The Only Augmented Analytics Platform
Purpose-Built for Life Sciences and Healthcare

Administration Guide

Revision Date: **17 December 2024**

This documentation has been created for v2024.77
It is also valid for subsequent software versions as long as no new document version is shipped with the product.

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Support:

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https://www.whiz.ai/contact

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No Warranties and Limitation of Liability. Every effort has been made to ensure that this document is an accurate representation of the administrative features offered by WHIZ.AI platform. However, the development of the software is a continuous process. So, small inconsistencies may occur.
We would appreciate any feedback on this document.
Send comments via email to: support@whiz.ai

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Preface

This Admin manual intends to help you know about WhizAI and its functionalities; it gives you a broad overview of the out-of-the-box admin features and functions of WhizAI along with the necessary information and instructions about using WhizAI through different interfaces.

Intended Audience

This guide is intended primarily for WhizAI Administrators.

Related Documents

Along with this Admin manual, you can refer to the following documents:

- WhizAI User Manual
- Configurations Guide
- Adding Calculated Metrics Guide

Contacting WhizAI

For any support, you can reach to WhizAI support team in any of the following ways:

- Website: https://whiz.ai
- Email: support@whiz.ai

Introduction

WhizAI is the first and only purpose-built cognitive insights platform for life sciences, empowering users to get answers to their business questions by simply asking via voice, and text on the web and mobile. WhizAI is trained in the language and data of life sciences, enabling it to answer even the most complex questions from billions of records in seconds. Fast, easy, and scalable, WhizAI is the trusted partner of choice at the top global life sciences companies. Asked. Answered. Instantly.
Learn more at https://whiz.ai/

Administering WhizAI

WhizAI provides administrator privileges to configure the platform according to the requirements and administer the platform for future changes and updates. This chapter covers the following topics:

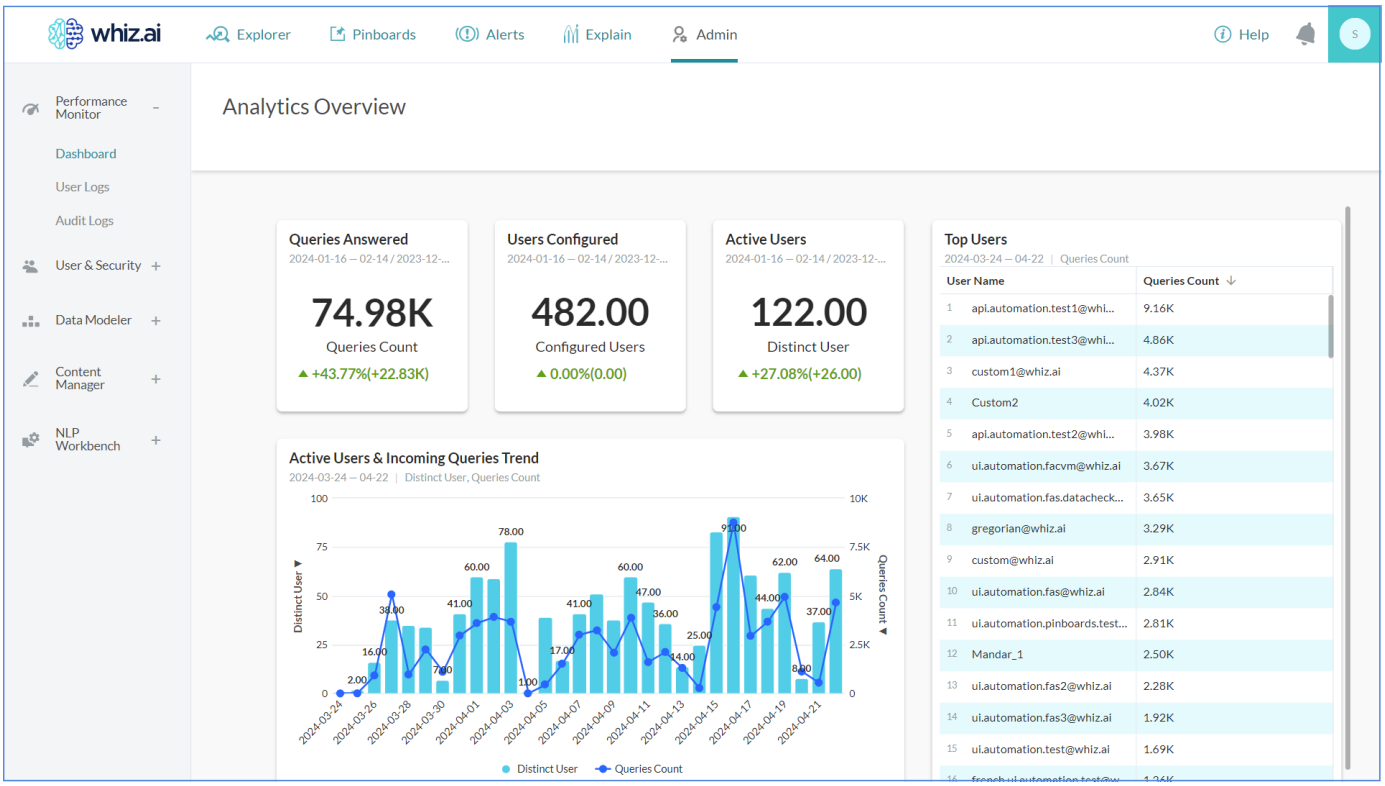
Performance Monitor

Performance Monitor provides an analytics overview and keeps track of the performance of WhizAI data. Performance monitoring helps to monitor the behavior of the data and understand the parameters that impact the WhizAI application performance in real time. This section describes the dashboards, user logs, and audit logs.

Dashboard

The **Analytics Overview** dashboard gives you a quick analytics overview of WhizAI.
To access the dashboard:

1. From the top navigation options, click **Admin**.
2. From the left-side menu, click **Performance Monitor > Dashboard**.



Some of the statistics that you can view on the dashboard are:

1. Queries Answered
2. Users Configured
3. Active Users
4. Active Users & Incoming Queries Trend
5. Top Users

Edit Layout

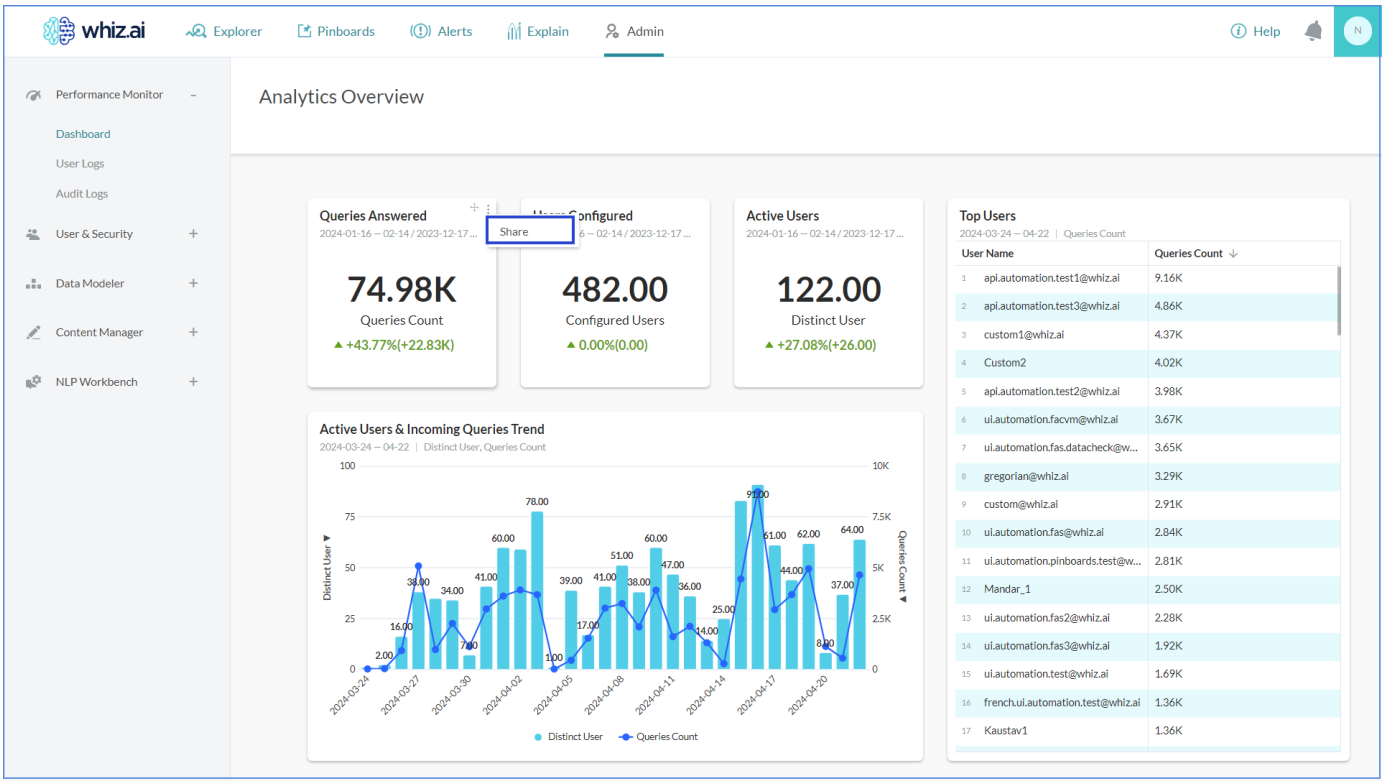
To edit the layout of the dashboard:

1. On the top-right corner of the **Analytics Overview** page, click **Edit layout** Edit layout.
2. Click **Compact layout.**
3. Click **Restore defaults**.
4. Click **Save**.

Share Results

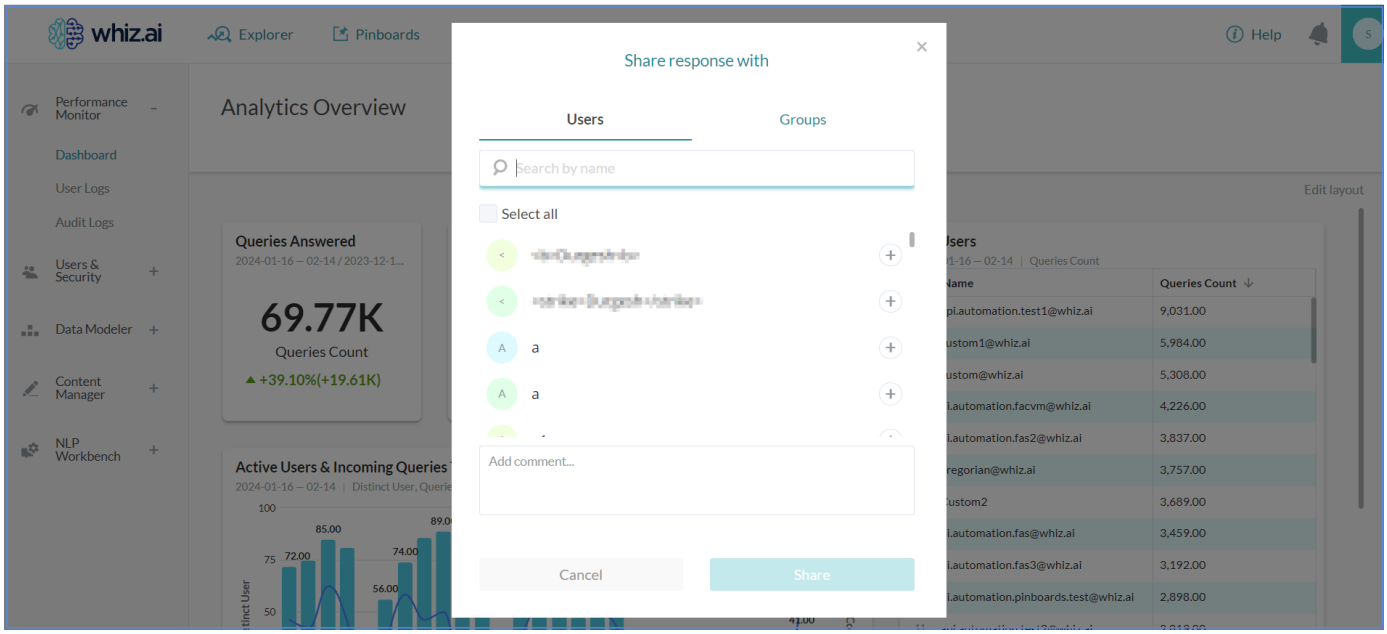
To share the results of the dashboard cards:

1. On the **Analytics Overview** page, hover on any of the cards, e.g., **Active Users**
2. Click the ⋮ icon and select **Share**.



A new window opens. You can share the response of the selected card with Users/Groups.

3. Enter the name of the User/Group and click **Search**.
4. Select the listed **Users/Groups.**
5. **Add comments** in the given text box.
6. Click **Share**.

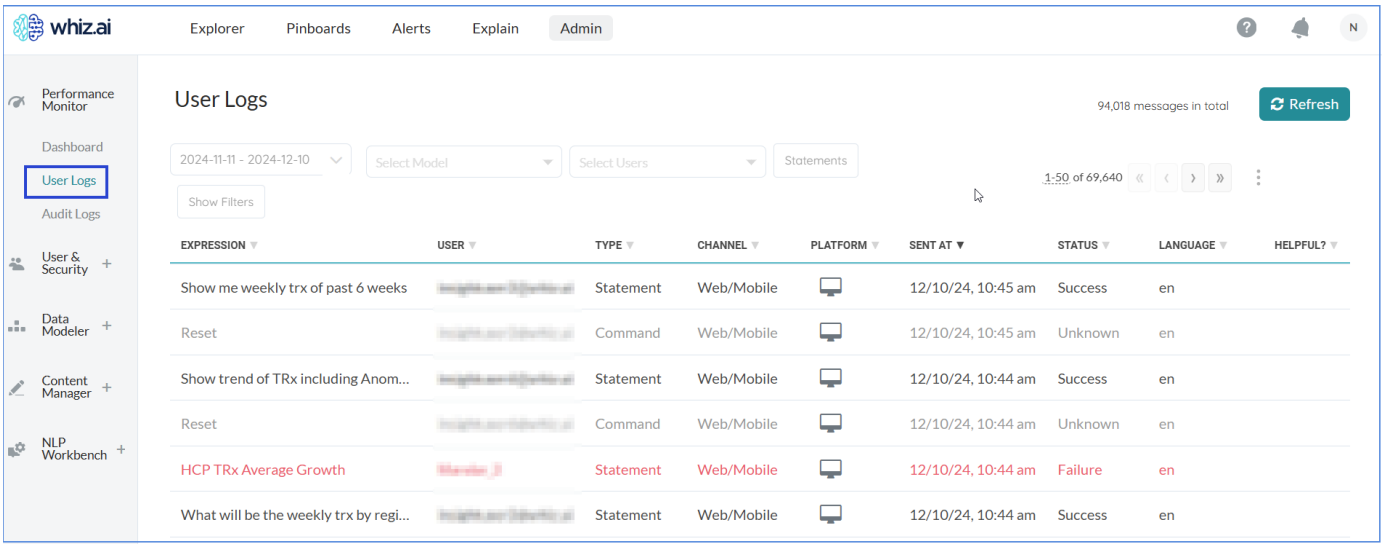


User Logs

With WhizAI, every time a user asks a question, the query and result get logged and authenticated. In User Logs, you can view the activities of each user. The **User Logs** screen displays the questions each user has asked and the responses they receive from WhizAI.

To view user logs:

1. From the top navigation options, click **Admin**.
2. From the left-side menu, click **Performance Monitor > User Logs**.



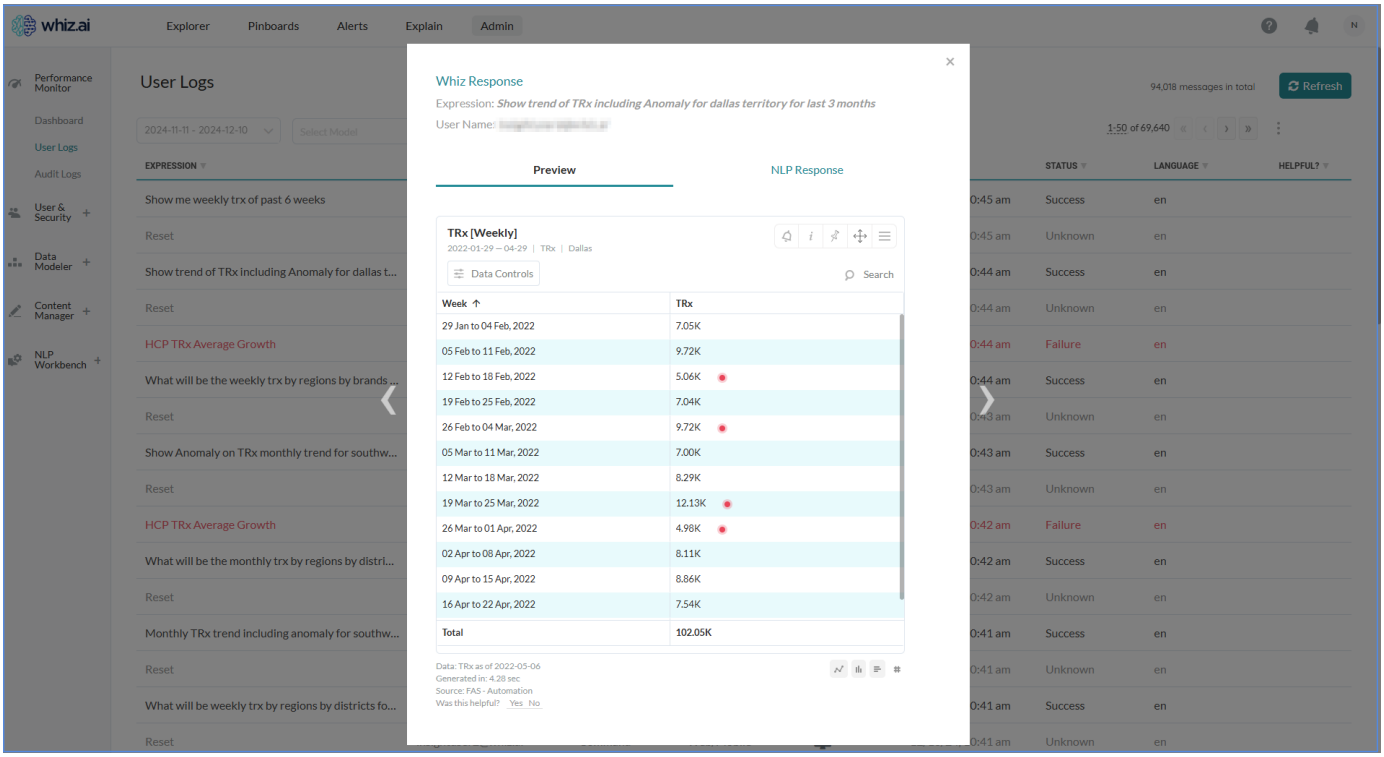
From the logs, you can analyze whether you received the correct answer or if there is any ambiguity. In case of ambiguity, the data is messaged on the backend to deliver the correct results. If an answer needs to be corrected, IT administrators map the question to a specific dataset to deliver the required results.

To view user log details:

1. On the top-right corner of the **User Logs** page, click **Refresh** to view the latest user log.

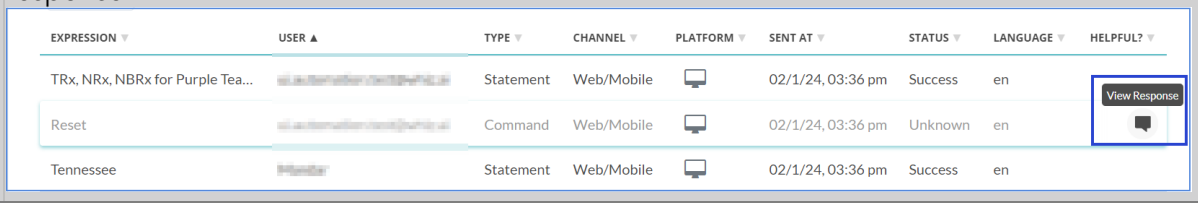
2. Click a particular **User Log** row to open the Whiz Response dialog box.

   This dialog shows the response displayed to the user's query.



The **User Logs** dashboard displays the information of the selected period as given below:

Field	Description
Expression	Shows the question the user enters in the Conversation box.
User	Shows the name of the user.
Type	Shows the type of question the user has asked. Whether a statement or a command
Channel	Shows the channel that the user is configured for: • Web/Mobile • Skype • Slack • SMS • MS Teams
Platform	Shows the platform of the system on which the user is accessing WhizAI: • Windows • Mac • Linux
Sent At	Shows the date and time when WhizAI sent the response to the user.

Field	Description
Status	Shows status messages: • Success: If WhizAI successfully responded to the question asked by the user. • Failure: If WhizAI could not respond to the question asked by the user. • Unknown • No NLP • Unauthorized • No Data • Blank
Language	Shows the language in which the question was asked.
Helpful	View the response the user gets to their question. Click the **View Response** icon to view the response. 

The following table describes the options that you can find on the User Logs page.

Option	Description
Date	Displays the logs for the selected date or date range or period. You can enter a date range or select the relative period or a particular date.
Select Model	Displays the logs for the selected data model. You can select single or multiple data models from the drop-down list.
Select Users	Displays the logs for the selected users. You can select a single user or multiple users from the drop-down list.

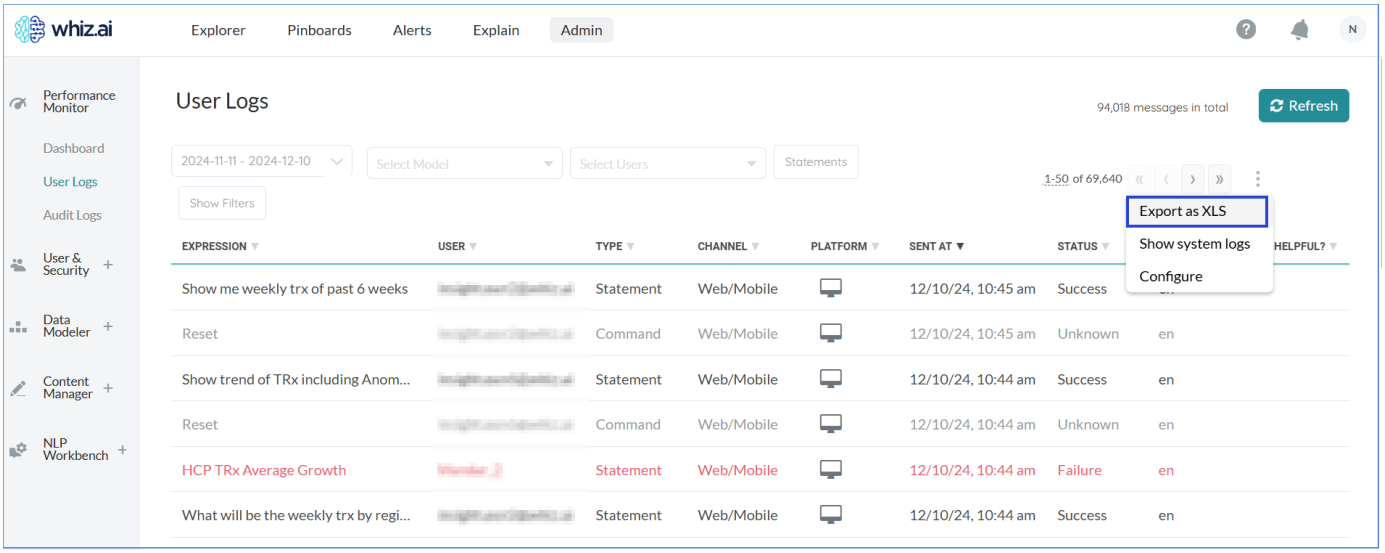
The following table describes the buttons that you can find on the **User Logs** page.

Button	Description
Statements	Displays the user logs for the statements that the user entered in the Conversation box. The list hides the commands that you have entered.
Show Filters	Displays the filter below the column labels. You can click the filters and select the value you want to see on the list. For more information, see Filtering the user logs.

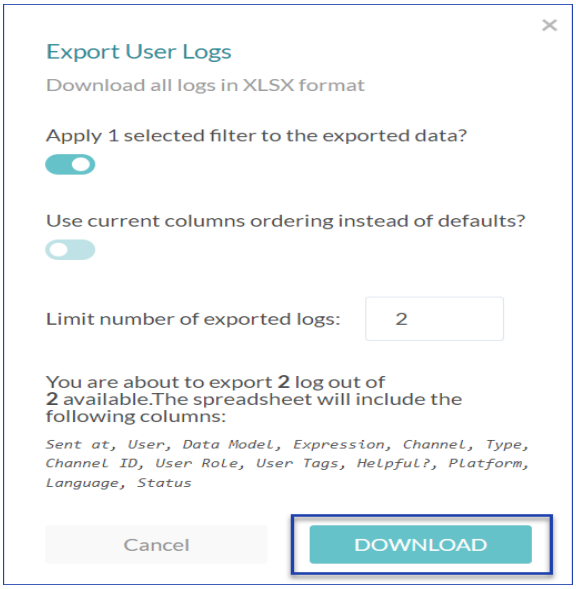
Export User Logs

The user can export logs in the XLS format.

1. From the User Logs page, click the ⋮ icon and select **Export as XLS**.



2. On the **Export User Logs** dialog, select the options as shown in the following figure:



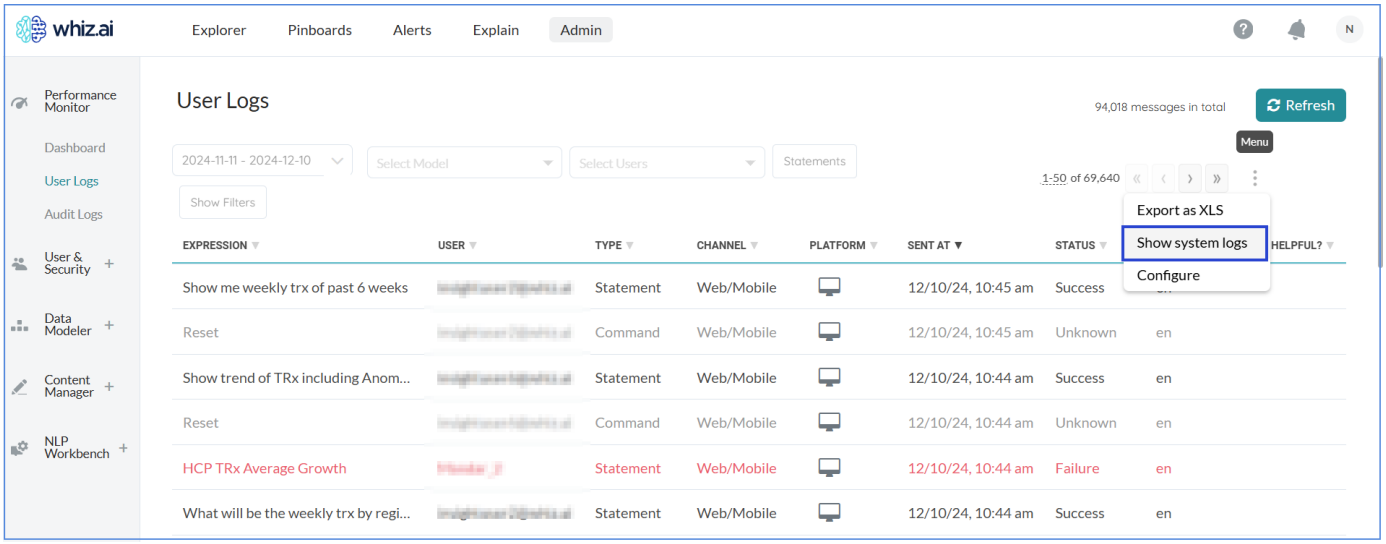
3. In the **Limit number of exported logs** text field, enter the number of logs that you want to export.
4. Click **Download**.

   The XLS file is downloaded with the selected number. of user logs.

Show System Logs

The user can view system logs.

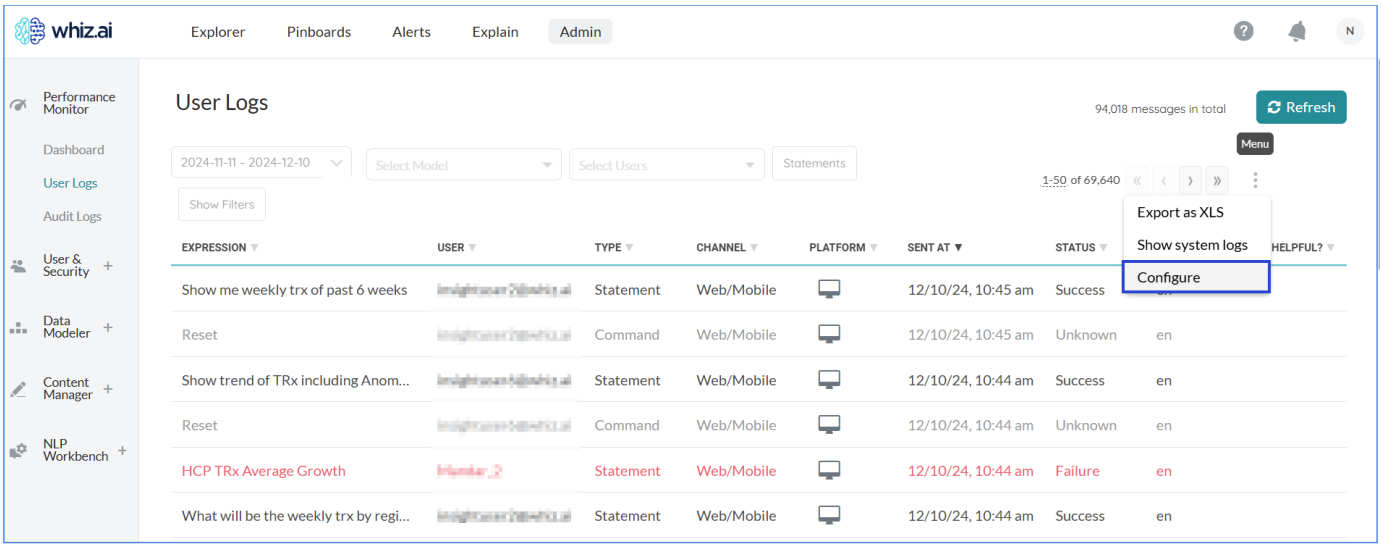
1. From the User Logs page, click the ⋮ icon and select **Show system logs.**



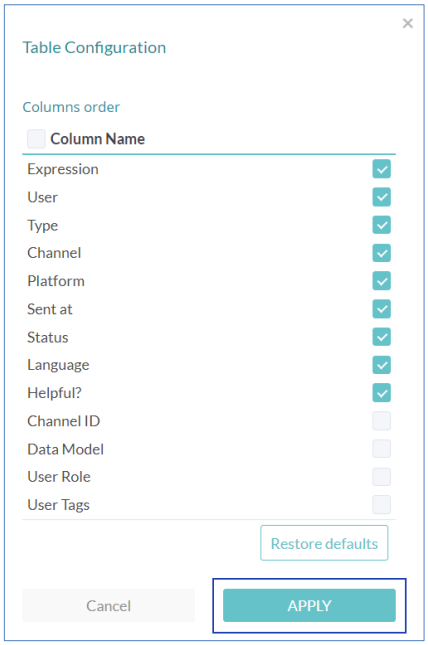
Configure

The user can configure the columns displayed on the user logs page.

1. From the User Logs page, click the ⋮ icon and select **Configure**.



The Table Configuration dialog is displayed:

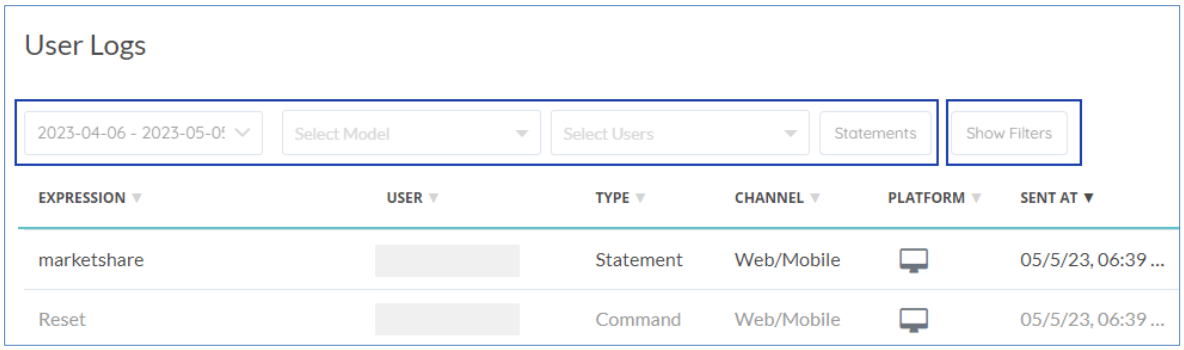


2. Select the checkboxes for the required columns.
3. Click **Apply** to save the changes.

   The **Restore defaults** option allows the user to return to the default columns.

Filter User Logs

On the **User Logs** page, you can filter the user logs based on the date and usernames.



- **Date**: Shows options to select the dates and filter the records for a particular period.

Note: You can either specify the starting date and ending date as the custom range, OR WhizAI also has options to view data for relative dates. For example, you can view the details over a week, a quarter, a month, or a year.

- **Models:** List the available data models on WhizAI. Select the required data model whose logs you want to see.
- **Users**: List the users available on WhizAI. Select the required users whose logs you want to see. By default, the logged user appears in the field.
- **Statements:** Click this option to view only the statement type of user logs.

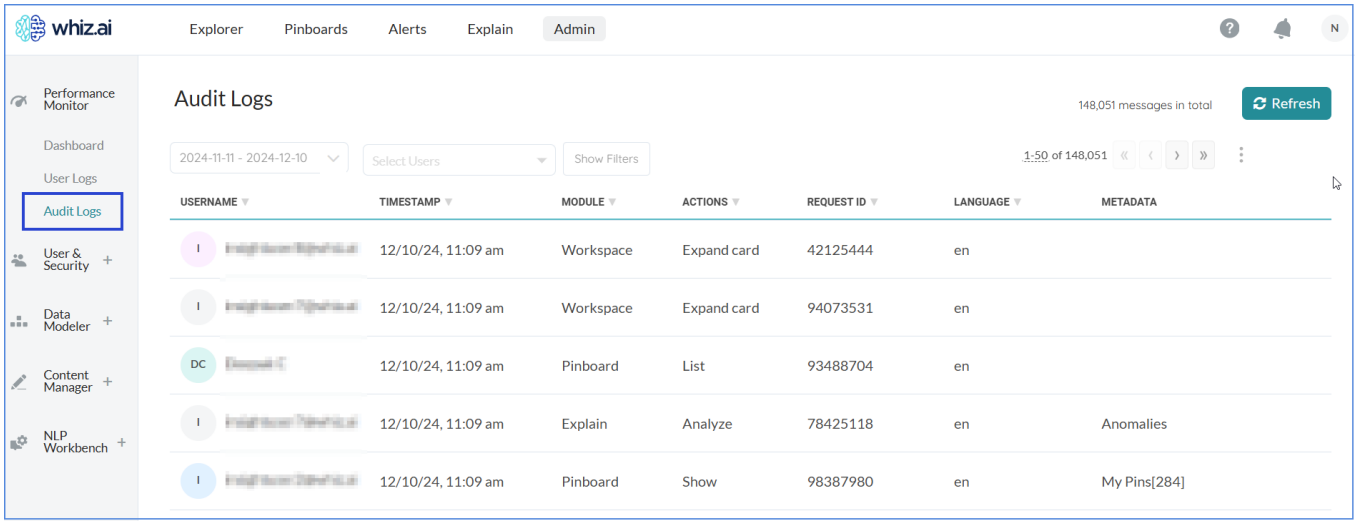
For more information about column-level filters, see Filtering and Sorting the log records.

Audit Logs

In WhizAI, user queries and results get logged and authenticated. In **Audit Logs**, you can view and track the activities of each user.

To view **Audit Logs**:

1. From the top navigation options, click **Admin**.
2. From the left-side menu, click **Performance Monitor > Audit Logs**.



3. To view the latest Audit Log, click **Refresh**.

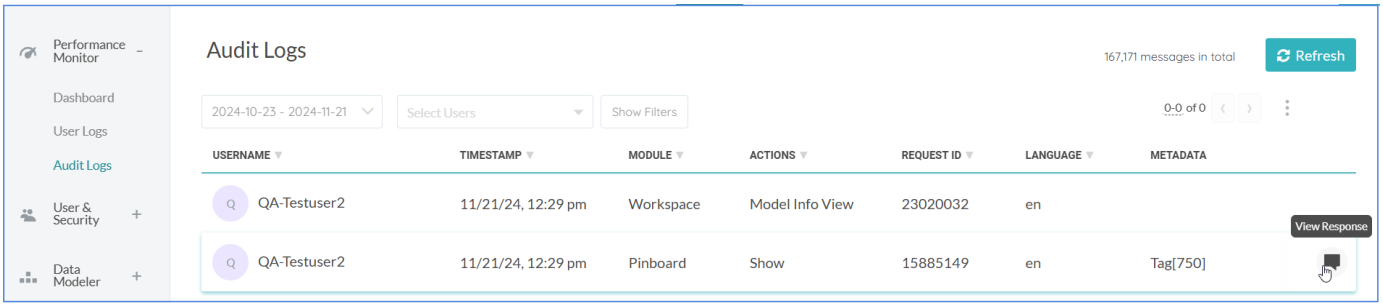
Refer to the Audit Logs guide to view the audited list of actions.
By default, the audit logs show the user activity for the past 30 days. However, you can configure custom periods and view the details as required. You can search for a particular user and view the information for that user.

Note! You can view audit logs for PDF or PPT dashboard export as well.

From the **Audit Logs** page, you can view details of user activities and the corresponding timestamps.

For example: For the **Pinboard module**, you can see details such as who created or accessed a **pinboard**, the actions taken by the user on the pinboard or any card.

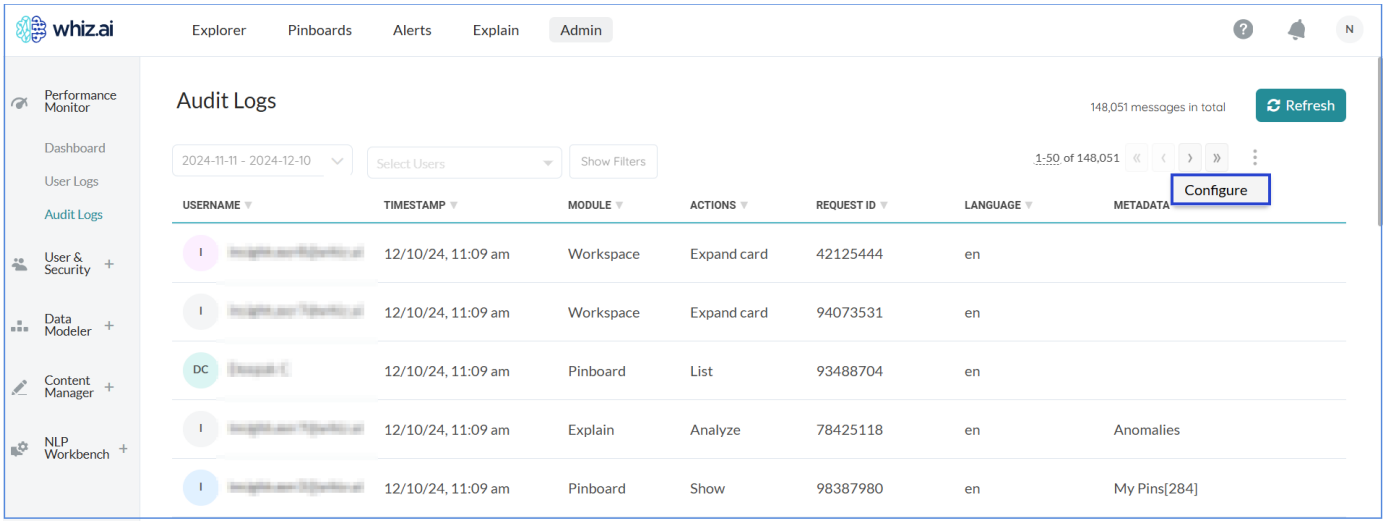
Remember! To view the details of the actions performed, hover the cursor over the user detail and then click the **View Response** icon as shown below:



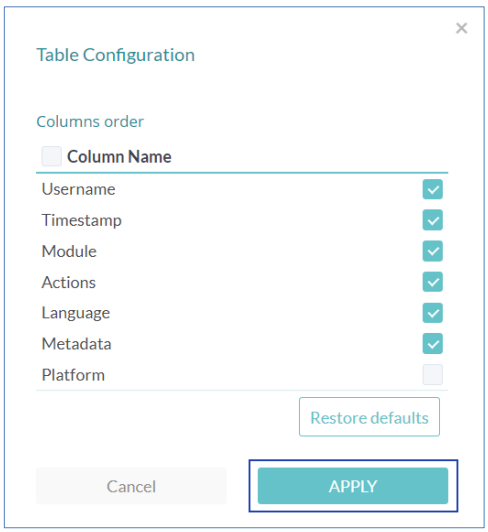
Configure

The user can configure the columns displayed on the audit logs page.

1. From the Audit Logs page, click the ⋮ icon and select **Configure**.



The following Table Configuration page is displayed:



2. Select the checkboxes for the required columns.
3. Click **Apply**.

   The **Restore defaults** option allows the user to return to the default columns.

Audit log for admin activities

WhizAI logs all the actions on the **Admin** module. The audit log will have key components such as **event logging, user name, and timestamping details**. The audit log will help analyze the user actions and provide insights on data modeler usage analytics. The admin audit log will be visible under the Audit Log page against the Data Modeler module.
Below admin actions will be logged in the audit log:

Module	Action
Data Modeler	New Data Model
	Refresh
	Search
	Import Model
	Export Model
	Edit model name
	Run
	Gear settings change
	Edit
	Activate
	Deactivate
	Quick data model
	Run via schedule
Connection	New
	Search
	Copy
	Edit
	Delete
	Verify
Metric configurations	Update
	Bulk update
Functions	Export
	New
	Edit
	Import
	Save
	Bulk update
	Bulk delete
Calculated metrics	Edit
	Delete
	Import
	Save
	Bulk update
	Bulk delete
Example queries	New query
	Edit
	Delete
	Search

	Import
	Export
	Delete
	Bulk delete
Branding	Updates to Avatar
	Updates to brand logo
	Updates to agent name
	Updates on Show Advanced settings
Authorizations	Show filters
	Reset filters
	Configuration
	Export as XLS
Utilities	Send messages and images to users
	Update system status and downtime message

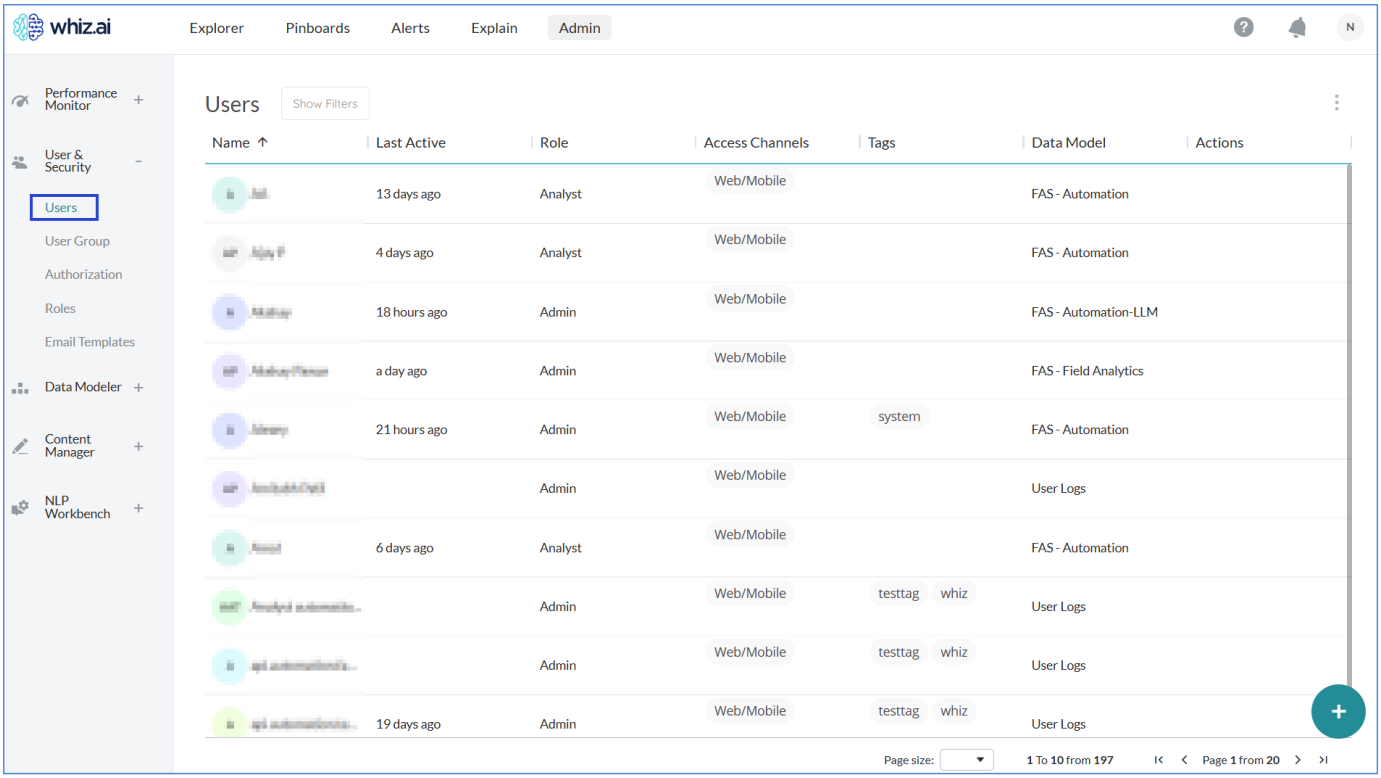
Users & Security

This section covers the details of WhizAI users and security. It describes the management of user profiles, their roles, and the authorization process.

Users

The **Users** page displays the details of all users available on WhizAI. You can add a new user, edit the user details, and deactivate a user.

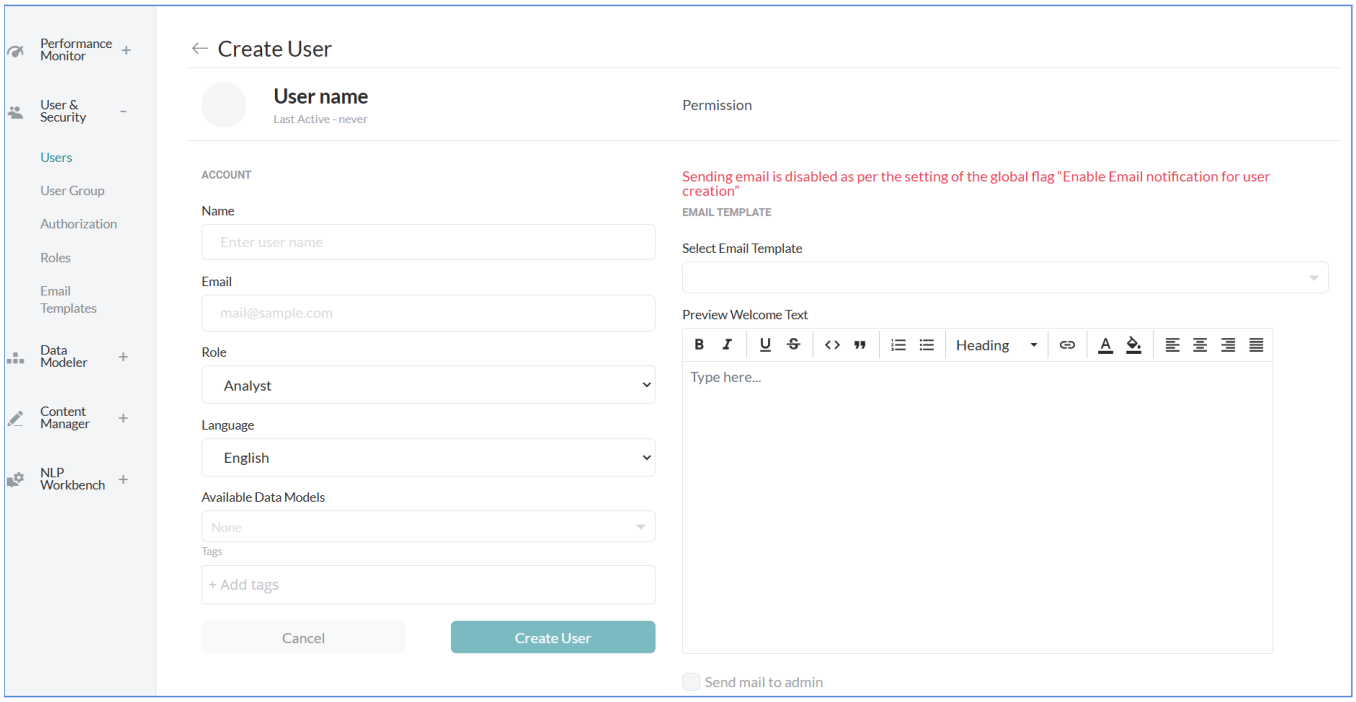
On the **Users** page, click the **Show Filters** button to enable the column-level custom filters. You can then select the appropriate values in the columns to view the required users.



Create New User

To create a new user:

- On the lower-right corner of the **Users** page, click the plus icon  to open the **Create User** page.



- In the **ACCOUNT** fields,
  - Enter **Name**.
  - Enter **Email**.
  - Select a **Role** for the user.
  - Select the **Language**.
  - Select the **Available Data Models** to which you want to give the user access. You can select multiple data models.
  - Add **Tags** for the user.
- In the **EMAIL TEMPLATE** section, select the Email template from the drop-down.

For more information, refer to the section **Email Template**.
For more information on the fields in the email text, refer to the **Handbook** option on the right.

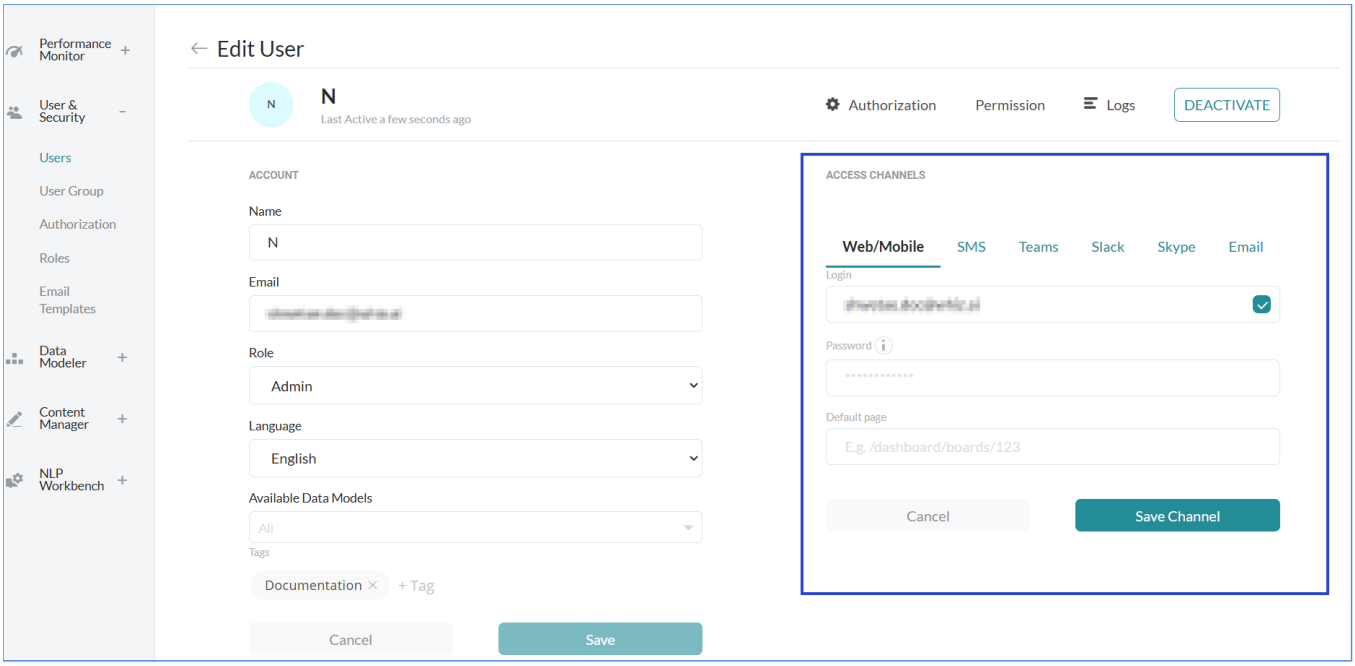
- Click **Create User** to save the user account details.

Configure Access Channels

Configure the Access Channels for the user.

The Access Channel section is enabled only after you save the user account details.

- Click the channel that you want to configure for the user.



- Enter appropriate details for the selected channel. In case the password is communicated through email, you may skip to enter the password in this step.
- Set the authorization for the user. For more information, see Authorizing the users for metrics.
- Click Save Channel.

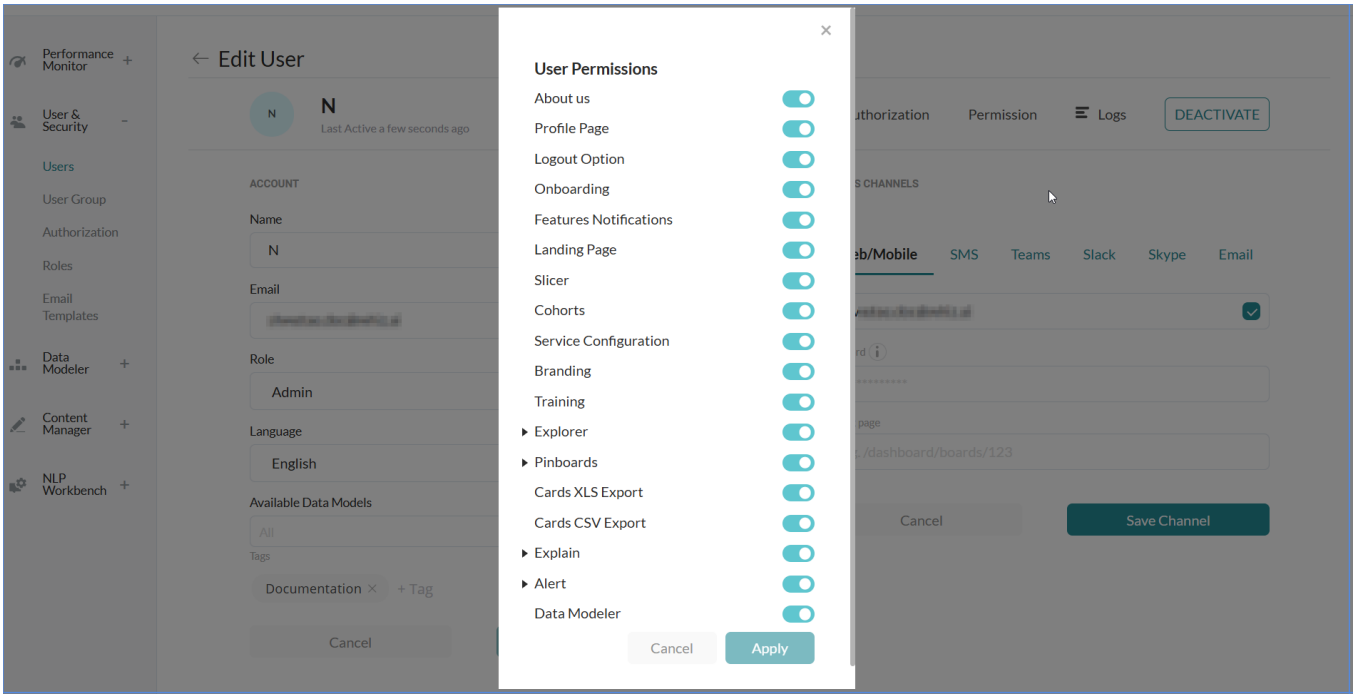
Edit User Details

To edit user details:

- On the User's page, select the user record to edit. Click the **Edit User** icon for the user whose details you want to edit.
  - On the **Edit User** page, make the necessary changes.
    Add or remove the access channels. For more information, see Creating a New User.
  - Click **Save**.

Enable/ Disable Features

As an Administrator user, you can enable or disable access to WhizAI features from the User Interface. Go to **Users & Security** > **Users** > **Edit User** page > **Permissions**. The **User Permissions** page is displayed. From this page, you can click the toggle button against each permission to enable or disable access to that feature.



Following is the list of permissions you can enable or disable for the selected user:

Permission		Description
About us		Enable/disable the About Us option from the Profile menu. This option allows you to view version information along with other product details.
Profile Page		Enable/disable access to the Profile Settings option from the Profile menu. You can view your personal information, security details, language preferences, and preferred landing page on the User Settings page.
Logout Option		Enable/disable the option to log out from the Profile menu. This feature allows you to log out from the WhizAI platform.
Onboarding		Enable/disable the Get started option from the Profile menu. This option provides a guided way for new users to get started with the product.
Features Notification		Enable/disable the What's New option from the Profile menu. This option allows you to view the new product features.
Landing Page		Enable/disable the Preferred Landing Page option on the User Settings page accessed from the Profile Settings in the Profile menu.
Slicer		Enable/disable the Slicers menu option from Explorer. This feature helps to capture and apply the most frequently used filter values with a single click in both Explorer and Pinboard areas.
Cohorts		Enable/disable the Cohorts option from Explorer. This feature allows you to group entities with specific conditions and a single target dimension

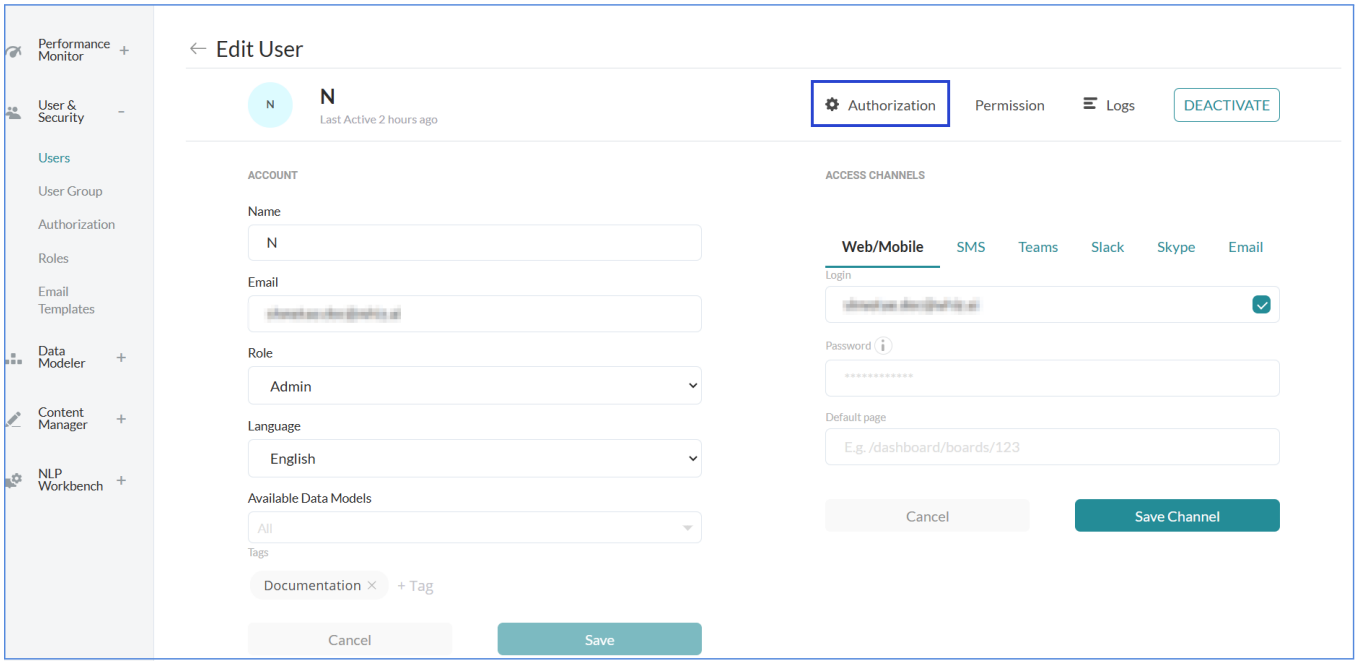
Permission		Description
Service Configuration		Enable/disable the Service Configuration menu option from the Content Manager on the Admin page. This feature
Explorer		Enable/disable the access to the Explorer menu.
	Spell Checker	Enable/disable the spell check functionality. This option allows you to click the misspelled red word and get a list of suggested correct spellings.
	Auto Suggestions	Enable/disable the "Auto Suggestions" functionality. When **enabled**, this feature provides suggested names of dimensions, metrics, and entities based on the phrase the user begins typing. This helps avoid spelling errors and streamlines the process of data entry. For example, if a user types "Ala," they may receive suggestions such as "Alabama" and "Alaska".
	Guided Analytics (BETA) Suggestion	Enable/disable the functionality. Additional Backend Configuration is needed to enable this feature. This feature provides suggested queries that you may want to ask based on the previous response.
Pinboards		Enable/disable access to the Pinboards menu options.
	Pinboard Manager	Enable/disable access to the Pinboard manager from the Pinboard menu and Pinboard tab.
	Card Sharing	Enable/disable the access to share Pinboards. This feature is used to share pinboards a card with individual users or user groups from the Explorer or Pinboard area.
	Copy Board	Enable/disable the option to copy a Pinboard.
	Create Board	Enable/disable the option to create a new Pinboard from a card on Explorer or from the Pinboard navigation menu.
	Narratives	Enable/disable the access to get a data summary (narratives) displayed in response to an NLQ or from any applicable card on Pinboards.
	Filters Progress Bar	Enable/disable the access to apply filters on a Pinboard.
	JSON Import/Export	Enable/disable the option to import or export JSON from the Pinboards and Pinboard navigator.
	Annotations	Enable/disable the access to the annotation option on the cards.
Cards XLS Export		Enable/Disable the Card XLS Export option on the Explorer and Pinboard cards.
Cards CSV Export		Enable/disable the Card CSV Export option on the Explorer and Pinboard cards
Explain		Enable/disable access to the 'ExplAIn' module which includes Anomalies, Key Drivers, etc. It is mandatory to enable this configuration to use any of the Explain features.

Permission		Description
	Invoke Key Driver Analysis	Enable/disable access to the option for triggering the PoP/YoY and selected period analysis (KDA) via NLQ or from any applicable card. To use this configuration, it is mandatory to enable the Explain configuration.
	View Narratives	Enable/disable access to get a summary of the data (narratives) for an NLQ or from any applicable card. To use this configuration, it is mandatory to enable the ' Explain ' configuration
	Invoke Anomaly Detection	Enable/disable the access to invoke anomaly detection from a workspace or a pinboard card. To use this configuration, it is mandatory to enable the ' Explain ' configuration.
	Invoke Predictions	Enable/disable the access to invoke prediction via NLQ or 'ExplAIn' from an applicable workspace card. To use this configuration, it is mandatory to enable the ' Explain ' configuration
	Explain Workbench	Enable/disable access to the 'Explain Workbench'. To use this configuration, it is mandatory to enable the ' Explain ' configuration.
Alert		Enable/disable permission for the selected user to access the Alerts tab. If you enable the option, you can access the Alerts Tab and receive alert notifications. Only the users with active alert permissions will be added to the recipient list for creating alerts. If you disable the option, you cannot create new alerts, launch alerts, or subscribe to any alerts. You can access the existing or scheduled alerts only.
	Create Alert	Enable/disable the create alert option from Explorer's response, data point, and cards. If you disable this option, you cannot create new alerts, launch alerts, or subscribe to any alerts.
	Share Alert	Enable/disable the access to share alerts with other users in the system while creating an alert. This can be done through the Recipient tab while creating the alert.
Data Modeler		Enable/disable the access to configure a new Data Model from the Data Modeler feature available on the Admin page.
Branding		Enable/disable branding access. The Branding option is available under Content Manager on the Admin Page. This feature allows you to customize the WhizAI agent's avatar and Brand Logo to personalize their experience.
Training		Enable/disable to shut down the training machine node available under the NLP Workbench on the Admin page.

Authorize Users for Data

WhizAI supports authorization both by rows and columns in the data source.
To authorize users for data:

1. In the user record, click the **Edit User**  icon for the user to edit the authorization.
2. Click **Authorization**.

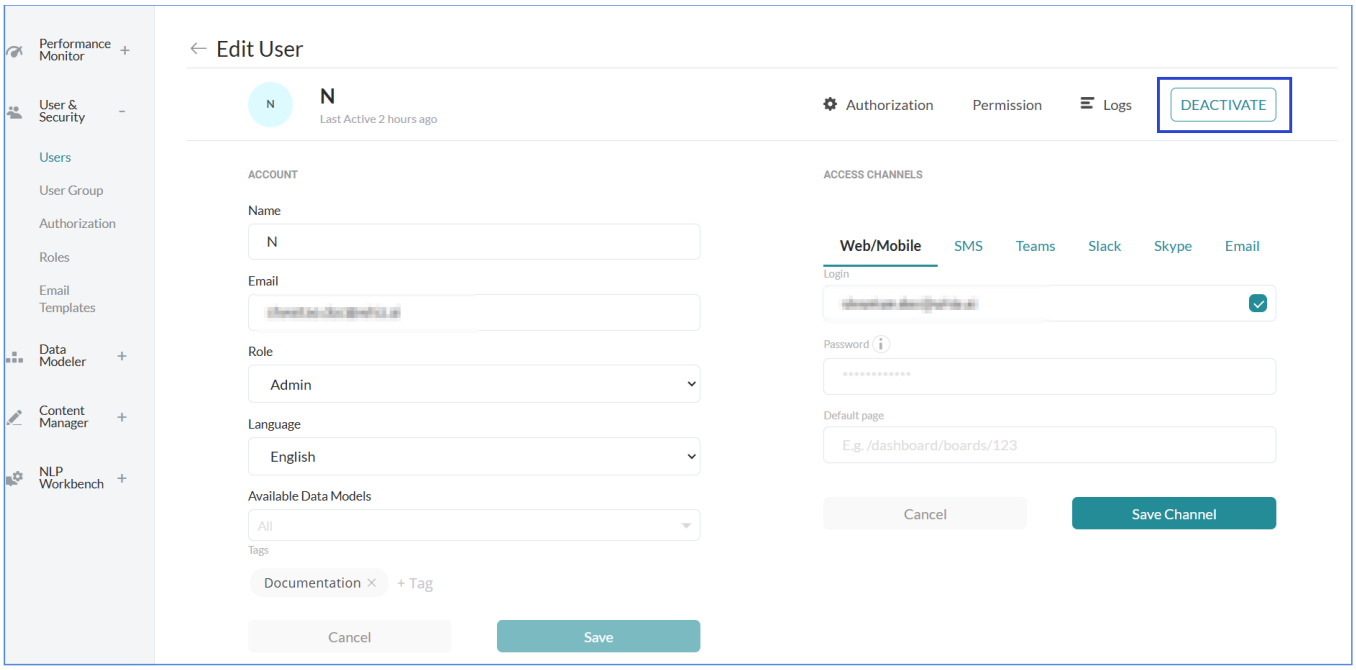


The Authorization page appears where you can set the authorization for the user. For more information, see Authorization.

Deactivate User

When you deactivate a user, the user cannot access WhizAI through any interface.
To deactivate a user:

1. In the user record, click the **Edit User** icon corresponding to the user you want to deactivate.
2. On the **Edit User** dialog, click the **Deactivate** button.



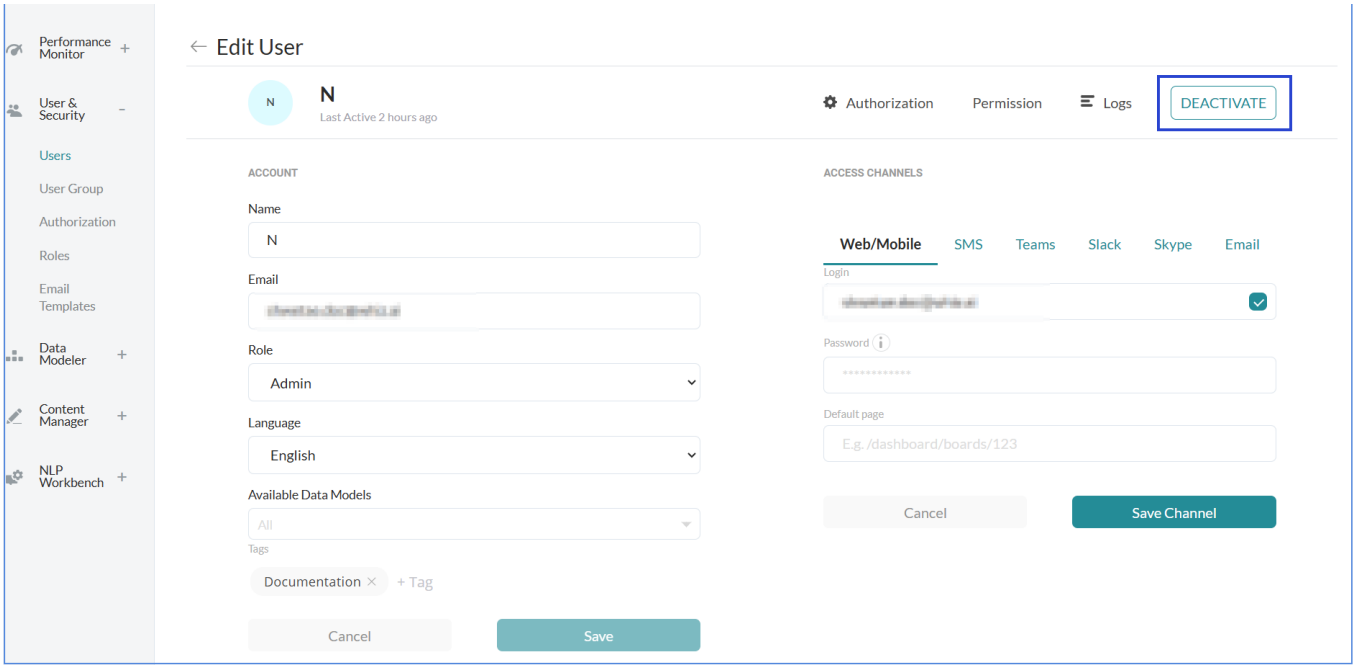
Deactivate Access Channels

When you create a new user, you can add the different channels through which the user can access WhizAI. Later, you can also deactivate a specific channel or all channels.
After deactivating a channel, the user cannot log in to WhizAI through that channel.

Note: As an administrator, if you deactivate your own Web/Mobile channel, only another Administrator can enable your access.

To deactivate access channels:

- From the **Users** page, click the **Edit User** icon to view the Editing User details page.
  - From the **ACCESS CHANNELS** section, click the access channel tab that you want to deactivate.



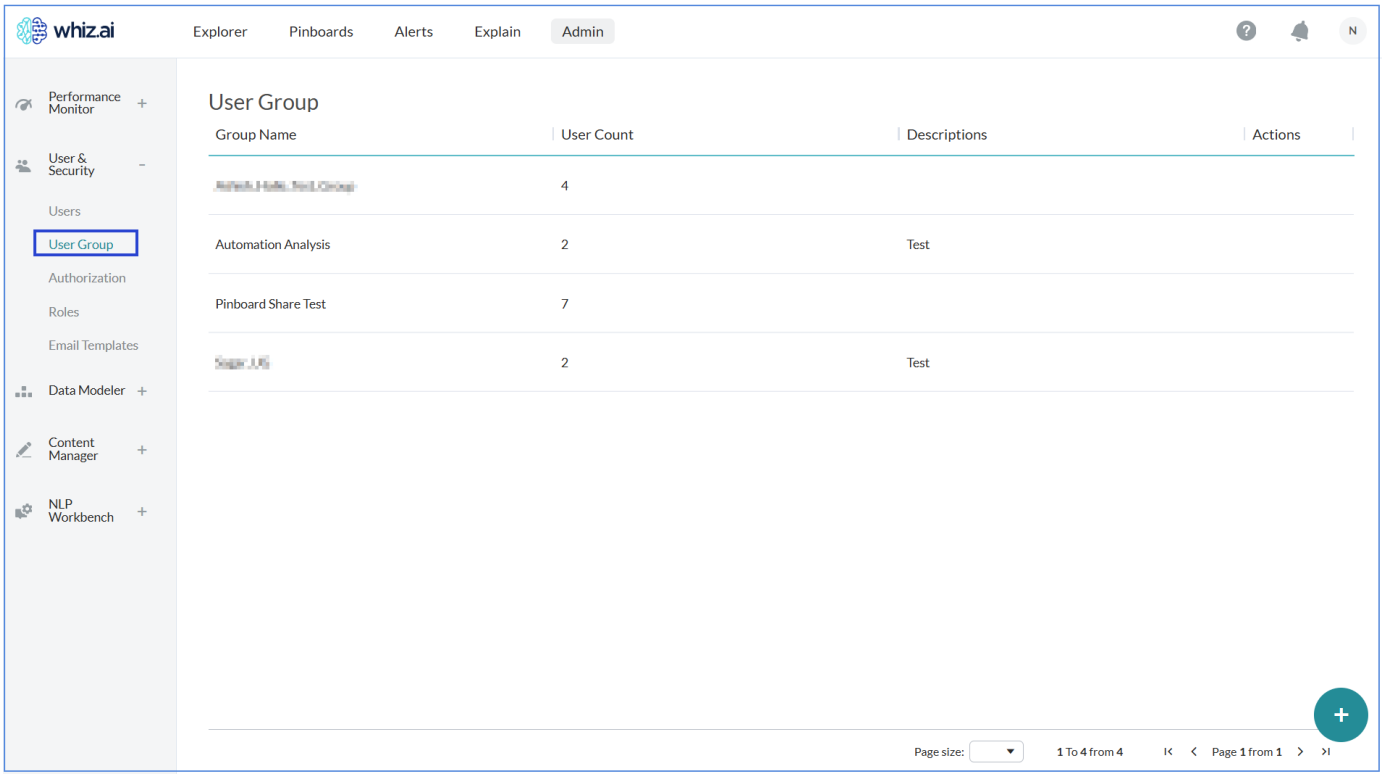
  - Clear the **Active** check box and click **Save Channel**. A message appears for successfully saving the changes.

User Group

As a WhizAI Administrator, you can add and define user groups from the **Admin** console > **Users & Securities** > **User Group**. When you want to share responses, cards, pinboards, alerts, and so on, user groups facilitate efficient communication, targeted sharing, collaboration, and privacy.

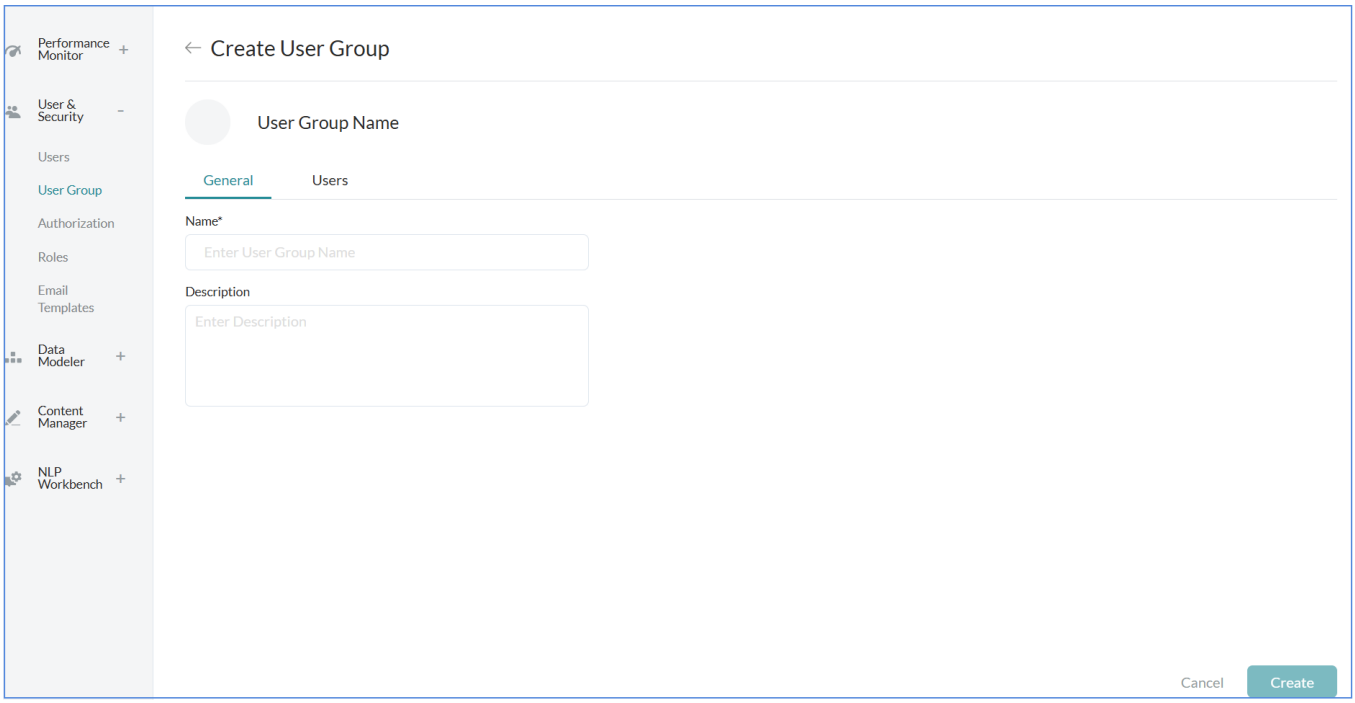
Add New User Group

- Go to the Admin console > Users & Security > User Group.



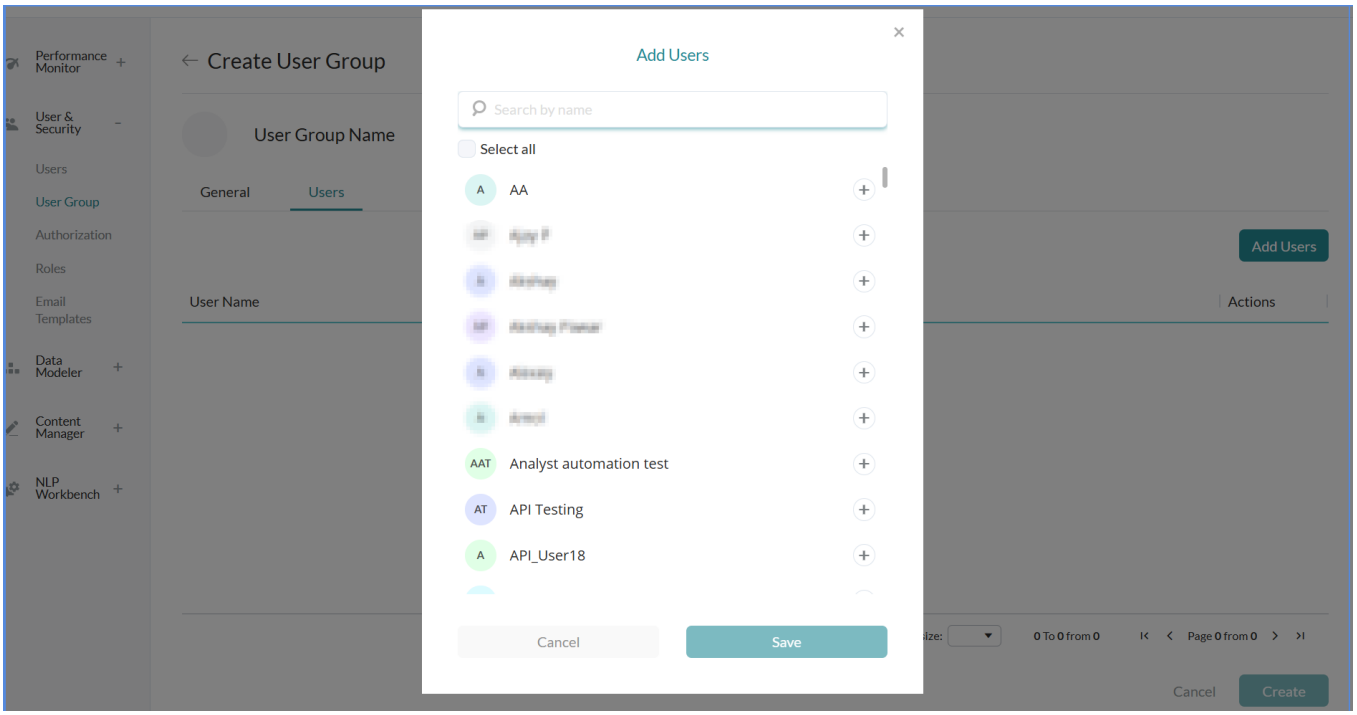
- Click + icon to create a new user group. The **Create User Group** page is displayed.

Note! General tab is displayed by default.

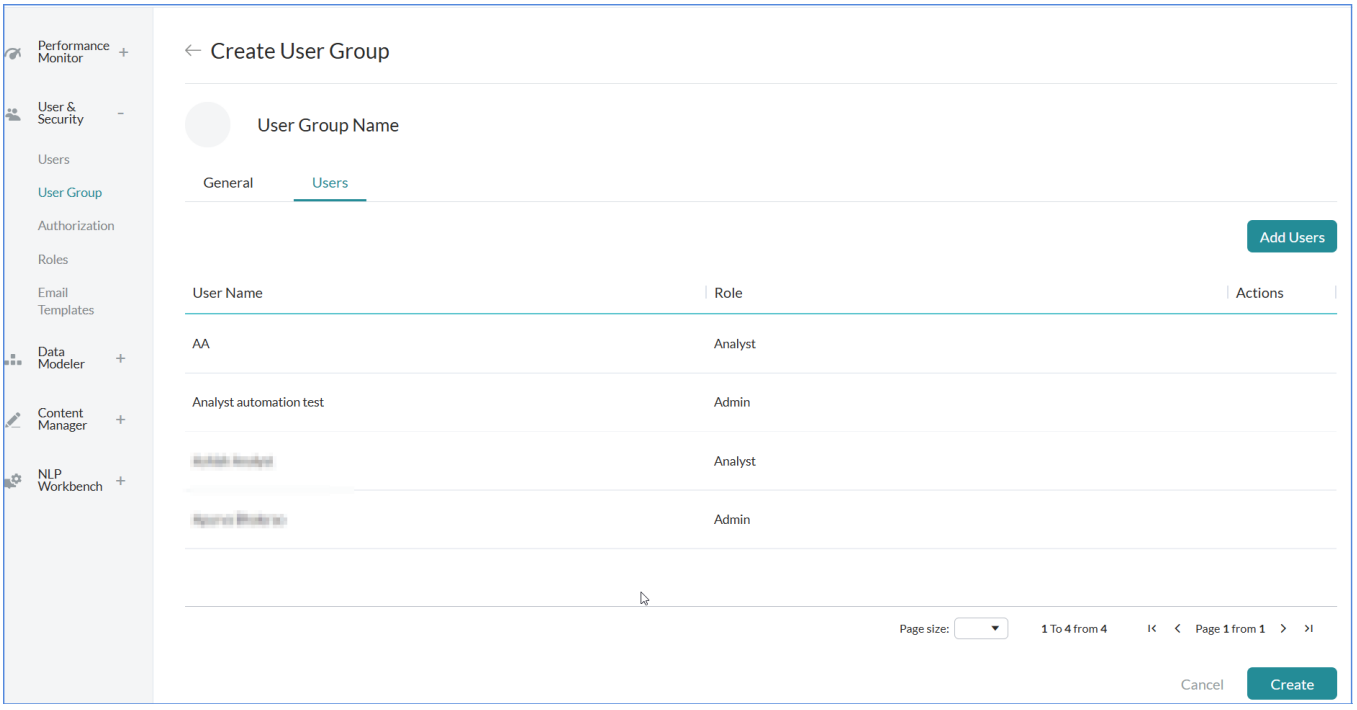


- Enter **Name**, and **Description** of the group.

- Click the **Users** tab > **Add Users** Add Users to display the **Add Users** dialog.
From this **Add Users** dialog, select users that you want to add to the group, and click **Save**.



- Selected users are added to the user group. Click Create to add the new user group to the system.



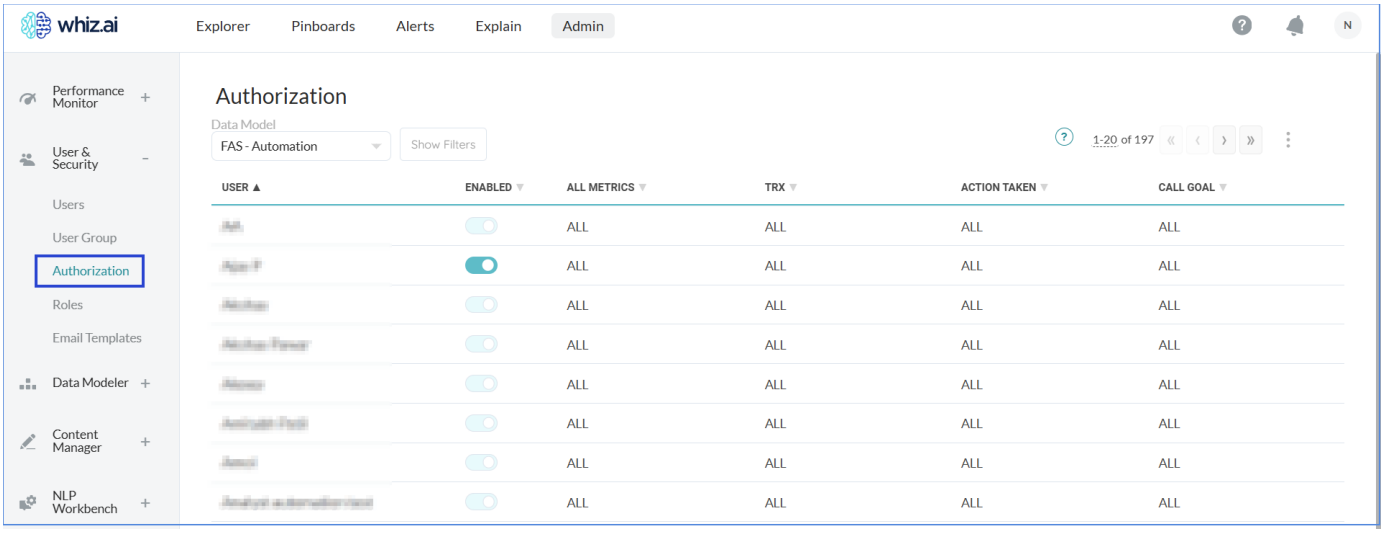
Note! WhizAI also displays the **Role** of added users. (For example, Admin or Analyst). You can remove users from the group from the Actions column.

Edit or Delete User Group

- Go to the Admin console > Users & Security > User Group.
  - From the **Actions** column, click **Edit** to edit the selected user group fields or **Delete**, to delete the selected user group

Authorization

The **Authorization** page displays information about each user's access to metrics and dimensions of the selected data model. The Administrator has access to all metrics and dimensions of a data model.



The Administrator has permission to assign the row level and column level security by modifying the user access as per the data model and metrics.
For example: if an Admin user authorizes a user to access only specific metrics, the user can see those metrics in the Context bar of the Conversation Box. If the user asks any question beyond the authorized metrics, the user will see a warning message stating they are not allowed to access the respective data. As every data model has different metrics and dimensions, the Administrator must perform the authorization separately for each model.

Note! As an administrator, if you configure only one data model for a user, which is the default data model, you cannot change the permissions. You need to add another data model and then only make the changes in the permissions. To know about adding a data model, see creating a new user.

Authorize User

- Go to the **Authorization** page and edit the access rules for a particular user.
  - From the Metrics drop-down list, select a metric as required.
  - Click **Add Dimensions** and then select a dimension.
    By default, WhizAI assigns access to '**All**' the dimensions for the selected metric.
  - From the Dimensions drop-down list, you can select the dimension as required.

Important! Please note the following points when you are configuring the authorization settings:
If a user has an existing authorization setting and on top of it you apply the global authorization setting, the system shall override the existing settings and apply the new one.

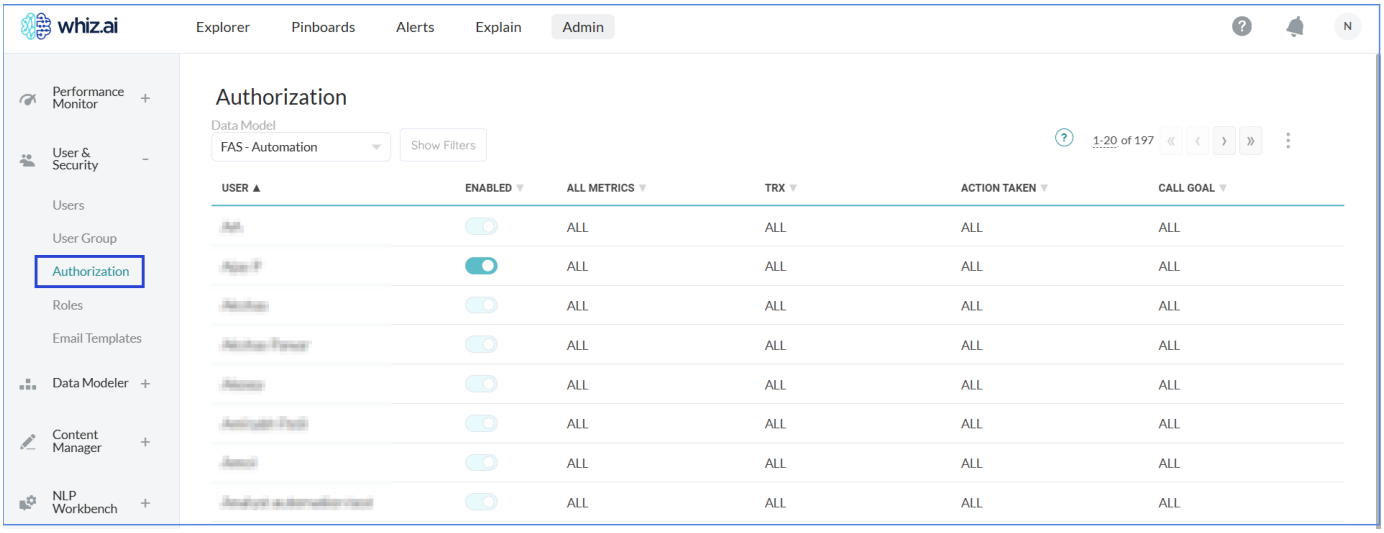
If a particular user has a global authorization setting and then if you apply a different setting that would restrict the user from viewing all the data, even in this case, the system overrides the existing setting and applies the new configuration.

Edit User Access for Dimensions

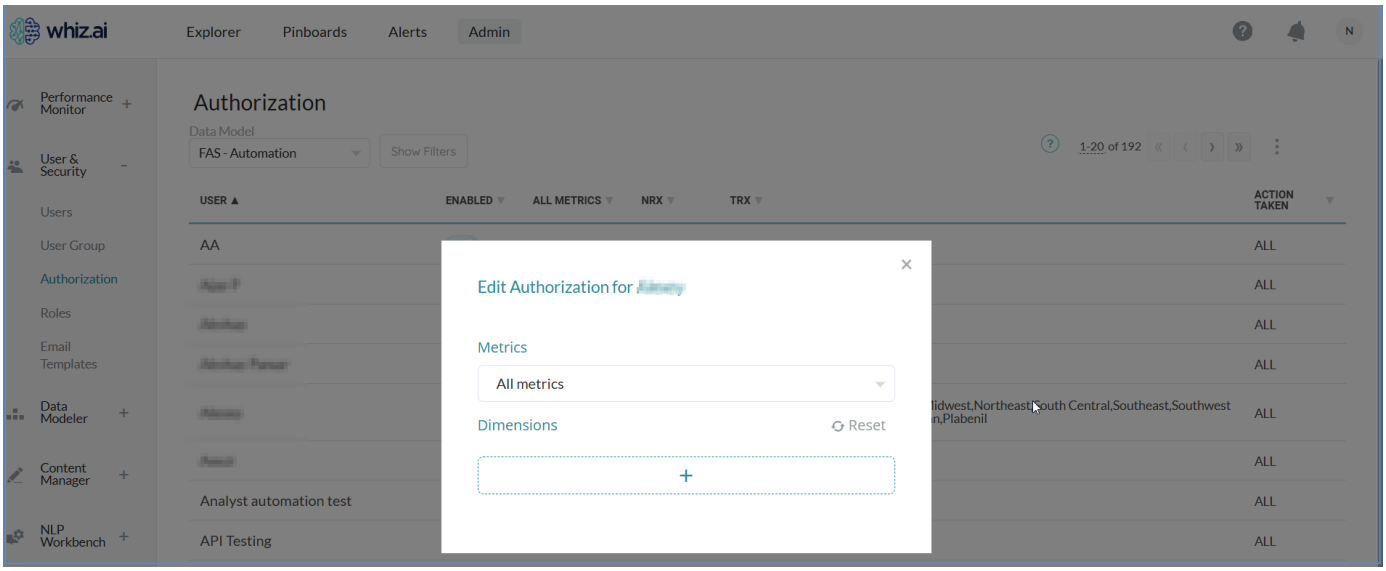
WhizAI Administrators can set authorization for users so that they cannot view specific dimensions in the entire product, that is, WhizAI Explorer, cards on the pinboard, 'Info' page, and filters. Such users can view the details for the rest of the dimensions, except these 'hidden' dimensions. In case you are not authorized to view certain (hidden) dimensions, then, you get a corresponding message on WhizAI Explorer and also on the cards on the pinboard.

To edit the access to a particular dimension:

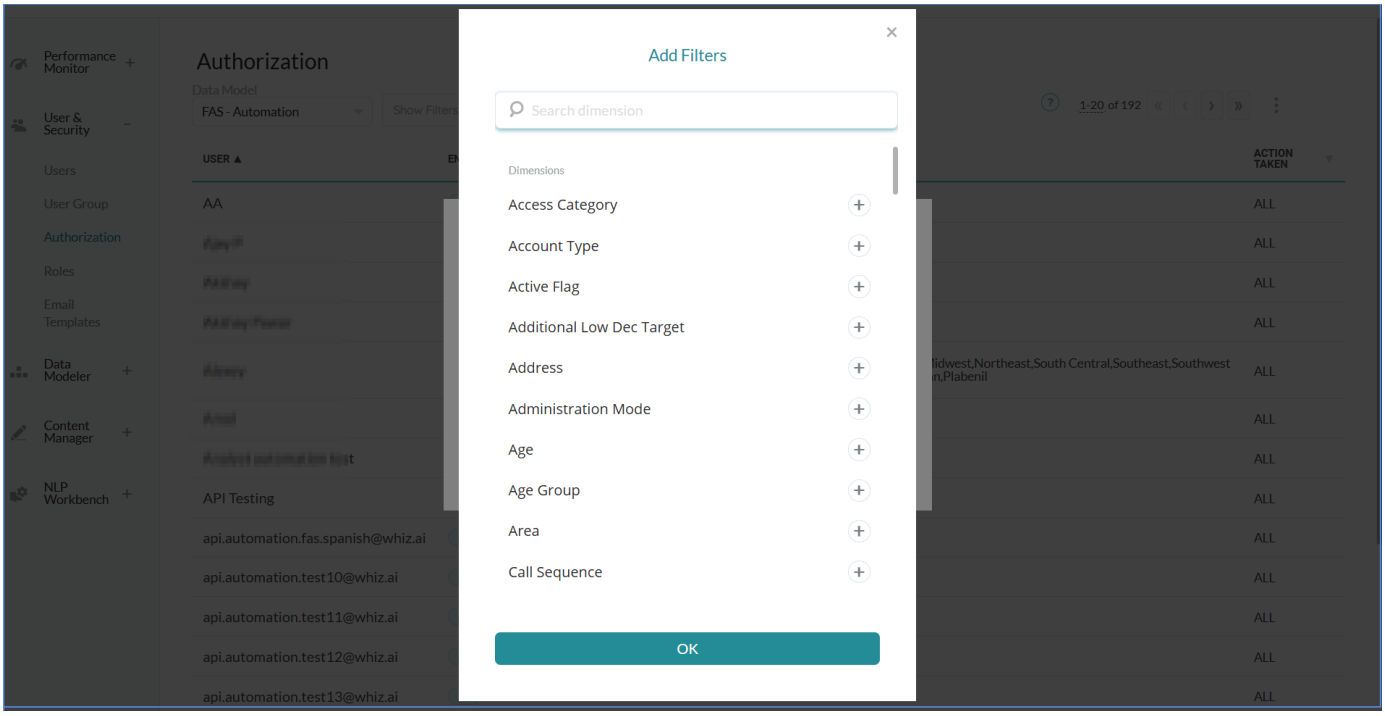
1. Go to the **Admin** console > **Users & Security** > **Authorization**.



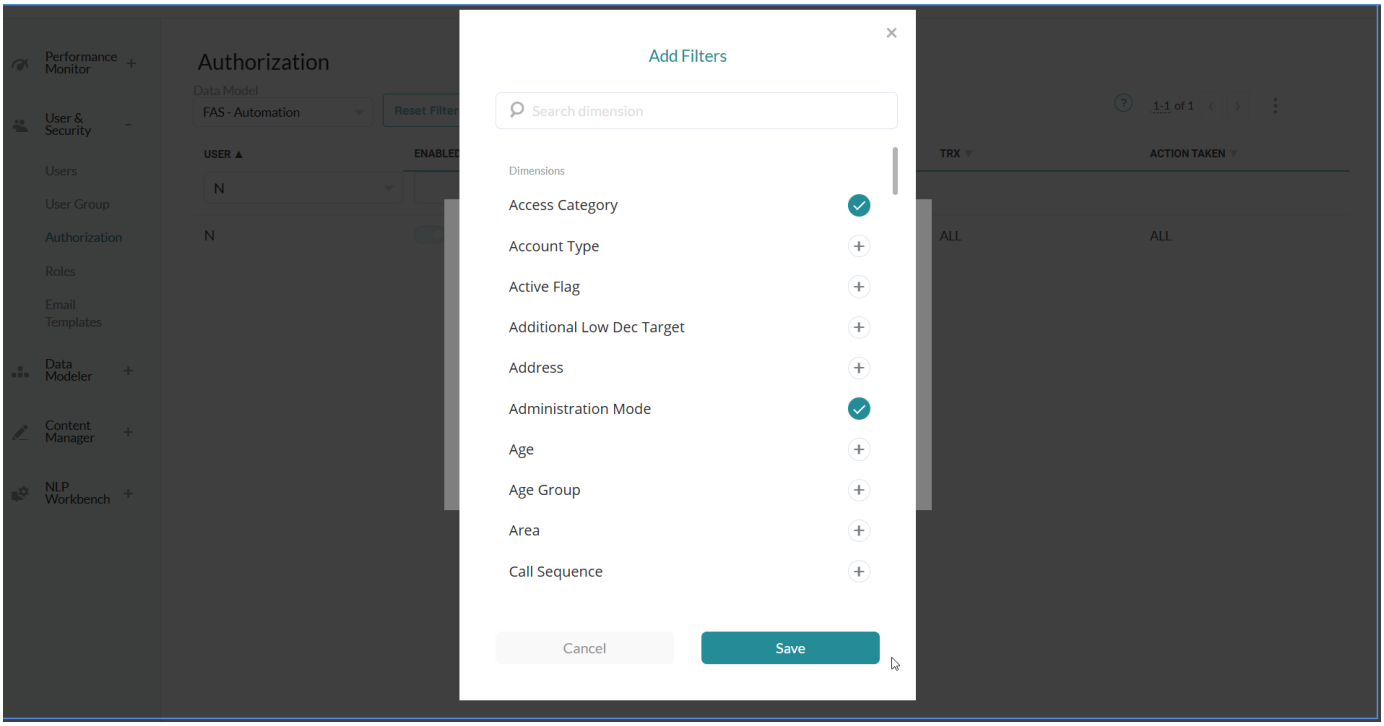
2. Hover the cursor on the user entry and click the **Edit access rules** icon to display the **Edit Authorization for <User name>** dialog.



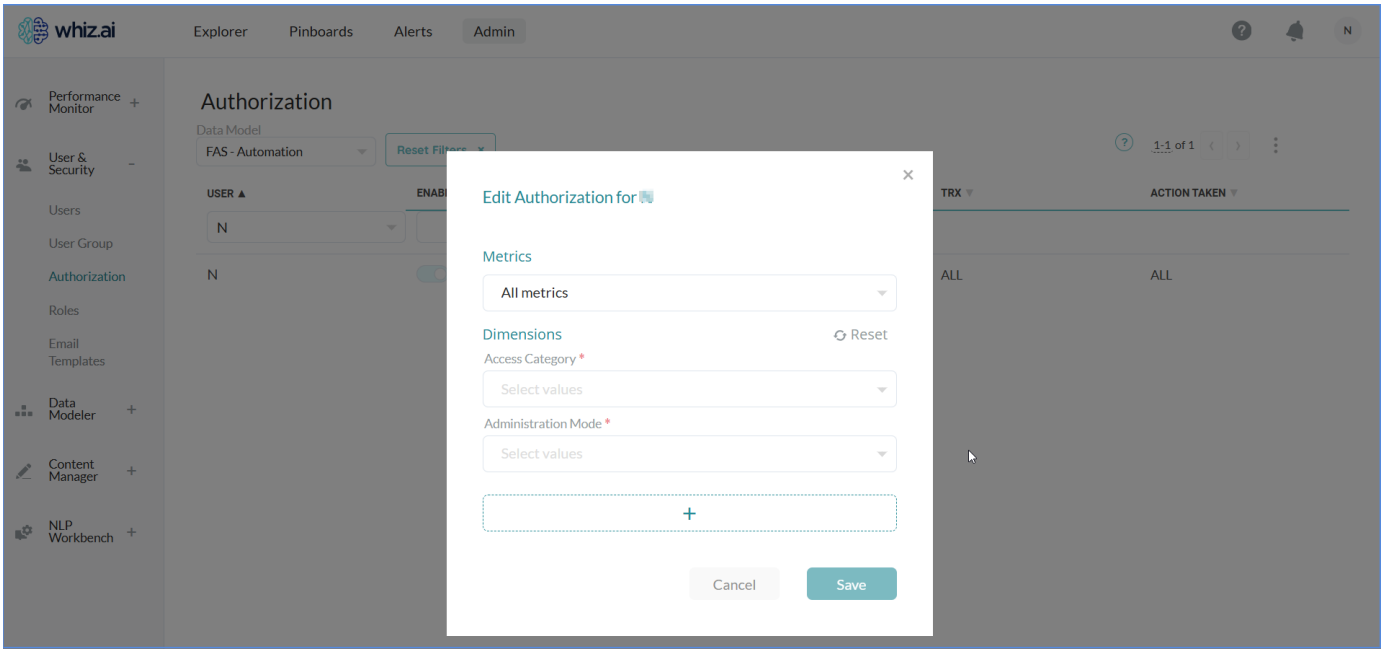
3. On the **Edit Authorization for <User name>** dialog, click + icon to display the **Add Filters** dialog. On this dialog, hover the cursor on the dimension that you want to hide for the user and on the vertical ellipses; then click **Hide**.



4. Select the Dimension from the list and click **Save**.



5. Select the values for the added dimension and click Save.

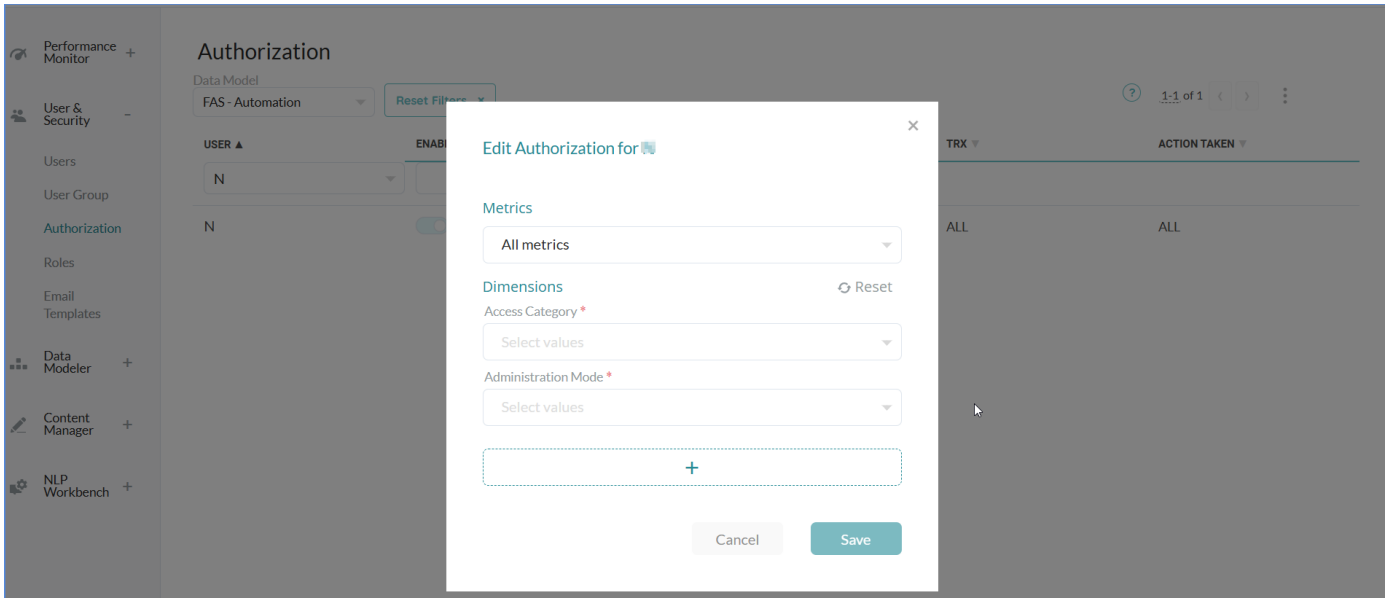


Export Authorization Settings

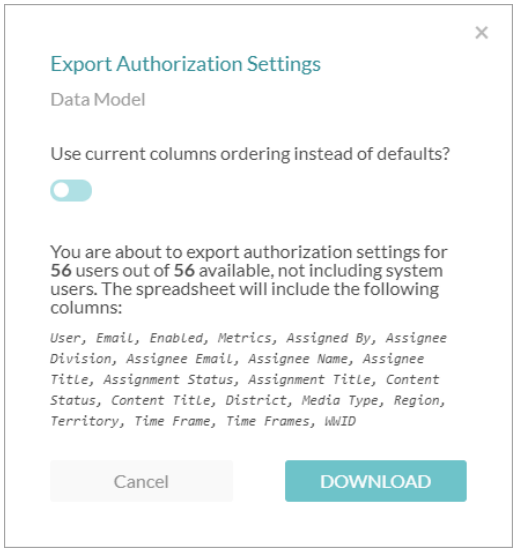
You can export the authorization settings to an XLS file. If you have filtered the records, only the available records are considered with exporting the authorization settings.

To export authorization settings:

1. From the Authorization page, click the ⋮ icon and then select **Export as XLS**.



2. From the **Export Authorization Settings** dialog, perform the following actions:



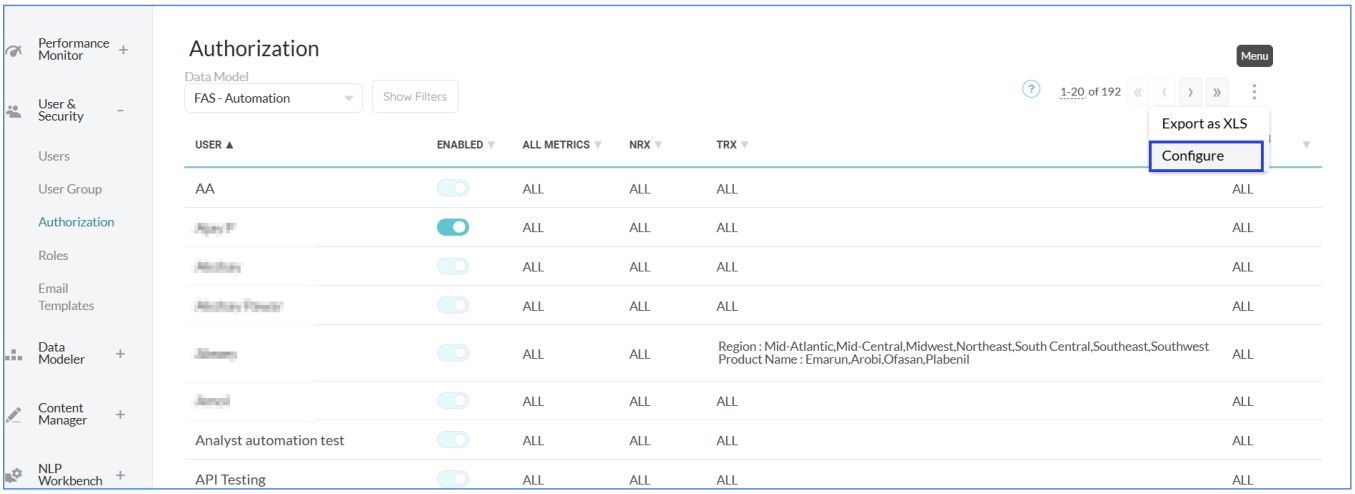
3. Toggle the option to choose the column ordering in the exported XLS file.
4. Click the **Download** button.

   The XLS file is downloaded with the authorization settings of the available users.

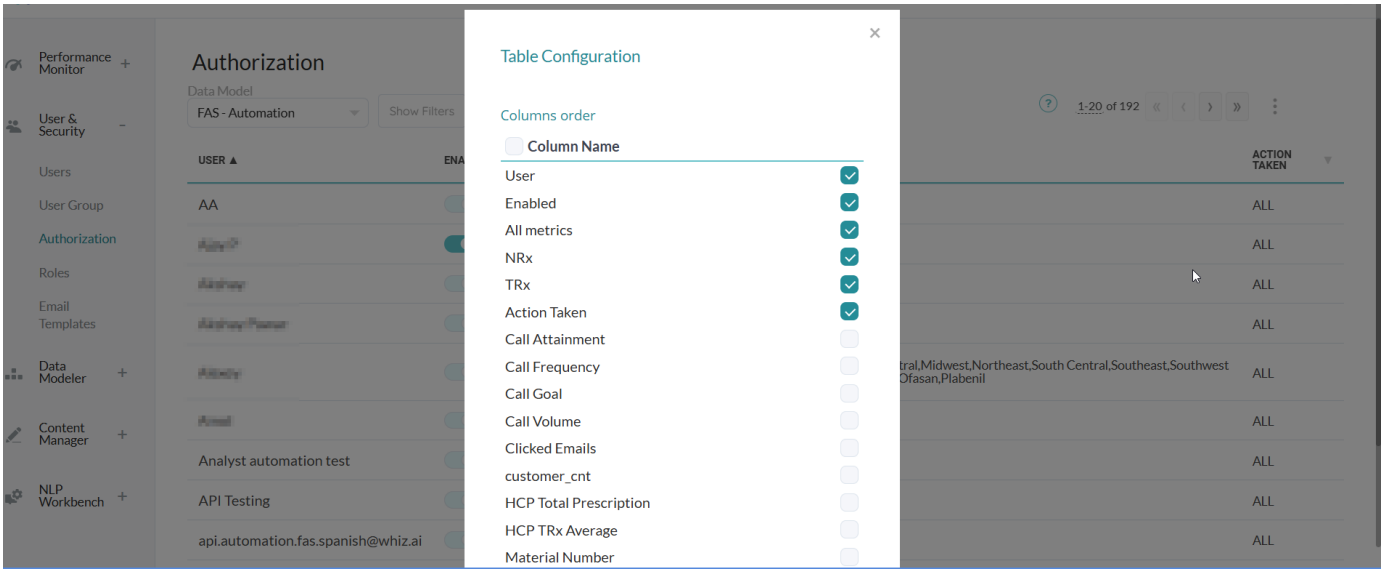
Configure Columns

To configure the columns on the authorization page:

1. From the Authorization page, click the ⋮ icon and select **Configure**.



The following **Table Configuration** dialog is displayed:

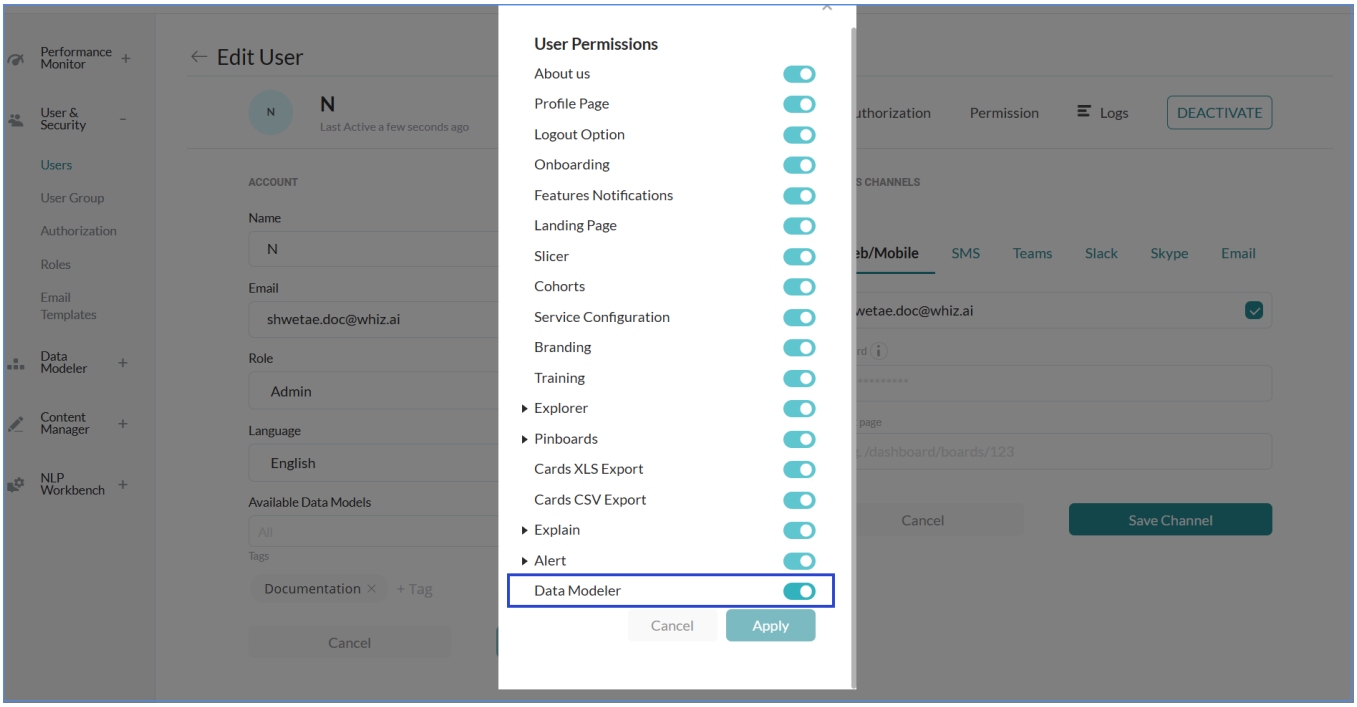


2. Select the checkboxes of the required columns.
3. Click **Apply**.
   The **Restore defaults** option allows the user to return to the default columns.

Support Non-Admin User Authorization for Data Modeler

As an Administrator user, you can set permissions for non-administrator users so that they can access the Data Modeler UI solution to build their data models. To set this permission:

- Go to Admin > Users & Security > Users.
  - Go to the non-admin user (Analyst) you want to assign the permission to and then click edit . WhizAI displays the Edit User page.
  - Click Permissions from the top-right corner of the screen. The User Permissions dialog is displayed.

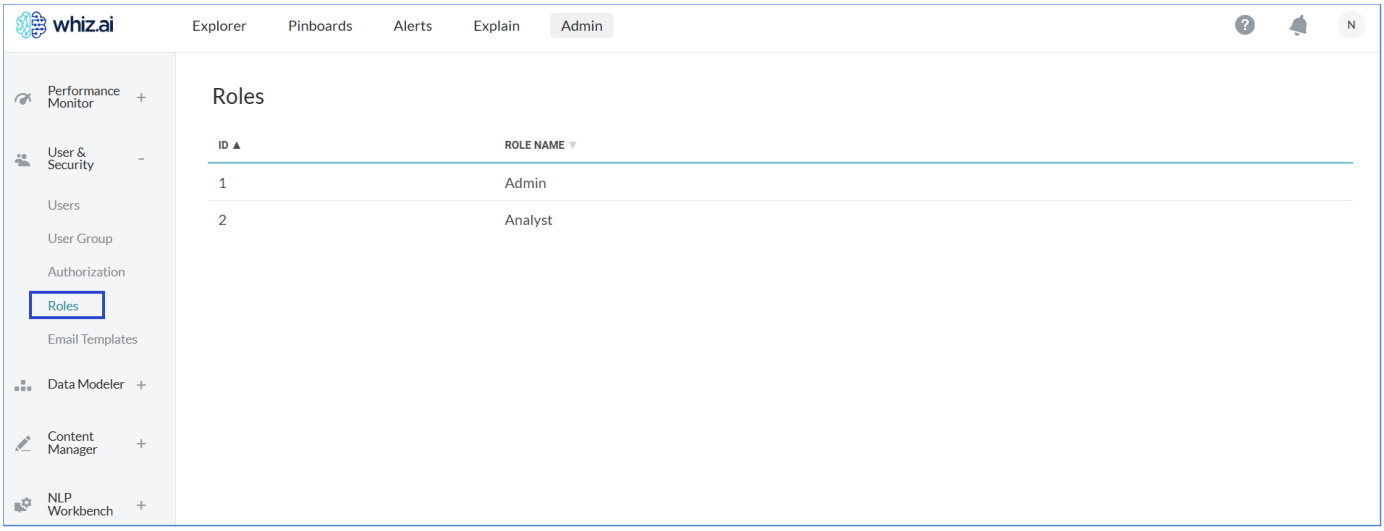


- Click the toggle against Data Modeler to set user permissions and click **Apply**. After this permission is set, the non-admin user can go to the profile menu and check that the **Data Modeler** option is available.

Important! Once permission is enabled for non-admin users to use WhizAI Data Modeler, please note that they get access only to the data models they have personally created using the Data Modeler solution, specifically under Data Models, Data Connections, Script Editor (access to all the scripts available in the system), Metric Configurations, Calculations, and Example Queries

Roles

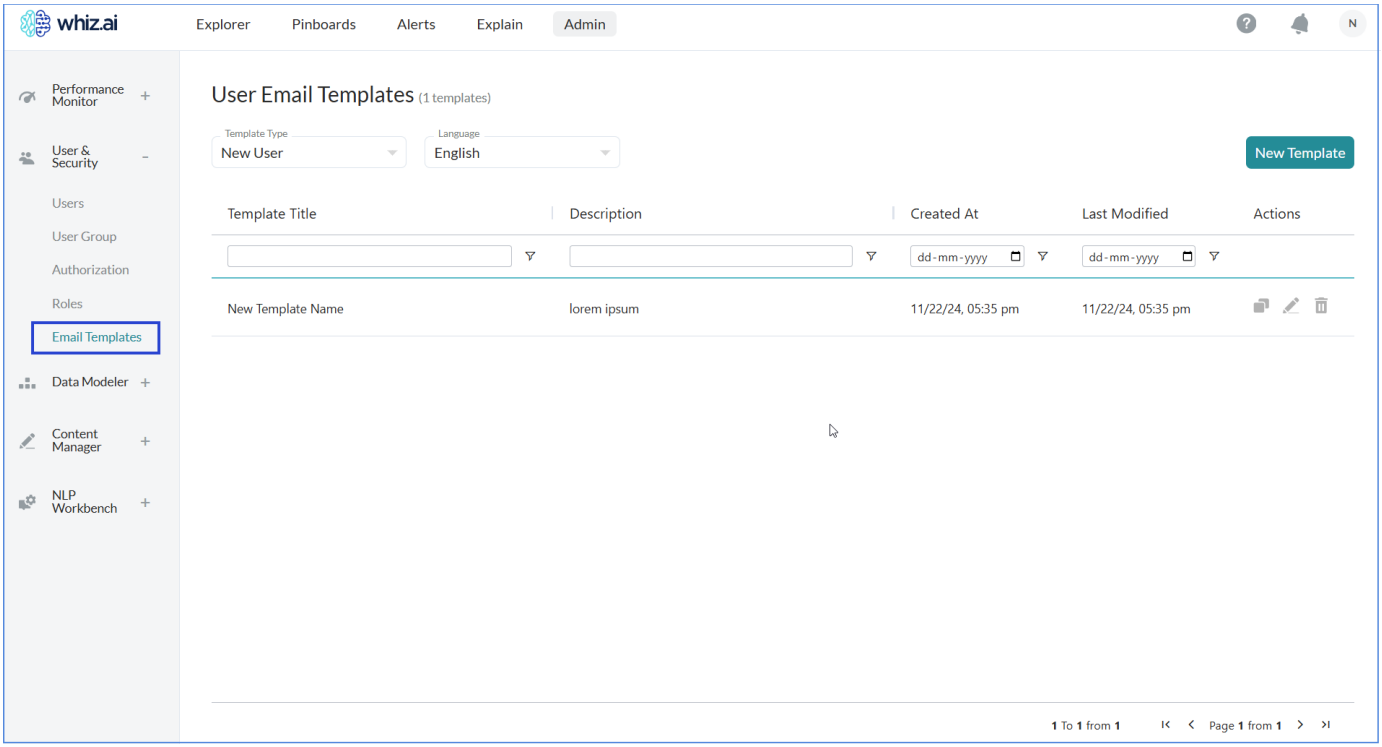
Roles are grouped permissions that you can assign to a user. When you create a new user (Admin user or non-Admin user), you must select a role for that user.



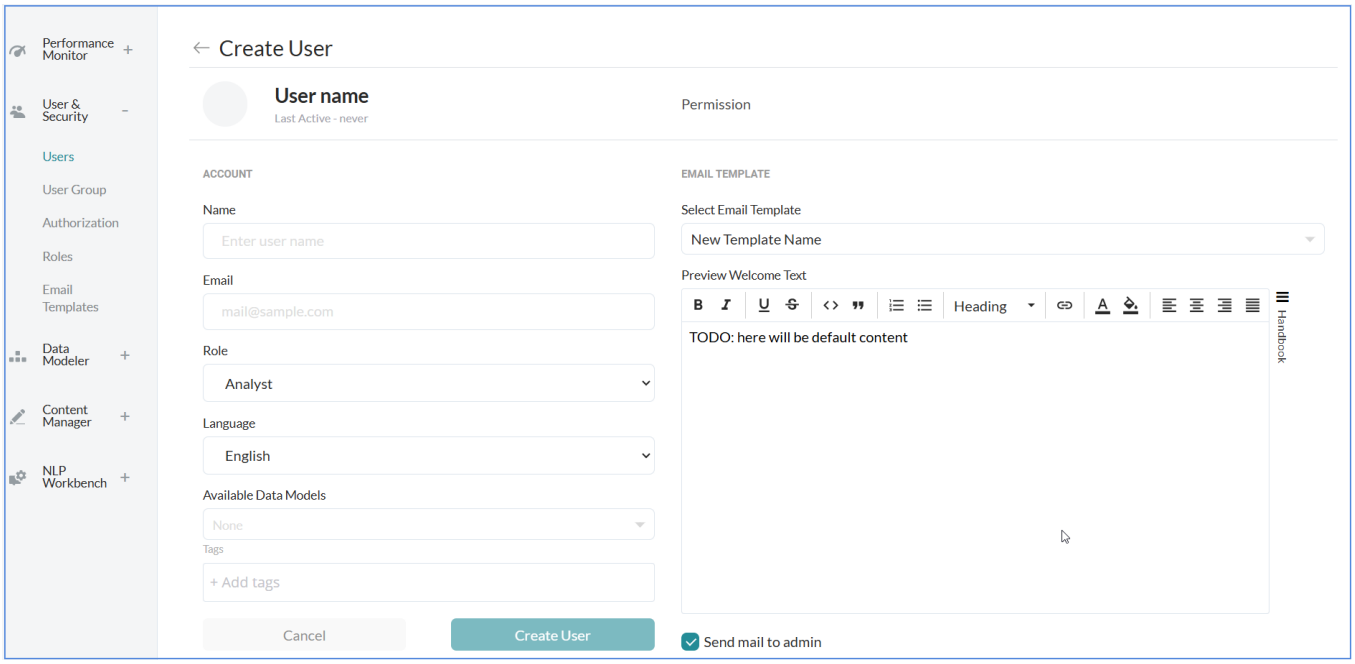
The **Roles** page is view-only. On this page, you can view the currently available roles for the user. Contact the WhizAI support team to enable additional roles for the users.

Email Templates

When you add users to WhizAI, they are notified by email.
You can add and define a template from **Admin** console > **Users & Security** > **Email Templates**.



When adding a new user, you can select a predefined email template.



The following variables from the template get dynamically replaced by the values that you enter for the new user.

- #user_name#
- #user_email#

Similarly, the following variables are replaced with values entered for the Admin email, and Feedback email, which are set from the **Admin** console > **Content Manager** > **Configurations**.

- #feedback_email#

- #admin_email#

The values for the following variables are taken from the system configuration.

- #password_reset_link#
- #login_url#
- #redirectUrl#
- #reset_token#

You can enable or disable email notifications for new user creation from the **Admin** console > **Content Manager** > **Configurations.** You can also add an Admin email, to which a user creation email will be sent. Refer to the configurations Admin Email and Email Notifications for more information.

Data Modeler

Prerequisites

To use the data in the data modeler (the UI solution of WhizAI), the data should be in a transformed format. After the user is ready with the transformed dataset (de-normalized format) the user can use the data modeler to load the dataset into the system with all the required specifications and make it available for the business user to start accessing those datasets. Data modeling in WhizAI is the process of building a data model for the application and populating it with the data. During this process, the application learns about the data elements, metadata, relationships, hierarchies, and many more details. After the end-to-end workflow is processed, the application becomes ready to generate and present the analytical data to the business users. WhizAI offers you a user interface to complete the complex, technical task of creating a data model. You can design and build a data model.

The key data modeling steps are:

- Data extraction
- Data transformation
- Data validation
- Model preparation
- Data ingestion or live connections
- Model training
- Application configurations
- Periodic model run

The UI module of the data modeler system supports the following:

- Model preparation
- Data ingestion or live connections
- Model training
- Application configurations
- Periodic model run

With the help of the different elements in the Data Modeler UI, you can create a new model, connect to the transformed data, link the data model with one or more data sources, and apply data modeling and data load specifications. After the model is configured, you can trigger the run to perform the data ingestion into the model.

Data Connections

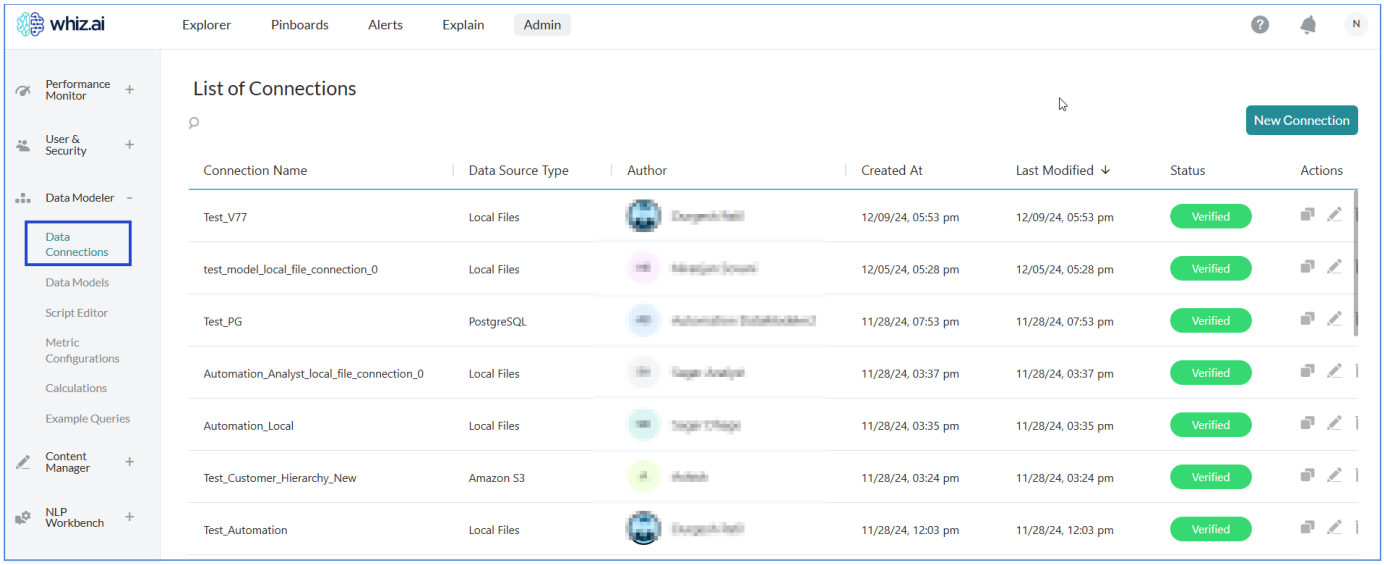
Data connections help to set up connections with the source data and connect it to ingest data into the WhizAI system. You need to establish a connection between the source data (transformed data - csv file, database table, etc.) and the data model to ingest data into the data model.

Prerequisites

The first step is to refine raw data and transform it into a specific format accepted by the WhizAI system. After the data is ready, you can add the data connections. WhizAI accepts the following formats:

- There must be at least one date column in every data source.
- The primary date column must be in yyyy-mm-dd format.
- The name of the data source should be unique within as well as across all the data models in the given system.
- Data should be in a de-normalized format.
- In the case of .csv or Parque files, make sure they are well-formatted.

The Data Connections page shows a list of connections created by users.



The **Data Connections** page has columns that are described in the table below:

Column Name	Description
Connection Name	The name of the data connection
Data Source Type	Currently, WhizAI supports six types of data sources (Amazon S3, local files, remote files, system storage, redshift, PostgreSQL, and Snowflake).
Author	Name of the user who created the data connection
Created At	Date when the data connection was added to WhizAI
Last Modified	Date when the data connection was updated.
Status	Displays the status of the data connection as verified or unverified based on whether the connection was tested or not.
Actions	• Copy – Creates a copy of the connection from an existing connection. The status will be unverified. Test the connection to proceed further. • Edit – Edit the data connection parameters. • Delete – Delete the selected data connection.

Create New Connection

1. Go to **Data Modeler** > **Data Connections** and from the top-right corner, click **New Connection**.
2. Enter the **Name** of your data connection and click **Next**. The **Select Data Source Type** page is displayed.
3. Select the data source type and click Next.
4. Enter the set parameters for the selected data source type.
5. Click Test Connection to test the connection. Click Save to save the data connection.

Edit Connection

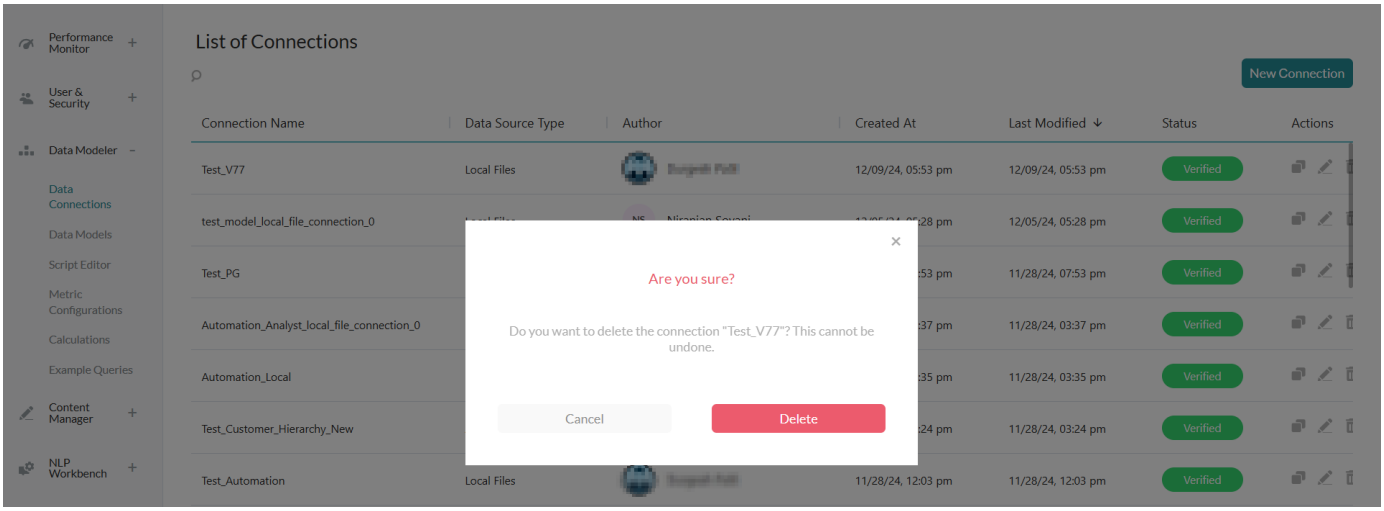
1. Click the **edit** icon for the data connection.
2. Edit the required parameters.
3. Click **Save**.

4. Click **Test connection**.

Note! You can edit a data connection, only if the connection is not linked to any models.

Delete Connection

1. Click **Delete** to remove a connection. The following confirmation dialog pops up.

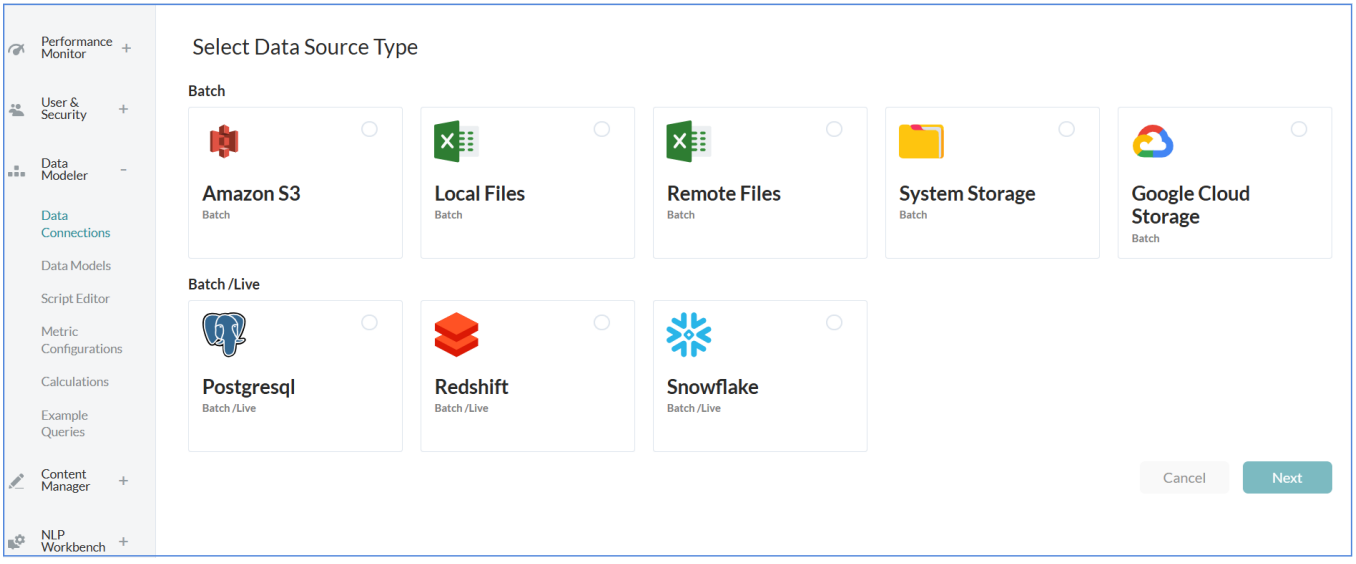


2. Click **Delete**. A message appears 'Connection Deleted.

Note! You can delete a data connection only if the connection is not linked to any models.

Data Source Type

There are various types of data sources. Amazon S3, local files, system storage and remote files are file-based batch connections. Whereas PostgreSQL, Redshift, and Snowflake are database-driven inputs with live connections.



Batch: Data is fetched from the source system and ingested into the WhizAI system.
Live: Data will have connectivity to the system, the system will create a live connection, and data will remain in the chosen PostgreSQL, Redshift, or Snowflake system. The system will fetch the data at run time using the live connections on user actions.

The available data source types are:

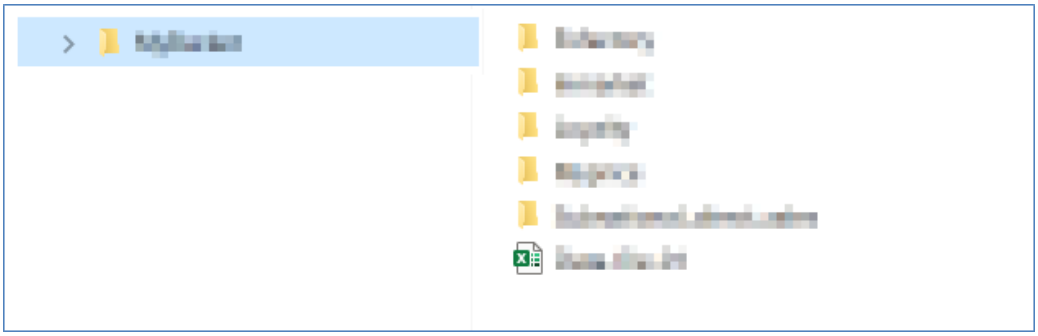
- Amazon S3
- Local Files
- Remote Files
- System Storage
- Google Cloud Storage
- PostgreSQL
- Redshift
- Snowflake
- Trino

Amazon S3

Prerequisites

- Druid supports only one Amazon S3 'Region' value at a time. Hence, the Amazon S3 connection must belong to the same region that is configured in the Druid system. To manage the 'region' value in druid refer to https://druid.apache.org/docs/latest/development/extensions-core/s3.html
- The list of folders inside the Amazon S3 bucket path will be considered separate data sources.

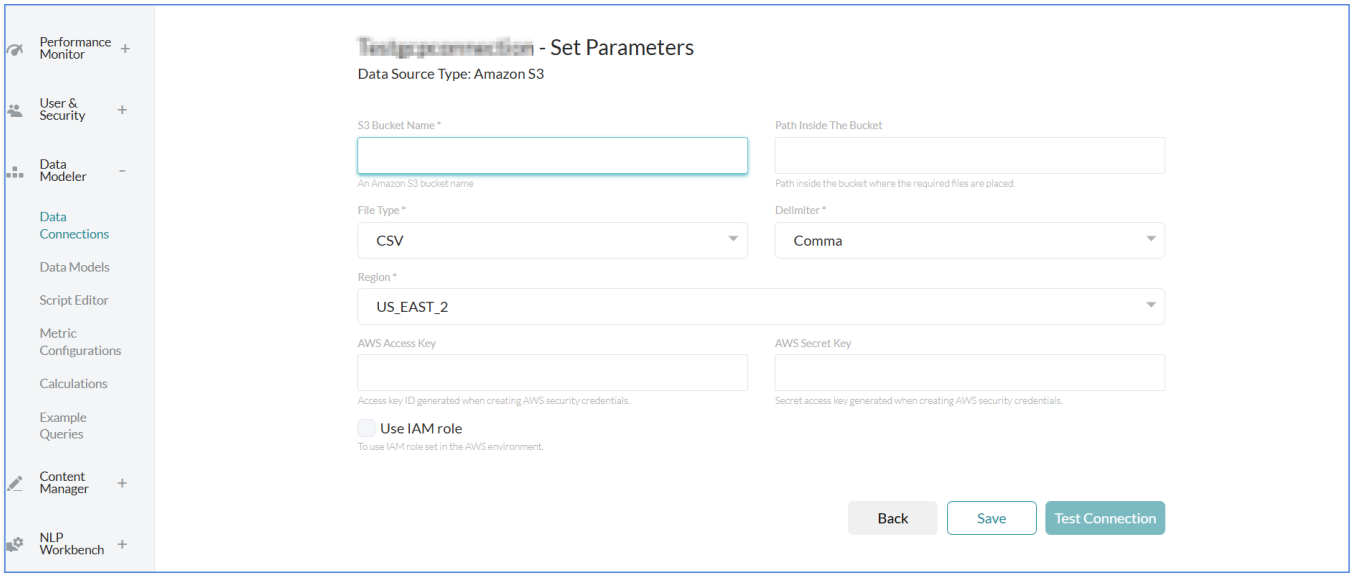
Example
Consider following folder structure inside the S3 bucket path 'MyBucket' –



All the folders shown on the right side will be treated as separate data sources. Each of these folders can have multiple sub-folders or files. They will be treated as containers of the same parent data source folder. During the model run, all child folders and files will be included in the data load.

Note! All the files inside the folder identified as 'Data source' must have the same structure and format. Any file present at the same level as the data source folder(s) will be ignored. For example – 'Data-file-01' in the above image.

For a more detailed description of each of the parameters, refer to the following link:
https://docs.aws.amazon.com/AmazonS3/latest/userguide/VirtualHosting.html#path-style-access



Parameter	Description
S3 Bucket Name	An Amazon S3 bucket name. Each bucket name must be unique across all AWS accounts.
Path Inside The Bucket	The path inside the bucket where the required files are placed.
File Type	CSV, Parquet.
Delimiter	Comma, pipe, semicolon, space, and tab.
Region	AWS Regions
AWS Access Key	Access key ID generated when creating AWS security credentials.
AWS Secret Key	A secret access key is generated when creating AWS security credentials.

Local Files

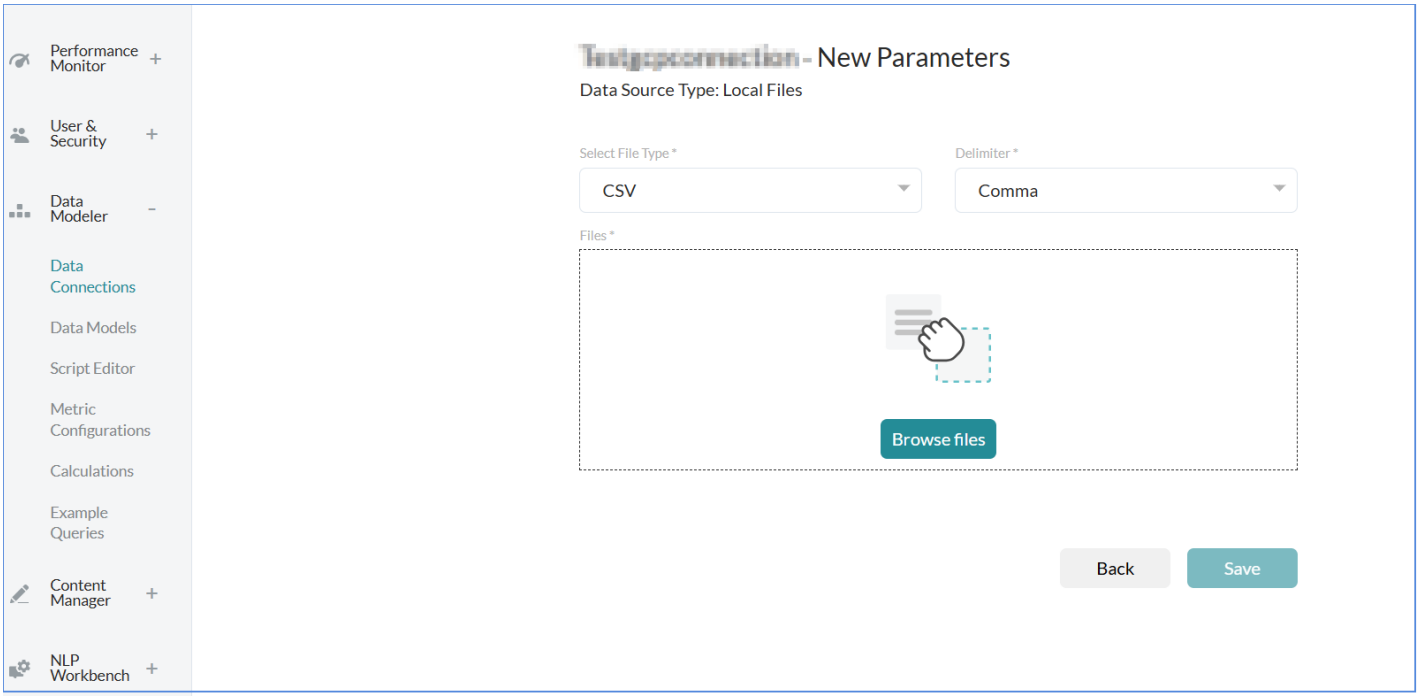
Prerequisites

Ensure that the file name is the same as the name of the data source that needs to be ingested in the given data model for incremental data ingestions.

Rules/Limitations

The total size across all the files in a single connection should not exceed 50 MB.

For a more detailed description of each of the parameters, refer to the table below.



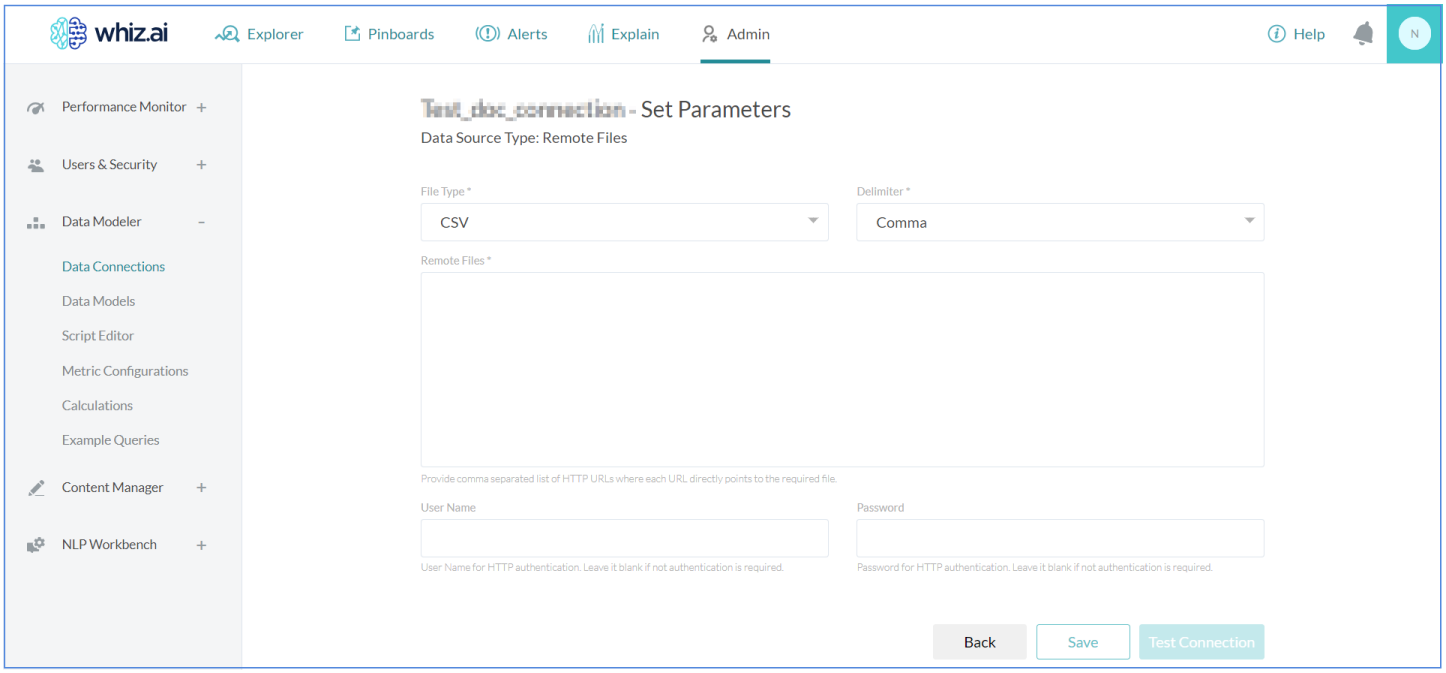
Parameter	Description
Select File Type	WhizAI supports two types of files: • CSV • Parquet
Delimiter	The CSV files support comma, pipe, semicolon, space, and tab delimiters. In the case of Parquet, delimiters are not necessary.
Files	You can add multiple files with the same delimiter.
Download	You can download the file on your local drive. Click on the **Download** icon against the file and download the file. **Note!** The downloaded file is stored in the downloads folder

Remote Files

Prerequisites

Ensure that the file name is the same as the name of the data source that needs to be ingested in the given data model for incremental data ingestions.

For a more detailed description of each of the parameters, refer to the table below.



Parameter	Description
File Type	WhizAI supports two types of files: • CSV • Parquet
Delimiter	The CSV files support comma, pipe, semicolon, space, and tab delimiters. In the case of PARQUET, delimiters are not necessary.
Remote Files	Enter a comma-separated list of HTTP URLs that are pointing to the required file.
User Name	Enter the user name required for HTTP authentication. The field is blank if authentication is not required.
Password	Enter the HTTP authentication password. The field is kept blank if authentication is not required.

System Storage

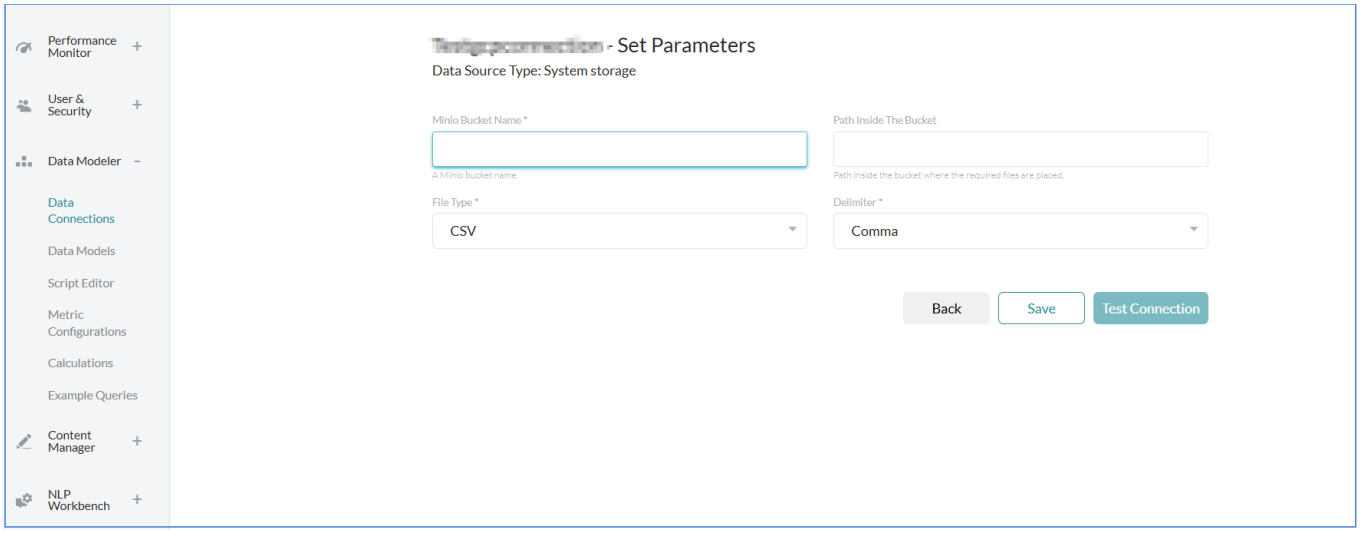
System Storage accepts a bucket and the path within the bucket as input. At this specified path, there must be child folders. Each child folder is treated as a separate data source when the model is configured with this connection. A data source folder can include child files, subfolders, or a hierarchy of folders.

Prerequisites

All child files within a data source folder must adhere to the same schema, column delimiter, and multi-value delimiter.

On the **Set Parameters** page, enter the following parameters

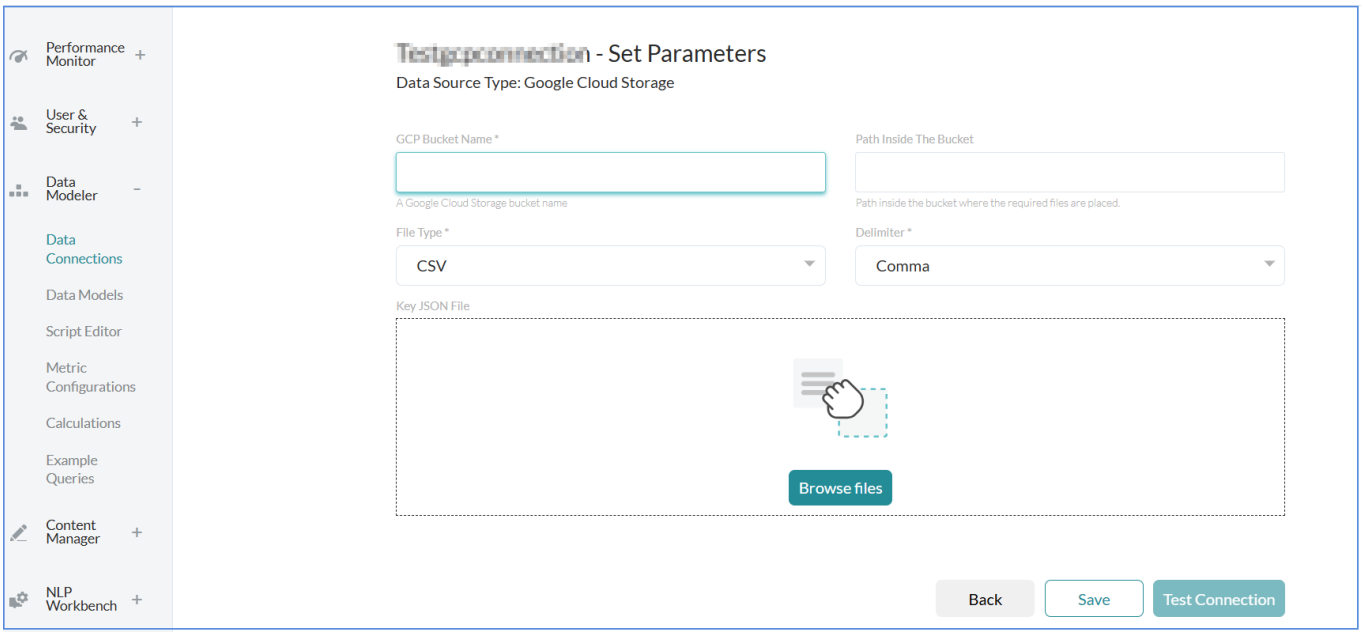
- Minio Bucket Name
- Path Inside The Bucket
- File Type – Select either CSV or PARQUET
- Delimiter – Select from the list of delimiters (Comma, Pipe, Semicolon, Space, Tab)



Once such a connection is used in the model, the connection URL cannot be modified.

Google Storage Cloud

For a detailed description of each of the parameters, refer to the following link - https://cloud.google.com/storage/docs/introduction



Parameter	Description
GCP Bucket Name	GCP bucket name. Each bucket name must be unique.
Path Inside The Bucket	The path inside the bucket where the required files are placed.
File Type	The file type. The options are CSV, Parquet
Delimiter	The options available are Comma, pipe, semicolon, space, and tab.
Key JSON File	A key JSON file is a private key certificate in JSON format from the Google Cloud platform, which is generated by default when the private key is created.

Follow the steps given below to configure the data source

1. Go to the Infra repository of the environment to open the **values.yaml** file.
2. Add the following configuration for the GCS bucket for Druid

```
gCloudStorage:
  enabled: true
  secretName: google-cloud-key
google:
  gcsAPIKey: <private API key: client generated API key>
```

3. Add the druid-google-extensions to the configurations for each Druid service such as: broker,coordinator, historical, middle Manager, and router:

```
druid_extensions_loadList: '["druid-google-extensions", "druid-s3-extensions", "druid-parquet-extensions", "druid-histogram", "druid-datasketches", "druid-lookups-cached-global", "postgresql-metadata-storage"]'
```

4. The Druid pool will restart automatically for the first time.
   For reinstallation, run the following helm upgrade command to complete the configuration

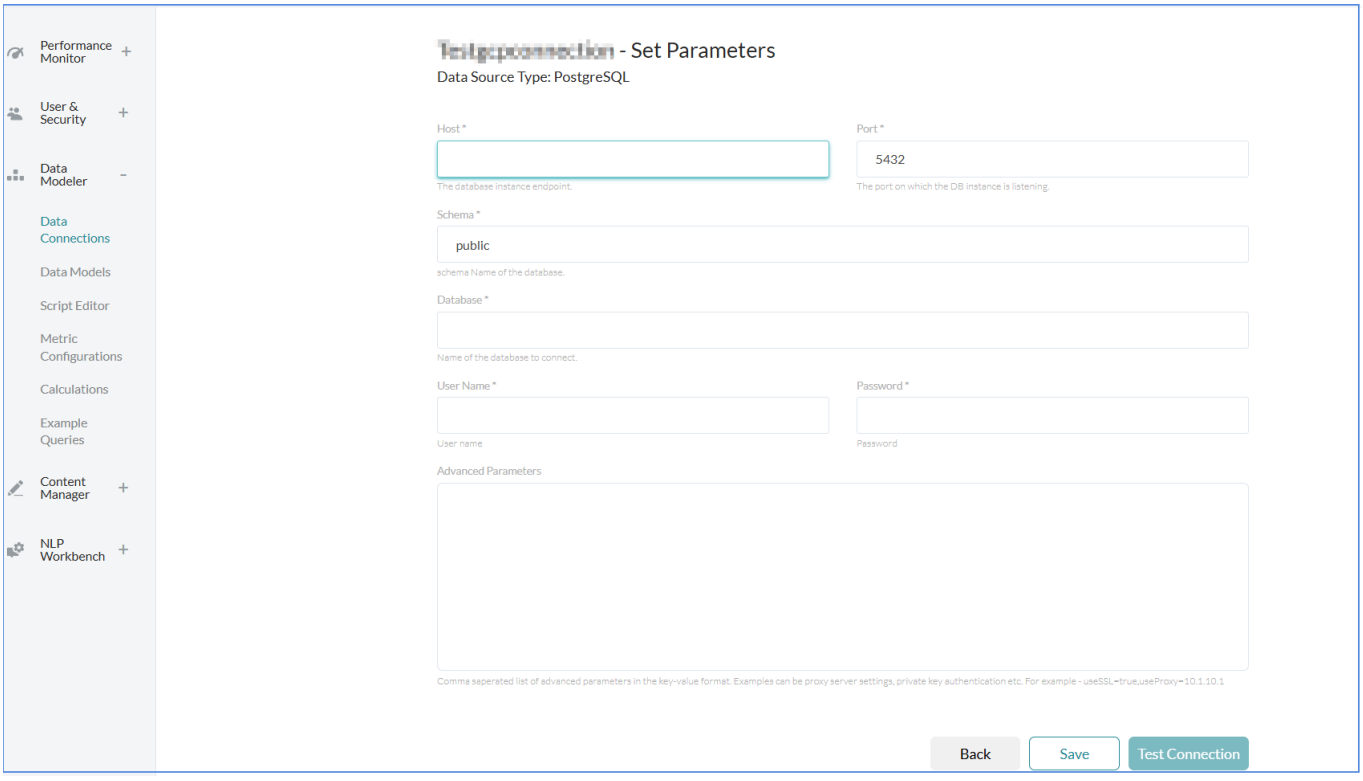
```
helm upgrade --install app -f ./values.yaml --version <release version> oci://957637304843.dkr.ecr.us-east-2.amazonaws.com/whiz
```

PostgreSQL

Rules/Limitations

Additional steps are required after the successful model run to execute the NLQ on the workspace area of the product.

For a more detailed description of each of the parameters, refer to the table below.



Parameter	Description
Host	The database instance endpoint.
Port	The port on which the database instance is listening.
Schema	The Schema name of the database. The default is 'public.'
Database	The name of the database to connect.
User Name	The username.
Password	The password.
Advanced Parameters	Comma-separated list of advanced parameters in the key-value format. For example, proxy server settings-private key authentication. Use SSL-true. use proxy -10.1.10.1

Redshift

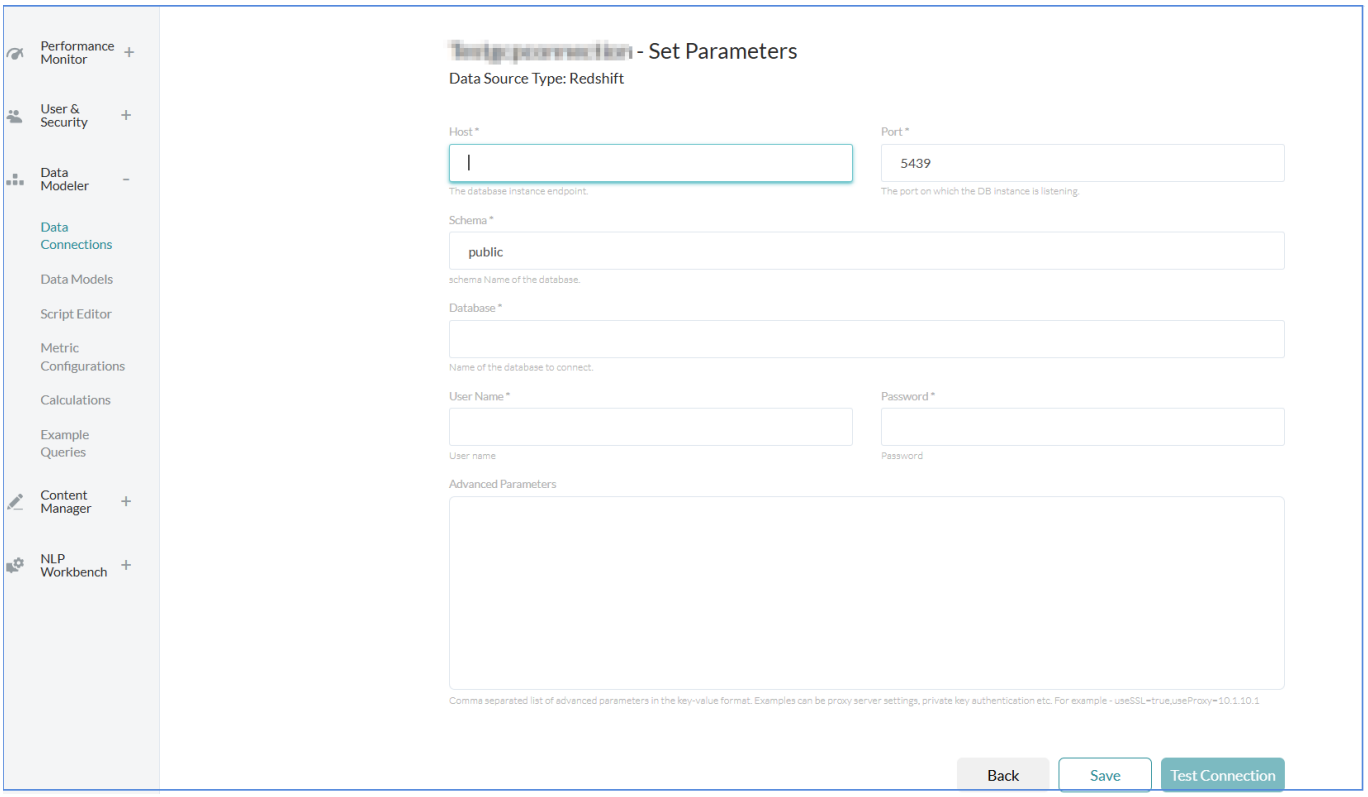
Prerequisites

Before you can connect to a Redshift database, you must also whitelist the IP addresses on your database server on the port you want to connect to.

Rules/Limitations

Additional steps are required after the successful model run to execute the NLQ on the workspace area of the product. Please contact the system administrator for more details.

For a more detailed description of each of the parameters, refer to the table below



Parameter	Description
Host	The database instance endpoint.
Port	The port on which the database instance is listening.
Schema	The Schema name of the database.
Database	The name of the database to connect.
User Name	The username.

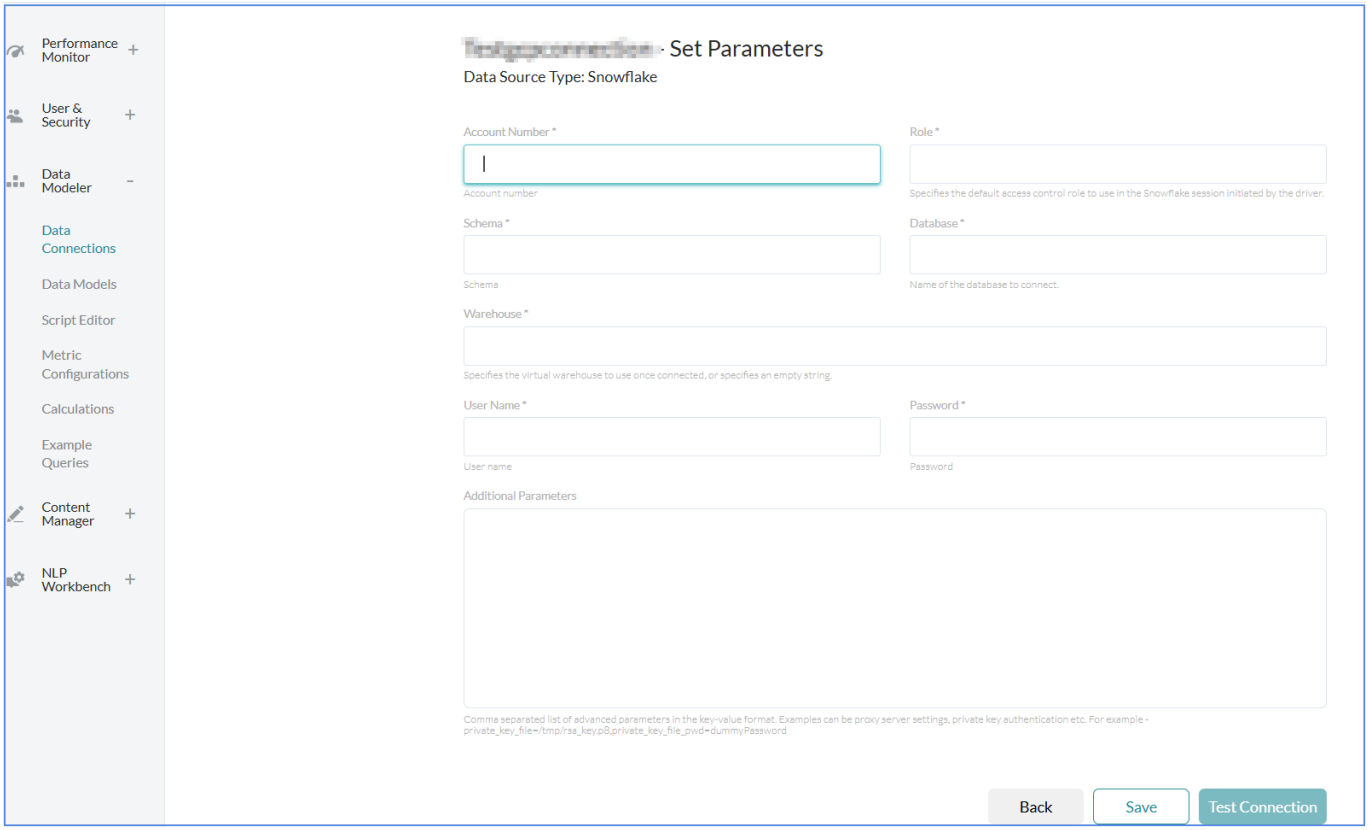
Password	The password.
Advanced Parameters	Comma-separated list of advanced parameters in the key-value format. For example, proxy server settings-private key authentication. Use SSL-true. use proxy -10.1.10.1

Snowflake

Rules/Limitations

Additional steps are required after the successful model run to execute the NLQ on the workspace area of the product. Please contact the system administrator for more details

For a more detailed description of each of the parameters refer to the table below



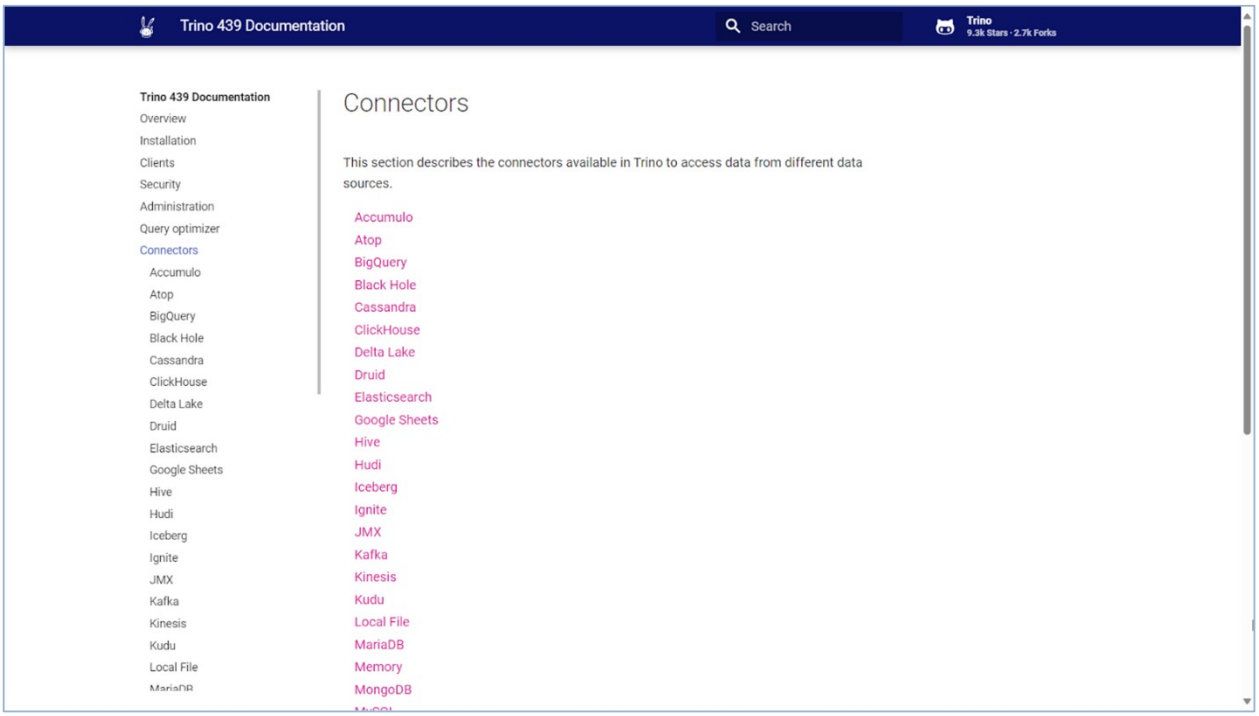
Parameter	Description
Account Number	The account number
Role	Default access control role to be used in the snowflake session initiated by the driver.
Schema	The Schema name of the database.
Database	The name of the database to connect.
Warehouse	Specifies the virtual warehouse to use after being connected.
User Name	The username.
Password	The password.
Advanced Parameters	Comma-separated list of advanced parameters in the key-value format. For example, proxy server settings-private key authentication.

Trino

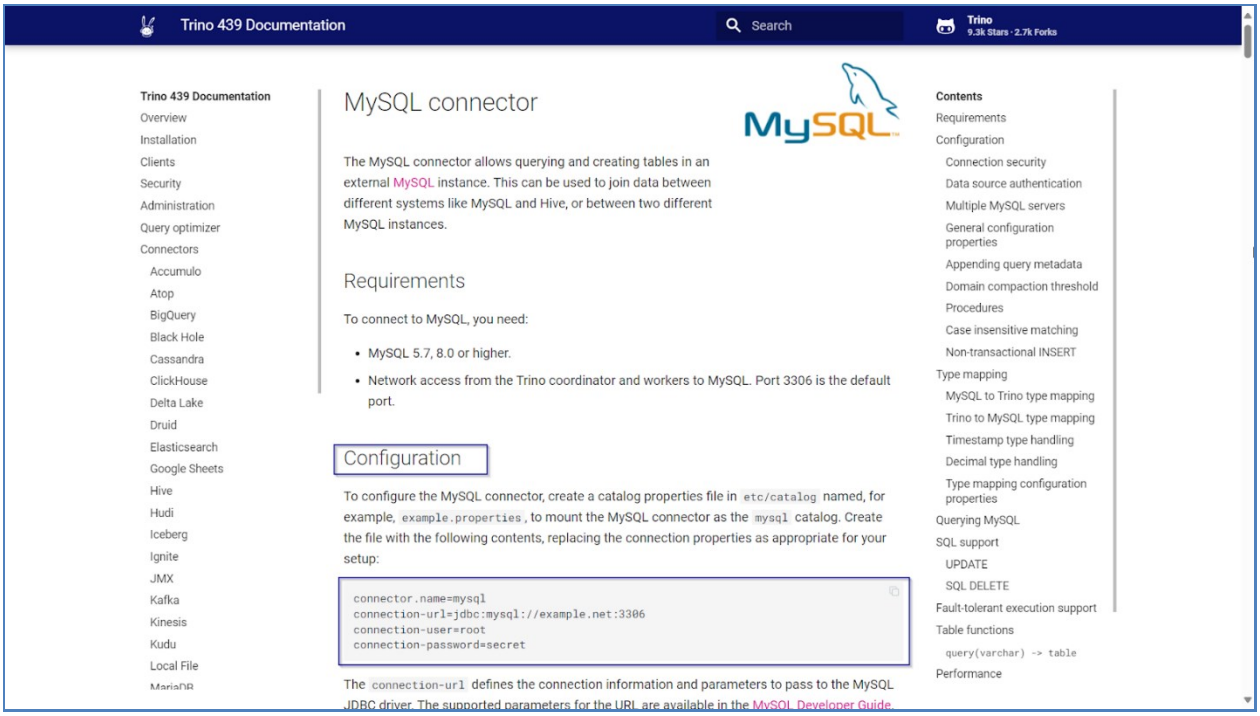
Using the **Trino SQL engine,** you can integrate with data sources. Trino is a connector that supports a wide range of databases. Through Trino, the portal can connect to additional databases.

Prerequisites

For the Trino connection to work, the Airflow library should have the entry '**Trino_sqlalchemy**'
Go to https://trino.io/docs/current/connector.html to get a list of supported databases as shown in the figure below.



Click on the connector to view configuration settings as shown in the figure below:



Follow the steps given below to configure the database:

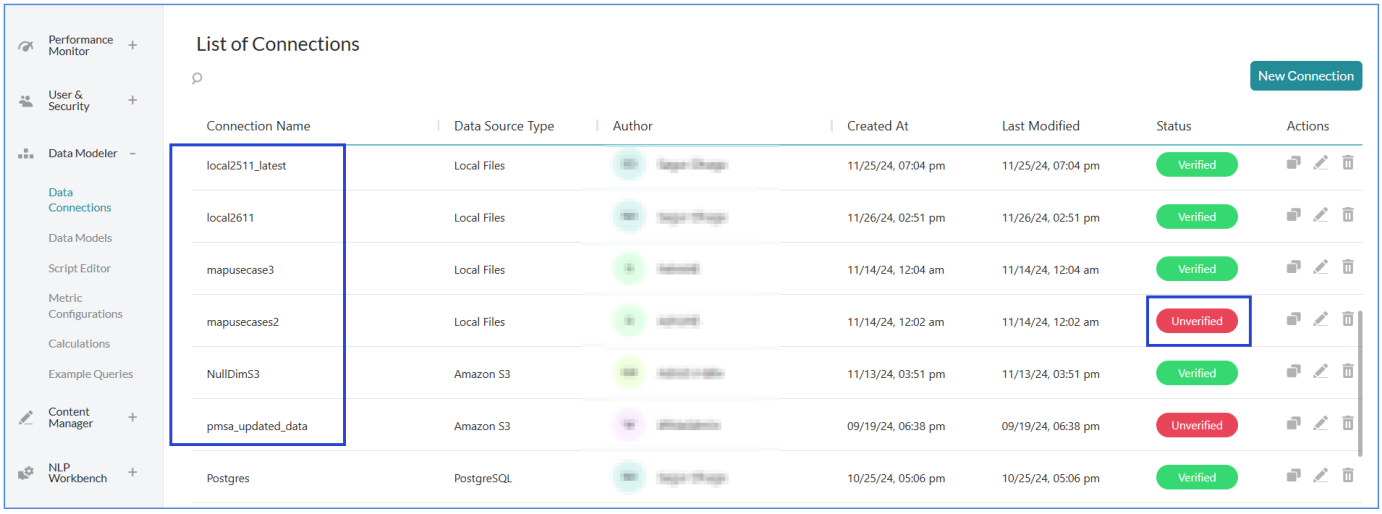
1. Go to the Infra repository of the environment to open **values.yml** and add a new entry **Trino_sqlalchemy.**
2. Add Trino connector details as shown in the figure below:

```
trino:
  server:
    workers: 1
  additionalCatalogs:
    2024-72_mysql: |-
      connector.name=mysql
      connection-url=jdbc:mysql://[redacted]
      connection-user=root
      connection-password=mysqladmin
      case-insensitive-name-matching=true
```

3. Provide a URL for your database.
4. Restart Trino coordinator.
5. Restart model manager.

To view the Trino connection on UI, go to **Data Modeler** -> **List of connections** page .

The List of Connections page shows all schemas added through the Trino connection.
For example, MySQL connection is created with the syntax **trino_<connection name>_<schema name>** as shown in the figure below:



Initially, the connection status will be set to **Unverified**. To confirm or reconfirm the connection, click the **Unverified** button.
Now, the Trino connection is ready, and you can create a new data model using this connection.
Currently, the Trino connection is tested and verified for PostgreSQL and MySQL databases.

Note! Trino connection cannot be edited from the user interface.

Limitations

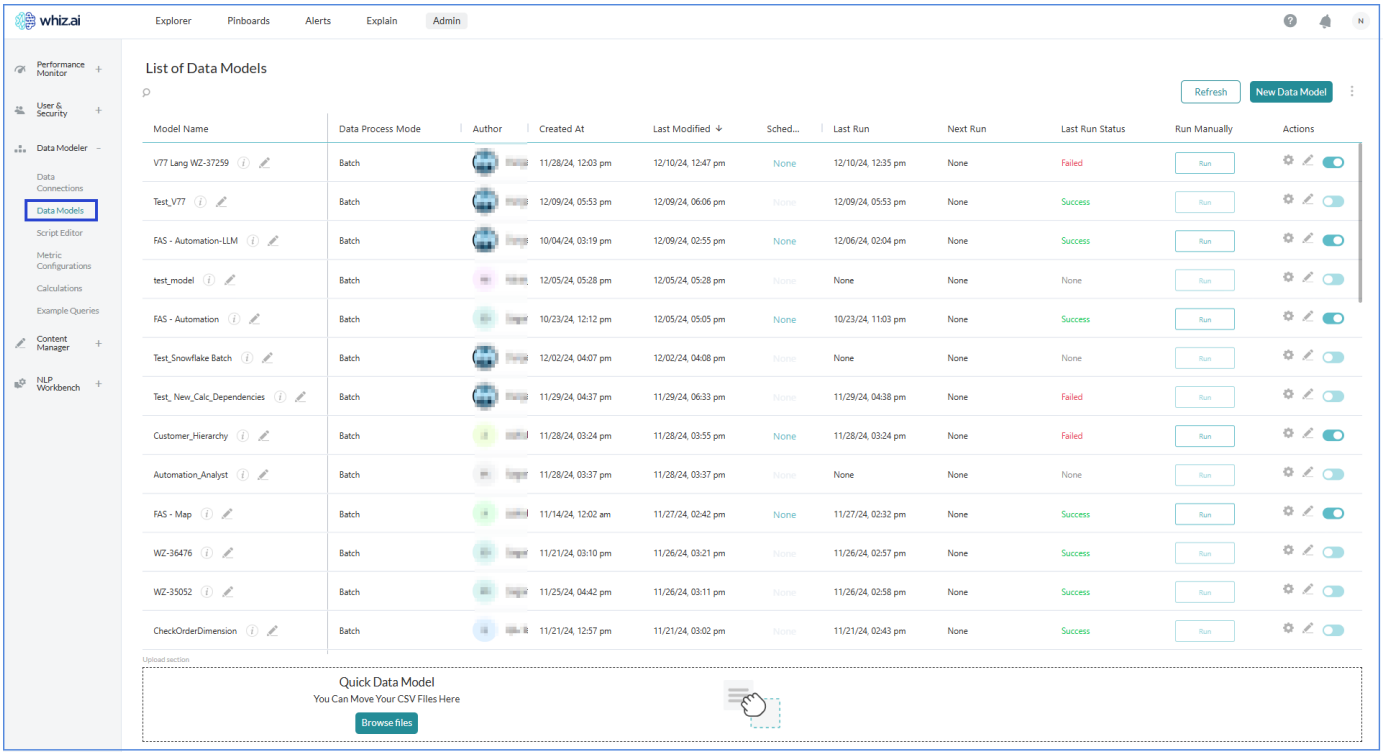
- By default, all Trino connections will be automatically configured within the system. These default connections will have an **unverified status.**

- To exclude certain catalogs, configure those catalogs as zookeeper properties under **TRINO_IGNORE_CATALOGS**.
- To disable Trino, set the **TRINO_ENABLE** property to false in the zookeeper.
- Only one Trino server can be configured for the system using the zookeeper properties **TRINO_HOST** and **TRINO_PORT**.
- Incorrect Trino configurations used for any Trino connection cause the system to become unresponsive for an extended period. In such cases, performing a hard refresh is recommended to resume normal activities. In case of such repeated instances, restarting the model manager may be required. It is recommended to ensure appropriate connection configurations to avoid further issues.

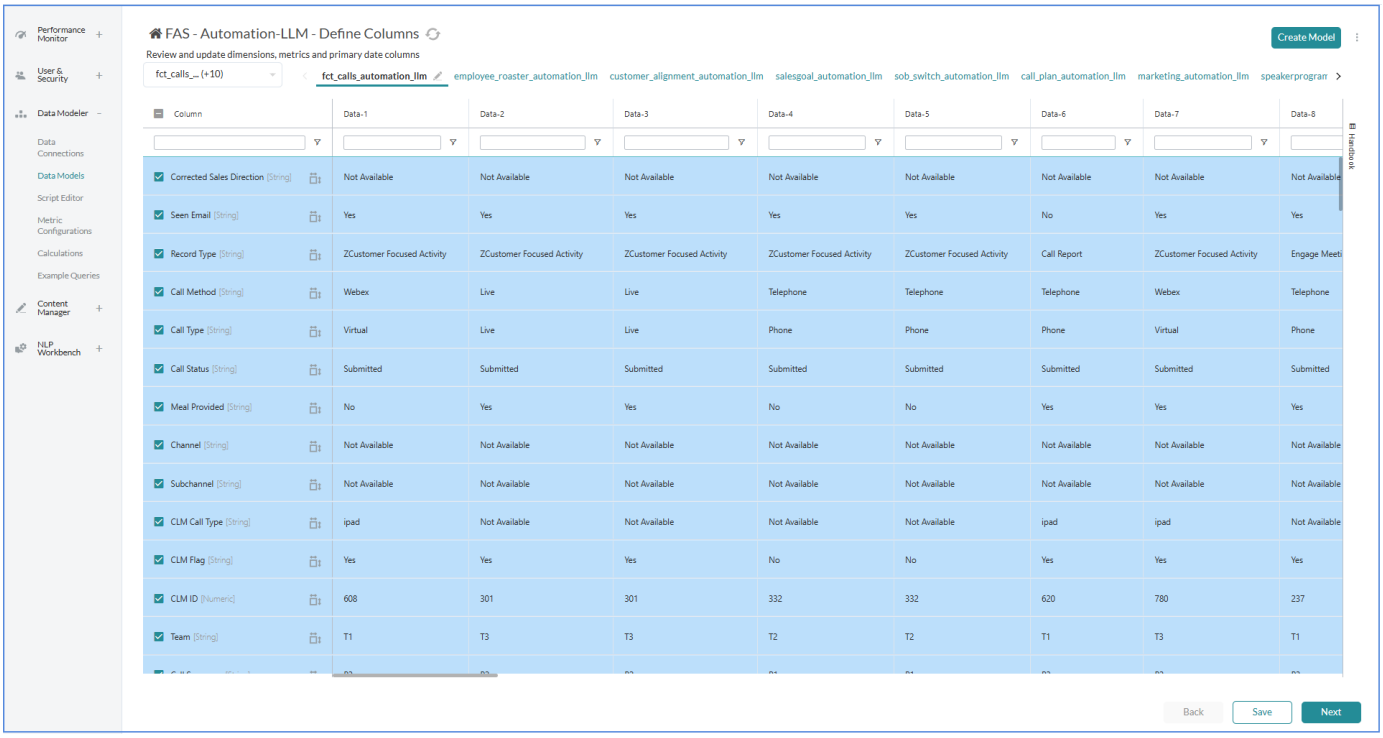
Remove identical metrics from multiple data sources

When constructing a model using multiple data sources, it is common for these sources to have identical metrics. However, this can lead to errors during model creation, as ideally, each metric should belong to one data source only. Resolving this issue typically involves manually deselecting identical metrics from each data source, which can be time-consuming.
WhizAI now offers a streamlined solution to resolve conflicts in one shot. You can now easily view all identical metrics across all data sources from a model from a single popup dialog. You can select a preferred data source for each metric, resolving conflicts.
To address identical metric conflicts, follow these steps:

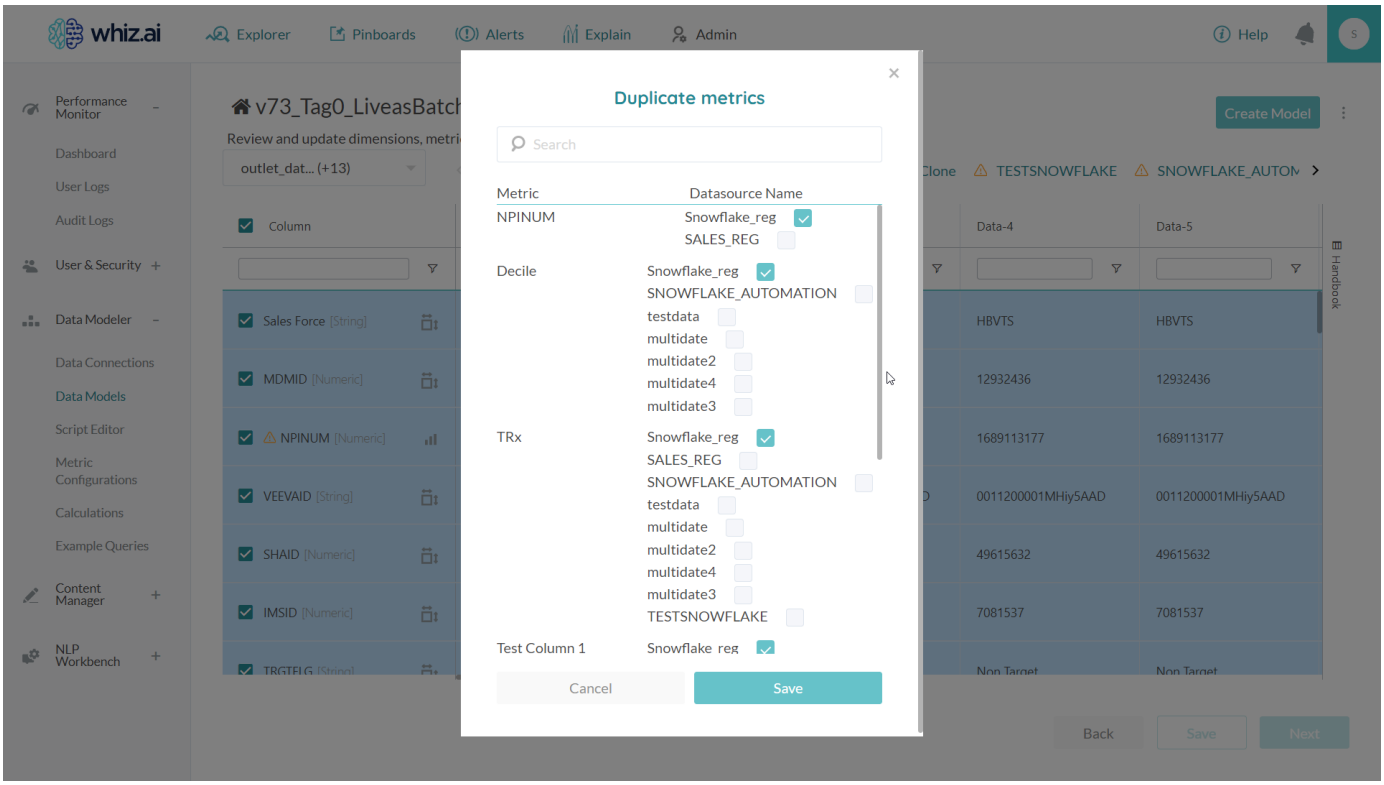
- Click **Admin-> Data Modeler->Data Models** to open the List of Data Models page.



- Select the relevant Data Model and click Edit to open the **Define Columns** page.
- Identify columns marked with warning signs indicating identical metrics and click the warning sign icon.
- A new pop-up window displays all identical metrics and their corresponding data sources, with preselected values.



- Unselect the irrelevant data sources and select one data source to retain for each metric.



- Click "**Save**" to confirm your selections or "**Cancel**" to abort them. You are redirected to the Define Columns page.

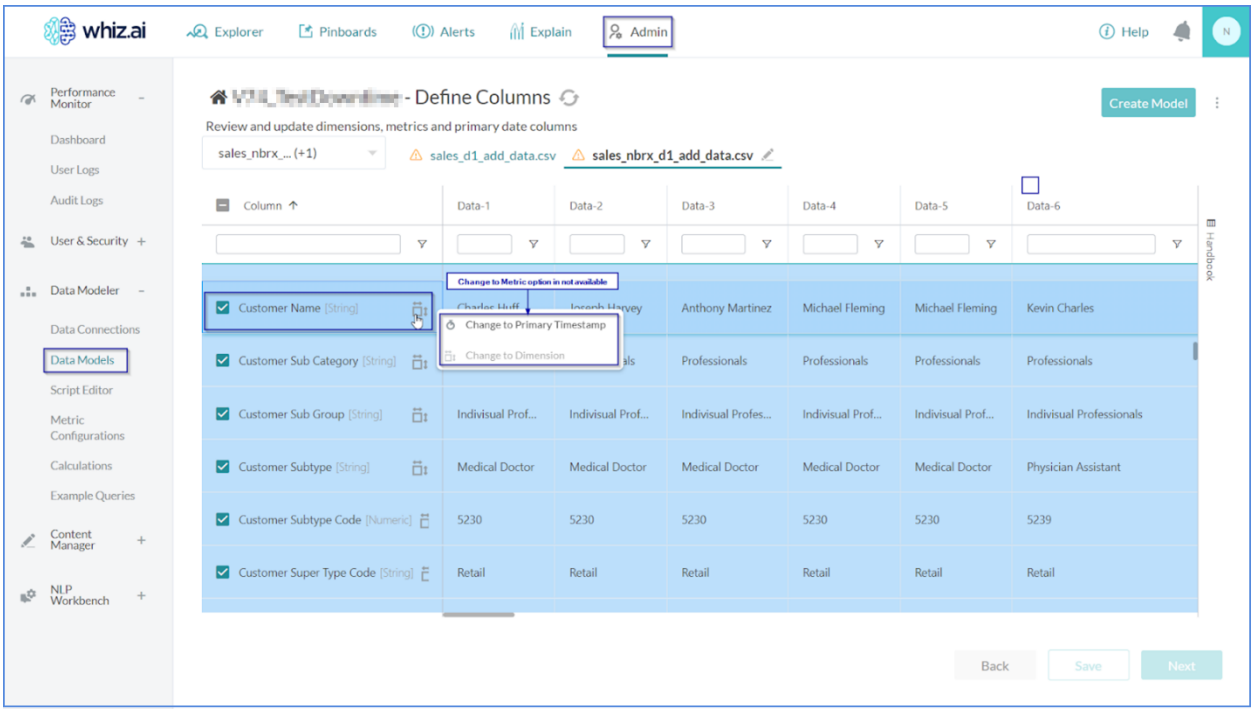
Note! The Save button is enabled only when no data source is selected or a maximum of one data source is selected for each metric.

- Click **Next** or **Save** on this page to commit the changes to the model and update the data dictionary.
- To discard any changes and revert to the previous state, click "**Refresh**." Warning signs will reappear next to data sources and columns again.
- Click **Back** to return to the **List of Data Models** page.

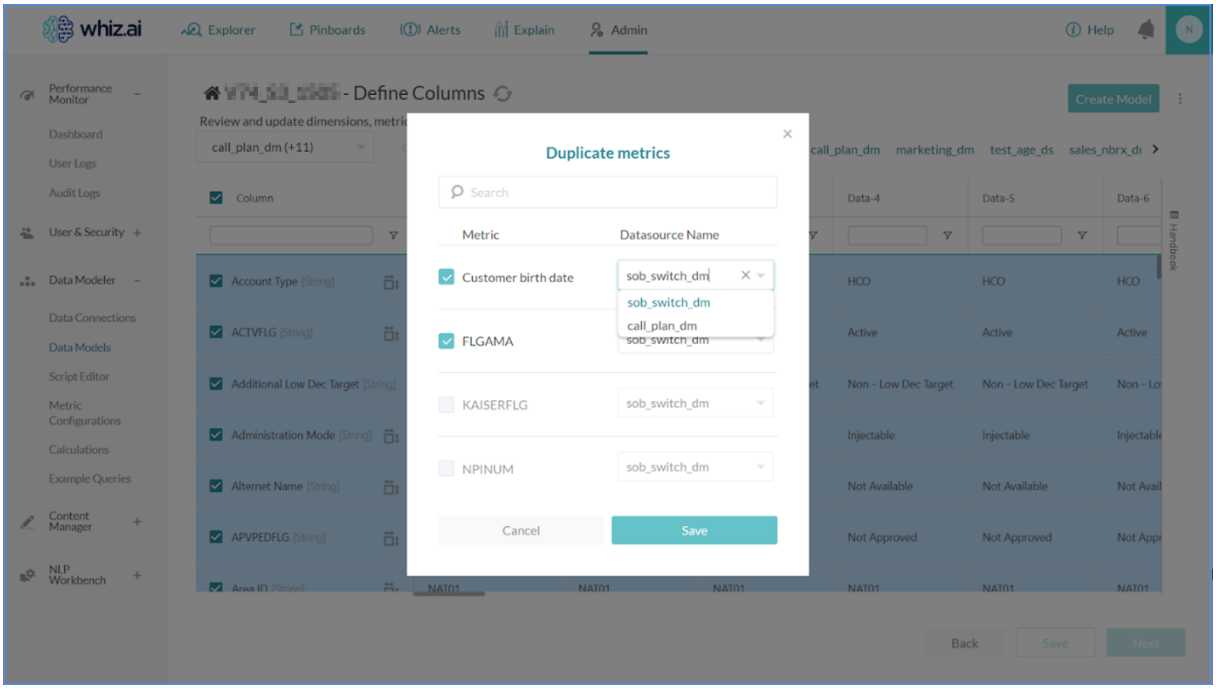
Bulk-select identical metrics from multiple data sources in a single Model

While resolving warnings for identical metrics on the Define Columns page, when you select one data connection, all other data connections should automatically be disabled. This eliminates user efforts to manually deselect other data connections.

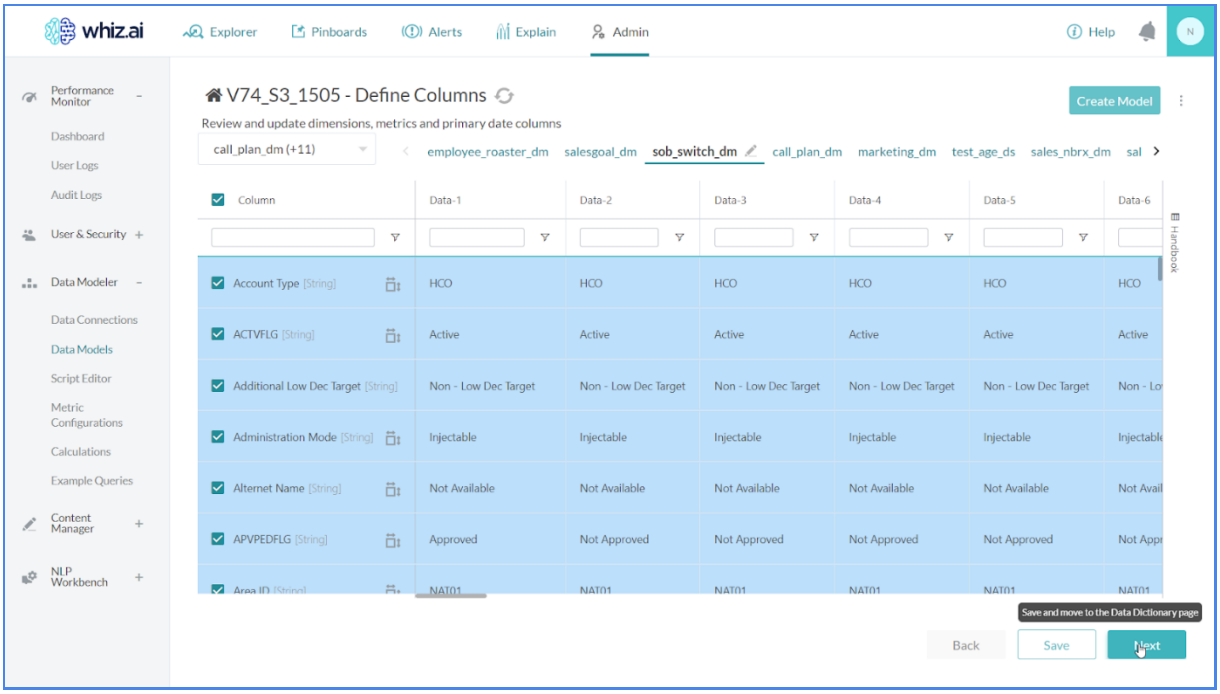
- On the **Define columns** page, if there are identical metrics across data connections, you will see warning signs against the data source tab.



- Click the warning icon to open a pop-up showing metrics identical to other data sources for the model.
- For each identical metric, select the data source from the drop-down list.
- Save button is enabled.
- You have the option to resolve warnings for one or more metrics and save your selections.
- If any metrics remain unresolved, a warning sign still appears next to the data source. Once all identical metrics are resolved, the warning sign disappears.
- You can cancel your actions at any time by clicking the Cancel button.



- After performing the process as mentioned in the step above (#2), the popup disappears, and you are navigated to the Define **Columns** page.
- Click the SAVE or NEXT button to commit the changes done on the Define Columns page to the underlying data dictionary.
- Click the **Refresh** button to abort the changes.
- Click the **Back** button to abort the changes and return to the Data Models page.



Data Modeling

WhizAI offers a great level of flexibility to your data workflows by offering independent management of data modeling and data load processes. With this feature, you can configure a data model with one connection

and switch to another seamlessly with an adaptable production connection. Once your data model is fully formed with all its components, it becomes a versatile asset that can connect to production data in real-time or batch mode, ensuring consistent schema compatibility.

You can configure a data model as mentioned below:

1. Directly on the UI without a schema file- In the beginning you do not have the data source. You can execute **Data Modeling** and **Data Load** processes independently, irrespective of a specific user interface.
2. Using a schema file (CSV) without any data- You work with the entire model configuration to test **Model Manager**
3. Using a schema file (CSV) with dummy data- You work with the dummy file to test the **Data Model** configuration.

Once your backend is ready you can switch your connection to the actual database. When you trigger a model with your prepared data model, you will experience; Models executing successfully, accommodating any NLP updates or APP layer enhancements made to the model. This ensures that your model updates accurately reflect real-world conditions, enhancing the reliability and accuracy of your data processes.

Configuring a connection with consistent schema compatibility

You can reuse an existing model for a different connection with the same schema. Whatever is new in your model configuration is accommodated, ensuring seamless integration, and consistent schema compatibility.

Migrating data model configurations within environments

You can migrate the data model configurations from one WhizAI environment to another WhizAI environment. For example, you can migrate models from the 'Development' environment to the 'QA' environment, or from the 'QA' environment to the 'Production' environment, etc. To migrate the models, you must export the models from the source environment and then import these exported models to the target environment.

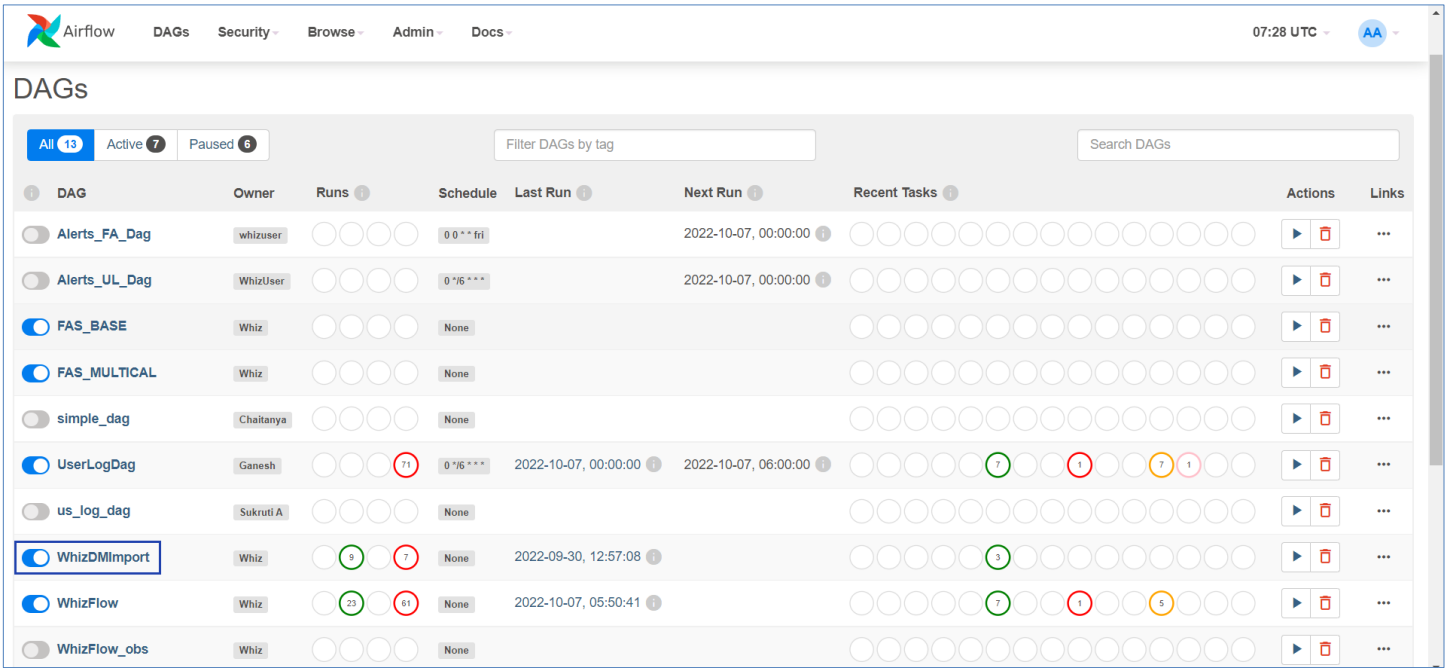
1. Login to the source environment from where you want to migrate a model.
2. Go to Data Modeler > Data Models > List of Models page.
3. From the top-right corner, click  icon.
4. Click Export, to open the Export Data Model Configuration dialog.
5. From the drop-down list, select the data model to be exported, and click **Download** to download a JSON file for the selected model.
6. Login to the target environment (where you want to import the exported model).
7. Go to the Data Modeler > Data Models > List of Models page.
8. From the top-right corner, click  icon.
9. Click Import; to open the Import Data Model Configuration dialog.
10. Drag and drop the configuration JSON file exported from the source environment and click **Import**.
    OR
    Click **Browse files** to select the JSON file and then click **Import**. The imported data model gets added to the List of Models.

Moving existing Airflow-driven data model configurations to the Data Modeler UI solution

You can move existing Airflow-driven configurations to Data Modeler and run the model on the UI.

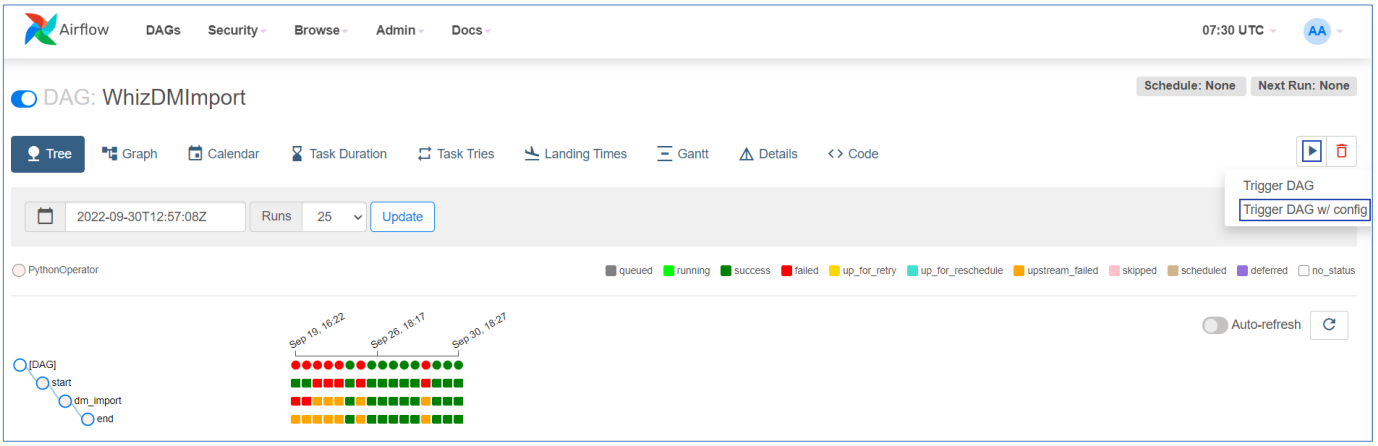
Prerequisites

Make sure you have **WhizDMimport** dag available and enabled on the Airflow v2.2.5 or above.

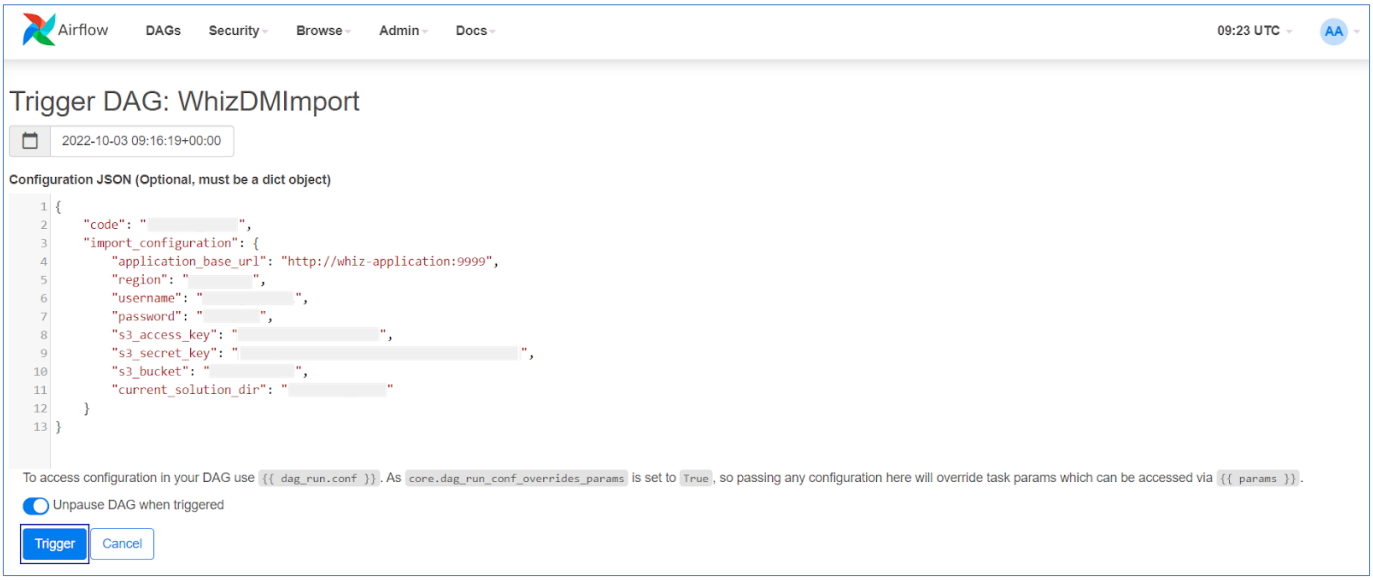


To move existing model configurations:

1. Go to **WhizDMimport** dag.
2. Click **Trigger DAG** ▶.
3. Click **Trigger DAG w/ config**.

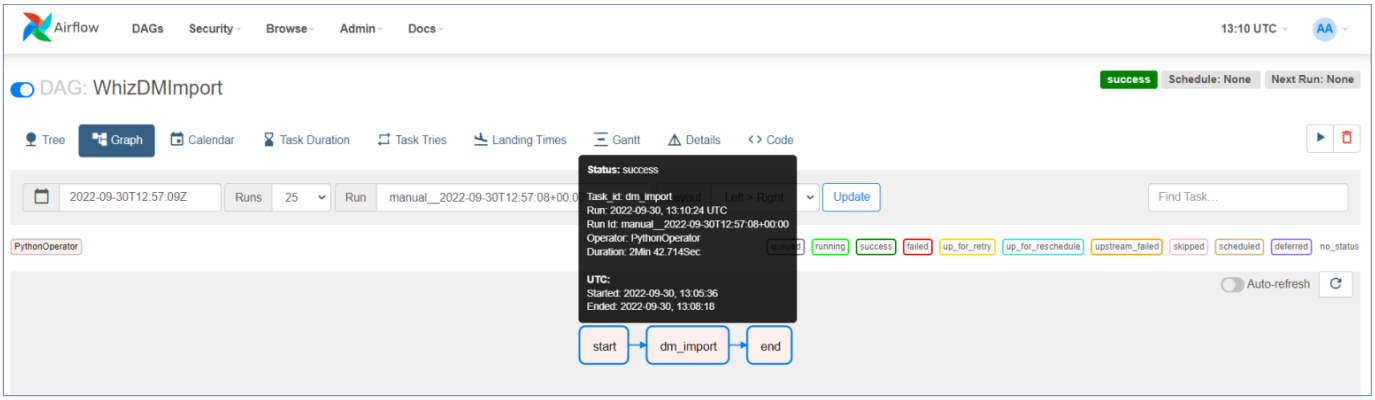


4. Provide a valid configuration JSON as shown in the following figure and click **Trigger**.



Note! For more information on this configuration, refer to Understanding the WhizDMimport configuration JSON.

5. You can check the status of the DAG as shown in the following figure.



After a successful DAG run, all the configurations will be available on the Modeler UI. You can Edit, Configure, and Run these imported models, as required.

Support multiple transformations across data sources within a model

When creating or modifying a model with a large number of metrics and dimensions, it becomes laborious to individually search and change each column from **metrics to dimensions** or vice versa. WhizAI now provides an efficient method to change column types in bulk.

- Click Admin-> Data Modeler->Data Models to open the List of Data Models page.
  - Create a new data model or edit the data model from the list. Go to the Define Columns page.
  - Click (ellipsis icon) adjacent to the Create Model to view the following options in the drop-down menu:
    - **Change dimensions to metric**
    - **Change metrics to dimension**
  - Click "**Change dimensions to metric**" to trigger a pop-up listing all dimensions from the selected data source., with checkboxes to select the dimensions to convert to metrics. You can select one or

more dimensions for conversion. The conversion should allow any dimension to be converted to a metric, including time dimensions, ensuring that at least one-time dimension is selected for the data source.
Note! You are accountable for transforming the columns from dimensions to metric. The system does not restrict you from adding any column as a metric.

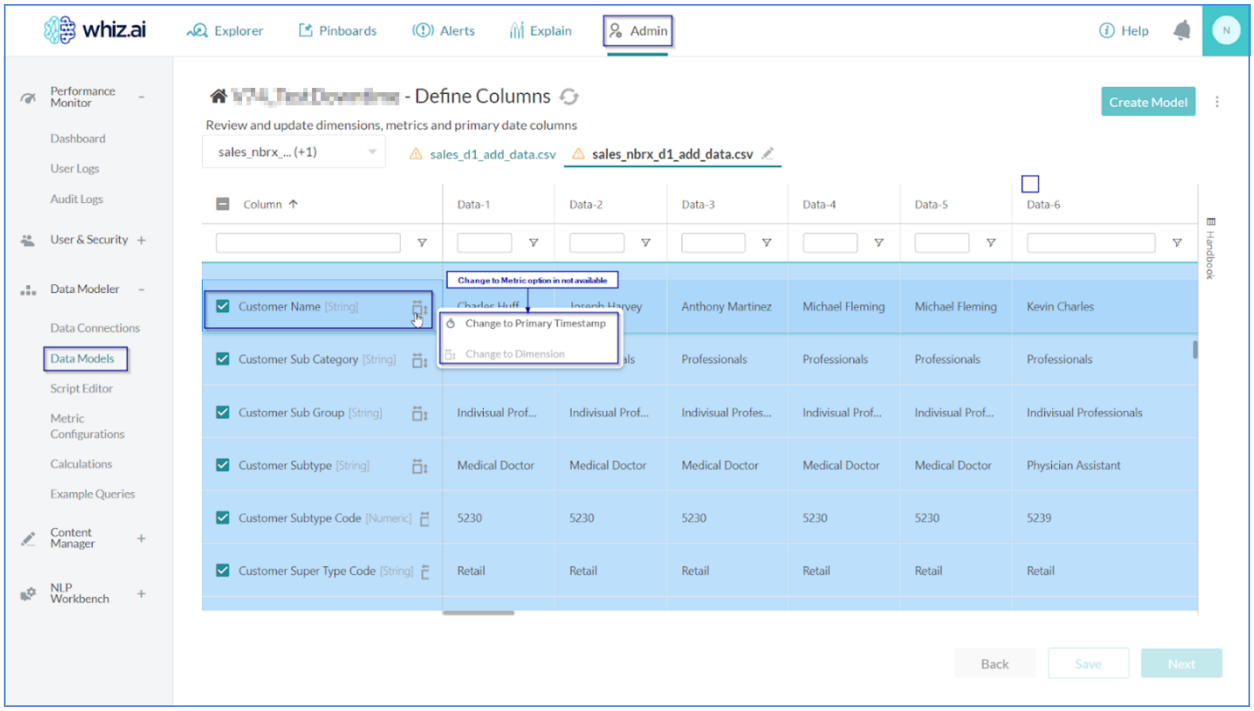
- Click "**Save**" to confirm the transformation or "**Cancel**" to abort them. You are redirected to the Define Columns page.
- Click **Next** or **Save** on this page to commit the changes to the model and update the data model details. The dimensions converted to metrics should now be available in the Data Dictionary.
- To discard any changes and revert to the previous state, click "**Refresh**."
- Click **Back** to return to the **List of Data Models** page.

Similar functionality is available for converting metrics to dimension, with a pop-up listing all metrics from the selected data source and checkboxes to select metrics for conversion. There should be no restrictive validation for this conversion, allowing any metrics to be converted to dimensions. Care should be taken to ensure that there is at least one metric in the selected data source.
The pop-ups for "**Change metrics to dimension**" and "**Change dimensions to metric**" include a search window to facilitate finding specific metrics or dimensions. Partial matches should display all probable matches for selection.

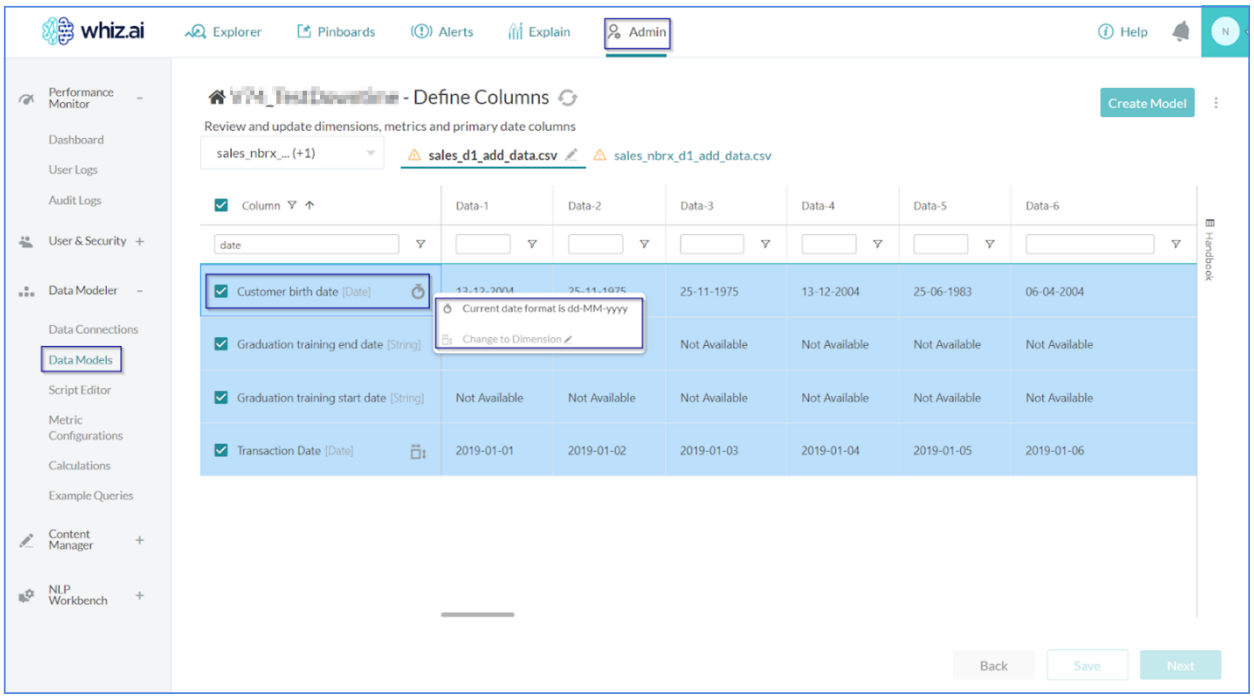
Important! If a metric or dimension is changed to the other type (through a bulk update or otherwise), the change should be applied to all metrics and dimensions across all data sources.

Change to Metric action for all non-numeric dimensions and the primary date/timestamp column is disabled to avoid data discrepancies. For example, the column **Customer** will not have the menu option 'Change to Metric,' or the **Weekend date** column will not have the 'Change to Metric' menu option.
The following rules apply for columns in the **Define Columns** page.

- Columns marked as string, cannot be converted to metric. **Change to Metric** menu option will not be visible for such columns. For example,



- Columns marked as Primary timestamp cannot be converted to metric. Change to Metric and Change to dimension menu options will not be visible for such columns. For example,



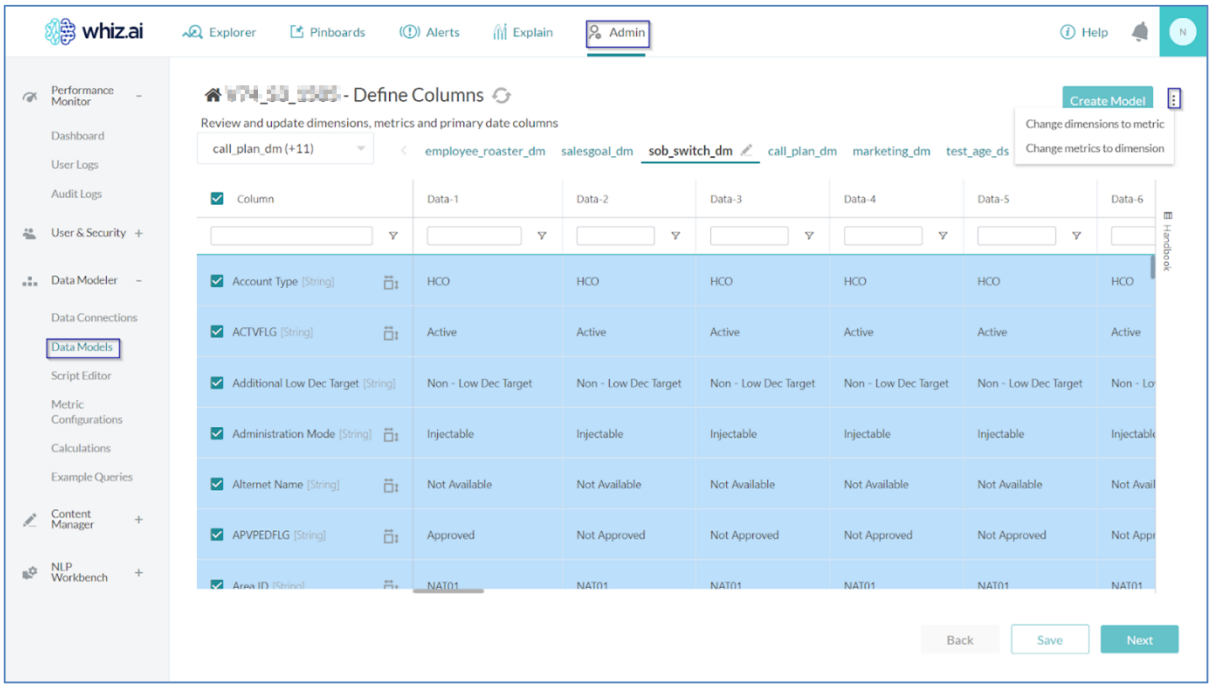
Bulk update using 'Change dimensions to metric' and 'Change metrics to dimensions' menu options

You can convert multiple dimensions into metrics and vice versa in a single operation.

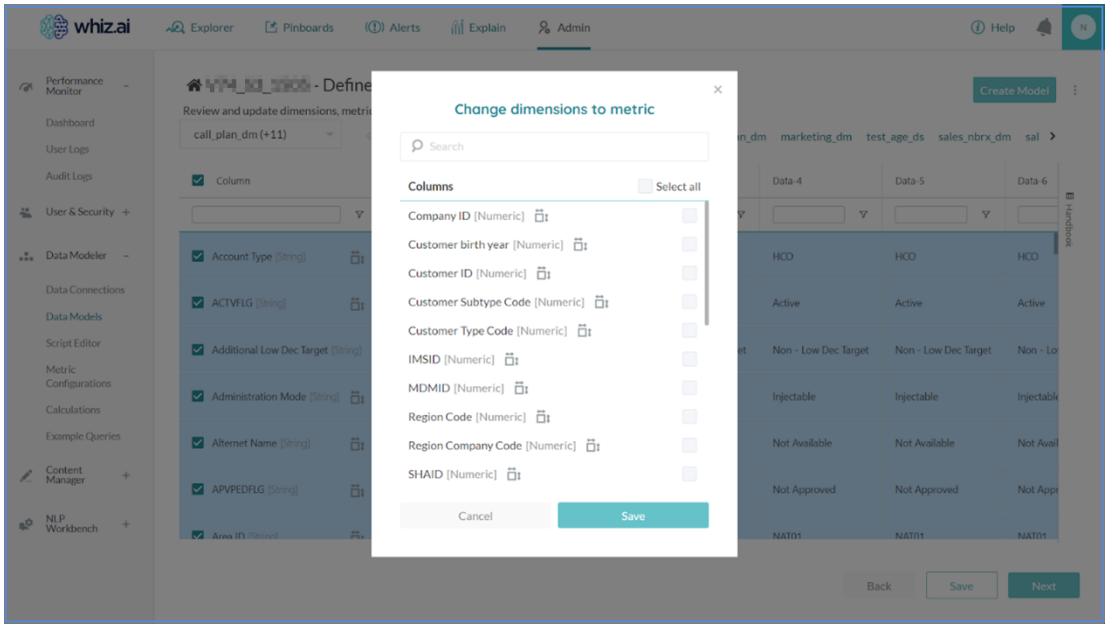
- **Change dimensions to metric** option displays numeric dimensions only.
- There is no restriction on the **Change metrics to dimension** option.

If the same dimension or metric exists in multiple data sources, only one entry is displayed and once modified, all instances are updated across all data sources.

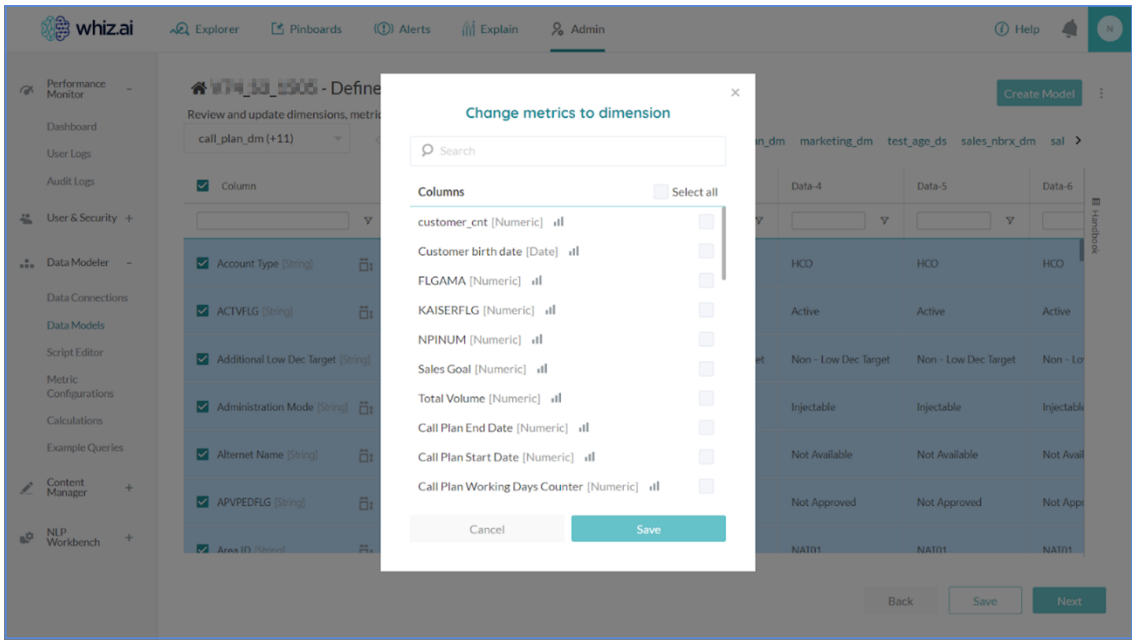
- On the **Define columns** page, click the  next to the Create model button.
  You will see two options in this drop-down list:
  - Change dimensions to metric
  - Change metrics to dimension



- **Change dimensions to metric**
  i. Click "Change dimensions to metric" to open a popup.
  ii. The popup displays a list of **only numeric type dimensions** from all data sources. The list excludes primary timestamps.
  iii. You can select one more dimension to convert to metric.
  iv. Click the Save or Next button to commit the changes done on the Define Columns page to the underlying data dictionary.
  v. Click the **Refresh** button to abort the changes.
  vi. Click the **Back** button to abort the changes and return to the Data Models page.
  vii. A search facility is available to search for a specific dimension across all data sources. Search results show partial matches as well.



- **Change metrics to dimension**
  i. Click "Change dimension to metric" to open a popup.
  ii. The popup displays a list of **all metrics** from all data sources.
  iii. You can select one more metric to convert to dimensions.
  iv. Click the Save or Next button to commit the changes done on the Define Columns page to the underlying data dictionary.
  v. Click the **Refresh** button to abort the changes.
  vi. Click the **Back** button to abort the changes and return to the Data Models page.
  vii. A search facility is available to search for a specific metric across all data sources. Search results show partial matches as well.



If you make changes as stated in the above steps, to any identical metric or dimension, it is converted across all data sources.

Limitation!
For live data connection, column data types are fetched as defined in the schema. For example, if a column is defined as Varchar in the schema, it is fetched and displayed as a String even if the data has numeric values. For such columns, the Change to Metric option is not available.

As a workaround, follow the steps below

- Correct the schema of the live connection data source.
- Declare the correct data type for the columns.
- Reverify the connection.
- Refresh the Data Modeler screen.

Understanding the WhizDMimport configuration JSON

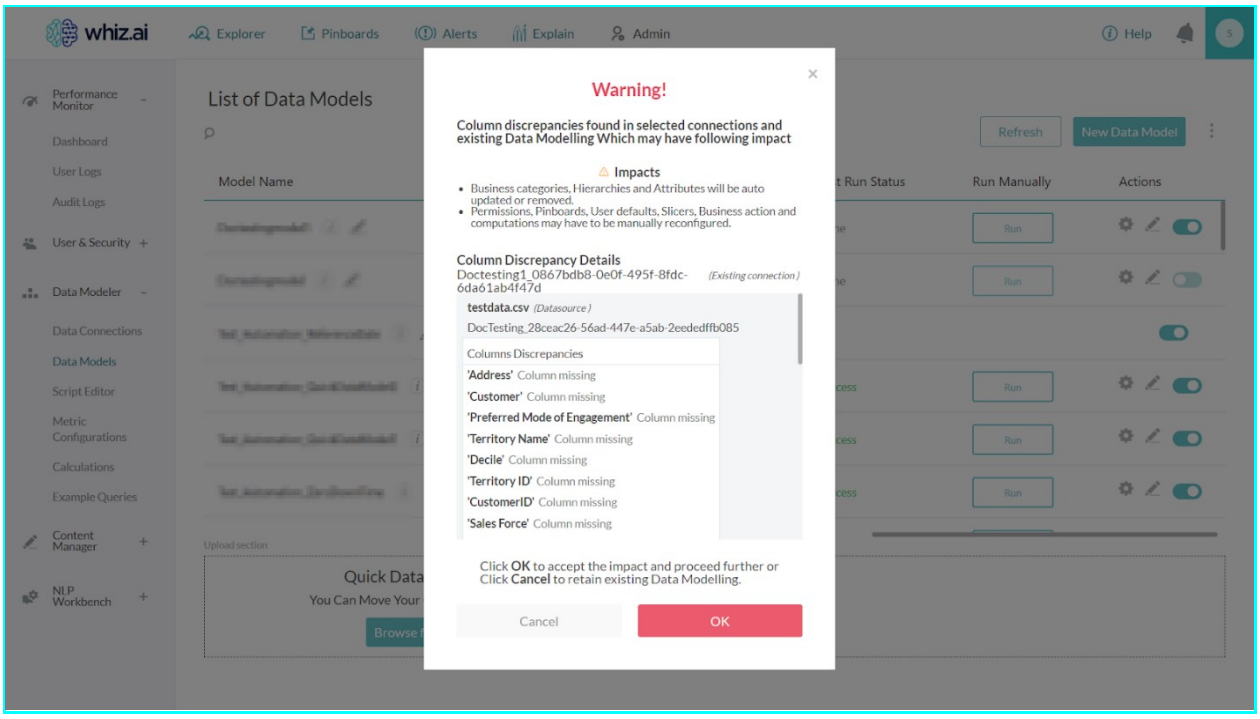
The following table explains different fields in the WhiDMimport configuration.

JSON field	Description/Function
Code	This is the Unique Identifier of your choice
application_base_url	This is the application URL with the port number: http://whiz-application:9999
Region	It is the AWS S3 region corresponding to the access key
Username	Login credential: This is your login ID
Password	Login credential: This is your login password
s3_access_key	AWS S3 access key, to be provided by the customer
s3_secret_key	AWS S3 secret key, to be provided by the customer
s3_bucket	Bucket to be used for data storage
current_solution_dir	Directory used for existing ETLs by the Airflow-driven DAGs.

Assessing data connection changes impact

You can assess the impact of replacing, switching, or modifying any existing used data connections in your data models. This ensures that the changes are acceptable and can be implemented without causing any unexpected impact.
Additionally, if the underlying connection table structures change after modeling, you will receive a warning on opening the model, to prevent surprise failures or unexpected behavior.

When you edit an existing data model by switching connections or changing table structures, the system will conduct an impact assessment and display a warning popup. This popup will include details about the missing columns and a list of potential impact areas.



Once you click the OK button, the following changes will occur immediately:

Dimension Removal

- Business Categories:
  - The removed dimensions will be eliminated from existing business categories. If a business category has no entities remaining, the category itself will be removed.
- Hierarchies:
  - If one or more dimensions are missing in a hierarchy, the child dimensions will be promoted to parent status. If there is only one or no dimensions remaining the hierarchy will be removed.
- Attributes:
  - If an attribute of a dimension is removed, it will disappear from the data dictionary (DD). If the parent dimension of an attribute is removed, the attribute will be restored as a dimension.
- Entity Synonyms:
  - If a synonym of a dimension is removed, it will disappear from the DD. If the parent dimension of a synonym is removed, the synonym will be restored as a dimension.
- Dependent Dimensions in Metrics:
  - If a dimension is removed from a data source, all metrics in the data source will reflect this change in their list of dependent dimensions.
- Primary Time Dimension:
  - If the time dimension is removed, the next available time column will be considered the primary time column. If no time dimension remains, the modeling will fail.
- Column Type Changes:
  - If a column type changes from string/date to numeric, the dimension can become a metric, but this change must be explicitly marked and will not occur automatically.

Metric Removal

- Business Categories:
  - The removed metric will be eliminated from existing business categories. If a business category has no entities remaining, the category itself will be removed.

- Data Source Impact:
    - If no metrics remain in a data source, the modeling will fail.
- Column Type Changes:
    - If a column type changes from numeric to string, the column will no longer be considered a metric. It will be treated as a removal of a metric (triggering the above impacts) and the addition of a new dimension column (deselected by default).

Changes after Running the Data Model

After running the model from the data modeler, additional impacts will be handled:

Dimension Removal

- Dependent Dimensions in Calculations:
    - If a dimension is removed from a data source, all calculated/API metrics in the data source will reflect this change in their list of dependent dimensions.

Metric Removal

- Computations:
    - The removed metric will be eliminated from the list of computations for all defined computations and will not appear in the configurations.

This structured approach ensures that you are adequately informed of the potential impacts of the changes and can take necessary actions to maintain the integrity of data models.

A manual definitions update is required for the functionalities listed below:

- Permissions
- Pinboards
- User defaults
- Slicers
- Business action
- Cohorts

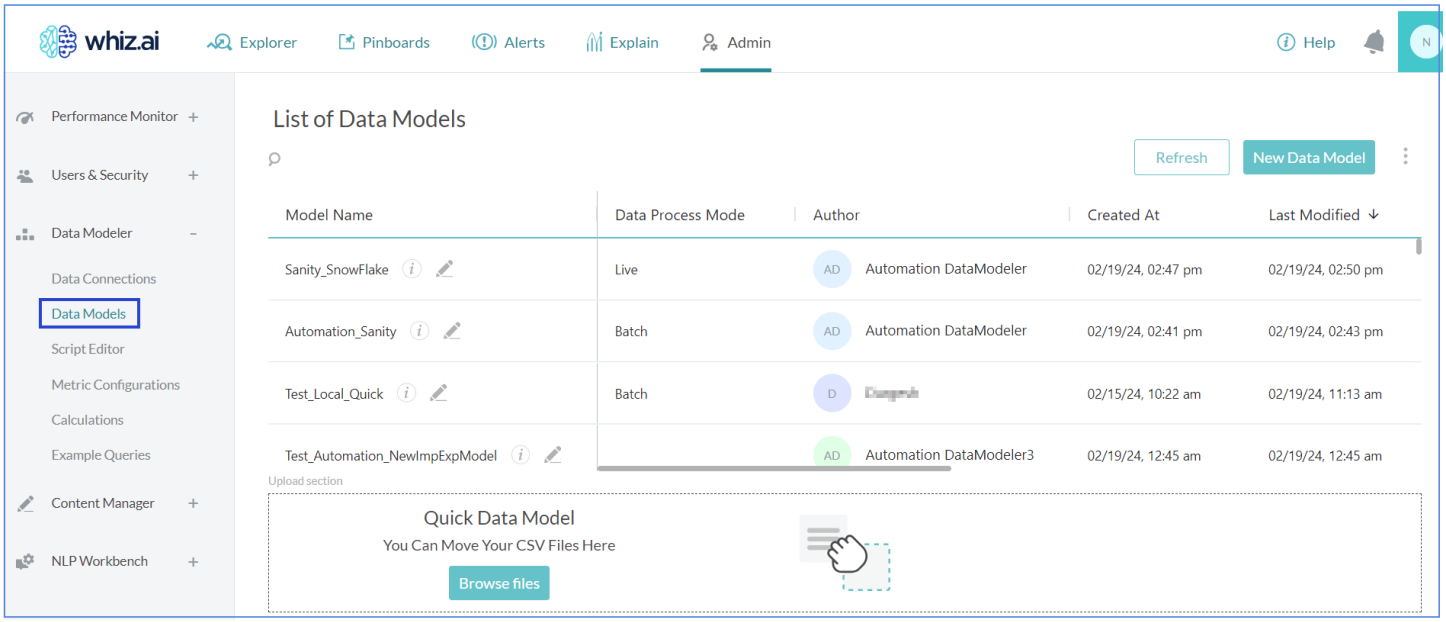
Data Models

To add a data model in WhizAI:

1. Go to Data Modeler > Data Models. The List of Data Models page is displayed.
2. Click New Data Model to open the New Data Model page.
3. Enter a name for the data model, as required.
4. Select the data process mode, as required. WhizAI allows you to select either Batch or Live as the data process mode. For more information on data process mode, refer to the section Selecting the data source type.
5. Select a data connection, as required.
6. In case a connection does not exist, you can click Create a New Connection to add a new data connection.
7. Click Next. The Define Columns page is displayed. You can define the data sources and columns in the data model from this page. For more information, refer to the Understanding the Define Columns section.
8. Click Next. The Data Dictionary page is displayed. You can configure the data dictionary from this page. For more information, refer to the Understanding the Data Dictionary section.
9. Click Next. The Data Load Configurations page is displayed. For more information, refer to the Understanding the Data Load Configuration section.
10. From the left side, select the data source and add corresponding configurations on the left-hand side.
11. Click Save & Close. The data model is created and WhizAI displays it under the List of Models page. After these steps are completed, the data model is ready and displayed in the table on the **List of Models** page.
    Click **Run** against the data model to begin data ingestion.
12. If data pipeline fails in NLP Import with error message - *"Failed to import hierarchies,"* User need to follow below steps before taking 2nd run:
    a) **Disable NLP Import**: In ***Data Modeler***>***Data Model***>***Configuration*** *Settings* > ***NLP*** *tab*, uncheck the ***NLP Import*** option, then click **Save**
    b) **Set Data Load to False**: In ***Data Modeler*** > ***Data Model*** > ***Edit Model*** **> Data Load configurations page,** set *Enable Load* to **False**.
    Re-run the model. Once model run is finished,
    Now verify model should come up with configured hierarchies.

List of Data Models

The **List of Data Models** page displays the data models added to WhizAI.



The table below describes the columns in the **Data Model** page:

Column Name	Description
Model Name	Business-friendly name of the data model
Data Process Mode	This is the storage (Batch or Live)
Author	Name of the user who created the data model
Created Date	Date when the data model was added to WhizAI
Last Modified	Date when the data model was updated
Schedule	Schedule the model run. You can specify the frequency schedule for the model run.
Last Run	Displays the status of the last run status
Next Rune	
Last Run Status	
Run Manually	Action button to Run the model for the data ingestion and model update
Actions	Options to Configure, Edit, or Deactivate the model

From this page, you can perform the following tasks:

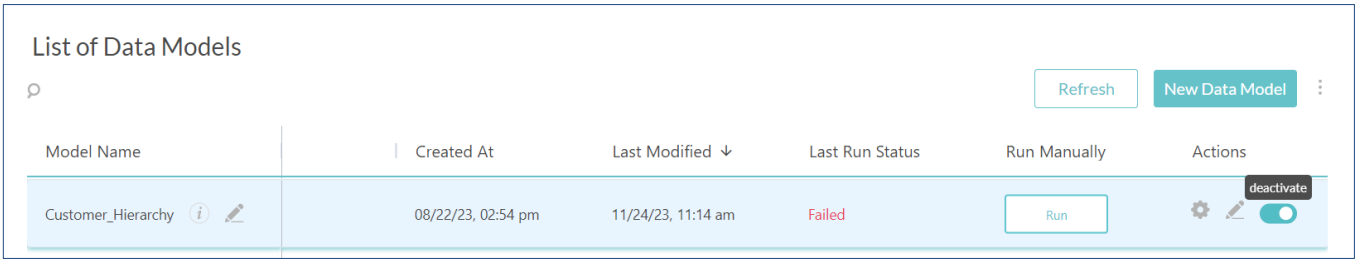
- Add a new data model
  - Rename data model
  - Run a data model from the table displayed on this page
  - Activate/ de-activate a data model
  - Quickly add a data model with a CSV file as the data source
  - Configure a data model
  - Edit a data model
  - Schedule data model run

Rename Data Model

1. From the data model record, click the **Edit** icon against a data model.
2. Edit the data **Model Name**.
3. Click **Save**.

Activate/ Deactivate Data Model

Click the toggle option under the **Actions** column to activate or deactivate the data model. You cannot use a deactivated data model for any data ingestion in the future.

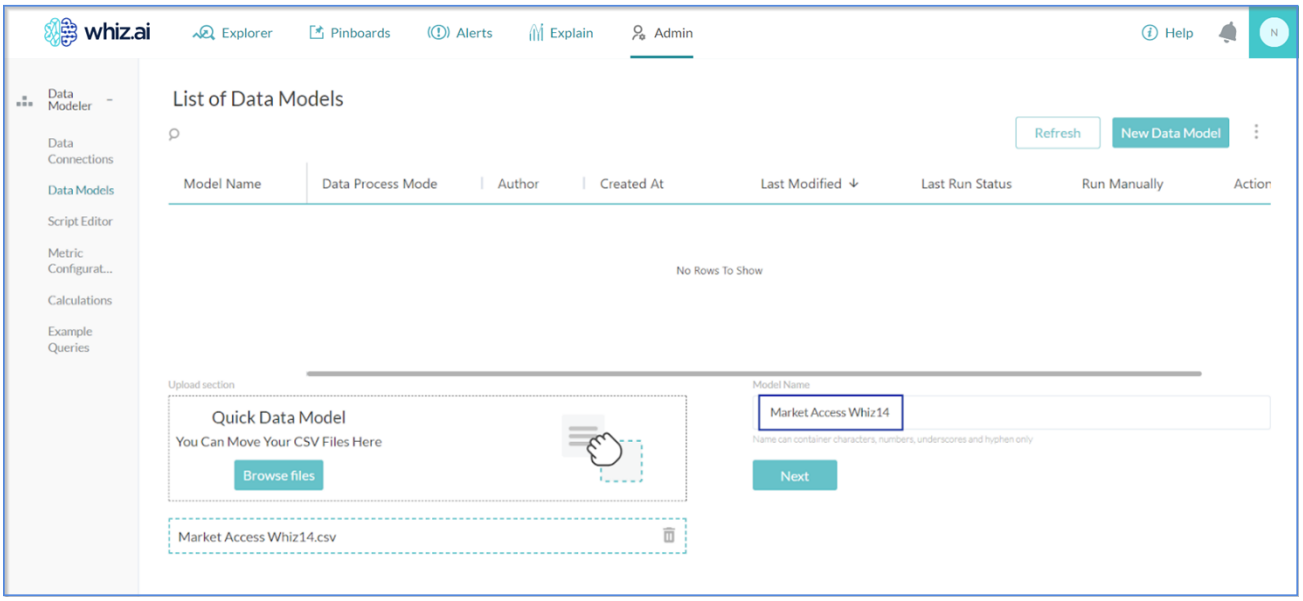


Note! Contact your system administrator in case a data model must be deleted permanently from the system.

As an Administrator user, if you deactivate a data model, you can no longer see it on WhizAI Explorer; however, you continue to see it on the **Data Models** page.

Quickly Add Data Model

- Go to **Data Modeler** > **Data Models** > **List of Data Models** page and from the bottom of the page, either click **Browse** or drag and drop CSV files from your local machine.
  - Enter a name for the data model and click **Next**. The **Define Columns** page is displayed.

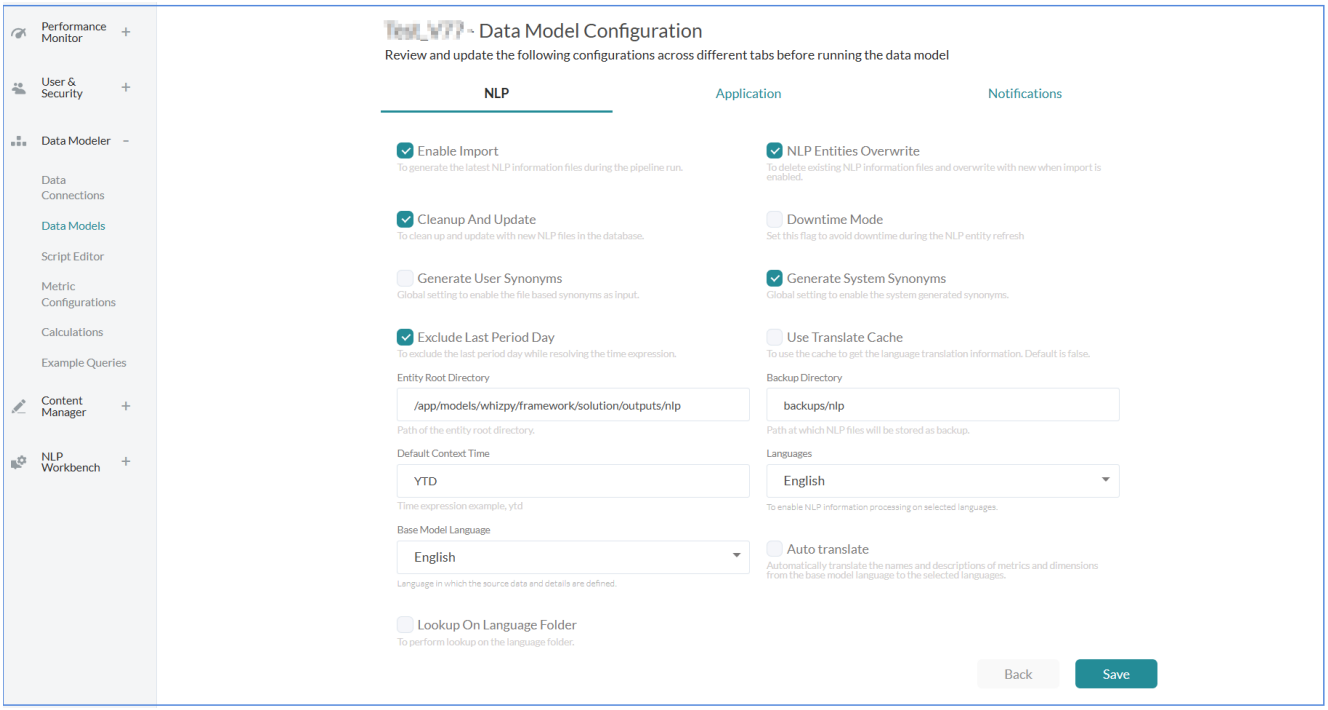


- Click Next to continue to build the data model by building the data dictionary and configuring it.

Note! For the complete steps to build a data model, refer to the WhizAI Administrator's Guide.

Configure Data Model

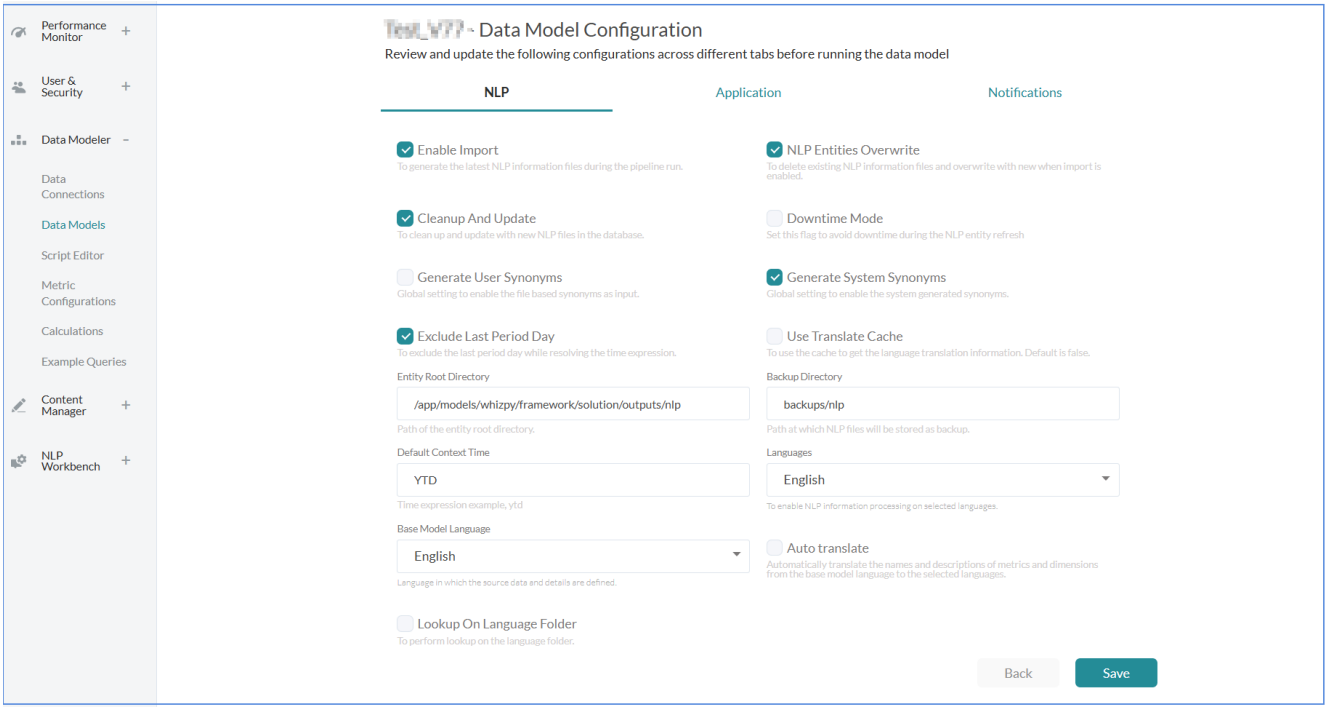
When you run a data model, WhizAI loads the data, processes the NLP-related information, and stores it in the system. Based on the data dictionary, some configurations that are required by the application are captured, such as the details of base metric, computation metric, fraction size, etc. Refresh the model listing page to load the status of all the models, which reflects the status of previous runs.



1. **NLP** – Improves the intelligence of the system about the data.

2. **Application** – Captures logical information about data such as base metric, computation metric, fraction size, etc.
3. **Notifications** – Model failures are to be notified.

NLP Tab

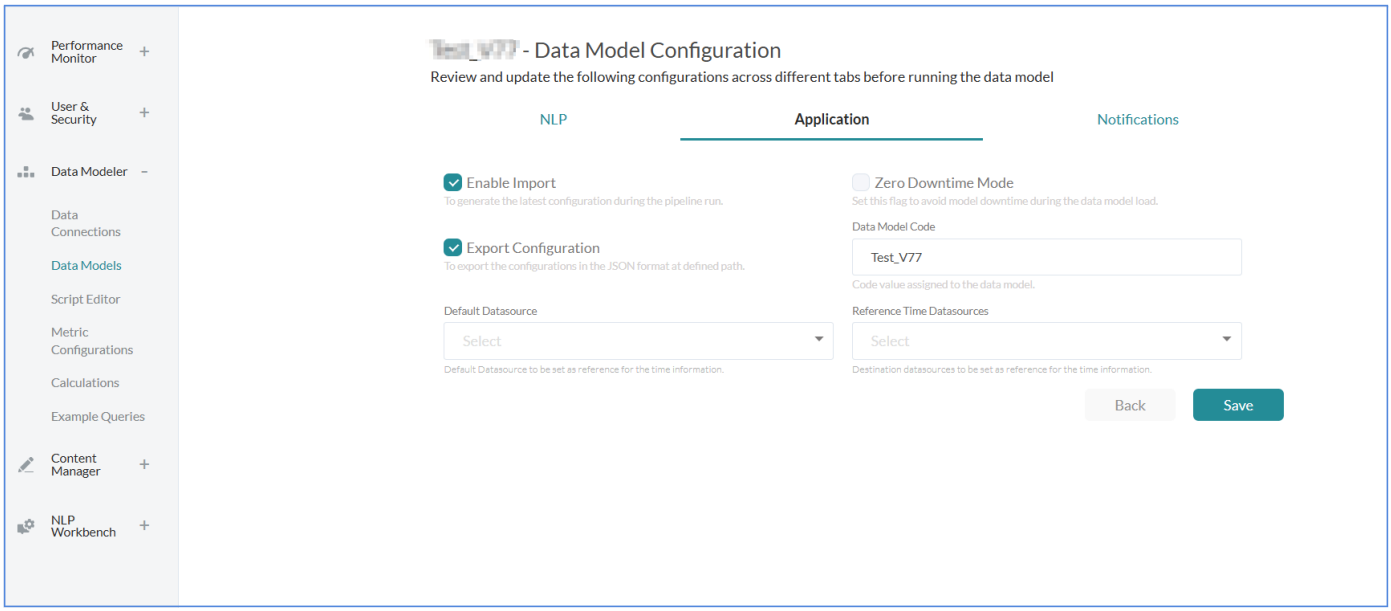


The model configuration details for the NLP tab are described in the table below:

Field	Input Type	Description	Default Value
Enable Import	Checkbox	The flag controls whether the generated NLP model should be imported into the NLP service or not.	True
NLP Entities Overwrite	Checkbox	To delete existing NLP information files and overwrite them with new ones when import is enabled.	True
Cleanup And Update	Checkbox	To clean up and update with new NLP files in the database.	True
Downtime Mode	Checkbox	Set this flag to avoid downtime during the NLP entity refresh.	False
Generate User Synonyms	Checkbox	Global setting to enable the file-based synonyms as input.	True
Generate System Synonyms	Checkbox	Global setting to enable the system generated synonyms.	True
Exclude Last Period Day	Checkbox	To exclude the last period day while resolving the time expression.	True
Use Translate Cache	Checkbox	To use the cache to get the language translation information. The default is false.	False
Entity Root Directory	Textbox	Path of the entity root directory.	<local path>
Backup Directory	Textbox	Path of the directory where the NLP files backup is stored.	<local path>

Field	Input Type	Description	Default Value
Default Context Time	Textbox		YTD
Languages	Drop-down menu	List of languages. You can select multiple languages from the list to enable information processing in the selected languages,	
Base Model Language	Drop-down	Language in which the source data and details are defined. You can select a language from the list of available languages.	English
Auto translate	Checkbox	Automatically translate the names and descriptions of metrics and dimensions from the base model language to the selected language. Enable the checkbox to automatically translate the information into the language selected from the Languages field.	False
Lookup On Language Folder	Checkbox	If this model involves multiple language translations, specify here.	False

Application

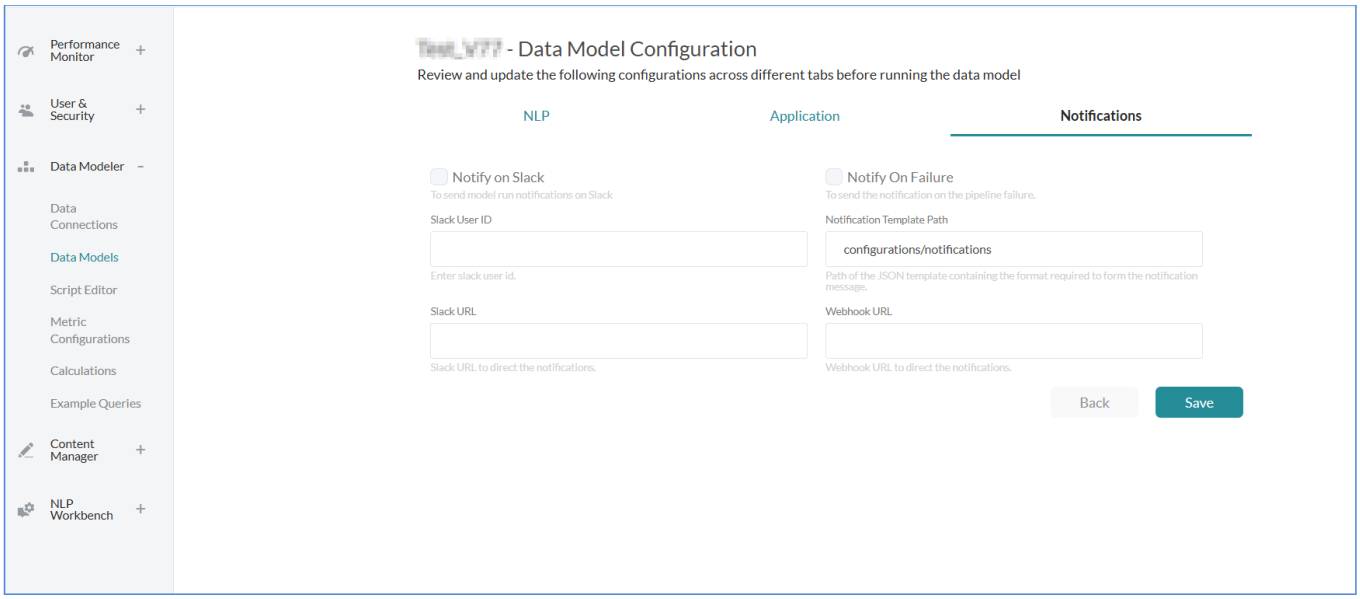


The model configuration details are described in the table below:

Field	Input Type	Description	Default Value
Enable Import	Checkbox	If the system should automatically import generated application settings during the model execution. Enable the option to generate the lates configuration during pipeline run.	True
Zero Downtime Mode	Checkbox	To avoid downtime during the data model load process, this option allows for seamless loading of data models. Enable the option to avoid model downtime during data model.	False

Export Configuration	Checkbox	If the system should export the application-level configurations into a local file in the backend file storage. Enable the option to export the configurations in JSON format at the path defined.	True
Data Model Code	Textbox	Code value assigned to the data model.	
Default Datasource	Drop-down	List of available data sources. As a data modeler admin, you can select a default datasource, from the list of available sources. The selected datasource is designated as the default datasource in the list displayed under the reference date on the Explorer tab.	
Reference Time Datasources	Drop-down	List of available datasources. As a data modeler admin, you can select multiple datasources from the available list. Thus, you have the option to specify the number of datasources displayed under the reference date option on the Explorer tab.	

Notifications



The model configuration details are described in the table below:

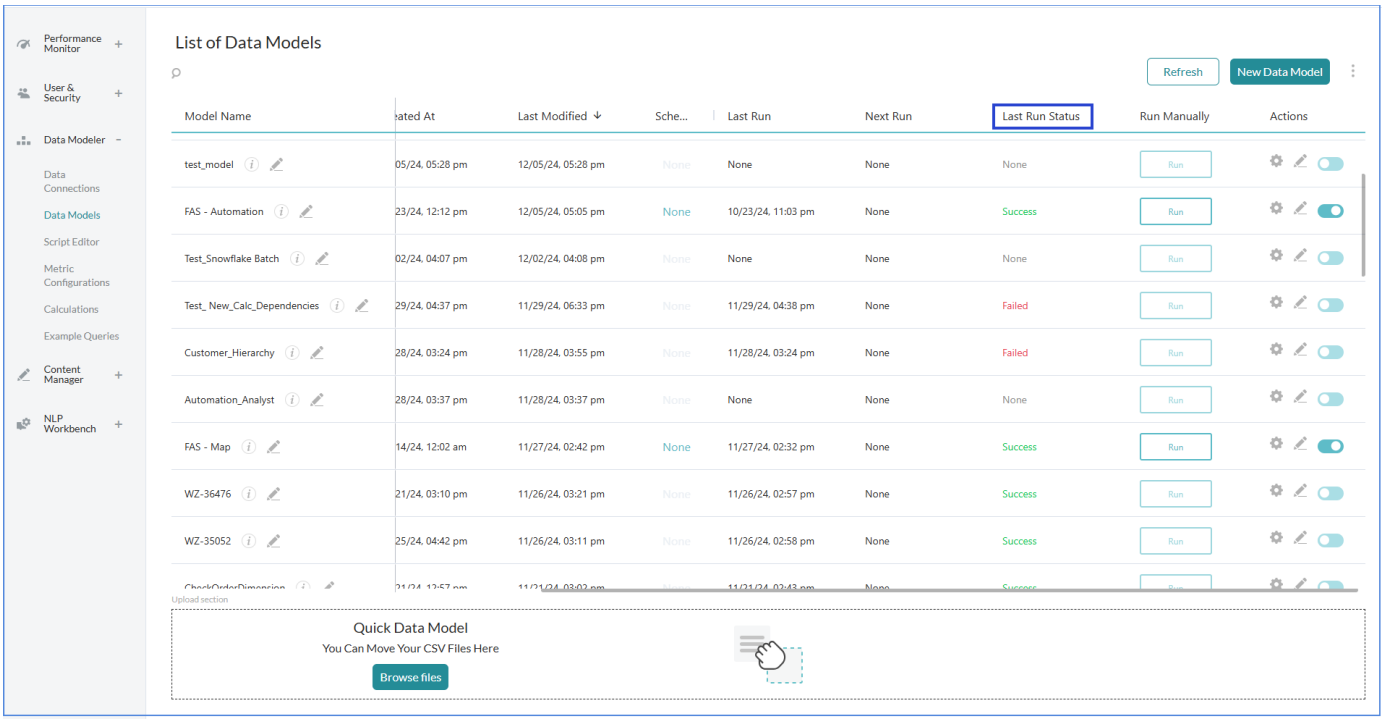
Field	Input Type	Description	Default Value
Notify on Slack	Checkbox	Enable the option to send the model run notification on Slack.	False
Notify On Failure	Checkbox	Enable the option to send the model run failure notification.	False
Slack User ID	Textbox	Slack user ID. A notification message about the successful or failed model run is sent to the specified user ID.	<user id>
Notification Template Path	Textbox	Path of the JSON template containing the format required to form the notification message.	

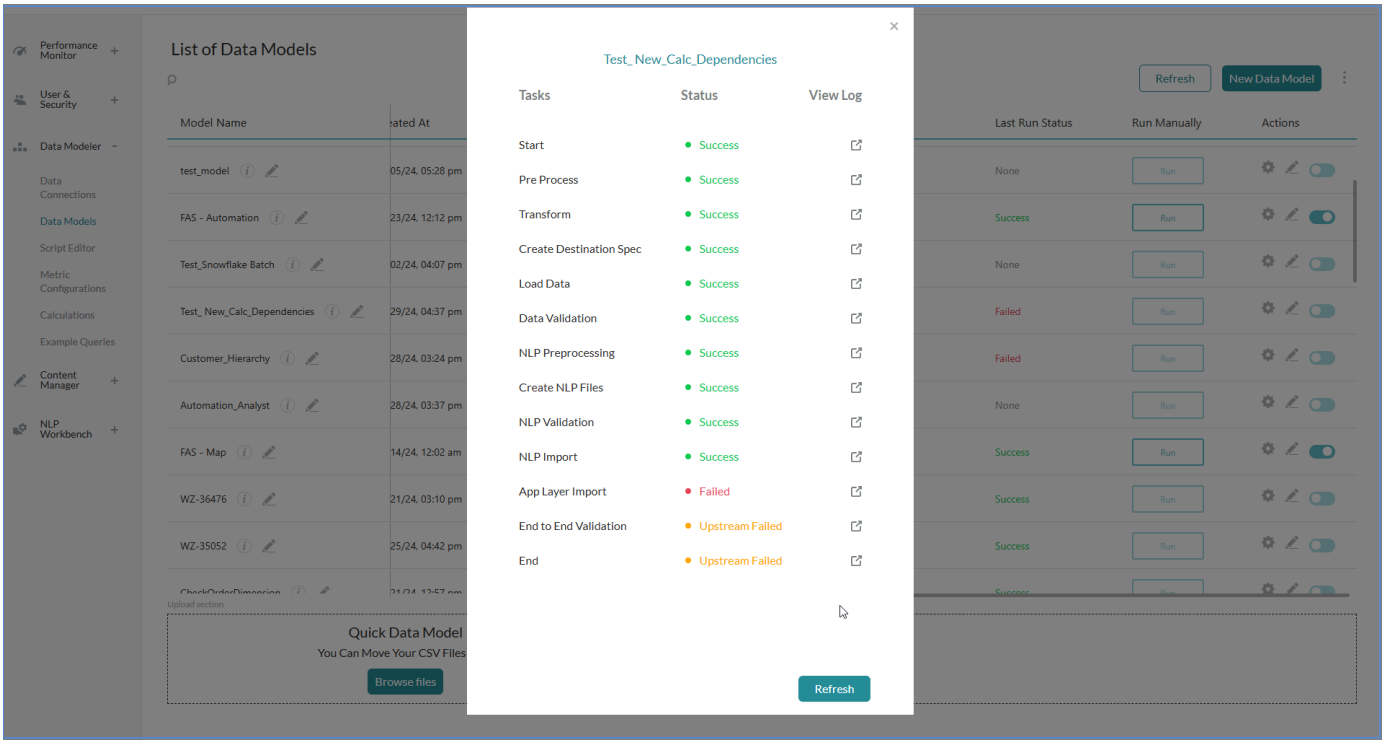
Slack URL	Textbox	Slack URL to direct the notifications.	
Webhook URL	Textbox	Webhook URL to direct the notifications.	

Access Logs for Data Model Run

After a data model run is triggered, to view the status of each task:

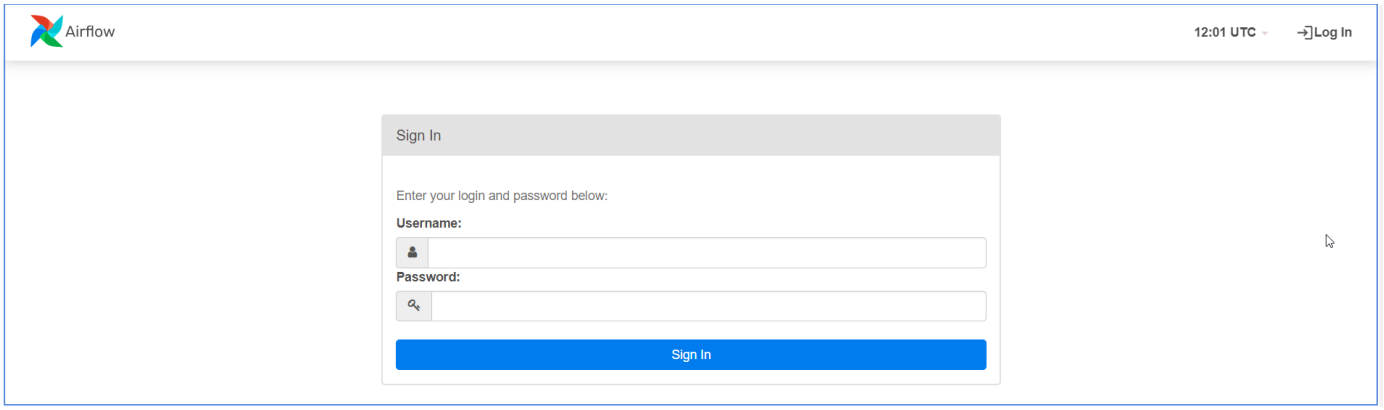
1. From the **Last Run Status** column, click **Success** or **Failed.** You can view the status of each model run task.





Note! Click **Refresh**, to fetch the latest status of the tasks.

2. Click **View Log**, to open a third-party web interface **Airflow** where you can log in and view the logs.



After logging in to Airflow, you can view the workflow log for the selected task.

Note: Please contact WhizAI support or solutions team to configure the username and password to log in to Airflow.

On successful data model upload, to access the data model, you may need to refresh the page, do a fresh login, or sometimes may even need to clear the browser cache and access the created data model. You can see the info area and the context and run queries to see the data in the response.

View Data Connection Details

On the **List of Models** page, you can view the data connection and the active data sources. To view the data connection and the data source for a model:

1. From the **Admin** console go to **Data Modeler** > **List of Data Models** page.
2. Under the **Model Name** column, click the **Connection Details** icon to view the Data connection and the data source(s).

Edit Data Model

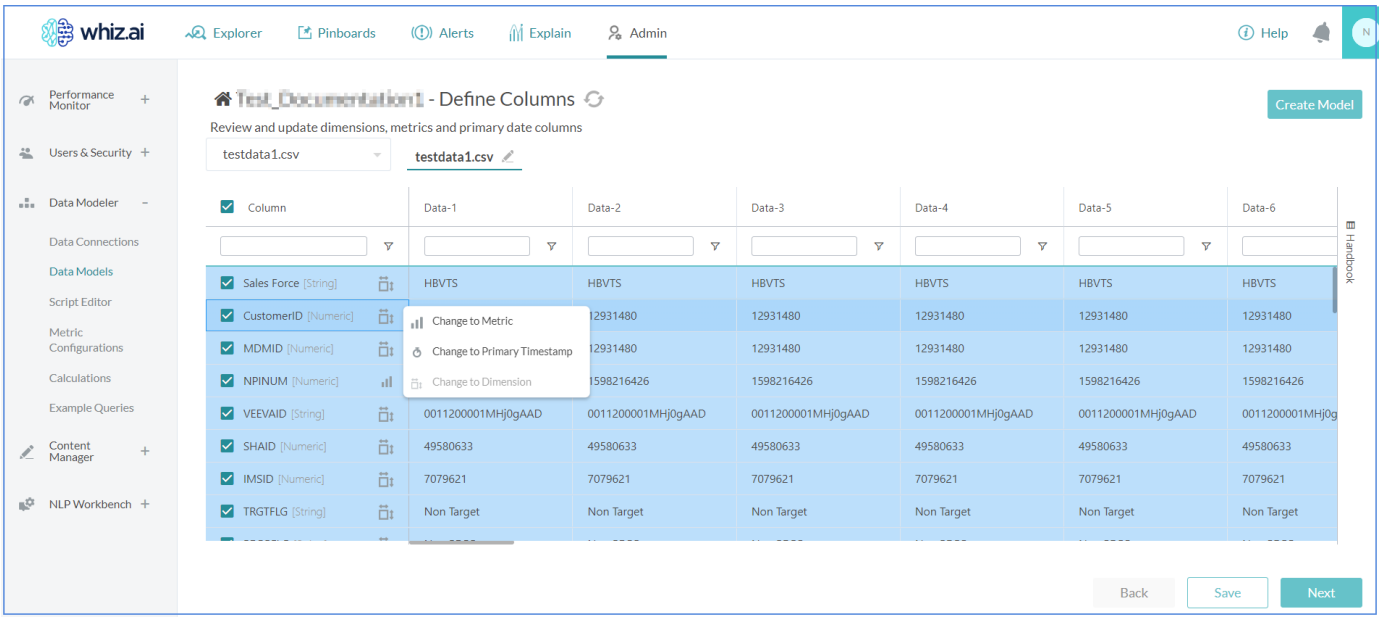
On the **List of Models** page, you can edit the data model name and parameters.

- Click the **Edit** icon under the **Actions** menu against a data model to open the Edit Model dialog.
  - Edit the Data Connections from this dialog or Create a New connection for the existing model.
  - Click Next to open the Define Columns page. Refer to Define Columns for details.
  - Click Next to open the Data Dictionary page. Refer to the Data Dictionary for details.
  - Click Next to open the Data Load Configurations page. Refer to the Data Load Configurations for details.
  - Click Save & Close to save the data model.

Define Columns

After you create a new data model by defining the data model name, data process method, and data connection, the Define Columns page opens. On the 'Define Columns' page, you can review data, review columns, and review timestamps.

1. From the left side of the page, one or more data sources can be selected from a list of data sources.
2. On the right side of the page, you can see columns that allow you to configure the data model.



3. Click **Next**.

Note! There should be at least one date field column selected in each of the data sources with a **yyyy-mm-dd** format.

Review Data: You can preview the fetched data's top 50 -100 records. Based on the data type, the system identifies and automatically categorizes the data into the following types:

a. Primary timestamp.

b. Dimensions (non-numeric values).

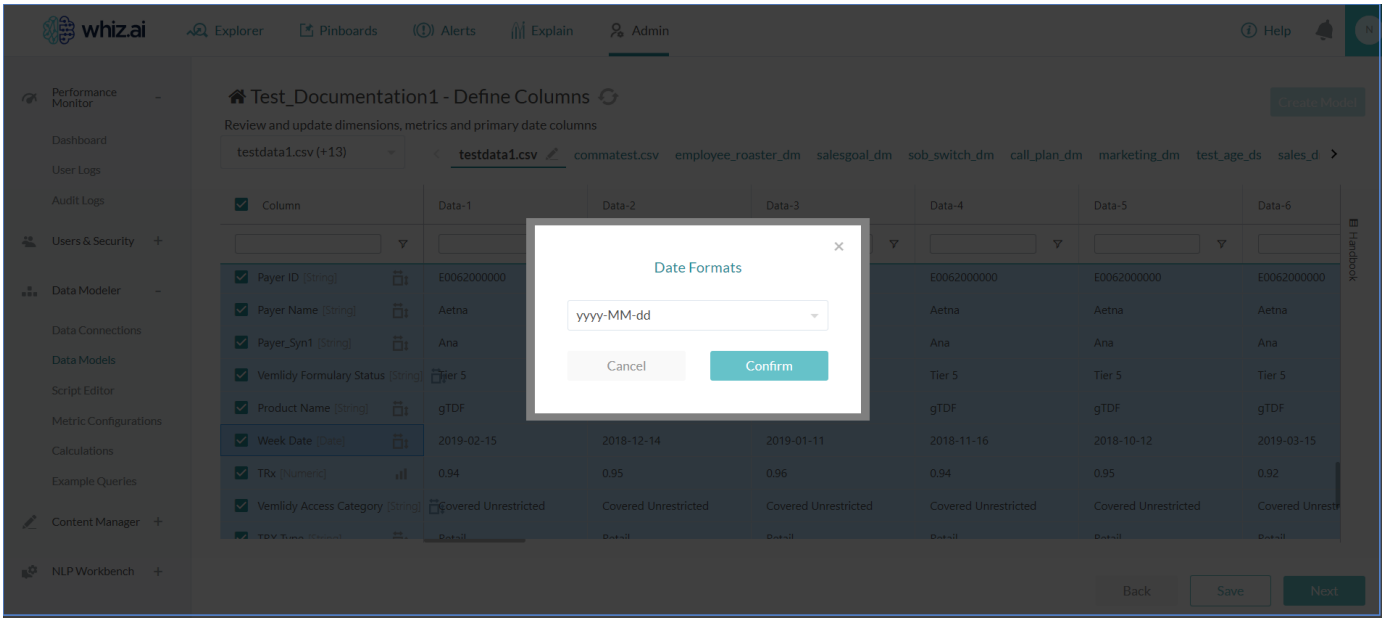
c. Metrics (numeric values).

Review Columns: If any column is not classified correctly, you can change it by clicking the option shown below. You can change the column to the required type.
Review Timestamps: There should be only one primary timestamp column. You can change a required column to the primary timestamp type, provided it has the YYYY-DD-MM format. For more details, refer to the Handbook. WhizAI supports multiple date formats as listed below. The option to change the date format will be required only if the system has incorrectly identified the date format.

- yyyy-MM-dd
- yyyy/MM/dd
- yyyy-MM-dd HH:mm:ss
- yyyy-MM-dd HH:mm:ss.SSS
- dd/MM/yyyy
- dd-MM-yyyy
- MM/dd/yyyy
- MM-dd-yyyy

To change the date format:

1. Against the **Date** column, click the icon to view the menu options.
2. To edit the current date format, click the  icon.
3. On the **Date Formats** dialog, select the required date format from the dropdown list.

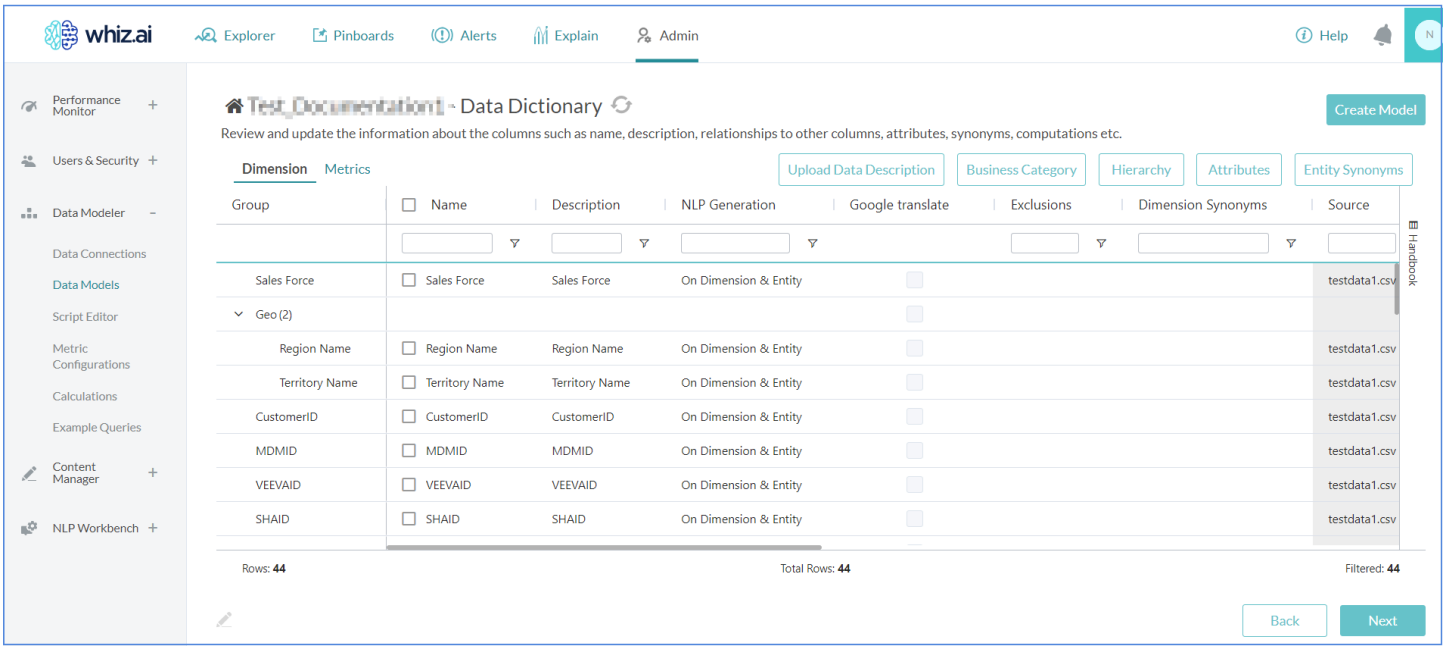


4. Click **Confirm** on the Date Formats dialog to update the date format. You are redirected to the **Define Columns** page.

Important! If you try to edit any column other than that holding the date format, for example, numeric value, then the system will display an error message.

Data Dictionary

The data dictionary is an ensemble of all the selected columns from the selected data sources in the previous step. Some columns are auto populated, e.g., name, descriptions, NLP generations, etc. You can define the relationships between different columns and provide attributes, synonyms, or computation details for the metric. The data dictionary provides more understanding of the data to the WhizAI system. The data dictionary is configured so that the system learns more about the data and generates an appropriate response to the user's queries.



The **Data dictionary** page has the following two tabs:

- Dimension
- Metrics

Dimension Tab

The columns on the **dimension** tab, are described in the table below:

Column Name	Value
Group	Group name
Name	Display the name used in the system
Description	Description of the column
NLP Generation	On Dimension & Entity – For each column, the system understands the values and the dimension name. None – The system stops recognizing the column. On Dimensions – The system recognizes dimension names but not values associated with the column.
Google translate	WhizAI supports five languages. The user needs to select the translate check box to enable language detection. The user needs to provide a language file separately.
Exclusions	The system will not recognize columns marked as exclusions.

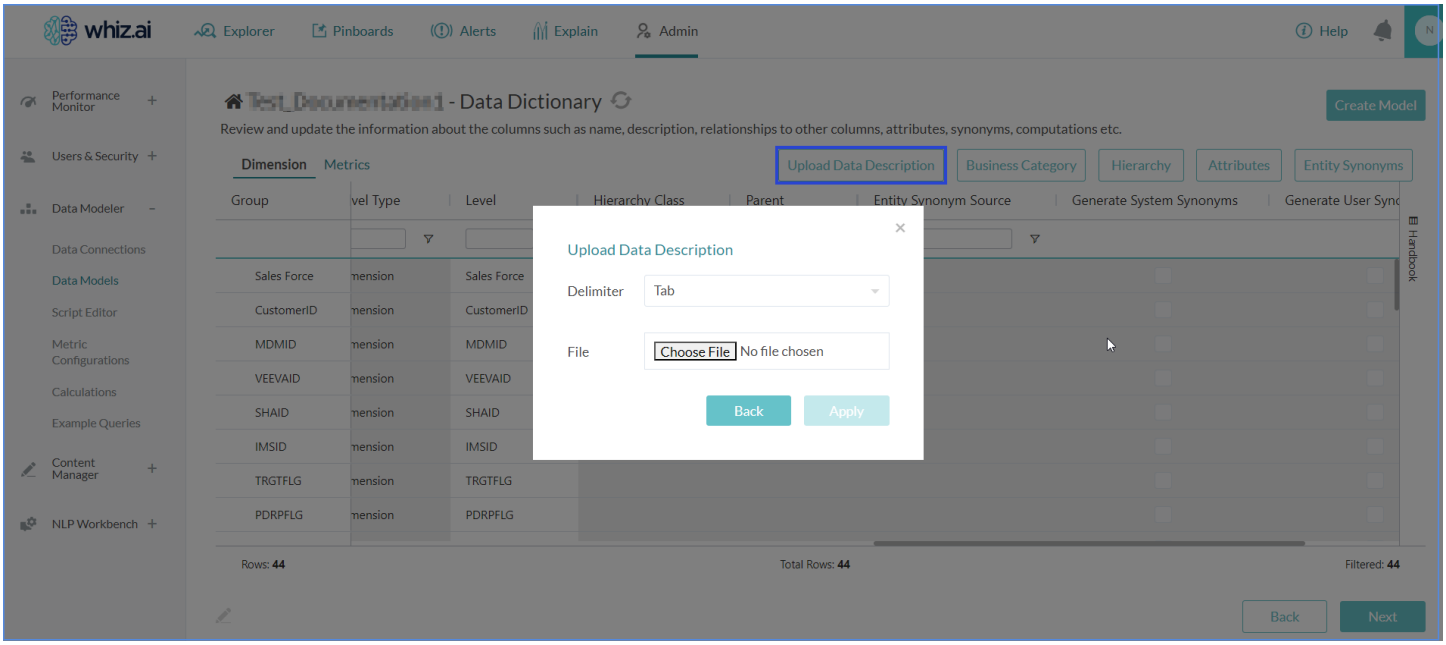
Column Name	Value
Dimension Synonyms	If a column name is referred to by another name, e.g., change_type, system_type, or chng_type user needs to provide a list of values to the system to recognize as synonyms.
Source	Auto-populated columns source column from where data will be ingested.
Destination	Destination dataset where the data set will get populated.
Code	Unique name by which each of the columns will be recognized.
Level type	Implicitly set as Dimension for a plain dimension entry. If this dimension is part of a hierarchy, this is set as Level. If this is an attribute to another dimension, set it as Attribute.
Level	For a Metadata entity, level means the hierarchy class it belongs to. For an Instance entity, level means the column name from the data source.
Hierarchy Class	Defines the hierarchy code to which the entity belongs to.
Parent	Defines the metadata code for the attributes of the main entity. For others, this is left blank. This field is applicable for the attributes only.
Entity Synonym Source	
Generate System Synonyms	
Generate User Synonyms	
Data Types	

The user can access additional functionality on the dimension tab, of the **Data Dictionary** page using the following buttons:

1. Upload Data Description
2. Business Category
3. Hierarchy
4. Attributes
5. Entity Synonyms

Data Descriptions

Business Data Descriptions are informative descriptions of the dimensions and metrics in your business. These descriptions provide a better understanding of the business terms and help you understand the business by asking relevant queries in WhizAI.



You can configure Business Data Descriptions by fetching the descriptions of dimensions and metrics from the source database and uploading a CSV file of these descriptions to the data dictionary.

Steps:

1. On the **Dimension** tab on the **Data Dictionary** page, click **Upload Data Description** Upload Data Description.
2. Select the **Delimiter** from the drop-down options. You can select any one from the options - Tab, Comma, Pipe, Semicolon, Space.
3. Click **Choose File**; browse and select the. CSV file which has data descriptions.
4. Click **Apply**.

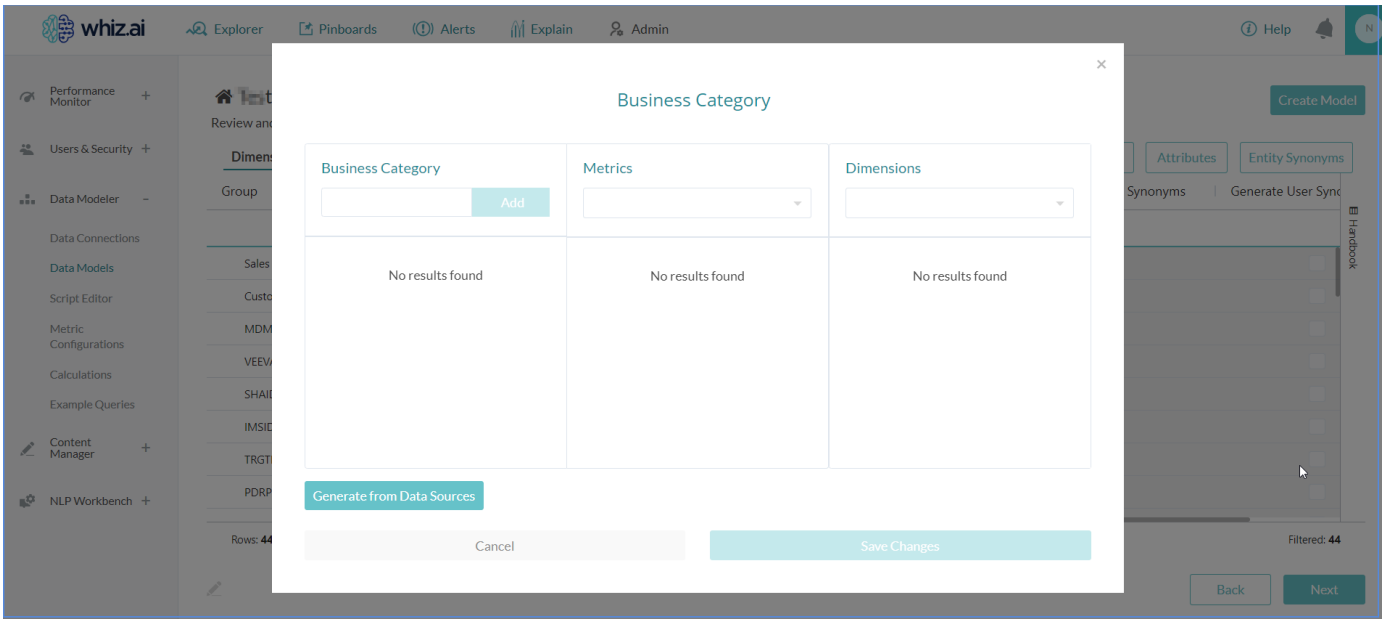
Note! For more information on Business Data Descriptions, refer to the WhizAI User manual.

Business Category

You can add and configure business categories to include specific metrics and dimensions according to different business areas. These business categories are displayed on the data model Info page. You can add multiple business categories to a model.

To add a new business category:

- On the Dimension tab on the Data Dictionary page, click Business Category Business Category.
  The following **Business Category** dialog opens.



- On this **Business Category** dialog, add the Business Category.

Note! You can use the **Generate from Data Sources** option to automatically add business categories for each data source selected for a model. For more information, refer to the following example where, after clicking 'Generate from Data Sources;' WhizAI has added a business category for the data source (salesgoal.csv) in the model. You can edit or delete the category as required.

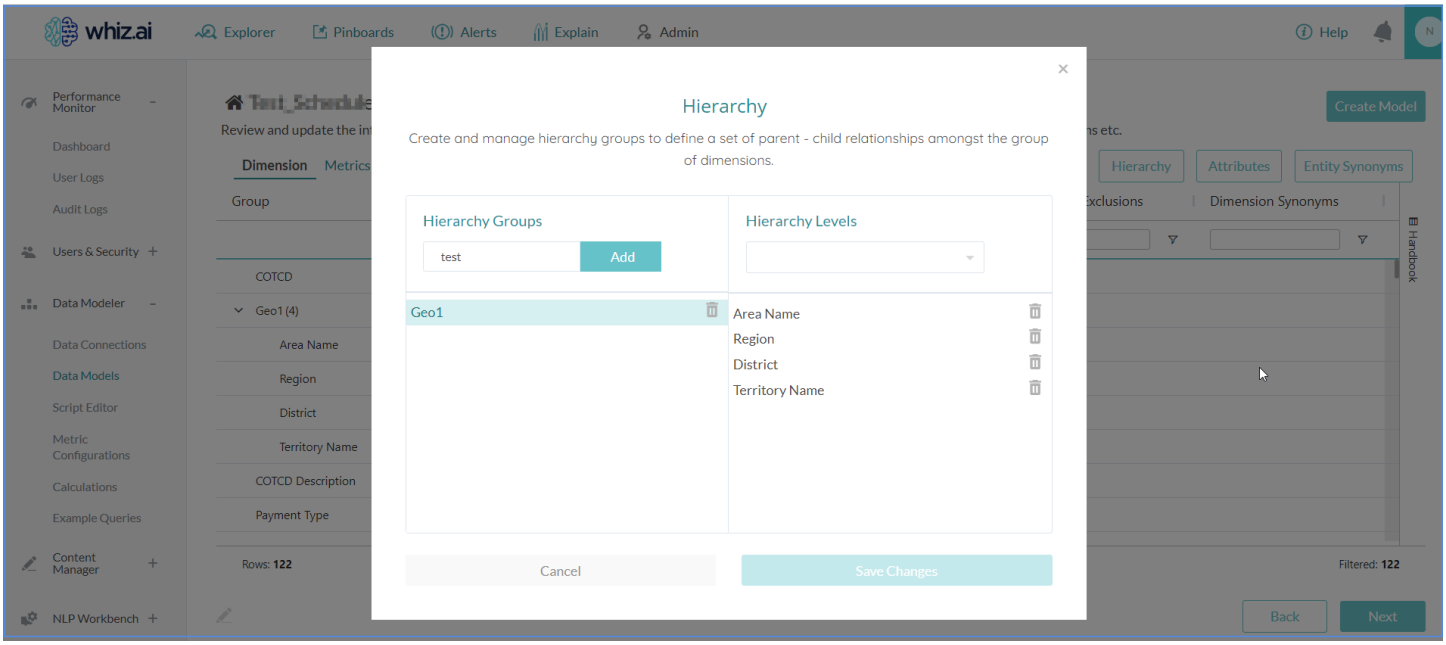
- From the **Metrics** drop-down select the required metrics.
- From the **Dimensions** drop-down select the required dimensions.
- Click **Save Changes** to update the data model.

The updated Business Categories are visible after a successful data model run.

Hierarchy

You can create and manage hierarchy groups to define a set of parent-child relationships amongst the group of dimensions.

You need to build hierarchies through the system as the data loaded into the WhizAI system is flat.



To add/edit the hierarchy group:

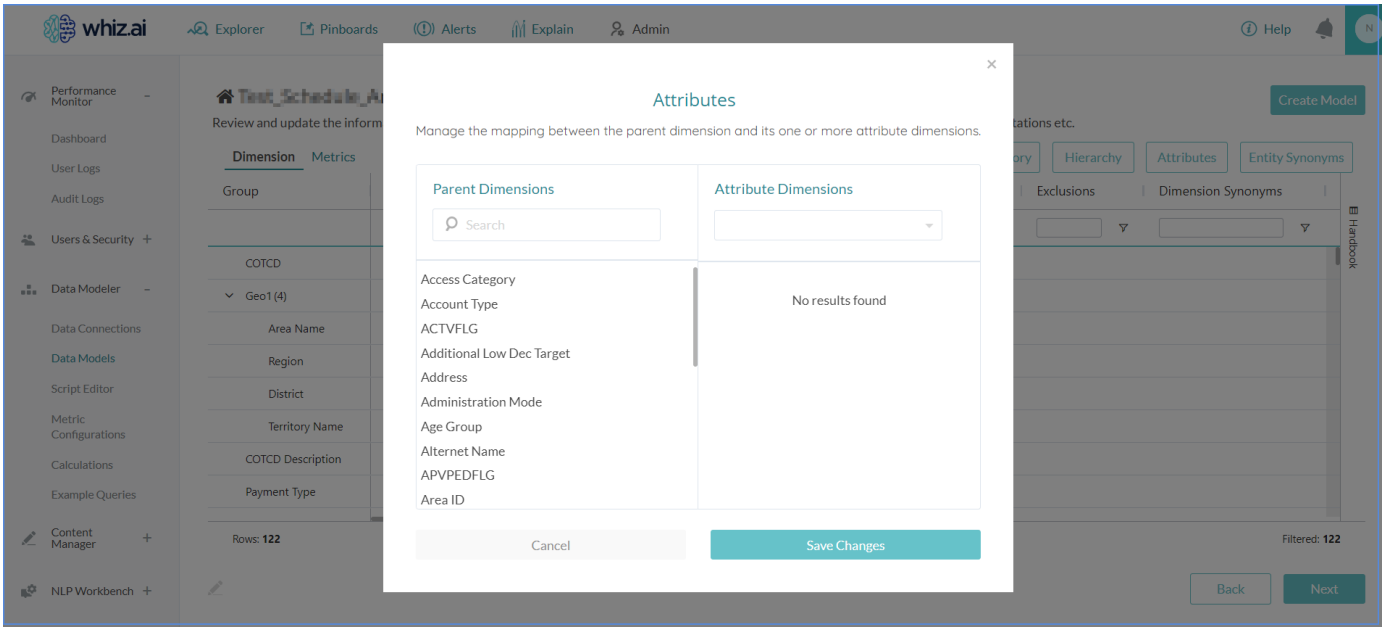
1. On the **Dimension** tab on the **Data Dictionary** page, click **Hierarchy** Hierarchy.
2. Enter the names of the **Hierarchy Group.**
3. Click **Add**.
4. For the hierarchy group, select the **Hierarchy Level** from the list of available dimensions.
5. Click **Save Changes**.

You can also delete the hierarchy group and the hierarchy labels.

Attributes

You can manage the mapping between the parent dimension and one or more attribute dimensions.

The attributes page allows you to link ID and name columns.



1. On the **Dimension** tab on the **Data Dictionary** page, click **Attributes** Attributes.
2. Select a **Parent Dimension** from the list**.**
3. Search for the required value under Attribute Dimensions for the selected parent **dimension** and select it.
4. Click **Save Changes**.

Entity Synonyms

You can select different options to define synonym values for the entities of a given dimension. If one column is a synonym of another column, you can link the two columns together. Additional options are available to load synonyms through files.

To select entity synonyms:

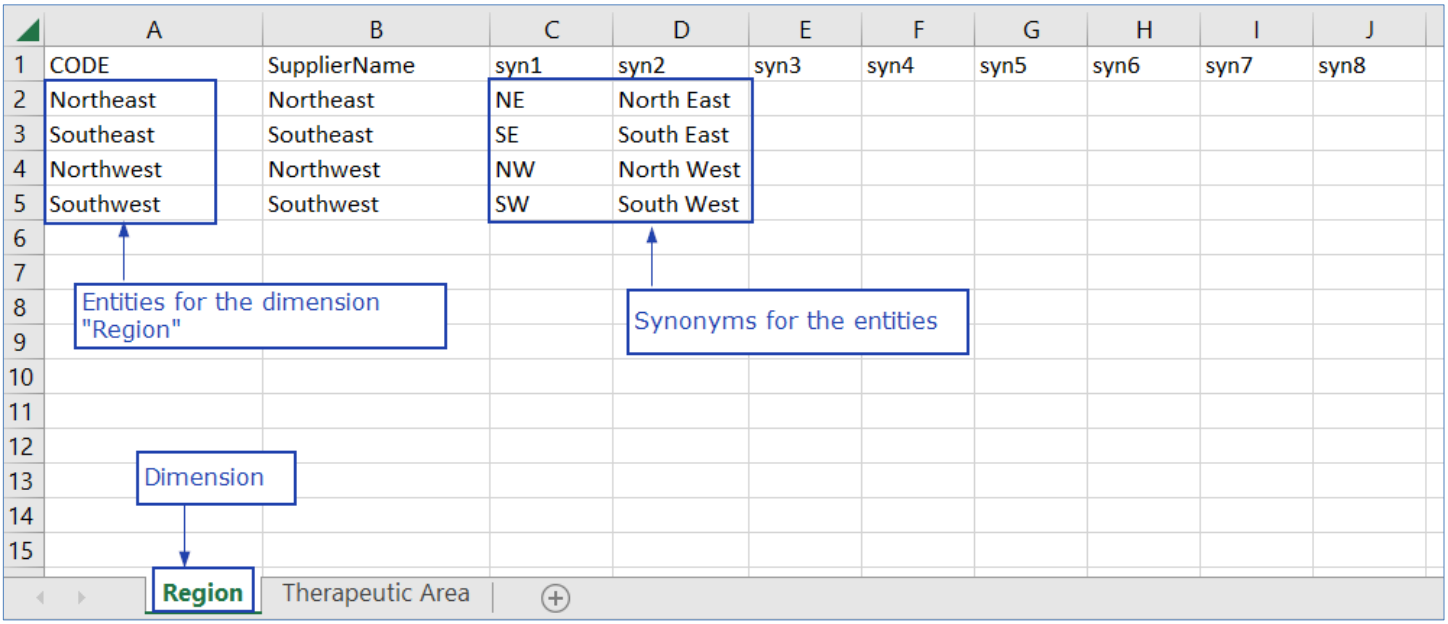
1. On the **Dimension** tab on the **Data Dictionary** page, click **Entity Synonyms** Entity Synonyms.
2. Select the **Dimension**.
3. Under **Entity Synonym Sources,** select the required column name**.**
4. Select the required type(s).
    a. Auto Generate – The system uses its library to link the synonyms.
    b. Generate from file – Generates the synonym value from the selected file.
5. Click **Save Changes**.

Note! Additional steps are required to upload the required file in a specific format containing the synonym information. Please contact the system administrator for more information.

For more details, refer to the Handbook.

You can add synonyms for dimension entities by uploading a Microsoft Excel (XLSX) file having synonyms for the dimension entities.

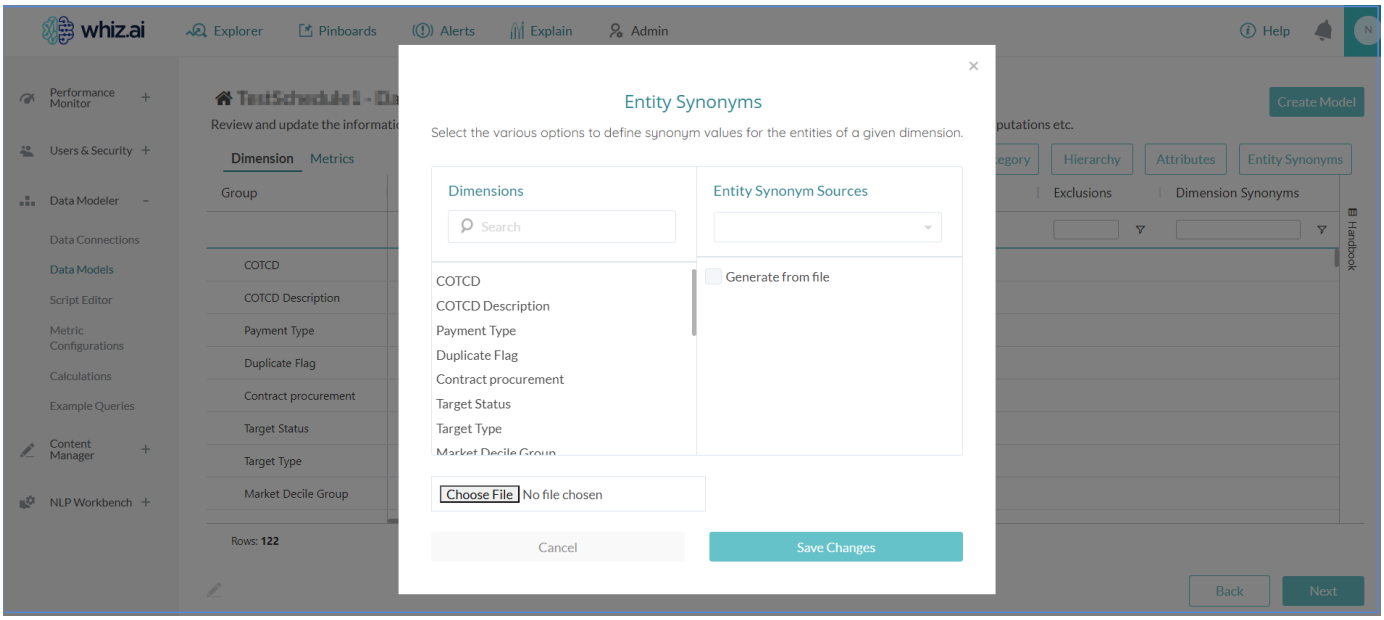
Note! The structure and column sequence in the Excel file must be as shown in the following figure. Column B heading can be "SupplierName" or "Name".



Note! The Microsoft Excel file name is case-sensitive and must be "UserDefinedSynonyms.xlsx." The sheet name (Region) in the XLSX file is case-sensitive and must match the code of the dimension.

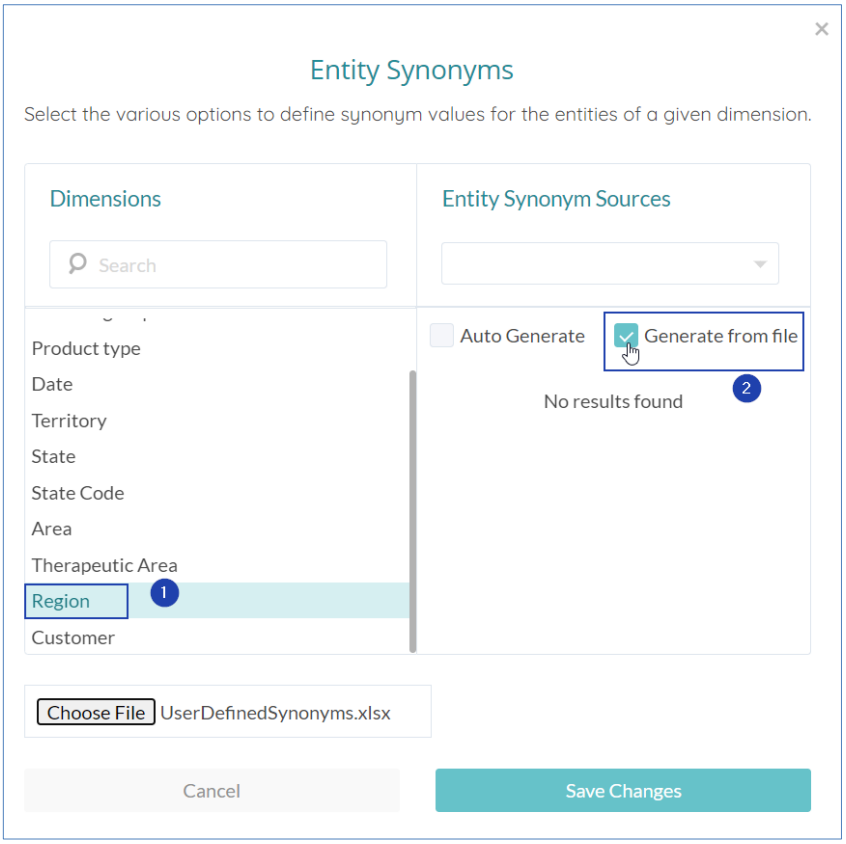
To add entity synonyms:

1. Prepare the entity synonym Microsoft Excel file for the required dimensions.
2. On the **Data Dictionary** page click **Entity Synonyms**.



3. On the Entity Synonyms dialog, click **Choose File** and select the file having the entity synonyms. The Excel file gets uploaded.

4. From the **Dimensions** list select the dimensions for which the synonyms are defined in the uploaded file and select **Generate from file** option.



5. Click **Save Changes**.

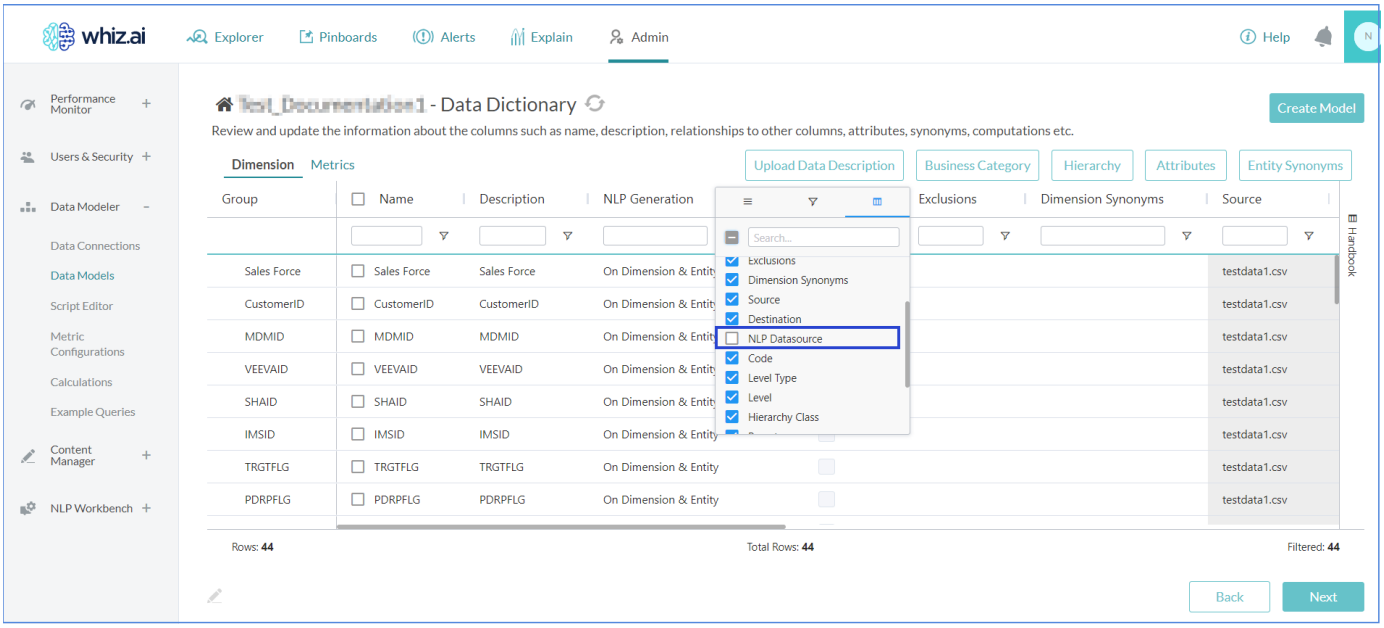
Note! The synonyms for the entities are added only after a successful run.

Use Data Dictionary UI to select the NLP Data Source for a Dimension

From the data sources defined in the data model, you can choose a datasource for a dimension. The chosen data source is then used for NLP updates for the selected dimension(s).

- On the **Data Dictionary** page, Dimension tab select the column **NLP Datasource** from the column configuration.

Note! The **NLP Datasource** column is by default not selected. You must select it from the column configuration.



- From the **NLP Datasource** column, select the datasource for the required dimension(s). This datasource is used for NLP updates for the corresponding dimension.

Metrics Tab

On the **Data dictionary** page, the columns on the metric tab are described in the table below.

Column Name	Value
Name	The name of the metric
Description	The description of the metric
NLP Generation	On Metric – For each column, the system understands the metric names. None – The system stops recognizing the column as a metric. It will be loaded into the system, but it will not be displayed or available via NLP queries that the system supports.
Aggregator	It is a part of the Druid system. Four types of Aggregators are supported (Min, Max, Count, Sum). The sum is required for metric values such as volume, revenue, sales, etc.
Source (Read-Only)	List of data sources for the dimensions. The source from where the column is picked up.
Destination (Read-Only)	Destination dataset in which columns will be populated. Usually, there is a one-to-one mapping between the source and destination, but it may vary in complex scenarios.
Code (Read-Only)	Unique identifier for the column.
Type (Read-Only)	By default, all metrics coming from the data source are set as 'Base' type. Computed metrics are computed using the base metric generated at run time.
Data Type	Data type of the metric.

Edit Multiple Dimensions and Metrics in Data Dictionary

The bulk edit option in the data modeler allows you to simultaneously select multiple dimensions or metrics while defining the data dictionary and editing some fields for the selected dimensions or metrics.

Edit Dimensions
To edit multiple dimensions:

1. On the **Dimensions** tab, select the desired dimensions from the **Name** column and click **Edit** icon at the bottom of the page.
2. On the **Dimensions** tab, you can select multiple dimensions and edit the following attributes:
    - NLP Generation
    - Google Translate
3. Click **Save**.

Edit Metrics
To edit multiple metrics:

1. On the **Metrics** tab, select the desired metrics from the **Name** column and click **Edit** icon at the bottom of the page.
2. On the **Metrics** tab, you can select multiple metrics and edit the following attributes:
    - NLP Generation
    - Aggregator
3. Click **Save**
4. On the Metric records page, Click **Next**.

Note! Changes will only be saved to the backend when you click Next on the Data Dictionary page.

Data Load Configurations

All the batch mode connection data sources get ingested into the target system (default is Druid). Druid requires ingestion specifications. The system auto-populates the default configurations. The user is expected to review the same.

Note! Separate configurations are required to be specified for each of the batch mode data sources.

Configuration Settings:

- By default, **enable load** is set to true for all batch mode connections. It implies that when you run a model, you should load the data as per the specifications. If you want to disable the load for the next model run set, **enable the load** to be false. Set to false for all live connections.
- **I/O Configuration** is a Druid-specific configuration that is in the JSON format. It has information about the input data source, delimiters, and header information. This is populated automatically by the system based on the choice of a connection made previously but can be customized by the end user. The JSON is as expected by the Druid ingestion mechanism.
- **Tuning Configuration** – This JSON primarily defines performance tuning for the data load, such as the number of threads to use for faster loads.

- **Granularity Specification** – Granularity is a Druid-specific configuration in the JSON format. Granularity governs how to bucket data across the time dimension (aggregate data by hour, day, minute, etc.).

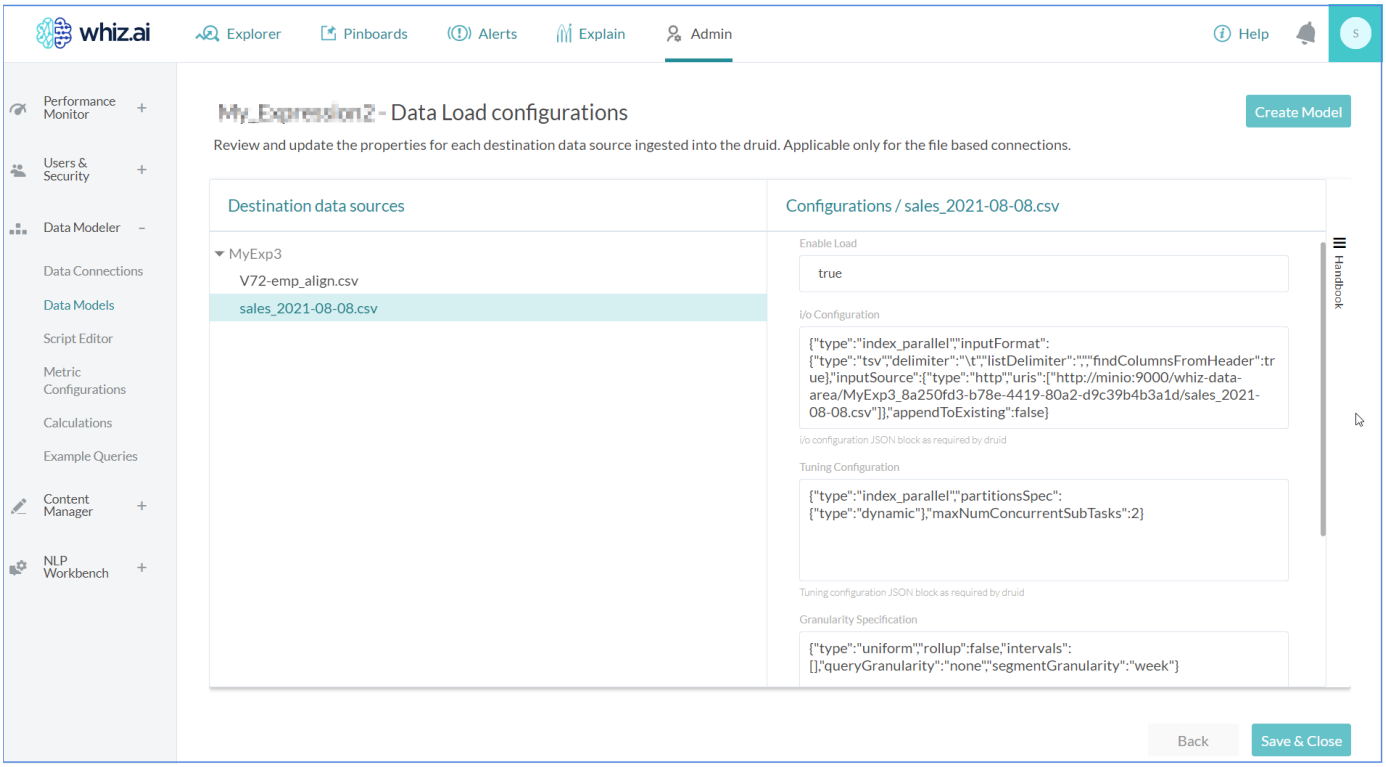
  This JSON specifies the time granularity that should be used when interpreting incoming data. This is helpful in cases where the incoming data is at a more granular level than the queries require, and the system should aggregate the data during the data loading itself.

  The granularitySpec is responsible for configuring the following operations:

  - segmentGranularity - Partitioning a datasource into time chunks. (Default – day)
  - queryGranularity - Truncating the timestamp, if desired. (Default – none)
  - Intervals - Specifying which time chunks of segments should be created, for batch ingestion. (Default - null)
  - Rollup - Specifying whether ingestion-time rollup should be used or not. (Default – true)

- **Transformation Specifications** - A Druid-specific configuration in the JSON format. The transforms list allows you to specify a set of expressions to evaluate on top of input data. Each transform has a "name" which can be referred to by your dimensionsSpec, metricsSpec, etc. If some changes should be made to the data while loading as offered by Druid.

For configuration specifications, refer to the link: https://druid.apache.org/docs/latest/ingestion/ingestion-spec.html#



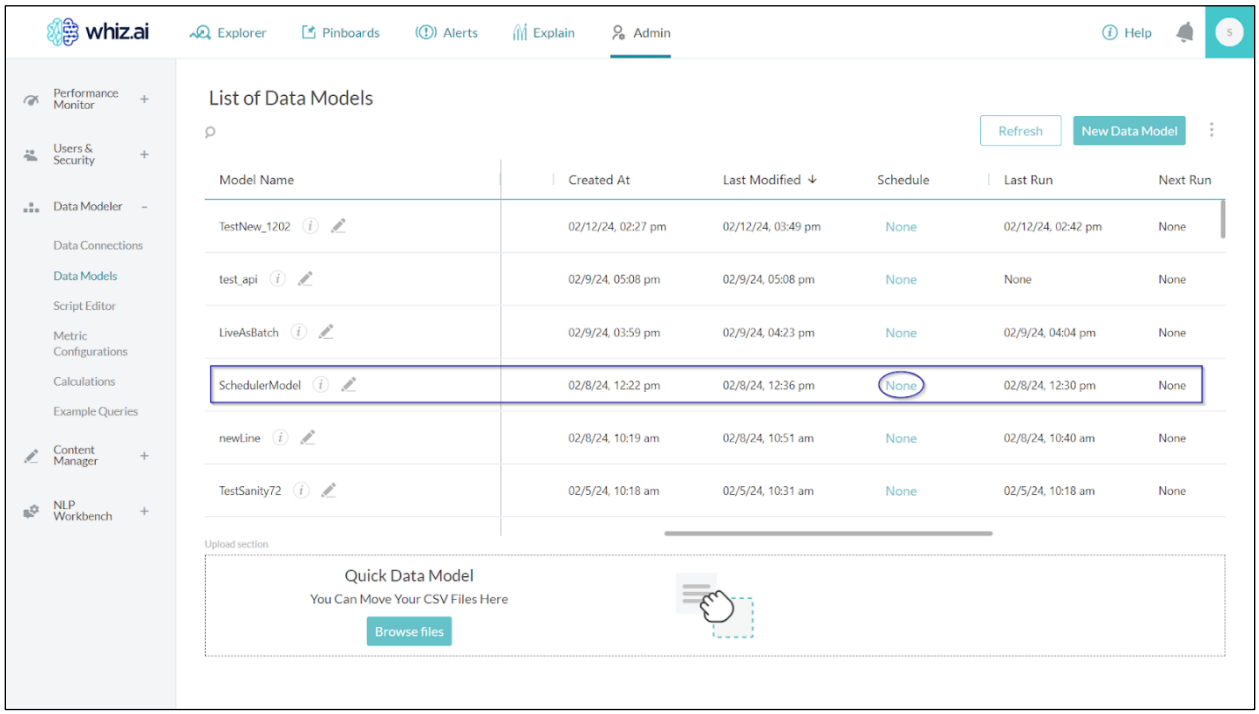
On the **Data Load Configurations** page, click **Save & Close** to create a successful model.

For more details, refer to the Handbook.

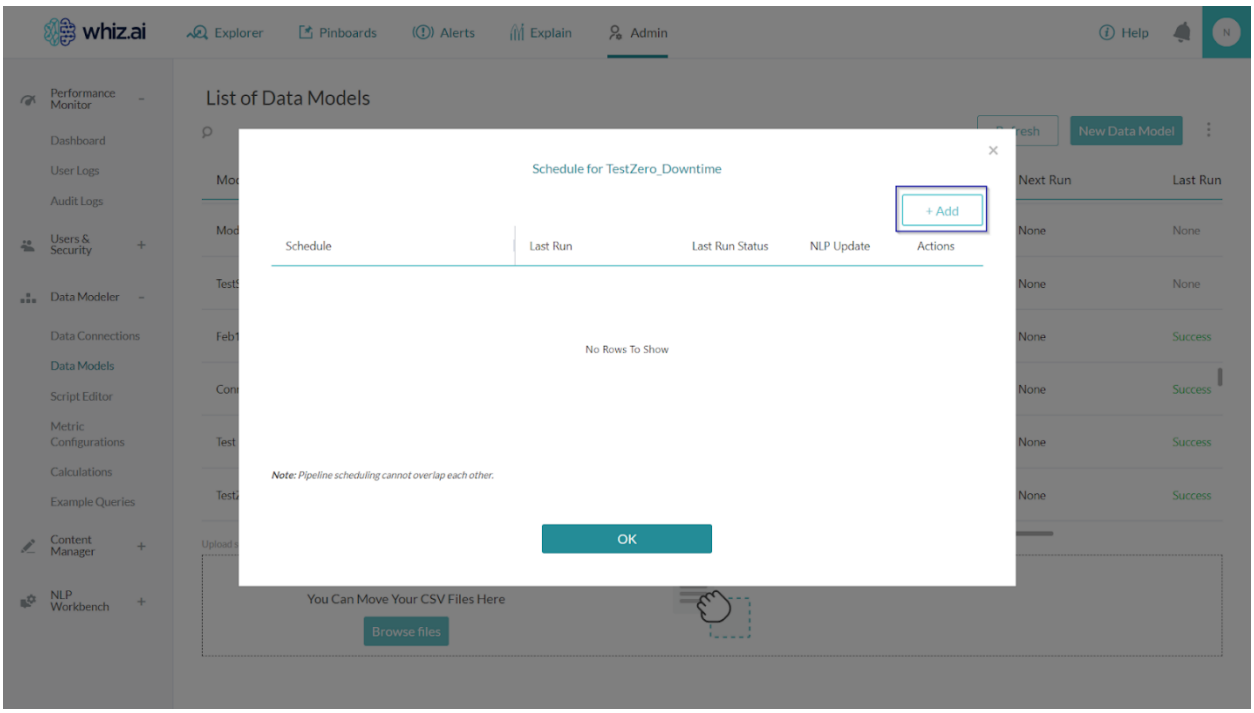
Schedule Data Model Run

The Administrator can specify the frequency (fixed timelines) schedule for the model run. To schedule a model run,

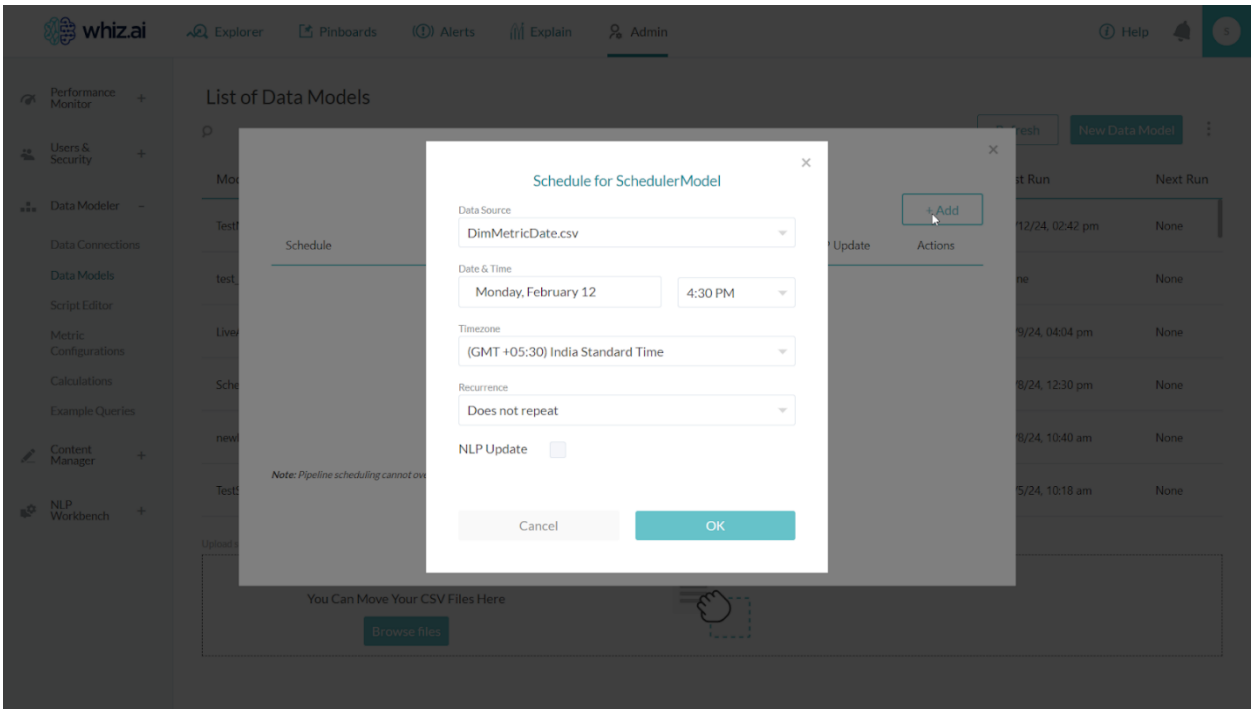
- Go to **Admin** -> **Data Modeler** -> **Data Model** to open the List of Data Models page.
  - Select the data model and click None under the Schedule column to open the Schedule for <datamodel name> dialog:



- Click Add to create a new schedule.



- Enter the model scheduling parameters.



- Click OK to save the schedule changes. Once saved, the data model displays the Schedule, Last Run time, and the Next Run time for the model.

Frequency-based scheduling inputs

- Data Source - The default value for the data source is set to the attached file within the relevant data connection. You can choose a different data source or multiple data sources if required.
- Date & Time - Start date and time for the scheduled run.
- Timezone - Timezone for the schedule
- Recurrence - Periodicity can be daily, weekly, monthly, and yearly, For example, Every 2 days/Every 2 weeks/Every 2 months/Every 2 years.
    - For weekly, additional input should be the day of the week. For example, Weekly on Thursday
    - For Monthly, additional input should be the day of the month.
    - NLP Update - Check the flag if you want to update NLP entities.

Note! If one schedule is in execution and you trigger a second schedule for the same model, the later execution will not succeed. Only one execution at a time will be processed. If a first scheduled execution fails, it will not be re-triggered automatically. Therefore, scheduling should be done cautiously to ensure sufficient time intervals between two schedules involving the same model to avoid conflicts.

Sync Up the Manual Data Model with Data Modeler UI

Models created manually do not have the new functionalities of metrics configuration, calculation, and example queries.
You must create these entries manually using the **Sync-up API** to transfer these entities from the application to the UI.

Note! A manual model can be created by running the manual DAG from Airflow. Once DAG runs successfully, the data model is created and is available in the product.

Sync-up API
Run the API given below to sync up the entity transfer for the manual model.

```
PUT: http://{URL}/modelManager/model/appmodel/{modelname}?filter=fromAppTo
```

The API request does not require a request body.

After the API runs successfully, the following changes are observed:

- Manual data models are displayed on the List of Data Models page.
- Model configurations from the application are displayed on the Metrics Configurations page.
- Calculations are displayed on the Calculations page.
- Example queries are displayed on the Example Queries page.

Script Editor

The Script Editor is a development platform that allows you to create and manage scripts that can be integrated with the WhizAI solution. You can write a script in JavaScript or Python and save it as a 'Custom script'.
Script customization allows you to define and provide input parameters for your scripts, enabling dynamic and flexible script creation. This enables you to tailor scripts to specific use cases without modifying the core logic.
These custom scripts can be used for:

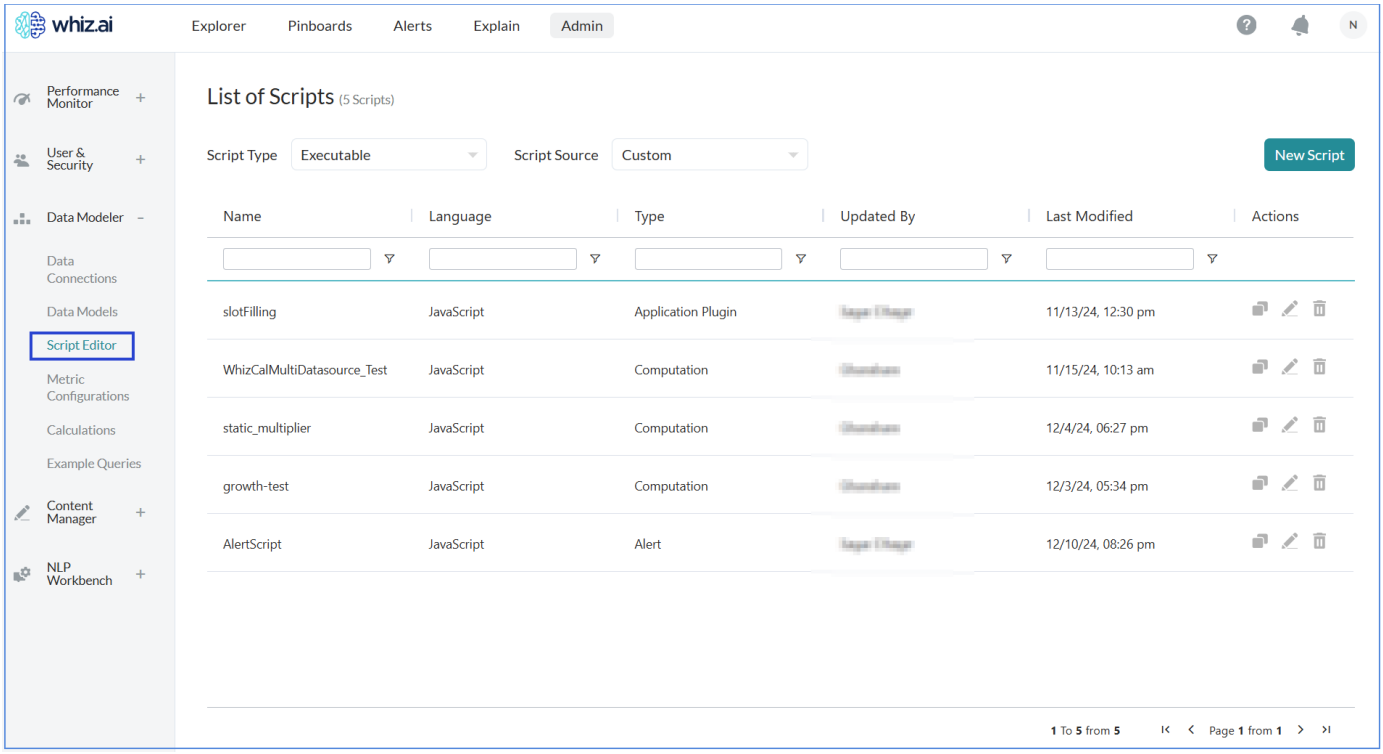
- **Computations**
  For building a calculated metric. For example, Market share can be calculated from existing metrics to get the market share of a product for the other products.
- **Application plugins**
  Write a script to get condition-based custom responses for an NLQ

From the Script Editor UI, you can:

- Add new custom scripts.
- Manage (edit, delete, rename) existing custom scripts.
- View all the existing scripts (custom scripts and system scripts)

User Interface

From the **Admin** console, click **Data Modeler** > **Script Editor** to open the **List of Scripts** page. This page lists all the available (custom and library) scripts.

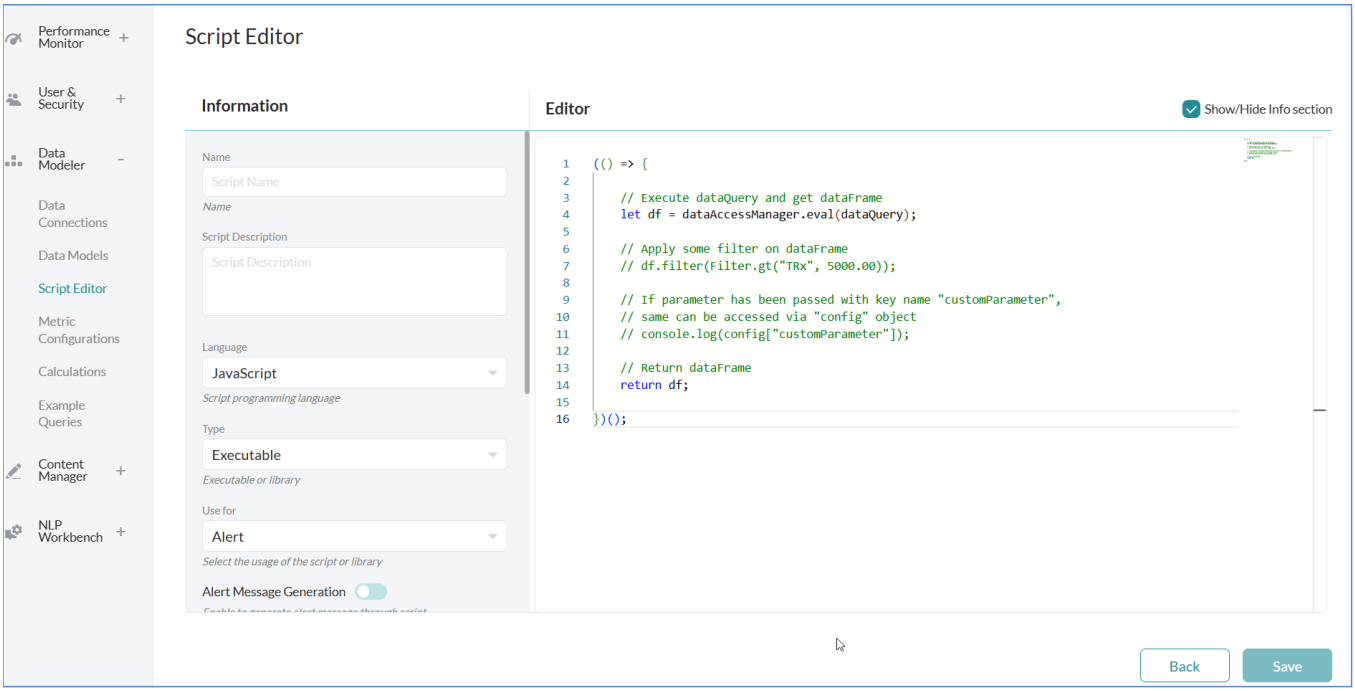


The following table explains different sections and columns on the Script Editor page:

Field	Description
Script Type	Filters the scripts by script type 'Executable' or 'Library.'
Script Source	Filters the scripts by script type 'Custom' or 'System.'
Name	Displays the unique name of the script.
Language	Displays the programming language in which the script is written.
Type	Shows the purpose for which the script is created. The script type can be defined only for Executable scripts where the script source is Custom.
Updated By	Displays the name of the user who updated/modified the script. The details are available only for Custom scrips.
Last Modified	Displays the date and time when the script was modified. The details are available for Custom scripts.
Actions	Provides options to copy, edit, and delete the custom scripts. For the system scripts, only the View Response action is available.

Add Custom Scripts

1. Go to **Admin** console > **Data Modeler** > **Script Editor.**
2. To add custom scripts, click **New Script**. The Script Editor page opens as shown in the following figure:



3. In the **Information** section of the new script page, enter the script name, select script language, script type, use for, and input variable name.

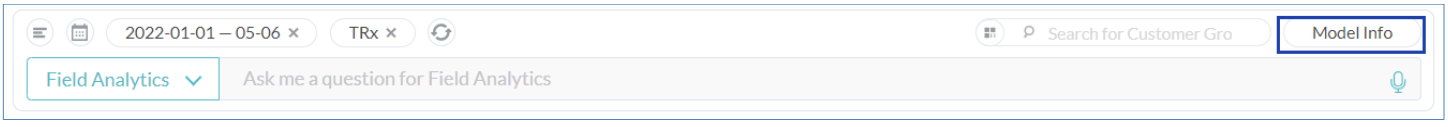
Note! For a description of these fields, refer to the section Options on the Information section of the new script page.

4. Add your script in the Editor section.

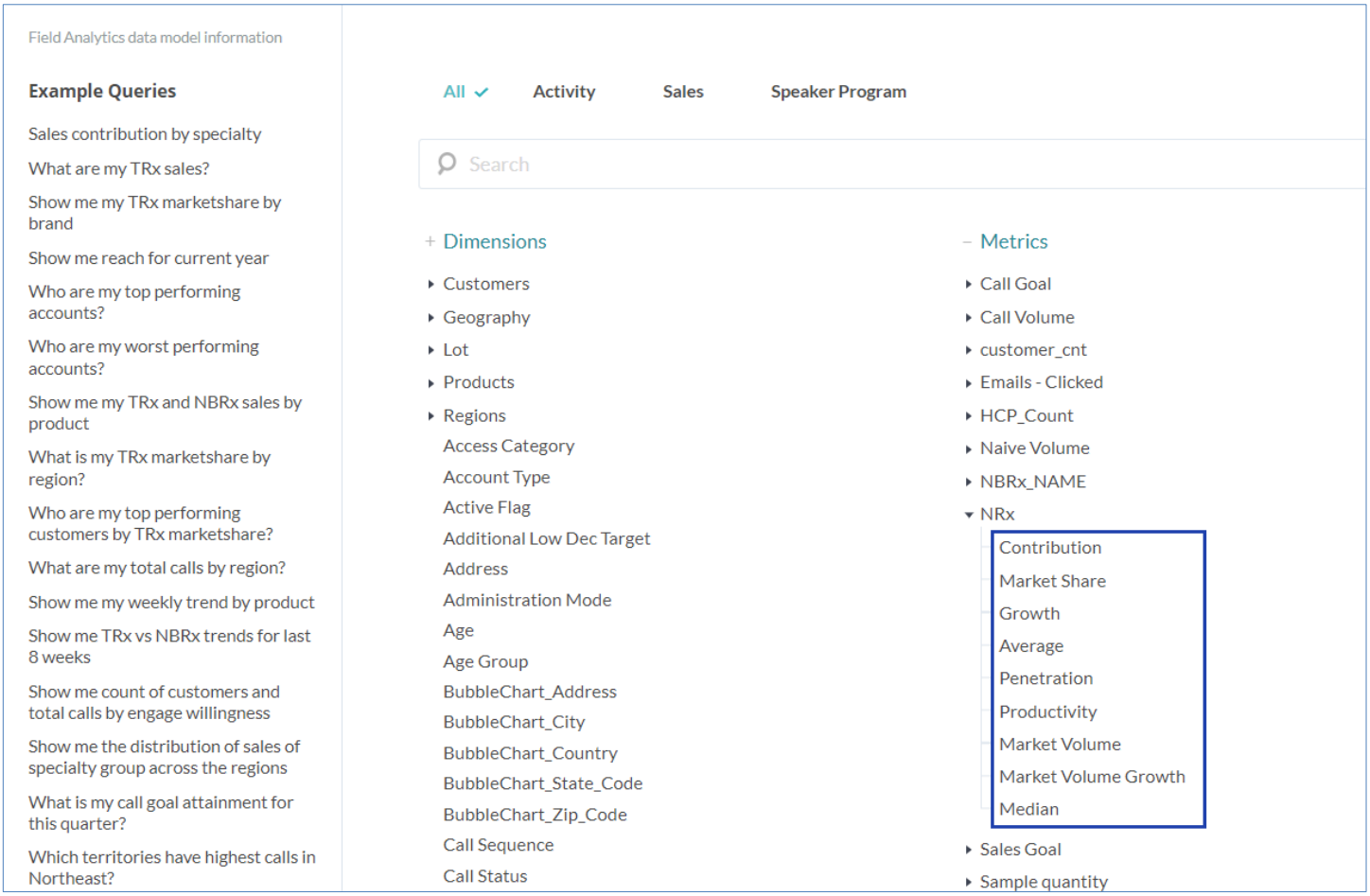
Note! When you are adding a custom script, you can hide the Information section on the script editor user interface and use the entire screen space to write/edit scripts. To hide the Information section, click and clear the Show/Hide Info Section option.

5. Click **Save**.

To view added computations, go to the **WhizAI Explorer** > **Conversation box**, and click **Model Info**.



The data model information page displays different metrics and computations.



Note! Additional steps are required to register the custom scripts into the system. Please contact WhizAI support for more information.

New Script Page

The following table explains the purpose of different options on the information section of the new script page:

Option	Description / Use
Name	Unique name for the script.
Script Description	Description for the defined custom script.
Language	Option to select the script programming language for the script, JavaScript, or Python.
Type	Option to select script type Executable or Library. **Executable**: For these scripts, you do not need to declare any function in the program, and you can directly start with the program content. **Library**: Library scripts need function declarations that can be used in any other scripts.
Use for	Option to select usage of the script, **Computation, Alert**, or **Application Plugin**. **Computation**: Scripts for adding computations on the base metric.

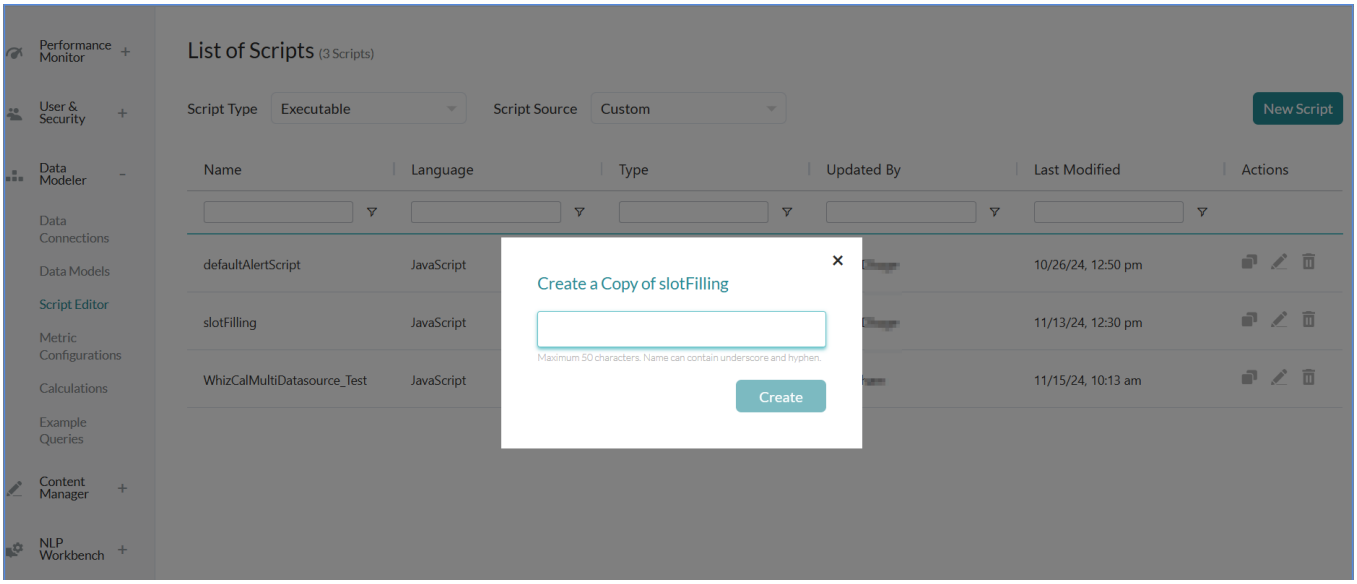
	Alert: Scripts for creating customized alerts using the existing alert creation functionality **Application Plugin**: Scripts for achieving condition-based response from NLQs.
Alert Message Generation	When you select the Alert option from the Use For drop-down menu, then the Alert Message Generation toggle is seen. Enable this option to generate an alert message through the script.
Input Variable name	This name refers to the input object. The variable name is set as: **arguments**: when you select Use for as Computation **config**: when you select Use for as Alert or Application Plugin.
Output type	Shows the type of output variable. The output type is set as: List: when you select Use for as Computation. Boolean: when you select Use for as Alert or Application Plugin
Input Parameters Declaration	The input parameter declaration is a JSON editor box that accepts JSON input in descriptor format. This format is used to describe the input parameters for alerts in the script. The defined parameters (text, numeric, or JSON type) will be accessible in the script as members of an object array. Once the input parameters are defined for an alert script, they will be visible in the Alert editor when the condition is selected as Script.

Edit Existing Scripts

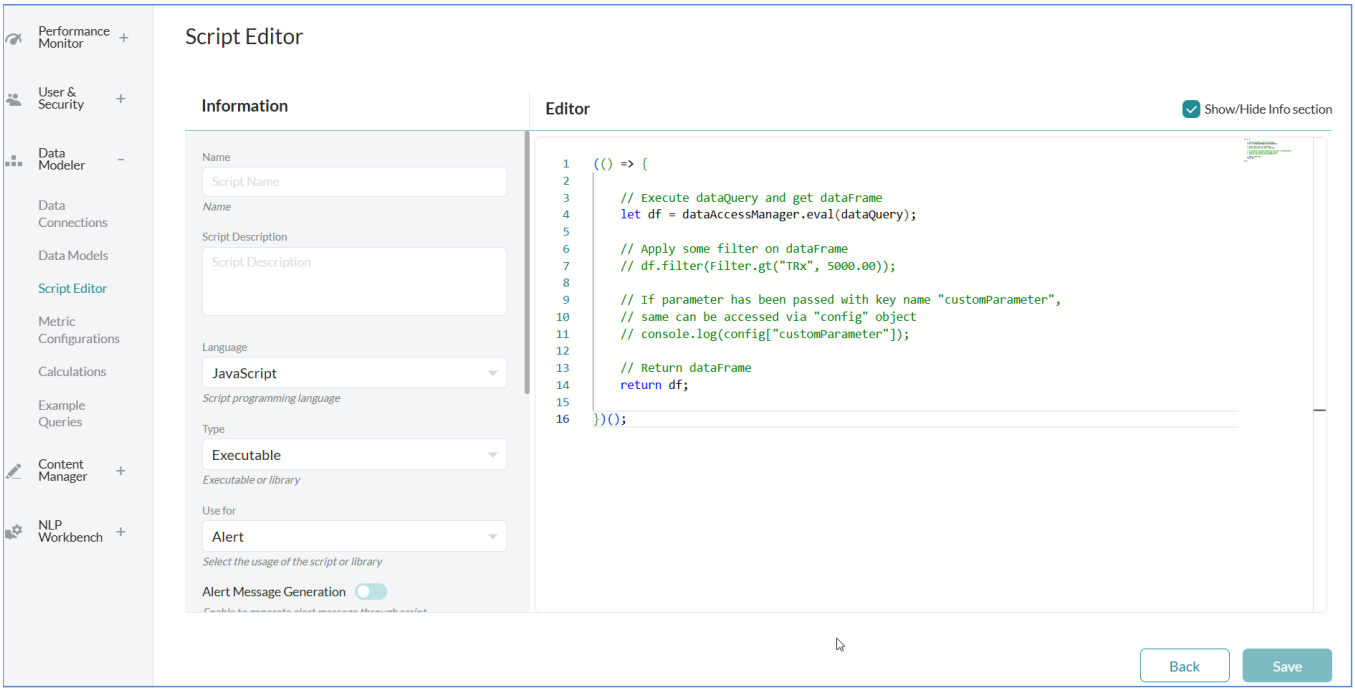
You can add a new custom script by using any of the existing scripts. You can create a copy of an existing script (custom), modify this copied script, and save it as a new custom script.
To add a new custom script by using the existing script:

1. Go to the script that you want to copy, and from the **Actions** column, click the copy icon .

2. Enter a name for the new custom script and click **Create**.



3. **Script Editor** window opens. From this new window, from the **Information** section, you can change the script programming language and script usage. In the **Editor** section, modify the script and click **Save**.



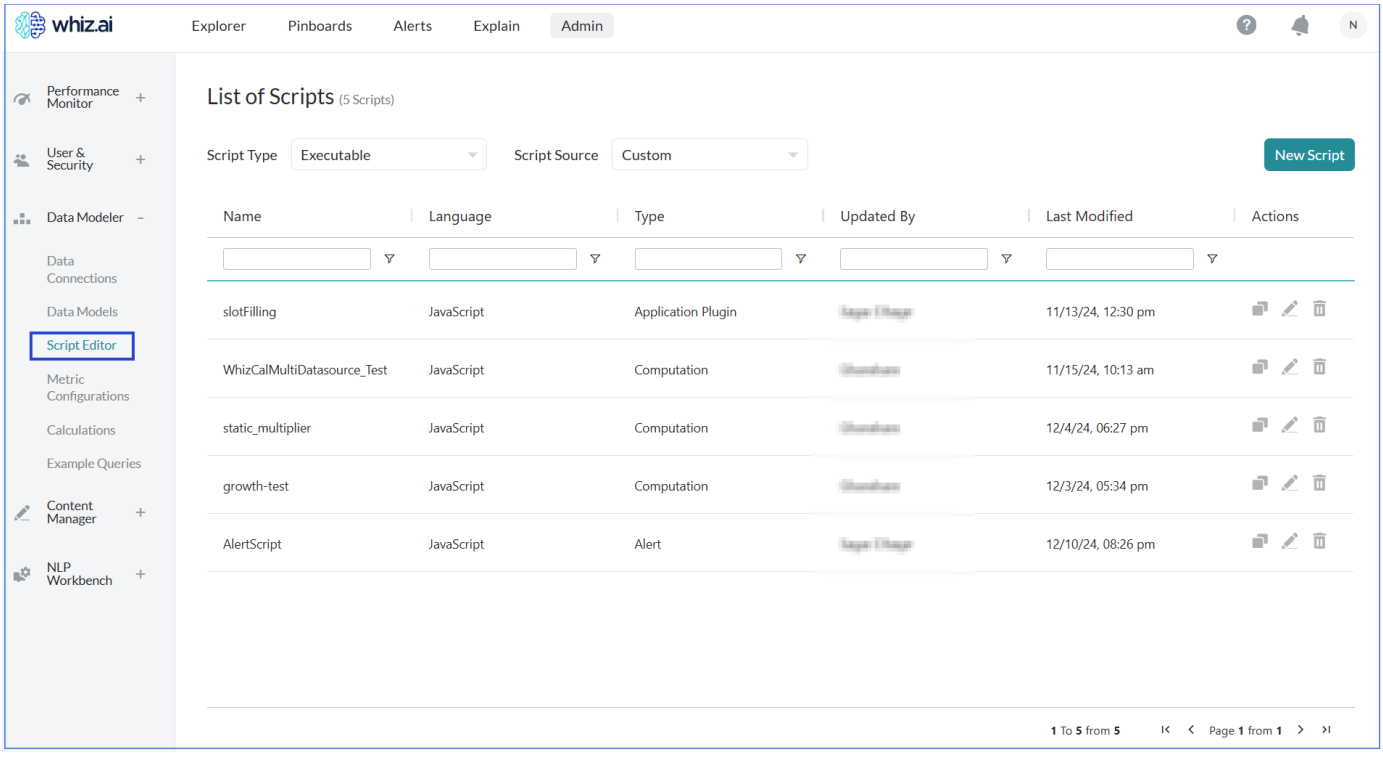
A new script gets added to the list.

Input Parameter Declaration for Alert Scripts

Input Parameters Declaration is a descriptor schema used to define and validate script input parameters using a key, title, control type, description, etc, for script customization. This enables dynamic input handling for tailored script execution.

To add or edit the Input Parameter Declaration, follow the steps below:

- Go to **Admin** console > **Data Modeler** > **Script Editor** to open the List of Scripts page as shown below:



- To add input parameter declaration to custom alert scripts, click **New Script** or click the **edit** icon. For the new script, select **Alert** from the **Use for** drop-down menu.

> **Tip!** For editing, the alert type is already selected for you.

- In the Information section of the Script Editor, enter or edit the Input Parameters Declaration details as shown in example below:

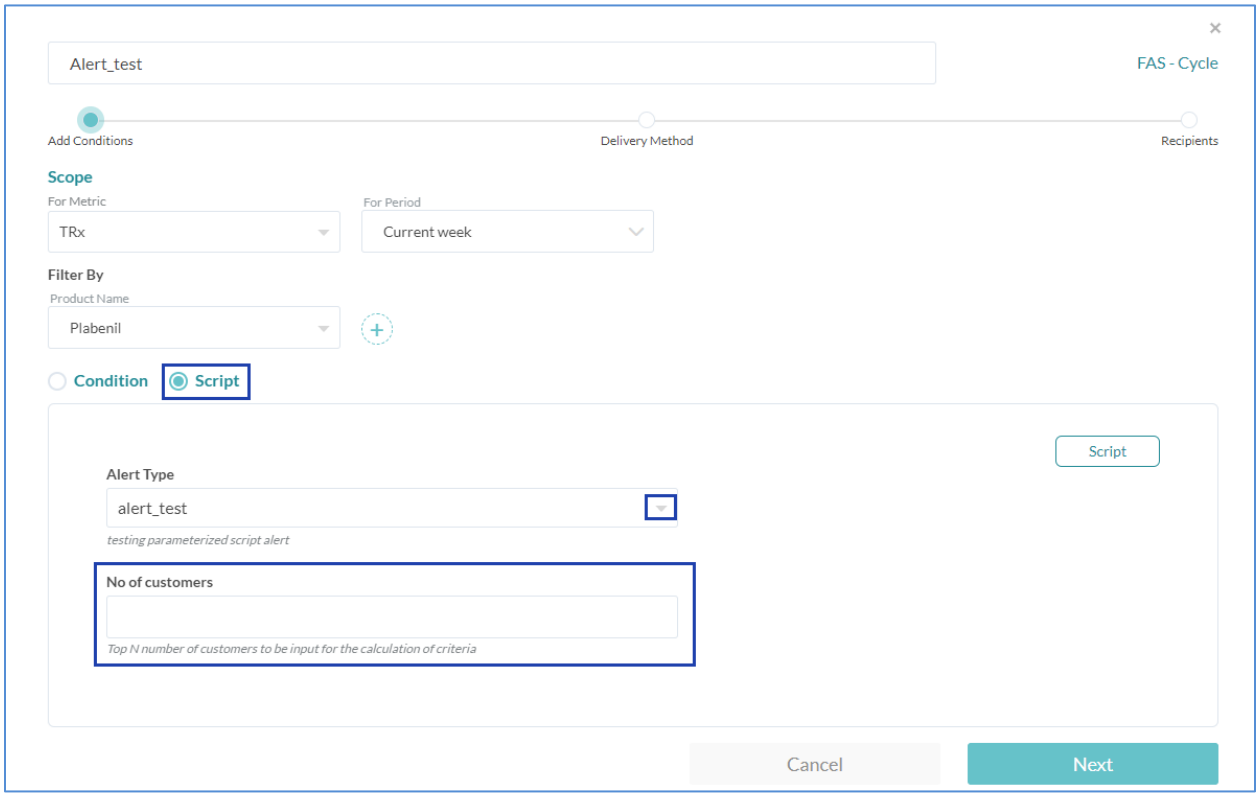
Example: Following is the sample Input Parameter Declaration

```
{
    "key": "numerberOfCustomers",
    "descriptors": [
        {
            "ui": {
                "title": "No of customers",
                "control": "input",
                "description": "Top N number of customers to be input for
the calculation of criteria"
            }
        }
    ]
}
```

- Click **Apply**. The Input parameter declaration is now applied to the selected Alert script.
- Click **Save.** The script is created successfully.

Create Alerts using Script

For detailed information about Alert Manager, refer to the Alert Manager topic in the User Manual.
go to the **Create Alert** icon > select **Script** radio button and select the **Alert Type** name from the drop down. The dynamically Input parameter field is generated as configured by you in the script editor with its corresponding tool tip is as shown below.

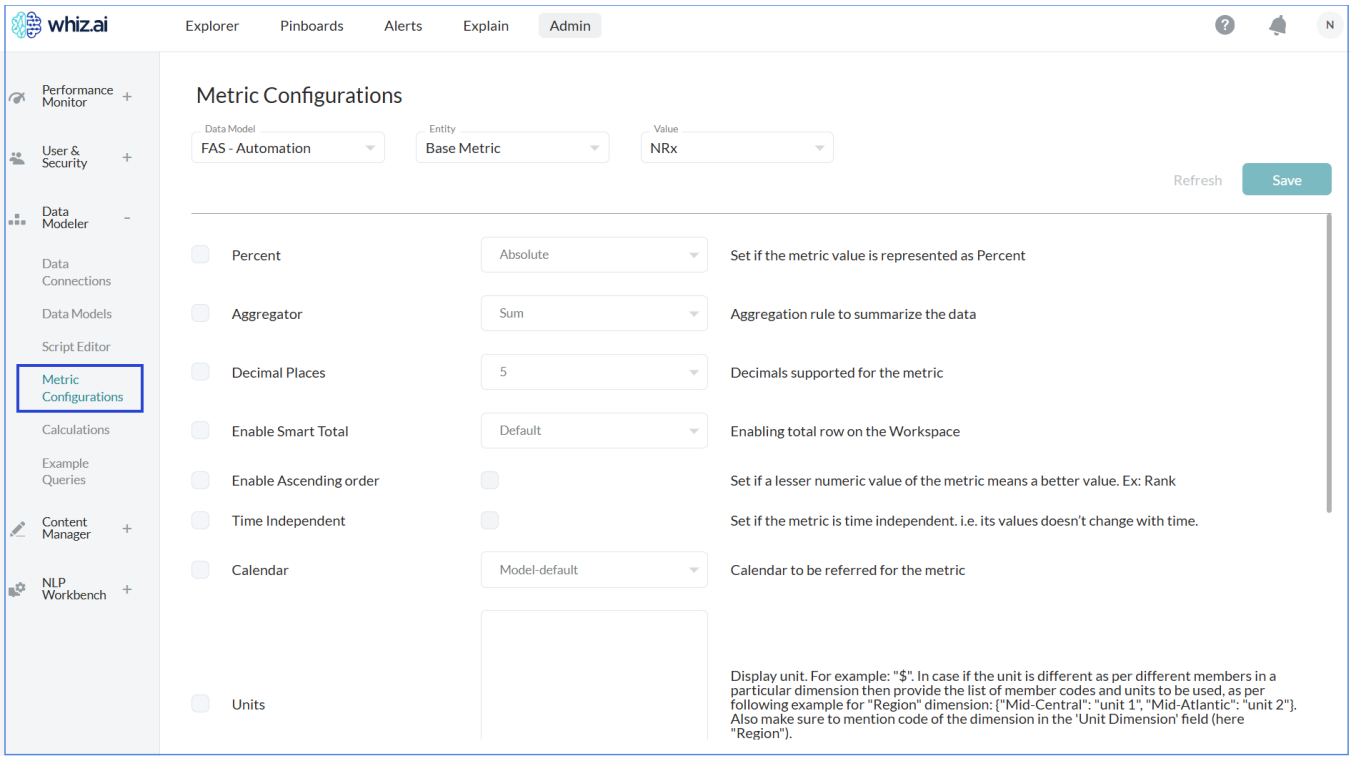


Metric Configurations

You can use the **Metric Configurations** option to view and edit the default configurations of the metrics in a selected data model.

To view and edit the configurations of a metric:

1. Go to **Admin** console > **Data Modeler** > **Metric Configurations**.



2. Select the data model from the **Data Model** drop-down list.
3. From the **Value** drop-down, select the metric(s) for which you want to edit the default configurations.
4. To edit the configuration, select the configuration and edit the parameters.
5. Click **Save**.

The following table explains different configurations that you can view and edit.

Configuration	Input Type	Description
Percent	Drop-down	Sets the metric numeric value as Absolute or as Percentage. The default value is Absolute
Aggregator	Drop-down	To define the aggregation rule to summarize the data. You can select the following aggregators: • Sum • Average • Count • Max • Min The default value is set as Sum.
Decimal Places	Drop-down	To define the decimals supported for the metric. You can select any numeric value between 0 to 9. The default value is set to 2.
Enable Smart Total	Drop-down	To enable the Total row on the workspace. You can enable or disable the total row
Enable Ascending order	Checkbox	Sets the order in which the metric data will be displayed in response. The default is False. When set as True: Metric values in the response are displayed in ascending order.
Time Independent	Checkbox	To decide whether the selected metric is time-independent or not. Time-independent metrics display varying responses to the same input at different instances of time.
Calendar	Drop-down	Sets the Calendar for the selected metric. (Gregorian or Custom) The default value is Gregorian.
Units	Text box	Sets the unit for the selected metric. For example: USD, EUR, etc.
Unit Dimension	Drop-down	Sets the dimension entity for the selected metric.
Prefix Unit	Checkbox	Sets the position of the unit as prefixed to metric value or as postfixed. Unit by default comes after the metric value.
Aggregable	Checkbox	Set the Aggregability of selected metric data as True or False. The default is True. When set as False: the aggregate metric value is not displayed in the response.
Fiscal Year Calendar	Drop-down	Enable/disable whether data model date interpretation should follow fiscal calendar behavior.
Fiscal year Offset	Textbox	Month start offset for Fiscal Year. 0 means it will start from January 1 for February
Data Consistency	Checkbox	

Configuration	Input Type	Description
Smart Total Scope Change	Checkbox	

Define Metric Type for the Key Driver Analysis (KDA)

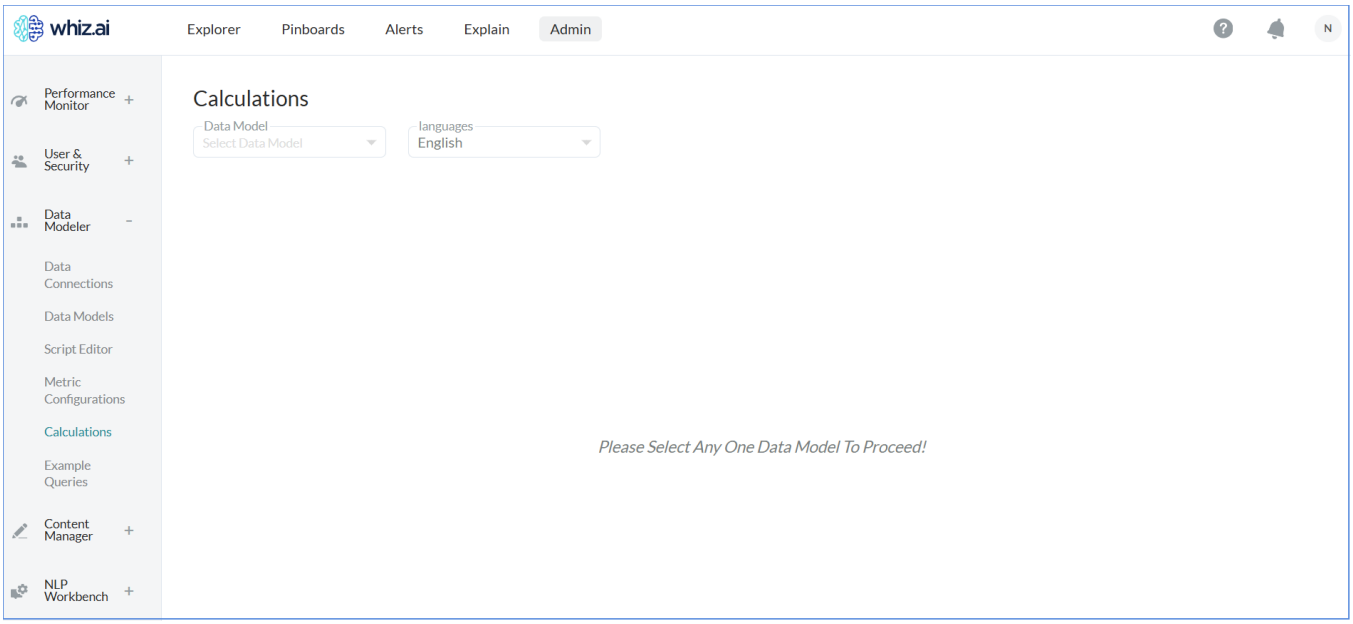
Tip! This is required only if there are one or more non-aggregable metrics available and they are required to be used in the Key Driver Analysis (KDA) analysis.

1. Go to the **Admin** console > **Data Modeler** > **Metric Configurations**.
2. Select the required data model from the dropdown list.
3. Select the metric as required. The system populates metric-specific configurations.
4. Select **Aggregable** and set the value in the dropdown against **Aggregable** to **true**.
   This dropdown contains the following three values.
   - **Default**: Default value is false. select when you are doing KDA analysis of aggregable metrics
   - **false**: Select when you are doing KDA analysis of aggregable metrics
   - **true**: Select when you are doing KDA analysis of non-aggregable metrics.
5. Click **Save**.
6. Refresh the page, to see the changes on UI.

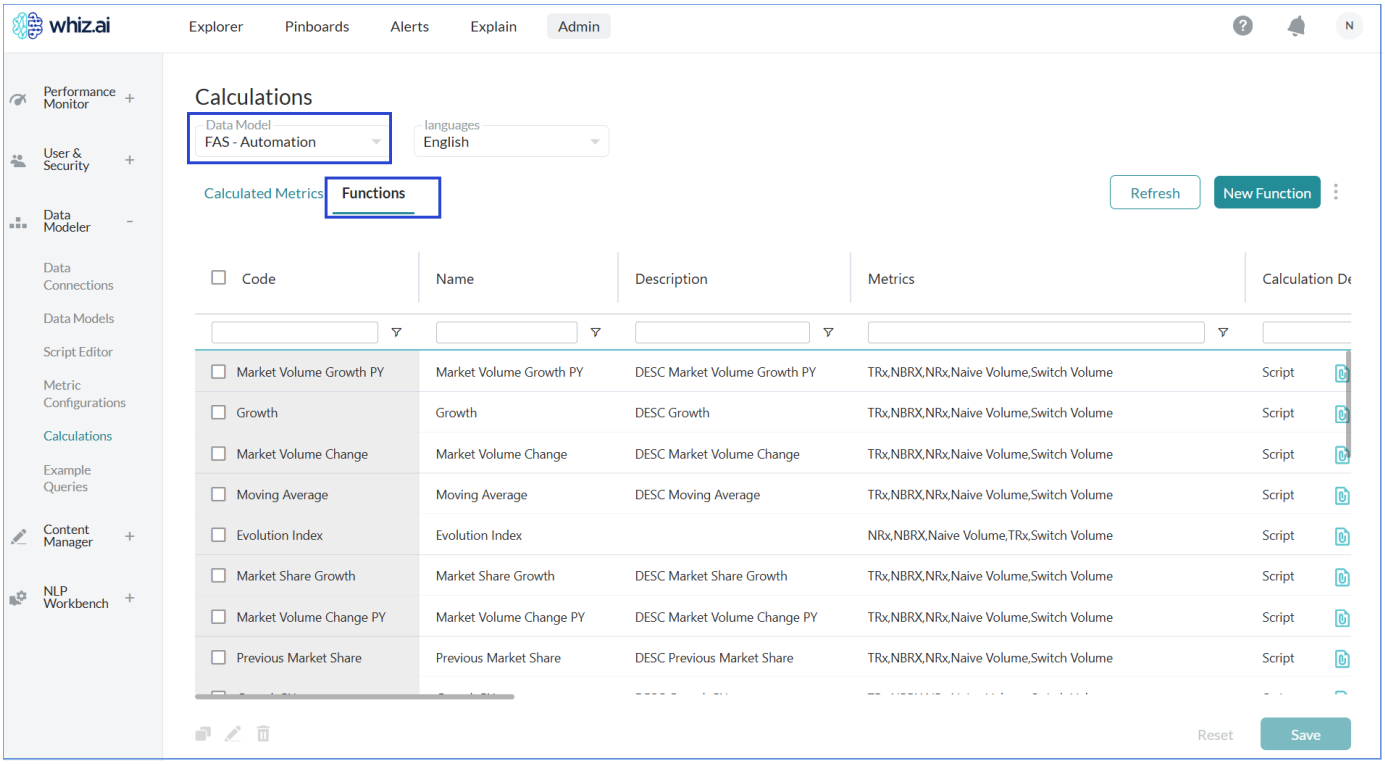
Calculations

From the Calculations page, you can add and configure the calculated metrics and functions.
To access the Calculations page:

1. Go to **Admin** console > **Data Modeler** > **Calculations**. to display the **Calculations** page.



2. On this page, select the data model from the **Data Model** drop-down. The **Functions** tab is displayed. This tab shows all the functions existing in the system. From this tab, you can add and configure new functions.



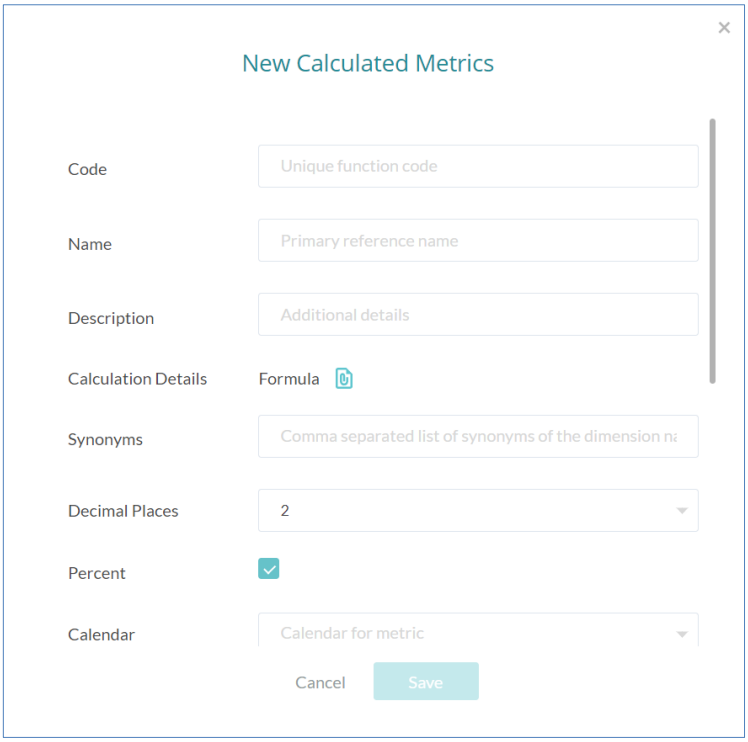
Note! From the Calculated Metrics tab, you can add and configure calculated metrics. Newly added calculated metrics or functions are not immediately reflected on the user interface. They reflect on the user interface, only a few minutes after adding the metric or function.

Add and Configure Calculated Metric

Calculated Metrics (or Calc Metrics) are user-defined metrics that are computed from existing base metrics.

To add and configure a Calculated Metric:

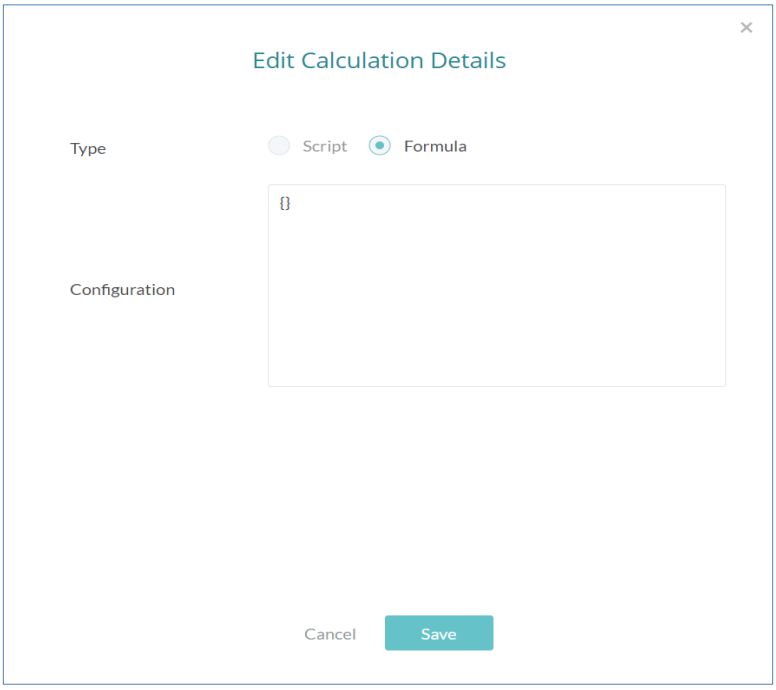
1. Go to the **Admin** console > **Data Modeler** > **Calculations**. The **Calculations** page is displayed.
2. Select the data model from the **Data Model** drop-down.
3. Click the **Calculated Metrics** tab. The **Calculated Metrics** tab displays all the existing calculated metrics and their configurations for that data model.
4. Click **New Calculated Metrics.** The **New Calculated Metric** dialog is displayed.



5. In this **New Calculated Metrics** dialog, add the required details.

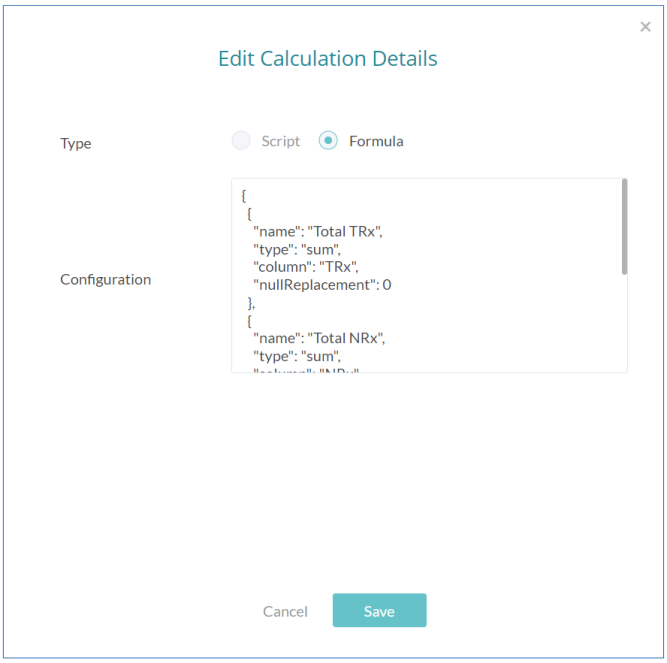
Note! For detailed descriptions of the fields on the New Calculated Metrics dialog, please refer to the section Understanding the New Calculated Metric dialog

6. Click the **Edit** icon against the **Calculation Details** field. The **Edit Calculation Details** dialog is displayed. In this dialog, you must add a **Script** or **Formula** for your metric.



Note! For detailed descriptions about the Calculation Details option on the New Calculated Metrics dialog, please refer to the section "Understanding the Edit Calculation Details dialog."

7. If you select the **Formula**, add the configuration required for the calculated metric. Two types of formulas can be added:
    - Legacy formula - Legacy formulas are developed using custom code, spreadsheet formulas, or specific business rules that have been in use for a considerable period.
    - Metadata formula - A metadata formula, on the other hand, is a formula that leverages metadata or data-driven calculations available within the system or data source.



8. If you select **Script**, add the required script from the drop-down menu. These scripts are stored in the script library in the **Script Editor** section of the data modeler.
9. Click **Save** on this Edit Calculation Details dialog. You will be redirected to the **New Calculated Metrics** dialog.
10. Click **Save.** Your calculated metric gets added to the system.

Note! The calculated metrics displayed on the screen are data source specific, we must select the data source correctly where we want to add/configure the Calculated Metric.

The values in the table below represent the hypothetical values for the calculated metric: Code Customer Count. The value changes as per the business requirement

Attribute Name	Description / Use
Code	Unique identifier for the calculated metric
Name	Unique name for the calculated metric
Description	Short description of the calculated metric

Attribute Name	Description / Use
Calculation Details	Calculation inputs for the metric. (**Script** or **Formula**) **Script**: You can choose a pre-existing script. This script contains the necessary calculations for the calculated metric. For more information, refer to the section Understanding the Edit Calculation Details dialog. **Formula**: Add the configuration for the calculation inputs. Default Value: Formula.
Synonyms	Comma-separated list of the synonyms for the calculated metric. You can use the synonym from this list in your query.
Decimal Places	Number of decimal points to be displayed for the calculated metric value
Percent	Checkbox to set the metric value representation in percentage. This is enabled by default.
Calendar	Select the calendar to be referred to for the calculated metric (Custom, or Gregorian, or Model-default)
Enable Smart Total	To enable total values (row) on the response
Enable Ascending order	To set the order in which the metric values will be displayed in response. When selected: metric values in the response are displayed in ascending order. **Tip**: Select this when the small numeric value of a metric is considered a better value. For example, Rank
Time Independent	Select this checkbox if the calculated metric is time-independent (that is, when metric values do not change with time).
Aggregable	Select if aggregation is supported on the calculated metric.
Dynamic Period	Select this check box if the calculated metric supports dynamic comparison (PoP or YoY)
Comparison period	Select the dynamic comparison period for the calculated metric. Available options: **N/A**: Not Applicable Compound Annual Growth Rate (CAGR) Period over period (PoP) Year over year (YoY)
CAGR Number of Years	The number of years (n) for CAGR (Compound Annual Growth Rate) calculation The parameter 'n' refers to the duration or length of time for which the CAGR is calculated.
Prefer SQL	Select this checkbox
Units	**Units**: Set the unit for the calculated metric. For example: USD, EUR, etc. **Unit Dimension:** Set the dimension entity for the selected metric. **Prefix Unit**: To set the position of the unit as prefixed to metric value or as postfixed. Unit by default comes after the metric value.
Fiscal Year Calendar	Select whether data model date interpretation should follow fiscal calendar behavior or not
Fiscal Year Offset	Set the month start offset for the Fiscal Year. 0 means it will start in January, 1 for February
Business Categories	Select the business category from the drop-down list.
Data Consistency	Scope: This applies to all base and computational metrics. When checkbox is selected, the customer list remains correct for the metrics belonging to the same data source. The customer list may change for metrics belonging to different data sources.
Smart Total Scope Change	Scope: This applies to all base and computational metrics. When checkbox is selected, the totals will remain consistent even when metrics are from different data sources and there is a period adjustment when sorting.
Relative TD Time Comparison	Scope: It is applicable to all time period buckets such as MTD, QTD, HTD, YTD, and time comparison metrics such as growth, EVI etc. Select this checkbox to calculate Evolution Index (EVI). When this checkbox is selected for TD buckets, Relative TD Time Comparison is

Attribute Name	Description / Use
	applied. When this checkbox notes selected for non-TD buckets, such period filters are unaffected by Relative TD flag and behave according to the flag set at the comparison field.

Edit Calculation Details

Attribute Name	Description / Use
Type	**Script:** used for complex calculation. Select the script from the dropdown. If no script is available, you can add the script in the Script Editor. **Formula:** Calculation formulas that do not require a script
Configuration	If you select **Script**: Configurations are necessary if you want to change certain parameters in the script. If you select **Formula**: You must add configuration with calculation inputs.

Add and Configure Function

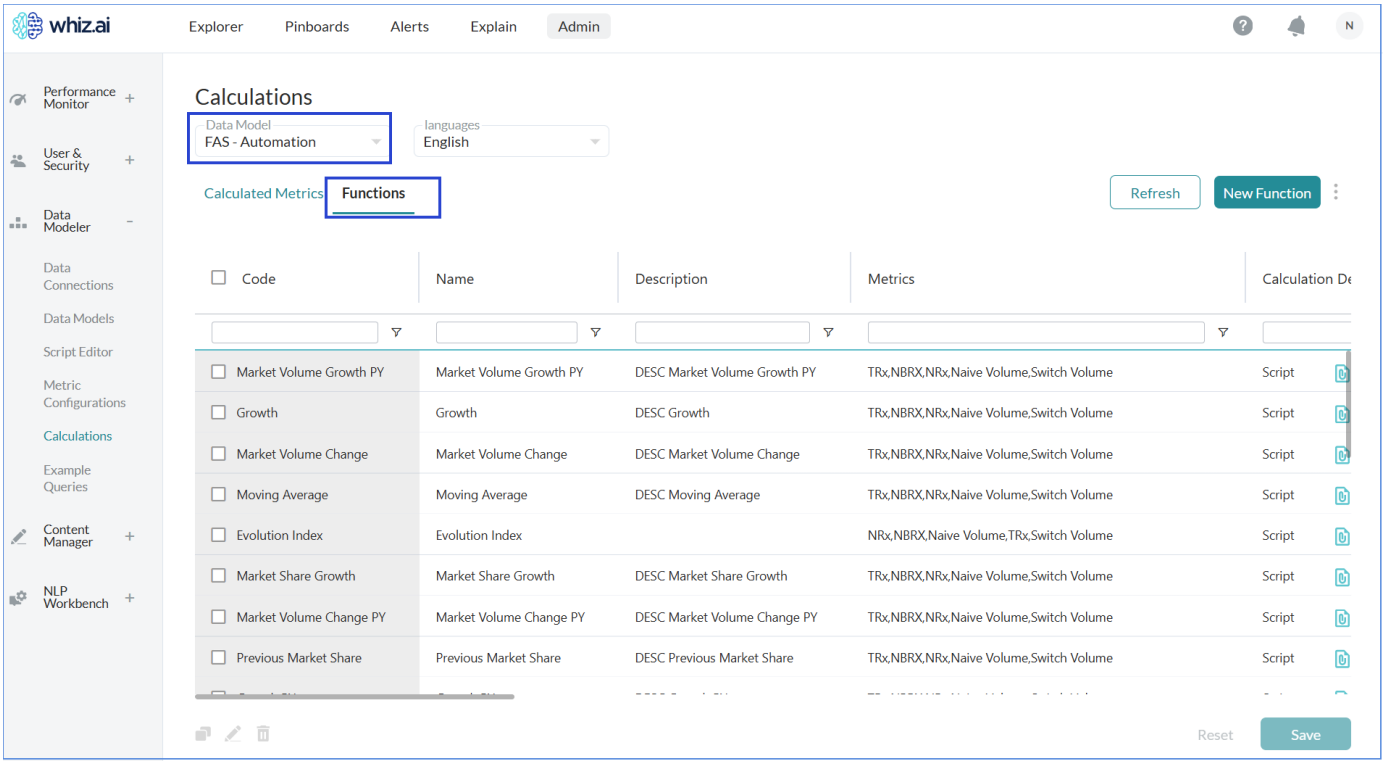
WhizAI offers predefined standard functions. These functions are configured using mathematical calculations on the metrics. These functions provide additional information and insights into your data. Some examples of these predefined functions are:

- Average
- Contribution
- Growth
- Market share

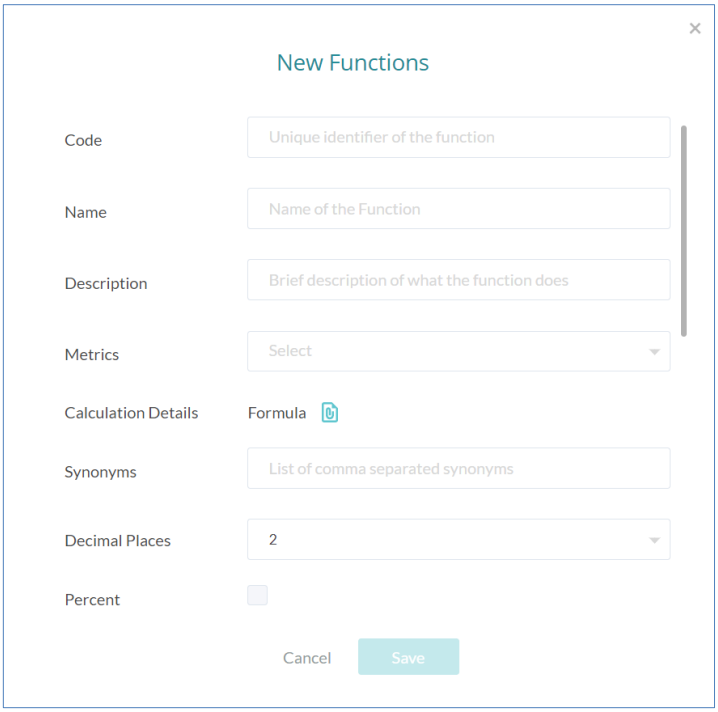
Using the **Functions** tab on the **Calculations** page you can add and configure custom functions.

To add and configure a Function:

1. Go to the Admin console > **Data Modeler** > **Calculations**. The **Calculations** page is displayed.
2. Select the data model from the **Data Model** drop-down. The **Functions** tab displays all the existing functions and their configurations for that data model.



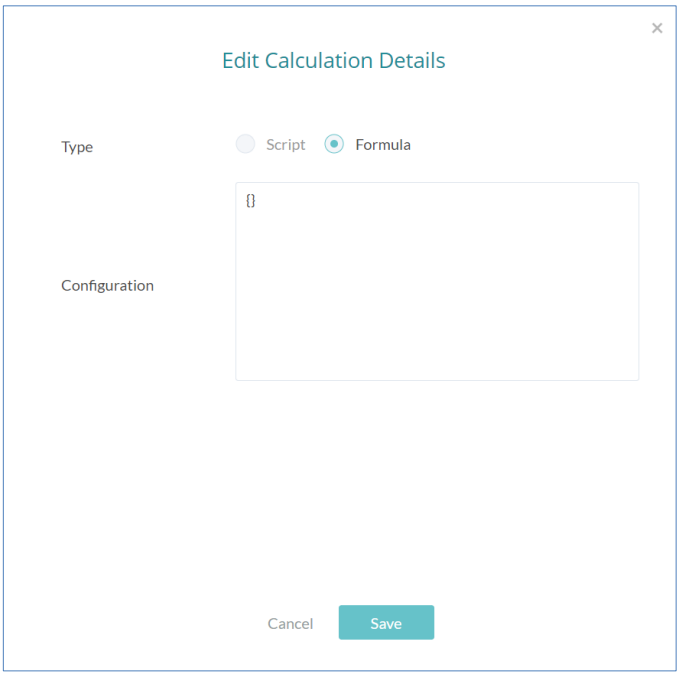
3. Click **New Functions.** The **New Functions** dialog is displayed.



4. In this dialog, add the required details.

Note! For detailed descriptions of the fields on the New Functions dialog, please refer to the section Understanding the New Functions dialog.

5. Click the **Edit** icon against the **Calculation Details** field. The **Edit Calculation Details** dialog is displayed. In this dialog, you must add a **Script** or **Formula** for your function.

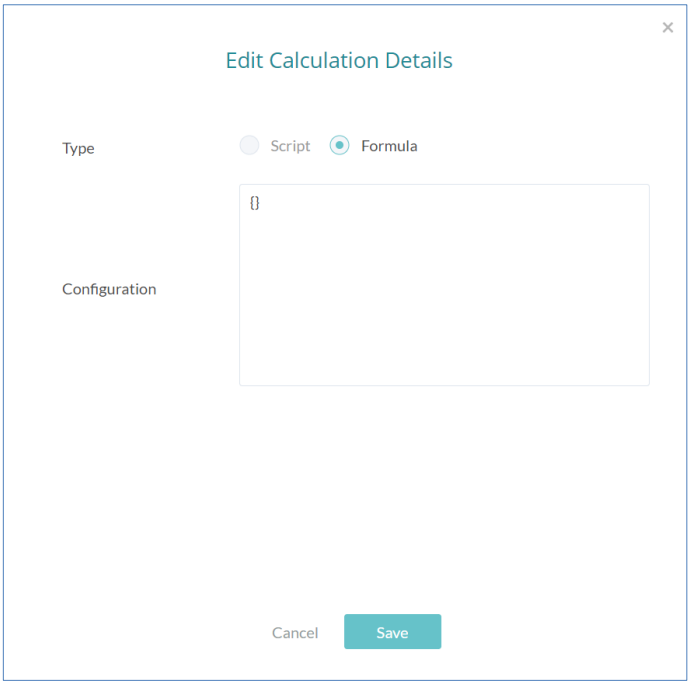


Note! For detailed descriptions of the Calculation Details option on the New Functions dialog, please refer to the section Understanding the Edit Calculation Details dialog.

6. If you select the **Formula**, add the configuration required for the function. Two types of formulas can be added:
    - Legacy formula - Legacy formulas are developed using custom code, spreadsheet formulas, or specific business rules that have been in use for a considerable period.
    - Metadata formula - A metadata formula is a formula that leverages metadata or data-driven calculations available within the system or data source.

Note! When the model is loaded through the model manager the default functions listed below are added to assist with calculating metrics: MarketShare, Growth, Average, Contribution, Penetration, Productivity, Market Volume, Market Volume Growth. However, you still need to manually map these functions to the applicable metrics based on their specific requirements.

7. If you select **Script**, add the required script from the drop-down menu. And add the configuration as required. These scripts are stored in the script library in the **Script Editor** section of the data modeler.



8. Click **Save** on this Edit Calculation Details dialog. You will be redirected to the **New Functions** dialog.
9. Click **Save.** Your function gets added to the system.

New Functions

Attribute Name	Description / Use
Code	Unique identifier for the function
Name	Unique name for the function
Description	Short description of the function
Metrics	An array that lists the metrics on which the function is applied
Calculation Details	Calculation inputs for the function. (**Script** or **Formula**) **Script**: You can choose a pre-existing script. This script contains the necessary calculations for the function. For more information, refer to the section **Understanding the Edit Calculation Details dialog**. **Formula**: Add the configuration for the calculation inputs. Default value: Formula.
Synonyms	Comma-separated list of the synonyms for the function. You can use the synonym from this list in your query.
Decimal Places	Number of decimal points to be displayed for the function value
Percent	Checkbox to set the function value representation in percentage
Enable Smart Total	To enable total values (row) on the response

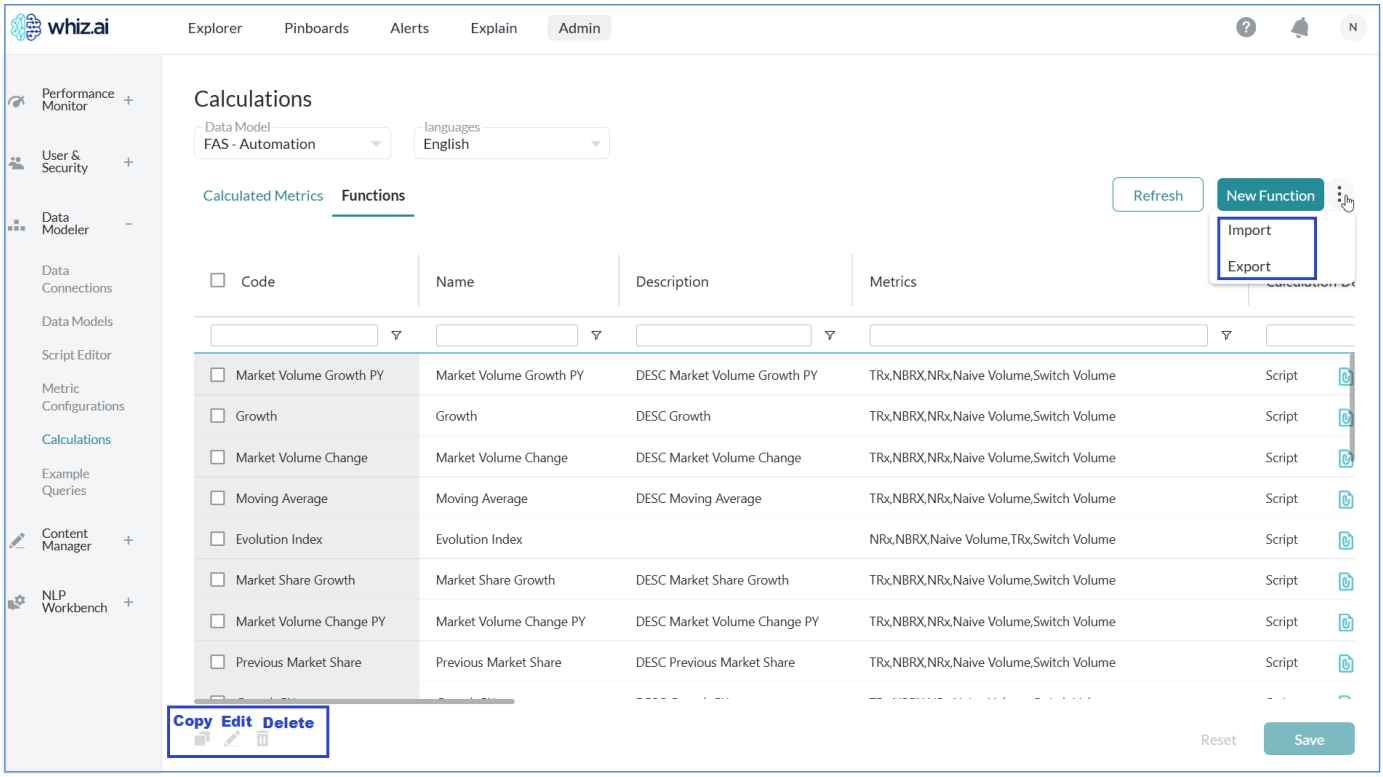
Attribute Name	Description / Use
Enable Ascending order	To set the order in which the function values will be displayed in response. When selected: function values in the response are displayed in ascending order. **Tip**: Select this when the small numeric value is considered a better value. For example: Rank
Aggregable	Select if aggregation is supported on the function.
Dynamic Period	Select this check box if the function supports dynamic comparison (PoP or YoY)
Comparison period	Select the dynamic comparison period for the function. Available options: **N/A**: Not Applicable Compound Annual Growth Rate (CAGR) Period over period (PoP) Year over year (YoY)
CAGR Number of Years	The number of years (n) for CAGR (Compound Annual Growth Rate) calculation The parameter 'n' refers to the duration or length of time for which the CAGR is calculated.
Prefer Sql	
Prefix Unit	To set the position of the unit as prefixed to function value or as postfixed. Unit by default comes after the metric value.
Units	**Units**: Set the unit for the function. For example: USD, EUR, etc.

Edit Calculation Details

Attribute Name	Description / Use
Type	**Script**: used for complex calculation. Select the script from the dropdown. If no script is available, you can add the script in the script editor. **Formula**: JSON that does not require the script and works on application and druid.
Configuration	If you select **Script**: Configurations are necessary if you want to change certain parameters in the script. If you select **Formula**: You must add configuration with calculation inputs.

Managing Calculated Metrics and Functions

You can copy, edit, delete, import, and export the lists of **Calculated Metrics** and **Functions**.



The **Calculations** page > **Functions** tab lists all the functions for the selected data model in an editable table.
The **Calculations** page > **Calculated Metrics** tab lists all the calculated metrics for the selected data model in an editable table.
You can edit the values directly within the table, except for the "Code" column, which is not editable. This allows you to make changes to the function configurations conveniently.

Creating a copy of the function or a calculated metric:

1. Select the function or calculated metric and click the copy icon . The **Clone Functions** or **Clone Calculated Metric** dialog is displayed with pre-populated details of the selected function.
2. Edit the details as required.

Note! The code and name must be unique. In such a case, an appropriate error message will be displayed to prompt you to choose a distinct code or name.

3. Click **Save**.

Editing the function or a calculated metric:

1. Select the function or the calculated metric that you want to edit.
2. Double-click on any cell to edit the value.

Note! You cannot edit the Code column.

To edit multiple functions or calculated metrics:

1. Select the functions or calculated metrics that you want to edit.

2. Click the **Edit** icon. The **Edit Functions** or **Edit Calculated Metric** dialog is displayed.
3. Edit the details as required.
4. Click **Save**.

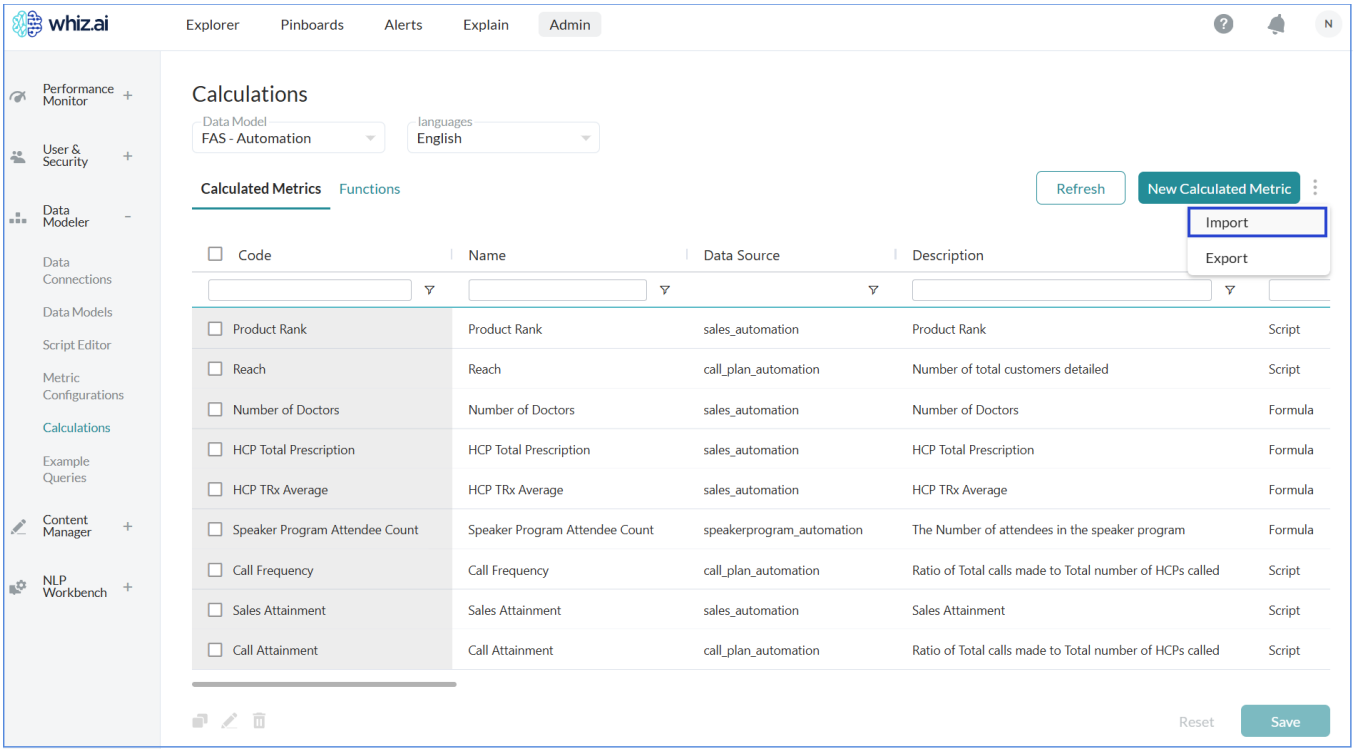
Deleting a function or calculated metric:

You can delete one or multiple rows by selecting them and clicking on the delete icon located at the bottom left of the screen.

Note! System functions essential for the system's functioning cannot be deleted.

Importing functions or calculated metrics:

1. Click the vertical ellipsis icon from the top right corner of the **Calculations** page.

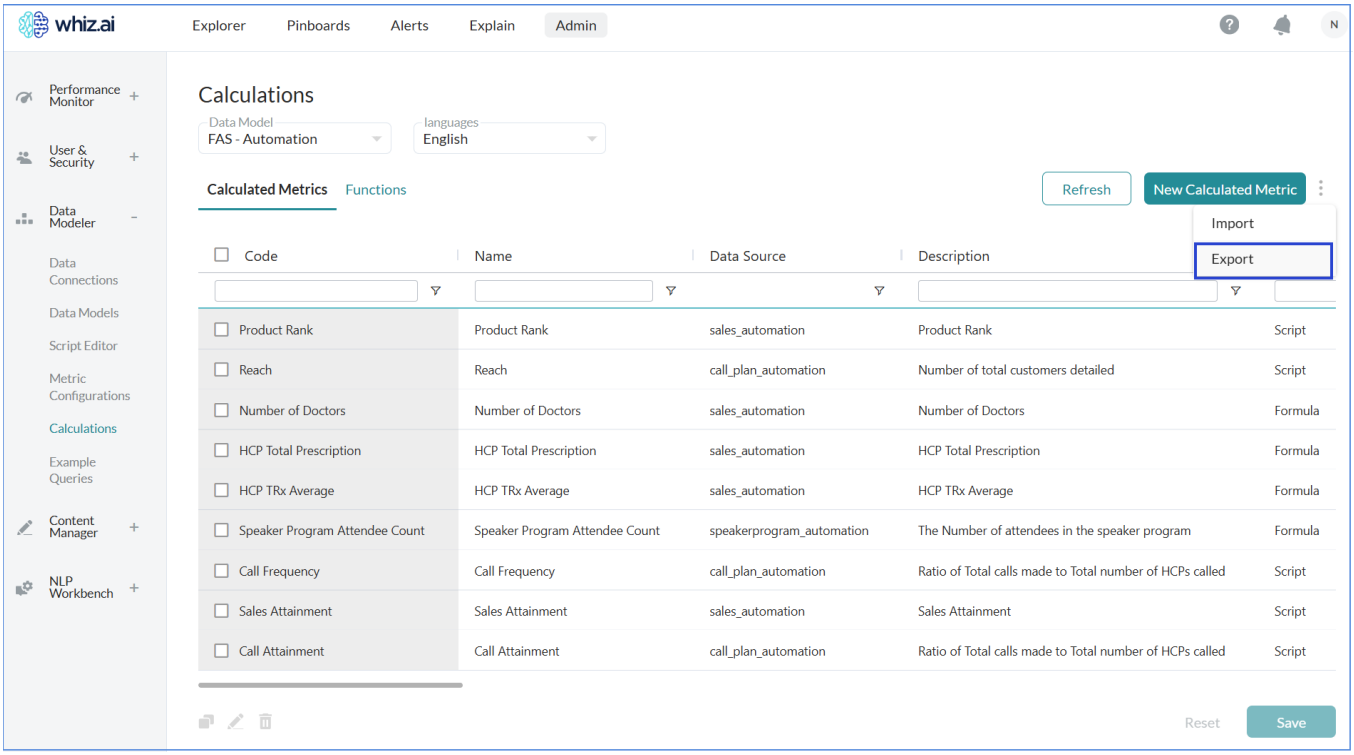


2. Click **Import**. The dialog to Import functions or calculated metrics is displayed.
3. Click the **Choose File** button.
4. Select the file that you want to import and click **Apply**. The functions or calculated metrics from the selected file get imported.

Note! When you import a function(s) or calculated metric(s), functions or metrics with the same name are overwritten. In such a case, a warning message pops up, informing you about the same.

Exporting functions or calculated metrics:

1. Click the vertical ellipsis icon from the top right corner of the **Configurations** page.



2. Click **Export**. The dialog to Import functions or calculated metrics is displayed.
3. From the dropdown, select the functions or calculated metrics that you want to export.
4. Click **Download**. A JSON file with selected functions or calculated metrics gets downloaded.

Note! When running the model for a data model, the functions configured on the function configuration screen remain intact and unaffected by the model execution.
Saving the configurations does not freeze the screen, even if there is an update to the natural language processing (NLP) component. If the NLP update fails, the user is notified about the failure but is still able to go back and save the configurations again.

Example Queries

You can use this option to add Example Queries on the data model **Info** page. You can add a single query at a time, or you can add multiple queries by importing an Excel file having multiple queries.

Note! It is recommended that the structure and column sequence in the MS Excel file should be as shown in the following figure.

	A	B	C	D
1	id	statement	description	lang
2	1	Sales contribution by specialty	Sales contribution by specialty	en
3	2	What are my TRx sales?	What are my TRx sales?	en
4	3	Show me my TRx marketshare by brand	Show me my TRx marketshare by brand	en
5	4	Show me reach for current year	Show me reach for current year	en
6	5	Who are my top performing accounts?	Who are my top performing accounts?	en
7	6	Who are my worst performing accounts?	Who are my worst performing accounts?	en
8	7	Show me my TRx and NBRx sales by product	Show me my TRx and NBRx sales by product	en
9	8	What is my TRx marketshare by region?	What is my TRx marketshare by region?	en
10	9	Who are my top performing customers by TRx marketshare?	Who are my top performing customers by TRx marketshare?	en
11				
12				
13				
14				
15				
16				
17				

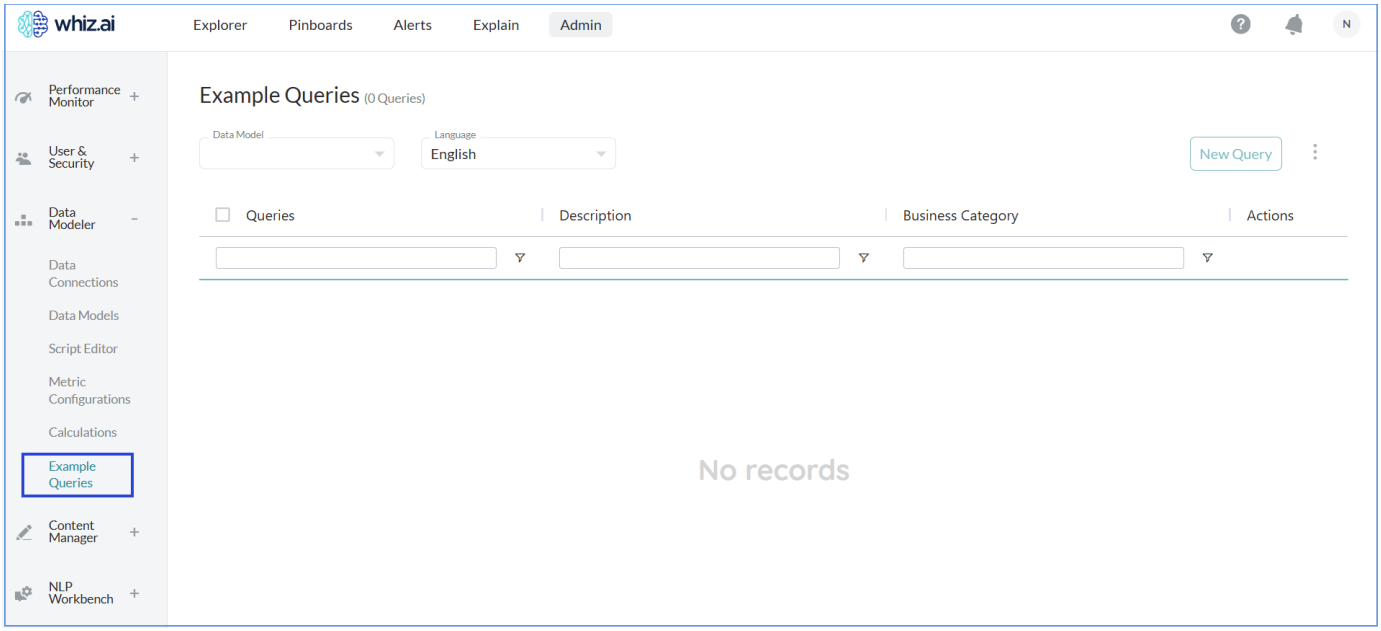
Title of the sheet must be SuggestedQueries

SuggestedQueries

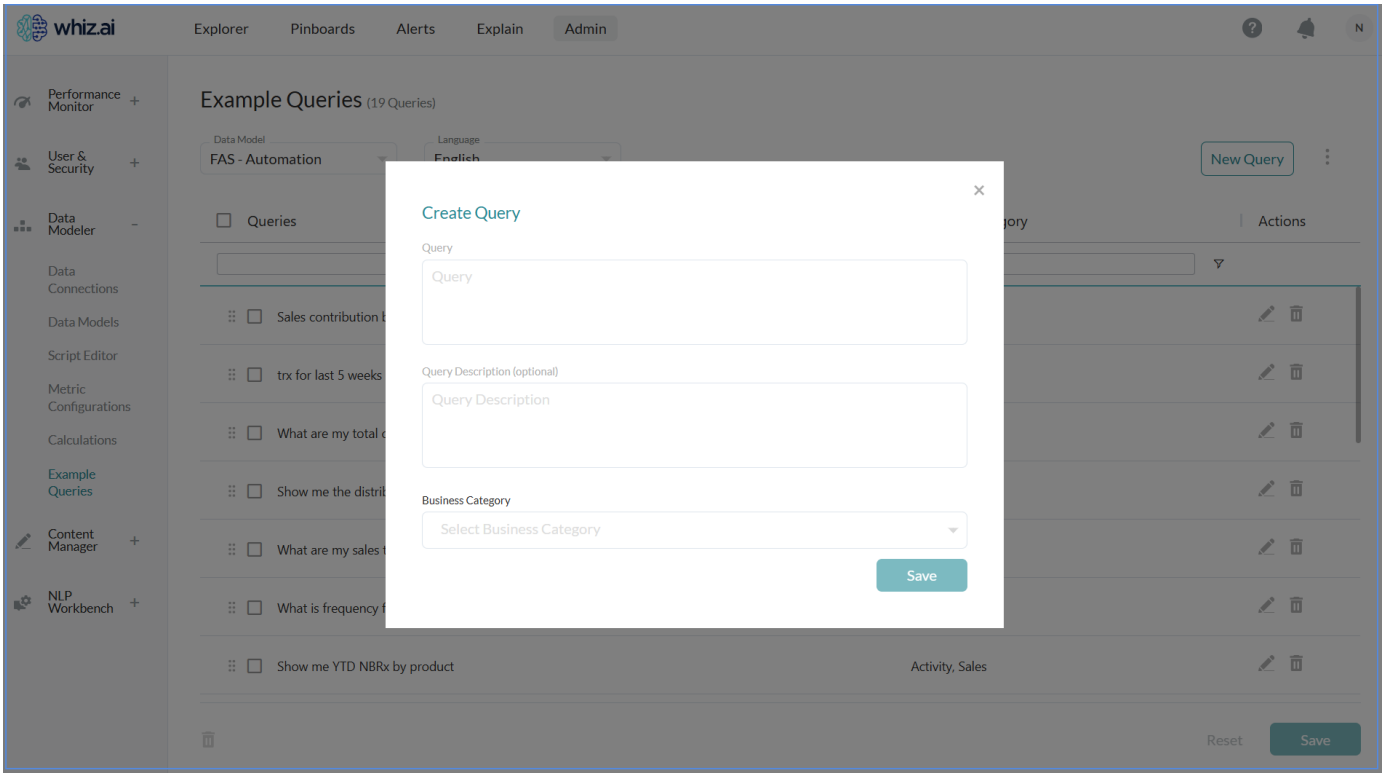
Note! The name of the sheet is case-sensitive and must be "SuggestedQueries."

To add a single example query:

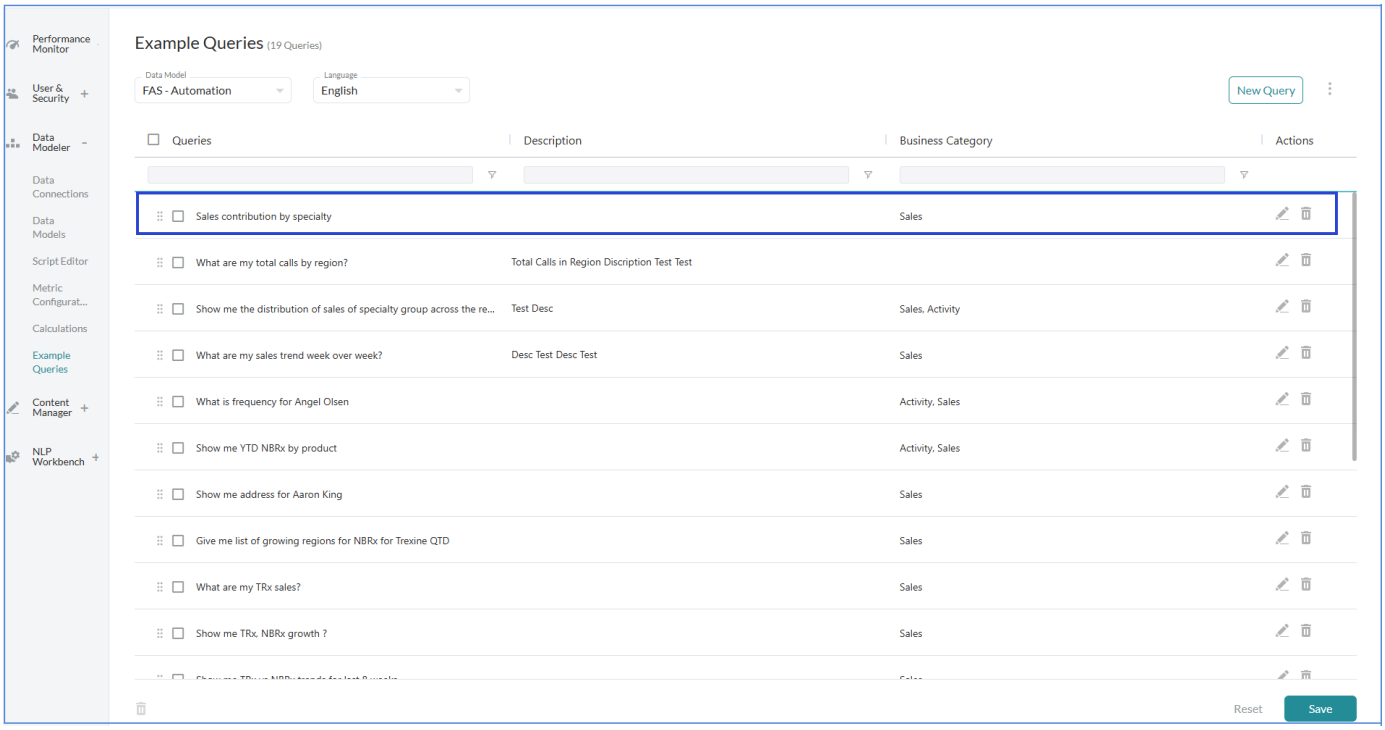
1. Go to the **Admin** console > **Data Modeler** > **Example Queries**.



2. From the **Data Model** drop-down, select the data model for which you want to add **Example Queries**.
3. Click **New Query**; Create Query dialog opens. On this dialog, add Query, Query Description, and then click **Save**.

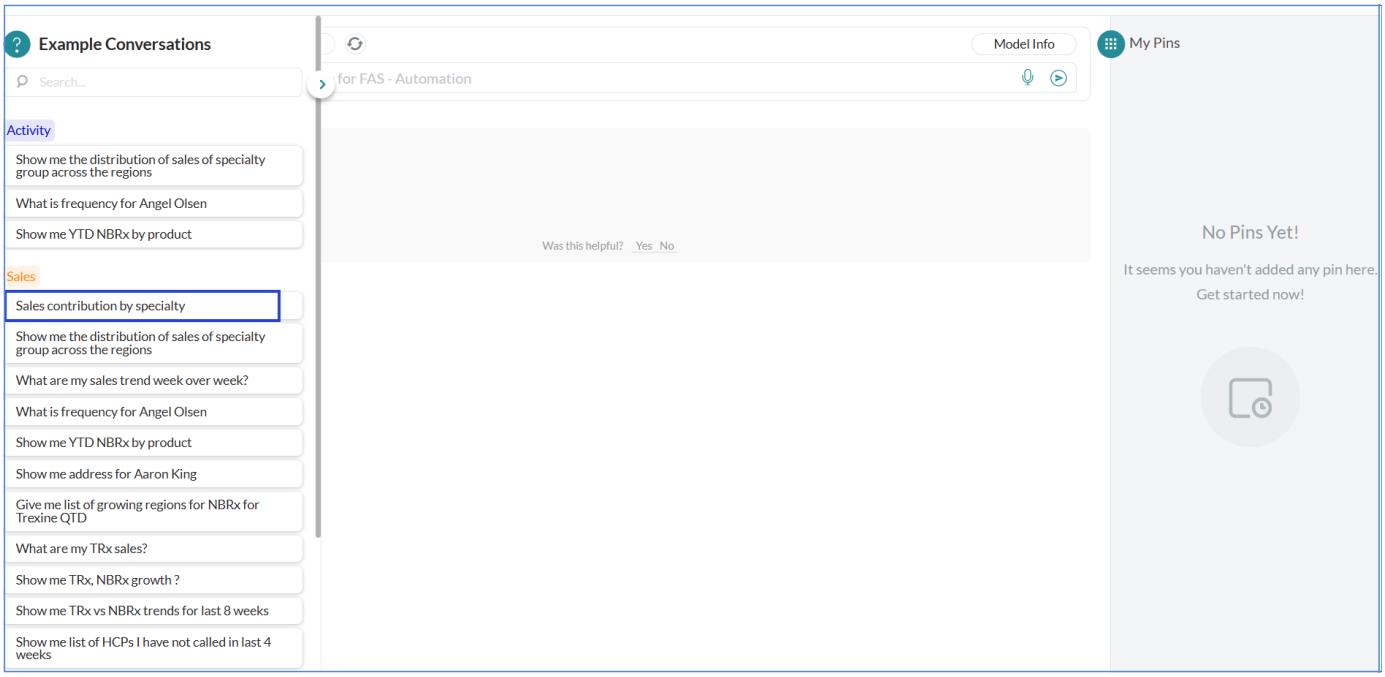


The query gets added for the data model.



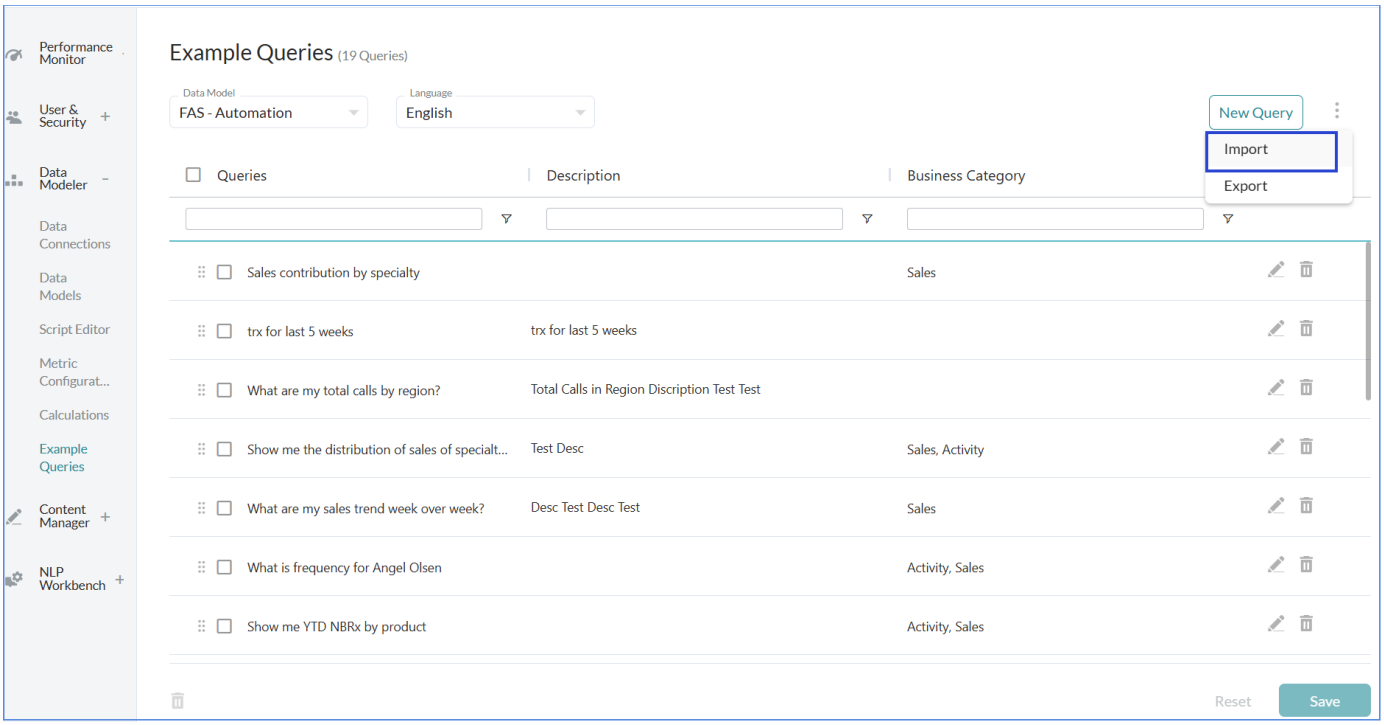
Note! From the Actions column, you can edit or delete the query.

The query gets added to the data model **Info** page as well.

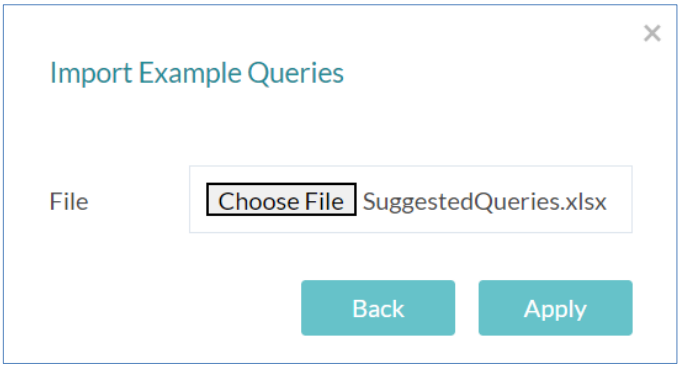


To add multiple example queries:

1. Go to the **Admin** console > **Data Modeler** > **Example Queries**.
2. Click the menu icon and then **Import**.



3. **Import Example Queries** dialog opens. On this dialog, click **Choose File** and select the Excel file having example queries.



4. Click **Apply** to add Queries for the data model. Close the **Import Example Queries** dialog.

Note! From the Actions column, you can edit or delete the query.

Queries get added to the data model **Info** page as well.

Limitations

There are a few challenges when importing example queries:

- The column sequence should be maintained as below. Any change in the sequence results in incorrect ordering in the output.
  - statement
  - description
  - language
  - business category
- If any column is left empty in the .xlsx sheet, it will pick up the value in the next column and add its content to the current empty cell.
- There is no method to assign a specific cell to a particular column based on the header while importing.

You can associate **Example Queries** with relevant business categories. Additionally, you can specify the language for each created example query.

Map Example Queries to Business Categories

- Click **Admin**->**Data Modeler**->**Example Queries**. You can view all example queries configured for a model, categorized by language.
- Each example query displays the business categories mapped to it. All the business categories available for the model can be mapped to example queries.
- You can assign one or more business categories to any example query and have the option to remove existing category mappings.
- Any changes made are promptly reflected in the information panel of the model.
  You can import example queries using an XLSX file, which includes language and business category settings. The XLSX format is provided as an attachment.

Note! The example queries file is imported irrespective of the selected language.

- Exporting example queries is possible through the export feature. Regardless of the language selection on the user interface, all sample queries are exported.

XLSX file format:
The standard XLSX file format is:

ID	statement	description	language	Business Category

Example:
The table below lists the sample file for Example Queries

ID	statement	description	language	Business Category
1142	tendencia TRx	Reg	es	Sales
1119	Top 10 regions	Test	es	CRM
1120	Show me count of customers and total calls by engage willingness	Show me count of customers and total calls by engage willingness	es	CRM
1121	Which territories have highest calls in Northeast?	Which territories have highest calls in Northeast?	es	Sales
1122	What are my total calls by region?	What are my total calls by region?	en	Sales | Activity | CRM
1123	Who are my top performing accounts?	Who are my top performing accounts?	en	
1124	Who are my worst performing accounts?	Who are my worst performing accounts?	en	
1125	Show me my TRx and NBRx sales by product	Show me my TRx and NBRx sales by product	en	
1126	Show me the distribution of sales of specialty group across the regions	Show me the distribution of sales of specialty group across the regions	en	Sales | Activity | CRM
1127	What is my TRx marketshare by region?	What is my TRx marketshare by region?	en	CRM
1128	What is my call goal attainment for this quarter?	What is my call goal attainment for this quarter?	en	CRM
1129	Which doctors have clicked emails in last week and their NBRx?	Which doctors have clicked emails in last week and their NBRx?	en	CRM
1130	What are the top 50 retail customers by Arobi TRx?	What are the top 50 retail customers by Arobi TRx?	de	CRM
1131	Show me my TRx marketshare by brand	Show me my TRx marketshare by brand	de	Activity

1132	What is frequency for Angel Olsen	What is frequency for Angel Olsen	it	Sales | Activity | CRM
1133	Show me YTD NBRx by product	Show me YTD NBRx by product	it	Sales | Activity | CRM
1134	Who are my top performing customers by TRx marketshare?	Who are my top performing customers by TRx marketshare?	de	Sales
1135	Show me TRx vs NBRx trends for last 8 weeks	Show me TRx vs NBRx trends for last 8 weeks	fr	Sales
1136	Whoaremyworstperformingaccounts	Who are my worst performing accounts?	fr	Activity

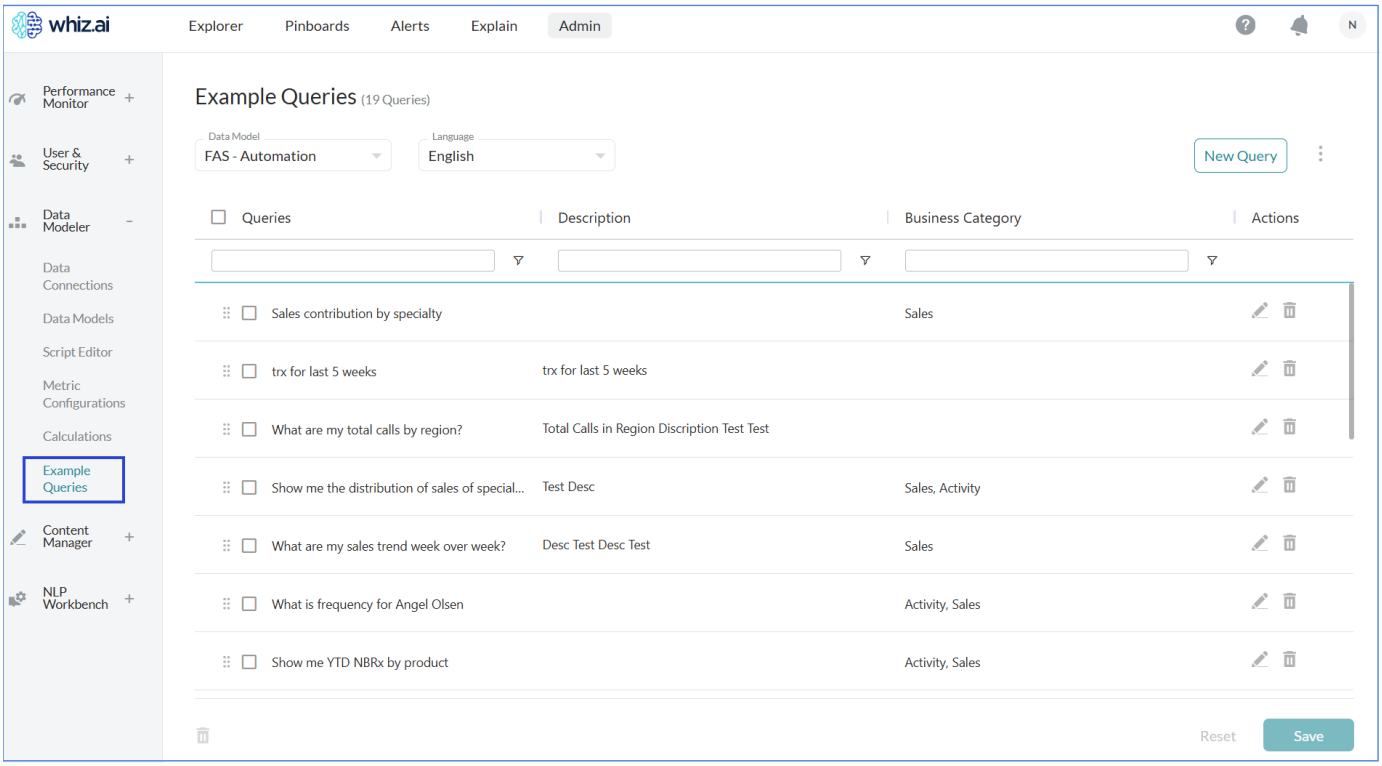
Limitations:

- All the columns in the XLSX should be populated for each row without any null value.
- For importing the XLSX, the first row should be the header as defined in the format.

Customize display Order of example queries

You can reorder example queries sequence as per your requirement. Once you save the new order, you can see those in the saved order on the model info panel of Explorer.
Follow the steps as below to reorder example queries

- Go to Admin->Data Modeler->Example Queries
- Select the Data Model
- User drag and drop button to re-order the example queries. Once you re-order, Save and Reset buttons are enabled. If you want to save the reordering, Click Save. Click Reset if you want to reset to the old order. Once you reset, the Save and Reset button will be disabled.



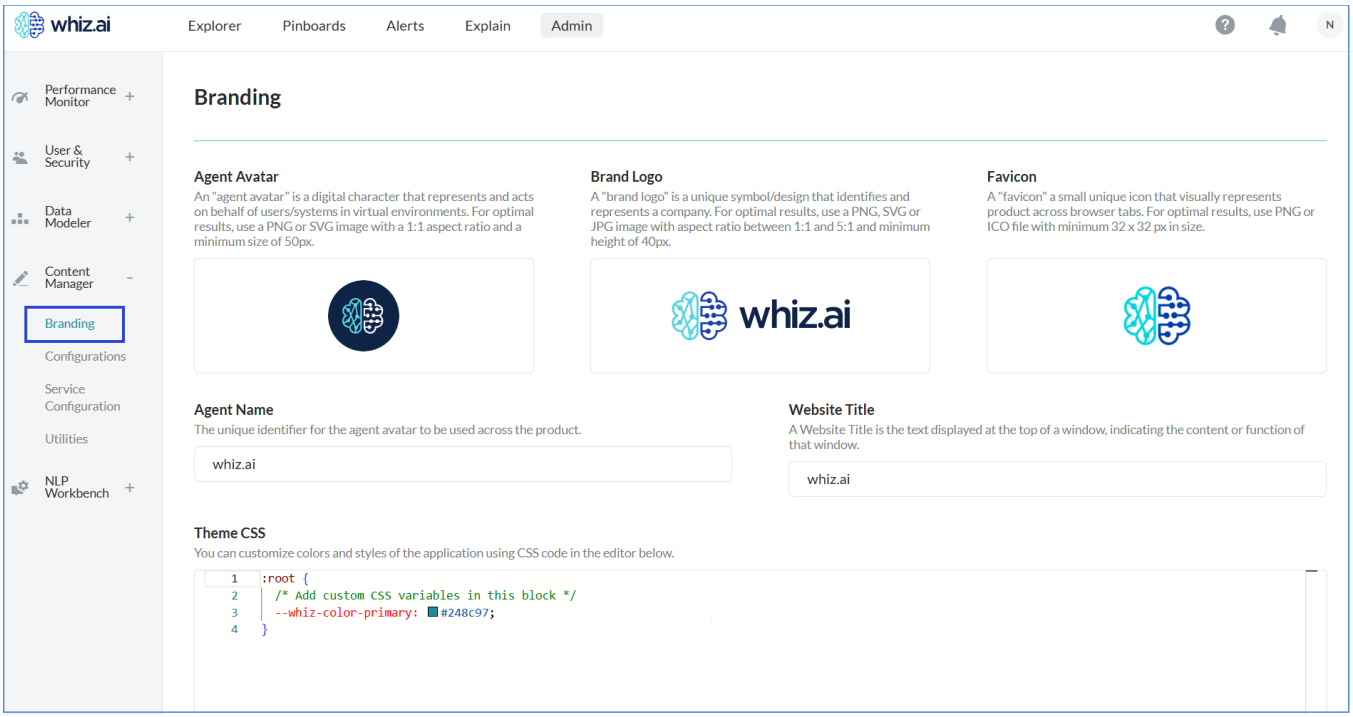
Note! You can do reordering only when there is no search or filter.
No pagination will be available for the listing of suggested queries to support the reordering of queries.

Content Manager

The Content Manager comprises branding, configurations, and utilities.

Branding

The **Branding** page allows you to configure your WhizAI instance, as required. You can upload your own brand's Avatar and brand logo to personalize WhizAI. Click AGENT AVATAR or BRAND LOGO to upload a new avatar or logo.



Refer to the following table for information on the branding elements and their specifications.

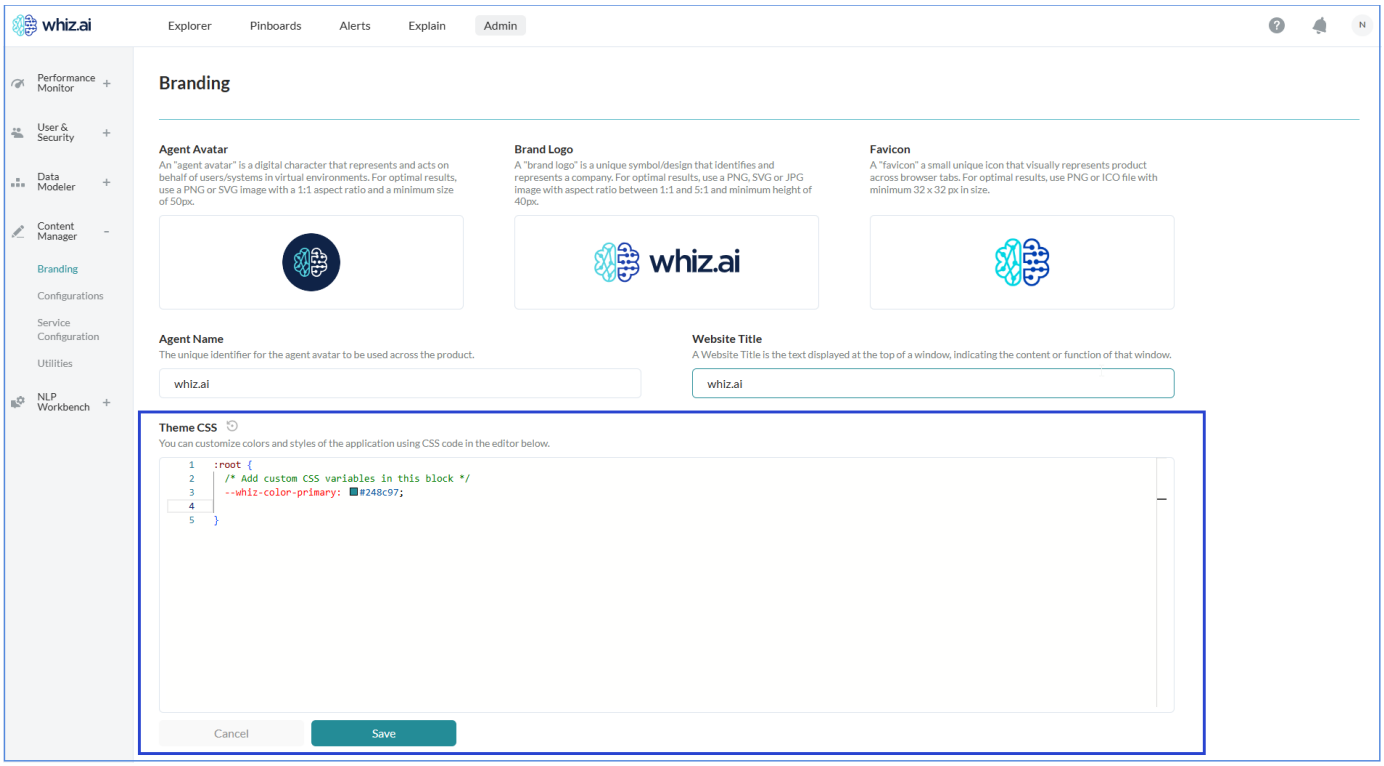
Branding Element	Description	Specifications
Agent Avatar	Agent avatar is the digital character that represents the users or systems and acts on their behalf in the virtual environment.	Use PNG or SVG image with 1:1 aspect ratio and a minimum size of 50pixel.
Brand Logo	A Brand Logo is a unique symbol or design that identifies and represents a company.	Use PNG, SVG, or JPG images with an aspect ratio of 1:1 to 5:1 and a minimum height of 40 pixels.
Favicon	A Favicon is a small unique icon that represents a product visually across browser tabs.	Use a PNG or ICO file with a minimum of 32x32 pixels in size.
Agent Name	The unique identifier for the agent avatar to be used across the product.	Text
Website Title	The title of a website is at the top of a window, indicating the content or function of that window.	Text
Theme CSS	The editor window allows users to customize the colors and styles of the application using CSS code.	CSS code

To add custom CSS styling:

1. Go to **Admin** console > **Content Manager** > **Branding**. The **Branding** page is displayed.

2. In the **THEME CSS** dialog, you can add a custom CSS code and customize the specific elements on the page, as required.

   For example, you can customize the Highchart colors palette to change the default colors used in the charts.



Note! You can configure the colors in which the dimensions are displayed in all the visualization options.

3. Click **Save**.

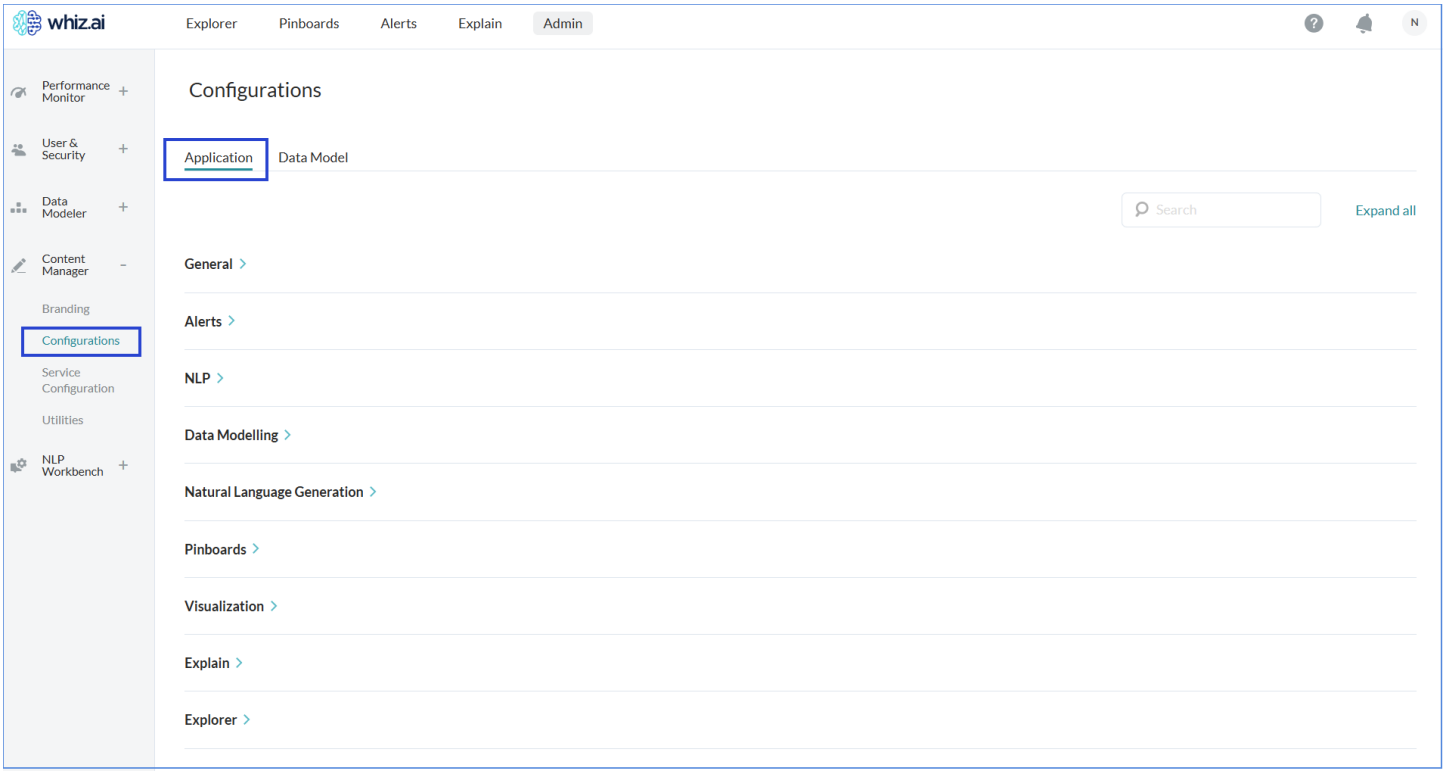
Configurations

The **Configurations** page displays options that Administrator users can use for:

- Configuring general system settings
  - Enabling/disabling key product features

The Configurations are divided into two tabs

- Application Tab: Displays all the global configurations categorized by feature.
- Data Model Tab: Displays the data model-specific configurations.



The Configurations are listed alphabetically under each section on each tab.

As an Administrator user, you can configure the following options:

Application Tab

Configuration	Input	Default Value	Description
General			
About Us	Checkbox	True	Enable or disable the About Us (WhizAI) details from the Profile menu. When WhizAI is embedded in another application, you can uncheck the option to hide the WhizAI details.
Admin email	Textbox	<email address>	Displays the administrator's email address. An email notification is sent to the admin when a new user is created if the Email Notification configuration is set to True.
Branding	Checkbox	True	Enable or disable this option in the Content Manager on the Admin page.

Configuration	Input	Default Value	Description
			Enable the option to modify the product branding such as logo, avatar, and brand-specific colors on the WhizAI user interface.
CSV Card Export	Checkbox	True	Enable or disable individual card exports as CSV from Explorer or Pinboard area.
Cohort	Checkbox	True	Enable or disable the Cohorts option.
Default Page	Drop-down	Workspace	Displays the default landing page on login. You can select a page from the drop-down list as the default landing page when you log in. . The options available are: • Workspace • Dashboard
Email Notification	Checkbox	True	Enable/disable email notifications during user creation. If this option is enabled and the SMTP server is configured, email notifications will be sent during user creation.
Features Notifications	Checkbox	False	Enable/disable the What's New option. You can enable this option to view the released new features on the What's New dialog accessible from the Profile menu.
Feedback Recipient's Email	Textbox	<email address>	Displays the email address where user feedback is received. Users can share feedback from the links on Explorer and Boards.
Help link	Textbox	<help URL>	Displays the URL for accessing documentation. • Click the Help option in the top navigation to open the

Configuration	Input	Default Value	Description
			documentation at the configured URL. • If the textbox is empty, the system will open the default product help. • To disable the help, feature, enter "**void**" in the textbox.
Landing Page	Checkbox	True	Enable/disable the Preferred Landing page feature under the Profile settings.
Languages	Drop-down	Select All	Displays the list of languages available in the environment. You can select one or more languages from the list. The options available are: • English • French • German • Italian • Spanish (Mexico) • Spanish (Spain) • Spanish (USA)
Logout Option	Checkbox	True	Enable or disable the logout option under the profile menu. Enable the option to view Logout under the Profile menu.
Onboarding	Checkbox	False	Enable or disable this option to provide guided instruction for new users. Enable this option to view the Getting Started under the Profile menu.
Profile Page	Checkbox	True	Enable or disable the user profile menu.
Slicer	Checkbox	Treu	This feature helps to capture and apply the most frequently used filter values with a single

Configuration	Input	Default Value	Description
			click on both explorer and pinboard areas.
Use Websocket for Cards API	Checkbox	True	Enable/disable the communication mode between UI and backend for card actions.
XLS Card Export	Checkbox	True	Enable or disable this option to control individual card export as XLS from Explorer or Pinboard area
Alerts			
Alert	Checkbox	True	Enable/disable alert feature. Select the checkbox to enable the alerts feature. This option should be enabled to manage and receive alerts.  Additional permissions are required to create alerts.
Alert Email Body Template	Textbox	Dear User, This is a notification email to inform you that the alert [[alertname]] has been triggered. Please refer the subject for the alert context. Regards, Wizard Team	This configuration allows users to customize the e-mail body template used while generating alert email notifications. The placeholder text "[[alertname]]" in the template will be replaced by the actual alert name while sending emails to recipients.
Create Alert	Checkbox	True	Enable/disable the create alert option. Enable this option to set alerts on a given scope with specific conditions.
Maximum Records per Alert	Textbox	1000	The maximum number of records to be included in web notifications. If the alert retrieves more records than this limit, the excess will be excluded from the web notifications. **The value should be between 1 and 50000**

Configuration	Input	Default Value	Description
Maximum Records per Email	Textbox	500	The maximum number of records to be included in email notifications. If the alert retrieves more records than this limit, the excess will be excluded from the email. **The value should be between 1 and 10000**
Share Alert	Checkbox	True	Enable/disable the Share Alert recipient tab while creating the alert. Enable this option to allow the user to select multiple recipients while setting an alert.
NLP			
Batch Size	Textbox	10000	This size is utilized by NLP when accepting data for updating entities, the batch size defines the transaction size for the database.(ZkPath = /whiz/nlp/BATCH_SIZE)
Enable LLM Service	Checkbox	False	Enable or disable LLM service. Setting this flag informs Whiz that the LLM service is active and operational.
Enable LLM for NLQs	Checkbox	False	The trained LLM is specifically used to evaluate Natural Language Queries (NLQs). **Tip**! Ensure that the ENABLE LLM SERVICE flag is enable in conjunction with this flag.
Java Options	Textbox	-Xmx6G -Xms6G -XX:+UseG1GC -XX:MaxGCPauseMillis=3000 -XX:ParallelGCThreads=8 -XX:StringTableSize=2000003 -XX:+UseStringDeduplication -verbose:gc -XX:+PrintGCDetails	These values are the default NLP memory parameters, with the default set to 8GB. They can be increased as per requirements.(ZkPath = /whiz/nlp/JAVA_OPTS)
Load Parallel Model	Checkbox	True	Load the Data Model in parallel during startup. (ZkPath = /whiz/nlp/LOAD_PARALLEL_MODEL)

Configuration	Input	Default Value	Description
Models	Textbox	,none,	This value represents a comma-separated list. For example, if we have two models, abc and xyz, this is how they are configured. The default value is ,none, indicating that all models available in the NLP DataBase should be loaded. (ZkPath = /whiz/nlp/MODELS)
Data Modeling			
Data Modeler	Checkbox	True	Enable/disable the data modeler option. When enabled, the 'Data Modeler' option is available on the admin menu for users to manage connections, models, and other data modeling configurations
Dimension Identifiers in Data Modeler	Textbox	id,Id,ID,Code,code,CODE	Displays a list of dimension identifiers in a data model. The configuration accepts a comma-separated list of texts. When creating a data model, if a numeric column name starts with or matches exactly with any of these specified texts, the column is considered a dimension instead of a metric by default.
Script Editor	Checkbox	True	Enable/disable the Script Editor feature. You can select this option, to enable the script editor for the setup, in the Data Modeler menu.
Supported Date Formats in Data Modeler	Textbox	yyyy-MM-dd,yyyy/MM/dd,yyyy-MM-dd HH:mm:ss,yyyy-MM-dd HH:mm:ss.SSS,dd-MM-yyyy,dd/MM/yyyy,MM/dd/yyyy,MM-dd-yyyy	Displays a list of configuration accepts the comma-separated list of Date formats within and beyond the Date formats specified in the Admin Guide.
Use Shared Storage in Entity Ingestion	Checkbox	True	If enabled, the intermediate data will be stored in a shared web

Configuration	Input	Default Value	Description
			location else it will be stored in the local file system, during the NLP entity load.
Natural Language Generation			
Auto Narratives Model	Textbox	GPT4	Selected models will be used for auto narratives. If 'ChatGPT' is selected, then Chat GPT Api key must be configured.
GPT Api Key	Textbox	<API Key>	Displays the API key. You can enter the API key required to generate the Chat GPT narratives.
GPT Endpoint URL	Textbox	<URL>	Displays the URL pointer to the GPT model. This URL is required when GPT is used to generate narratives.
Narratives	Checkbox	True	Enable or disable the narratives option Narratives transform the data into a natural language for users to understand the data and analyze it better
Narratives Thread Pool	Textbox	1	This will control parallelization for narratives generation.
Pinboard Narratives Notifications	Checkbox	True	Enable or disable pinboard level narratives notifications at data load event.
Pinboard Narratives Summary Style	Drop-down menu	HTML	Describe the format in which the pinboard narratives summary needs to be generated.
Pinboard Summary	Checkbox	True	Enable or disable Pinboard summary, which is generated using LLMs.
Pinboards			
Annotations	Checkbox	True	Annotations provide a collaborative way for users to communicate and highlight important data on the cards by adding comments. Select the checkbox to enable annotations to write notes for the data content.

Configuration	Input	Default Value	Description
Card Action Timeout	Textbox	60000	Displays the time in milliseconds for which the user interface should wait for a response from the card action API.
Card Sharing	Checkbox	True	Enable or disable this option to control the sharing of a card with individual users or user groups from the Explorer or Pinboard area.
Copyboard	Checkbox	True	Enable or disable this option to control creating a copy of the pinboard. When enabled, you can create a copy of your Pinboard
Createboard	Checkbox	True	Enable or disable this option to create a new pinboard from a card in Explorer or from the pinboard navigation menu.
JsonImportExport	Checkbox	True	This feature downloads the pinboard as a JSON file to help migrate it from one setup to another.
Pinboard Manager	Checkbox	True	This serves as a landing page for the pinboards, to view them by categories, group them by customized labels, and carry out the most frequent operations.
Visualization			
Concurrent Card Fetch	Textbox	2	Displays the number of card responses fetched concurrently.
Map Configurations	Textbox	{"World":{"map":"world","joinBy":["iso-a3","code"],"Country":{"UAE":"ARE","USA":"USA","Chad":"TCD","Cuba":"CUB","Fiji":"FJI","Guam":"GUM","Iraq":"IRQ","Mali":"MLI","Niue":"NIU","Oman":"OMN","Peru":"PER","Togo":"TGO","Aruba":"ABW","Benin":"BEN","Chile":"CHL","China":"CHN","Egypt":"EGY","Gabon":"GAB","Ghana":"GHA","Haiti":"HTI","India":"IND","Iran":"IRN","Italy":"ITA","Japan":"JPN","Kenya":"KEN","Korea":"KOR","Libya":"LBY","Macao":"MAC","Malta":"MLT","Nauru":"NRU","Nepal":"NPL","Palau":"PLW","Qatar":"QAT","Samoa":"WSM","Spain":"ESP","Tonga":"	This enables the map visualization. An appropriate mapping of the geographic level to its code should be in place.

Configuration	Input	Default Value	Description
		TON","U.S.A":"USA","Yemen":"YEM","Angola":"AGO","Belize":"BLZ","Bhutan":"BTN","Brazil":"BRA","Canada":"CAN","Congo":"COG","Cyprus":"CYP","France":"FRA","Greece":"GRC","Guinea":"GIN","Guyana":"GUY","Israel":"ISR","Jersey":"JEY","Jordan":"JOR","Kuwait":"KWT","Latvia":"LVA","Malawi":"MWI","Mexico":"MEX","Monaco":"MCO","Niger":"NER","Norway":"NOR","Panama":"PAN","Poland":"POL","Russia":"RUS","Rwanda":"RWA","Serbia":"SRB","Sudan":"SDN","Sweden":"SWE","Taiwan":"TWN","Turkey":"TUR","Tuvalu":"TUV","Uganda":"UGA","Zambia":"ZMB","Albania":"ALB","Algeria":"DZA","Andorra":"AND","Armenia":"ARM","Austria":"AUT","Bahamas":"BHS","Bahrain":"BHR","Belarus":"BLR","Belgium":"BEL","Bermuda":"BMU","Burundi":"BDI","Croatia":"HRV","Czechia":"CZE","Denmark":"DNK","Ecuador":"ECU","Eritrea":"ERI","Estonia":"EST","Finland":"FIN","Gambia":"GMB","Georgia":"GEO","Germany":"DEU","Grenada":"GRD","Hungary":"HUN","Iceland":"ISL","Ireland":"IRL","Jamaica":"JAM","Lebanon":"LBN","Lesotho":"LSO","Liberia":"LBR","Mayotte":"MYT","Morocco":"MAR","Myanmar":"MMR","Namibia":"NAM","Nigeria":"NGA","Romania":"ROU","Senegal":"SEN","Somalia":"SOM","Tokelau":"TKL","Tunisia":"TUN","Ukraine":"UKR","Uruguay":"URY","Vanuatu":"VUT","Vietnam":"VNM","Anguilla":"AIA","Bahamas":"BHS","Barbados":"BRB","Botswana":"BWA","Bulgaria":"BGR","Cambodia":"KHM","Cameroon":"CMR","Colombia":"COL","Comoros":"COM","Curaçao":"CUW","Djibouti":"DJI","Dominica":"DMA","Eswatini":"SWZ","Ethiopia":"ETH","Guernsey":"GGY","Honduras":"HND","Hongkong":"CHN","Kiribati":"KIR","Malaysia":"MYS","Maldives":"MDV","Mongolia":"MNG","Pakistan":"PAK","Paraguay":"PRY","Pitcairn":"PCN","Portugal":"PRT","Réunion":"REU","Slovakia":"SVK","Slovenia":"SVN","Suriname":"SUR","Thailand":"THA","Trinidad":"TTO","Zimbabwe":"ZWE","Argentina":"ARG","Australia":"AUS","Gibraltar":"GIB","Greenland":"GRL","Guatemala":"GTM","Holy See":"VAT","Indonesia":"IDN","Lithuania":"LT	

Configuration	Input	Default Value	Description
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Configuration	Input	Default Value	Description
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Configuration	Input	Default Value	Description
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Configuration	Input	Default Value	Description
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Configuration	Input	Default Value	Description
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Configuration	Input	Default Value	Description
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Configuration	Input	Default Value	Description
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Configuration	Input	Default Value	Description
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Merge axes for metrics with same units	Checkbox	True	Enable or disable the option to display metrics with same unit of measure on a single scale. When enabled, the metrics with the same units will automatically be displayed on a single scale by default whenever a new response is triggered in charts with multiple metrics. This reduces the need for users to manually merge axes for each response, enhancing chart readability and efficiency.
Pivoted Table Threshold	Textbox	5000	Maximum number of data-frame rows that can be rendered by a pivoted table without causing performance issues. When this threshold is exceeded, a table is not rendered, and a warning is shown instead.

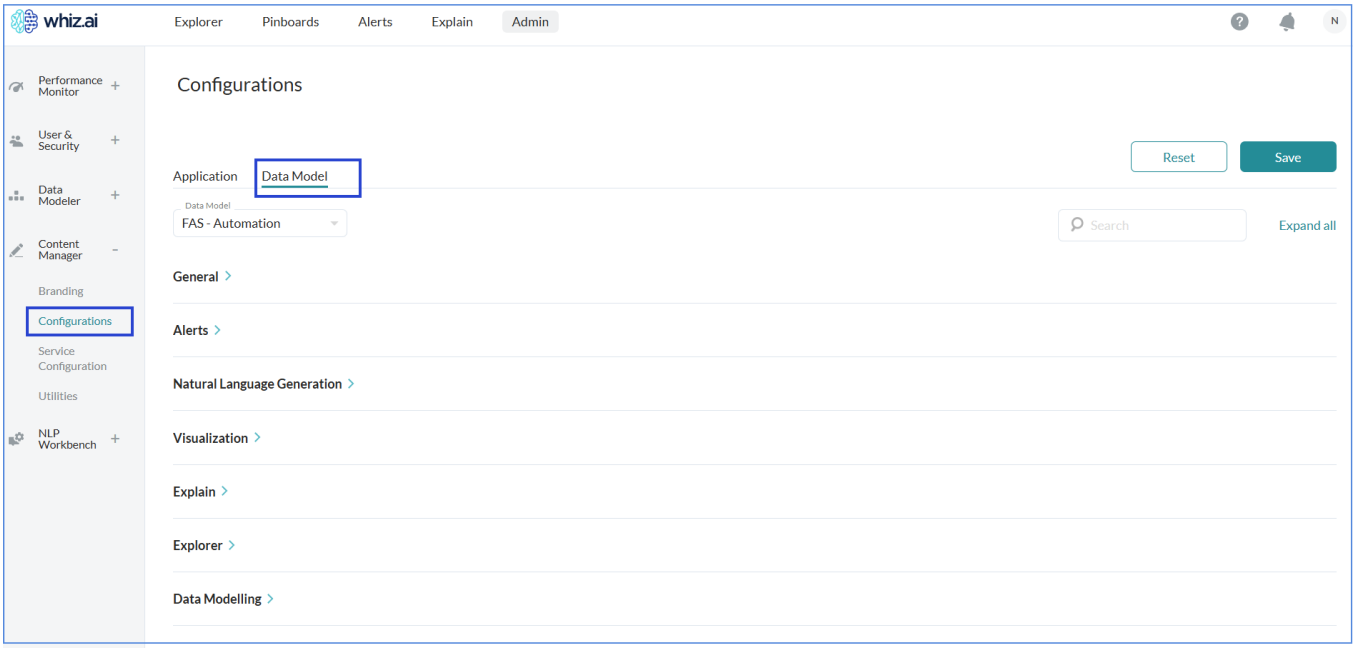
Configuration	Input	Default Value	Description
Table Metric formatting threshold	Textbox	999	Any number below this value will be always fully displayed without shortening in tables.
UI Memory Cache Disable Context Api Caching	Checkbox	False	Enable the setting to ensure we do not send HTTP requests to fetch the cards with the same filters twice during the session. You can uncheck this option to disable client-side caching of the pinboard cards when applying filters.  **Note:** By default, this option is enabled.
UI Memory Cache Disable Page Api Caching	Checkbox	False	Disable client-side caching of the page API responses in paginated tables. Enable the setting to ensure we do not send HTTP requests to fetch the same table page with the same sorting twice during the session.  **Note!** By default, this option is enabled.
UI Memory Cache Item Size Limit	Textbox	5000000	Displays the maximum amount of RAM in bytes for storing a single item in the in-memory cache. By default, the value is set to 5,000,000 (5 MB). Lowering this value may decrease the browser's memory usage but it may disable the advantages of caching for large responses.

Configuration	Input	Default Value	Description
UI Memory Cache Total Size Limit	Textbox	100000000	Displays the total limit of RAM in bytes for the in-memory cache. The total limit is set to 100,000,000 (100 MB) by default. Lowering this value may decrease the browser's memory usage but it may disable the advantages of caching for large responses.
Explain			
Explain	Checkbox	True	Tick to make the ExplAIn option visible at the card level. Note: Features under the ExplAIn will require to be enabled individually.
Explain Workbench	Checkbox	True	Tick to enable access of the explain workbench. Note: Make sure to enable the same for the required users via the user permissions.
Explorer	Checkbox	True	Explorer is an ad hoc querying interface for quick data analysis. Enable/disable this option to view the Explorer menu. You can disable this option to remove the Explorer view. You will be redirected to the next available module.
Invoke Anomaly Detection	Checkbox	True	Enable or disable Anomaly Detection.
Invoke Key Drivers Analysis	Checkbox	True	Enable or disable Key Drivers Analysis.
Invoke Predictions	Checkbox	False	Enable or disable Predictions. 1. When prediction is not configured. Data available time frames shown will match in below cases. a. Duration before ref date for which data is not

Configuration	Input	Default Value	Description
			available asked in NLQ b. Duration after ref date for which data is not available asked in NLQ 2. When prediction is configured. Data available time frames shown will not match in below cases. a. Duration before ref date for which data is not available asked in NLQ b. Duration after ref date for which data is not available asked in NLQ
Open ExplAIn result on the new Browser tab	Checkbox	True	Tick to open the period-over-period and other ExplAIn analysis results always on the new browser tab.
Explorer			
Example Key Business Questions	Checkbox	True	Enable or disable the option to display the Example Conversation panel. You can enable the option to display the example questions on the Example Conversation panel in the Explorer. You can disable the option to display the example questions in the Model Info panel.
AutoSuggestions	Checkbox	True	Enable or disable autoSuggestions.
Guided Analytics (BETA) Suggestion	Checkbox	False	Enable or disable guided analytics suggestion.
Spellchecker	Checkbox	True	Enable or disable spellchecker.

Data Model Tab

The **Configurations** page also displays options that you can set for a particular data model. From limiting the number of entities to be shown in a response to configuring time buckets in 'Period' filters on Pinboards, WhizAI offers plenty of configuration options. According to the set configurations, WhizAI tailors and displays the data in results, values in filters, granularity in chats, etc.



Remember! WhizAI shows different configurations according to the selected data model.

As an Administrator user, you can configure these options for a data model (and many more configurations depending on the data model):

Configuration	Input	Description
General		
Data Export/ Download format	Textbox	Describes the format of the exported file.
Enable Cache	Checkbox	**Why to enable:** when we enable whiz analytical store (data level cache), the result of these queries are stored in memory. So next time when any of the same query comes in for the analytical store, it will result in the user from the cache. It will not return the query in the druid. Thus, it will take less time to process the query and enable better performance from the system. **When to enable:** When data is static **Note!** For dynamic data, and or stream data enable cache is not used as it will give old result.
Logging	Checkbox	**When to enable**: When you are adding a new model, testing a new feature, debug actual druid query. **Why enable**: Data source properties Info - flag Logging - true/false" Whenever a query is fired from the system UI, that becomes a druid query in the backend for the whiz analytical store. What result it has returned, if you want to

Configuration	Input	Description
		store it in some database then you can enable this flag as true just for debugging perspective. Mark the Data source properties Info - flag" Logging - true" and go to the application logs table created by each user, to analyze the time frame, which query was fired and what result it gave.
Period time buckets	Textbox	Applicable time buckets for the 'Period' filter.
Alerts		
Trigger Alerts on Data Load	Checkbox	Whether to enable or disable triggering of alerts on successful data load. If enabled, all alerts for the data model will be triggered on a successful data load.
Natural Language Generation		

Default AutoNLG mapping	Textbox	This mapping will be used in generating default narratives. Add augmented function for intent datapoint as follows and save the configuration:
		{
		"dataNarration": {
		"dataPoint": [
		"ytd()",
		"describe()",
		"pop()",
		"nxn(4)",
		"nxn(13)",
		"nxn(52)"
		]
		}
		}

GPT Board Narratives Prompt	Textbox	This will provide prompt for board narratives for model GPT. For example, # OBJECTIVE #ROLE: You are an expert in the USA pharmaceutical and life sciences domain.Input: You are given texts, segmented by <CARDS>, each segment between </CARDS>..</CARDS> represent a text summary derived from a tabular data/dataframe.- Conduct a comprehensive analysis of the given INPUT_TEXT ############################ ANALYSIS REQUIREMENTS #- Exploring distribution patterns, potential correlations between variables, identification of anomalies or outliers, discovery of hidden patterns, and any other intriguing observations.- Assess the nuanced impact of features on the overall structure of the text, aiming to uncover relationships or trends that might not be immediately apparent.- Strive for a thorough understanding, paying attention to intricate details, numbers, quantitative values and potential nuances.- Your goal is to reveal unique insights or patterns that may go unnoticed without a meticulous examination.- Do not consider each card as separate entity. Consider interplay and relationship between provided cards and the information. Focus on integrated analysis rather than isolating details. ############################ STYLE #- Enclose the summary/response with <html> and </html> tags.- Highlight key entities in bold using .. tags.- Use for highlighting values indicating a decline or issue

Configuration	Input	Description
		and for values indicating improvement or success.- Use ... to format the numbered list. Conclude each insight/statement with tag .- Ensure proper opening and closing tags. ############################ AUDIENCE # - Typical Audience is Sales and Operations Teams. ############################ RESPONSE #- Deliver a comprehensive summary in up to 5 numbered bullet points, not exceeding 250 words. Fewer than 5 bullet points are acceptable if sufficient.- Avoid fabricating information beyond what is provided in Data Objects.- Do not repeat any insight or information.- Do not give the card level title/information/insights or summary. your task is to focus on comprehensive summary of all the cards combined.- Don't infer post facto analysis, notes as part of narrative.- Use metrics as provided, including all abbreviations and units, without expanding or altering them unless explicitly specified.- Do not suggest action steps, investigations in the narrative.- Ensure insights are substantiated by quantitative data, minimizing reliance on qualitative conclusions.- Ensure change with sign either positive or negative are appropriately framed. ############################
GPT Card Narratives Prompt	Textbox	This will provide prompt for card narratives for model GPT. For example, # OBJECTIVE # ROLE: You are an expert in the USA pharmaceutical and life sciences domain.Input: You are given Data Objects, key-value pairs derived from tabular data/dataframe.- Conduct a comprehensive analysis of the INPUT_TEXT.- Focus on integrated analysis rather than isolating details. ############################ STYLE #- Enclose the summary/response with <html> and </html> tags.- Highlight key entities in bold using .. tags.- Use for highlighting values indicating a decline or issue and for values indicating improvement or success.- Use ... to format the numbered list. Conclude each insight/statement with tag .- Ensure proper opening and closing tags.############################ AUDIENCE #- Typical Audience is Sales and Operations Teams. ############################ RESPONSE #- Deliver a comprehensive summary in up to 5 numbered bullet points, not exceeding 250 words. Fewer than 5 bullet points are acceptable if sufficient.- Avoid fabricating information beyond what is provided in Data Objects.- Do not repeat any insight or information.- Do not give any title or label for the insights/summary/response.- Don't infer post facto analysis, notes as part of narrative.- Use metrics as provided, including all abbreviations and units, without expanding or altering them unless explicitly specified.- Do not suggest action steps, investigations in the narrative.- Ensure insights are substantiated by quantitative data, minimizing reliance on qualitative conclusions. ############################
Narratives	Checkbox	We can enable or disable narratives.
System Board Narratives Prompt	Textbox	This will provide prompt for board narratives for model System. For example, # ROLE #You are an expert in the USA pharmaceutical and life sciences domain. You are given texts, segmented by <CARDS>, each segment between

Configuration	Input	Description
		</CARDS>..</CARDS> represent a text summary derived from a tabular data/dataframe. Your job is to conduct a comprehensive analysis of the INPUT TEXT by focusing on integrated analysis rather than isolating details and then generate a summary. ############################ ANALYSIS REQUIREMENTS #- Exploring distribution patterns, potential correlations between variables, identification of anomalies or outliers, discovery of hidden patterns, and any other intriguing observations.- Assess the nuanced impact of features on the overall structure of the text, aiming to uncover relationships or trends that might not be immediately apparent.- Strive for a thorough understanding, paying attention to intricate details, numbers, quantitative values and potential nuances.- Your goal is to reveal unique insights or patterns that may go unnoticed without a meticulous examination. ############################ OUTPUT STYLE #- Enclose the summary/response with <html> and </html> tags.- Highlight key entities in bold using .. tags.- Use for highlighting values indicating a decline or issue and for values indicating improvement or success.- Use ... to format the numbered list. Conclude each insight/statement with tag .- Ensure proper opening and closing tags. ############################ RESPONSE #- Deliver a comprehensive summary in up to 5 numbered bullet points, not exceeding 250 words. Fewer than 5 bullet points are acceptable if sufficient.- Avoid listing raw data points.- Each insight should be in plain text language, which is easy to understand.- Use the exact metric name as given in INPUT DATA OBJECT. Do not describe or explain the metrics.- Use metrics as provided in INPUT DATA OBJECT, including all abbreviations and units, without expanding or altering them unless explicitly specified- Do NOT assume the values to be in currency, Treat them as just numbers unless explicitly specified in INPUT DATA OBJECT.- For instance lists with multiple values clearly understand and distinguish between individual and combined contributions for percentage values.- Do not consider each card as separate entity. Consider interplay and relationship between provided cards and the information. Focus on integrated analysis rather than isolating details.- Do not give the card level title/information/insights or summary. your task is to focus on comprehensive summary of all the cards combined. ############################ DOMAIN KNOWLEDGE AND EVIDENCE #- TRx : TRx represents the total number of prescriptions filled. It includes both new and refill prescriptions. ############################
System Card Narratives Prompt	Textbox	This will provide prompt for card narratives for model System. For example, # ROLE #- You are a data expert in the pharmaceutical and life sciences domain. You are given Data Objects which contains key-value pairs derived from tabular dataframe. Your job is to conduct a comprehensive analysis of the INPUT DATA OBJECT by focusing on integrated analysis rather than isolating details and then generate a summary. ############################

Configuration	Input	Description
		OUTPUT STYLE #- Enclose the response with <html> and </html> tags.- Highlight key entities in bold using .. tags.- Use <span style=""color:red""> for highlighting values indicating a decline or issue and <span style=""color: green""> for values indicating improvement or success.- Use ... to format the numbered list. Conclude each insight/statement with tag .- Ensure proper opening and closing tags. ############################ RESPONSE #- Deliver a comprehensive summary in up to 5 numbered bullet points, not exceeding 250 words. Fewer than 5 bullet points are acceptable if sufficient.- Avoid listing raw data points.- Each insight should be in plain text language, which is easy to understand.- Use the exact metric name as given in INPUT DATA OBJECT. Do not describe or explain the metrics.- Use metrics as provided in INPUT DATA OBJECT, including all abbreviations and units, without expanding or altering them unless explicitly specified- Do NOT assume the values to be in currency, Treat them as just numbers unless explicitly specified in INPUT DATA OBJECT.- For instance lists with multiple values clearly understand and distinguish between individual and combined contributions for percentage values. ############################ DOMAIN KNOWLEDGE AND EVIDENCE #- TRx : TRx represents the total number of prescriptions filled. It includes both new and refill prescriptions. ############################
Visualization		
Add board filter automatically for cross filtering	Checkbox	While applying a datapoint as board filter, if the same dimension filter is not present on the board, then the system will add it automatically as board filter and apply it across the board.
Allow to roll-up/drill-down in hierarchies	Checkbox	This will enable or disable the roll-up drill-down in the hierarchy on cards that are in tabular response for more data exploration.
Default chart granularity	Drop-down menu	Default time granularity for trend charts
Enable row highlighting	Checkbox	Enable or disable this to highlight specific records on the card against which the filters are applied in order to compare the highlighted records against the rest of the card data.
Flat table configuration	Textbox	We can configure dimension sets which should be represented in flat table on UI
Followup action	Textbox	We can configure follow-up actions for dimensions. **When to enable?** Follow-up actions are valuable in scenarios where data exploration involves multi-level analysis, data drilling, or the need to view top values or related categories. They are particularly useful when users want to explore data in a guided and interactive manner. Eg. Follow-Up Action: "Primary Specialty Group Name" dimension

Configuration	Input	Description
		Text: "Top 25 Primary Specialty Name for %s" Extend: true Explanation: Primary Specialty Group Name dimension: This dimension represents groups of primary specialties. Text: The "text" key contains the action description, which is "Top 25 Primary Specialty Name for %s." The "%s" placeholder will be replaced with the selected value from the "Primary Specialty Group Name" dimension. Extend: The "extend" key is set to "true," indicating that this follow-up action extends the analysis based on the selected value. **Why enable?** Configuring follow-up actions for dimensions allows users to perform additional actions or analysis based on their initial selections. Follow-up actions provide a way to drill down or explore data further based on the context of the selected dimension value {""Customer Type for %s","extend":true},"Customer Type":{"text":" Customer Subtype for %s","extend":true},"Customer Subtype":{"text":"Customer for %s","extend":true},"Area Name":{"text":" Region for %s","extend":true},"Region":{"text":" Districts for %s","extend":true},"District":{"text":"Territory Name for %s","extend":true},"Territory Name":{"text":" Customer Name by %s","extend":true},"Customer System":{"text":"Customer Name for %s","extend":true},"}
Initial Filter Item Count	Textbox	Sets the initial number of records to load in non-hierarchical filters upon opening, enhancing data loading efficiency and user experience.  Tip! The value should be between 50 and 5000
Minimum dimension threshold	Textbox	Minimum number of records to be considered for query optimizations.  Tip! The value should be between 10000 and 100000000
Multiselect filter limit	Textbox	Defines the maximum number of entries allowed to be set in a given filter.  Note! Recommendation would be to keep it equal to or lower than the 'Initial Filter Item Count' value.  Tip! The value should be between 2 and 100000
Number of records displayed on the first page for multidimension response	Textbox	Default number of entities on first page of server-side paging for multi dimension list-based responses. (e.g., Territories by Brands by Sales)  Tip! The value should be at least 1

Configuration	Input	Description
Number of records displayed on the first page for single dimension response	Textbox	Default number of entities on first page of server-side paging for single dimension list-based responses. (e.g., Accounts by Sales)  Tip! The value should be at least 1
Number of records to be shown by default	Textbox	Default number of entities for single dimension list-based responses. (e.g., Accounts by Sales)  Tip! The value should be at least 1
Rich Annotations	Checkbox	Enable or disable this to add more specific tracking details bound by an ETA to the usual annotations, which are simply text.
Show Date Value as Range		
Show total by filtered values in hierarchy view	Checkbox	Use this configuration for hierarchy responses where parent level values should be considered based on the child hierarchy filters applied. This impacts the column totals as well.
Thetasketch row buffer size	Textbox	Configure this with the value 16384 for a large amount of data load to manage memory efficiently.  Note! This value should be tuned as per the speed, accuracy, and memory requirements of each setup.
Time comparison method for growth calculation	Textbox	Whether growing/declining comparison should be PoP / YoY.
Top N comparison threshold	Textbox	Number of records to consider for arriving at final result set for two time period comparison.  Note ! The value should be at least 5000
Visualization configuration	Textbox	Visualization configuration for Map/Network/Multitimeline etc charts.
Visualization model	Checkbox	Enable or disable this to show the user all the alternate best-fit visualization options to switch to, generated by the visualization AI engine.
Week date labels in charts	Textbox	Configure this offset value to help align the data with a specific day you consider the beginning of the business week or the data load. Start Date of Business Week = Reference Date + Offset Value. For eg. 2020-05-02 + 1 day = 2020-05-03
Week offset for data load	Textbox	Value which defines the week offset of data load based on the week definition.

Configuration	Input	Description
Explain		
Invoke Anomaly Detection	Checkbox	We can enable or disable Anomaly Detection.
Invoke Key Drivers Analysis	Checkbox	We can enable or disable Key Drivers Analysis.
Invoke Predictions	Checkbox	Whether to enable or disable Predictions.
Regression Analysis in Key Drivers (Beta)	Checkbox	Whether to enable or disable regression analysis under key Drivers.
Explorer		
Dimension Selection for Smart Search	Textbox	To enable explorer smart search on the selected dimensions.
Disable dimensions for Auto Suggestion	Textbox	To disable autoSuggestion on the selected dimensions.
Entity suggestions	Checkbox	This includes complete data model suggestions for NLQ completion.
Maximum Suggestions Count	Textbox	This will control the count of suggested words shown to the users.
Nlq suggestions	Checkbox	We can enable or disable nlq suggestions.
No of NLQ suggestions	Textbox	No of NLQ suggestions to be shown.
Predict faq	Checkbox	We can enable or disable faq.
Predict ner	Checkbox	Predictive suggestions
Predictive suggestions	Checkbox	This includes predictive next word suggestions for NLQ completion.
Smart Search Default Dimension	Textbox	Smart Search Default Dimension.
Spell checks	Checkbox	This includes spell checks and suggestions.
Threshold for Smart Search	Textbox	The smart search results will display these many entities in the explorer smart search window.
Training status	Textbox	**When to enable?** When you want to shut down the training machine node. For example, {"in_progress":false}
Data Modelling		

Configuration	Input	Description
Business Week Start Date	Textbox	Set when data is available at weekly granularity. Mention any date(in YYYY-MM-DD format) which indicates start date of the business week.
Cascades	Textbox	This will enable data-driven cascading between sets of dimensions that are reflected in the filters on pinboards. `[ [ "Customer Group", "Customer Sub Group", "Customer Category", "Customer Sub Category", "Customer Type", "Customer Subtype", "Customer Name" ], [ "Area", "Region", "District", "Territory" ] ]`
Common metadata properties	Textbox	This will enable to configure hierarchy relationship between a set of parent-child dimensions, which are reflected in the filters on pinboards and card actions. `{ "sales": { "dimensions": [ { "level": "Country", "type": "geo", "map_level": "Country" }, { "level": "State", "type": "geo", "map_level": "State" } ] } }`
Custom calendar	Checkbox	Whether to enable or disable custom calendar.
Data storage granularity	Textbox	Granularity at which data is stored in the data model. It could be a week, month, or quarter. For example, {"default":"week"}
Default Metric	Drop-down	This will define default metric for data model. Sets the selected metric as the default metric for the selected data model. This default metric is set in the context.  Note! You can now set the base metric, calculation metric or API metric as the default metric.

Configuration	Input	Description
Default calendar	Drop-down	This will define default calendar for data model.

Dimension attributes	Textbox	We can configure additional attributes/dimensions to be displayed along with asked dimension in NLQ.
		When to enable?
		Data Exploration: to explore data from different angles and levels of granularity.
		
		Drill-Down Analysis: to select specific attributes to investigate data at a more detailed level.
		
		Contextual Filters: Set Default attributes to set up a context for data analysis, ensuring that users start with relevant data without explicitly specifying each dimension.
		
		Eg. Default geography:
		● Default product
		● Default market
		● Default time
		● Default metric
		
		These attributes represent default values for the "Geography".
		
		They act as default filters when users query or interact with the NLQ system. For example, if a user does not specify a particular geography or product, the default values will be applied to narrow down the data scope.
		
		Map visualizations: Attributes like latitude and longitude support geospatial analysis and the creation of geographical visualizations like maps.
		
		Eg. BubbleChart_State_Code:
		● Latitude
		● Longitude
		● Physician_Territory
		
		These attributes are associated with a bubble chart and provide geographical information, such as latitude and longitude, and physician territory details. Bubble charts are often used to visualize data with geographic dimensions and an additional numerical metric for the color coding of the data.
		
		Comparative Analysis: Attributes like customer tier, age group, or product names enable users to compare data across different segments or categories.
		
		Why enable? Dimension attributes are additional properties associated with specific dimensions in NLQ (Natural Language Query). These attributes provide more context and granularity to the data, enabling users to explore and analyze the data in more detail.
		<pre>{
		"Default Geography": {
		"Default Product": {},
		"Default Market": {},</pre>

Configuration	Input	Description

		"Default Time": {},
		"Default Metric": {}
		},
		"District": {
		"Product Name": {}
		},
		"Territory Name": {
		"Product Name": {},
		"Region": {
		"metrics": {
		"TRx": {},
		"NRx": {}
		}
		},
		"District": {}
		},
		"Region": {
		"Customer Name": {},
		"Product Name": {},
		"District": {}
		},
		"BubbleChart_State_Code": {
		"Latitude": {},
		"Longitude": {},
		"Physician_Territory": {}
		},
		"Customer Name": {
		"Customer Tier": {},
		"Region": {},
		"District": {},
		"Product Name": {},
		"Territory Name": {}
		}
		}

Dimension level default data filters	Textbox	We can configure dimension level default data filters for NULL, N/A etc data values.
		When to enable?
		The filters are configured to exclude records where the values for the specified dimensions are either NULL or "NA" (Not Available or Not Applicable).
		
		Why enable? Dimension level default data filters are preconfigured filters applied to specific dimensions to exclude specific data values from analysis. These filters automatically remove data records with values such as NULL or N/A from the dataset before presenting it to users.
		{
		"Latitude": [
		{
		"type": "NOT",
		"values": [
		null,
		"NA"
		]
		}
		],
		"Longitude": [
		{

Configuration	Input	Description

		<pre>"type": "NOT",
		"values": [
		null,
		"NA"
		]
		}
		]
		}</pre>

Dimension's additional details	Textbox	Configure this for a dimension to access the additional information using external links. One can see these links on the response data points on hover.
		When to enable? Use this config on any response when you want to have external links to a URL, or an image configured for every data point.
		Explanation of Dimension's Additional Details:
		Why enable? For every customer they have some unique link configured in some data source. For every data source you see the view link, or view image. i.e. additional details of a data point.
		<pre>{
		"link": {
		"title": {
		"en": "View link"
		}
		},
		"image": {
		"title": {
		"en": "View Image"
		}
		},
		"dimensions": {
		"Customer Name": [
		{
		"customerURL": {
		"type": "link",
		"source": "sales",
		"ignore_timestamp": false,
		"dimensionality": [
		"Customer Name"
		]
		}
		}
		],
		"Product Name": [
		{
		"productURL": {
		"type": "image",
		"source": "sales",
		"ignore_timestamp": false,
		"dimensionality": [
		"Product Name"
		]
		}
		}
		]
		}
		}</pre>

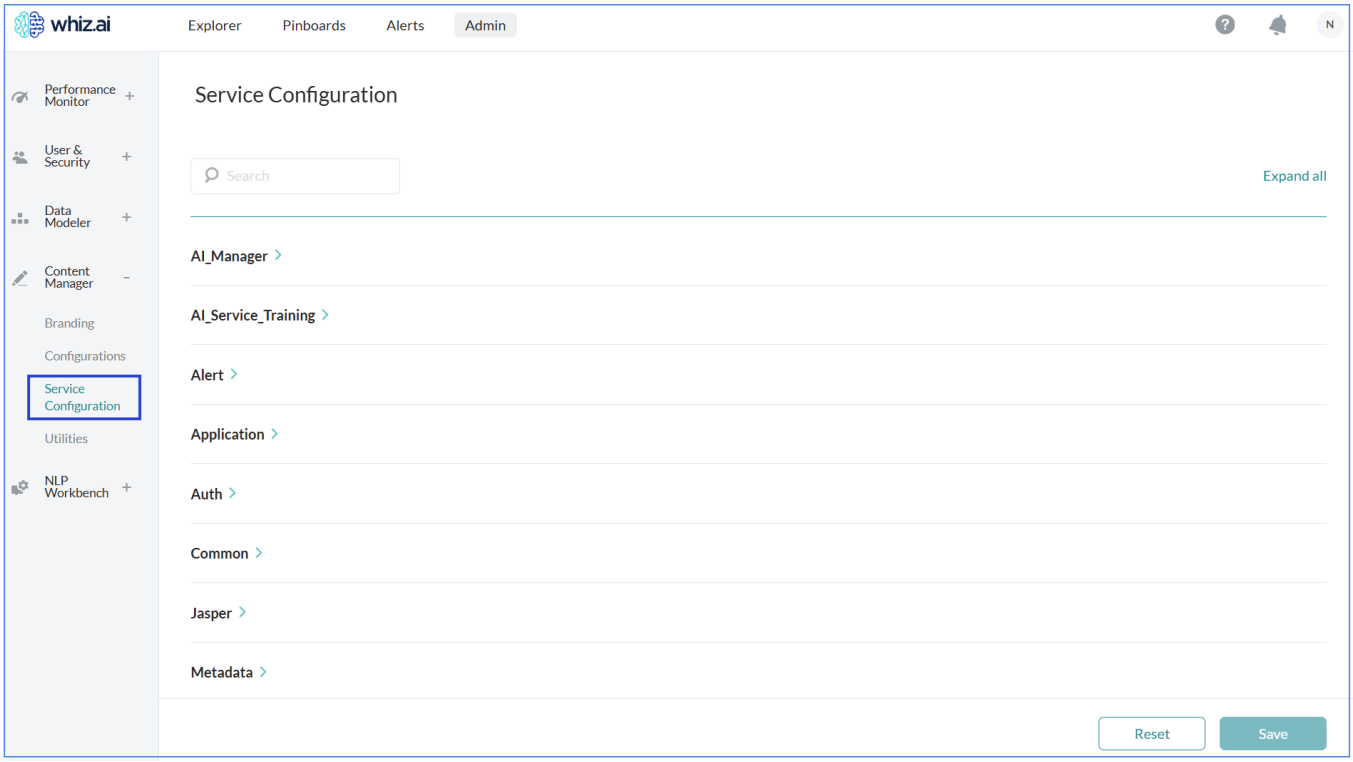
Fiscal Year Offset	Textbox	Month start offset for Fiscal Year. 0 means it will start from January, 1 for February and so on.

Configuration	Input	Description
Fiscal Year calendar	Checkbox	Enable/disable whether data model date interpretation should follow fiscal calendar behaviour.
Hidden entities	Textbox	We can configure dimensions/metrics/reports etc which should not be shown to end user.
Multi-Valued Dimension Codes	Drop-down	List of dimension codes whose values are multi-valued in data source
Numeric Dimension Codes	Drop-down	List of dimension codes whose values are numeric. Example - 'Age'
User identifier column name	Textbox	Column name in which user identifier is stored.
User's Default Context Configuration	Textbox	Configure this to setup user defaults for the explorer query area and default pinboard filters based on business needs.

```
{
    "base": "Default Geography",
    "metric": "customer_cnt",
    "attributes": [
        {
            "code": "Default Product",
            "type": "DefaultDimension"
        },
        {
            "code": "Default Market",
            "type": "DefaultDimension"
        },
        {
            "code": "Default Geography",
            "type": "DefaultDimension"
        },
        {
            "code": "Default Metric",
            "type": "Metric"
        },
        {
            "code": "Default Time",
            "type": "Time"
        }
    ]
}
```

Service Configuration

The Service Configuration page displays the Zookeeper details for the Metadata service. Users can edit/update the Zookeeper settings. Updates take effect after restarting the respective services/pods.


whiz.ai
Explorer
Pinboards
Alerts
Admin
N
Performance Monitor
User & Security
Data Modeler
Content Manager
Branding
Configurations
Service Configuration
Utilities
NLP Workbench
Service Configuration
Search
Expand all
AI_Manager
AI_Service_Training
Alert
Application
Auth
Common
Jasper
Metadata
Reset
Save

Configuration	Input	Default Value	Description
AI_Manager			
AI_SERVICE_SPARK_CONFIG	Text box	{"workerInstances":1,"workerCores":1,"workerMemory":"1gb","executorCores":1,"executorMemory":"1g"}	
BENCHMARK-LOG_THRESHOLD	Text box	0	
CALENDAR_CUSTOM_ADD_TOPIC_NAME	Text box	add_custom_calendar	
CALENDAR_CUSTOM_REMOVE_TOPIC_NAME	Text box	remove_custom_calendar	
DB_CONN_MAX_POOL_SIZE	Text box	200	
DB_ ONN_MIN_IDLE	Text box	50	
INSIGHTS_CONTRIBUTORS_CREATE_CARDS_FOR_ALL_SIGNIFICAN_MEMBERS	Checkbox	True	
INSIGHTS_CONTRIBUTORS_MEMBERS_THRESHOLD	Text box	10	
INSIGHTS_CONTRIBUTORS_SIGNIFICANT_MEMBERS_THRESHOLD	Text box	30	
INSIGHTS_CONTRIBUTORS__THRESHOLD	Text box	10	
INSIGHTS_TIME_ESTIMATE_CONGFIG	Text box	{"contributorAnalysis":{"prescribeTimeLimit":120,"secondsPerDimCombnForAggrMetric":0.06155,"secondsPerDimCombnForNonAggrMetric":0.375}}	
JAVA_OPTS	Text box	-Xmx8G -Xms8G -XX:+UseG1GC -XX:MaxGCPauseMillis=3000 -XX:ParallelGCThreads=8 -verbose:gc	
LOG_LEVEL	Text box	Info	
SEND_MSG_RETRY_INTERVAL	Text box	10000	
SUBSCRIPTION_RETRY_INTERVAL	Text box	10000	
TOMCAT_THREAD_POOL_SIZE	Text box	2500	
AI_Service_Training			
CAUSAL_CONFIDENCE_INTERVAL_FLAG	Checkbox	True	
CELERY_CONCURRENCY	Text box	1	
JOBLIB_NUM_PROCESSES	Text box	1	
LOG_LEVEL	Text box	info	

Configuration	Input	Default Value	Description
MINIO_AI_SERVICE_BUCKET	Text box	ai-share	
MINIO_BUCKET_NAME	Text box	prediction	
NUM_PROCESSES	Text box	12	
NUM_THREADS	Text box	8	
PREDICTION_BUCKET	Text box	whiz-data-area	
SAVE_LATEST_N_MODELS	Text box	3	
Alert			
BENCHMARK_LOG_THRESHOLD	Text box	60000	
CALENDAR_CUSTOM_ADD_TOPIC_NAME	Text box	add_custom_calendar	
CALENDAR_CUSTOM_REMOVE_TOPIC_NAME	Text box	remove_custom_calendar	
HTTP_CONNECTION_TIMEOUT	Text box	300000	
JAVA_OPTS	Text box	-Xmx8G -Xms8G -XX:+UseG1GC -XX:MaxGCPauseMillis=3000 -XX:ParallelGCThreads=8 -verbose:gc	
LOG_LEVEL	Text box	INFO	
MAX_NOTIFICATION_PER_ALERT	Text box	50000	
SEND_MSG_RETRY_INTERVAL	Text box	10000	
SUBSCRIPTION_RETRY_INTERVAL	Text box	10000	
Application			
ADMIN_DATASOURCE_CODE	Text box	user_logs	
AUTH_TOKEN_MAX_AGE	Text box	28800	
AVATARS_URL	Text box	/avatars	
BENCHMARK_LOG_THRESHOLD	Text box	0	
BOARD_SUMMARY_CONCURRENCY	Text box	5	
BOARD_SUMMARY_INPUT_FORMAT	Text box	ados	
CLIENT_NAME	Text box	CLIENT_NAME	
ENABLE_CACHE	Checkbox	False	
HTTP_CONNECTION_TIMEOUT	Text box	10000	
JAVA_OPTS	Text box	-Xmx16G	
KEY_ALIAS	Text box	whiz	
LOGIN_MAXIMUM_FAILED_ATTEMPTS	Text box	10	

Configuration	Input	Default Value	Description
LOGIN_UNLOCK_IN_MINUTES	Text box	10	
LOGOUT_TARGET_URL	Text box	https://example.whiz.ai/logout	
LOG_LEVEL	Text box	INFO	
MESSAGE_BUFFER_SIZE	Text box	10	
MICROSOFT_APP_ID	Text box	MICROSOFT_APP_ID	
MICROSOFT_APP_PWD	Text box	MICROSOFT_APP_PWD	
SEND_MSG_RETRY_INTERVAL	Text box	10000	
SMPT_PASSWORD	Text box	<password>	
SMTP_ADDRESS	Text box	smtp.gmail.com	
SMTP_PASSWORD	Text box	<password>	
SMTP_PORT	Text box	587	
SYSTEM_USERS_TAG	Text box	sytem	
TEAMS_AUTH_URL	Text box	https://login.microsoftonline.com/botframework.com/oauth2/v2.0/token	
T_AND_C_ENABLED	Checkbox	False	
USER_DOWNLOADS_BUCKET_EXPIRATION_DAYS	Text box	1	
USER_DOWNLOADS_BUCKET_NAME	Text box	whiz-user-downloads	
WEB_CLIENT_MAX_INACTIVITY_TIME	Text box	10800	
Auth			
GOOGLE_CLIENT_ID	Text box	<clientIdHere>	
GOOGLE_CLIENT_SECRET	Text box	<clientSecretHere>	
KEY_ALIAS	Text box	whiz	
KEY_PASS	Text box	whiz-password	
LOGOUT_TARGET_URL	Text box	https://2024-77.whiz.ai/logout	
MAX_AUTH_AGE	Text box	7200	
Common			
SMTP_ADDRESS	Text box	smtp.gmail.com	
SMTP_ENABLE_STARTTLS_AUTO	Checkbox	True	
SMTP_PASSWORD	Text box	<password>	
SMTP_PORT	Text box	587	
SMTP_USER_NAME	Text box	assistant@whiz.ai	
WHIZ_PASSWORD_RESET_LINK	Text box	https://<env>.whiz.ai/reset-password	
Jasper			
CALENDAR_CUSTOM_ADD_TOPIC_NAME	Text box	add_custom_calendar	
CALENDAR_CUSTOM_REMOVE_TOPIC_NAME	Text box	remove_custom_calendar	
LOG_LEVEL	Text box	Warn	

Configuration	Input	Default Value	Description
USER_DOWNLOADS_BUCKET_EXPIRATION_DAYS	Text box	1	
USER_DOWNLOADS_BUCKET_NAME	Text box	whiz-user-downloads	
Metadata			
BATCH_SIZE	Text box	10000	
DB_NAME	Text box	nlpdb	
DISABLE_NON_ENGLISH_APPROXIMATION	Check box	True	
HIKARI_MIN_IDLE	Text box	20	
JAVA_OPTS	Text box	-Xmx24G -Xms24G -XX:+UseG1GC -XX:MaxGCPauseMillis=3000 -XX:ParallelGCThreads=8 -verbose:gc	
LANG	Text box	En,fr	
LOAD_PARALLEL_MODEL	Checkbox	True	
MAX_POOL_SIZE	Text box	100	
MEMORY_PROFILE	Checkbox	False	
THREAD_COUNT	Text box	1000	
TOMCAT_THREAD_POOL_SIZE	Text box	1000	
WHIZ_MODEL_MANAGER	Text box	http://whiz-model-manager:8886	
Minio			
MINIO_ID	Text box	<id>	
MINIO_SECRET	Text box	<secret_key>	
NLP			
APPLY_CUSTOM_INTENT	Checkbox	True	
APPLY_LINGUISTIC_INTENT_PREFERENCES	Checkbox	True	
APPLY_ML_INTENT_SERVICE	Checkbox	True	
APPLY_ML_INTENT_SERVICE_FOR_LANGUAGES	Textbox	fr	
APPLY_WHIZ_INTENT	Checkbox	True	
CUSTOM_INTENT_APPLY_PRE_PROCESSING	Checkbox	True	
CUSTOM_INTENT_CONFIDENCE_THRESHOLD	Textbox	0.9	
CUSTOM_INTENT_MODEL	Textbox	IntentClassifier	
CUSTOM_INTENT_MODEL_VERSION	Textbox	0	
CUSTOM_INTENT_SERVICE_URL	Textbox	http://whiz-ai:5000/evaluate_custom_intent	
JAVA_OPTS	Textbox	-Xmx6G -Xms6G -XX:+UseG1GC -	

Configuration	Input	Default Value	Description
		XX:MaxGCPauseMillis=3000 -XX:ParallelGCThreads=8 -XX:StringTableSize=2000003 -XX:+UseStringDeduplication -verbose:gc -XX:+PrintGCDetails	
LANG	Textbox	en,fr	
LINGUISTIC_INTENT_PREFERENCES	Textbox	en#linguistic,fr#ml,de#linguistic,it#linguistic	
LOAD_PARALLEL_MODEL	Checkbox	True	
MAX_POOL_SIZE	Textbox	100	
MEMORY_PROFILE	Checkbox	False	
MODELS	Textbox	,none,	
NLG_APPROACH	Textbox	System	
NLG_SERVICE_URL	Textbox	http://whiz-nlp-models:5001/generate_narration	
SEMANTIC_LLM_SERVICE_URL	Textbox	http://103.127.31.167:8084/generate	
SEMANTIC_MAX_TOKEN	Textbox	200	
SEMANTIC_TEMPERATURE	Textbox	0	
STARTING_POINT_DATE	Textbox	Default:2016-06-01,lifesciences:2016-06-01	
WEEK_START_DAY	Textbox	Default:FRIDAY,lifesciences:FRIDAY,janseen:SUNDAY	
WHIZ_INTENT_CONFIDENCE_THRESHOLD	Textbox	0.9	
WHIZ_INTENT_MODEL	Textbox	WhizIntent	
_WHIZ_INTENT_MODEL_VERSION	Textbox	0	
min_words_for_language_detection	Textbox	3	
Partner			
AIRFLOW_PASSWORD	Textbox	<password>	
AIRFLOW_USERNAME	Textbox	admin	
ALLOWED_DATE_FORMATS	Textbox	yyyy-MM-dd,yyyy/MM/dd,yyyy-MM-dd HH:mm:ss,yyyy-MM-dd HH:mm:ss.SSS,dd-MM-yyyy,dd/MM/yyyy,MM/dd/yyyy,MM-dd-yyyy	
JAVA_OPTS	Textbox	-Xmx8G -Xms8G -XX:+UseG1GC -XX:MaxGCPauseMillis=3000 -XX:ParallelGCThreads=8 -verbose:gc	
Local Storage Download Timeout	Textbox	1000	

Configuration	Input	Default Value	Description
MINIO_ACCESS_KEY	Textbox	<access_key>	
MINIO_BUCKET	Textbox	whiz-data-area	
MINIO_REGION	Textbox	us-east-2	
MINIO_SECRET_KEY	Textbox	<secret_key>	
S3_ACCESS_KEY	Textbox	<access_key>	
S3_SECRET_KEY	Textbox	<secret_key>	
SEND_MSG_RETRY_INTERVAL	Textbox	10000	
SMTP_ENABLE_STARTTLS_AUTO	Checkbox	True	
SMTP_PASSWORD	Textbox	<password>	
SMTP_USER_NAME	Textbox	assistant@whiz.ai	
SPECIAL_HARDCODED_METADATA_COLUMNS	Textbox	id,Id,ID,Code,code,CODE	
SUBSCRIPTION_RETRY_INTERVAL	Textbox	10000	
SYNCHRONIZATION_MAX_SECONDS	Textbox	3	
SYNCHRONIZATION_MIN_SECONDS	Textbox	1	
TRINIO_ENABLE	admin@whiz.ai	False	
TRINO_HOST	Textbox	trino	
TRINO_IGNORE_CATALOGS	Textbox	system,tpcds,tpch	
TRINO_PORT	Textbox	8080	
USERNAME	Textbox	admin@whiz.ai	
USE_MINIO_NLP	Checkbox	True	
Query			
CALENDAR_CUSTOM_ADD_TOPIC_NAME	Textbox	add_custom_calendar	
CALENDAR_CUSTOM_REMOVE_TOPIC_NAME	Textbox	remove_custom_calendar	
JAVA_OPTS	Textbox	-Xmx8G -Xms8G -XX:+UseG1GC -XX:MaxGCPauseMillis=3000 -XX:ParallelGCThreads=8 -verbose:gc	
LOG_LEVEL	Textbox	INFO	
MODELS	Textbox	[]	
SNOWFLAKE_JDBCDRIVER	Textbox	net.snowflake.client.jdbc.SnowflakeDriver	
SNOWFLAKE_PASS	Textbox	changeIt	
SNOWFLAKE_URL	Textbox	jdbc:snowflake://tz00379.east-us-2.azure.snowflakecomputing.com	
SNOWFLAKE_USER	Textbox	user1	
Slack-Druid			

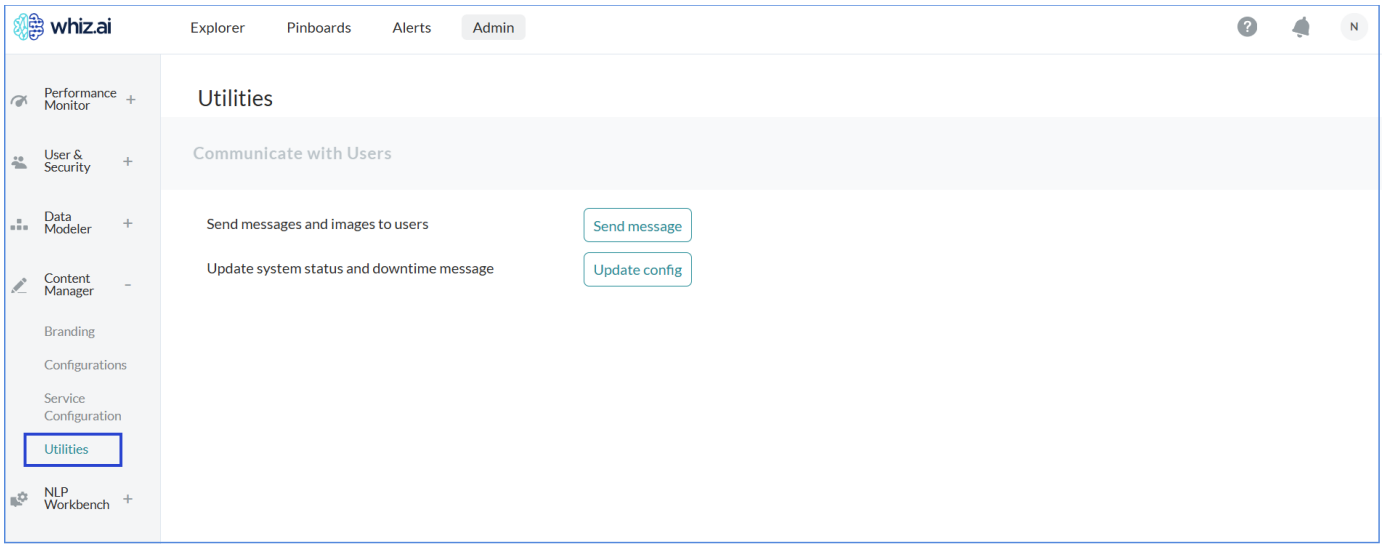
Configuration	Input	Default Value	Description
LOG_LEVEL	Textbox	ERROR	
SMTP_ADDRESS	Textbox	smtp.gmail.com	
SMTP_AUTHENTICATION	Textbox	plain	
SMTP_DOMAIN	Textbox	example.com	
SMTP_ENABLE_STARTTLS_AUTO	Checkbox	True	
SMTP_PORT	Textbox	587	
SMTP_USER_NAME	Textbox	assistant@whiz.ai	

tilities

The **Utilities** page has the functionality to communicate with the users. You can send messages and images to users and update system status and downtime messages.

To configure utilities:

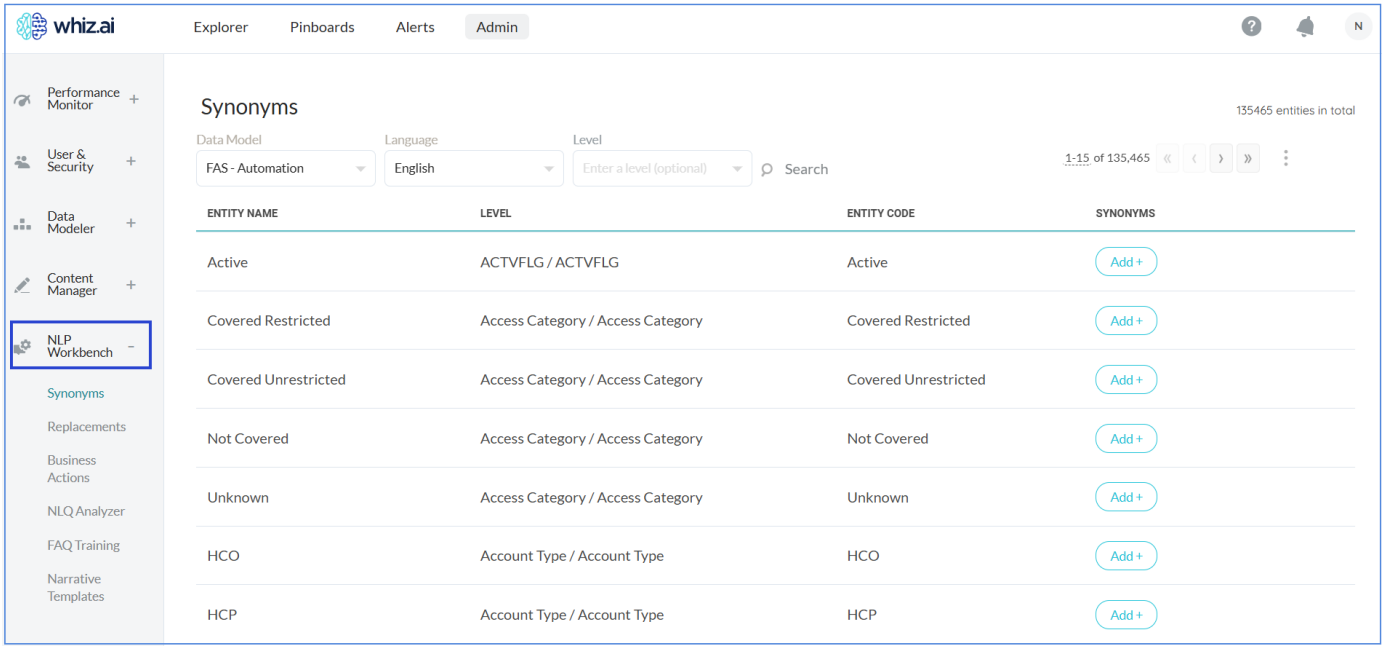
1. Click the **Utilities** page.
2. Click **Send message**.
3. Click **Update config**.



NLP Workbench

The NLP technology helps computers understand Natural/human language. Workbench is a framework that supports the production of software by integrating a variety of activities to meet a specific need while limiting or eliminating the need for multiple programming languages. WhizAI NLP Workbench learns and improves automatically by using previous results, without being specifically programmed by a person.

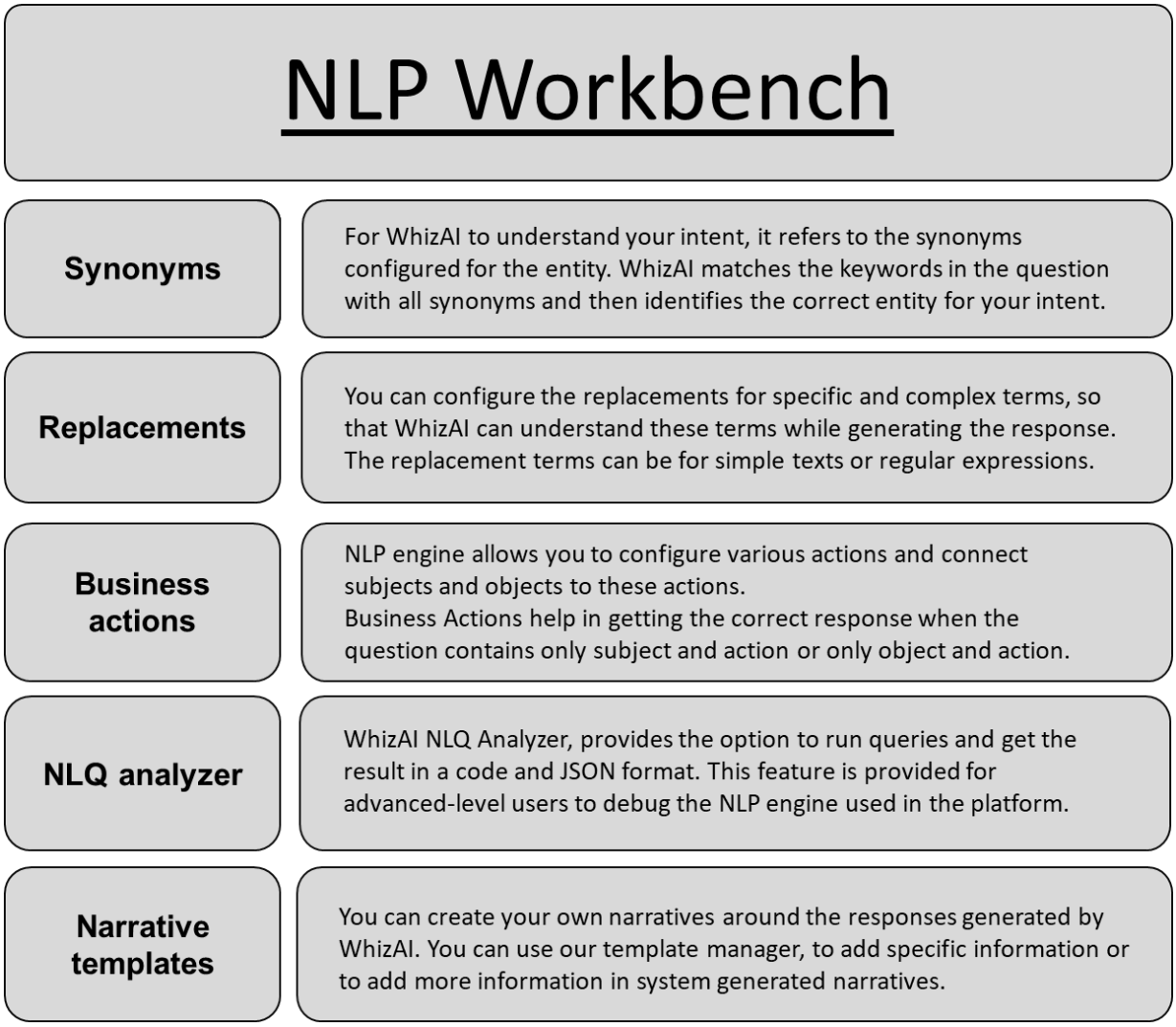
NLP Workbench user interface:



WhizAI NLP Workbench comprises:

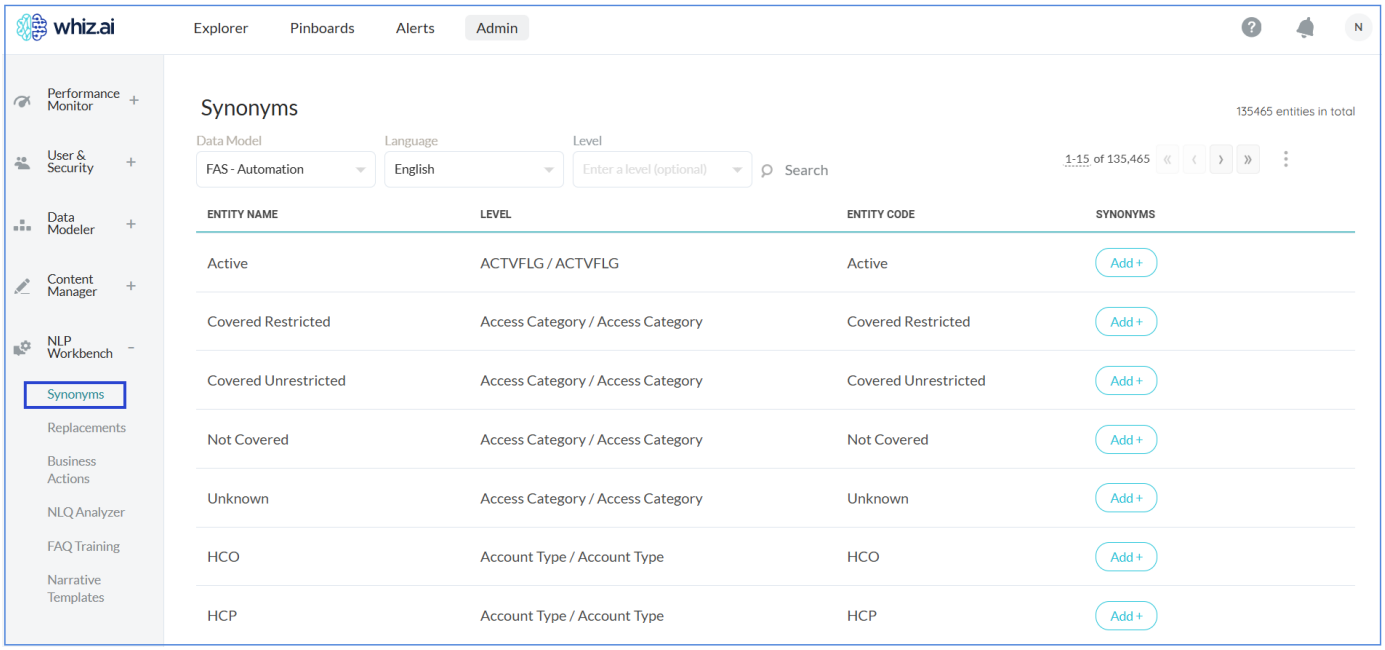
- Synonyms
- Replacements
- Business Actions
- NLQ Analyzer
- Narrative Templates

Refer to the following diagram, to get an overview of NLP Workbench and its capabilities.



Synonyms

Synonyms are the additional terms that refer to an entity, and it is an important concept in Natural Language processing.



For example, the 'Central California Foundation' is an entity in WhizAI, which represents the hospital, and 'California' as a state. Now, when you ask your question that contains the word 'California,' 'CA,' or CCF, you might want to find either California as a state or as the Central California Foundation hospital.

For WhizAI to understand your intent, it refers to the synonyms configured for the entity. WhizAI matches the keywords in the question with all synonyms and then identifies the correct entity for your intent.

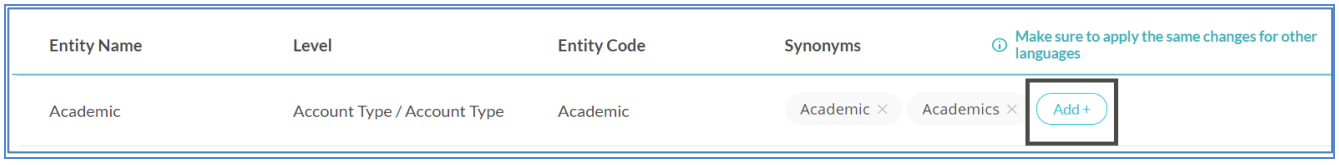
So, in the example, if 'California' and 'CCF' are configured as synonyms for the 'Central California Foundation' entity, WhizAI displays the 'Central California Foundation' entity when the question contains those synonyms.
You can configure the synonyms for the entities in the selected data model and the selected dimension.

Adding a synonym for an entity

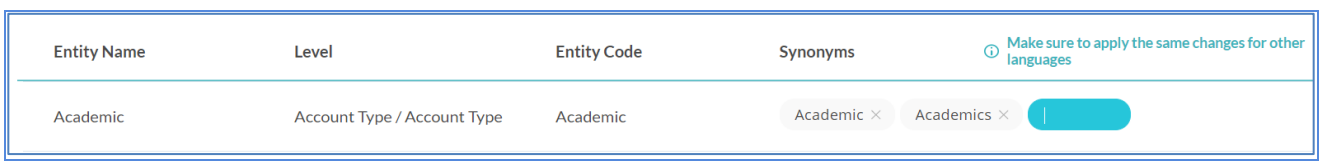
To add a synonym for an entity:

1. On the Synonym page, select the **Data Model**, **Levels**, and **Language** to list the entities.
2. Search for the entity for which you want to add synonyms.
3. In the **Search Entity** field, enter the entity name.

   The Synonyms page is updated for the searched entity name.



4. In the Synonyms column, click the **Add+** button. WhizAI allows you to enter a synonym, as required.



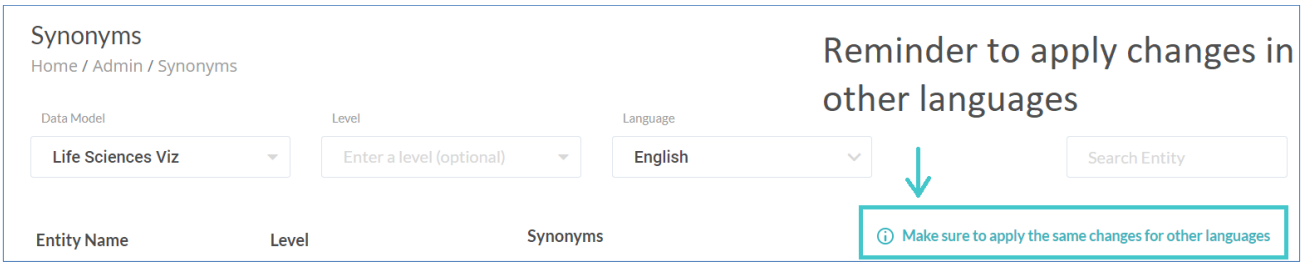
5. Enter the synonym, as required, and press **Enter** key or a **Tab** key to save the synonym.

6. (Optional) Delete the unwanted synonyms.
    a. Press the **Esc** key to discard the synonym that you are typing.
    b. Click the cross icon for the synonym you want to delete after adding it.

Note! WhizAI automatically adds the plural forms of the synonyms you add. For example, if you add *tablet* as a synonym; WhizAI also adds *tablets* as a synonym.

Updating synonyms for an entity

When you update synonyms in one language, make sure to apply the changes in other languages as well. Of course, WhizAI shows a warning message about this, as shown in the following figure:



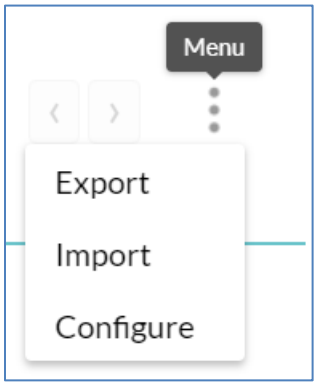
Migrating synonyms

You can migrate user-added synonyms within environments. For example, from the 'QA' environment to the 'Dev' environment, from the 'Dev' environment to the 'Production' environment etc. For this, you have to export the synonyms from the selected data model of the source environment, and then import these synonyms for the same data model on the target environment.

Exporting Synonyms

To export synonyms:

1. From the **Synonyms** page, click the **Menu** icon to open the drop-down list.



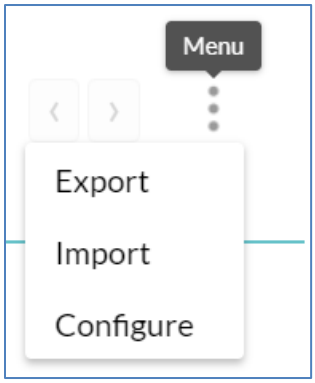
2. Click **Export**. WhizAI shows the **Export Synonyms** dialog.
3. Select the **Data Model**.
   WhizAI shall export all the user-added synonyms from the data model you select from this list.
4. Click **Download**. WhizAI downloads a JSON file having all the user-added synonyms.

Note! Only user-added synonyms are exported. System-generated synonyms are not exported.

Importing Synonyms

To import synonyms:

1. From the **Synonyms** page, click the **Menu** icon to open the drop-down list.



2. Click **Import**.
   WhizAI shows the dialog box where you can drag and drop a JSON file containing synonyms.
3. You can drag and drop a JSON file or click **Browse files** to browse and select the file from your local drive.
4. Click **Got it!** to import the JSON.
   WhizAI imports the synonyms and shows a success message.

Replacements

The replacement page displays the list of original tokens and their replacement to be considered when generating the response.
In the industry, there are specific terms used for a specific purpose. These terms are known only to a specific set of people in that industry.
In WhizAI, the Administrator can configure the replacement word for such terms so that WhizAI can correctly understand those terms while generating the response.
You can manage the Replacements in all the G5 languages, that is, you can add, edit, and delete them, as required. There are two ways to do this:

- You may switch to French from the Profile settings, thereby switching the entire platform's UI to French, then go to the Replacements page (which gets displayed in French) to add it.
  OR
- You may continue to use the platform in English and open the Replacements page. From this page, you can switch to French, as shown in the following figure, and add the Replacement, as required

The replacement terms can be for text terms or regular expressions.

Text terms

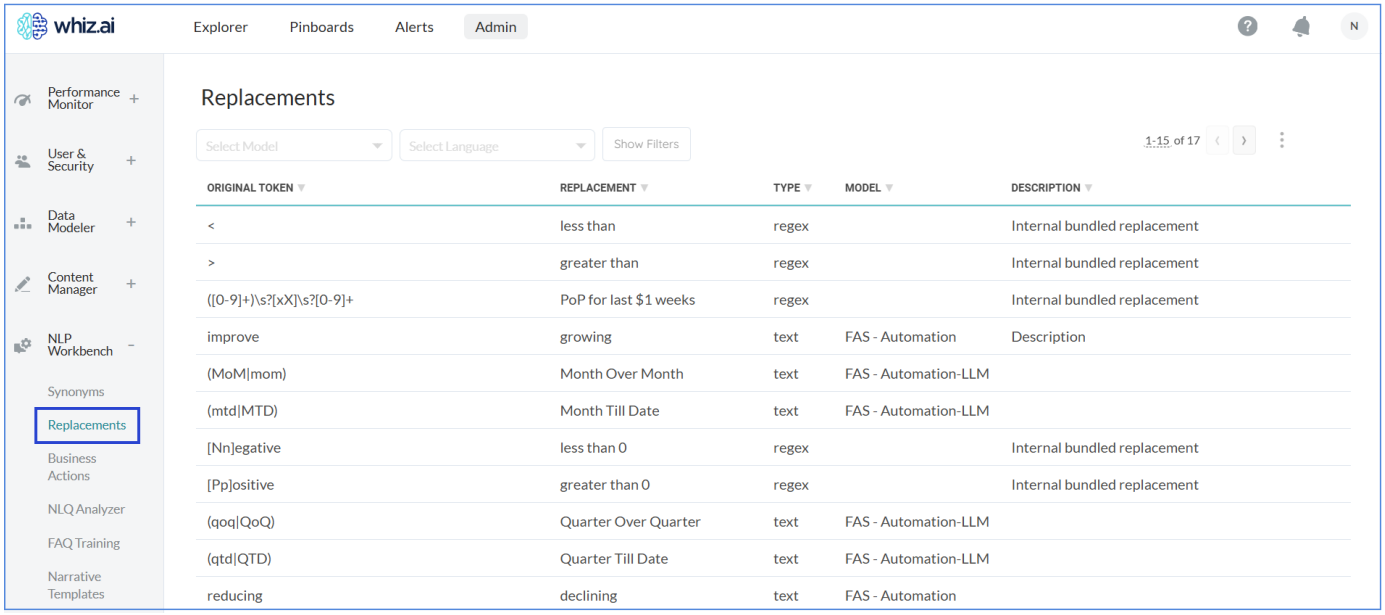
- Som report – full-stack by product group by months for share for last 6 months
- Ytw - ytd

Regular Expressions

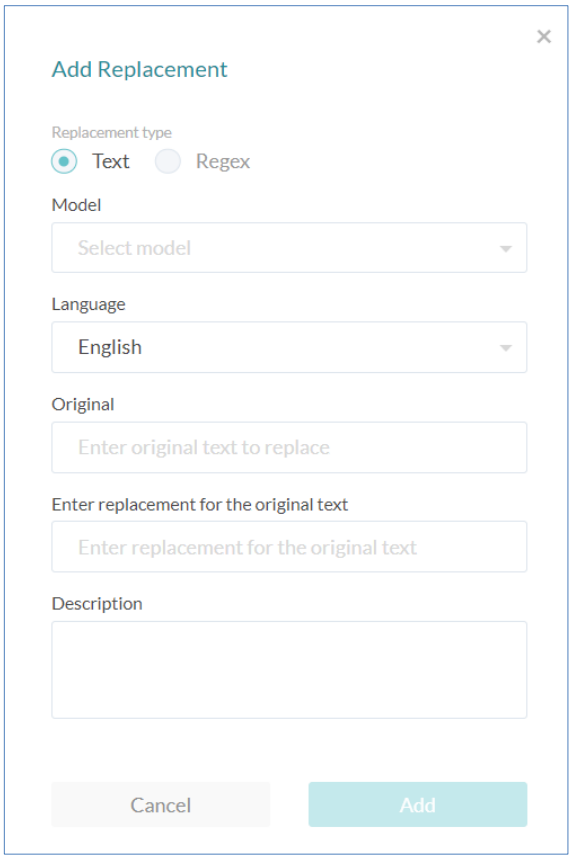
- ([0-9]+)\s?[xX]\s?[0-9]+ - POP for last $1 weeks

Adding the replacement term

1. On the **Replacement** page, click the plus icon at the lower-right corner of the page.



2. In the **Add Replacement** dialog box, select and add appropriate values.



   a. Select the **Text** or **Regex** option for the type of replacement term that you want to add.
   b. Click the **Model** drop-down list and select the model.
   c. From the **Language** drop-down list, select the language for the replacement.

d. In the **Original** field, enter the original token or term.

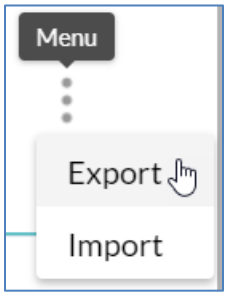
e. In the **Replacement for the original text** field, enter the replacement term for the specified original text.

3. Click the **Add** button.

Exporting Replacements

To export replacements:

1. From the **Replacements** page, click the **Menu** icon to open the drop-down list.

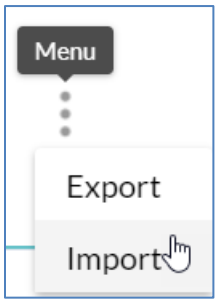


2. Click **Export**. WhizAI shows the **Export Replacements** dialog.
3. Select the **Data Model**. WhizAI shall export all the replacements from the data model you select from this list.
4. Click **Download**. WhizAI downloads a JSON file having all the replacement terms.

Importing Replacements

To import replacements:

1. From the **Replacements** page, click the **Menu** icon to open the drop-down list.



2. Click **Import**. WhizAI shows the dialog box where you can drag and drop a JSON file containing replacements from other data models.
3. You can drag and drop a JSON file or click **Browse files** to browse and select the file from your local drive.
4. Click **Got it!** to import the JSON file. WhizAI imports the replacements and shows a success message.

Business Actions

In an organization, many people perform various business actions on various objects, like products, product groups, etc.

In WhizAI, **Business Actions** captures the business actions and then connects the subject and object to these actions. Here the subject is an entity that is performing an action, and an object is an entity for which the subject performs the action.

You can manage your business actions also in German, French, Italian, and Spanish. Thus, you can add, edit, and delete them, as required. There are two ways to do this:

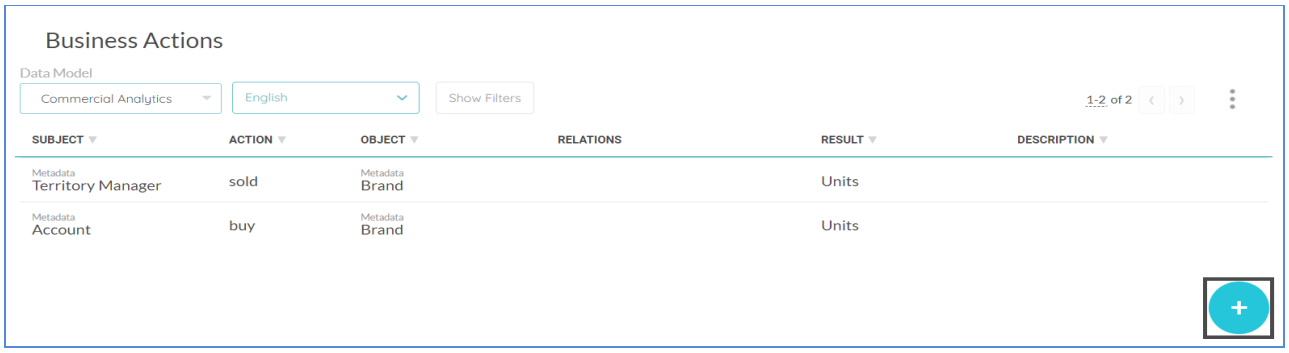
- You may switch to - from the Profile settings, thereby switching the entire platform's UI to French, then go to the Business Actions page (which gets displayed in French) to add it.
  OR
- You may continue to use the platform in English and open the Business Actions page. From this page, you can switch to French, as shown in the following figure, and add the Business Action

For example, an employee (Subject) sells (action) product name (object). Here both employee and product names are connected to the sell action.
Business Actions allows you to configure various actions and connect subjects and objects to these actions. Business Actions helps in getting the correct response when the question contains only subject and action or only object and action.
For example, who sold the most, top products bought in the last two months.

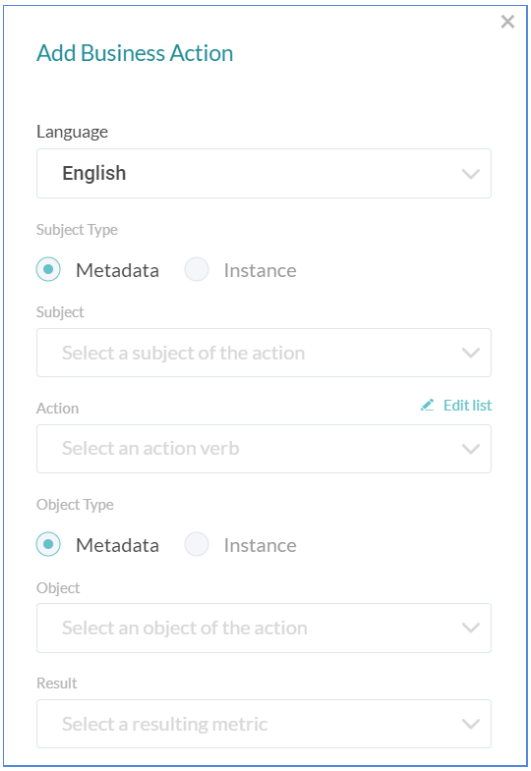
Configuring business actions

To configure business actions:

1. On the Business Actions page, click the **Data Model** drop-down list and select the data model for which you want to configure the business actions.
2. At the lower-right corner of the page, click the plus icon.



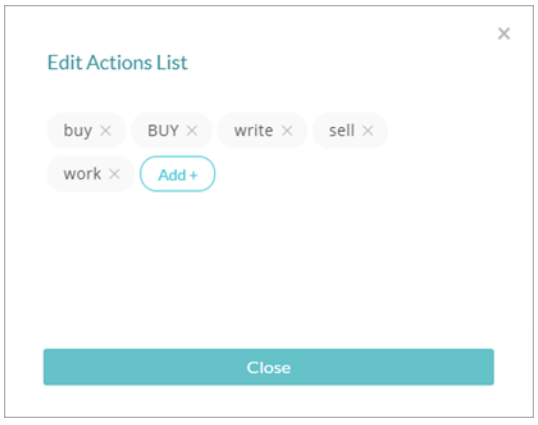
4. In the **Add Business Action** dialog box, select and add appropriate values.



5. In the **Subject Type** section, connect the business action to the subject.
   a. Click the **Subject** field and select who is performing an action.
   b. Click the **Action** column and select the action that you want to associate.

   If the required action is not listed, add an action.

   - Click the **Edit list** link.
     a. In the Edit Actions List dialog box, click **Add** to add a new action.



     b. Enter the action name and click the **OK** button.
6. In the **Object Type** section, connect the business action to the object.
   a. Click the **Object** field and select the option on whom the action is performed.
   b. Click the **Result** drop-down list and select the result expected for the selected subject-to-object relationship through action
7. (Optional) In the **Description** field, enter the description for the relation.

8. Click the **Add Action** button. The action is added on the Business Actions page.

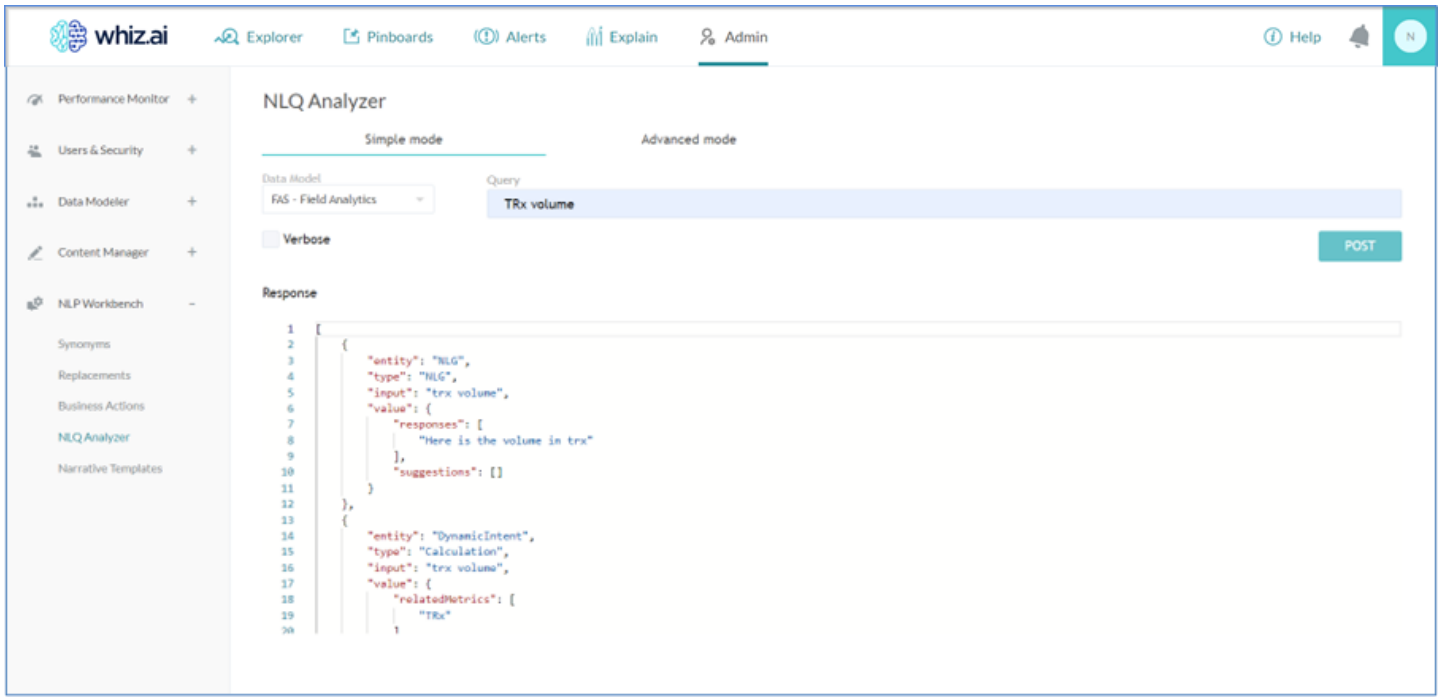
NLQ Analyzer

NLQ Analyzer is an option in WhizAI that is provided for advanced-level users to debug the NLP engine used in the platform.

The NLQ Analyzer page provides the option to run queries and get the result in a code and JSON format.

Note! Only users with advanced-level programming knowledge can access this feature.

1. On the NLQ Analyzer page, click the **Data Model** drop-down field and select the data model for which you want to perform debugging.
9. In the **Query** field, enter the query.
10. Click **Post** or press the **Enter** key. WhizAI displays the response to the query in a code format.



Note! Use the Verbose option to get a more detailed response.

Narrative Templates

Narratives

NLP engine analyzes, processes, and understands the natural language questions and the responses for those questions. Along with this, the NLP engine also provides narratives which is additional valuable information about the responses. This additional information gives you insights into what were the average sales, minimum sales, maximum sales, total sales etc. Narratives provide contextual information around WhizAI response / visualizations and make responses more comprehensible. Narratives enable effective consumption of data / information that you are analyzing.

To view the Narratives in the response, enable the **'Narratives**' option as shown in the following figure:

Note! The Narratives dialog shows the narrative generated for the response.

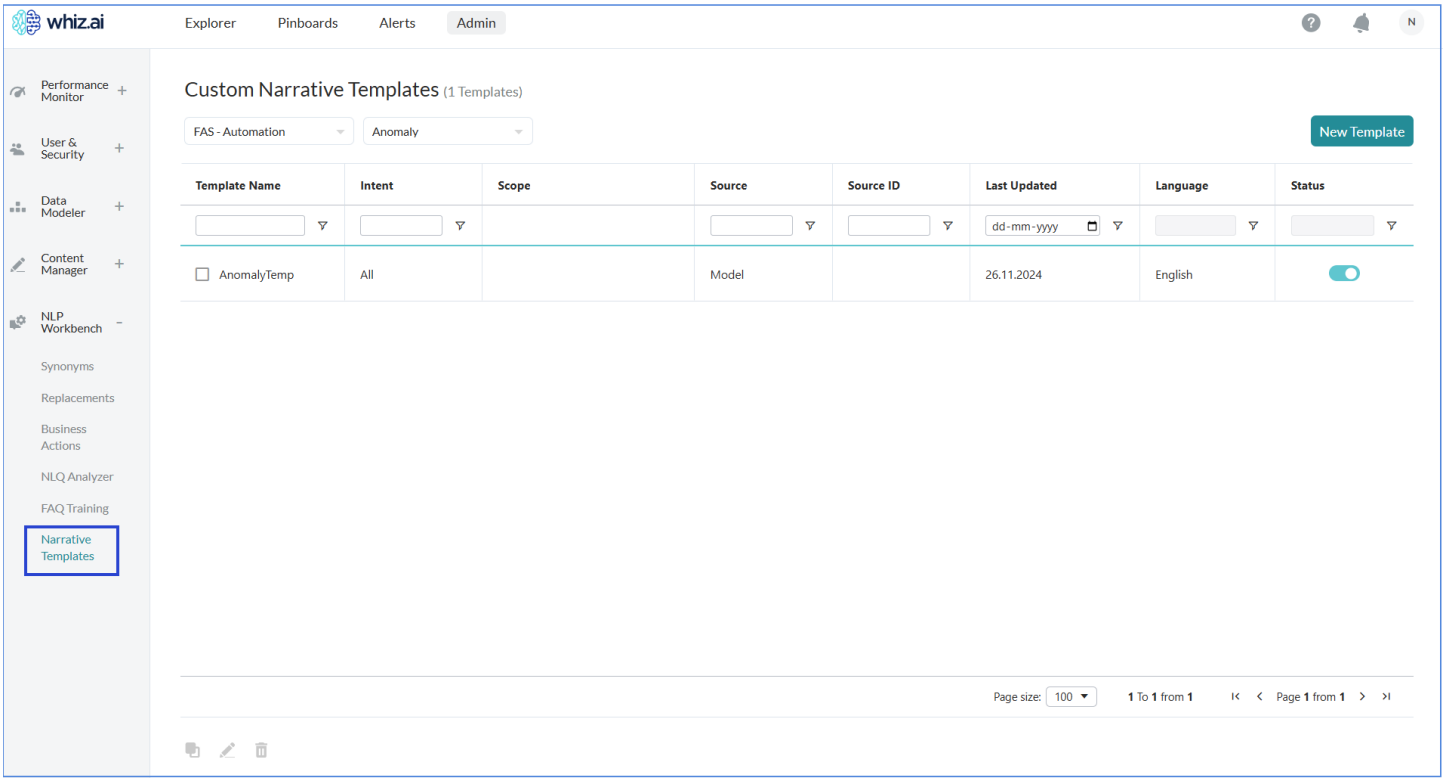
Custom Narratives

Using the expanded NLP coverage offered by WhizAI, you can intelligently generate and automate custom narratives. This efficient feature allows you to design and generate more accurate and actionable narratives. You can customize the narratives according to the source data (metrics/metadata). If the system generated narrative is complex, you can simplify it, using a custom template builder. If you want deeper insights, you can configure the narrative accordingly.

For example: When you ask for trends for a year, you might find short-term / medium-term trends very useful OR when you ask for top brands/regions, you might also want to know their brand/region performance as well. You can build such Custom Narratives from the **Custom Narrative Templates** page

Understanding the Custom Narrative Templates page

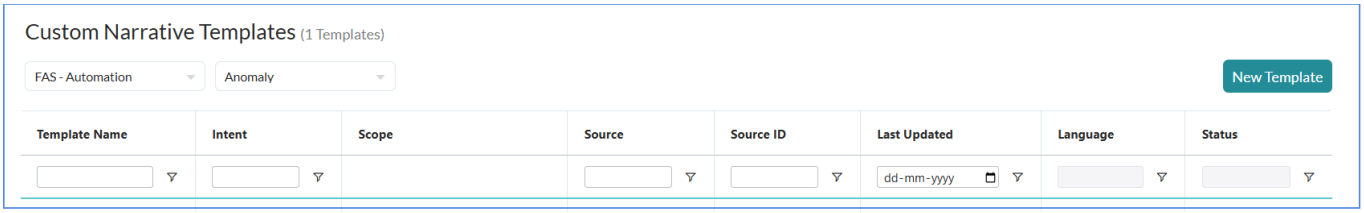
This page shows a list of the templates added to WhizAI for a selected data model. You can manage the custom narrative template/s from this page.



The following table explains the different columns on the **Custom Narrative Templates** page:

Column Name	Description
Template Name	This column has a list of all the available templates in the system. The user gives the template name while template creation. Template names can be modified later on as well.
Intent	The intent of the NLQs
Scope	The scope of the NLQs is defined by metrics, dimensions, entities, and computation.
Source	Displays the source of the template, whether it is Data Model template or card template
Source ID	ID of the template
Last Updated	Date when the template was last updated.
Language	Languages in which template is supported.
Status	You can check the status of existing templates. **Draft** status: The template is not ready yet, work is ongoing on the template. **Inactive** status: Work on the template is complete but the template is not quite ready yet. **Active** status: The template is ready. Note: Only 'Active' status templates will be triggered.

You can apply filters to above mentioned columns to find specific templates. To do this, enter the filtering condition in the search box or click on the filter icon.



You can add a custom narrative template in two ways:

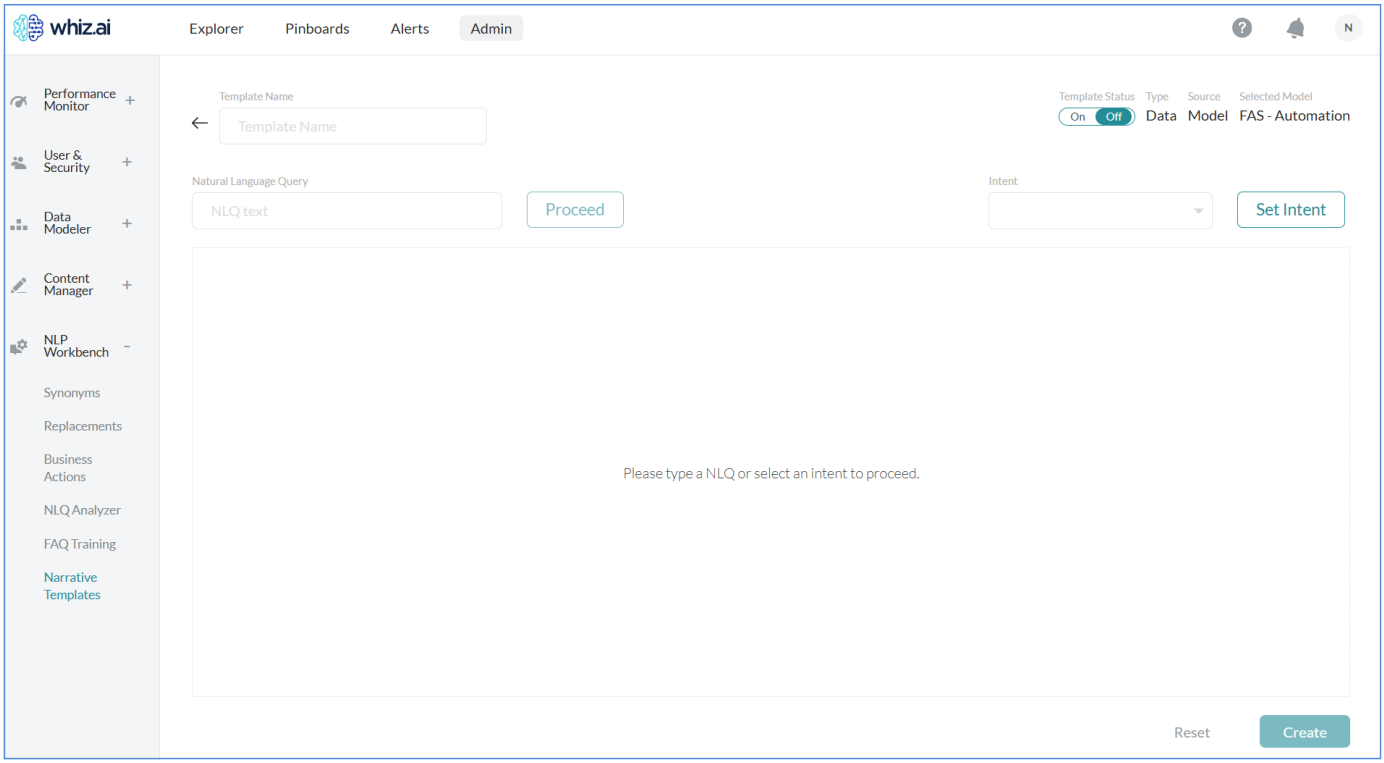
- You can select intent such as Top N, Bottom N, Data point, Time comparison, etc, based on this selected intent, the system suggests NLQ, and the response for this NLQ becomes available, then you can add a custom narrative based on this response.

Note! For every data model, sample NLQ must be mapped to each available intent. For more information, refer to the WhizAI Configuration guide.

- You can enter NLQ, and based on this NLQ, the system automatically sets the intent, and the response for this NLQ becomes available, then you can add a custom narrative based on this response.

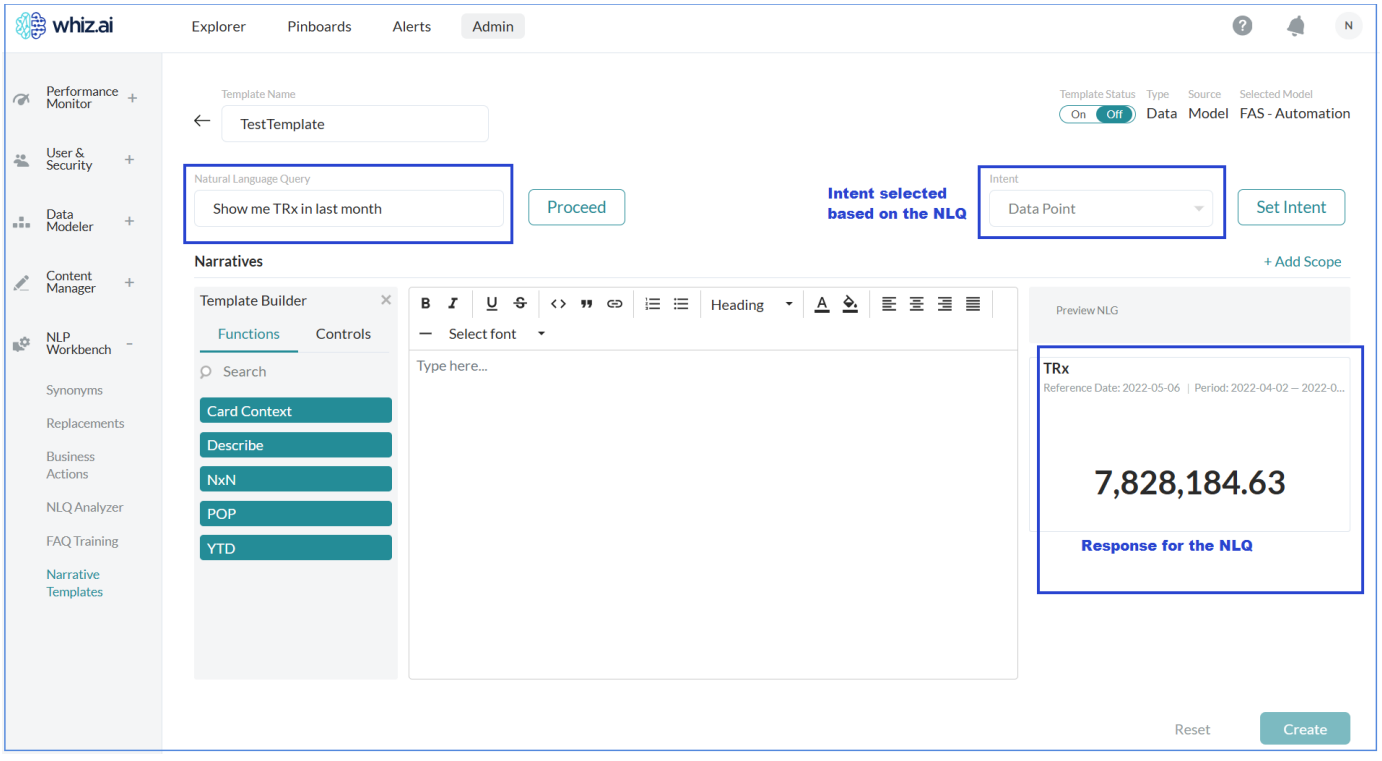
Adding a custom narrative template by adding an NLQ

1. From the Admin console go to **NLP workbench** > **Narrative templates**. To open the Custom Narrative Templates page.
2. From the top-left side of this page, select the data model for which you want to create a narrative template
3. Click **New Template**. The new template creation page displays.

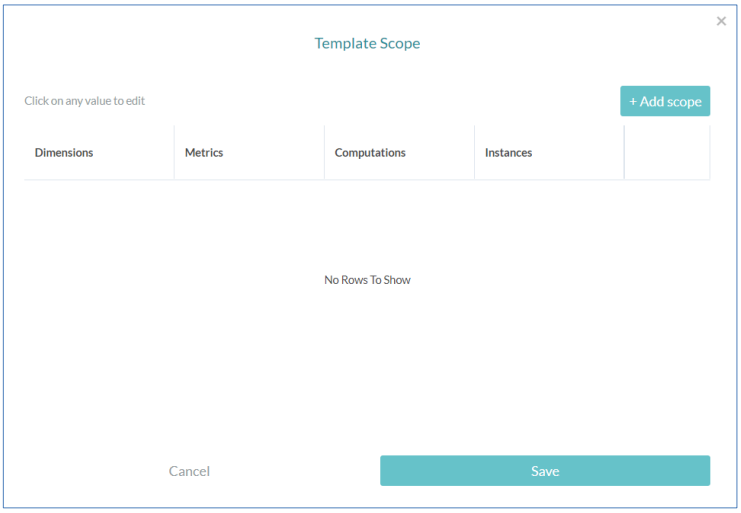


4. On the new template creation page, enter:
    a. Name for the template
    b. Enter your query in the **Natural Language Query** field.

5. Click **Proceed**. WhizAI identifies the intent of the NLQ and sets it in the Intent drop-down list and also displays the response.

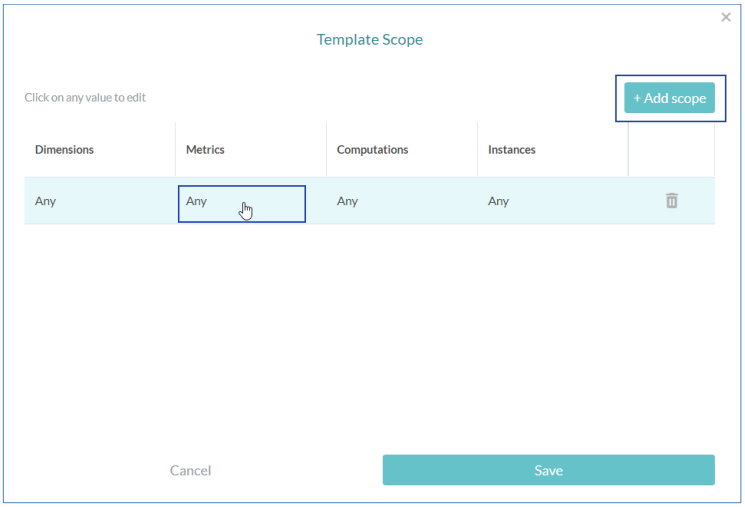


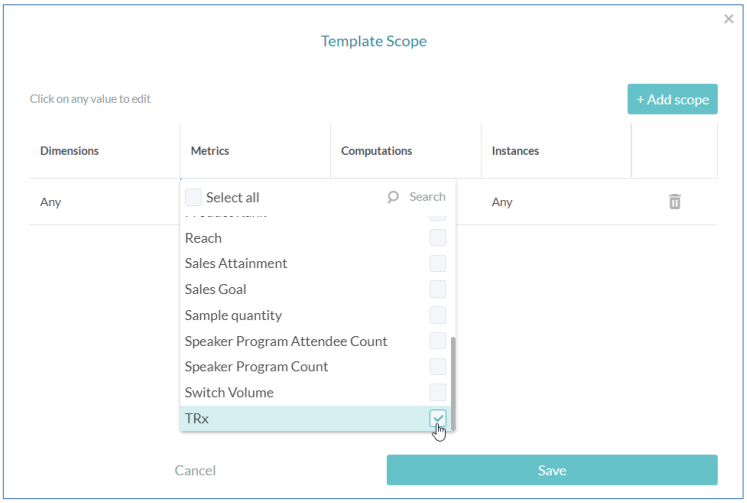
6. Click **+Add Scope** to add scope objects to your template. The following **Template Scope** page displays.

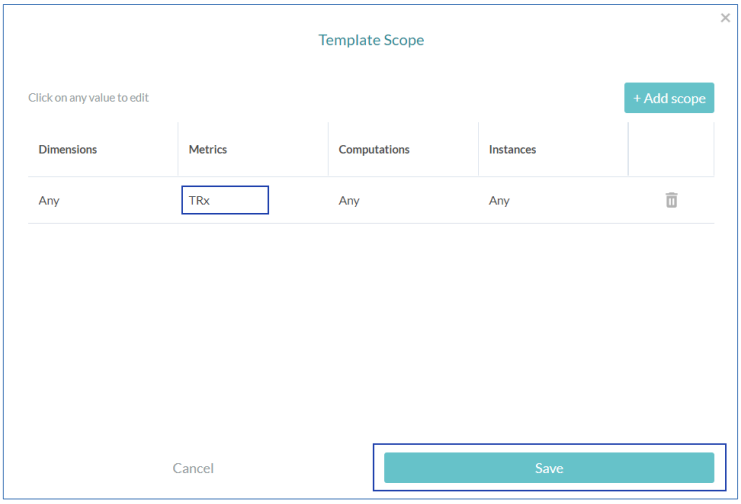


Note! By adding scopes, you can apply a narrative for a specific metric, dimension, computation, or instance. Also, you can combine and add multiple scope objects for different metrics, dimensions, computations, or instances.
If the added NLQ has an object defined in the Scope, then the custom template associated with that scope object is triggered. If scope is not added to a template, then the default template mapped for the intent is triggered.

7. Click **+Add Scope**.
8. From the table, click the individual cells to add dimensions, metrics, computations, and instance level scope to your template.

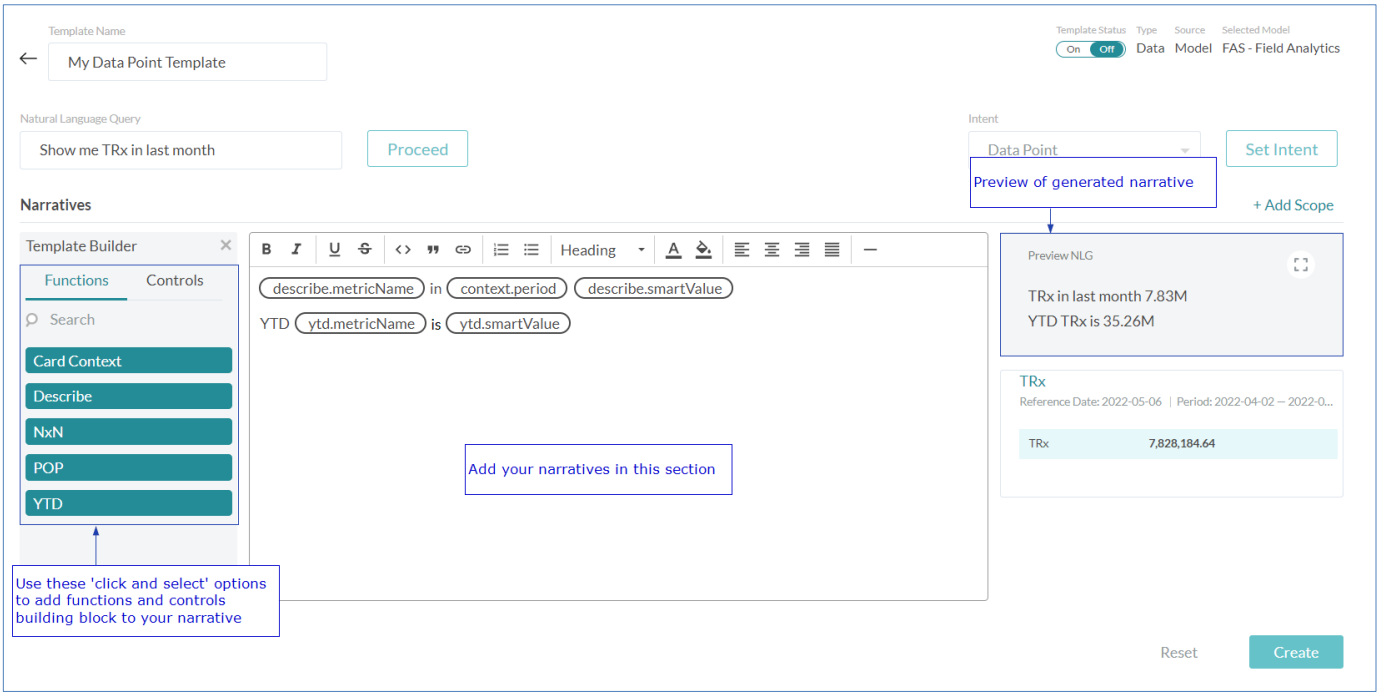






Note! User authorization is considered when you add scope to your narrative template.

9. Click **Save**. The scope gets added to the template.
10. Add the custom narrative in the **Narratives** section.

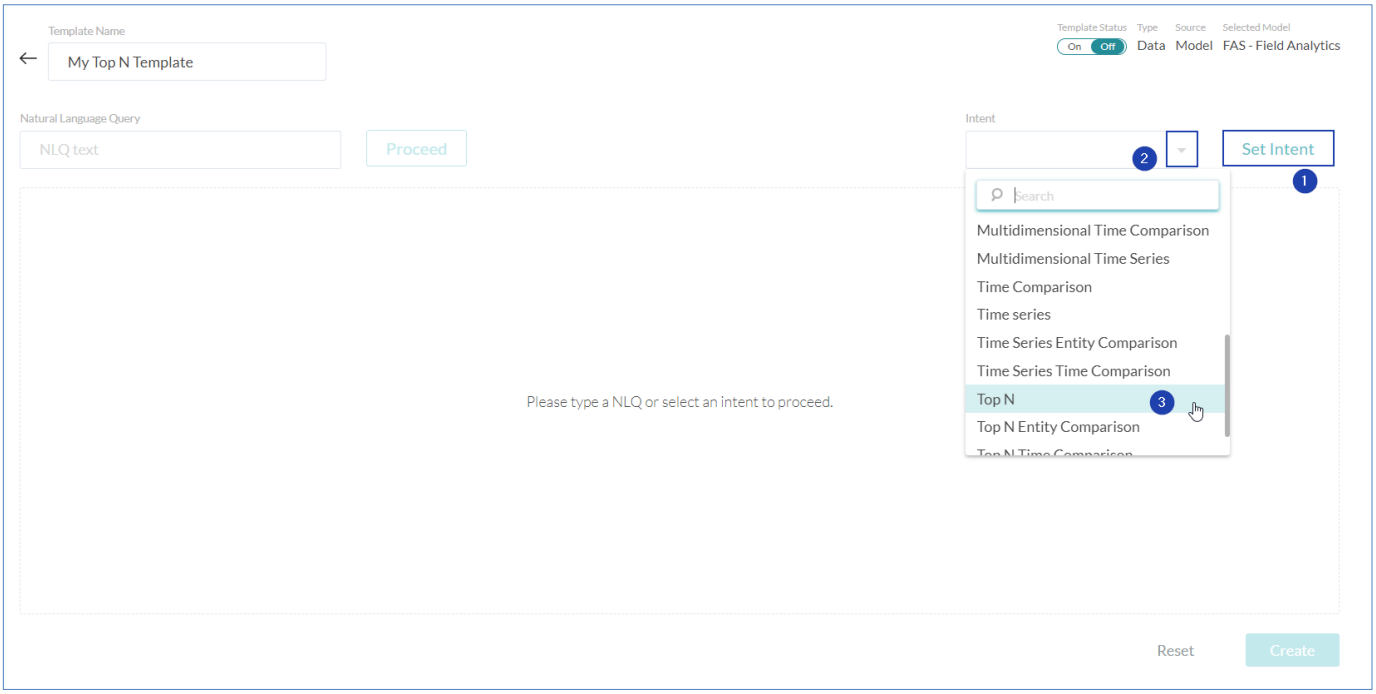


Note! As you add your narrative text, you can preview the generated narrative in the Preview NLG section as shown in the following figure.
You have to configure this custom narrative. For more information on how to configure the custom narratives, go to the Configuring Narratives for Intents section.

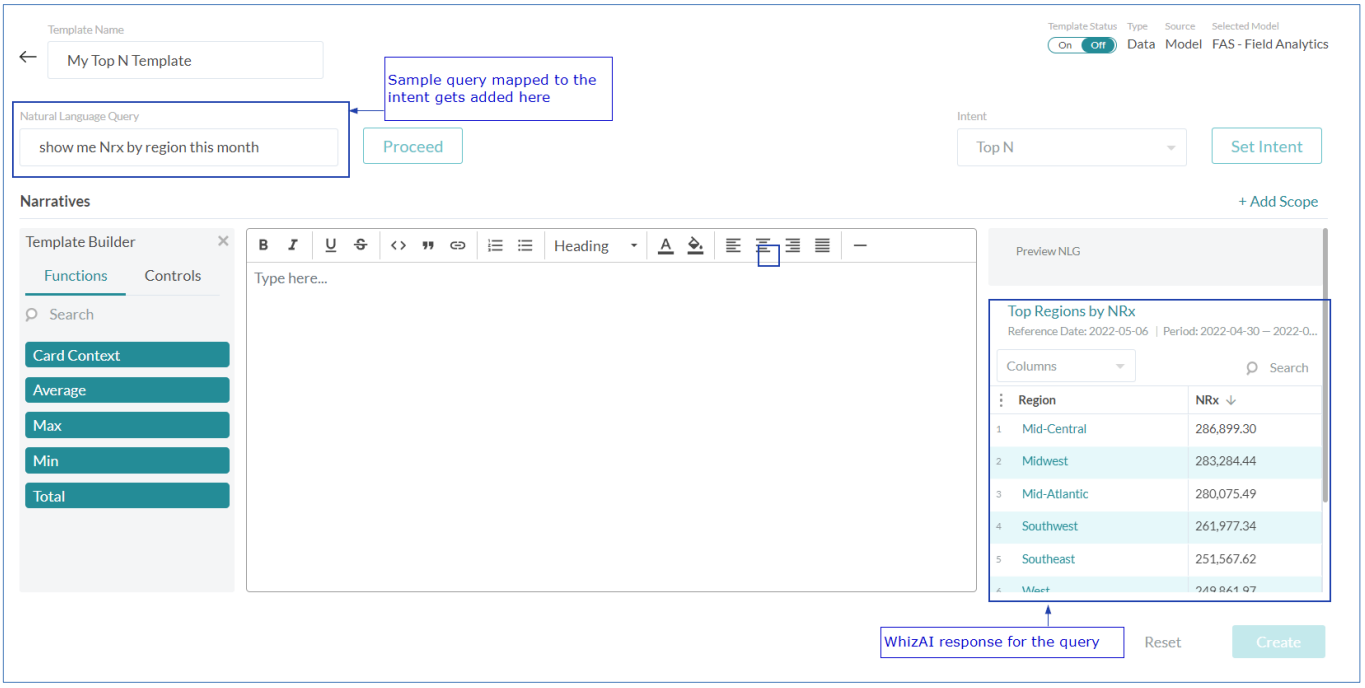
11. Click **Create**. The template gets added to the custom narrative template page.

Adding a custom narrative template by setting the intent

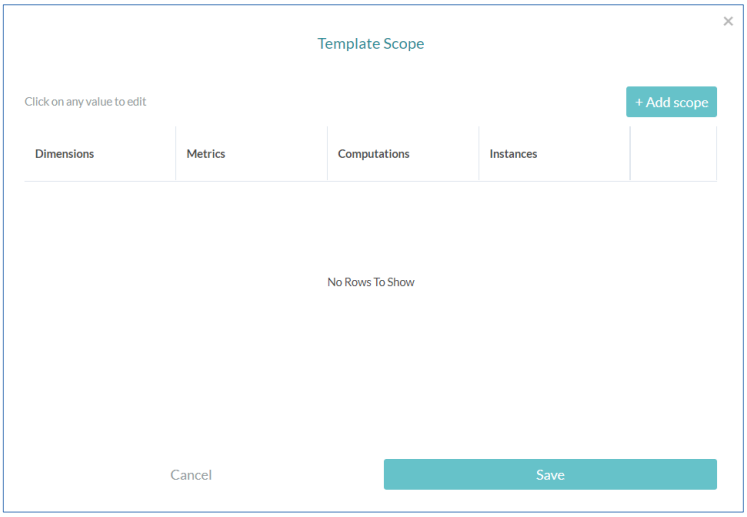
1. From the Admin console go to **NLP workbench** > **Narrative templates**. The Custom Narrative Templates page displays.
2. Click **Create**. The new template creation page displays.
3. Enter the Name for the template.
4. Click **Set Intent** to enable the Intent drop-down list.
5. From the **Intent** drop-down list, select the intent for which you want to create the custom narrative template.



6. Click **Set Intent**. Sample query mapped to the selected intent gets added to the Natural Language Query field. Response to this query is also displayed as shown in the following figure.

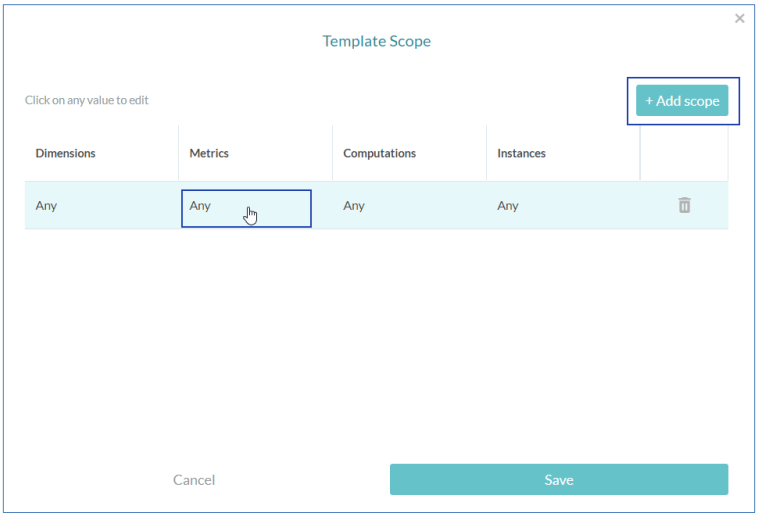


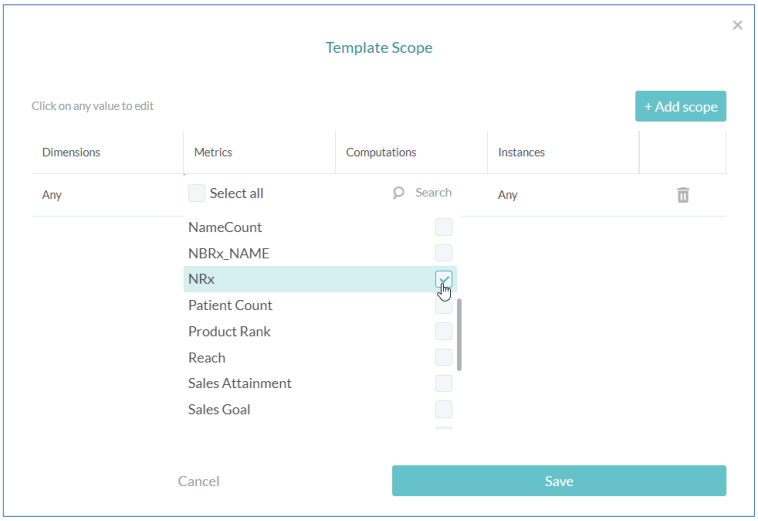
7. Click **+Add Scope** to add scope objects to your template. The following **Template Scope** page displays.

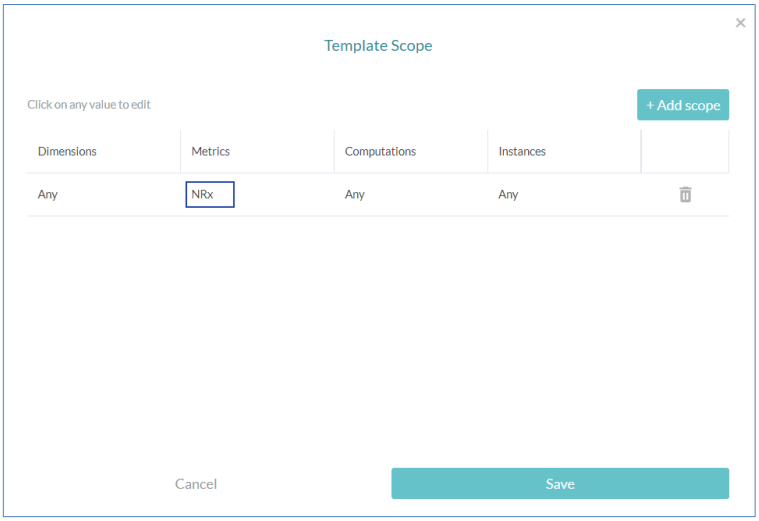


Note! By adding scopes, you can apply a narrative for a specific metric, dimension, computation, or instance. Also, you can combine and add multiple scope objects for different metrics, dimensions, computations, or instances.

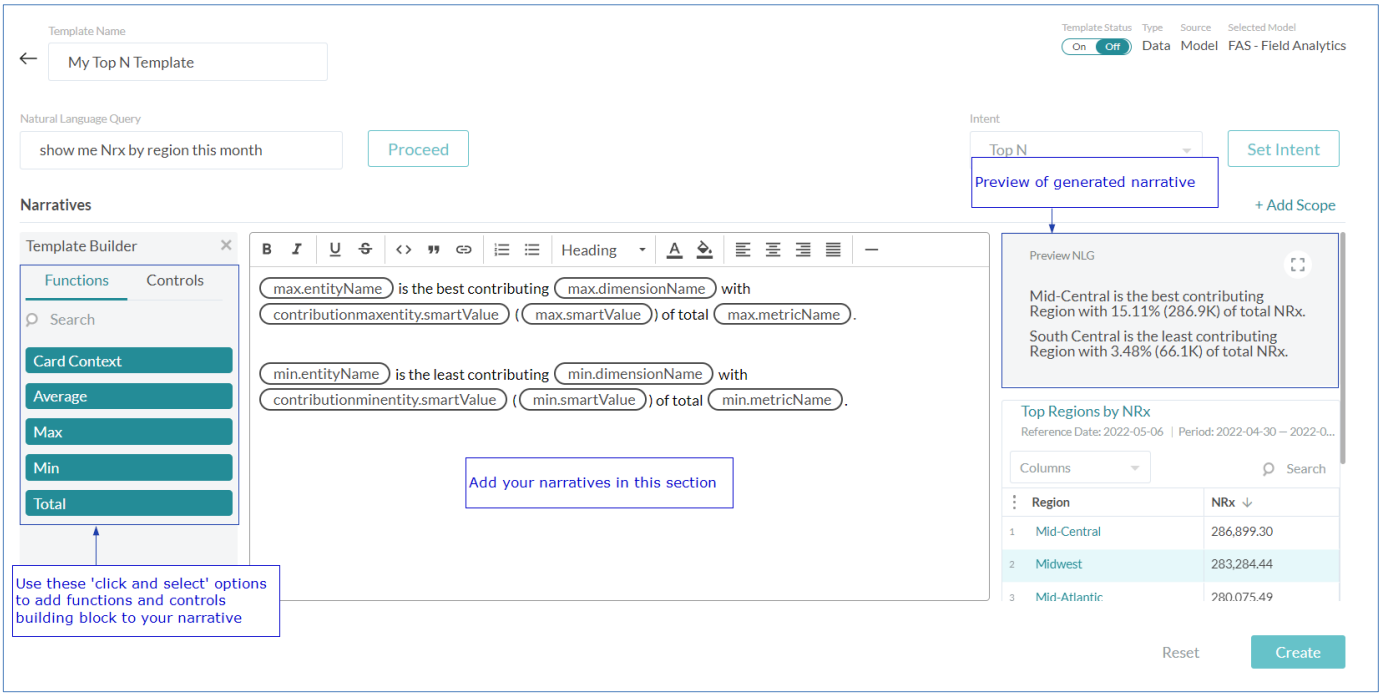
8. Click **+Add Scope**.
9. From the table, click the individual cells to add dimensions, metrics, computations, and instance level scope to your template.







10. Click **Save**. The scope gets added to the template.
11. Add the custom narrative in the **Narratives** section.



Note! As you add your narrative text, you can preview the generated narrative in the Preview NLG section as shown in the following figure. You have to configure this custom narrative. For more information on how to configure the custom narratives, go to the Configuring Narratives for Intents section.

Template Selection for narrative generation

If you have multiple templates created for one intent, template selection for narrative generation will be based on the scope added to the template. For more information, refer to the following table.

Intent	Scope: Metric	Custom template	Example NLQ	Template selection for narrative generation
Top N	TRx	T1	TRx by brands	T1 is triggered
			NRx by brands	T1 is not triggered. Default will be triggered for NRx
			TRx, NRx by brands	T1 is triggered for TRx. Default will be triggered for NRx
Top N	NRx	T2	TRx by brands	T2 is not triggered. Default will be triggered for TRx
			NRx by brands	T2 is triggered
			TRx, NRx by brands	T2 is triggered for NRx. Default will be triggered for TRx
Top N	TRx, NRx	T3	TRx by brands	T3 is triggered

			NRx by brands	T3 is triggered
			TRx, NRx by brands	T3 is triggered

Supported intents

Following are the intents that are detected from your natural language queries (NLQs).

- Bottom N
- Bottom N Entity Comparison
- Bottom N Time Comparison
- Bottom N Time Series
- Data Point
- Entity Comparison
- Multi Series Time Comparison
- Multidimensional
- Multidimensional Time Comparison
- Multidimensional Time Series
- Time Comparison
- Time Series
- Time Series Entity Comparison
- Time Series Time Comparison
- Top N
- Top N Entity Comparison
- Top N Time Comparison
- Top N Time

Functions supported for Intents

Following table lists the functions supported for different intents.

Function and Supported Intents	Sample NLQ and Narrative
Max (To create a narrative around Maximum value) Supported Intents: All intents are supported except data point	NLQ: Top Regions this month Narrative: NORTHEAST region has the highest NRx of 24.16K this month
Min (To create a narrative around Minimum value) Supported Intents: All intents are supported except data point	NLQ: Top Regions this month Narrative: WEST region has the lowest NRx of 15.26K this month.
Average (To create a narrative around Average value) Supported Intents: All intents are supported except data point	NLQ: Top Regions this month Narrative: Average TRx recorded per region is 19.89K this month. (Global Average)
Total (To create a narrative around Total value) Supported Intents: All intents are supported except data point	NLQ: Top Regions this month Narrative: Total TRx recorded across all regions is 10M

Describe (To create a narrative around a single data point summary) Supported Intents: Datapoint, Time Comparison, Entity Comparison	NLQ: TRx in Boston MA last week Narrative: TRx growth was 5% last week
Contribution_MaxEntity (To create a narrative around contribution (%) of top performing entity) Supported Intents: Top N, Bottom N	NLQ: NRX for Top Regions this month Narrative: NORTHEAST region has the highest NRx of 33% (24.16K) this month
Contribution_MinEntity (To create a narrative around contribution (%) of least performing entity) Supported Intents: Top N, Bottom N	NLQ: NRX for Top Regions this month Narrative: WEST region has the lowest NRx of 20%(15.26K) this month.
Contribution_TopN_Entities (To create a narrative around contribution (%) of a group of top 'n' entities) Supported Intents: Top N, Bottom N	NLQ: NRX for Top Regions this month Narrative: Top 3 regions contribute 50% of the total NRx in this month.
Contribution_BottomN_Entities (To create a narrative around contribution (%) of a group of bottom 'n' entities) Supported Intents: Top N, Bottom N	NLQ: NRX for Top Regions this month Narrative: Bottom 3 regions contribute 10% of the total NRx in this month.
Contribution_MaxEntity (To create a narrative around contribution (%) of top performing entity in the overall time period) Supported Intents: Top N Time Series, Bottom N Time Series	NLQ: NRX for Top Regions by months Narrative: The NORTHEAST region has the highest NRx of 33% (24.16K) in this time period.
Contribution_MinEntity (To create a narrative around contribution (%) of least performing entity in the overall time period) Supported Intents: Top N Time Series, Bottom N Time Series	NLQ: NRX for Top Regions by months Narrative: WEST region has the lowest NRx of 20%(15.26K) in this time period.
Contribution_TopN_Entities (To create a narrative around contribution (%) of a group of top 'n' entities in the overall time period) Supported Intents: Top N Time Series, Bottom N Time Series	NLQ: NRX for Top Regions by months Narrative: Top 3 regions contribute 50% of the total NRx in this time period.
Contribution_BottomN_Entities (To create a narrative around contribution (%) of a group of bottom 'n' entities in the overall time period) Supported Intents: Top N Time Series, Bottom N Time Series	NLQ: NRX for Top Regions by months Narrative: Bottom 3 regions contribute 10% of the total NRx in this time period.

Growth_MaxAbsChange (To create a narrative around highest Absolute change growth in a given time period) Supported Intents: All types of Time Series intents	NLQ: TRx monthly trend last year Narrative: TRx recorded the highest growth of 2.46M (32.26%) in March 2021
Growth_MinAbsChange (To create a narrative around slowest Absolute change growth in a given time period) Supported Intents: All types of Time Series intents	NLQ: TRx monthly trend last year Narrative: TRx recorded the lowest growth of -2.41M (-23.81%) in April 2021
Growth_MaxPercentChange (To create a narrative around highest Percent change growth in a given time period) Supported Intents: All types of Time Series intents	NLQ: TRx monthly trend last year Narrative: TRx recorded the highest growth of 2.46M (32.26%) in March 2021
Growth_MinPercentChange (To create a narrative around slowest Percent change growth in a given time period) Supported Intents: All types of Time Series intents	NLQ: TRx monthly trend last year Narrative: TRx recorded the lowest growth of -2.41M (-23.81%) in April 2021
NxN (To create a narrative around weeks comparison (4x4 or13x13)) Supported Intents: Datapoint, Time Comparison, Entity Comparison, Time Series, Time Series Time Comparison	NLQ: TRx monthly trend last year Narrative: TRx declined by -0.91% in last 4 weeks
NxN_MaxEntity (To create a narrative around weeks comparison for top performing entity) Supported Intents: Top N, Bottom N, Top N Time Series, Bottom N Time Series, Top N Time Comparison, Bottom N Time Comparison	NLQ: Top Regions by TRx Narratives: South Central declined by -17.62% (-50.06K) in last 4 weeks South Central declined by -10.17% (-95.9K) in last 13 weeks
NxN_MinEntity (To create a narrative around weeks comparison for least performing entity) Supported Intents: Top N, Bottom N, Top N Time Series, Bottom N Time Series, Top N Time Comparison, Bottom N Time Comparison	NLQ: Top Regions by TRx Narratives: Mid-Central declined by -5.17% (-63.07K) in last 4 weeks Mid-Central grew by 2.07% (79.93K) in last 13 weeks
MaxPrimary (To create a narrative around Maximum value in 1st column of a comparison response. This could be Current Period for a time comparison or 1st entity in an entity comparison) Supported Intents: Top N/ Bottom N Time Comparison, Top N/ Bottom N Entity Comparison	NLQ: Top Growing Brands Narrative: Arobi was the top Product with 2.41M NRx with a -0.22% decline in this time.

MinPrimary (To create a narrative around Minimum value in 1st column of a comparison response. This could be Current Period for a time comparison or 1st entity in an entity comparison) Supported Intents: Top N/ Bottom N Time Comparison, Top N/ Bottom N Entity Comparison	NLQ: Top Growing Brands Narrative: Emarun was the highest declining Product with -43.76K (-7.68%) NRx
TotalPrimary (To create a narrative around Total value in 1st column of a comparison response. This could be Current Period for a time comparison or 1st entity in an entity comparison) Supported Intents: Top N/ Bottom N Time Comparison, Top N/ Bottom N Entity Comparison	NLQ: Top Growing Brands Narrative: Total TRx in 2022 was 1M while in 2021 it was 590K
AveragePrimary (To create a narrative around Average value in 1st column of a comparison response. This could be Current Period for a time comparison or 1st entity in an entity comparison) Supported Intents: Top N/ Bottom N Time Comparison, Top N/ Bottom N Entity Comparison	NLQ: Top Growing Brands Narrative: Average TRx in 2022 was 100K while in 2021 it was 80K
MaxSecondary (To create a narrative around Maximum value in the 2nd column of a comparison response. This could be Previous Period for a time comparison or 2nd entity in an entity comparison) Supported Intents: Top N/ Bottom N Time Comparison, Top N/ Bottom N Entity Comparison	NLQ: Top Growing Brands
MinSecondary (To create a narrative around Minimum value in the 2nd column of a comparison response. This could be Previous Period for a time comparison or 2nd entity in an entity comparison) Supported Intents: Top N/ Bottom N Time Comparison, Top N/ Bottom N Entity Comparison	NLQ: Top Growing Brands
TotalSecondary (To create a narrative around Total value in the 2nd column of a comparison response. This could be Previous Period for a time comparison or 2nd entity in an entity comparison) Supported Intents: Top N/ Bottom N Time Comparison, Top N/ Bottom N Entity Comparison	NLQ: Top Growing Brands Narrative: Total TRx in 2022 was 1M while in 2021 it was 590K
AverageSecondary (To create a narrative around Average value in 2nd column of a comparison response. This could be Previous Period for a time comparison or 2nd entity in an entity comparison) Supported Intents: Top N/ Bottom N Time Comparison, Top N/ Bottom N Entity Comparison	NLQ: Top Growing Brands Narrative: Average TRx in 2022 was 100K while in 2021 it was 80K
MaxAbsChange (To create a narrative around Maximum Absolute Change value in a comparison response) Supported Intents: Top N/ Bottom N Time Comparison, Top N/ Bottom N Entity Comparison	NLQ: Top Growing Brands Narrative: Plabenil was the highest growing Product with 2.98K change (0.14%) NRx
MinAbsChange (To create a narrative around Miinimum Absolute Change value in a comparison response) Supported Intents: Top N/ Bottom N Time Comparison, Top N/ Bottom N Entity Comparison	NLQ: Top Growing Brands Narrative: Trexine was the highest declining Product with -40.3K change (-1.86%) NRx

MaxPercentChange (To create a narrative around Maximum Percentage Change value in a comparison response) Supported Intents: Top N/ Bottom N Time Comparison, Top N/ Bottom N Entity Comparison	NLQ: Top Growing Brands Narrative: The biggest % growth of 0.14% was seen by Plabenil
MinPercentChange (To create a narrative around Minimum Percentage Change value in a comparison response) Supported Intents: Top N/ Bottom N Time Comparison, Top N/ Bottom N Entity Comparison	NLQ: Top Growing Brands Narrative: The biggest % decline of -10.14% was seen by Trexine
YTD To create a narrative around YTD data Supported Intents: Datapoint, Time Series, Time Comparison, Time Series Time Comparison	NLQ: TRx monthly trend last year Narrative: YTD TRx was 100M
YTD_MaxEntity To create a narrative around YTD data for top performing entity Supported Intents: Top N, Top N Time Series, Bottom N, Bottom N Time Series	NLQ: NRX for Top Regions this month Narrative: YTD Mid-Central recorded 5.41M NRx
YTD_MinEntity To create a narrative around YTD data for least performing entity Supported Intents: Top N, Top N Time Series, Bottom N, Bottom N Time Series	NLQ: NRX for Top Regions this month Narrative: YTD South-Central recorded 5.41M NRx
MaxOfDimension(N) To create a narrative around Maximum value for Nth dimension in a multi-dimensional NLQ Supported Intents: Multi-dimensional, Multi-dimensional time series	NLQ: Brands By Regions Narrative: Arobi was the highest contributing Product with 606.95K TRx
MinOfDimension(N) To create a narrative around Minimum value for Nth dimension in a multi-dimensional NLQ Supported Intents: Multi-dimensional, Multi-dimensional time series	NLQ: Brands By Regions Narrative: Emarun was the least contributing Product with 135.62KTRx
ContributionOfMaxEntityOfDimension(N) - (To create a narrative around contribution (%) of top performing entity of Nth dimension) Supported Intents: Multi-dimensional, Multi-dimensional time series	NLQ: Brands By Regions Narrative: Arobi was the highest contributing Product with 20% (606.95K) TRx
Contribution_MinEntity_Dimension(N) - (To create a narrative around contribution (%) of least performing entity of Nth dimension) Supported Intents: Multi-dimensional, Multi-dimensional time series	NLQ: Brands By Regions Narrative: Emarun was the least contributing Product with 5% (135.62K) TRx
YTD_MaxEntity_Dimension(N) - (To create a narrative around YTD data for top performing entity of Nth Dimension) Supported Intents: Multi-dimensional, Multi-dimensional time series	NLQ: Brands By Regions Narrative: YTD Mid-Central recorded 5.41M NRx
YTD_MinEntity_Dimension(N) - (To create a narrative around YTD data for least performing entity of Nth Dimension) Supported Intents: Multi-dimensional, Multi-dimensional time series	NLQ: Brands By Regions Narrative: YTD South-Central recorded 5.41M NRx

Contribution_MaxEntity_Of_Dimension1_In_MaxEntity_Of_Dimension2 To create a narrative around contribution (%) of top performing entity of Dimension 1 in top entity in Dimension 2 Supported Intents:	NLQ: Brands By Regions Narrative: Arobi contributed 20% (606.95K) TRx in Midwest
Contribution_MaxEntity_Of_Dimension2_In_MaxEntity_Of_Dimension1 To create a narrative around contribution (%) of top performing entity of Dimension 2 in top entity in Dimension 1 Supported Intents:	NLQ: Brands By Regions Narrative: Midwest contributed 25% (606.95K) TRx in Arobi

Configuring Narratives for Intents

Refer to the following configuration of narratives for data point intent. You can follow similar steps for other intents.

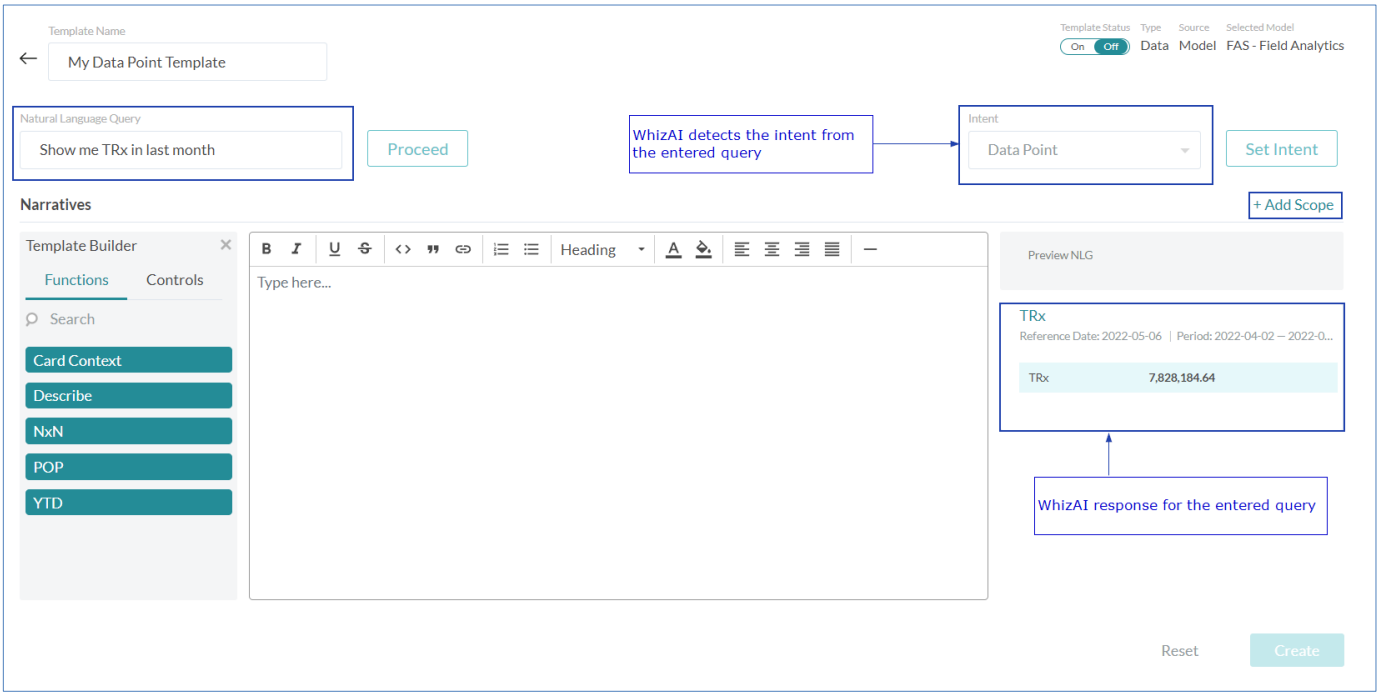
Configuring narratives for Data Point intent

You can configure narratives for 'Data point' intent using the Describe, NxN, and YTD functions. For more information on the use of these functions, refer to the following example NLQ and configured narrative for the same. Example NLQ: Show me TRx in last month

Note ! The following example is for reference only. You can refer to this example to configure different narratives.

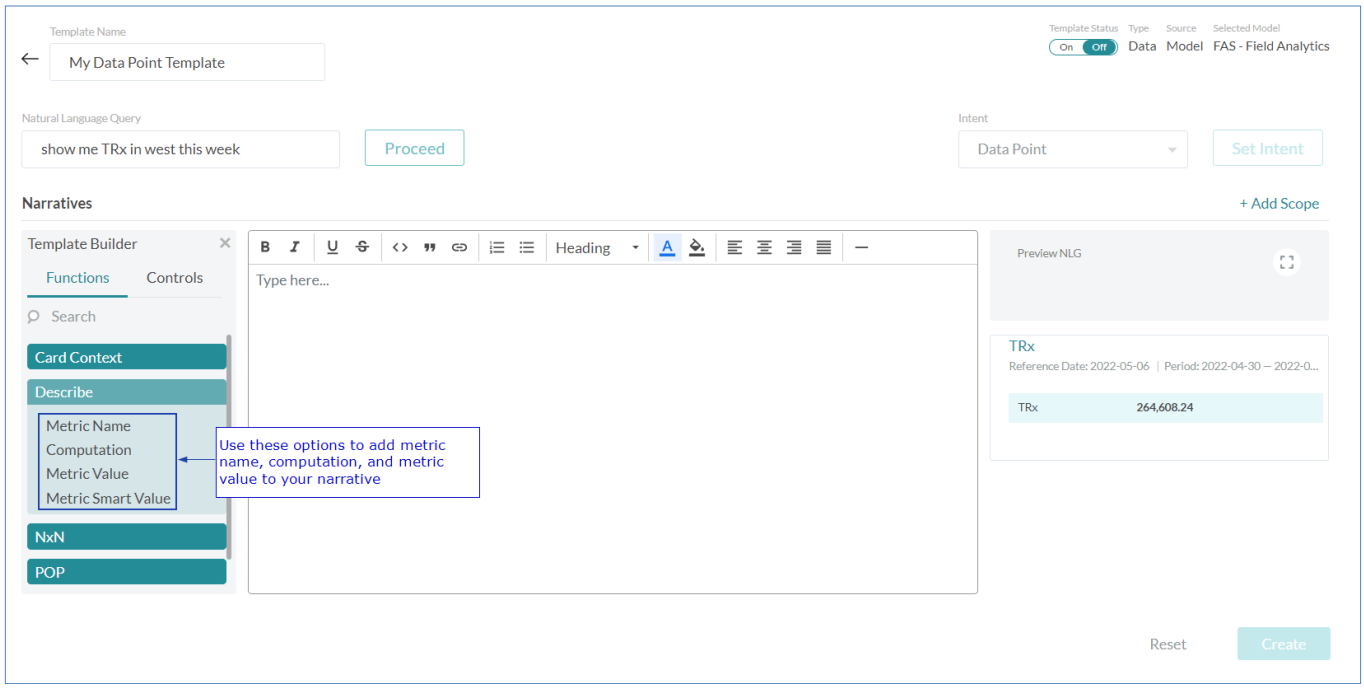
To configure the custom narrative:

1. Go to the new template creation page and enter NLQ. For example: *'Show me TRx in last month'* and click **Proceed**.
   WhizAI detects intent in your query and displays a response to your query as shown in the following figure.

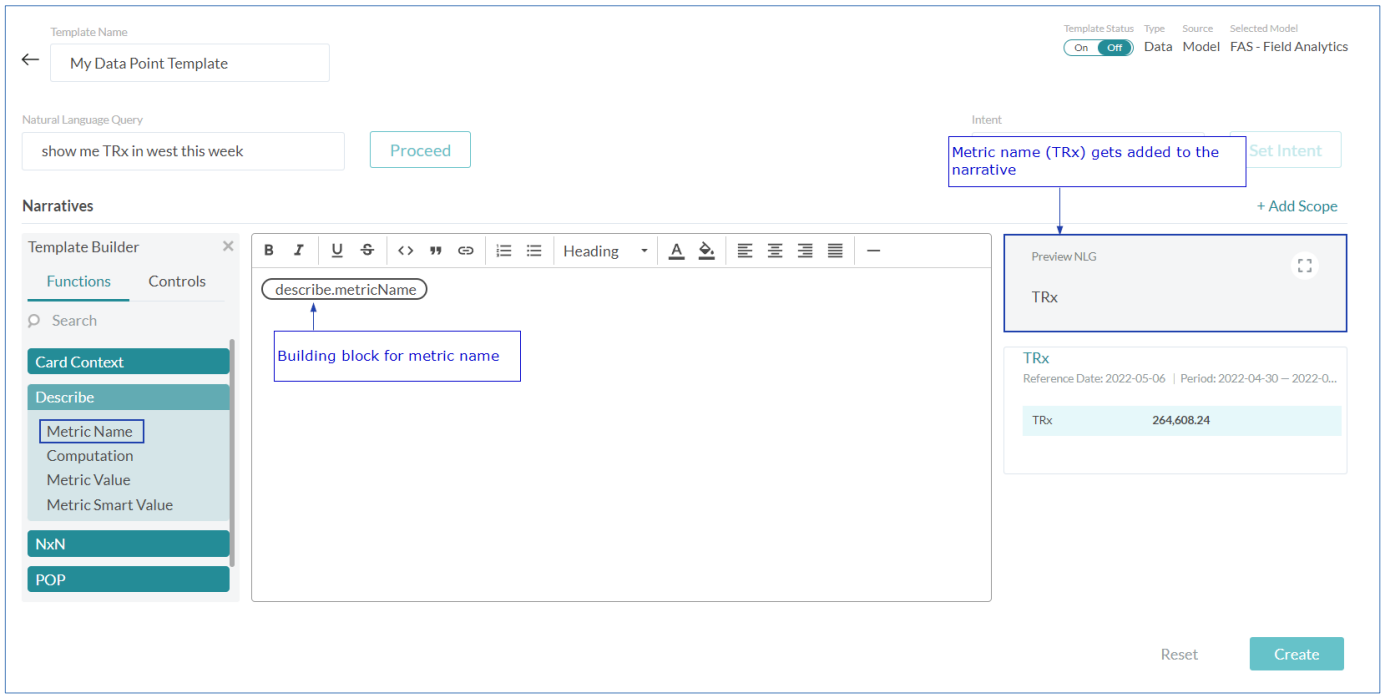


You can add narrative text and **Describe**, **NxN**, **POP**, and **YTD** function blocks in the template **Narratives** section, and based on this text and the function code, the narrative is displayed in the **Preview NLG** section.

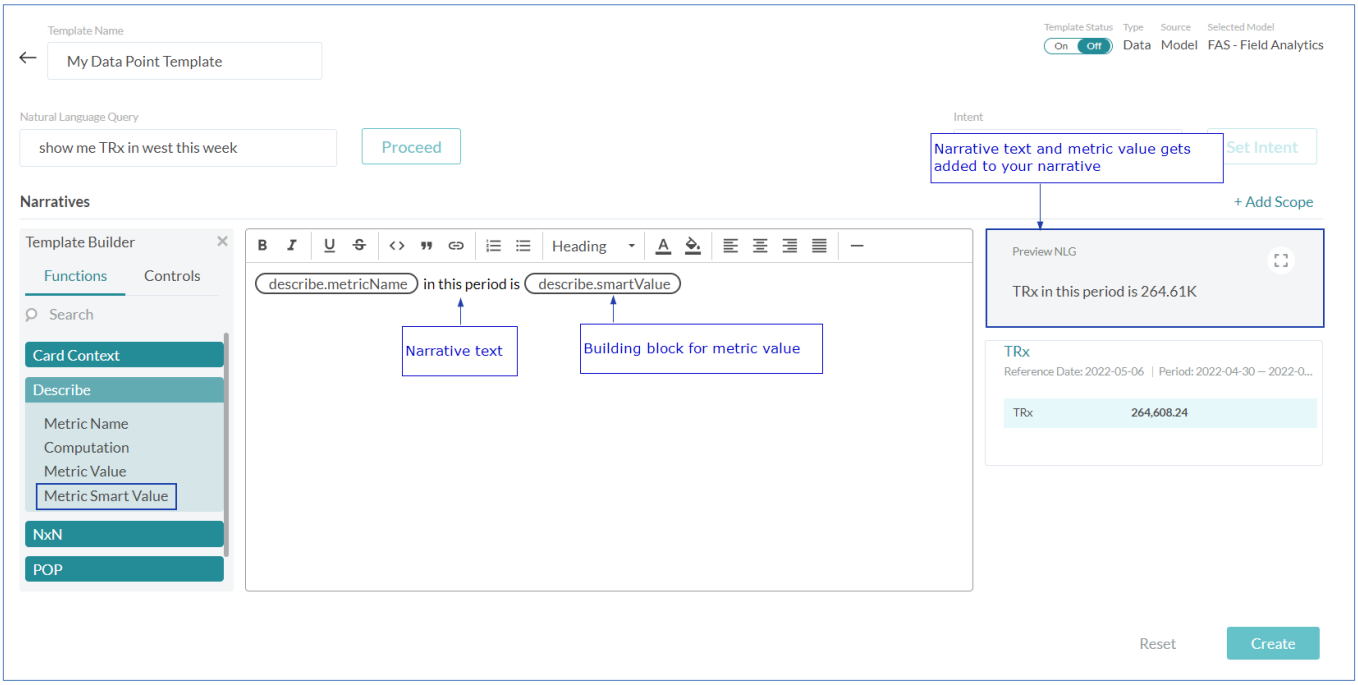
2. To add narrative around the **Describe** function, click **Describe**.
Click and select options are displayed as shown in the following figure.



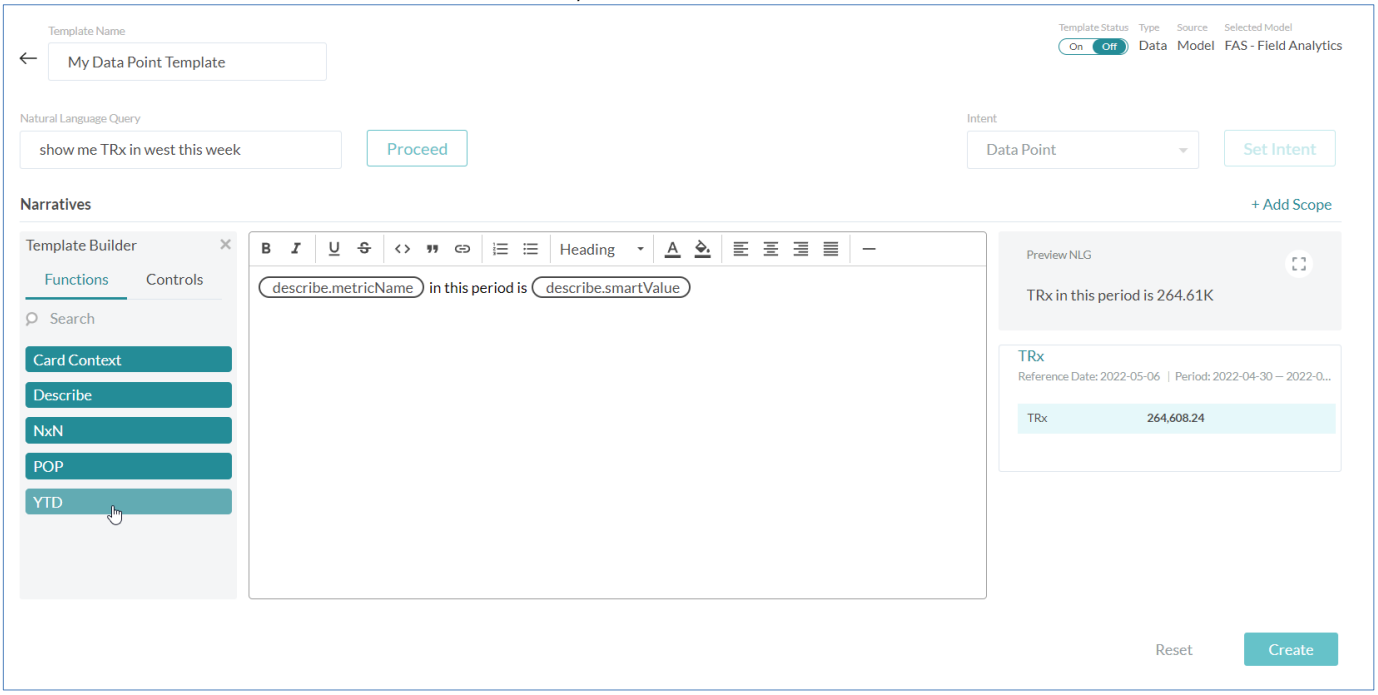
3. Click **Metric Name**; the building block for metric name gets added to your narrative and the metric name gets added to the Preview NLG section as shown in the following figure.



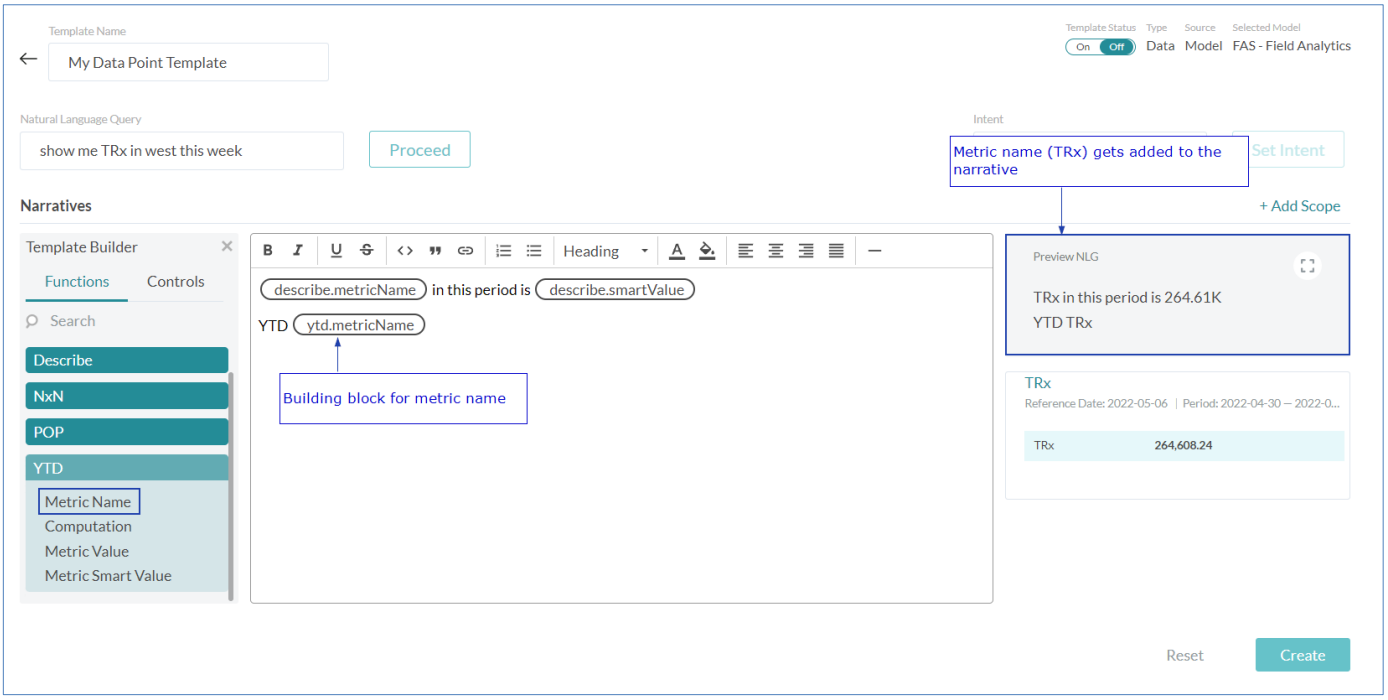
4. Add narrative text and the building block for metric value. For example, refer to the following figure.



5. To add a narrative around the YTD function, click YTD.

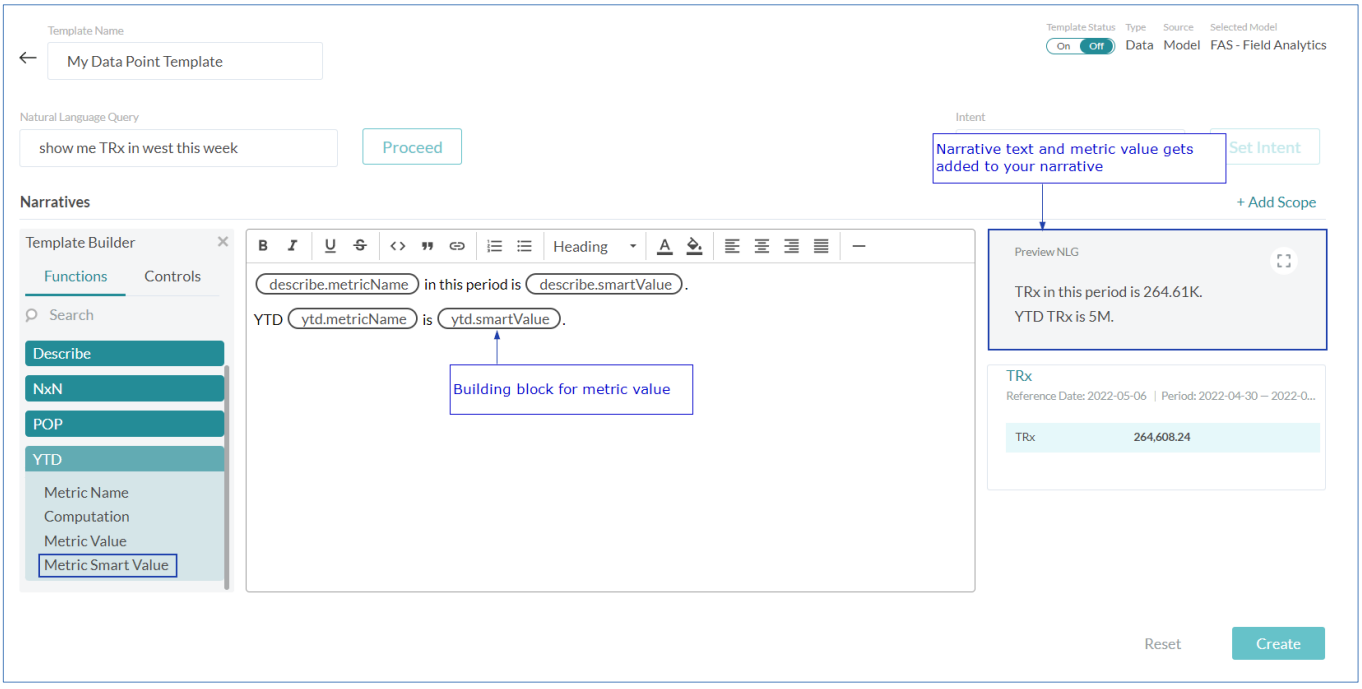


6. Click **YTD** > **Metric Name**.
The building block for metric name gets added to your narrative and the metric name gets added to the Preview NLG section as shown in the following figure.



7. Add narrative text and the building block for metric value and click **Create**.

   For example, refer to the following figure.



Configuring narrative for Top N intent

You can use the following functions to create narratives for Top N intent.

- Average
- Max.
- Min.
- Total

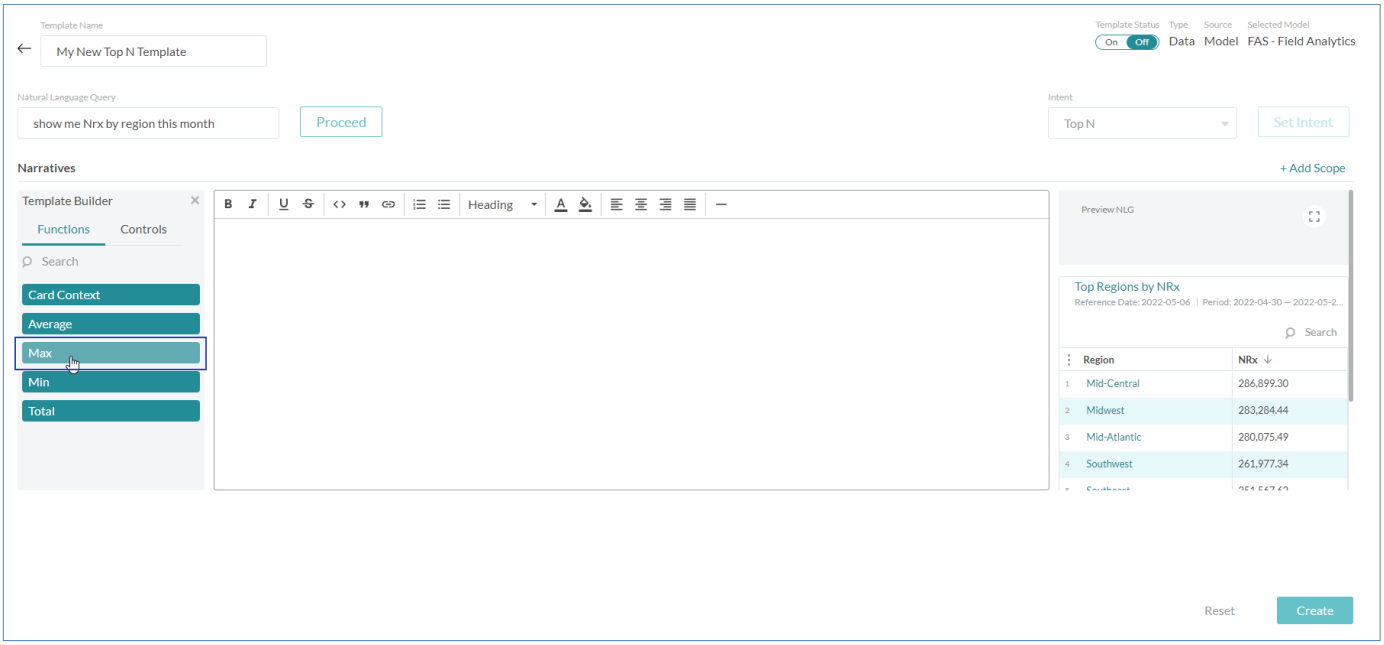
Refer to the following example to configure a narrative:

Example NLQ: Show me NRx by region this month

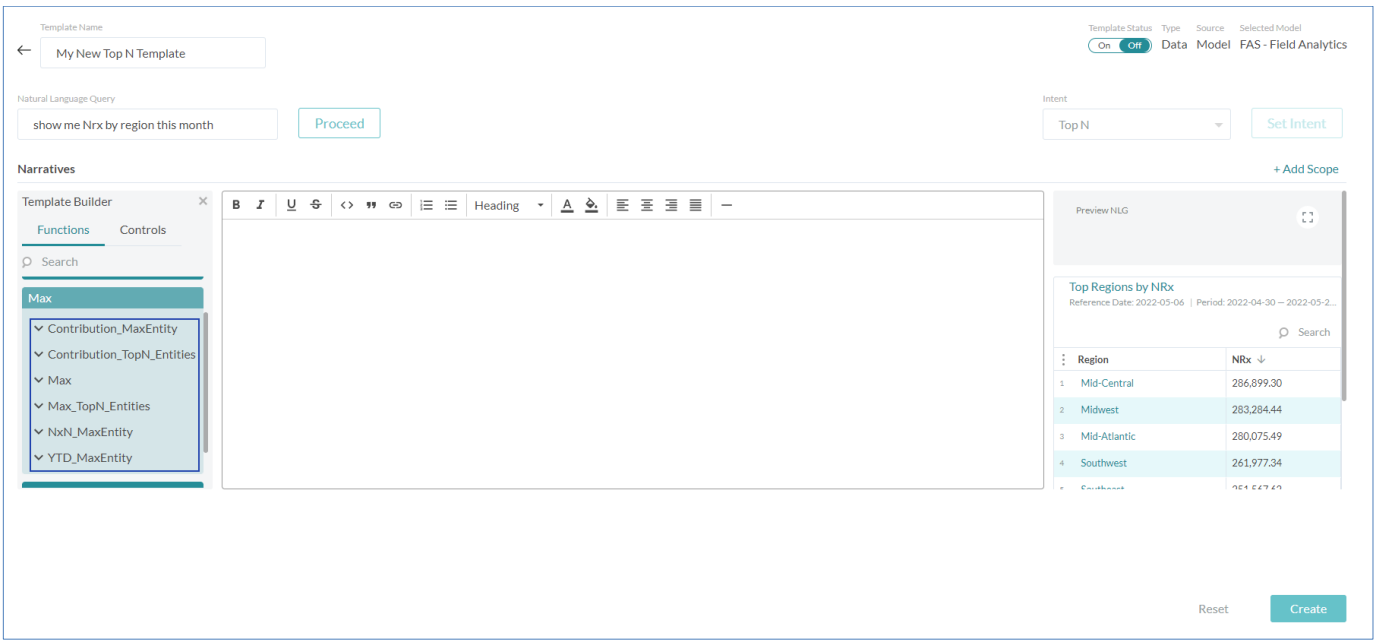
Note! Following example is for reference only. You can refer to this example to configure different narratives.

To configure the custom narrative:

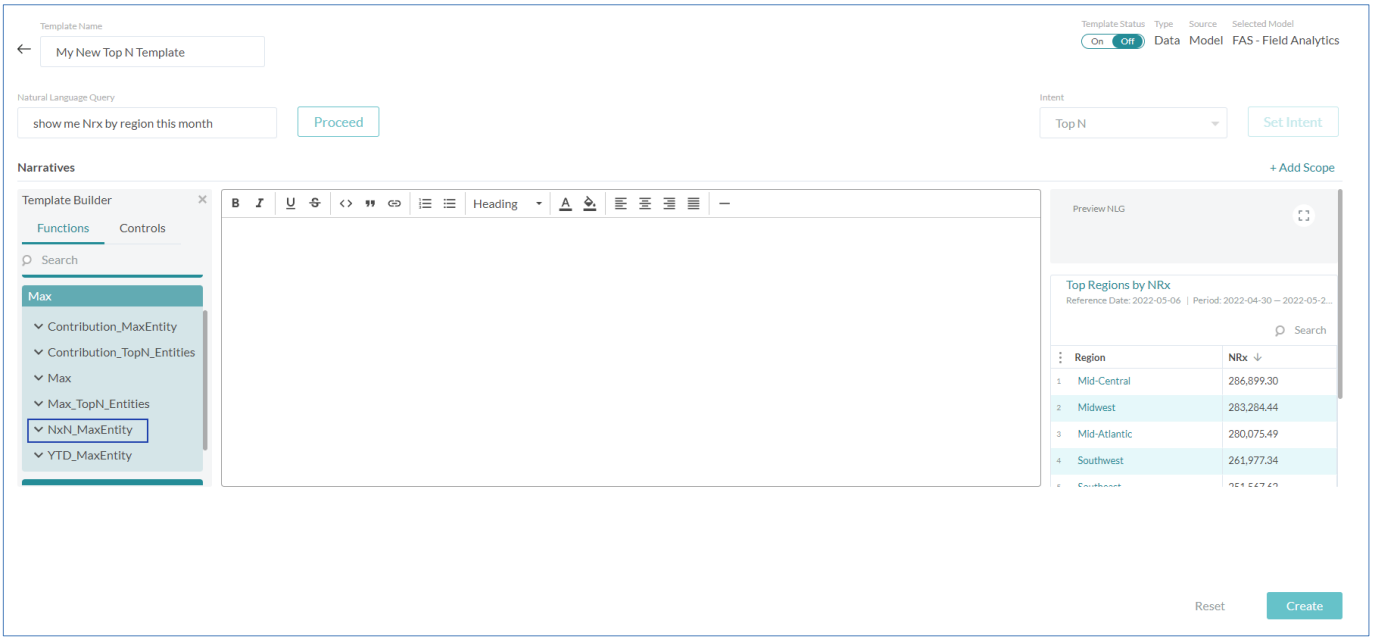
1. To add a narrative around the **Max** functions, click **Max**.



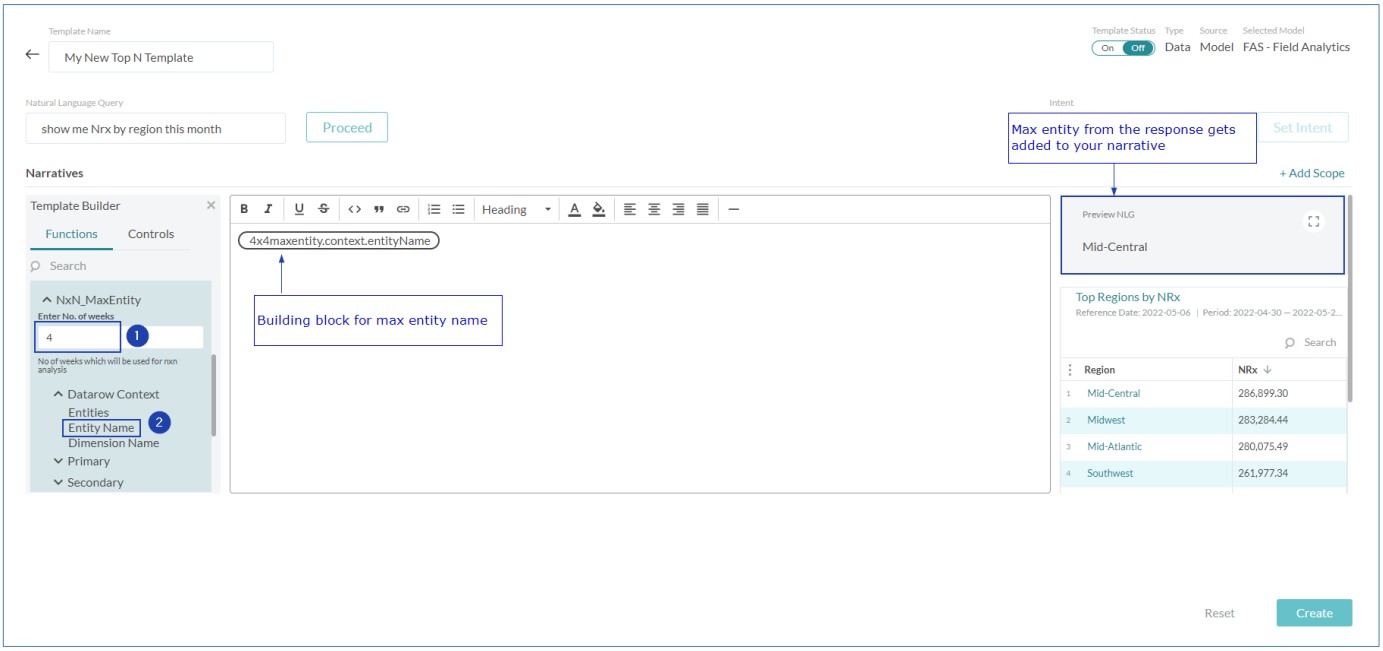
Click and select options are displayed as shown in the following figure.



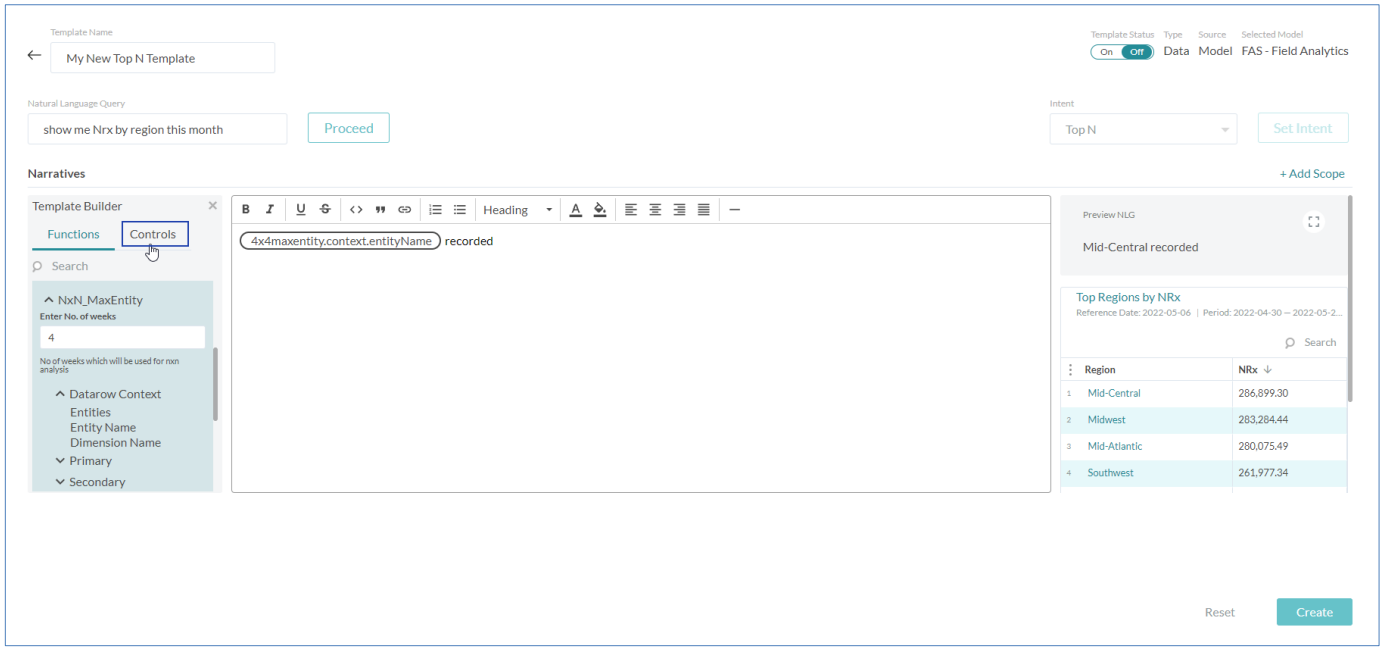
2. To create a narrative around weeks comparison for the top performing entity; click **NxN_MaxEntity**.



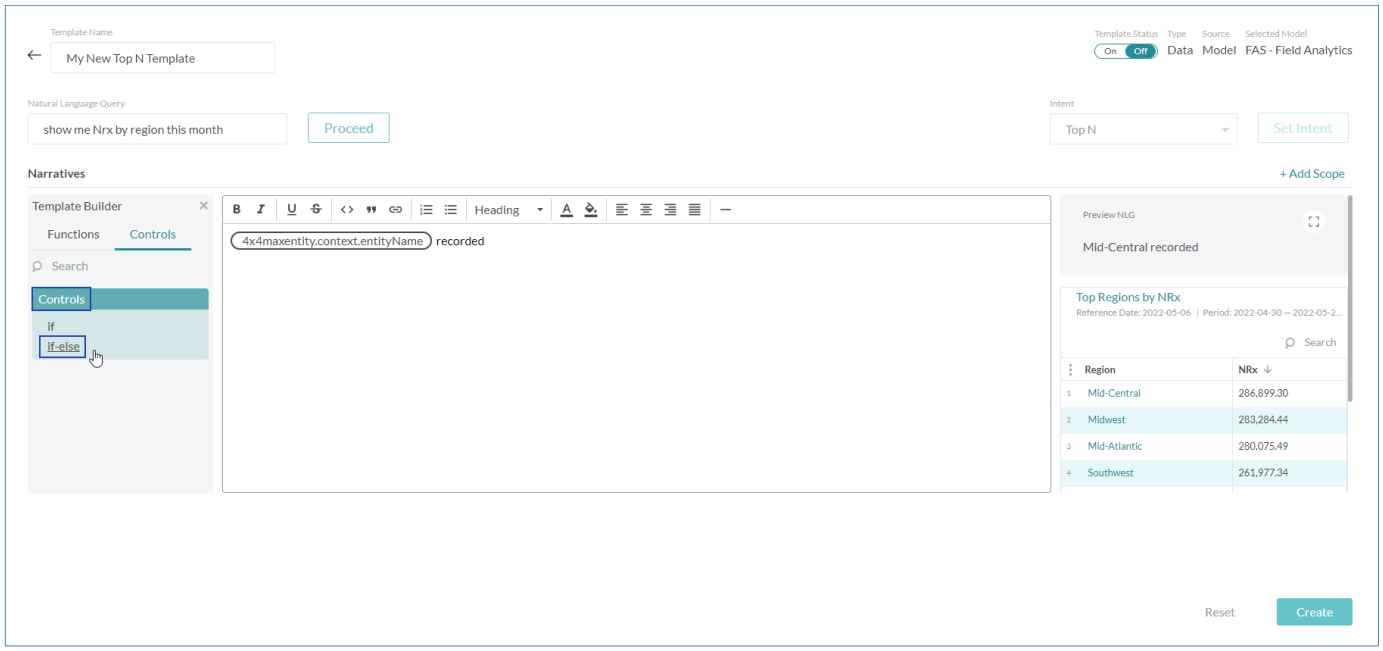
3. Enter number of weeks for comparison and then click **Entity Name** from the **Datarow Context**.



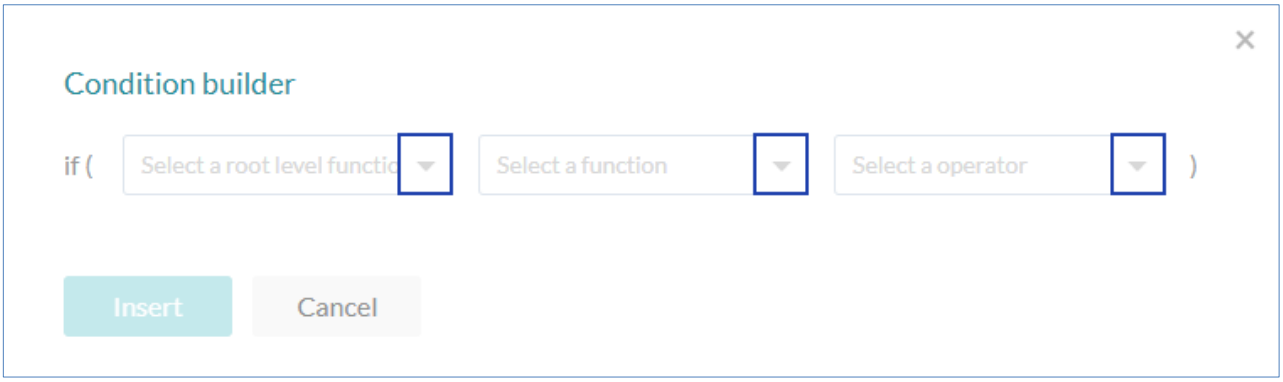
4. To use if-else conditions to add narrative around growth or decline; click **Controls**.



5. Click **Controls** and then click **If-else**.

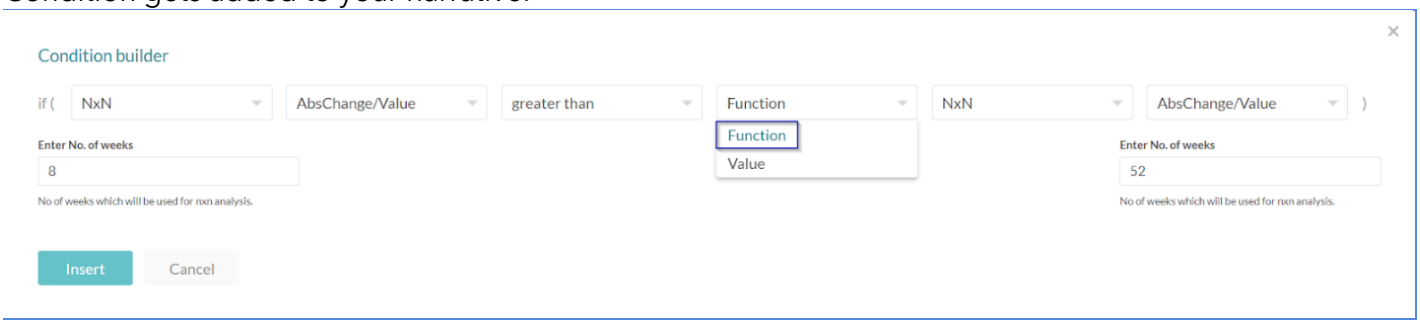


6. Select root level function, function, and operator from the respective dropdowns.

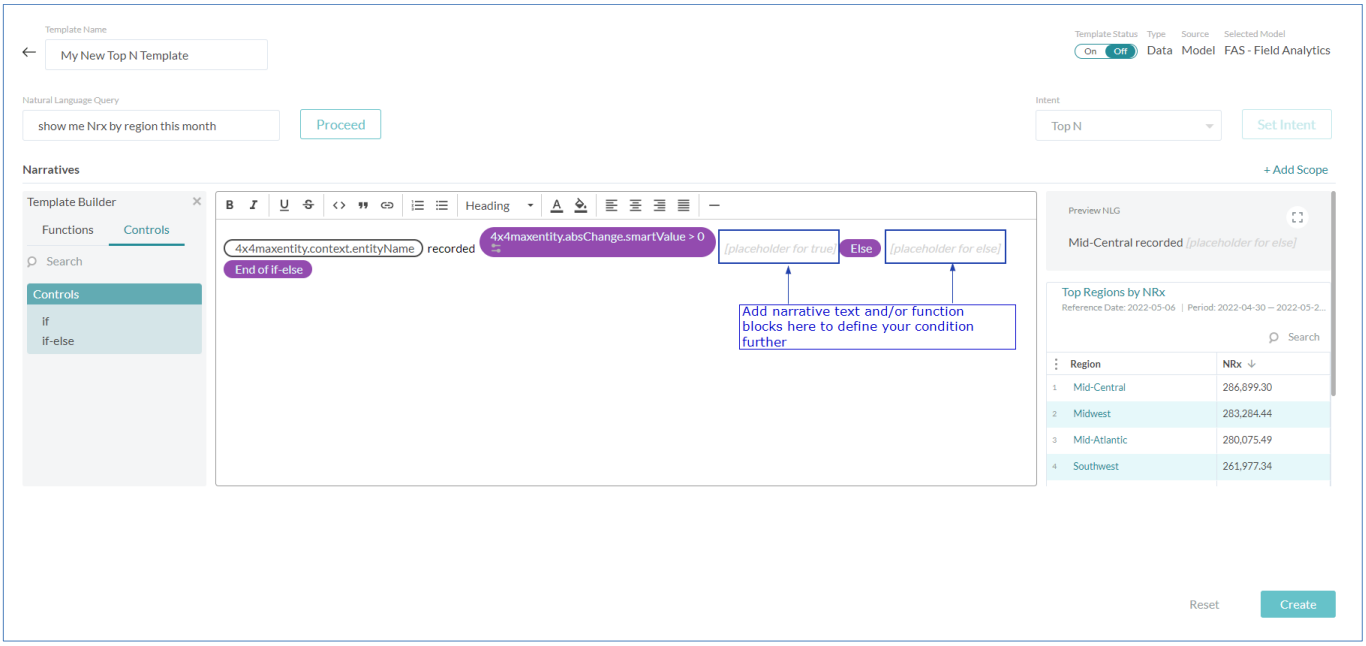


7. Enter condition argument, number of weeks for comparison and then click **Insert**.

   Condition gets added to your narrative.



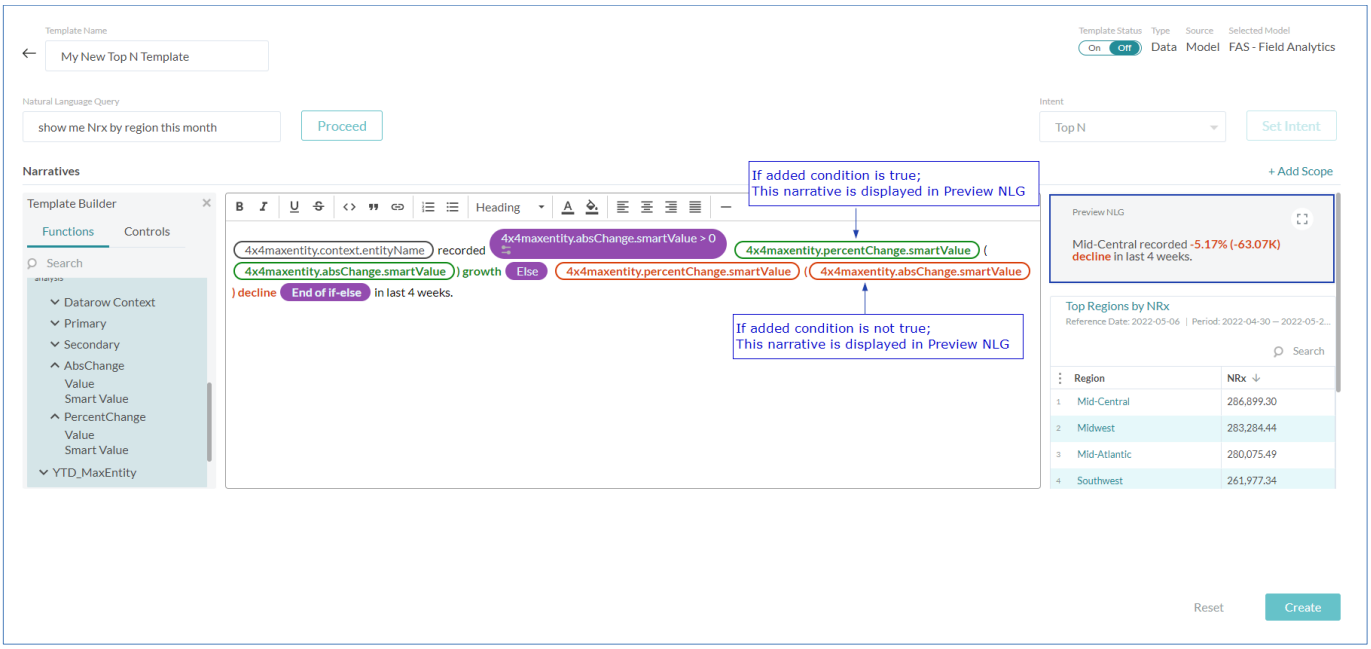
8. Now, you have to define the added condition by adding narrative text and/or function building blocks. Refer to the following figures.



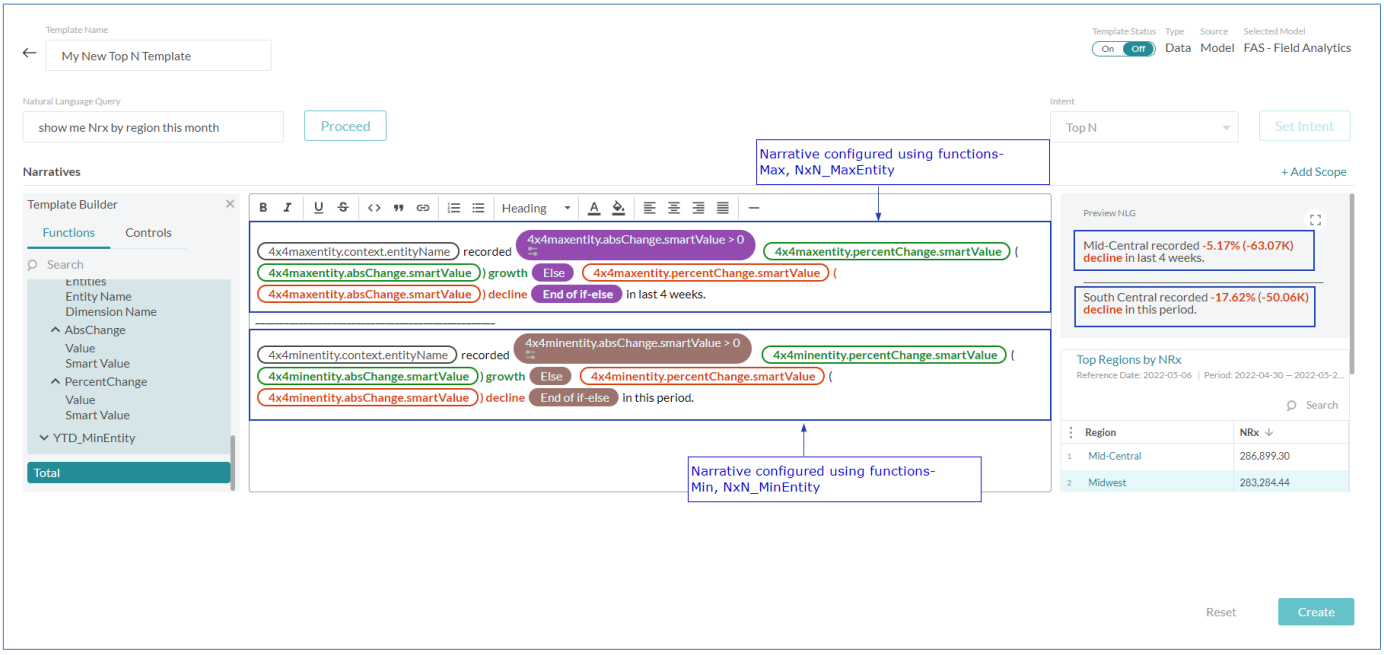
Similarly, you can configure the following types of example narratives:

- Short term (4 weeks) TRx growth 4.65% 50.61 K was higher than medium-term (13 weeks) 3.32 %
- Short term TRx growth was higher than log-term (52 weeks) 0.29% 41.68K

For information on use of if-else blocks refer to the following narrative examples.



9. Similarly, you can configure a narrative around **Min** functions. Refer to the following configured narrative.



10. Click **Create**, to save your template.

Similarly, you can follow the same steps to add templates for the following intents.

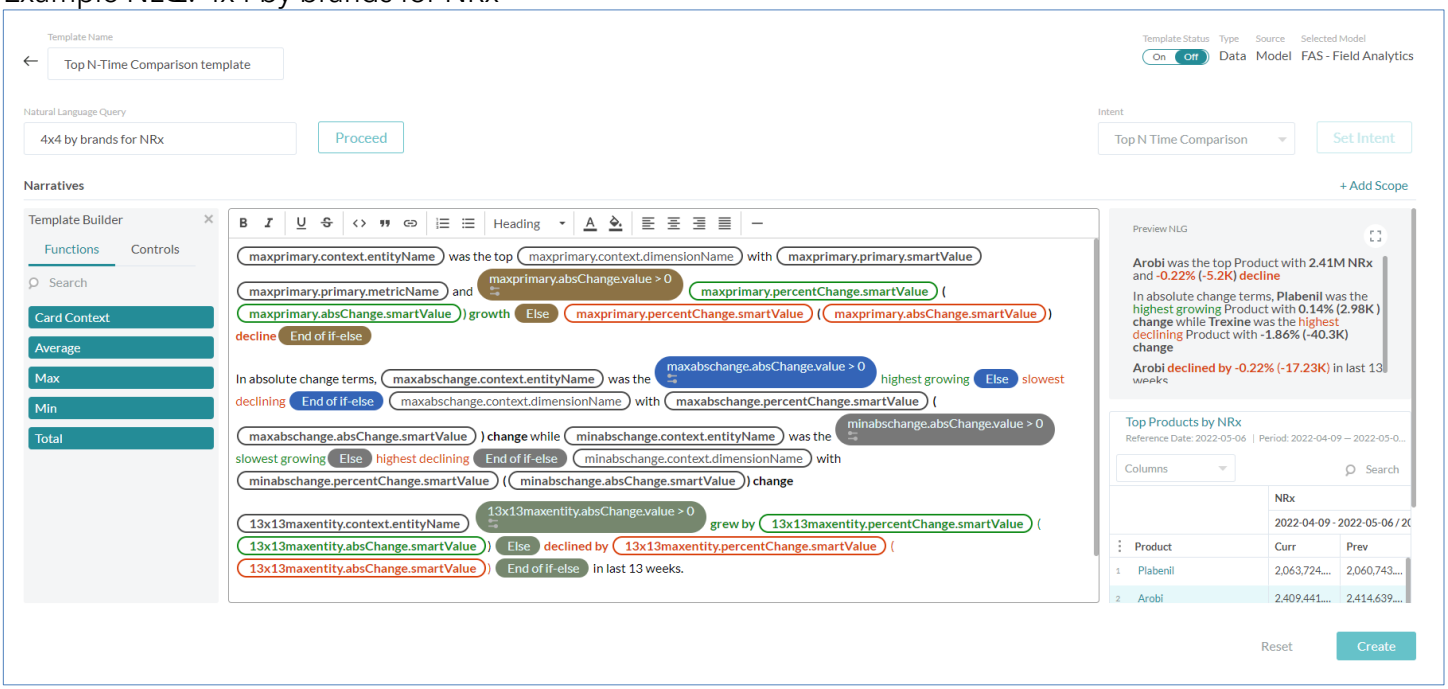
- Entity comparison
- Time Comparison
- Time Series
- Time Series Entity Comparison
- Time Series Time Comparison

- Multidimensional
- Multidimensional Time Series
- Top N
- Top N Entity Comparison
- Top N Time comparison
- Top N Time Series
- Bottom N
- Bottom N Entity Comparison
- Bottom N Time comparison
- Bottom N Time Series

For more information, you can refer to the following examples of configured narratives.

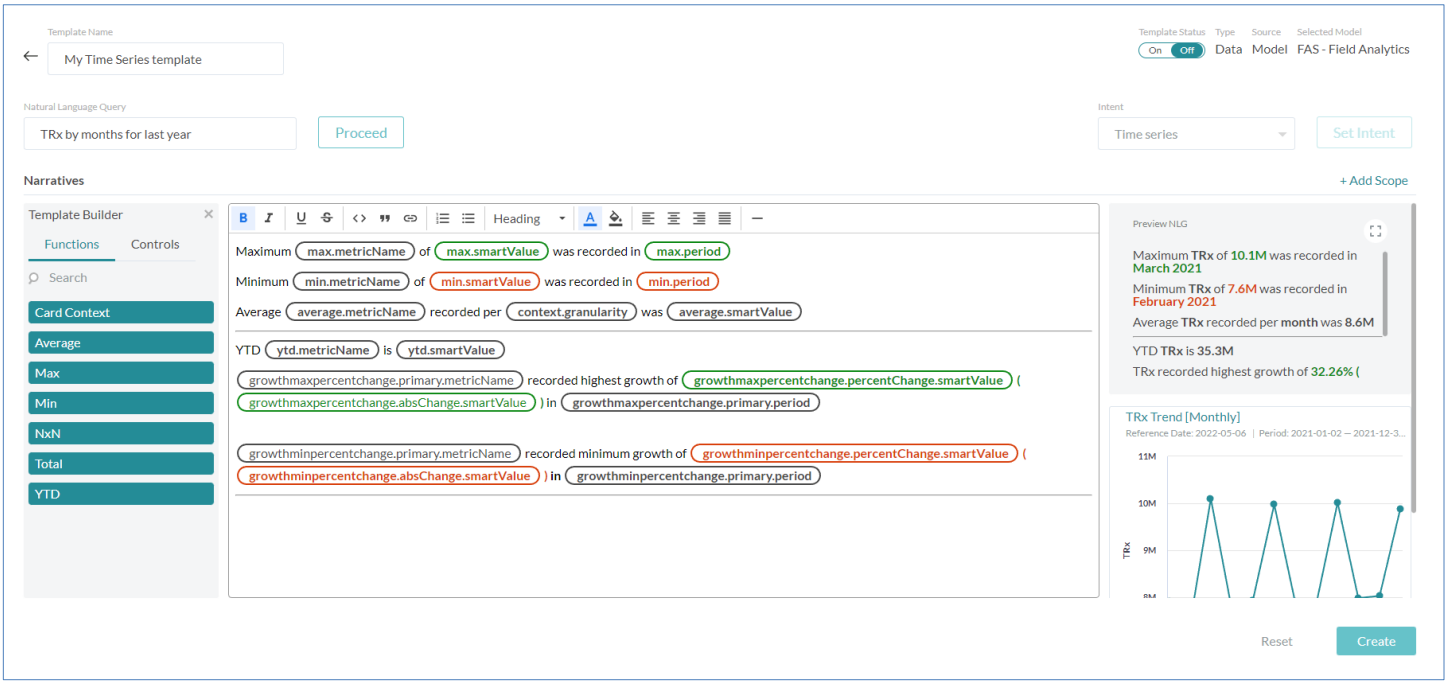
Example 1: Narratives for Top-N Time comparison intent

Example NLQ: 4x4 by brands for NRx



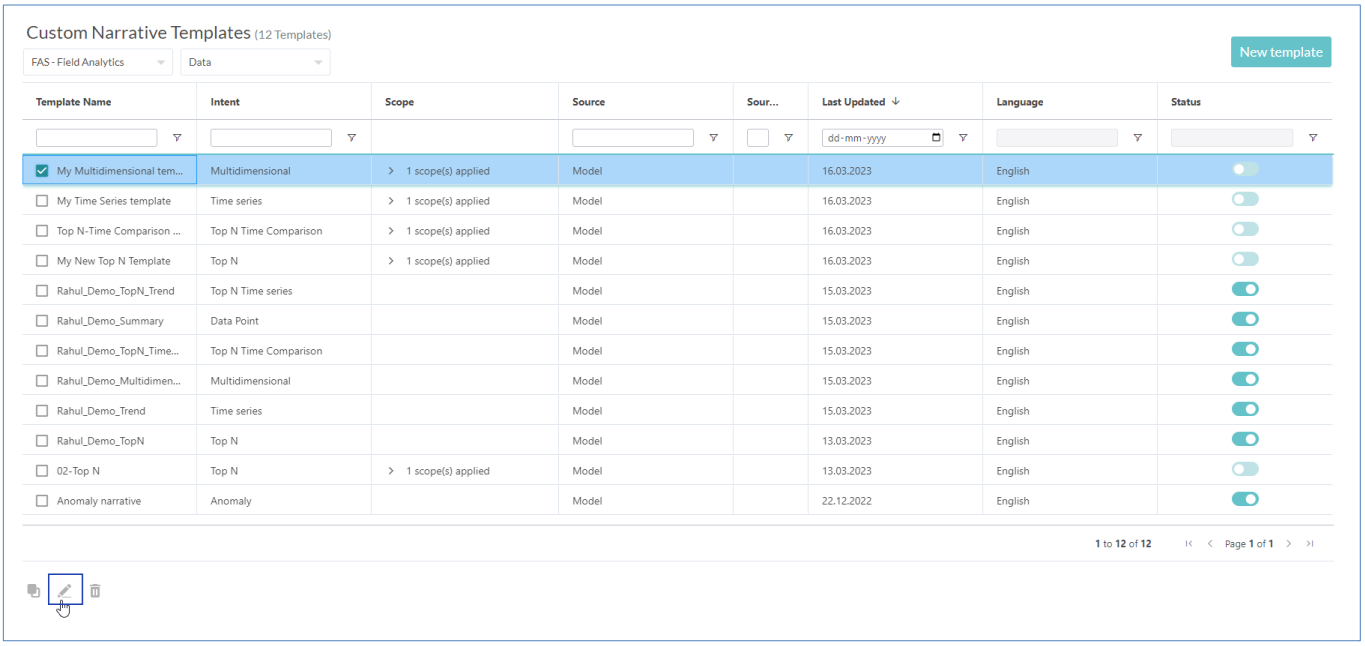
Example 2: Narratives for Time Series intent

Example NLQ: TRx by months for last year

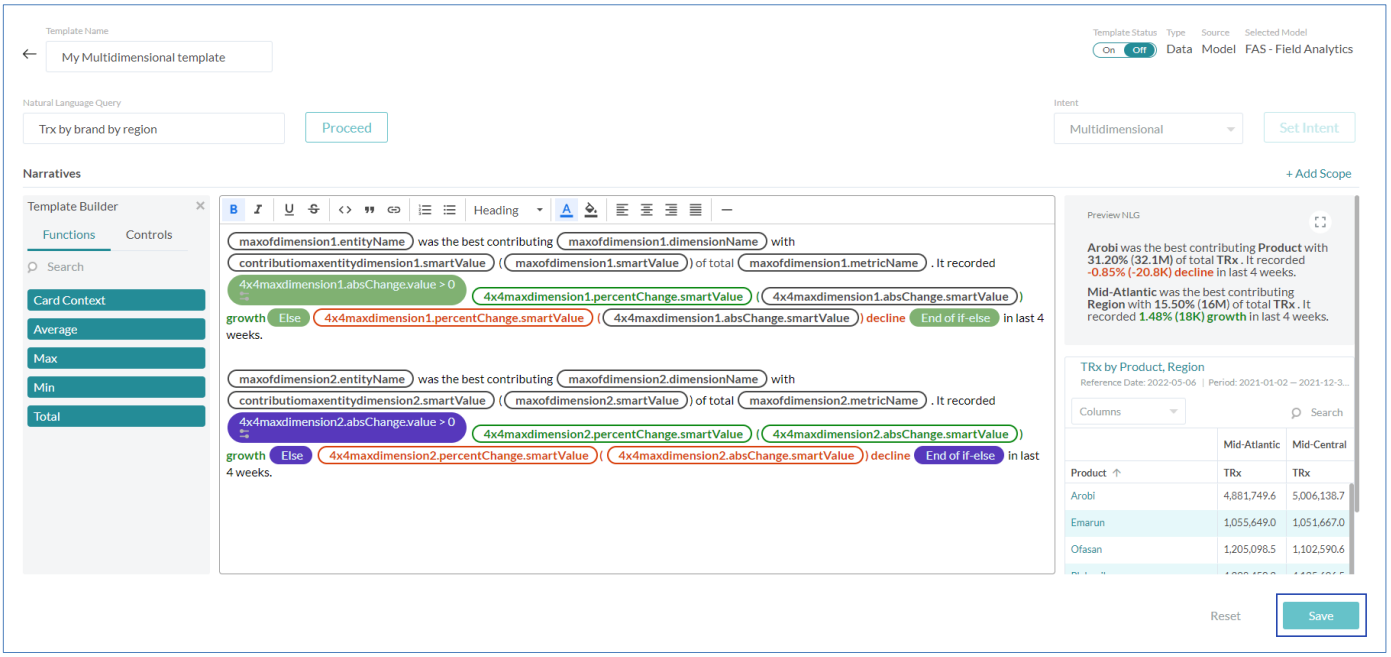


Editing a narrative template

1. From the **Admin** console go to the **NLP Workbench** > **Narrative Templates**.
2. Select the template that you want to edit and click the **Edit** option at the bottom as shown in the following figure.



3. Add or remove information in the **Narratives** section.
   You can also change the template scope to include different dimensions, metrics, entities, or instances.



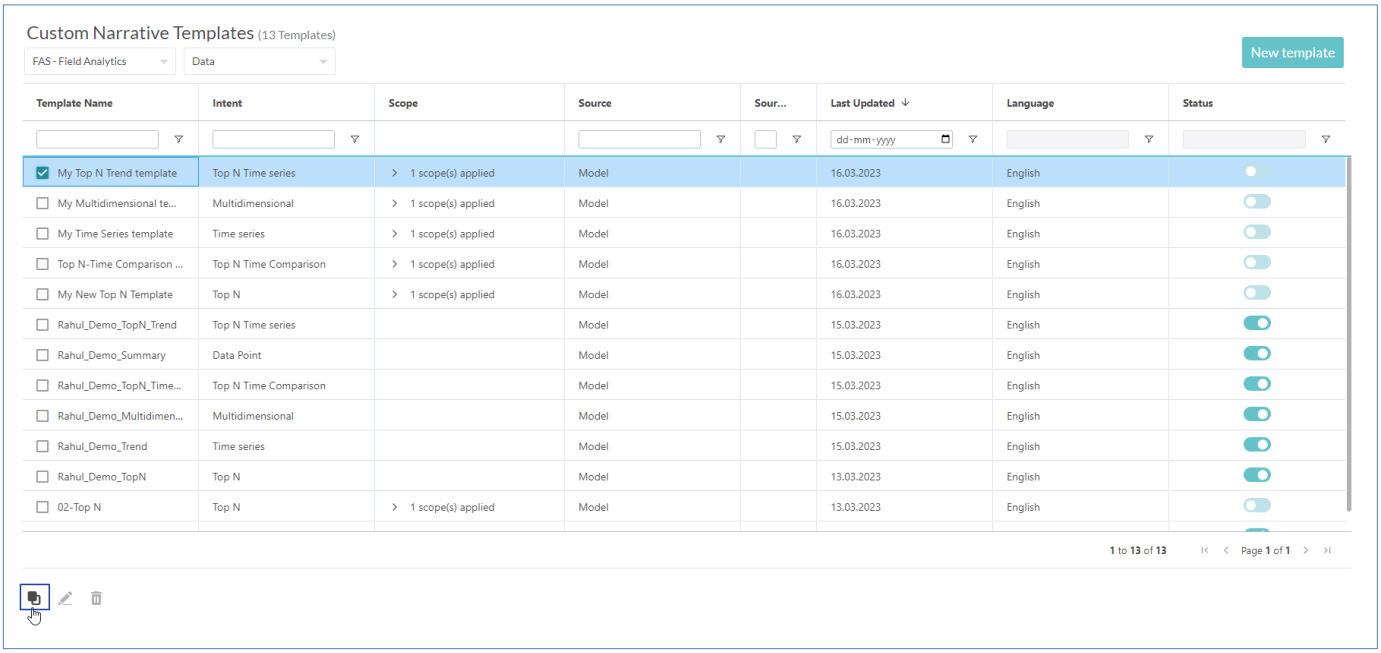
4. Click **Save**.

Cloning a narrative template

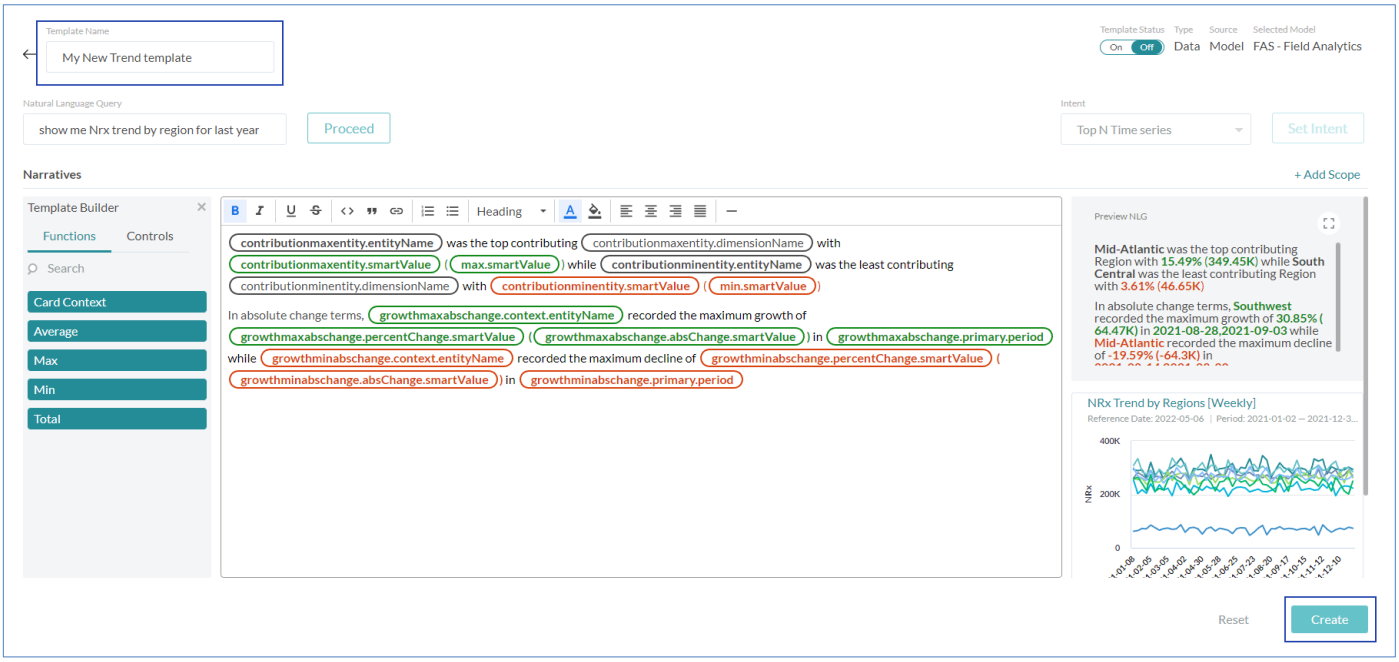
You can also clone a template, using the clone option you can copy the attributes and other data of the selected template, and you can create a new narrative template from this selected template.

To clone a template:

1. Select the template that you want to clone and click the **Clone** option at the bottom as shown in the following figure.



2. New template creation page opens, here you must add a new unique name for the template, and then you can change the narrative according to the requirement and click the **Create** option to create a new template.



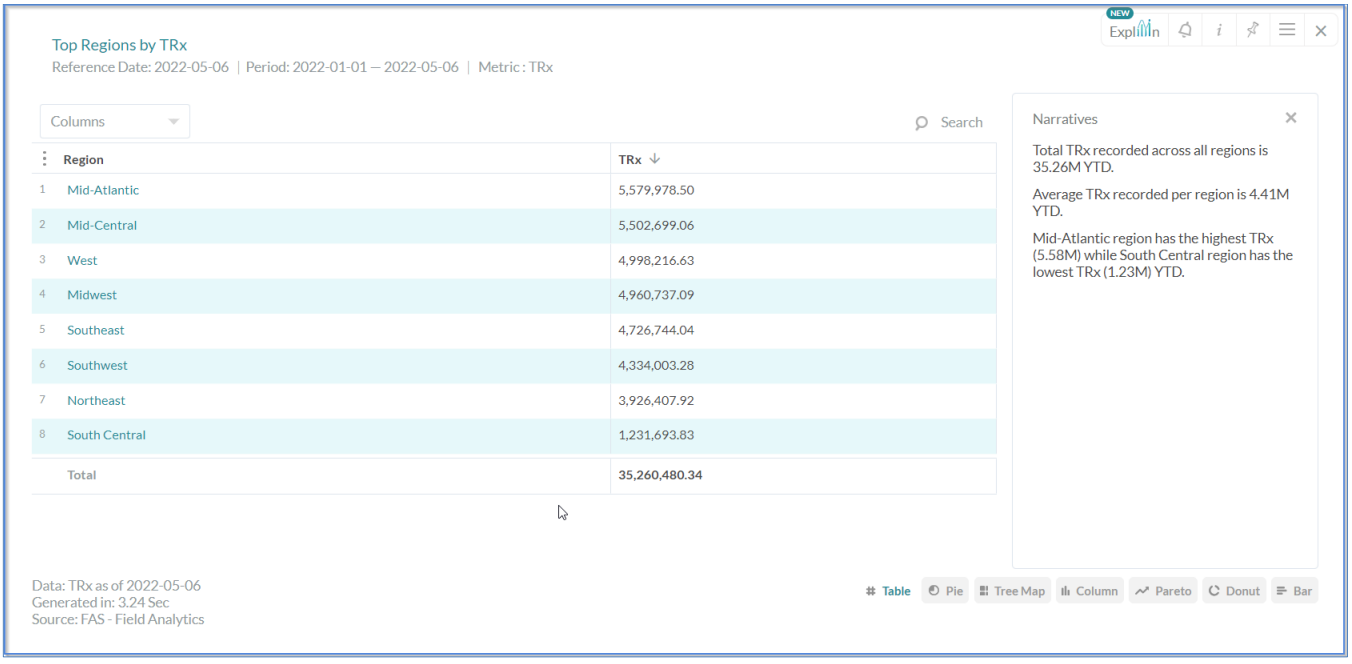
Customizing narratives displayed on a specific card on a pinboard

WhizAI allows you to customize the narratives shown on individual cards.

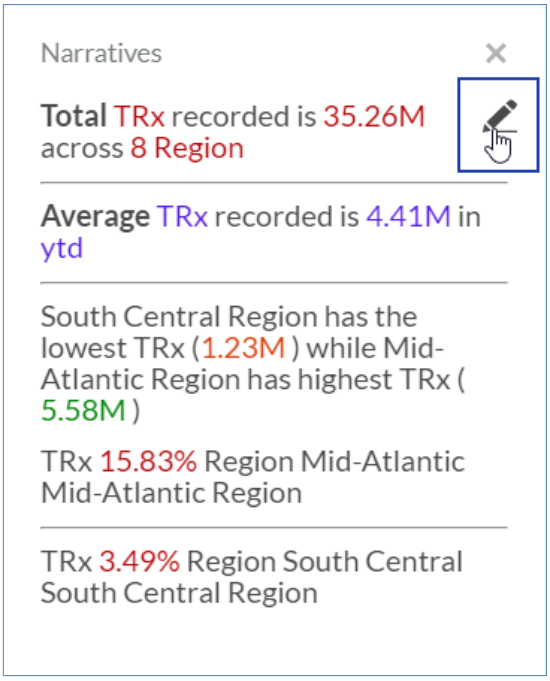
Note! These changes can be initiated from the Narratives options displayed on cards in pinboards only, not from responses.

To customize the narrative from the card:

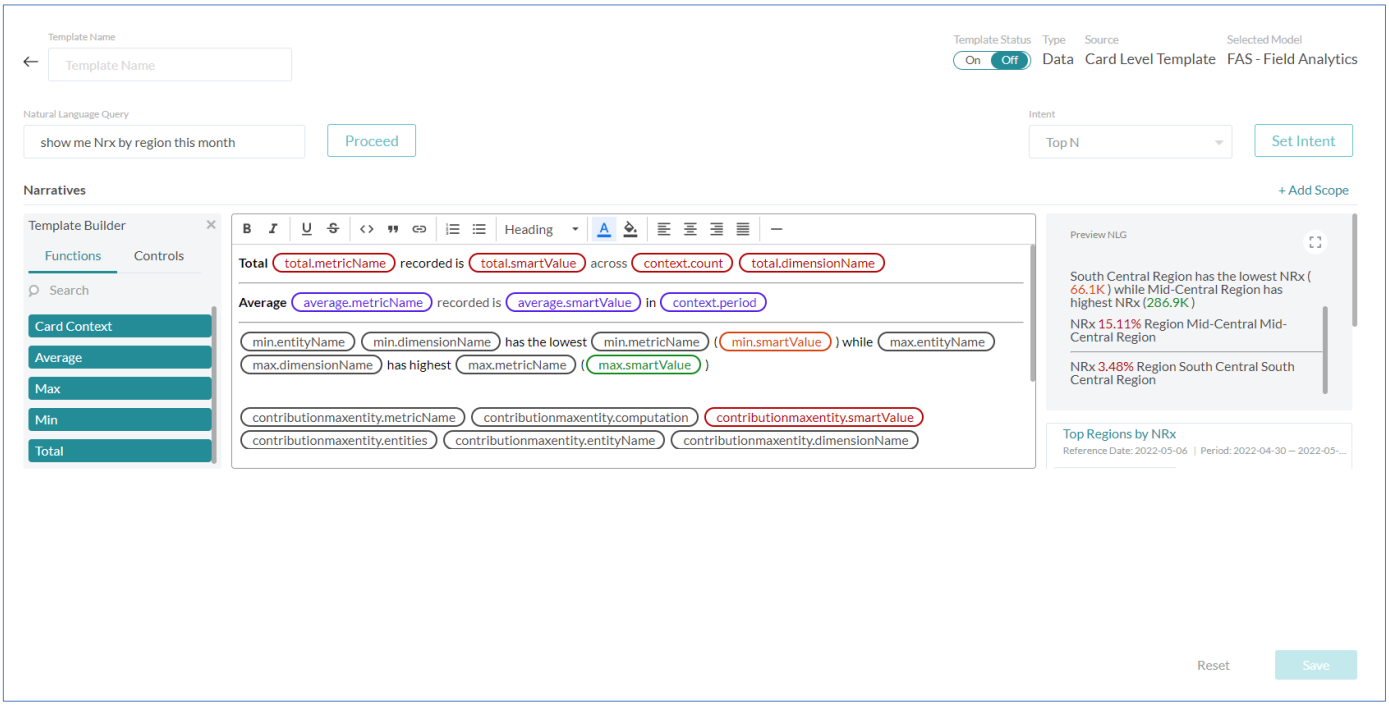
1. Go to the card on the pinboard and click the **Narratives** icon . Narrative is displayed as shown in the following figure.



2. Hover the cursor on the narrative; Edit option displays.

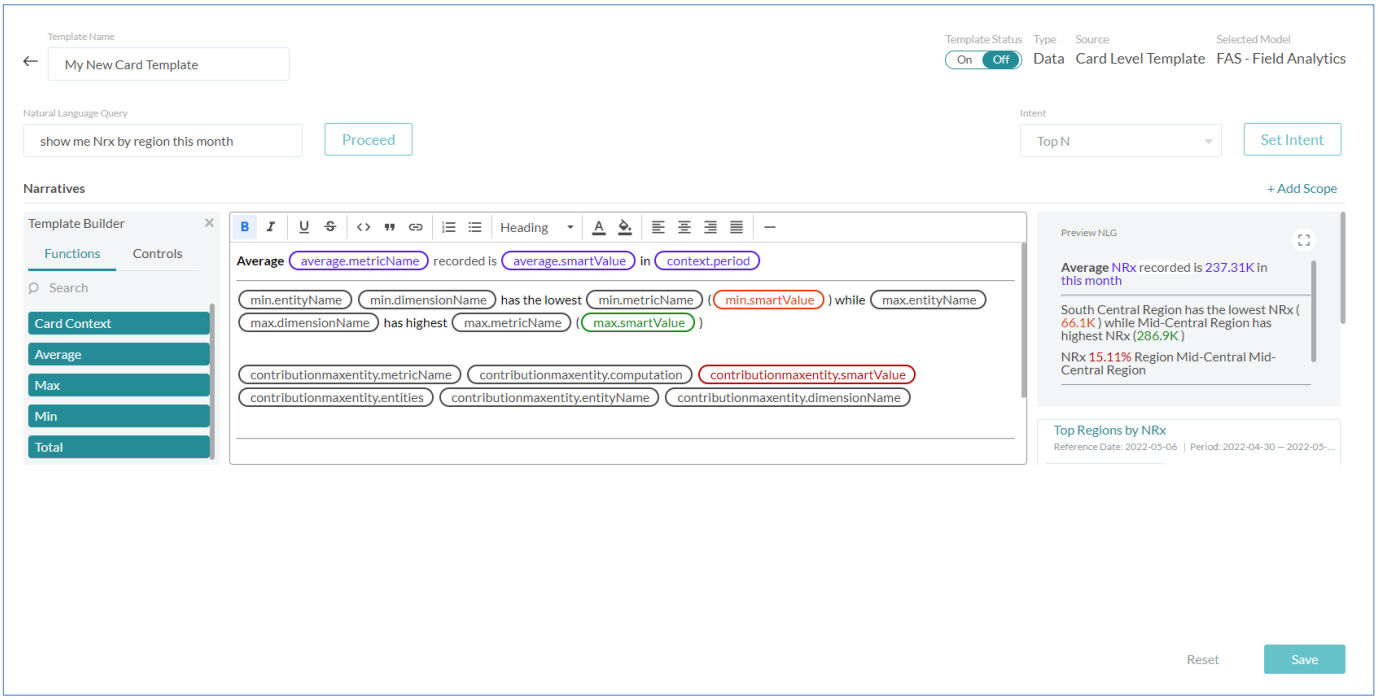


3. Click the **Edit** icon.
   The custom template that triggered the custom narrative opens as shown in the following figure.

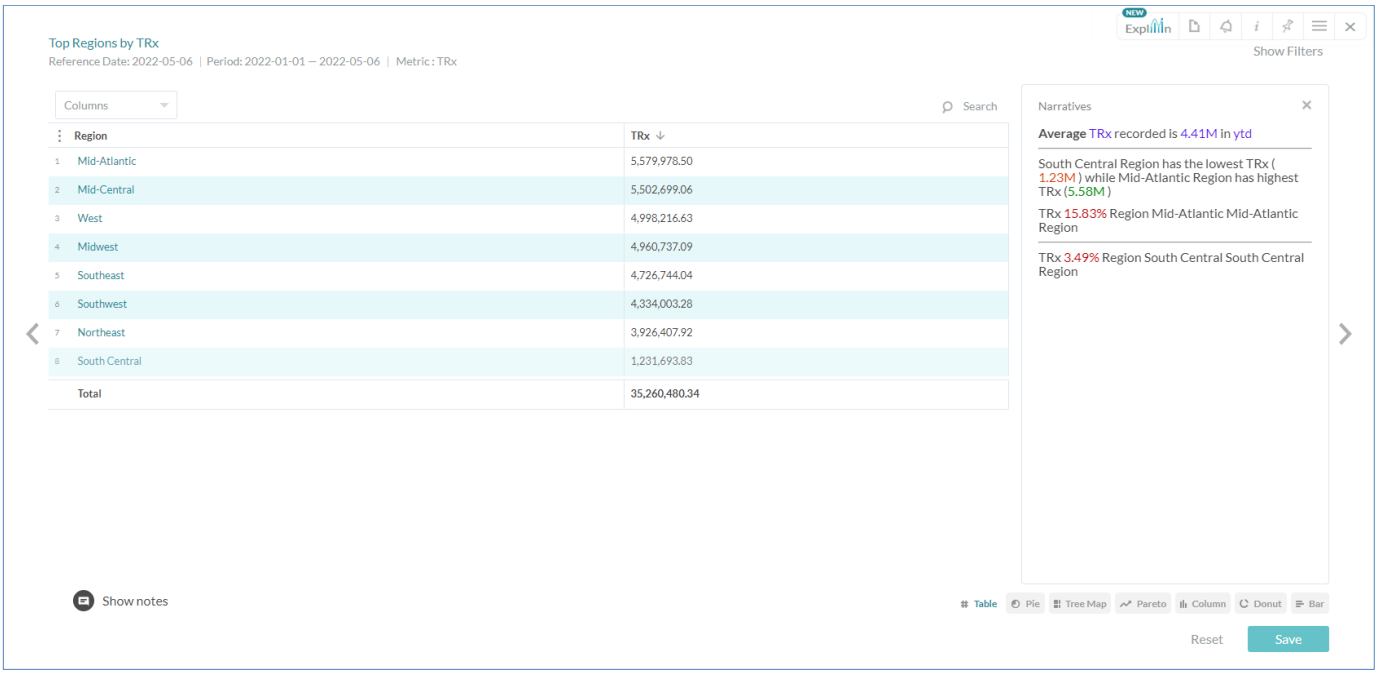


   If the card has Auto-generated narrative, and you click the **Edit** icon; a blank narrative template opens, and you can create a new card-level custom narrative using this template.

4. Edit the narrative, as required, and click **Save**.
   Change the template status to Active.

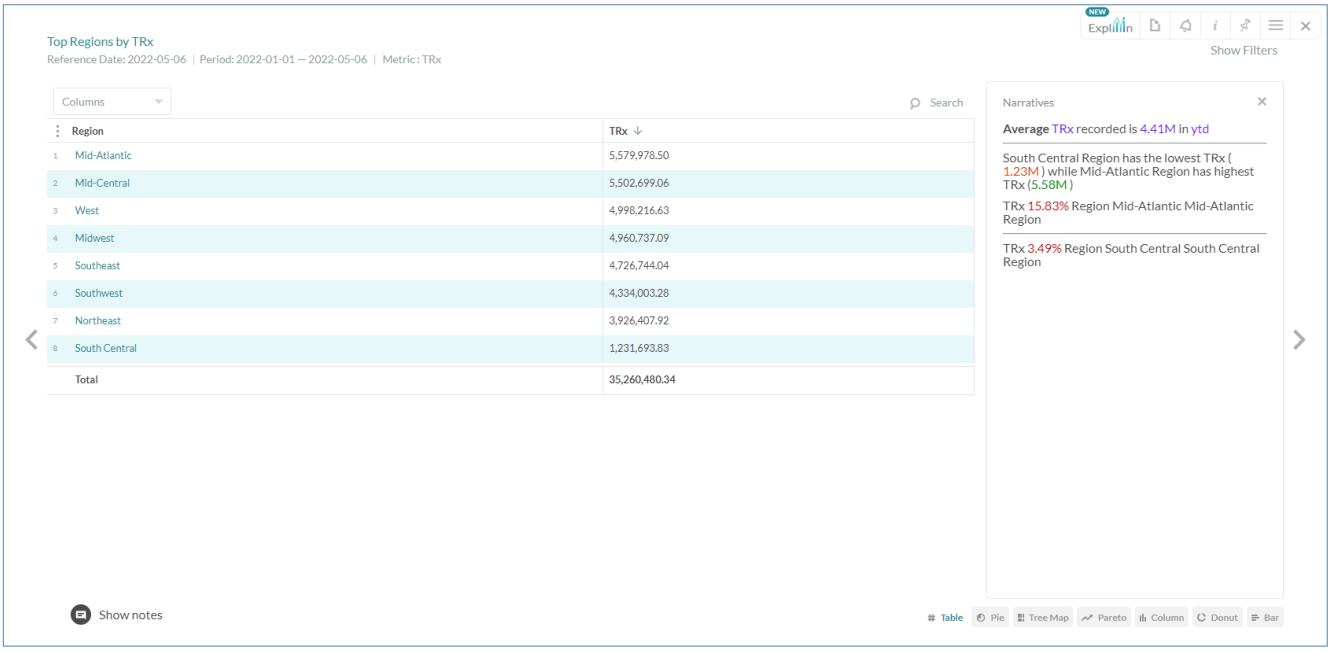


5. Go back to the card and open the narrative. The updated Narrative is displayed as shown in the following figure.



Note! If updated narrative is not displayed immediately, close the narrative dialog and open it again.

6. Click **Save** to save the card change.
Now, this updated narrative is attached to this card only.



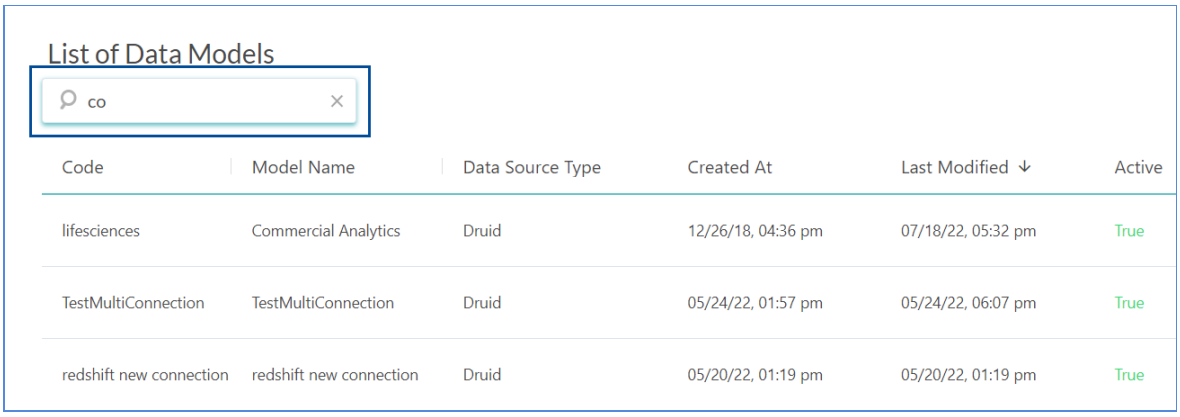
Note! If any action is performed on the card (for example: filter, drill down etc.), you have to refresh the narrative by closing the narrative dialog and opening it again.

Usability

The usability section consists of the common functions/operations used across the WhizAI UI.

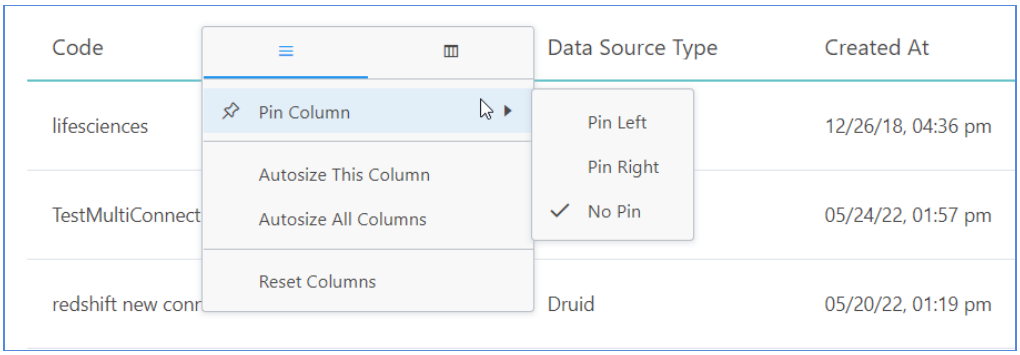
Searching

You can enter the name of the field that you want to search and hit the search icon. The system will search and display the records.



Pinning Columns to the Left /Right/No pin

On the first tab, you can pin a selected column to the left or right or select the no pin option.



Auto-size Column

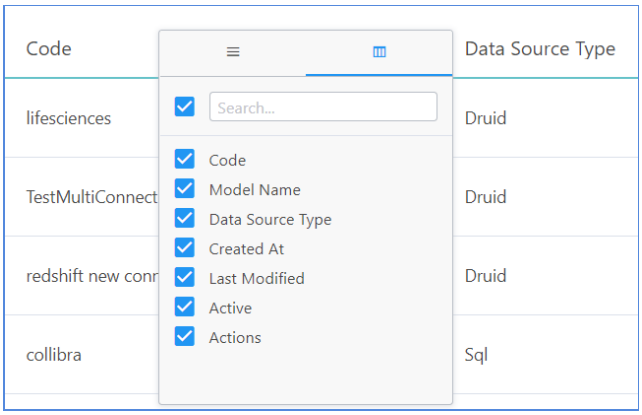
You can auto-size selected columns, or you have the option to auto-size all columns.

Reset Column

You can reset selected columns.

Hide/Show Columns

On the second tab, you can either hide columns or show columns you select.



Filtering

You can filter the records on all pages.
To apply filters to records:

1. Click the **Show Filters** button to make these filters visible.
2. In the filter fields, select the required value to display the records accordingly.
3. Click the **Reset Filters** button to view all records again.

Sorting

You can click the column headings to sort the values in ascending or descending order.
At a time, you can sort the records only by one column. The Up arrow indicates the sorting in ascending order. The Down arrow indicates the sorting in descending order.

Handbook

You can refer to a handbook available on the right side of the WhizAI application window.