Oracle® Cloud

Administering Oracle NetSuite Analytics Warehouse

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Preface

Learn how to get started with Oracle NetSuite Analytics Warehouse.

Topics

- Audience
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Audience

This document is intended for the administrators and advanced users of Oracle NetSuite Analytics Warehouse.

Related Documentation

These related Oracle resources provide more information.

- Oracle Cloud `http://cloud.oracle.com`
- Using Oracle Fusion Analytics Warehouse
- Getting Started with Oracle Analytics Cloud
- Visualizing Data and Building Reports in Oracle Analytics Cloud
- Configuring Oracle Analytics Cloud

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.

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

Conventions

The following text conventions are used in this document.

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

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Get Started with Oracle NetSuite Analytics Warehouse

Let's explore Oracle NetSuite Analytics Warehouse and what you need to know to get started.

Topics:

- About Oracle NetSuite Analytics Warehouse
- Typical Workflow to Get Started with Oracle NetSuite Analytics Warehouse

About Oracle NetSuite Analytics Warehouse

Oracle NetSuite Analytics Warehouse enables you to analyze your NetSuite data and generate visualizations and reports.

This service is based on the real-world notions of KPIs, cards, and decks, and provides a collaborative experience optimized for executives and decision-makers. Business analysts can extend Oracle NetSuite Analytics Warehouse using the intuitive KPI editor and other Oracle Analytics Cloud features to author new visualizations, reports, and dashboards. These analytics, whether new or ready-to-use, work alongside KPIs, cards, and decks for a comprehensive data analysis experience.

This packaged service includes Oracle Analytics Cloud and is powered by Oracle Autonomous Data Warehouse. The service extracts and loads data from your Oracle NetSuite instance into an instance of Oracle Autonomous Data Warehouse. You can then use Oracle Analytics Cloud to customize existing dashboards and create dashboards. You can augment your NetSuite data with data from the custom transaction objects and make the custom data available for reporting.

Oracle NetSuite Analytics Warehouse consists of a data pipeline, data warehouse, semantic model, and best-practice content such as ready-to-use KPIs, dashboards, and reports. Oracle manages the service starting with deployment through performance monitoring, upgrades, and maintenance for the ready-to-use content.

Oracle NetSuite Analytics Warehouse supports several non-English languages, and certain elements such as the user interface and auto-generated text are displayed in those languages.

You can extend your Oracle NetSuite Analytics Warehouse subscription by buying additional user packs. Each user pack contains licenses for five users. User packs available for these license tiers are:

- Standard tier: seven user packs
- Premium tier: nine user packs
- Enterprise tier: No limit on user packs

For example, if you have a Standard Oracle NetSuite Analytics Warehouse license, you can only buy up to seven user packs. If you require nine user packs, then you must upgrade to the Premium license tier.

Region Availability

Oracle NetSuite Analytics Warehouse is available in the following regions currently:

Region Location	Region Name	Region Key
Ashburn, VA	us-ashburn-1	IAD
London, United Kingdom	uk-london-1	LHR

Language Support

Oracle NetSuite Analytics Warehouse is supports the following non-English languages:

- Arabic
- Chinese Simplified
- Chinese Traditional
- Dutch
- French Canadian
- French European
- German
- Italian
- Japanese
- Portuguese Brazilian
- Spanish

Typical Workflow to Get Started with Oracle NetSuite Analytics Warehouse

To get started with Oracle NetSuite Analytics Warehouse for the first time, follow these tasks as a guide.

Task	Description	More Information
Enable NetSuite Analytics Warehouse	As an administrator, enable NetSuite Analytics Warehouse in the NetSuite account of the users.	Enabling NetSuite Analytics Warehouse, *NetSuite Analytics Warehouse*

Task	Description	More Information
Add and delete users.	As a user, after your administrator enables NetSuite Analytics Warehouse in your NetSuite account, add and delete users. Adding users to your NetSuite Analytics Warehouse account enables the users to work with data transferred to the data warehouse. You can add existing NetSuite users and non-NetSuite users.	Adding Users to NSAW, *NetSuite Analytics Warehouse*
Change the user account for data transfer credentials.	By default, NetSuite Analytics Warehouse assigns the data transfer credentials to the user that enabled NetSuite Analytics Warehouse. Oracle recommends that you use a generic email address such as user_account_data_transfer@ example.com to ensure that the transfer credentials remain valid if the user that enabled NetSuite Analytics Warehouse leaves the organization.	Resetting NetSuite Analytics Warehouse Transfer Credentials, *NetSuite Analytics Warehouse*
Set up the data transfer in the NetSuite user interface.	As a user, begin transferring data to the NetSuite Analytics Warehouse by selecting the functional area.	Setting Up the Data Transfer, *NetSuite Analytics Warehouse*
Alternatively, set the pipeline parameters and create a data pipeline for a functional area to transfer data to the warehouse using the Data Configuration page in the NetSuite Analytics Warehouse user interface.	You can transfer data to the warehouse using the Data Configuration page. You specify the pipeline and report parameters and then create a data pipeline for a functional area.	Set Up the Pipeline Parameters Set Up the Reporting Configurations Create a Data Pipeline for a Functional Area
Start analyzing your data	After the data is transferred to the autonomous data warehouse, you can analyze your data using the capabilities of Oracle Analytics Cloud that is included with NetSuite Analytics Warehouse.	Get Started with KPIs, Decks, and Cards, *Using Oracle Fusion Analytics Warehouse* Work with Projects, *Using Oracle Fusion Analytics Warehouse* Work with Data, *Using Oracle Fusion Analytics Warehouse*

Additionally, as an advanced user, you can perform these tasks:

Task	Description	More Information
Augment your data	You can supplement the data in your reports by extending the transaction entity, creating custom dimensions and custom facts.	Augment Your Data

Task	Description	More Information
Integrate third-party data	You can integrate data from other sources with the NetSuite data. Through this integration, you can create KPIs, metrics, cards, and dashboards using data from multiple sources.	Integrate Third-Party Data

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Configure Oracle NetSuite Analytics Warehouse Data

You can set up data transfer using the NetSuite user interface or alternatively use the Data Configuration tile on the Oracle NetSuite Analytics Warehouse Console.

To set up data transfer using the NetSuite user interface, see Setting Up the Data Transfer.

In Oracle NetSuite Analytics Warehouse, use the Data Configuration page to specify the data load and reporting configuration details, and create data pipelines for functional areas that determine how your NetSuite data is loaded and displayed in the data warehouse. To navigate to the Data Configuration page:

1. Sign in to your NetSuite account.

2. Click **Setup**, click **Integration**, and then click **Configuration**.

3. On the NetSuite Analytics Warehouse Configuration page, click **Log in to NetSuite Analytics Warehouse**. You see the Oracle NetSuite Analytics Warehouse home page.

4. On the home page, open the **Navigator** menu, click **Console**, and then click **Data Configuration** under **Data Administration**. You see the Data Configuration page on which you can perform all the tasks discussed in this section.

Topics:

- Typical Workflow to Configure Data
- About Transaction Entities
- About Data Pipelines for Functional Areas
- About Best Practices
- About Pipeline Parameters
- Set Up the Pipeline Parameters
- About Reporting Configurations
- Set Up the Reporting Configurations
- Create a Data Pipeline for a Functional Area
- Edit a Data Pipeline for a Functional Area
- Activate a Data Pipeline for a Functional Area
- Activate Value-added Datasets
- Deactivate a Data Pipeline for a Functional Area
- Delete a Data Pipeline for a Functional Area
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Typical Workflow to Configure Data

Follow these tasks as a guide to configure Oracle NetSuite Analytics Warehouse data.

Task	Description	More Information
Specify 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
Specify the report parameters	Set up the report parameters for your data model file before running your data pipelines for the functional areas.	Set Up the Reporting Configurations
Create a data pipeline for a functional area	To start analyzing your data, create data pipelines for the functional areas to copy data to the data warehouse.	Create 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
View 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 Transaction Entities

Oracle NetSuite Analytics Warehouse is organized into logical business groupings called functional areas, which contain tables specific to the transaction types in each functional area.

Table Types

Each type of table follows a naming pattern for all functional areas.

- <Transaction Type> are transaction type stripes. In the NetSuite universal module definition (UMD), the transaction table is striped by transaction types using the TYPE column. NetSuite Analytics Warehouse creates tables by stripes. Transaction type can be SalesOrd, CustInvc, and so on, but <Transaction Type> contains an expanded and readable format such as _SALES_ORDER_ or _CUSTOMER_INVOICE_ respectively.

- <NS Table Name> are NetSuite tables which store dimensional data in the source.

Table 2-1   NetSuite Analytics Warehouse Table Types

Table Type	Naming Pattern	Source
Fact — Transaction Header	DW_NS_<Transaction Type>_F	Derived from NetSuite source tables transaction
Fact — Transaction Lines	DW_NS_<Transaction Type>_LINES_F	Derived from NetSuite source tables transaction, transactionline, and transactionaccountingline
Fact — Snapshot	DW_NS_<Transaction Type>_SNAPSHOT_F	Derived from transaction, systemnote, transactionhistory, and other transactions which act as snapshot events for the transaction
Dimensions	DW_NS_<NS Table Name>_D	Usually derived directly from source table
General Helper Table	DW_NS_<NS Table Name>_G	Usually derived directly from source table

Fact Denormalization

Fact — Transaction Lines are usually denormalized and contain additional attributes and dimension keys from the Fact — Transaction Header table to aid ease of reporting. For example, the Sales Order Lines fact contains status and trandate, which are denormalized from the Sales Order Header fact.

Fact — Transaction Header also contains dimensions keys or attributes from the Fact — Transaction Lines mainline in the NetSuite source tables that are non-transactional in nature.

Dimensions

The dimensions keys used in a fact usually follow the rule where they are named similar to the dimension table with which they are supposed to join to. For example, `DW_NS_SALES_ORDER_F.CUSTOMER` joins to `DW_NS_CUSTOMER_D.ID`.

Dimensions can be common across functional areas and transaction types. For example, `customer` and `item` are some of the common dimensions in NetSuite Analytics Warehouse.

Dimension History

The dimensions used in NetSuite Analytics Warehouse are type 1. Any changes in the source are reflected in NetSuite Analytics Warehouse either incrementally (if they are high volume dimensions) or in full update mode.

Base and Accounting Book Amounts for Transaction Amounts

Usually, transaction currency-based amount columns extracted from a source are converted to a subsidiary or base currency in NetSuite Analytics Warehouse fact lines tables. For

example, `foreignamount` has a corresponding `base_amount`, `estgrossprofit` has a corresponding `base_estgrossprofit`, and so on.

Similarly, in line facts, the accounting book currency-based amounts are also converted into base and transaction currency when applicable. For example, `accountingbook_credit` and `accountingbook_debit` have `base_creditamount` and `base_debitamount` (in base or subsidiary currency) along with credit and debit (in transaction currency). The lines facts also consist of `accountingbook_currency` along with the `base_currency` key as a role-playing dimension in the lines fact tables. This helps in identifying the currency used for these measure columns.

Header facts contain conversion for the base or subsidiary currency amounts only for corresponding transaction currency amounts, such as `foreigntotal`, which will have a corresponding `base_total` along with the `base_currency` key. Header facts contain the `base_currency` key as a role-playing dimension. Header facts don't contain any accounting book amounts.

Flags Attributes

Both facts and dimension tables in NetSuite Analytics Warehouse consist of flag attributes which are useful for reporting purposes. The typical values in these columns is either `T` or `F`, indicating true or false. Alternately, `Y` or `N` indicates yes or no.

Snapshot Facts

NetSuite Analytics Warehouse contains snapshot facts for many transaction types. These tables track daily status and amount changes for a transaction type. The granularity of the snapshots tables is a combination of transaction identifier and date. Snapshots usually contain one row for each day from the transaction start date to the transaction close date. If the transaction is open on the ETL run date, then snapshots are built until one day before the ETL run date.

Delete Transactions

NetSuite Analytics Warehouse supports deletion of transactions. When any transaction is deleted in the source system, the same is deleted in NetSuite Analytics Warehouse after an incremental refresh.

Warehouse Table Grain Identification

The granularity of each table (fact, dimension, etc.) can be determined by checking the `source_record_id` column. When filtered by a single value, the table should have only one record. As a convention, source record ID is placed immediately after the columns that constitute the grain of the table. For example, for `DW_NS_SALES_ORDER_LINES_F`, the granularity of the table consists of `transaction`, `id`, and `accountingbook`, hence the `source_record_id` is placed as the fourth column after the above three grain columns.

Source record `source_record_id` contains the concatenated string-converted value of the grain columns. Hence for the above example, `DW_NS_SALES_ORDER_LINES_F.source_record_id` = `transaction~id~accountingbook` (or `32451~2~1`).

Extraction Dates and Load Volume Control

Both `Fact — Transaction Header` and `Fact — Transaction Lines` tend to be high-volume tables and may impact data extract performance. To control the extract data

volume, users can set an initial extract date as part of pipeline parameters while performing the setup. This controls the extraction of data in the load. Incremental loads are controlled using the last modified date attribute in `transaction` and `transactionlines` tables. Many dimensions also extract data incrementally using the last modified date attribute, while some dimensions always extract in full extracts. The ones which load in full extracts are usually smaller dimensions,

Reporting Parameters

NetSuite Analytics Warehouse has one reporting parameter that needs to be set: `subsidiary`. The `subsidiary` parameter is used for consolidating transaction values from other subsidiaries' currencies to this reporting subsidiary currency.

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.

About Best Practices

Before running a data pipeline for a functional area:

- Define the pipeline and report parameters for the functional area accurately.
- Schedule the data load to run during off-peak hours.
- Run initial full warehouse loads during weekends and incremental loads during weeknights to ensure that users aren't impacted.

About Pipeline Parameters

The pipeline parameters apply to all functional areas.

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

- 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 data, 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.

Set Up the Pipeline Parameters

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

1. In Oracle NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then click **Data Configuration**.

2. On the Data Configuration page, under **Global Configuration**, click **Pipeline Parameters**.

    You see the Pipeline Parameters page.

3. Under Global Parameters, indicate the initial extract date from which to load the transaction data.

4. Under Data Refresh Schedule, select the interval and depending on the selected interval, specify the time, day, and month when you want the incremental data load to happen.

5. Click **Save**.

About Reporting Configurations

Set up the reporting configurations to specify how data is presented on the KPI decks, visualizations, dashboards, and reports in Oracle NetSuite Analytics Warehouse.

About the Reporting Configuration for NetSuite Analytics Warehouse

You specify values for these parameters as you configure reporting for Oracle NetSuite Analytics Warehouse:

- Subsidiary: This parameter controls the subsidiary or subsidiaries used for reporting. If you select parent, all the subsidiaries are covered in the reporting layer.

Set Up the Reporting Configurations

Specify the report parameters for your data model file.

1. In Oracle NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then click **Data Configuration**.

2. On the Data Configuration page, under **Global Configuration**, click **Reporting Configurations**.

3. On the Reporting Configurations page, under Global Parameters, select a subsidiary to transfer data from that subsidiary.

4. 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.

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 NetSuite Analytics Warehouse, click the **Navigator**.

3. In the Navigator menu, click **Console**.

4. On the Console, click **Data Configuration** under **Application Administration**.

5. On the Data Configuration page, click your service. For example, under Applications, click **NetSuite Warehouse**.

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

7. Select your application areas to transfer data to the warehouse, and then click **Next**.

8. 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 NetSuite Analytics Warehouse 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 NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then click **Data Configuration** under **Application Administration**.

3. On the Data Configuration page, click your service. For example, under Applications, click **NetSuite Warehouse**.

4. On the service page, for example, the Data Configuration: Oracle NetSuite Analytics page, click the **Action** menu for the data pipeline for a functional area that you want to edit, and click **Edit**.

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 NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then click **Data Configuration** under **Application Administration**.

3. On the Data Configuration page, click your service. For example, under Applications, click **NetSuite Warehouse**.

4. On the service page, for example, the Data Configuration: Oracle NetSuite Analytics page, click the **Action** menu for the saved data pipeline for the functional area that you want to activate, and click **Edit**.

5. Review the details of the data pipeline for the functional area and click **Activate**.

6. 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**.

Oracle NetSuite Analytics Warehouse 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**.

Activate Value-added Datasets

Oracle NetSuite Analytics Warehouse provides ready-to-use value-added datasets that load data independently into Oracle NetSuite Analytics Warehouse and aren't dependent on activation of any other functional areas. You must specifically activate these datasets.

The value-added datasets use data from multiple functional areas. For example, the Inventory Snapshot dataset sources data from multiple transaction types belonging to functional areas such as Sales, Purchases, and Inventory.

1. In Oracle NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then click **Data Configuration**.

2. On the Data Configuration page, under **Applications**, on the **NetSuite Warehouse** tile, click the drop-down and select a category such as **Oracle NetSuite Analytics for Finance and Supply Chain**.

   You see the Activations page for Oracle NetSuite Analytics for Finance and Supply Chain.

3. On the Activations page, click **Create**.

4. Select a value-added dataset such as **Inventory Snapshot** and then click **Next**.

5. 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 display the page for scheduling when to initiate activation of the functional area. Select **Scheduled Execution Date** 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. After selecting your option, click **Finish**.

> **✎ Note:**
>
> 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.

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.

1. Sign in to your service.

2. In Oracle NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then click **Data Configuration** under **Application Administration**.

3. On the Data Configuration page, click your service. For example, under Applications, click **NetSuite Warehouse**.

4. On the service page, for example, the Data Configuration: Oracle NetSuite Analytics page, click the **Action** menu for the active data pipeline for the functional area that you want to deactivate, and 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 NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then click **Data Configuration** under **Application Administration**.

   You see the Data Configuration page.

3. On the Data Configuration page, click your service. For example, under Applications, click **NetSuite Warehouse**.

4. On the service page, for example, the Data Configuration: Oracle NetSuite Analytics page, click the **Action** menu for the data pipeline for the functional area that you want to delete, and 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.

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.

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> **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 NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then click **Data Configuration** under **Application Administration**.

3. On the Data Configuration page, click your service. For example, under Applications, click **NetSuite Warehouse**.

4. On the service page, for example, the Data Configuration: Oracle NetSuite 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**.

Reset a Data Pipeline for a Functional Area

When you reset a data pipeline for a functional area, you start the process of completely refreshing the data in the data warehouse for the functional area. After you reset the data pipeline for a functional area, the data still exists in the data warehouse related to the functional area.

After resetting the data pipeline, you see the data pipeline for the functional area on the Data Configuration page with **Reset Completed** status.

1. Sign in to your service.

2. In Oracle NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then click **Data Configuration** under **Application Administration**.

3. On the Data Configuration page, click your service. For example, under Applications, click **NetSuite Warehouse**.

4. On the service page, for example, the Data Configuration: Oracle NetSuite Analytics page, click the **Action** menu for the data pipeline for the functional area that you want to reset, and click **Reset**.

Reset the Data Warehouse

Reset your data warehouse when your data source instance has been 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 has become corrupted.

After resetting the data warehouse, you must activate each of your data pipelines for the functional areas. See Activate a Data Pipeline for a Functional Area.

1. Sign in to your service.

2. In Oracle NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then click **Data Configuration** under **Application Administration**.

3. On the Data Configuration page, under **Global Configuration**, click **Pipeline Parameters**.

4. On the Pipeline Parameters page, click the **Reset Data Warehouse** menu option.

5. Click **OK** in the message dialog.

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 NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then click **Data Configuration** under **Application Administration**.

   You see the Data Configuration page.
3. On the Data Configuration page, under **Global Configuration**, click **Pipeline Parameters**.

   You see the Pipeline Parameters page.
4. On the Pipeline Parameters page, click the **Reset Cache** menu option.

   You see a message that cache has been cleared successfully.

View Load Request History

You can view the data pipeline load request history by functional area, load type, and status along with other details. The request history doesn't display the incremental loads.

1. Sign in to your service.
2. In Oracle NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then 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.

View Audit Log

You can view the performed data configuration-related actions 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 NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then 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.

About Augmenting Your Data

Augment your reports by choosing specific columns from various custom transaction objects.

The data pipeline in Oracle NetSuite Analytics Warehouse extracts and loads data from NetSuite's standard transaction objects such as the standard records into the warehouse.

Use the Data Augmentation option on the Data Configuration page in Oracle NetSuite Analytics Warehouse to extract and populate the following custom transaction types as a custom dimension, custom fact, or an extended entity into the warehouse:

- Custom attributes or records that reference a custom segment and custom list.

- Custom attributes that don't reference other objects.

- Custom reference that don't reference other objects.

Data augmentation allows you to seamlessly extract and load data from these custom transaction types and make it readily available in tables populated in Oracle Autonomous Data Warehouse. It also extends the subject areas in the semantic model and makes the custom transaction types available for reporting.

Augment Your Data

Extract and load data from your custom transactions and make it readily available in tables populated in the autonomous data warehouse.

1. On the Oracle NetSuite Analytics Warehouse home page, open the **Navigator** menu, click **Console**, and then click **Data Configuration** under Application Administration.

   You see the Data Configuration page.

2. On the Data Configuration page, under Global Configurations, click **Data Augmentation**.

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

   You see the data augmentation wizard with multiple steps. You can create the following augmentation types:

   - Create a dimension.

   - Create a fact.

   - Extend a transaction entity.

4. In step 1 of the wizard, select an augmentation type. Each augmentation type requires you to complete certain tasks.

5. For the type of augmentation, if you select **Create Dimension** to add a new dimension in the target instance, follow these instructions:

   a. Select **Custom Record/List** as the source dataset type. You see the pillar automatically selected as **NetSuite Warehouse**.

   b. Select a source table from where you want to add the new dimension. The source tables are the custom transaction objects that you created in NetSuite.

   c. Click **Next**.

   d. In step 2 of the wizard, in the Available Attributes pane, select the check box for the attributes that you want in your new dimension, and then click **Add Selected**.
   You see the attributes that you had selected in the Target attributes pane and the recommended (defined) primary key. You can either accept this key or override it with your own primary key definition. You can mark any columns as incremental to ensure that you get new data specific to the columns.

e. Optionally, select **Advanced** to reorganize the order of columns that are marked as primary keys. To reorder, select a primary key row and then drag to define a suitable join order.

f. Click **Next**.

g. In step 6 of the wizard, provide the following details and click **Finish** to save and schedule your data augmentation pipeline job:

    i. Name your augmentation pipeline job; for example, `Sales Order`.

    ii. Enter a suffix for the target table name using underscore in place of spaces between words and don't use special characters; for example, `Sales_Order_D`. The augmentation process automatically creates the target table name.

    iii. Provide a description.

    iv. Select the functional area and one or multiple subject areas in which you want to include this augmentation pipeline job.

    v. Specify the options to save the data augmentation pipeline job without executing it, or schedule the execution date and time, or execute it immediately.

6. For the type of augmentation, if you select **Create Fact** to add a new fact table in the target instance, then follow these instructions:

a. Select **Custom Record/List** as the source dataset type. You see the pillar automatically selected as **NetSuite Warehouse**.

b. Select a source table from where you want to add the new fact table.

c. Click **Next**.

d. In step 2 of the wizard, in the Available Attributes pane, select the check box for the attributes that you want in your new fact table, and then click **Add Selected**. You see the attributes that you had selected in the Target attributes pane and the recommended (defined) primary key. You can either accept this key or override it with your own primary key definition. You can mark any columns as incremental to ensure that you get new data specific to the columns.

e. Optionally, select **Advanced** to reorganize the order of columns that are marked as primary keys and specify one of your incremental keys to use when determining the initial extract date.

f. Click **Next**.

g. In step 6 of the wizard, provide the following details and click **Finish** to save and schedule your data augmentation pipeline job:

    i. Name your augmentation pipeline job; for example, `Sales Order Line`.

    ii. Enter a suffix for the target table name using underscore in place of spaces between words and don't use special characters; for example, `Sales_Order_F`. The augmentation process automatically creates the target table name.

    iii. Provide a description.

    iv. Select the functional area and one or multiple subject areas in which you want to include this augmentation pipeline job.

    v. Specify the options to save the data augmentation pipeline job without executing it, or schedule the execution date and time, or execute it immediately.

7. For the type of augmentation, if you select **Extend Transaction Entity** to add attributes to dimensions or measures to facts, then follow these instructions:

a. Select **Custom Attribute** as the source dataset type. You see the pillar automatically selected as **NetSuite Warehouse**.

b. Select a source table for the attributes. You can select your customer extensions, item extensions, vendor extensions, partner extensions, and employee extensions as source tables if you want to add attributes from these entity extensions.

c. Click **Next**.

d. In step 2 of the wizard, in the Available Attributes pane, select the check box for the attributes from the source table that you want in your target table, and then click Add Selected. You see the attributes that you had selected in the Target attributes pane and the recommended (defined) primary key. You can either accept this key or override it with your own primary key definition.

e. Select Advanced to reorganize the order of columns that are marked as primary keys and specify a date or timestamp data type column as one of your incremental keys to use when determining the initial extract date.

f. Click **Next**.

g. In step 3 of the wizard, map the extension attributes to the warehouse entities by selecting the warehouse entity that is being extended. You see the primary column of the warehouse entity mapped with the attribute that you are extending.

h. In step 6 of the wizard, provide the following details and click **Finish** to save and schedule your data augmentation pipeline job:

    i.   Name your augmentation pipeline job; for example, `Customer Deposit`.

    ii. 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_Deposit_EXT`. The augmentation process automatically creates the target table name.

    iii. Provide a description.

    iv. Select the functional area and one or multiple subject areas in which you want to include this augmentation pipeline job.

    v.   Specify the options to save the data augmentation pipeline job without executing it, or schedule the execution date and time, or execute it immediately.

You see the data augmentation pipeline jobs 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 VO attributes and save the changes. You can't modify the schedule in this status.

• Activation Scheduled - You can edit the data augmentation to add VO attributes, save the changes while retaining the existing schedule, reschedule the execution date and time, or execute the plan 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 is 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 you would like to reuse the Vendor dimension as a Shipper dimension as well, you can create an alias for Vendor.
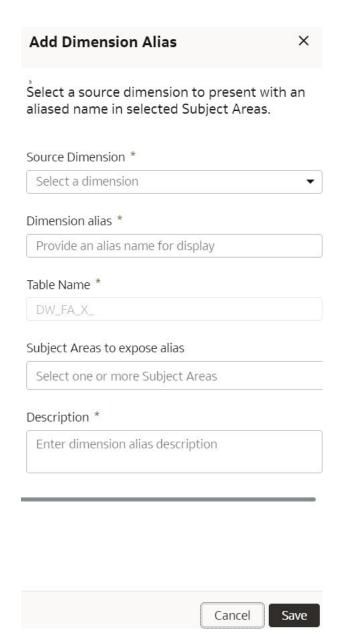
When you create the aliases, Oracle NetSuite Analytics Warehouse doesn't copy the data for the dimension aliases. These augmentations don't have a pipeline status, but they are visible in the subject area.

1. Sign in to your service.

2. In Oracle NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then click **Data Configuration** under **Application Administration**.

3. On the Data Configuration page, under **Global 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 Shipper Dim.

   In **Table Name**, Oracle NetSuite Analytics Warehouse displays the name such as DW_FA_X_SHIPPER_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**.

About Mapping Custom Attributes

You can attach custom objects to transactions and transaction lines.

When you attach custom objects to transactions or transaction line types, you automatically create extension attributes that appear in Oracle Analytics Cloud reports

and dashboards. The process is automated, so you don't need to create dimensions and extend entities.

Map Custom Attributes

Import custom attributes for transactions, transaction line, transaction accounting lines, and dimension entities using the Custom Attributes Mapper.

Determine the source attributes in NetSuite you want to import before starting this procedure to simplify the mapping process. For the source transaction types or entities that you want to import, NetSuite Analytics Warehouse displays the business names, IDs, data types, and size of the associated custom attributes.

1. On the NetSuite Analytics Warehouse home page, open the **Navigator** menu, click **Console**, and then click **Data Configuration**.
2. On the Data Configuration page, under Applications, click **Custom Attributes Mapper**.
3. On the Custom Attribute Map List page, click **Create**.
4. Select the type of attribute you want to create, and the source transaction type or entity you want to import.
5. Select the attributes you want to associate with the source transaction type.
6. Click **Save**.
7. Click **Publish** to make the attribute map available to users.

About Autonomous Data Warehouse Wallet and Administrator Credentials

You can download the autonomous data warehouse wallet and view or reset the warehouse administrator credentials.

Download ADW Wallet

The ADW Wallet contains certificate keys for accessing your Autonomous Data Warehouse (ADW) instance.

The client credentials .zip that you download contains the following files:

- cwallet.sso - Oracle auto-login wallet
- ewallet.p12 - PKCS #12 wallet file associated with the auto-login wallet
- sqlnet.ora - SQL*Net profile configuration file that includes the wallet location and TNSNAMES naming method
- tnsnames.ora - SQL*Net configuration file that contains network service names mapped to connect descriptors for the local naming method
- Java Key Store (JKS) files - Key store files for use with JDBC Thin Connections

> ⚠ **Caution:**
>
> Wallet files, along with the database user ID and password, provide access to data in your Autonomous Database. Store wallet files in a secure location. Share wallet files only with authorized users. If wallet files are transmitted in a way that might be accessed by unauthorized users (for example, over public email), transmit the wallet password separately and securely.

Download the wallet following these instructions:

1. Click **Warehouse** on the Console.

2. On the Warehouse page, under ADW Wallet, click **Download Wallet**.

Reset Administrator Credentials

Administrator Credentials allow you to access and manage your Autonomous Data Warehouse through a SQL Developer Portal. You can view your administrator credentials or reset them.

Manage the administrator credentials following these instructions:

1. Click **Warehouse** on the Console.

2. On the Warehouse page, under Administrator Credentials, click **Reset Credentials**.

Disable 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.

You may want to disable the data pipeline in the following scenarios:

- 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 quite time in your business activities.

In cases where the pipeline jobs are failing due to issues, Oracle disables the data pipeline from the backend 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 NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then click **Data Configuration** under **Application Administration**.

3. On the Data Configuration page, under Global Configurations, click **Pipeline Parameters**.

4. On the Pipeline Parameters page, under Data Pipeline, select the **Data Pipeline Disabled** toggle and enter a reason in **Details**.

5. Select the **Data Pipeline Disabled** toggle again to enable the data pipeline after you've completed the reason for disabling the data pipeline.

3

Manage Users, Groups, and Application Roles

As the service administrator or security administrator, you manage users and their access to subject areas and objects.

Topics:

About Managing Users, Groups, and Application Roles

As the service administrator or security administrator, one of your initial tasks is to ensure that users have appropriate access to use Oracle NetSuite Analytics Warehouse.

Users need access to objects and data. Access to objects include subject areas or elements of subject areas such as folders and attributes, front-end decks, cards, and KPIs. You grant access to the users by assigning groups to them. The groups inherit the permissions from the application roles mapped to them. You set up your security components on the production environment.

> ✏️ **Note:**
>
> The Security Assignment tab visible on the Security page is reserved for future functionality.

About Users

Users accessing Oracle NetSuite Analytics Warehouse 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 NetSuite Analytics Warehouse instance from different sources:

- You can synchronize the Netsuite users with the Oracle Identity Cloud Service instance using the Configuration page for Oracle NetSuite Analytics Warehouse in NetSuite.

- You can manually create users in the Oracle Identity Cloud Service instance using the Oracle NetSuite Analytics Warehouse 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 NetSuite Analytics Warehouse based on the NetSuite Analytics Warehouse-specific system groups assigned to them. They gain access to different functionality, objects, and data in Oracle NetSuite Analytics Warehouse 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 NetSuite Analytics Warehouse instance, and custom groups that you create in Oracle NetSuite Analytics Warehouse. See Associate Users and Groups.

About Groups

Oracle NetSuite Analytics Warehouse uses groups to provide users access to subject areas, objects, and data.

Oracle NetSuite Analytics Warehouse uses the following three types of groups:

- System groups created in Oracle Identity Cloud Service specifically for Oracle NetSuite Analytics Warehouse. 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 NetSuite Analytics Warehouse, such as administering system settings, performing functional setup, managing security, and modeling data.

- Other groups that are generic groups created in Oracle Identity Cloud Service not specifically for Oracle NetSuite Analytics Warehouse, such as IDCS_Administrators and All_Tenant_Users.

System Groups

Oracle NetSuite Analytics Warehouse creates the system groups in Oracle Identity Cloud Service while provisioning your Oracle NetSuite Analytics Warehouse instance.

System groups are associated with system roles that provide a set of privileges to users. The system roles serve two purposes:

- Authenticate a user to Oracle NetSuite Analytics Warehouse.

- License a user to use Oracle NetSuite Analytics Warehouse based on the system group they are assigned.

See System Roles.

You must add the users to the corresponding system groups based on the tasks they perform in Oracle NetSuite Analytics Warehouse. See Assign Users to a Group and Assign Groups to Users. Use the Users or Groups tabs on the Security page to add users to these system groups:

System Group Code	System Group Name	Description	Associated Oracle NetSuite Analytics Warehouse System Role*
NAW_Licensed_Authors	NAW Licensed Authors	NetSuite Analytics Warehouse Licensed Users	Author

System Group Code	System Group Name	Description	Associated Oracle NetSuite Analytics Warehouse System Role*
NAW_Licensed_Users	NAW Licensed Users	NetSuite Analytics Warehouse Licensed Users	Author
NAW_Licensed_Viewers	NAW Licensed Viewers	NetSuite Analytics Warehouse Licensed Viewers	
NAW_Service_Admin	NAW Service Admin	NetSuite Analytics Warehouse Service Administrators	ServiceAdmin

Other Groups

The Other Groups category refers to groups created in Oracle Identity Cloud Service for purposes such as administrating Oracle Cloud Infrastructure and Oracle Identity Cloud Service.

These groups are not necessarily Oracle NetSuite Analytics Warehouse-specific but you can use them in Oracle NetSuite Analytics Warehouse. Examples of this category are the "IDCS_Administrators" and "All_Tenant_Users" groups.

About Application Roles

Application roles in Oracle NetSuite Analytics Warehouse consist of duty roles.

Duty roles define the duties of a job as an entitlement to perform a particular action; for example, access to a Sales functional area-related subject areas.

Duty Roles

The predefined duty roles to secure the predefined subject areas and the predefined front-end objects are:

Duty Role Name	Duty Role Description	Functional Area	Gets access to Subject Area Display Name OR Associated Role
NetSuite Analytics Warehouse Sales Duty	Object security role to control presentation catalog access to Sales functional area.	Sales	All subject areas under the Sales functional area.
NetSuite Analytics Warehouse Purchases Duty	Object security role to control presentation catalog access to Purchases functional area.	Purchases	All subject areas under the Purchases functional area.

Duty Role Name	Duty Role Description	Functional Area	Gets access to Subject Area Display Name OR Associated Role
NetSuite Analytics Warehouse Inventory Duty	Object security role to control presentation catalog access to Inventory functional area.	Inventory	All subject areas under the Inventory functional area.
Data Warehouse Refresh and Usage Tracking Analysis Duty	Object security role to control presentation catalog access to Warehouse Refresh and Usage Tracking subject areas.	Not applicable	Warehouse Refresh and Usage Tracking subject areas.
NetSuite Analytics Warehouse Financials Duty	Object security role to control presentation catalog access to Financials functional area.	Financials	All subject areas under the Financials functional area.
NetSuite Analytics Warehouse Manufacturing Duty	Object security role to control presentation catalog access to Manufacturing functional area.	Manufacturing	All subject areas under the Manufacturing functional area.
NetSuite Analytics Warehouse Payroll Duty	Object security role to control presentation catalog access to Payroll functional area.	Payroll	All subject areas under the Payroll functional area.

System Roles

The system roles for Oracle NetSuite Analytics Warehouse available in Oracle Identity Cloud Service through provisioning of Oracle NetSuite Analytics Warehouse are:

Role Name	Role Description	Purpose	Permissions
Service Administrator	Oracle NetSuite Analytics Warehouse service administrator	Customer facing (Snapshots, Connections, System Settings) administrator access to Oracle NetSuite Analytics Warehouse.	• 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 NetSuite Analytics Warehouse 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 KPIs • Can create, update, and delete KPIs • Can create, update, and delete decks and cards • Can share decks and cards

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
Author	Oracle NetSuite Analytics Warehouse author	Create and edit KPIs, cards, decks, 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 KPIs • Can edit the custom Oracle Analytics Cloud objects (visualization projects, dashboards, and analyses) • Can edit the custom KPIs • Can change the filter values for existing visualization projects • Can add filters for existing visualization projects • Can create and edit Oracle Analytics Cloud content, KPIs, decks, and cards

Role Name	Role Description	Purpose	Permissions
			• Can delete custom KPIs, decks, and cards • Can consume KPIs, cards, and decks created by other users on which they have access permissions • Can share decks and cards • 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

Manage Users

As a service or security administrator, you must ensure that you add users with applicable permissions to work with Oracle NetSuite Analytics Warehouse.

Topics:

- Create Users in Oracle Identity Cloud Service
- Create Users in Oracle NetSuite Analytics Warehouse
- License the Users to Access Oracle NetSuite Analytics Warehouse
- Update the User Details
- Remove a User's Access to Oracle NetSuite Analytics Warehouse
- Copy Data Security Assignments
- Assign Groups to Users
- Remove Groups Assigned to a User

Create Users in Oracle Identity Cloud Service

Create users in the Oracle Identity Cloud Service instance associated with your Oracle NetSuite Analytics Warehouse instance.

See Create User Accounts in *Administering Oracle Identity Cloud Service*.

Create Users in Oracle NetSuite Analytics Warehouse

Manually create users in the Oracle Identity Cloud Service instance using the Oracle NetSuite Analytics Warehouse user interface.

When you add a user using the Oracle NetSuite Analytics Warehouse user interface, the user is available in the Oracle Identity Cloud Service instance associated with your Oracle NetSuite Analytics Warehouse instance. You later assign the applicable licensed groups to the user that enable the user to perform certain tasks in Oracle NetSuite Analytics Warehouse.

See System Groups.

1. Sign in to Oracle NetSuite Analytics Warehouse.
2. On the Home page, open the **Navigator** menu, click **Console**, and then click **Security** under **Service Administration**.
3. On the Security page, click the Users tab, and then click **Add User**.
4. In Add User, click **Create a New User**.
5. In Add User, provide the user details and click **Next**.
6. Select the check box for each of the licensed groups that you want to assign to the user and click **Finish**.

License the Users to Access Oracle NetSuite Analytics Warehouse

You must assign at least one system group to a user to enable them to perform relevant tasks in Oracle NetSuite Analytics Warehouse. System groups provide a set of privileges to perform tasks in Oracle NetSuite Analytics Warehouse.

See System Groups.

1. Sign in to Oracle NetSuite Analytics Warehouse.
2. On the Home page, open the **Navigator** menu, click **Console**, and then 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. Optional: If you don't find a specific user, then click **Create a New User** to create the user and assign the applicable system groups.

   See Create Users in Oracle NetSuite Analytics Warehouse .
6. Click **Next**.
7. Select the check box for each of the licensed groups that you want to assign to the user and click **Finish**.

Update the User Details

You can update the user details such as first name, last name, and email but the user name is non-editable after specifying it initially.

1. Sign in to Oracle NetSuite Analytics Warehouse.

2. On the Home page, open the **Navigator** menu, click **Console**, and then click **Security** under **Service Administration**.

3. On the Security page, select a user from the users listed under the Users tab or use the Search option and then click **User Profile**.

4. In User Details, update the applicable information and click **Save**.

Remove a User's Access to Oracle NetSuite Analytics Warehouse

Remove a user's access to Oracle NetSuite Analytics Warehouse by removing their assignment to a system group.

A user assigned to a system group consumes an Oracle NetSuite Analytics Warehouse license. When a user no longer needs to consume the Oracle NetSuite Analytics Warehouse license according to their entitlement, you can revoke the user's assignment to the applicable system groups. The user won't be able to access Oracle NetSuite Analytics Warehouse as the user's access to Oracle NetSuite Analytics Warehouse depends on the system group assigned to them. When you remove all system groups from the user, then the user can no longer be authenticated to Oracle NetSuite Analytics Warehouse.

1. Sign in to Oracle NetSuite Analytics Warehouse.

2. On the Home page, open the **Navigator** menu, click **Console**, and then click **Security** under **Service Administration**.

3. On the Security page, select a user from the displayed users or use the Search option to search for and select a user.

4. Click **Remove User**.

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 NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then 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**.

Assign Groups to Users

You can assign one or more users to one or more groups.

1. Sign in to Oracle NetSuite Analytics Warehouse.

2. On the Home page, open the **Navigator** menu, click **Console**, and then click **Security** under **Service Administration**.

3. On the Security page, select a user from the displayed users or use the Search option to search for and select a user.

4. In the user details region, click **Assign Groups**.

5. In Assign Groups, search for a group or select from the list of groups displayed in this dialog.

6. Select the check box for one or more groups and click **Assign**.

Remove Groups Assigned to a User

Remove groups assigned to a user if the user no longer requires the authorization to access Oracle NetSuite Analytics Warehouse, specific permissions for tasks, and functional access.

1. Sign in to Oracle NetSuite Analytics Warehouse.

2. On the Home page, open the **Navigator** menu, click **Console**, and then click **Security** under **Service Administration**.

3. On the Security page, select a user from the displayed users or use the Search option to search for and select a user.

   You see the groups assigned to the user under the Groups tab in the user details region.

4. Under the Groups tab, select the check box for one or more groups and click **Remove Group**.

Manage Groups

You must ensure to map application roles to groups and add user memberships to groups. This enables users to access the applicable objects in Oracle NetSuite Analytics Warehouse and perform various tasks.

Topics:

- Create a Group
- Remove a Group
- Add Application Roles to a Group
- Copy Application Roles to a Group
- Remove Application Roles from a Group
- Assign Users to a Group
- Remove Users from a Group

Create a Group

As a security administrator, you can create custom groups to meet your business requirements.

You can create them manually in the Oracle Identity Cloud Service instance associated with your Oracle NetSuite Analytics Warehouse instance using the Security pages in Oracle NetSuite Analytics Warehouse.

1. Sign in to your service.

2. In Oracle NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then click **Security** under **Service Administration**.

3. On the Security page, click the Groups tab, and then click **New Group**.

4. In Create a New Group , enter a group name and description.

5. Click **Save**.

Remove a Group

You can remove only the custom groups. When you remove a custom group, Oracle NetSuite Analytics Warehouse removes the associated mappings of the application roles.

1. Sign in to your service.

2. In Oracle NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then 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. Click **Remove Group**.

Add Application Roles to a Group

As a security administrator, you can map the application roles available for Oracle NetSuite Analytics Warehouse 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 NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then 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.

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 NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then 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 NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then 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**.

Assign Users to a Group

When you assign users to a group, you create user memberships for the group. You can assign one or more users to one or more groups.

1. Sign in to your service.

2. In Oracle NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then click **Security** under **Service Administration**.

3. On the Security page, click the Groups tab.

4. Search for a group or select from the list of groups displayed under the Groups tab.

5. Click **Assign Users**.

6. In Assign Users, search for a user or select from the list of users displayed in this dialog.

7. Select the check box for one or more users and click **Assign**.

Remove Users from a Group

You can remove one or more users from a group.

1. Sign in to your service.

2. In Oracle NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then click **Security** under **Service Administration**.

3. On the Security page, click the Groups tab.

4. Search for a group or select from the list of groups displayed under the Groups tab.

   You see the users assigned to the group under the Users tab in the group details region.

5. Select the check box for one or more users and click **Remove User**.

Manage Application Roles

Application roles in Oracle NetSuite Analytics Warehouse consist of duty roles for objects security. You can map the ready-to use application roles to groups to define the permissions associated with the group. You can add or remove groups mapped to an application role.

Topics:

- Create 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 NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then 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**.

Assign Groups to Application Roles

Use these instructions to map application roles to groups.

1. Sign in to your service.

2. In Oracle NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then 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 NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then 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**.

Delete an Application Role

You can delete the custom application roles. Upon deletion of the custom application roles, Oracle NetSuite Analytics Warehouse deletes the mappings to the groups.

1. Sign in to your service.

2. In Oracle NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then 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 **Delete Application Role**.

6. In the Delete Application Role? dialog, click **Delete Role**.

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 NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then 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.

4

Customize Oracle NetSuite Analytics Warehouse

You can customize the semantic model and groups.

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 create, configure, and assign custom groups to users.

Topics:

- About Semantic Model Customization
- Create a Branch
- Edit a Branch
- Add a Step to a Branch
- Edit or Delete a Branch Step
- Reapply a Branch Step
- 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
- Edit or Delete a Main Branch Step
- Tag the Main Branch's Steps
- Configure Object Permissions
- View Activity History of Semantic Model Extensions
- Publish the Model
- Load Customization Data to the Autonomous Data Warehouse

About Semantic Model Customization

You can customize the semantic model to make the data that you moved into the warehouse more useful for reporting.

You customize your semantic model by creating branches and adding steps to those branches in your production environment. 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 in the production environment.

You can customize the model by extending ready-to-use dimensions with additional attributes from another data source, by adding a fact to an existing subject area, and by reorganizing the ready-to-use subject areas to create a new subject area to name a few.

The semantic model consists of these components:

- Oracle Content: This is the base model provided by Oracle. Your customizations are layered on this.
- System Extensions: Your descriptive flexfield and data augmentation changes are available in this component.
- User Extensions: Your customization branches and versions are available in this component.
- Security Configurations: You can secure the objects of all the other components against the application roles in this component.

Create a Branch

To begin customizing your semantic model, create a branch of the main semantic model.

You add customizations to the production environment. After you have added and tested your customizations, you can publish them to the model in the production environment.

1. Sign in to your service.
2. In Oracle NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then 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 **OK**.

   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.

1. Sign in to your service.
2. In Oracle NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then 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 the **Actions menu**.

   You see the actions that are applicable to the branch.

5. From the **Actions menu**, click **Edit** 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 NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then 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

Add a custom dimension table to an existing subject area.

1. Sign in to your service.

2. In Oracle NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then 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. Select a target subject area to which you want to add the dimension. For example, `Financials - AP Expense`.

   You see the details of the selected subject area.

9. In step 2 of the wizard, select the schema, and then select the dimension table. 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.

10. 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.

11. 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.

12. 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**.

13. Click **Next**.

14. In step 3 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.

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.

15. Click **Add Fact Table** to select another fact table to link your dimension to and define the join.

16. Click **Next**.

17. In step 4 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. Click **Content Level** to specify the level of the dimension hierarchy where the fact is aggregated.

    d. In the Selected Data Elements pane, click a level to update its primary key and set its display attribute in the Properties pane.

18. Click **Next**.

19. Optional: In step 5 of the wizard, select additional 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 NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then 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**.

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**.

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 NetSuite Analytics Warehouse 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 NetSuite Analytics Warehouse 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 NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then 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.

1. Sign in to your service.

2. In Oracle NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then 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 is defined in Oracle NetSuite Analytics Warehouse 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'
    ```

    d. Click Preview Data to view the data that is returned by the SQL query.

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 ready-to-use dimensions with additional attributes from another data source.

1. Sign in to your service.

2. In Oracle NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then 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.

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 NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then 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 NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then 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, 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 NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then 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 NetSuite Analytics Warehouse, open the **Navigator** menu, click
   Console, and then 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 the **Actions menu**.

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 NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then 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 the **Actions menu**.

6. Click **Reapply**.

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 NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then 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 NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then 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.

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 NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then 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 the **Actions menu**.

5. From the **Actions menu**, 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 NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then 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**.

Edit or Delete a Main Branch Step

As a modeler administrator, you can edit and delete all steps that have been either applied or have failed. With modeler permissions, you can edit and delete only failed steps.

1. Sign in to your service.

2. In Oracle NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then 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 **Edit** and update the details.

7. 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 it's 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 NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then 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 the **Actions menu** and then click **View Details**.

9. On the Main branch details page, hover over a step to view the **Actions menu** 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 the **Actions menu** 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.

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 ready-to-use 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 KPIs and decks, set the permissions individually for each object by adding the applicable duty role and the corresponding access. See Inspect a KPI and Inspect a Deck.

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 NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then 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 ready-to-use object permissions-related step.

4. In the Security Configurations region, search for the ready-to-use "Configure Object Permissions", and hover over it to view the Actions menu, 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.

1. Sign in to your service.

2. In Oracle NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then 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.

Publish the Model

You can publish the versions on the main development branch and the other branches 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 NetSuite Analytics Warehouse 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 NetSuite Analytics Warehouse excludes them at the time of publishing the model.

1. Sign in to your service.

2. In Oracle NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then 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 NetSuite Analytics Warehouse instance.

You need the autonomous data warehouse wallet and credentials of the administrator.

1. Connect to the autonomous data warehouse corresponding to your Oracle NetSuite Analytics Warehouse instance.

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.

Promote Your Customizations to the Production Environment

When you have a set of changes to the semantic model, security configurations, and customized KPIs ready for promotion, you can tag the Applied steps of the Main branch as a snapshot at a given point in time, and then promote the tags to the production environment.

While promoting customizations from the source to the target instance, Oracle NetSuite Analytics Warehouse removes the customizations in the target instance and overwrites it with the one from the source instance.

1. Sign in to your service.

2. In Oracle NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then click **Promote Objects** under **Application Administration**.

3. On the Promote Objects page, select the target environment to which you want to publish your customizations.

4. Select the customized objects that you want to promote to the target environment.

   For example:

   • Select the **Semantic Model Extensions** check box. Select the applicable tag to promote the tagged steps. Select **Reset All** to promote the original main branch to the target environment without any tags.

   • Select the **KPIs** check box. Select the **Promote All** option to promote all the KPIs or click **Choose KPIs**, search for and select the customized KPIs that you want to promote, and then click **OK**.

   > ✎ **Note:**
   >
   > If you delete a KPI from the development instance that was previously promoted to the production instance and you later use the **Promote All** option to promote all the KPIs to the production instance, then you need to explicitly delete the "applicable" KPI from the production instance. For example, if you had promoted KPIs A, B, and C and later deleted KPI B in the development instance and again promoted using the **Promote All** option, then Oracle NetSuite Analytics Warehouse promotes only A and C without deleting KPI B in the production instance. You must explicitly delete KPI B in the production instance.

- Under **Security Configurations**, select **Roles and Mappings**, **Object Security**, and **Data Security** independently. Complete these actions:

  a. For **Roles and Mappings**, select the **Promote All** option or **Select roles to promote** option and then click **Choose Roles and Mappings**. In the Choose Roles and Mappings dialog, select the roles and mappings to promote to your target environment, and then click **Save**.

  b. For Object Security and Data security, select the **Promote All** option to promote all the security configurations for the applicable elements to the target environment. Select the **Reset All** option to remove all the security configurations done on the target system for the applicable elements.

> ✎ **Note:**
>
> For data and duty security, ensure that you select the dependent elements too. If you don't select the roles or the correct repository file version, then the promotion of the data and duty security configurations may fail or the promotion process may silently ignore the missing elements.

5. On the Promote Objects page, click **Promote**.

6. Click **Check Status** to view the progress.

View Promotion History

View an audit of all artifacts promoted to another environment.

1. Sign in to your service.

2. In Oracle NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then click **Promote Objects** under **Application Administration**.

3. On the Promote Objects page, click **Activity History** to view the promoted artifacts.

Republish Your Customizations

As the owner of a branch or a user with the Modeler Administrator role, you can republish your user extensions, security configurations, and tagged steps of the Main branch if you've modified them after publishing them initially.

1. Sign in to your service.

2. In Oracle NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then 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, you see a warning icon for a published branch that has been modified and the **Republish** button on the Semantic Model Extensions page.

5. Click **Republish** to publish the branch with the latest details.

5

Manage Oracle NetSuite Analytics Warehouse

As the cloud account administrator, manage the service instance for Oracle NetSuite Analytics Warehouse .

Topics:

- [About Application Updates](#)
- [Update Your Application](#)
- [Bundle Your Application Artifacts](#)

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 the deadline, Oracle automatically updates your application. These updates have zero downtime. The auto-update process updates the data model and immediately after the data model update, this process updates the content. 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.

The application upgrade adds new pillars, modules, data models (facts and dimension tables), KPIs, cards, and decks. 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.

Update Your Application

As the service administrator, you can view available application updates and schedule a date to accept the update.

Oracle NetSuite Analytics Warehouse 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.

1. Sign in to your service.

2. In Oracle NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then click **Release Updates** under **Service Administration**.

3. On the Release Updates page, select an application update, and then select the date on which you want to apply it.

Bundle Your Application Artifacts

As a service administrator, you can manage snapshots of your application artifacts as 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

About Bundles

Bundles are snapshots of your application artifacts such as configurations and customizations at a certain point in time.

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, report parameters, activation metadata, and data augmentations. You can install this bundle in an existing environment after a hard data reset. This is useful to leave content as-is and reset data pipeline.
- Semantic Model bundle: This includes main branch, tags, custom branch, duty and data roles for semantic extension.
- Security bundle: This includes custom groups, application roles, and custom security.

- Content bundle: This includes snapshots of Oracle Analytics Cloud folders, projects, dataset definitions, KPIs, decks, and duty roles for content.

- Composite bundle: This includes one or more of the other bundles.

- Environment bundle: 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 since they depend on data.

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.

1. Sign in to your service.

2. In Oracle NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then click **Bundles** under **Application Administration**.

3. On the Bundles page, click **Create** and select the type of bundle that you want to create. For example, Content Bundle.

4. Enter a name and description for your bundle.

5. 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 applicable Oracle Analytics Cloud content, decks, and KPIs using the corresponding toggles and buttons.

   - For a data config bundle, select the **Include all data configuration settings** check box or select applicable modules and augmentations using the corresponding toggles and buttons.

   - For a semantic extensions bundle, select the **Include all semantic extensions** check box, or select the **Publish a branch or tag in the target environment** check box and select the applicable option from the dropdown list, or select applicable tags and branches using the corresponding toggles and buttons.

   - For a security bundle, select the **Include all security settings** check box or select applicable groups and application roles using the corresponding toggles and buttons.

   - For an environment bundle, provide a name.

   - For a composite bundle, select any of the other bundles.

Edit a Bundle

Edit a bundle if you need to change the application artifacts captured in the bundle.

1. Sign in to your service.

2. In Oracle NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then 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.

1. Sign in to your service.

2. In Oracle NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then 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.

You see the bundle with Generated status on the Bundles page.

Deploy a Bundle

You can deploy a generated bundle in the target environment to revert to state of artifacts represented by the bundle. 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 NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then click **Bundles** under **Application Administration**.

   You see the Bundles page.

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**.

Export a Bundle

Export the bundle .aab file from your source system to a repository or your local machine.

1. Sign in to your service.

2. In Oracle NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then click **Bundles** under **Application Administration**.

   You see the Bundles page.

3. On the Bundles page, hover over the bundle that you created and click under **Actions**.

4. From **Actions**, select **Export**.

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 NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then click **Bundles** under **Application Administration**.

   You see the Bundles page.

3. On the Bundles page, hover over the bundle that you created and click under **Actions**.

4. From **Actions**, select **Import**.

5. In the Import Bundle dialog, click in Drag and Drop, and then select the applicable .aab file from your local machine.

6. Click **Import**.

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 NetSuite Analytics Warehouse, open the **Navigator** menu, click **Console**, and then click **Bundles** under **Application Administration**.

   You see the Bundles page.

3. On the Bundles page, hover over the bundle that you created and click under **Actions**.

4. From **Actions**, select **Delete**.

6
Integrate Third-Party Data

Integrate data from other sources with your NetSuite data. Through this integration, you can create KPIs, metrics, cards, and dashboards using data from multiple sources.

Topics:

- [About Data Pipeline Options to Extract and Load](#)
- [About Data Mashup and Transformation Options](#)
- [Outline the Scope and Prepare the Warehouse for the Data](#)
- [Load Data into the Warehouse](#)
- [Mash Up NetSuite Data with Third-Party Data](#)
- [Create a Card or Dashboard](#)
- Best Practices to Integrate Third-Party Data in Oracle NetSuite Analytics Warehouse

About Data Pipeline Options to Extract and Load

Use the information in this section to assess the data pipeline options to extract and load data.

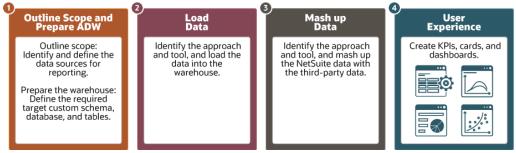| Pipeline	Advantages	Limitations	License and Fees
Data Flow and Data Preparation	• Easy to use. Drag and drop data to create and schedule data flows. • No SQL code needed. • Select from a long list of connectors. • Intended for repetitive data requests. • Supports all standard databases.	• Can support only a few gigabytes of data. Limited to 1.1 million rows. • Incremental: Only based on one specific field.	Embedded in Oracle Analytics Cloud.
Oracle Cloud Infrastructure Data Integration	Supports large volumes of data.	Need to know how to browse data in Data Integration.	Additional license and fees required.
Existing ETL tool, if any	Ease of use, comfort and convenience.	General limitations of connectors.	Owned by customers.

About Data Mashup and Transformation Options

Use the information in this section to assess the options to mash up and transform your data.

Mash Up the Data Layer	Advantages	Limitations
Extensibility Frameworks	• Robust solutions at semantic layer. • Best performance. Uses pre-calculated data.	• Need to be an expert user of the Oracle BI Server Administration tool. • Need to understand the existing metadata repository (RPD) file. • Must make minor changes to the metadata repository.
Data flow to collate NetSuite repository data and third-party data	• Can access the raw data in tables to create simple to complex calculated KPIs. • Provides ample scope for custom analytics. • Easy to extract and load data using drag and drop in data flow.	• Need to know about the tables in Oracle Autonomous Data Warehouse.
Data flow to collate NetSuite factory schema data and third-party data	Easy to extract and load data using drag and drop in data flow.	• Need to understand Oracle Autonomous Data Warehouse and the metadata repository. • Granularity limited to the data that's available.

Outline the Scope and Prepare the Warehouse for the Data

This section outlines the tasks you perform to prepare the autonomous data warehouse to receive the data.

You must ensure that the warehouse receives the right data in the right format by completing these tasks:
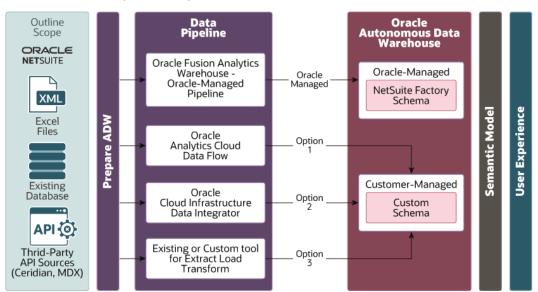
- Identify the data sources.

- Connect to the warehouse.

- Create the schema.

- Create the tables.

1. Identify and enlist the data source tables, fields, and rows to extract from the third-party source systems.

2. Examine the various approaches to connect to the warehouse to perform the data definition language (DDL) or data manipulation language (DML) operations and use the approach that suits your requirements.

3. After you connect to the warehouse, create a schema or database to absorb the data. If data is coming from multiple sources, decide whether you want to create multiple schemas or databases for different third-party sources or one schema or database for all third-party sources. See Provisioning Autonomous Data Warehouse Cloud

4. Create destination tables to store data from the incoming third-party sources.

   See Connecting SQL Developer and Creating Tables.

Load Data into the Warehouse

Perform these tasks to load data into Oracle Autonomous Data Warehouse.

1. Consider these factors when selecting the pipeline tool for populating the warehouse with data:

   a. The data volume for the initial load.

   b. The data volume for incremental loads.

   c. The frequency of incremental loads.

   d. The complexity level of required transformations.

   e. The ETL tool in place, if any.

2. Based on the factors you considered while selecting the pipeline tool, evaluate these three options to select the tool:

   • Data Flow: This is a utility within the visualization area of Oracle Fusion Analytics Warehouse that you can use to move data from various sources into the tables in the destination schema of Oracle Autonomous Data Warehouse. See Curate Your Data Using Data Flows.

   • Data Integration on Oracle Cloud Infrastructure: Data Integration is a fully managed, server-less, and native cloud service that helps you with common extract, load, and transform (ETL) tasks such as ingesting data from a variety of sources, cleansing,
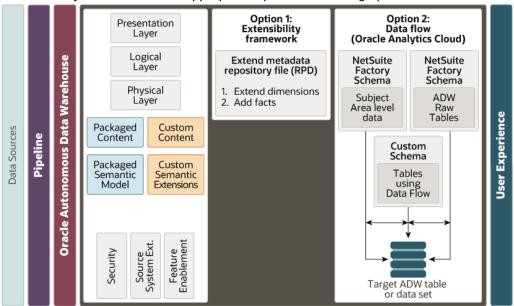
transforming, and reshaping your data, and efficiently loading it to target data sources on Oracle Cloud Infrastructure. See Data Integration.

- Custom ETL: You can use any third-party ETL tool to move data into Oracle Autonomous Data Warehouse.

3. When the pipeline tool is ready, use it to load the data into Oracle Autonomous Data Warehouse.

Mash Up NetSuite Data with Third-Party Data

You might want to mash up data from multiple sources.

For instance, you might take web analytics data from warehouses of customer data, extract customer information from the Dynamix CRM, standardize and cleanse data, and then mash it up with NetSuite data. When data is in the autonomous data warehouse, you can select the appropriate option for mashing up the data.

- Option 1: Extensibility Framework to Extend Models and Content
  You can use the Extensibility framework to extend models and content with data from other sources to your team without having to worry about upgrades. You must understand a star schema and know how to use or modify the metadata repository (RPD) file. See Customize Oracle NetSuite Analytics Warehouse and Extensibility Reference Architecture to get you started.

- Option 2: Data Flow to Mash Up Data in Oracle Autonomous Data Warehouse
  You can use this option to leverage third-party tables in Oracle Autonomous Data Warehouse (imported using one of the pipeline approaches) and NetSuite data loaded using an Oracle-managed pipeline. You can use a data flow to form a union, join, or filter, and transform data from the NetSuite schema and the custom schema that contains imported third-party data. See Curate Your Data Using Data Flows.

Create a Card or Dashboard

When you have the third-party data in Oracle Autonomous Data Warehouse and mashed-up with NetSuite data, you can create KPIs, KPI cards, decks, and dashboards, as described in the following topics:

- Create a KPI
- Create a Deck
- Create a Card
- Customize a Card
- Create Your First Analysis