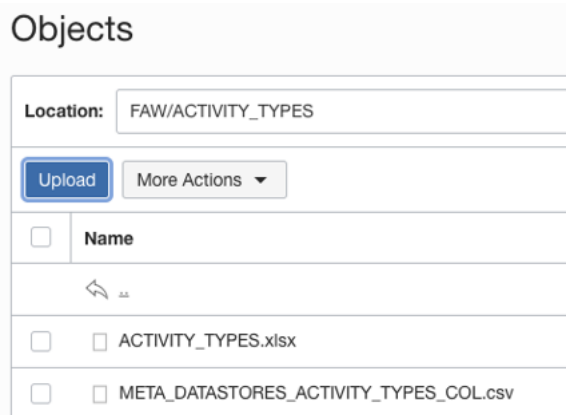
- DATA_STORE_NAME - A mandatory column to identify the data store name.
- DATA_STORE_LABEL - A non-mandatory column that identifies the description of the data store.

Each folder must have:

- A data file that has the actual data that gets loaded into Fusion Data Intelligence. This file must have a prefix with the DATA STORE NAME.
- A metadata file for the list of columns contains all the column information on the data. This file must have a Prefix with META_DATASTORES_<DATA_STORE_NAME>_COL.
 - For the columns in this metadata, ensure the following:
 - If column name is ABC, then metadata can be ABC or “ABC” - the double quotes are ignored.
 - If column name is “ABC”, then metadata must be “”ABC”” – the first double quotes are ignored.

Example

In the image, the folder name is ACTIVITY_TYPES. Hence, the data store name is ACTIVITY_TYPES. You can confirm this from the META_DATASTORES.csv file. In this example, the file is named ACTIVITY_TYPES.xlsx or ACTIVITY_TYPES.csv. The metadata file must be META_DATASTORES_ACTIVITY_TYPES_COL.csv.



The META_DATASTORES_ACTIVITY_TYPES_COL.csv has these columns:

- DATA_STORE_NAME - This is a mandatory column.
 - COLUMN_NAME - This is a mandatory column.
 - COLUMN_LABEL - This is a non-mandatory column.
 - DATA_TYPE – This is a mandatory column.
 - WIDTH – This column identifies the string length.
 - PRECISION - This column value must be Numeric data type.
 - SCALE - This column value must be Numeric data type.
 - KEY_SEQUENCE - This is a mandatory column that identifies the Primary Key definition. If you're using the composite primary key, then use column order numbers as values.
4. In Fusion Data Intelligence, on the Manage Connections page, select **Actions** for the Oracle Object Storage Service connection and then select **Test Connection**.
 5. To delete a connection, on the Manage Connections page, click **Actions** for the applicable connection and select **Delete**.

Note

Ensure that you delete the functional areas, data augmentations, and custom data configurations related to the data connection before deleting it. You can't update or load data from deleted data connections to the warehouse.

6. After the connections are successfully established, navigate to the Data Configuration page, select the connection in **Data Source**, then click the Data Augmentation tile, and create a data augmentation using the data from the Oracle Object Storage Service. Select the applicable source tables from the Oracle Object Storage Service data. See [Augment Your Data](#).

Load Data from a Secure FTP Source into Fusion Data Intelligence (Preview)

As a service administrator, you can use the Fusion Data Intelligence extract service to acquire data from a secure FTP source (SFTP) and use it to create data augmentations.

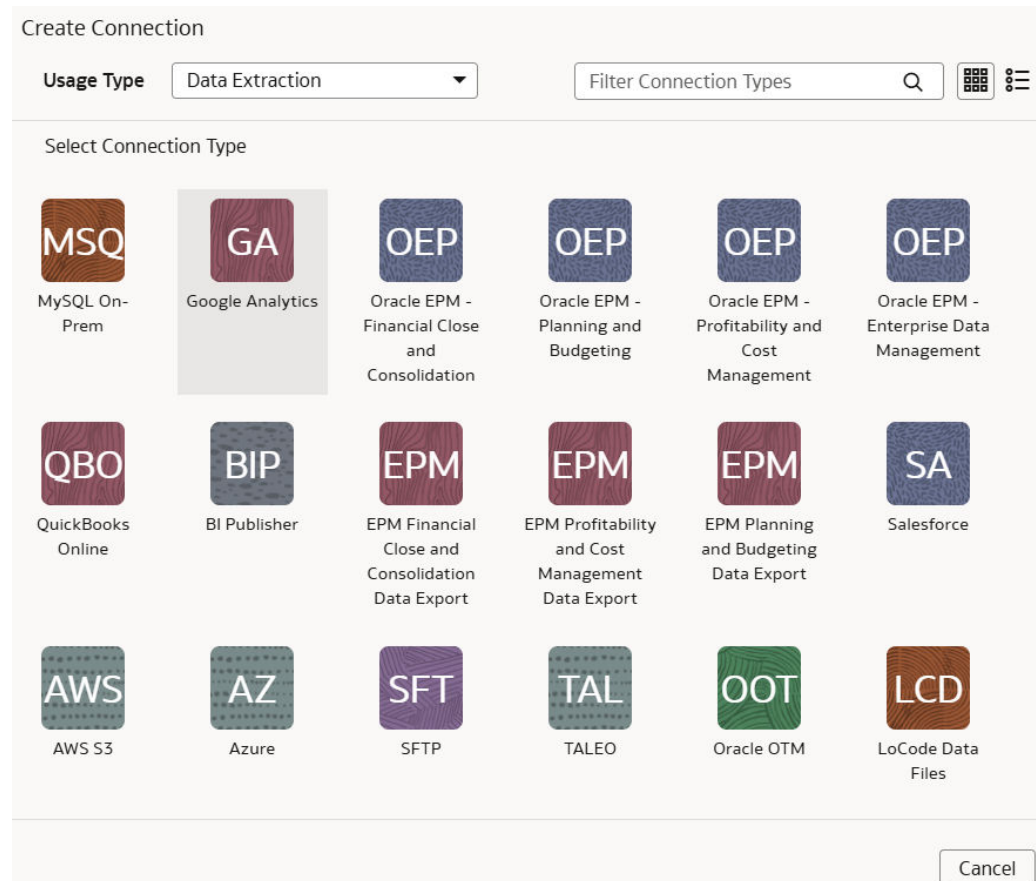
Ensure that **SFTP** is enabled on the Enable Features page prior to creating this connection. See [Make Preview Features Available](#).

1. Check the port number for your secure FTP database and create a service request to get the port opened.

Note

You must provide the IP address of the SFTP server, which should be a public IP and can't be hostname and a fully qualified domain name (FQDN) or a class A private IP.

2. In Fusion Data Intelligence, create the SFTP data connection using these instructions:
 - a. In Fusion Data Intelligence **Console**, click **Data Configuration** under **Application Administration**.
 - b. On the Data Configuration page, click **Manage Connections**.
 - c. On the Manage Connections page, click **Create** and then click **Connection**.
 - d. In Create Connection, select **Data Extraction** in **Usage Type**, and then select **SFTP** as the connection type.



- e. In the dialog for the SFTP connection, select **Standard** in **Connectivity Type**, enter an email address to receive notifications in **Notification Email**, and provide applicable values in **Remote Host**, **User Name**, **Private Key**, **Remote Host Extract Files Directory**, **File Type**, **CSV Delimiter**, **CSV Date Format**, and **CSV Timestamp Format**. In **Lock Metadata**, specify whether you want to turn off the metadata extracts after first refresh if metadata isn't going to change. This option is useful if the flag to derive metadata from data files using the metadata utility is turned on in your source. In **Remote Host**, ensure that you specify an SFTP Server that supports FIPS Compliant key exchange algorithms.

Ensure the following:

- The table name and file name in your SFTP source needs to be the same.
- The private key you provide is in the valid OpenSSH format and the minimum number of bits in the key should be 2048.
- Date format for the data files must match the date format in your SFTP source; for example, if you've used MM/dd/yyyy (01/23/1998) in your source, then you must specify the same format in **CSV Date Format**. See [About Date and Timestamp Formatting for CSV File-based Extractors](#).
- Timestamp format for the data files must match the timestamp format in your SFTP source; for example, if you've used MM/dd/yyyy hh:mm:ss (01/23/1998 12:00:20) in your source, then you must specify the same format in **CSV Timestamp Format**.

← Create Connection

SFT
SFTP

Usage Type: Data Extraction

Connection Name: SFTP

* Connectivity Type: Standard

Notification Email: Enter Notification Email

* File Type: CSV

* Remote Host:

Remote Port:

* User Name:

Password:

Pass Phrase:

Private Key:

* Remote Host Extract Files Directory:

CSV Delimiter: ,

CSV Date Format:

CSV Timestamp Format:

Lock Metadata:

Refresh Metadata: ☒

Cancel Paste from clipboard Upload File or Drop Above Save

- f. Verify that the **Refresh Metadata** toggle is enabled to ensure that the metadata is refreshed when you save the connection.

You can later refresh the metadata from the Actions menu on the Manage Connections page, if required.

Note

You can't create augmentations for SFTP unless you perform a metadata extract.

- g. Click **Save**.
3. In your SFTP source:
- a. Create the folder structure in the Bucket using these guidelines:

Objects

Upload More Actions ▾

☐	Name	Last Modified
☐	> FAW	-

- The base folder in the bucket must match with the details provided in the connection.
- Inside the base folder, ensure to place each file in its own folder.
- Ensure that the Prefix of Data_Store_Name (same as Folder name) and Files in the target folder match exactly.

See the "To create a folder or subfolder" section in [Using the Console](#).

- b. Inside the base folder, create the metadata file for the Data Store List. This file lists the supported data stores. Each data store is a folder that has the actual file used in data augmentation, for example, ASSETS. Ensure that the file name and folder name match and there aren't any special characters (including space) in the datastore, folder or file names.

Objects

Location: FAW		
Upload More Actions		
☐	Name	Last Modified
☐	.	-
☐	> ACTIVITY_TYPES	-
☐	> ASSETS	-
☐	> INVOICES	-
☐	META_DATASTORES.csv	Tue, Dec 13, 2022, 21:36:42 UTC

- c. Create the metadata file for each data file under the data store folder using these guidelines:

The META_DATASTORES.csv must have these columns:

- DATA_STORE_NAME - A mandatory column to identify the data store name.
- DATA_STORE_LABEL - A non-mandatory column that identifies the description of the data store.

Each folder must have:

- A data file that has the actual data that gets loaded into Fusion Data Intelligence. This file must have a prefix with the DATA STORE NAME.
- A metadata file for the list of columns contains all the column information on the data. This file must have a Prefix with META_DATASTORES_<DATA_STORE_NAME>_COL.
 - For the columns in this metadata, ensure the following:
 - If column name is ABC, then metadata can be ABC or "ABC" - the double quotes are ignored.
 - If column name is "ABC", then metadata must be ""ABC"" – the first double quotes are ignored.

Example

In the image, the folder name is ACTIVITY_TYPES. Hence, the data store name is ACTIVITY_TYPES. You can confirm this from the META_DATASTORES.csv file. In this example, the file is named ACTIVITY_TYPES.xlsx or ACTIVITY_TYPES.csv. The

metadata file must be META_DATASTORES_ACTIVITY_TYPES_COL.csv.

Objects

Location: FAW/ACTIVITY_TYPES

☐	Name
☐	ACTIVITY_TYPES.xlsx
☐	META_DATASTORES_ACTIVITY_TYPES_COL.csv

The META_DATASTORES_ACTIVITY_TYPES_COL.csv has these columns:

- DATA_STORE_NAME - This is a mandatory column.
 - COLUMN_NAME - This is a mandatory column.
 - COLUMN_LABEL - This is a non-mandatory column.
 - DATA_TYPE - This is a mandatory column.
 - WIDTH - This column identifies the string length.
 - PRECISION - This column value must be Numeric data type.
 - SCALE - This column value must be Numeric data type.
 - KEY_SEQUENCE - This is a mandatory column that identifies the Primary Key definition. If you're using the composite primary key, then use column order numbers as values.
4. On the Manage Connections page, select **Actions** for the SFTP connection and then select **Test Connection**.
 5. To delete a connection, on the Manage Connections page, click **Actions** for the applicable connection and select **Delete**.

Note

Ensure that you delete the functional areas, data augmentations, and custom data configurations related to the data connection before deleting it. You can't update or load data from deleted data connections to the warehouse.

6. After the connections are successfully established, navigate to the Data Augmentation tile on the Data Configuration page, select the connection in **Data Source**, and create a data augmentation using the SFTP data. Select the applicable secure FTP source tables. See [Augment Your Data](#).

Load Data from Azure Storage into Oracle Fusion Data Intelligence (Preview)

As a service administrator, you can use the Oracle Fusion Data Intelligence extract service to acquire data from Azure Storage and use it to create data augmentations.

Ensure that **Azure Storage** is enabled on the Enable Features page prior to creating this connection. See [Make Preview Features Available](#).

1. In Oracle Fusion Data Intelligence, create the Azure Storage data connection using these instructions:
 - a. In Oracle Fusion Data Intelligence **Console**, click **Data Configuration** under **Application Administration**.
 - b. On the Data Configuration page, click **Manage Connections**.
 - c. On the Manage Connections page, click **Create** and then click **Connection**.
 - d. In Create Connection, select **Data Extraction** in **Usage Type**, and then select **Azure Storage** as the connection type.
 - e. In the dialog for the Azure Storage connection, select **Standard** in **Connectivity Type**, enter an email address to receive notifications in **Notification Email**, enter these Azure Storage instance details, and click **Save**:
 - **Connectivity Type**: Select **Standard**.
 - **Notification Email**: Enter an email address to receive notifications.
 - **File Type**: Select CSV.
 - **Azure Blob Connection String**: Enter your storage account's connection string.
 - **Container**: Specify the Azure container.
 - **Remote Host Extract Files Directory**: Name of the base folder in which you must place all your data files in Azure Storage.
 - **CSV Delimiter**: Delimiter for the data files.
 - **CSV Date Format**: Date format for the data files must match the date format in your Azure Storage source; for example, if you've used MM/dd/yyyy (01/23/1998) in your source, then you must specify the same format. See [About Date and Timestamp Formatting for CSV File-based Extractors](#)

← Create Connection

AZ
Azure

Usage Type: Data Extraction

Connection Name: Azure

* Connectivity Type: Standard

Notification Email: Enter Notification Email

File Type: CSV

Azure Blob Connection String:

* Container:

* Remote Host Extract Files Directory:

CSV Delimiter: ,

CSV Date Format:

CSV Timestamp Format:

Refresh Metadata: ☒

Cancel Paste from clipboard Upload File or Drop Above Save

- f. Verify that the **Refresh Metadata** toggle is enabled to ensure that the metadata is refreshed when you save the connection.

You can later refresh the metadata from the Actions menu on the Manage Connections page, if required.

Note

You can't create augmentations for Azure Storage unless you perform a metadata extract.

- g. Click **Save**.
- On the Manage Connections page, select **Actions** for the Azure Storage connection and then select **Test Connection**.
 - To delete a connection, on the Manage Connections page, click **Actions** for the applicable connection and select **Delete**.

Note

Ensure that you delete the functional areas, data augmentations, and custom data configurations related to the data connection before deleting it. You can't update or load data from deleted data connections to the warehouse.

4. After the connections are successfully established, navigate to the Data Configuration page, select the connection in **Data Source**, then click the Data Augmentation tile, and create a data augmentation using the Azure Storage data. Select the applicable Azure Storage source tables. See [Augment Your Data](#).

Connect With Cloud Sources

Connect with your cloud applications to provide the background information for reports.

You can blend the additional data from these data sources with the prebuilt datasets to enhance business analysis. To know about the date and timestamp formatting for the CSV file-based extractors, see [About Date and Timestamp Formatting for CSV File-based Extractors](#).

Topics

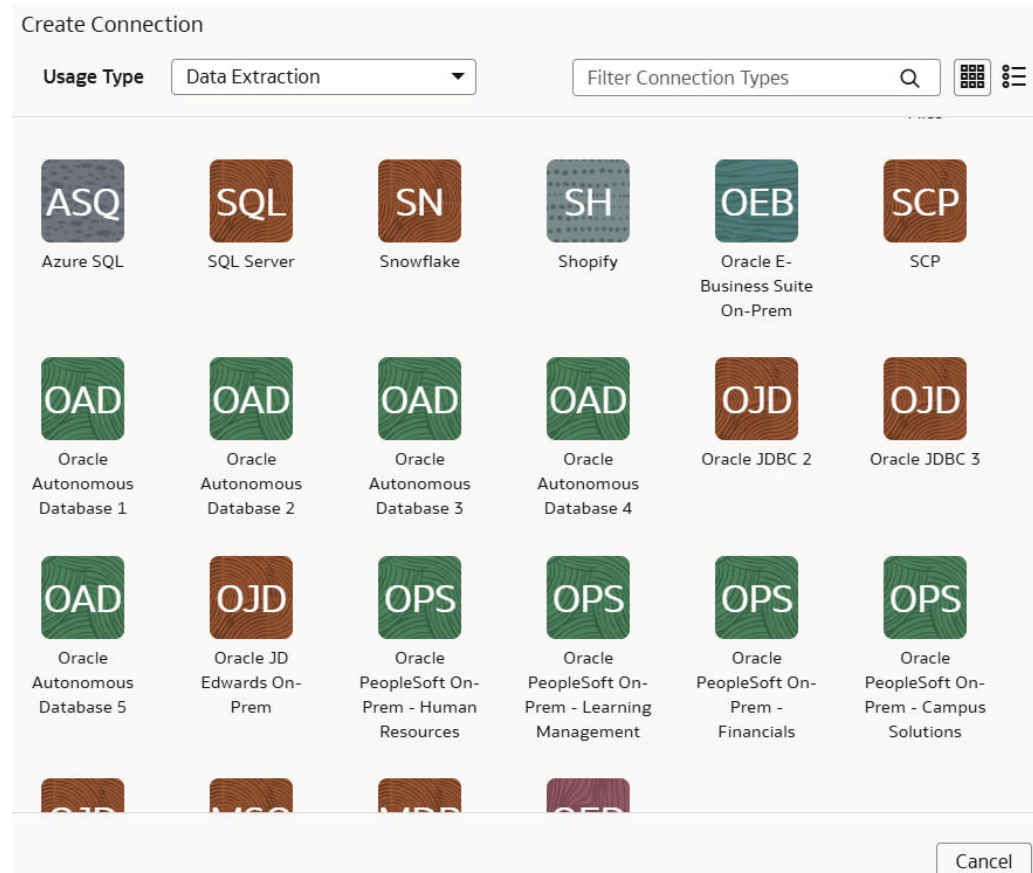
- [Load Data from Azure SQL into Oracle Fusion Data Intelligence \(Preview\)](#)
- [Load Data from Oracle Autonomous Database into Oracle Fusion Data Intelligence \(Preview\)](#)
- [Load Data from Oracle Enterprise Performance Management into Fusion Data Intelligence \(Preview\)](#)
- [Load Data from EPM Export Data Instance into Fusion Data Intelligence \(Preview\)](#)
- [Load Data from Google Analytics into Fusion Data Intelligence](#)
- [Connect with Your Oracle Eloqua Data Source \(Preview\)](#)
- [Load Data from Salesforce into Fusion Data Intelligence](#)
- [Load Data from Oracle Analytics Publisher into Fusion Data Intelligence \(Preview\)](#)
- [Load Data from Shopify into Fusion Data Intelligence \(Preview\)](#)
- [Load Data from Snowflake into Oracle Fusion Data Intelligence \(Preview\)](#)
- [Load Data from Taleo into Fusion Data Intelligence \(Preview\)](#)
- [Load Data from Oracle Transportation Management Cloud Service into Oracle Fusion Data Intelligence \(Preview\)](#)
- [Load Data from QuickBooks Online into Oracle Fusion Data Intelligence \(Preview\)](#)
- [Load Data from MongoDB into Fusion Data Intelligence \(Preview\)](#)
- [Load Data from MySQL Cloud Database into Fusion Data Intelligence \(Preview\)](#)
- [Load Data from Enterprise Data Management Cloud into Fusion Data Intelligence \(Preview\)](#)

Load Data from Azure SQL into Oracle Fusion Data Intelligence (Preview)

As a service administrator, you can use the Oracle Fusion Data Intelligence extract service to acquire data from Azure SQL and use it to create data augmentations.

Ensure that **Azure SQL** is enabled on the Enable Features page prior to creating this connection. See [Make Preview Features Available](#).

1. In Oracle Fusion Data Intelligence, create the Azure SQL data connection using these instructions:
 - a. In Oracle Fusion Data Intelligence **Console**, click **Data Configuration** under **Application Administration**.
 - b. On the Data Configuration page, click **Manage Connections**.
 - c. On the Manage Connections page, click **Create** and then click **Connection**.
 - d. In Create Connection, select **Data Extraction** in **Usage Type** and then select **Azure SQL** as the connection type.



- e. In the dialog for the Azure SQL connection, select **Standard** in **Connectivity Type**, enter an email address to receive notifications in **Notification Email**, enter your Azure SQL instance details, and click **Save**.

← Create Connection

ASQ
Azure SQL

Usage Type: Data Extraction

Connection Name: Azure SQL

* Connectivity Type: Standard

Notification Email: Enter Notification Email

* SQL Server Name:

* Port Number:

* Database Name:

* Schema Name:

* User Name:

* Password:

Initial Extract Date Column Pattern:

Last Update Date Column Pattern:

Refresh Metadata ☒

Cancel Paste from clipboard Upload File or Drop Above Save

- f. Verify that the **Refresh Metadata** toggle is enabled to ensure that the metadata is refreshed when you save the connection.

You can later refresh the metadata from the Actions menu on the Manage Connections page, if required.

Note

You can't create augmentations for Azure SQL unless you perform a metadata extract.

2. On the Manage Connections page, select **Actions** for the Azure SQL connection and then select **Test Connection**.
3. To delete a connection, on the Manage Connections page, click **Actions** for the applicable connection and select **Delete**.

Note

Ensure that you delete the functional areas, data augmentations, and custom data configurations related to the data connection before deleting it. You can't update or load data from deleted data connections to the warehouse.

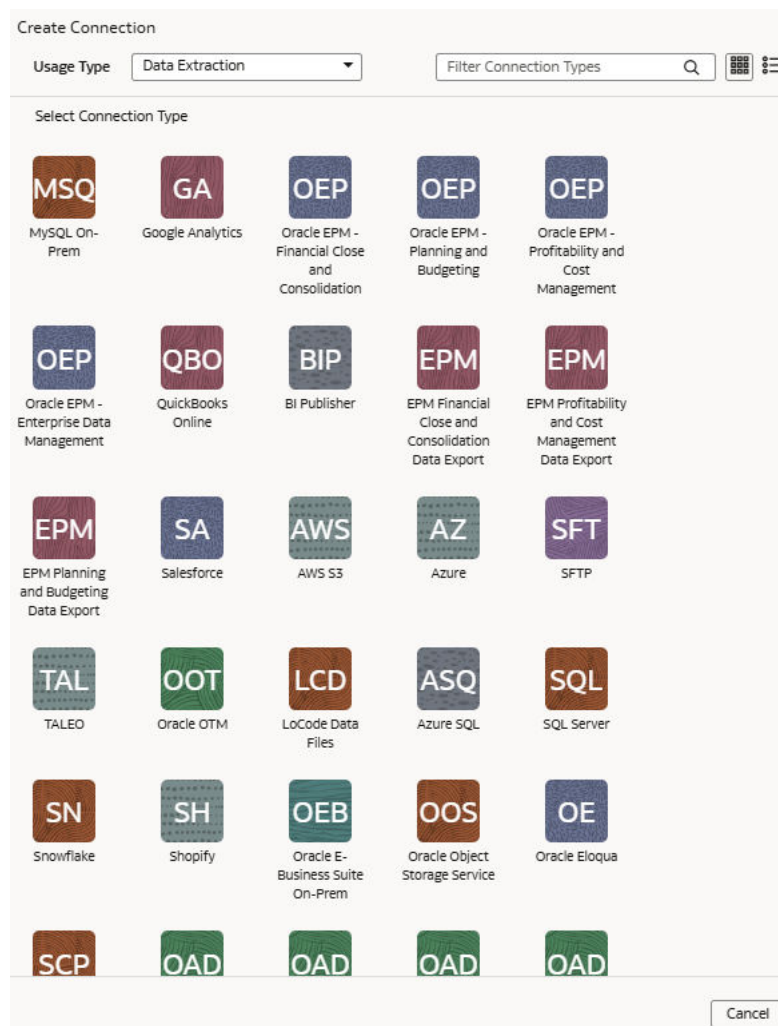
4. After the connections are successfully established, navigate to the Data Configuration page, select the connection in **Data Source**, then click the Data Augmentation tile, and create a data augmentation using the Azure SQL data. Select the applicable Azure SQL source tables. See *Augment Your Data*.

Connect with Your Oracle Eloqua Data Source (Preview)

If you've subscribed for Oracle Fusion CX Analytics and want to load data from your Oracle Eloqua source into Fusion Data Intelligence, then create a connection using the *Eloqua* connection type.

The Oracle Eloqua data that you load into Fusion Data Intelligence enables you to augment the data in your warehouse and create varied customer experience-related analytics. Ensure that **Oracle Eloqua** is enabled on the Enable Features page prior to creating this connection. See [Make Preview Features Available](#).

1. In Oracle Fusion Data Intelligence **Console**, click **Data Configuration** under **Application Administration**.
2. On the Data Configuration page, click **Manage Connections** under Global Configurations.
3. On the Manage Connections page, click **Create** and then click **Connection**.
4. In Create Connection, , select **Data Extraction** in **Usage Type**, and then select **Oracle Eloqua** as the connection type.



5. In the dialog for the Eloqua connection, select **Standard** in **Connectivity Type**, enter an email address to receive notifications in **Notification Email**, and the credentials to connect with the Eloqua source in **User Name** and **Password**.

6. In **URL**, enter the URL for your Eloqua server in this sample format: `https://<your eloqua server>/api/odata`.

The screenshot shows the 'Create Connection' form for Oracle Eloqua. At the top, there is a back arrow and the text 'Create Connection'. Below this is the Oracle Eloqua logo, which consists of a blue square with 'OE' in white, followed by the text 'Oracle Eloqua'. The form contains several input fields: 'Usage Type' with a dropdown menu showing 'Data Extraction'; 'Connection Name' with a text field containing 'Oracle Eloqua'; '* Connectivity Type' with a dropdown menu showing 'Standard'; 'Notification Email' with a text field containing 'Enter Notification Email'; '* User Name' with a text field; '* Password' with a text field; and '* URL' with a text field. Below these fields is a 'Refresh Metadata' toggle switch, which is currently turned on. At the bottom of the form, there are four buttons: 'Cancel', 'Paste from clipboard', 'Upload File or Drop Above', and 'Save'.

7. Verify that the **Refresh Metadata** toggle is enabled to ensure that the metadata is refreshed when you save the connection.

You can later refresh the metadata from the Actions menu on the Manage Connections page, if required.

Note

You can't create augmentations for Eloqua unless you perform a metadata extract.

8. Click **Save**.
9. On the Manage Connections page, select **Actions** for the Eloqua connection and then select **Test Connection**.
10. To delete a connection, on the Manage Connections page, click **Actions** for the applicable connection and select **Delete**.

Note

Ensure that you delete the functional areas, data augmentations, and custom data configurations related to the data connection before deleting it. You can't update or load data from deleted data connections to the warehouse.

11. After the connections are successfully established, navigate to the Data Configuration page, select the connection in **Data Source**, then click the Data Augmentation tile, and create a data augmentation using the Eloqua data. Select the applicable Eloqua source tables. See [Augment Your Data](#).

Load Data from Your Oracle Eloqua Data Source (Preview)

Create a data pipeline for the Marketing Campaign Analytics functional area to load data from your Oracle Eloqua source into Oracle Fusion Data Intelligence.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence, **Console**, click **Data Configuration** under **Application Administration**.
3. On the Data Configuration page, click your service. For example, under Applications, click **Customer Experience**.
4. On the Customer Experience page, click **Create**.
5. In the wizard, select **Customer Experience Marketing Analytics** in **Offering** and **Marketing Campaign Analytics** in **Functional Area** to transfer the data to the warehouse, and then click **Next**.

Customer Experience

Cancel

1 2 3 4

Next

Select your application areas to transfer data to the warehouse.

Offering

Functional Area

6. Review the parameters and click one of the options:
 - **Cancel:** To cancel the data pipeline for the functional area.
 - **Save:** To save the data pipeline for the functional area but not activate it.
 - **Activate:** To schedule when to run the data pipeline for the functional area. See [Activate a Data Pipeline for a Functional Area](#).

Load Data from Enterprise Data Management Cloud into Fusion Data Intelligence (Preview)

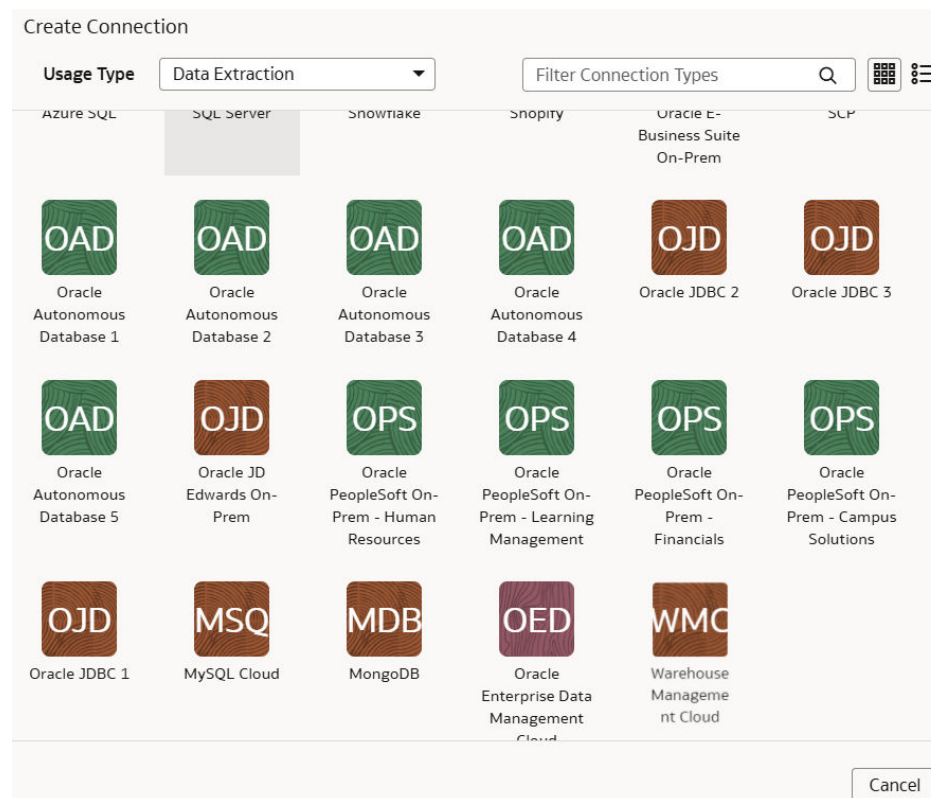
As a service administrator, you can use the Fusion Data Intelligence extract service to acquire data from the Enterprise Data Management Cloud instance and use it to create data augmentations.

The extracts created in the Enterprise Data Management Cloud service need to be public, hence you must promote your private extracts to the public. Review the documentation and

error messages for the metadata refresh failures for the private extract. This connector supports only the CSV data format.

Ensure that **Oracle Enterprise Data Management Cloud** is enabled on the Enable Features page prior to creating this connection. See [Make Preview Features Available](#).

1. In Fusion Data Intelligence, create the Enterprise Data Management Cloud data connection using these instructions:
 - a. In Fusion Data Intelligence **Console**, click **Data Configuration** under **Application Administration**.
 - b. On the Data Configuration page, click **Manage Connections**.
 - c. On the Manage Connections page, click **Create** and then click **Connection**.
 - d. In Create Connection, select **Data Extraction** in **Usage Type** and then select **Oracle Enterprise Data Management Cloud** as the connection type.



- e. In the dialog for the Enterprise Data Management Cloud connection, select **Standard** in **Connectivity Type**, enter an email address to receive notifications in **Notification Email**, host name of the Oracle Enterprise Data Management server in **Host Name**, credentials to access the Enterprise Data Management Cloud instance in **User Name** and **Password**. In **Extract Configuration**, enter the list of extracts using only “comma” as the delimiter. The configuration extract must be a single line JSON without formatting for the quotation marks (“ instead of \”), for example:

```
[{"applicationName": "Account Reconciliation", "dimensionName": "Profiles", "extractName": "Profiles"}]
```

← Create Connection

OED
Oracle Enterprise Data Management Cloud

Usage Type: Data Extraction

Connection Name: Oracle Enterprise Data Management Cloud

* Connectivity Type: Standard

Notification Email: Enter Notification Email

* Host Name:

* User Name:

* Password:

* Extract Configuration

Application Name	Dimension Name	Extract Name
Application Name	Dimension Name	Extract Name
⊕ Add		

Refresh Metadata ☒

Cancel Paste from clipboard Upload File or Drop Above **Save**

- f. Verify that the **Refresh Metadata** toggle is enabled to ensure that the metadata is refreshed when you save the connection.

You can later refresh the metadata from the Actions menu on the Manage Connections page, if required.

Note

You can't create augmentations for Enterprise Data Management Cloud unless you perform a metadata extract.

- g. Click **Save**.
- On the Manage Connections page, select **Actions** for the Enterprise Data Management Cloud connection and then select **Test Connection**.
 - To delete a connection, on the Manage Connections page, click **Actions** for the applicable connection and select **Delete**.

Note

Ensure that you delete the functional areas, data augmentations, and custom data configurations related to the data connection before deleting it. You can't update or load data from deleted data connections to the warehouse.

4. After the connections are successfully established, navigate to the Data Configuration page, select the connection in **Data Source**, then click the Data Augmentation tile, and create a data augmentation using the Enterprise Data Management Cloud data. Select the applicable Enterprise Data Management Cloud source tables. See *Augment Your Data*.

Load Data from Oracle Enterprise Performance Management into Fusion Data Intelligence (Preview)

As a service administrator, you can use the Fusion Data Intelligence extract service to acquire data from the Enterprise Performance Management (EPM) SaaS instance and use it to create data augmentations for various Enterprise Resource Planning and Supply Chain Management use cases.

You can connect to these functional modules of EPM:

- Financial Close and Consolidation (FCCS)
- Planning and Budgeting (PBCS)
- Profitability and Cost Management (PCMCS)

If you've pivot table in your source, then the metadata extract supports pivot table metadata extraction for the EPM connectors. You can only manually extract the incremental data because, for incremental extraction, you must update the results file in EPM before starting the next extraction for the updated data. Update the results file by running the integration using Data Exchange and then access the new results file from the EPM connector in Fusion Data Intelligence. Ensure that you enter all the fields in accordance with your EPM nomenclature and specifics. For example, if you have defined Period in your EPM job as {June-23}, then include exactly the same in the Create Connection for the EPM source dialog.

Note

The EPM connectors display the default datatype and size; you must edit these values as applicable while creating data augmentations.

Depending on the functional module you want to connect to, ensure that the applicable feature is enabled on the Enable Features page prior to creating this connection:

- **Oracle EPM - Financial Close and Consolidation**
- **Oracle EPM - Planning and Budgeting**
- **Oracle EPM - Profitability and Cost Management**

See [Make Preview Features Available](#).

1. In EPM, create an integration, write out the results into a file whose name you provide in **Download File Name**, and then specify that same file name in List of Data Files while creating the connection to EPM in Fusion Data Intelligence to extract the data.

Edit Integration: FAWEXPORTNEW

Save ▼

General Map Dimensions Map Members Options

Filters	Options
General Option	
Category	Current
Source Cube	Plan1
Period Mapping Type	Default
Calendar	
Data Extract Option	Stored Data only
Data Precision	
Data Number of Decimal	
Target Option	
Download File Name	fawdatanew
Column Delimiter	,
Decimal Separator	Decimal Point
File Character Set	UTF-8
End of Line Character	Linux
Include Header	Yes
Export Attribute Columns	No
Accumulate Data	No
Sort Data	No
Pivot Dimension	

2. In EPM, when exporting data, use one of the following modes:
 - Standard mode: This built-in workflow process helps manage the data flow process in and out of EPM. For Standard mode, you specify the period when you run the integration.
 - Quick mode: This process by-passes most of the steps in the workflow and provides a significant improvement in the extract process. When using quick mode, you specify the period in the integration definition filter, and this may include a substitution variable. When using the API, the same rules apply, except that when you need to specify a period, you can't use a substitution variable to pull from EssBase, but will need to include the period or year on extract.

See [Exporting Data](#).

3. In Fusion Data Intelligence, create the EPM data connection using these instructions:
 - a. In Fusion Data Intelligence **Console**, click **Data Configuration** under **Application Administration**.
 - b. On the Data Configuration page, click **Manage Connections**.
 - c. On the Manage Connections page, click **Create** and then click **Connection**.
 - d. In Create Connection, select **Data Extraction** in **Usage Type** and then select the connection type based on the functional module that you want to connect to. For example, to connect to the "Financial Close and Consolidation (FCCS)" module, select **Oracle EPM - Financial Close and Consolidation** as the connection type.

Create Connection

Usage Type: Data Extraction Filter Connection Types Q Grid Icon Menu Icon

Select Connection Type

MSQ MySQL On-Prem	GA Google Analytics	OEP Oracle EPM - Financial Close and Consolidation	OEP Oracle EPM - Planning and Budgeting	OEP Oracle EPM - Profitability and Cost Management	OEP Oracle EPM - Enterprise Data Management
QBO QuickBooks Online	BIP BI Publisher	EPM EPM Financial Close and Consolidation Data Export	EPM EPM Profitability and Cost Management Data Export	EPM EPM Planning and Budgeting Data Export	SA Salesforce
AWS AWS S3	AZ Azure	SFT SFTP	TAL TALEO	OOT Oracle OTM	LCD LoCode Data Files

Cancel

- e. In the dialog for the Oracle EPM connection, provide these details in **Source Connection** and then click **Save and Next**:

Note

Some properties are defined on the **Extract Configuration** tab. These properties are visible, but read-only on the **Source Connection** tab.

- **Connectivity Type:** Select **Standard**.
 - **Notification Email:** Enter an email address to receive notifications.
 - **User Name** and **Password:** Enter the credentials for your EPM source. Prefix the user name with the domain of your EPM source, such as domain.username.
 - **URL:** Enter the specific URL of your EPM source using the `https://<DOMAIN_NAME>region.ocs.oraclecloud.com` format. For example, `https://epm7-test-a123456.epm.us6.oraclecloud.com`. Ensure to use the `https://` protocol to avoid a timeout error.
- f. In the Extract Configuration page of the Oracle EPM connection dialog, provide these details and click **Save**:
- Select **Integration Job** from the **Job Mode** dropdown, then provide the **Job Name** and **Period Name** details in the **Extract Configuration** section.
 - **Job Name:** Provide the EPM job name such as "Job 1" and period name such as "Quarter 1" corresponding to the given job name to extract data for specific

periods. This enables you to run multiple EPM jobs. To ensure a healthy connection, you should first run the desired EPM integration jobs in the EPM user interface. Then enter the successfully-run and valid EPM integration job names in this field. If you've multiple job names, ensure that they are comma separated. For example, FAWEPMTTestingV2, FAWEXPORT,FAW Job Testing.

- **Period Name:** Provide the period names for the corresponding job names. Ensure that multiple period names are comma separated. You may leave this blank, in which case the connector uses the global point of view. Few examples of period names are:
 - * {Jan-22}, {Oct-22}
 - * {Nov-22}{Dec-22}, {Jan-23}{Feb-23}
 - * {Jan#FY20}{Mar#FY20}, {Apr#FY20}{May#FY20}
- Alternatively, select **Data Files** from the **Job Mode** dropdown, then provide the
 - **List of Data Files:** Specify the file name that you had entered in **Download File Name** while creating an integration in EPM.

Create Connection

① ————— ②
 Source Connection ————— Extract Configuration


 Oracle EPM - Planning and Budgeting

* Job Mode

Refresh Metadata

Integration Job

Data Files

Cancel
Paste from clipboard
Upload File or Drop Above
Save

- g. Verify that the **Refresh Metadata** toggle is enabled to ensure that the metadata is refreshed when you save the connection.

You can later refresh the metadata from the Actions menu on the Manage Connections page, if required.

Note

You can't create augmentations for EPM unless you perform a metadata extract.

- h. Click **Save**.
4. On the Manage Connections page, select **Actions** for the EPM connection and then select **Test Connection**.
5. To delete a connection, on the Manage Connections page, click **Actions** for the applicable connection and select **Delete**.

Note

Ensure that you delete the functional areas, data augmentations, and custom data configurations related to the data connection before deleting it. You can't update or load data from deleted data connections to the warehouse.

6. After the connections are successfully established, navigate to the Data Configuration page, select the connection in **Data Source**, then click the Data Augmentation tile, and create a data augmentation using the EPM data. Select the applicable EPM source tables. See Augment Your Data.

Load Data from EPM Export Data Instance into Fusion Data Intelligence (Preview)

As a service administrator, you can use the Fusion Data Intelligence extract service to acquire data from EPM Export Data instance and use it to create data augmentations.

You can connect to these functional modules of EPM:

- Financial Close and Consolidation (FCCS)
- Planning and Budgeting (PBCS)
- Profitability and Cost Management (PCMCS)

If you've pivot table in your source, then the metadata extract supports pivot table metadata extraction for the EPM connectors. You can only manually extract the incremental data because, for incremental extraction, you must update the results file in EPM before starting the next extraction for the updated data. Update the results file by running the integration using Data Exchange and then access the new results file from the EPM connector in Fusion Data Intelligence. Ensure that you enter all the fields in accordance with your EPM nomenclature and specifics. For example, if you have defined Period in your EPM job as {June-23}, then include exactly the same in the Create Connection for the EPM source dialog.

Note

The EPM connectors display the default datatype and size; you must edit these values as applicable while creating data augmentations.

Depending on the functional module you want to connect to, ensure that the applicable feature is enabled on the Enable Features page prior to creating this connection:

- **EPM Financial Close and Consolidation Data Export**
- **EPM Planning and Budgeting Data Export**
- **EPM Profitability and Cost Management Data Export**

See [Make Preview Features Available](#).

1. In EPM, create a data exchange job, write out the results into a file whose name you provide in **Download File Name**, and then specify that same file name in List of Data Files while creating the connection to EPM in Fusion Data Intelligence to extract the data.
2. In EPM, when exporting data, use one of the following modes:
 - Standard mode: This built-in workflow process helps manage the data flow process in and out of EPM. For Standard mode, you specify the period when you run the integration.
 - Quick mode: This process by-passes most of the steps in the workflow and provides a significant improvement in the extract process. When using quick mode, you specify the period in the integration definition filter, and this may include a substitution variable. When using the API, the same rules apply, except that when you need to specify a period, you can't use a substitution variable to pull from EssBase, but will need to include the period or year on extract.

See [Exporting Data](#).

3. In Fusion Data Intelligence, create the data connection to the EPM Export Data instance using these instructions:
 - a. In Fusion Data Intelligence **Console**, click **Data Configuration** under Application Administration.
 - b. On the Data Configuration page, click **Manage Connections**.
 - c. On the Manage Connections page, click **Create** and then click **Connection**.
 - d. In Create Connection, select **Data Extraction** in **Usage Type** and then select the connection type based on the functional module that you want to connect to. For example, to connect to the "Financial Close and Consolidation (FCCS)" module, select **EPM Financial Close and Consolidation Data Export** as the connection type.

Create Connection

Usage Type: Data Extraction Filter Connection Types Q Grid Icon Menu Icon

Select Connection Type

MSQ MySQL On-Prem	GA Google Analytics	OEP Oracle EPM - Financial Close and Consolidation	OEP Oracle EPM - Planning and Budgeting	OEP Oracle EPM - Profitability and Cost Management	OEP Oracle EPM - Enterprise Data Management
QBO QuickBooks Online	BIP BI Publisher	EPM EPM Financial Close and Consolidation Data Export	EPM EPM Profitability and Cost Management Data Export	EPM EPM Planning and Budgeting Data Export	SA Salesforce
AWS AWS S3	AZ Azure	SFT SFTP	TAL TALEO	OOT Oracle OTM	LCD LoCode Data Files

Cancel

- e. In Create Connection for the EPM source, enter these details and click **Save**:
- **Connectivity Type:** Select **Standard**.
 - **Notification Email:** Enter an email address to receive notifications.
 - **URL:** Enter the specific URL of your EPM source ensuring to use https. For example, `https://epm7-test-a123456.epm.us6.oraclecloud.com`. If you provide `http://epm7-test-a123456.epm.us6.oraclecloud.com` or `epm7-test-a123456.epm.us6.oraclecloud.com`, then the system rejects it.
 - **User Name** and **Password:** Enter the credentials for your EPM source. Prefix the user name with the domain of your EPM source, such as `domain.username`.
 - **EPM Application Name:** Specify the file name that you had entered in **Download File Name** while creating the EPM data exchange job in EPM.
 - **Comma Separated Job Names:** Provide the EPM data exchange job names. If you've multiple job names, then ensure that they are comma separated. For example, `FAWEPMTtestingV2, FAWEXPORT, FAW Job Testing`.
 - **Extract Configuration:** Provide the EPM data exchange job name in **Job Name** and select **Dimension Export** if you want to extract the hierarchy (dimensional data) from your EPM Export Data instance.

← Create Connection

EPM

EPM Financial Close and Consolidation Data Export

Usage Type: Data Extraction

Connection Name: EPM Financial Close and Consolidation Data Export

* Connectivity Type: Standard

Notification Email: Enter Notification Email

* URL:

* User Name:

* Password:

EPM Application Name:

Comma Separated Job Names:

Extract Configuration

Job Name	Dimension Export
Job Name	☐ isDimensionExport X
Add	

Refresh Metadata ☒

Cancel Paste from clipboard Upload File or Drop Above Save

- f. Verify that the **Refresh Metadata** toggle is enabled to ensure that the metadata is refreshed when you save the connection.

You can later refresh the metadata from the Actions menu on the Manage Connections page, if required.

Note

You can't create augmentations for EPM unless you perform a metadata extract.

- g. Click **Save**.
- On the Manage Connections page, select **Actions** for the EPM connection and then select **Test Connection**.
 - To delete a connection, on the Manage Connections page, click **Actions** for the applicable connection and select **Delete**.

Note

Ensure that you delete the functional areas, data augmentations, and custom data configurations related to the data connection before deleting it. You can't update or load data from deleted data connections to the warehouse.

6. After the connections are successfully established, navigate to the Data Configuration page, select the connection in **Data Source**, then click the Data Augmentation tile, and create a data augmentation using the EPM data. Select the applicable EPM source tables. See *Augment Your Data*.

Load Data from Google Analytics into Fusion Data Intelligence

As a service administrator, you can use the Fusion Data Intelligence extract service to acquire data from the Google Analytics SaaS instance and use it to create data augmentations for various Enterprise Resource Planning and Supply Chain Management use cases.

Before connecting with the Google Analytics source, note these:

- Fusion Data Intelligence supports Google Analytics extractor for GA4 properties and doesn't support the previous version – Google Universal Analytics (UA) properties.
 - DataStores are the list of GA4 properties.
 - DataStore columns are the list of Dimensions and Metrics for a GA4 property.
 - DataExtract runs the report based on user selection for a GA4 property as DataStore and Dimensions and Metrics as DataStore columns.
 - MetaExtract fetches metadata for all the available GA4 properties (DataStores) and its Dimensions and Metrics (DataStoreColumns).
 - This connector supports limited number of Google Analytics metrics. See [Dimensions Metrics Explorer](#) to know what is available.
1. In Google Cloud (Analytics) Project, create a service account and download the `credentials.json` file.
See <https://cloud.google.com/docs/authentication/production>.
 2. Add the service account to the Google Analytics 4 property.
See <https://developers.google.com/analytics/devguides/reporting/data/v1/quickstart-client-libraries>.
 3. Enable Google Analytics APIs using these instructions:
 - a. Using a text editor, open the `credentials.json` file that you had downloaded and search for the `client_email` field to obtain the service account email address.
 - b. Use this email address to add a user to the Google Analytics 4 property you want to access through the Google Analytics Data API v1.

https://developers.google.com/analytics/devguides/reporting/data/v1/quickstart-client-libraries

Reporting > Google Analytics Data API (GA4)

Step 2. Add service account to the Google Analytics 4 property

Using a text editor, open the `credentials.json` file downloaded in the previous step and search for `client_email` field to obtain the service account email address that looks similar to:

```
quickstart@PROJECT-ID.iam.gserviceaccount.com
```

Click below Add a user to associate the service account to all GA4 Properties

Use this email address to [add a user](#) to the Google Analytics 4 property you want to access via the Google Analytics Data API v1. For this tutorial only [Read & Analyze](#) permissions are needed.

4. Ensure that the Google Analytics Admin API, Google Analytics Data API are available for your Google Analytics instance.

Google Cloud faw-ga

API API Library

Google Analytics

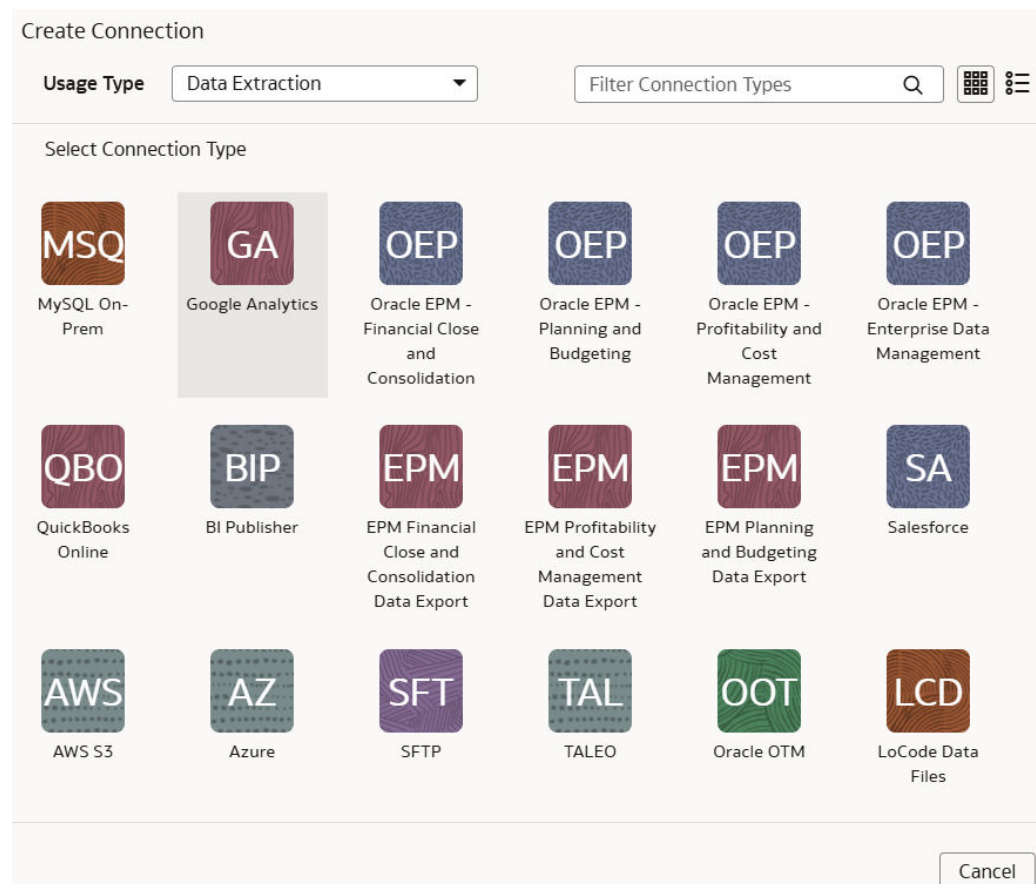


Google Analytics Data API
Google
Accesses report data in Google Analytics.



Google Analytics Admin API
Google

5. In Fusion Data Intelligence, create the Google Analytics data connection using these instructions:
 - a. In Fusion Data Intelligence **Console**, click **Data Configuration** under **Application Administration**.
 - b. On the Data Configuration page, click **Manage Connections**.
 - c. On the Manage Connections page, click **Create** and then click **Connection**.
 - d. In Create Connection, select **Data Extraction** in **Usage Type** and then select **Google Analytics** as the connection type.



- e. In the dialog for the Google Analytics connection, select **Standard** as the connectivity type and enter these details:
- **Notification Email:** An email address to receive notifications regarding this connection.
 - **Service Account Credentials Json File:** The Google Cloud Service Account credentials.json file that you had downloaded.
 - **Account ID:** Google Analytics account ID.
 - **GA4 List of Property ID:** The GA4 List of Property ID with commas to separate each ID.
 - **Lookback Mode:** Select either Full or Committed.
 - **List of Lookback N days Ago:** Comma separated list of days (integer) values such as 7,21.

← Create Connection

GA
Google Analytics

Usage Type: Data Extraction

Connection Name: Google Analytics

* Connectivity Type: Standard

Notification Email: Enter Notification Email

* Service Account Credentials Json File: **Drag and Drop**
Select a file or drop one here.

Account Id:

GA4 List of Property Id:

Lookback Mode:

List of Lookback N days Ago:

Refresh Metadata: ☒

Cancel Paste from clipboard Upload File or Drop Above Save

Note these:

- For the Lookback mode, if you don't provide a value, then the Lookback mode isn't supported. The Full option requires one day value, if you provide multiple values, then the process uses the first value. You can provide multiple values for the Committed option.
 - For List Data Stores, the REST API returns a list of GA4 Property IDs either using the Account ID (if provided) or just the source configured or provided list of property.
 - For List columns, the REST API returns a list of column metadata for the given GA4 Property ID.
- f. Verify that the **Refresh Metadata** toggle is enabled to ensure that the metadata is refreshed when you save the connection.

You can later refresh the metadata from the Actions menu on the Manage Connections page, if required.

Note

You can't create augmentations for Google Analytics unless you perform a metadata extract.

Metadata extract:

- Retrieves metadata columns for each GA4 Property ID provided in the source configuration.
- Prefixes the GA property columns with `Dimension_` or `Metric_` that Fusion Data Intelligence later uses while extracting data to differentiate Dimension and Metric column type.
- Leaves the payload `dataStores` array empty.

g. Click **Save**.

6. On the Manage Connections page, select **Actions** for the Google Analytics connection and then select **Test Connection**.

Note

REST API signature is same across sources. Test connection invokes GA Common Metadata API. This returns the default version values and no calls are made to the source.

7. To delete a connection, on the Manage Connections page, click **Actions** for the applicable connection and select **Delete**.

Note

Ensure that you delete the functional areas, data augmentations, and custom data configurations related to the data connection before deleting it. You can't update or load data from deleted data connections to the warehouse.

8. After the connections are successfully established, navigate to the Data Configuration page, select the connection in **Data Source**, then click the Data Augmentation tile, and create a data augmentation using the Google Analytics data. Select the applicable Google Analytics source tables. Ensure that you specify "Dimension_transactionId" in the source tables as the primary key and use it to join each of the data augmentation tables. You can select a maximum number of nine dimensions for each data augmentation. See *Augment Your Data*.

When you enable data extraction, you can schedule to run when you choose to do so. For data extraction, note these:

- Provide date ranges to run the report and fetch data.
- Regular data extract uses the initial or last ExtractDate as *StartDate* and job RunDate as *EndDate*.
- Lookback mode includes additional date ranges along with the regular extract date range which fetches additional data set but in a single runReport call.
 - The Full option has a single date range; `StartDate=ExtractDate - NdaysAgo`, `EndDate=RunDate`.

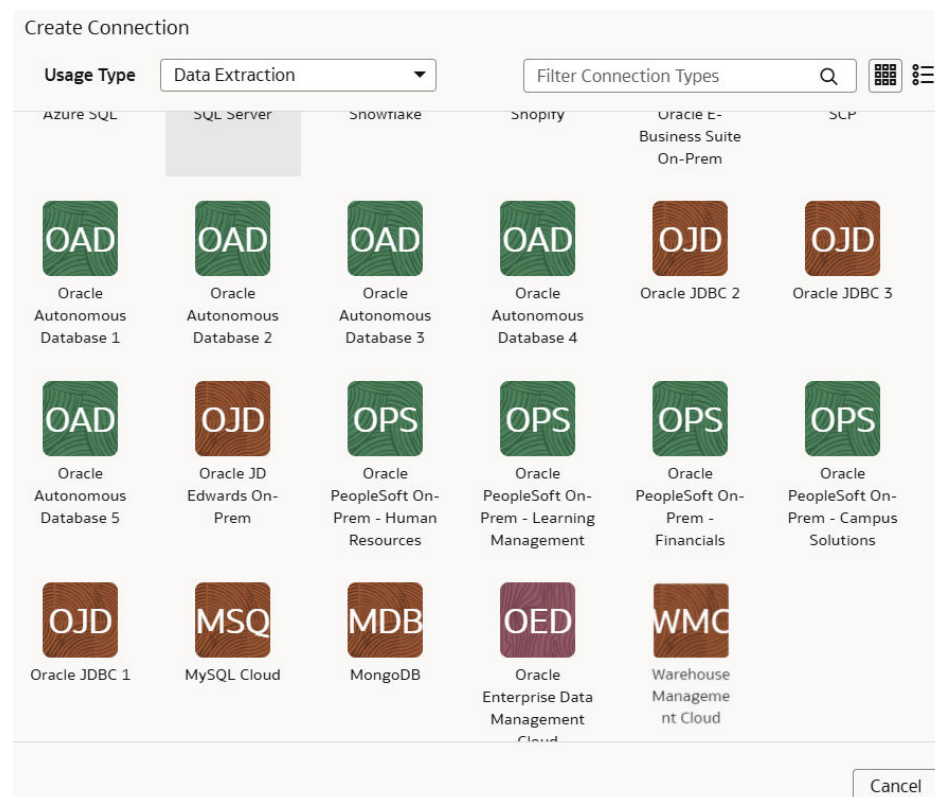
- The Committed option can have multiple date ranges. For each configured GA_LIST_OF_N_DAYS_AGO, StartDate=ExtractDate - NdaysAgo, EndDate=RunDate - NdaysAgo.

Load Data from MongoDB into Fusion Data Intelligence (Preview)

As a service administrator, you can use the Fusion Data Intelligence extract service to acquire data from the Mongo database and use it to create data augmentations.

Ensure that **MongoDB** is enabled on the Enable Features page prior to creating this connection. See [Make Preview Features Available](#).

1. Check the port number for your Mongo database and create a service request with server host and port details to enable network connectivity to the Mongo database server.
2. In Fusion Data Intelligence, create the Mongo database connection using these instructions:
 - a. In Fusion Data Intelligence **Console**, click **Data Configuration** under **Application Administration**.
 - b. On the Data Configuration page, click **Manage Connections**.
 - c. On the Manage Connections page, click **Create** and then click **Connection**.
 - d. In Create Connection, select **Data Extraction** in **Usage Type** and then select **MongoDB** as the connection type.



- e. In the dialog for the Mongo database connection, select **Standard** in **Connectivity Type**, enter an email address to receive notifications in **Notification Email**, and provide these details:

- **Connection Protocol:** Enter the connection protocol such as `mongodb+srv` or `mongodb`
- Credentials to access the database in **User Name** and **Password**
- **Host Name:** Enter the host name of the Mongo database such as `cluster0.example4.mongodb.net`
- **Host Port:** Enter the port number where Mongo database is listening such as `27017`
- **Database Name:** Enter a name such as `Analytics`
- **Last Update Date Column Pattern:** Enter pattern such as `"%mo%fie%te%"`

 Note

If column name matches with pattern provided, then Fusion Data Intelligence marks the column name with `isLastUpdateDate = true` and uses it for the incremental extract. For example, if pattern provided is `"%mo%fie%te%"`, then the column name `modifiedDate` is marked as `isLastUpdateDate = true`.

- **Initial Extract Date Column Pattern:** Enter pattern such as `"%cr%ted%te%"`

 Note

If column name matches with pattern provided, then Fusion Data Intelligence marks the column name with `isCreationDate = true` and uses it for the initial extract date extraction. For example, if pattern provided is: `"%cr%ted%te%"`, then the column name `createdDate` is marked as `isCreationDate = true`.

← Create Connection

MDB
MongoDB

Usage Type: Data Extraction

Connection Name: MongoDB

* Connectivity Type: Standard

Notification Email: Enter Notification Email

* Connection Protocol: [Dropdown]

* User Name: [Text]

* Password: [Text]

* Host Name: [Text]

Host Port: [Text]

* Database Name: [Text]

Last Update Date Column Pattern: [Text]

Initial Extract Date Column Pattern: [Text]

Refresh Metadata: ☒

Cancel Paste from clipboard Upload File or Drop Above Save

- f. Verify that the **Refresh Metadata** toggle is enabled to ensure that the metadata is refreshed when you save the connection.

You can later refresh the metadata from the Actions menu on the Manage Connections page, if required.

Note

You can't create augmentations for Mongo database unless you perform a metadata extract.

- g. Click **Save**.
3. On the Manage Connections page, select **Actions** for the Mongo database connection and then select **Test Connection**.
4. To delete a connection, on the Manage Connections page, click **Actions** for the applicable connection and select **Delete**.

Note

Ensure that you delete the functional areas, data augmentations, and custom data configurations related to the data connection before deleting it. You can't update or load data from deleted data connections to the warehouse.

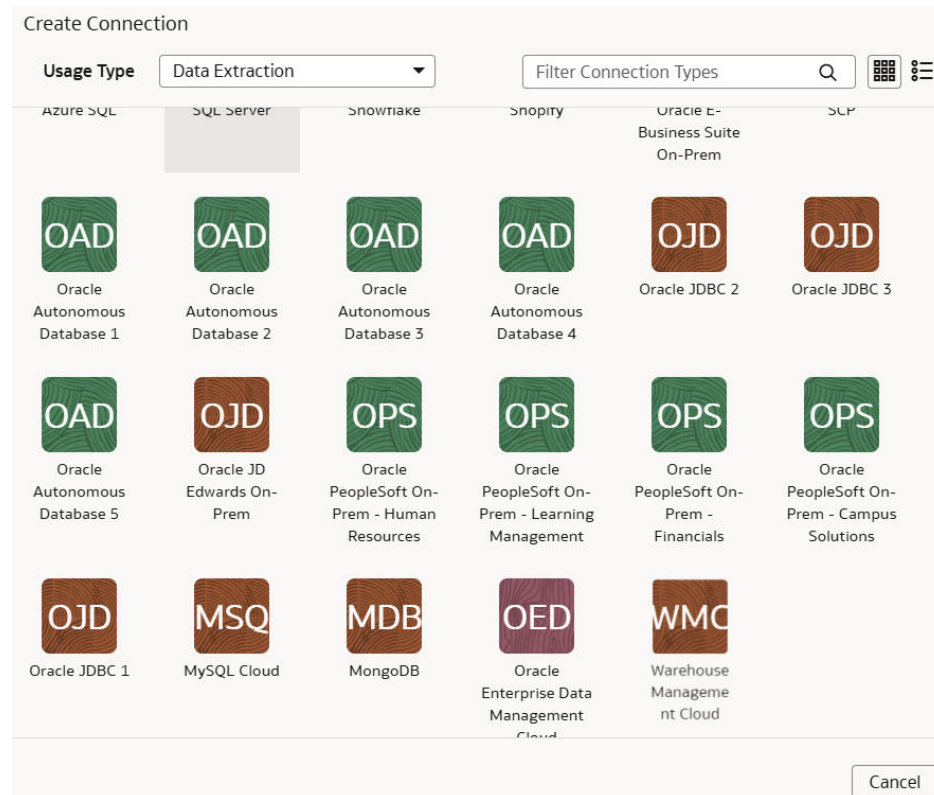
5. After the connections are successfully established, navigate to the Data Configuration page, select the connection in **Data Source**, then click the Data Augmentation tile, and create a data augmentation using the Mongo database data. Select the applicable Mongo database source tables. See *Augment Your Data*.

Load Data from MySQL Cloud Database into Fusion Data Intelligence (Preview)

As a service administrator, you can use the Fusion Data Intelligence extract service to acquire data from the MySQL Cloud database and use it to create data augmentations.

Ensure that **MySQL Cloud** is enabled on the Enable Features page prior to creating this connection. See [Make Preview Features Available](#).

1. Check the port number for your MySQL Cloud database and create a service request with server host and port details to enable network connectivity to the MySQL server.
2. In Fusion Data Intelligence, create the MySQL Cloud database connection using these instructions:
 - a. In Fusion Data Intelligence **Console**, click **Data Configuration** under **Application Administration**.
 - b. On the Data Configuration page, click **Manage Connections**.
 - c. On the Manage Connections page, click **Create** and then click **Connection**.
 - d. In Create Connection, select **Data Extraction** in **Usage Type** and then select **MySQL Cloud** as the connection type.



- e. In the dialog for the MySQL Cloud database connection, select **Standard** in **Connectivity Type**, enter an email address to receive notifications in **Notification Email**, and provide these details:
- **Host Name:** Enter the host name of MySQL server such as 100.111.252.64
 - **Port Number:** Enter the port number where the server is listening such as 3306
 - **Database:** Enter the database name you need to connect to such as airportdb
 - Credentials to access the database in **User Name** and **Password**
 - **Last Update Date Column Pattern:** Enter format such as "%mo%fie%te%"

Note

If column name matches with pattern provided, then Fusion Data Intelligence marks the column name with `isLastUpdateDate = true` and uses it for the incremental extract. For example, if pattern provided is "%mo%fie%te%", then the column name `modifiedDate` is marked as `isLastUpdateDate = true`.

- **Initial Extract Date Column Pattern:** Enter format such as "%cr%ted%te%"

Note

If column name matches with pattern provided, then Fusion Data Intelligence marks the column name with `isCreationDate = true` and uses it for the initial extract date extraction. For example, if pattern provided is: `"%cr%ted%te%"`, then the column name `createdDate` is marked as `isCreationDate = true`.

← Create Connection

MSQ
MySQL Cloud

Usage Type: Data Extraction

Connection Name: MySQL Cloud

* Connectivity Type: Standard

Notification Email: Enter Notification Email

* Host Name:

Port Number: 3306

* Database:

* User Name:

* Password:

Last Update Date Column Pattern:

Initial Extract Date Column Pattern:

Refresh Metadata: ☒

Cancel Paste from clipboard Upload File or Drop Above Save

- f. Verify that the **Refresh Metadata** toggle is enabled to ensure that the metadata is refreshed when you save the connection.

You can later refresh the metadata from the Actions menu on the Manage Connections page, if required.

Note

You can't create augmentations for MySQL Cloud database unless you perform a metadata extract.

- g. Click **Save**.

3. On the Manage Connections page, select **Actions** for the MySQL Cloud database connection and then select **Test Connection**.
4. To delete a connection, on the Manage Connections page, click **Actions** for the applicable connection and select **Delete**.

Note

Ensure that you delete the functional areas, data augmentations, and custom data configurations related to the data connection before deleting it. You can't update or load data from deleted data connections to the warehouse.

5. After the connections are successfully established, navigate to the Data Configuration page, select the connection in **Data Source**, then click the Data Augmentation tile, and create a data augmentation using the MySQL Cloud database data. Select the applicable MySQL Cloud database source tables. See Augment Your Data.

Load Data from Salesforce into Fusion Data Intelligence

As a service administrator, you can use the Fusion Data Intelligence extract service to acquire data from the Salesforce SaaS instance and use it to create data augmentations.

1. Run the following command in your terminal to generate a keystore file:

```
openssl pkcs12 -export -inkey server.key -in server.crt -name  
YOUR_KEY_NAME -passout pass:YOUR_PASSWORD -out keystorefile.p12
```

Replace YOUR_KEY_NAME and YOUR_PASSWORD with your desired values, and save the generated keystorefile.p12 file to later upload it while creating the connection to your Salesforce source.

2. In Fusion Data Intelligence, create the Salesforce data connection using these instructions:
 - a. In Fusion Data Intelligence **Console**, click **Data Configuration** under **Application Administration**.
 - b. On the Data Configuration page, click **Manage Connections**.
 - c. On the Manage Connections page, click **Create** and then click **Connection**.
 - d. In Create Connection, select **Data Extraction** in **Usage Type** and then select **Salesforce** as the connection type.

Create Connection

Usage Type Data Extraction Filter Connection Types Q Grid Icon Menu Icon

Select Connection Type

MSQ MySQL On-Prem	GA Google Analytics	OEP Oracle EPM - Financial Close and Consolidation	OEP Oracle EPM - Planning and Budgeting	OEP Oracle EPM - Profitability and Cost Management	OEP Oracle EPM - Enterprise Data Management
QBO QuickBooks Online	BIP BI Publisher	EPM EPM Financial Close and Consolidation Data Export	EPM EPM Profitability and Cost Management Data Export	EPM EPM Planning and Budgeting Data Export	SA Salesforce
AWS AWS S3	AZ Azure	SFT SFTP	TAL TALEO	OOT Oracle OTM	LCD LoCode Data Files

Cancel

- e. In the dialog box for the Salesforce connection, select **Standard** in **Connectivity Type** and enter an email address to receive notifications in **Notification Email**.

← Create Connection

SA
Salesforce

Usage Type: Data Extraction

Connection Name: Salesforce

* Connectivity Type: Standard

Notification Email: Enter Notification Email

* Authorization Type: OAuth

* User Name:

* Password:

* Client ID:

* Security Token:

Sandbox Environment: No

* KeyStore File:
Drag and Drop
Select a file or drop one here.

* KeyStore Password:

* KeyStore Key Name:

Refresh Metadata: ☒

Cancel Paste from clipboard Upload File or Drop Above Save

- f. In **Authorization Type**, you can select **Basic Authentication** or **OAuth** as the type of authorization.

If you select **Basic Authentication**, then:

- Enter the credentials for your Salesforce source in **User Name** and **Password**. The user stated here must have access to all the data in the Salesforce system to extract it to the warehouse.
- Copy and paste the security token from your Salesforce account in **Security Token**. This is an alpha-numeric code and may contain special characters, however, it isn't visible. It's encrypted and shown as
- In **Is Sandbox Environment**, select **Yes** if your Salesforce source is a test or sandbox environment; else select **No**.

If you select **OAuth**, then enter these additional values:

- In **Client ID**, enter the unique identifier that represents the Salesforce application within the Salesforce instance and is visible when you sign into your Salesforce account.
- In **KeyStore File**, provide the file that is in a PKCS#12 file format (denoted by .p12 extension), which can contain both private keys and certificates (such as the public key of the server or the signing certificate).

- In **KeyStore Password**, enter the password for accessing the specified keystore file.
 - In **Keystore Key name**, provide the unique name (identifier or alias) of the specified keystore file.
- g. Verify that the **Refresh Metadata** toggle is enabled to ensure that the metadata is refreshed when you save the connection.

You can later refresh the metadata from the Actions menu on the Manage Connections page, if required.

Note

You can't create augmentations for Salesforce unless you perform a metadata extract.

- h. Click **Save**.
3. On the Manage Connections page, select **Actions** for the Salesforce connection and then select **Test Connection**.
4. To delete a connection, on the Manage Connections page, click **Actions** for the applicable connection and select **Delete**.

Note

Ensure that you delete the functional areas, data augmentations, and custom data configurations related to the data connection before deleting it. You can't update or load data from deleted data connections to the warehouse.

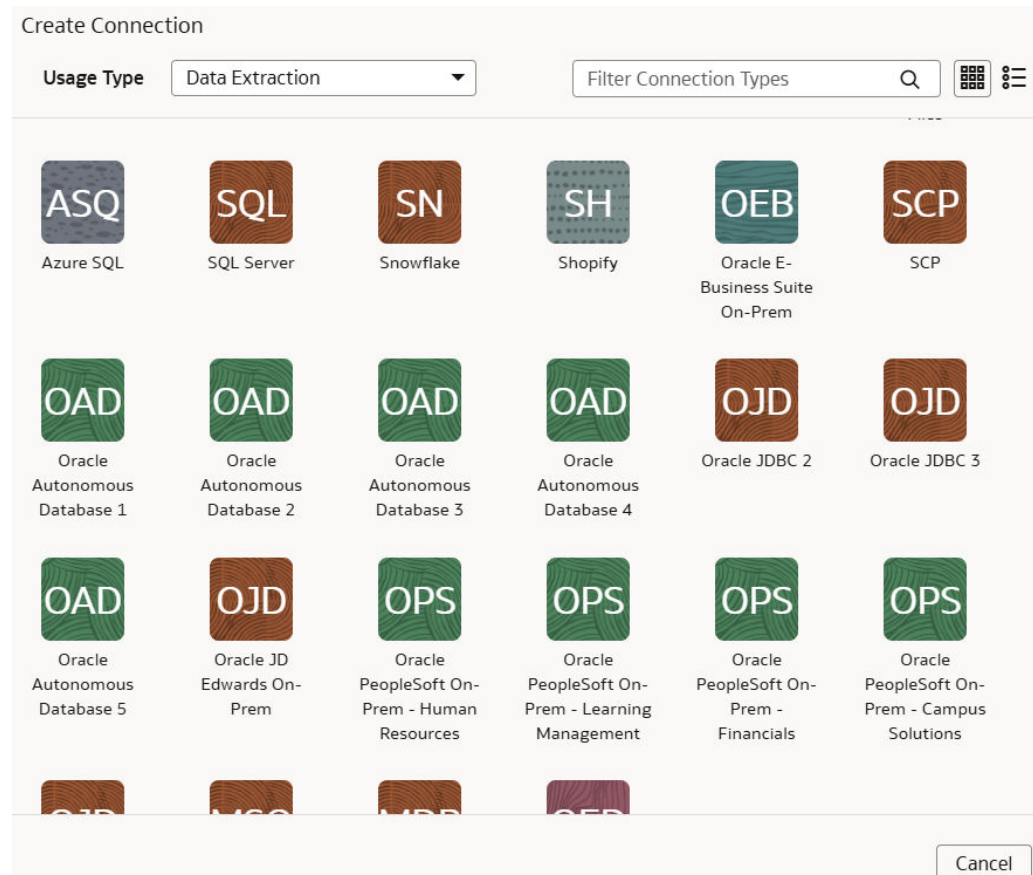
5. After the connections are successfully established, navigate to the Data Configuration page, select the connection in **Data Source**, then click the Data Augmentation tile, and create a data augmentation using the Salesforce data. Select the applicable Salesforce source tables. See [Augment Your Data](#).

Load Data from Shopify into Fusion Data Intelligence (Preview)

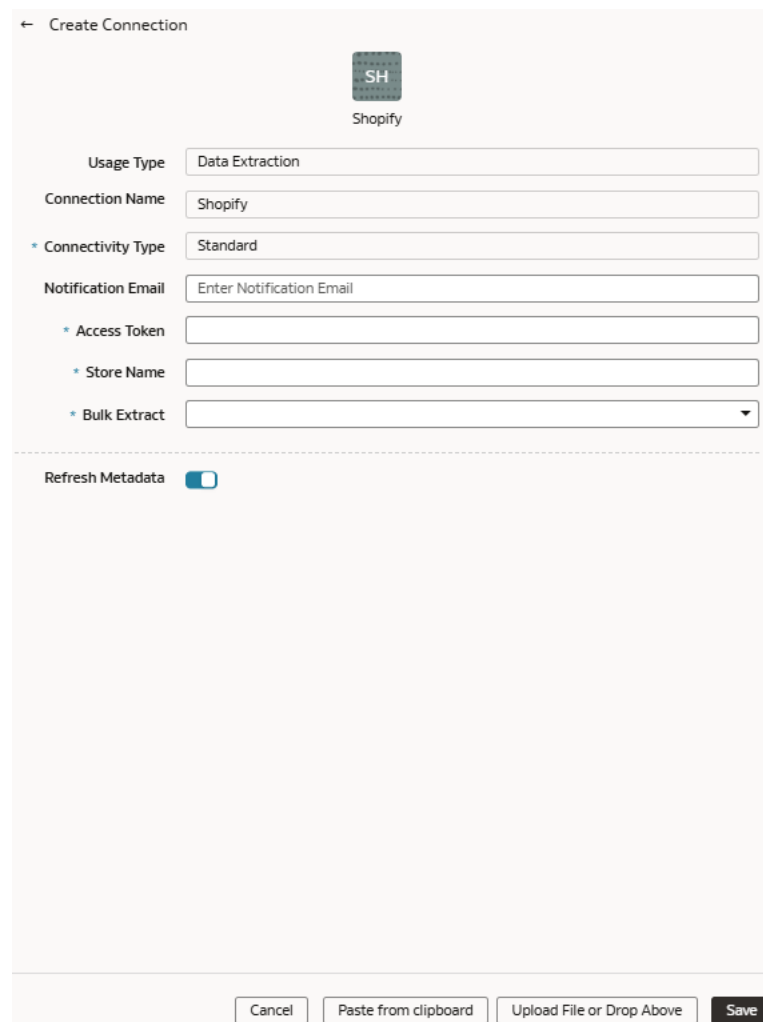
As a service administrator, you can use the Fusion Data Intelligence extract service to acquire data from the Shopify SaaS instance and use it to create data augmentations for various Enterprise Resource Planning and Supply Chain Management use cases.

Ensure that **Shopify** is enabled on the Enable Features page prior to creating this connection. See [Make Preview Features Available](#).

1. In Fusion Data Intelligence, create the Shopify data connection using these instructions:
 - a. In Fusion Data Intelligence **Console**, click **Data Configuration** under **Application Administration**.
 - b. On the Data Configuration page, click **Manage Connections**.
 - c. On the Manage Connections page, click **Create** and then click **Connection**.
 - d. In Create Connection, select **Data Extraction** in **Usage Type** and then select **Shopify** as the connection type.



- e. In the dialog for the Shopify connection, select **Standard** in **Connectivity Type**, enter an email address to receive notifications in **Notification Email**, applicable token value in **Access Token**, **Store Name** such as myfawteststore.myshopify.com, and True in **Bulk Extract**.



The screenshot shows the 'Create Connection' form for a Shopify connection. At the top, there is a back arrow and the title 'Create Connection'. Below this is the Shopify logo (a square with 'SH' inside) and the text 'Shopify'. The form contains several input fields: 'Usage Type' (set to 'Data Extraction'), 'Connection Name' (set to 'Shopify'), '* Connectivity Type' (set to 'Standard'), 'Notification Email' (placeholder 'Enter Notification Email'), '* Access Token', '* Store Name', and '* Bulk Extract' (a dropdown menu). Below these fields is a 'Refresh Metadata' toggle switch, which is currently turned on. At the bottom of the form are four buttons: 'Cancel', 'Paste from clipboard', 'Upload File or Drop Above', and 'Save'.

- f. Verify that the **Refresh Metadata** toggle is enabled to ensure that the metadata is refreshed when you save the connection.

You can later refresh the metadata from the Actions menu on the Manage Connections page, if required.

Note

You can't create augmentations for Shopify unless you perform a metadata extract.

- g. Click **Save**.
2. On the Manage Connections page, select **Actions** for the Shopify connection and then select **Test Connection**.
 3. To delete a connection, on the Manage Connections page, click **Actions** for the applicable connection and select **Delete**.

Note

Ensure that you delete the functional areas, data augmentations, and custom data configurations related to the data connection before deleting it. You can't update or load data from deleted data connections to the warehouse.

4. After the connections are successfully established, navigate to the Data Configuration page, select the connection in **Data Source**, then click the Data Augmentation tile, and create a data augmentation using the Shopify data. Select the applicable Shopify source tables. See [Augment Your Data](#).

Load Data from Oracle Autonomous Database into Oracle Fusion Data Intelligence (Preview)

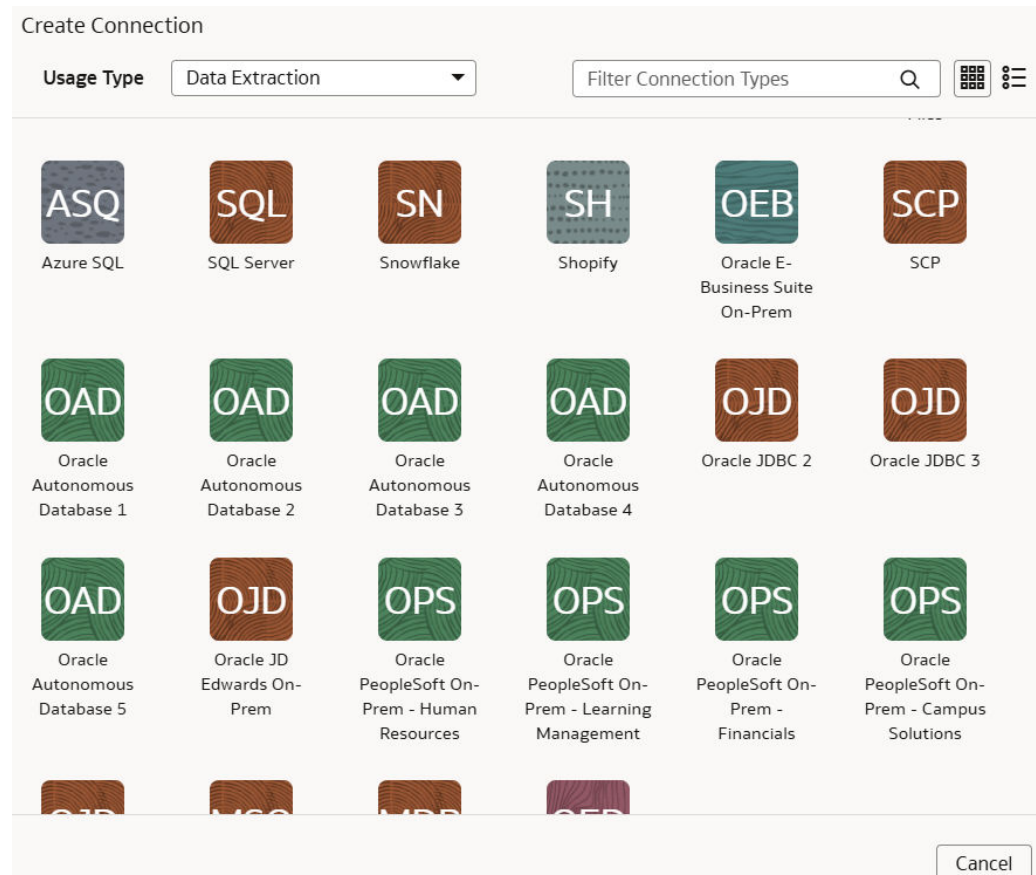
As a service administrator, you can use the Oracle Fusion Data Intelligence extract service to acquire data from Oracle Autonomous Database and use it to create data augmentations.

You can create connections to five autonomous databases. Depending on the number of connections, ensure that options such as **Oracle Autonomous Database 1**, **Oracle Autonomous Database2** are enabled on the Enable Features page prior to creating this connection. See [Make Preview Features Available](#).

Note

Currently, you can't connect to a private autonomous transaction processing database (ATP database).

1. In Oracle Fusion Data Intelligence, create the autonomous database connection using these instructions:
 - a. In Oracle Fusion Data Intelligence **Console**, click **Data Configuration** under **Application Administration**.
 - b. On the Data Configuration page, click **Manage Connections**.
 - c. On the Manage Connections page, click **Create** and then click **Connection**.
 - d. In Create Connection, select **Data Extraction** in **Usage Type** and depending on the number of connections, select options such as **Oracle Autonomous Database 1**, or **Oracle Autonomous Database2** as the connection type.



- e. In the dialog for the Oracle Autonomous Database connection, provide these details in Source Connection and then click **Save and Next**:
- Select **Standard** in **Connectivity Type**.
 - Enter an email address to receive notifications in **Notification Email**.
 - Enter the credentials to access the database in **User Name** and **Password**.
 - Enter the database service details in **Service**.
 - In **Wallet**, drag and drop the database wallet details.

Create Connection

1 ————— 2

Source Connection Extract Configuration

 Oracle Autonomous Database 2

Usage Type

Connection Name

* Connectivity Type

Notification Email

* User Name

* Password

* Service

f. In the dialog for the Oracle Autonomous Database connection, provide these details in Extract Configuration and click **Save**:

- In **Incremental Strategy**, select the incremental strategy (Flashback, Golden Gate, or RowSCN) that is compatible with your database configuration.
- In **Initial Extract Date Column Pattern**, provide the initial extract date pattern that matches the pattern in your source.
- In **Last Update Date Column Pattern**, provide the last update date pattern that matches the pattern in your source.
- In **Inclusion List**, select **Yes** or **No** to include the mentioned list of datastores in the incremental strategy or not.
- In **List of Incremental datastores to include/exclude**, enter a comma separated list of datastores names.

If you don't provide, then the connector uses the incremental strategy for all the datastores. If you provide and `IS_INCLUSION_LIST=true`, only the provided list use the specified incremental strategy. If provided and `IS_INCLUSION_LIST=false`, the provided list won't use the incremental strategy. If `INCREMENTAL_STRATEGY` property is available, then the connector uses `IS_INCLUSION_LIST` and `INCR_DATASTORES_LIST` for all strategies. If not available, then for `FLASHBACK` the connector checks if `ENABLE_FLASHBACK_INCREMENTAL` and `FBA_INCR_DATASTORES_EXCEPTION_LIST` is provided and for `ROWSCN`, it checks if `ENABLE_ORA_ROWSCN_INCREMENTAL` and `ROWSCN_INCR_DATASTORES_EXCEPTION_LIST` is provided.

- In **Case sensitive Data Stores**, select **Yes** or **No**.
- In **Schema Name**, enter the schema name to extract data from.

- In **Data Store Name Pattern**, specify the name pattern of the data stores that you want extracted. If you provide this value, then the connector extracts only data stores matching the pattern.
- Verify that the **Refresh Metadata** toggle is enabled to ensure that the metadata is refreshed when you save the connection. You can later refresh the metadata from the Actions menu on the Manage Connections page, if required.

Note

You can't create augmentations for autonomous database unless you perform a metadata extract.

Create Connection

1 2
Source Connection **Extract Configuration**


 Oracle Autonomous Database 2

* Incremental Strategy	Flashback
Initial Extract Date	
Column Pattern	
Last Update Date	
Column Pattern	
Inclusion List	No
List of Incremental datastores to include/exclude	
Case Sensitive Data Stores	No

2. On the Manage Connections page, select **Actions** for the autonomous database connection and then select **Test Connection**.
3. To delete a connection, on the Manage Connections page, click **Actions** for the applicable connection and select **Delete**.

Note

Ensure that you delete the functional areas, data augmentations, and custom data configurations related to the data connection before deleting it. You can't update or load data from deleted data connections to the warehouse.

4. After the connections are successfully established, navigate to the Data Configuration page, select the connection in **Data Source**, then click the Data Augmentation tile, and create a data augmentation using the autonomous database data. Select the applicable autonomous database source tables. See Augment Your Data.

Load Data from Snowflake into Oracle Fusion Data Intelligence (Preview)

As a service administrator, you can use the Oracle Fusion Data Intelligence extract service to acquire data from a Snowflake instance.

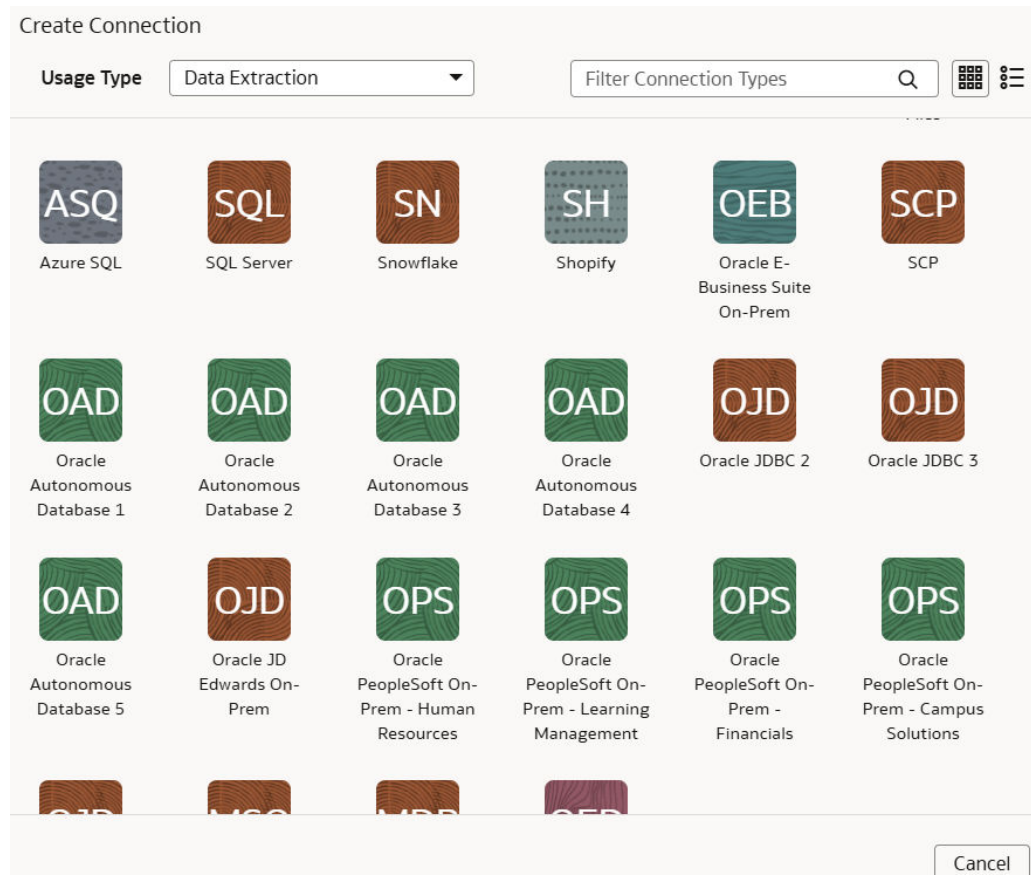
You can later use this data to create data augmentations for various Enterprise Resource Planning and Supply Chain Management use cases. Establish the connection from Fusion Data Intelligence to your Snowflake instance to start data acquisition followed by augmentation.

Note

Snowflake some times requires API calls to originate from a known IP address. If you're experiencing connection issues due to an unauthorized IP, then submit an Oracle Support ticket to obtain the necessary Oracle IP address for your Snowflake allowlist.

Ensure that **Snowflake** is enabled on the Enable Features page prior to creating this connection. See [Make Preview Features Available](#).

1. In Fusion Data Intelligence, create the Snowflake data connection:
 - a. In Fusion Data Intelligence **Console**, click **Data Configuration** under **Application Administration**.
 - b. On the Data Configuration page, click **Manage Connections**.
 - c. On the Manage Connections page, click **Create** and then click **Connection**.
 - d. In Create Connection, select **Data Extraction** in **Usage Type** and then select **Snowflake** as the connection type.



- e. In **Create Connection**, enter these details and then click **Save**:
- **Connectivity Type**: Standard.
 - **Notification Email**: An email address to receive notifications.
 - **Auth Schema**: Enter "BASICAUTH" if you're using username and password to establish the connection. Enter "PRIVATE_KEY" if you're using token-based authentication.
 - **User Name**: Enter username only if you're using the basic authentication.
 - **Password**: Enter password for the username only if you're using the basic authentication.
 - **Host Name**: Complete host name of your Snowflake instance.
 - **Table Schema**: Your Snowflake table schema such as TPCH_SF1.
 - **Database**: Mentioned in your Snowflake account under **Data**.
 - **Warehouse**: The compute resources in your Snowflake instance that you can find by running `SHOW WAREHOUSES [ LIKE '<pattern>' ]`. See [SHOW WAREHOUSES](#).
 - **Private Key**: Generate the Private Key in Snowflake, if you don't have one already, and paste it here. See [Generate the Private Key](#).

← Create Connection

SN
Snowflake

Usage Type: Data Extraction

Connection Name: Snowflake

* Connectivity Type: Standard

Notification Email: Enter Notification Email

Auth Scheme:

* User Name:

Password:

* Host Name:

* Table Schema:

* Database:

* Warehouse:

Private Key:

Refresh Metadata ☒

Cancel Paste from clipboard Upload File or Drop Above Save

- f. Verify that the **Refresh Metadata** toggle is enabled to ensure that the metadata is refreshed when you save the connection.

You can later refresh the metadata from the Actions menu on the Manage Connections page, if required.

Note

You can't create augmentations for Snowflake unless you perform a metadata extract.

- g. Click **Save**.
2. On the Manage Connections page, select **Actions** for the Snowflake connection and then select **Test Connection**.
 3. To delete a connection, on the Manage Connections page, click **Actions** for the applicable connection and select **Delete**.

Note

Ensure that you delete the functional areas, data augmentations, and custom data configurations related to the data connection before deleting it. You can't update or load data from deleted data connections to the warehouse.

4. After the connections are successfully established, navigate to the Data Configuration page, select the connection in **Data Source**, then click the Data Augmentation tile, and create a data augmentation using the Snowflake data. Select the applicable Snowflake source tables. See *Augment Your Data*.

Load Data from Taleo into Fusion Data Intelligence (Preview)

As a service administrator, you can use the Fusion Data Intelligence extract service to acquire data from the Taleo instance and use it to create data augmentations for various Enterprise Resource Planning and Supply Chain Management use cases.

Ensure that **Taleo** is enabled on the Enable Features page prior to creating this connection. See [Make Preview Features Available](#).

1. In Fusion Data Intelligence, create the Taleo data connection using these instructions:
 - a. In Fusion Data Intelligence **Console**, click **Data Configuration** under **Application Administration**.
 - b. On the Data Configuration page, click **Manage Connections**.
 - c. On the Manage Connections page, click **Create** and then click **Connection**.
 - d. In Create Connection, select **Data Extraction** in **Usage Type** and then select **Taleo** as the connection type.

Create Connection

Usage Type Data Extraction Filter Connection Types Q Grid Icon Menu Icon

Select Connection Type

MSQ MySQL On-Prem	GA Google Analytics	OEP Oracle EPM - Financial Close and Consolidation	OEP Oracle EPM - Planning and Budgeting	OEP Oracle EPM - Profitability and Cost Management	OEP Oracle EPM - Enterprise Data Management
QBO QuickBooks Online	BIP BI Publisher	EPM EPM Financial Close and Consolidation Data Export	EPM EPM Profitability and Cost Management Data Export	EPM EPM Planning and Budgeting Data Export	SA Salesforce
AWS AWS S3	AZ Azure	SFT SFTP	TAL TALEO	OOT Oracle OTM	LCD LoCode Data Files

Cancel

- e. In **Connectivity Type**, select **Standard**, enter an email address to receive notifications in **Notification Email**, host name of your Taleo instance in **Host Name**, and credentials for your Taleo source in **User Name** and **Password**.

← Create Connection

TALEO

Usage Type: Data Extraction

Connection Name: TALEO

* Connectivity Type: Standard

Notification Email: Enter Notification Email

* Host Name:

* User Name:

* Password:

Refresh Metadata ☒

Cancel Paste from clipboard Upload File or Drop Above Save

- f. Verify that the **Refresh Metadata** toggle is enabled to ensure that the metadata is refreshed when you save the connection.

You can later refresh the metadata from the Actions menu on the Manage Connections page, if required.

Note

You can't create augmentations for Taleo unless you perform a metadata extract.

- g. Click **Save**.
2. On the Manage Connections page, select **Actions** for the Taleo connection and then select **Test Connection**.
 3. To delete a connection, on the Manage Connections page, click **Actions** for the applicable connection and select **Delete**.

Note

Ensure that you delete the functional areas, data augmentations, and custom data configurations related to the data connection before deleting it. You can't update or load data from deleted data connections to the warehouse.

4. After the connections are successfully established, navigate to the Data Configuration page, select the connection in **Data Source**, then click the Data Augmentation tile, and create a data augmentation using the Taleo data. Select the applicable Taleo source tables. See *Augment Your Data*.

Load Data from Oracle Analytics Publisher into Fusion Data Intelligence (Preview)

As a service administrator, you can use the Fusion Data Intelligence extract service to acquire data from the Analytics Publisher reports and use it to create data augmentations for various use cases.

Currently, the BI Publisher Reports connector only supports:

- The Analytics Publisher in Oracle Fusion Cloud Applications for data augmentation.
- Only those reports that complete within the Analytics Publisher report execution timeout limit that's typically 300 seconds.
- The connector only supports CSV file formats with a comma-separated delimiter. Other delimiters are not currently supported.

The BI Publisher Reports connector workflow must observe the security rules of Oracle Fusion Cloud Applications. You must ensure that the password rotation and update are done on time before executing the BI Publisher Reports connector pipeline. Otherwise, those pipeline jobs will hang and eventually those jobs will get deleted, and the data source will be disabled until you update the password and resubmit the job.

Ensure that **BI Publisher Reports** is enabled on the Enable Features page prior to creating this connection. See [Make Preview Features Available](#).

1. In BI Publisher, build a comma separated values (CSV) report for the targeted tables. See [Create Reports](#) and [Generate CSV Output](#).
2. In Fusion Data Intelligence, create the data connection to the BI Publisher reports using these instructions:
 - a. In Fusion Data Intelligence **Console**, click **Data Configuration** under **Application Administration**.
 - b. On the Data Configuration page, click **Manage Connections**.
 - c. On the Manage Connections page, click **Create** and then click **Connection**.
 - d. In Create Connection, select **Data Extraction** in **Usage Type** and then select **BI Publisher Reports** as the connection type.

Create Connection

Usage Type: Data Extraction Filter Connection Types Q Grid Icon Menu Icon

Select Connection Type

MSQ MySQL On-Prem	GA Google Analytics	OEP Oracle EPM - Financial Close and Consolidation	OEP Oracle EPM - Planning and Budgeting	OEP Oracle EPM - Profitability and Cost Management	OEP Oracle EPM - Enterprise Data Management
QBO QuickBooks Online	BIP BI Publisher	EPM EPM Financial Close and Consolidation Data Export	EPM EPM Profitability and Cost Management Data Export	EPM EPM Planning and Budgeting Data Export	SA Salesforce
AWS AWS S3	AZ Azure	SFT SFTP	TAL TALEO	OOT Oracle OTM	LCD LoCode Data Files

Cancel

- e. In the dialog for the BI Publisher connection, provide these details in **Source Connection** and then click **Update and Next**:

Note

Some properties are defined on the **Extract Configuration** tab. These properties are visible, but read-only on the **Source Connection** tab.

- Enter an email address to receive notifications in **Notification Email**.
- Host name of the BI Publisher in **Host Name**.
- Credentials to access your BI Publisher in **User Name** and **Password**

← Create Connection

1 ————— 2
Source Connection Extract Configuration

BI Publisher

Usage Type

Connection Name

* Connectivity Type

Notification Email

* Host Name

* User Name

* Password

List of reports

Reports Configuration

Report Path	Run Asynchronously	Run Synchronously In Chunk Mode
Report Path	☐ runAsynchronously	☐ runInChunkMode X
> Parameters		
(+) Add		

CSV Date Format

CSV Timestamp Format

- f. In the dialog for the BI Publisher connection, provide these details in **Extract Configuration** and then click **Update and Next**:
- In **Reports Configuration**, provide the path of the report in Oracle Analytics Publisher, select **Run Asynchronously** if the report takes a long time to execute, else select **Run Synchronously In Chunk** if the report has a large volume of data (more than 7 MB in size) because this enables you to download the report in chunks of data.

Note

- If the report execution is completed before the timeout limit and generates large volume of data then set `runInChunkMode: true`. The recommendation is to set `runInChunkMode` to true if the report output file is over 7MB.
- If the report has parameters defined, then provide the values in the "params" section of the report configuration array. If the value in the params array is set with placeholder `__lastUpdateDate__`, then the connector applies the initial extract date or last successful extract date to the param.

- For **CSV Date Format** and **CSV Timestamp Format**, see [About Date and Timestamp Formatting for CSV File-based Extractors](#).

Note

Ensure that the date format used in Oracle Analytics Publisher and Fusion Data Intelligence match.

Create Connection

1 Source Connection ————— 2 Extract Configuration

BIP
BI Publisher

* Reports Configuration

Report Path	Run Asynchronously	Run Synchronously In Chunk Mode
Report Path	☐ runAsynchronously	☐ runInChunkMode
> Parameters		
(+) Add		

CSV Date Format

CSV Timestamp Format

Refresh Metadata ☒

Cancel Paste from clipboard Upload File or Drop Above Save

- g. Verify that the **Refresh Metadata** toggle is enabled to ensure that the metadata is refreshed when you save the connection.

You can later refresh the metadata from the Actions menu on the Manage Connections page, if required.

Note

You can't create augmentations for the BI Publisher reports unless you perform a metadata extract.

- h. Click **Save**.
- On the Manage Connections page, select **Actions** for the BI Publisher reports connection and then select **Test Connection**.
 - To delete a connection, on the Manage Connections page, click **Actions** for the applicable connection and select **Delete**.

Note

Ensure that you delete the functional areas, data augmentations, and custom data configurations related to the data connection before deleting it. You can't update or load data from deleted data connections to the warehouse.

5. After the connections are successfully established, navigate to the Data Configuration page, select the connection in **Data Source**, then click the Data Augmentation tile, and create a data augmentation using the BI Publisher reports data. Select the applicable BI Publisher source tables. See *Augment Your Data*.

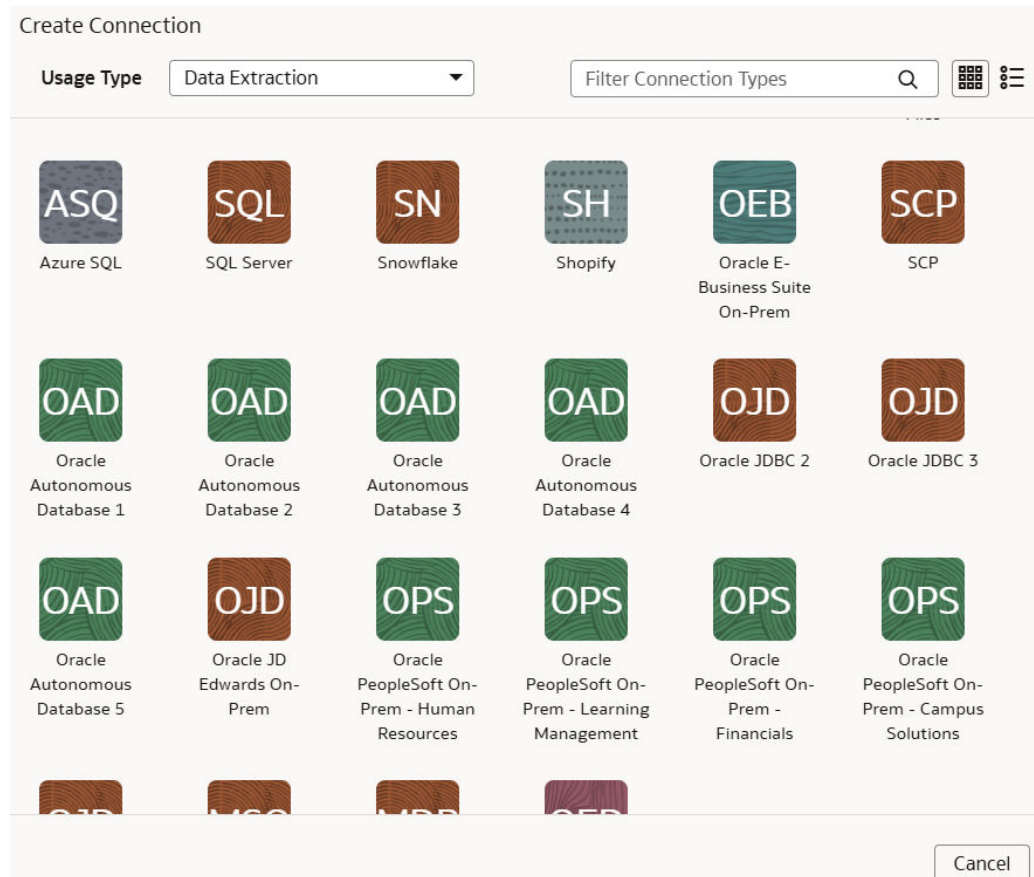
Load Data from Oracle Database Using JDBC into Fusion Data Intelligence (Preview)

As a service administrator, you can use an extract service remote agent to connect to an Oracle database using JDBC and use the data to create data augmentations.

After connecting to an Oracle database using JDBC, the remote agent extracts the data and loads it into the autonomous data warehouse associated with your Oracle Fusion Data Intelligence instance. The remote agent pulls the metadata through the public extract service REST API and pushes data into object storage using the object storage REST API. You can extract and load the data from an Oracle database into Oracle Fusion Data Intelligence only once every 24 hours.

Ensure that **Remote Agent** and **Oracle JDBC** are enabled on the Enable Features page prior to creating this connection. See [Make Preview Features Available](#).

1. Set up the remote agent to load data from your SQL Server into Oracle Fusion Data Intelligence.
See [Set up the Remote Agent to Load Data into Fusion Data Intelligence \(Preview\)](#).
2. Configure the remote agent and Oracle database data source on the Data Configuration page in Oracle Fusion Data Intelligence using these instructions:
 - a. On the **Console**, click **Data Configuration** under **Application Administration**.
 - b. On the Data Configuration page, click **Manage Connections**.
 - c. On the Manage Connections page, click **Create** and then click **Connection**.
 - d. In Create Connection, select **Data Extraction** in **Usage Type**, and then select **Oracle JDBC** as the connection type.



- e. In Create Connection for Oracle JDBC, in **Connectivity Type**, verify that **Remote** is selected automatically.

← Create Connection

Oracle JDBC 2

Usage Type

Connection Name

* Connectivity Type

* Remote Agent
 The remote agent doesn't exist. Create the remote agent prior to creating a remote connection.

Notification Email

* User Name

* Password

* URL

Initial Extract Date Column Pattern

Last Update Date Column Pattern

Enable flashback incremental

List of Flashback Incremental Exempt datastores

Enable ROWSCN incremental

List of ROWSCN Incremental Exempt datastores

Case Sensitive Data Stores

Schema Name

Data Store Name Pattern

Refresh Metadata ☒

Cancel

- f. In **Remote Agent**, select the remote agent connection that you created earlier, for example, **Remote Agent**.
- g. Enter an email address to receive notifications in **Notification Email**, provide credentials for the Oracle database source in **User Name** and **Password**, and the URL of the Oracle database source in **URL**.
- h. In **Initial Extract Date Column Pattern**, provide the initial extract date pattern that matches the pattern in your source.
- i. In **Last Update Date Column Pattern**, provide the last update date pattern that matches the pattern in your source.
- j. If your source has flashback support, then select **Yes** in **Enable flashback incremental**.
- k. In **List of Flashback Incremental Exempt datastores**, provide a comma separated list of datastores that you want to exempt from the flashback incremental queries.
- l. If your source has ROWSCN support, then select **Yes** in **Enable ROWSCN incremental**.
- m. In **List of ROWSCN Incremental Exempt datastores**, specify a comma-separated list of datastores that you want to exclude from the automatic tracking of row changes based on system change numbers.

- n. In **Case Sensitive Data Stores**, select Yes or No to specify whether the datastores have case sensitive data.
- o. In **Schema Name**, enter the schema name to extract data from.
- p. In **Data Store Name Pattern**, specify the name pattern of the datastores that you want extracted. If you provide this value, then the connector extracts only datastores matching the pattern.
- q. Verify that the **Refresh Metadata** toggle is enabled to ensure that the metadata is refreshed when you save the connection. You can later refresh the metadata from the Actions menu on the Manage Connections page, if required.

Note

You can't create augmentations for Oracle database unless you perform a metadata extract.

- r. Click **Save**.
3. To delete a connection, on the Manage Connections page, click **Actions** for the applicable connection and select **Delete**.

Note

Ensure that you delete the functional areas, data augmentations, and custom data configurations related to the data connection before deleting it. You can't update or load data from deleted data connections to the warehouse.

4. After the connections are successfully established, navigate to the Data Configuration page, select the connection in **Data Source**, then click the Data Augmentation tile, and create a data augmentation using the Oracle database data. Select the applicable Oracle database source tables. See [Augment Your Data](#).

Load Data from Oracle Transportation Management Cloud Service into Oracle Fusion Data Intelligence (Preview)

As a service administrator, you can use the Oracle Fusion Data Intelligence extract service to acquire data from an Oracle Transportation Management Cloud Service SaaS instance.

You can later use this data to create data augmentations for various Enterprise Resource Planning and Supply Chain Management use cases. Establish the connection from Fusion Data Intelligence to your Oracle Transportation Management Cloud Service instance to start data acquisition followed by augmentation.

Note

Oracle Fusion SCM Analytics is a prerequisite to use the "Oracle Transportation Management" connector.

- 1. Create a confidential application in Oracle Identity Cloud Service. See [IDCS Configuration](#).
- 2. In Oracle Transportation Management Cloud Service, create a user and assign the "Integration" role using these instructions:

- a. Navigate to the User Manager with DBA.Admin privileges and click **New** in User Finder.
 - b. In **User Name**, enter a name of your choice.
 - c. Enter the client ID from the Oracle Identity Cloud Service confidential application in **Nickname**.
 - d. In **Domain Name**, enter the name of the target domain.
 - e. Enter a compliant **Password** and the password confirmation.
 - f. In **User Role ID**, select **INTEGRATION**.
 - g. In **Access Control List** add the list named **Data Replication Service - Rest** with the **Granted** option selected.
 - h. Select **Finished**.
3. Obtain the OAuth 2 client credentials from your Oracle Transportation Management Cloud Service instance to provide while creating the data connection. See [OAuth 2](#).
4. In Fusion Data Intelligence, enable **Oracle Transportation Management** on the Enable Features page. See [Make Preview Features Available](#).
5. In Fusion Data Intelligence, create the Oracle Transportation Management Cloud Service data connection:
 - a. In Fusion Data Intelligence **Console**, click **Data Configuration** under **Application Administration**.
 - b. On the Data Configuration page, click **Manage Connections**.
 - c. On the Manage Connections page, click **Create** and then click **Connection**.
 - d. In Create Connection, select **Data Extraction** in **Usage Type** and then select **Oracle Transportation Management** as the connection type.

Create Connection

Usage Type: Data Extraction Filter Connection Types Q Grid Icon Menu Icon

Select Connection Type

MSQ MySQL On-Prem	GA Google Analytics	OEP Oracle EPM - Financial Close and Consolidation	OEP Oracle EPM - Planning and Budgeting	OEP Oracle EPM - Profitability and Cost Management	OEP Oracle EPM - Enterprise Data Management
QBO QuickBooks Online	BIP BI Publisher	EPM EPM Financial Close and Consolidation Data Export	EPM EPM Profitability and Cost Management Data Export	EPM EPM Planning and Budgeting Data Export	SA Salesforce
AWS AWS S3	AZ Azure	SFT SFTP	TAL TALEO	OOT Oracle OTM	LCD LoCode Data Files

Cancel

- e. In the dialog for the Oracle Transportation Management Cloud Service connection, enter these details and then click **Save**:
- **Connectivity Type:** Standard.
 - **Notification Email:** An email address to receive notifications.
 - **Scope:** The scope name defined in your Oracle Transportation Management Cloud Service's Oracle Identity Cloud Service application's configuration.
 - **Token URL:** The URL from which to obtain the access token. See [Runtime Configuration](#).
 - **URL:** Source application URL (hostname and protocol of the Oracle Transportation Management Cloud Service instance).
 - **Client ID:** The unique client identifier generated during OAuth registration process.
 - **Client Secret:** The client secret generated during the OAuth registration process (a private key similar to a password that is generated when registering your Oracle Transportation Management Cloud Service's Oracle Identity Cloud Service application).
 - Verify that the **Refresh Metadata** toggle is enabled to ensure that the metadata is refreshed when you save the connection. You can later refresh the metadata from the Actions menu on the Manage Connections page, if required.

Note

You can't create augmentations for Oracle Transportation Management Cloud Service unless you perform a metadata extract.

← Create Connection

OOT
Oracle OTM

Usage Type: Data Extraction

Connection Name: Oracle OTM

* Connectivity Type: Standard

Notification Email: Enter Notification Email

* URL:

* Token URL:

* Scope:

* Client ID:

* Client Secret:

Refresh Metadata: ☒

Cancel Paste from clipboard Upload File or Drop Above Save

6. On the Manage Connections page, select **Actions** for the Oracle Transportation Management Cloud Service connection and then select **Test Connection**.
7. To delete a connection, on the Manage Connections page, click **Actions** for the applicable connection and select **Delete**.

Note

Ensure that you delete the functional areas, data augmentations, and custom data configurations related to the data connection before deleting it. You can't update or load data from deleted data connections to the warehouse.

8. After the connections are successfully established, navigate to the Data Configuration page, select the connection in **Data Source**, then click the Data Augmentation tile, and create a data augmentation using the Oracle Transportation Management Cloud Service

data. Select the applicable Oracle Transportation Management Cloud Service source tables. See [Augment Your Data](#).

Load Data from QuickBooks Online into Oracle Fusion Data Intelligence (Preview)

As a service administrator, you can use the Oracle Fusion Data Intelligence extract service to acquire data from QuickBooks Online and use it to create data augmentations.

Ensure that **QuickBooks Online** is enabled on the Enable Features page prior to creating this connection. See [Make Preview Features Available](#).

1. In Oracle Fusion Data Intelligence, create the QuickBooks Online data connection using these instructions:
 - a. In Oracle Fusion Data Intelligence **Console**, click **Data Configuration** under **Application Administration**.
 - b. On the Data Configuration page, click **Manage Connections**.
 - c. On the Manage Connections page, click **Create** and then click **Connection**.
 - d. In Create Connection, select **Data Extraction** in **Usage Type** and then select **QuickBooks Online** as the connection type.

Create Connection

Usage Type: Data Extraction

Filter Connection Types

Select Connection Type

MSQ MySQL On-Prem	GA Google Analytics	OEP Oracle EPM - Financial Close and Consolidation	OEP Oracle EPM - Planning and Budgeting	OEP Oracle EPM - Profitability and Cost Management	OEP Oracle EPM - Enterprise Data Management
QBO QuickBooks Online	BIP BI Publisher	EPM EPM Financial Close and Consolidation Data Export	EPM EPM Profitability and Cost Management Data Export	EPM EPM Planning and Budgeting Data Export	SA Salesforce
AWS AWS S3	AZ Azure	SFT SFTP	TAL TALEO	OOT Oracle OTM	LCD LoCode Data Files

Cancel

- e. In the dialog for the QuickBooks Online connection, enter these details and click **Save**:
 - **Connectivity Type**: Select **Standard**.
 - **Notification Email**: Enter an email address to receive notifications.

- **URL:** Enter the complete URL of your Quickbooks Online instance.
- **Client ID:** This is the unique ID on your Quickbooks Online instance.
- **Client Secret:** Copy and paste the entire "client secret" from your authentication.
- **Refresh Token:** This token is changed by Quickbooks everyday; enter your refresh token for the day you want to execute this pipeline.
- **Company ID:** This is your company ID for the Quickbooks Online instance.

← Create Connection

QBO
QuickBooks Online

Usage Type: Data Extraction

Connection Name: QuickBooks Online

* Connectivity Type: Standard

Notification Email: Enter Notification Email

* URL:

* Client ID:

* Client Secret:

* Refresh Token:

* Company ID:

Refresh Metadata ☒

Cancel Paste from clipboard Upload File or Drop Above Save

- f. Verify that the **Refresh Metadata** toggle is enabled to ensure that the metadata is refreshed when you save the connection.

You can later refresh the metadata from the Actions menu on the Manage Connections page, if required.

Note

You can't create augmentations for QuickBooks Online unless you perform a metadata extract.

- g. Click **Save**.

2. On the Manage Connections page, select **Actions** for the QuickBooks Online connection and then select **Test Connection**.
3. To delete a connection, on the Manage Connections page, click **Actions** for the applicable connection and select **Delete**.

Note

Ensure that you delete the functional areas, data augmentations, and custom data configurations related to the data connection before deleting it. You can't update or load data from deleted data connections to the warehouse.

4. After the connections are successfully established, navigate to the Data Configuration page, select the connection in **Data Source**, then click the Data Augmentation tile, and create a data augmentation using the QuickBooks Online data. Select the applicable QuickBooks Online source tables. See Augment Your Data.

Disable the Data Pipeline

As the cloud account administrator with the functional administrator or system administrator application role, you can disable the data pipeline and enable it again.



[LiveLabs Sprint](#)

You may want to disable the data pipeline in the following scenarios:

- While updating the Oracle Fusion Cloud Applications password or the JWT credentials.
- While upgrading to a new Oracle Fusion Cloud Applications version.
- If you don't want to run pipeline jobs for a particular source.
- If you don't want to run pipeline jobs for a particular duration such as a quiet time in your business activities.

In cases where the pipeline jobs are failing due to issues, Oracle disables the data pipeline to investigate and resolve. On the Pipeline Parameters page, Oracle provides a reason and action for you, if the resolution needs to be done from your side. You can resolve the issue and as an administrator you can enable the data pipeline yourself using the **Data Pipeline Disabled** toggle.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Data Configuration** under **Application Administration**.
3. On the Data Configuration page, under **Configurations**, click **Pipeline Settings**.
4. On the Pipeline Settings page, under Data Pipeline, select the **Data Pipeline Status** toggle to **Disabled** and enter a reason in **Details**.

Data Pipeline

Data Pipeline Status ☒ Disabled

Details

Last Refresh Date Aug 22, 2023 08:52:30 PM IST

Estimated Refresh Completion Aug 24, 2023 03:30:00 AM IST

5. Select the **Data Pipeline Status** toggle again to enable the data pipeline after you've completed the reason for disabling the data pipeline.

Data Pipeline

Data Pipeline Status

☒ Enabled

Last Refresh Date

Aug 22, 2023 08:52:30 PM IST

Estimated Refresh Completion

Aug 24, 2023 03:30:00 AM IST

View Notifications and Emails

You can view the notifications sent by Oracle regarding various operations and the emails sent by Oracle regarding various actions taken by Oracle and actions that you must complete.

This enables you to know and take the necessary actions even if you haven't received the actual email sent to the email ID provided during instance creation.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Data Configuration** under **Application Administration**.
3. On the Data Configuration page, click **Notifications** under **Activity History**.

Activity History


Request History


Audit Log


Notifications

4. On the Notifications page, under the Notifications tab, view the notifications sent by Oracle regarding various operations such as “application upgrade” and “connection to source systems”.

Notifications

Emails

Filter Notifications ...

Message	Date	TI
The application version has been successfully upgraded to 24.R2.	May 7, 2024 04:41:52 PM IST	
Mandatory application upgrade to 24.R2 is scheduled to be completed by June 8, 2024.	May 7, 2024 09:51:19 AM IST	
The application version has been successfully upgraded to 24.R1.P3.	Apr 18, 2024 01:45:18 PM IST	
Optional application upgrade to 24.R1.P3 is available.	Apr 10, 2024 01:30:51 AM IST	
The application version has been successfully upgraded to 24.R1.P2.	Apr 4, 2024 05:47:40 AM IST	
The application version has been successfully upgraded to 24.R1.P2.	Apr 4, 2024 12:57:07 AM IST	
Optional application upgrade to 24.R1.P2 is available.	Mar 15, 2024 07:55:20 AM IST	
The application version has been successfully upgraded to 24.R1.Integ.	Feb 8, 2024 08:11:51 PM IST	

5. On the Notifications page, under the Emails tab, view the emails sent by Oracle regarding various actions taken by Oracle and actions that you must complete.

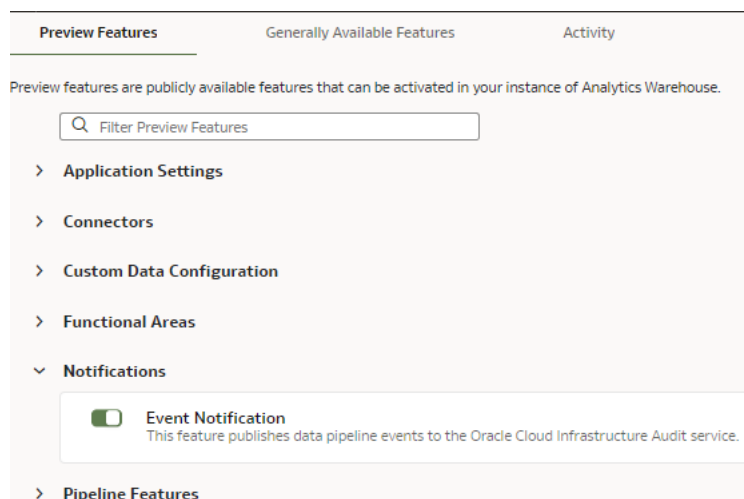
Enable Event Notifications (Preview)

You can track and control customized events and notifications to streamline your business operations using the Fusion Data Intelligence Event Producer service. This service provides an effective automated solution for creating consolidated events and notification workflows.

The Fusion Data Intelligence Event Producer service and its integration with the Oracle Cloud Infrastructure-managed Events services provide a more efficient way to receive notifications about your data pipeline events. This integration publishes data pipeline events to the Oracle Cloud Infrastructure Audit service. By using the Oracle Cloud Infrastructure-managed notification services, you can customize your alerts and choose how you want to receive them, whether it's through email, slack, or other trigger downstream workflows using custom-defined functions. This not only improves your experience but also reduces the workload on your support team by decreasing the number of ad-hoc requests for job completion requests through the service request tickets. With the integration of Oracle Cloud Infrastructure-managed Events services, you receive notifications in real-time when the daily pipeline jobs complete, ensuring you never miss an important update.

Enable the **Event Notification** feature from the Preview tab on the Enable Features page and create custom automation that sends an email using the Fusion Data Intelligence Event Producer service for the preregistered events that cover several business cases. See [Preregistered Events](#).

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Enable Features** under **Application Administration**.
3. On the Enable Features page, under the Preview Features tab, under Notifications, select **Event Notification**.



4. Sign in to the Oracle Cloud Infrastructure Console and create a topic for the applicable preregistered event such as "FDI Data Load Complete." See [Creating a Topic](#).
5. Subscribe to the topic that you created with your email address. See [Creating a Subscription](#).
6. Create a rule to notify the topic when the data load completes. See [Creating an Events Rule](#).

Schedule Frequent Data Refreshes for Functional Areas

You can schedule frequent refreshes of the applicable functional areas, prioritized datasets, and warehouse tables to ensure that the incremental data in these is the latest.

About Scheduling Frequent Data Refreshes

You can refresh specific set of tables currently with plans to support more functional areas and datasets in future releases.

When you refresh certain functional areas, prioritized datasets, and warehouse tables, be sure you understand which tables you can refresh or not because the selective refresh of some tables could lead to functional inconsistencies when combining data from multiple subject areas. This frequent data refresh capability is designed for refresh of base tables that capture the transactional data; it isn't meant for derived datasets that require aggregations, snapshots, or complex transformation logic. Such processing creates data latency that doesn't support high volume of frequent data refresh. For Oracle Fusion Data Intelligence, you can schedule frequent refreshes for functional areas that are visible in the Frequent Data Refresh Schedule tab on the Pipeline Settings page.

To know which tables are available for frequent refreshes, see:

- Fusion ERP Analytics Functional Areas Available for Frequent Data Refresh.

If you've enabled the "Prioritized Data Refresh" preview feature and selected datasets for a prioritized incremental refresh, then those specific datasets are available for a frequent data refresh. See [Prioritize Datasets for Incremental Refresh \(Preview\)](#). If you've enabled the "Frequent Refresh Tables" preview feature and saved your selection of the warehouse tables, then the selected tables are available as "Warehouse Tables" for a frequent data refresh. See [Schedule Frequent Refreshes of Warehouse Tables \(Preview\)](#). If you want to select the warehouse tables created by the custom data configurations that were generated prior to release Platform 23.R4, then you must regenerate the applicable custom data configurations for these tables to be visible for selection. From release Platform 23.R4, the warehouse tables created by the custom data configurations are available for a frequent data refresh under the Frequent Refresh tab.

When you select the functional areas for a frequent refresh, you won't be able to refresh the data pipeline for the applicable functional area using the Refresh Data option on the Data Configuration page. The frequent data refresh process doesn't refresh data from external sources through the data augmentation connectors. Oracle Fusion Data Intelligence processes the data augmentations as part of the incremental loads. If you change a data augmentation after including it in the frequent data refresh schedule, then you must remove that data augmentation and let the next incremental refresh finish. Otherwise, the frequent data refresh might fail. After the incremental refresh is complete, you can add the updated data augmentation back to the frequent data refresh schedule.

For frequent data refreshes, the semantic model won't be updated. The update jobs for semantic model won't run as part of data augmentations, they run for data augmentations only during incremental loads.

Review and consider the following to ensure that frequent data refreshes work as expected:

- Performance of frequent data refreshes depends on the:
 - Size of data.
 - Data change such as what data has changed, and which pipeline gets triggered.

- Number of extracted records that may result in very different number of published records, for example, 44 extracted records resulted in 1060 published records in 70 minutes and 395 extracted records resulted in 55 published records in 35 minutes.
- The frequent data refresh process doesn't get executed in the following scenarios:
 - In the 180-minute window before the scheduled start of the daily incremental data refresh.
 - If any release upgrade is in progress.
 - Until the previous frequent data refresh process is completed. You can set 1 hour frequency (maximum), however, in some cases it takes more than 1 hour to complete the refresh; in that case, the next frequent data refresh process starts at the next hour.
- For dataset-level (warehouse tables) frequent data refresh:
 - You must know which exact datasets to refresh.
 - There is a limit of up to 20 datasets for each run.
 - Dependencies aren't automatically incorporated. You must determine the dependencies and include the applicable tables.

Schedule Frequent Refreshes of Data

You may want to frequently refresh the data in these sample scenarios:

- During the last five days of the month or every quarter, general ledger data changes quickly with updated entries more than once a day. In this scenario, a financial analyst wants to ensure taking more recent and accurate data into the analysis and report generation. Because some of the data pipelines can take several hours to execute from end to end, the frequency of refresh needs to be every 4 hours or 6 times in a 24-hour period.
- In this scenario, a retailer that has strict guidelines for returns or refunds on any purchase orders, and needs to bring in the most recent order data for computation and report generation, especially in the beginning of a given fiscal quarter. To cover for time differences between Europe, East Coast, and West Coast of the U.S., a financial analyst needs to refresh data every 8 hours in 24 hours, or 3 times a day.

Ensure that **Frequent Refresh** is enabled in **Pipeline Features** under the Generally Available Features tab on the Enable Features page prior to scheduling frequent data refreshes. See [Enable Generally Available Features](#).

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Data Configuration** under **Application Administration**.
3. On the Data Configuration page, under **Configurations**, click **Pipeline Settings**.
4. On the Pipeline Settings page, click **Frequent Data Refresh Schedule**.

Frequent Data Refresh Schedule

Cancel

Save

Specify the schedule and data that requires frequent refreshes in a day.

- Note that Ad Hoc reload or refresh will not be available for frequently refreshed content.
- For functional areas that aren't activated currently, the schedule is applicable when you activate them.
- Some frequent refresh requests may be skipped. Ensure that you maintain a start time difference of at least 180 minutes between data refresh schedules.

Refresh frequency (in hours)

12

Start time

06:00 AM

Last refresh date

Feb 17, 2024 11:58:04 AM IST

GMT time zone

☐ Perform frequent refresh for selected warehouse tables

☐ Functional Area ↑	Application ↑↓	Offering ↑↓
☐ General Ledger	Enterprise Resource Planning	Financial Analytics
☐ Accounts Payable	Enterprise Resource Planning	Financial Analytics
☐ Accounts Receivable	Enterprise Resource Planning	Financial Analytics
☒ AR Unaccounted Transactions	Enterprise Resource Planning	Financial Analytics
☐ Sales Pipeline	Customer Experience	Customer Experience Sales Analytics

5. In the Frequent Data Refresh Schedule tab, in **Refresh Frequency (in hours)**, select the number of hours after which you want the data refresh to happen.
6. Enter a start time in **Start time**.
7. In **Last refresh date**, view the date when the data was last refreshed.
8. If you've enabled the "Frequent Refresh Tables" preview feature and saved your selection of the warehouse tables, then select the **Perform frequent refresh for selected warehouse tables** toggle. Click the "warehouse tables" hyperlink to view or update your selection of the warehouse tables in the Frequent Refresh Tables tab.
9. Select the check boxes for the functional areas with the data you want refreshed at the specified interval.
10. Click **Save**.

Schedule Periodic Full Reload of Functional Area Data

You can schedule a periodic full reload of the applicable functional areas to ensure that all the data in these functional areas is completely reloaded.

For Oracle Fusion Data Intelligence, you can schedule a periodic full reload for functional areas such as General Ledger and Order Management. You can schedule a full reload of maximum three functional areas. When you select the functional areas for full reload, ensure that you select the dependent functional areas as well.

Warning

When you schedule a full reload, the incremental loads take a longer time and depending on the initial extract date, the incremental data load may take days to complete the extraction.

You may want to fully reload the data for a functional area in these sample scenarios:

- The Finance department wants to do full reload of the general ledger (GL) data at the beginning of the month to make sure all data is fresh and clean for the monthly GL entries and the analytics and report generation.
- At the beginning of every quarter, all data related to Purchase Orders is updated with returns, refunds, and any adjustments. In this scenario, revenue recognition needs to take all the latest Purchase Order data to compute all numbers and create accurate reports. Hence, a full reload of the order data is required on the 1st of every fiscal quarter that can be different from the calendar quarter.

You can check the refresh summary in two ways:

- View details of the requests on the Request History page.
- View the DW_WH_REFRESH_SUMMARY data warehouse table.

Ensure that **Scheduled Full Data Reload** is enabled in **Pipeline Features** under the Generally Available Features tab on the Enable Features page prior to scheduling periodic full reload. See [Enable Generally Available Features](#).

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Data Configuration** under **Application Administration**.
3. On the Data Configuration page, under **Configurations**, click **Pipeline Settings**.
4. On the Pipeline Settings page, click **Warehouse Full Reload Schedule**.

←

Pipeline Settings

🔔 5

👤

Pipeline Parameters

Frequent Data Refresh Schedule

Warehouse Full Reload Schedule

Scheduled Warehouse Full Reload

Cancel Save

Specify the schedule and data to perform a full reload on the warehouse data.
Note that this action completely reloads the warehouse data for the selected data and increases the data load times on the specified schedule.

ⓘ Warning: For functional areas that aren't activated currently, the schedule is applicable when you activate them.

Full Reload Frequency

Daily

Timezone

GMT

☐ Functional Area ↑	Application ↑↓	Offering
☐ AR Unaccounted Transactions	Enterprise Resource Planning	Finance
☐ Accounts Receivable	Enterprise Resource Planning	Finance

5. In the Warehouse Full Reload Schedule tab, in **Full Reload Frequency**, select the frequency type such as weekly, monthly, or quarterly.

6. Based on the selected frequency type, select the specific day of the week, month, or the first month of the quarter.
7. Select the check boxes for the functional areas whose data you want reloaded fully at the specified period.
8. Click **Save**.

Schedule Frequent Refreshes of Warehouse Tables (Preview)

You can select warehouse data tables that are part of functional areas, descriptive flexfields custom configurations, and data augmentations for frequent data refresh ahead of other data in the regularly scheduled batch.

For a table to be eligible for a frequent data refresh, ensure that its supporting functional areas, data augmentations, and descriptive flexfields custom configurations are activated. The custom data configurations activated prior to release 23.R4 won't be available automatically. You must regenerate and redeploy them to schedule for frequent refresh. After you select the warehouse tables for frequent data refresh and save your selection, the selected tables are available as "Warehouse Tables" under the Frequent Refresh tab. You can set the frequent refresh schedule for these tables in the Frequent Refresh tab. See [Schedule Frequent Refreshes of Data](#).

Ensure that **Frequent Refresh Tables** is enabled in **Pipeline Features** under the Preview Features tab on the Enable Features page prior to scheduling frequent refreshes of the tables. See [Make Preview Features Available](#).

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Data Configuration** under **Application Administration**.
3. On the Data Configuration page, under **Configurations**, click **Pipeline Settings**.
4. On the Pipeline Settings page, click **Frequent Refresh Tables**.

Pipeline Parameters Frequent Data Refresh Schedule **Frequent Refresh Tables** Warehouse Full Reload Schedule Functional Area Schedule Override Prioritized Refresh

Warehouse tables for frequent data refresh Preview Cancel Save

Select warehouse data tables for frequent data refresh ahead of other data in the regularly schedule batch.

- Selected tables will be refreshed on [Frequent Data Refresh Schedule](#)
- For a table to be eligible for frequent data refresh, its supporting functional areas must be activated.

☐ Show selected tables
 ☐ Show all functional areas

Warehouse Table Name	Type	Entity	Updated On	Updated By
☒ DW_ACC_TYPE_LKP_TL	Data Augmentation	15 Functional Areas	Aug 22, 2023 03:38:18 PM IST	venkata.anil.kumar.motamarri@oracle.cc
☒ DW_ACTION_D	Functional Area	1 Functional Areas	Aug 22, 2023 03:38:18 PM IST	venkata.anil.kumar.motamarri@oracle.cc
☒ DW_ACTION_D_TL	Functional Area	1 Functional Areas	Aug 22, 2023 03:38:18 PM IST	venkata.anil.kumar.motamarri@oracle.cc
☒ DW_ACTION_REASON_D	Functional Area	1 Functional Areas	Aug 22, 2023 03:38:18 PM IST	venkata.anil.kumar.motamarri@oracle.cc

5. In the Frequent Refresh Tables tab, select the check boxes for the applicable warehouse tables and click **Save**.

Override Data Pipeline Schedules for Functional Areas (Preview)

You can remove a functional area from the standard incremental schedule and set a separate schedule with different frequency of run to prioritise your data pipelines and run timings.

You can select one or more functional areas and schedule to run incremental at a different frequency than the standard incremental job. If the incremental refresh is scheduled for Daily, then you can choose one or more functional areas to schedule them to run Weekly, Monthly, Quarterly, or Yearly. If the incremental refresh is scheduled for Weekly, then you can choose one or more functional areas to schedule them to run Monthly, Quarterly, or Yearly.

If the incremental refresh is weekly, then it runs on a certain day of the week. Thereafter, if you do an override for Monthly on a certain day of the month, then you can't piggyback on incremental since weekly incremental (certain day of the week, let's say Monday) may not run on the desired Day of the Month (let's say 1st). In this scenario, you can create schedules to override different modules on different days of the week and override different modules on the same day of the week.

Note

Make sure to select all dependent functional areas to avoid data inconsistencies after a data refresh occurs. For more information about dependencies between functional areas, see:

- Fusion SCM Analytics Offerings and Functional Areas
- Fusion ERP Analytics Offerings and Functional Areas
- Fusion CX Analytics Offerings and Functional Areas

Ensure that **Functional Area Schedule Override** is enabled in **Pipeline Features** under the Preview Features tab on the Enable Features page . See [Make Preview Features Available](#).

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Data Configuration** under **Application Administration**.
3. On the Data Configuration page, under **Configurations**, click **Pipeline Settings**.
4. On the Pipeline Settings page, click **Functional Area Schedule Override**.

Pipeline Parameters

Frequent Data Refresh Schedule

Frequent Refresh Tables

Warehouse Full Reload Schedule

Functional Area Schedule Override

Prioritized Refresh

Functional Area Schedule Override

Preview

Cancel

Update Schedule

Filter By Interval

Filter By Functional Area

Show all functional areas

Standard Data Refresh Time
Starting at 2:00 PM GMT

	Application	Module	Name/Functional Area	Interval	Day	Month	Status	Action
☒	Human Capital Management	Human Capital Management Analytics	Workforce Management	Default			Eligible	...
☐	Enterprise Resource Planning	Financial Analytics	Accounts Receivable	Default			Eligible	...
☐	Enterprise Resource Planning	Financial Analytics	General Ledger	Default			Eligible	...
☐	Enterprise Resource Planning	ERP Security Configurations	Security Configuration Option	Default			Eligible	...

5. In the Functional Area Schedule Override tab, select the applicable functional areas and click **Update Schedule**.

To set the schedule for an individual functional area, click the **Action** menu for the applicable function area and click **Edit Schedule**.

6. In Schedule Settings, specify the data refresh schedule by selecting a value in the **Standard Data Refresh Interval** field and the dependent values for **Start Day** and **Month** when applicable.

Pipeline Parameters Frequent Data Refresh Schedule Frequent Refresh Tables Warehouse Full Reload Schedule **Functional Area Schedule Override** Prioritized Refresh

Functional Area Schedule Override **Preview** Cancel Update Schedule

Filter By Interval Filter By Functional Area ☐ Show all functional areas Standard Data Refresh Time Starting at 2:00 PM GMT

Application	Module	Name/Functional Area	Interval	Day	Month	Status	Action
☒ Human Capital Management	Human Capital Management Analytics	Workforce Management	Default			Eligible	...
☐ Enterprise Resource Planning	Financial Analytics	Accounts Receivable	Default			Eligible	...
☐ Enterprise Resource Planning	Financial Analytics	General Ledger	Default			Eligible	...
☐ Enterprise Resource Planning	ERP Security Configurations	Security Configuration Option	Default			Eligible	...

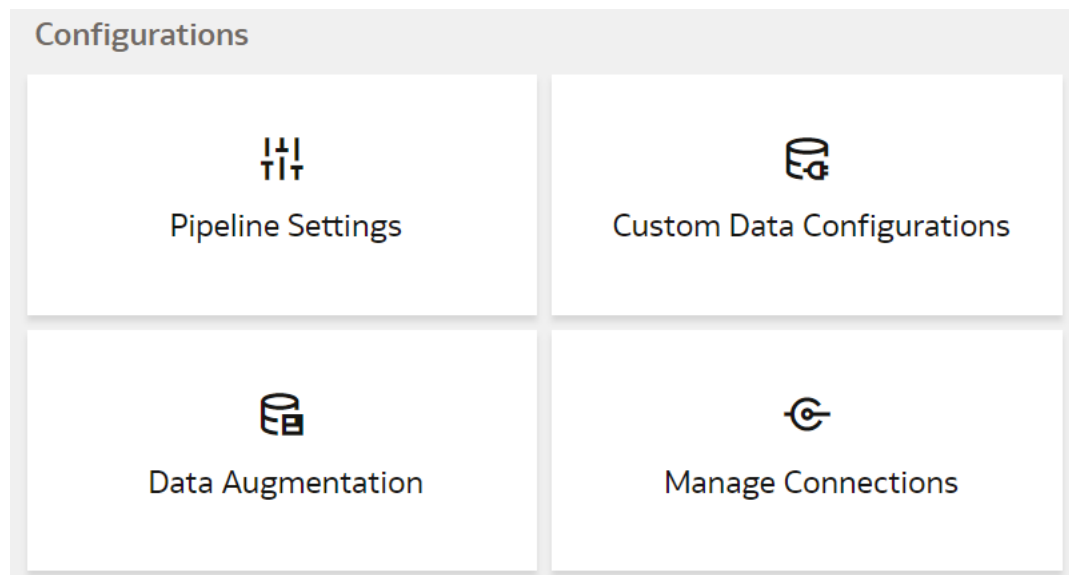
7. Click **Save**.

Prioritize Datasets for Incremental Refresh (Preview)

As a functional administrator, you can select datasets to prioritize for incremental refresh over others. For example, at the end of the quarter, you want to prioritize some of the datasets that have bookings data over other datasets.

You can search for and choose datasets based on the functional areas. The incremental refresh process automatically selects the dependent datasets. For example, if you select DW_GL_JOURNAL_CF, then the incremental refresh process automatically pulls in DW_GL_JOURNAL_F. The incremental refresh process runs the priority dataset refresh first from end-to-end, followed by the regular incremental refresh. The objects processed in the priority dataset refresh are reprocessed in the regular incremental refresh. The prioritized datasets are automatically available for frequent data refresh. See [Schedule Frequent Refreshes of Data](#).

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Data Configuration** under **Application Administration**.
3. On the Data Configuration page, under **Configurations**, click **Pipeline Settings**.



- On the Pipeline Settings page, click the Prioritized Data Refresh tab.

Pipeline Parameters Warehouse Full Reload Schedule Functional Area Schedule Override **Prioritized Refresh**

Prioritized Refresh [Preview](#) [Cancel](#) [Save](#)

Select warehouse data tables for prioritized refresh ahead of other data in the regularly scheduled batch.
For a table to be eligible for prioritization, at least one of its supporting functional areas must be activated.

☐ Show Selected Only ☐ Show all functional areas

Warehouse Table Name	Type	Entity	Date Prioritized	Prioritized by	Prioritization Status
☒ DW_FAH_APPLICATION_TL	Custom Data Configuration	FAH_APP	May 13, 2025 08:20:19 PM IST	seconduser	Prioritized
☒ DW_FAH_APPLICATION_FACTS	Custom Data Configuration	FAH_APP	May 13, 2025 08:20:19 PM IST	seconduser	Prioritized
☒ DW_XLA_SUP_REF_COMBINATIONS_FA_TOPIVOT	Custom Data Configuration	FAH_APP	May 13, 2025 08:20:19 PM IST	seconduser	Prioritized
☒ DW_CURRENCY_DETAILS_D_TL	Functional Area	4 Functional Areas	May 13, 2025 08:20:19 PM IST	seconduser	Prioritized
☒ DW_CONVERSION_RATE_TYPE_D	Functional Area	1 Functional Areas	May 13, 2025 08:20:19 PM IST	seconduser	Prioritized
☒ DW_CONTRACT_HEADER_D_TL	Functional Area	1 Functional Areas	May 13, 2025 08:20:19 PM IST	seconduser	Prioritized
☐ DW_CUSTOMER_ACCOUNT_D	Functional Area	1 Functional Areas			Eligible

- In the Prioritized Data Refresh section, select the datasets that you want for the priority refresh.
- Click **Save**.

Schedule Data Maintenance

You can schedule full data loads separately using the Data Maintenance configuration to avoid affecting the incremental refresh.

To ensure that the data in the warehouse is consistent, in certain situations, a full reload of modules is required. For example, when you've deleted data in the source and you want the data in the warehouse to reflect those changes, a full reload of those functional areas is required. Another example is when there is a structural change in the data augmentation or you are activating a module, the system does a full reload. These full loads typically take long time to run and can slow down the daily incremental refresh. With the data maintenance configuration, you can schedule execution of these full loads so that they don't unnecessarily

affect the incremental refresh. You can change the data maintenance schedule or leave the default schedule details. If you retain the default schedule, the system runs the full loads after the daily incremental refresh is completed. If you update the default schedule for data maintenance, then the system runs the full loads at the scheduled time. If the schedules for daily refresh and data maintenance overlap or conflict, the system runs the daily refresh first. You can view such scheduled refreshes on the Data Maintenance page.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Data Configuration** under **Application Administration**.
3. On the Data Configuration page, under **Configurations**, click **Pipeline Settings**.
4. Under Pipeline Parameters, in **Data Maintenance Schedule**, specify the following:
 - **Interval**: Select the applicable refresh interval.
 - **Time**: Select the refresh start time.
 - **Timezone**: Select applicable timezone based on your refresh time.

Note

The start and end of daylight-saving times may affect the data refresh process.

Data Maintenance Schedule

Interval	Daily
Time	2:30 PM
Timezone	Asia/Kolkata

5. Click **Save**.
6. On the Data Configuration page, click **Data Maintenance**.
7. On the Data Maintenance page, verify the next schedule time and the requests for full load of functional areas and reload of specific data.

ORACLE Fusion > Data Maintenance		
Next Schedule Time: May 26, 2025 03:30:00 PM IST		
Request	Submitted By	Submitted Date
Reload Data - Security Configuration Data	seconduser	May 23, 2025 06:46:40 PM IST
Scheduled Full Reload - General Ledger	seconduser	May 26, 2025 01:47:47 PM IST

Extend Data with Custom Data Configurations

As a functional administrator, you can use the available custom data configurations to extend your data for detailed and varied analytics.

Topics:

- [About Extending Data with Custom Data Configurations](#)
- [Select Descriptive Flex Fields and Map Attributes](#)
- [Activate the Descriptive Flex Fields](#)
- [Deactivate the Descriptive Flex Fields](#)

About Extending Data with Custom Data Configurations

Custom data configurations are prebuilt templates that enable you to create custom functional areas with the data that you bring into the Autonomous Data Warehouse. You can select data from the deployed custom data configurations for a prioritized refresh. You later use these custom functional areas to augment the data from the source or enrich the data available in the Autonomous Data Warehouse.

When you start using a custom data configuration for the first time and deploy it, Oracle Fusion Data Intelligence assigns the custom data configuration a version number. You can then edit the deployed version, make changes, and save it. This saved version then gets a new version number. While you're changing the definition, the deployed version continues to fetch new data. An example of the currently available custom data configuration is the Descriptive Flex Fields (DFF) Attribute Mapper.

About Extending Data with the Descriptive Flex Fields Attribute Mapper

You can use the Descriptive Flex Fields (DFF) Attribute Mapper custom configuration to select the prebuilt DFFs with their attributes, generate, and deploy the selected DFFs in the warehouse. The deployed DFFs create a custom functional area that you can use like the prebuilt functional areas.

The DFF Attribute Mapper supports the following:

- For attribute name, it supports "alphanumeric", "_", and "\$". This is according to the Oracle SQL database restrictions. Avoid using any other characters because they aren't supported.
- For display name or label, proceed with caution using any special characters because they can create an issue in report generation. Comma isn't allowed by default.

The DFF Attribute Mapper custom configuration is available with the 22.R3 application update. For tenant instances that you create after upgrading to this application update, as a service or functional administrator, you must navigate to this custom configuration, search for and select the DFFs that you want to move to the warehouse, map the attributes as needed, and deploy the selected DFFs. You can filter based on functional areas such as General Ledger, Accounts Payables, and Accounts Receivables or applications from the source system such as Payables and Receivables to list DFFs that you need to move to the warehouse. If you require a new DFF later, then complete this process again.

For tenant instances already operational before the 22.R3 application update, to ensure backward compatibility, Oracle Fusion Data Intelligence automatically copies the DFFs based on the functional areas that are activated. For existing tenant instances, Oracle Fusion Data

Intelligence also copies the DFFs when you activate a new functional area. Oracle recommends that you start using the DFF Attribute Mapper to select DFFs and map the required attributes yourself.

Select Descriptive Flex Fields and Map Attributes

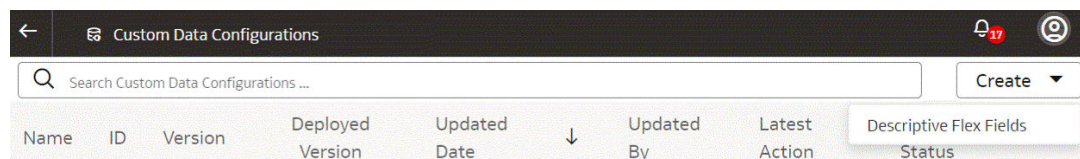
As a functional administrator, select and add the prebuilt descriptive flex fields (DFFs) and their attributes to your Autonomous Data Warehouse using the DFF Attribute Mapper.

While selecting and adding the prebuilt DFFs and their attributes, you must ensure that they are BI-enabled. The BI-enabled DFFs are registered in the database as enabled for Oracle Business Intelligence (BI) and include a BI-enabled setting for each of its segments. When a global, context, or context-sensitive segment is BI-enabled, it's available for use in Oracle Business Intelligence. If you select any attribute that isn't BI-enabled, then your extraction and downstream data augmentation may fail.

After adding the DFFs such as Invoice and Payment Information along with their attributes, you can use the data from the added DFFs to augment the data from the source or enrich the data available in the Autonomous Data Warehouse. The ability to select the attributes that you need enables you to avoid pipeline failures and slow performance.

While searching for the prebuilt DFFs, filter the DFFs by functional areas or applications from the source system to view a smaller set. View the details of the flex field using the Details tab. You can add selected attributes or add all available attributes using the **Add all attributes** option.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Data Configuration** under **Application Administration**.
3. On the Data Configuration page, under **Configurations**, click **Custom Data Configurations**.
4. On the Custom Data Configurations page, click **Create**, and then select **Descriptive Flex Fields**.



5. On the Descriptive Flex Fields page, click **Actions** for a descriptive flex field that you want to add attributes.

Descriptive Flex Fields			
Search Descriptive Flex Fields		Filter	Cancel Save
Flex Field Name ↑↓	Flex Field Code ↑↓	Application ↑↓	Attributes ↑↓
Invoice	AP_INVOICES	Payables	0 / 25
Payment Information	AP_CHECKS	Payables	0 / 25
Invoice Lines	AP_INVOICE_LINES	Payables	0 / 25
Payables Invoice Regional I...	JG_AP_INVOICES	Financials for Regional Loc...	0 / 271
Invoice Distributions	AP_INVOICE_DISTRIBUTIONS	Payables	0 / 20
Payables Checks Regional I...	JG_AP_CHECKS	Financials for Regional Loc...	0 / 31
Supplier Profile DFF	POZ_SUPPLIERS	Supplier Model	0 / 34

- In **Actions**, click **Edit** to select attributes
- In the descriptive flex field dialog, select the check box for the attributes that you want to add and then click **Done**.

Invoice

Attributes 25

Details

Search Descriptive Flex Fields attributes

☐ Show Selected Attributes only (0/25)

☐	Display name ↑↓	Attribute name ↑↓
☐	IBY	TESTER_
☐	RK_LOV_c	RK_LOV_c
☐	KEY_FLEX_CONTEXT_0	KEY_FLEX_CONTEXT_0
☐	cnao field1	CNAO_FIELD1_
☐	LastUpdatedBy	LastUpdatedBy
☐	GoodwillDiscount (Description)	DESC_RK_LOV_NUM_
☐	TESTER_c	TESTER_c
☐	RK_DATE_c	RK_DATE_c

Done

- After adding attributes to the descriptive flex fields that you want, click **Save** on the Descriptive Flex Fields page.

Activate the Descriptive Flex Fields

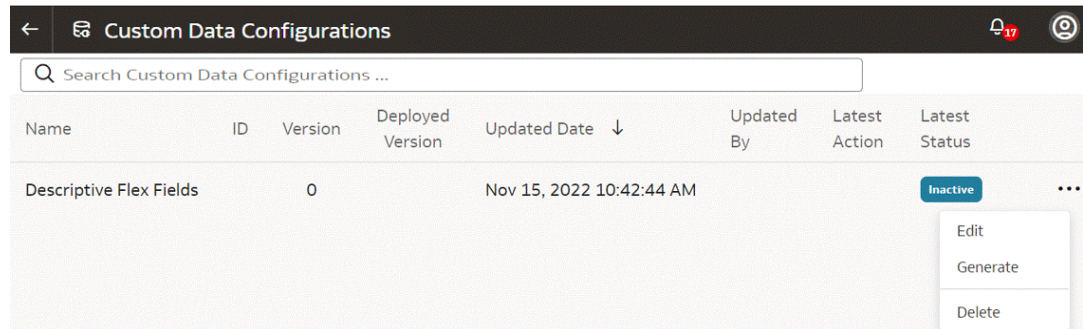
After selecting the attributes for the descriptive flex fields (DFFs) that you want, you must activate them to enable data load.

Activation involves these two steps:

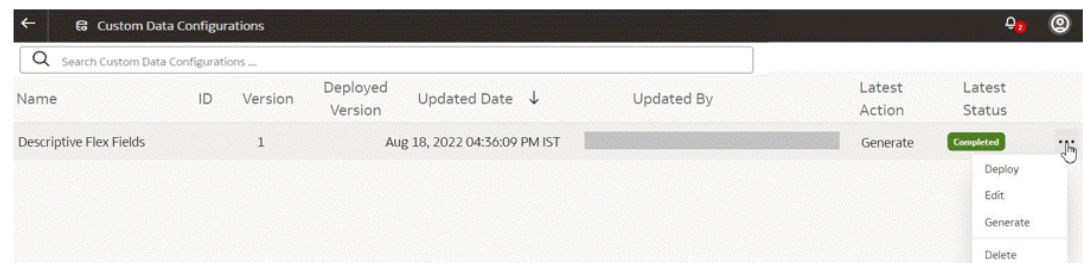
- The Generate step initializes the custom application for activation. Generate evaluates the selections for the DFFs and prepares the application for deployment. It changes the status to scheduled and after processing, sets the custom application as active.
- After the Generate step is complete, you can deploy the custom application. In the Deploy step, Oracle Fusion Data Intelligence connects to the source system and extracts the data for the selected flex fields and their attributes. Once the data is copied to the warehouse, the data is visible for analysis in the subject areas. The subsequent incremental data loads copy the data for the DFFs to the warehouse automatically.

- Sign in to your service.

2. In Oracle Fusion Data Intelligence **Console**, click **Data Configuration** under **Application Administration**.
3. On the Data Configuration page, under **Configurations**, click **Custom Data Configurations**.
4. On the Custom Data Configurations page, click **Actions** for a descriptive flex field that you want to activate.
5. In **Actions**, click **Generate**.



6. On the Custom Data Configurations page, when the status changes to **Completed**, click **Actions** for the applicable descriptive flex field and in **Actions**, select **Deploy**.



Deactivate the Descriptive Flex Fields

You can deactivate the descriptive flex fields (DFFs) if you no longer want to include the data from the DFFs in the incremental data loads.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Data Configuration** under **Application Administration**.
3. On the Data Configuration page, under **Configurations**, click **Custom Data Configurations**.
4. On the Custom Data Configurations page, click **Actions** for a descriptive flex field that you want to deactivate.
5. In the pop up, click **Deactivate**.

Connect to an Autonomous Data Warehouse

Oracle Fusion Data Intelligence provides three ways to connect to an Autonomous Data Warehouse: Oracle Analytics Cloud Connector, Database Actions (SQL Developer Web), and SQL Developer desktop client.

The Oracle Analytics Cloud connector provides a way to query database objects for analysis, visualization, and reporting. You can query database objects by configuring Oracle Analytics Cloud datasets or writing SQL manually.

Database Actions (SQL Developer Web) and SQL Developer desktop client allow you to create, edit, and query database objects. You can also use them to perform administrative tasks such as creating users and database schemas and resetting passwords. These tools help you investigate, debug, and validate data.

Oracle recommends using Database Actions (SQL Developer Web) to leverage the modern cloud interface and its additional features.

Topics:

- [Configure Autonomous Data Warehouse Credentials for Fusion Data Intelligence](#)
- [Connect Fusion Data Intelligence to an Autonomous Data Warehouse with Database Actions \(SQL Developer Web\)](#)
- [Connect Fusion Data Intelligence to an Autonomous Data Warehouse with Oracle Analytics Cloud](#)
- [Connect Fusion Data Intelligence to an Autonomous Data Warehouse with SQL Developer Desktop Client](#)

Configure Autonomous Data Warehouse Credentials for Fusion Data Intelligence

You need to configure credentials of the OAX_USER and ADMIN users and download a wallet file to connect to an Autonomous Data Warehouse.

All connection methods initially require credentials for ADMIN and OAX_USER. You must reset these credentials annually, or configure them if you're performing this task for the first time.

The ADMIN can perform certain important tasks, such as changing OAX_USER's password, but can't see pipeline objects or data. The OAX_USER can browse and query pipeline objects and data. The following steps ensure that both users have correct credentials that you can use for connecting to an Autonomous Data Warehouse.

- To reset the ADMIN user password, see [Update the Administrator Password for Oracle Autonomous Data Warehouse](#).
- To reset the OAX_USER password, see [Reset the Password for OAX_USER Schema](#).
- In addition to the ADMIN and OAX_USER passwords, you need to download the client credential wallet file. To download the wallet, see [Download Client Credentials \(Wallets\)](#).

Connect Fusion Data Intelligence to an Autonomous Data Warehouse with Database Actions (SQL Developer Web)

Follow these steps to connect to Autonomous Data Warehouse with Database Actions (SQL Developer Web).

Topics:

- [Configure Autonomous Data Warehouse Credentials for Fusion Data Intelligence](#) (if not already done)

- [Query Tables for Fusion Data Intelligence from Autonomous Data Warehouse as OAX_USER](#)
- [Query the Autonomous Data Warehouse System Tables as ADMIN](#)

Query Tables for Fusion Data Intelligence from Autonomous Data Warehouse as OAX_USER

Verify proper configuration of your Autonomous Data Warehouse connection by running a sample query.

1. Sign in to Database Actions as OAX_USER.
2. On the **Development** tab, click the **SQL** label to open SQL Developer Web. Select **All Objects** in the **Objects** dropdown.
You should see all objects for OAX USER in the **Navigator**.
3. Run this query to verify proper configuration:

```
select * from DW_CUSTOMER_LOCATION_D
```

Query the Autonomous Data Warehouse System Tables as ADMIN

Verify proper configuration of your Autonomous Data Warehouse connection by running a sample query.

1. Sign in to Database Actions as ADMIN.
2. On the **Development** tab, click the **SQL** label to open SQL Developer Web.
3. Run this query to verify proper configuration:

```
select sum(bytes)/1024/1024/1024/1024 as USED_STORAGE_TB from dba_segments  
where owner not in ('SSB', 'SH');
```

Connect Fusion Data Intelligence to an Autonomous Data Warehouse with Oracle Analytics Cloud

Follow these steps to connect to an Autonomous Data Warehouse with Oracle Analytics Cloud.

Topics:

- [Configure Autonomous Data Warehouse Credentials for Fusion Data Intelligence](#) (if not already done)
- [Configure the Connection for OAX_USER in Oracle Analytics Cloud](#)
- [Create an Oracle Analytics Cloud Dataset](#)

Configure the Connection for OAX_USER in Oracle Analytics Cloud

You can connect to an Autonomous Data Warehouse with Oracle Analytics Cloud.

When you configure the connection, select the service name with the "low" prefix in its name. Connecting with the "high" or "medium" service might lead to performance issues in reports in Fusion Data Intelligence and delays in completion of daily incremental data pipeline loads. See

[Database Service Names for Autonomous Transaction Processing and Autonomous JSON Database](#) for more information.

1. Sign in to your Fusion Data Intelligence instance.
2. Click **Go to Home Page**.
3. Click **Navigator** and then **Data**.
4. Click the **Connections** tab.
5. On the Oracle Analytics page, click **Create**, click **Connection**, then click **Oracle Autonomous Data Warehouse**.
6. Enter these values and then click **Save**:
 - a. **Connection Name**: ADW - OAX_USER
 - b. **Description**: ADW - OAX_USER
 - c. **Client Credentials**: Click **Select**, then browse to select the wallet.zip file.
 - d. **Username**: OAX_USER (default)
 - e. **Password**: The OAX_USER password.
 - f. **Service Name**: Select **<service name>-low**. Using low prevents pipeline conflicts.
7. In the **Connections** tab, click the ellipsis icon to the right of the name of the connection you just created to open the **Actions** menu and click **Inspect**.
8. Click **Access** and then **Roles**.
9. Type ServiceAdmin in the **Search By Name** field, then click to add it.
10. Click the **Full Control** radio button for the ServiceAdmin user.
11. Click **Save** and then **Close**.

Create an Oracle Analytics Cloud Dataset

Verify proper configuration of your Oracle Analytics Cloud connection to the Autonomous Data Warehouse by creating a basic dataset.

See [Create a Dataset From a Connection](#).

Connect Fusion Data Intelligence to an Autonomous Data Warehouse with SQL Developer Desktop Client

You can optionally use the SQL Developer desktop client to connect to Autonomous Data Warehouse. You need to configure credentials, and then set up connections for both ADMIN and OAX_USER.

Note

Oracle recommends using Database Actions (SQL Developer Web) to leverage the modern cloud interface and its additional features.

Topics:

- [Configure Autonomous Data Warehouse Credentials](#) (if not already done)

- [Configure the Connection to Autonomous Data Warehouse for ADMIN with SQL Developer Desktop Client](#)
- [Configure the Connection to Autonomous Data Warehouse for OAX_USER with SQL Developer Desktop Client](#)

Configure the Connection to Autonomous Data Warehouse for ADMIN with SQL Developer Desktop Client

You can use the SQL Developer desktop client to connect to Autonomous Data Warehouse. However, this connection method is optional, and using Database Actions (SQL Developer Web) is the preferred method.

When you configure the connection, select the service name with the "low" prefix in its name. Connecting with the "high" or "medium" service might lead to performance issues in reports in Fusion Data Intelligence and delays in completion of daily incremental data pipeline loads. See [Database Service Names for Autonomous Transaction Processing and Autonomous JSON Database](#) for more information.

1. Launch SQL Developer.
2. In the **Connections** pane, click **New Connection**.
3. Create an SQL Developer connection for the ADMIN user by setting the following values in the **New/Select Database Connection** dialog:
 - a. Define a **Name** for the connection, such as PROD_ADMIN.
 - b. Set the **Username** to ADMIN.
 - c. Enter the password for the ADMIN user.
 - d. Set the **Connection Type** to **Cloud Wallet**.
 - e. For the **Configuration file**, click **Browse** and select the wallet.zip file.
 - f. **Service**: Select **<service name>-low**. Using low prevents pipeline conflicts.
 - g. When connecting with a virtual private network (VPN), enter details in the **Proxy** tab.
 - h. Click **Test** to validate the connection.
 - i. Click **Save**.
 - j. Click **Connect**.
4. Run this query to verify proper configuration:

```
select sum(bytes)/1024/1024/1024/1024 as USED_STORAGE_TB from dba_segments
      where owner not in ('SSB', 'SH');
```

Configure the Connection to Autonomous Data Warehouse for OAX_USER with SQL Developer Desktop Client

You can use the SQL Developer desktop client to connect to Autonomous Data Warehouse.

When you configure the connection, select the service name with the "low" prefix in its name. Connecting with the "high" or "medium" service might lead to performance issues in reports in Fusion Data Intelligence and delays in completion of daily incremental data pipeline loads. See [Database Service Names for Autonomous Transaction Processing and Autonomous JSON Database](#) for more information.

1. Launch SQL Developer.
2. In the **Connections** pane, click **New Connection**.
3. Create an SQL Developer connection for OAX_USER. Set the following values in the **New/Select Database Connection** dialog:
 - a. Define a **Name** for the connection, such as PROD_OAX_USER.
 - b. Set the **Username** to OAX_USER.
 - c. Enter the password for OAX_USER.
 - d. Set the **Connection Type** to **Cloud Wallet**.
 - e. For the **Configuration file**, click **Browse** and select the wallet.zip file.
 - f. **Service Name**: Select **<service name>-low**. Using low prevents pipeline conflicts.
 - g. When connecting with a virtual private network (VPN), enter details in the **Proxy** tab.
 - h. Click **Test**.
 - i. Click **Save**.
 - j. Click **Connect**.
4. Expand **Synonyms** to see all of the prebuilt synonyms for OAX_USER.
5. Run this query to verify proper configuration:

```
SELECT * FROM DW_CUSTOMER_LOCATION_D
```

5

Validate Oracle Fusion Data Intelligence Data

As the cloud account administrator with the Functional Administrator or System Administrator application role, you validate the data after loading the source data from Oracle Fusion Cloud Applications into your data warehouse.

Topics:

- [About Validating Your Data](#)
- [Data Validation Recommendations and Tips](#)
- [Create a User to Validate the Extracted Data](#)
- [Create a Custom BI Abstract Role](#)
- [Validate Your Data](#)

About Validating Your Data

As a functional administrator, you can validate a library of metrics between your Oracle Fusion Data Intelligence instance and the Oracle Transactional Business Intelligence instance. The library of metrics is part of Oracle Fusion Data Intelligence.

To validate data between the source and warehouse, the Oracle Fusion Data Intelligence functional administrator and Oracle Fusion Cloud Applications user must have the same privileges. For example, if you're an administrator in Oracle Fusion Data Intelligence and Oracle Fusion Cloud Applications, then you can use those user IDs to perform data validation.

You can set and apply common parameters across multiple metrics within a validation set while maintaining the flexibility to adjust individual metrics as needed. This reduces redundancy and saves time in the process of creating and editing the validation set.

Prerequisites for Data Validation

Here's a list of prerequisites for validating your data as an administrator:

- If you are not authenticating with JWT, see [Create a User to Validate the Extracted Data](#) and create a user named MyFAWValidationUser who will perform data validation.
- Ensure that you can access Oracle Fusion Cloud Applications instance and run queries.
- Ensure that the user doing data validation exists in both Oracle Fusion Data Intelligence and Oracle Fusion Cloud ApplicationsUser must have same level of access in both Oracle Fusion Data Intelligence and Oracle Fusion Cloud Applications.
- Ensure that you have the same data security access privileges in Oracle Fusion Data Intelligence instance and the Oracle Fusion Cloud Applications.
- Ensure that you're assigned the Integration Specialist Group in Oracle Fusion Data Intelligence to access the Common folder in Oracle Analytics Cloud and to view the output of the data validation project.

- If Location Based Access Control (LBAC) is enabled in the Oracle Fusion Cloud Applications instance, then you must ensure that the roles needed for the users who extract and validate the extracted data are public.
- Ensure that the user who validates the data in Oracle Fusion Data Intelligence also exists in the Oracle Fusion Cloud Applications identity domain if the identity domain used by Oracle Fusion Data Intelligence is different from the one used by Oracle Fusion Cloud Applications.
- In Oracle Fusion Data Intelligence, on the Source Credentials tab of the Data Validation page, provide the credentials of the applicable user, such as MyFAWValidationUser.

Note

If the password has expired, then set the new password using the Source Credentials tab. Ensure that the password for this user doesn't contain any special characters or space. To navigate to the Source Credentials tab, open the **Navigator** menu, click **Console**, and then click **Data Validation** under **Application Administration**. You see the Scheduled Validation, Detailed Validation, and Source Credentials tabs.

  Data Validation

Scheduled Validation

Detailed Validation

Source Credentials

Username

MyFAWValidationUser

Password

..... 

Confirm Password

..... 

Save

Data Validation Recommendations and Tips

Here are some guidelines and tips related to data validation in Oracle Fusion Data Intelligence.

- Perform data validation daily, or as needed.
- You can run data validation for both open and closed periods.

- If there is data validation mismatch between Oracle Fusion Cloud Applications and Fusion Data Intelligence, and data is refreshed more frequently than daily, only run your validation after the pipeline runs finish.
- Fusion Data Intelligence data is valid on the last pipeline run date only. Any changes in Oracle Fusion Cloud Applications after the pipeline run date aren't synced with Fusion Data Intelligence, causing a potential mismatch between Oracle Fusion Cloud Applications and Fusion Data Intelligence.
- If source records from Oracle Fusion Cloud Applications are deleted, you can review the rejected records in the Warehouse Refresh Statistics subject area.

Create a User to Validate the Extracted Data

Data validation in Oracle Fusion Data Intelligence uses basic authentication and you must provide credentials of a user who has the appropriate privileges to validate the extracted data.

After you create this user in Oracle Fusion Cloud Applications, you must provide this user's credentials in Oracle Fusion Data Intelligence for data validation. See [Prerequisites for Data Validation](#).

Ensure that the password for this user doesn't contain any special characters or space.

1. Sign in to Oracle Fusion Cloud Applications and in the Navigator, click **Tools**, and then click **Security Console**.
2. In the Console, click the Users tab and create a user that you want to use to validate the extracted data; for example, MyFAWValidationUser.
3. Click the Roles tab and search for the custom data BI - Abstract Role that was created for data validation; for example, FAW_CUSTOM_DATA_VALIDATION_ROLE. See [Create a Custom BI Abstract Role](#).
4. On the Users page, click **Add User**.
5. In the Add User dialog, search for and select the user to whom you want to assign this role; for example, MyFAWValidationUser. Click **Add Selected Users**, close the Add User dialog, and click **Next**.
6. Review the summary and click **Save and Close**.

Create a Custom BI Abstract Role

You create a BI Abstract role and associate it with an applicable user, such as MyFAWValidationUser, to validate the extracted data.

Use the Security Console of Oracle Fusion Cloud Applications.

1. Sign in to Oracle Fusion Cloud Applications with your administrator credentials.
2. Navigate to **Tools** and then to **Security Console**.
3. In the Security Console, select the Roles tab, and then click **Create Role**.
4. In the Create Roles wizard, on the Basic Information page, enter a role name such as FAW Custom Data Validation Role and a role code such as FAW_CUSTOM_DATA_VALIDATION_ROLE, and select **BI - Abstract Roles** as role category.
5. In the Create Roles wizard, on the Role Hierarchy page, add the BI Impersonator role as a member of the newly created BI Abstract role.

6. In the Create Roles wizard, on the Users page, add the applicable user, such as MyFAWValidationUser, to the newly created BI Abstract role.
7. In the Create Roles wizard, on the Summary page, verify the details, save, and then close the wizard.

Validate Your Data

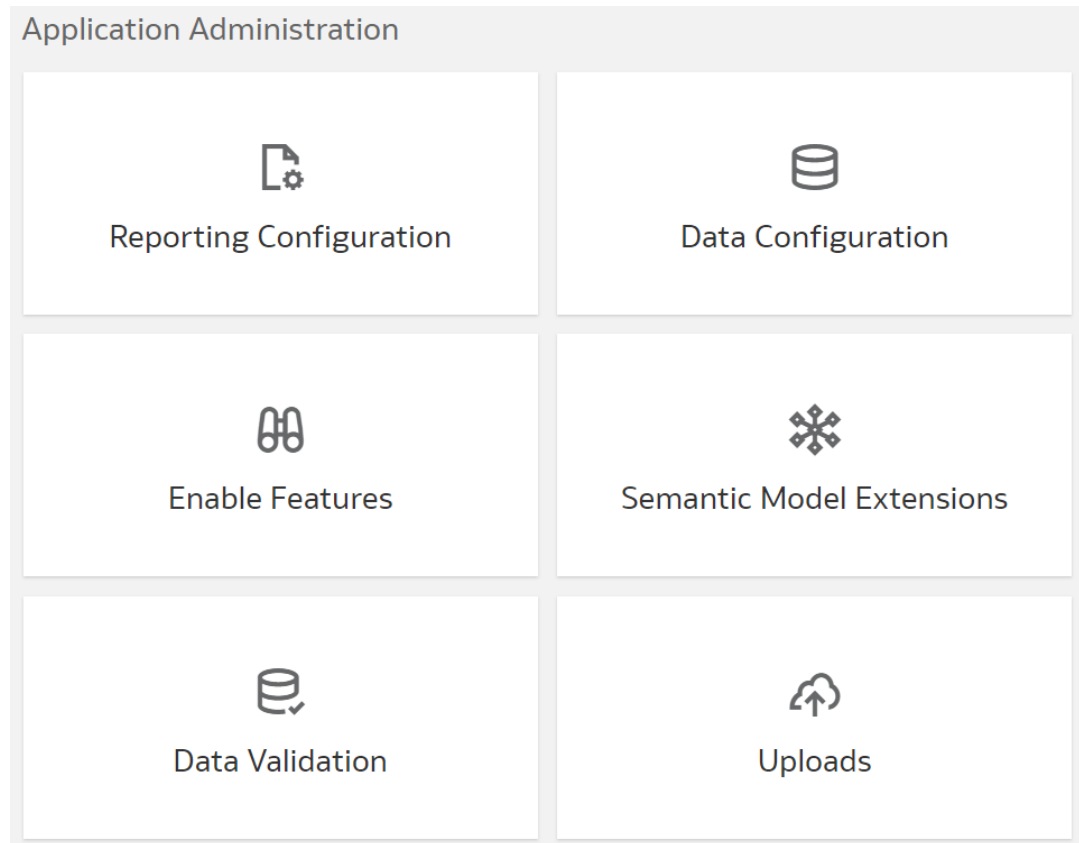
As a functional administrator, validate the data after loading the source data in to your data warehouse.

You can schedule the validation of your data using the prebuilt validation sets or custom validation sets that you create. You can create a validation set and define the subject area, metrics, and columns that you want to validate and schedule the validation frequency and date. You can set and apply common parameters across multiple metrics within a validation set. When you initiate the Create Validation Set process, the **Set Common Parameters** button is disabled by default. The button becomes enabled only after you select more than one metric. Upon clicking **Set Common Parameters**, the system automatically calculates the common parameters across the selected metrics. You can then select the desired parameter values from the available options and apply them across all the enabled metrics. You can override these settings by individually modifying metrics to add optional parameters or adjust the copied values. You see the validation sets that you create under Custom Validation Sets in the Scheduled Validation tab.

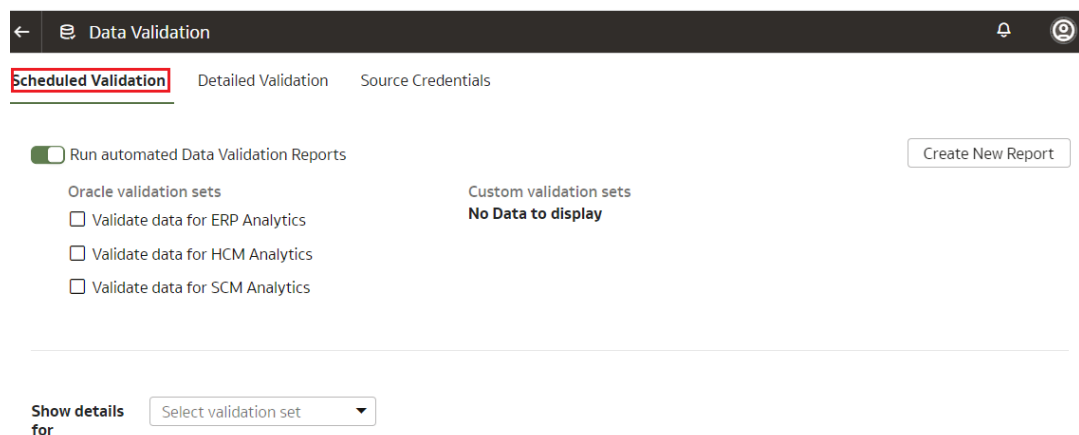
Ensure that you validate data from the initial extract date set up in the pipeline settings and avoid using any data before the initial extract date. For example, if the Initial Extract Date in the pipeline settings is January 1, 2014, even if there is data in your Oracle Fusion Cloud Applications source from January 1, 2010 to December 31, 2013, because there is nothing to validate it against in the warehouse, the data validation process won't produce correct results.

Based on the schedule and the validation set, Oracle Fusion Data Intelligence validates the data and stores the details in the Data Validation workbook available in the Common folder in Oracle Analytics Cloud. Use the report tabs such as **Validate data for ERP Analytics** and **Validate data for HCM Analytics** available in this workbook to view the data validation details.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Data Validation** under **Application Administration**.



3. On the Data Validation page, in the Scheduled Validation tab, ensure that the **Run automated Data Validation Reports** toggle is “on” if you want to validate your data using theprebuilt validation sets or your custom validation sets. Select the check box for the specific validation sets.



4. To create a custom validation set, click **Create New Report**.

5. In Create Validation Set:

- a. Enter a name for your custom validated set.
- b. Select the source pillar.
You see the subject areas for the selected pillars.
- c. Select the validation frequency and the corresponding day, month, and date as required.
- d. For each subject area, select the check box for the measures that you want.
Ensure to select more than one metric to enable the **Set Common Parameters** button.
- e. Click **Set Common Parameters**, select the desired parameter values from the available options in Select Values, and then click **Apply**.
- f. Click the edit icon next to a measure to set specific values.
- g. In Select Values, select the values that are displayed, or search for values, or click **Show More Values**, and then move them to the **Selected Values** box using the arrows.
- h. Click **Select** to retain the selection.
- i. Click **Save**.

6. In Show details for, select the validation set to view the subject area and its measures that would be validated as part of this validation set.
7. On the Data Validation page, in the Detailed Validation tab, select the subject area such as Financials - GL Balance Sheet, a metric related to the selected subject area, and the column set that you want to validate.

You see the columns listed from the selected Column Set.

8. For each column, click the + icon to open the Select Values dialog.
9. In Select Values, select the values that are displayed, or search for values, or click **Show More Values**, and then move them to the **Selected Values** box using the arrows.
10. Click **Select** to retain the selection.
11. In the Detailed Validation tab, click **Run** to show the metric values in the Oracle Fusion Data Intelligence instance and the Oracle Transactional Business Intelligence instance.
12. On the Data Validation page, click **Show Summary** to display the detail drill down of the metric values for Oracle Fusion Data Intelligence instance and the Oracle Transactional Business Intelligence instance.
13. Select the attribute columns that you would like to pivot the details on in the display.

You see the Summary table with values for these categories:

- Total Records in Analytics Warehouse
 - Total Records in Oracle Transactional Business Intelligence
 - Records Only in Analytics Warehouse
 - Records Only in Oracle Transactional Business Intelligence
 - Matched Records
 - Mismatched Records
14. On the Data Validation page, click **Show Details** to show the detail drill down of the metric values for the Oracle Fusion Data Intelligence instance and the Oracle Transactional Business Intelligence instance. The detail table gives the actual data for the differences between these instances using the pivot columns that you had selected previously.

Note that having Mismatched Records is not necessarily an indication of an error. Pipeline settings or pipeline timing might cause a mismatch between the source and data warehouse.

- When you configure the columns and values for data validation, make sure they match with the equivalent values in your pipeline settings. For example, if you mistakenly select a value in the Data Validation page that is not used in the pipeline, there will be a mismatch upon running your Data Validation. The warehouse expects those values, but they've never been pulled from the source.
 - Source data could be updated in between pipeline runs. If you run Data Validation in this scenario, a mismatch is expected, since the changed source data does not yet exist in Oracle Fusion Data Intelligence.
15. Optional: Use the **Download Details** option to download the detail data into a csv file.
 16. Optional: Use the **Change Columns** option to change the columns that you would like to pivot the detail data on.

This regenerates the summary and the detail analysis.

6

Manage Users, Groups, Application Roles, and Data Access

As the service administrator or security administrator, you manage users and their access to subject areas and data.

Topics:

- [About Managing Users, Groups, Application Roles, and Data Access](#)
- [Typical Workflow to Manage Users, Groups, Application Roles, and Data Access](#)
- [Manage Users](#)
- [Manage Groups](#)
- [Manage Application Roles](#)
- [Manage Data Access](#)
- [Configure Permissions for Metadata and Front-End Objects](#)
- [View Activity History](#)
- [Manage Uploads and Downloads](#)
- [Set Up Custom Security](#)

About Managing Users, Groups, Application Roles, and Data Access

As the service administrator or security administrator, one of your initial tasks is to ensure that users have appropriate access to use Oracle Fusion Data Intelligence.

Users need access to objects and data. Access to objects include subject areas or elements of subject areas such as folders and attributes, key metrics, workbooks, and the legacy Oracle BI Enterprise Edition dashboards and answers. You grant access to the users by assigning groups to them. The groups inherit the permissions from the application roles (data and duty) mapped to them. You can merge your security setup only with the main semantic model.

Enhanced Security Capabilities

The enhanced security capabilities available from release Platform 23.R4 enable you to:

- Create and manage users and groups only in the Oracle Identity Cloud Service associated with your Oracle Fusion Data Intelligence instance. As a security administrator, you can perform user-group management if you've the User Administrator role in Oracle Identity Cloud Service. See [Managing Oracle Identity Cloud Service Users and Groups in the Oracle Cloud Infrastructure Console](#). In Oracle Fusion Data Intelligence, you can view the users and groups on the Security page but you can't create, modify, or delete them.
- Use the licensed application roles corresponding to the existing licensed groups made available in this release onwards. You can assign the licensed application roles to your custom groups. These licensed application roles are mapped by default to the existing

prebuilt licensed groups and are associated with the system roles. When you assign these prebuilt licensed groups and custom groups to users, then the applicable users get the system privileges such as consumer, author, and administrator.

If your Oracle Fusion Data Intelligence is on a release prior to release Platform 23.R4 or you haven't yet up taken this security update, then you can continue to use the existing security capabilities until Oracle Fusion Data Intelligence automatically applies them as part of the release Platform 24.R2. Consult the information in [Manage Users, Groups, Application Roles, and Data Access](#) from a release prior to release Platform 23.R4.

These changes are mandatory and you can schedule the update sooner to enhance the security of your application using the Schedule Update option in the banner announcing these enhancements on the Security page. Ensure that you don't schedule the security update beyond May 2024. All current setups will be retained and available in Oracle Identity Cloud Service; you don't need to take any action other than scheduling.

About Users

Users accessing Oracle Fusion Data Intelligence must exist in Oracle Identity Cloud Service.

You can create the users or synchronize them with the Oracle Identity Cloud Service instance associated with your Oracle Fusion Data Intelligence instance from different sources:

- You can synchronize the Oracle Fusion Cloud Applications users with the Oracle Identity Cloud Service instance.
- You can manually create users in the Oracle Identity Cloud Service instance directly or create users in the Oracle Identity Cloud Service instance using the Oracle Fusion Data Intelligence user interface.
- You can synchronize the users from other 3rd-party systems with the Oracle Identity Cloud Service instance.

Users gain their access to Oracle Fusion Data Intelligence based on the Oracle Fusion Data Intelligence-specific system groups assigned to them. They gain access to different functionality, objects, and data in Oracle Fusion Data Intelligence based on the job-specific groups assigned to them.

You can assign the predefined system groups, groups available in the Oracle Identity Cloud Service instance associated with your Oracle Fusion Data Intelligence instance, and custom groups that you create in Oracle Fusion Data Intelligence. You must ensure that the groups that you assign to a user have valid data roles associated with them. The data roles enable users to access the applicable subject areas. If users aren't having valid data roles (through the assigned groups), they can't access any data in Oracle Fusion Data Intelligence.

About Groups

Oracle Fusion Data Intelligence uses groups to provide users access to subject areas, objects, and data.

Oracle Fusion Data Intelligence uses the following three types of groups:

- System groups created in Oracle Identity Cloud Service specifically for Oracle Fusion Data Intelligence. These system groups are associated with system roles that provide a set of privileges to the users to perform system tasks after signing into Oracle Fusion Data Intelligence such as administering system settings, performing functional setup, managing security, and modeling data.

- Job-specific groups such as Vice President of Sales, Human Resources Analyst, and Procurement Buyer. The job-specific groups are job roles from Oracle Fusion Cloud Applications mapped as groups in Oracle Identity Cloud Service. See [Job-Specific Groups](#).
- Other groups that are generic groups created in Oracle Identity Cloud Service not specifically for Oracle Fusion Data Intelligence such as IDCS_Admistrators and All_Tenant_Users.

System Groups

Oracle Fusion Data Intelligence creates the system groups also known as licensed groups in Oracle Identity Cloud Service while provisioning your Oracle Fusion Data Intelligence instance.

System groups are associated with system roles that provide a set of privileges to users. The enhanced security capabilities available from release Platform 23.R4 provide licensed application roles corresponding to the existing licensed groups and are mapped by default to the existing prebuilt system or licensed groups. The system roles or the licenses application roles (from release Platform 23.R4) serve two purposes:

- Authenticate a user for Oracle Fusion Data Intelligence.
- License a user to use Oracle Fusion Data Intelligence based on the system group they are assigned.

See [System Roles](#) and [Licensed Roles](#).

As a security administrator, you can perform user-group management if you've the User Administrator role in Oracle Identity Cloud Service. You must add the users to the corresponding system groups based on the tasks they perform in Oracle Fusion Data Intelligence. See [Managing Oracle Identity Cloud Service Users and Groups in the Oracle Cloud Infrastructure Console](#). In Oracle Fusion Data Intelligence, you can view the users and groups on the Security page but you can't create, modify, or delete them. In Oracle Identity Cloud Service add users to these system groups:

System Group Code	System Group Name	Description	Associated System Role*	Associated Licensed Application Role from release Platform 23.R4 Onwards
FAW_FUNCTIONAL_ADMINISTRATORS	FAW Functional Administrator	Fusion Data Intelligence Functional Administrators	FunctionalAdmin	FAW Functional Administrator Role
FAW_SECURITY_ADMINISTRATORS	FAW Security Administrator	Fusion Data Intelligence Security Administrators	SecurityAdmin	FAW Security Administrator Role
FAW_MODELERS	FAW Modeler	Fusion Data Intelligence Modelers	Modeler	FAW Modeler Role
FAW_MODELER_ADMINISTRATORS	FAW Modeler Administrator	Fusion Data Intelligence Modeler Administrators	ModelerAdmin	FAW Modeler Administrator Role
FAW_SERVICE_ADMINISTRATORS	FAW Service Administrator	Fusion Data Intelligence Service Administrators	ServiceAdmin	FAW Service Administrator Role

System Group Code	System Group Name	Description	Associated System Role*	Associated Licensed Application Role from release Platform 23.R4 Onwards
FAW_LICENSED_ERP_AUTHORS	FAW Licensed ERP Authors	Fusion Data Intelligence ERP Licensed Authors	Author	FAW Licensed ERP Authors Role
FAW_LICENSED_ERP_CONSUMER S	FAW Licensed ERP Consumers	Fusion Data Intelligence ERP Licensed Consumers	Consumer	FAW Licensed ERP Consumers Role
FAW_LICENSED_HCM_AUTHORS	FAW Licensed HCM Authors	Fusion Data Intelligence HCM Licensed Authors	Author	FAW Licensed HCM Authors Role
FAW_LICENSED_HCM_CONSUMER S	FAW Licensed HCM Consumers	Fusion Data Intelligence HCM Licensed Consumers	Consumer	FAW Licensed HCM Consumers Role
FAW_LICENSED_SCM_CONSUMER S	FAW Licensed SCM Consumers	Fusion Data Intelligence SCM Licensed Consumers	Consumer	FAW Licensed SCM Consumers Role
FAW_LICENSED_CX_CONSUMERS	FAW Licensed CX Consumers	Fusion Data Intelligence CX Licensed Consumers	Consumer	FAW Licensed CX Consumers Role
FAW_LICENSED_SCM_AUTHORS	FAW Licensed SCM Authors	Fusion Data Intelligence SCM Licensed Authors	Author	FAW Licensed SCM Authors Role
FAW_LICENSED_CX_AUTHORS	FAW Licensed CX Authors	Fusion Data Intelligence CX Licensed Authors	Author	FAW Licensed CX Authors Role

*See [System Roles](#) and [Licensed Roles](#).

Job-Specific Groups

Job-specific groups are job roles synchronized from Oracle Fusion Cloud Applications into Oracle Identity Cloud Service.

Oracle Fusion Data Intelligence uses the following job-specific groups:

- [Common Job-Specific Groups](#)
- Fusion HCM Analytics Job-Specific Groups
- Fusion ERP Analytics Job-Specific Groups
- Fusion SCM Analytics Job-Specific Groups
- Fusion CX Analytics Job-Specific Groups

Common Job-Specific Groups

The common job-specific groups are applicable across the analytics applications that are part of Oracle Fusion Data Intelligence such as Oracle Fusion HCM Analytics and Oracle Fusion ERP Analytics.

Job-Specific Group Code	Job-Specific Group Name	Description	Associated Application Roles	Associated Application Role Names	Functional Area
ORA_FND_INTEGRATION_SPECIALIST_JOB	Integration Specialist	Individual responsible for planning, coordinating, and supervising all activities related to the integration of enterprise information systems. Has author privileges.	Author OA4F_COMMON_DATA_ADMIN_ANALYSIS_DUTY	Not applicable	Common

Other Groups

The Other Groups category refers to groups created in Oracle Identity Cloud Service for purposes such as administering Oracle Cloud Infrastructure and Oracle Identity Cloud Service.

These groups aren't necessarily Oracle Fusion Data Intelligence-specific but you can use them in Oracle Fusion Data Intelligence. Examples of this category are the "IDCS_Administrators" and "All_Tenant_Users" groups.

About Application Roles

Application roles consist of duty and data roles.

Duty roles define the responsibilities of a job as an entitlement to perform a particular action, for example, a duty role that requires access to an AP transaction subject area. Data roles provide access to the row-level data in the autonomous data warehouse tables. Data roles categorize users based on the functional requirements of their job role and data needs. For example, you could organize users into a research and development data role to enable the users to track invoices related to their projects.

Duty Roles

The predefined duty roles to secure the predefined subject areas and the predefined front-end objects are:

- [Common Duty Roles](#)
- Fusion HCM Analytics Duty Roles
- Fusion ERP Analytics Duty Roles
- Fusion SCM Analytics Duty Roles

- Fusion CX Analytics Duty Roles

Common Duty Roles

The common duty roles are applicable across the analytics applications that are part of the application such as Oracle Fusion CX Analytics, Oracle Fusion HCM Analytics, and Oracle Fusion ERP Analytics.

Duty Role Code	Duty Role Name	Details	Functional Area	Gets access to Subject Area Display Name OR Associated Role
OA4F_COMMON_DATA_ADMIN_ANALYSIS_DUTY	Data Warehouse Refresh and Usage Tracking Analysis Duty	Object security role to control access to Common - Warehouse Refresh Statistics subject area.	Common	Common - Warehouse Refresh Statistics
OA4F_COMMON_DATA_ADMIN_ANALYSIS_CONTENT_DUTY	Data Warehouse Refresh and Usage Tracking Analysis Content Duty	Object security role to control access to Warehouse Refresh Statistics and Data Validation workbooks.	Common	
OA4F_COMMON_USAGE_TRACKING_DUTY	Usage Tracking Analysis Duty	Object security role to control presentation catalog access to Common - Usage Tracking subject area.	Common	Common - Usage Tracking
OA4F_COMMON_USAGE_TRACKING_CONTENT_DUTY	Usage Tracking Analysis Content Duty	Object security role to control presentation catalog access to Usage Tracking workbook	Common	
OA4F_SECURITY_REPORTING_DUTY	Security Reporting Duty	Object security role to control access to Security Assignment and Security Audit History subject areas.	Common	Security Assignment Security Audit History
OA4F_SECURITY_REPORTING_CONTENT_DUTY	Security Reporting Analysis Content Duty	Object security role to control presentation catalog access to Security Audit workbook		
OA4F_STORAGE_USAGE_TRACKING_ANALYSIS_DUTY	Storage Usage Tracking Analysis Duty	Object security role to control access to the Tenant Metrics subject area	Common	

Duty Role Code	Duty Role Name	Details	Functional Area	Gets access to Subject Area Display Name OR Associated Role
OA4F_STORAGE_USAGE_TRACKING_ANALYSIS_CONTENT_DUTY	Storage Usage Tracking Analysis Content Duty	Object security role to control presentation catalog access to Custom Data Usage workbook	Common	
OA4F_CONTENT_EXPLORER_ANALYSIS_DUTY	Content Explorer Analysis Duty	Object security role to control access to the Content Explorer subject areas	Common	
OA4F_CONTENT_EXPLORER_ANALYSIS_CONTENT_DUTY	Content Explorer Content Duty	Object security role to control presentation catalog access to the Content Explorer - Fusion Data Intelligence workbook	Common	

Data Roles

The predefined data roles used to secure the predefined objects, custom facts, and custom dimensions are:

- Fusion HCM Analytics Data Roles
- Fusion ERP Analytics Data Roles
- Fusion SCM Analytics Data Roles
- Fusion CX Analytics Data Roles

Licensed Roles

The licensed application roles corresponding to the existing licensed groups made available in release Platform 23.R4 onwards are as follows.

The licensed application roles are by default associated with the applicable system roles described in [System Roles](#).

Licensed Role	Associated System Role	Mapped to Licensed Group
FAW Service Administrator Role	Service Administrator	FAW Service Administrator
FAW Functional Administrator Role	Functional Administrator	FAW Functional Administrator
FAW Security Administrator Role	Security Administrator	FAW Security Administrator
FAW Modeler Administrator Role	Model Administrator	FAW Modeler Administrator
FAW Modeler Role	Modeler	FAW Modeler
FAW Licensed CX Authors Role	Author	FAW Licensed CX Authors
FAW Licensed ERP Authors Role	Author	FAW Licensed ERP Authors
FAW Licensed HCM Authors Role	Author	FAW Licensed HCM Authors

Licensed Role	Associated System Role	Mapped to Licensed Group
FAW Licensed SCM Authors Role	Author	FAW Licensed SCM Authors
FAW Licensed CX Consumer Role	Consumer	FAW Licensed CX Consumers
FAW Licensed ERP Consumer Role	Consumer	FAW Licensed ERP Consumers
FAW Licensed HCM Consumer Role	Consumer	FAW Licensed HCM Consumers
FAW Licensed SCM Consumer Role	Consumer	FAW Licensed SCM Consumers

System Roles

The system roles for Oracle Fusion Data Intelligence available in Oracle Identity Cloud Service through provisioning of Oracle Fusion Data Intelligence are:

Role Name	Role Description	Purpose	Permissions
Administrator	Tenant administrator for service instances	Creates and manages Oracle Fusion Data Intelligence instances and administers Oracle Identity Cloud Service users and roles.	- Creates and manages Oracle Fusion Data Intelligence instances - Administers Oracle Identity Cloud Service users and roles - Has no access to the Data Pipeline user interface - Has no access to the Data Security user interface - Has no access to the Job Monitoring Console user interface - Has no access to the Console menu - Has no access to user and group administration - Has no access to workbooks, visualizations, key metrics, visualizations, projects, and content

Role Name	Role Description	Purpose	Permissions
Service Administrator	Oracle Fusion Data Intelligence service administrator	Customer facing (Snapshots, Connections, System Settings) administrator access to Oracle Fusion Data Intelligence.	• Can't create snapshots or modify the data model file (RPD) • Can access the Data Pipeline user interface • Can access the Data Security user interface • Has no access to the Job Monitoring console • Can access the Console menu • Can access the user and group administration pages • Can access the Semantic Model Extensions user interface • Has read-only access to the ready-to-use Oracle Analytics Cloud objects (visualization projects, dashboards, and analyses) • Requests from Oracle Fusion Data Intelligence to Oracle Analytics Cloud are routed through the Service Administrator user • Can create, update, and delete the Oracle Analytics Cloud content • Has read-only access to the ready-to-use key metrics • Can create, update, and delete key metrics • Can create, update, and delete workbooks and visualizations • Can share workbooks and visualizations

Role Name	Role Description	Purpose	Permissions
			• Can create Oracle Analytics Publisher reports • Has no access to data modeling • Has access to create Oracle Analytics Cloud connections to other non-Oracle Applications sources, such as Excel files and Google drive • Has access to create Oracle Analytics Cloud datasets

Role Name	Role Description	Purpose	Permissions
Functional Administrator	Oracle Fusion Data Intelligence functional administrator	Performs functional configuration (pipeline, reporting) in Oracle Fusion Data Intelligence.	• Can access the Data Pipeline and Custom Data Configuration user interfaces • Has no access to the Data Security user interface • Has no access to the Job Monitoring console • Can access the Console menu • Has no access to user and role administration • Has no access to the Semantic Model Extensions user interface • Has no access to the prebuilt Oracle Analytics Cloud objects (visualization projects, dashboards, and analyses) • Has no access to the prebuilt key metrics • Has no access to workbooks, key metrics, and Oracle Analytics Cloud projects • Can't create any Oracle Analytics Cloud content and key metrics • Can't create, update, and delete workbooks and visualizations • Can't share workbooks and visualizations • Has no access to Oracle Analytics Publisher • Has no access to data modeling • Has no access to create Oracle Analytics Cloud connections • Has no access to create Oracle

Role Name	Role Description	Purpose	Permissions
			Analytics Cloud datasets

Role Name	Role Description	Purpose	Permissions
Security Administrator	Oracle Fusion Data Intelligence security administrator	Administers system roles and data security.	• Has no access the Data Pipeline user interface • Has access to the Data Security user interface • Has no access to the Job Monitoring console • Can access the Console menu • Has access to user and group administration • Has no access to the Semantic Model Extensions user interface • Has no access to the prebuilt Oracle Analytics Cloud objects (visualization projects, dashboards, and analyses) • Has no access to the prebuilt key metrics • Has no access to workbooks, key metrics, and Oracle Analytics Cloud projects • Can't create any Oracle Analytics Cloud content and key metrics • Can't create, update, and delete workbooks and visualizations • Can't share workbooks and visualizations • Has no access to Oracle Analytics Publisher and data modeling • Has no access to create Oracle Analytics Cloud connections • Has no access to create Oracle Analytics Cloud datasets

Role Name	Role Description	Purpose	Permissions
Modeler Administrator	Oracle Fusion Data Intelligence data model administrator	Promote data model (RPD) customization to the Oracle Analytics Cloud instance.	• Has no access to the Data Pipeline user interface • Has no access to the Data Security user interface • Has no access to the Job Monitoring console • Can access the Console menu • Has no access to user and role administration • Can access the Semantic Model Extensions user interface • Can access the prebuilt Oracle Analytics Cloud objects (visualization projects, dashboards, and analyses) • Can access the prebuilt key metrics • Can create key metrics • Can create Oracle Analytics Cloud content • Can't create, update, and delete workbooks and visualizations • Can't share workbooks and visualizations • Can't create Oracle Analytics Publisher reports • Has access to data modeling • Can apply the data model file (repository file) to the Test environment • Can create Oracle Analytics Cloud connections • Can create Oracle Analytics Cloud datasets

Role Name	Role Description	Purpose	Permissions
Modeler	Oracle Fusion Data Intelligence modeler	Modify the semantic model to bring in custom dimensions and attributes.	• Has no access to the Data Pipeline user interface • Has no access to the Data Security user interface • Has no access to the Job Monitoring console • Can access the Console menu • Has no access to user and role administration • Can access the Semantic Model Extensions user interface • Can access the prebuilt Oracle Analytics Cloud objects (visualization projects, dashboards, and analyses) • Can access the prebuilt key metrics • Can create Oracle Analytics Cloud content • Can create key metrics • Can't create, update, and delete workbooks and visualizations • Can't share workbooks and visualizations • Can't create Oracle Analytics Publisher reports • Has access to data modeling • Can create Oracle Analytics Cloud connections • Can create Oracle Analytics Cloud datasets

Role Name	Role Description	Purpose	Permissions
Author	Oracle Fusion Data Intelligence author	Create and edit key metrics, visualizations, workbooks, visualization projects, reports, and dashboards.	• Has no access to the Data Pipeline user interface • Has no access to the Data Security user interface • Has no access to the Job Monitoring console • Has no access to the Console menu • Has no access to user and role administration • Has no access to the Semantic Model Extensions user interface • Has read-only access to the ready-to-use Oracle Analytics Cloud objects (visualization projects, dashboards, and analyses); if you need a change, then create a copy using "Save As" • Has read-only access to the ready-to-use key metrics • Can edit the custom Oracle Analytics Cloud objects (visualization projects, dashboards, and analyses) • Can edit the custom key metrics • Can change the filter values for existing visualization projects • Can add filters for existing visualization projects • Can create and edit Oracle Analytics Cloud content, key metrics, workbooks, and visualizations • Can delete custom key metrics,

Role Name	Role Description	Purpose	Permissions
			workbooks, and visualizations
			• Can consume key metrics, workbooks, and visualizations created by other users on which they have access permissions • Can share workbooks and visualizations • Can create Oracle Analytics Publisher reports • Has no access to data modeling • Has no access to create Oracle Analytics Cloud connections • Has access to create Oracle Analytics Cloud datasets

Role Name	Role Description	Purpose	Permissions
Consumer	Oracle Fusion Data Intelligence consumer	Read access to Oracle Analytics Cloud content and can create visualizations and workbooks.	• Has no access to the Data Pipeline user interface • Has no access to the Data Security user interface • Has no access to the Job Monitoring console • Has no access to the Console menu • Has no access to user and role administration • Has no access to the Semantic Model Extensions user interface • Has read-only access to the ready-to-use Oracle Analytics Cloud objects (visualization projects, dashboards, and analyses) • Has read-only access to the ready-to-use key metrics • Has read-only access to the custom Oracle Analytics Cloud objects (visualization projects, dashboards, and analyses) • Has read-only access to the custom key metrics • Can change the filter values for the existing visualization projects • Can't add filters for the existing visualization projects • Can't create any Oracle Analytics Cloud content • Can't create any key metrics • Can create, update, and delete

Role Name	Role Description	Purpose	Permissions
			workbooks and visualizations
			• Can share workbooks and visualizations • Has read-only access to Oracle Analytics Publisher • Has no access to data modeling • Has no access to create Oracle Analytics Cloud connections • Has access to create Oracle Analytics Cloud datasets

Refer to the full list of privileges in [Mapping of System Roles to Permissions in Fusion Data Intelligence](#). This document is updated typically for each release of Oracle Fusion Data Intelligence. Ensure that you're signed into Cloud Customer Connect prior to viewing this document.

About Data Access through Security Assignments

As a security administrator, you grant the data security assignments at the user-level.

Data security assignments apply data filters to display only the data corresponding to the security assignment values assigned to the users. For example, John Smith and Marie Pierce are both Accounts Payable Manager in an organization, but John Smith needs to see only the US business unit-specific data and Marie needs to see only the UK business unit-specific data. Even though both have the same functional role, their data security assignments differ. John is assigned all the US business units and Marie is assigned all the UK business units only.

You ensure data-level security with a combination of data roles, security context, and security assignments assigned to the user. Oracle Fusion Data Intelligence maps a security context to a data role. You grant the data security assignments within a security context. Users must have the data role through the group assigned to them in order to have access to the security context and its corresponding list of values to pick from. You assign a user one or more job-specific groups. The groups have data roles mapped to them, and when querying data, the semantic layer applies the data filters.

When you configure the Enterprise Resource Planning report parameters, you're restricting the ledgers, payables business units, and receivables business units to those specific values. To establish the security permissions, you'd need to map users to security assignments. If a user doesn't have security assignment values mapped, then the user doesn't get to see any datasets corresponding to the job role (and implicitly data role) assigned to them. When you add data security assignments to a user, you ensure that the user can access specific data within a security context, such as ledger, payables business unit, or receivables business unit.

For Human Capital Management, the data security is based on the line manager hierarchy defined in Oracle Fusion Cloud Applications for the user having the Line Manager role. For Human Capital Management, the data security is based on the talent acquisition hierarchy defined in Oracle Fusion Cloud Applications for the user having the Job Application or Job

Requisition roles. All users can see their own records using the HCM Show context. A user with the HR Analyst role has access to all Human Capital Management data and no security restrictions are applied to the Human Capital Management data set. A user with the Hiring Manager role has access to non-restricted job applications, while users with the Recruiter and Recruiting Manager role can view all job applications. The business unit, legal employer, department, country security context, and related data roles are restricted by contexts and assigned predicate values. To establish the security permissions, you'd need to map users to security assignments

Typical Workflow to Manage Users, Groups, Application Roles, and Data Access

Follow these tasks as a guide to manage users, groups, application roles, and data access.

Task	Description	More Information
Create users for Oracle Fusion Data Intelligence in Oracle Identity Cloud Service	Users for Oracle Fusion Data Intelligence must exist in the Oracle Identity Cloud Service instance associated with your Oracle Fusion Data Intelligence instance. You create users in the Oracle Identity Cloud Service instance in several ways.	See Create Users
License the users to access Oracle Fusion Data Intelligence	An Oracle Fusion Data Intelligence user is an Oracle Fusion Data Intelligence licensed user. You license a user in Oracle Fusion Data Intelligence when you assign one of the Oracle Fusion Data Intelligence system groups to them. You must assign at least one system group to a user to enable them to perform relevant tasks in Oracle Fusion Data Intelligence.	See License the Users to Access Oracle Fusion Data Intelligence
Create groups	As a security administrator, you can perform user-group management if you've the User Administrator role in Oracle Identity Cloud Service. You can create custom groups to meet your business requirements.	See Managing Oracle Identity Cloud Service Users and Groups in the Oracle Cloud Infrastructure Console
Create application roles	Application roles consist of data and duty roles. As a security administrator, you can create custom duty and data roles using the Security pages to secure subject areas and data respectively. However, as a modeler, you configure these custom application roles using the Security Configuration section of the Semantic Model Extensions pages.	See Create an Application Role

Task	Description	More Information
Associate groups and application roles	You must map the predefined and custom job-specific groups to the application roles (duty and data roles) to inherit the privileges and permissions to access the objects and data in Oracle Fusion Data Intelligence.	See Add Application Roles to a Group and Assign Groups to Application Roles
Associate users and groups	You must associate users and groups as the groups assigned to the users provide them the access to Oracle Fusion Data Intelligence. As a security administrator, you can perform user-group management if you've the User Administrator role in Oracle Identity Cloud Service.	See Managing Oracle Identity Cloud Service Users and Groups in the Oracle Cloud Infrastructure Console .
Add security assignments to a user	Access to data is granted at user level. Within a security context, users get assigned security assignments to filter their data access level. You can grant security assignments to the users for the predefined security contexts currently. For custom data access, the data filters are implicit through the custom data security framework. See Custom Security in Fusion Data Intelligence .	See Add Security Assignments to a User and Manage Users for a Data Security Assignment

Manage Users

As a service or security administrator, you must ensure that you add users with applicable permissions to work with Oracle Fusion Data Intelligence.

Topics:

- [Create Users](#)
- [License the Users to Access Oracle Fusion Data Intelligence](#)
- [Assign Licensed Groups to Users](#)
- [Add Security Assignments to a User](#)
- [Remove Security Assignments Granted to a User](#)
- [Copy Data Security Assignments](#)
- [View the Excluded Data Security Assignments](#)

Create Users

Users for Oracle Fusion Data Intelligence must exist in the Oracle Identity Cloud Service instance associated with your Oracle Fusion Data Intelligence instance.

You create users in the Oracle Identity Cloud Service instance in the following ways:

- Synchronize users from your Oracle Fusion Cloud Applications instance to the Oracle Identity Cloud Service instance.
- Manually create users in the Oracle Identity Cloud Service instance.

Synchronize Users from Your Oracle Fusion Cloud Applications Instance

Synchronize users from your Oracle Fusion Cloud Applications instance to your Oracle Fusion Data Intelligence instance.

See [Set Up User Access to Oracle Fusion Data Intelligence Using Single Sign-On](#).

Create Users in Oracle Identity Cloud Service

Create users in the Oracle Identity Cloud Service instance associated with your Oracle Fusion Data Intelligence instance.

See Create User Accounts in *Administering Oracle Identity Cloud Service*.

License the Users to Access Oracle Fusion Data Intelligence

You must assign at least one system group to a user to enable the user to perform the relevant tasks in Oracle Fusion Data Intelligence. System groups provide a set of privileges to perform tasks in Oracle Fusion Data Intelligence.

New licensed users with predefined job-specific groups get the Author role by default.

Based on the entitlements and the number of licenses that you purchased, you need to assign the users to the applicable Licensed Author and Licensed Consumer system groups. If the users need to perform administrative tasks, you must assign those respective users to the administration-related groups.

See [System Groups](#).

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Security** under **Service Administration**.
3. On the Security page, click the Users tab, and then click **Add User**.
4. In Add User, search for a user and select the user or select a user from the displayed list of users.
5. Click **Next**.
6. Click the checkbox for each of the licensed groups that you want to assign to the user and click **Finish**.

Assign Licensed Groups to Users

You can assign the Oracle Fusion Data Intelligence licensed groups (also known as system groups) to the Oracle Fusion Cloud Applications users when they're synchronized from your Oracle Fusion Cloud Applications instance to the Oracle Identity Cloud Service instance to provide these users immediate access to Oracle Fusion Data Intelligence.

When you enable the synchronization of Oracle Fusion Cloud Applications with the Oracle Identity Cloud Service instance associated with your Oracle Fusion Data Intelligence instance, all the Oracle Fusion Cloud Applications groups are visible on the Security page in Oracle Fusion Data Intelligence. You must map the Oracle Fusion Cloud Applications custom groups

to the Oracle Fusion Data Intelligence licensed groups. Later when you synchronize the users from Oracle Fusion Cloud Applications to Oracle Identity Cloud Service, Oracle Fusion Data Intelligence selects those users, checks if the mapped Oracle Fusion Cloud Applications custom groups are assigned to those users, and then assigns the corresponding licensed groups to those users. From release Platform 23.R4 onwards, the licensed groups are mapped by default to the licensed application roles which provide the applicable privileges to the users that have been assigned these groups. See [Licensed Roles](#).

You must ensure that the custom roles are available in Oracle Fusion Cloud Applications and that you've assigned these roles to the users in Oracle Fusion Cloud Applications.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Security** under **Service Administration**.
3. On the Security page, click the Groups tab, and then search for the *FAW Licensed* groups.
4. Select a licensed group, for example FAW Licensed HCM Authors.
5. Click the Groups tab under the licensed group.
6. Click **Add Mapping**.
7. In Add Source System Role Mapping, search for and select the Oracle Fusion Cloud Applications custom groups that you want to map to the licensed group, for example the *FAW Licensed HCM Authors* licensed group.
8. Click **Save**.
9. After mapping the Oracle Fusion Cloud Applications custom groups to the Oracle Fusion Data Intelligence author and consumer licensed groups, under the Groups tab, select the frequency of the synchronization of the Oracle Fusion Data Intelligence licensed groups with the new Oracle Fusion Cloud Applications users.
10. Optional: Under the Groups tab, click **Apply Changes Now**.

Oracle Fusion Data Intelligence adds the Oracle Fusion Data Intelligence licensed groups to the new Oracle Fusion Cloud Applications users.

Add Security Assignments to a User

Data security assignments filter data to match the user's assigned access. Users can't see data that isn't allowed according to their security assignment. You can assign a single user multiple security assignment values.

Before you add a security assignment to a user, you must ensure that:

- The user has the appropriate group assigned to them.
 - The group has the appropriate data role to assign security values.
1. Sign in to your service.
 2. In Oracle Fusion Data Intelligence **Console**, click **Security** under **Service Administration**.
 3. On the Security page, search for a user or select from the list of users displayed under the Users tab.
 4. In Security Assignments, click **Grant Assignment**.
 5. In Assign Security Assignments, select the security context for which you want to add data security assignments to the user. For example, security contexts such as ledgers or specific business units like AP business unit.

6. From the list of security assignments that you see based on the security context that you selected, select the values that you want to add to the selected user.

Note

The Grant Assignment process appends the values that you selected to the existing assignments.

Remove Security Assignments Granted to a User

As a security administrator, you can remove security assignments that are assigned to users.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Security** under **Service Administration**.
3. On the Security page, search for a user or select from the list of users displayed under the Users tab.
4. Select the checkbox for one or more security assignments that you'd like to remove from the selected users and click **Remove Assignment**.
5. In Remove Assignment, click **Remove Assignment**.

Copy Data Security Assignments

As a service or security administrator, you can copy data security assignments from one user to another user.

Copying bulk assignments could take some time to process. Monitor the Activity tab on the Security page.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Security** under **Service Administration**.
3. On the Security page, select a user from the users listed under the Users tab or search and select a user.
4. Click **Copy Assignments**.
5. In Copy Security Assignments From Another User:
 - a. Under Copy From, search for and select a user to copy access from.
 - b. Under Copy Security Access, you see the context-specific security assignments that would be copied.
6. Click **Copy**.

View the Excluded Data Security Assignments

View the data security assignments that are excluded for a user to know which data the specific user can't access.

When a user is excluded from certain data security assignments, the excluded assignments are visible in the user details section on the Security page. As a service or security administrator, you can set up exclusion rules to exclude certain data security assignments from

a user. You can modify the exclusion rules to remove the excluded assignments for a user. See [Set Exclusion Rules for Security Assignments](#).

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Security** under **Service Administration**.
3. On the Security page, select a user from the users listed under the Users tab or search and select a user.
4. Click **Excluded Assignments**.

Manage Groups

Map application roles to groups, and add users to groups. This enables users to access the applicable objects and data in Oracle Fusion Data Intelligence and perform various tasks.

If you've set up synchronization of Oracle Fusion Cloud Applications with Oracle Identity Cloud Service, then users, job roles, and group memberships in Oracle Fusion Cloud Applications are synchronized as users, groups, and group memberships respectively. If you reassign a user to a different group in Oracle Identity Cloud Service while synchronization with Oracle Fusion Cloud Applications is enabled, then the synchronization process resets or erases such assignments during its next run.



[LiveLabs Sprint](#)

Topics:

- [Add Application Roles to a Group](#)
- [Copy Application Roles to a Group](#)
- [Remove Application Roles from a Group](#)
- [Create an Application Role While Mapping](#)
- [Enable Easy Data Access to People Leaders](#)

Add Application Roles to a Group

As a security administrator, you can map the application roles available for Oracle Fusion Data Intelligence with the predefined and custom groups. This enables the groups to inherit the security setup at each application role level.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Security** under **Service Administration**.
3. On the Security page, click the Groups tab.
4. In the Groups region, search for a group and select it or select a group from the displayed list of groups.
5. In the group details region, click the Application Roles tab, and then click **Add Mapping**.
6. In Add Application Role Mappings, search for an application role and select it or select from the displayed list of application roles.

You can filter the display to view only the data or duty roles or view both role types.

7. Click **Save**.

Copy Application Roles to a Group

As a security administrator, you can copy the application roles available from an existing group to another group.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Security** under **Service Administration**.
3. On the Security page, click the **Groups** tab.
4. In the Groups list, select the group to which you want to apply the application roles
5. On the Groups tab, click **Copy Role Mappings**.
6. In Copy Role Mappings From Another Group, search for a group that you want to copy roles from.
7. Click the roles in the Copy Roles area to select or deselect them, and then click **Copy**.
8. Click **Save**.

Remove Application Roles from a Group

You can remove capabilities inherited by a group from the application roles mapped to it.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Security** under **Service Administration**.
3. On the Security page, under the Groups tab, select a group from the displayed list of groups or search for a group.
4. In the group details region, click the Application Roles tab.
5. Select one or more roles from the displayed list or search for application roles and select the applicable role.
6. Click **Remove Mapping**.
7. In Remove Role Mapping, click **Remove Mapping**.

Create an Application Role While Mapping

While mapping application roles to a group, if you need an application role that isn't available in Oracle Fusion Data Intelligence, then you can create an application role.

The new role is mapped onto the specific group. You can map the new application role to other groups too. See [Add Application Roles to a Group](#).

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Security** under **Service Administration**.
3. On the Security page, under the Groups tab, select a group from the displayed list of groups or search for a group.
4. In the group details region, click the Application Roles tab, and then click **New Application Role**.

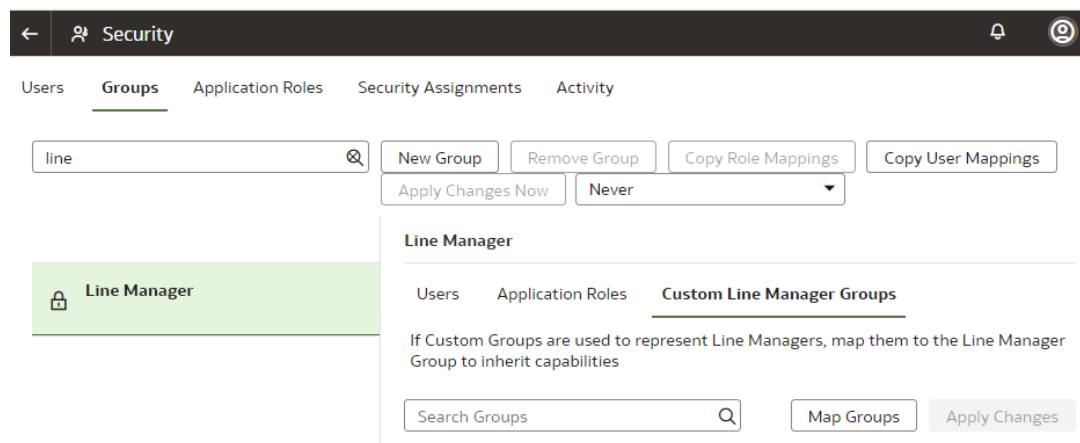
5. In **Create a New Application Role**, enter the application role name and specify the role type as data or duty.
6. Click **Save**.

Enable Easy Data Access to People Leaders

As a security administrator, you can provide data access to people leaders such as line managers. This access enables line managers to create indepth analytics that influence and guide finance and human resource related decisions.

You can provide easy access by mapping the custom line manager groups from Oracle Fusion Cloud Applications to theprebuilt line manager group available in Oracle Fusion Data Intelligence. This mapping ensures that the prebuilt line manager group inherits the capabilities of the custom line manager groups.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Security** under **Service Administration**.
3. On the Security page, click the Groups tab, and then search for the prebuilt **Line Manager** group.



4. Select the prebuilt **Line Manager** group and click the **Custom Line Manager Groups** tab.
5. In the **Custom Line Manager Groups** tabbed section, click **Map Groups**.
6. In the Map Custom Line Manager Groups dialog, select the custom groups and click **Assign Group Mapping**.

Map Custom Line Manager Groups

	Group	Description
☐	Accounts Payable Custom Group	
☒	Accounts Payable Manager	
☐	Accounts Payable Specialist	
☐	Accounts Payable Supervisor	
☒	Accounts Receivable Manager	
☐	Accounts Receivable Specialist	

7. In the **Custom Line Manager Groups** tabbed section, for a selected custom line manager group, click the Access Level dropdown arrow and select the appropriate access level such as **Author (edit capabilities)** or **Consumer (read-only)**.

Security

Users **Groups** Application Roles Security Assignments Activity

Line Manager

Line Manager

Users Application Roles **Custom Line Manager Groups**

If Custom Groups are used to represent Line Managers, map them to the Line Manager Group to inherit capabilities

Group	Access Level
Accounts Payable Custom Group	Consumer (read only)

Consumer (read only)

Author (edit capabilities)

8. In the **Custom Line Manager Groups** tabbed section, click **Apply Changes**.

Manage Application Roles

Application roles consist of duty roles for objects security and data roles for data access. You can create, update, and delete application roles and add or remove groups mapped to an application role.

You can map the ready-to use or custom application roles to groups to define the permissions associated with the group. You can configure a custom application role using the Security Configuration section on the Semantic Model Extensions page. See [Configure Data Security](#).

Topics:

- [Create an Application Role](#)
- [Delete an Application Role](#)
- [Assign Groups to Application Roles](#)
- [Remove a Group Mapped to an Application Role](#)

Create an Application Role

You can create custom duty and data roles to secure subject areas, front-end objects, and row-level data respectively when the predefined application roles don't meet your business needs.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Security** under **Service Administration**.
3. On the Security page, click the Application Roles tab and then click **New Application Role**.
4. In Create a New Application Role, enter the application role name and specify the role type as data or duty.
5. Click **Save**.

Delete an Application Role

You can delete the custom application roles. Upon deletion of the custom application roles, Oracle Fusion Data Intelligence deletes the mappings to the groups.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Security** under **Service Administration**.
3. On the Security page, click the Application Roles tab.
4. Search for an application role or select from the displayed list of application roles.
5. Click **Remove Application Role**.
6. In the Delete Application Role? dialog, click **Delete Role**.

Assign Groups to Application Roles

Use these instructions to map application roles to groups.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Security** under **Service Administration**.
3. On the Security page, click the Application Roles tab.
4. Search for an application role or select from the displayed list of application roles.
5. In the application role details region, click **Assign Groups**.
6. In Add Group Mappings, search for a group and select it or select from the displayed list of groups.
7. Click **Save**.

Remove a Group Mapped to an Application Role

Use these instructions to remove a group mapped to an application role.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Security** under **Service Administration**.
3. On the Security page, click the Application Roles tab.
4. Search for an application role or select from the displayed list of application roles.
5. In the application role details region, select the check box for a displayed group or search for a group and select it, and then click **Remove Group**.
6. In the Remove Group Mapping? dialog, click **Remove Group**.

Manage Data Access

As a security administrator, you must map data security assignments to users to enable data level access.

Use the Security Assignments tab on the Security page to search for the currently set up data security assignments. You may either search for all records or narrow your search to a specific security context, security value, or user. You can remove a security assignment that you had set up or add new security assignments to a user.

As part of implementing the Automated Fusion Security Assignments capability that brings the data security assignments for Ledgers and Business Units, you must manually upload the mapping for the job role code to the Oracle Fusion Data Intelligence data security role. Security assignments for the job role in Oracle Fusion Cloud Applications are then mapped to the Oracle Fusion Data Intelligence data security role. This dependency, that is the need to map the job role to the Oracle Fusion Data Intelligence data role through the Upload Center has been removed in release 24.R4. Henceforth, Oracle Fusion Data Intelligence derives the security context from the mapping that you provide using the Oracle Fusion Data Intelligence Security pages, without the need to do it again through the spreadsheet upload. This doesn't eliminate the need for you to map users to the security contexts defined. If that mapping isn't done, then users in the new group that is assigned to the custom role get the same level of access to the Oracle Fusion Data Intelligence data security role and not the custom Oracle Fusion Cloud Applications job role and the corresponding group in Oracle Fusion Data Intelligence.

Topics:

- [Create a Security Assignment](#)

- [Delete a Security Assignment](#)
- [Remove Users from a Security Assignment](#)
- [Manage Users for a Security Assignment](#)
- [Set Exclusion Rules for Security Assignments](#)
- [Update Security Assignments Automatically](#)
- [Define and Assign Custom Security Contexts](#)
- [Specify Data Access Rules](#)

Create a Security Assignment

Use these instructions to create a security assignment in a specific security context.

Security contexts are categories that contain values that you can secure a user for. For example, you can define which users have access to which "ledgers" or "departments". In this example, "ledgers" and "departments" are security contexts. Within "ledgers", you can have "ledger A", "ledger B", or "ledger C" as values. You first select "ledger", then select a value such as "ledger A", and then select the users to secure for "ledger A". The selected users can access "ledger A".

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Security** under **Service Administration**.
You see the Security page.
3. On the Security page, click the Security Assignments tab.
You see all users who have been granted the security assignments in a specific security context.
4. Click **New Assignment**.
5. In New Security Assignment, under **Select Security Assignments**, select a security context, and then search for a security value or select from the displayed list. Move the selected security assignments to the column on the right.
6. Under **Select Users**, search for a user and select the user and move the user to the column on the right.
Users are filtered based on the role associated with that context.
7. Click **Add to Cart** and then click **View Cart**.
8. In Security Assignments, click **Apply Assignments**.
You can grant this security assignment to other users as required. Bulk assignments may take some time to process. See the Security Activity tab for details.

Delete a Security Assignment

Use these instructions to delete a security assignment. When you delete a security assignment, Oracle Fusion Data Intelligence removes all users associated with the security assignment.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Security** under **Service Administration**.

You see the Security page.

3. On the Security page, click the Security Assignments tab.
4. Select a security assignment from the displayed list of assignments or search for a security assignment and select it.
5. Click **Delete Assignment**.

Remove Users from a Security Assignment

You can revoke the security assignment granted to one or more users.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Security** under **Service Administration**.

You see the Security page.

3. On the Security page, click the Security Assignments tab.
4. Select a security assignment from the displayed list of assignments or search for a security assignment and select it.
5. In the security assignment details region, select the users from the displayed list of users or search for and select the users.
6. Click **Remove User**.
7. In Revoke User Assignment, click **Revoke Assignment**.

Manage Users for a Security Assignment

As a security administrator, you can manage users for existing data security assignments. In the Manage Users dialog, you can revoke users for an existing assignment or add new users for that assignment.

1. Sign in to your service.
 2. In Oracle Fusion Data Intelligence **Console**, click **Security** under **Service Administration**.
- You see the Security page.
3. On the Security page, click the Security Assignments tab.
 4. Select a security assignment from the displayed list of assignments or search for a security assignment and select it.
 5. In the security assignment details region, click **Manage Users**.
 6. In Manage Users:
 - a. Under **Add User**, search for a user and select the user.
 - b. Under **User**, click the **Delete** icon to revoke the user from the assignment.
 7. Click **Save**.

Set Exclusion Rules for Security Assignments

You can set up data security to exclude access for specific users within a security context for specific security assignments.

For example, you can grant access to all security assignments but the business unit ABC. This enables you to have a single rule for a single user within a security context. You can also remove the indirectly derived security assignments of the specific user. Ensure that the users for whom you want to exclude assignments are members of a group related to the security context. You can automate the application of the security exclusion rules by downloading the `DataSecurityExclusionAssignments_csv.zip`, making changes, and then uploading it; see [Download and Upload Data Security Exclusion Rules](#).

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Security** under Service Administration.
3. On the Security page, click **Security Assignments**, and then click **Exclusion Rules**.
4. On the Set Exclusion Rules for Security Assignments page, select the security context such as Ledgers in **Security Context**, select a user to exclude security assignments in **Users**, and then in **Security Values**, select the assignments that you want to exclude from the selected user within the selected security context.

The screenshot shows the 'Set Exclusion Rules for Security Assignments' page. At the top, there is a header bar with a back arrow, the title 'Set Exclusion Rules for Security Assignments', and a notification bell. Below the header, a descriptive text states: 'Exclude security assignments using a security context and users, then select the Assignments that needs to be excluded. Users must first be members of a group related to the context to receive an assignment.' To the right of this text are 'Cancel' and 'Save' buttons. The main content area is divided into three sections: 'Security Context' with a dropdown menu showing 'Select a Security C' and a note 'Changing the context updates the users and assignments displayed below'; 'Users' with a search box 'Select a user' and a note 'Select user to exclude security assignments.'; and 'Security Values (0 Selected)' with a search box 'Search Security Values' and a note 'Select values from the selected security context to assign'. Below the search boxes are two empty list containers, each displaying 'No data to display.' and a right-pointing arrow button.

5. Click **Save**.

Update Security Assignments Automatically

As a security administrator, automate the updating of security assignments to effectively manage the regular security assignment changes in your organization.

If you want to automate the insertion and deletion of data in the format of `USERNAME`, `SEC_OBJ_CODE`, `SEC_OBJ_MEMBER_VAL`, Operation (to add or to remove the mapping), then configure the changes in the security assignments to be updated automatically and regularly.

To ensure that the changes in security assignment are updated automatically, you must create a table for the `OAX_USER` schema in Oracle Autonomous Data Warehouse associated with your Oracle Fusion Data Intelligence instance. Ensure that you name the table

"CUSTOMER_FAW_CONTENT_AUTOSYNC_ASSIGNMENT". You must seed data into this table regularly with the timestamp in universal time (UTC) format in the "CREATION_DATE" column of the table. The CREATION_DATE column ensures that the same records aren't processed repeatedly and no record is missed. Oracle Fusion Data Intelligence periodically scans the synonym (2 hours once), pick up the values, and based on the "CREATION_DATE" criteria, populates the FAW_CONTENT_AUTOSYNC_ASSIGNMENT table in the OAX\$INFRA schema in Oracle Autonomous Data Warehouse. Later, Oracle Fusion Data Intelligence processes the data and uploads the security assignments as per the FAW_CONTENT_AUTOSYNC_ASSIGNMENT table.

1. In Oracle Autonomous Data Warehouse associated with your Oracle Fusion Data Intelligence instance, create the CUSTOMER_FAW_CONTENT_AUTOSYNC_ASSIGNMENT table in OAX_USER schema using the following script:

```
CREATE TABLE CUSTOMER_FAW_CONTENT_AUTOSYNC_ASSIGNMENT (
  "USERNAME"          VARCHAR2(256 CHAR),
  "SEC_OBJ_CODE"       VARCHAR2(256 CHAR),
  "SEC_OBJ_MEMBER_VAL" VARCHAR2(4000 CHAR),
  "OPERATION_TYPE"     VARCHAR2(65 CHAR),
  "CREATION_DATE"      TIMESTAMP(6)
);

-- Grant access from the schema OAX_USER

GRANT SELECT ON CUSTOMER_FAW_CONTENT_AUTOSYNC_ASSIGNMENT TO OAX$INFRA;
COMMIT;
```

2. In the CUSTOMER_FAW_CONTENT_AUTOSYNC_ASSIGNMENT table, specify the actual values for "USERNAME", "SEC_OBJ_CODE", "SEC_OBJ_MEMBER_VAL", "OPERATION_TYPE", and "CREATION_DATE". For "OPERATION_TYPE", enter "ADD" and enter the timestamp in "CREATION_DATE" in "2024-02-21 12:34:56.789" format.

Define and Assign Custom Security Contexts

As a security administrator, you can define custom security contexts and assign them to data roles. This enables you to assign additional security assignments to users along with the ready-to-use security assignments.

Security configurations for application roles enable you to define the data security filtering for an application role directly from the Security page. For example, if you want to secure GL data by county, which isn't a ready-to-use security context, you can create a custom security context.

1. If you've the User Administrator role in the identity domain associated with your Oracle Fusion Data Intelligence instance, create a group such as "CustomSecContextGroup" in the identity domain. See [Create a Group](#).
2. Sign in to your service.
3. In Oracle Fusion Data Intelligence **Console**, click **Security** under **Service Administration**.
4. In the Application Roles tab, create a custom application role such as "Custom Data Role - CSC - 2".

See [Create an Application Role](#).

Create a New Application Role

Create a new application role that can be used to secure data or objects

Application Role Name

Description

Role Type ☐ Manage access to subject areas, folders, dimensions, or measures (Duty Role)
☒ Manage row-level data access (Data Role)

- In the Application Roles tab, select the applicable role such as the "Custom Data Role - CSC - 2", click **Groups**, and then click **Assign Groups** to assign "Custom Data Role - CSC - 2" to "CustomSecContextGroup" that you created previously.

The screenshot shows the Oracle Security console interface. At the top, there's a navigation bar with 'Security' and a 'Publish Model' button. Below it, a tab bar shows 'Users', 'Groups', 'Application Roles' (selected), 'Security Assignments', and 'Activity'. Under 'Application Roles', there's a search bar with 'cus', a dropdown for 'Show All Role Types', and buttons for 'New Application Role' and 'Delete Application Roles'. A table lists application roles, with 'Custom Data Role - CSC - 2' (Type: Data) selected. To the right, the 'Groups' sub-tab is active, showing a 'Search Groups' input, 'Assign Groups' and 'Remove Group' buttons, and a list containing 'CustomSecContextGroup'.

See [Assign Groups to Application Roles](#).

- In the Application Roles tab, select the applicable role such as the "Custom Data Role - CSC - 2", and click **Security Configurations**.
- In the Security Configurations tab, add the custom security as follows and then click **Save Configuration**:
 - Security Context Name:** Provide a name for the custom security context, such as Secure By Job Function.
 - Attributes Driving Security:** Click and in Select an object dialog, search for an object and select the attribute to drive the security, such as a **Job Function**.
 - Functional Group:** Select a prebuilt functional group or enter a unique functional group name in the text box to create a custom functional group such as CUSTOM_JOB_FUNC_FG.

Note

The functional group drives the query. If you've selected an existing functional group, the query creates the OR condition and if you've selected a new functional group, the query adds the AND condition.

- **Objects to Secure:** Click and in Select an object dialog, search for an object, such as **Fact - Assignment**, and select it secure by the custom application role that you created.

Custom Data Role - CSC - 2

Groups Security Configurations

Security Context Name

Secure By Job Function

Create a descriptive name

Delete Configuration

Save Configuration

Attributes Driving Security

Name/Description Column

Job Function

Functional Group ⓘ

CUSTOM_JOB_FUNC_FG

Objects to Secure

Fact - Assignment x

Select the objects to be secured by this role

8. In the Security Assignments tab, click the **Show All Security Contexts** dropdown list to verify that the custom security context that you created, such as **Secure By Job Function** is visible in the list.

← Security

Users Groups Application Roles **Security Assignments** Activity

Search Secure By Job Function New Assignment

Assignment / Context

No data to display.

- AR Business Units
- HCM Business Units
- HCM Country
- HCM Departments
- HCM Legal Employers
- HCM Show Self Record
- Ledgers
- Order Management Business Units
- Secure By Job Function**

9. On the Security page, click **Publish Model** to make the custom configurations available in the semantic model.

10. Navigate to the Semantic Model Extensions page, and click the Activity tab to know whether the custom security configuration has been published.

See [View Activity History of Semantic Model Extensions](#).

11. Assign the custom security context to a user.

See [Add Security Assignments to a User](#) and [Manage Users for a Security Assignment](#).

12. Publish the semantic model. See .

Specify Data Access Rules

You can change the prebuilt behaviour of data roles from *Most Restrictive* to *Least Restrictive* to keep data access flexible to suit your business requirements.

You can change this setting as many times as required. However, the data role behavior updates may take multiple hours to complete. You can monitor the Activity tab on the Semantic Model Extensions page to verify the progress of this change. This capability is available for Fusion HCM Analytics currently.

When a user has multiple data roles, the Most Restrictive Access rule limits access to the smallest common data between them. For example, if a user has both HCM View All Data Security and HR Line Manager Data Security data roles, they can only access the Line Manager's supervisory organization, which is the most restricted scope.

With the Least Restrictive Access rule, the user gets the broadest access when multiple roles are assigned, allowing them to view data from all assigned roles. For example, if a user has both HCM View All Data Security and Line Manager Data Security data roles, they can access all Fusion HCM Analytics data.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Security** under **Service Administration**.
3. On the Security page, click the Settings tab.
4. From the **Data Access Rules** list, select the applicable rule.

← Security

Users Groups Application Roles Security Assignments **Settings** Activity

HCM Data Access Rules

Data access rules
Least restrictive access

APPLY

Application role behavior updates may take multiple hours to complete

Most Restrictive Access: When a user has multiple data roles, FDI HCM limits access to the smallest common data between them.

- Example: If a user has both HCM View All Data Security and HR Line Manager Data Security, they will only access the Line Manager's supervisory organization, which is the most restricted scope.

Least Restrictive Access: The user gets the broadest access when multiple roles are assigned, allowing them to view data from all assigned roles.

- Example: If a user has both HCM View All Data Security and Line Manager Data Security, they will access all HCM data.

5. Click **Apply**.
6. Navigate to the Semantic Model Extensions page, click the Activity tab, and observe the status of **Publish Customizations** activity. When the **State** changes to **Done**, the data access rules update is complete.

Semantic Model Extensions				
Semantic Model Components		Activity		
All Activities	All States	Search		
Activity	Subject	State	Updated At	Updated By
Publish Customizations	Main (SANDBOX) [SECURITY]	In Progress	May 20, 2025 at 06:58 PM G...	system

Configure Permissions for Metadata and Front-End Objects

Configure the permissions for metadata objects such as subject areas and its elements and front-end objects such as key metrics and workbooks with the prebuilt or the custom-created duty roles.

You secure the subject areas and their elements through "Configure Object Permissions", a prebuilt single step. See [Configure Object Permissions](#).

For the front-end objects such as key metrics and workbooks, set the permissions individually for each object by adding the applicable duty role and the corresponding access.

View Activity History

View all the security-related activities or filter them by object type and by date for security audit purposes.

The status icon next to each action shows whether it is in progress, in a warning state (if items in a bulk action failed), failed (and therefore incomplete), or completed successfully. You can also hover over error icons to read the full error message that might assist with troubleshooting.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Security** under **Service Administration**.

You see the Security page.

3. On the Security page, click the **History** tab.

You see all the activities by object type and date, by default. You can organize the display by sorting columns, searching for descriptive text, selecting a specific object type, or selecting the number of days from the drop-down lists.

Manage Uploads and Downloads

As the cloud account administrator with security administrator or functional administrator or service administrator role, you can upload and download data to your data warehouse using the Upload tile on the Console.

Topics:

- [About Uploading and Downloading Your Data](#)
- [Upload and Download Data Security Assignments](#)
- [Upload and Download Financial Categories](#)

- [Upload and Download Financial Category Assignments](#)
- [Download and Upload Area of Responsibility Data](#)
- [Download and Upload Custom Job Roles Mappings](#)
- [Download and Upload Data Security Exclusion Rules](#)

About Uploading and Downloading Your Data

The Upload tile in the Console enables the cloud account administrators to upload and download the following:

- Data security assignments
- Financial categories
- Financial category assignments
- User to group associations

You can upload and download only csv files.

Upload and Download Data Security Assignments

You can download security assignment template files to help you set up security assignments, and then upload the files to your environment.

You can download **Sample** or **Current** files. Sample provides a csv file with relevant headers to help familiarize you with the types of data you can expect. Current provides a list of current data assignments you can download to your test or production environments. If you need to filter your options to show specific data security contexts, use the Filter option. Regardless of the file you download, you need to populate these columns: USERNAME, SEC_OBJ_CODE, and SEC_OBI_MEMBER_VAL. Don't change any of the header names in the downloaded files. When you're done updating the files, you can upload them to your environment.

You can also download data security assignment files using the **Download File** button available from the Security Assignments tab on the Security page. In this case, you don't need to specifically select **Data Security Assignments**. Click **Download File**, select the type of file you want to download, and proceed with the remaining steps. You can also upload data security assignment files using the **Upload** button available from the Security Assignments tab on the Security page. In this case, you don't need to specifically select **Data Security Assignments**. Click **Upload** and then proceed with the remaining steps.

Note

Replace existing configuration settings deletes existing data security assignments.

Ensure that these prerequisites are in place:

- Security assignment has 1:1 mapping with application roles.
- Application roles are assigned to groups.
- Users who are being assigned to a security context are part of the group that's linked to the security context through the application roles.

1. Sign in to your service.

2. In Oracle Fusion Data Intelligence **Console**, click **Uploads** under Application Administration.
3. On the Uploads page, click **Download File**, select **Data Security Assignments** and then select the type of file you want to download.
4. Open the csv file you downloaded and complete the fields as required:
 - **USERNAME**: The user name and user display name.
 - **SEC_OBJ_CODE**: The object code for which you're adding the data security assignment.
 - **SEC_OBJ_MEMBER_VAL**: The security assignment member for each context. See [Security Object Tables](#).
5. When you're done updating the file, save your changes.
6. On the Uploads page, click **Upload File** and the applicable file type.
7. Select whether you want to **Merge to the existing settings** or **Replace existing configuration settings**.
8. Select the file you want to upload and click **Upload File**.
You can review the status of the upload on the **Uploads** tab.
9. Use **Actions** next to the file name to perform actions on a specific upload file:
 - Click **Properties** to check the upload statistics.
 - Click **Download** to download the file you just uploaded in the event you want to upload the file again.
 - Click **Delete** if a file fails to process and you want to remove the file history.

Security Object Tables

Use these security object codes and associated SQL to access the assignment member for each context.

Security Objects

Table 6-1 Security Object Codes

Security Object	Code
AP Business Units	OA4F_SEC_FIN_AP_BUSINESSUNIT_LIST
AR Business Units	OA4F_SEC_FIN_AR_BUSINESSUNIT_LIST
Cost Organizations	OA4F_SEC_CST_COST_ORG_LIST
FA Asset Book	OA4F_SEC_FIN_FA_ASSET_BOOK_LIST
HCM Business Units	OA4F_SEC_HCM_BUSINESSUNIT_LIST
HCM Country List	OA4F_SEC_HCM_COUNTRY_LIST
HCM Departments	OA4F_SEC_HCM_DEPARTMENT_LIST
HCM Legal Employers	OA4F_SEC_HCM_LEGAL_EMPLOYER_LIST
HCM Show Self Record	OA4F_SEC_HCM_SEE_SELF_RECORD
Inventory Business Units	OA4F_SEC_INV_BUSINESSUNIT_LIST
Inventory Organizations	OA4F_SEC_INV_ORG_TRANSACTIONS_LIST
Ledgers	OA4F_SEC_FIN_LEDGER_LIST
Order Management Business Units	OA4F_SEC_OM_BUSINESS_UNIT_LIST

Table 6-1 (Cont.) Security Object Codes

Security Object	Code
Project Business Units	OA4F_SEC_PPM_PROJECT_BUSINESSUNIT_LIST
Project Expenditure Business Units	OA4F_SEC_PPM_EXPENDITURE_BUSINESSUNIT_LIST
Project Organizations	OA4F_SEC_PPM_PROJECT_ORGANIZATION_LIST
Requisition Business Units	OA4F_SEC_PROC_REQ_BUSINESSUNIT_LIST
Spend Procurement Business Units	OA4F_SEC_PROC_SPEND_PRC_BUSINESSUNIT_LIST

Assignment Member SQL**Table 6-2 Assignment Member SQL**

Security Object Code	SQL Code
OA4F_SEC_CST_COST_ORG_LIST	<pre> SELECT DISTINCT TL.ORGANIZATION_NAME AS NAME, TL.ORGANIZATION_ID AS VALUE FROM DW_CST_COST_ORG_BOOKS_D D, DW_INTERNAL_ORG_D_TL TL WHERE D.COST_ORG_ID = TL.ORGANIZATION_ID AND TL.LANGUAGE = (SELECT PARAMETER_VALUE FROM DW_CONTENT_PARAM_CONFIG WHERE PARAMETER_CODE='PARAM_GLOBAL_FAW_LANGUAGES') AND D.COST_ORG_ID <>-99999 </pre>

Table 6-2 (Cont.) Assignment Member SQL

Security Object Code	SQL Code
OA4F_SEC_FIN_AP_BUSINESSUNIT_LIST	<pre> SELECT TL.ORGANIZATION_NAME AS NAME, TL.ORGANIZATION_ID AS VALUE FROM DW_INTERNAL_ORG_D D, DW_INTERNAL_ORG_D_TL TL WHERE (D.PAYABLES_INVOICING_BU_FLAG = 'Y' OR D.PAYABLES_PAYMENT_BU_FLAG = 'Y') AND D.ORGANIZATION_ID = TL.ORGANIZATION_ID AND TL.LANGUAGE = (SELECT PARAMETER_VALUE FROM DW_CONTENT_PARAM_CONFIG WHERE PARAMETER_CODE='PARAM_GLOBAL_FAW_LANG UAGES') AND D.ORGANIZATION_ID <> -99999 </pre>
OA4F_SEC_FIN_AR_BUSINESSUNIT_LIST	<pre> SELECT TL.ORGANIZATION_NAME AS NAME, TL.ORGANIZATION_ID AS VALUE FROM DW_INTERNAL_ORG_D D, DW_INTERNAL_ORG_D_TL TL WHERE (D.BILLING_REVENUE_MNG_BU_FLAG = 'Y' OR D.CUSTOMER_PAYMENTS_BU_FLAG = 'Y') AND D.ORGANIZATION_ID = TL.ORGANIZATION_ID AND TL.LANGUAGE = (SELECT PARAMETER_VALUE FROM DW_CONTENT_PARAM_CONFIG WHERE PARAMETER_CODE='PARAM_GLOBAL_FAW_LANG UAGES') AND D.ORGANIZATION_ID <> -99999 </pre>
OA4F_SEC_FIN_FA_ASSET_BOOK_LIST	<pre> SELECT BOOK_TYPE_CODE AS name, BOOK_TYPE_CODE AS value FROM DW_FA_MC_BOOK_CONTROLS_D WHERE MC_FLAG = 'N' </pre>

Table 6-2 (Cont.) Assignment Member SQL

Security Object Code	SQL Code
OA4F_SEC_FIN_LEDGER_LIST	<pre> SELECT ledger.ledger_name AS name, ledger.ledger_id AS value FROM dw_ledger_d ledger WHERE ledger.ledger_id <> - 99999 </pre>
OA4F_SEC_HCM_BUSINESSUNIT_LIST	<pre> SELECT TL.BUSINESS_UNIT_NAME AS NAME, TL.BUSINESS_UNIT_ID AS VALUE FROM DW_BUSINESS_UNIT_D_TL TL WHERE TL.LANGUAGE = (SELECT PARAMETER_VALUE FROM DW_CONTENT_PARAM_CONFIG WHERE PARAMETER_CODE='PARAM_GLOBAL_FAW_LANG UAGES') </pre>
OA4F_SEC_HCM_COUNTRY_LIST	<pre> SELECT TL.COUNTRY_NAME AS NAME, TL.COUNTRY AS VALUE FROM DW_COUNTRY_D_TL TL WHERE TL.LANGUAGE = (SELECT PARAMETER_VALUE FROM DW_CONTENT_PARAM_CONFIG WHERE PARAMETER_CODE='PARAM_GLOBAL_FAW_LANG UAGES') </pre>
OA4F_SEC_HCM_DEPARTMENT_LIST	<pre> select TL.DEPARTMENT_NAME AS NAME, TL.DEPARTMENT_ID AS VALUE FROM DW_DEPARTMENT_D_TL TL where LANGUAGE = (SELECT PARAMETER_VALUE FROM DW_CONTENT_PARAM_CONFIG WHERE PARAMETER_CODE='PARAM_GLOBAL_FAW_LANG UAGES') </pre>
OA4F_SEC_HCM_LEGAL_EMPLOYER_LIST	<pre> SELECT TL.LEGAL_EMPLOYER_NAME AS NAME, TL.LEGAL_EMPLOYER_ID AS VALUE FROM DW_LEGAL_EMPLOYER_D_TL TL WHERE LANGUAGE = (SELECT PARAMETER_VALUE FROM DW_CONTENT_PARAM_CONFIG WHERE PARAMETER_CODE='PARAM_GLOBAL_FAW_LANG UAGES') </pre>

Table 6-2 (Cont.) Assignment Member SQL

Security Object Code	SQL Code
OA4F_SEC_HCM_SEE_SELF_RECORD	<pre> SELECT YESNO_LKP_CODE AS VALUE, NAME AS NAME FROM DW_YESNO_LKP_TL WHERE CODE_TYPE LIKE 'FA_YESNO' AND LANGUAGE = (SELECT PARAMETER_VALUE FROM DW_CONTENT_PARAM_CONFIG WHERE PARAMETER_CODE='PARAM_GLOBAL_FAW_LANG UAGES') AND YESNO_LKP_CODE IN ('NO') </pre>
OA4F_SEC_INV_BUSINESSUNIT_LIST	<pre> SELECT TL.BUSINESS_UNIT_NAME AS NAME, TL.BUSINESS_UNIT_ID AS VALUE FROM DW_BUSINESS_UNIT_D_TL TL WHERE TL.BUSINESS_UNIT_ID IN (SELECT DISTINCT(INV_BUSINESS_UNIT_ID) FROM DW_INV_ORGANIZATION_D) AND TL.LANGUAGE = (SELECT PARAMETER_VALUE FROM DW_CONTENT_PARAM_CONFIG WHERE PARAMETER_CODE='PARAM_GLOBAL_FAW_LANG UAGES') AND TL.BUSINESS_UNIT_ID <> '-99999' </pre>
OA4F_SEC_INV_ORG_TRANSACTIONS_LIST	<pre> SELECT INV_ORGANIZATION_NAME AS NAME, INV_ORGANIZATION_ID AS VALUE FROM DW_INV_ORGANIZATION_D_TL TL WHERE TL.LANGUAGE = (SELECT PARAMETER_VALUE FROM DW_CONTENT_PARAM_CONFIG WHERE PARAMETER_CODE='PARAM_GLOBAL_FAW_LANG UAGES') AND TL.INV_ORGANIZATION_ID <> '-99999' </pre>

Table 6-2 (Cont.) Assignment Member SQL

Security Object Code	SQL Code
OA4F_SEC_OM_BUSINESS_UNIT_LIST	<pre> SELECT TL.BUSINESS_UNIT_NAME AS NAME, TL.BUSINESS_UNIT_ID AS VALUE FROM DW_BUSINESS_UNIT_D_TL TL WHERE TL.LANGUAGE = (SELECT PARAMETER_VALUE FROM DW_CONTENT_PARAM_CONFIG WHERE PARAMETER_CODE='PARAM_GLOBAL_FAW_LANG UAGES') AND TL.BUSINESS_UNIT_ID<>-99999 </pre>
OA4F_SEC_PPM_CONTRACT_BUSINESSUNIT_LIST	<pre> SELECT TL.ORGANIZATION_NAME AS NAME, TL.ORGANIZATION_ID AS VALUE FROM DW_INTERNAL_ORG_D D, DW_INTERNAL_ORG_D_TL TL WHERE (D.CUST_CONTRACT_MNGMNT_BU_FLAG = 'Y' AND D.BUSINESS_UNIT_FLAG = 'Y') AND D.ORGANIZATION_ID = TL.ORGANIZATION_ID AND TL.LANGUAGE = (SELECT PARAMETER_VALUE FROM DW_CONTENT_PARAM_CONFIG WHERE PARAMETER_CODE='PARAM_GLOBAL_FAW_LANG UAGES') AND D.ORGANIZATION_ID<>-99999 </pre>
OA4F_SEC_PPM_EXPENDITURE_BUSINESSUNIT_LIST	<pre> SELECT TL.ORGANIZATION_NAME AS NAME, TL.ORGANIZATION_ID AS VALUE FROM DW_INTERNAL_ORG_D D, DW_INTERNAL_ORG_D_TL TL WHERE (D.PROJECT_ACCOUNTING_BU_FLAG = 'Y' AND D.BUSINESS_UNIT_FLAG = 'Y') AND D.ORGANIZATION_ID = TL.ORGANIZATION_ID AND TL.LANGUAGE = USERENV('LANG') AND D.ORGANIZATION_ID<>-99999 </pre>

Table 6-2 (Cont.) Assignment Member SQL

Security Object Code	SQL Code
OA4F_SEC_PPM_PROJECT_BUSINESSUNIT_LIST	<pre> SELECT TL.ORGANIZATION_NAME AS NAME, TL.ORGANIZATION_ID AS VALUE FROM DW_INTERNAL_ORG_D D, DW_INTERNAL_ORG_D_TL TL WHERE (D.PROJECT_ACCOUNTING_BU_FLAG = 'Y' AND D.BUSINESS_UNIT_FLAG = 'Y') AND D.ORGANIZATION_ID = TL.ORGANIZATION_ID AND TL.LANGUAGE = USERENV('LANG') AND D.ORGANIZATION_ID<>-99999 </pre>
OA4F_SEC_PPM_PROJECT_ORGANIZATION_LIST	<pre> SELECT TL.ORGANIZATION_NAME AS NAME, TL.ORGANIZATION_ID AS VALUE FROM DW_INTERNAL_ORG_D D, DW_INTERNAL_ORG_D_TL TL WHERE (D.PROJECT_ORGANIZATION_FLAG = 'Y') AND D.ORGANIZATION_ID = TL.ORGANIZATION_ID AND TL.LANGUAGE = USERENV('LANG') AND D.ORGANIZATION_ID<>-99999 </pre>
OA4F_SEC_PROC_REQ_BUSINESSUNIT_LIST	<pre> SELECT TL.ORGANIZATION_NAME AS NAME, TL.ORGANIZATION_ID AS VALUE FROM DW_INTERNAL_ORG_D D, DW_INTERNAL_ORG_D_TL TL WHERE (D.REQUISITION_BU_FLAG = 'Y' AND D.BUSINESS_UNIT_FLAG = 'Y') AND D.ORGANIZATION_ID = TL.ORGANIZATION_ID AND TL.LANGUAGE = (SELECT PARAMETER_VALUE FROM DW_CONTENT_PARAM_CONFIG WHERE PARAMETER_CODE='PARAM_GLOBAL_FAW_LANG UAGES') AND D.ORGANIZATION_ID<>-99999 </pre>

Table 6-2 (Cont.) Assignment Member SQL

Security Object Code	SQL Code
OA4F_SEC_PROC_SPEND_PRC_BUSINESSUNIT_LIST	<pre> SELECT TL.ORGANIZATION_NAME AS NAME, TL.ORGANIZATION_ID AS VALUE FROM DW_INTERNAL_ORG_D D, DW_INTERNAL_ORG_D_TL TL WHERE (D.PROCUREMENT_BU_FLAG = 'Y' AND D.BUSINESS_UNIT_FLAG = 'Y') AND D.ORGANIZATION_ID = TL.ORGANIZATION_ID AND TL.LANGUAGE = (SELECT PARAMETER_VALUE FROM DW_CONTENT_PARAM_CONFIG WHERE PARAMETER_CODE='PARAM_GLOBAL_FAW_LANGUAGES') AND D.ORGANIZATION_ID<>-99999 </pre>
OA4F_SEC_SCM_MFGORG_LIST	<pre> SELECT MFG_ORGANIZATION_NAME AS NAME, MFG_ORGANIZATION_ID AS VALUE FROM DW_MFG_ORGANIZATION_D_TL TL WHERE TL.LANGUAGE = (SELECT PARAMETER_VALUE FROM DW_CONTENT_PARAM_CONFIG WHERE PARAMETER_CODE='PARAM_GLOBAL_FAW_LANGUAGES') AND TL.MFG_ORGANIZATION_ID <> '-99999' </pre>
OA4F_SEC_SCM_MNTORG_LIST	<pre> SELECT INV_ORGANIZATION_NAME AS NAME, INV_ORGANIZATION_ID AS VALUE FROM DW_INV_ORGANIZATION_D_TL TL WHERE TL.LANGUAGE = (SELECT PARAMETER_VALUE FROM DW_CONTENT_PARAM_CONFIG WHERE PARAMETER_CODE='PARAM_GLOBAL_FAW_LANGUAGES') AND TL.INV_ORGANIZATION_ID <> '-99999' </pre>

Upload and Download Financial Categories

You can download financial category template files to help you set up financial categories, and then upload the files to your environment.

You can download **Sample** or **Current** files. Sample provides a csv file with relevant headers to help familiarize you with the types of data you can expect. Current provides a list of current data assignments you can download to your test or production environments. Regardless of the file you download, you need to populate the FINANCIAL_CATEGORY column. Don't change any of the header names in the downloaded files. When you're done updating the files, you can upload them to your environment.

Note

Replace existing configuration settings deletes existing data security assignments.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Uploads** under Application Administration.
You see the Uploads page.
3. On the Uploads page, click **Download File**, select **Financial Categories** and then select the type of file you want to download.
4. Open the csv file you downloaded and populate the fields as required:
 - FINANCIAL_CATEGORY: The financial category code.
5. When you're done updating the file, save your changes.
6. On the Uploads page, click **Upload File** and the applicable file type.
7. Select whether you want to **Merge to the existing settings** or **Replace existing configuration settings**.
8. Select the file you want to upload and click **Upload File**.
You can review the status of the upload on the **Uploads** tab.
9. Use **Actions** next to the file name to perform actions on a specific upload file:
 - Click **Properties** to check the upload statistics.
 - Click **Download** to download the file you just uploaded in the event you want to upload the file again.
 - Click **Delete** if a file fails to process and you want to remove the file history.

Upload and Download Financial Category Assignments

You can download financial category assignment template files to help you set up financial categories, and then upload the files to your environment.

You can download **Sample** or **Current** files. Sample provides a csv file with relevant headers to help familiarize you with the types of data you can expect. Current provides a list of current data assignments you can download to your test or production environments. Prior to download a file, you must select the segment combination you want to use to map your financial categories in the Select Columns dialog. The list prepopulates the segments defined

in your chart of accounts that are BI enabled. Regardless of the file you download, you need to populate the FINANCIAL_CATEGORY column. Don't change any of the header names in the downloaded files. When you're done updating the files, you can upload them to your environment.

Note

Replace existing configuration settings deletes existing data security assignments.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Uploads** under Application Administration.
You see the Uploads page.
3. On the Uploads page, click **Download File**, select **Financial Category Assignments** and then select the type of file you want to download.
4. Open the csv file you downloaded and populate the fields as required:
 - CHART_OF_ACCOUNTS – Name of your chart of accounts.
 - Actual segment values.
 - FINANCIAL_CATEGORY: The financial category code. This can be a predefined category or a custom category defined using the Financial Categories upload option.
5. When you're done updating the file, save your changes.
6. On the Uploads page, click **Upload File** and the applicable file type.
7. Select whether you want to **Merge to the existing settings** or **Replace existing configuration settings**.

Note

If you want to change the segment combination for your financial category definition, then ensure to provide the data for all chart of accounts and use the replace option. The data is completely replaced. Different segment combinations for different chart of accounts is NOT supported.

8. Select the file you want to upload and click **Upload File**.
You can review the status of the upload on the **Uploads** tab.
9. Use **Actions** next to the file name to perform actions on a specific upload file:
 - Click **Properties** to check the upload statistics.
 - Click **Download** to download the file you just uploaded in the event you want to upload the file again.
 - Click **Delete** if a file fails to process and you want to remove the file history.

Download and Upload Area of Responsibility Data

If you use Oracle Fusion HCM Analytics, then you can manage the area of responsibility (AOR) data in the Oracle Autonomous Data Warehouse associated with the Oracle Fusion Data Intelligence instance for security setups.

You can use the AOR-related data in custom security setups and for mass assignment. You can download the latest AOR data security assignment files to make changes to the existing data and upload it back. This enables you to avoid using other methods to get the AOR data into Oracle Autonomous Data Warehouse.

The downloaded AOR data security assignment file supports only the prebuilt security contexts. For custom contexts, you can utilize the AOR data available in the DW_ASG_RESPONSIBILITY_D table while configuring custom security. The format of the AOR file that you download is different from the data security assignment file that you can upload, hence you must copy the required columns from the AOR file to the security assignment file prior to uploading it as the AOR-related security assignment file. For example, the AOR file has additional columns like AOR TYPE, which is for your reference only.

When you run the data pipeline for the Area of Responsibility functional area after activating it, Oracle Fusion Data Intelligence loads the AOR-related data from the DW_ASG_RESPONSIBILITY_D view, transforms it, and uses this data to populate the AOR file. The data in the AOR-related downloadable file is formatted as per the current data security assignment .csv file and pertains to the prebuilt security contexts of business unit, country, legal entity, and organization.

After uploading the security assignments data to Oracle Autonomous Data Warehouse, if the AOR assignment ends, then you must download the AOR and data security assignment files, compare mismatches between the two files, and take necessary actions of adding or removing contexts from the data security context and upload the correct data as and when required. The AOR file has only the current effective records; hence any end-dated record won't be available in this file.

Note

Replace existing configuration settings deletes existing data security assignments.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Uploads** under Application Administration.
3. On the Uploads page, click **Download File** and select **Area of Responsibility**.

4. Unzip the DataSecurityAssignmentAOR_csv.zip file you downloaded and edit the csv file as required.

When you are done updating the file, save your changes.

5. On the Uploads page, click **Upload File** and select **Data Security Assignments** in **File Type**.

Upload a File

File Type Data Security Assignments

☒ Merge to the existing settings
☐ Replace existing configuration settings

Upload a .csv file

Drag and Drop

Select a file or drop one here.

Cancel Upload File

6. Select whether you want to **Merge to the existing settings** or **Replace existing configuration settings**.
7. Select the file you want to upload and click **Upload File**.
You can review the status of the upload on the Uploads tab.
8. Use **Actions** next to the file name to perform actions on a specific upload file:
 - Click **Properties** to check the upload statistics.
 - Click **Download** to download the file you just uploaded in the event you want to upload the file again.
 - Click **Delete** if a file fails to process and you want to remove the file history.

Download and Upload Custom Job Roles Mappings

If you've custom job roles in Oracle Fusion Cloud Applications and want to use them as data and duty roles in Oracle Fusion ERP Analytics, then you can map the job roles to the data and duty roles, and upload the mappings.

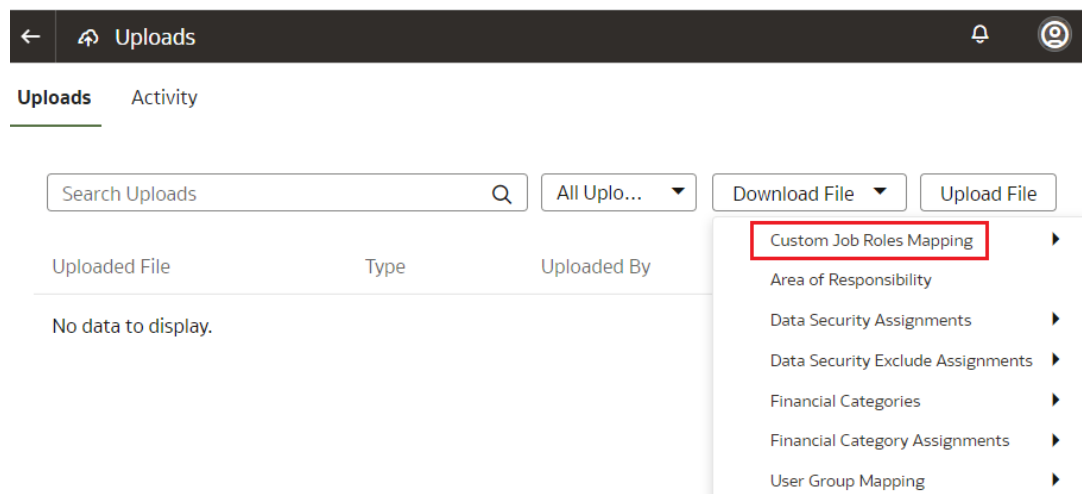
Oracle Fusion Data Intelligence uses the mappings to apply the security assignments to the applicable Oracle Fusion Cloud Applications users in Oracle Fusion Data Intelligence during the automatic synchronization of the data security assignment configurations between Oracle Fusion Cloud Applications and Oracle Fusion Data Intelligence.

During the next data pipeline run, Oracle Fusion Data Intelligence applies this mappings.

Note

Replace existing configuration settings deletes the existing custom role mappings.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Uploads** under Application Administration.
3. On the Uploads page, click **Download File** and select **Custom Job Roles Mapping**, and then select the sample or current type of file that you want to download.



4. Unzip the CustomRoleMapping_csv file you downloaded and create the mapping by entering the Oracle Fusion Cloud Applications job role in the FA_JOB_ROLE column and a corresponding Oracle Fusion Data Intelligence data or duty role in the FAW_ROLE column.

When you're done updating the file, save your changes.

5. On the Uploads page, click **Upload File** and select **Custom Job Roles Mapping** in **File Type**.

Upload a File

File Type Custom Job Roles Mapping ▼

☒ Merge to the existing settings
☐ Replace existing configuration settings

Upload a .csv file

Drag and Drop
Select a file or drop one here.

Cancel Upload File

6. Select whether you want to **Merge to the existing settings** or **Replace existing configuration settings**.
7. Select the file you want to upload and click **Upload File**.
You can review the status of the upload on the Uploads tab.
8. Use **Actions** next to the file name to perform actions on a specific upload file:
 - Click **Properties** to check the upload statistics.
 - Click **Download** to download the file you just uploaded in the event you want to upload the file again.
 - Click **Delete** if a file fails to process and you want to remove the file history.

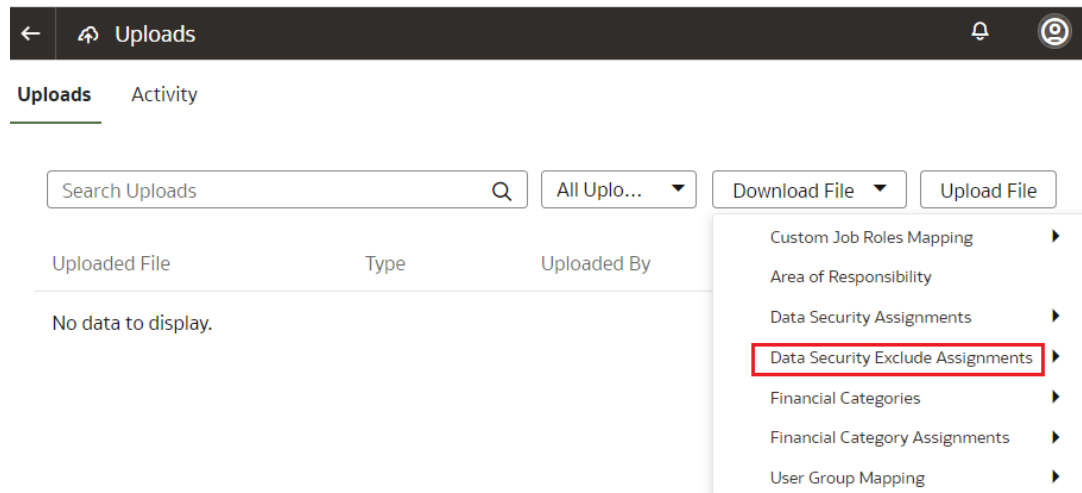
Download and Upload Data Security Exclusion Rules

If you want to automate the application of the security exclusion rules, then download the file to make the changes and upload it.

Note

Replace existing configuration settings deletes existing data security assignments.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Uploads** under Application Administration.
3. On the Uploads page, click **Download File** and select **Data Security Exclude Assignments**, and then select the sample or current type of file that you want to download.



4. Unzip the DataSecurityExclusionAssignments_csv.zip file you downloaded and edit the csv file as required.

When you're done updating the file, save your changes.

5. On the Uploads page, click **Upload File** and select **Data Security Exclude Assignments** in **File Type**.

Upload a File

File Type Data Security Exclude Assignments ▼

☒ Merge to the existing settings
☐ Replace existing configuration settings

Upload a .csv file

Drag and Drop

Select a file or drop one here.

Cancel Upload File

6. Select whether you want to **Merge to the existing settings** or **Replace existing configuration settings**.
7. Select the file you want to upload and click **Upload File**.
You can review the status of the upload on the Uploads tab.
8. Use **Actions** next to the file name to perform actions on a specific upload file:
 - Click **Properties** to check the upload statistics.
 - Click **Download** to download the file you just uploaded in the event you want to upload the file again.
 - Click **Delete** if a file fails to process and you want to remove the file history.

Set Up Custom Security

You can set up custom security to meet your business requirements.

Setting up custom security involves:

- Creation of job-specific custom groups. As a security administrator, you can perform user-group management if you've the User Administrator role in Oracle Identity Cloud Service. See [Managing Oracle Identity Cloud Service Users and Groups in the Oracle Cloud Infrastructure Console](#).
- Creation of custom duty and data roles. See [Create an Application Role](#).
- Mapping of custom application roles to either the predefined or custom job-specific groups. See [Add Application Roles to a Group](#) and [Assign Groups to Application Roles](#).
- Configure the custom application roles. See [Custom Security in Fusion Data Intelligence](#). Ensure that you're signed into Cloud Customer Connect prior to viewing this document.

Customize Oracle Fusion Data Intelligence

You can customize the semantic model to extend it for your business requirements.

As a modeler or modeler administrator, you can customize your semantic model. Customization enables you to make the data that you moved into the analytics warehouse more useful for reporting. As a security administrator, you can add security configurations to secure the subject areas and data with prebuilt and custom duty and data type of application roles.

Topics:

- [About Semantic Model Customization](#)
- [Recommendations and Tips to Extend the Semantic Model](#)
- [Extend the Semantic Model Using the Sandbox Framework](#)
- [Extend the Semantic Model Using the Branch Framework](#)
- [Add Security Configurations](#)
- [View Activity History of Semantic Model Extensions](#)
- [Move Your Customizations to Another Environment](#)
- [Merge Your External Applications](#)

About Semantic Model Customization

You can customize the semantic model to extend it for your business requirements. You extend the semantic model to make the data that you moved into the warehouse more useful for reporting.

Oracle Fusion Data Intelligence currently provides these methods for extending the semantic model:

- [Extend the Semantic Model Using the Sandbox Framework](#)
- [Extend the Semantic Model Using the Branch Framework](#)
- [Merge Your External Applications](#)

If your Oracle Fusion Data Intelligence instance has the semantic model extensions Sandbox framework, then you can use the information about extending the semantic model using the Sandbox framework. If your Oracle Fusion Data Intelligence instance has the semantic model extensions Branch framework, then you can migrate to the semantic model extensions Sandbox framework because the Branch framework is planned to be deprecated in a future release. See [Migrate to the Sandbox Framework for Semantic Model Extensions](#).

If your production and lower environments such as development and test environments are on different Semantic Model Extensions frameworks; for example, production is on Sandbox and development or test is still on Branch, you have two options:

- You can migrate all instances to the Sandbox framework.

- If there is a business case preventing migrating to Sandbox, log a support ticket to have the instance on the Sandbox downgraded to Branch.

Here's a comparison of the capabilities of the Branch and Sandbox framework for semantic model extensions:

Branch Framework	Sandbox Framework
Action centric view.	Model centric view.
Steps done one-by-one but are independent of each other.	Related steps are grouped together making it easier to complete a fully consistent unit of work.
Has the concept of branches that can contain steps that are unrelated.	Has the concept of a sandbox that can contain fully formed dimensional models or "stars". All objects within a star are related.
No graphical view of the model.	Complete graphical view of each star that shows the ready-to-use and custom objects.
Publish branches to test. Merge to main when completed.	Publish sandbox to test, merge to main when completed.
Customization steps are disconnected. Different steps done on the same object can override each other in different branches.	All customizations done to an object are visible together. You see the result of all operations at any time.

The semantic model consists of these components:

- Oracle Content: This is the base model provided by Oracle. Your customizations are layered on this.
- External Applications: You can create extensions with objects created using the merged external application.
- System Extensions: Your descriptive flexfield and data augmentation changes are available in this component. See [View Activity History of Semantic Model Extensions](#) to know about the scenarios in which Oracle Fusion Data Intelligence applies the system extensions.
- User Extensions: Your extensions are available in this component.
- Security Configurations: You can secure the objects of all the other components against the application roles in this component.

Oracle Fusion Data Intelligence periodically evaluates the customizations and sends notifications to the users with Modeler Administrator and Modeler privileges to correct errors and warnings in the extensions as soon as possible to prevent errors during patching. If these errors aren't fixed and a patch is initiated (or a mandatory patch is auto-applied), then patching may encounter issues. In that case, customizations that haven't been merged to the main branch are removed and the factory semantic model is upgraded. You must reapply the applicable customizations after the patching is complete.

Recommendations and Tips to Extend the Semantic Model

Before extending your semantic model, review the recommendations and tips to ensure that your extensions work as expected.

Semantic Model Extensions Framework

Branch Framework

If you're still on the Semantic Model Branch framework, now is the time to migrate to the Sandbox framework. See [Migrate to the Sandbox Framework for Semantic Model Extensions](#).

Sandbox Framework

Only retain the *in use* sandboxes. Delete the sandboxes that you used for testing and aren't in use any longer. Maintaining additional unused sandboxes degrades performance of the system.

Database Objects

Database Naming Standards for Autonomous Data Warehouse Objects

- Prefix a custom object with X_ZZZ_ where ZZZ is an abbreviation of your organization.
- Suffix different objects as:
 - _A = Aggregate
 - _D = Dimension
 - _DH = Dimension Hierarchy
 - _F = Fact
 - _H = Helper
 - _M = Map Dimension
 - _MD = Mini Dimension
 - _V = Views
 - _MV = Materialized View
 - _DS = Data Augmentation Dataset
 - _EXT = Data Augmentation Extension
- As a best practice, don't create any custom database objects starting with "DW" as this may result in conflicts with the prebuilt object names. Custom database objects starting with "DW" may cause inconsistent behavior in the in the Semantic Model Extensions wizard.

Data Augmentation Datasets and Flexfields

- Ensure that the changes in source are addressed in your Oracle Fusion Data Intelligence instance. For example, if a descriptive flexfield used in a custom subject area has been disabled in the source, then you must replace or remove the applicable descriptive flexfield in Oracle Fusion Data Intelligence else the applicable semantic model extension fails.
- You can reference synonyms from the data augmentation datasets in the semantic model extensions after the initial full load for the data augmentation has completed. Use the "Run Immediately" option in the data augmentation to execute the full load straightaway.

Extending

General

- When naming objects (dimensions, facts, and columns) remove all leading and trailing spaces. You can use underscores and spaces in names but avoid all other special characters.
- When adding custom attributes or defining keys used for joining, ensure that the display name is unique and doesn't conflict with any of the prebuilt column names.

Extend Dimension

- *Important:* You must keep the extensions to a minimum and combine them to prevent unnecessary overhead and degraded performance. When extending a dimension (if the

extension granularity is one to one [1:1] with the prebuilt dimension) combine multiple extensions for the same dimension in a single source (table/view/synonym) in Autonomous Data Warehouse. It's preferable to have one extension with many columns, rather than have multiple extensions per column.

- **Caution:** When extending a dimension, it's highly recommended to join with the base dimension key. If it isn't possible to join on the base dimension key, you can join to another base column with caution, validating data grain and cardinality. It's strongly not recommended to join on another extension column. The system processes the extensions with dependencies sequentially, lengthening the time taken to apply and publish the sandbox, and could have a negative impact on the query performance.
- When extending DEGEN Dimensions ("Details" folders), always maintain the same level of granularity by joining on the Primary key(s) of the fact with a one to one [1:1] relationship. Don't define many to many [M:M] joins because it may cause performance degradation and data duplication.
- Be cautious when extending dimensions that have one to many (1:M) relationships (such as multi-select), because:
 - They may result in data duplication due to the extended data being of a lower grain than the parent dimension.
 - Maximum extension index length may be exceeded.

To avoid the constraint, name the table/view/synonym as short as feasible. For example, FDI_X_SZ_V (Size) and FDI_X_PR_V (Price).

- While extending a dimension, if the table that you select is an augmentation table, select it from the OAX\$OAC schema instead of OAX_USER. The main schema for augmentation tables is OAX\$OAC even though the augmentation tables are present in the OAX_USER as well.

Create Dimension

- When creating a custom dimension, you may unselect "Add hierarchy to Subject Area". However, it is still necessary to define a Hierarchy Primary Key and Display Attribute. Click on Selected Data Elements Detail folder, then the Properties edit icon to define the Hierarchy Primary Key and Display Attribute.

Create Fact

- When adding a custom fact, always set the content levels for the custom dimensions that are joining to the custom fact.
- When joining facts to dimensions, ensure that the columns being joined are of compatible data types.

Create Hierarchy

- When adding a custom hierarchy, avoid aiming to display the grand total levels in visualizations because custom hierarchies are exposed only from the first level. The prebuilt hierarchies too don't expose the total levels. The Grand Total level just gives the grand total amount; hence use it only when there is no join between a fact and dimension and the metric has to be set at a total level.
- When defining a hierarchy it is necessary to map all available data elements to a level or details.

Deployment

- Migrations must flow in a single direction only. Choose one environment to be the master Development environment. After user acceptance testing, generate and deploy a Semantic Extensions bundle to migrate changes to Production and other environments.
- If the semantic model secures objects with newly configured application roles, groups, or users, ensure to import and deploy the Security bundle prior to importing and deploying the Semantic Model bundle.

Extend the Semantic Model Using the Sandbox Framework

The Sandbox framework enhances the development process with its intuitive graphical modeling capabilities. It enhances the user experience by visually organizing related elements within each logical star and subject area. The logical task organization and minimal steps make customization easy and efficient.

The Sandbox framework streamlines development by allowing changes to be made without requiring chronological order, eliminating the need to wait for compilation until all modifications are complete. This framework promotes greater consistency in the semantic model, supporting adherence to best practices.

Multiple users can work concurrently in separate or the same customization sandboxes. Limit the customizations within each sandbox to a single logical star and corresponding subject area. To ensure your work incorporates the latest changes, compare the update date of your sandbox with the main sandbox. If your sandbox was updated before the main sandbox, review common artifacts that may have been amended and published prior to your changes. If common artifacts have been modified, create a new customization sandbox, transfer your changes, and then delete the old sandbox to avoid conflicts before merging to the main sandbox. Publish only one sandbox at a time. Publishing a sandbox ensures that unchanged components remain, while any modifications within the sandbox overwrite their corresponding versions in the main published sandbox. Only retain the in-use sandboxes. Delete the sandboxes that you used for testing and aren't in use any longer. Maintaining additional unused sandboxes degrades performance of the system.

A typical workflow to create extensions involves these:

1. Create a sandbox.
2. Select **Perform Action** and then select **Create or Manage a Star**.
3. Make changes as required (the changes are done to the logical model).
4. Select **Perform Action** and then select **Manage Subject Areas**.
5. Incorporate logical changes in the desired subject areas.
6. Go back to the Semantic Model Extensions page, select **User Extensions**, select **Apply Changes** to validate the semantic model's integrity before publishing.
7. Merge to the main sandbox or publish your sandbox.
8. Secure the objects. See [Add Security Configurations](#).
9. Validate the model.
10. Publish the model.
11. In Oracle Analytics Cloud associated with your Oracle Fusion Data Intelligence instance, verify if the changes are reflected in the subject area.

Topics:

- [Create Sandbox](#)
- [Manage Subject Areas](#)
- [Manage Logical Star](#)
- [Manage Variables](#)
- [Apply Changes](#)
- [Merge Customization Sandbox to Main Sandbox](#)
- [Validate Model](#)
- [Publish Model](#)
- [Use Cases: Extend the Semantic Model Using the Sandbox Framework](#)

Create Sandbox

To begin customizing your semantic model, create a sandbox.

You can add customizations in the non-production environments such as development or test. After your customizations are ready, use the Bundles functionality to move the desired objects to other environments. See [Bundle Your Application Artifacts](#).

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Semantic Model Extensions** under **Application Administration**.
3. On the Semantic Model Extensions page, click **User Extensions**.
4. In the User Extensions region, for Customization Sandboxes, click **Create Sandbox** to create your customizations.

The screenshot shows the 'Semantic Model Extensions' console. The left sidebar has a menu with the following items:

- 1. **Oracle Content** (Base Oracle Semantic Model)
- 2. **External Applications** (External Application Import)
- 3. **System Extensions** (Data Augmentations)
- 4. **User Extensions** (My Semantic Model Customizations) - **Selected**
- 5. **Security Configurations** (Object Permissions and Data Security)

The main content area shows a table of sandboxes:

Name / Description	Created By	Updated	Age	
Main Branch created thro...	faw_svc_...	Apr 2...	1 ...	

Below the table, there is a 'Create Sandbox' button. Underneath, there is another table for 'Customization Sandboxes':

Customization Sandboxes	Created By	Updated	Age	State
Complex_join_test	faw_svc_...	May 2...	1 ...	☐ New

5. In Create a Sandbox dialog, enter a **Name** having up to 80 characters or less, provide a **Description**, and click **Done**.
6. On the Semantic Model Extensions page, under Customizations Sandbox, hover over an applicable sandbox to view **Actions**, and then click **View Sandbox**.

Customization Sandboxes	Created By	Updated	Age	
test_SJ	customzn-test-user	Yesterday	0 days	⋮
SJ_7dec	customzn-test-user	Yesterday	0 days	

View Sandbox
Merge to Main Sandbox
Apply Changes
Delete

- On the selected sandbox Details page, click **Perform Action**, and select as applicable.

← Sandbox: Sample Test					
ⓘ Perform Action					
Name	Object	Type	Created By	Updated By	
Dw Ap Sla Invoice Schedule Cf 1	"Core"."Dw Ap Sla Invoice Schedule Cf 1"	STAR	customzn-test-user	customzn-test-user	
Fact - CX - Activity	"Core"."Fact - CX - Activity"	STAR	customzn-test-user	customzn-test-user	
AP Custom Liabilities	AP Custom Liabilities	SA	customzn-test-user	customzn-test-user	
AP Exp	AP Exp	SA	customzn-test-user	customzn-test-user	
AP Holds	AP Holds	SA	customzn-test-user	customzn-test-user	
AP Invoice	AP Invoice	SA	customzn-test-user	customzn-test-user	
CUSTOM PAYMENTS	CUSTOM PAYMENTS	SA	customzn-test-user	customzn-test-user	
TEST_SA NEW	TEST_SA NEW	SA	customzn-test-user	customzn-test-user	

See:

- [Manage Subject Areas](#)
- [Manage Logical Star](#)
- [Manage Variables](#)

Manage Subject Areas

The Manage Subject Areas action enables you to organize all entities and attributes available for reporting in subject areas.

You can create business-friendly names and organize them in a desired order within folders to make it easier to find and include in the reports. The typical organization is to have each dimension organized in a folder with all its attributes within it, followed by folder for facts and calculations. You can rearrange columns based on your organizational preferences.

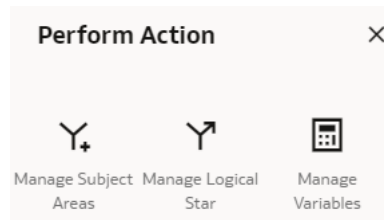
You can create a subject area or modify a subject area.

Create Subject Area

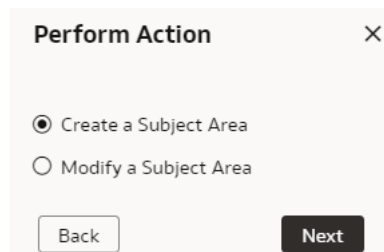
You can create a subject area as a container and later add facts and dimensions to your new subject area or create a subject area based on an existing one. The subject area enables you to organize all entities and attributes available for reporting.

- On the Semantic Model Extensions page, under Customizations Sandbox, hover over an applicable sandbox to view **Actions**, and then click **View Sandbox**.

2. On the selected sandbox Details page, click **Perform Action**, and then select **Manage Subject Areas**.



3. In Perform Action, select **Create a Subject Area**, and then click **Next**.



4. In step 1 of the wizard, create a subject area using one of the methods:
 - Select **Create a Subject Area** to create a subject area container, and provide these details:
 - a. Enter a name without any leading or trailing white spaces, add a description, and then click **Next**.
 - b. In step 2 of the wizard, click **Manage Elements**, and then click either **Manage New Customizations** to select custom elements that you created or **Manage Factory Customizations** to select factory data elements to rearrange the subject area elements that are delivered by Oracle.
 - c. Click **Add Subject Area** to select and add data elements from multiple subject areas.
 - d. In step 3 of the wizard, organize and rename the data elements in your new subject area, and then click **Next**.
 - e. In step 4 of the wizard, review your new subject area and click **Finish** to create it.
 - Select **Create a Subject Area based on an existing one** to create a subject area using an existing one in the system, select an existing subject area, name your subject area, and then click **Next**. Complete steps 2, 3, and 4 of the wizard.

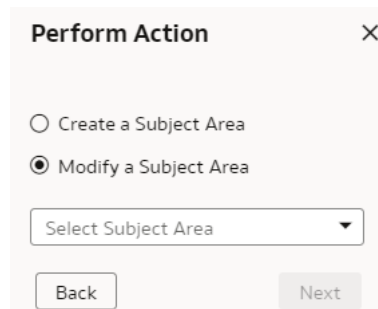
Modify Subject Area

You can modify custom and prebuilt subject areas. Modify a custom subject area to change the previously selected data elements or add more data elements and modify a prebuilt subject area to add more data elements.

Ensure to create custom elements if you want to add them to the custom subject area and add additional columns to the prebuilt subject area prior to modifying either of them.

1. Sign in to your service.

2. In Oracle Fusion Data Intelligence **Console**, click **Semantic Model Extensions** under **Application Administration**.
3. On the Semantic Model Extensions page, click **User Extensions**.
4. On the Semantic Model Extensions page, under Customizations Sandbox, hover over an applicable sandbox to view **Actions**, and then click **View Sandbox**.
5. On the selected sandbox Details page, click **Perform Action**, and then select **Manage Subject Areas**.
6. In Perform Action, select **Modify a Subject Area**, select a custom or prebuilt subject area that you want to modify, and then click **Next**.

A screenshot of the 'Perform Action' dialog box. It has a title bar with 'Perform Action' and a close button (X). Inside, there are two radio buttons: 'Create a Subject Area' (unselected) and 'Modify a Subject Area' (selected). Below the radio buttons is a dropdown menu labeled 'Select Subject Area'. At the bottom, there are two buttons: 'Back' and 'Next'.

7. In step 1 of the wizard, view the selected subject area details and click Next.
8. In step 2 of the wizard,
 - If you're modifying a custom subject area, click **Manage Elements** and then click **Manage New Customizations** to select custom elements that you created.
 - If you're modifying a prebuilt subject area, click **Manage Elements** and then click **Manage Factory Customizations** to select the prebuilt elements that you extended.
9. Click **Finish**.

Manage Logical Star

A logical star is the basic complete unit of a dimensional model with a fact at the center and joined to the surrounding dimensions. Manage a logical star by adding and updating objects, attributes, joins, and calculations.

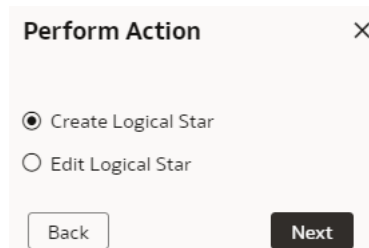
Facts contain elements that you can measure such as count, aggregate, and perform statistical operations on; while dimensions contain elements that provide context to those measurements. Each logical star has one fact and one or more dimensions. You can manage your own custom star or you can manage a prebuilt star by adding dimensions. You do these operations to extend the model to make use of custom data objects or elements that you've added to the warehouse or to create new calculations or joins to address your reporting needs.

Within the Sandbox you can zoom and focus on specific areas of the logical star using the graphic tab on the logical star page. You can rearrange the objects in the logical star using the graphic tab on the logical star page. Additionally, you can view all the joins in a tabular format using the tabular tab on the logical star page.

Create Logical Star

Create a custom logical star to use custom data objects or elements that you have added to the warehouse or to create new calculations or joins to address your reporting needs.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Semantic Model Extensions** under **Application Administration**.
3. On the Semantic Model Extensions page, click **User Extensions**.
4. On the Semantic Model Extensions page, under Customizations Sandbox, hover over an applicable sandbox to view **Actions**, and then click **View Sandbox**.
5. On the selected sandbox Details page, click **Perform Action**, and then select **Manage Logical Star**.
6. In Perform Action, select **Create Logical Star**, and then click **Next**.



You're now ready to add facts, dimensions, hierarchy, and additional columns.

Add Fact

Add elements that you can measure such as count and aggregate, and perform statistical operations to your custom logical star using the Add Fact option.

While selecting an aggregation rule for each fact column to set the aggregation behaviour, use a time-balanced aggregation when the added measure mustn't be "aggregated" by default across a time dimension. Oracle Fusion Data Intelligence supports non-aggregation types like "Last" or "First" in place of the "SUM" aggregation type when required. Use a level-based aggregation when the underlying measure must always be calculated to a specific level of a predefined dimensional hierarchy. For example, in a product hierarchy that has the Product Total, Product Category, Product Sub-Category, and Product Details levels, you add a new measure called "Revenue" and need this "Product Category Revenue" measure to be aggregated to Product Category, then you must use the level-based aggregation and choose the right level of the Product Dimension. This setting enables Oracle Fusion Data Intelligence to always aggregate and show the value of the measure at the Product Category level. This is useful when you need to calculate Product Revenue as a % of Category Revenue.

1. Navigate to the Semantic Model Extensions page, under Customizations Sandbox, hover over an applicable sandbox to view **Actions**, and then click **View Sandbox**.
2. On the selected sandbox Details page, click **Perform Action**, select **Manage Logical Star**, and then select **Create Logical Star**.
3. On the Logical Star page, click **Add Fact**, and in step 1 of the Add a Fact wizard, select the schema, and then select a view or table or synonym as the object. For example, FCT_CALC_Extensions.

You see the fact table for the selected object.

4. In the details of the fact table for the selected source table, click the **Select Fact** and **Use for Key** check boxes for the source columns that you want to add to your new fact table in the target subject area.

5. Optional: In the details of the fact table for the selected source table, under **Select Degen Attribute**, click the check boxes for the attributes for which you need the degenerate dimension to be created.
6. If any of the selected attributes have been removed or modified in the source table since the last refresh, then you see such columns highlighted and a message asking whether you want to update the table. Select **OK** in the message to reload the source columns. If you want to review the changes to the source columns, then click **Cancel** in the message, and later click **Refresh** to reload the source columns.

If any of the attributes that you haven't selected have been removed or modified in the source table, then you see the refreshed list of source columns. If any of the custom columns fail validation during the refresh, then you see a message asking you to resolve the cause of failure and revalidate.
7. Optional: Click Create Column to add a new column to your new fact table in the target subject area using these instructions:
 - a. In Create Column, enter a display name.
 - b. Under **Data Elements**, search for a data element from the physical table of the selected dimension table.
 - c. From the search results, double-click the data element to place it in the text pane.
 - d. Under **Functions**, search for a function to construct a column using expressions. For example, search for functions like "substring" or "concatenate" to construct new expression-based columns. From the search results, double-click the applicable result to add it to the central text pane.
 - e. Click **Validate**, and then click **Save**.
8. Select the aggregation rule for each fact column to set the aggregation behaviour. You can set the time-balanced aggregation rule for a time dimension and hierarchy level-based aggregation rule for a dimension using these steps:
 - a. For a fact column, click the **Time-Balanced Aggregation** icon.
 - b. In the Time-Balanced Aggregation dialog, click **Add Time Dimension**, adjust the aggregation rule, and then click **OK**.
 - c. For a fact column, click the **Hierarchy Level-Based Aggregation** icon, select the dimension and level. Click **Add Dimension** to add more dimensions. Click **OK**.

Manage Dimensions

You can create a custom dimension, join it to the prebuilt or custom facts, and add the custom dimension to any subject area to meet your business requirements.

You can add a new or an existing dimension.

1. Navigate to the Semantic Model Extensions page, under Customizations Sandbox, hover over an applicable sandbox to view **Actions**, and then click **View Sandbox**.
2. On the selected sandbox Details page, click **Perform Action**, select **Manage Logical Star**, select **Edit Logical Star**, select the applicable fact and then select **Next**.
3. On the Logical Star – Fact page, click **Manage Dimension**, and select either **Add Dimension** or **Add Existing Dimension**.

Add Dimension

Add dimensions to facts to complete a new star or to update existing stars. You can create joins from your custom dimension to a prebuilt fact.

You can define a sort order column to control the sorting order of a logical column, especially when the desired sort order doesn't match the natural sort order of the data. This is useful for situations like sorting months in a specific chronological order or sorting descriptive columns based on a code or hierarchy.

1. In step 1 of the Add a Dimension wizard, select the schema, and then select the dimension table in **Object**. For example, COST_CENTER_VIEW1, and add a name in **Dimension Name**.

Note

If you don't see the schema or table, then ensure that you have granted select permission to the OAX\$OAC schema in the autonomous data warehouse. For example, grant select on <schema>.<table> to OAX\$OAC. See [Load Customization Data to the Autonomous Data Warehouse](#).

You see the attributes available in the selected dimension table. You can use the **Search** and **Filter** fields to limit the attributes displayed for the dimension table.

2. Select the attributes that you want to use from the dimension table and indicate an attribute to be used as the key for joining with a fact table in the target subject area.
3. If any of the selected attributes have been removed or modified in the source table since the last refresh, then you see such columns highlighted and a message asking whether you want to update the table. Select **OK** in the message to reload the source columns. If you want to review the changes to the source columns, then click **Cancel** in the message, and later click **Refresh** to reload the source columns.

If any of the attributes that you haven't selected have been removed or modified in the source table, then you see the refreshed list of source columns. If any of the custom columns fail validation during the refresh, then you see a message asking you to resolve the cause of failure and revalidate.

4. Optional: Click **Create Column** to add another column to your dimension table in the target subject area using these instructions:
 - a. In Create Column, enter a display name.
 - b. Under **Data Elements**, search for a data element from the physical table of the selected dimension table.
 - c. From the search results, double-click the data element to place it in the text pane.
 - d. Under **Functions**, search for a function to construct a column using expressions. For example, search for functions like "substring" or "concatenate" to construct new expression-based columns. From the search results, double-click the applicable result to add it to the central text pane.
 - e. Click **Validate**, and then click **Save**.
5. In step 2 of the wizard, assemble the product hierarchy using the attributes from this dimension and click **Next**. See [Add Hierarchy](#).
6. In step 3 of the wizard, select applicable values in **Sort Order Column** for the columns that you selected to expose or use as a key.

Ensure that the sort order column is within the same hierarchical level as the display column. For columns not requiring a custom sort, leave the sort order column in the default **Select** state.

7. On the Logical Star: Fact page, in the Graphic tab, click on the prebuilt fact and drag drop on the custom dimension that you created to open the Join dialog.
8. In the Join dialog, select the join type, and then select the dimension keys to join them with the extended dimension keys. If you want to provide expressions as join conditions, then click **Complex Join** and in Create Joins, select applicable **Content Level**, click **Add Joins**, select the target and source logical tables, enter the join condition as an expression, and then click **OK**.
9. Click **Finish**.

Add Existing Dimension

If you want to provide additional context to facts, you can create your own dimension and join to an existing available column in a fact.

For example, if you want to report on invoice categories, create a dimension called "Invoice Category" and join to a column in the fact that has that information. It is important to remember that one dimension record must join to one or more fact records; it should be a 1-many join. You shouldn't have many to one or many to many joins between a dimension and fact table.

1. On the Logical Star – Fact page, click **Manage Dimension**, and select **Add Existing Dimension**.
2. In Add Table, select the dimensions to add.

Manage Extensions

After adding the extension, you can extend the dimensions, add hierarchy, and add columns to ensure that your custom logical star meets your business requirements..

On the Logical Star – Fact page, right click on an extension, click **Manage Extension**, and select any of these:

- Extend Dim
- Add Hierarchy
- Add Column

Extend Dimension

Extend prebuilt dimensions with additional attributes from another data source. For example, you can create a category column that isn't available in the prebuilt dimensions.

You can define a sort order column to control the sorting order of a logical column, especially when the desired sort order doesn't match the natural sort order of the data. This is useful for situations like sorting months in a specific chronological order or sorting descriptive columns based on a code or hierarchy.

1. In step 1 of the Extend a Dimension wizard, select a schema and table from the database.
2. Select the columns that you want to expose or use as a key for creating the join, or sort by.
3. Click in the **Display Name** table field to enter a new name for the column or to edit an existing one and then click **Enter** to accept or click **Esc** to cancel.
4. In **Sort Order Column**, select applicable values in **Sort Order Column** for the columns that you selected to expose or use as a key.

Ensure that the sort order column is within the same hierarchical level as the display column. For columns not requiring a custom sort, leave the sort order column in the default **Select** state.

5. If any of the selected attributes have been removed or modified in the source table since the last refresh, then you see such columns highlighted and a message asking whether you want to update the table. Select **OK** in the message to reload the source columns. If you want to review the changes to the source columns, then click **Cancel** in the message, and later click **Refresh** to reload the source columns.

If any of the attributes that you haven't selected have been removed or modified in the source table, then you see the refreshed list of source columns. If any of the custom columns fail validation during the refresh, then you see a message asking you to resolve the cause of failure and revalidate.

6. Optional: Click **Create Column** to add another column to your dimension table in the target subject area using these instructions:
 - a. In Create Column, enter a display name.
 - b. Under **Data Elements**, search for a data element from the physical table of the selected dimension table.
 - c. From the search results, double-click the data element to place it in the text pane.
 - d. Under **Functions**, search for a function to construct a column using expressions. For example, search for functions like "substring" or "concatenate" to construct new expression-based columns. From the search results, double-click the applicable result to add it to the central text pane.
 - e. Click **Validate**, and then click **Save**.
7. Click **Next**.
8. In step 2 of the wizard, select the join type, and then select the dimension keys to join them with the extended dimension keys. If you want to provide expressions as join conditions, then click **Complex Join** and in Create Joins, click **Add Joins**, select the target and source logical tables, enter the join condition as an expression, and click **OK**.
9. Click **Finish**.

Add Hierarchy

Assemble the product hierarchy using the attributes from a dimension table. Hierarchies enable you to define aggregations and drill downs. This makes it easier to report on summary level and drill into details easily and within the same visualization.

1. In step 1 of the Add a Hierarchy wizard, name your hierarchy in **Hierarchy Name**.
2. Select, drag, and drop available data elements into the Selected Data elements pane to design a hierarchy for the dimension.
3. In the Selected Data Elements pane, click a level to update its primary key and set its display attribute in the Properties pane.

You can add multiple levels in your hierarchy by right-clicking at a level and selecting Add Child or Add 'n' Child Levels. For example, your Region Hierarchy can have Region Total at Level 1, Region at Level 2, Country at Level 3, State at Level 4, and City at Level 5.

4. Ensure **Add hierarchy to Subject Area** is selected and click **Finish**.

Add Columns

You can create columns to provide additional data elements or calculations. You can add derived and physical columns.

1. On the Add Column page, select **Add Derived Column**, and complete these steps:
 - a. In Create Column, enter a display name.
 - b. Under **Data Elements**, search for a data element from the physical table of the selected dimension table.
 - c. From the search results, double-click the data element to place it in the text pane.
 - d. Under **Functions**, search for a function to construct a column using expressions. For example, search for functions like "substring" or "concatenate" to construct new expression-based columns. From the search results, double-click the applicable result to add it to the central text pane.
 - e. Click **Validate**, and then click **Save**.
2. On the Add Column page, select **Add Physical Column**, and complete these steps:
 - a. In Select Physical Column, select the columns and click **OK**.
 - b. On the Add Columns page, for the physical columns, select the **Display** check box to expose the columns, and click the **Logical Level** icon to set the required level.
 - c. In Set Logical Level, select the dimension, select the level of the dimension hierarchy, and then click **OK**.

Edit Logical Star

Edit your logical star to modify any of the extensions that you had previously added or to add further extensions.

1. Navigate the Semantic Model Extensions page, under Customizations Sandbox, hover over an applicable sandbox to view **Actions**, and then click **View Sandbox**.
2. On the selected sandbox Details page, click **Perform Action**, and then select **Manage Logical Star**.
3. In Perform Action, select **Edit Logical Star**.
4. To select the prebuilt objects, select **Out of the box**, select a subject area and an applicable fact within the selected subject area, and then click **Next**. Select **Custom** to add custom objects to the logical star, select the applicable fact, and then click **Next**.

Perform Action [X]

☐ Create Logical Star

☒ Edit Logical Star

☐ Custom ☒ Out of the box

Select Subject Area [v]

Select Facts [v]

Back Next

5. On the Logical Star – Fact page, click **Manage Dimension** and proceed with the steps discussed in [Manage Dimensions](#).

Manage Variables

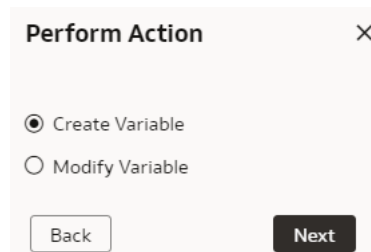
Use the Manage Variables action to control the behaviour of sessions and queries. You can create and modify the custom variables.

Create Variable

Create custom session variables that you can use in your semantic model. The custom session variables are available for use only after you've merged the applicable sandbox into the main sandbox.

The SQL query that you define is executed by user OAX\$OAC. If you're using another schema in the query, then you must mention the schema name as prefix. You must ensure to grant user OAX\$OAC access to all the database objects used in the query.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Semantic Model Extensions** under **Application Administration**.
3. On the Semantic Model Extensions page, click **User Extensions**.
4. On the Semantic Model Extensions page, under Customizations Sandbox, hover over an applicable sandbox to view **Actions**, and then click **View Sandbox**.
5. On the selected sandbox Details page, click **Perform Action**, select **Manage Variables**, and then select **Create Variable**.



You see the wizard sequence to add the session variables and a list of existing session variables.

6. In step 1 of the wizard, check if any of the existing session variables serve your purpose. If yes, then you can exit the wizard and use the applicable existing session variables in your analyses. If no, then continue with the next steps to create the session variables that you require.
7. In **Initialization Block Name**, enter a name such as Add a Session variable using Invoice Received Date, add a brief description, and select a preceding initialization block in **Preceding Block**.
8. In **SQL Query**, enter the SQL query that would be executed in the autonomous data warehouse and return a value that you can use in the reports and click **Next**. For example,

if you want to get the Exchange Rate Type that's defined in the system into a session variable, then you can use the following SQL script:

Copy

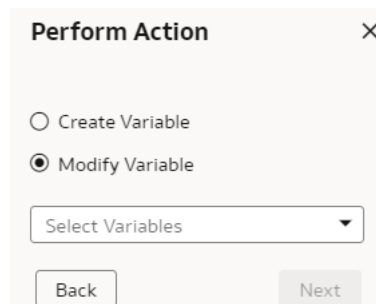
```
SELECT PARAMETER_VALUE FROM DW_CONTENT_PARAM_CONFIG WHERE  
PARAMETER_CODE='PARAM_GLOBAL_EXCHANGE_RATE_TYPE'
```

9. In step 2 of the wizard, create the session variables using the output of the initialization block created in step 1 of the wizard. Select **Row-wise Initialization** to reset variable value for each row and **Use caching check boxes** to improve performance.
10. Click **Finish**.

Modify Variable

Modify a custom variable to update the SQL query that would be executed in the autonomous data warehouse and return a value that you can use in the reports.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Semantic Model Extensions** under **Application Administration**.
3. On the Semantic Model Extensions page, click **User Extensions**.
4. On the Semantic Model Extensions page, under Customizations Sandbox, hover over an applicable sandbox to view **Actions**, and then click **View Sandbox**.
5. On the selected sandbox Details page, click **Perform Action**, and then select **Manage Variables**.
6. In Perform Action, select **Modify Variable**, select the variables that you want to modify, and then click **Next**.



The image shows a 'Perform Action' dialog box with a close button (X) in the top right corner. Inside the dialog, there are two radio buttons: 'Create Variable' and 'Modify Variable'. The 'Modify Variable' radio button is selected. Below the radio buttons is a dropdown menu labeled 'Select Variables'. At the bottom of the dialog, there are two buttons: 'Back' and 'Next'.

7. Follow through the wizard to modify the variable and click **Finish**.

Apply Changes

Apply changes to validate the semantic model's integrity before merging to main or publishing your sandbox.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Semantic Model Extensions** under **Application Administration**.
3. On the Semantic Model Extensions page, click **User Extensions**.

4. On the Semantic Model Extensions page, under Customizations Sandbox, hover over an applicable sandbox to view **Actions**, and then click **Apply Changes**.

Merge Customization Sandbox to Main Sandbox

After creating the semantic model extensions, you can apply and publish your sandbox or you can apply and merge the customization sandbox into the main sandbox to make the extensions available for processing.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Semantic Model Extensions** under **Application Administration**.
3. On the Semantic Model Extensions page, click **User Extensions**.
4. On the Semantic Model Extensions page, under Customizations Sandbox, hover over an applicable sandbox to view **Actions**, and then click **Merge to Main Sandbox**.
5. In Confirm Merge with Main, review the message and click **Merge**.

Confirm Merge with Main

This sandbox will be merged with the main sandbox.
Are you sure you want to merge?

Cancel

Merge

Validate Model

Prior to creating a semantic model bundle to deploy to another instance, you can validate the semantic model to confirm that it's error free.

Use the Validate Model option when:

- You want to confirm that there are no errors in the model.
- You see a banner on the Semantic Model Extensions page alerting you about errors in the model.

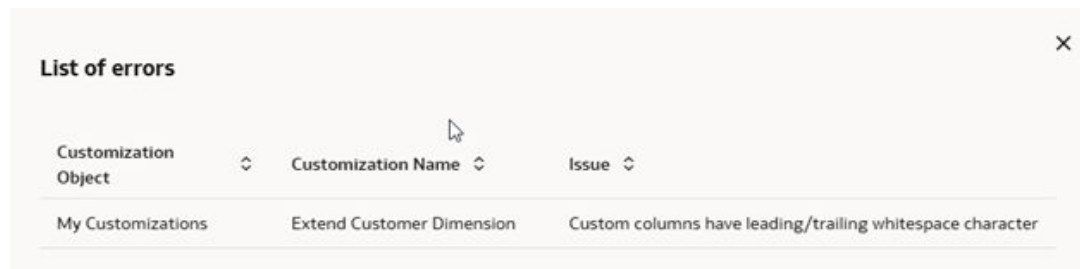
1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Semantic Model Extensions** under **Application Administration**.
3. On the Semantic Model Extensions page, click **Validate Model** and monitor the status of this activity on the on the Activity tab.

If there are no errors, you can proceed with creating a semantic model bundle.

4. On the Semantic Model Extensions page, if there are errors in your semantic extensions since the last system error check was preformed, a banner appears alerting you to address the errors immediately to prevent failures to upgrade patches.



5. In the banner, click **Learn More** to list all errors identified since the last banner refresh.

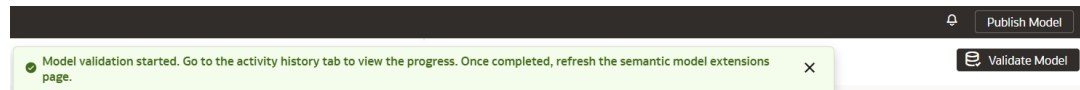


Customization Object	Customization Name	Issue
My Customizations	Extend Customer Dimension	Custom columns have leading/trailing whitespace character

6. To address the semantic model errors, identify the specific error and its location within the model.

These debugging tips can help you address common errors in your semantic model; see [Resolve Common Errors in Semantic Model Extensions](#).

7. Click **Validate Model** to refresh the list of errors on the banner.



8. Monitor the status of the **Validate Model** activity on the Activity tab.
9. After the validation process is complete, return to the semantic model components tab, reload the Semantic Model Extensions page to verify if any semantic model extension errors are identified.

If errors are present, the banner appears. If errors are resolved, the banner doesn't appear.

Publish Model

You can publish the sandbox in the non-production environments such as development or test to ensure that there are no errors.

While publishing the data model, you can select the user extensions and security configurations that you added as part of customizing the semantic model. If you select the security configurations, then the system applies them on the user extensions that you selected. If the security configurations refer to elements in the model that aren't part of the user extensions, then the system excludes them at the time of publishing the model.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Semantic Model Extensions** under **Application Administration**.
3. On the Semantic Model Extensions page, click **Publish Model**.
4. In Publish Model, select a sandbox, select the user extensions and security configurations that you want to publish.

Note

You can publish a specific sandbox or the main sandbox. If you select **None - Unpublish custom extensions**, the semantic model reverts to factory configuration.

Publish Model

This action will deploy the semantic model to the target environment using these components of the semantic model:

1. Oracle Content

2. System Extensions

3. User Extensions ⓘ

None - Unpublish custom extensions ▼

4. Sandboxes

None - Unpublish custom extensions

Sandboxes

Main

Cancel

Publish

5. Click **Publish**.

Use Cases: Extend the Semantic Model Using the Sandbox Framework

These use cases show you how to extend the semantic model using the Sandbox framework.

The use cases assume that you have created a sandbox, for example titled *MySandbox5Mar25*.

Task	Action
1. Extend a Conformed Dimension	Add attribute columns to an Dimension folder such as Customer, Item Category, and Time.
2. Extend a Degenerate Dimension	Add attribute columns to Transaction Details such as Dim - OM Sales Order Details. Folder names mostly end in <i>Details</i> .
3. Add Custom Dimension (to a prebuilt fact)	Create a new folder containing dimensional attribute columns.
4. Add a Custom Fact (join to prebuilt dimensions)	Create a new folder containing fact measure columns.
5. Add a Custom Fact (containing both attributes and measures)	Create two folders, one containing fact measure columns and another containing dimension attribute columns.
6. Add Derived Columns	Add a calculated column to a folder.
7. Create Custom Dimension with Hierarchy	Add workbook that can expand and collapse to dimension attributes.

Task	Action
8. Create Custom Subject Area – Based on Existing One	Create a subject area to either: 1. Reuse elements from an existing subject area 2. Refine or clean up an existing subject area
9. Create a Subject Area – Add Custom Fact and Custom Dimension	Create an empty subject area with all custom elements (examples Salesforce, Quickbooks, Google Analytics subject areas.)

Topics:

- [Use Case 1: Extend a Conformed Dimension](#)
- [Use Case 2: Extend a Degenerate Dimension](#)
- [Use Case 3: Add Custom Dimension to a Prebuilt Fact](#)
- [Use Case 4: Add a Custom Fact](#)
- [Use Case 5: Add a Degen Custom Fact](#)
- [Use Case 6: Add Derived Columns](#)
- [Use Case 7: Create Custom Dim with Hierarchy](#)
- [Use Case 8: Create a Subject Area Based on an Existing Subject Area](#)
- [Use Case 9: Create a Subject Area](#)

Upload Samples for the Semantic Model Extensions Use Cases

For learning purposes, use the samples mentioned in the use cases and perform the user extensions.

Prior to using the samples in the user extensions, you must ensure that the samples mentioned in the use cases are available in the applicable autonomous data warehouse.

1. Download [these](#) samples to your local machine.
2. Connect to the applicable autonomous data warehouse using SQL Developer Client and the OAX_USER credentials. See [Connect Fusion Data Intelligence to an Autonomous Data Warehouse with SQL Developer Desktop Client](#).
3. Create the sample table in the autonomous data warehouse using either of the options:
 - In SQL Developer Client, import the applicable .xlsx file, based on the use case, from your local machine into the applicable autonomous data warehouse using these steps:
 - a. Right click **Tables** and then click **Import Data**.
 - b. In step 1 of the Data Import Wizard, select **Local File** in **Source**, click **Browse for File**, and select the applicable .xlsx file, based on the use case; for example, FDI_X_COUNTRY.xlsx, from your local machine, and then click **Next**.
 - c. In step 2 of the Data Import Wizard, enter a name in **Table Name**, review the file contents in the File Contents section, and then click **Next**.
 - d. In steps 3 and 4 of the Data Import Wizard, review and click **Next**.
 - e. In step 5 of the Data Import Wizard, click **Finish**.
 - Based on the use case, if the sample table is a .sql file, execute the data definition language (DDL) .sql using these steps:

- a. Click **File**, click **Open**, and then select the applicable .sql file, based on the use case, that you saved on your local machine; for example, FDI_X_COUNTRY.sql.
 - b. Under SQL Worksheet on the right pane, click the **Run Script** icon.
 - c. View the script output in the Script output area.
4. Create an SQL view using these steps:
 - a. Right click **Views** and click **New View**.
 - b. In Create View, verify that you see the appropriate value in **Schema**, provide an applicable name for the view based on the use case in **Name**, under the SQL Query tab, in the SQL Query area, provide the SQL script mentioned in the applicable use case, and then click **OK**.
5. Grant semantic model access to the database object for the OAX\$OAC schema using these steps:
 - a. In **Views**, right click the applicable view, click **Privileges**, and then click **Grant**.
 - b. In Perform Grant Action, click SQL tab, provide the SQL script mentioned in the applicable use case, and then click **Apply**.
6. Under SQL Worksheet on the right pane, provide the SQL script mentioned in the applicable use case, and then click the **Run Statement** icon to validate that the data is loading from the sample table as expected.

Use Case 1: Extend a Conformed Dimension

You can extend a dimension folder by adding new columns that represent additional descriptive attributes related to the conformed dimension.

The *Customer Bill-to Details* folder, (a sub-folder of *Customer Site* folder, of the prebuilt Subject Area *Financials - AR Adjustments*), already contains the attribute *Bill-to-Country* containing the two-letter country abbreviation. However, it's missing the additional descriptive attribute *Country Full Name*.

In this use case, you add the *Country Full Name* column from an external source into the prebuilt *Customer Bill-to Details* folder to associate the full country attribute with the customer site. You join the custom extension to the prebuilt *Dim – Customer Bill To Location* conformed dimension using *Customer Location ID*.

This use case requires the Fusion ERP Analytics subscription. However, you can apply the concepts covered in this use case to any other Fusion Data Intelligence subscription. The use case may reference the Autonomous Data Warehouse prebuilt tables and synonyms and mock custom database tables and views. If you've activated the specified Fusion Data Intelligence subscription, you may use the samples provided. The recommendation is to substitute the sample objects for your own custom Autonomous Data Warehouse objects such as custom table, materialized view, view, custom synonym, or data augmentation dataset synonym.

In this task, you:

1. [Add a Dimension Extension to the Semantic Model](#)
2. [Present the Dimension Extension in the Semantic Model](#)
3. [Apply and Publish the Customizations](#)
4. [Validate the Results](#)

Use the following to complete this task:

- Sample dimension extension table - FDI_X_COUNTRY_D

- Attribute - Country FullName
- Subject area - AR Adjustments
- Parent Dimension Folder - Customer
- Dimension folder - Dim - Customer Bill To Location
- Prebuilt ADW table - DW_CUSTOMER_LOCATION_D

Ensure that you refer to [Upload Samples for the Semantic Model Extensions Use Cases](#) and complete these prerequisites:

1. Create a sandbox titled MySandbox5Mar25. See [Create Sandbox](#). Or, edit an existing sandbox on the Semantic Model Extensions page; for example, by clicking the MySandbox5Mar25 sandbox.
2. Create the sample dimension extension table, FDI_X_COUNTRY_D, in the autonomous data warehouse associated with your Fusion Data Intelligence instance using the sample files FDI_X_COUNTRY_D.xlsx or FDI_X_COUNTRY.sql.
3. Create a view titled FDI_X_CUSTOMER_LOCATION_D_V to join the custom table FDI_X_COUNTRY_D to the prebuilt dimension table DW_CUSTOMER_LOCATION_D that contains the primary key CUSTOMER_LOCATION_ID, which will be used to join when extending the dimension. Use the following SQL script to create the view:

```
CREATE OR REPLACE FORCE EDITIONABLE VIEW
"OAX_USER"."FDI_X_CUSTOMER_LOCATION_D_V" ("CUSTOMER_LOCATION_ID",
"COUNTRY_FULLNAME") DEFAULT COLLATION "USING_NLS_COMP" AS
(
SELECT p.CUSTOMER_LOCATION_ID, NVL(c.COUNTRY_FULLNAME, '~NOVALUE~') AS
COUNTRY_FULLNAME
FROM OAX$OAC.DW_CUSTOMER_LOCATION_D p
LEFT JOIN FDI_X_COUNTRY_D c
ON p.COUNTRY_CODE = c.COUNTRY_CODE
);
```

4. Grant semantic model access to the FDI_X_CUSTOMER_LOCATION_D_V view for the OAX\$OAC schema using the following SQL script:

```
GRANT SELECT ON "OAX_USER"."FDI_X_CUSTOMER_LOCATION_D_V" TO "OAX$OAC";
```

5. Validate that the data is loading from the sample as expected using the following SQL script:

```
SELECT * FROM OAX_USER.FDI_X_CUSTOMER_LOCATION_D_V;
```

Add a Dimension Extension to the Semantic Model

You edit the logical star to define the autonomous data warehouse object, attributes, display labels, and keys, and then join the custom object to the prebuilt conformed dimension being extended.

In this task, you edit *Fact – Fins – AR Adjustments* logical star to add a dimension extension on *Dim – Customer Bill To Location* referencing the autonomous data warehouse object *FDI_X_CUSTOMER_LOCATION_V*. The custom extension is joined to the prebuilt *Dim – Customer Bill To Location* conformed dimension using *Customer Location ID*.

1. On the Semantic Model Extensions page, click the **MySandbox5Mar25** sandbox.

Semantic Model Extensions

Semantic Model Components

Activity

1. Oracle Content

Base Oracle Semantic Model

2. External Applications

External Application Import

3. System Extensions

Data Augmentations

4. User Extensions

My Semantic Model Customizations

5. Security Configurations

Object Permissions and Data Security

Name / Description

Created By

Updated

Age

State

Main

Jan 16, 2025

1 month

Applied

Create Sandbox

Customization Sandboxes

Created By

Updated

Age

State

MySandbox5Mar25

2 minutes ago

0 days

New

2. In **Perform Action**, click **Manage Logical Star**, then **Edit Logical Star**, then **Out of the box**, then select **Financials - AR Adjustments** as the subject area, select **Fact – Fins – AR Adjustments** as the corresponding fact, and then **Next**.

Perform Action

☐ Create Logical Star

☒ Edit Logical Star

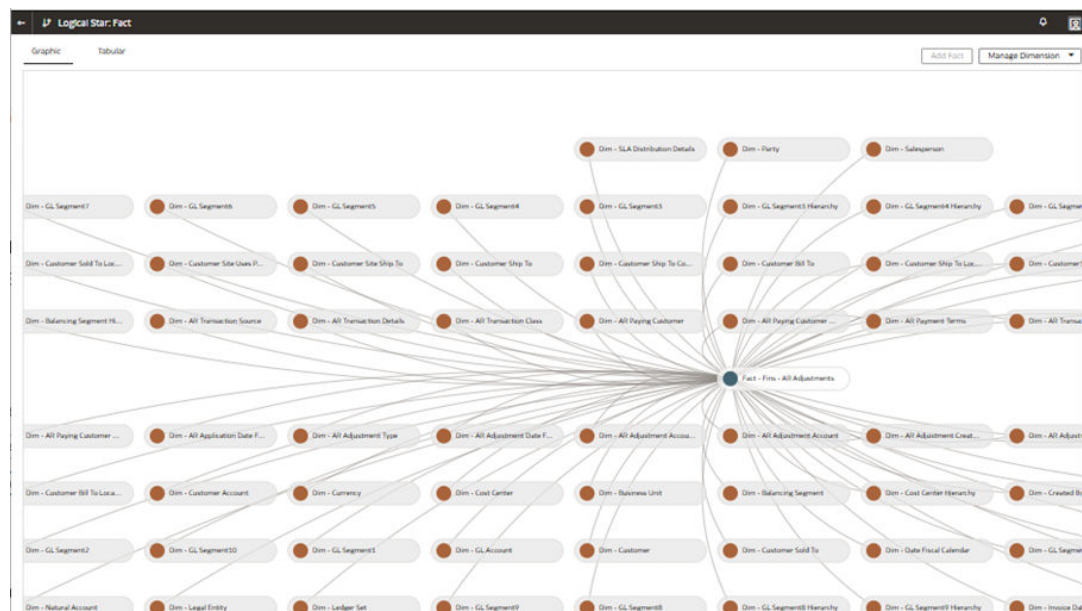
☐ Custom ☒ Out of the box

Financials - AR Adjustments

Fact - Fins - AR Adjustments

Back Next

- On the Logical Star: Fact page, locate the **Dim - Customer Bill To Location** dimension table, right click on it, and then click **Manage Extension**.



4. In the **Manage Extension** list of values, select **Extend Dim.**

- On the Extend a Dimension page, in step 1 of the wizard, select **OAX_USER** in **Schema** and select **FDI_X_CUSTOMER_LOCATION_D_V** in **Object**. Select the **Use for Key** check box for **CUSTOMER_LOCATION_ID** source column, select the **Add Attributes** check box for **COUNTRY_FULLNAME** source column, and click **Next**.

Note

Ensure that the display name is unique and doesn't conflict with any of the prebuilt column names; for example, rename **CUSTOMER_LOCATION_ID** as FDI Customer Location ID.

- In step 2 of the wizard, select **Left Outer** in **Select Join Type**.

Note

The join type is mostly Inner (match) or Left (all from original Dim). Join type Left ensures that no data is lost.

- Select **Customer Location ID (DOUBLE)** as **Dimension Key** and **CUSTOMER_LOCATION_ID (DOUBLE)** as **Extended Dimension Key**. Click **Finish**.

Join dimension keys with extended dimension keys.

Select Join Type: Left Outer Complex Join

Dimension Key	Extended Dimension Key
Customer Location ID (DOUBLE)	CUSTOMER_LOCATION_ID (DOUBLE)

- Review the extended dimension.

Extend Dimension			
	Name	Updated By	Updated At
	"Oracle_Data_Warehouse"."OAX_USER"."FDL_X_CUSTOMER_LOC...	venkata.anil.kumar.motamarry@oracle.com	Just now

Present the Dimension Extension in the Semantic Model

You modify the subject area to present the extended columns in a subject area folder.

In this step, you modify the *Financials - AR Adjustments* subject area to present the extended *Country Full Name* column in the prebuilt *Customer Bill-to Details* folder.

- Navigate to the **MySandbox5Mar25** sandbox.
- In **MySandbox5Mar25** sandbox, click **Perform Action**, then **Manage Subject Areas**, then **Modify a Subject Area**, select **Financials – AR Adjustments** as the subject area, and then **Next**.

Perform Action ×

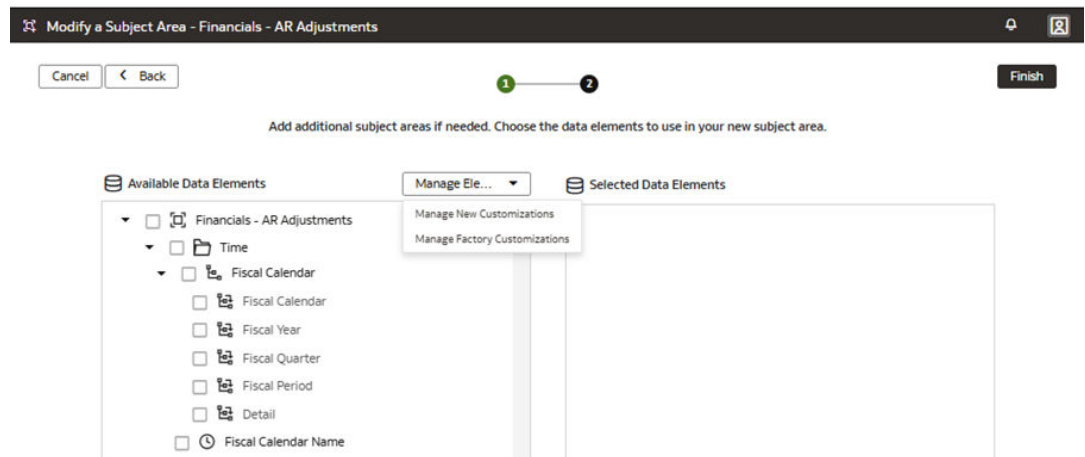
☐ Create a Subject Area

☒ Modify a Subject Area

Financials - AR Adjustments

Back Next

- In step 1 of the wizard on the Modify a Subject Area – Financials – AR Adjustments page, view the details and click **Next**.
- In step 2 of the wizard, select **Manage Elements**, and then click **Manage Factory Customizations**.



5. In Add a Subject Area, select **Country Fullname** and click **Add Folders**.

Add a Subject Area

- ▼ ☒ Dim - Customer Bill To Location
- ☒ Country Fullname

Cancel Add Folders

6. In Add a Subject Area, select the **Customer Bill-to Details** folder and click **Add Folders**.

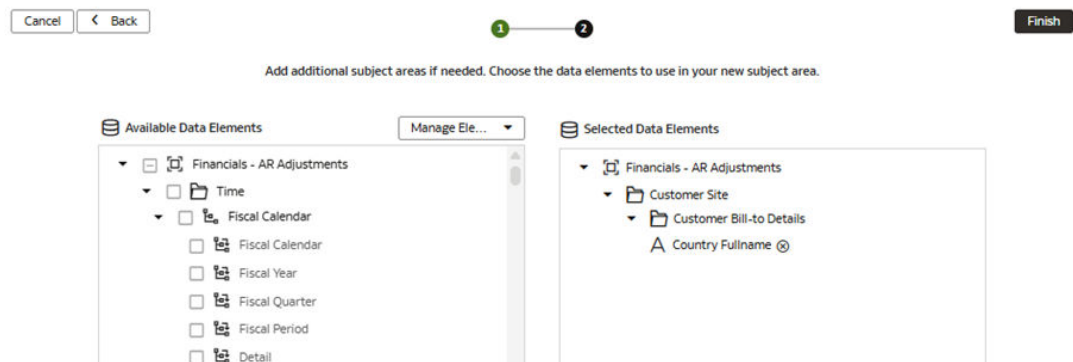
Add a Subject Area

Select the folders for Dim - Customer Bill To Location which the elements to be added

- ☒ Customer Bill-to Details

Cancel Add Folders

- Review the additions and click **Finish**.



Apply and Publish the Customizations

You apply the changes to compile the sandbox and ensure that the sandbox is error free.

Then, you use the Activity tab to debug, resolve errors, and confirm that the Apply Changes action completes and is successful. Finally, you merge the changes to the main sandbox and publish the main user extensions to share the new extensions with consumers.

In this step, you apply the changes, use the Activity tab to monitor the status, merge the *MySandbox5Mar25* sandbox to the Main sandbox, and then publish the main user extension.

- On the Semantic Model Extensions page, hover over the **MySandbox5Mar25** sandbox to view **Actions**, and then click **Apply Changes**.
- Click the Activity tab to monitor the **Apply Changes** task on the Activity page.
- After the changes are successfully applied, click **Publish Model** on the Semantic Model Extensions page.
- In Publish Model, in User Extensions, select **MySandbox5Mar25** and in Security Configurations, select **All**.
- Click **Publish**.
- On the Semantic Model Extensions page, click the Activity tab to monitor the **Publish Customizations** task.

See [Apply Changes](#) and [Publish Model](#).

Validate the Results

Verify that your customizations are visible in the semantic model.

- On the Fusion Data Intelligence Console, click **Go to Home Page**.
- On the Oracle Analytics Home page, click **Create**, click **Workbook**, in **Add Data**, select **Financials - AR Adjustments**, the subject area that is extended in this use case, and then click **Add to Workbook**.
- Expand the **Customer Site** folder, then expand the **Customer Bill-to Details** folder, and verify that the extended attribute **Country Fullname** is visible at the bottom of the list of attributes.
- Build a report to display that the extended dimension attribute has been successfully joined to the desired fact measures.

Country Fullname, ... Click here or drag data to add a filter

Table

50 Tile

Rows

- Country Fullname
- Bill-to Country
- Adjustments Count

Country Fullname, Bill-to Country, Adjustments Count

Country Fullname	Bill-to Country	Adjustments Count
France	FR	2
Germany	DE	1
Italy	IT	34
Poland	PL	2
Spain	ES	5
United States of America (the)	US	33

Use Case 2: Extend a Degenerate Dimension

You can extend a transaction details dimension folder by adding new columns that represent additional descriptive attributes related to the degenerate (degen) dimension.

The *Sales Order Details* folder (a sub-folder in the *Fulfilment Line Details* folder) available in the prebuilt *SCM – Sales Order* subject area doesn't contain the required descriptive attribute *Fulfil Partner*.

In this use case, you add the *Fulfil Partner* column from an external source into the prebuilt *Sales Order Details* folder to associate the details of the partner who is fulfilling the applicable sales order. The custom extension is joined to the prebuilt *Dim – OM Sales Order Details* degen dimension using the *Fulfil Line ID* column.

This use case requires Fusion SCM Analytics subscription. However, you can apply the concepts covered in this use case to any other Fusion Data Intelligence subscription. The use case may reference Autonomous Data Warehouse prebuilt tables and synonyms and mock custom database tables and views. If you've activated the specified Fusion Data Intelligence subscription, you may use the samples provided. The recommendation is to substitute the sample objects for your own custom Autonomous Data Warehouse objects such as custom table, materialized view, view, custom synonym, or data augmentation dataset synonym.

In this task, you:

1. [Add a Transaction Details Extension to the Semantic Model](#)
2. [Present the Transaction Details Extension in the Semantic Model](#)
3. [Apply and Publish the Customizations](#)
4. [Validate the Results](#)

Use the following to complete this task:

- Attribute - Fulfil Partner column
- Subject area - SCM - Sales Orders
- Parent Dimension Folder - Sales Orders
- Dimension folder - Dim - OM Sales Orders Details

Ensure that you refer to [Upload Samples for the Semantic Model Extensions Use Cases](#) and complete these prerequisites:

1. Create a sandbox titled MySandbox5Mar25. See [Create Sandbox](#). Or, edit an existing sandbox on the Semantic Model Extensions page; for example, by clicking the MySandbox5Mar25 sandbox.

2. Generate the sample Transaction Details Extension view titled `FDI_X_OM_FULFILLMENT_CF_V` using this SQL script:

```
CREATE OR REPLACE VIEW FDI_X_OM_FULFILLMENT_CF_V
AS
(
  SELECT FULFILL_LINE_ID,
  CASE ORDER_LINE_NUMBER
  WHEN 1 THEN 'Sysco Corporation'
  WHEN 2 THEN 'US Foods'
  WHEN 3 THEN 'Performance Food Group (PFG)'
  WHEN 4 THEN 'McLane Company'
  WHEN 5 THEN 'Gordon Food Service (GFS)'
  WHEN 6 THEN 'The H.T.'
  WHEN 7 THEN 'KeHE Distributors.'
  WHEN 8 THEN 'Reyes Holdings'
  WHEN 9 THEN 'Ben E. Keith Foods'
  WHEN 10 THEN 'Shamrock Foods'
  WHEN 11 THEN 'Maines Paper and Food Service'
  WHEN 12 THEN 'SpartanNash'
  WHEN 13 THEN 'UNFI'
  WHEN 14 THEN 'C and S Wholesale Grocers'
  WHEN 15 THEN 'Core-Mark Holding Company'
  WHEN 16 THEN 'Cheney Brothers'
  ELSE 'Unknown'
  END AS FULFIL_PARTNER
  FROM OAX_USER.DW_OM_FULFILLMENT_CF
);
```

This view is based on the `OAX_USER.DW_OM_FULFILLMENT_CF` fact table. However, you can switch it to any other fact table.

3. Grant semantic model access to the `FDI_X_OM_FULFILLMENT_CF_V` view for the `OAX$OAC` schema using the following SQL script:

```
GRANT SELECT ON OAX_USER.FDI_X_OM_FULFILLMENT_CF_V TO "OAX$OAC";
```

4. Validate that the data is loading from the sample as expected using the following SQL script:

```
SELECT * FROM FDI_X_OM_FULFILLMENT_CF_V;
```

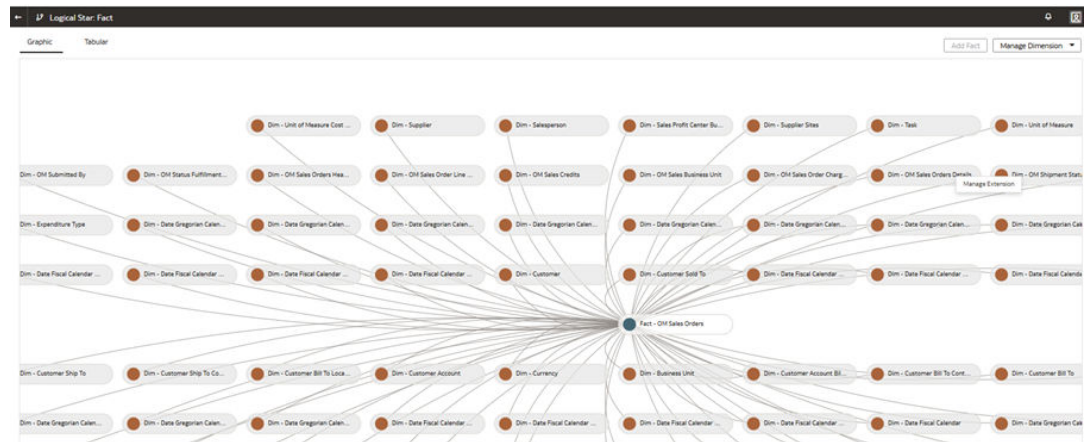
Add a Transaction Details Extension to the Semantic Model

You edit the logical star to define the autonomous data warehouse object, attributes, display labels, and keys, and then join the custom object to the prebuilt *degen* dimension being extended.

In this step, you edit *Fact – OM Sales Orders* logical star to add a dimension extension on *Dim – OM Sales Order Details* referencing the autonomous data warehouse object `FDI_X_OM_FULFILLMENT_CF_V`. The custom extension is joined to the prebuilt *Dim – OM Sales Order Details* *degen* dimension using *Fulfill Line ID*.

1. On the Semantic Model Extensions page, click the **MySandbox5Mar25** sandbox.

2. In **Perform Action**, click **Manage Logical Star**, then **Edit Logical Star**, then **Out of the box**, then select **SCM - Sales Orders** as the subject area, select **Fact - OM Sales Orders** as the corresponding fact, and then click **Next**.
3. On the Logical Star: Fact page, locate the **Dim - OM Sales Orders Details** dimension table, right click on it, and then click **Manage Extension**.



4. In the **Manage Extension** list of values, select **Extend Dim**.
5. On the **Extend a Dimension** page, in step 1 of the wizard, select **OAX_USER** in **Schema** and select **FDI_X_OM_FULFILLMENT_CF_V** in **Object**. Select the **Use for Key** check box for the **FULFIL_LINE_ID** source column and select the **Add Attributes** check box for the **FULFIL_PARTNER** source column. Click **Next**.

Cancel

1

2

Next >

Select the table and columns that you want to add.

Schema *

QAX_USER

Object *

FDI_X_OM_FULFILLMENT_CF_V

Views

Tables

Synonyms

Filter

Search Source Column

Refresh

Create Column

☐ Add Attributes	Use for Key	Source Column	Display Name
☐	☒	FULFIL_LINE_ID	Fulfill Line Id
☒	☐	FULFIL_PARTNER	Fulfill Partner

6. In step 2 of the wizard, select **Inner** in **Select Join Type**. Select **Order Fulfillment Line Identifier (DOUBLE)** as **Dimension Key** and **FULLLINE_ID (DOUBLE)** as **Extended Dimension Key** to join on the Line Identifier and ID as defined in the FDI X OM FULFILLMENT CF V view. Click **Finish**.

Extend a Dimension

Cancel Back Finish

1 2

Join dimension keys with extended dimension keys.

Select Join Type: Inner Complex Join

Dimension Key	Extended Dimension Key
Order Fulfillment Line Identifier (DOUBLE)	FULFILL_LINE_ID (DOUBLE)

7. Review the extended dimension.

Sandbox: MySandbox5Mar2025

Manage Extensi...

Name	Updated By	Updated At
"Oracle_Data_Warehouse"."OAX_USER"."FDL_X_OM_FULFILLMENT_CF_V"	venkata.anil.kumar.motamarry@oracle.com	Just now

Present the Transaction Details Extension in the Semantic Model

You modify the subject area to present the extended columns in a subject area folder.

In this step, you modify the *SCM – Sales Order* subject area to present the extended *Fulfil Partner* column in the prebuilt *Sales Order Details* folder.

1. Navigate to the **MySandbox5Mar25** sandbox.
2. In the **MySandbox5Mar2025** sandbox, click **Perform Action**, then **Manage Subject Areas**, then **Modify a Subject Area**, select **SCM - Sales Orders** as the subject area, and then click **Next**.
3. In step 1 of the wizard on the Modify a Subject Area – SCM – Sales Orders page, view the details and click **Next**.
4. In step 2 of the wizard, select **Manage Elements**, and then click **Manage Factory Customizations**.

Cancel < Back 1 2 Finish

Add additional subject areas if needed. Choose the data elements to use in your new subject area.

Available Data Elements

- ☐ SCM - Sales Orders
 - ☐ Time
 - ☐ Fiscal Calendar
 - ☐ Fiscal Calendar
 - ☐ Fiscal Year
 - ☐ Fiscal Quarter
 - ☐ Fiscal Period
 - ☐ Detail
 - ☐ Gregorian Calendar
 - ☐ Year
 - ☐ Quarter
 - ☐ Month
 - ☐ Day
 - ☐ Fiscal Calendar Name
 - ☐ Fiscal Year
 - ☐ Fiscal Quarter
 - ☐ Fiscal Quarter Number

Manage Ele...

- Manage New Customizations
- Manage Factory Customizations

Selected Data Elements

5. In Add a Subject Area, select **Dim – OM Sales Orders Details** dimension and **Fulfil Partner** attribute to extend these to the transaction details and click **Add Folders**.

Add a Subject Area

- ☒ Dim - OM Sales Orders Details
 - ☒ Fulfil Partner

Cancel Add Folders

6. In Add a Subject Area, select **Sales Orders Details** folder and click **Add Folders**.

Add a Subject Area

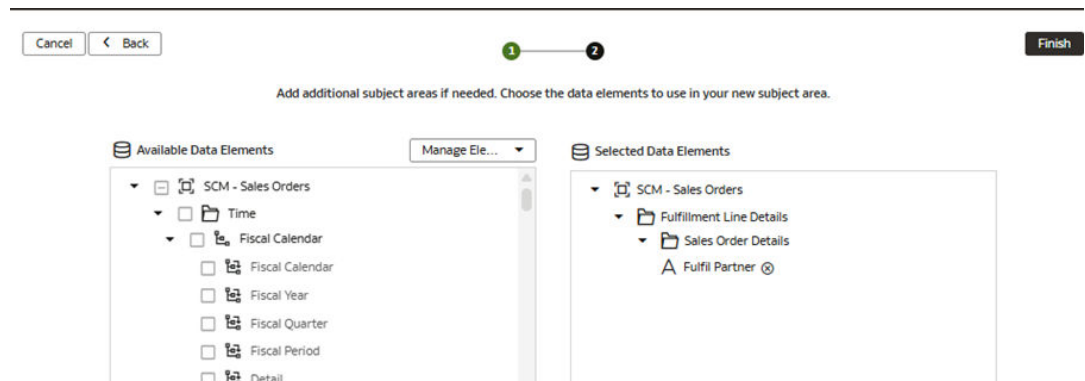
Select the folders for Dim - OM Sales Orders Details which the elements to be added

- ☐ Sales Order Delay Risk
- ☐ Order Header Details
- ☐ Parent Fulfillment Line Details
- ☐ Ship-to Customer Site Details
- ☐ Charge Component
- ☒ Sales Order Details
- ☐ Unit of Measure
- ☐ Fulfillment Item Types
- ☐ Charge
- ☐ Fulfillment References
- ☐ Fulfillment Line
- ☐ Fulfillment Shipments Details
- ☐ Fulfillment Details

Cancel

Add Folders

7. Review the additions and click **Finish**.



Apply and Publish the Customizations

You apply the changes to compile the sandbox and ensure that the sandbox is error free.

Then, you use the Activity tab to debug, resolve errors, and confirm that the Apply Changes action completes and is successful. Finally, you merge the changes to the main sandbox and publish the main user extensions to share the new extensions with consumers.

In this step, you apply the changes, use the Activity tab to monitor the status, merge the *MySandbox5Mar25* sandbox to the Main sandbox, and then publish the main user extension.

1. On the Semantic Model Extensions page, hover over the **MySandbox5Mar25** sandbox to view **Actions**, and then click **Apply Changes**.
2. Click the Activity tab to monitor the **Apply Changes** task on the Activity page.
3. After the changes are successfully applied, click **Publish Model** on the Semantic Model Extensions page.
4. In Publish Model, in User Extensions, select **MySandbox5Mar25** and in Security Configurations, select **All**.
5. Click **Publish**.

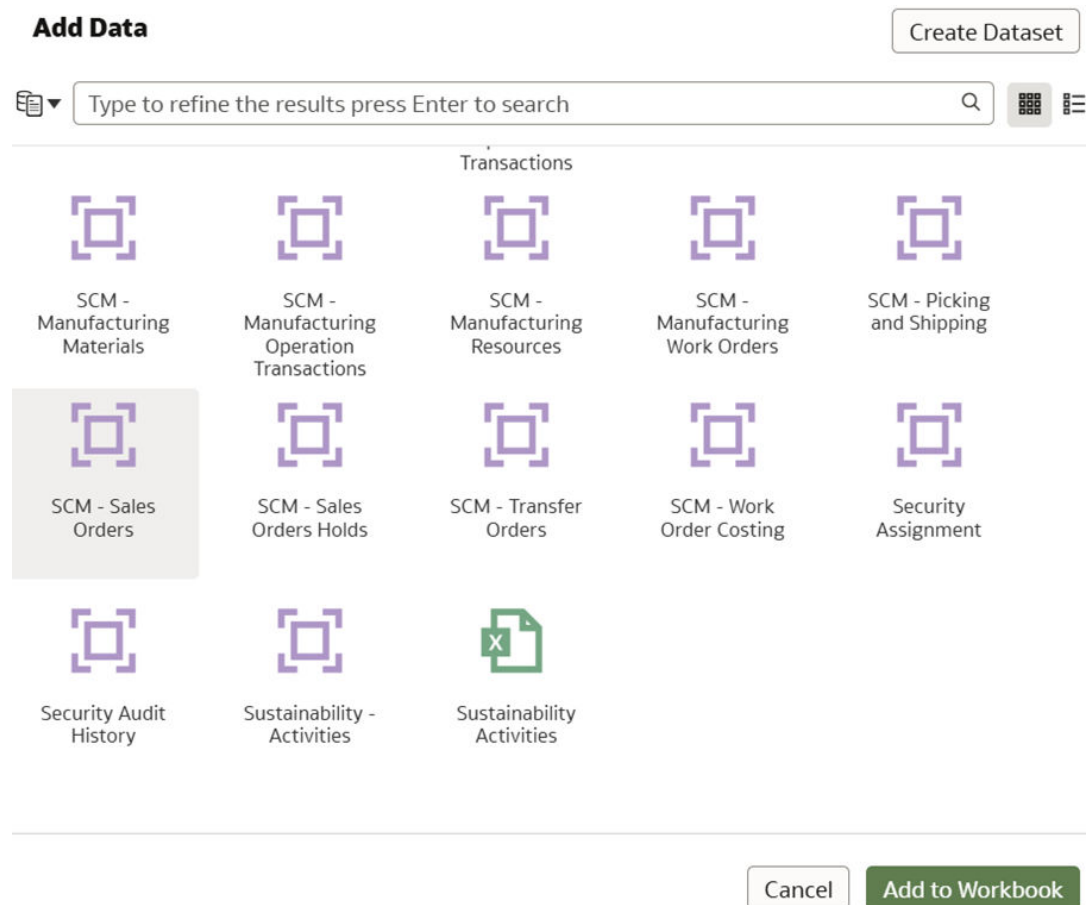
- On the Semantic Model Extensions page, click the Activity tab to monitor the **Publish Customizations** task.

See [Apply Changes](#) and [Publish Model](#).

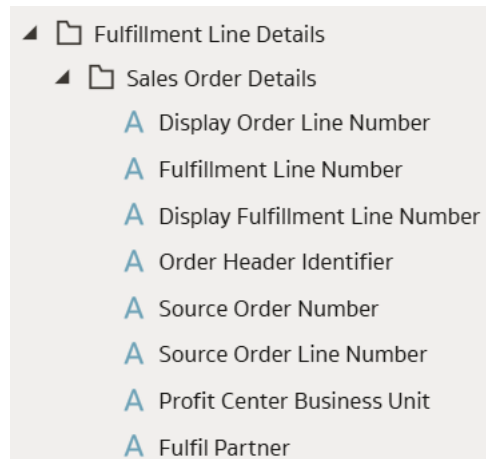
Validate the Results

Verify that your customizations are visible in the semantic model.

- On the Fusion Data Intelligence Console, click **Go to Home Page**.
- On the Oracle Analytics Home page, click **Create**, click **Workbook**, in **Add Data**, select **SCM – Sales Orders**, the subject area that is extended in this use case, and then click **Add to Workbook**.



- Expand the **Fulfillment Line Details** folder, then expand the **Sales Order Details** folder, and verify that the new field **Fulfil Partner** is available to use and data remains accurate.



4. Build a workbook that contains the new extended attribute **Fulfil Partner** as well as measure from the **Sales Order Details** folder to validate that the join between the extension and fact table is returning the expected results.

Order Number	Display Fulfillment Line Number	Fulfil Partner	Orders Count
47042	1-1	Sysco Corporation	1
47042	2-1	US Foods	1
48042	1-1	Sysco Corporation	1
48042	2-1	US Foods	1
48043	1-1	Sysco Corporation	1
48043	2-1	US Foods	1
48044	1-1	Sysco Corporation	1
48044	2-1	US Foods	1
48045	1-1	Sysco Corporation	1
48045	2-1	US Foods	1
48046	1-1	Sysco Corporation	1
48046	2-1	US Foods	1
48047	1-1	Sysco Corporation	1
48047	2-1	US Foods	1
48048	1-1	Sysco Corporation	1
48048	2-1	US Foods	1
48049	1-1	Sysco Corporation	1

Use Case 3: Add Custom Dimension to a Prebuilt Fact

You can add a custom dimension folder containing descriptive attributes and join the custom dimension to a prebuilt fact table with defined keys.

The prebuilt *SCM – Sales Order* subject area doesn't contain the required *Custom Item Department* dimension attribute. In this use case, you add a folder *Custom Item Department* to the *SCM – Sales Orders* prebuilt subject area. This folder contains the *Department* attribute. The custom dimension is joined to the prebuilt *Fact – OM Sales Orders* fact using a composite key of *Organization ID* and *Inventory Item ID*.

This use case requires Fusion SCM Analytics subscription. However, you can apply the concepts covered in this use case to any other Fusion Data Intelligence subscription. The use case may reference Autonomous Data Warehouse prebuilt tables and synonyms and mock custom database tables and views. If you've activated the specified Fusion Data Intelligence subscription, you may use the samples provided. The recommendation is to substitute the sample objects for your own custom Autonomous Data Warehouse objects such as custom table, materialized view, view, custom synonym, or data augmentation dataset synonym.

In this task, you:

1. [Add a Custom Dimension to the Semantic Model](#)
2. [Add Physical Column to a Prebuilt Fact](#)
3. [Join the Custom Dimension to the Prebuilt Fact](#)
4. [Present the Custom Dimension in the Semantic Model](#)
5. [Apply and Publish the Customizations](#)
6. [Validate the Results](#)

Use the following to complete this task:

- Attribute - Department
- Subject area - SCM - Sales Orders
- Fact folder - Dim - OM Sales Orders

Ensure that you refer to [Upload Samples for the Semantic Model Extensions Use Cases](#) and complete these prerequisites:

1. Create a sandbox titled MySandbox5Mar25. See [Create Sandbox](#). Or, edit an existing sandbox on the Semantic Model Extensions page; for example, by clicking the MySandbox5Mar25 sandbox.
2. Generate the sample dimension view FDI_X_ITEM_CUSTOM_DEPARTMENT_D_V using this SQL script:

```
CREATE OR REPLACE FORCE EDITIONABLE VIEW
"OAX_USER"."FDI_X_ITEM_CUSTOM_DEPARTMENT_D_V" ("ORG_ITEM_KEY",
"ORGANIZATION_ID", "INVENTORY_ITEM_ID", "DEPARTMENT") DEFAULT COLLATION
"USING_NLS_COMP" AS
(
SELECT ORGANIZATION_ID || INVENTORY_ITEM_ID AS ORG_ITEM_KEY,
ORGANIZATION_ID, INVENTORY_ITEM_ID,
CASE SUBSTR(INVENTORY_ITEM_ID, -1,1)
WHEN '1' THEN 'Clothing'
WHEN '2' THEN 'Shoes'
WHEN '3' THEN 'Cosmetics'
WHEN '4' THEN 'Furniture'
WHEN '5' THEN 'Gardening'
WHEN '6' THEN 'Hardware'
WHEN '7' THEN 'Home Appliances'
WHEN '8' THEN 'Houseware'
WHEN '9' THEN 'Paint'
WHEN '0' THEN 'Sporting Goods'
ELSE 'Other'
END DEPARTMENT
FROM OAX$OAC.DW_INVENTORY_ITEM_D
);
```

3. Grant semantic model access to the `FDI_X_ITEM_CUSTOM_DEPARTMENT_D_V` view for the `OAX$OAC` schema using the following SQL script:

```
GRANT SELECT ON "OAX_USER"."FDI_X_ITEM_CUSTOM_DEPARTMENT_D_V" TO "OAX$OAC";
```

4. Validate that the data is loading from the sample as expected using the following SQL script:

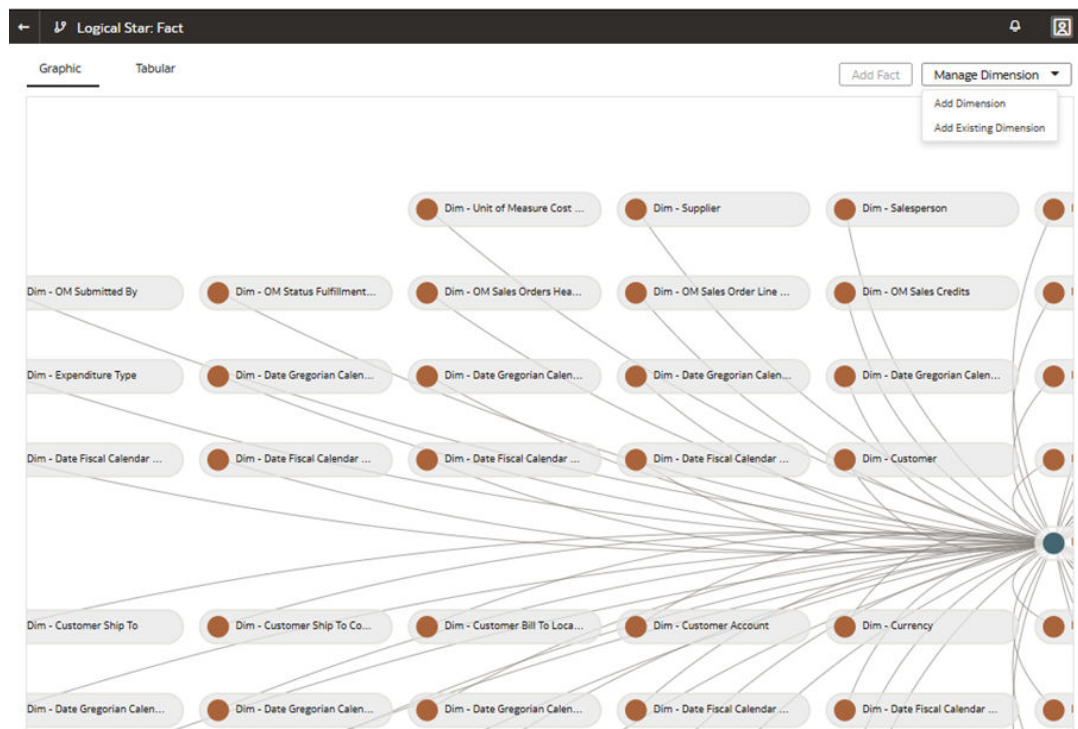
```
SELECT * FROM OAX_USER.FDI_X_ITEM_CUSTOM_DEPARTMENT_D_V;
```

Add a Custom Dimension to the Semantic Model

You edit the logical star to define the autonomous data warehouse object, attributes, display labels, keys, and hierarchy.

In this step, you edit the *Fact – OM Sales Orders* logical star to add a custom dimension *Custom Item Department* referencing the autonomous data warehouse object `FDI_X_ITEM_CUSTOM_DEPARTMENT_D_V`.

1. On the Semantic Model Extensions page, click the **MySandbox5Mar25** sandbox.
2. In **Perform Action**, click **Manage Logical Star**, then **Edit Logical Star**, then **Out of the box**, then select **SCM - Sales Orders** as the subject area, select **Fact - OM Sales Orders** as the corresponding fact, and then click **Next**.
3. On the Logical Star: Fact page, click **Manage Dimension**, and then click **Add Dimension**.



4. In step 1 of the Add a Dimension wizard, select **OAX_USER** in **Schema**, select **FDI_X_ITEM_CUSTOM_DEPARTMENT_D_V** in **Object**, and enter **Custom Item Department** in **Dimension Name**. Select the **Add Attributes** check box for **DEPARTMENT** and **ORG_ITEM_KEY**. Select the **Use for Key** check box for **INVENTORY_ITEM_ID**, **ORGANIZATION_ID**, and **ORG_ITEM_KEY**. Click **Next**.

Y. Add a Dimension

Cancel Next >

1 — 2

Name the dimension table and choose the attributes.

Schema * OAX_USER ⓘ

Object * FDI_X_ITEM_CUSTOM_DEPARTMENT_D_V ⓘ Views Tables Synonyms

Dimension Name * Custom Item Department

Filter Search Source Column Refresh Create Column

☐ Add Attributes	☐ Use for Key	Source Column	Display Name
☒	☐	DEPARTMENT	Department
☐	☒	INVENTORY_ITEM_ID	Inventory Item Id
☐	☒	ORGANIZATION_ID	Organization Id
☒	☒	ORG_ITEM_KEY	Org Item Key

5. In step 2 of the wizard, leave the **Add hierarchy to Subject Area** check box unselected to omit a hierarchy. However, it's a requirement to name the hierarchy and map a primary key and display attribute in the logical star, although the hierarchy won't appear in the subject area. Complete this step as follows:
- Enter Custom Item Department Hierarchy in **Hierarchy Name**.
 - In Properties, define the primary key and display attribute as follows:
 - Click the pencil icon for **Primary Key** and select **Org Item Key**.
 - Click the pencil icon for **Display Attribute** and select **Org Item Key**.
 - Under **Selected Data Elements**, from the Available Data Elements, drag and add **Department** and **Org Item Key** to the **Detail** level.

Note

You can add the dimension display attributes to either a level or the Detail level.

Cancel < Back Finish

1 — 2

Assemble the product hierarchy using the attributes from this dimension. ⓘ

☐ Add hierarchy to Subject Area Hierarchy Name Custom Item Department Hierarchy Type ☐ Time ☐ Ragged ☐ Skipped Levels

Available Data Elements

- Custom Item Department

Selected Data Elements

- Total
 - Detail
 - Department
 - Org Item Key

Properties

- Primary Key
 - Org Item Key
- Display Attribute
 - Org Item Key

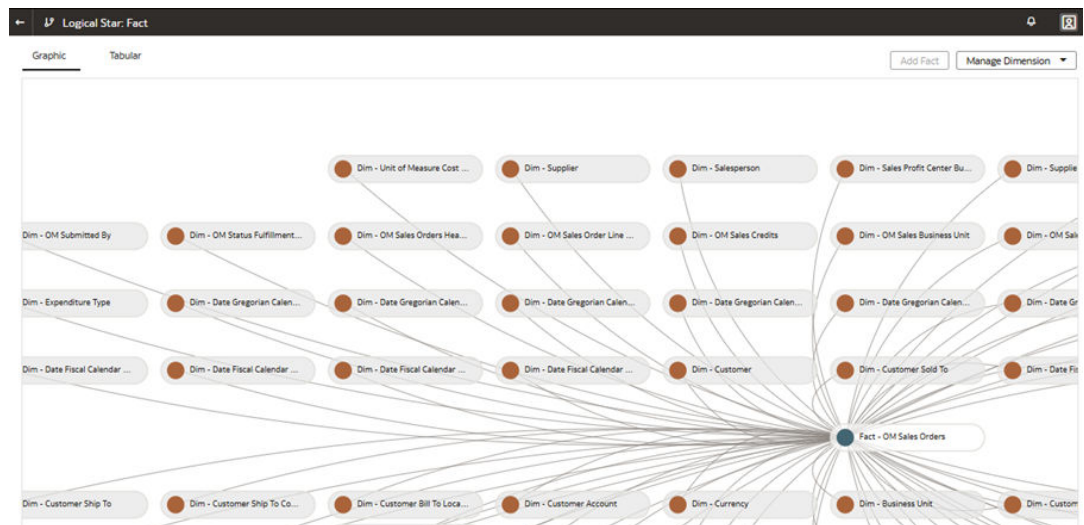
6. Click **Finish**. Continue to the next task without exiting the wizard, *Add Physical Column to a Prebuilt Fact*.

Add Physical Column to a Prebuilt Fact

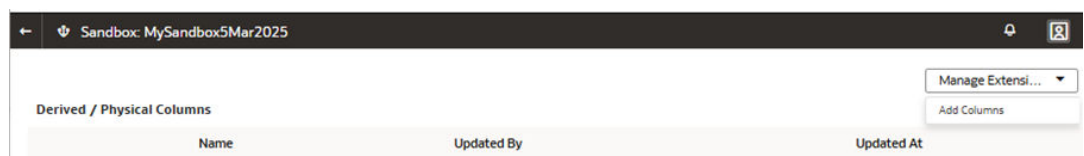
You extend the prebuilt fact to expose physical columns that you use as keys to join the new custom dimension in the logical star.

In this step, you extend *Fact – OM Sales Orders* to expose physical columns `ORGANIZATION_ID` and `INVENTORY_ITEM_ID` to use as keys to join to the new custom dimension *Custom Item Department*. You must provide unique names for the logical columns; for example, `ORGANIZATION_ID` is given a unique name *UC Organization ID* and `INVENTORY_ITEM_ID` is given a unique name *UC Inventory Item ID*.

1. On the Logical Star: Fact page, right click **Fact – OM Sales Orders**, and then click **Manage Extension**.



2. On the Sandbox: MySandbox5Mar25 page, click **Manage Extension** and then click **Add Columns**.



3. On the Add Columns page, click **Add Physical Column**.

4. In Select Physical Columns, select the check box for **ORGANIZATION_ID** and **INVENTORY_ITEM_ID**, and then click **OK**.

Select Physical Columns

Select	Physical Column	Table
☐	ORDER_STATUS_CODE	Fact_DW_OM_FULFILLMENT_CF
☐	ORDER_SHIP_TO_PARTY_ID	Fact_DW_OM_FULFILLMENT_CF
☐	BILL_TO_PARTY_ID	Fact_DW_OM_FULFILLMENT_CF
☐	FREIGHT_TERMS_CODE	Fact_DW_OM_FULFILLMENT_CF
☐	PROMISE_SHIP_DATE	Fact_DW_OM_FULFILLMENT_CF
☒	INVENTORY_ITEM_ID	Fact_DW_OM_FULFILLMENT_CF
☐	SOURCE_ORDER_NUMBER	Fact_DW_OM_FULFILLMENT_CF
☐	DROP_SHIPMENT_PO_LINE_NUMBER	Fact_DW_OM_FULFILLMENT_CF

Note

These columns come from the Fact_DW_OM_FULFILLMENT_CF table.

5. On the Add Columns page, in Logical Column, enter unique logical column names such as UC Organization ID and UC Inventory Item ID, and then click **Finish**.

Note

It is very important that the Logical Column Name is unique and doesn't conflict with the prebuilt column name.

Cancel 1 Finish

Define your new columns.

Add Derived Column

Column	Expression
No data to display.	

Add Physical Column

Logical Column	Physical Column	Table	Aggregations	Display
UC Organization ID	ORGANIZATION_ID	Fact_DW_OM_FULFILLMENT_CF	None	☐
UC Inventory Item	INVENTORY_ITEM_ID	Fact_DW_OM_FULFILLMENT_CF	None	☐

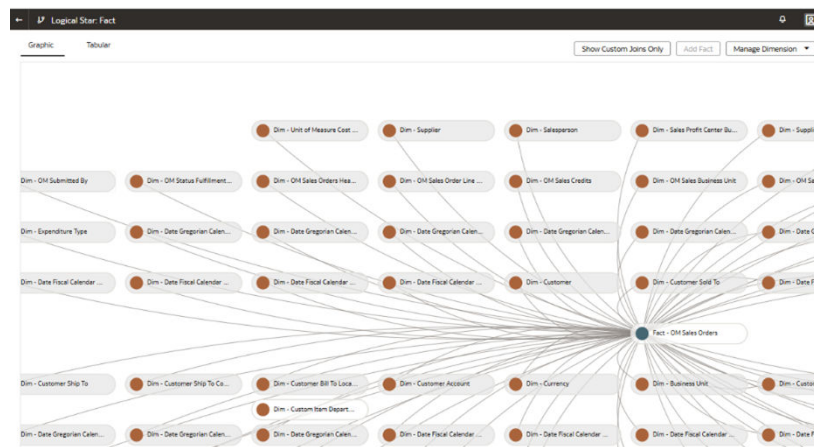
- Continue to the next task without exiting the wizard, *Join the Custom Dimension to the Prebuilt Fact*.

Join the Custom Dimension to the Prebuilt Fact

You join the custom dimension to the prebuilt fact by defining the join type, join condition, and context level. You can define complex joins; however, the recommendation is to try and use standard joins where possible.

In this step, you define a standard left outer join on the prebuilt *Fact – OM Sales Orders* fact to the custom dimension *Dim – Custom Item Department* using a composite key comprising of *UC Organization ID* and *UC Inventory Item ID* from each table. The Content level is set to *Detail*.

- On the Logical Star: Fact page, click and drag the custom dimension **Dim – Custom Item Department** circle to the prebuilt fact **Fact – OM Sales Orders** circle in the graphical format to open the Join dialog.



- In the Join dialog, set **Join Type** as **Left Outer**, set **Content level** to **Detail**, set **Join Condition** as follows and then click **Done**:
 - For **Fact – OM Sales Orders**, select **UC Organization ID (DOUBLE)** and for **Dim – Custom Item Department**, select **Organization Id (DOUBLE)**.
 - For **Fact – OM Sales Orders**, select **UC Inventory Item ID (DOUBLE)** and for **Dim – Custom Item Department**, select **Inventory Item Id (DOUBLE)**.

Fact	Dimension	Join Expression	Join Type
Fact - OM Sales Orders	"Dim - Custom Item Department"	Organization Id = UC Organization ID Inventory Item Id = UC Inventory Item ID	Left Outer

- Review the custom joins in the tabular format.

Join Complex Join

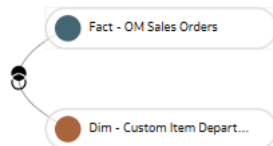
Join Type: Inner Left Outer Right Outer Full Outer

Join Condition: Detail Add Join Condition

Fact - OM Sales Orders		Dim - Custom Item Department
UC Organization ID (D)	=	Organization Id (DOUBLE)
UC Inventory Item ID (	=	Inventory Item Id (DOUBLE)

Cancel Done

- Review the custom joins in the graphical format.

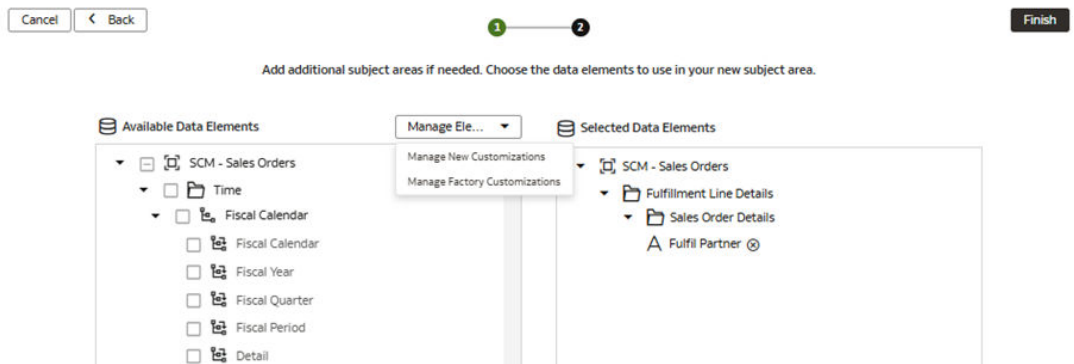


Present the Custom Dimension in the Semantic Model

You modify the subject area to present the new custom dimension and its attributes. The dimension is represented as a folder containing columns in the subject area.

In this step, you modify the *SCM – Sales Order* subject area to present the new custom dimension folder *Custom Item Department* containing the *Department* attribute column.

- Navigate back to the **MySandbox5Mar25** sandbox, click **Perform Action**, then **Manage Subject Areas**, and then click **Modify a Subject Area**. Select **SCM – Sales Orders** and click **Next**.
- On the Modify a Subject Area - SCM - Sales Orders page, review the subject area details in step 1 of the wizard and click **Next**.
- In step 2 of the wizard, click **Manage Elements** and then click **Manage New Customizations**.



4. In Add Subject Area, under **Custom**, select the **Department** attribute column, and then click **Add**.

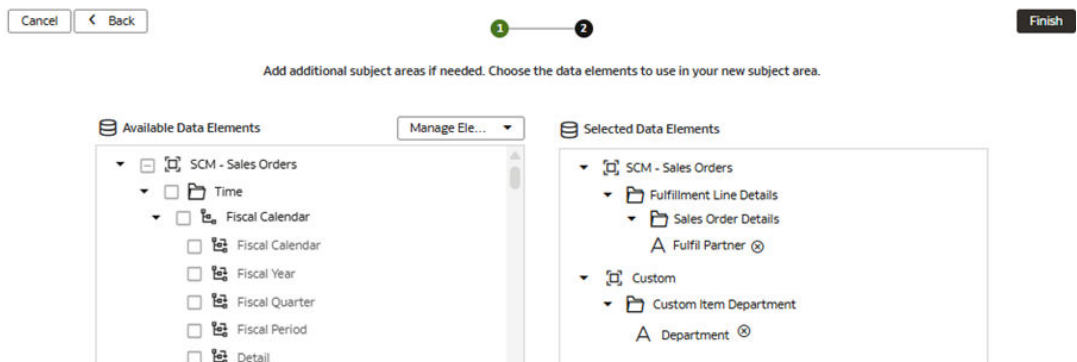
This adds the **Dim - Custom Item Department** folder to the semantic model and places the **Department** column within the folder.

Add a Subject Area

- ▼ ☐ Custom
 - ▼ ☐ Dim - Custom Item Department
 - ▼ ☐ Custom Item Department Hierarchy
 - ☐ Detail
 - ☒ Department
 - ☐ Org Item Key
 - ▶ ☐ Dim - FDI Custom Item Department

Cancel Add

5. Review the selected data elements and click **Finish**.



Apply and Publish the Customizations

You apply the changes to compile the sandbox and ensure that the sandbox is error free.

Then, you use the Activity tab to debug, resolve errors, and confirm that the Apply Changes action completes and is successful. Finally, you merge the changes to the main sandbox and publish the main user extensions to share the new extensions with consumers.

In this step, you apply the changes, use the Activity tab to monitor the status, merge the *MySandbox5Mar25* sandbox to the Main sandbox, and then publish the main user extension.

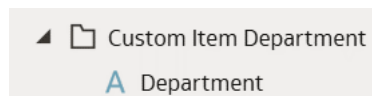
1. On the Semantic Model Extensions page, hover over the **MySandbox5Mar25** sandbox to view **Actions**, and then click **Apply Changes**.
2. Click the Activity tab to monitor the **Apply Changes** task on the Activity page.
3. After the changes are successfully applied, click **Publish Model** on the Semantic Model Extensions page.
4. In Publish Model, in User Extensions, select **MySandbox5Mar25** and in Security Configurations, select **All**.
5. Click **Publish**.
6. On the Semantic Model Extensions page, click the Activity tab to monitor the **Publish Customizations** task.

See [Apply Changes](#) and [Publish Model](#).

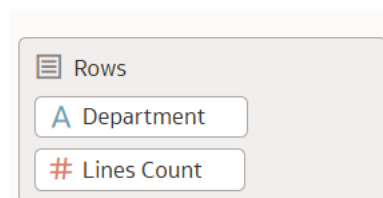
Validate the Results

Verify that your customizations are visible in the semantic model.

1. On the Fusion Data Intelligence Console, click **Go to Home Page**.
2. On the Oracle Analytics Home page, click **Create**, click **Workbook**, in Add Data, select **SCM – Sales Orders**, the subject area that is extended in this use case, and then click **Add to Workbook**.
3. Expand the **Custom Item Department** folder and verify that the **Department** attribute column appears towards the bottom of the subject area by default. Drag the **Department** column onto the workbook.



4. Drag a measure such as **Lines Count** from the **Facts - Sales Orders** folder to confirm that the fact can join to the custom dimension.



5. Verify the results.

Department, Lines Count

Department	Lines Count
Clothing	716
Cosmetics	213
Furniture	176
Gardening	888
Hardware	525
Home Appliances	694
Houseware	391
Paint	237
Shoes	706
Sporting Goods	490

Use Case 4: Add a Custom Fact

You can add a custom fact containing aggregable metrics and join it to prebuilt dimensions with defined keys.

The prebuilt *SCM – Sales Order* subject area doesn't contain the required *Fact – My Custom* fact metrics. In this use case, you add a folder *Fact – My Custom* to the *SCM – Sales Orders* prebuild subject area. This folder contains a sum aggregation metric labelled *Custom Measure*. The custom fact is joined to three prebuilt dimensions *Dim – Inventory Organization*, *Dim – Inventory Item*, and *Dim – Date Gregorian Calendar* using foreign keys defined in the custom fact.

This use case requires Fusion SCM Analytics subscription. However, you can apply the concepts covered in this use case to any other Fusion Data Intelligence subscription. The use case may reference Autonomous Data Warehouse prebuilt tables and synonyms and mock custom database tables and views. If you've activated the specified Fusion Data Intelligence subscription, you may use the samples provided. The recommendation is to substitute the sample objects for your own custom Autonomous Data Warehouse objects such as custom table, materialized view, view, custom synonym, or data augmentation dataset synonym.

In this task, you:

1. [Add Custom Fact to the Semantic Model](#)
2. [Join Custom Fact to Prebuilt Dimensions](#)
3. [Present the Custom Fact in the Semantic Model](#)
4. [Apply and Publish the Customizations](#)
5. [Validate the Results](#)

Use the following to complete this task:

- Existing dimensions:
 - Dim – Inventory Item
 - Dim – Inventory Organization

– Dim - Date Gregorian Calendar

Ensure that you refer to [Upload Samples for the Semantic Model Extensions Use Cases](#) and complete these prerequisites:

- Create a sandbox titled MySandbox5Mar25. See [Create Sandbox](#). Or, edit an existing sandbox on the Semantic Model Extensions page; for example, by clicking the MySandbox5Mar25 sandbox.
- Create the sample dimension view titled FDI_X_CUSTOM_FACT_F_V using this SQL script:

```
CREATE OR REPLACE VIEW FDI_X_CUSTOM_FACT_F_V AS
(
  SELECT ORDERED_DATE, ORGANIZATION_ID, INVENTORY_ITEM_ID, COUNT(*) AS
  CUSTOM_MEASURE
  FROM DW_OM_FULFILLMENT_CF
  GROUP BY ORDERED_DATE, ORGANIZATION_ID, INVENTORY_ITEM_ID
);
```

- Grant semantic model access to the FDI_X_CUSTOM_FACT_F_V view for the OAX\$OAC schema using the following SQL script:

```
GRANT SELECT ON "OAX_USER"."FDI_X_CUSTOM_FACT_F_V" TO "OAX$OAC";
```

- Validate that the data is loading from the sample as expected using the following SQL script:

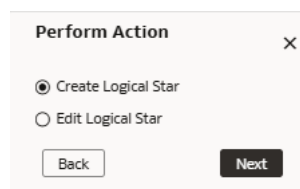
```
SELECT * FROM OAX_USER.FDI_X_CUSTOM_FACT_F_V;
```

Add Custom Fact to the Semantic Model

You create a logical star to define the autonomous data warehouse object, fact measure, display labels, keys, aggregation rules, and content levels.

In this step, you create a logical star to define the custom fact, *Fact – My Custom*, that references the autonomous data warehouse object *FDI_X_CUSTOM_FACT_F_V*.

1. On the Semantic Model Extensions page, click the **MySandbox5Mar25** sandbox.
2. In **Perform Action**, click **Manage Logical Star**, then **Create Logical Star**, and then click **Next**.



3. On the Logical Star: Fact page, click **Add Fact**.



4. On the Add a Fact page, in step 1 of the wizard, select **OAX_USER** in **Schema**, select **FDI_X_CUSTOM_FACT_F_V** in **Object**, rename **Fact Name** as Fact - My Custom, select keys (most likely unselect fact for keys), and select attribute as fact as follows:
 - Select the **Use for Key** check box for **ORGANIZATION_ID**, **ORDERED_DATE**, **INVENTORY_ITEM_ID** under **Source Column**.
 - Select the **Select Fact** check box for **CUSTOM_MEASURE** under **Source Column**.

Cancel Next >

1 — 2

Select the table and columns to be added.

Schema * ⓘ

Object * ☒ Views ☒ Tables ☒ Synonyms

Fact Name *

Filter Search Source Column Refresh Create Column

Select Degen Attribute	Select Fact	Use for Key	Source Column	Display Name
☐	☐	☒	ORGANIZATION_ID	Organization Id
☐	☐	☒	ORDERED_DATE	Ordered Date
☐	☐	☒	INVENTORY_ITEM_ID	Inventory Item Id
☐	☒	☐	CUSTOM_MEASURE	Custom Measure

5. Click **Next**.
6. In step 2 of the wizard, set the **Aggregation Rule** for the **Fact Column** as **Sum**.

Add a Fact Cancel < Back Finish

1 — 2

Select content level, aggregation rules, and add new measures.

Fact Column

Aggregation Rule

Create Column

7. Click the **Content Level** icon.
8. In Content Level, click **Add Dimension** to add these dimensions, set the level as suggested in the table, click **OK**, and then click **Finish**:

Dimension	Level
Inventory Organization	Detail
Inventory Item	Detail
Gregorian Calendar	Day

Content Level

Add Dimension			
Dimension		Level	
Inventory Organization	▼	Detail	▼ 
Inventory Item	▼	Detail	▼ 
Gregorian Calendar	▼	Day	▼ 

Cancel OK

Join Custom Fact to Prebuilt Dimensions

You add prebuilt dimensions and join them to the custom fact using foreign keys defined in the custom fact.

In this step, you add three prebuilt dimensions, *Dim – Inventory Organization*, *Dim – Inventory Item*, and *Dim – Date Gregorian Calendar*, and join them to the custom fact *Fact – My Custom* using foreign keys ORGANIZATION_ID, ORDER_DATE, INVENTORY_ITEM_ID defined in the custom fact.

1. On the Logical Star: Fact page, click **Manage Dimension**, and then click **Add Existing Dimension**.



2. In Add Table, search and add these three existing dimensions, and then click **OK**:
 - Dim – Inventory Item
 - Dim – Inventory Organization
 - Dim - Date Gregorian Calendar

Add Table

Select dimensions to add.

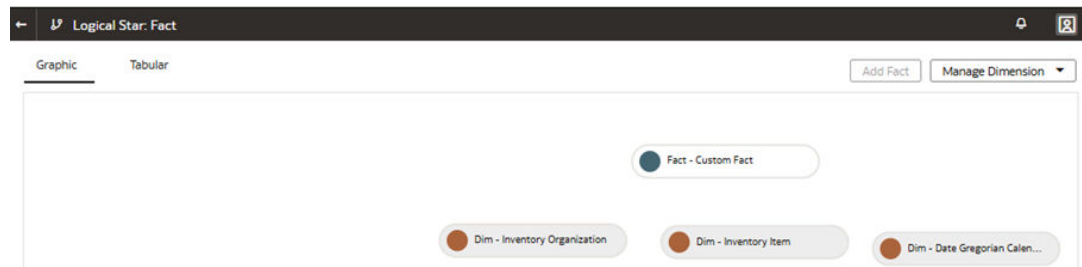
Dim - Inventory Item x

Dim - Inventory Organization x

Dim - Date Gregorian Calendar x

Cancel OK

3. Review the additions in the graphical mode.



4. Join each of the prebuilt dimensions (**Dim – Inventory Organization**, **Dim – Inventory Item**, and **Dim – Date Gregorian Calendar**) to the custom fact (**Fact – Custom Fact**) by dragging from the dimension circle to the fact circle to open the Join dialog. In Join, specify the **Join Type** as **Inner**, click **Add Join Condition**, add join conditions as follows, and click **Done** after adding all applicable join conditions:

- For **Fact – Custom Fact**, select **Organization Id (DOUBLE)** and for **Dim – Inventory Organization**, select **Inventory Organization Key (DOUBLE)**.

Join Complex Join

Join Type

☒ Inner ☐ Left Outer ☐ Right Outer ☐ Full Outer

Join Condition Add Join Condition

Fact - Custom Fact		Dim - Inventory Organization
Organization Id (DOUBLE)	=	Inventory Organization Key (DOUBLE)

Cancel Done

- For **Fact – Custom Fact**, select **Organization Id (DOUBLE)** and for **Dim – Inventory Item**, select **Organization ID (DOUBLE)**. For **Inventory Item Id (DOUBLE)** custom fact, select the **Item ID (DOUBLE)** dimension.

Join Complex Join

Join Type

☒ Inner ☐ Left Outer ☐ Right Outer ☐ Full Outer

Join Condition Add Join Condition

Fact - Custom Fact		Dim - Inventory Item
Organization Id (DOUBLE)	=	Organization ID (DOUBLE)
Inventory Item Id (DOUBLE)	=	Item ID (DOUBLE)

Cancel Done

- For **Fact – Custom Fact**, select **Ordered Date (DATE)** and for **Dim – Date Gregorian Calendar**, select **Date (DATE)**.

Join Complex Join

Join Type

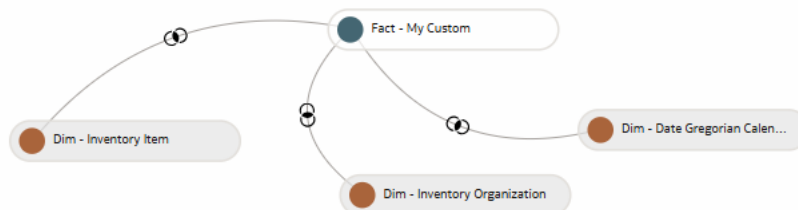
☐ Inner
 ☒ Left Outer
 ☐ Right Outer
 ☐ Full Outer

Join Condition Add Join Condition

Fact - Custom Fact		Dim - Date Gregorian Calendar
Ordered Date (DATE)	=	Date (DATE)

Cancel Done

- Review the joins in the graphical mode.



- Review the joins in the tabular mode.

Logical Star Fact			
Fact	Dimension	Join Expression	Join Type
Fact - My Custom	"Dim - Inventory Organization"	Inventory Organization Key = ORGANIZATION_ID	Inner
Fact - My Custom	"Dim - Inventory Item"	Organization ID = ORGANIZATION_ID Item ID = INVENTORY_ITEM_ID	Inner
Fact - My Custom	"Dim - Date Gregorian Calendar"	Date = ORDERED_DATE	Inner

Present the Custom Fact in the Semantic Model

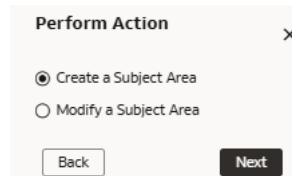
You modify the subject area to present the new custom fact and its aggregable metrics. The system presents the custom fact as a folder containing measure columns in the subject area.

In this step, you modify the *SCM – Sales Order* subject area to present the new fact folder *Fact – My Custom* containing the *Custom Measure* measure column.

- On the Semantic Model Extensions page, navigate to **MySandbox5Mar25** sandbox, click **Perform Action**, click **Manage Subject Areas**, select **Create a Subject Area**, and then click **Next**.

Note

You can either create a subject area or modify an existing subject area; this use case creates a subject area.



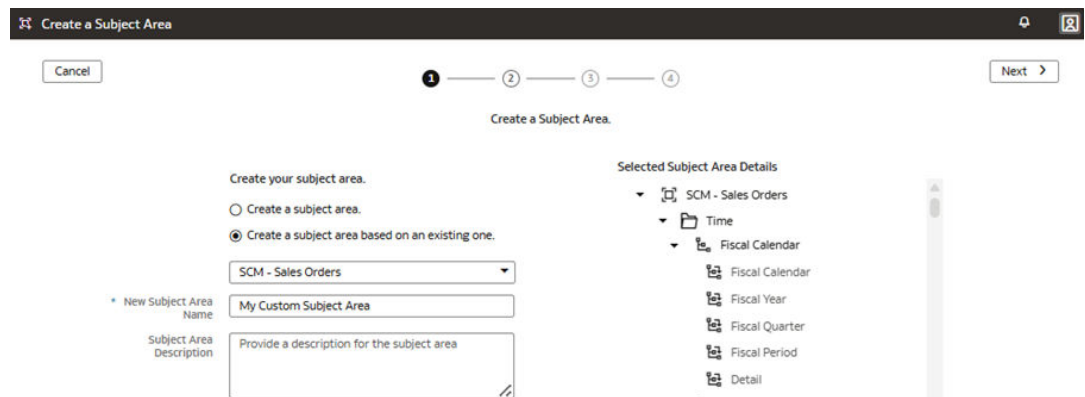
Perform Action

☒ Create a Subject Area

☐ Modify a Subject Area

Back Next

- On the Create a Subject Area page, in step 1 of the wizard, select **Create a subject area based on an existing one**, select **SCM – Sales Orders**, enter My Custom Subject Area in **New Subject Area Name**, and then click **Next**.



Create a Subject Area

Cancel 1 2 3 4 Next

Create a Subject Area.

Create your subject area.

☐ Create a subject area.

☒ Create a subject area based on an existing one.

SCM - Sales Orders

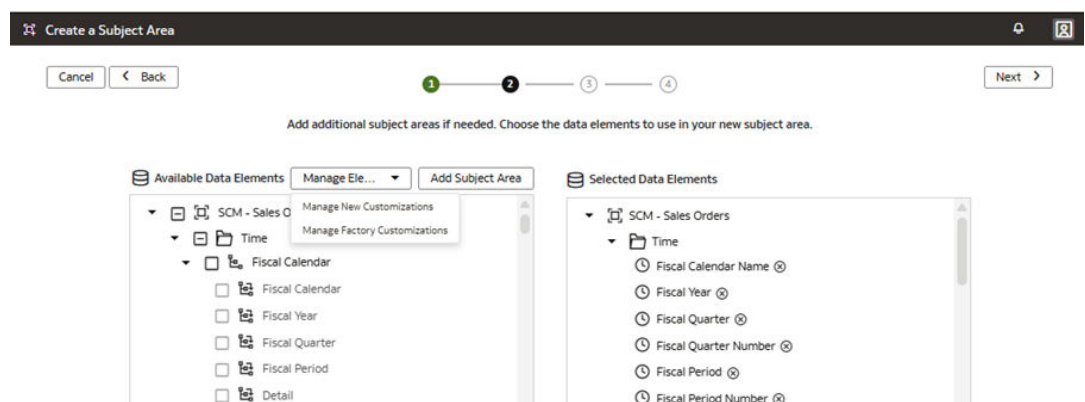
New Subject Area Name: My Custom Subject Area

Subject Area Description: Provide a description for the subject area

Selected Subject Area Details

- SCM - Sales Orders
 - Time
 - Fiscal Calendar
 - Fiscal Calendar
 - Fiscal Year
 - Fiscal Quarter
 - Fiscal Period
 - Detail

- In step 2 of the wizard, click **Manage Elements**, then click **Manage New Customizations**.



Create a Subject Area

Cancel < Back 1 2 3 4 Next >

Add additional subject areas if needed. Choose the data elements to use in your new subject area.

Available Data Elements Manage Ele... Add Subject Area

- SCM - Sales O
 - Time
 - Fiscal Calendar
 - ☐ Fiscal Calendar
 - ☐ Fiscal Year
 - ☐ Fiscal Quarter
 - ☐ Fiscal Period
 - ☐ Detail

Selected Data Elements

- SCM - Sales Orders
 - Time
 - ☒ Fiscal Calendar Name
 - ☒ Fiscal Year
 - ☒ Fiscal Quarter
 - ☒ Fiscal Quarter Number
 - ☒ Fiscal Period
 - ☒ Fiscal Period Number

- In Add a Subject Area, select **Custom Measure** from **Fact – My Custom** and click **Add**.

Add a Subject Area

- ▼  Custom
 - ▼  Dim - Custom Item Department
 - ▼  Custom Item Department Hierarchy
 - ☐  Detail
 - ☐  Department
 - ☐  Org Item Key
 - ▼ ☒  Fact - My Custom
 - ☒ # Custom Measure

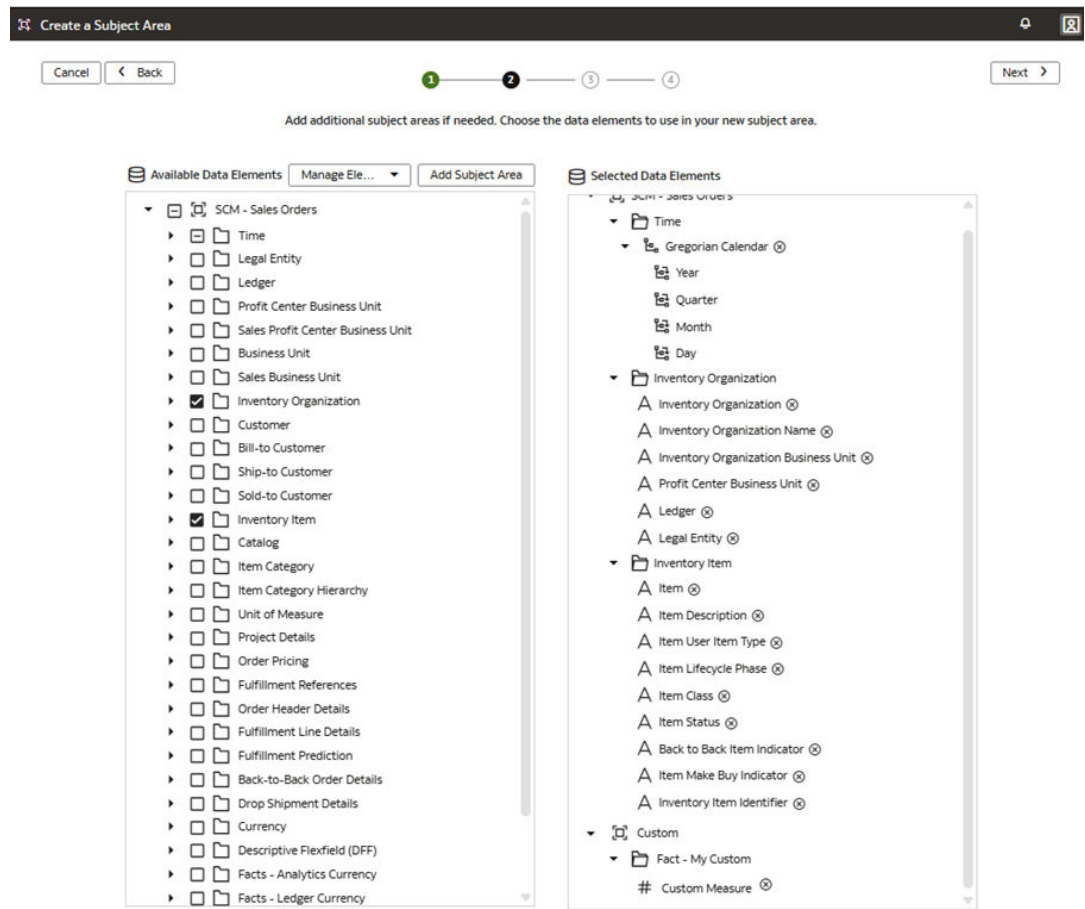
Cancel

Add

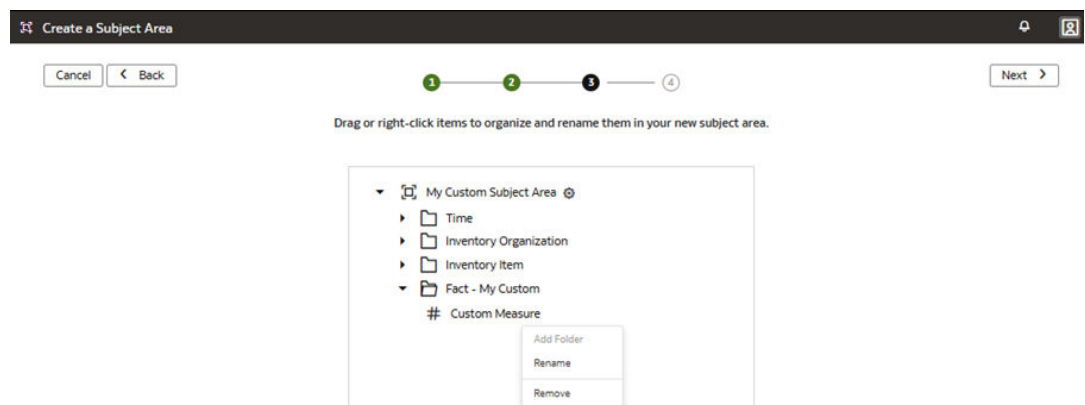
5. Unselect everything under **Available Data Elements** for SCM - Sales Order subject area.

▼   SCM - Sales Orders

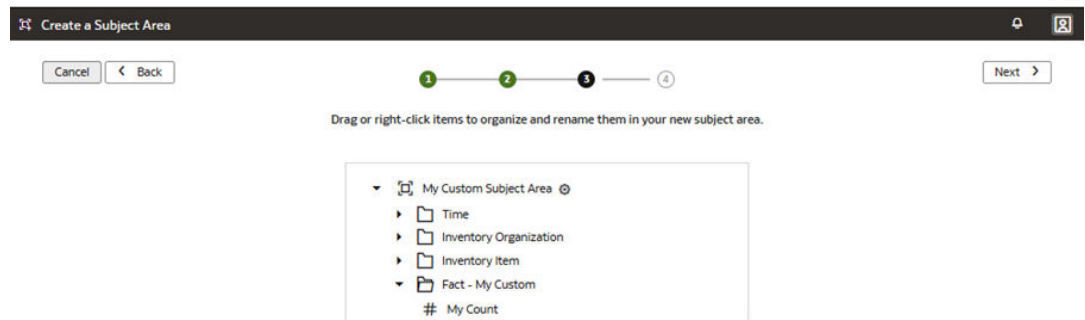
6. Select the prebuilt dimensions that you joined to the custom fact in the logical star and click **Next**.



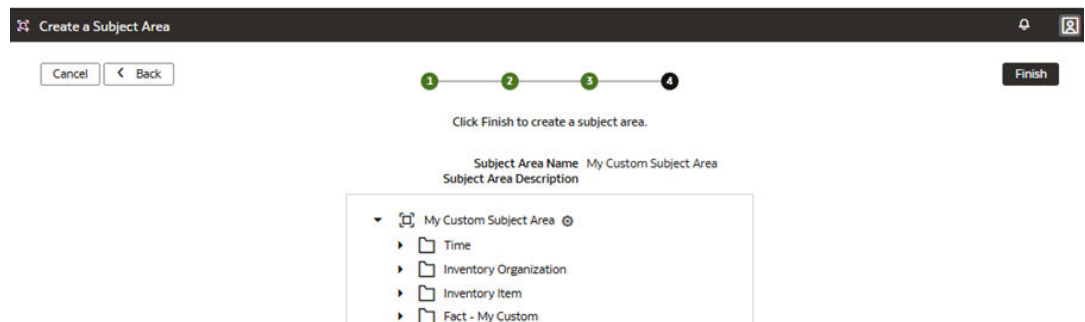
7. In step 3 of the wizard, review how it will appear in the model, rename **Custom Measure** as **My Count**, and click **Next**.



8. Review the custom subject area and click **Next**.



9. In step 4 of the wizard, click **Finish**.



Apply and Publish the Customizations

You apply the changes to compile the sandbox and ensure that the sandbox is error free.

Then, you use the Activity tab to debug, resolve errors, and confirm that the Apply Changes action completes and is successful. Finally, you merge the changes to the main sandbox and publish the main user extensions to share the new extensions with consumers.

In this step, you apply the changes, use the Activity tab to monitor the status, merge the *MySandbox5Mar25* sandbox to the Main sandbox, and then publish the main user extension.

1. On the Semantic Model Extensions page, hover over the **MySandbox5Mar25** sandbox to view **Actions**, and then click **Apply Changes**.
2. Click the Activity tab to monitor the **Apply Changes** task on the Activity page.
3. After the changes are successfully applied, click **Publish Model** on the Semantic Model Extensions page.
4. In Publish Model, in User Extensions, select **MySandbox5Mar25** and in Security Configurations, select **All**.
5. Click **Publish**.
6. On the Semantic Model Extensions page, click the Activity tab to monitor the **Publish Customizations** task.

See [Apply Changes](#) and [Publish Model](#).

Validate the Results

Verify that your customizations are visible in the semantic model.

1. On the Fusion Data Intelligence Console, click **Go to Home Page**.

2. On the Oracle Analytics Home page, click **Create**, click **Workbook**, in Add Data, select **My Custom Subject Area**, and then click **Add to Workbook**.
3. Build a report that pulls one column from each of the prebuilt dimensions and the custom measure from the custom fact, **Fact - My Custom**. Ensure that no duplication occurs as you add columns from each dimension columns. This report confirms that the selected prebuilt dimensions can be joined successfully to the custom fact measure.

The screenshot shows the Oracle Analytics Home interface. On the left, there is a sidebar with a 'Table' dropdown, a '50 Tile' section, and a 'Rows' section containing filters for 'Year (Gregorian Cal...', 'Inventory Organizati...', 'Item', and 'Custom Measure'. Below these are sections for 'Color', 'Size', 'Shape', 'Tooltip', 'Filters', and 'Related Columns'. The main area displays a report titled 'Year (Gregorian Calendar), Inventory Organization Name, Item, Custom Measure'. The report shows a table with columns: 'Year (Gregorian Calendar)', 'Inventory Organization Name', 'Item', and 'Custom Measure'. The data is filtered for the year 2014 and shows 18 rows of 'Operations' data with various item IDs and a 'Custom Measure' value of 2 for most rows, and 1 for the first row.

Year (Gregorian Calendar)	Inventory Organization Name	Item	Custom Measure
2014	Operations	AS35001	1
2014	Operations	AS46334	2
2014	Operations	AS46335	2
2014	Operations	AS46337	2
2014	Operations	AS46339	2
2014	Operations	AS85000	2
2014	Operations	AS85001	2
2014	Operations	AS85003	2
2014	Operations	AS85004	2
2014	Operations	AS85009	2
2014	Operations	AS85017	2
2014	Operations	AS85021	2
2014	Operations	AS86000	2
2014	Operations	AS86002	2
2014	Operations	AS89000	2
2014	Operations	AS89005	2
2014	Operations	AS89010	2

Use Case 5: Add a Degen Custom Fact

You can add a degenerate (degen) custom fact containing both aggregable metrics and descriptive attributes and join the degen custom fact to a prebuilt dimension with a defined key.

The prebuilt *SCM – Sales Order* subject area doesn't contain the required *Fact – Holiday Calendar* metrics and *Dim – Fact – Holiday Calendar – degen* attributes. In this use case, you add the *Fact – Holiday Calendar* and *Dim – Fact – Holiday Calendar – degen* folders to the *SCM – Sales Orders* prebuilt subject area. The *Fact – Holiday Calendar* folder contains aggregable metrics. The *Dim – Fact – Holiday Calendar – degen* folder contains descriptive attributes. The degen custom fact is joined to the prebuilt *Dim – Data Gregorian Calendar* using the Date key.

This use case requires Fusion SCM Analytics subscription. However, you can apply the concepts covered in this use case to any other Fusion Data Intelligence subscription. The use case may reference Autonomous Data Warehouse prebuilt tables and synonyms and mock custom database tables and views. If you've activated the specified Fusion Data Intelligence subscription, you may use the samples provided. The recommendation is to substitute the sample objects for your own custom Autonomous Data Warehouse objects such as custom table, materialized view, view, custom synonym, or data augmentation dataset synonym.

In this task, you:

1. [Add Fact with Degen Attributes to the Semantic Model](#)
2. [Join Custom Fact with Degen Attributes to a Prebuilt Dimension](#)

3. [Present the Custom Fact with the Degen Attributes in the Semantic Model](#)
4. [Apply and Publish the Customizations](#)
5. [Validate the Results](#)

Use the following to complete this task:

- SCM – Sales Orders prebuilt subject area

Ensure that you refer to [Upload Samples for the Semantic Model Extensions Use Cases](#) and complete these prerequisites:

- Create a sandbox titled MySandbox5Mar25. See [Create Sandbox](#). Or, edit an existing sandbox on the Semantic Model Extensions page; for example, by clicking the MySandbox5Mar25 sandbox.
- Create the holiday dimension table, FDI_X_HOLIDAY_CALENDAR_D, in the autonomous data warehouse associated with your Fusion Data Intelligence instance using the sample files FDI_X_HOLIDAY_CALENDAR_D.xls or FDI_X_HOLIDAY_CALENDAR_D.sql.
- Create the sample dimension view FDI_X_HOLIDAY_CALENDAR_F_V using this SQL script:

```
CREATE OR REPLACE FORCE EDITIONABLE VIEW
"OAX_USER"."FDI_X_HOLIDAY_CALENDAR_F_V" ("CALENDAR_DATE", "HOLIDAY",
"BUSINESS_DAY", "TODATE_BUSINESS_DAYS", "MONTH_BUSINESS_DAYS") DEFAULT
COLLATION "USING_NLS_COMP" AS
(
  SELECT
    CALENDAR_DATE,
    HOLIDAY,
    BUSINESS_DAY,
    SUM(BUSINESS_DAY) OVER (PARTITION BY TO_CHAR(CALENDAR_DATE, 'MM-YYYY')
ORDER BY CALENDAR_DATE) AS TODATE_BUSINESS_DAYS,
    SUM(BUSINESS_DAY) OVER (PARTITION BY TO_CHAR(CALENDAR_DATE, 'MM-YYYY'))
AS MONTH_BUSINESS_DAYS
  FROM
    (
      SELECT
        d.CALENDAR_DATE,
        d.DAY_LOCALE_NAME,
        c.HOLIDAY,
        CASE WHEN DAY_LOCALE_NAME NOT IN ('Saturday', 'Sunday') AND HOLIDAY IS
NULL THEN 1 ELSE 0 END AS BUSINESS_DAY
      FROM DW_DAY_D d
      LEFT JOIN
        FDI_X_HOLIDAY_CALENDAR_D c
      ON c.COL_DATE = d.CALENDAR_DATE
    )
);
```

- Grant semantic model access to the FDI_X_HOLIDAY_CALENDAR_F_V view for the OAX\$OAC schema using the following SQL script:

```
GRANT SELECT ON "OAX_USER"."FDI_X_HOLIDAY_CALENDAR_F_V" TO "OAX$OAC";
```

- Validate that the data is loading from the sample as expected using the following SQL script:

```
SELECT * FROM FDI_X_HOLIDAY_CALENDAR_F_V
WHERE HOLIDAY IS NOT NULL;
```

Add Fact with Degen Attributes to the Semantic Model

You create a logical star to define the autonomous data warehouse object, degen attributes, fact measures, display labels, keys, aggregation rules, and content levels.

In this step, you create a logical star to define the custom fact, *Fact – Holiday Calendar*, and implicitly create *Dim – Fact – Holiday Calendar – degendim*. This custom fact references the autonomous data warehouse object *FDI_X_HOLIDAY_CALENDAR_F_V*.

1. On the Semantic Model Extensions page, click the **MySandbox5Mar25** sandbox.
2. In **Perform Action**, click **Manage Logical Star**, then **Create Logical Star**, and then click **Next**.
3. On the Logical Star: Fact page, click **Add Fact**.
4. On the Add a Fact page, in step 1 of the wizard, select **OAX_USER** in **Schema**, select **FDI_X_HOLIDAY_CALENDAR_F_V** in **Object**, rename **Fact Name** as **Fact – Holiday Calendar**. Select the applicable check box as follows and click **Next**.
 - **Select Degen Attribute** – HOLIDAY
 - **Select Fact** – TODATE_BUSINESS_DAYS, MONTH_BUSINESS_DAYS, and BUSINESS_DAY.
 - **Use for Key** – CALENDAR_DATE

Cancel Next >

Select the table and columns to be added.

Schema * ?

Object * ☒ Views ☒ Tables ☒ Synonyms

Fact Name *

Filter Search Source Column Refresh Create Column

Select Degen Attribute	Select Fact	Use for Key	Source Column	Display Name
☒	☐	☐	HOLIDAY	Holiday
☐	☒	☐	TODATE_BUSINESS_DAYS	Todate Business Days
☐	☒	☐	MONTH_BUSINESS_DAYS	Month Business Days
☐	☒	☐	BUSINESS_DAY	Business Day
☐	☐	☒	CALENDAR_DATE	Calendar Date

5. In step 2 of the wizard, set the aggregation rules as follows:

Fact Column	Aggregation Rule
Todate Business Days (NUMERIC)	Max
Month Business Days (NUMERIC)	Average

Fact Column	Aggregation Rule
Business Day (NUMERIC)	Sum

Add a Fact

Cancel < Back Finish

1 — 2

Select content level, aggregation rules, and add new measures.

Create Column

Fact Column	Aggregation Rule			
Todate Business Days (NUMERIC)	Max	▼	🕒	🔗
Month Business Days (NUMERIC)	Average	▼	🕒	🔗
Business Day (NUMERIC)	Sum	▼	🕒	🔗

6. Click the **Content Level** icon, set the content level as follows, click **OK**, and then click **Finish**.

Dimension	Level
Gregorian Calendar	Day

Content Level

Add Dimension

Dimension	Level	
Gregorian Calendar	▼	Day ▼ 🗑️

Cancel OK

Join Custom Fact with Degen Attributes to a Prebuilt Dimension

You add prebuilt dimensions and join them to the custom degen fact using foreign keys defined in the custom degen fact.

In this step, you add the prebuilt dimension, *Dim – Data Gregorian Calendar*, and join it to the custom degen fact *Dim – Fact – Holiday Calendar* using the foreign key `CALENDAR_DATE` defined in the custom degen fact.

1. On the Logical Star: Fact page, click **Manage Dimension**.

Logical Star: Fact

Graphic Tabular Add Fact Manage Dimension ▼

Fact - Holiday Calendar

- From the **Manage Dimension** list of values, click **Add Existing Dimension**, and in Add Table, select **Dim – Date Gregorian Calendar** and click **OK**.

Add Table

Select dimensions to add.

Dim - Date Gregorian Calendar x

Cancel OK

- On the Logical Star: Fact page, drag from the custom fact (**Fact - Holiday Calendar**) circle to the custom dimension (**Dim - Date Gregorian Calendar**) circle to open the Join dialog. In Join, select **Inner** as **Join Type**, click **Add Join Condition** to add as follows, and then click **Done**:

Fact – Holiday Calendar	Dim – Date Gregorian Calendar
Calendar Date (DATE)	Date (DATE)

Join Complex Join

Join Type

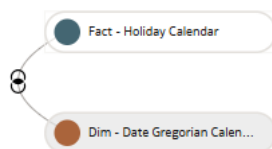
☒ Inner
 ☐ Left Outer
 ☐ Right Outer
 ☐ Full Outer

Join Condition Add Join Condition

Fact - Holiday Calendar	Dim - Date Gregorian Calendar
Calendar Date (DATE) ▼	Date (DATE) ▼
=	

Cancel Done

- Review the join in the graphical mode.



- Click the back arrow on the Logical Star: Fact page to navigate back to the Sandbox: MySandbox5Mar2025 page.

Present the Custom Fact with the Degen Attributes in the Semantic Model

You modify the subject area to present the new custom degen fact and its aggregable metrics, along with the degen dimension and its attributes. The system presents the degen fact as a

folder containing the measure columns and the degen dimension as a separate folder containing the attribute columns.

In this step, you modify the *SCM – Sales Order* subject area to present the new degen fact folder *Fact – Holiday Calendar* containing three measures, *Business Day*, *Month Business Days*, and *Todate Business Days*, along with the new degen dim folder *Dim – Fact – Holiday Calendar – degendim* containing the *Holiday* attribute.

1. On the Semantic Model Extensions page, click the **MySandbox5Mar25** sandbox.
2. Click **Perform Action**, click **Manage Subject Areas**, select **Modify a Subject Area**, select **SCM – Sales Orders** subject area, and then click **Next**.
3. On the Modify a Subject Area - SCM - Sales Orders page, in step 1 of the wizard, view the subject area details and click **Next**.
4. In step 2 of the wizard, click **Manage Elements**, click **Manage New Customizations**, and then in Add a Subject Area, select the **Fact - Holiday Calendar** folder and all the fact measures, and then click **Add**.

Add a Subject Area

- ☐ A Department
- ☐ A Org Item Key
- ▼ ☐ Dim - Fact - Holiday Calendar - degendim
 - ▼ ☐ Dim - Fact - Holiday Calendar - degendim
 - ☐ Detail
 - ☒ A Holiday
- ▼ ☒ Fact - Holiday Calendar
 - ☒ # Business Day
 - ☒ # Month Business Days
 - ☒ # Todate Business Days
- ▼ ☐ Fact - My Custom
 - ☐ # Custom Measure

Cancel

Add

5. Review the selected elements and click **Finish**.

Cancel < Back

1 — 2

Finish

Add additional subject areas if needed. Choose the data elements to use in your new subject area.

Available Data Elements

Manage Ele...

Selected Data Elements

SCM - Sales Orders

- Time
 - Fiscal Calendar
 - Fiscal Calendar
 - Fiscal Year
 - Fiscal Quarter
 - Fiscal Period
 - Detail
 - Gregorian Calendar
 - Year
 - Quarter
 - Month

SCM - Sales Orders

- Sold-to Customer
- Fulfillment Line Details
- Custom
 - Fact - Holiday Calendar
 - Business Day
 - Month Business Days
 - Todate Business Days
 - Dim - Fact - Holiday Calendar - degendim
 - Holiday
 - Party Hierarchy Dim
 - Custom Item Department

Apply and Publish the Customizations

You apply the changes to compile the sandbox and ensure that the sandbox is error free.

Then, you use the Activity tab to debug, resolve errors, and confirm that the Apply Changes action completes and is successful. Finally, you merge the changes to the main sandbox and publish the main user extensions to share the new extensions with consumers.

In this step, you apply the changes, use the Activity tab to monitor the status, merge the *MySandbox5Mar25* sandbox to the Main sandbox, and then publish the main user extension.

1. On the Semantic Model Extensions page, hover over the **MySandbox5Mar25** sandbox to view **Actions**, and then click **Apply Changes**.
2. Click the Activity tab to monitor the **Apply Changes** task on the Activity page.
3. After the changes are successfully applied, click **Publish Model** on the Semantic Model Extensions page.
4. In Publish Model, in User Extensions, select **MySandbox5Mar25** and in Security Configurations, select **All**.
5. Click **Publish**.
6. On the Semantic Model Extensions page, click the Activity tab to monitor the **Publish Customizations** task.

See [Apply Changes](#) and [Publish Model](#).

Validate the Results

Verify that your customizations are visible in the semantic model.

1. On the Fusion Data Intelligence Console, click **Go to Home Page**.
2. On the Oracle Analytics Home page, click **Create**, click **Workbook**, in Add Data, select **SCM – Sales Orders**, and then click **Add to Workbook**.
3. Build a report by dragging these:
 - Year
 - Month
 - Date
 - Holiday
 - Business Day
 - Month Business Days
 - Todate Business Days

Year, Month, Date, ... Click here or drag data to add a filter

Table

50 Tile

Rows

Year

Month

Date

Holiday

Business Day

Month Business Days

Todate Business Days

Color

Size

Shape

Tooltip

Filters

Year, Month, Date, Holiday, Business Day, Month Business Days, Totdate Business Days

Year	Month	Date	Holiday	Business Day	Month Business Days	Todate Business Days
-99999	-NOVALUE-	01/01/1901		1	1	1
-99999	-NOVALUE-	12/31/4712		1	1	1
1950	1950 / 01	01/01/1950		0	22	0
1950	1950 / 01	01/02/1950		1	22	1
1950	1950 / 01	01/03/1950		1	22	2
1950	1950 / 01	01/04/1950		1	22	3
1950	1950 / 01	01/05/1950		1	22	4
1950	1950 / 01	01/06/1950		1	22	5
1950	1950 / 01	01/07/1950		0	22	5
1950	1950 / 01	01/08/1950		0	22	5
1950	1950 / 01	01/09/1950		1	22	6
1950	1950 / 01	01/10/1950		1	22	7
1950	1950 / 01	01/11/1950		1	22	8
1950	1950 / 01	01/12/1950		1	22	9
1950	1950 / 01	01/13/1950		1	22	10
1950	1950 / 01	01/14/1950		0	22	10
1950	1950 / 01	01/15/1950		0	22	10

4. Filter on 2024/07 which has 2 holidays. All columns add up the same 21 business days in the month, but each column may be useful for different calculations.

Year, Month, Date, ... Year (1) Month (1)

Table

50 Tile

Rows

Year

Month

Date

Holiday

Business Day

Month Business Days

Todate Business Days

Color

Size

Shape

Tooltip

Filters

Year, Month, Date, Holiday, Business Day, Month Business Days, Totdate Business Days

Year	Month	Date	Holiday	Business Day	Month Business Days	Todate Business Days
2024	2024 / 07	07/01/2024		1	21	1
2024	2024 / 07	07/02/2024		1	21	2
2024	2024 / 07	07/03/2024		1	21	3
2024	2024 / 07	07/04/2024	Independence Day	0	21	3
2024	2024 / 07	07/05/2024	July 5th	0	21	3
2024	2024 / 07	07/06/2024		0	21	3
2024	2024 / 07	07/07/2024		0	21	3
2024	2024 / 07	07/08/2024		1	21	4
2024	2024 / 07	07/09/2024		1	21	5
2024	2024 / 07	07/10/2024		1	21	6
2024	2024 / 07	07/11/2024		1	21	7
2024	2024 / 07	07/12/2024		1	21	8
2024	2024 / 07	07/13/2024		0	21	8
2024	2024 / 07	07/14/2024		0	21	8
2024	2024 / 07	07/15/2024		1	21	9
2024	2024 / 07	07/16/2024		1	21	10
2024	2024 / 07	07/17/2024		1	21	11

Use Case 6: Add Derived Columns

You can add derived columns to a folder that uses a function or formula referencing custom or prebuilt elements that enables you to perform calculations and display derived values.

The *Dim – Customer Sold To* folder in the prebuilt subject area *SCM – Sales Order* doesn't contain the required derived column *Customer Index*. In this use case, you add the *Custom Index* derived column, calculated using a CASE statement function, into the prebuilt *Dim – Customer Sold To* folder to associate the *Customer Index* with the *Sold To Customer* attributes. Since the derived column is created within the *Dim – Customer Sold To* dimension, it is automatically joined.

This use case requires Fusion SCM Analytics subscription. However, you can apply the concepts covered in this use case to any other Fusion Data Intelligence subscription. The use case may reference Autonomous Data Warehouse prebuilt tables and synonyms and mock custom database tables and views. If you've activated the specified Fusion Data Intelligence subscription, you may use the samples provided. The recommendation is to substitute the sample objects for your own custom Autonomous Data Warehouse objects such as custom table, materialized view, view, custom synonym, or data augmentation dataset synonym.

In this task, you:

1. [Add a Derived Column to the Semantic Model](#)
2. [Present the Derived Column in the Semantic Model](#)
3. [Apply and Publish the Customizations](#)
4. [Validate the Results](#)

Use the following to complete this task:

- Dim – Customer Sold To folder
- SCM – Sales Order prebuilt subject area

Ensure that you refer to [Upload Samples for the Semantic Model Extensions Use Cases](#) and complete these prerequisites:

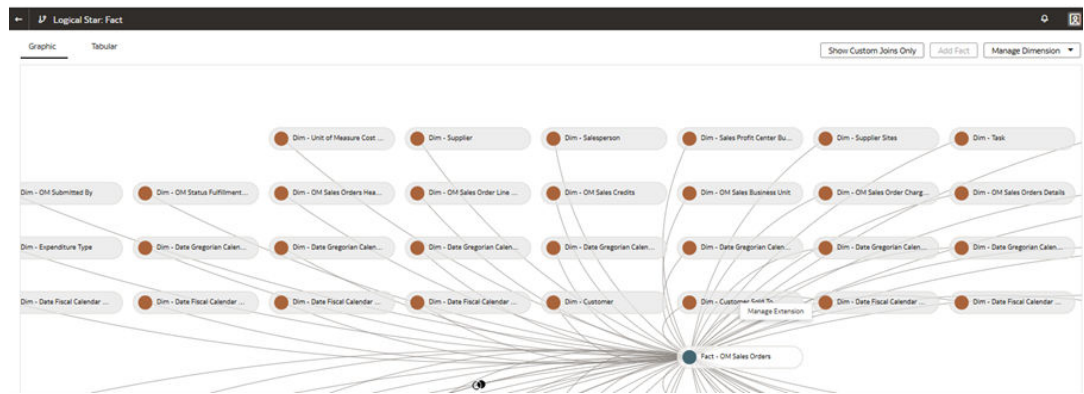
- Create a sandbox titled MySandbox5Mar25. See [Create Sandbox](#). Or, edit an existing sandbox on the Semantic Model Extensions page; for example, by clicking the MySandbox5Mar25 sandbox.

Add a Derived Column to the Semantic Model

You edit the logical star to define the custom derived column expression formula. You can use the Fx Functions for syntax assistance, or copy the formula and paste it or manually type.

In this step, you edit the *Fact – OM Sales Orders* logical star to extend the prebuilt *Dim – Custom Sold To* dimension, creating a new derived column *Custom Index*. At runtime, *Custom Index* executes a CASE statement function evaluating the *Sold-to-Customer* column return a custom value based on defined if-then-else conditions.

1. On the Semantic Model Extensions page, click the **MySandbox5Mar25** sandbox.
2. In **Perform Action**, click **Manage Logical Star**, click **Edit Logical Star**, select **Out of the box**, select **SCM – Sales Orders** subject area, select **Fact – OM Sales Orders**, and then click **Next**.
3. On the Logical Star: Fact page, locate the **Dim – Customer Sold To** dimension to add the derived column to. Right click on the dimension, and then click **Manage Extension**.



4. On the Sandbox: MySandbox5Mar25 page, click **Manage Extension** and then click **Add Columns**.
5. On the Add Columns page, click **Add Derived Column**.

6. In Create Column, enter Customer Index in **Name**, and the following script in the space under the **Name** field:

```

CASE
WHEN UPPER(SUBSTRING("Core"."Dim - Customer Sold To"."Sold-to Customer"
FROM 1 FOR 1)) BETWEEN 'A' AND 'H' THEN 'A-H'
WHEN UPPER(SUBSTRING("Core"."Dim - Customer Sold To"."Sold-to Customer"
FROM 1 FOR 1)) BETWEEN 'I' AND 'P' THEN 'I-P'
WHEN UPPER(SUBSTRING("Core"."Dim - Customer Sold To"."Sold-to Customer"
FROM 1 FOR 1)) BETWEEN 'Q' AND 'Z' THEN 'Q-Z'
ELSE 'Other'
END

```

Create Column

Data Elements

Search

☒ Search By Subject Area (null) Search B

- ☐ Current Data Elements
- ☐ Other Data Elements

Name:

CASE
 WHEN UPPER(SUBSTRING(Sold-to Customer FROM 1 FOR 1)) BETWEEN
 'A' AND 'H' THEN 'A-H'
 WHEN UPPER(SUBSTRING(Sold-to Customer FROM 1 FOR 1)) BETWEEN
 'I' AND 'P' THEN 'I-P'
 WHEN UPPER(SUBSTRING(Sold-to Customer FROM 1 FOR 1)) BETWEEN
 'Q' AND 'Z' THEN 'Q-Z'
 ELSE 'Other'
 END

Calculation validated

Validate Cancel Save

fx Functions

Search

- Operators
- Aggregate
- Running Aggregate
- String
- Math
- Calendar/Date
- Conversion
- System
- Expressions
- DB Functions
- Time Series Calculations
- Filter

Select a function to see description.

- In Create Column, after providing the applicable script, click **Validate**, then **Save**, and then **Finish** on the Add Columns page.

Add Columns

Cancel Finish

Define your new columns.

New derived columns will be set to detail level of the dimension hierarchy by default. Click the logical level icon to choose a different level.

Column	Expression	
Customer Index	CASE WHEN UPPER(SUBSTRING("Core"."Dim - Customer Sold To"."Sold-to Cust...	   

Add Derived Column

Add Physical Column

Logical Column	Physical Column	Table	Display
No data to display.			

Present the Derived Column in the Semantic Model

You modify the subject area to present the new custom derived column and select the folder to display it in.

The system automatically joins the new column to the dimension it's added to. In this step, you modify the *SCM – Sales Order* subject area to present the new derived column *Custom Index*, adding it to the pre-built *Dim – Custom Sold To* folder.

- Navigate to the MySandbox5Mar25 page, click **Perform Action**, click **Manage Subject Areas**, select **Modify a Subject Area**, select **SCM Sales Orders** subject area, and then click **Next**.
- On the Modify a Subject Area page, in step 1 of the wizard, view the details and click **Next**.
- In step 2 of the wizard, click **Manage Elements**, and then click **Manage Factory Customizations**.
- In Add a Subject Area, select **Customer Index**, and then click **Add Folders**.

Add a Subject Area

- ▼ ☒  Dim - Customer Sold To
 - ☒  Customer Index
- ▼ ☐  Fact - OM Sales Orders
 - ☐  UC Inventory Item ID
 - ☐  UC Organization ID

Cancel

Add Folders

5. In Add a Subject Area, select the **Sold-to Customer** folder and click **Add Folders**.

Add a Subject Area

Select the folders for Dim - Customer Sold To which the elements to be added

- ☒ Sold-to Customer

Cancel

Add Folders

6. In step 2 of the wizard, review the selected elements and click **Finish**.

Modify a Subject Area - SCM - Sales Orders

Cancel < Back 1 2 Finish

Add additional subject areas if needed. Choose the data elements to use in your new subject area.

Available Data Elements

Manage Ele...

- ▼ ☐  SCM - Sales Orders
 - ▼ ☐  Time
 - ☐  Fiscal Calendar
 - ☐  Fiscal Year
 - ☐  Fiscal Quarter
 - ☐  Fiscal Period
 - ☐  Detail
 - ▼ ☐  Gregorian Calendar
 - ☐  Year

Selected Data Elements

- ▼  SCM - Sales Orders
 - ▼  Sold-to Customer
 -  Customer Index
 - ▼  Fulfillment Line Details
 - ▼  Sales Order Details
 -  Fulfill Partner
 - ▼  Custom
 - ▼  Custom Item Department
 -  Department

Apply and Publish the Customizations

You apply the changes to compile the sandbox and ensure that the sandbox is error free.

Then, you use the Activity tab to debug, resolve errors, and confirm that the Apply Changes action completes and is successful. Finally, you merge the changes to the main sandbox and publish the main user extensions to share the new extensions with consumers.

In this step, you apply the changes, use the Activity tab to monitor the status, merge the *MySandbox5Mar25* sandbox to the Main sandbox, and then publish the main user extension.

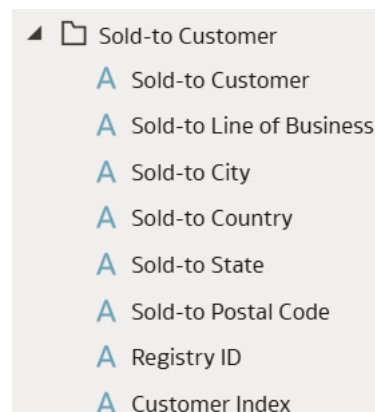
1. On the Semantic Model Extensions page, hover over the **MySandbox5Mar25** sandbox to view **Actions**, and then click **Apply Changes**.
2. Click the Activity tab to monitor the **Apply Changes** task on the Activity page.
3. After the changes are successfully applied, click **Publish Model** on the Semantic Model Extensions page.
4. In Publish Model, in User Extensions, select **MySandbox5Mar25** and in Security Configurations, select **All**.
5. Click **Publish**.
6. On the Semantic Model Extensions page, click the Activity tab to monitor the **Publish Customizations** task.

See [Apply Changes](#) and [Publish Model](#).

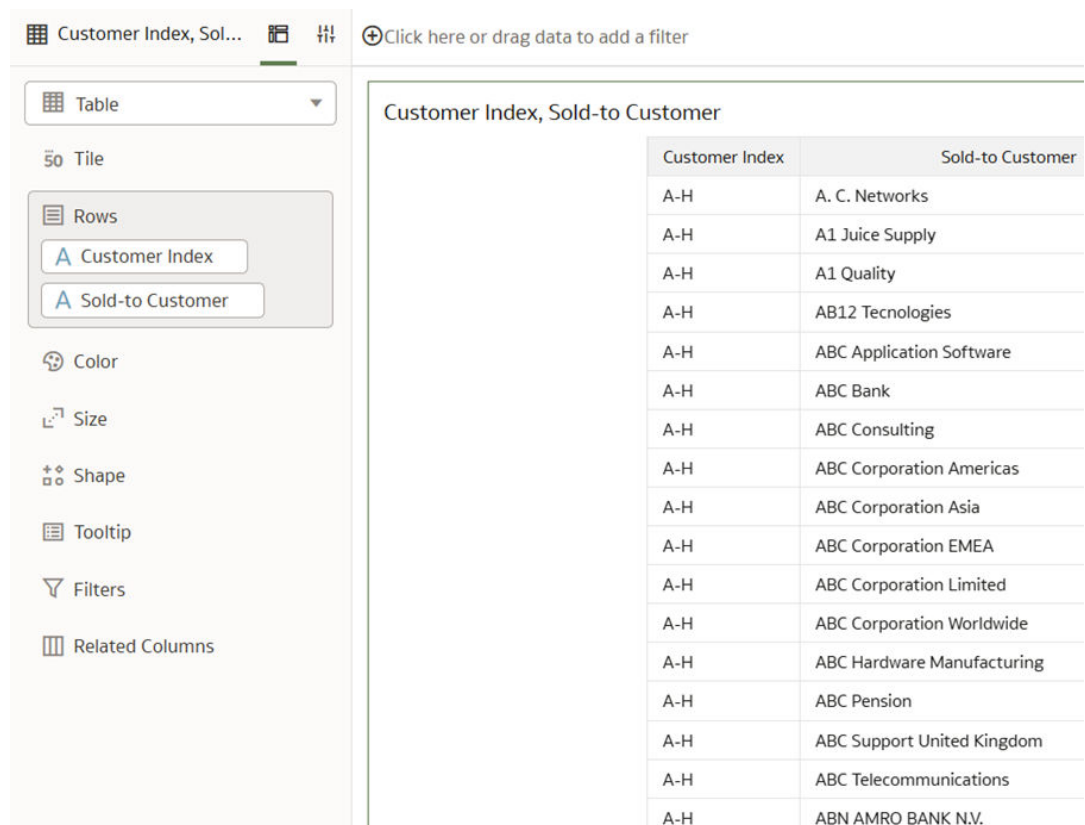
Validate the Results

Verify that your customizations are visible in the semantic model.

1. On the Fusion Data Intelligence Console, click **Go to Home Page**.
2. On the Oracle Analytics Home page, click **Create**, click **Workbook**, in Add Data, select **SCM – Sales Orders**, and then click **Add to Workbook**.
3. Verify that that new column **Customer Index** is visible at the end of the **Sold-to Customer** folder.



4. Build a report displaying the **Customer Index** and **Sold-to Customer** columns.



Customer Index	Sold-to Customer
A-H	A. C. Networks
A-H	A1 Juice Supply
A-H	A1 Quality
A-H	AB12 Technologies
A-H	ABC Application Software
A-H	ABC Bank
A-H	ABC Consulting
A-H	ABC Corporation Americas
A-H	ABC Corporation Asia
A-H	ABC Corporation EMEA
A-H	ABC Corporation Limited
A-H	ABC Corporation Worldwide
A-H	ABC Hardware Manufacturing
A-H	ABC Pension
A-H	ABC Support United Kingdom
A-H	ABC Telecommunications
A-H	ABN AMRO BANK N.V.

Use Case 7: Create Custom Dim with Hierarchy

You can create a dimension with a hierarchy by defining a parent-child level-based hierarchical structure.

The prebuilt *SCM – Sales Order* subject area doesn't contain the required *Dim – Party Hierarchy* dimension attributes and hierarchical levels. In this use case, you add a folder *Dim - Party Hierarchy* to the *SCM – Sales Orders* prebuilt subject area. This folder contains the *Accounts Level Hierarchy* hierarchy with four levels, plus a detailed lowest level. The custom dimension with hierarchy is joined to the prebuilt *Fact – OM Sales Orders* fact using the *Party ID* key.

This use case requires Fusion SCM Analytics subscription. However, you can apply the concepts covered in this use case to any other Fusion Data Intelligence subscription. The use case may reference Autonomous Data Warehouse prebuilt tables and synonyms and mock custom database tables and views. If you've activated the specified Fusion Data Intelligence subscription, you may use the samples provided. The recommendation is to substitute the sample objects for your own custom Autonomous Data Warehouse objects such as custom table, materialized view, view, custom synonym, or data augmentation dataset synonym.

In this task, you:

1. [Add Custom Fact to the Semantic Model](#)
2. [Add Physical Column to a Prebuilt Fact to Expose Foreign Key to Join On](#)
3. [Join the Custom Dimension Hierarchy to a Prebuilt Fact](#)
4. [Present the Custom Dimension Hierarchy in the Semantic Model](#)
5. [Apply and Publish the Customizations](#)

6. [Validate the Results](#)

Use the following to complete this task:

- Prebuilt Subject area: SCM – Sales Orders

Ensure that you refer to [Upload Samples for the Semantic Model Extensions Use Cases](#) and complete these prerequisites:

- Create a sandbox titled MySandbox5Mar25. See [Create Sandbox](#). Or, edit an existing sandbox on the Semantic Model Extensions page; for example, by clicking the MySandbox5Mar25 sandbox.
- Generate the sample dimension view FDI_X_PARTY_HIERARCHY_D_V using this SQL script:

```
CREATE OR REPLACE FORCE EDITIONABLE VIEW
"OAX_USER"."FDI_X_PARTY_HIERARCHY_D_V" ("PARTY_ID", "LVL1", "LVL2",
"LVL3", "LVL4", "LVL_DETAIL") DEFAULT COLLATION "USING_NLS_COMP" AS
(
SELECT DISTINCT
PARTY_ID,
NVL(COUNTRY, '~No Value~') as LVL1,
NVL(STATE, '~No Value~') as LVL2,
NVL(CITY, '~No Value~') as LVL3,
NVL(POSTAL_CODE, '~No Value~') as LVL4,
NVL(PARTY_NAME, '~No Value~') as LVL_DETAIL
FROM
OAX$OAC.DW_PARTY_D
where (CUSTOMER_FLAG <> 'N' or CUSTOMER_FLAG is null)
);
```

- Grant semantic model access to the FDI_X_PARTY_HIERARCHY_D_V view for the OAX\$OAC schema using the following SQL script:

```
GRANT SELECT ON "OAX_USER"."FDI_X_PARTY_HIERARCHY_D_V" TO "OAX$OAC";
```

- Validate that the data is loading from the sample as expected using the following SQL script:

```
SELECT * FROM OAX_USER.FDI_X_PARTY_HIERARCHY_D_V;
```

- Confirm that the foreign key is unique to avoid inaccurate results caused from possible duplication due to incorrect granularity by entering this SQL script under SQL Worksheet on the right pane in SQL Developer Client:

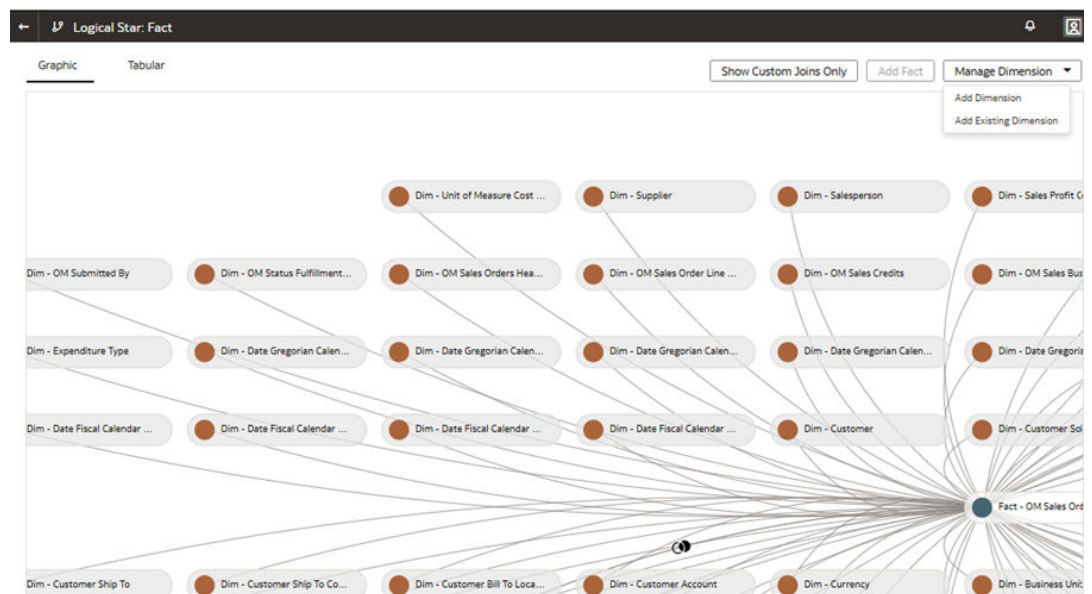
```
SELECT PARTY_ID, COUNT(*)
FROM FDI_X_PARTY_HIERARCHY_D_V
GROUP BY PARTY_ID
HAVING COUNT(*) > 1;
```

Add Custom Fact to the Semantic Model

You edit the logical star to define the autonomous data warehouse objects, attributes, display labels, keys, and hierarchy.

In this step, you edit the *Fact – OM Sales Orders* logical star to add a custom dimension *Dim – Party Hierarchy Dim* referencing the autonomous data warehouse object *FDI_X_PARTY_HIERARCHY_D_V* and define a multi-level hierarchy named *Accounts Level Hierarchy*. For each level, the use case defines a unique primary key and display attribute.

1. On the Semantic Model Extensions page, click the **MySandbox5Mar25** sandbox.
2. In **Perform Action**, click **Manage Logical Star**, then **Edit Logical Star**, select **Out of the box**, select **SCM – Sales Orders** subject area, select **Fact – OM Sales Orders**, and then click **Next**.
3. On the Logical Star: Fact page, click **Manage Dimension**, and then click **Add Dimension**.



4. On the Add a Dimension page, in step 1 of the wizard, select **OAX_USER** in **Schema**, select **FDI_X_PARTY_HIERARCHY_D_V** in **Object**, and rename **Dimension Name** as **Party Hierarchy Dim**. Select the **Use for Key** check box for **PARTY_ID** source column, select the **Add Attributes** check box for **LVL2**, **LVL_DETAIL**, **LVL3**, **LVL4**, **LVL1**, and **PARTY_ID** source columns, and click **Next**.

Y. Add a Dimension

Cancel Next >

1 — 2

Name the dimension table and choose the attributes.

Schema * QAX_USER

Object * FDI_X_PARTY_HIERARCHY_D_V ☒ Views ☒ Tables ☒ Synonyms

Dimension Name * Party Hierarchy Dim

Filter Search Source Column Refresh Create Column

☒ Add Attributes	Use for Key	Source Column	Display Name
☒	☐	LVL2	Lvl2
☒	☐	LVL_DETAIL	Lvl Detail
☒	☐	LVL3	Lvl3
☒	☐	LVL4	Lvl4
☒	☐	LVL1	Lvl1
☒	☒	PARTY_ID	Party Id

5. Select the **Add hierarchy to Subject Area** check box, enter Accounts Level Hierarchy in **Name**, and drag each attribute to its corresponding level.

Y. Add a Dimension

Cancel < Back Finish

1 — 2

Assemble the product hierarchy using the attributes from this dimension.

☒ Add hierarchy to Subject Area Type ☐ Time ☐ Ragged ☐ Skipped Levels

Hierarchy Name Accounts Level Hierarchy

Available Data Elements

- Party Hierarchy Dim

Selected Data Elements

- Total
 - Level 1
 - Lvl1
 - Level 2
 - Lvl2
 - Level 3
 - Lvl3
 - Level 4
 - Lvl4
 - Detail
 - Lvl Detail
 - Party Id

Properties

Primary Key
Select a level to show its primary key

Display Attribute
Select a level to show its display attribute

6. For each level, click on the level, click the pencil icon and then set the primary key and display attribute.

Note

You may prefer to use an Internal ID / integer key for each level, if available. For the Detail Level, this use case use Party ID for the key.

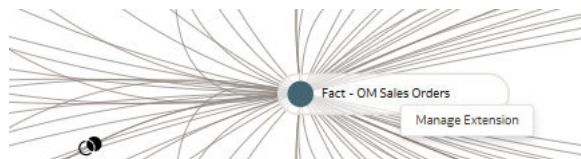
7. Click **Finish**.

Add Physical Column to a Prebuilt Fact to Expose Foreign Key to Join On

You extend the prebuilt fact to expose physical columns that will be used as keys to join the new custom dimension in the logical star. You must give the logical columns unique names.

In this step, you extend *Fact – OM Sales Orders* to expose physical column `BILL_TO_PARTY_ID` to use as a key to join to the new custom dimension *Dim – Party Hierarchy Dim*. `BILL_TO_PARTY` is given a unique name *Party ID*.

1. On the Semantic Model Extensions page, click the **MySandbox5Mar25** sandbox.
2. In **Perform Action**, click **Manage Logical Star**, then **Edit Logical Star**, select **Out of the box**, select **SCM – Sales Orders** subject area, select **Fact – OM Sales Orders**, and then click **Next**.
3. On the Logical Star: Fact page, right click **Fact – OM Sales Orders**, and then click **Manage Extension**.



4. On the Add Columns page, click **Add Physical Column**, and in **Select Physical Column**, select **BILL_TO_PARTY_ID** from **Fact_DW_OM_FULFILLMENT_CF** and then click **OK**.

Select Physical Columns

Select	Physical Column	Table
☐	FULFILLMENT_ID	Fact_DW_OM_FULFILLMENT_CF
☐	FULFILL_ORG_ID	Fact_DW_OM_FULFILLMENT_CF
☐	ORDER_STATUS_CODE	Fact_DW_OM_FULFILLMENT_CF
☐	ORDER_SHIP_TO_PARTY_ID	Fact_DW_OM_FULFILLMENT_CF
☒	BILL_TO_PARTY_ID	Fact_DW_OM_FULFILLMENT_CF
☐	FREIGHT_TERMS_CODE	Fact_DW_OM_FULFILLMENT_CF
☐	PROMISE_SHIP_DATE	Fact_DW_OM_FULFILLMENT_CF
☐	SOURCE_ORDER_NUMBER	Fact_DW_OM_FULFILLMENT_CF
☐	ORDER_SHIPMENT_ORDER_NUMBER	Fact_DW_OM_FULFILLMENT_CF

Cancel OK

- Under the **Logical Column**, enter Party ID as the unique name and click **Finish**.

Add Columns - MySandbox5Mar2025				
Define your new columns.				
No data to display.				
Column	Expression			
Logical Column	Physical Column	Table	Aggregations	Display
UC Inventory Item	INVENTORY_ITEM_ID	Fact_DW_OM_FULFILLMENT_CF	None	☐
UC Organization ID	ORGANIZATION_ID	Fact_DW_OM_FULFILLMENT_CF	None	☐
Party ID	BILL_TO_PARTY_ID	Fact_DW_OM_FULFILLMENT_CF	None	☐

Join the Custom Dimension Hierarchy to a Prebuilt Fact

You join the custom dimension hierarchy to the prebuilt fact by defining the join type, join condition, and context level. You can define complex joins; however, it's advised to try and use standard joins where possible.

In this step, you define a standard Inner join on the prebuilt *Fact – OM Sales Orders* fact to the custom dimension hierarchy *Dim – Party Hierarchy Dim* using the *Party ID* key from each table. You set the content level to *Detail*.

- On the Semantic Model Extensions page, click the **MySandbox5Mar25** sandbox.
- In **Perform Action**, click **Manage Logical Star**, then **Edit Logical Star**, select **Out of the box**, select **SCM – Sales Orders** subject area, select **Fact – OM Sales Orders**, and then click **Next**.
- On the Logical Star: Fact page, drag from the custom dimension hierarchy to the prebuilt fact.



- In Join dialog, join on **Party ID** (New physical column added) and **Party ID** (from Custom Dim Hierarchy). This example uses an Inner Join. Others may require a Left (or other Join type). Set the **Context Level** as **Detail** and click **Done**.

Join Complex Join

Join Type

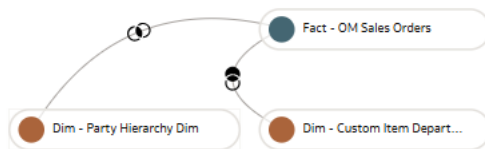
☒ Inner ☐ Left Outer ☐ Right Outer ☐ Full Outer

Join Condition Detail Add Join Condition

Fact - OM Sales Orders		Dim - Party Hierarchy Dim
Party ID (DOUBLE)	=	Party Id (DOUBLE)

Cancel Done

- Review the join in graphical mode.



- Click the back arrow on the Logical Star: Fact page to navigate back to the Sandbox: MySandbox5Mar2025 page.

Present the Custom Dimension Hierarchy in the Semantic Model

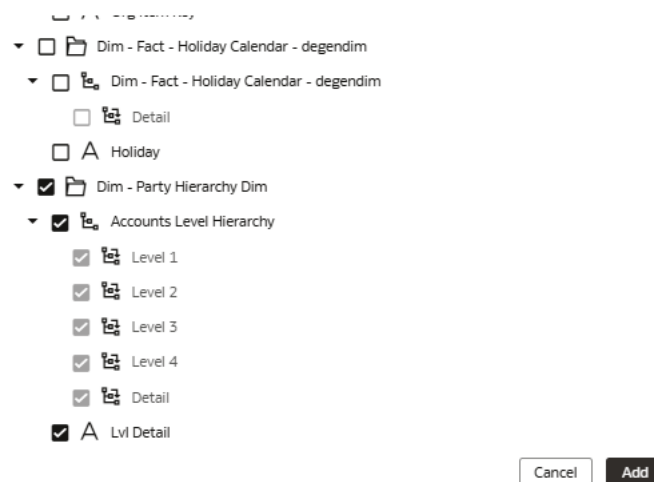
You modify the subject area to present the new custom dimension attributes and hierarchy levels.

The system represents the dimension as a folder containing columns in the subject area and represents the hierarchy levels at the bottom of the custom dimension folder. Hierarchy levels used in Workbooks can expand and collapse to reveal or hide detailed rows.

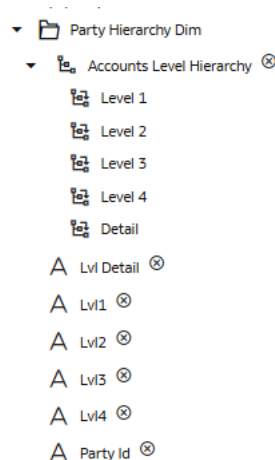
In this step, you modify the *SCM – Sales Order* subject area to present the new custom *Dim – Party Hierarchy Dim* folder containing the custom hierarchy *Accounts Level Hierarchy* with four levels (Level 1, Level 2, Level 3, Level 4) and the lowest Detailed level.

- Navigate to the MySandbox5Mar25 page, click **Perform Action**, click **Manage Subject Areas**, select **Modify a Subject Area**, select **SCM Sales Orders** subject area, and then click **Next**.
- On the Modify a Subject Area page, in step 1 of the wizard, view the details and click **Next**.
- In step 2 of the wizard, click **Manage Elements**, click **Manage New Customizations**, and in Add a Subject Area, select the hierarchy and dimensions elements, and then click **Add**.

Add a Subject Area



4. Review the selected elements and click **Finish**.



Apply and Publish the Customizations

You apply the changes to compile the sandbox and ensure that the sandbox is error free.

Then, you use the Activity tab to debug, resolve errors, and confirm that the Apply Changes action completes and is successful. Finally, you merge the changes to the main sandbox and publish the main user extensions to share the new extensions with consumers.

In this step, you apply the changes, use the Activity tab to monitor the status, merge the *MySandbox5Mar25* sandbox to the Main sandbox, and then publish the main user extension.

1. On the Semantic Model Extensions page, hover over the **MySandbox5Mar25** sandbox to view **Actions**, and then click **Apply Changes**.
2. Click the Activity tab to monitor the **Apply Changes** task on the Activity page.
3. After the changes are successfully applied, click **Publish Model** on the Semantic Model Extensions page.

4. In Publish Model, in User Extensions, select **MySandbox5Mar25** and in Security Configurations, select **All**.
5. Click **Publish**.
6. On the Semantic Model Extensions page, click the Activity tab to monitor the **Publish Customizations** task.

See [Apply Changes](#) and [Publish Model](#).

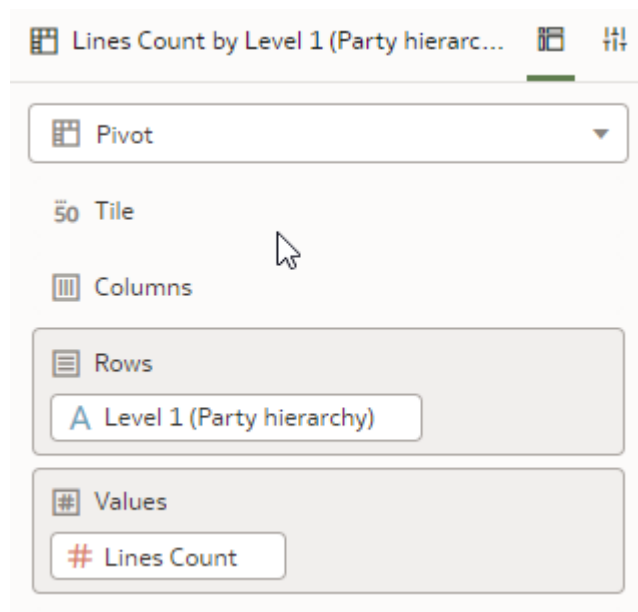
Validate the Results

Verify that your customizations are visible in the semantic model.

1. On the Fusion Data Intelligence Console, click **Go to Home Page**.
2. On the Oracle Analytics Home page, click **Create**, click **Workbook**, in Add Data, select **SCM – Sales Orders**, and then click **Add to Workbook**.
3. Verify that the new dimension with the hierarchy appears at the bottom of the folder by default.



4. Add level 1 and a measure to the visualization.



5. Expand and collapse the levels and confirm they work as expected.

Level 1 (Party hierarchy)	Lines Count
▲ US	512
▲ California	269
▲ San Diego	269
▲ 92131	269
Skylab Industries	269
▲ FL	146
▲ Lake Mary	146
▲ 32746	146
New Start Gyms	146
► IL	66
► MA	3
► NV	4
► OR	23
► Pennsylvania	1

6. Verify that the dimension fields are also available to use (without expand or collapse).



7. View the report.

Lvl1	Lvl2	Lvl3	Lvl4	Lvl Detail	Lines Count
US	California	San Diego	92131	Skylab Industries	269
US	FL	Lake Mary	32746	New Start Gyms	146
US	IL	Rockford	61105	Sykes Gym	66
US	MA	Newton	2458	Orbital Fitness Club	3
US	NV	Reno	89502	Monster Fitness	4
US	OR	Portland	97214	Fusion Fitness Club	23
US	Pennsylvania	Pittsburgh	15213	Melissa Turner	1

Use Case 8: Create a Subject Area Based on an Existing Subject Area

You can create a subject area based on an existing subject area to:

- Reuse elements from an existing subject area such as join custom fact to the prebuilt dimensions.
- Refine or clean up an existing subject area such as:
 - Only expose select folders or columns to consumer users.
 - Rename folders or columns.
 - Reorder folders or columns.
 - Remove non-required folders or columns.
 - Hide metadata fields created from data augmentation.

The prebuilt *SCM – Sales Order* subject area contains folders and columns that can be hidden, renamed, and reordered to improve the consumer experience. In this use case, you create the *SCM – Custom Sales Orders* subject area based on *SCM – Sales Orders*, an existing prebuilt subject area. The use case refines, reorders, and renames folders and columns.

This use case requires Fusion SCM Analytics subscription. However, you can apply the concepts covered in this use case to any other Fusion Data Intelligence subscription. The use case may reference Autonomous Data Warehouse prebuilt tables and synonyms and mock custom database tables and views. If you've activated the specified Fusion Data Intelligence

subscription, you may use the samples provided. The recommendation is to substitute the sample objects for your own custom Autonomous Data Warehouse objects such as custom table, materialized view, view, custom synonym, or data augmentation dataset synonym.

In this task, you:

1. [Create New Subject Area – Based on Existing One](#)
2. [Apply and Publish the Customizations](#)
3. [Validate the Results](#)

Use the following to complete this task:

- SCM – Sales Orders prebuilt subject area

Ensure that you refer to [Upload Samples for the Semantic Model Extensions Use Cases](#) and complete these prerequisites:

- Create a sandbox titled MySandbox5Mar25. See [Create Sandbox](#). Or, edit an existing sandbox on the Semantic Model Extensions page; for example, by clicking the MySandbox5Mar25 sandbox.

Create New Subject Area – Based on Existing One

You create a new subject area *SCM – Custom Sales Orders* based on the existing prebuilt subject area *SCM – Sales Orders*. You deselect unwanted columns, then reorder and rename folders and columns.

In this step, you deselect all prebuilt elements, and reselect Time, Customer, and Fact-Sales Order to refine the presented folders. You then reorder columns within the folders and rename columns and folders as desired.

1. On the Semantic Model Extensions page, click the **MySandbox5Mar25** sandbox.
2. Click **Perform Action**, click **Manage Subject Areas**, select **Create a Subject Area**, and then click **Next**.
3. Select **Create a subject are based on an existing one**, select **SCM – Sales Orders** as the base subject area, enter *SCM – Custom Sales Orders* in **New Subject Area Name**, and click **Next**.

4. In step 2 of the wizard, depending on how you plan to use the new custom subject area it may be useful to unselect everything from **SCM – Sales Orders** subject area and then start selecting what you want.

5. Select the desired elements and click **Next**. In this use case, you select **Time**, **Customer**, and **Facts – Sales Orders**.

Cancel < Back 1 2 3 4 Next >

Add additional subject areas if needed. Choose the data elements to use in your new subject area.

Available Data Elements Manage Ele... Add Subject Area

- Supply Line Details
 - Document Number
 - Document Type
 - Document Line Number
 - Document Line Quantity
 - Document UOM
 - Document Status
 - Document Creation Date
- Drop Shipment Details
 - Requisition Business Unit
 - Requisition Organization
 - Drop Shipment PO
 - Drop Shipment PO Line
 - Drop Shipment PO Schedule
 - Requisition
 - Requisition Line
 - Buyer

Selected Data Elements

- SCM - Sales Orders
 - Time
 - Customer
 - Facts - Sales Orders

6. In step 3 of the wizard, select the applicable action from the Rename, Remove, and Reorder options.

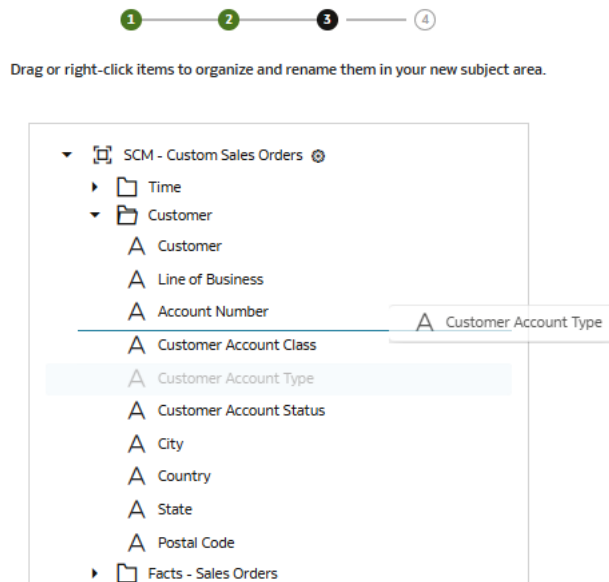
1 2 3 4

Drag or right-click items to organize and rename them in your new subject area.

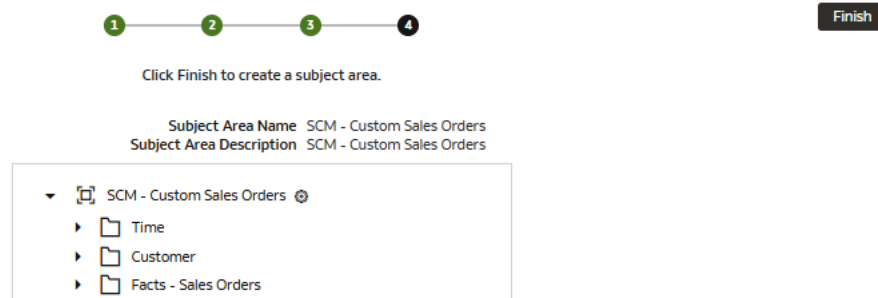
SCM - Custom Sales Orders

- Time
- Customer
- Facts - Sales Orders
 - Add Folder
 - Rename
 - Remove

7. To reorder, left click until line is visible, drag into desired position, and click **Next**.



8. Review and click **Finish**.



Apply and Publish the Customizations

You apply the changes to compile the sandbox and ensure that the sandbox is error free.

Then, you use the Activity tab to debug, resolve errors, and confirm that the Apply Changes action completes and is successful. Finally, you merge the changes to the main sandbox and publish the main user extensions to share the new extensions with consumers.

In this step, you apply the changes, use the Activity tab to monitor the status, merge the *MySandbox5Mar25* sandbox to the Main sandbox, and then publish the main user extension.

1. On the Semantic Model Extensions page, hover over the **MySandbox5Mar25** sandbox to view **Actions**, and then click **Apply Changes**.
2. Click the Activity tab to monitor the **Apply Changes** task on the Activity page.
3. After the changes are successfully applied, click **Publish Model** on the Semantic Model Extensions page.
4. In Publish Model, in User Extensions, select **MySandbox5Mar25** and in Security Configurations, select **All**.
5. Click **Publish**.

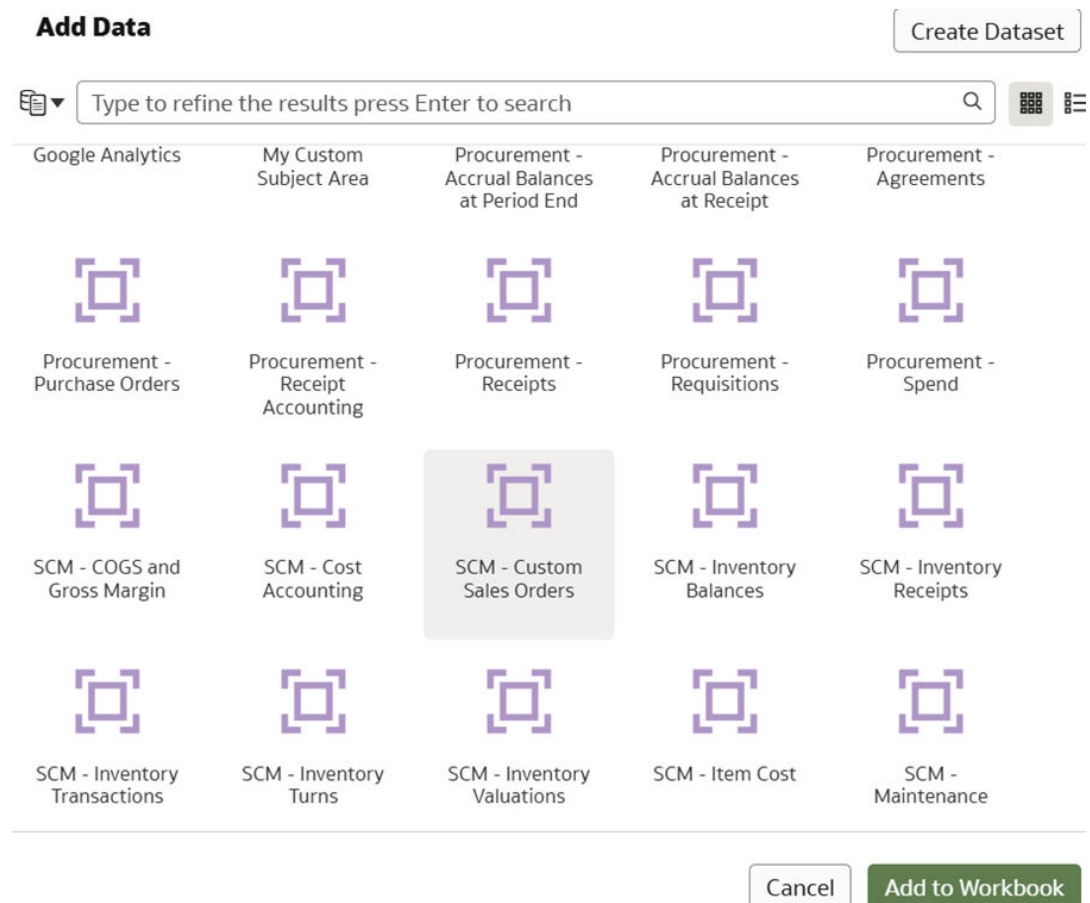
- On the Semantic Model Extensions page, click the Activity tab to monitor the **Publish Customizations** task.

See [Apply Changes](#) and [Publish Model](#).

Validate the Results

Verify that your customizations are visible in the semantic model.

- On the Fusion Data Intelligence Console, click **Go to Home Page**.
- On the Oracle Analytics Home page, click **Create**, click **Workbook**, in Add Data, select **SCM – Custom Sales Orders**, and then click **Add to Workbook**.



- Confirm that the workbook is refined, renamed, and reordered as specified, and report runs as expected.

Lines Count by Customer, Fiscal Year

Customer	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
ABC Application Software		120										
ABC Hardware Manufacturing		96										
Apex Solutions				40						21		
Blue Poppy Systems					13							
Bradshaw Hotels											2	
Business World	16	786	28	1	1	5			1			2
Champions R Us Fitness Store												1
Chengdu Erwei Medical		128										
Computer Service and Rentals	14	594	11	3	8	3			1	49	6	151
Conifer International		428	3	2			2					
Crest Unlimited				2	51	1						
Dixon Industries	8	689				2			1			
Easy Solutions				1	1	2						
Fit N Fine Equipment										11	4	2
Gansu Tianshui Petro Group		112	1									
Gruell In Fitness Center							2					

Canvas 1 36 Rows, 12 Columns

Use Case 9: Create a Subject Area

You can create a subject area to present and secure a custom view of a business model to focus on a particular business function.

The prebuilt semantic model doesn't contain the required *Google Analytics* business model and metrics. In this use case, you create, model, and present the *Google Analytics* subject area that contains data from an external source such as Google Analytics. To this subject area, add a custom fact *Fact – Google* and custom dimension *Google Date*.

You can apply the concepts covered in this use case to any of the Fusion Data Intelligence subscriptions. The use case may reference Autonomous Data Warehouse prebuilt tables and synonyms and mock custom database tables and views. If you've activated the specified Fusion Data Intelligence subscription, you may use the samples provided. The recommendation is to substitute the sample objects for your own custom Autonomous Data Warehouse objects such as custom table, materialized view, view, custom synonym, or data augmentation dataset synonym.

In this task, you:

1. [Add a Custom Fact to the Semantic Model](#)
2. [Add a Custom Dimension to the Semantic Model](#)
3. [Join the Custom Fact to the Custom Dimension](#)
4. [Present Custom Fact and Custom Dimension in the Semantic Model](#)
5. [Apply and Publish the Customizations](#)
6. [Validate the Results](#)

Ensure that you refer to [Upload Samples for the Semantic Model Extensions Use Cases](#) and complete these prerequisites:

- Create a sandbox titled MySandbox5Mar25. See [Create Sandbox](#). Or, edit an existing sandbox on the Semantic Model Extensions page; for example, by clicking the MySandbox5Mar25 sandbox.
- Create the sample fact table, FDI_X_DUMMY_GOOGLE_DATA_F, in the autonomous data warehouse associated with your Fusion Data Intelligence instance using the sample files FDI_X_DUMMY_GOOGLE_DATA_F.xlsx or FDI_X_DUMMY_GOOGLE_DATA_F.sql.

- Grant semantic model access to the table `FDI_X_DUMMY_GOOGLE_DATA_F` view for the `OAX$OAC` schema using this SQL script:

```
GRANT SELECT ON "OAX_USER"."FDI_X_DUMMY_GOOGLE_DATA_F" TO "OAX$OAC";
```

- Create the `FDI_X_GOOGLE_DATE_D_V` view using this SQL script:

```
CREATE OR REPLACE FORCE EDITIONABLE VIEW
"OAX_USER"."FDI_X_GOOGLE_DATE_D_V" ("CALENDAR_DATE", "CAL_MONTH_NUMBER",
"CAL_YEAR_ID") DEFAULT COLLATION "USING_NLS_COMP" AS
(
SELECT CALENDAR_DATE, CAL_MONTH_NUMBER, CAL_YEAR_ID
FROM DW_DAY_D
);
```

- Grant semantic model access to the `FDI_X_GOOGLE_DATE_D_V` view or the `OAX$OAC` schema using this SQL script:

```
GRANT SELECT ON "OAX_USER"."FDI_X_GOOGLE_DATE_D_V" TO "OAX$OAC";
```

- Validate that the data is loading from the sample as expected using the following SQL script:

```
SELECT * FROM OAX_USER.FDI_X_GOOGLE_DATE_D_V;
```

- Validate that the data is loading from the sample as expected using the following SQL script:

```
SELECT * FROM OAX_USER.FDI_X_DUMMY_GOOGLE_DATA_F;
```

Add a Custom Fact to the Semantic Model

You create a logical star to define the autonomous data warehouse objects, fact measures, display labels, keys, aggregation rules, and content levels.

In this step, you create a logical star to define custom fact *Fact – Google* referencing the autonomous data warehouse object `FDI_X_DUMMY_GOOGLE_DATA_F`.

- On the Semantic Model Extensions page, click the **MySandbox5Mar25** sandbox.
- Click **Perform Action**, click **Manage Logical Star**, select **Create Logical Star**, and then click **Next**.
- On the Logical Star: Fact page, click **Add Fact**.



- On the Add a Fact page, in step 1 of the wizard, select **OAX_USER** in **Schema**, select **FDI_X_DUMMY_GOOGLE_DATA_F** in **Object**, and rename **Fact Name** as **Fact - Google**. Select the **Use for Key** check box for **GOOGLE_SESSION_DATE** source column, select the **Select Fact** check box for **GOOGLE_ANALYTICS_ACTIVEUSERS** and **GOOGLE_ANALYTICS_NEWUSERS** source columns, and click **Next**.

Add a Fact

Cancel Next >

Select the table and columns to be added.

Schema * ⓘ

Object * ☒ Views ☒ Tables ☒ Synonyms

Fact Name *

Filter Search Source Column Refresh Create Column

Select Degen Attribute	Select Fact	Use for Key	Source Column	Display Name
☐	☐	☒	GOOGLE_SESSION_DATE	Google Session Date
☐	☒	☐	GOOGLE_ANALYTICS_ACTIVEUSERS	Google Analytics Active
☐	☒	☐	GOOGLE_ANALYTICS_NEWUSERS	Google Analytics Newus

5. Leave the aggregation rules as **Sum** and click **Finish**.

Add a Fact

Cancel Back Finish

Select content level, aggregation rules, and add new measures.

Create Column

Fact Column	Aggregation Rule
Google Analytics Activeusers (DOUBLE)	Sum
Google Analytics Newusers (DOUBLE)	Sum

6. Review the custom fact in the graphic mode.

Logical Star: Fact

Graphic Tabular Add Fact Manage Dimension

Fact - Google

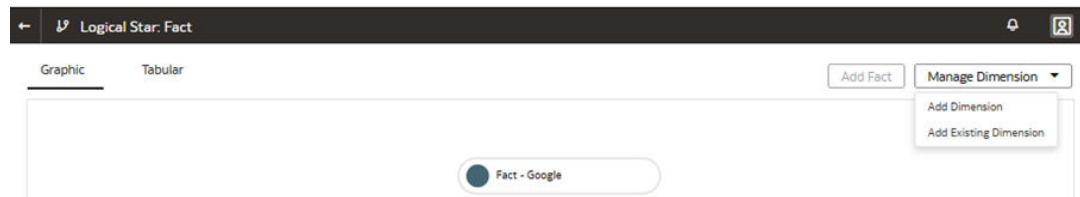
7. Continue to the next task without exiting the wizard, *Add a Custom Dimension to the Semantic Model*.

Add a Custom Dimension to the Semantic Model

You edit the logical star to define the autonomous data warehouse objects, attributes, display labels, keys, and hierarchy.

In this step, you edit *Fact – Google* logical star to add a custom dimension *Dim – Google Date* referencing the autonomous data warehouse object *FDL_X_GOOGLE_DATE_D_V* and define a multi-level hierarchy named *Google Hierarchy*. For each level, the use case defines a unique primary key and display attribute.

1. On the Logical Star: Fact page, click **Manage Dimension** and then click **Add Dimension**.



2. On the Add a Dimension page, in step 1 of the wizard, select **OAX_USER** in **Schema**, select **FDI_X_GOOGLE_DATE_D_V** in **Object**, rename **Dimension Name** as **Google Date**, select the **Use for Key** check box for **CALENDAR_DATE** and the **Add Attributes** check box for **CALENDAR_DATE**, **CAL_MONTH_NUMBER**, and **CAL_YEAR_ID**. Click **Next**.

Cancel Next >

1 — 2

Name the dimension table and choose the attributes.

Schema * ⓘ

Object * ☒ Views ☒ Tables ☒ Synonyms

Dimension Name *

Filter Search Source Column

☒ Add Attributes	☒ Use for Key	Source Column ↕	Display Name ↕
☒	☒	CALENDAR_DATE	Date
☒	☐	CAL_MONTH_NUMBER	Month
☒	☐	CAL_YEAR_ID	Year

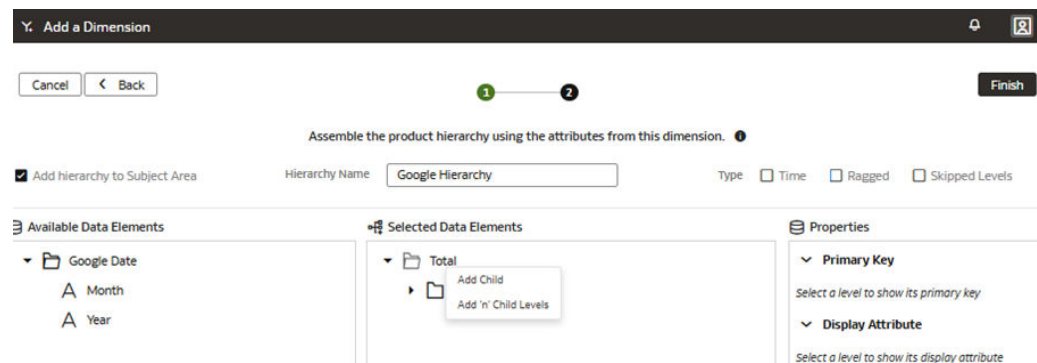
3. Under Display Name, rename as follows:

- Calendar Date as Date
- Cal Month Number as Month
- Cal Year Id as Year

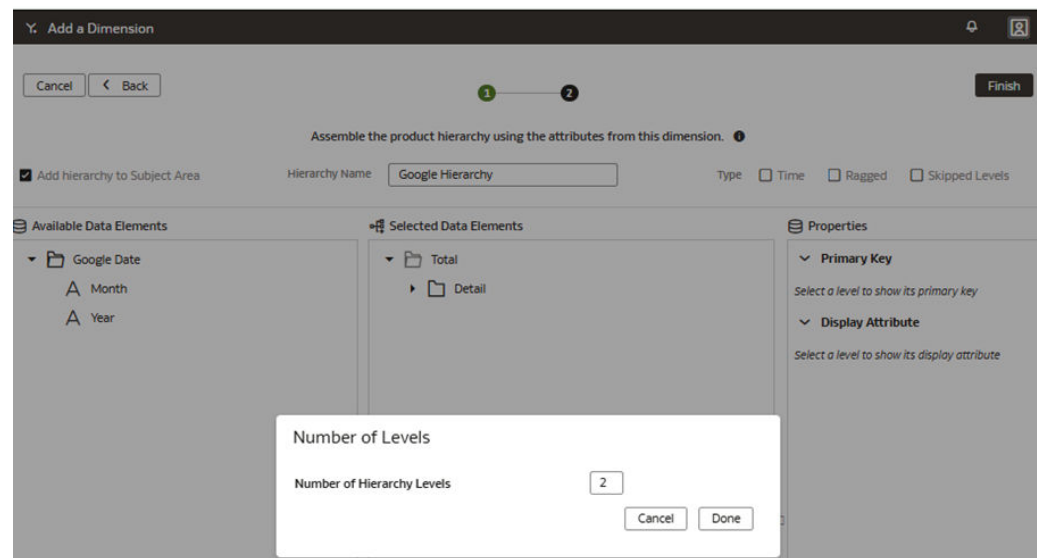
i **Note**

For unique names, you can prefix *Google* for Date, Month, and Year.

4. Specify the **Date Hierarchy** for the dimension **Google Date** as follows:
 - a. Enter Google Hierarchy in **Hierarchy Name**.



- b. Under **Selected Data Elements**, right click the top level, **Total**, and click **Add 'n' Child Levels**. In Number of Levels, specify 2 as **Number of Hierarchy Levels** and click **Done**.



- c. Rename the levels and drag corresponding columns from **Google Date** under **Available Data Elements** into each level folder.

Drag as follows:

- Drag **Google Month** to **Month** level folder.
- Drag **Google Year** to **Year** level folder.
- If not already there by default, drag **Google Date** to **Detail** level folder.

Y. Add a Dimension

Cancel < Back

1 — 2

Finish

Assemble the product hierarchy using the attributes from this dimension. 1

☒ Add hierarchy to Subject Area

Hierarchy Name:

Type: ☐ Time ☐ Ragged ☐ Skipped Levels

Available Data Elements

- Google Date

Selected Data Elements

- Total
 - Level 1
 - Year (context menu: Add Child, Add 'n' Child Levels, Rename, Remove)
 - Detail

Properties

- Primary Key

Set a primary key for this level
- Display Attribute

Set the display attribute for this level

d. Set **Primary Key** and **Display Attribute** for each level.

- **Year Folder (Data Element)** - In **Properties**, select the pencil to set **Primary Key** and **Display Attribute** for Year level to **Google Year**.

Y. Add a Dimension

Cancel < Back

1 — 2

Finish

Assemble the product hierarchy using the attributes from this dimension. 1

☒ Add hierarchy to Subject Area

Hierarchy Name:

Type: ☐ Time ☐ Ragged ☐ Skipped Levels

Available Data Elements

- Google Date

Selected Data Elements

- Total
 - Year
 - Month
 - Detail
 - Date

Properties

- Primary Key

Year
- Display Attribute

Year

- **Month Folder (Data Element)** - In **Properties**, select the pencil to set **Primary Key** and **Display Attribute** for Month level to **Google Month**.

Y. Add a Dimension

Cancel < Back

1 — 2

Finish

Assemble the product hierarchy using the attributes from this dimension. 1

☒ Add hierarchy to Subject Area

Hierarchy Name:

Type: ☐ Time ☐ Ragged ☐ Skipped Levels

Available Data Elements

- Google Date

Selected Data Elements

- Total
 - Year
 - Month
 - Detail
 - Date

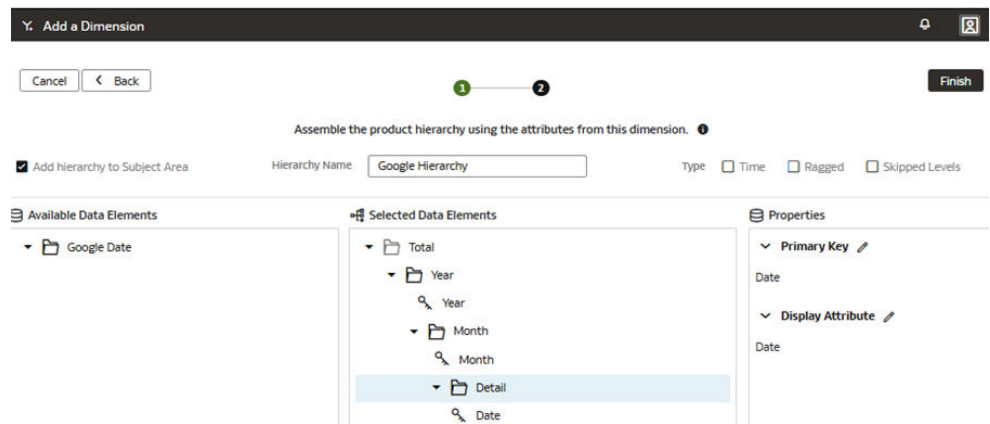
Properties

- Primary Key

Month
- Display Attribute

Month

- **Detail Folder (Data Element)** - In **Properties**, select the pencil to set **Primary Key** and **Display Attribute** for Detail level to **Google Date**.



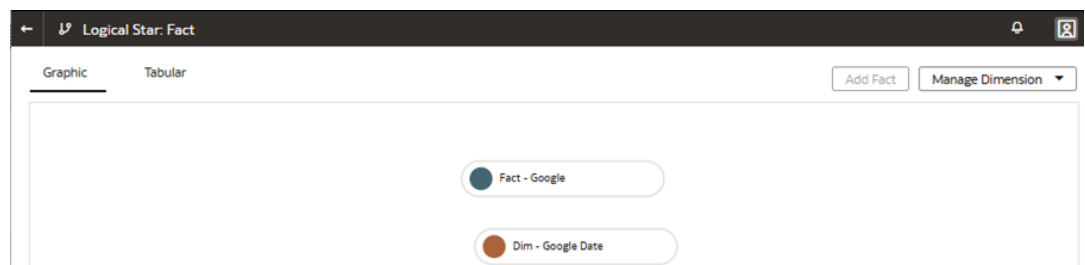
5. Click **Finish**. Continue to the next task without exiting the wizard, *Join the Custom Fact to the Custom Dimension*.

Join the Custom Fact to the Custom Dimension

You join the custom dimension hierarchy to the custom fact by defining the join type and join condition. You can define Complex joins; however, it's advised to try and use standard joins where possible.

In this step, you define a standard Inner join on the custom *Fact* – *Google* fact to the custom dimension hierarchy *Dim* – *Google Date* using the *Google Session Date* key.

1. On the Logical Star: Fact page, drag from the custom fact (**Fact - Google**) circle to the custom dimension (**Dim - Google Date**) circle to open the Join dialog.



2. In Join, specify **Inner** as **Join Type**, under **Join Condition**, select **Google Session Date (DATE)** for **Fact - Google**, select **Google Date (DATE)** for **Dim - Google Date**, and click **Done**.

Join Complex Join

Join Type

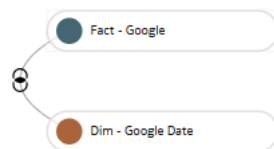
☒ Inner
 ☐ Left Outer
 ☐ Right Outer
 ☐ Full Outer

Join Condition Add Join Condition

Fact - Google		Dim - Google Date
Google Session Da	=	Date (DATE)

Cancel Done

- View the join in graphic mode.



- Click the back arrow on the Logical Star: Fact page to navigate back to the Sandbox: MySandbox5Mar2025 page.

Present Custom Fact and Custom Dimension in the Semantic Model

You modify the subject area to present the new custom fact and its aggregable metrics, along with the new custom dimension attributes and hierarchy levels.

The fact is represented as a folder containing measure columns in the subject area. The dimension is represented as a folder containing columns in the subject area. The hierarchy levels are represented at the bottom of the custom dimension folder. Hierarchy levels used in Workbooks can expand and collapse to reveal or hide detailed rows.

In this step, you create a new subject area *Google Analytics* to present the new fact folder *Fact - Google* containing the *Google Analytics Activeusers* and *Google Analytics Newusers* measures, along with the new custom *Google Date* folder containing the custom hierarchy *Google Hierarchy* with two levels (Year, Month) and lowest Detailed level.

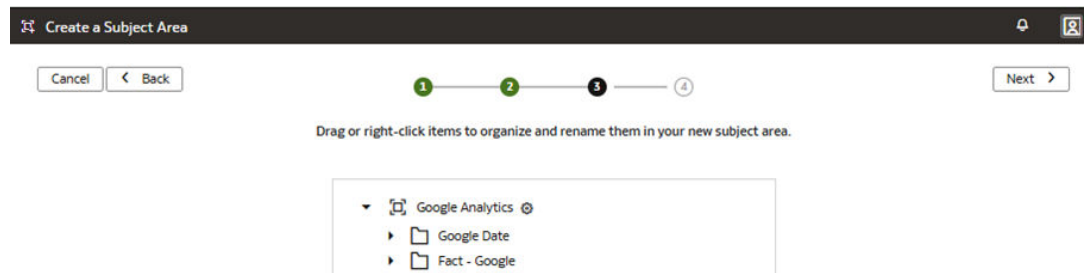
- On the Sandbox: MySandbox5Mar2025 page, click **Perform Action**, click **Manage Subject Area**, select **Create a Subject Area**, and then click **Next**.
- On the Create a Subject Area page, in step 1 of the wizard, enter *Google Analytics* in **New Subject Area Name**, and click **Next**.

3. In step 2 of the wizard, click **Manage Elements** and then click **Manage New Customizations**.
4. In Add a Subject Area, select the custom dimension, **Dim - Google Date** dimension folder (including the hierarchy), and the custom fact, **Fact - Google** along with all the measures, and then click **Add**.

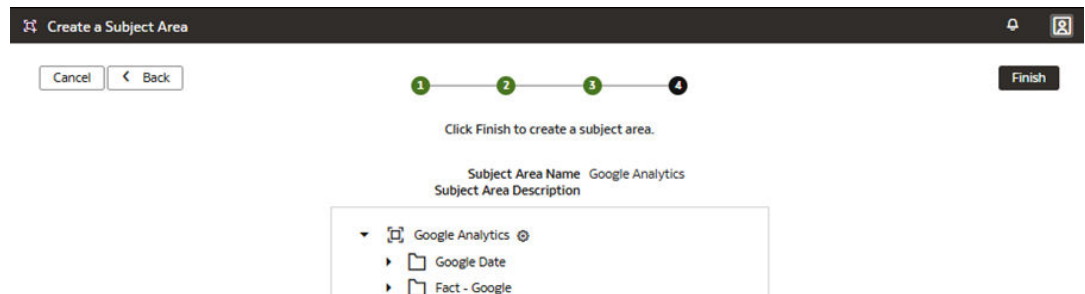
- ▼ ☒ Dim - Google Date
 - ▼ ☒ Google Hierarchy
 - ☒ Year
 - ☒ Month
 - ☒ Detail
 - ☒ A Date
 - ☒ A Month
 - ☒ A Year

5. Review and click **Next**.

6. In step 3 of the wizard, right click the items in the custom subject area to rename as desired or drag the items to reorder and click **Next**.



7. Review and click **Finish**.



Apply and Publish the Customizations

You apply the changes to compile the sandbox and ensure that the sandbox is error free.

Then, you use the Activity tab to debug, resolve errors, and confirm that the Apply Changes action completes and is successful. Finally, you merge the changes to the main sandbox and publish the main user extensions to share the new extensions with consumers.

In this step, you apply the changes, use the Activity tab to monitor the status, merge the *MySandbox5Mar25* sandbox to the Main sandbox, and then publish the main user extension.

1. On the Semantic Model Extensions page, hover over the **MySandbox5Mar25** sandbox to view **Actions**, and then click **Apply Changes**.
2. Click the Activity tab to monitor the **Apply Changes** task on the Activity page.
3. After the changes are successfully applied, click **Publish Model** on the Semantic Model Extensions page.
4. In Publish Model, in User Extensions, select **MySandbox5Mar25** and in Security Configurations, select **All**.
5. Click **Publish**.
6. On the Semantic Model Extensions page, click the Activity tab to monitor the **Publish Customizations** task.

See [Apply Changes](#) and [Publish Model](#).

Validate the Results

Verify that your customizations are visible in the semantic model.

1. On the Fusion Data Intelligence Console, click **Go to Home Page**.
2. On the Oracle Analytics Home page, click **Create**, click **Workbook**, in Add Data, select **Google Analytics**, and then click **Add to Workbook**.

Add Data Create Dataset

Type to refine the results press Enter to search

 Common - Custom Data Usage Metrics	 Common - Data Augmentation	 Common - Data Validation	 Common - Usage Tracking	 Common - Usage Tracking - Physical Query
 Common - Warehouse Refresh Statistics	 Enterprise Contracts - Contracts	 Financials - GL Balance Sheet	 Financials - GL Detail Transactions	 Financials - GL Profitability
 Google Analytics	 My Custom Subject Area	 Procurement - Accrual Balances at Period End	 Procurement - Accrual Balances at Receipt	 Procurement - Agreements
				

Cancel Add to Workbook

3. Create a report based on Google Analytics, the custom subject area that you created. Use the columns from the **Google Date** folder and measures from **Fact - Google** to confirm that the fact and dimension are joined correctly.

Year (Google Hierarchy)	Google Analytics Activeusers	Google Analytics Newusers
2024	5,922,048.00	2,720,577.00
1	579,018.00	263,336.00
01/01/2024	18,370.00	8,386.00
01/02/2024	18,444.00	8,390.00
01/03/2024	18,488.00	8,390.00
01/04/2024	18,518.00	8,391.00
01/05/2024	18,539.00	8,411.00
01/06/2024	18,542.00	8,423.00
01/07/2024	18,569.00	8,427.00
01/08/2024	18,592.00	8,439.00
01/09/2024	18,624.00	8,442.00
01/10/2024	18,633.00	8,446.00
01/11/2024	18,635.00	8,451.00
01/12/2024	18,638.00	8,460.00
01/13/2024	18,645.00	8,461.00
01/14/2024	18,671.00	8,490.00

Extend the Semantic Model Using the Branch Framework

You customize your semantic model in the non-production environments such as development or test by creating branches and adding steps to those branches.

Note

Oracle recommends that you migrate to the semantic model extensions Sandbox framework because the Branch framework is planned to be deprecated in a future release.

You use a branch or version to publish your changes to the model. You can apply the model from the branch to a local service instance for testing. When the changes are correct, you can merge that branch with the main branch. You can merge multiple branches with the main branch over time. When you have a set of changes finalized, you can version the main branch and promote that branch to the production environment. After promoting the customizations to the production environment, you can't directly add further customizations to the semantic model in the production environment.

You can copy the steps from the main branch, edit them directly, and later merge them with the main branch. However, you must ensure not to perform two or multiple levels of copies. For example, you must not copy steps from the main branch to another branch, then copy the steps over to yet another branch, and then merge the second branch with the main branch.

You can customize the model by extending prebuilt dimensions with additional attributes from another data source, by adding a fact to an existing subject area, and by reorganizing the prebuilt subject areas to create a new subject area to name a few. If you've merged an external

application, then note that both external semantic model and semantic model extensions can co exist. On the Publish Model page, select "Yes" if you want the external semantic model to be included.

Don't maintain changes in a local branch for long periods of time. Local branches can become out of synchrony when changes to the Oracle Fusion Data Intelligence environment occur. Use a local branch for development, then merge to the main branch after user acceptance testing. Promote the main branch from Development to Production environments using the Semantic Extensions bundle. Whenever a system extension run is replaying the master branch, you must not edit the main branch during this time as that might cause a conflict leading to failure of the semantic extensions.

Topics:

- [Migrate to the Sandbox Framework for Semantic Model Extensions](#)
- [Create a Branch](#)
- [Edit a Branch](#)
- [Add a Step to a Branch](#)
- [Edit or Delete a Branch Step](#)
- [Reapply a Branch Step](#)
- [Disable and Enable the Disabled Steps](#)
- [Copy Steps from One Branch to Another](#)
- [View Details of Failed Branch Steps](#)
- [Merge the Customization Branches with the Main Branch](#)
- [Reorder Steps of Customization Branches](#)
- [Delete a Main Branch Step](#)
- [Tag the Main Branch's Steps](#)
- [Publish the Model](#)
- [Load Customization Data to the Autonomous Data Warehouse](#)

Migrate to the Sandbox Framework for Semantic Model Extensions

Prior to switching over to the Sandbox framework for semantic model extensions, note the tasks and ensure to take appropriate action where required in the suggested sequence.

Begin by migrating the non-production instances to the Sandbox framework before migrating the production instance. If you've multiple instances such as development, stage, and production, prepare a semantic model extensions migration timeline for each instance. After the initial instance is migrated, it isn't possible to bundle the semantic model extensions until the target instance is on the same semantic model extension framework. It's recommended to complete the migration of the production instance promptly after migrating the lower instances to avoid bundle delays.

Topics:

1. [Perform the Pre-Migration Tasks](#)
2. [Validate the Main Branch](#)
3. [Schedule the Migration](#)

4. [Perform the Post Migration Verifications](#)
5. [Revert to the Branch Framework for Semantic Model Extensions](#)

Perform the Pre-Migration Tasks

Prior to the migration, note these and take appropriate action:

1. Ensure that you schedule or apply all the release updates prior to the migration to avoid not being able to rollback.

The option to revert to the Branch framework gets disabled after 60 days from the migration date or an Application update, if it happens first post migration to the Sandbox framework.
2. As a pre-clean up task, create a Semantic Model Extensions bundle of the published branch prior to making any semantic model extension changes.
3. Delete or enable disabled steps in the Main branch to be migrated because the migration process migrates only the enabled steps.
4. Delete or merge all unpublished branches because these won't be migrated.
5. Merge the published branch with the main branch.
6. Publish the Main Branch, confirm that all steps are error free, and confirm that all the subject areas and security referenced in workbooks operate as expected.
7. As a post-clean up task, create a Semantic Model Extensions bundle of the published Main Branch.
8. If you've multiple instances such as development, stage, and production, prepare a semantic model extension migration timeline for each instance. After the initial instance is migrated, it won't be possible to bundle the semantic model extensions until the target instance is on the same semantic model extension framework. It's recommended to complete the migration of the production instance, promptly after migrating the lower instances to avoid bundle delays.

Validate the Main Branch

On the Semantic Model Extensions page, when you see the banner to schedule the migration, don't click **Schedule now** until you've validated the main branch successfully with no errors.

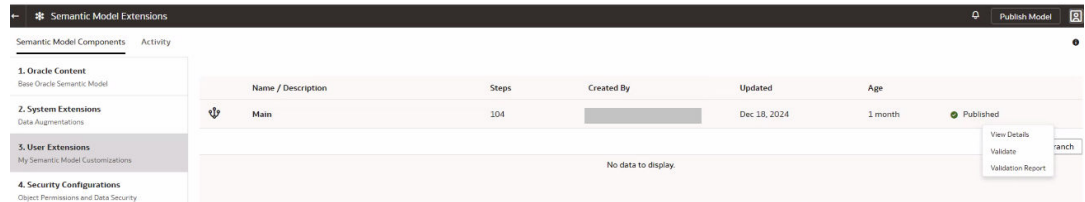
Note these and take applicable action prior to initiating the validation process:

- Don't perform any development or administrative activities that effect the semantic model extensions during validation or while the migration is in process. This includes modifying existing data augmentation or creating new data augmentation that have the semantic model extensions.
- Remove leading and trailing spaces from the object names.
- Remove special characters such as parenthesis from the object names.
- Ensure all keys are present on the join columns.
- Confirm all referenced source database objects and columns exist in Autonomous Data Warehouse.
- Confirm grants are applied on all referenced source database objects using

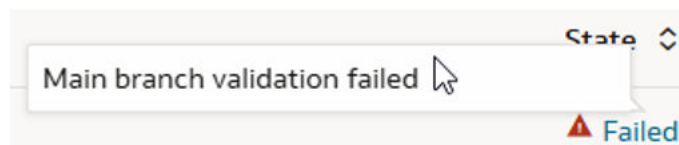
```
GRANT SELECT ON "OAX_USER"."TABLE_VIEW" TO "OAX$OAC";
```

- Resolve any duplicate object names.

1. On the Semantic Model Extensions page, click the Actions Menu for the Main Branch, and then click **Validate** to produce the Validation report.



2. Click the Activity tab on the Semantic Model Extensions page and wait for the validation of the main branch to complete. If the **State** is **Failed**, then don't proceed with the migration until you've resolved all of the errors.

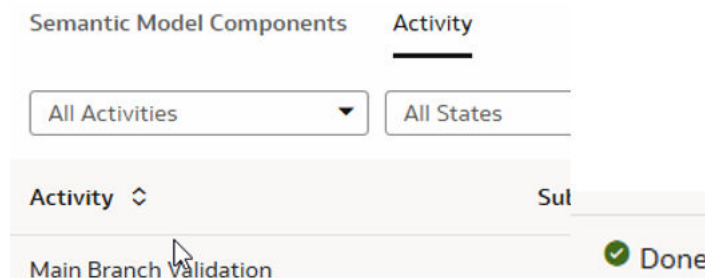


3. Click the Actions Menu for the Main Branch, and then click **Validation Report** to download and review the validation report.

Note

The validation report is enabled only if the validation fails with errors.

4. Resolve all errors in the validation report and repeat Validate and Validation Report steps until you've resolved all errors. For any errors unresolvable, contact Oracle Support before proceeding.
5. Click the Activity tab on the Semantic Model Extensions page and wait for the validation of the main branch to complete. If the **State** is **Done** and the report is error free, then proceed with scheduling the migration.



Note

Don't proceed with the migration until all errors are resolved.

Schedule the Migration

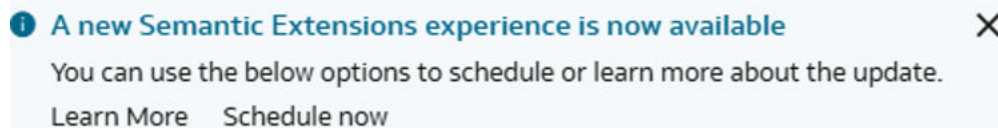
You can initiate migration of your extensions to the Sandbox framework by submitting the request from the banner message on the Semantic Model Extensions page when you click **User Extensions**.

Set up the migration to happen automatically by scheduling it from the banner message. Ensure that you schedule the migration during a low usage period to avoid reporting outages.

Note

You can't use the semantic model extensions capability during the migration process.

1. On the Semantic Model Extensions page, in the banner announcing the ability to schedule the migration, click **Schedule now**.



2. In the Migrate dialog, specify the date and time for the migration to begin.

Migrate

Start the migration from Branch to Sandbox flow to have new experience.

Date		Time - UTC Timezone	▼
Cancel		Migrate	

3. Track the progress of the migration in the Activity tab on the Semantic Model Extensions page when the migration starts.

Perform the Post Migration Verifications

After the migration is complete, note these and take appropriate action:

The migration process converts the single Main Branch to a single Semantic Model Extensions Sandbox. It migrates the existing customizations to the new framework. The security configurations remain unchanged in the new framework, hence no action from you is required.

1. On the Semantic Model Extensions page, click the Activity tab and monitor the status of the migration.

Once the migration is complete, you receive a notification on the Console. If the migration fails, click the **Failed** state in the Activity tab for the applicable task and resolve the issues. For any unresolvable issues, reach out to Oracle Support.

2. After the migration is completed successfully, on the Semantic Model Extensions page, click **Migration Details**.

3. In Migrated Sandboxes, click the download icon to download the migration report.

This report shows which customizations are available for which object with the Main branch object to the Main sandbox object mapping. This enables you to see all your customizations that have been brought over. In most cases, operations like Add Dim, Add Fact, Add Variable, Extend Dimension, and Add Columns have 1:1 correspondence between the old and the new framework. The Main sandbox is published and ready for use. All your subject areas, visualizations, and reports remain unchanged.

4. Sign in and sign out of your service after the migration completes. Confirm that all the subject areas and security referenced in the workbooks operate as expected.

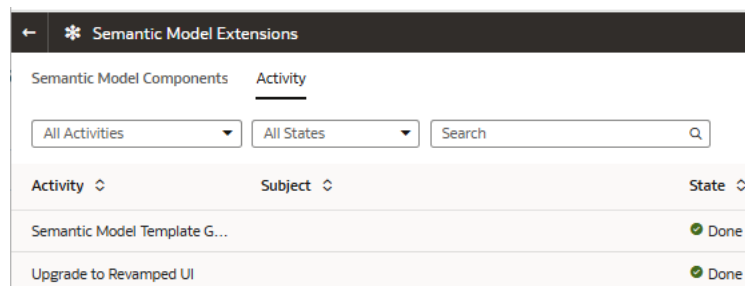
Revert to the Branch Framework for Semantic Model Extensions

Post migration, an option to revert to the Branch framework if customizations aren't as expected is available. The migration rollback option gets disabled after 60 days from the migration date or an Application update, if it happens first post migration to the Sandbox framework.

Note these:

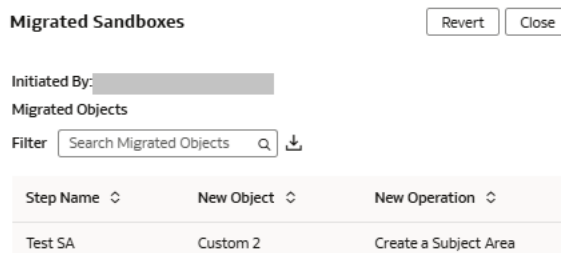
- Ensure to complete the reversal process within this period if you must revert. If you choose to revert, then the semantic model rolls back to the state prior to the migration being initiated. You can't rollback the migration if you've completed an Application update after completion of the migration process.

- Oracle maintains a backup of the existing semantic model extensions at the time the migration is initiated. If you encounter issues during or after migration, Oracle uses the backup to troubleshoot and enable required extensions on the new framework. Should you choose to revert to the previous state, the semantic model is restored from this backup.
 - If you've made further changes to the semantic model in the new framework before choosing to revert, these customizations can't be migrated to the previous semantic model extensions framework.
1. On the Semantic Model Extensions page, click the Activity tab and verify that the status of the scheduled migration task **Upgraded to Revamped UI** is **Done**.



Semantic Model Extensions		
Semantic Model Components		Activity
All Activities	All States	Search
Activity	Subject	State
Semantic Model Template G...		Done
Upgrade to Revamped UI		Done

2. On the Semantic Model Extensions page, click **Migration Details**.
3. In Migrated Sandboxes, click **Revert** to rollback the migration.



Migrated Sandboxes		
Initiated By: [Redacted]		
Migrated Objects		
Filter	Search Migrated Objects	[Download Icon]
Step Name	New Object	New Operation
Test SA	Custom 2	Create a Subject Area

Create a Branch

To begin customizing your semantic model, create a branch of the main semantic model.

You can add customizations to a test instance only. After your customizations are ready, use the Bundles functionality to move the desired objects to other environments. See [Bundle Your Application Artifacts](#).

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Semantic Model Extensions** under **Application Administration**.
3. On the Semantic Model Extensions page, click **User Extensions**.
You see the main and existing customization branches.
4. In the User Extensions region, for Customization Branches, click **Create Branch** to create a branch as an empty container.
5. In Create a Branch, enter a name for your branch, for example, Add Cost Center.
6. Optional: Add a description and click **Done**.

You see the Add Step dialog. You can continue to add the steps or you can add steps to the new branch container later using the **Add Step** button. See [Add a Step to a Branch](#). You see the new branch on the Semantic Model Extensions page under **Customization Branches**.

Edit a Branch

Before you apply a branch to the main branch of your semantic model, you can edit the branch description to make it more meaningful.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Semantic Model Extensions** under **Application Administration**.
3. On the Semantic Model Extensions page, click **User Extensions**.
4. In the User Extensions region, under Customization Branches, hover over a branch to view **Actions**.

You see the actions that are applicable to the branch.

5. From **Actions**, click **Edit Description** to update the branch description, and then click **Done**.

Add a Step to a Branch

You can add customization types such as "Extend a Dimension" as a step to an existing unapplied branch or a new branch that you create.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Semantic Model Extensions** under **Application Administration**.
3. On the Semantic Model Extensions page, click **User Extensions**.
You see the main and existing customization branches.
4. In the User Extensions region, under Customization Branches, click a branch to open the Branch page.
5. On the Branch page, click **Add Step**.
6. In Add Step, select a customization type such as **Extend a Dimension**.

You see the wizard sequence to add details for the selected customization type.

Add a Dimension

You can create a custom dimension, join it to the prebuilt or custom facts, and add the custom dimension to any subject area to meet your business requirements.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Semantic Model Extensions** under **Application Administration**.
3. On the Semantic Model Extensions page, click **User Extensions**.
You see the main and existing customization branches.
4. In the User Extensions region, under Customization Branches, click a branch to open the Branch page.

5. On the Branch page, click **Add Step**.
6. In Add Step, select **Add a Dimension**.
You see the wizard sequence to add a dimension.
7. In step 1 of the wizard, enter a name for your customization step, for example, Add Point of Sale Dimension and add a brief description.
8. In step 2 of the wizard, select the schema, and then select the dimension table in **Object**. For example, COST_CENTER_VIEW1.

Note

If you don't see the schema or table, then ensure that you have granted select permission to the OAX\$OAC schema in the autonomous data warehouse. For example, grant select on <schema>.<table> to OAX\$OAC. See [Load Customization Data to the Autonomous Data Warehouse](#).

You see the attributes available in the selected dimension table. You can use the **Search** and **Filter** fields to limit the attributes displayed for the dimension table.

9. Select the attributes that you want to use from the dimension table and indicate an attribute to be used as the key for joining with a fact table in the target subject area.
10. If any of the selected attributes have been removed or modified in the source table since the last refresh, then you see such columns highlighted and a message asking whether you want to update the table. Select **OK** in the message to reload the source columns. If you want to review the changes to the source columns, then click **Cancel** in the message, and later click **Refresh** to reload the source columns. If any of the attributes that you haven't selected have been removed or modified in the source table, then you see the refreshed list of source columns. If any of the custom columns fail validation during the refresh, then you see a message asking you to resolve the cause of failure and revalidate.
11. Optional: Click **Create Column** to add another column to your dimension table in the target subject area using these instructions:
 - a. In Create Column, enter a display name.
 - b. Under **Data Elements**, search for a data element from the physical table of the selected dimension table.
 - c. From the search results, double-click the data element to place it in the text pane.
 - d. Under **Functions**, search for a function to construct a column using expressions. For example, search for functions like "substring" or "concatenate" to construct new expression-based columns. From the search results, double-click the applicable result to add it to the central text pane.
 - e. Click **Validate**, and then click **Save**.
12. In step 3 of the wizard, select, drag, and drop available data elements into the Selected Data elements pane to design a hierarchy for the dimension and then click **Next**. In the Selected Data Elements pane, click a level to update its primary key and set its display attribute in the Properties pane.

You can add multiple levels in your hierarchy by right-clicking at a level and selecting Add Child or Add 'n' Child Levels. For example, your Region Hierarchy can have Region Total at Level 1, Region at Level 2, Country at Level 3, State at Level 4, and City at Level 5.

13. In step 4 of the wizard, select **Skip Joins** if you don't want to join the selected dimension table to any facts. To join the selected dimension table to a fact, select the fact table, fact key, and join type. Click **Content Level** to specify the content level for your fact.

You can join a single fact key column to multiple dimension keys.

Note

Ensure that the data types of the join key pairs match. If your data types don't match but you want to proceed, then click Yes in the message. However, if the data types can't be absolutely matched, then the server-side validation rejects that join completely and you must change the data type of custom key column to match the factory data type.

14. Optional: Click **Add Fact Table** to select another fact table to link your dimension to and define the join.
15. Click **Next**.
16. Optional: In step 5 of the wizard, select the subject areas to include the new dimension and click **Finish**.

You see a message that your step is being applied to the customization branch. After it's applied, you see the new customization step in the customization branch. You can now apply the customization branch to the main branch or edit it to add more steps.

Note

If you've created Add a Dimension steps using the previous functionality, you can still edit and reapply through the Edit option.

Add a Fact Table

Add a fact table to an existing subject area.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Semantic Model Extensions** under **Application Administration**.
3. On the Semantic Model Extensions page, click **User Extensions**.
You see the main and existing customization branches.
4. In the User Extensions region, under Customization Branches, click a branch to open the Branch page.
5. On the Branch page, click **Add Step**.
6. In Add Step, select **Add a Fact**.
You see the wizard sequence to add a fact.
7. In step 1 of the wizard, enter a name for your customization step, for example, Add Travel Expense and add a brief description.
8. Select a target subject area to which you want to add the fact. For example, Financials - AP Expense.

You see the details of the selected subject area.

9. Click **Next**.
10. In step 2 of the wizard, select the schema, and then select a view or table or synonym as the object. For example, FCT_CALC_Extensions.

You see the fact table for the selected object.
11. In the details of the fact table for the selected source table, click the **Select Fact** and **Use for Key** check boxes for the source columns that you want to add to your new fact table in the target subject area.
12. Optional: In the details of the fact table for the selected source table, under **Select Degen Attribute**, click the check boxes for the attributes for which you need the degenerate dimension to be created.
13. If any of the selected attributes have been removed or modified in the source table since the last refresh, then you see such columns highlighted and a message asking whether you want to update the table. Select **OK** in the message to reload the source columns. If you want to review the changes to the source columns, then click **Cancel** in the message, and later click **Refresh** to reload the source columns. If any of the attributes that you haven't selected have been removed or modified in the source table, then you see the refreshed list of source columns. If any of the custom columns fail validation during the refresh, then you see a message asking you to resolve the cause of failure and revalidate.
14. Optional: Click **Create Column** to add a new column to your new fact table in the target subject area using these instructions:
 - a. In Create Column, enter a display name.
 - b. Under **Data Elements**, search for a data element from the physical table of the selected dimension table.
 - c. From the search results, double-click the data element to place it in the text pane.
 - d. Under **Functions**, search for a function to construct a column using expressions. For example, search for functions like "substring" or "concatenate" to construct new expression-based columns. From the search results, double-click the applicable result to add it to the central text pane.
 - e. Click **Validate**, and then click **Save**.
15. Click **Next**.
16. In step 3 of the wizard, use the Diagram or Tabular tabs to specify the joins to link your new fact table to the dimensions in the selected subject area.

Follow these instructions to specify the joins using the Diagram tab:

- a. Click **Add Table**.
- b. In Add Table, select the dimensions to add and click **OK**.
- c. Drag from the dimension's port (dark green circle) to the fact table's port (brown circle) to create a join link. You see the Join dialog.
- d. In the Join dialog, select the type of join, the fact table column, and the dimension key column. Click **Add Join Condition** to add multiple join conditions and then click **Join**. If you want to provide expressions as join conditions, then click **Complex Join** and in Create Joins, click **Add Joins**, select the target and source logical tables, enter the join condition as an expression, and click **OK**.

Follow these instructions to specify the joins using the Tabular tab:

- a. Click **Add Join**.
- b. In Add Table, select the dimension to add and click **OK**. You see the Join dialog.

- c. In the Join dialog, select the type of join, the fact table column, and the dimension key column. Click **Add Join Condition** to add multiple join conditions and then click **Join**. If you want to provide expressions as join conditions, then click **Complex Join** and in Create Joins, click **Add Joins**, select the target and source logical tables, enter the join condition as an expression, and click **OK**.
17. Optional: Click **Skip Joins** if you don't want to join a dimension now.
18. Click **Next**.
19. In step 4 of the wizard, select the aggregation rule for each fact column to set the aggregation behaviors.
20. Optional: You can set the time-balanced aggregation rule for a time dimension and hierarchy level-based aggregation rule for a dimension using these steps:
 - a. For a fact column, click the Time-Balanced Aggregation icon.
 - b. In the Time-Balanced Aggregation dialog, click **Add Time Dimension**, adjust the aggregation rule, and then click **OK**.
 - c. For a fact column, click the Hierarchy Level-Based Aggregation icon, select the dimension and level. Click **Add Dimension** to add more dimensions. Click **OK**.

Use a time-balanced aggregation when the added measure mustn't be "aggregated" by default across a time dimension. Oracle Fusion Data Intelligence supports non-aggregation types like "Last" or "First" in place of the "SUM" aggregation type when required. Use a level-based aggregation when the underlying measure must always be calculated to a specific level of a predefined dimensional hierarchy. For example, in a product hierarchy that has the Product Total, Product Category, Product Sub-Category, and Product Details levels, you add a new measure called "Revenue" and need this "Product Category Revenue" measure to be aggregated to Product Category, then you must use the level-based aggregation and choose the right level of the Product Dimension. This setting enables Oracle Fusion Data Intelligence to always aggregate and show the value of the measure at the Product Category level. This is useful when you need to calculate Product Revenue as a % of Category Revenue.

21. Click **Next**.
22. Optional: Select additional subject areas to add the fact.
23. Click **Finish**.

You see a message that your step is being applied to the customization branch. After it's applied, you see the new customization step in the customization branch. You can now apply the customization branch to the main branch or edit it to add more steps.

Add a Hierarchy

Add a hierarchy to a dimension table in an existing subject area.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Semantic Model Extensions** under **Application Administration**.
3. On the Semantic Model Extensions page, click **User Extensions**.

You see the main and existing customization branches.
4. In the User Extensions region, under Customization Branches, click a branch to open the Branch page.
5. On the Branch page, click **Add Step**.

6. In Add Step, select **Add a Hierarchy**.
You see the wizard sequence to add a hierarchy.
7. In step 1 of the wizard, enter a name for your customization step, for example, Add Region Hierarchy and add a brief description.
8. Select the subject area, the folder of the dimension table, and the dimension table to which you want to add a hierarchy.
You see the existing hierarchies and the hierarchy levels in the selected dimension. If there aren't any hierarchies, then you see a message informing you that there are no hierarchies in the selected dimension.
9. Click **Next**.
10. In step 2 of the wizard, assemble the product hierarchy using the attributes from this dimension table with these instructions:
 - a. Enter a hierarchy name. For example, Region Hierarchy.
 - b. Select, drag, and drop available data elements into the Selected Data elements pane to design a hierarchy that you want. You can add multiple levels in your hierarchy by right-clicking at a level and selecting **Add Child** or **Add 'n' Child Levels**. For example, your Region Hierarchy can have Region Total at Level 1, Region at Level 2, Country at Level 3, State at Level 4, and City at Level 5.
 - c. In the Selected Data Elements pane, click a level to update its primary key and set its display attribute in the Properties pane.
11. Click **Next**.
12. Optional: In step 3 of the wizard, select additional subject areas to include the new hierarchy.
13. Click **Finish**.
You see a message that your step is being applied to the customization branch. After it's applied, you see the new customization step in the customization branch. You can now apply the customization branch to the main branch or edit it to add more steps.

Add Session Variables

Add custom session variables that you can include in the analyses. After merging this step to the Main branch and publishing it, the custom session variables are available in the custom security configuration user interface only.

The SQL query that you define is executed by user OAX\$OAC. If you're using another schema in the query, then you must mention the schema name as prefix. You must ensure to grant user OAX\$OAC access to all the database objects used in the query.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Semantic Model Extensions** under **Application Administration**.
3. On the Semantic Model Extensions page, click **User Extensions**.
You see the main and existing customization branches.
4. In the User Extensions region, under Customization Branches, click a branch to open the Branch page.
5. On the Branch page, click **Add Step**.
6. In Add Step, select **Add Session Variables**.

You see the wizard sequence to add the session variables and a list of existing session variables.

7. In step 1 of the wizard, check if any of the existing session variables serve your purpose.
If yes, then you can exit the wizard and use the applicable existing session variables in your analyses. If no, then continue with the next steps to create the session variables that you require.
8. Enter a name for your customization step, for example, Add a Session variable using Invoice Received Date and add a brief description. Click **Row-wise Initialization** to configure cache settings.
9. Click **Next**.
10. In step 2 of the wizard, define the SQL query and create the initialization block using these instructions:
 - a. Enter a name and description for the initialization block.
 - b. Select a preceding initialization block.
 - c. Enter the SQL query that would be executed in the autonomous data warehouse and return a value that you can use in the reports. For example, if you want to get the Exchange Rate Type that's defined in Oracle Fusion Data Intelligence into a session variable, then you can use the following SQL script:

```
SELECT PARAMETER_VALUE FROM DW_CONTENT_PARAM_CONFIG WHERE  
PARAMETER_CODE='PARAM_GLOBAL_EXCHANGE_RATE_TYPE'
```

11. Click **Next**.
12. In step 3 of the wizard, create the session variables using the output of the initialization block created in step 2 of the wizard.
13. Click **Finish**.

You see a message that your step is being applied to the customization branch. After it's applied, you see the new customization step in the customization branch. You can now apply the customization branch to the main branch or edit it to add more steps.

Extend a Dimension

Extend prebuilt dimensions with additional attributes from another data source.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Semantic Model Extensions** under **Application Administration**.
3. On the Semantic Model Extensions page, click **User Extensions**.
You see the main and existing customization branches.
4. In the User Extensions region, under Customization Branches, click a branch to open the Branch page.
5. On the Branch page, click **Add Step**.
6. In Add Step, select **Extend a Dimension**.
You see the wizard sequence to extend a dimension.
7. Enter a name for your customization step, for example, Add Cost Center Type.
8. Select a target subject area, for example, Financials GL Profitability.

9. In **Folder**, select a dimension that you want to extend, for example, Cost Center.
10. Select a logical table, for example, Dim - Cost Center.
You see the available attributes in the table.
11. Click **Next**.
12. Select a schema and table from the database.
You see the available attributes in the table.
13. Select the columns that you want to expose or use as a key for creating the join.
14. Click in the **Display Name** table field to enter a new name for the column or to edit an existing one and then click **Enter** to accept or click **Esc** to cancel.
15. If any of the selected attributes have been removed or modified in the source table since the last refresh, then you see such columns highlighted and a message asking whether you want to update the table. Select **OK** in the message to reload the source columns. If you want to review the changes to the source columns, then click **Cancel** in the message, and later click **Refresh** to reload the source columns. If any of the attributes that you haven't selected have been removed or modified in the source table, then you see the refreshed list of source columns. If any of the custom columns fail validation during the refresh, then you see a message asking you to resolve the cause of failure and revalidate.
16. Optional: Click **Create Column** to create a new column in the selected dimension table using these instructions:
 - a. In Create a new column, enter a display name, for example, Cost Type.
 - b. Under **Data Elements**, search for a data element from the physical table of the selected dimension table.
 - c. From the search results, double-click the data element to place it in the text pane.
 - d. Under **Functions**, search for a function to construct a column using expressions. For example, search for functions like "case" to construct new expression-based columns. From the search results, double-click the applicable result to add it to the text pane.
 - e. Click **Validate**, and then click **Save**.
17. Click **Save**.
18. Click in the **Source Column** table field to edit the column definition.
19. Click **Save**.
You see the new column in the Data preview section in a highlighted color.
20. Click **Next**.
21. Select a join key to pair with the source column. If you want to provide expressions as join conditions, then click **Complex Join** and in Create Joins, click **Add Joins**, select the target and source logical tables, enter the join condition as an expression, and click **OK**.
22. Click **Next**.
23. Select the subject areas that should use this customization.

 Note

The Subject Area that you initially selected is selected by default and is read-only. By default, all additional subject areas are selected. Deselect the additional subject areas that shouldn't use this customization.

24. Click **Finish.**

You see the new customization step in the customization branch. You can now apply the customization branch to the main branch or edit it to add more steps.

Add Derived Columns

Add a derived column to an existing subject area.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Semantic Model Extensions** under **Application Administration**.
3. On the Semantic Model Extensions page, click **User Extensions**.
You see the main and existing customization branches.
4. In the User Extensions region, under Customization Branches, click a branch to open the Branch page.
5. On the Branch page, click **Add Step**.
6. In Add Step, select **Add a Column**.
You see the wizard sequence to add a column.
7. In step 1 of the wizard, enter a name for your customization step, for example, Regional Revenue and add a brief description.
8. Select a target subject area to which you want to add the column. For example, Profitability.
You see the details of the selected subject area.
9. Select the presentation folder within the selected subject area and the logical table to which you want to add the column.
10. Click **Next**.
You see the Create Column dialog in step 2 of the wizard.
11. In step 2 of the wizard, define your new column using these instructions:
 - a. In Create Column, enter a display name.
 - b. Under **Data Elements**, search for a data element from the subject area that you had selected previously.
 - c. From the search results, double-click the data element to place it in the text pane.
 - d. Under **Functions**, search for a function to construct a column using expressions. From the search results, double-click the applicable result to add it to the central text pane. For example, search for functions like "Filter" or "Avg" to construct expression-based columns. A sample expressions to derive the average supplier payment days is `avg(ROUND(((CASE WHEN Invoice Received Date is not null THEN (Financials - AP Payments.Payment Date.Payment Date - Invoice Received Date) ELSE (Financials - AP Payments.Payment Date.Payment Date - Financials - AP Invoices.Invoice Date.Invoiced Date) END)/Financials - AP Payments.Facts - Analytics Currency.Total Payment Count),0))`.
 - e. Click **Validate**, and then click **Save**.
12. Optional: If you want the underlying measure of the column to be calculated to a specific level of a predefined dimensional hierarchy, then complete these steps:
 - a. Click the **Hierarchy Level-Based Aggregation** icon.

- b. In the Hierarchy Level-Based Aggregation dialog, select the dimension, level, and then click **OK**.
 - c. Click **Add Dimension** to add more dimensions.
13. Click **Next**.
 14. Optional: Select additional subject areas to add the fact.
 15. Click **Finish**.

You see a message that your step is being applied to the customization branch. After it's applied, you see the new customization step in the customization branch. You can now apply the customization branch to the main branch or edit it to add more steps.

Create a Subject Area

You can create a subject area as a container and later add dimensions and facts to your new subject area or create a subject area based on an existing one.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Semantic Model Extensions** under **Application Administration**.
3. On the Semantic Model Extensions page, click **User Extensions**.
You see the main and existing customization branches.
4. In the User Extensions region, under Customization Branches, click a branch to open the Branch page.
5. On the Branch page, click **Add Step**.
6. In Add Step, select **Create a Subject Area**.
You see the wizard sequence to create a subject area.
7. In step 1 of the wizard, enter a name for your customization step, for example, Custom Profitability and add a brief description.
8. Create a subject area using one of the methods:
 - a. Select **Create a Subject Area** to create a subject area container, provide a name without any leading or trailing white spaces, add a description, and then click **Next**.
You see step 4 of the wizard. Click **Finish** to create the subject area.
 - b. Select **Create a Subject Area based on an existing one** to create a subject area using an existing one in the system and provide these details:
 - i. Select an existing subject area, name your subject area, and then click **Next**.
 - ii. In step 2 of the wizard, select the data elements that you want in your new subject area.
 - iii. Click **Add Subject Area** to select and add data elements from multiple subject areas.
 - iv. In step 3 of the wizard, organize and rename the data elements in your new subject area.
 - v. Click **Next**.
 - vi. In step 4 of the wizard, review your new subject area and click **Finish** to create it.

You see a message that your step is being applied to the customization branch. After it's applied, you see the new customization step in the customization branch. You can now merge the customization branch with the main branch or edit it to add more steps.

Modify a Subject Area

Modify a custom subject area using these instructions.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Semantic Model Extensions** under **Application Administration**.
3. On the Semantic Model Extensions page, click **User Extensions**.
You see the main and existing customization branches.
4. In the User Extensions region, under Customization Branches, click a branch to open the Branch page.
5. On the Branch page, click **Add Step**.
6. In Add Step, select **Modify a Subject Area**.
You see the wizard sequence to modify a subject area.
7. In step 1 of the wizard, enter a name for your customization step, for example, Custom AP Invoices and add a brief description.
8. Select a subject area that you had created using the instructions in [Create a Subject Area](#).
You see the details of the selected subject area.
9. Click **Next**.
10. In step 2 of the wizard, from the Available Data Elements pane, select or deselect the data elements that you want to use or don't want in the selected subject area.
11. Optional: Click **Add Subject Area** to select and add data elements from multiple subject areas.
12. Click **Next**.
13. In step 3 of the wizard, organize and rename the data elements in your modified subject area.
14. Optional: Click the **Advanced Properties** icon next to the custom subject area to select an implicit fact that allows dimensions to be used for analytic queries even when not joined to a logical fact table.
15. Click **Next**.
16. In step 4 of the wizard, review your modified subject area and click **Finish**.

Edit or Delete a Branch Step

As the owner of the branch or an user with the Modeler Administrator role, you can edit a step to modify the details or delete it if it's no longer required. You can delete multiple steps together.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Semantic Model Extensions** under **Application Administration**.
3. On the Semantic Model Extensions page, click **User Extensions**.
4. In the User extensions region, under Customization Branches, click a branch to display the steps.

5. Hover over a step to view **Actions**.
6. Click **Edit** and update the details.
7. Click **Delete** to remove it from the branch.

Reapply a Branch Step

As the owner of a branch or a user with the Modeler Administrator role, you can reapply a failed step after resolving any issues that might have occurred with tables or columns in the autonomous data warehouse.

You can reapply the steps from the Branch details page without opening the steps.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Semantic Model Extensions** under **Application Administration**.
3. On the Semantic Model Extensions page, click **User Extensions**.
You see the main and existing customization branches.
4. In the User Extensions region, under Customization Branches, click a branch to display the steps.
5. Hover over a step to view **Actions**.
6. Click **Reapply**.

Disable and Enable the Disabled Steps

You can disable and enable the disabled steps in the main and customization branches in the development and production environments. This helps you in troubleshooting issues in the branches.

You can perform these actions on the steps in the User Extensions and Security Configurations regions. You can disable and enable individual steps or select multiple steps using the **Manage Steps**, **Enable**, and **Disable** buttons on the branch details page. You can't disable a published step.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Semantic Model Extensions** under **Application Administration**.
3. On the Semantic Model Extensions page, click **User Extensions**.
You see the main and existing customization branches.
4. In the User Extensions region, click **Main** to view the details.
5. On the Main branch page, hover over a step to display the options.
6. Click **Disable**.
7. In Confirm Disable Steps, click **Disable**.
8. On the Main branch page, click **Manage Steps**, select the check box for the disabled steps, and then click **Enable**.
9. In Confirm Enable Steps, click **Enable**.
10. Perform these actions for steps in the customization branches.

Copy Steps from One Branch to Another

Use these instructions to copy steps from a customization branch to another customization branch.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Semantic Model Extensions** under **Application Administration**.
3. On the Semantic Model Extensions page, click **User Extensions**.
You see the main and existing customization branches.
4. In the User extensions region, under Customization Branches, click a branch whose steps you want to copy.
5. On the Branch page, click **Manage Steps**.
6. Select the check box for the steps that you want to copy and click **Copy**.
7. In Copy Steps, select the target branch to which you want to copy the selected steps and click **OK**.

Alternately, you can create a branch using the "Create Branch" option available in the Copy Steps dialog and copy the steps into this new branch in a single action.

You see a confirmation message that the steps have been successfully copied.

View Details of Failed Branch Steps

You can view the reasons why a branch step had failed and then correct the errors.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Semantic Model Extensions** under **Application Administration**.
3. On the Semantic Model Extensions page, click **User Extensions**.
You see the main and existing customization branches.
4. In the User extensions region, under Customization Branches, click the branch with the **Failed** icon to view the details.
5. On the Branch page, click the **Failed** status for a step that has failed and view the error details.

Merge the Customization Branches with the Main Branch

Merge the customization branches with the main branch to use the customization steps as the sequence of steps.

The main branch lives in the test environment. When you edit a branch, the system automatically locks it to prevent another user from simultaneously editing the same branch. As you complete each step or reorder the steps, the system unlocks the branch, saves it, and notes the change in the change log tab.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Semantic Model Extensions** under **Application Administration**.

3. On the Semantic Model Extensions page, click **User Extensions**.
You see the main and existing customization branches.
4. In the User Extensions region, under Customization Branches, hover over a branch to view **Actions**.
5. From **Actions**, click **Merge to Main Branch**, and then click **Ok**.
When a branch gets merged into Main, the other branches go out of synchronization and you must resynchronize them with the Main branch.

Reorder Steps of Customization Branches

You can reorder the steps in a branch that has been applied or is yet to be applied to the main branch.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Semantic Model Extensions** under **Application Administration**.
3. On the Semantic Model Extensions page, click **User Extensions**.
You see the main and existing customization branches.
4. In the User Extensions region, under Customization Branches, click a branch to display the steps.
5. On the Branch page, click **Manage Steps**.
6. Select the check box for the steps that you want to reorder and click **Reorder**.
7. In Reorder Steps, use the drag handles to drag and drop the steps in the new order that you want, and then click **Reorder**.

Delete a Main Branch Step

As a modeler administrator, you can delete all steps of a main branch that have been either applied or have failed. With modeler permissions, you can delete only failed steps of a main branch.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Semantic Model Extensions** under **Application Administration**.
3. On the Semantic Model Extensions page, click **User Extensions**.
4. In the User Extensions region, click **Main** to view the details.
5. On the Main Branch page, hover over a step to display the options.
6. Click **Delete** to remove it from the main branch.

Tag the Main Branch's Steps

You can create tags on the "Applied" steps of the Main branch as a snapshot at a given point in time.

When you have a set of customizations ready for promotion and merged them with the Main branch, you can tag the Main branch's steps with "Applied" status using the **Create Tag** option for the Main branch or tag any of its steps with "Applied" status directly on the Main branch detail page using the **Tag** option. When you tag a step directly on the Main branch details page

or include a step while tagging using the **Create Tag** option for the Main branch, the steps prior to the selected step are included in the tag too. You can untag the tags that you create for the Main branch's steps using the **Untag** option.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Semantic Model Extensions** under **Application Administration**.
3. On the Semantic Model Extensions page, click **User Extensions**.
You see the main and existing customization branches.
4. To create a tag for a step in the Main branch, in the User Extensions region, click **Create Tag**.
5. In Create a Tag, enter a name for the tag and a description.
6. Select a merged step that you want to include in this tag.
7. Click **Done**.
8. To tag a step directly, hover over the Main branch to view **Actions** and then click **View Details**.
9. On the Main branch details page, hover over a step to view **Actions** and then click **Tag**.
10. In Create a Tag, enter a name for the tag and a description.
11. Click **Done**.
12. To untag a tag for the Main branch and the step included in the Tag, on the Main branch details page, hover over a step to view **Actions** and then click **Untag**.
13. In Confirm Untag, click **Untag**.

 Note

If there're multiple tags on the same step, then you can select the check boxes for the applicable tags in the Confirm Untag dialog.

Publish the Model

You can publish the versions on the main development branch and the other branches in the non-production environments such as development or test to ensure that there are no errors.

While publishing the data model, you can select the user extensions and security configurations that you added as part of customizing the semantic model. If you select the security configurations, then Oracle Fusion Data Intelligence applies them on the user extensions that you selected. If the security configurations refer to elements in the model that aren't part of the user extensions, then Oracle Fusion Data Intelligence excludes them at the time of publishing the model.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Semantic Model Extensions** under **Application Administration**.
3. On the Semantic model Extensions page, click **Publish Model**.
4. In Publish Model, select the user extensions and security configurations that you want to publish.
5. Click **Publish**.

Load Customization Data to the Autonomous Data Warehouse

You can load your customization data to the autonomous data warehouse provisioned with your Oracle Fusion Data Intelligence instance.

You need the autonomous data warehouse wallet and credentials of the administrator. The credentials of the administrator are same as what you had mentioned for the autonomous data warehouse resource while creating the Oracle Fusion Data Intelligence instance. See [Create an Oracle Fusion Data Intelligence Standalone Instance](#).

1. Connect to the autonomous data warehouse corresponding to your Oracle Fusion Data Intelligence instance.

See [Connect to Autonomous Database](#).

2. Create a custom schema to store the customization data.

Syntax: `create user <custom_schema-name> identified by <custom_schema-password>;`

Example: `create user example_schema identified by abcDEF123654;`

3. Create one or more tables in the custom schema that you created.

Syntax: `CREATE TABLE <custom_schema-name>.<custom_extent_table_name> (<parameters>);`

Example: `CREATE TABLE example_schema.ABC_EXTN ("DATE" DATE, "CATEGORY" VARCHAR2(1024 BYTE) , "MANAGER" VARCHAR2(1024 BYTE) );`

4. Populate the required data and grant select permissions to the OAX\$OAC schema in the autonomous data warehouse using this script:

Syntax: `grant select on <custom_schema-name> to OAX$OAC;`

Example: `grant select on example_schema.ABC_EXTN to OAX$OAC;`

5. Commit the changes to the autonomous data warehouse and disconnect.

Add Security Configurations

Add security configurations to secure the subject areas and data with prebuilt and custom duty and data type of application roles.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Semantic Model Extensions** under **Application Administration**.
3. On the Semantic Model Extensions page, click **Security Configurations**.
4. In the Security Configurations region, click **Add Configure Data Security** to secure your data with the data type of application roles.

See [Configure Data Security](#).

5. In the Security Configurations region, search for the prebuilt "Configure Object Permissions" to configure permissions for objects such as subjects areas and their elements with duty type of application roles.

See [Configure Object Permissions](#).

6. Optional: In the Security Configurations region, click **Reapply Steps** to validate the security configuration-related steps against the current state of the model.

Configure Data Security

As a security administrator, provide users with access to data using the custom-created data type application roles.

You can add filters to data retrieved from logical or presentation objects based on the data roles assigned to users. If you specify functional groups, Oracle Fusion Data Intelligence combines all the filters in the same functional group using the OR operator and combines all sets of filters in different functional groups using the AND operator.

You can add one customization step for each data role. The elements that you can secure are from the Main branch of the semantic model. Hence, if you need a newly added object to be secured, then you must ensure that the customization branch containing the newly added object is merged with the Main branch before configuring the security. If any of the custom-created role is no longer available, then the security configuration for that role is removed from the "Configure Data Security" step.

Note

If you have a high number of values in the data filter, you may encounter performance issues. The recommendation for an optimized solution is to use the Custom Security Context capability instead of the Security Configurations region on the Semantic Model Extensions page. See [Define and Assign Custom Security Contexts](#).

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Semantic Model Extensions** under **Application Administration**.
3. On the Semantic Model Extensions page, click **Security Configurations**.
You see the existing security configurations, if any.
4. In the Security Configurations region, click **Add Configure Data Security Step**.
5. In step 1 of the wizard, enter a name for your step, select a data type application role, and then click **Next**.
6. In step 2 of the wizard, from the **Available Objects** drop-down list, click either Presentation Objects or Logical Objects to select the objects that you want to secure with the selected data type application role.
If you're viewing the presentation objects, then expand the subject area folders and double-click the objects. If you're viewing the logical objects, then double-click the logical table folders or expand the table folders and double-click the objects. You see the selected objects under **Object to be secured** in the right pane.
7. Optional: In **Functional Group**, select a prebuilt functional group or enter a unique functional group name in the text box to create a custom functional group.
8. For the **Filter Argument**, click the **Function** icon to define how the data filter gets applied.
Use the Expression Editor to enter the filter, based on the session variables that you had created previously. To view an example, see [Custom Security in Fusion Data Intelligence](#).
9. Click **Next**.
10. Click **Finish**.

11. Optional: In the Security Configurations region, click **Reapply Steps** to validate the security configuration-related steps against the current state of the model.

Configure Object Permissions

Configure the permissions for objects such as subject areas and its elements with the ready-to-use or the custom-created duty roles.

You secure the subject areas and their elements using the **Configure Object Permissions**, a prebuilt single step. You edit this single step to specify the subject areas, their elements, and the duty roles to secure these with. The elements that you can secure are from the Main branch. Hence, if you need a newly added object to be secured, then you must ensure that the branch containing the newly added object is merged with the Main branch before configuring the security. If a custom-created role is no longer available, then the security configuration for that role is automatically updated in the existing Configure Object Permissions step. For the front-end objects such as key metrics and workbooks, set the permissions individually for each object by adding the applicable duty role and the corresponding access.

By default, the list of permissions by duty role displays the explicit permissions set for the subject area or the elements of the selected subject area. If you want to add more permissions, then select the duty role from the list and set the required permission. Permission levels that you can set are:

- Default (inherited from the parent element).
- No Access (deny access to the respective subject area or its elements)
- Read-only (access to read the respective subject area or its elements).

Repeat the operation for all the subject areas or the subject area elements that you need to secure.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Semantic Model Extensions** under **Application Administration**.
3. On the Semantic Model Extensions page, click **Security Configurations**.

You see your existing security configurations and the prebuilt object permissions-related step.

4. In the Security Configurations region, search for the prebuilt "Configure Object Permissions", and hover over it to view **Actions**, and then click **Edit**.
5. In step 1 of the wizard, click **Next**.
6. In step 2 of the wizard, select the subject areas or elements and set the corresponding desired permission to the duty role selected from the list, and then click **Next**.
7. Review your changes and click **Finish**.

View Activity History of Semantic Model Extensions

View an audit of all activities performed on the semantic model.

Amongst the activities, you may see that the system steps have been applied. Oracle Fusion Data Intelligence applies the system steps in the following scenarios:

- Any changes to augmentations and new augmentations. A new augmentation replays all the steps in the Main branch because of implicit dependencies.

- New module activations. Module activations can run augmentations related to that module, but the Main branch steps are always replayed.
 - Any changes done to flexfields (like DFFs) in your Oracle Fusion Cloud Applications instance such as deletion or addition. It doesn't matter where the DFF's are. If they are deleted in the source, then they get deleted in the prebuilt subject area. Hence, the custom subject area also must be modified to remove it. In this case, augmentation won't fail but the Main branch fails as it's custom and needs to be modified.
 - Application update such as the Oracle Fusion Data Intelligence version upgrade also runs the Apply System Steps.
1. Sign in to your service.
 2. In Oracle Fusion Data Intelligence **Console**, click **Semantic Model Extensions** under **Application Administration**.
 3. On the Semantic Model Extensions page, click **Activity History** to view an audit of all activities performed on the semantic model.
 4. Hover over an activity to view details of the activity.

Move Your Customizations to Another Environment

When your changes to data augmentations, custom attribute mapper, semantic model, security configurations, and customized KPIs are ready for promotion, use the Bundles functionality to move the desired objects to other environments.

See [Bundle Your Application Artifacts](#).

Republish Your Customizations

As the owner of the user extensions or a user with the Modeler Administrator role, you can republish them if you've modified them after publishing them initially.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Semantic Model Extensions** under **Application Administration**.
3. On the Semantic Model Extensions page, click **User Extensions**.
4. In the User Extensions region, you see a warning icon and the **Republish** button on the Semantic Model Extensions page.
5. Click **Republish** to publish your user extensions with the latest details.

Merge Your External Applications

If you have an external semantic model from standalone Oracle Analytics Cloud, Oracle Analytics Server, or Oracle Business Intelligence Enterprise Edition, you can merge it with the semantic model of Oracle Fusion Data Intelligence only in your non-production instance.

You can also merge your existing catalogs in the external Oracle Analytics Cloud with those in the Oracle Analytics Cloud instance associated with your Oracle Fusion Data Intelligence instance. Both external semantic model and semantic model extensions can co-exist and you can include the external semantic model in your semantic model extensions. On the Publish Model page, select "Yes" if you want the external semantic model to be included.

If the external semantic model references application roles and groups, then you must create them manually. The merge capability imports only the mappings and doesn't import the roles and groups definitions. Create the applicable groups in your identity provider, see [Create Groups](#) or [Create a Group](#) as applicable. Create application roles using the Security page in Oracle Fusion Data Intelligence, see [Create an Application Role](#).

Merging external semantic models may require you to scale up your Oracle Analytics Cloud compute resources to ensure better performance. In particular, if you're merging a semantic model that was in use on a live Oracle Analytics Cloud instance, then Oracle recommends scaling up Oracle Fusion Data Intelligence's Oracle Analytics Cloud compute resources by the same number of CPUs as the instance the semantic model is merged from.

To conform common dimensions between Oracle Fusion Data Intelligence and your other Oracle Analytics Cloud, ensure that the:

- Data types of the conforming columns are matching, else you can't merge.
- Data for the mapped columns match, else queries don't fetch correct results.
- Level of details at which data is stored in the dimensions match, else queries return incorrect results.
- External semantic model is up to 25 MB in size.
- Catalog objects are in folder names that don't conflict with the prebuilt folders of Oracle Fusion Data Intelligence and in /Shared/Custom/ folder.
- New logical table source that you add has a higher priority group than the prebuilt logical table source. For example, if the logical table source of the prebuilt object is 2, then you must specify a priority group of 3 or higher.
- Additional hierarchy has its own total level.

The external semantic model connects only to the Oracle Autonomous Data Warehouse associated with Oracle Fusion Data Intelligence. After enabling the external application merge functionality, if you make semantic model changes with data augmentation, then it'll result in unexpected errors. If such changes exist, then you must update the data augmentations to remove the semantic model changes. Ensure that you make the semantic model changes in the external semantic model and that you don't use system variables in your extensions. You must also ensure that the functional areas enabled in the target environment and the development environment from where the template semantic model was extracted are the same to avoid failure of the external application merge.

To successfully merge an external semantic model, you must complete these tasks in the sequence they are listed:

1. Create a custom database schema in the Oracle Autonomous Data Warehouse associated with your Oracle Fusion Data Intelligence instance.
2. Migrate or create database objects such as tables, views, and synonyms in the new schema.
3. Grant semantic model access to the database objects.
4. Configure Oracle Analytics Client Tools (Oracle BI Administration Tool).
5. Export the semantic model template.
6. Bring in the custom database objects into the physical layer of the semantic model template by either importing, or merging, or copying and pasting.
7. Model the custom semantic model objects.
8. Merge the external semantic model with the semantic model of your Oracle Fusion Data Intelligence instance.

9. Validate the results.
10. Bundle the merged semantic model to your production instance.

Create a Custom Database Schema

Create a custom database schema in Oracle Autonomous Data Warehouse associated with your Oracle Fusion Data Intelligence instance.

While importing the objects, create a new physical schema for the custom schema such as RPD_MERGE_USER and import the objects into this physical schema. See [Manage User Roles and Privileges on Autonomous Database](#) and [Create Users on Autonomous Database](#) to create a custom database schema such as RPD_MERGE_USER.

Migrate or Create Database Objects

Migrate or create database objects such as tables, views, and synonyms in the custom schema that you created; for example, RPD_MERGE_USER.

Import or migrate your external warehouse data to the Oracle Autonomous Data Warehouse associated with Oracle Fusion Data Intelligence using the Oracle database utilities or any ETL tool.

Grant Semantic Model Access

Ensure that the OAX\$OAC user can access each of the database objects that you plan to merge.

1. Grant access to the OAX\$OAC user to each object using this SQL:

```
GRANT SELECT ON "RPD_MERGE_USER"."MY_TABLE" TO "OAX$OAC";
```

2. If you plan to merge views that reference multiple schemas, use the WITH GRANT OPTION as follows:

```
GRANT SELECT ON "RPD_MERGE_USER"."MY_VIEW" TO "OAX$OAC" WITH GRANT  
OPTION;
```

3. Optional: Grant view access to OAX_USER using this SQL:

```
GRANT SELECT ON "RPD_MERGE_USER"."MY_TABLE" TO "OAX_USER";
```

Configure Oracle Analytics Client Tools (Oracle BI Administration Tool)

The Oracle BI Administration Tool, a component of Oracle Analytics Client Tools, enables you to manage semantic models that define how data is presented in Oracle Analytics Cloud.

The Oracle BI Administration Tool provides capabilities to import your custom database objects or merge existing semantic model metadata into the Fusion Data Intelligence semantic model template. Within the Oracle BI Administration Tool, you can model custom objects and extend supported prebuilt objects.

1. Download Client Tools.

See [Download and Install Oracle Analytics Client Tools](#)

2. Download the wallet of Oracle Autonomous Data Warehouse associated with the Oracle Fusion Data Intelligence instance.
See [Download Database Connection Information](#)
3. Configure the wallet that you downloaded as follows:
 - a. Extract the wallet zip file and copy all the wallet files to:
C:\Oracle\Middleware\Oracle_Home\domains\bi\config\fmwconfig\bienv\core
 - b. Edit the "sqlnet.ora" file, setting DIRECTORY path to
C:\Oracle\Middleware\Oracle_Home\domains\bi\config\fmwconfig\bienv\core. For example, the DIRECTORY path must be as follows:

```
WALLET_LOCATION = (SOURCE = (METHOD = file) (METHOD_DATA =
(DIRECTORY="C:\Oracle\Middleware\Oracle_Home\domains\bi\config\fmwconfig\bienv\core"))
SSL_SERVER_DN_MATCH=yes
```

Note

Ensure that there isn't a backslash after \core to avoid failure.

4. Download Oracle Instant Client.
See [Oracle Instant Client Downloads](#).
5. Configure Oracle Instant Client as follows:
 - a. Copy: C:\Users\<your username>\Downloads\instantclient-basic-windows.x64-23.6.0.24.10\instantclient_XX_X to:
C:\Oracle\Middleware\Oracle_Home\bi. Replace "XX_X" with the applicable numbers.
 - b. Navigate to
C:\Oracle\Middleware\Oracle_Home\bi\bifoundation\server\bin and edit nqinit.cmd to set %EXTRA_PATH%;%BI_PRODUCT_HOME%\instantclient_XX_X as the value for EXTRA_PATH. Replace "XX_X" with the applicable numbers.

Export the Semantic Model Template

The semantic model template is upgraded with each application release. It's recommended to download the latest version of the uploaded semantic model template for any changes.

You can download the semantic model template using either the Oracle Fusion Data Intelligence Console or the Oracle BI Administration Tool.

1. If you're using the Oracle Fusion Data Intelligence Console:
 - a. Sign in to your service.
 - b. Click **Semantic Model Extensions** under **Application Administration**.
 - c. On the Semantic Model Extensions page, in the External Application region, click **Actions**, and then click **Export Semantic Model Template** to download the semantic model template.

2. If you're using the Oracle BI Administration Tool, navigate to **Actions** and then click **Export Semantic Model Template** to download the semantic model template.

Bring in Custom Database Objects

You can bring in custom database objects into the physical layer of the semantic model template using the Import, Merge, or Copy and Paste methods.

Import Custom Database Objects

Import the custom database objects or merge your semantic model metadata into the physical layer of the semantic model template.

Ensure that your corporate virtual private network (VPN) allows connectivity to your autonomous data warehouse. You can use the transparent network substrate (TNS) entry of the low offering of your autonomous data warehouse to import the tables. For example, (description= (retry_count=20)(retry_delay=3)(address=(protocol=tcps)(port=<>)(host=<>))(connect_data=(service_name=<>))(security=(ssl_server_cert_dn="CN=my domain.com,OU=my organization,O=organization,L=my location,ST=my state,C=my country")))

The table import process creates the tables in a separate physical schema called as an example, RPD_MERGE_USER. The RPD_MERGE_USER schema is temporary; after you've imported the tables and tested, you must revert the settings back to the old state.

Note

Ensure that you revert the prebuilt connections to the original settings before uploading. Don't add any additional connections to the external semantic model.

1. In Oracle Fusion Data Intelligence **Console**, click **Semantic Model Extensions** under **Application Administration**.
2. On the Semantic Model Extensions page, in the External Application region, click **Actions**, and then click **Export Semantic Model Template** to download the template semantic model if you haven't done it previously.
3. Sign in to the Model Administration Tool that's a part of the Oracle Analytics Client Tools.
4. In the Model Administration Tool, open the downloaded semantic model, navigate to **Oracle_Data_Warehouse**, and edit **Oracle_Data_Warehouse_Connection_Pool**.
5. Provide the TNS entry of your autonomous data warehouse and enter the username and password of the custom schema; for example credentials of RPD_MERGE_USER.
6. Save your changes to the connection pool.

Model the Custom Semantic Model Objects

Import, merge, copy and paste, or manually configure the semantic model's *business model and mapping* and *presentation* layer objects.

Make the external semantic model consistent, and free of errors and warnings. Ensure that the column mapping is fully qualified in the external semantic model to avoid any application upgrade failures

Merge External Applications

As a modeler, modeler administrator, and security administrator, you can merge or replace the semantic model of an external application such as another Oracle Analytics Cloud instance with Oracle Fusion Data Intelligence. You can also merge your existing catalogs in the external Oracle Analytics Cloud with those in the Oracle Analytics Cloud instance associated with your Oracle Fusion Data Intelligence instance.

Topics:

- [Import the Semantic Model](#)
- [Replace the Application](#)
- [Import the Application](#)
- [Publish the Merged Model](#)
- [Remove the External Application](#)
- [Download the Imported Semantic Model](#)

Import the Semantic Model

Use the **Semantic Model Import** option to merge your semantic model.

When merging the external applications, set a unique name. If you use the same name, the system replaces the application. Merging integrates changes from the current and new semantic model, combining the existing customizations with newly introduced customizations.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Semantic Model Extensions** under **Application Administration**.
3. In the External Application region, click **Actions**, and then click **Import Application** to import the external semantic model.
4. In Select Application and Content to Merge, enter a new distinct description name, or use the name of an existing external application to replace it in **External Application Description**, select **Semantic Model Import**, and click **Select Semantic Model** to import the applicable Oracle Analytics Cloud semantic model from your local machine, and enter the password that you use to encrypt the semantic model file.

Select Application and Content to Merge

External Application Description

Enter Application Name

☒ **Semantic Model Import**

Select Semantic Model

Password used to encrypt file

☐ **Application Import**

Select Bar File

Password used to encrypt file

Resolve imported content conflicts
Rename imported objects when conflicts occur

☒ Append prefix for name conflicts Enter Prefix

☐ Append suffix for name conflicts Enter Suffix

☐ Expose custom columns in out of the box subject areas

Cancel Validate

5. In **Resolve imported content conflicts**, choose the option to rename the imported objects with either a prefix or suffix when a conflict occurs.
6. Select **Expose custom columns in out of the box subject areas** to expose columns added to the conformed dimensions in all the applicable subject areas.
7. Click **Validate**.

The system validates the external semantic model and displays a report in the Validation tab. The different statuses are:

- When you import, the status is **Validation InProgress**.
- If there aren't any errors and validation is complete, the status is **Validation Successful**. The system displays the **Merge Application** button; click it to complete the merge process.

External Application Validation

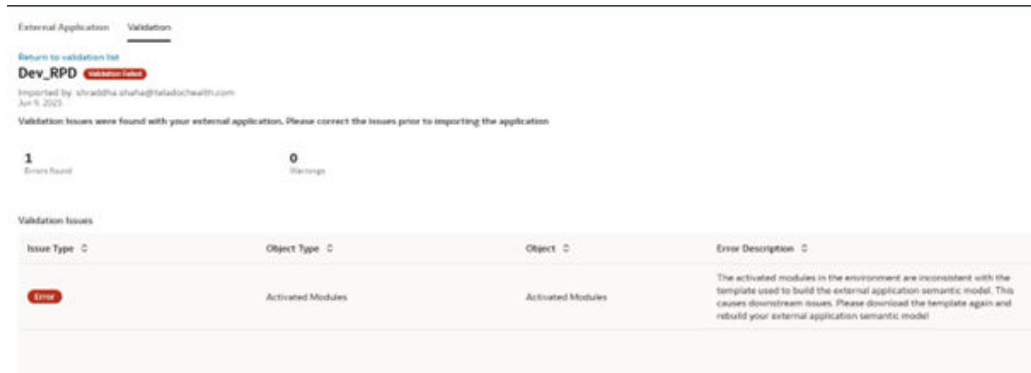
Gen1st Validation Successful Actions

Imported by: v [redacted] pm
Aug 27, 2024

Your external application was successfully validated and can be merge

Merge Application

- If there are errors, the status is **Validation Failed**. The system displays the errors and doesn't initiate the merge. You must fix the errors in the external semantic model and try again.



See [How do I resolve inconsistent activated modules between the environment and the semantic model template?](#)

- On the Semantic Model Extensions page, click the Activity tab to verify that the validation process has completed and then click **Merge Application**.

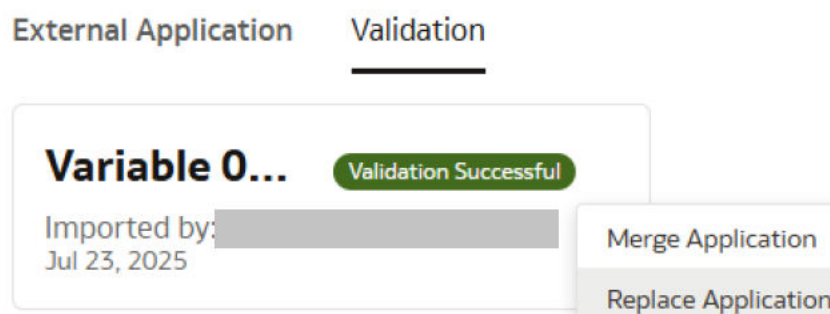
The initial status is **InProgress**; while in progress you may see it as **Merged** but its still running. When it finishes, you see the **External Application Merge** activity in **Done** status.

Replace the Application

Use the **Replace Application** option to entirely replace the semantic model.

To correctly manage deletions in the semantic model, you must replace it. Prior to replacing, ensure to verify that your updated semantic model includes all of the desired previous changes. After the semantic model is imported or replaced, the system validates it and displays the validation report in the Validation tab in the External Application region. If there are no errors in the external semantic model, then you can proceed with the merge.

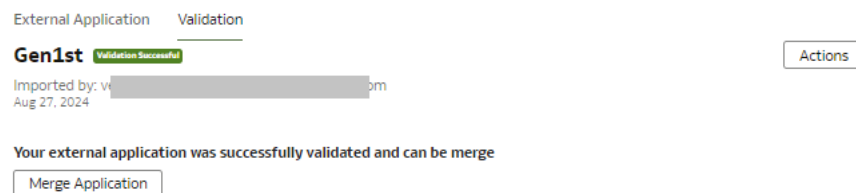
- Sign in to your service.
- In Oracle Fusion Data Intelligence **Console**, click **Semantic Model Extensions** under **Application Administration**.
- In the External Application region, from the Validation tab, click **Actions**, and then click **Replace Application** to replace the external semantic model.



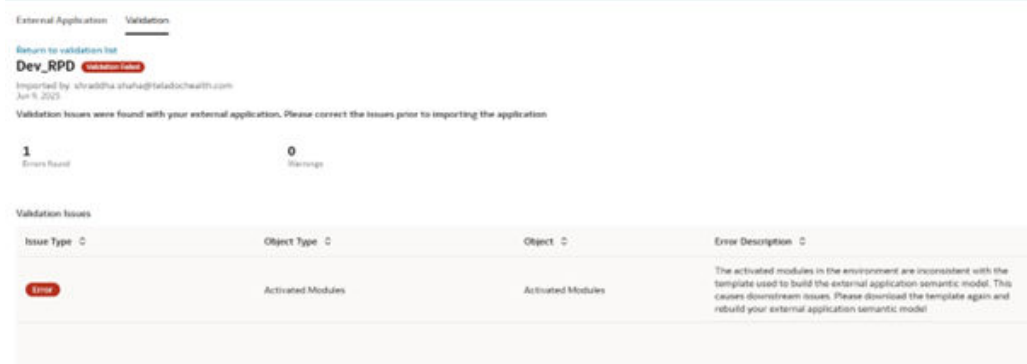
4. In Select Application and Content to Merge, select **Semantic Model Import**, and click **Select Semantic Model** to import and replace the applicable Oracle Analytics Cloud semantic model from your local machine, and enter the password that you use to encrypt the semantic model file.
5. In Resolve imported content conflicts, choose the option to rename the imported objects with either a prefix or suffix when a conflict occurs.
6. Select Expose custom columns in the prebuilt subject areas to expose columns added to the conformed dimensions in all the applicable subject areas.
7. Click **Validate**.

The system validates the external semantic model and displays a report in the Validation tab. The different statuses are:

- When you import, the status is **Validation InProgress**.
- If there aren't any errors and validation is complete, the status is **Validation Successful**. The system displays the **Merge Application** button; click it to complete the merge process.



- If there are errors, the status is **Validation Failed**. The system displays the errors and doesn't initiate the merge. You must fix the errors in the external semantic model and try again.



See [How do I resolve inconsistent activated modules between the environment and the semantic model template?](#)

8. On the Semantic Model Extensions page, click the Activity tab to verify that the validation process has completed and then click **Merge Application**.

The initial status is **InProgress**; while in progress you may see it as **Merged** but its still running. When it finishes, you see the **External Application Merge** activity in **Done** status.

Import the Application

Use the **Application Import** option to import content you created in a different Oracle Analytics product such as Oracle Analytics Cloud, Oracle Analytics Server, Oracle Business Intelligence Enterprise Edition and exported to a BAR file (snapshot).

Before importing the application, you must import and merge the semantic model components that are referenced by the workbooks within it. The bar file imports the JAZN file and the catalogs.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Semantic Model Extensions** under **Application Administration**.
3. In the External Application region, click **Actions**, and then click **Import Application** to import the external semantic model.
4. In Select Application and Content to Merge, enter a name for your application in **External Application Description** and select **Application Import**.
5. Click **Select Bar File** to import the applicable BAR file from your local machine and enter the password that you use to encrypt the BAR file.

Select Application and Content to Merge

External Application Description

BAR

☐ Semantic Model Import

+ Select Semantic Model

Password used to encrypt file

☒ Application Import

+ Select Bar File demo.bar

.....

Cancel Import

6. Click **Import**.

7. On the Semantic Model Extensions page, click the Activity tab to verify that the import process has completed.

Publish the Merged Model

If you have session variables defined in the merged model, you must publish it. Otherwise, you don't have to publish the merged model because the merge process makes the merged changes available in the Oracle Fusion Data Intelligence semantic model.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence Console, click **Semantic Model Extensions** under **Application Administration**.
3. In the External Application region, click **Publish Model**.
4. In the Publish Model dialog, select **Main** in **User Extensions**, **All** in **Security Configurations**, and click **Publish**.

Publish Model

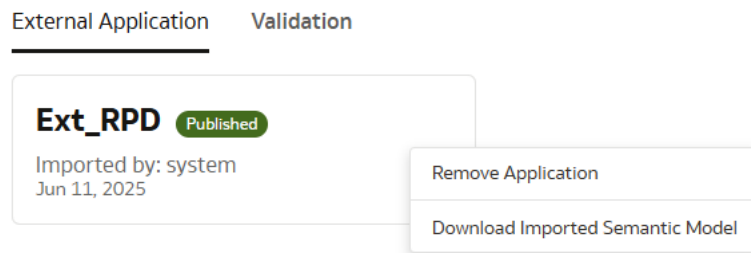
This action will deploy the semantic model to the target environment using these components of the semantic model:

1. **Oracle Content**
21.4.0
2. **External Application**
3. **System Extensions**
4. **User Extensions** ⓘ
Main
5. **Security Configurations**
All

Remove the External Application

If you want to undo your changes and revert to the semantic model prior to the merge, you can remove it.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence Console, click **Semantic Model Extensions** under **Application Administration**.
3. In the External Application region, right click the published merged external application.



4. Click **Remove Application** and in the Remove External Application message, click **Remove**.

Remove External Application

Are you sure you want to remove this application? All users, roles and content created from this application will be deleted

Cancel Remove

5. Verify the Remove activity in the Activity tab.

Download the Imported Semantic Model

To download the imported semantic model that contains your customizations, you can either use the Oracle Fusion Data Intelligence Console or the Oracle BI Administration Tool.

1. If you're using the Oracle Fusion Data Intelligence Console:
 - a. Sign in to your service.
 - b. Click **Semantic Model Extensions** under **Application Administration**.
 - c. On the Semantic Model Extensions page, in the External Application region, right click the published merged external application.
 - d. Click **Download Imported Semantic Model** to save it on your local machine.
2. If you're using the Oracle BI Administration Tool, click **External Application**, click **Actions**, click **Download Imported Semantic Model**, and save it on your local machine.

Validate the Results

Once the external semantic model has been successfully imported and merged, verify that you can create a user extension using the objects from the merged external semantic model.

1. On the Oracle Fusion Data Intelligence Console, click **Go to Home Page**.
2. On the Oracle Analytics home page, click **Create**, click **Workbook**, in Add Data, select the objects from the merged external semantic model, and then click **Add to Workbook**.
3. Use the selected objects to build visualizations, perform analysis, and validate that the data model behaves as expected within the Oracle Analytics environment.

Bundle the Merged Semantic Model

To move the merged semantic model from your non-production instance to your production instance, the recommendation is to perform the test to production process using the Bundles functionality.

See [Bundle Your Application Artifacts](#).

8

Manage Oracle Fusion Data Intelligence

As the cloud account administrator with the functional administrator or system administrator application role, you can manage your Oracle Fusion Data Intelligence instance to ensure that you have the latest application updates, backups to restore in case of emergencies, and snapshots of your application artifacts.

Topics:

- [Manage Application Updates](#)
- [Bundle Your Application Artifacts](#)
- [Configure a Virus Scanner](#)
- [About Backup and Restore](#)
- [About Disaster Recovery](#)
- [About Scaling Resources](#)
- [About Licensing](#)

Manage Application Updates

As a service administrator, you can decide when to apply the application updates except the emergency patches that are deployed automatically.



[LiveLabs Sprint](#)

Topics:

- [About Application Updates](#)
- [Update Your Application](#)
- [View Release Update Activity](#)

About Application Updates

Application updates are available for major releases (quarterly basis), patches (monthly basis), and emergency fixes (as needed).

Except the emergency patches, you can decide when to apply the application updates. You can schedule the update for current and major releases to occur by a deadline. After that deadline, Oracle automatically updates your application. These updates have zero downtime.

The auto-update process updates the data model and then immediately after the data model update, this process updates the content. This process runs the incremental data pipelines as part of the data model upgrade process when upgrade is scheduled to run for the day. You can check the last refresh date either from the Console or the subject area to ensure that the data has been refreshed as part of the data model upgrade process.

To ensure a successful update, verify the connection between Oracle Fusion Data Intelligence and all of the sources is healthy. It's also required to define a data refresh schedule with a valid

date, since the application update is triggered during the incremental load process. You must ensure that the Data Pipeline Status toggle is in enabled status before any release update. This toggle is available on the Pipeline Settings page, under Data Pipeline.

You can view the application updates and plan accordingly using the Release Updates tile under Service Administration on the Console. You also see a notification on the Data Configuration page when an application update is available. You can then plan to uptake using the Release Updates tile. You can specify the date and time (in your local time zone) the upgrade will begin. If the upgrade and an incremental refresh are scheduled at the same time, the upgrade runs first, followed by the incremental refresh.

During the application upgrade, all records in the tables are updated with the date of the upgrade. The upgrade process then performs a full data refresh during which the data pipelines pull data from the tables based on the date of the upgrade. This process also performs an incremental data refresh. This upgrade adds new pillars, modules, data models (facts and dimension tables), key metrics, workbooks, and visualizations. Data related to any deactivated modules is also deleted during the upgrade. The data pipelines for functional areas that have been activated are preserved during the upgrade. The data pipelines in Saved or Scheduled status are reset to Saved status. To activate these data pipelines, you must set them to Activated status. You can skip an upgrade for one release. However, you must upgrade when the next patch is available. The application upgrade adds new and replaces existing modified content with the latest version. If you've merged an external application, then as part of the upgrade some objects within the external semantic model get upgraded too. Hence after every upgrade, you're recommended to download the latest semantic model uploaded through the user interface and make any changes on top of it.

See [About Oracle Fusion Data Intelligence Releases](#).

Update Your Application

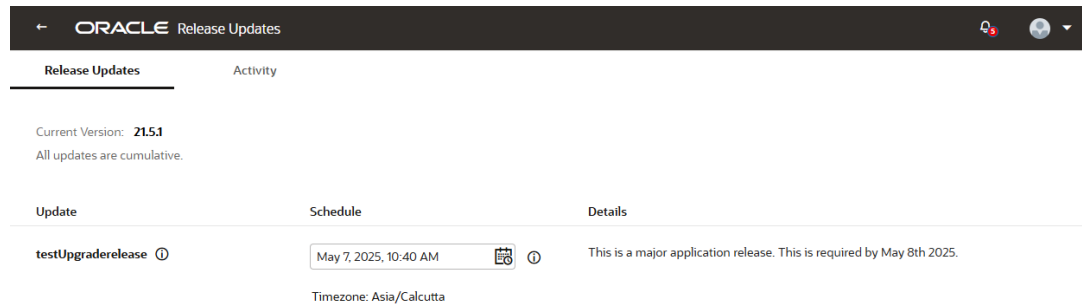
As the service administrator, you can view available application updates, schedule a date to accept the update, and know when an update isn't getting applied as expected.

Oracle Fusion Data Intelligence provides automatic updates of the application to ensure you're using the most current software. You can schedule the update earlier than the predefined date and time. If you do nothing, the application upgrade automatically runs on the date shown on the Release Updates page. However, prior to updating your application, you must ensure that a data pipeline for at least one functional area has been activated.

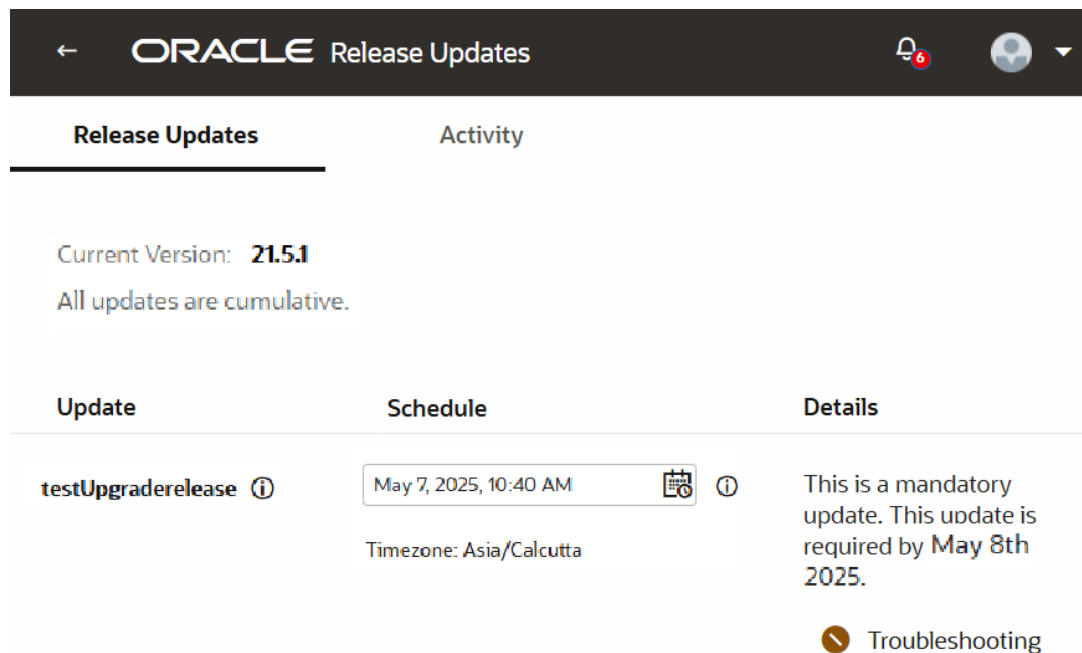
1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Release Updates** under **Service Administration**.



3. On the Release Updates page, select an application update under **Update**, and then in **Schedule**, select the date and time of when you want to apply the update.



4. Click **Save**.
5. Verify that the update is applied as expected on the scheduled day.
If there's an issue while applying the update, the system displays the **Troubleshooting** icon.



6. Click **Troubleshooting** to view the details and reach out for help to resolve the issue.

View Release Update Activity

You can view the actual date when a release was deployed for the instance and any service administrator actions such as date selections for release or patch uptake.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Release Updates** under **Service Administration**.
3. On the Release Updates page, click **Activity**.
4. In the Activity section, view the release update details.

Bundle Your Application Artifacts

As a service administrator, you can manage snapshots of your application artifacts as bundles.

 [LiveLabs Sprint: How do I migrate DV workbooks from my test environment to my production environment?](#)

 [LiveLabs Sprint: How do I backup and restore my environment using bundles?](#)

 [LiveLabs Sprint: How do I create and deploy security bundles?](#)

 [LiveLabs Sprint: How do I generate content bundles?](#)

 [LiveLabs Sprint: How do I create and deploy semantic model bundles?](#)

Topics:

- [About Bundles](#)
- [Create a Bundle](#)
- [Edit a Bundle](#)
- [Publish a Bundle](#)
- [Export a Bundle](#)
- [Import a Bundle](#)
- [Deploy a Bundle](#)
- [Delete a Bundle](#)
- [View the Activity History of Bundles](#)
- [Share Bundles](#)

About Bundles

Bundles are snapshots of your application artifacts such as configurations and customizations at a certain point in time.

Bundles work on environments where the source and target are at the same level or the source is at a lower version and the target is at a higher version. For example, a bundle generated from a previous content version works on the latest content version. Ensure that your bundle size is less than 1 GB. If the bundle size exceeds 1GB, then consider splitting the bundle by selectively including necessary artifacts. Prior to deployment, the system validates the bundles to confirm whether the bundles contain all prerequisites. If there is a validation error, then you see the applicable bundle with "Validation Failed" status and you can't deploy it. You must fix the issue and try to deploy again.

Bundles enable you to:

- Package custom development by defining a bundle that represents a subset of application artifacts in an environment such as development, test, or production.
- Migrate custom development and deploy the bundle on a target environment.
- Synchronize instances by promoting changes from one environment to another such as production to test.

- Restore the system when something goes wrong with an environment and you need to do a complete system restore.
- Create a backup of the environment or subset of application to save current state of the artifacts.
- Restore artifacts by importing from a bundle to restore state of the relevant artifacts to what was in the bundle.

You can bundle your application artifacts as:

- **Data Config bundle:** This includes pipeline parameters, activation metadata, data augmentations, and custom data configurations. You can install this bundle in an existing environment after a hard data reset. This is useful to leave content as-is and reset the data pipeline. When you bundle data configurations, only the deployed data augmentations or configurations are included. Augmentations or configurations that aren't in deployed state in the source instance won't be included in a data configuration bundle.
- **Semantic Model bundle:** Depending on the semantic model extensions framework that you use, this bundle includes main sandbox or branch, tags, custom sandbox or branch, and all the security customizations. Use this bundle to import the semantic model extensions because it allows you to select which tag and version to publish and what to publish. When you use a semantic model bundle from one environment to another environment, the system merges the extensions and not replace them. For example, if you created an extension in the target environment, it will remain in the target if the bundle doesn't bring that in.
- **Security bundle:** This includes custom application roles and custom data security.
- **Content bundle:** This includes snapshots of Oracle Analytics Cloud folders, projects, workbooks, duty roles for content, report parameters, and configurable account analysis. The content bundle always merges the catalog content from source to target. While merging, if any conflicts are found, it replaces the content. It doesn't track the deleted content.
- **Composite bundle:** This includes one or more of the other bundles in any combination. When you generate a composite bundle, the system generates the composite bundle and the bundles inside it as a whole. When you import a composite bundle, all the individual bundles inside the composite are imported separately as well as together. You can deploy the composite bundle as a whole or deploy the individual bundles as applicable. For example, you can deploy the complete composite bundle in one environment and the individual bundles in different environments.
- **Environment bundle:** Environment bundle publishes the original semantic model without the customizations. This includes all artifacts of a specific environment to revert to a known state of system. For example, at the end of every week, the service administrator can create a bundle called DevEnv_YYMMDD to maintain a backup of the environment. You must first deploy the data configuration bundle or manually activate your data pipelines before deploying the environment bundle.

Note

Ensure that you've activated the functional areas and data is available prior to working with the semantic models or content. Either manually configure and activate your data pipelines in the target environment, or deploy a Data Config bundle to ensure that configurations and activations are at the same level as the source environment. Only then, it makes sense to deploy an Environment bundle, Semantic bundle, or Composite bundle because they depend on data.

Follow these recommended practices to ensure a smooth experience:

- Include the applicable security-related information in the Semantic Model and Content bundles.
- Reassign the groups to the users because the Security bundle doesn't overwrite the user-group mappings.
- Include the security configuration when you're exporting a Semantic Model bundle from a test to a production environment.
- While creating a Security bundle, if the number of application roles exceed 1000, then you may encounter an error. In such a case, use the **Select Application Roles** button to select specific roles.
- Use unique names for the semantic model extension steps. This enables the tags to work correctly while using the Semantic Model bundle to migrate your content to the target instance.

What's Available In Bundles

Learn what's available in bundles.

Area	Artifact	Included in Bundles
Security	Application roles	Security and Environment
Security	Users and Groups	No – move manually, done in Identity Cloud Service
Security	Group to Role assignments	Security and Environment
Security	Security contexts including Configurable Context	No – move manually
Uploaded files	Financial Categories, Security assignments	No – move manually
System settings	Oracle Analytics Cloud system settings including Preview features	No – create manually in target environment
Enable features	Activated Oracle Fusion Data Intelligence features	No – create manually in target environment
Semantic model extensions	System, user, security configuration	Semantic and Environment
Data validations	Scheduled validations such as AP Invoices, weekly	No – create manually in target environment
Reporting configurations	Basic reporting configurations	Content
Reporting configurations	Advanced (Configurable Account Analysis)	No – create manually in target environment
Data pipeline	Pipeline parameters, functional areas, augmentations	Data configurations
Data pipeline	Frequent refresh modules, tables, prioritized refresh	No – create manually in target environment
Data pipeline	Warehouse full reload schedules	No – create manually in target environment
Data pipeline	Custom data configurations – DFFs	Data configurations
Data pipeline	Custom data configurations such as Configurable Account Analysis	Content

Area	Artifact	Included in Bundles
Data pipeline	Data share and bulk data augmentations, if enabled	Data configurations
Connections	Data Augmentation Connectors	No – create manually in target environment
Oracle Analytics Cloud content	Key metrics, Workbooks, Connections, Analyses	Content and Environment
Oracle Analytics Cloud	Data flows, Functions, Machine Learning apps	Environment
Oracle Analytics Cloud	Datasets	No – move manually
Oracle Cloud Infrastructure Console settings	Entitlements, connections, PaaS component settings	No – create manually in target environment
Oracle Autonomous Data Warehouse custom schema	OAX_USER schema objects and data	No – use data pump to back up to and restore from Oracle Object Storage Service

Create a Bundle

Create a snapshot of your application artifacts to save their current state. You can view the bundles that you created on the Bundles page.

While creating a bundle in your source instance, ensure that you select only the data sources that are also available in the target instance to avoid deployment failures in the target instance.

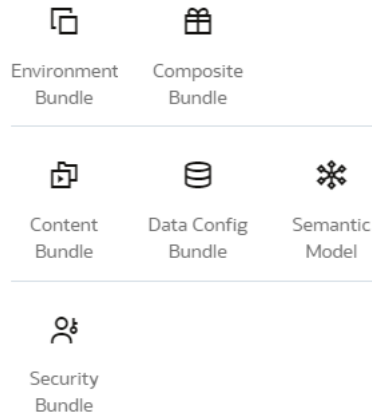
Prior to creating and generating a content bundle, ensure that none of the datasets have names with special characters. Also, if some of the datasets don't have key metrics to back up, manually select the key metrics from the respective subject areas and datasets and regenerate the content bundle. If there aren't any key metrics to back up in the bundle, then you can only select the **OAC Content** option from the user interface.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Bundles** under **Application Administration**.
3. On the Bundles page, click **Create**.



4. In Create Bundles, select the type of bundle that you want to create. For example, Content Bundle.

Create Bundle



5. Enter a name and description for your bundle.
6. Depending on the type of bundle, select the applicable option and then click **Save**:
 - For a content bundle, select the **Include All Content** check box, or select the applicable Oracle Analytics Cloud content, workbooks, and key metrics using the corresponding toggles and buttons. You can select the **Include Reporting Parameters** and **Include Configurable Account Analysis** check boxes, if applicable.

The 'Content Bundle' configuration window has a dark header bar with a back arrow, a bundle icon, the title 'Content Bundle', and 'Cancel' and 'Save' buttons. The main area is divided into three columns. The first column has 'Name' and 'Description' labels with corresponding text input fields. The second column, 'OAC Content', has a radio button for 'All OAC Content' and a 'Select OAC Content' button. The third column, 'Key Metrics', has a radio button for 'All Key Metrics' and a 'Select Key Metrics' button. Below these columns are three checkboxes: 'Include All' (selected), 'Include Reporting Parameters', and 'Include Configurable Account Analysis'.

- For a key metrics content bundle, select the key metrics you want to bundle using the corresponding toggles and buttons. Key metrics are also included with Environment Bundles. To improve performance, select the specific key metrics you want to bundle.

This screenshot shows the 'Content Bundle' configuration window with the 'Key Metrics' section highlighted by a red box. The 'All Key Metrics' radio button is selected. Below it is a 'Select Key Metrics' button, followed by a list of metrics: 'Custom - Campaign Targete...' and 'Actual Cost'. To the right of the 'Key Metrics' section are two more sections: 'Decks' with an 'All Decks' radio button and a 'Select Decks' button, and 'KPIs' with an 'All KPIs' radio button and a 'Select KPIs' button. The 'Include All' checkbox is still selected, and the 'Include Reporting Parameters' and 'Include Configurable Account Analysis' checkboxes are also visible.

Note

To import key metrics, you must deploy a key metric bundle into a new instance with key metrics enabled. You can import key metrics in datasets however the entire dataset won't be imported due to security limitations. Datasets without key metrics aren't included in key metrics.

- For a data configuration bundle, select the **Include all data configuration settings** check box, or select the applicable modules, augmentations, custom data configurations, and pipeline settings using the corresponding toggles and **Select** buttons.

Note

The **Include all data configuration settings** selects only the deployed custom data configurations, the activated data augmentations, and the activated functional areas. After activating the data augmentation and functional area (Activation Completed status), you may experience a slight delay in viewing the data augmentations and functional areas with Activation Completed status on the data configuration bundle page.

- For a semantic extensions bundle, you can select **Include all semantic extensions** check box (this adds the external semantic model too) to include everything or select **Include External RPD** to only include external elements. Select the **Publish External RPD** check box to publish external elements. Select a tag or branch from the dropdown box to define which tag or branch you want to publish.

If you've migrated to the latest wizards for extending the semantic model, select the **Semantic Extensions** to include all sandbox customizations. If required, select an external application to include external elements in the bundle.

- For a security bundle, select the **Include all security settings** check box or select all the application roles. If the number of application roles exceed 1000, then you may encounter an error. In such a case, use the **Select Application Roles** button to select specific roles.

Note

If you've uptaken the enhanced security capability of Oracle Fusion Data Intelligence, then you no longer can specifically select groups as part of the Security bundle. See [About Managing Users, Groups, Application Roles, and Data Access](#).

←

Security Bundle

🔔

Cancel

Save

Name

Description

☐ Include All ⓘ

Application Roles
☐ All Application Roles

Select Application Roles

⌵

- For an environment bundle, provide a name.

←

Environment Bundle

🔔

Cancel

Save

Name

Description

☐ Include groups

- For a composite bundle, select any of the other bundles.

←

Composite Bundle

🔔

Cancel

Save

👤

Name

Description

Bundle Components

Content

Data Configuration

Semantic Extensions

Security

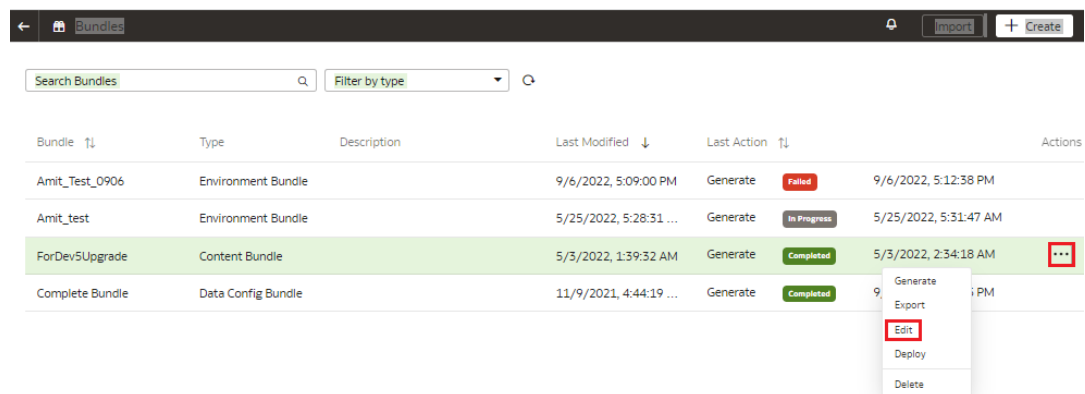
Edit a Bundle

Edit a bundle if you need to change the application artifacts captured in the bundle.

Note

When you edit a bundle, you can't see the bundle definitions till you complete the bundle deployment. Functional areas and data augmentations in the bundle are visible after the bundle deployment process schedules them. The custom data configurations in the bundle are visible after the deploy custom data configurations process is completed.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Bundles** under **Application Administration**.
3. On the Bundles page, hover over the bundle that you created and click under **Actions**.
4. From **Actions**, select **Edit**.



5. On the applicable bundles page, make your changes and then click **Update**.

Publish a Bundle

Publish a bundle from the source environment. This action generates a snapshot of the application artifacts and saves the snapshot to a repository. You can download this bundled artifact and import it into different instances.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Bundles** under **Application Administration**.
3. On the Bundles page, hover over the bundle that you created and click under **Actions**.
4. From **Actions**, select **Generate** to create and publish the bundle.

Bundle	Type	Description	Last Modified	Last Action	Actions
Amit_Test_0906	Environment Bundle		9/6/2022, 5:09:00 PM	Generate Failed	9/6/2022, 5:12:38 PM
Amit_test	Environment Bundle		5/25/2022, 5:28:31 ...	Generate In Progress	5/25/2022, 5:31:47 AM
ForDev5Upgrade	Content Bundle		5/3/2022, 1:39:32 AM	Generate Completed	5/3/2022, 2:34:18 AM
Complete Bundle	Data Config Bundle		11/9/2021, 4:44:19 ...	Generate Completed	9/6/2022, 5:12:38 PM

You see the bundle with Generated status on the Bundles page.

Export a Bundle

Export the bundle .aab file from your source system to a repository or your local machine.

[LiveLabs Sprint](#)

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Bundles** under **Application Administration**.
3. On the Bundles page, hover over the bundle that you created and click under **Actions**.
4. From **Actions**, select **Export**.

Bundle	Type	Description	Last Modified	Last Action	Actions
Amit_Test_0906	Environment Bundle		9/6/2022, 5:09:00 PM	Generate Failed	9/6/2022, 5:12:38 PM
Amit_test	Environment Bundle		5/25/2022, 5:28:31 ...	Generate In Progress	5/25/2022, 5:31:47 AM
ForDev5Upgrade	Content Bundle		5/3/2022, 1:39:32 AM	Generate Completed	5/3/2022, 2:34:18 AM
Complete Bundle	Data Config Bundle		11/9/2021, 4:44:19 ...	Generate Completed	9/6/2022, 5:12:38 PM

Import a Bundle

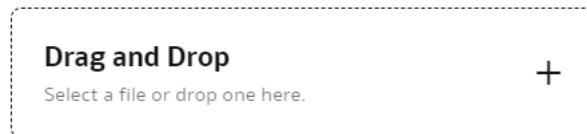
Import the bundle .aab file into the target environment from your computer to restore the state of the application to the checkpoint represented by the bundle.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Bundles** under **Application Administration**.
3. On the Bundles page, click **Import**.



4. In the Import Bundle dialog, click in Drag and Drop, and then select the applicable .aab file from your local machine.

Import Bundle



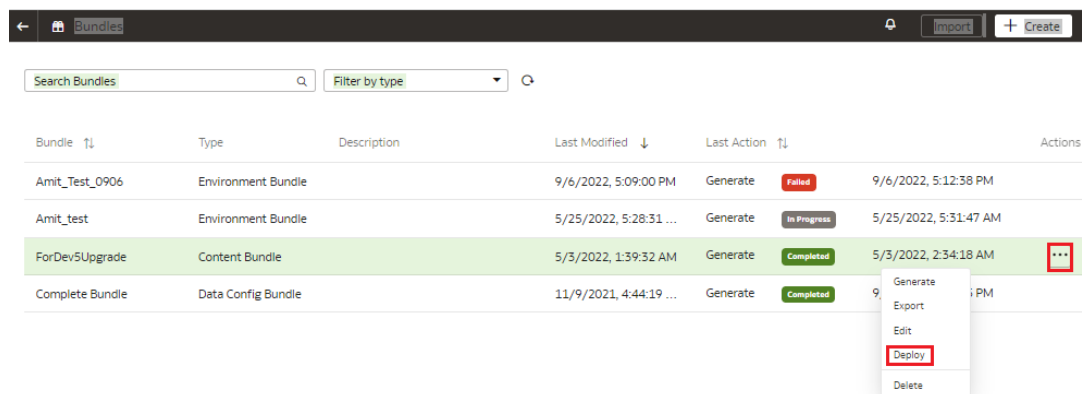
5. Click **Import**.

Deploy a Bundle

You can deploy a generated bundle in the target environment to revert to the state of artifacts represented by the bundle. The system validates the bundle before attempting any deployment to ensure software and model versions and any other dependencies are met.

For example, if you have a bundle A (created in instance A) and then later made some changes but want to revert those changes, then use the Deploy option. This option restores the artifacts to an older version by deploying the previous bundle in the system.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Bundles** under **Application Administration**.
3. On the Bundles page, hover over the bundle that you created and click under **Actions**.
4. From **Actions**, select **Deploy**.

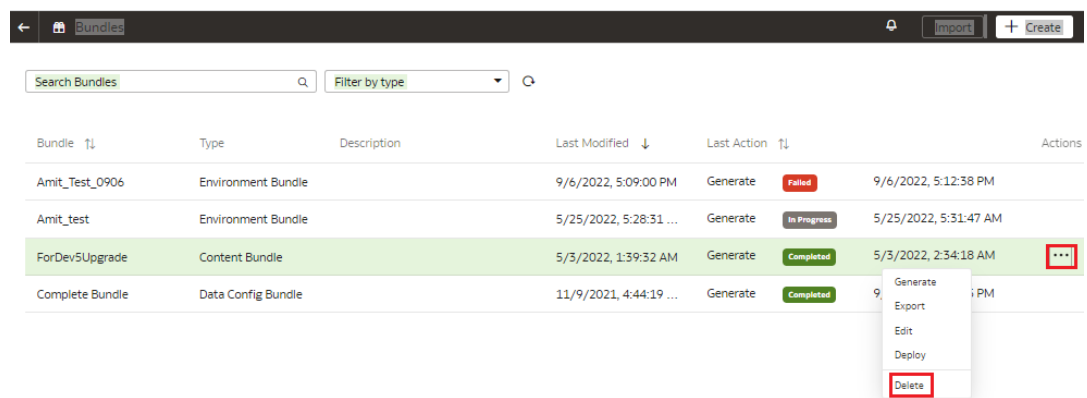


5. In the Deploy Bundle dialog, ensure that you see the bundle that you have selected.
6. Click **Deploy**.

Delete a Bundle

Delete a bundle if you no longer require the snapshot of your application artifacts captured in the bundle.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Bundles** under **Application Administration**.
3. On the Bundles page, hover over the bundle that you created and click under **Actions**.
4. From **Actions**, select **Delete**.

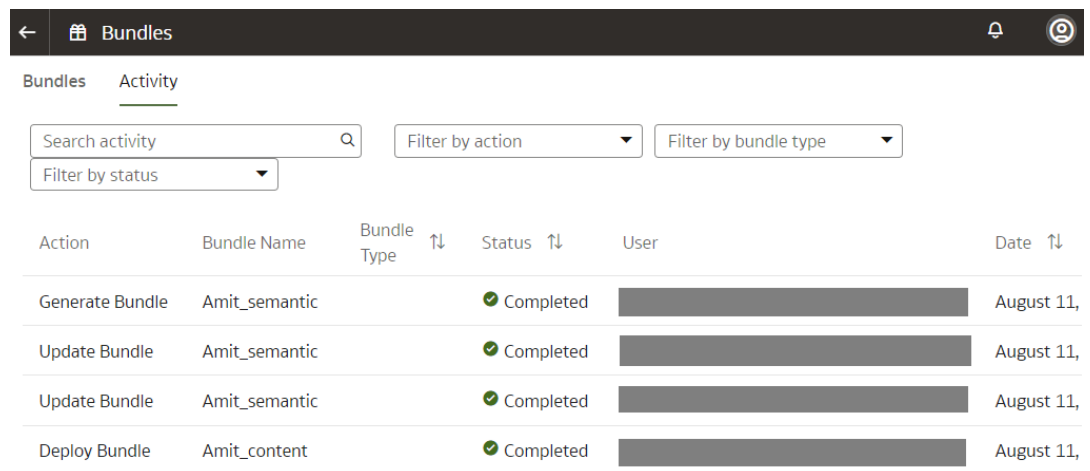


View the Activity History of Bundles

View all the bundles-related activities to understand the changes made to your instance, which bundles to use, and whether the existing bundles are still current. This information enables you to make informed decisions about creating updated bundles or deploying an existing bundle.

You see all the activities by bundle-related action, bundle names, bundle type, status, user who performed the activity, and date. You can organize the display by sorting columns, searching for activities, and filtering by action, bundle type, or status.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Bundles** under **Application Administration**.
3. On the Bundles page, click the **Activity** tab.



The screenshot shows the 'Bundles' section of the Oracle console. It includes a search bar, filters for action, status, and bundle type, and a table of recent bundle activities.

Action	Bundle Name	Bundle Type	Status	User	Date
Generate Bundle	Amit_semantic		Completed		August 11,
Update Bundle	Amit_semantic		Completed		August 11,
Update Bundle	Amit_semantic		Completed		August 11,
Deploy Bundle	Amit_content		Completed		August 11,

Share Bundles

You can share bundles within the same tenancy as private bundles and as public bundles for tenancies with specific entitlements.

The Bundle Repository is a resilient store for bundles and provides the ability to create and manage the deployment of bundles. This repository enables you to easily manage sharing, importing, and deploying bundles.

Topics:

- [About the Bundle Repository](#)
- [Publish a Bundle to the Repository](#)
- [Import a Shared Bundle](#)
- [Deploy a Shared Bundle](#)

About the Bundle Repository

The Bundle Repository is an app-store like experience for users to import bundles created by partners or other users.

The repository enables Oracle internal and external partners to share bundles easily with users and provide updates. You can migrate bundles from lower to higher environments in the same tenancy. You don't need to download bundles on your local machine or server.

As a bundle creator, you can create a bundle using the Bundles tile on the Console and publish it to the repository using the Bundles Repository tile on the Console. While publishing the bundle to the repository, you can add terms and conditions, documentation, and usage guidelines. When you share any bundle to the Bundle Repository, the bundle is accessible to other instances. You must review and ensure the bundles are shared with correct settings and descriptions.

As a bundle consumer, you can view the details of each shared bundle and import them into your instance. After you import a shared bundle, you can then deploy it in your instance.

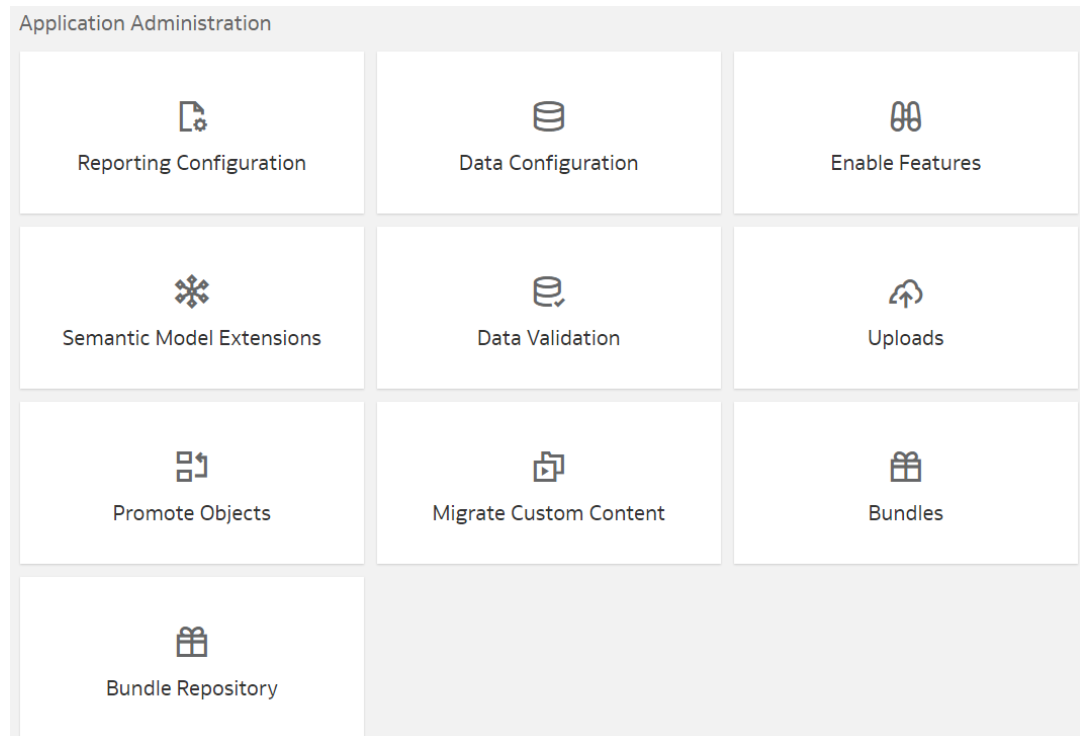
Bundle creators maintain any updates to a bundle and any restrictions for use. The updated bundle displays an "Update Available" message if you had installed it previously. You can then reimport it.

Publish a Bundle to the Repository

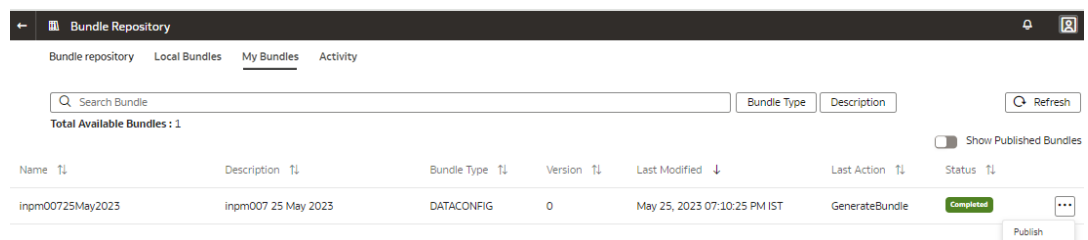
You publish a bundle to the repository to share it with others.

On the Bundle Repository page, under My Bundles, you see the bundles that you created using the Bundles tile. See [About Bundles](#).

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Bundle Repository** under **Application Administration**.



3. On the Bundle Repository page, click the My Bundles tab, and for the applicable bundle, click the Action icon and then click **Publish**.



4. On the Publish Bundle page, provide the bundle details based on private or public bundle permissions and then click **Done**.

Bundle Repository

Publish to Bundle repository
Provide details for users to learn more about your bundle.
Cancel Done

Bundle Name
inpm00725May2023
Bundle Type
DATACONFIG
Version
0

Created By *
Bundle Permission Type *
Target Regions *

☐ Private ☐ Public

Bundle Description *

Prerequisites *

How To Use *

Custom Fields
Add Custom Field

Bundle Repository

Publish to Bundle repository
Provide details for users to learn more about your bundle.
Cancel Done

Bundle Name
inpm00725May2023
Bundle Type
DATACONFIG
Version
0

Created By *
Bundle Permission Type *
Works With *

☐ Private ☒ Public

Bundle Description *

Prerequisites *

How To Use *

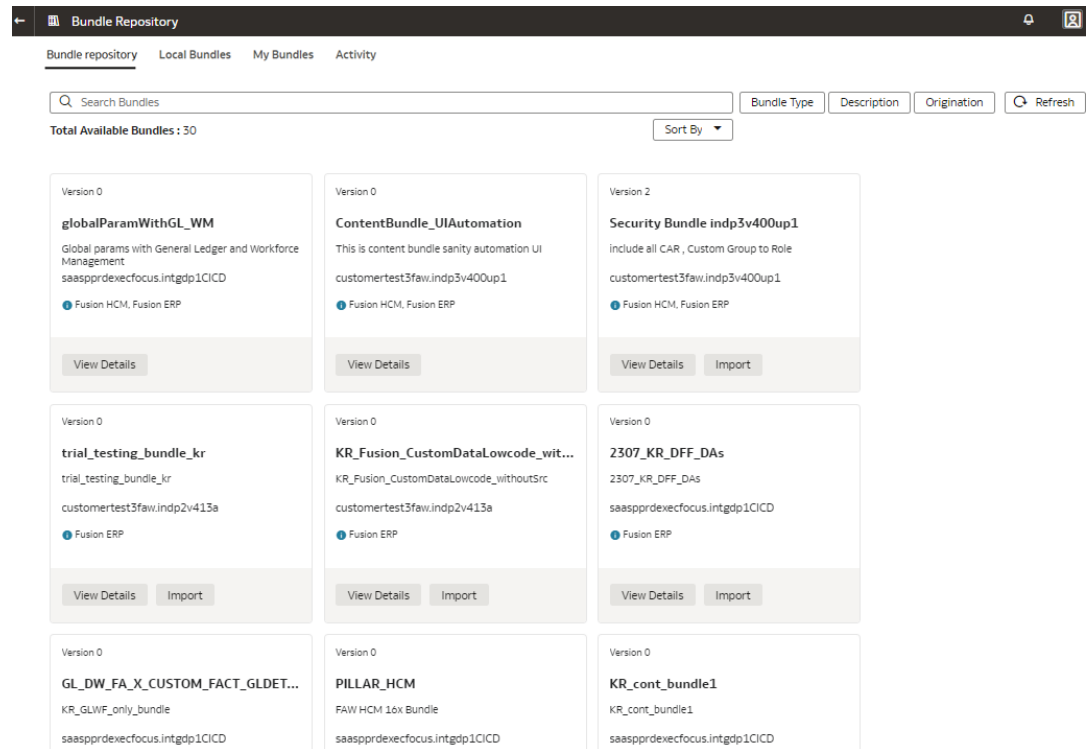
Custom Fields
Custom field name
Custom field text
Add Custom Field

Import a Shared Bundle

You can view the bundles shared by others on the Bundles Repository page and you can import it into your instance to use the bundle objects in your semantic model extensions and data augmentations.

1. Sign in to your service.

2. In Oracle Fusion Data Intelligence **Console**, click **Bundle Repository** under **Application Administration**.
3. On the Bundle Repository page, under the Bundle Repository tab, click an applicable bundle or search for a shared bundle, click View Details to review the shared details, and click Import to install the bundle in your instance.



4. In the Import Bundle dialog, review the terms of use, select the **I Agree to the terms** check box, and click **Submit**.

Import Bundle

Oracle Bundle Repository Terms of Use

Oracle respects your preferences concerning the collection and use of your Personal Information. The following Oracle privacy policies are tailored for the different ways your Personal Information may be collected, used, shared and processed by different Oracle lines of business:

- The Oracle General Privacy Policy addresses information we collect in connection with your use of Oracle websites, mobile applications, and social media pages that link to the General Privacy Policy, your interactions with Oracle during in-person meetings at Oracle facilities or at Oracle events, and in the context of other online or offline sales and marketing activities.
- The Services Privacy Policy describes our privacy and security practices that apply when handling (i) services personal information in order to perform Consulting, Technical Support, Cloud and other services on behalf of Oracle customers; and (ii) personal information contained in systems operation data generated by the interaction of (end-)users of these services with Oracle systems and networks.
- The Customer Data Research and Development Privacy Policy describes Oracle's processing of personal information in connection with Oracle's artificial intelligence and machine learning activities in order to analyze, develop, and improve Oracle products and services, and for security and compliance purposes.
- The Oracle Recruiting Privacy Policy addresses information we may collect in connection with Oracle's online and offline recruiting efforts.
- The Oracle Advertising Privacy Policy addresses how Oracle facilitates the collection and use of marketing and interest-based information to help enable interest-based advertising by our Oracle Advertising customers.

Pursuant to the E.U. General Data Protection Regulation (GDPR), California Consumer Privacy Act (CCPA), and other applicable laws and regulations, individuals may have data subject rights enabling them to request to access, delete, correct, remove or limit the use, or receive a copy of their personal information in Oracle's possession or for which Oracle is otherwise responsible. If you would like to exercise your rights, please refer to the applicable privacy policy above or visit the Privacy Choices tab for more information.

☒ I Agree to the terms

Close
Submit

5. Verify the status of the import process on the Activity page and then verify that the shared bundle is visible under the Local Bundles tab.

Bundle Repository					
Bundle repository Local Bundles My Bundles Activity Search Bundle Bundle Type Description Refresh Total Available Bundles : 3					
Name ↑↓	Description ↑↓	Bundle Type ↑↓	Version ↑↓	Last modified ↓	
Security Bundle indp3v400up1	include all CAR , Custom Group to R...	SECURITY	2	May 20, 2024 07:13:32 PM IST	...
ContentBundle_UIAutomation	This is content bundle sanity autom...	CONTENT	0	Dec 12, 2023 11:47:56 AM IST	...
globalParamWithGL_WM	Global params with General Ledger ...	DATACONFIG	0	Dec 12, 2023 11:15:47 AM IST	...

Deploy a Shared Bundle

You can deploy the shared bundle that you imported into your instance to use the objects in the shared bundle. Oracle Fusion Data Intelligence validates the bundle before attempting any deployment to ensure software and model versions and any other dependencies are met.

1. Sign in to your service.
2. In Oracle Fusion Data Intelligence **Console**, click **Bundle Repository** under **Application Administration**.
3. On the Bundle Repository page, click the Local Bundles tab, hover over a shared bundle that you had imported, and then click the Actions icon.

The screenshot shows the 'Bundle Repository' interface with tabs for 'Bundle repository', 'Local Bundles', 'My Bundles', and 'Activity'. A search bar and filters for 'Bundle Type' and 'Description' are at the top. A 'Refresh' button is on the right. Below the search bar, it says 'Total Available Bundles : 3'. The table lists three bundles with columns for Name, Description, Bundle Type, Version, and Last modified. A context menu is open for the first bundle, showing 'View Details', 'Deploy', and 'Delete' options.

Name	Description	Bundle Type	Version	Last modified
Security Bundle indp3v400up1	include all CAR , Custom Group to R...	SECURITY	2	May 20, 2024 07:13:32 PM IST
ContentBundle_UIAutomation	This is content bundle sanity autom...	CONTENT	0	Dec 12, 2023 11:47:56 AM IST
globalParamWithGL_WM	Global params with General Ledger ...	DATACONFIG	0	Dec 12, 2023 11:15:47 AM IST

- From Actions, select **Deploy**.
- In the Deploy Bundle dialog, ensure that you see the bundle that you have selected, select the applicable actions, and then click **Deploy**.

Deploy Bundle

Are you sure you want to deploy the bundle? This will make major changes to the environment.

globalParamWithGL_WM

- ☒ Run data pipelines immediately
☐ Import the data pipelines, but do not activate
☐ Select a date and time
☒ Perform validation

Cancel Deploy

Configure a Virus Scanner

To keep Oracle Fusion Data Intelligence virus-free, Oracle highly recommends that you set up the virus scanning servers used by your organization running on either 443 or 1708 ports only, to scan any files that are uploaded to Oracle Fusion Data Intelligence.

When you configure virus scanning, the scanner checks all uploaded files including data files from the data pipeline and snapshots that you upload to restore content or to migrate content from another environment.

- Sign in to your service.
- In Oracle Fusion Data Intelligence **Console**, click **Virus Scanner** under **Service Administration**.
- On the Virus Scanner page, enter the host and port of the virus scanning server. For example, `my.virus.scanning.serverexample.com`.
- Click **Save**.
- To remove the current virus scanner configuration, click **Delete**.

About Backup and Restore

Oracle Fusion Data Intelligence relies on Oracle Autonomous Data Warehouse as the data store and Oracle Analytics Cloud for its semantic models and reports.

Use these database backup options:

- Oracle Autonomous Data Warehouse has automated daily backups for the last 60 days. Use these backups to restore the database within a region. See [About Backup and Recovery on Autonomous Database](#).
- Oracle Data Pump is an option to export Oracle Autonomous Data Warehouse to a resilient file store like Oracle Storage Service. In the case of a region-wide failure, you can import these files into a database in another region. See [Overview of Oracle Data Pump](#).

Oracle Analytics Cloud traditionally provides snapshots as a mechanism to backup artifacts. However, Oracle Fusion Data Intelligence doesn't have the ability to use the Oracle Analytics Cloud snapshots. Use Bundles to backup Oracle Analytics Cloud artifacts and Oracle Fusion Data Intelligence customizations and configurations. For example, you can export an Oracle Fusion Data Intelligence environment bundle periodically (for example, weekly) to a resilient file store like Oracle Storage Service. When something goes wrong with one of your environments, you can import the bundle into another Oracle Fusion Data Intelligence environment and deploy it. See [Bundle Your Application Artifacts](#).

Once you have restored a previous version of the content and completed the next pipeline run, create a service request for Oracle to update the content metadata to ensure the latest definitions of the objects are created. This enables future patching and upgrades to be performed on the restored snapshots.

You can restore from an Autonomous Data Warehouse backup and then reload from your source. If you've multiple sources, then you must reload all the sources, else you might miss a portion of the data. When you restore the content, the system restores it to the point of backup. Any incremental content that you added between the backup and restore actions won't be available. If your instance has been upgraded after you've taken a backup and you restore on the upgraded instance, then the platform is upgraded to the new instance version before the content is restored. To restore your latest content, you must create a service request.

About Disaster Recovery

Oracle Fusion Data Intelligence is built upon Oracle Cloud Infrastructure and leverages Oracle PaaS services like Oracle Analytics Cloud and Oracle Autonomous Data Warehouse.

For Oracle Fusion Data Intelligence prebuilt content, you can provision a fresh Oracle Fusion Data Intelligence environment with the latest software and perform the data activation steps. Oracle Fusion Cloud Applications provides the data for Oracle Fusion Data Intelligence. Use a data reset to populate Oracle Fusion Data Intelligence with historical data from the Oracle Fusion Cloud Applications source at any time. Customizations to Oracle Fusion Data Intelligence and any custom ETL and schemas are the key concerns in case of a region-wide disaster recovery event.

There is currently no automated failover in the event of a region-wide disaster. If you need a disaster recovery strategy for region-wide failures, then here are two suggestions:

1. Purchase another Oracle Fusion Data Intelligence subscription and provision it in a region other than your production environment. This gives you another active environment for your business users in case the primary region has a disaster.

2. Provision an Oracle Fusion Data Intelligence Additional Test Environment (ATE) in a different region than the production environment as a backup instance.

Note

Autonomous Data Guard and Cloning capability aren't supported to replicate Oracle Fusion Data Intelligence data. See [Usage Guidelines for Autonomous Data Warehouse Associated with Fusion Data Intelligence](#).

In either option, you can connect the backup instance to the same Oracle Fusion Cloud Applications source as your production instance and refresh data. You may choose a different data refresh frequency (for example, daily or weekly) or a different start time compared to the production instance (for example, 12 hours after production instance daily refresh time). In the case of a disaster, the Oracle Fusion Cloud Applications source URL continues to be available after a failover.

Maintain the backup environment in synchrony with the primary production environment by repeating any action taken in the production environment. It is best to make this a part of your change process and operations play book. You can use [Bundles](#) as a tool to export customizations from the production environment and import them into the backup instance.

In the event of a disaster, you can ask key business users to use the Oracle Analytics Cloud URL from your backup instance until the production region is restored. If you setup ATE as a backup instance, it won't have the same size as production. If you wish to switch all business users to this instance, then you will have to pay to scale-up the ATE resources such as Oracle Analytics Cloud OCPUs or Oracle Autonomous Data Warehouse ECPUs and storage.

For non-OC1 (non-commercial) realms, an additional configuration is required. For example, if you want to create a backup instance in UK Gov West (Newport) while the primary is in UK Gov South (London), then you must:

1. Sign in to the default domain, switch to the UK Gov West (Newport) region, and create a domain that is homed in the UK Gov West (Newport) region. See [Creating an Identity Domain](#).
2. Configure single sign-on to the domain in the UK Gov South (London) region. See [Configure Single Sign-on Between Two Identity Domains](#).
3. Sign in to the new domain in UK Gov West (Newport) and create the Oracle Fusion Data Intelligence instance. See [Create an Oracle Fusion Data Intelligence Instance](#).

About Scaling Resources

You can scale the resources provided by default with Oracle Fusion Data Intelligence based on your workload.

An activated Oracle Fusion Data Intelligence subscription enables a cloud account administrator and service administrator to create the following types of instances:

- Development/Test
- Additional test (ATE)
- Production

The development/test and ATE instances typically have smaller capacity compared to the production instance. These instances are different in the following ways:

- The development instance and ATE are for testing with a subset of data such as last 1 year as opposed to the full history and a subset of concurrent business users.
- The development instance is to develop or test reports and customizations before deploying them in the production instance for business users.
- The production instance is for production level business needs such as all historical data and all business users.
- The production instance has higher resources and therefore higher performance.
- Oracle monitors the production instances to ensure satisfactory level of service for the predefined content.

Prior to scaling these instances, note the following:

- You'll incur additional usage charges if you scale up compute and storage resources.
- You can scale up resources on your own using the Oracle Cloud Infrastructure Console if you've an UCC subscription for PAYGO.
- You can't scale down below the provisioned capacity.
- You might need to scale up the Oracle Analytics Cloud instance associated with your Oracle Fusion Data Intelligence instance in scenarios such as these:
 - Extensive semantic model extensions.
 - Extensive custom reports.
 - Use of large custom data sets.
 - Merge of external applications into the Oracle Fusion Data Intelligence semantic model.
 - Sluggish report performance due to many concurrent users.
- You can monitor the Oracle Analytics Cloud instance associated with your Oracle Fusion Data Intelligence instance using the Metrics option. See [Monitor Metrics](#).
- You might need to scale up the Oracle Autonomous Data Warehouse instance associated with your Oracle Fusion Data Intelligence instance in scenarios such as these:
 - Extensive use of data warehouse tools such as Oracle Machine Learning (OML) and Application Express (APEX).
 - Custom data that exceeds 50 GB.
 - Extensive custom queries.
 - Use of custom apps or tools against the database.
 - Many concurrent users running reports.
- You can monitor the Oracle Autonomous Data Warehouse instance associated with your Oracle Fusion Data Intelligence instance using the Performance Hub and Metrics Explorer options. See [Monitor and Manage Database Performance](#) and [Monitor Metrics](#).
- You can scale up the development/test instance and ATE in scenarios such as these:
 - Testing customizations before deploying them to the production instance.
 - Stress-testing that requires temporarily scaling up the instance.
 - Bringing additional volumes of data into the development/test instance and ATE.

Scale the resources as follows:

- To scale the Oracle Analytics Cloud instance associated with your Oracle Fusion Data Intelligence instance, see [Change Oracle Analytics Cloud Capacity](#).

- To scale the Oracle Autonomous Data Warehouse instance associated with your Oracle Fusion Data Intelligence instance, see [Scale Up Oracle Autonomous Data Warehouse](#).

About Licensing

If you plan to use the data from Oracle Fusion Data Intelligence with third-party tools or in applications you build on your own or for exporting data to a third-party store, then you need to use the employee metric for your Oracle Fusion Data Intelligence subscription.

For example, if you've a ten-user license of Oracle Fusion ERP Analytics and you export data into a data lake to combine with other data or for any other downstream use, then you need to license Oracle Fusion Data Intelligence for all employees in your organization.

9

Frequently Asked Questions

Here are answers to common questions asked by administrators of Oracle Fusion Data Intelligence.

Topics:

- [Top FAQs for Activation](#)
- [Top FAQs for Instance Creation](#)
- [Top FAQs for Data Configuration](#)
- [Top FAQs for Security Setup](#)
- [Top FAQs for Customization and Data Augmentation](#)
- [Top FAQs for Managing Oracle Fusion Data Intelligence](#)

Top FAQs for Activation

The top FAQs for Oracle Fusion Data Intelligence activation are identified in this topic.

Do I need to activate my UCC subscription before activating Oracle Fusion Data Intelligence?

No, UCC activation isn't a prerequisite for Oracle Fusion Data Intelligence. However, for specific scenarios, you may require universal credits. See [Important – Read Before Activating](#).

My UCC order has expired. What should I do?

Contact your Oracle Sales representative for assistance with UCC.

Do I need to activate my Oracle Fusion Data Intelligence subscription for production and non-production environments separately?

No, your Oracle Fusion Data Intelligence subscription activation is applicable to all currently subscribed environments.

Can I request an additional Oracle Fusion Data Intelligence test environment?

Yes, you can request an additional test environment (ATE), which must be contracted for a minimum of 12 months.

Can I activate Oracle Fusion Data Intelligence into a cloud account different from the one used by Oracle Fusion Cloud Applications?

The recommended guideline is to activate Oracle Fusion Data Intelligence into the same cloud account as Oracle Fusion Cloud Applications.

Can I activate an Oracle Fusion Data Intelligence subscription in a region of my choice?

Your subscriptions are linked and activated into the home region of your tenancy. After activating a subscription, you can create the Oracle Fusion Data Intelligence instance in the regions where Oracle Fusion Data Intelligence is available and you have subscribed for such

regions. Use the Manage Regions option in the Oracle Cloud Infrastructure Console to subscribe for a region. See [Region Availability](#) and [Managing Regions](#).

For example, if you have a tenancy with Frankfurt as the home region, you can activate the Oracle Fusion Data Intelligence subscription in that home region only. After successful activation of the subscription in your home region, you can select a region to which you have subscribed such as Jeddah and create the instance in the specific region.

Top FAQs for Instance Creation

The top FAQs for Fusion Data Intelligence instance creation are identified in this topic.

Are there any prerequisites to create the integrated Fusion Data Intelligence instance?

Yes, refer to [Create an Integrated Oracle Fusion Data Intelligence Instance](#).

Can I sign in to the Default domain to create the integrated Fusion Data Intelligence instance?

You can sign in to the Default domain to create the integrated Fusion Data Intelligence instance. You must ensure that the user ID in the Default domain is same as the user in Oracle Fusion Cloud Applications domain.

Do I've to create a compartment before creating the integrated Fusion Data Intelligence instance?

You don't have to create a compartment before creating the integrated Fusion Data Intelligence instance.

Would the integrated Fusion Data Intelligence instance have the same domain as Oracle Fusion Cloud Applications?

Yes, the integrated Fusion Data Intelligence instance inherits the domain of the Oracle Fusion Cloud Applications instance that its attached to.

Do I've to create the JWT tokens prior to attaching the instance?

The integrated Fusion Data Intelligence instance uses OAuth and doesn't require the JWT token.

Can I move the integrated Fusion Data Intelligence instance to another compartment?

Compartment change isn't possible for the integrated Fusion Data Intelligence instance. The Oracle Fusion Cloud Applications and integrated Fusion Data Intelligence instances will be in the same compartment.

Does the integrated Fusion Data Intelligence instance support private Fusion Data Intelligence?

Use [Create an Oracle Fusion Data Intelligence Standalone Instance](#) to utilize private Fusion Data Intelligence.

Can I secure the Autonomous Data Warehouse associated with the integrated Fusion Data Intelligence instance using the access control list?

Yes, you can secure the Autonomous Data Warehouse associated with the integrated Fusion Data Intelligence instance using the access control list.

How many integrated Fusion Data Intelligence instances can I create against one Oracle Fusion Cloud Applications instance?

Only one integrated Fusion Data Intelligence instance is possible against one Oracle Fusion Cloud Applications instance.

Can I change the Oracle Fusion Cloud Applications URL for the integrated Fusion Data Intelligence instance?

You can't change the Oracle Fusion Cloud Applications URL for the integrated Fusion Data Intelligence instance. When you detach the integrated instance, you can't modify the existing Oracle Fusion Cloud Applications URL.

To point to an Oracle Fusion Cloud Applications URL of your choice, create a standalone Fusion Data Intelligence instance and specify the applicable Oracle Fusion Cloud Applications URL. For this instance, you can update the Oracle Fusion Cloud Applications URL whenever required. See [Update the Data Source Connection Details](#).

Can I terminate the existing integrated Fusion Data Intelligence instance and will it impact the Oracle Fusion Cloud Applications instance in any way?

Yes, you can terminate the integrated Fusion Data Intelligence instance after detaching it and there won't be any impact on the Oracle Fusion Cloud Applications instance.

Once you detach the integrated Fusion Data Intelligence instance, is the authentication type still OAuth?

Authentication is still OAuth.

Can I reattach the detached integrated Fusion Data Intelligence instance?

You can't reattach a detached integrated Fusion Data Intelligence instance.

Can I create an integrated Fusion Data Intelligence instance in the UK Government regions?

Yes, you can create.

Oracle Fusion Data Intelligence instance creation has failed. What should I do?

Reach out to Oracle Support by creating a service request against "Fusion Data Intelligence" in My Oracle Support.

Do I need to create a compartment before creating a standalone Oracle Fusion Data Intelligence instance?

Compartments provide logical separation of instances. The best practice is to create a compartment and then create the standalone Oracle Fusion Data Intelligence instance in the said compartment.

Can I configure a standalone Oracle Fusion Data Intelligence instance with private endpoints?

Yes, you can configure a standalone Oracle Fusion Data Intelligence instance with private endpoints. Refer to [Deploy Oracle Fusion Data Intelligence with a Private Endpoint](#), [Overview of Private Fusion Data Intelligence](#), and [Preparing Private Oracle Fusion Data Intelligence](#) for additional details.

After creating the Oracle Fusion Data Intelligence instance, why can't I sign into the instance?

You created the Oracle Fusion Data Intelligence instance as an administrator but to sign into the instance, you must have any of the groups mentioned in [System Groups](#) assigned to you. See [About Creating an Instance](#).

Why does an instance get deleted soon after being created successfully?

Security zones set at the compartment level cause an instance to be deleted soon after being created successfully. Modify the security zone restrictions at the compartment level to avoid this scenario.

Why am I unable to create an instance using the US Midwest (Chicago) Oracle Identity Cloud Service domain?

The Oracle Identity Cloud Service domain in US Midwest (Chicago) isn't supported. Use the Oracle Identity Cloud Service domain in one of these regions:

- ca-montreal-idcs-1
- ca-toronto-idcs-1
- us-ashburn-idcs-1
- us-ashburn-idcs-2
- us-phoenix-idcs-1
- us-phoenix-idcs-2
- us-phoenix-idcs-3
- uscom-central-idcs-1

Top FAQs for Data Configuration

The top FAQs for Oracle Fusion Data Intelligence data configuration are identified in this topic.

What should I specify as the initial extract date in the pipeline parameters?

The initial extract date determines how far back the data will be loaded into the autonomous data warehouse as part of the initial load or after a warehouse reset is performed. This is specific to your business and reporting needs and data retention policies.

I activated a functional area. Where can I check the status?

Navigate to the **Console**, click **Data Configuration**, and then click **Request History**.

What's the difference between refresh and reset?

Refresh loads incremental data only, whereas reset reloads all data as of the initial extract date.

Can I reset and refresh the data warehouse?

Yes, you can reset and refresh the data warehouse. See [Reset the Data Warehouse](#).

Can I reset and refresh a data pipeline for a functional area?

Yes, you can reset and refresh a data pipeline for a functional area. See [Reload Data for a Data Pipeline](#) and [Refresh a Data Pipeline for a Functional Area](#).

Where do I check the data load status?

Navigate to the **Console**, click **Data Configuration**, then click **Pipeline Settings**, and view **Last Refresh Date**.

How do I increase the frequency of data refresh?

See [Schedule Frequent Refreshes of Data](#).

Can I load external data into the autonomous data warehouse?

Yes, you can load external data into the autonomous data warehouse from external sources and build your own augmentations using connectors. See [Manage Data Connections](#).

Is there a limitation on external data volume that's extracted into the autonomous data warehouse?

By default, custom data is limited to 50GB in the autonomous data warehouse associated with Oracle Fusion Data Intelligence. For any storage of custom data beyond 50GB, you must scale up through the Oracle Cloud Infrastructure Console. This is charged to your cloud account accordingly. See [Scale Up Oracle Autonomous Data Warehouse](#).

Can I extract Oracle Fusion Data Intelligence data and export it to external storage systems?

Yes, you can extract Oracle Fusion Data Intelligence data to export into an external storage system. However, care must be taken to ensure an adequate number of user licenses are available to access Oracle Fusion Data Intelligence data through the external system.

Can I filter the records with "Status" on the Request History page?

No. You must select both "Status" and "Submitted by" to get the applicable records.

Does day light savings impact the data refresh process?

Yes, the incremental refreshes that are scheduled during the start and end of daylight-saving times may not happen.

Can I clear the cache after the data pipeline is run?

The system clears the cache in the back-end after every data pipeline load as a standard step. You don't have to take any action.

Why are some entries missing for the frequent data refresh scheduled runs in the Warehouse Refresh Statistics report?

If no new records are present at source to get extracted and published to the warehouse during the scheduled frequent data refresh runs, then the Warehouse Refresh Statistics report skips those entries.

Why does the frequent data refresh schedule for a functional area such as General Ledger get skipped sometimes after performing a reset of multiple functional areas?

This is an expected behavior. The incremental refresh after performing multiple soft reset of functional areas take more time than usual due to the high volume of records being processed. Due to this the scheduled frequent General Ledger refresh jobs get skipped. The scheduled frequent General Ledger jobs start as soon as the incremental refresh is completed.

Even though I've enabled frequent data refresh for General Ledger, why is data on DW_GL_BALANCE_CA refreshing once a day with daily pipeline refresh schedule?

Currently, the Frequent Data Refresh process doesn't support aggregate tables such as DW_GL_BALANCE_CA.

Is the Oracle managed Salesforce pipeline available prebuilt with Fusion CX Analytics?

Yes, it's available prebuilt with Fusion CX Analytics

What's available with the Oracle managed Salesforce pipeline?

Refer to [Reference for Fusion CX Analytics](#).

I am a Fusion ERP Analytics customer, how do I enable the Oracle managed Salesforce pipeline?

The Oracle managed Salesforce pipeline requires the Fusion CX Analytics SKU. Contact your sales team.

Top FAQs for Security Setup

The top FAQs for Oracle Fusion Data Intelligence security setup are identified in this topic.

I can't sign in to Oracle Fusion Data Intelligence; what am I missing?

Ensure that the Oracle Fusion Data Intelligence licensed groups are assigned to your user account.

As a user with Modeler Administrator, Modeler, Author, and Consumer roles, after accessing the Console, why am I unable to perform tasks using each of the tiles?

Each tile on the Console requires certain permissions. For example, to perform tasks using the Data Configuration tile, you must have the "FAW Functional Administrator" group assigned to you. See [Licensed Roles](#) and [System Roles](#).

Can I automatically assign Oracle Fusion Data Intelligence licensed groups to Oracle Fusion Cloud Applications users?

Yes, you can automatically assign the Oracle Fusion Data Intelligence licensed groups. See [Auto Assign Licensed Groups](#).

Do I need duty or data roles?

Data and duty roles serve different purposes. You need duty roles to access objects such as key metrics, dashboards, and subject areas whereas data roles are required to view the data.

Should I assign groups or application roles to users?

Assign the application roles (duty and data) to groups and groups to users.

Can I apply data filters to users based on their security assignments?

Yes, you can apply data filters to users' security assignments. See [About Data Access through Security Assignments](#).

Can I configure custom data security?

Yes, you can configure custom data security. See [Custom Data Security](#) for additional details.

Can I configure custom duty roles?

Yes, you can configure custom duty roles. See [Custom Duty Role Use Case](#) for additional details.

Why are some Oracle Fusion Cloud Applications job roles (groups in Oracle Fusion Data Intelligence) missing under the Groups tab on the Security page while most of them exist?

If there is any group that provides higher level administrator privileges, then Oracle Fusion Data Intelligence filters out such groups. This is to guard against someone changing security at the identity provider level or elevating their privilege from the Oracle Fusion Data Intelligence console. You may want to create a custom group and associate it with the applicable application role to meet your business requirements in this situation.

Can I implement security on specific logical objects in few subject areas?

No. When you apply object security on logical objects, the system applies applicable object security in all subject areas. You can implement security on certain presentation objects in selected subject areas.

Top FAQs for Customization and Data Augmentation

The top FAQs for Oracle Fusion Data Intelligence customization and data augmentation are identified in this topic.

Can I customize the prebuilt Oracle content?

Yes, you can customize the prebuilt Oracle content through semantic model customization.

Does Oracle Fusion Data Intelligence extract all data from Oracle Fusion Cloud Applications?

Oracle Fusion Data Intelligence comes with a base semantic model with prebuilt metadata. Data pipelines extract data and load the prebuilt tables for all the activated functional areas. Data augmentation enables you to bring any custom data into Oracle Fusion Data Intelligence.

Why are some of my data augmentations, custom data configurations, and functional areas rejected?

When incremental job runs, the system extracts data for all the modules (data augmentations, custom data configurations, and functional areas) that are activated. If you've activated any data augmentation before the next incremental run or marked with Reset Data, then the system fetches the data for these modules in full. It's possible to not get data for some of the data augmentations either because of new columns added or some issue with extraction. In that case, the system rejects those data augmentations, custom data configurations, and functional areas.

Where can I find the semantic model customization best practices?

See [Recommendations and Tips to Extend the Semantic Model](#).

Can I extend Oracle Fusion Data Intelligence with custom public view objects (PVOs)?

Yes, you can extend Oracle Fusion Data Intelligence with custom PVOs. Refer to [Fusion Data Intelligence Extension with Custom PVOs](#) for additional details.

Can I create custom data models with the semantic model framework?

Yes, you can create custom data models using the semantic model framework. Refer to [Custom Data Model Use Case](#) for additional details.

Does Oracle Fusion Data Intelligence provide all descriptive flex fields (DFFs)?

Oracle Fusion Data Intelligence data pipelines don't bring in all DFFs for performance reasons. Ensure that you configure the DFF mapper that provides the ability to select only the DFFs and attributes that are required for reporting purposes. See [Enabling Descriptive Flexfields in Oracle Fusion Data Intelligence](#) for more information on configuring the DFF mapper.

When I use the DFF mapper, do I get custom DFFs too?

Yes, you get custom DFFs as long as they are BI Enabled as outlined in [Enabling Descriptive Flexfields in Oracle Fusion Data Intelligence](#).

Do I get access to the repository file?

The semantic model in Oracle Fusion Data Intelligence doesn't expose the repository file. However, you can use the Oracle Fusion Data Intelligence Console to define the external connections to the repository file.

Why are the column changes not reflected immediately after updating an existing augmentation?

Changes are visible after the next incremental run.

Why am I seeing the message "There Are Pending System Requests" while publishing a model after activating all the modules successfully?

You're seeing this message because after every module activation, the customization steps are reapplied. Because the last module activation completed recently, the publishing request is in queue. Oracle Fusion Data Intelligence processes the pending requests shortly.

Why does it take a long time sometime to modify the subject area step while extending the semantic model?

The replicated subject area normally inherits everything from the parent subject area such as permissions and roles. Hence, depending on the size of the subject area, it takes a while to complete.

Can external application and augmentation co-exist if you've augmentation on the same object that is part of the skeleton semantic model used for external application?

External application and augmentation can't co exist. If you've augmentation on the same object that is part of the skeleton semantic model used for external application, then you must move those augmentations to the external semantic model.

Why do I see my data augmentations with no data in the public view object (PVO) in “Rejected” status?

The system automatically rejects data augmentations with zero records. You must ensure that the underlying PVO contains data before creating data augmentation and semantic model extensions on top of it.

Is CLOB datatype supported in data augmentation?

No, it isn't supported currently.

Can I change a data augmentation after including it in the frequent data refresh schedule?

If you change a data augmentation after including it in the frequent data refresh schedule, then you must remove that data augmentation and let the next incremental refresh finish. Otherwise, the frequent data refresh might fail. After the incremental refresh is complete, you can add the updated data augmentation back to the frequent data refresh schedule.

How do I resolve inconsistent activated modules between the environment and the semantic model template?

The external application merge and semantic model bundle import preforms a validation between the external application semantic model and the list of functional areas enabled on the environment. If you get the following error, complete the suggested steps:

- The activated modules in the environment are inconsistent with the template used to build the external application semantic model. This causes downstream issues. Please download the template again and rebuild your external application semantic model.

Should the validation fail in the development or test instance:

1. Identify the inconsistencies:
 - a. Download the imported semantic model. See [Download the Imported Semantic Model](#).
 - b. Export the semantic model template. See [Export the Semantic Model Template](#).
 - c. Open each semantic model in Oracle Analytics Client Tools by going to **Manage** from the menu, then selecting **Projects**, and compare the list of defined projects and objects.
2. Regenerate a consistent semantic model template:
 - a. Delete the inconsistent Oracle Fusion Data Intelligence functional area using the Data Configuration tile on the Console.
 - b. Wait for the pipeline to complete.
 - c. From Semantic Model Extensions, Activity tab, confirm that Apply System Steps and Semantic Model Template Generation ran.
 - d. Export the semantic model template that is now consistent. See [Export the Semantic Model Template](#).
3. Create consistent external application:
 - Option 1: Reimport the custom objects into a consistent semantic model template. See [Model the Custom Semantic Model Objects](#).
 - Option 2: Manually remove non-consistent projects and objects from the imported semantic model.

Should the validation fail in the production instance:

1. Identify the inconsistencies by comparing the activated Oracle Fusion Data Intelligence functional areas in the instance where the bundle is being imported with the list of projects in the external application semantic model included in the bundle.
2. Create a consistent external application:
 - a. Import and merge a consistent external application in the development or test instance. See [Merge External Applications](#).
 - b. Export the consistent semantic model bundle in the development or test instance. See [Export a Bundle](#).
 - c. Import and deploy the consistent semantic model bundle into the production instance. See [Import a Bundle](#) and [Deploy a Bundle](#).

Why aren't custom segments showing in my translated language?

Translated custom segments aren't supported in Oracle Fusion Data Intelligence, so custom segments show in English only.

Top FAQs for Managing Oracle Fusion Data Intelligence

The top FAQs for managing Oracle Fusion Data Intelligence are identified in this topic.

Where can I find release updates?

Navigate to the **Console**, and click **Release Updates** under **Service Administration**.

Why is the application release update process stuck with "Update is in progress" status?

Verify that your semantic model extensions aren't using augmentation tables or columns that are no longer available in the data warehouse associated with the Oracle Fusion Data Intelligence instance. If any of the semantic model extensions are using such tables or columns, then you must delete such extensions and rerun the application release update. If there is an invalid self join defined in an augmentation, then you must delete the join and rerun the application release update.

Can I take snapshots of application artifacts such as configurations and customizations?

Yes, you can take snapshots of application artifacts using bundles. Refer to [Bundle Your Application Artifacts](#), [Content Bundles](#), and [Data Augmentation Migration](#) for additional details.

Can I import my Oracle Business Intelligence Enterprise Edition reports created in a different Oracle Analytics Server or Oracle Analytics Cloud environment into Oracle Fusion Data Intelligence?

Yes, you can import Oracle Analytics Server or Oracle Analytics Cloud reports into Oracle Fusion Data Intelligence if the versions are compatible.

Where do I see the number of Oracle Compute Units (OCPU) used?

Oracle Fusion Data Intelligence includes Oracle Analytics Cloud Enterprise Edition and Oracle Autonomous Data Warehouse. Navigate as follows:

- Oracle Analytics Cloud OCPUs – Sign in to the Oracle Cloud Infrastructure Console, click **Navigator**, click **Analytics & AI**, click **Analytics Cloud** (identify the instance used by Oracle Fusion Data Intelligence), and then click **General Information**.

- Oracle Autonomous Data Warehouse ECPUs – Sign in to the Oracle Cloud Infrastructure Console, click **Navigator**, click **Oracle Database**, click **Autonomous Database** (identify the instance used by Oracle Fusion Data Intelligence), and then click **General Information**.

Why am I unable to scale up the initial ECPUs or storage for Oracle Autonomous Data Warehouse, instead see a message that says the service limits were exceeded?

You see the message that says the service limits were exceeded because adequate universal credits aren't available for additional ECPUs or increased storage capacity.

Manage resource allocation

ECPU count ⓘ

8

Select an ECPU count.

☒ **Compute auto scaling**
Allows system to expand up to three times the specified ECPU count as demand increases. [Learn more](#) about auto scaling.

Storage (TB)

1

The amount of storage to allocate.

☐ **Storage auto scaling**
Allows system to expand up to three times the reserved storage.

Allocated storage: 0.016 TB
Approximate used storage: 0.005 TB

Shrink Shrink storage manually. Use after deletion of a significant amount of data. [Learn more](#).

The following service limits were exceeded: adw-ecpu-count. Request a service limit increase from the service limits page in the console. opc-request-id: csid563026dc4d36bfd1ccc3f9a9ae33/b70db8a6e5f64bc3a2e3a09ebf80cfc1/621784736F34D60AD545AAD397E41234

Apply [Cancel](#)

You must subscribe for universal credits. See [Important – Read Before Activating](#) and [Activate the Universal Credits Subscription](#).

Does the autonomous data warehouse have automated daily backup configured?

Yes, the autonomous data warehouse has automated daily backups for the last 60 days.

Can I backup and restore Oracle Fusion Data Intelligence?

Yes, you can backup and restore Oracle Fusion Data Intelligence in another region. See [About Backup and Restore](#) and [About Disaster Recovery](#).

What should I consider before creating and deploying a data configuration bundle that has all my augmentations?

Before creating and deploying a data configuration bundle that has augmentations, check the augmentation-related table definitions, and ensure that they are same between the source and target instances.

After deploying a security bundle taken from one environment to another, why are the application role and group mappings missing in the target environment?

The application role and group mappings are missing in the target environment when the mapping between roles and groups aren't present in the source environment (from where the security bundle was taken). You must ensure that the role to group mappings exist in the source environment to avoid this issue.

Can I restore my trial instance, after it expires and I haven't extended it?

After a trial instance expires, Oracle notifies you before terminating the instance. If you don't extend the trial instance, then a scheduled job initiates to clean up the trial instances. After the instance is deleted, it can't be restored unless you have a backup.

Why do I see the creation of my Environment bundle being "in progress" forever?

There is a size restriction in the product today for larger bundles. See [About Bundles](#).

Can I promote objects from a development or test instance to a production instance using the Promote Objects tile on the Console?

The Promote Objects tile on the Console is planned for deprecation in the future. Use the Bundles functionality to move objects from a development or test instance to a production instance. See [Bundle Your Application Artifacts](#).

10

Troubleshooting

When I log in, Oracle Fusion Data Intelligence doesn't load properly.

When you log out, be sure to close all Oracle Fusion Data Intelligence sessions and close your browser before logging in as another user. You can have one session of Oracle Fusion Data Intelligence open at a time within the same browser.

I see a performance decrease when using Mozilla Firefox.

If you use Mozilla Firefox and notice a decrease in the performance of the cloud service, then ensure that the Remember History option is enabled. When Firefox is set to not remember the history of visited pages, then web content caching is also disabled, which greatly affects the performance of the service. See Firefox documentation for details on setting this option.

After I complete a production to test refresh of my source (for example, Oracle Fusion Cloud Applications), why isn't the data in Oracle Autonomous Data Warehouse associated with my Oracle Fusion Data Intelligence instance synchronized with the source?

When you complete a production to test refresh on Oracle Fusion Cloud Applications, the data in Oracle Autonomous Data Warehouse associated with your Oracle Fusion Data Intelligence instance may be different than what is in Oracle Fusion Cloud Applications. To ensure that the data in Oracle Autonomous Data Warehouse and Oracle Fusion Cloud Applications is synchronized, the recommendation is to reset and reload the data source. See [Reset and Reload the Data Source](#).

The data warehouse reset process is taking a long time.

Typically, incorrect access control lists on the Oracle Autonomous Data Warehouse instance cause instance health issues and the reset process doesn't complete. Perform these tasks:

1. Review and update the access control list for the Oracle Autonomous Data Warehouse instance. See SEC Configure an Access Control List with Autonomous Database.
2. Enable the data pipeline. See [Disable the Data Pipeline](#).

When I change a data source, the data configuration bundle didn't update the data for that source.

If you want to change a data source, perform these actions in the sequence they are mentioned:

1. Create a full data config bundle.
2. Reset the warehouse.
3. Change the source.
4. Deploy the bundle.
5. Alternatively, you can do a full data reset and reload.

Note

If you do a full data reset and reload, the system reloads all data from the selected sources from the initial extract date. You can't run any other job while this is in progress and this could take a long time to complete.

When I migrate from the development or test instance to a production instance, I don't see the data immediately.

Perform the following:

1. Create a full data configuration bundle on your development or test instance.
2. Create an environment bundle on your development or test instance..
3. Export these two bundles as files.
4. Import these files into your production instance.
5. Deploy the full data configuration bundle on your production instance and wait for all pipelines to complete.
6. Deploy the environment bundle on your production instance.

The data security assignment upload is failing.

Perform these actions:

1. Verify that the users whose data security assignments you're uploading are assigned the groups that are associated with the security context.
2. Verify that the groups that are associated with the security context are mapped to the applicable application roles.
3. Verify that the security object member values are valid by ensuring that the security object code and security object member values are mapped correctly in the file that you uploaded. If they aren't mapped correctly, then you must correct the mapping and re-upload the file using the Uploads tile on the Console. See [Upload and Download Data Security Assignments](#).

The scheduled data validation suddenly stopped working and subsequently, the Data Validation worksheet wasn't updated and the user whose username was updated in the scheduled data validation lost the access to execute it.

Update the username in the scheduled data validation following these steps:

1. Sign into Oracle Fusion Data Intelligence with a user who can execute the scheduled data validation and has access to the applicable subject areas.
2. Navigate to the Data Validation tile on the Console.
3. Click the Scheduled Validation tab and edit it by clicking on the pencil icon, and then save it. This updates the username in the system with the user who updated it recently. In the next scheduled data validation, the system uses this latest username.
4. Verify that this latest user can run the Detailed Validation for subject areas that are scheduled with same parameters and is able to view the results.

I'm facing errors in the semantic model extensions.

See [Resolve Common Errors in Semantic Model Extensions](#).

Certification Information

This appendix contains certification information for Oracle Fusion Data Intelligence.

Topics

- [Certification - Supported Browsers](#)

Certification - Supported Browsers

Oracle Fusion Data Intelligence supports these web browsers:

- **Apple Safari:** Support for the most current major production release and one prior release.
- **Google Chrome:** Support for the most current major stable channel release only. Visit the Google Chrome FAQ for a description of the Chrome support policy: <https://support.google.com/chrome/a/answer/188447?hl=en>.
- **Microsoft Edge:** Support for the latest major version of Microsoft Edge Chromium. Beginning in Microsoft Edge v77, Microsoft has decoupled Edge from the Windows operating system and shifted to a Chromium-based browser technology and deployment model that follows a continuous 6-week update pattern, similar to Chrome and Firefox. Visit the Microsoft Edge FAQ for a description of the Edge support policy: <https://docs.microsoft.com/en-au/deployedge/microsoft-edge-support-lifecycle>.
- **Mozilla Firefox:** Support for the most current major Extended Support Release (ESR) version and above, in production only. Visit the Mozilla FAQ for a description of the Firefox support policy: <https://www.mozilla.org/en-US/firefox/organizations/faq/>.
- For mobile device operating systems, Oracle provides support for the most recent browser delivered by the device operating system only.

A

Resolve Common Errors in Semantic Model Extensions

Here's the list of common errors in the semantic model extensions and the solutions to resolve them.

Error: Column missing from augmentation or mapped augmentation column not available

Description: A column that is selected in the data augmentation column can no longer be found in the referenced source.

Resolution Tip:

1. Reset the data augmentation cache. See [Reset the Cache](#).
2. From the Console in Oracle Fusion Data Intelligence, navigate to **Data Configuration**, then **Data Augmentation**. Locate and edit the problematic data augmentation. Continue to the subsequent step to review the selected attributes. Uncheck any attributes no longer available in the source. Navigate through the configurations using **Next**, then click **Finish** to save and schedule your changes.
3. Following the completion of the data augmentation process, ensure to refresh and update the semantic model extensions that reference the data augmentation target table to remove any deactivated columns.

Error: Custom columns have leading or trailing whitespace character

Description: The display name of an attribute, derived column, or physical column begins or ends with a space.

Resolution Tip: Edit the logical star, then edit the problematic customization, locate, and remove all leading and trailing spaces on attribute, derived column, or physical column names.

Error: Subject area attributes have leading or trailing whitespace character. Please check subject area name/description/folders/columns for possible whitespaces

Description: The display name of a subject area name, description, folder, or column name begins or ends with a space.

Resolution Tip: Edit the subject area, then edit the problematic customization, locate, and remove all leading and trailing spaces on subject area names, descriptions, folders, and column names.

Error: Step is in error state

Description: An error occurred in this step during the semantic model compilation.

Resolution Tip: Edit the failed step, investigate, identify the errors, and resolve them.

Error: Last step in the branch has consistency check errors.

Description: An error occurred during the semantic model compilation.

Resolution Tip: The error indicates a failure in the final step, but the root cause likely lies in an earlier stage. Edit the last failed step, investigate, identify the errors, and resolve them.

B

Preregistered Events

You can subscribe to these preregistered events that are reported by the Fusion Data Intelligence Event Producer service.

Ensure to enable the events notification capability. See [Enable Event Notifications \(Preview\)](#).

Event	When does it get generated?
FA Activation Event DataAugmentation Activate Event	When you activate a schedule for functional area and data augmentation
Generate Custom App Event Deploy Custom App Event	When you generate a custom data configuration schedule
FA Activate Complete Events DataAugmentation Complete Event	When activation completes for functional area and data augmentation
Generate Completed Event Deploy Complete Event	When custom data configuration completes
CustomDataConfiguration Refresh Event DataAugmentation Refresh Event	When data refreshes for functional area, data augmentation, and custom data configuration
DataAugmentation Refresh Complete Event	When the refresh is complete for functional area, data augmentation, and custom data configuration
FA Deactivate Event DataAugmentation Deactivate Event	When you deactivate functional area, data augmentation, and custom data configuration
FA Delete Event DataAugmentation Delete Event CustomDataConfiguration Delete Event	When you delete a scheduled functional area, data augmentation, and custom data configuration
Delete DataAugmentation Event Delete Custom App Event FA Delete Complete Event	When the delete action completes for functional area, data augmentation, and custom data configuration
Reset Warehouse Event Scheduled	When you schedule a warehouse reset
ResetWareHouse Completed Event	When the reset warehouse completes
ResetandReload Scheduled Event	When you schedule the reset and reload of the source
ResetandReload Completed Event	When the reset and reload of source completes
Enable Pipeline Event	When you enable a pipeline
DisableDataPipeline Event	When you disable a pipeline

Event	When does it get generated?
Target Data Upgrade Schedule Event	When you schedule a target data upgrade
Target Data Upgrade Completed Event	When a target data upgrade completes
Release Available Event	During these Release Update actions: • Update available • Update scheduled • Update completed
DataRefresh - Complete Event	When data is refreshed in Autonomous Data Warehouse
DataRefresh - Estimate	When a new data refresh completion estimate is available
PriorityDataPublished	When the data refresh (incremental) process publishes the priority datasets first to the data warehouse.
CUSTOMER_PUBLISH_BUNDLE_EVENT	When you publish a bundle.
DEPLOY_BUNDLE_EVENT	When you deploy a bundle.
AUTO_PUBLISH_EVENT_TYPE	When an auto update of a bundle happens.

C

Conformed Dimensions to Merge External Applications

Prior to merging external applications with Oracle Fusion Data Intelligence, update the joins between the repository files of the external application and Oracle Fusion Data Intelligence with the conformed dimensions as appropriate, keeping in mind the constraints.

List of Conformed Dimensions

Module	Dimension
Absence Management	Dim - Date Enterprise Calendar
Absence Management	Dim - Date Gregorian Calendar
Absence Management	Dim - Department
Absence Management	Dim - Job
Absence Management	Dim - Legal Employer
Absence Management	Dim - Reporting Establishment
Absence Management	Dim - Worker
Account Analysis Foundation	Dim - Balancing Segment
Account Analysis Foundation	Dim - Balancing Segment Hierarchy
Account Analysis Foundation	Dim - Cost Center
Account Analysis Foundation	Dim - Cost Center Hierarchy
Account Analysis Foundation	Dim - Currency
Account Analysis Foundation	Dim - Date Fiscal Calendar
Account Analysis Foundation	Dim - GL Account
Account Analysis Foundation	Dim - GL Segment1
Account Analysis Foundation	Dim - GL Segment1 Hierarchy
Account Analysis Foundation	Dim - GL Segment10
Account Analysis Foundation	Dim - GL Segment10 Hierarchy
Account Analysis Foundation	Dim - GL Segment2
Account Analysis Foundation	Dim - GL Segment2 Hierarchy
Account Analysis Foundation	Dim - GL Segment3
Account Analysis Foundation	Dim - GL Segment3 Hierarchy
Account Analysis Foundation	Dim - GL Segment4
Account Analysis Foundation	Dim - GL Segment4 Hierarchy
Account Analysis Foundation	Dim - GL Segment5
Account Analysis Foundation	Dim - GL Segment5 Hierarchy
Account Analysis Foundation	Dim - GL Segment6
Account Analysis Foundation	Dim - GL Segment6 Hierarchy
Account Analysis Foundation	Dim - GL Segment7
Account Analysis Foundation	Dim - GL Segment7 Hierarchy
Account Analysis Foundation	Dim - GL Segment8
Account Analysis Foundation	Dim - GL Segment8 Hierarchy

Module	Dimension
Account Analysis Foundation	Dim - GL Segment9
Account Analysis Foundation	Dim - GL Segment9 Hierarchy
Account Analysis Foundation	Dim - Ledger
Account Analysis Foundation	Dim - Natural Account
Account Analysis Foundation	Dim - Natural Account Hierarchy
Account Reconciliation	Dim - Balancing Segment
Account Reconciliation	Dim - Balancing Segment Hierarchy
Account Reconciliation	Dim - Business Unit
Account Reconciliation	Dim - Cost Center
Account Reconciliation	Dim - Cost Center Hierarchy
Account Reconciliation	Dim - Currency
Account Reconciliation	Dim - Customer
Account Reconciliation	Dim - Date Fiscal Calendar
Account Reconciliation	Dim - GL Account
Account Reconciliation	Dim - GL Segment1
Account Reconciliation	Dim - GL Segment1 Hierarchy
Account Reconciliation	Dim - GL Segment10
Account Reconciliation	Dim - GL Segment10 Hierarchy
Account Reconciliation	Dim - GL Segment2
Account Reconciliation	Dim - GL Segment2 Hierarchy
Account Reconciliation	Dim - GL Segment3
Account Reconciliation	Dim - GL Segment3 Hierarchy
Account Reconciliation	Dim - GL Segment4
Account Reconciliation	Dim - GL Segment4 Hierarchy
Account Reconciliation	Dim - GL Segment5
Account Reconciliation	Dim - GL Segment5 Hierarchy
Account Reconciliation	Dim - GL Segment6
Account Reconciliation	Dim - GL Segment6 Hierarchy
Account Reconciliation	Dim - GL Segment7
Account Reconciliation	Dim - GL Segment7 Hierarchy
Account Reconciliation	Dim - GL Segment8
Account Reconciliation	Dim - GL Segment8 Hierarchy
Account Reconciliation	Dim - GL Segment9
Account Reconciliation	Dim - GL Segment9 Hierarchy
Account Reconciliation	Dim - Ledger
Account Reconciliation	Dim - Legal Entity
Account Reconciliation	Dim - Natural Account
Account Reconciliation	Dim - Natural Account Hierarchy
Account Reconciliation	Dim - Supplier
Account Reconciliation	Dim - Supplier Sites
Accounts Payable	Dim - Balancing Segment
Accounts Payable	Dim - Balancing Segment Hierarchy
Accounts Payable	Dim - Business Unit
Accounts Payable	Dim - Cost Center
Accounts Payable	Dim - Cost Center Hierarchy

Module	Dimension
Accounts Payable	Dim - Currency
Accounts Payable	Dim - Date Fiscal Calendar
Accounts Payable	Dim - Expenditure Organization
Accounts Payable	Dim - Expenditure Type
Accounts Payable	Dim - GL Account
Accounts Payable	Dim - GL Segment1
Accounts Payable	Dim - GL Segment1 Hierarchy
Accounts Payable	Dim - GL Segment10
Accounts Payable	Dim - GL Segment10 Hierarchy
Accounts Payable	Dim - GL Segment2
Accounts Payable	Dim - GL Segment2 Hierarchy
Accounts Payable	Dim - GL Segment3
Accounts Payable	Dim - GL Segment3 Hierarchy
Accounts Payable	Dim - GL Segment4
Accounts Payable	Dim - GL Segment4 Hierarchy
Accounts Payable	Dim - GL Segment5
Accounts Payable	Dim - GL Segment5 Hierarchy
Accounts Payable	Dim - GL Segment6
Accounts Payable	Dim - GL Segment6 Hierarchy
Accounts Payable	Dim - GL Segment7
Accounts Payable	Dim - GL Segment7 Hierarchy
Accounts Payable	Dim - GL Segment8
Accounts Payable	Dim - GL Segment8 Hierarchy
Accounts Payable	Dim - GL Segment9
Accounts Payable	Dim - GL Segment9 Hierarchy
Accounts Payable	Dim - Ledger
Accounts Payable	Dim - Legal Entity
Accounts Payable	Dim - Natural Account
Accounts Payable	Dim - Natural Account Hierarchy
Accounts Payable	Dim - Party
Accounts Payable	Dim - Project
Accounts Payable	Dim - Supplier
Accounts Payable	Dim - Supplier Sites
Accounts Payable	Dim - Task
Accounts Receivable	Dim - Balancing Segment
Accounts Receivable	Dim - Balancing Segment Hierarchy
Accounts Receivable	Dim - Business Unit
Accounts Receivable	Dim - Cost Center
Accounts Receivable	Dim - Cost Center Hierarchy
Accounts Receivable	Dim - Currency
Accounts Receivable	Dim - Customer
Accounts Receivable	Dim - Customer Bill To
Accounts Receivable	Dim - Customer Ship To Location
Accounts Receivable	Dim - Customer Sold To
Accounts Receivable	Dim - Date Fiscal Calendar

Module	Dimension
Accounts Receivable	Dim - GL Account
Accounts Receivable	Dim - GL Segment1
Accounts Receivable	Dim - GL Segment1 Hierarchy
Accounts Receivable	Dim - GL Segment10
Accounts Receivable	Dim - GL Segment10 Hierarchy
Accounts Receivable	Dim - GL Segment2
Accounts Receivable	Dim - GL Segment2 Hierarchy
Accounts Receivable	Dim - GL Segment3
Accounts Receivable	Dim - GL Segment3 Hierarchy
Accounts Receivable	Dim - GL Segment4
Accounts Receivable	Dim - GL Segment4 Hierarchy
Accounts Receivable	Dim - GL Segment5
Accounts Receivable	Dim - GL Segment5 Hierarchy
Accounts Receivable	Dim - GL Segment6
Accounts Receivable	Dim - GL Segment6 Hierarchy
Accounts Receivable	Dim - GL Segment7
Accounts Receivable	Dim - GL Segment7 Hierarchy
Accounts Receivable	Dim - GL Segment8
Accounts Receivable	Dim - GL Segment8 Hierarchy
Accounts Receivable	Dim - GL Segment9
Accounts Receivable	Dim - GL Segment9 Hierarchy
Accounts Receivable	Dim - Inventory Item
Accounts Receivable	Dim - Inventory Organization
Accounts Receivable	Dim - Item Category Hierarchy
Accounts Receivable	Dim - Ledger
Accounts Receivable	Dim - Legal Entity
Accounts Receivable	Dim - Natural Account
Accounts Receivable	Dim - Natural Account Hierarchy
Accounts Receivable	Dim - Party
Accounts Receivable	Dim - Unit of Measure
Assets	Dim - Balancing Segment
Assets	Dim - Balancing Segment Hierarchy
Assets	Dim - Cost Center
Assets	Dim - Cost Center Hierarchy
Assets	Dim - Currency
Assets	Dim - Date Fiscal Calendar
Assets	Dim - GL Account
Assets	Dim - GL Segment1
Assets	Dim - GL Segment1 Hierarchy
Assets	Dim - GL Segment10
Assets	Dim - GL Segment10 Hierarchy
Assets	Dim - GL Segment2
Assets	Dim - GL Segment2 Hierarchy
Assets	Dim - GL Segment3
Assets	Dim - GL Segment3 Hierarchy

Module	Dimension
Assets	Dim - GL Segment4
Assets	Dim - GL Segment4 Hierarchy
Assets	Dim - GL Segment5
Assets	Dim - GL Segment5 Hierarchy
Assets	Dim - GL Segment6
Assets	Dim - GL Segment6 Hierarchy
Assets	Dim - GL Segment7
Assets	Dim - GL Segment7 Hierarchy
Assets	Dim - GL Segment8
Assets	Dim - GL Segment8 Hierarchy
Assets	Dim - GL Segment9
Assets	Dim - GL Segment9 Hierarchy
Assets	Dim - Ledger
Assets	Dim - Legal Entity
Assets	Dim - Natural Account
Assets	Dim - Natural Account Hierarchy
B2B Service Analytics	Dim - Business Unit
B2B Service Analytics	Dim - Customer Sold To
COGS And Gross Margin	Dim - Balancing Segment
COGS And Gross Margin	Dim - Balancing Segment Hierarchy
COGS And Gross Margin	Dim - Business Unit
COGS And Gross Margin	Dim - Cost Center
COGS And Gross Margin	Dim - Cost Center Hierarchy
COGS And Gross Margin	Dim - Currency
COGS And Gross Margin	Dim - Customer
COGS And Gross Margin	Dim - Customer Account
COGS And Gross Margin	Dim - Customer Account Bill To
COGS And Gross Margin	Dim - Customer Bill To
COGS And Gross Margin	Dim - Customer Ship To
COGS And Gross Margin	Dim - GL Account
COGS And Gross Margin	Dim - GL Segment1
COGS And Gross Margin	Dim - GL Segment1 Hierarchy
COGS And Gross Margin	Dim - GL Segment10
COGS And Gross Margin	Dim - GL Segment10 Hierarchy
COGS And Gross Margin	Dim - GL Segment2
COGS And Gross Margin	Dim - GL Segment2 Hierarchy
COGS And Gross Margin	Dim - GL Segment3
COGS And Gross Margin	Dim - GL Segment3 Hierarchy
COGS And Gross Margin	Dim - GL Segment4
COGS And Gross Margin	Dim - GL Segment4 Hierarchy
COGS And Gross Margin	Dim - GL Segment5
COGS And Gross Margin	Dim - GL Segment5 Hierarchy
COGS And Gross Margin	Dim - GL Segment6
COGS And Gross Margin	Dim - GL Segment6 Hierarchy
COGS And Gross Margin	Dim - GL Segment7

Module	Dimension
COGS And Gross Margin	Dim - GL Segment7 Hierarchy
COGS And Gross Margin	Dim - GL Segment8
COGS And Gross Margin	Dim - GL Segment8 Hierarchy
COGS And Gross Margin	Dim - GL Segment9
COGS And Gross Margin	Dim - GL Segment9 Hierarchy
COGS And Gross Margin	Dim - Inventory Organization
COGS And Gross Margin	Dim - Item Category Hierarchy
COGS And Gross Margin	Dim - Ledger
COGS And Gross Margin	Dim - Legal Entity
COGS And Gross Margin	Dim - Natural Account
COGS And Gross Margin	Dim - Natural Account Hierarchy
Cost Management	Dim - Currency
Cost Management	Dim - Date Fiscal Calendar
Cost Management	Dim - Inventory Organization
Cost Management	Dim - Item Category Hierarchy
Cost Management	Dim - Ledger
Cost Management	Dim - Legal Entity
Cost Management	Dim - Locator
Cost Management	Dim - Sub Inventory
Cost Management	Dim - Sub Inventory Location
Cost Management	Dim - Unit of Measure
Employee Expense	Dim - Balancing Segment
Employee Expense	Dim - Balancing Segment Hierarchy
Employee Expense	Dim - Business Unit
Employee Expense	Dim - Cost Center
Employee Expense	Dim - Cost Center Hierarchy
Employee Expense	Dim - Currency
Employee Expense	Dim - Date Fiscal Calendar
Employee Expense	Dim - Department
Employee Expense	Dim - Expenditure Organization
Employee Expense	Dim - Expenditure Type
Employee Expense	Dim - GL Account
Employee Expense	Dim - GL Segment1
Employee Expense	Dim - GL Segment1 Hierarchy
Employee Expense	Dim - GL Segment10
Employee Expense	Dim - GL Segment10 Hierarchy
Employee Expense	Dim - GL Segment2
Employee Expense	Dim - GL Segment2 Hierarchy
Employee Expense	Dim - GL Segment3
Employee Expense	Dim - GL Segment3 Hierarchy
Employee Expense	Dim - GL Segment4
Employee Expense	Dim - GL Segment4 Hierarchy
Employee Expense	Dim - GL Segment5
Employee Expense	Dim - GL Segment5 Hierarchy
Employee Expense	Dim - GL Segment6

Module	Dimension
Employee Expense	Dim - GL Segment6 Hierarchy
Employee Expense	Dim - GL Segment7
Employee Expense	Dim - GL Segment7 Hierarchy
Employee Expense	Dim - GL Segment8
Employee Expense	Dim - GL Segment8 Hierarchy
Employee Expense	Dim - GL Segment9
Employee Expense	Dim - GL Segment9 Hierarchy
Employee Expense	Dim - Job
Employee Expense	Dim - Ledger
Employee Expense	Dim - Natural Account
Employee Expense	Dim - Natural Account Hierarchy
Employee Expense	Dim - Project
Employee Expense	Dim - Task
Employee Expense	Dim - Worker
GL Budgets Analysis	Dim - Balancing Segment
GL Budgets Analysis	Dim - Balancing Segment Hierarchy
GL Budgets Analysis	Dim - Cost Center
GL Budgets Analysis	Dim - Cost Center Hierarchy
GL Budgets Analysis	Dim - Currency
GL Budgets Analysis	Dim - Date Fiscal Calendar
GL Budgets Analysis	Dim - GL Account
GL Budgets Analysis	Dim - GL Segment1
GL Budgets Analysis	Dim - GL Segment1 Hierarchy
GL Budgets Analysis	Dim - GL Segment10
GL Budgets Analysis	Dim - GL Segment10 Hierarchy
GL Budgets Analysis	Dim - GL Segment2
GL Budgets Analysis	Dim - GL Segment2 Hierarchy
GL Budgets Analysis	Dim - GL Segment3
GL Budgets Analysis	Dim - GL Segment3 Hierarchy
GL Budgets Analysis	Dim - GL Segment4
GL Budgets Analysis	Dim - GL Segment4 Hierarchy
GL Budgets Analysis	Dim - GL Segment5
GL Budgets Analysis	Dim - GL Segment5 Hierarchy
GL Budgets Analysis	Dim - GL Segment6
GL Budgets Analysis	Dim - GL Segment6 Hierarchy
GL Budgets Analysis	Dim - GL Segment7
GL Budgets Analysis	Dim - GL Segment7 Hierarchy
GL Budgets Analysis	Dim - GL Segment8
GL Budgets Analysis	Dim - GL Segment8 Hierarchy
GL Budgets Analysis	Dim - GL Segment9
GL Budgets Analysis	Dim - GL Segment9 Hierarchy
GL Budgets Analysis	Dim - Ledger
GL Budgets Analysis	Dim - Legal Entity
GL Budgets Analysis	Dim - Natural Account
GL Budgets Analysis	Dim - Natural Account Hierarchy

Module	Dimension
General Ledger	Dim - Balancing Segment
General Ledger	Dim - Balancing Segment Hierarchy
General Ledger	Dim - Cost Center
General Ledger	Dim - Cost Center Hierarchy
General Ledger	Dim - Currency
General Ledger	Dim - Date Fiscal Calendar
General Ledger	Dim - GL Account
General Ledger	Dim - GL Segment1
General Ledger	Dim - GL Segment1 Hierarchy
General Ledger	Dim - GL Segment10
General Ledger	Dim - GL Segment10 Hierarchy
General Ledger	Dim - GL Segment2
General Ledger	Dim - GL Segment2 Hierarchy
General Ledger	Dim - GL Segment3
General Ledger	Dim - GL Segment3 Hierarchy
General Ledger	Dim - GL Segment4
General Ledger	Dim - GL Segment4 Hierarchy
General Ledger	Dim - GL Segment5
General Ledger	Dim - GL Segment5 Hierarchy
General Ledger	Dim - GL Segment6
General Ledger	Dim - GL Segment6 Hierarchy
General Ledger	Dim - GL Segment7
General Ledger	Dim - GL Segment7 Hierarchy
General Ledger	Dim - GL Segment8
General Ledger	Dim - GL Segment8 Hierarchy
General Ledger	Dim - GL Segment9
General Ledger	Dim - GL Segment9 Hierarchy
General Ledger	Dim - Ledger
General Ledger	Dim - Legal Entity
General Ledger	Dim - Natural Account
General Ledger	Dim - Natural Account Hierarchy
Goals and Career Development	Dim - Date Enterprise Calendar
Goals and Career Development	Dim - Date Gregorian Calendar
Goals and Career Development	Dim - Department
Goals and Career Development	Dim - Job
Goals and Career Development	Dim - Legal Employer
Goals and Career Development	Dim - Reporting Establishment
Goals and Career Development	Dim - Worker
Inventory Balances	Dim - Date Fiscal Calendar
Inventory Balances	Dim - Date Gregorian Calendar
Inventory Balances	Dim - Inventory Organization
Inventory Balances	Dim - Item Category Hierarchy
Inventory Balances	Dim - Ledger
Inventory Balances	Dim - Legal Entity
Inventory Balances	Dim - Locator

Module	Dimension
Inventory Balances	Dim - Sub Inventory
Inventory Balances	Dim - Sub Inventory Location
Inventory Management	Dim - Business Unit
Inventory Management	Dim - Customer
Inventory Management	Dim - Customer Account
Inventory Management	Dim - Customer Account Bill To
Inventory Management	Dim - Customer Bill To
Inventory Management	Dim - Customer Ship To
Inventory Management	Dim - Customer Sold To
Inventory Management	Dim - Date Fiscal Calendar
Inventory Management	Dim - Date Gregorian Calendar
Inventory Management	Dim - Expenditure Type
Inventory Management	Dim - Inventory Organization
Inventory Management	Dim - Item Category Hierarchy
Inventory Management	Dim - Ledger
Inventory Management	Dim - Legal Entity
Inventory Management	Dim - Locator
Inventory Management	Dim - Project
Inventory Management	Dim - Sub Inventory
Inventory Management	Dim - Sub Inventory Location
Inventory Management	Dim - Task
Learning Management	Dim - Currency
Learning Management	Dim - Date Enterprise Calendar
Learning Management	Dim - Date Gregorian Calendar
Learning Management	Dim - Department
Learning Management	Dim - Job
Learning Management	Dim - Legal Employer
Learning Management	Dim - Reporting Establishment
Learning Management	Dim - Worker
Marketing Campaign Closed Loop Analytics	Dim - Currency
Marketing Campaign Closed Loop Analytics	Dim - Customer Sold To
Order Management	Dim - Business Unit
Order Management	Dim - Currency
Order Management	Dim - Customer
Order Management	Dim - Customer Account
Order Management	Dim - Customer Account Bill To
Order Management	Dim - Customer Bill To
Order Management	Dim - Customer Ship To
Order Management	Dim - Customer Sold To
Order Management	Dim - Date Fiscal Calendar
Order Management	Dim - Date Gregorian Calendar
Order Management	Dim - Expenditure Type
Order Management	Dim - Inventory Organization
Order Management	Dim - Item Category Hierarchy
Order Management	Dim - Ledger

Module	Dimension
Order Management	Dim - Legal Entity
Order Management	Dim - Project
Order Management	Dim - Task
Order Management	Dim - Unit of Measure
Payroll Management	Dim - Currency
Payroll Management	Dim - Date Gregorian Calendar
Payroll Management	Dim - Department
Payroll Management	Dim - Job
Payroll Management	Dim - Legal Employer
Payroll Management	Dim - Reporting Establishment
Payroll Management	Dim - Worker
Performance Management and Check-ins	Dim - Date Enterprise Calendar
Performance Management and Check-ins	Dim - Date Gregorian Calendar
Performance Management and Check-ins	Dim - Department
Performance Management and Check-ins	Dim - Job
Performance Management and Check-ins	Dim - Legal Employer
Performance Management and Check-ins	Dim - Reporting Establishment
Performance Management and Check-ins	Dim - Worker
Procurement Spend	Dim - Balancing Segment
Procurement Spend	Dim - Balancing Segment
Procurement Spend	Dim - Balancing Segment Hierarchy
Procurement Spend	Dim - Balancing Segment Hierarchy
Procurement Spend	Dim - Business Unit
Procurement Spend	Dim - Business Unit
Procurement Spend	Dim - Cost Center
Procurement Spend	Dim - Cost Center
Procurement Spend	Dim - Cost Center Hierarchy
Procurement Spend	Dim - Cost Center Hierarchy
Procurement Spend	Dim - Currency
Procurement Spend	Dim - Currency
Procurement Spend	Dim - Date Fiscal Calendar
Procurement Spend	Dim - Date Fiscal Calendar
Procurement Spend	Dim - Date Gregorian Calendar
Procurement Spend	Dim - Date Gregorian Calendar
Procurement Spend	Dim - Expenditure Type
Procurement Spend	Dim - Expenditure Type
Procurement Spend	Dim - GL Account
Procurement Spend	Dim - GL Account
Procurement Spend	Dim - GL Segment1
Procurement Spend	Dim - GL Segment1
Procurement Spend	Dim - GL Segment1 Hierarchy
Procurement Spend	Dim - GL Segment1 Hierarchy
Procurement Spend	Dim - GL Segment10
Procurement Spend	Dim - GL Segment10
Procurement Spend	Dim - GL Segment10 Hierarchy

Module	Dimension
Procurement Spend	Dim - GL Segment10 Hierarchy
Procurement Spend	Dim - GL Segment2
Procurement Spend	Dim - GL Segment2
Procurement Spend	Dim - GL Segment2 Hierarchy
Procurement Spend	Dim - GL Segment2 Hierarchy
Procurement Spend	Dim - GL Segment3
Procurement Spend	Dim - GL Segment3
Procurement Spend	Dim - GL Segment3 Hierarchy
Procurement Spend	Dim - GL Segment3 Hierarchy
Procurement Spend	Dim - GL Segment4
Procurement Spend	Dim - GL Segment4
Procurement Spend	Dim - GL Segment4 Hierarchy
Procurement Spend	Dim - GL Segment4 Hierarchy
Procurement Spend	Dim - GL Segment5
Procurement Spend	Dim - GL Segment5
Procurement Spend	Dim - GL Segment5 Hierarchy
Procurement Spend	Dim - GL Segment5 Hierarchy
Procurement Spend	Dim - GL Segment6
Procurement Spend	Dim - GL Segment6
Procurement Spend	Dim - GL Segment6 Hierarchy
Procurement Spend	Dim - GL Segment6 Hierarchy
Procurement Spend	Dim - GL Segment7
Procurement Spend	Dim - GL Segment7
Procurement Spend	Dim - GL Segment7 Hierarchy
Procurement Spend	Dim - GL Segment7 Hierarchy
Procurement Spend	Dim - GL Segment8
Procurement Spend	Dim - GL Segment8
Procurement Spend	Dim - GL Segment8 Hierarchy
Procurement Spend	Dim - GL Segment8 Hierarchy
Procurement Spend	Dim - GL Segment9
Procurement Spend	Dim - GL Segment9
Procurement Spend	Dim - GL Segment9 Hierarchy
Procurement Spend	Dim - GL Segment9 Hierarchy
Procurement Spend	Dim - Inventory Organization
Procurement Spend	Dim - Inventory Organization
Procurement Spend	Dim - Item Category Hierarchy
Procurement Spend	Dim - Item Category Hierarchy
Procurement Spend	Dim - Ledger
Procurement Spend	Dim - Ledger
Procurement Spend	Dim - Legal Entity
Procurement Spend	Dim - Legal Entity
Procurement Spend	Dim - Natural Account
Procurement Spend	Dim - Natural Account
Procurement Spend	Dim - Natural Account Hierarchy
Procurement Spend	Dim - Natural Account Hierarchy

Module	Dimension
Procurement Spend	Dim - PRC - Customer Ship To Location
Procurement Spend	Dim - PRC - Customer Ship To Location
Procurement Spend	Dim - PRC - Purchase Buyer
Procurement Spend	Dim - PRC - Purchase Buyer
Procurement Spend	Dim - PRC - Ship To Location
Procurement Spend	Dim - PRC - Ship To Location
Procurement Spend	Dim - Project
Procurement Spend	Dim - Project
Procurement Spend	Dim - Supplier
Procurement Spend	Dim - Supplier
Procurement Spend	Dim - Supplier Sites
Procurement Spend	Dim - Supplier Sites
Procurement Spend	Dim - Task
Procurement Spend	Dim - Task
Procurement Spend	Dim - Unit of Measure
Procurement Spend	Dim - Unit of Measure
Project Control	Dim - Business Unit
Project Control	Dim - Currency
Project Control	Dim - Date Fiscal Calendar
Project Control	Dim - Expenditure Organization
Project Control	Dim - Expenditure Type
Project Control	Dim - Inventory Item
Project Control	Dim - Job
Project Control	Dim - Legal Entity
Project Control	Dim - Project
Project Control	Dim - Project Unit
Project Control	Dim - Supplier
Project Control	Dim - Task
Project Control	Dim - Worker
Project Costing	Dim - Balancing Segment
Project Costing	Dim - Balancing Segment Hierarchy
Project Costing	Dim - Business Unit
Project Costing	Dim - Cost Center
Project Costing	Dim - Cost Center Hierarchy
Project Costing	Dim - Currency
Project Costing	Dim - Date Fiscal Calendar
Project Costing	Dim - Expenditure Organization
Project Costing	Dim - Expenditure Type
Project Costing	Dim - GL Account
Project Costing	Dim - GL Segment1
Project Costing	Dim - GL Segment1 Hierarchy
Project Costing	Dim - GL Segment10
Project Costing	Dim - GL Segment10 Hierarchy
Project Costing	Dim - GL Segment2
Project Costing	Dim - GL Segment2 Hierarchy

Module	Dimension
Project Costing	Dim - GL Segment3
Project Costing	Dim - GL Segment3 Hierarchy
Project Costing	Dim - GL Segment4
Project Costing	Dim - GL Segment4 Hierarchy
Project Costing	Dim - GL Segment5
Project Costing	Dim - GL Segment5 Hierarchy
Project Costing	Dim - GL Segment6
Project Costing	Dim - GL Segment6 Hierarchy
Project Costing	Dim - GL Segment7
Project Costing	Dim - GL Segment7 Hierarchy
Project Costing	Dim - GL Segment8
Project Costing	Dim - GL Segment8 Hierarchy
Project Costing	Dim - GL Segment9
Project Costing	Dim - GL Segment9 Hierarchy
Project Costing	Dim - Inventory Item
Project Costing	Dim - Inventory Organization
Project Costing	Dim - Job
Project Costing	Dim - Ledger
Project Costing	Dim - Legal Entity
Project Costing	Dim - Natural Account
Project Costing	Dim - Natural Account Hierarchy
Project Costing	Dim - Project
Project Costing	Dim - Project Unit
Project Costing	Dim - Supplier
Project Costing	Dim - Task
Project Costing	Dim - Worker
Purchase Agreement	Dim - Business Unit
Purchase Agreement	Dim - Business Unit
Purchase Agreement	Dim - Currency
Purchase Agreement	Dim - Currency
Purchase Agreement	Dim - Date Gregorian Calendar
Purchase Agreement	Dim - Date Gregorian Calendar
Purchase Agreement	Dim - Item Category Hierarchy
Purchase Agreement	Dim - Item Category Hierarchy
Purchase Agreement	Dim - Ledger
Purchase Agreement	Dim - Ledger
Purchase Agreement	Dim - Legal Entity
Purchase Agreement	Dim - Legal Entity
Purchase Agreement	Dim - PRC - Purchase Buyer
Purchase Agreement	Dim - PRC - Purchase Buyer
Purchase Agreement	Dim - Supplier
Purchase Agreement	Dim - Supplier
Purchase Agreement	Dim - Supplier Sites
Purchase Agreement	Dim - Supplier Sites
Purchase Agreement	Dim - Unit of Measure

Module	Dimension
Purchase Agreement	Dim - Unit of Measure
Purchase Order	Dim - Balancing Segment
Purchase Order	Dim - Balancing Segment
Purchase Order	Dim - Balancing Segment Hierarchy
Purchase Order	Dim - Balancing Segment Hierarchy
Purchase Order	Dim - Business Unit
Purchase Order	Dim - Business Unit
Purchase Order	Dim - Cost Center
Purchase Order	Dim - Cost Center
Purchase Order	Dim - Cost Center Hierarchy
Purchase Order	Dim - Cost Center Hierarchy
Purchase Order	Dim - Currency
Purchase Order	Dim - Currency
Purchase Order	Dim - Date Fiscal Calendar
Purchase Order	Dim - Date Fiscal Calendar
Purchase Order	Dim - Date Gregorian Calendar
Purchase Order	Dim - Date Gregorian Calendar
Purchase Order	Dim - Expenditure Type
Purchase Order	Dim - Expenditure Type
Purchase Order	Dim - GL Account
Purchase Order	Dim - GL Account
Purchase Order	Dim - GL Segment1
Purchase Order	Dim - GL Segment1
Purchase Order	Dim - GL Segment1 Hierarchy
Purchase Order	Dim - GL Segment1 Hierarchy
Purchase Order	Dim - GL Segment10
Purchase Order	Dim - GL Segment10
Purchase Order	Dim - GL Segment10 Hierarchy
Purchase Order	Dim - GL Segment10 Hierarchy
Purchase Order	Dim - GL Segment2
Purchase Order	Dim - GL Segment2
Purchase Order	Dim - GL Segment2 Hierarchy
Purchase Order	Dim - GL Segment2 Hierarchy
Purchase Order	Dim - GL Segment3
Purchase Order	Dim - GL Segment3
Purchase Order	Dim - GL Segment3 Hierarchy
Purchase Order	Dim - GL Segment3 Hierarchy
Purchase Order	Dim - GL Segment4
Purchase Order	Dim - GL Segment4
Purchase Order	Dim - GL Segment4 Hierarchy
Purchase Order	Dim - GL Segment4 Hierarchy
Purchase Order	Dim - GL Segment5
Purchase Order	Dim - GL Segment5
Purchase Order	Dim - GL Segment5 Hierarchy
Purchase Order	Dim - GL Segment5 Hierarchy

Module	Dimension
Purchase Order	Dim - GL Segment6
Purchase Order	Dim - GL Segment6
Purchase Order	Dim - GL Segment6 Hierarchy
Purchase Order	Dim - GL Segment6 Hierarchy
Purchase Order	Dim - GL Segment7
Purchase Order	Dim - GL Segment7
Purchase Order	Dim - GL Segment7 Hierarchy
Purchase Order	Dim - GL Segment7 Hierarchy
Purchase Order	Dim - GL Segment8
Purchase Order	Dim - GL Segment8
Purchase Order	Dim - GL Segment8 Hierarchy
Purchase Order	Dim - GL Segment8 Hierarchy
Purchase Order	Dim - GL Segment9
Purchase Order	Dim - GL Segment9
Purchase Order	Dim - GL Segment9 Hierarchy
Purchase Order	Dim - GL Segment9 Hierarchy
Purchase Order	Dim - Inventory Organization
Purchase Order	Dim - Inventory Organization
Purchase Order	Dim - Item Category Hierarchy
Purchase Order	Dim - Item Category Hierarchy
Purchase Order	Dim - Ledger
Purchase Order	Dim - Ledger
Purchase Order	Dim - Legal Entity
Purchase Order	Dim - Legal Entity
Purchase Order	Dim - Natural Account
Purchase Order	Dim - Natural Account
Purchase Order	Dim - Natural Account Hierarchy
Purchase Order	Dim - Natural Account Hierarchy
Purchase Order	Dim - PRC - Bill To Location
Purchase Order	Dim - PRC - Bill To Location
Purchase Order	Dim - PRC - Customer Deliver To Location
Purchase Order	Dim - PRC - Customer Deliver To Location
Purchase Order	Dim - PRC - Customer Ship To Location
Purchase Order	Dim - PRC - Customer Ship To Location
Purchase Order	Dim - PRC - Deliver To Location
Purchase Order	Dim - PRC - Deliver To Location
Purchase Order	Dim - PRC - Purchase Buyer
Purchase Order	Dim - PRC - Purchase Buyer
Purchase Order	Dim - PRC - Ship To Location
Purchase Order	Dim - PRC - Ship To Location
Purchase Order	Dim - Project
Purchase Order	Dim - Project
Purchase Order	Dim - Supplier
Purchase Order	Dim - Supplier
Purchase Order	Dim - Supplier Sites

Module	Dimension
Purchase Order	Dim - Supplier Sites
Purchase Order	Dim - Task
Purchase Order	Dim - Task
Purchase Order	Dim - Unit of Measure
Purchase Order	Dim - Unit of Measure
Purchase Receipt	Dim - Business Unit
Purchase Receipt	Dim - Business Unit
Purchase Receipt	Dim - Currency
Purchase Receipt	Dim - Currency
Purchase Receipt	Dim - Date Fiscal Calendar
Purchase Receipt	Dim - Date Fiscal Calendar
Purchase Receipt	Dim - Date Gregorian Calendar
Purchase Receipt	Dim - Date Gregorian Calendar
Purchase Receipt	Dim - Inventory Organization
Purchase Receipt	Dim - Inventory Organization
Purchase Receipt	Dim - Item Category Hierarchy
Purchase Receipt	Dim - Item Category Hierarchy
Purchase Receipt	Dim - Ledger
Purchase Receipt	Dim - Ledger
Purchase Receipt	Dim - PRC - Customer Ship To Location
Purchase Receipt	Dim - PRC - Customer Ship To Location
Purchase Receipt	Dim - PRC - Purchase Buyer
Purchase Receipt	Dim - PRC - Purchase Buyer
Purchase Receipt	Dim - PRC - Ship To Location
Purchase Receipt	Dim - PRC - Ship To Location
Purchase Receipt	Dim - Supplier
Purchase Receipt	Dim - Supplier
Purchase Receipt	Dim - Supplier Sites
Purchase Receipt	Dim - Supplier Sites
Purchase Receipt	Dim - Unit of Measure
Purchase Receipt	Dim - Unit of Measure
Requisition	Dim - Balancing Segment
Requisition	Dim - Balancing Segment
Requisition	Dim - Balancing Segment Hierarchy
Requisition	Dim - Balancing Segment Hierarchy
Requisition	Dim - Business Unit
Requisition	Dim - Business Unit
Requisition	Dim - Cost Center
Requisition	Dim - Cost Center
Requisition	Dim - Cost Center Hierarchy
Requisition	Dim - Cost Center Hierarchy
Requisition	Dim - Currency
Requisition	Dim - Currency
Requisition	Dim - Date Fiscal Calendar
Requisition	Dim - Date Fiscal Calendar

Module	Dimension
Requisition	Dim - Date Gregorian Calendar
Requisition	Dim - Date Gregorian Calendar
Requisition	Dim - Expenditure Type
Requisition	Dim - Expenditure Type
Requisition	Dim - GL Account
Requisition	Dim - GL Account
Requisition	Dim - GL Segment1
Requisition	Dim - GL Segment1
Requisition	Dim - GL Segment1 Hierarchy
Requisition	Dim - GL Segment1 Hierarchy
Requisition	Dim - GL Segment10
Requisition	Dim - GL Segment10
Requisition	Dim - GL Segment10 Hierarchy
Requisition	Dim - GL Segment10 Hierarchy
Requisition	Dim - GL Segment2
Requisition	Dim - GL Segment2
Requisition	Dim - GL Segment2 Hierarchy
Requisition	Dim - GL Segment2 Hierarchy
Requisition	Dim - GL Segment3
Requisition	Dim - GL Segment3
Requisition	Dim - GL Segment3 Hierarchy
Requisition	Dim - GL Segment3 Hierarchy
Requisition	Dim - GL Segment4
Requisition	Dim - GL Segment4
Requisition	Dim - GL Segment4 Hierarchy
Requisition	Dim - GL Segment4 Hierarchy
Requisition	Dim - GL Segment5
Requisition	Dim - GL Segment5
Requisition	Dim - GL Segment5 Hierarchy
Requisition	Dim - GL Segment5 Hierarchy
Requisition	Dim - GL Segment6
Requisition	Dim - GL Segment6
Requisition	Dim - GL Segment6 Hierarchy
Requisition	Dim - GL Segment6 Hierarchy
Requisition	Dim - GL Segment7
Requisition	Dim - GL Segment7
Requisition	Dim - GL Segment7 Hierarchy
Requisition	Dim - GL Segment7 Hierarchy
Requisition	Dim - GL Segment8
Requisition	Dim - GL Segment8
Requisition	Dim - GL Segment8 Hierarchy
Requisition	Dim - GL Segment8 Hierarchy
Requisition	Dim - GL Segment9
Requisition	Dim - GL Segment9
Requisition	Dim - GL Segment9 Hierarchy

Module	Dimension
Requisition	Dim - GL Segment9 Hierarchy
Requisition	Dim - Inventory Organization
Requisition	Dim - Inventory Organization
Requisition	Dim - Item Category Hierarchy
Requisition	Dim - Item Category Hierarchy
Requisition	Dim - Ledger
Requisition	Dim - Ledger
Requisition	Dim - Natural Account
Requisition	Dim - Natural Account
Requisition	Dim - Natural Account Hierarchy
Requisition	Dim - Natural Account Hierarchy
Requisition	Dim - PRC - Customer Deliver To Location
Requisition	Dim - PRC - Customer Deliver To Location
Requisition	Dim - PRC - Deliver To Location
Requisition	Dim - PRC - Deliver To Location
Requisition	Dim - PRC - Purchase Buyer
Requisition	Dim - PRC - Purchase Buyer
Requisition	Dim - Project
Requisition	Dim - Project
Requisition	Dim - Supplier
Requisition	Dim - Supplier
Requisition	Dim - Supplier Sites
Requisition	Dim - Supplier Sites
Requisition	Dim - Task
Requisition	Dim - Task
Requisition	Dim - Unit of Measure
Requisition	Dim - Unit of Measure
Salary Basis	Dim - Currency
Salary Basis	Dim - Date Enterprise Calendar
Salary Basis	Dim - Date Gregorian Calendar
Salary Basis	Dim - Department
Salary Basis	Dim - Job
Salary Basis	Dim - Legal Employer
Salary Basis	Dim - Reporting Establishment
Salary Basis	Dim - Worker
Sales CPQ Integrated Analytics	Dim - Business Unit
Sales CPQ Integrated Analytics	Dim - Currency
Sales CPQ Integrated Analytics	Dim - Customer Sold To
Sales Pipeline	Dim - Business Unit
Sales Pipeline	Dim - Currency
Sales Pipeline	Dim - Customer Sold To
Sales Pipeline Snapshot	Dim - Business Unit
Sales Pipeline Snapshot	Dim - Currency
Sales Pipeline Snapshot	Dim - Customer Sold To
Subscription Management Analytics	Dim - Business Unit

Module	Dimension
Subscription Management Analytics	Dim - Currency
Subscription Management Analytics	Dim - Customer Sold To
Succession Management	Dim - Date Enterprise Calendar
Succession Management	Dim - Date Gregorian Calendar
Succession Management	Dim - Department
Succession Management	Dim - Job
Succession Management	Dim - Legal Employer
Succession Management	Dim - Reporting Establishment
Succession Management	Dim - Worker
Talent Acquisition	Dim - Date Enterprise Calendar
Talent Acquisition	Dim - Date Gregorian Calendar
Talent Acquisition	Dim - Department
Talent Acquisition	Dim - Job
Talent Acquisition	Dim - Legal Employer
Talent Acquisition	Dim - Reporting Establishment
Talent Acquisition	Dim - Worker
Talent Profile	Dim - Date Enterprise Calendar
Talent Profile	Dim - Date Gregorian Calendar
Talent Profile	Dim - Department
Talent Profile	Dim - Job
Talent Profile	Dim - Legal Employer
Talent Profile	Dim - Reporting Establishment
Talent Profile	Dim - Worker
Talent Review	Dim - Date Enterprise Calendar
Talent Review	Dim - Date Gregorian Calendar
Talent Review	Dim - Department
Talent Review	Dim - Job
Talent Review	Dim - Legal Employer
Talent Review	Dim - Reporting Establishment
Talent Review	Dim - Worker
Time and Labor	Dim - Date Enterprise Calendar
Time and Labor	Dim - Date Gregorian Calendar
Time and Labor	Dim - Department
Time and Labor	Dim - Expenditure Type
Time and Labor	Dim - Job
Time and Labor	Dim - Legal Employer
Time and Labor	Dim - Project
Time and Labor	Dim - Project Unit
Time and Labor	Dim - Reporting Establishment
Time and Labor	Dim - Task
Time and Labor	Dim - Worker
Workforce Compensation	Dim - Currency
Workforce Compensation	Dim - Date Enterprise Calendar
Workforce Compensation	Dim - Date Gregorian Calendar
Workforce Compensation	Dim - Department

Module	Dimension
Workforce Compensation	Dim - Job
Workforce Compensation	Dim - Legal Employer
Workforce Compensation	Dim - Reporting Establishment
Workforce Compensation	Dim - Worker
Workforce Management	Dim - Date Enterprise Calendar
Workforce Management	Dim - Date Gregorian Calendar
Workforce Management	Dim - Department
Workforce Management	Dim - Job
Workforce Management	Dim - Legal Employer
Workforce Management	Dim - Reporting Establishment
Workforce Management	Dim - Worker
