Synchronoss Analytics Workbench

User Guide

Contents

1 SAW User Guide Overview

The Synchronoss Analytics Workbench (SAW) application is part of the Synchronoss Insights Platform (SIP) provides analysis and visualization from information collected from your data lake. SAW integrates with big data technologies to ingest, prepare, analyze or model, and visually report on key insights and Key Performance Indicators (KPIs).

Synchronoss SAW enables you to analyze and view the massive amounts of data at your disposal to iterate and optimize using your new insights quickly and with low latency rates. The SAW platform uses real-time and batch data ingestion, provides workflow and data preparation through your data pipeline, while applying descriptive and predictive analytics to provide visualization through interactive dashboards and adhoc analysis.

When SAW is fully matured, Alert modules alerts users when certain Key Performance Indicators (KPIs) go above or below threshold levels. The operations team and business owners show interest in knowing the anomalies or outliers.

The Synchronoss Analytics Workbench (SAW) application includes the following modules.

- The **Administrator module** is for Administrators only. In the Analyze model, Administrators set up Users who access SAW. Administrators also configure Categories and Sub-Categories to organize and store the analyses.
- The **Analyze module** enables you to create the analysis and analyze the data. The Analyze module visualizes the data sets using one of the three methods: Tabular Report, Pivots and Charts. You use the Analyze module to perform data exploration and analysis.

1.1 SAW Prerequisites

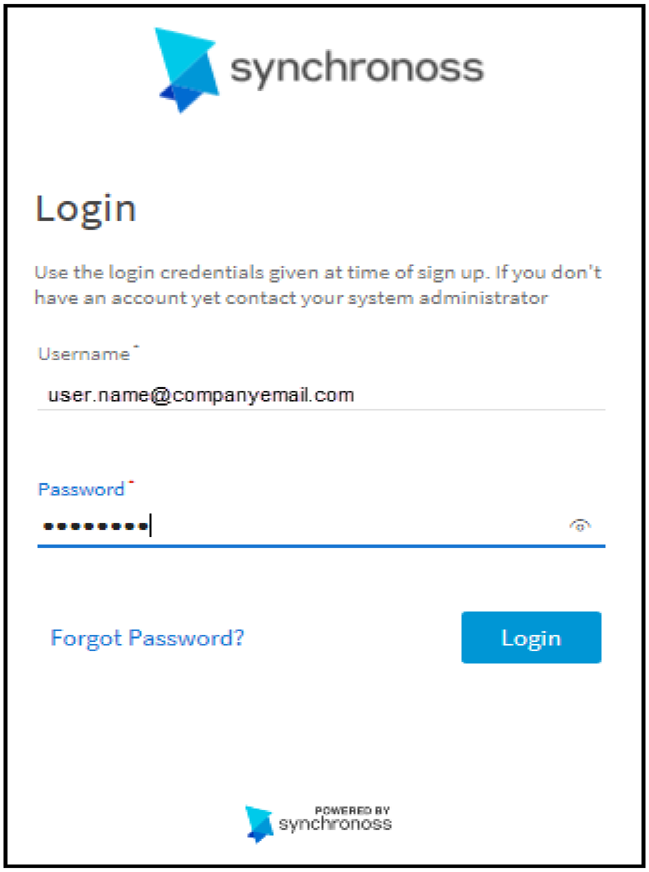
SAW requires the following:

1. Internet Connectivity
2. Recommended Browsers:
   - Google Chrome
   - Internet Explorer Version 10 or 11
   - Safari

1.2 Login to SAW

To login to SAW:

1. Launch a **browser**.
2. Enter the **URL**.
3. Enter your **Username**.
4. Enter your **Password**.
5. Select **Login**.



1.3 Log out of SAW

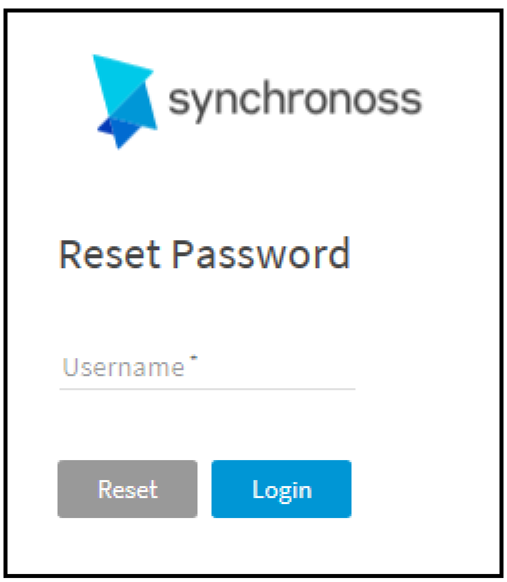
To log out of SAW:

1. Select the **Account Settings** icon in the upper corner of the screen. 
2. Select **Log out**.

1.4 Reset Password

If you forget your password:

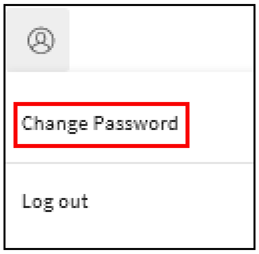
1. Launch your **browser**.
2. Enter the **URL**.
3. Select **Forgot Password**.
4. Enter your **Username**.
5. Select **Reset**.
6. Follow the instructions in the email.



1.5 Change SAW Password

To change your SAW password:

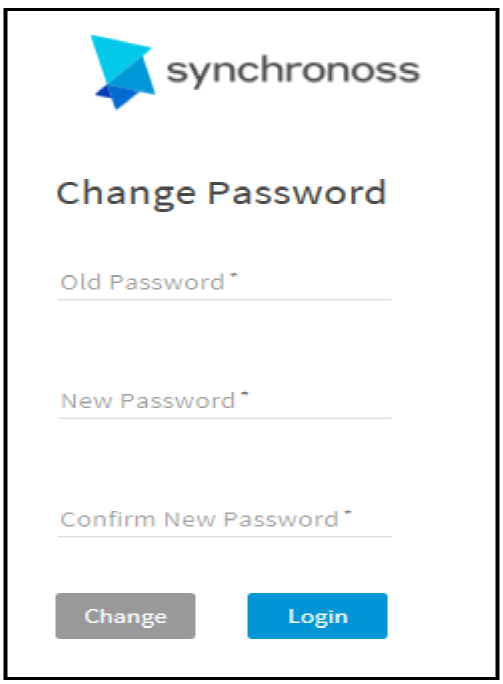
1. Select the **Account Settings** icon in the upper corner of the screen. 
2. Select **Change Password**.



3. Enter your **Old Password**.

Note: Refer to "Reset Password" on the previous page if you forgot your Old Password.

4. Enter your **New Password**.
5. **Confirm** your **New Password**.



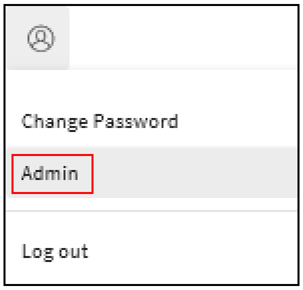
6. Select **Change** to use your new password or select **Login** to delete changes and login with your old password.

2 Administrator Module

The **Administrator module** is for Administrators only. In the Analyze model, Administrators set up Users who access SAW. Administrators also configure Categories and Sub-Categories to organize and store the analyses.

To open the Admin module:

1. Select the **Account Settings** icon in the upper corner of the screen.
2. Select **Admin**.



Note: You must have an Admin Role to access the Administrator module.

By default, the User Management screen displays.

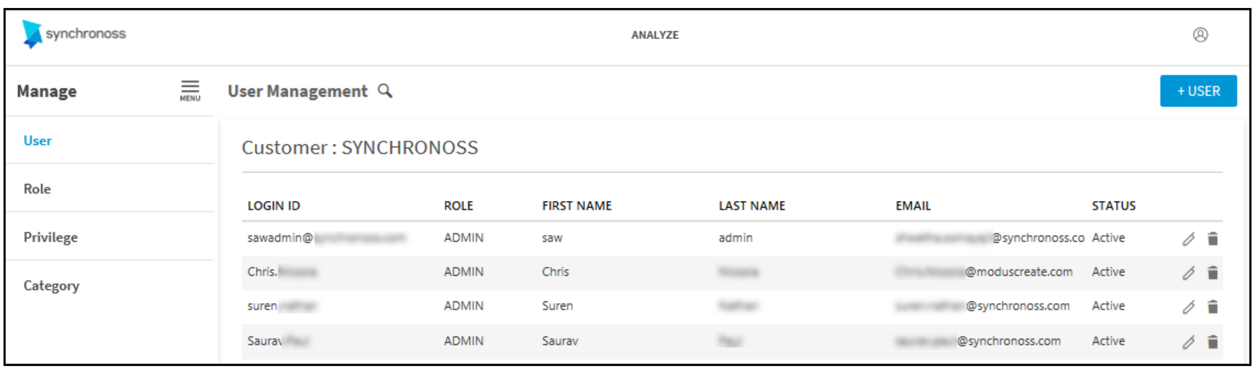


Figure 1: User Management

Note: Select the **column header** to change the sort order of the tables or hover over a column line to increase or decrease the size of the columns.

2.1 User Management

Users are the individuals that Administrators add to the SAW application. Users have different Roles to limit their access to the application functionality and data.

To view the User Management Administrator screen and manage Roles:

1. Select the **Account Settings** icon in the upper corner of the screen.
2. Select **Admin**. By default, the User Management screen displays or select **User** from the Manage menu.

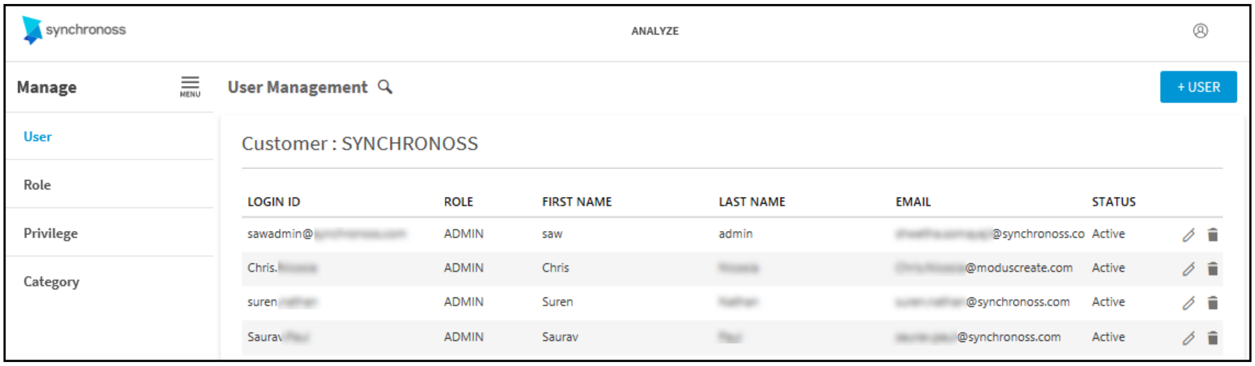


Figure 2: User Management

	Note: Select the column header to change the sort order.

User – Select to view current User information.

- **Login ID** – Login identification for the User.
- **Role** – User Role assigned.
- **First Name** – First name of the User.
- **Last Name** – Last name of the User.
- **Email** – Email address of the User.
- **Status** – Current status of the User: Active or Inactive.
- **+User** – Select to + USER add a new User. Refer to "Add User" on the next page.
- **Edit User** – Select to edit a User. Refer to "Edit User" on page 9.
- **Delete User** – Select to delete a User. Refer to "Delete User" on page 10.

2.1.1 ADD USER

To add a new SAW User:

1. Select the **Account Settings** icon in the upper corner of the screen.
2. Select **Admin**.
3. Select **+User**.

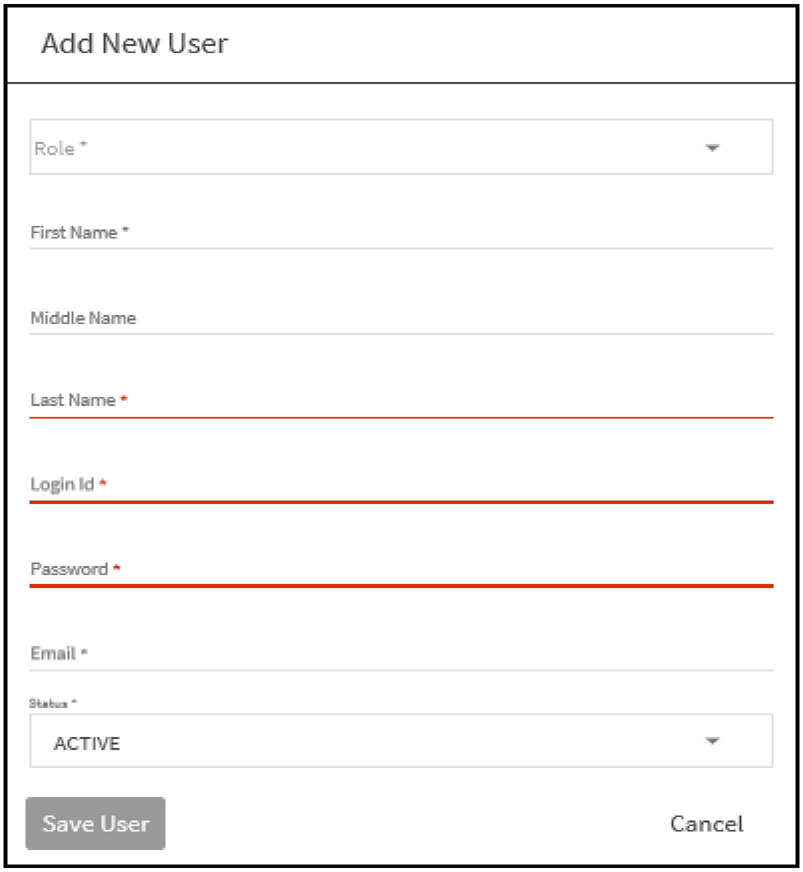


Figure 3: Add New User

4. Select the **Role** for the User.
   - **Admin**.
   - **User**.
5. Enter the User's **First Name**.
6. Enter the User's **Middle Name** (optional).
7. Enter the User's **Last Name**.
8. Enter the User's **Login id**.
9. Enter the User's **Password**.

Note:

- Passwords must have a minimum of 8 alphanumeric characters with 1 uppercase letter and 1 special character.
- Enter a generic password and have users change their passwords upon login.

10. Enter the User's **Email** address.
11. Select if the User **Status** is **Active** or **Inactive**.
12. Select **Save User**.

2.1.2 EDIT USER

To edit a current SAW User:

1. Select the **Account Settings** icon in the upper corner of the screen.
2. Select **Admin**.
3. Select **+User**.
4. Select next to the User you desire to edit.

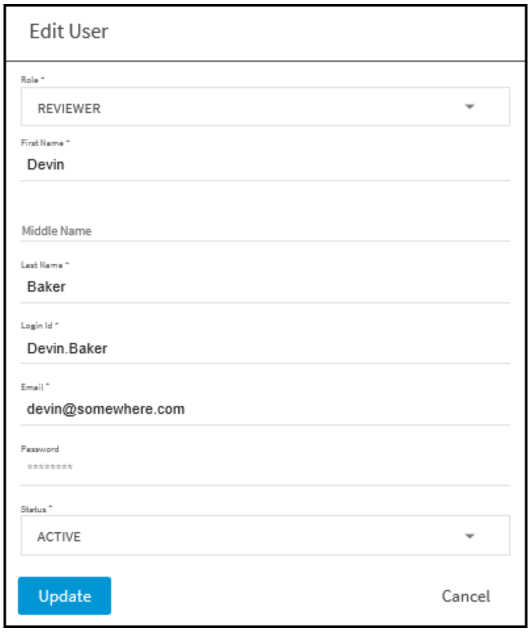


Figure 4: Edit User

5. Change the **Role** for the User.
   - **Admin**.
   - **User**.
6. Change the User's **First Name**.
7. Change the User's **Middle Name** (optional).
8. Change the User's **Last Name**.
9. Change the User's **Login id**.
10. Change the User's **Password**.

Note: Passwords must have a minimum of 8 alphanumeric characters with 1 uppercase letter and 1 special character.

11. Change the User's **Email** address.
12. Change if the User **Status** to **Active** or **Inactive**.
13. Select **Update**.

2.1.3 DELETE USER

To delete a current SAW User:

1. Select the **Account Settings** icon in the upper corner of the screen.
2. Select **Admin**.
3. Select **+User**.
4. Select next to the User you desire to delete.

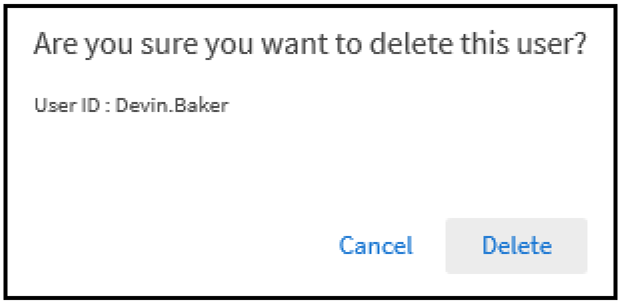


Figure 5: Delete User

5. Select **Delete**.

2.2 Role Management

Set up Roles to control the access level to the SAW application's features. Administrators configure Privileges to different Sub-Categories.

To view the Role Management Administrator screen:

1. Select the **Account Settings** icon in the upper corner of the screen.
2. Select **Admin**.
3. Select **Role** from the Manage menu.

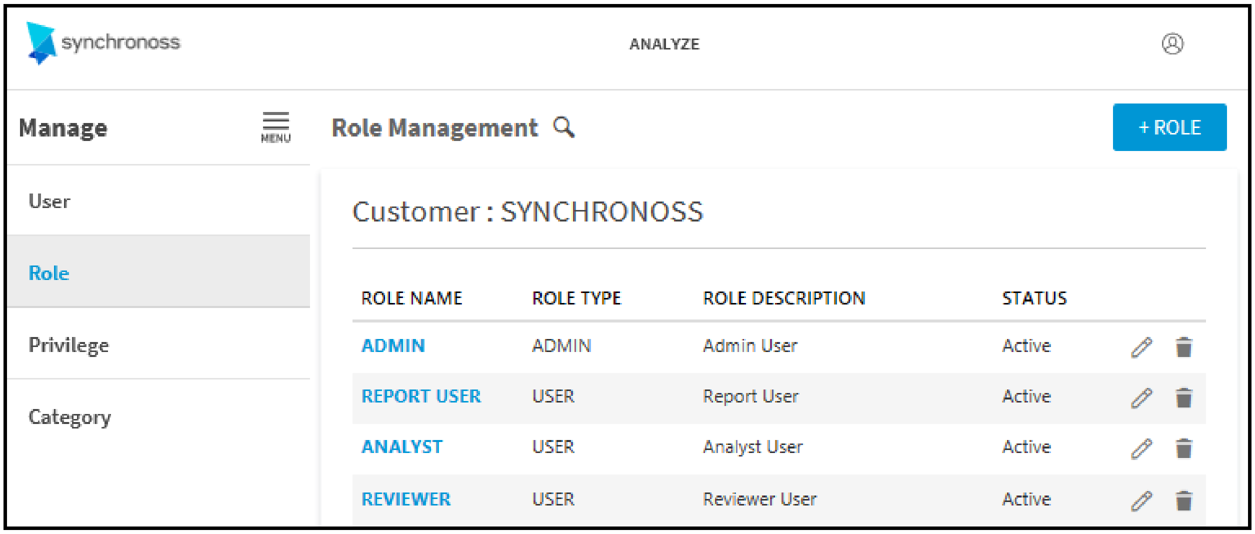


Figure 6: Role Management

Note: Select the column header to change the sort order.

Role Management – Select to view current Role information.

- **Role Name** - Name of the User Role.
- **Role Type** - Admin (Administrator) or User level. Admin has access to the Account Settings > Admin module.
- **Role Description** - Description of Role type.
- **Status** – Current status of the User: Active or Inactive.
- **+Role** – Select to + ROLE add a new Role. Refer to "Add Role" on the next page.
- **Edit Role** – Select to edit a Role. Refer to "Edit Role" on page 13.
- **Delete Role** – Select to delete a Role. Refer to "Delete Role" on page 14.

2.2.1 ADD ROLE

To add a new Role:

1. Select the **Account Settings** icon in the upper corner of the screen. 
2. Select **Admin**.
3. Select **+Role**.

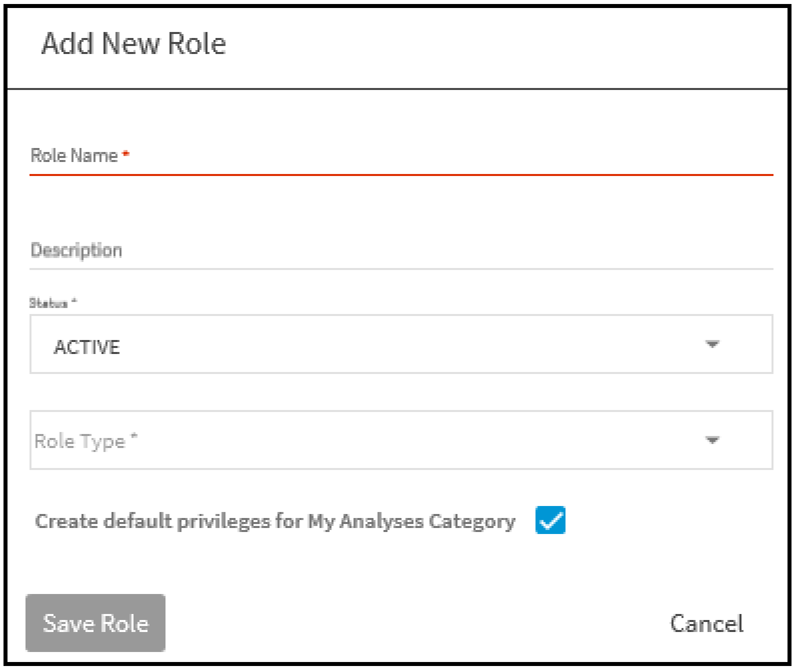


Figure 7: Add Role

4. Enter the **Role Name**.
5. Enter the **Description** defining the Role.
6. Select if the Role's **Status** is **Active** or **Inactive**.
7. Select if the **Role Type** as an **Admin** (Administrator) or **User** level. Admin has access to the Account Settings > Admin module.
8. Select **Create default privileges for My Analysis Category** to automatically grant full permissions for the new role to all sub-categories in the “My Analysis” category.
9. Select **Save Role**.

2.2.2 EDIT ROLE

To edit a Role:

1. Select the **Account Settings** icon in the upper corner of the screen.
2. Select **Admin**.
3. Select **+Role**.
4. Select next to the Role you desire to edit.

Figure 8: Edit Role

5. Change the **Role Name**.
6. Change the **Description** defining the Role.
7. Change if the Role's **Status** is **Active** or **Inactive**.
8. Change if the **Role Type** is an **Admin** (Administrator) or **User** level. Admin has access to the Account Settings > Admin module.
9. Select **Update**.

2.2.3 DELETE ROLE

To delete a Role:

1. Select the **Account Settings** icon in the upper corner of the screen.
2. Select **Admin**.
3. Select **+Role**.
4. Select next to the Role you desire to delete.

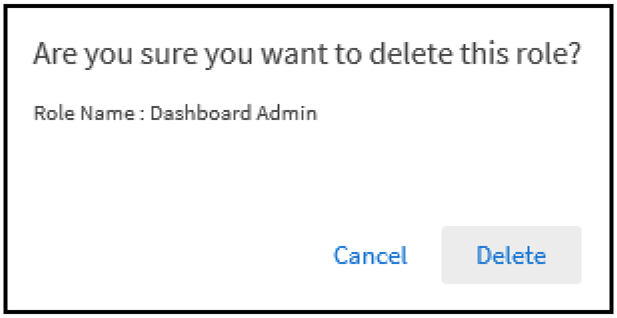


Figure 9: Delete Role

5. Select **Delete**.

2.3 Privilege Management

Administrators configure Privileges to different Roles to determine their access to Categories and Sub-Categories.

To view the Privilege Management screen:

1. Select the **Account Settings** icon in the upper corner of the screen.
2. Select **Admin**.
3. Select **Privilege** from the Manage menu.

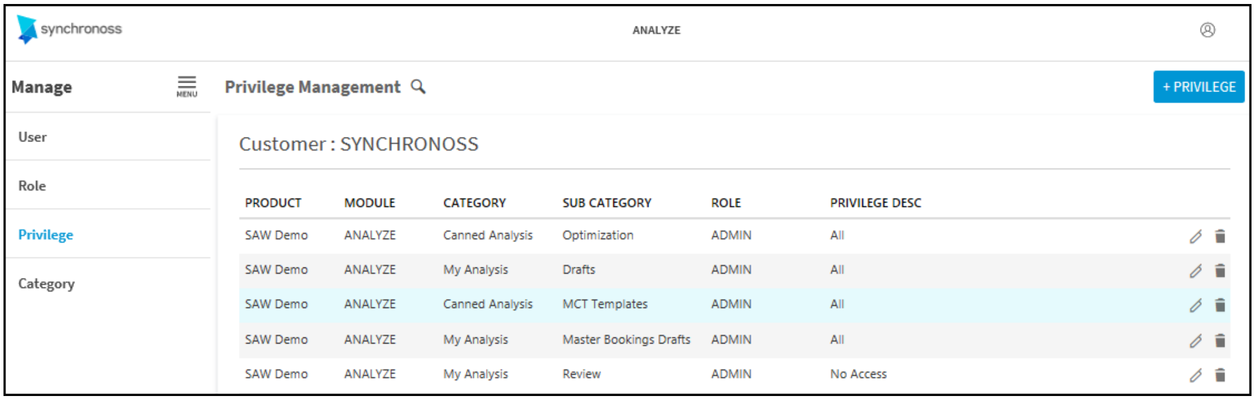


Figure 10: Privilege Management

Note: Select the column header to change the sort order.

Privilege – Select to view current Privilege information.

- **Product** - Product associated with the Privilege.
- **Module** - Analyze module creates the analysis and analyze the data. Observe module populates data from the Analyze module.
- **Category** - Category associated with the Privilege. Refer to "Category Management" on page 20.
- **Sub Categories** - Sub Category associated with the Privilege. Refer to "Category Management" on page 20.
- **Role** - Current Role assigned to the Privilege: Admin (Administrator) or User level. Refer to "Role Management" on page 11.
- **Privilege Desc** – Detailed description of the Privilege.
- **+Privilege** – Select + PRIVILEGE to add a new Privilege. Refer to "Add Privilege" on the next page.
- **Edit Privilege** – Select to edit a Privilege. Refer to "Edit Privilege" on page 18.
- **Delete Privilege** – Select to delete a Privilege. Refer to "Delete Privilege" on page 19.

2.3.1 ADD PRIVILEGE

To add a new Privilege:

1. Select the **Account Settings** icon in the upper corner of the screen.
2. Select **Admin**.
3. Select **+Privilege**.

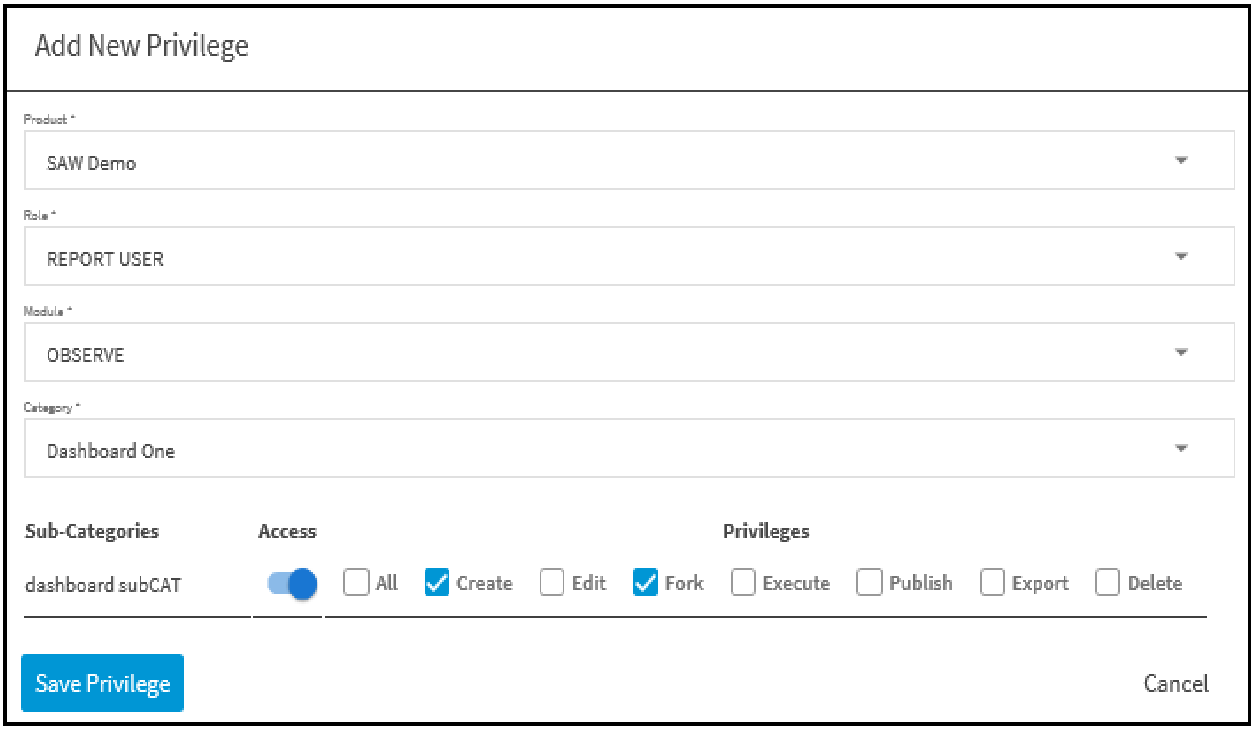


Figure 11: Add Privilege

4. Select the **Product** to associate with the Privilege.
5. Select if the **Role** as an **Admin** (Administrator) or **User** level. Admin has access to the Account Settings > Admin module. Refer to "Role Management" on page 11.
6. Select the **Module** defining the Privilege. Analyze module creates the analysis and analyze the data. The Observe module populates data from the Analyze module.
7. Select the **Category** assigned to the Privilege. Refer to "Category Management" on page 20.
8. Select the **Sub-Category** assigned to the Privilege to determine access to specific Sub-Categories.
   - **Access** – Turn on to enable the Privilege to perform the following:
     - **All** – Select to Create, Edit, and Fork all Privileges.
     - **Create** – Create Privileges.
     - **Edit** – Edit Privileges.
     - **Fork** – Copy Privileges.

- **Privileges** – Turn on to enable the Privilege to perform the following:
  - **Execute** – Run and refresh the results in Analyze module to acquire the latest data for an analysis.
  - **Publish** – Publish the data to a shared sub-category. Publish enables you to move an item to a different sub-category. Publish also gives you the ability to create, edit, remove a schedule for automatic recurring execution.
  - **Export** – Export data and download it your computer via the browser. The format depends on where you are in the application: CSV for reports and Excel (XLSX) for pivot data.
  - **Delete** – Delete the data.

9. Select **Save Privilege**.

2.3.2 EDIT PRIVILEGE

To edit a Privilege:

1. Select the **Account Settings** icon in the upper corner of the screen.
2. Select **Admin**.
3. Select **+Privilege**.
4. Select next to the Privilege you desire to edit.

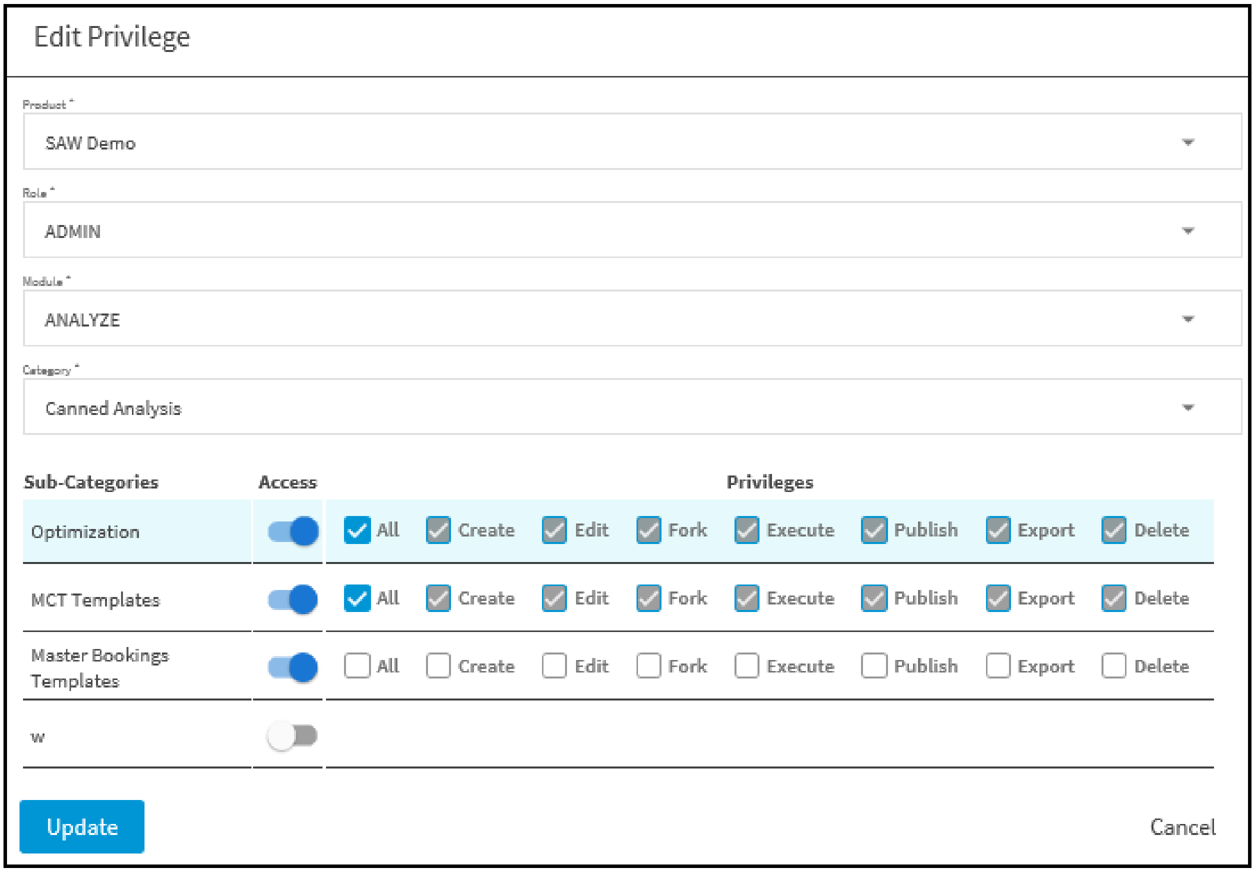


Figure 12: Edit Privilege

5. Change the **Product** to associate with the Privilege.
6. Change if the **Role** as an **Admin** (Administrator) or **User** level. Admin has access to the Account Settings > Admin module. Refer to "Role Management" on page 11.
7. Change the **Module** defining the Privilege. Analyze module creates the analysis and analyze the data. The Observe module populates data from the Analyze module.
8. Change the **Category** assigned to the Privilege. Refer to "Category Management" on page 20.
9. Change the **Sub-Categories** as assigned to the Privilege to determine access to specific Sub-Categories.
   - **Access** – Turn on to enable the Privilege to perform the following:
     - **All** – Select to Create, Edit, and Fork all Privileges.
     - **Create** – Create Privileges.
     - **Edit** – Edit Privileges.
     - **Fork** – Copy Privileges.

- **Privileges** – Turn on to enable the Privilege to perform the following:
  - **Execute** – Run and refresh the results in Analyze module to acquire the latest data for an analysis.
  - **Publish** – Publish the data to a shared sub-category. Publish enables you to move an item to a different sub-category. Publish also gives you the ability to create, edit, remove a schedule for automatic recurring execution.
  - **Export** – Export data and download it your computer via the browser. The format depends on where you are in the application: CSV for reports and Excel (XLSX) for pivot data.
  - **Delete** – Delete the data.

10. Select **Update**.

2.3.3 DELETE PRIVILEGE

To delete a Role:

1. Select the **Account Settings** icon in the upper corner of the screen.
2. Select **Admin**.
3. Select **+Privilege**.
4. Select next to the Privilege you desire to delete.

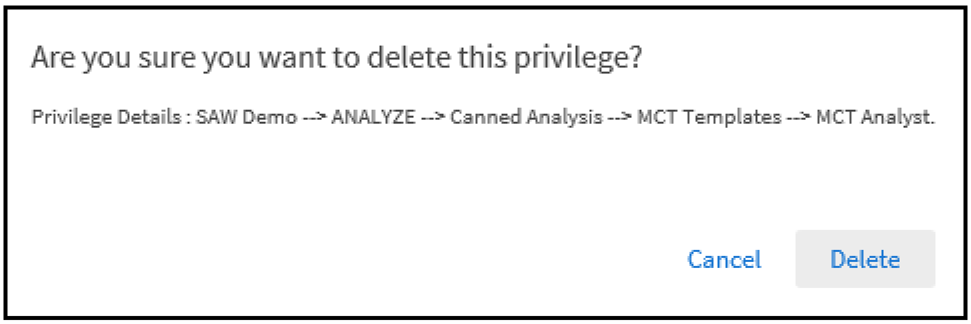


Figure 13: Delete Privilege

5. Select **Delete**.

2.4 Category Management

Use Categories and Sub-Categories to organize and store the analyses. A Category is a way to group Sub-Categories. Administrators configure Privileges to different Roles to determine access to Categories and Sub-Categories.

To view the Category Management Administrator screen:

1. Select the **Account Settings** icon in the upper corner of the screen.
2. Select **Admin**.
3. Select **Category** from the Manage menu.

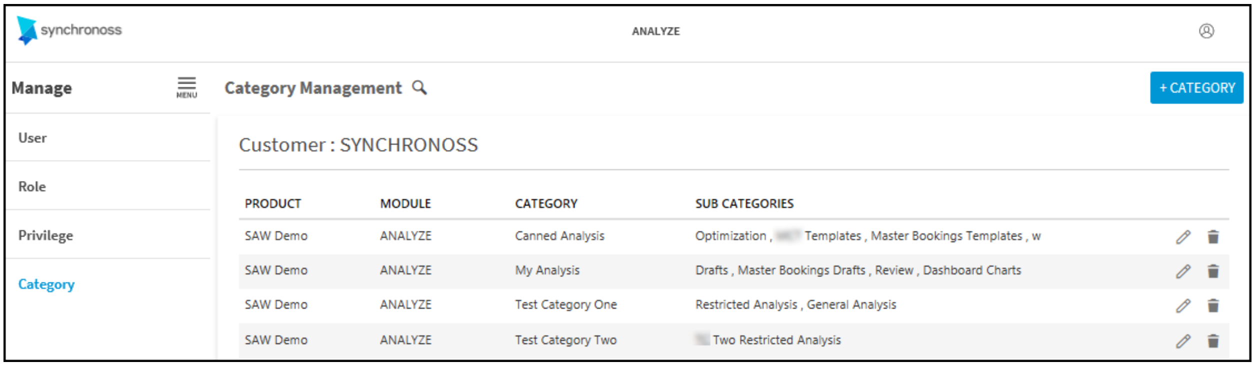


Figure 14: Category Management

Note: Select the column header to change the sort order.

Category – Select to view current Category information.

- **Product** - Product associated with the Category.
- **Module** - Determines in which module the Category should appear.
- **Category** - Category associated with the Category. For example, Daily Data.
- **Sub Categories** - Sub Category associated with the Category. For example, Drafts.
- **+Category** – Select + PRIVILEGE to add a new Category. Refer to "Add Privilege" on page 16.
- **Edit Category** – Select to edit a Category. Refer to "Edit Privilege" on page 18.
- **Delete Category** – Select to delete a Category. Refer to "Delete Privilege" on the previous page.

2.4.1 ADD CATEGORY

A Category is a way to group Sub-Categories.

To add a new Category:

1. Select the **Account Settings** icon in the upper corner of the screen.
2. Select **Admin**.
3. Select **+Category**.

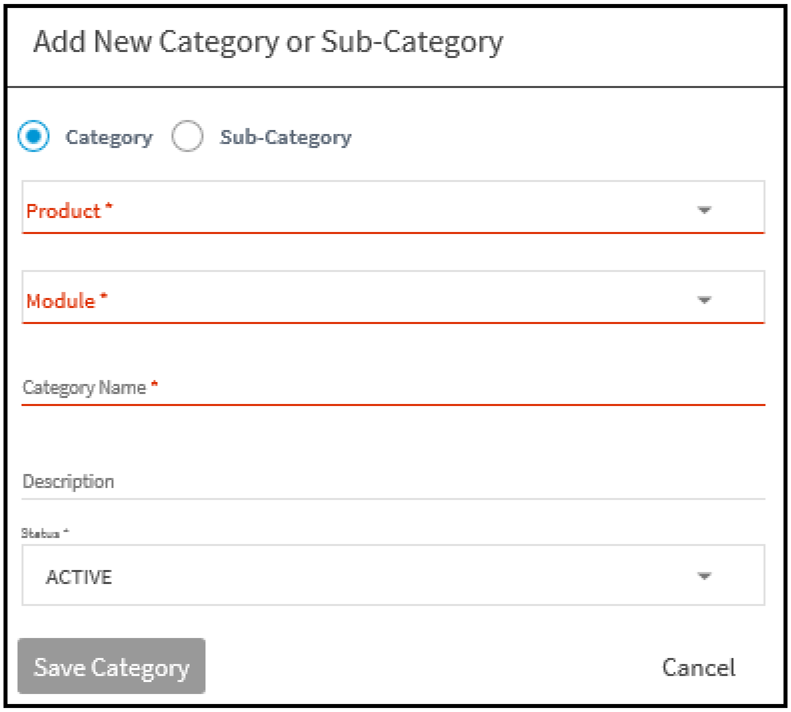


Figure 15: Add Category

4. Select the **Category** radio button.
5. Select the **Product** to associate with the Category.
6. Select the **Module** defining in which module the Category should appear.
7. Add the **Category Name** to reflect the name of what this Category is going to collect or group in the Sub-Category.

Note: Sub-Category names only support alpha characters.

8. Enter a detailed **Description** of the Category.
9. Select if the Category's **Status** as **Active** or **Inactive**.
10. Select **Save Category**.

2.4.2 EDIT CATEGORY

To edit a Category:

1. Select the **Account Settings** icon in the upper corner of the screen.
2. Select **Admin**.
3. Select **+Category**.
4. Select next to the Category you desire to edit.

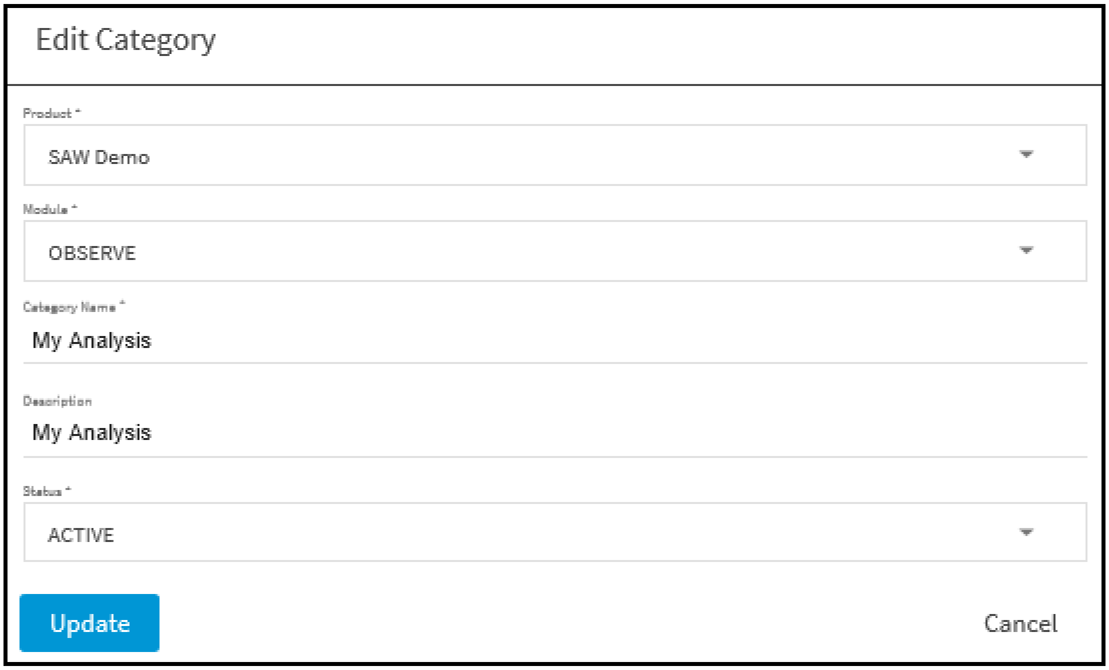


Figure 16: Edit Category

5. Change the **Product** to associate with the Category.
6. Change the **Module** defining in which module the Category should appear.
7. Change the **Category Name** to reflect the name of what this Category is going to collect or group in the Sub-Category.

Note: Sub-Category names only support alpha characters.

8. Change the detailed **Description** of the Category.
9. Change if the Category's **Status** as **Active** or **Inactive**.
10. Select **Update**.

2.4.3 DELETE CATEGORY

To delete a Category:

1. Select the **Account Settings** icon in the upper corner of the screen.
2. Select **Admin**.
3. Select **+Category**.
4. Select next to the Category you desire to delete.

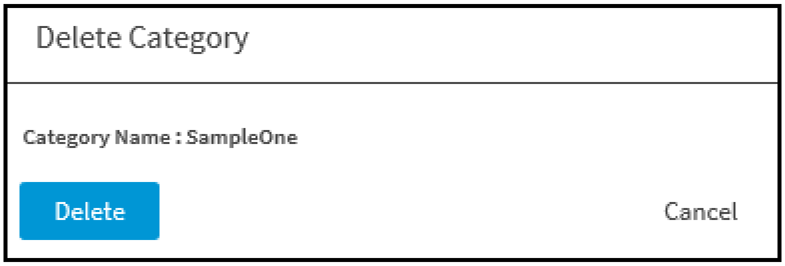


Figure 17: Delete Category

5. Select **Delete**.

2.4.4 ADD SUB-CATEGORY

Use Categories and Sub-Categories to organize and store the analyses. A Category is a way to group Sub-Categories.

To add a new Sub-Category:

1. Select the **Account Settings** icon in the upper corner of the screen.
2. Select **Admin**.
3. Select **+Category**.

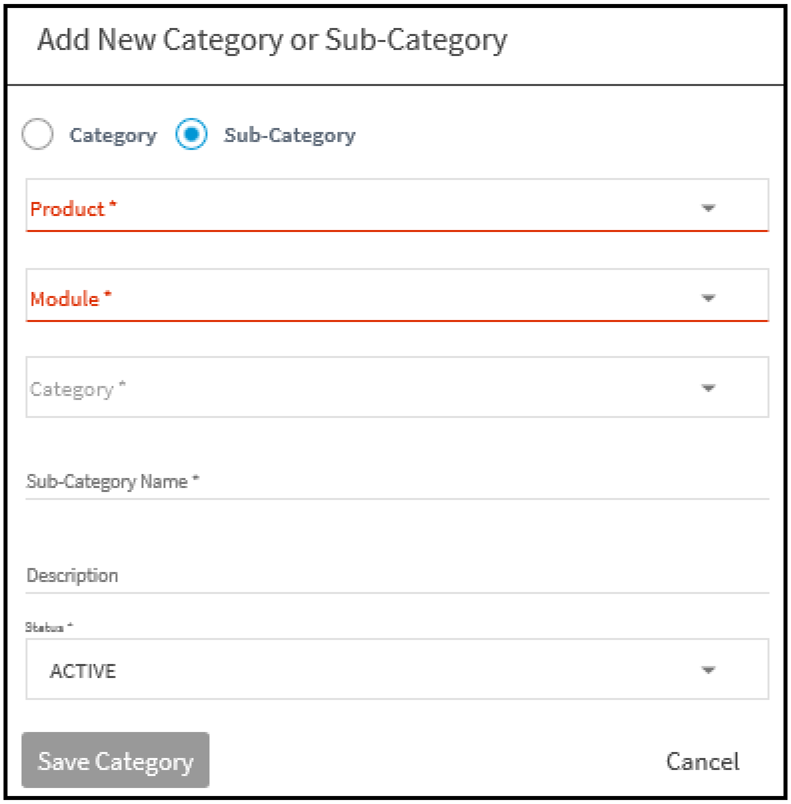


Figure 18: Add Sub-Category

4. Select the **Sub-Category** radio button.
5. Select the **Product** to associate with the Sub-Category.
6. Select the **Module** defining in which module the Category should appear.
7. Add the **Category Name**, such as Daily Data.
8. Enter a detailed **Description** of the Category.
9. Enter a **Sub-Category** assigned to the Sub-Category, such as Drafts.

	Note: Sub-Category names only support alpha characters.

10. Select if the Sub-Category's **Status** as **Active** or **Inactive**.
11. Select **Save Category**.

2.4.5 EDIT SUB-CATEGORY

To edit a Category:

1. Select the **Account Settings** icon in the upper corner of the screen.
2. Select **Admin**.
3. Select **+Category**.
4. Select next to the Sub-Category you desire to edit.

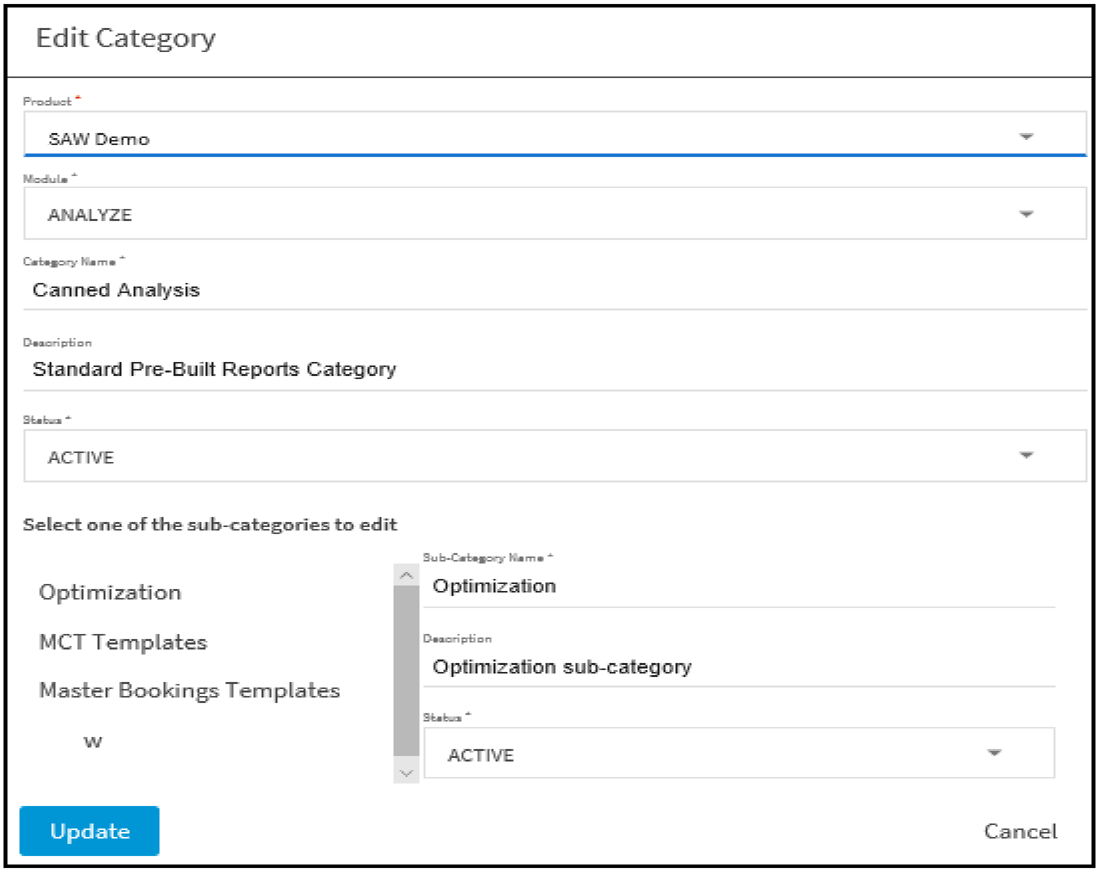


Figure 19: Edit Sub-Category

5. Change the **Product** to associate with the Privilege.
6. Change the **Module** defining in which module the Category should appear.
7. Change the **Category Name** assigned to the Privilege. Refer to "Category Management" on page 20.
8. Change the detailed **Description** of the Category.
9. Change if the Category's **Status** as **Active** or **Inactive**.
10. Change the **Sub-Category Name** assigned to the Sub-Category, such as Drafts. Refer to "Category Management" on page 20.

Note: Sub-Category names only support alpha characters.

11. Change the detailed **Description** of the Sub-Category.
12. Change if the Sub-Category's **Status** as **Active** or **Inactive**.
13. Select **Update**.

2.4.6 DELETE SUB-CATEGORY

To delete a Category:

1. Select the **Account Settings** icon in the upper corner of the screen.
2. Select **Admin**.
3. Select **+Category**.
4. Select next to the Sub-Category you desire to delete.
5. Select next to the Sub-Category you desire to delete.

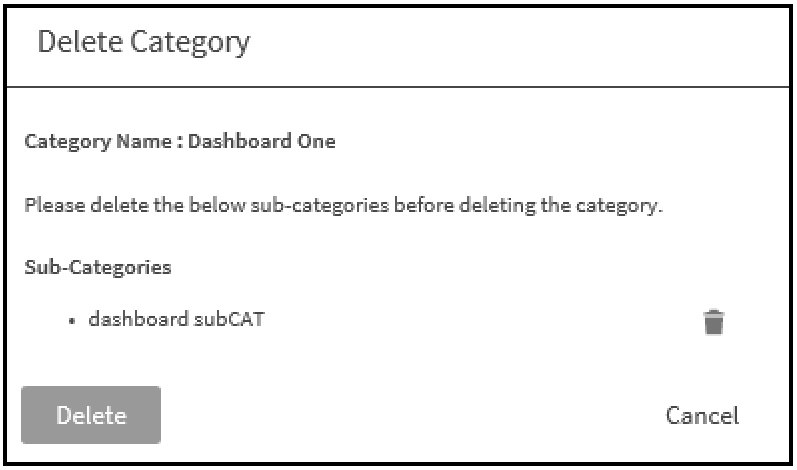


Figure 20: Delete Sub-Category

6. Select **Delete**.

3 SAW Analyze Module

The **Analyze module** enables you to create the analysis and analyze the data. The Analyze module visualizes the data sets using one of the three methods: Tabular Report, Pivots and Charts. You use the Analyze module to perform data exploration and analysis. Use the Analyze module to view saved reports and create new reports.

The Administrator configures the Analyze model, they set up Users who access SAW. Administrators configure Categories and Sub-Categories to organize and store your analyses. A Category is a way to group Sub-Categories. Administrators set Privileges to different Roles to determine their access to Sub-Categories.

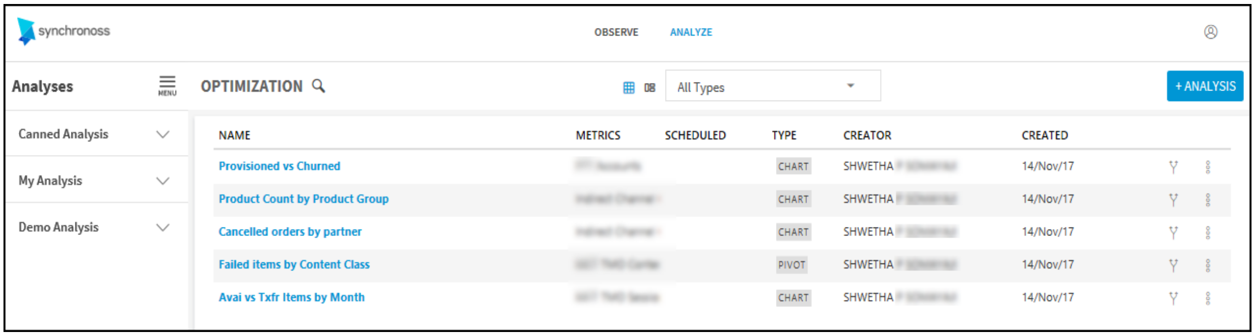


Figure 1: Analyze Module Example

Analyses Menu	Displays the list of Category analysis available for reporting.
MENU	Use the **Menu** icon to expand and collapse report views and lists.
	Use the **Search** field to locate the files you desire to view. Refer to "Search" on page 46.
	Use the **Card View** icon to view reports as charts. Refer to "Card View" on page 45.
	Use the **List View** icon to view reports as lists. Refer to "List View" on page 44.
All Types	Use the **Types** drop-down list to select the specific type of reports to view.
+ ANALYSIS	Use the **+Analysis** button to start a new report.

Note: Select the **column header** to change the sort order of the tables or hover over a column line to increase or decrease the size of the column.

3.1 Create Analysis

The **Analyze module** enables you to create the analysis and analyze the data. The Analyze module visualizes the data analysis sets using one of the three methods: Tabular Report, Pivots, and Charts. You use the Analyze module to perform data exploration and analysis. Refer to:

- "Create New Report" on the next page.
- "Create New Pivot and Chart" on page 33.

3.1.1 CREATE NEW REPORT

To create a new report:

1. Select the **+Analysis** button.

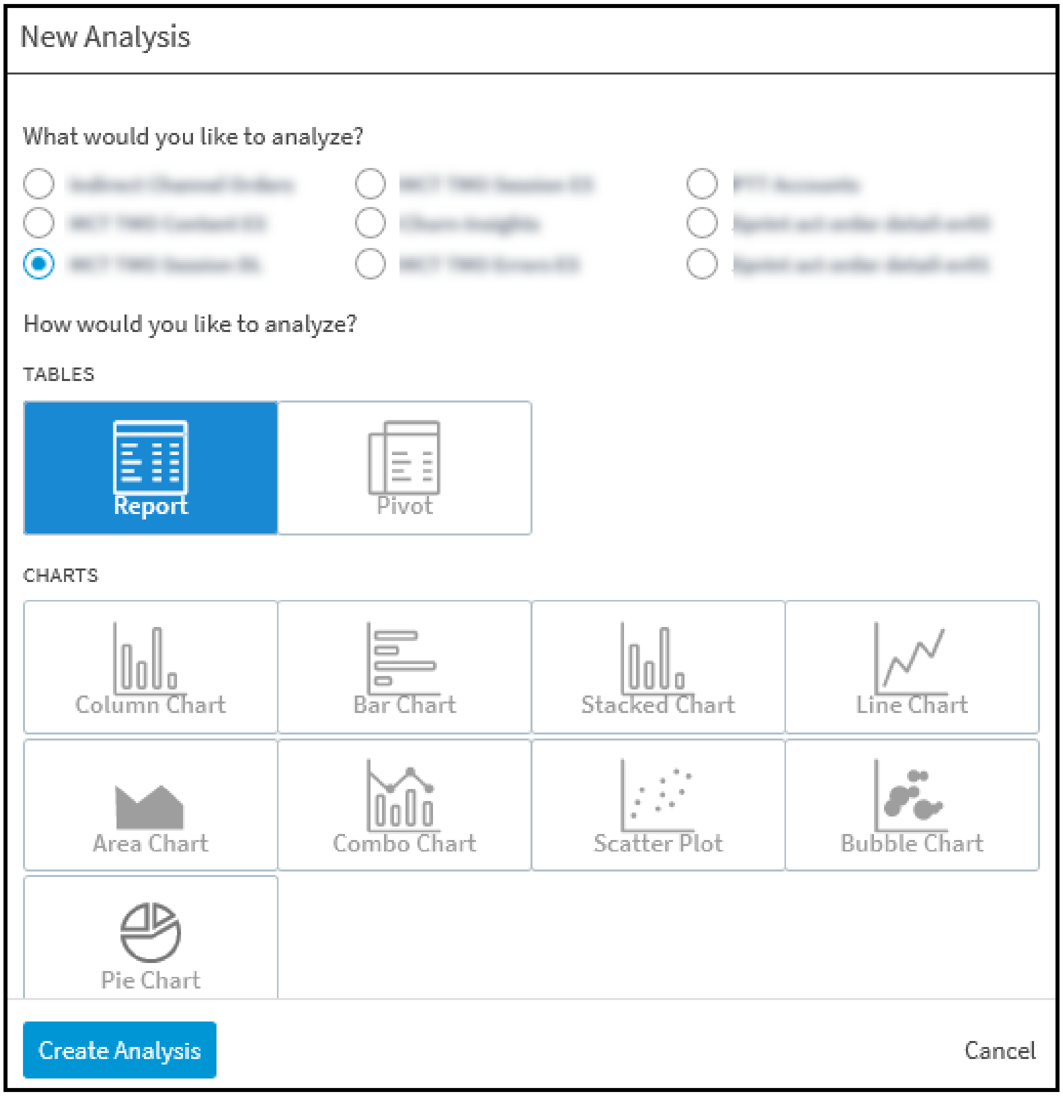


Figure 2: New Analysis

2. Select the **data** to analyze from the **What would you like to analyze** radio buttons. These options are customer specific and depend on what you are collecting from your data lake.
3. Select **Report** in the **Tables** options.

Note: Chart options are not supported by Reports.

4. Select the data points to include in your report from the **Choose fields to show in your report** check boxes in the **Designer**.

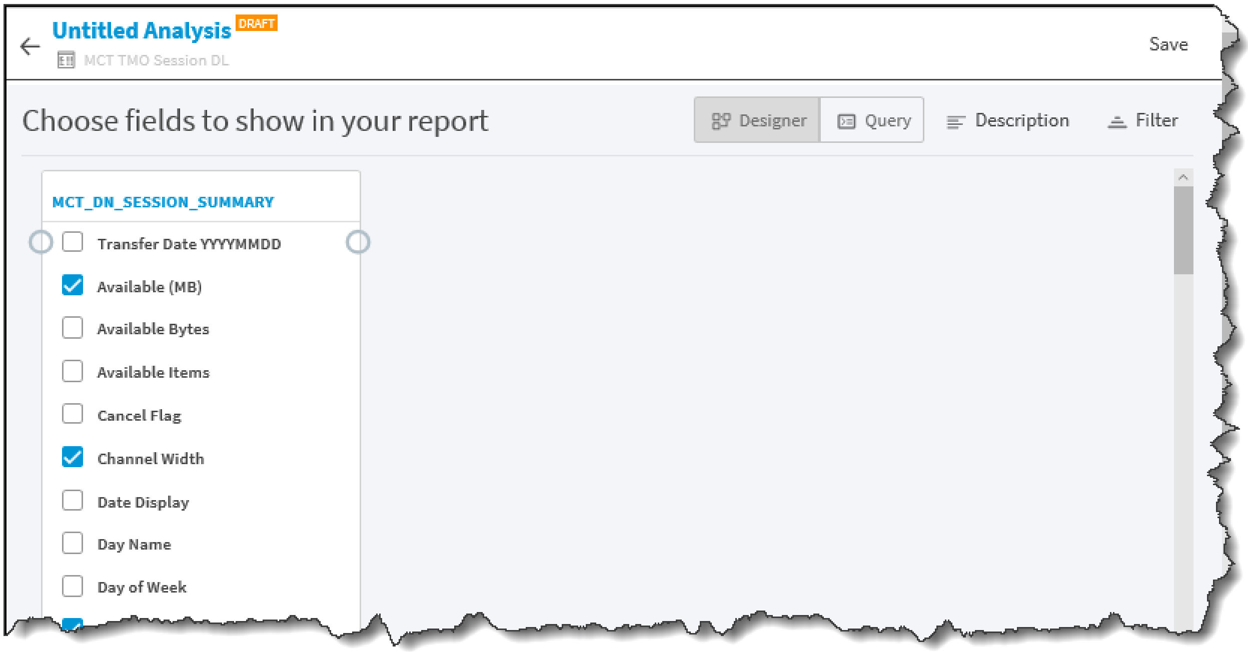


Figure 3: Select Report Fields

5. Select **Refresh data** to populate your report.

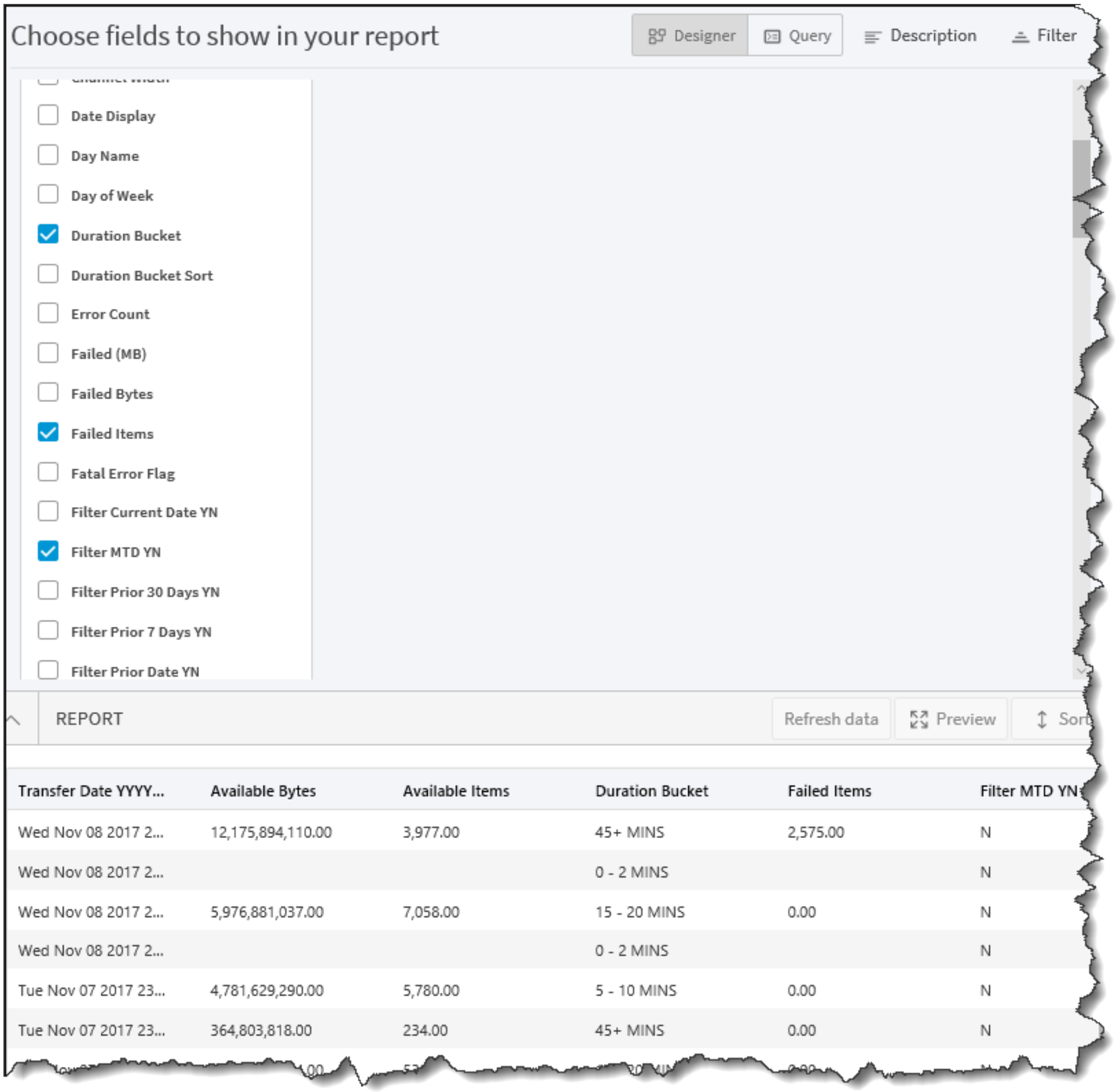
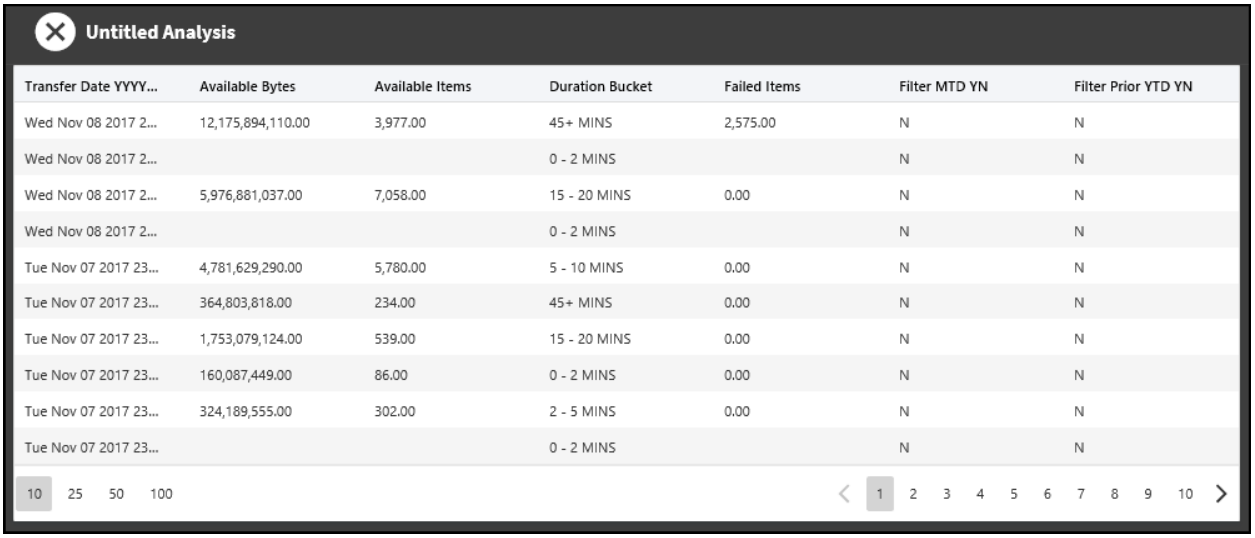


Figure 4: Refresh Data

6. Select **Preview** to see a full screen view of your report.

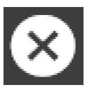


Untitled Analysis

Transfer Date YYYY...	Available Bytes	Available Items	Duration Bucket	Failed Items	Filter MTD YN	Filter Prior YTD YN
Wed Nov 08 2017 2...	12,175,894,110.00	3,977.00	45+ MINS	2,575.00	N	N
Wed Nov 08 2017 2...			0 - 2 MINS		N	N
Wed Nov 08 2017 2...	5,976,881,037.00	7,058.00	15 - 20 MINS	0.00	N	N
Wed Nov 08 2017 2...			0 - 2 MINS		N	N
Tue Nov 07 2017 23...	4,781,629,290.00	5,780.00	5 - 10 MINS	0.00	N	N
Tue Nov 07 2017 23...	364,803,818.00	234.00	45+ MINS	0.00	N	N
Tue Nov 07 2017 23...	1,753,079,124.00	539.00	15 - 20 MINS	0.00	N	N
Tue Nov 07 2017 23...	160,087,449.00	86.00	0 - 2 MINS	0.00	N	N
Tue Nov 07 2017 23...	324,189,555.00	302.00	2 - 5 MINS	0.00	N	N
Tue Nov 07 2017 23...			0 - 2 MINS		N	N

10 25 50 100 1 2 3 4 5 6 7 8 9 10

Figure 5: Preview

7. **Close** the report. 

Note: The data elements display depending on what type of Chart you previously selected AND the type of data available from your data lake.

Use the other options to further define your analysis report.

8. Select Use Query to save your analysis as an SQL Query. Refer to "Query" on page 52.
9. Enter a **Description** for the analysis. Refer to "Description" on page 48.
10. Select **Sort** define order of the analysis. Refer to "Sort" on page 51.
11. Select **Filter** to categorize the analysis for the report. Refer to "Filter" on page 50.
12. Select **Save**. Refer to "Save Analysis" on page 55.

3.1.2 CREATE NEW PIVOT AND CHART

To create a new chart:

1. Select the **+Analysis** button.

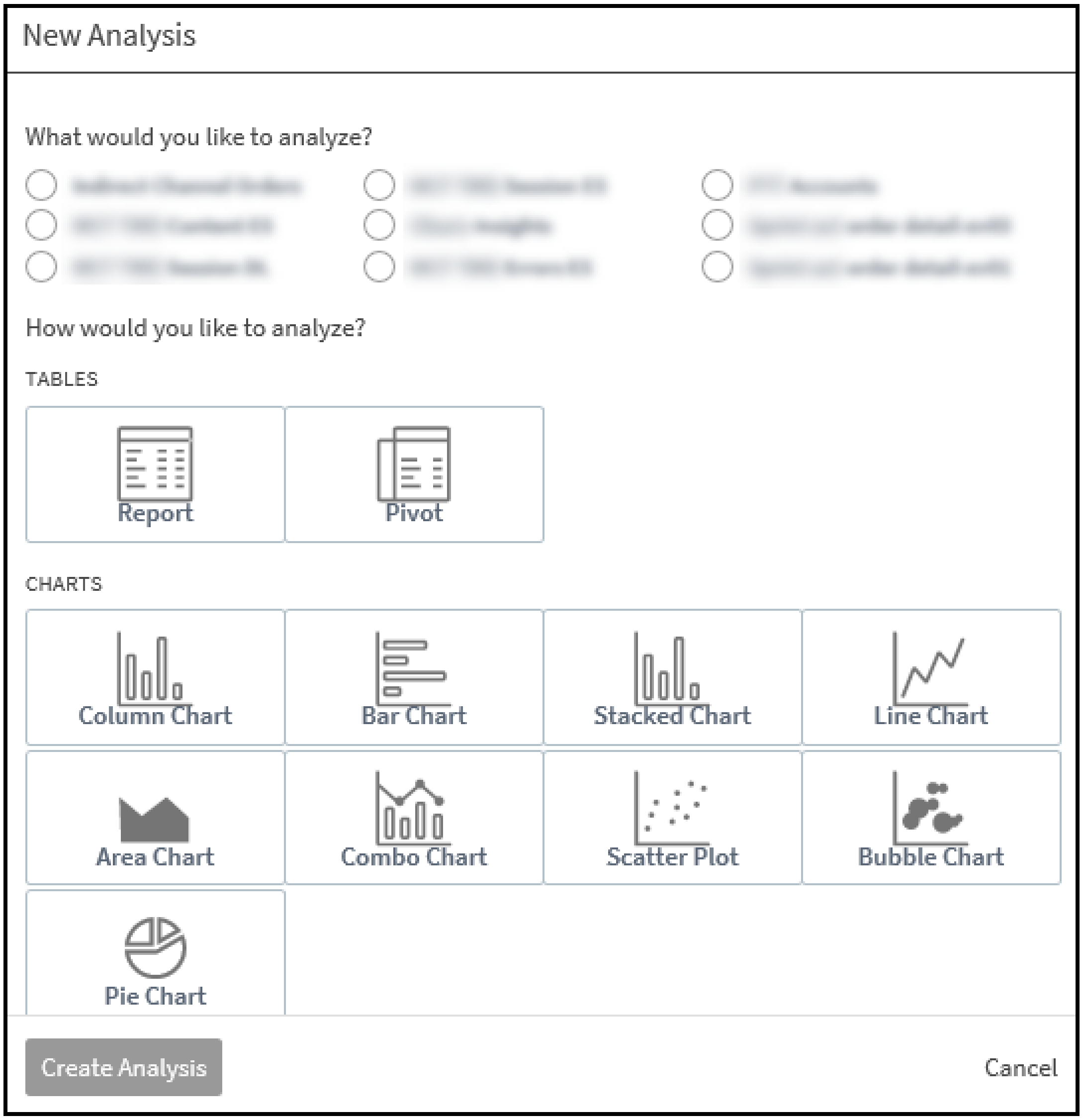


Figure 6: New Analysis

2. Select the **data** to analyze from the **What would you like to analyze** radio buttons. These options are customer specific and depend on what you are collecting from your data lake.
3. Select the type of **Pivot Table** to button.
4. Select the type of **Chart** to display graphical representation of your data.
   - **Column Chart** – Displays vertical bars going across the chart horizontally and the values axis displays on the left side of the chart. Refer to "Column Chart" on page 35.
   - **Bar Chart** – A type of bar graph that shows horizontal or vertical bars going across the chart horizontally and the values while on the bottom of the chart. Refer to "Bar Chart" on page 36.
   - **Stacked Chart** – Plot data sets to display on top of each other with the cumulative magnitude of two or more data series. Refer to "Stacked Chart" on page 37.
   - **Line Chart** – A type of line graph that is plotted using a series of lines going across the chart horizontally and the values axis displays on the left side of the chart. Refer to "Line Chart" on page 38.

- **Area Chart** – Displays graphically quantitative data and is based on the line chart. The area between the axis and line are emphasized with colors, textures, and hatchings. Use to compare with an area chart of two or more quantities. Refer to "Area Chart" on page 39.
- **Combo Chart** – Displays a visualization that combines the features of the bar chart and the line chart. The combination chart displays the data using bars and/or lines, each of which represent a category. Refer to "Combo Chart" on page 40.
- **Scatter Plot** – Use horizontal and vertical axes to plot data points to show how much one variable is affected by another and their correlation or relationship between two variables. Refer to "Scatter Plot" on page 41.
- **Bubble Chart** – Displays three dimensions of data. Each entity with its triplet (v_1, v_2, v_3) of associated data is plotted as a disk that expresses two of the v_i values through the disk's xy location and the third through its size. Refer to "Bubble Chart" on page 42.
- **Pie Chart** – Displays quantitative information by means of a circle divided into sectors, in which the relative sizes of the areas (or central angles) of the sectors correspond to the relative sizes or proportions of the quantities. Refer to "Pie Chart" on page 43.

5. Select **Create Analysis**.

> **Note:** The data elements display depending on what type of Chart you previously selected AND the type of data available from your data lake.

6. Select the **Data Fields**: **Metrics**, **Dimensions**, and **Grouped By**. This is the data acquired from the data lake from which you can populate a report.

Chart Options differ depending on the previous selections:

7. Select **Inverted** or **Not Inverted** to determine the origin of how certain reports display. Refer to "Inverted or Not Inverted" on page 47.
8. Select the **Legend Options** which is the location where the legend displays: **Left**, **Right**, **Top**, or **Bottom**.
9. Select the **Layout** which determines the direction the report displays on the page: **Vertical** (portrait) or **Horizontal** (landscape).

Use the options in the upper right corner of the screen to further define your report.

10. Select **Refresh Data** to populate or update the report. Refer to "Refresh Data" on page 48.
11. Enter a **Description** for the report. Refer to "Description" on page 48.
12. Select **Preview** to view the report. Refer to "Preview" on page 49.
13. Select **Sort** define order of the data. Refer to "Sort" on page 51.
14. Select **Filter** to categorize the data for the report. Refer to "Filter" on page 50.
15. Select the **origin** of how certain reports display. Refer to "Inverted or Not Inverted" on page 47.
16. Select **Save**. Refer to "Save Analysis" on page 55.

3.1.2.1 Column Chart

Column Charts display vertical bars going across the chart horizontally and the values axis displays on the left side of the chart. To create a Column Chart:

1. Select the **+Analysis** button.
2. Select the **data** to analyze from the **What would you like to analyze** radio buttons. These options are customer specific and depend on what you are collecting from your data lake.
3. Select **Pivot**.
4. Select the type of **Column Chart** to display graphical representation of your data.
5. Select **Create Analysis**.

Note: The data elements display depending on what type of Chart you previously selected AND the type of data available from your data lake.

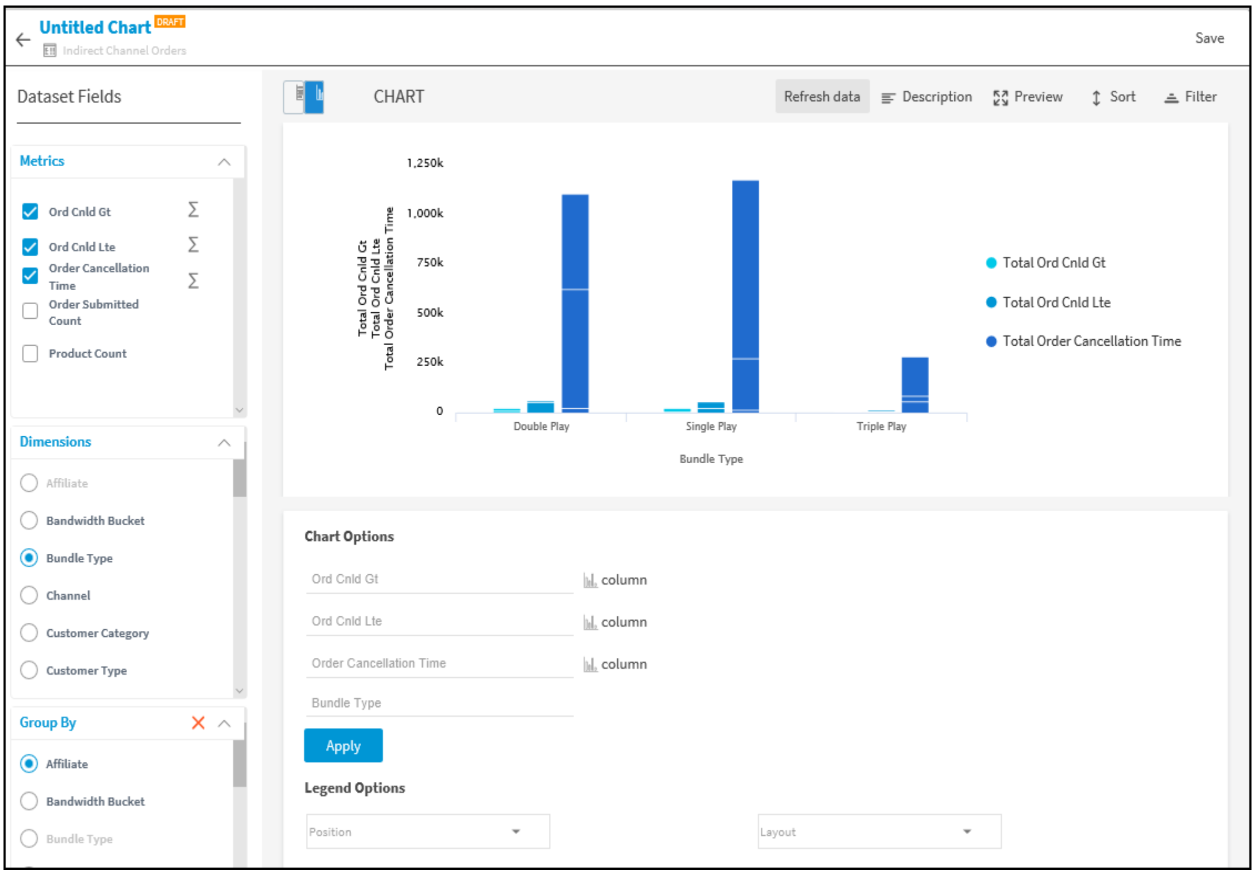


Figure 7: Column Chart

6. Select the **Data Fields**: **Metrics**, **Dimensions**, and **Grouped By**. This is the data acquired from the data lake from which you can populate a report.

Chart Options differ depending on the previous selections. Refer to "Analysis Options" on page 44.

7. Select **Save**. Refer to "Save Analysis" on page 55.

3.1.2.2 Bar Chart

A Bar Chart is a type of bar graph that shows horizontal or vertical bars going across the chart horizontally and the values while on the bottom of the chart.

1. Select the **+Analysis** button.
2. Select the **data** to analyze from the **What would you like to analyze** radio buttons. These options are customer specific and depend on what you are collecting from your data lake.
3. Select **Pivot**.
4. Select the type of **Bar Chart** to display graphical representation of your data.
5. Select **Create Analysis**.

Note: The data elements display depending on what type of Chart you previously selected AND the type of data available from your data lake.

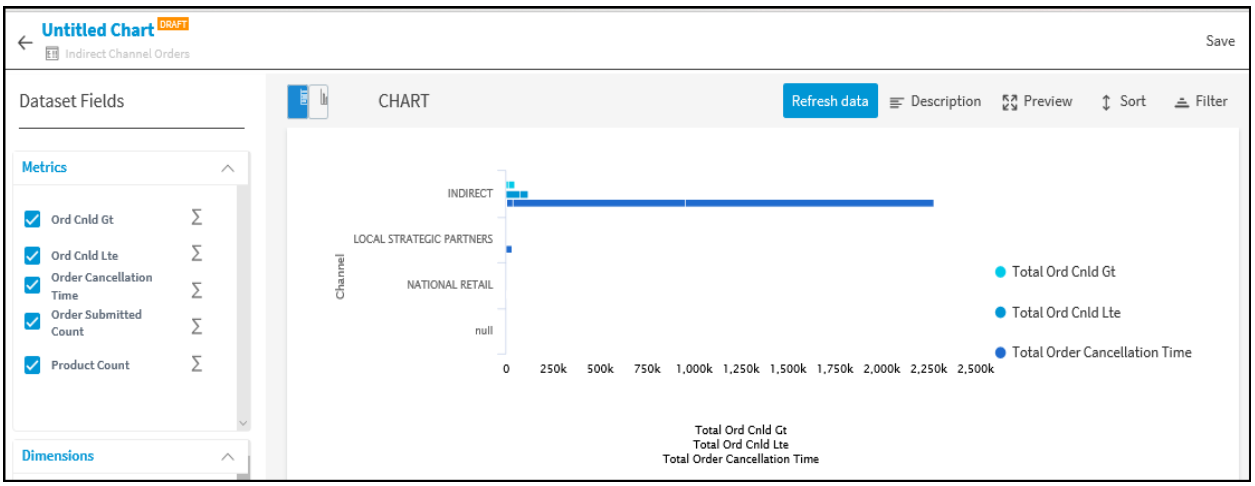


Figure 8: Bar Chart

6. Select the **Data Fields**: **Metrics**, **Dimensions**, and **Grouped By**. This is the data acquired from the data lake from which you can populate a report.

Chart Options differ depending on the previous selections. Refer to "Analysis Options" on page 44.

7. Select **Save**. Refer to "Save Analysis" on page 55.

3.1.2.3 Stacked Chart

A Stacked Chart is a plot data sets to display on top of each other with the cumulative magnitude of two or more data series.

1. Select the **+Analysis** button.
2. Select the **data** to analyze from the **What would you like to analyze** radio buttons. These options are customer specific and depend on what you are collecting from your data lake.
3. Select **Pivot**.
4. Select the type of **Stacked Chart** to display graphical representation of your data.
5. Select **Create Analysis**.

Note: The data elements display depending on what type of Chart you previously selected AND the type of data available from your data lake.

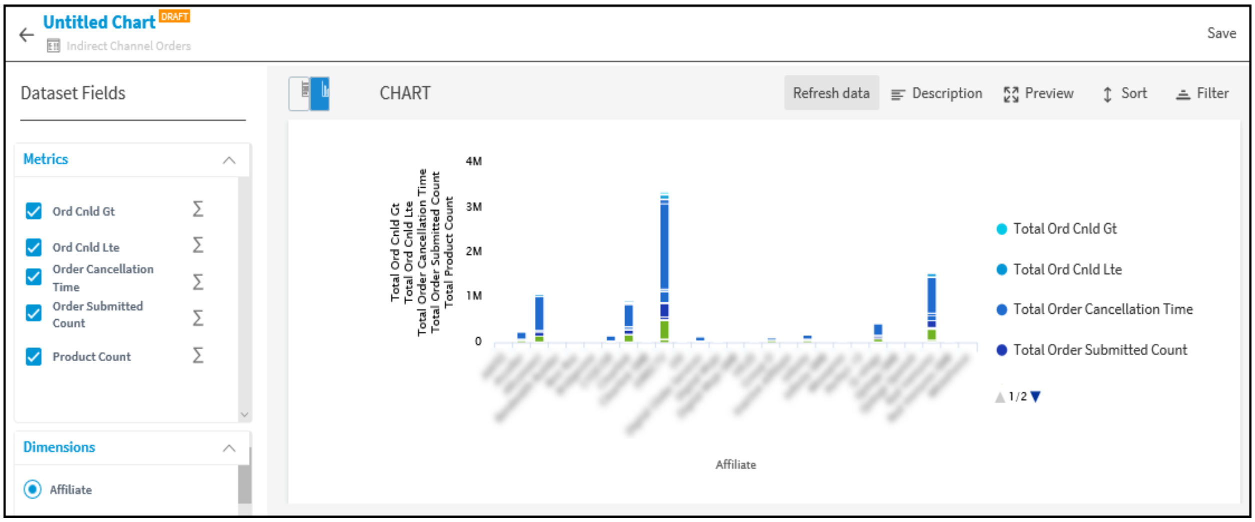


Figure 9: Stacked Chart

6. Select the **Data Fields**: **Metrics**, **Dimensions**, and **Grouped By**. This is the data acquired from the data lake from which you can populate a report.

Chart Options differ depending on the previous selections. Refer to **"Analysis Options" on page 44****.**

7. Select **Save**. Refer to "Save Analysis" on page 55.

3.1.2.4 Line Chart

Line Chart is a type of line graph that is plotted using a series of lines going across the chart horizontally and the values axis displays on the left side of the chart.

1. Select the **+Analysis** button.
2. Select the **data** to analyze from the **What would you like to analyze** radio buttons. These options are customer specific and depend on what you are collecting from your data lake.
3. Select **Pivot**.
4. Select the type of **Line Chart** to display graphical representation of your data.
5. Select **Create Analysis**.

Note: The data elements display depending on what type of Chart you previously selected AND the type of data available from your data lake.

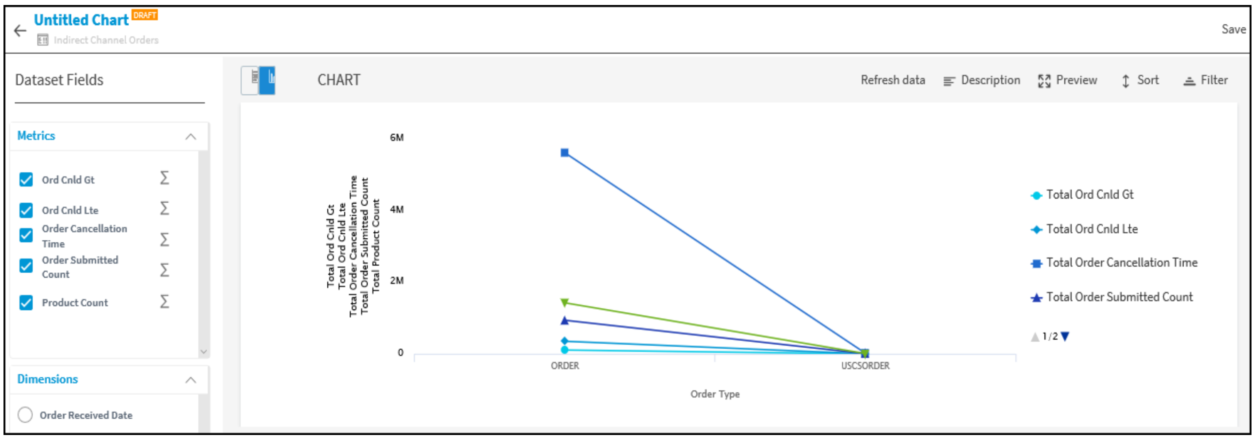


Figure 10: Line Chart

6. Select the **Data Fields**: **Metrics**, **Dimensions**, and **Grouped By**. This is the data acquired from the data lake from which you can populate a report.

Chart Options differ depending on the previous selections. Refer to "Analysis Options" on page 44.

7. Select **Save**. Refer to "Save Analysis" on page 55.

3.1.2.5 Area Chart

Area Charts display graphically quantitative data and is based on the line chart. The area between the axis and line are emphasized with colors, textures, and hatchings. Use to compare with an area chart of two or more quantities.

1. Select the **+Analysis** button.
2. Select the **data** to analyze from the **What would you like to analyze** radio buttons. These options are customer specific and depend on what you are collecting from your data lake.
3. Select **Pivot**.
4. Select the type of **Area Chart** to display graphical representation of your data.
5. Select **Create Analysis**.

Note: The data elements display depending on what type of Chart you previously selected AND the type of data available from your data lake.

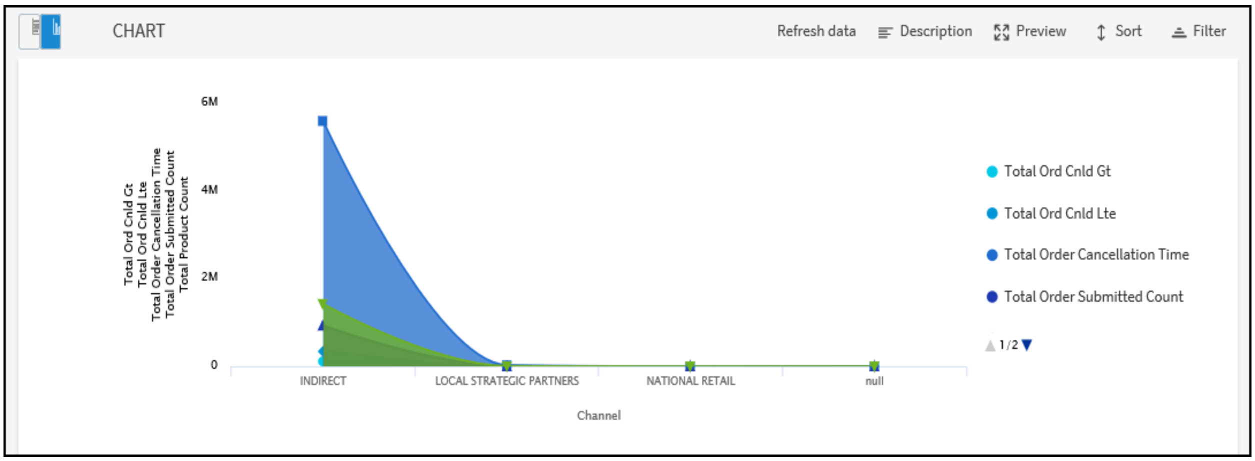


Figure 11: Area Chart

6. Select the **Data Fields**: **Metrics**, **Dimensions**, and **Grouped By**. This is the data acquired from the data lake from which you can populate a report.

Chart Options differ depending on the previous selections. Refer to "Analysis Options" on page 44.

7. Select **Save**. Refer to "Save Analysis" on page 55.

3.1.2.6 Combo Chart

Combo Charts display a visualization that combines the features of the bar chart and the line chart. The combination chart displays the data using bars and/or lines, each of which represent a category.

1. Select the **+Analysis** button.
2. Select the **data** to analyze from the **What would you like to analyze** radio buttons. These options are customer specific and depend on what you are collecting from your data lake.
3. Select **Pivot**.
4. Select the type of **Combo Chart** to display graphical representation of your data.
5. Select **Create Analysis**.

	Note: The data elements display depending on what type of Chart you previously selected AND the type of data available from your data lake.

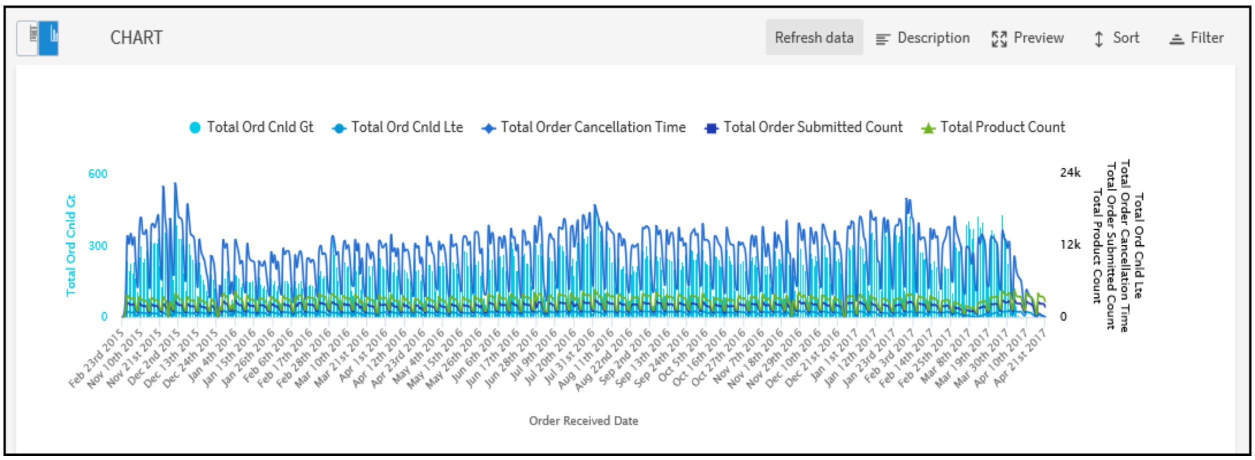


Figure 12: Combo Chart

6. Select the **Data Fields**: **Metrics**, **Dimensions**, and **Grouped By**. This is the data acquired from the data lake from which you can populate a report.

Chart Options differ depending on the previous selections. Refer to "Analysis Options" on page 44.

7. Select **Save**. Refer to "Save Analysis" on page 55.

3.1.2.7 Scatter Plot

Scatter Plots use horizontal and vertical axes to plot data points to show how much one variable is affected by another and their correlation or relationship between two variables.

1. Select the **+Analysis** button.
2. Select the **data** to analyze from the **What would you like to analyze** radio buttons. These options are customer specific and depend on what you are collecting from your data lake.
3. Select **Pivot**.
4. Select the type of **Scatter Plot** to display graphical representation of your data.
5. Select **Create Analysis**.

	Note: The data elements display depending on what type of Chart you previously selected AND the type of data available from your data lake.

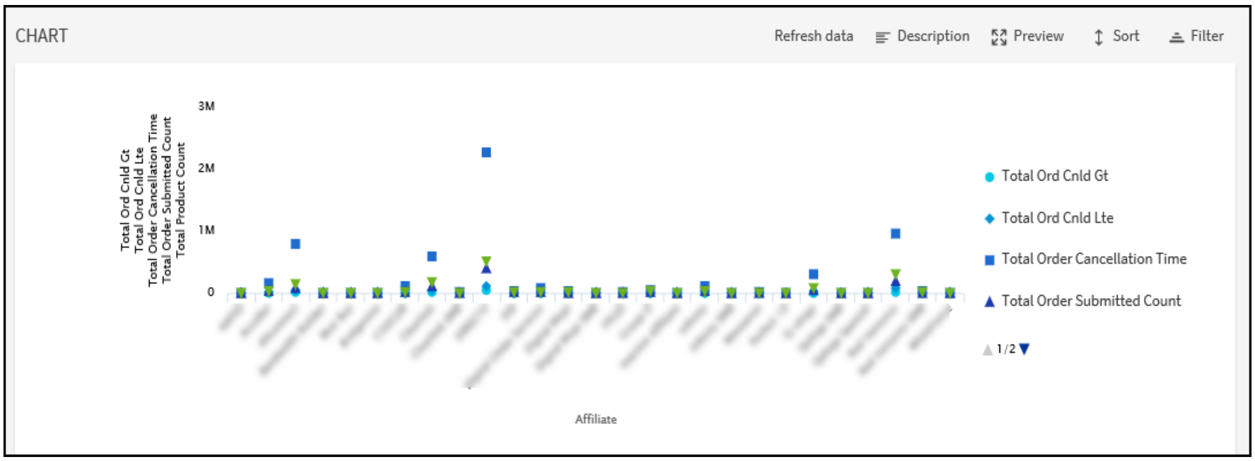


Figure 13: Scatter Plot

6. Select the **Data Fields**: **Metrics**, **Dimensions**, and **Grouped By**. This is the data acquired from the data lake from which you can populate a report.

Chart Options differ depending on the previous selections. Refer to "Analysis Options" on page 44.

7. Select **Save**. Refer to "Save Analysis" on page 55.

3.1.2.8 Bubble Chart

Bubble Charts display three dimensions of data. Each entity with its triplet (v_1, v_2, v_3) of associated data is plotted as a disk that expresses two of the v_i values through the disk's xy location and the third through its size.

1. Select the **+Analysis** button.
2. Select the **data** to analyze from the **What would you like to analyze** radio buttons. These options are customer specific and depend on what you are collecting from your data lake.
3. Select **Pivot**.
4. Select the type of **Bubble Chart** to display graphical representation of your data.
5. Select **Create Analysis**.

Note: The data elements display depending on what type of Chart you previously selected AND the type of data available from your data lake.

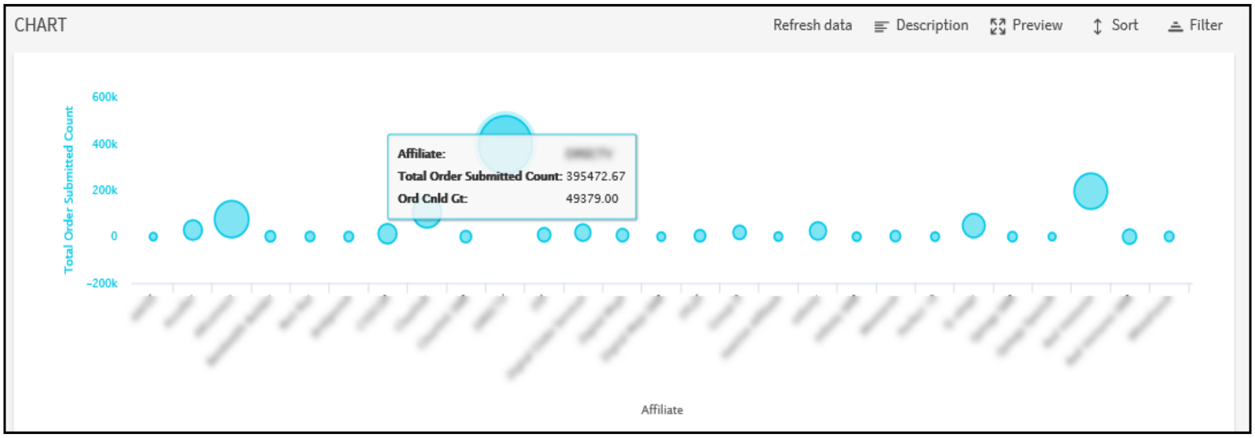


Figure 14: Bubble Chart

6. Select the **Data Fields**: **Metrics**, **Dimensions**, and **Grouped By**. This is the data acquired from the data lake from which you can populate a report.

Chart Options differ depending on the previous selections. Refer to "Analysis Options" on page 44.

7. Select **Save**. Refer to "Save Analysis" on page 55.

3.1.2.9 Pie Chart

Pie Charts display quantitative information by means of a circle divided into sectors, in which the relative sizes of the areas (or central angles) of the sectors correspond to the relative sizes or proportions of the quantities.

1. Select the **+Analysis** button.
2. Select the **data** to analyze from the **What would you like to analyze** radio buttons. These options are customer specific and depend on what you are collecting from your data lake.
3. Select **Pivot**.
4. Select the type of **Pie Chart** to display graphical representation of your data.
5. Select **Create Analysis**.

Note: The data elements display depending on what type of Chart you previously selected AND the type of data available from your data lake.

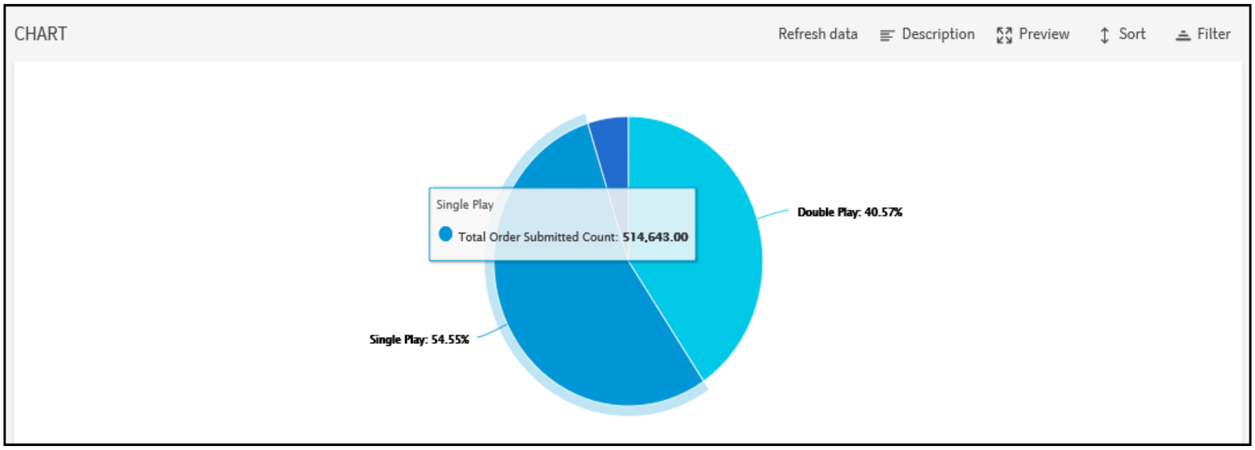


Figure 15: Pie Chart

6. Select the **Data Fields**: **Metrics**, **Dimensions**, and **Grouped By**. This is the data acquired from the data lake from which you can populate a report.

Chart Options differ depending on the previous selections. Refer to **"Analysis Options" on the next page****.**

7. Select **Save**. Refer to "Save Analysis" on page 55.

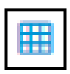
3.2 Analysis Options

Use the Analysis Option features within the analysis reports, pivots, and charts to perform various actions. Refer to:

- "List View" below.
- "Card View" on the next page.
- "Search" on page 46.
- "View Analysis By Type" on page 46.
- "Inverted or Not Inverted" on page 47.
- "Description" on page 48.
- "Refresh Data" on page 48.
- "Preview" on page 49.
- "Filter" on page 50.
- "Sort" on page 51.
- "Query" on page 52.
- "Fork" on page 53.
- "Save Analysis" on page 55.
- "Report Options" on page 56.

3.2.1 LIST VIEW

Use List View to display reports in a list. To open List View:

1. Select the **List View** icon. 

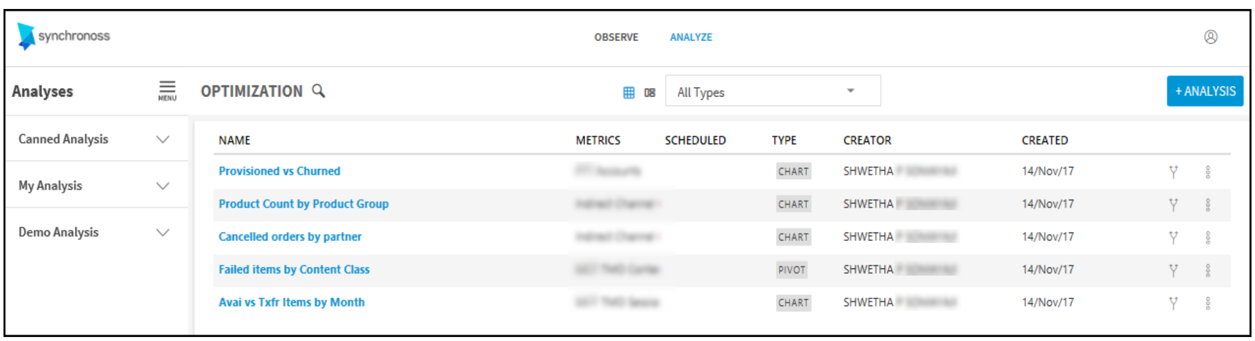
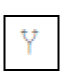
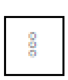
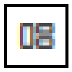


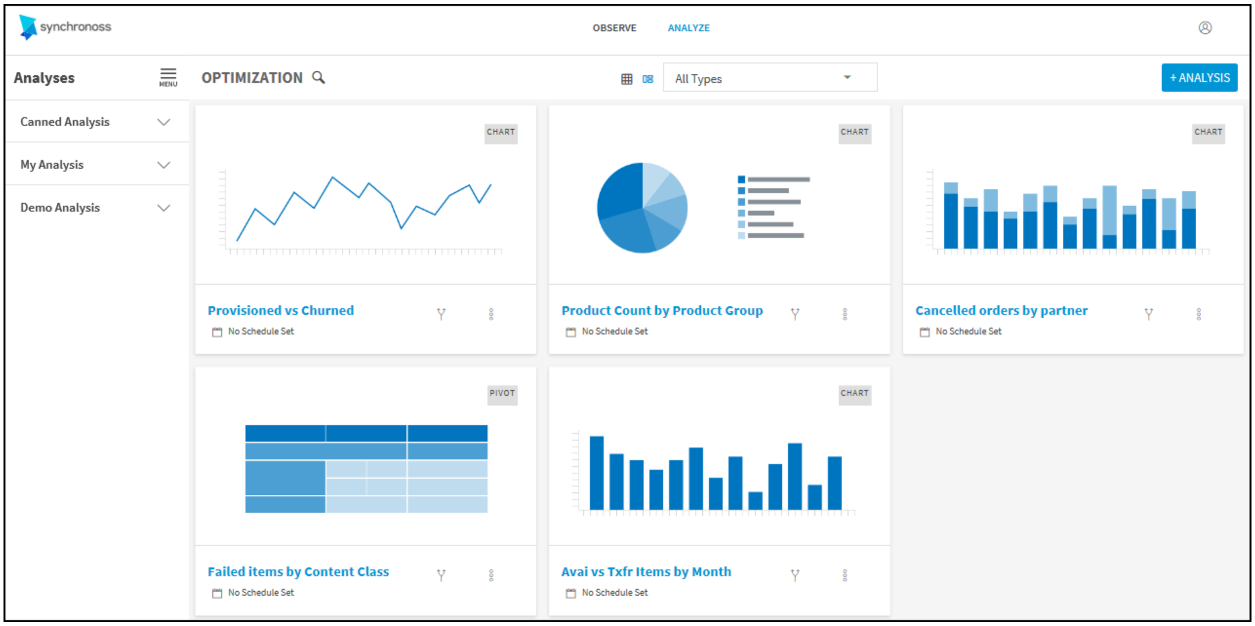
Figure 16: Analyze Module List View

- **Name** – Name of the analysis.
- **Metrics** – Where the analysis was collected.
- **Scheduled** – Date on which the analysis is collected.
- **Type** – Type of analysis display: Charts, Reports, or Pivots.
- **Creator** – Who created the analysis.
- **Created** – Date the analysis was created.
- **Fork** –  Refer to "Fork" on page 53.
- **Report Options** –  Refer to "Report Options" on page 56.

3.2.2 CARD VIEW

Use Card View to display analysis reports as a visual representation. To open Card View:

1. Select the **Card View** icon. 
2. Select the **Chart** icon.



3.2.3 SEARCH

Use the **Search** field to locate the files you desire to view. To begin a search:

1. Select the **Search** icon. 
2. Enter the desired **word** in the Search field. 
3. Press **Enter**.

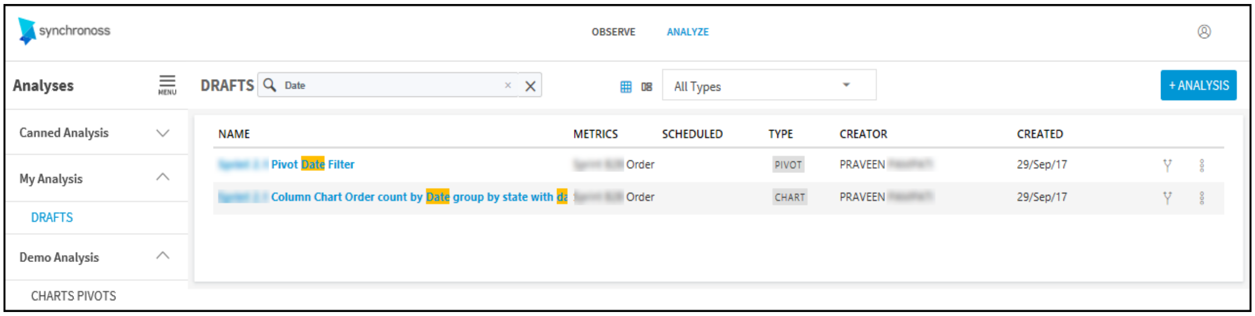


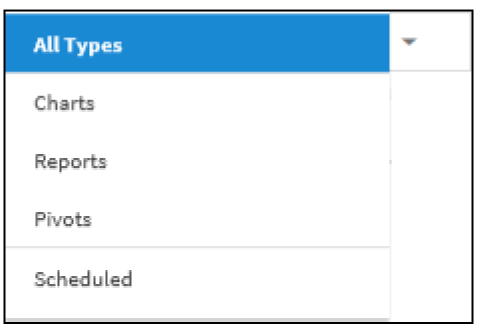
Figure 17: Search Results

Note: Use Search and All Types together to increase your view capabilities.

3.2.4 VIEW ANALYSIS BY TYPE

All Types displays all the available analysis by type. Use the **All Types** drop-down list box to field to limit the analysis type in that view.

1. Select the **All Types** drop-down list box.
2. Select the **type of data** to display: Charts, Reports, Pivots, or Scheduled data.

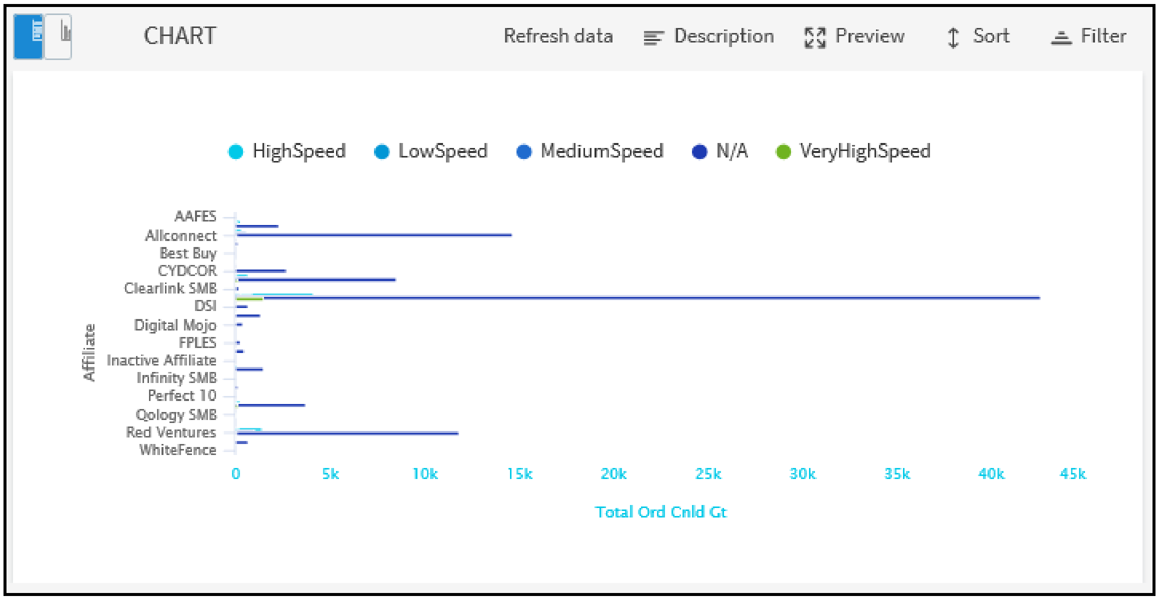


Note: Use Search and All Types together to increase your view capabilities.

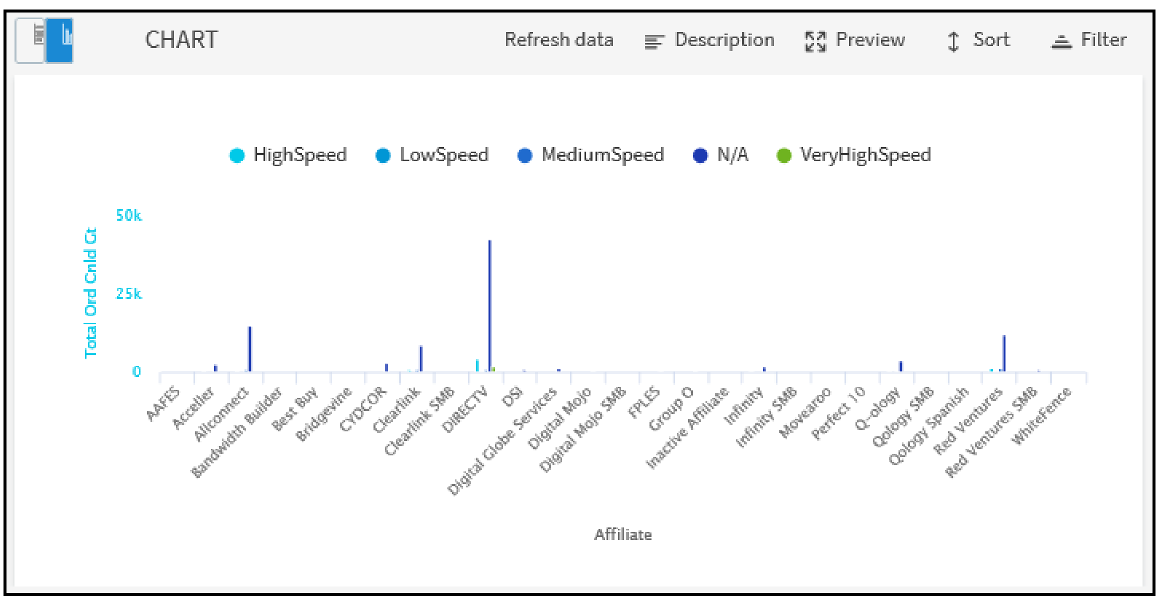
3.2.5 INVERTED OR NOT INVERTED

Use Inverted or Not Inverted to determine the origin of how certain reports display.

1. Create a new report or open an existing report.
2. Select **Inverted** to display the report as:



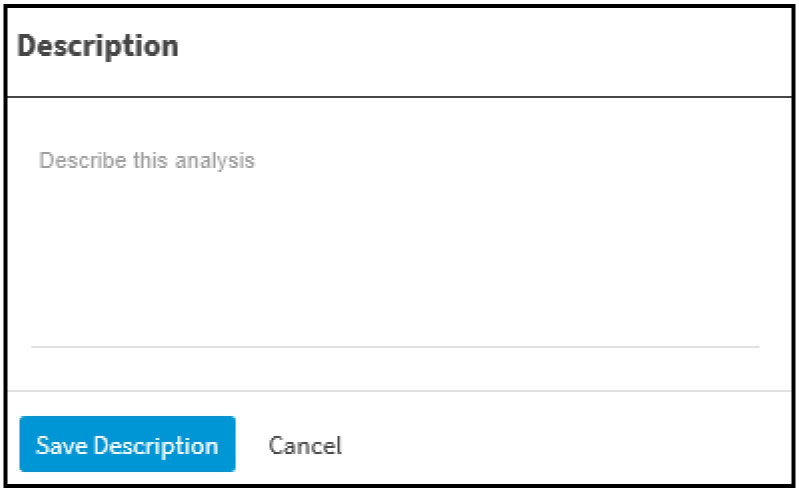
3. Select **Not Inverted** to display the report as:



3.2.6 DESCRIPTION

Use the Description screen to provide a detailed and meaningful definition of what the report analysis displays.

1. Create a new report or open an existing report.
2. Select the **Description** button in the top right of the screen.



3. Enter a **Description**.
4. Select **Save Description**.

3.2.7 REFRESH DATA

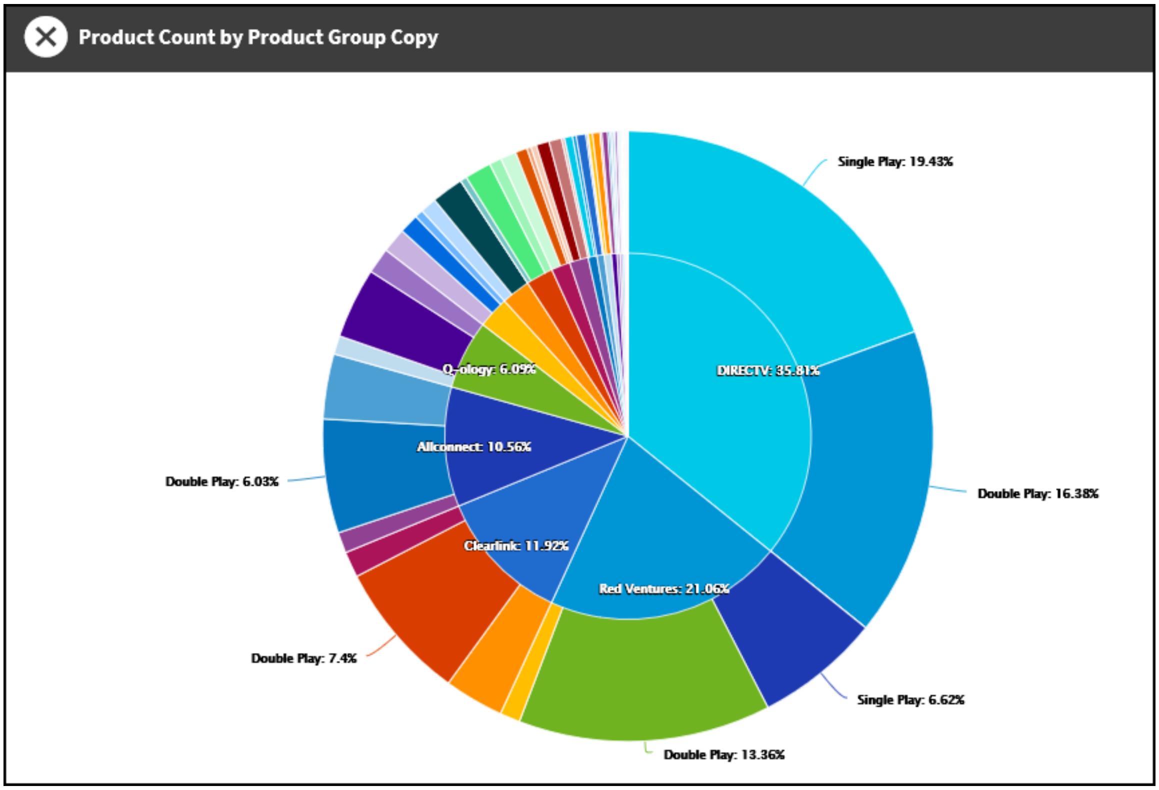
Use Refresh Data to populate or update your report.

1. Create a new report or open an existing report.
2. Select the **Refresh Data** button in the top right of the screen.
3. Select **Preview** to see your report in full screen view.

3.2.8 PREVIEW

Use Preview see your report in full screen view.

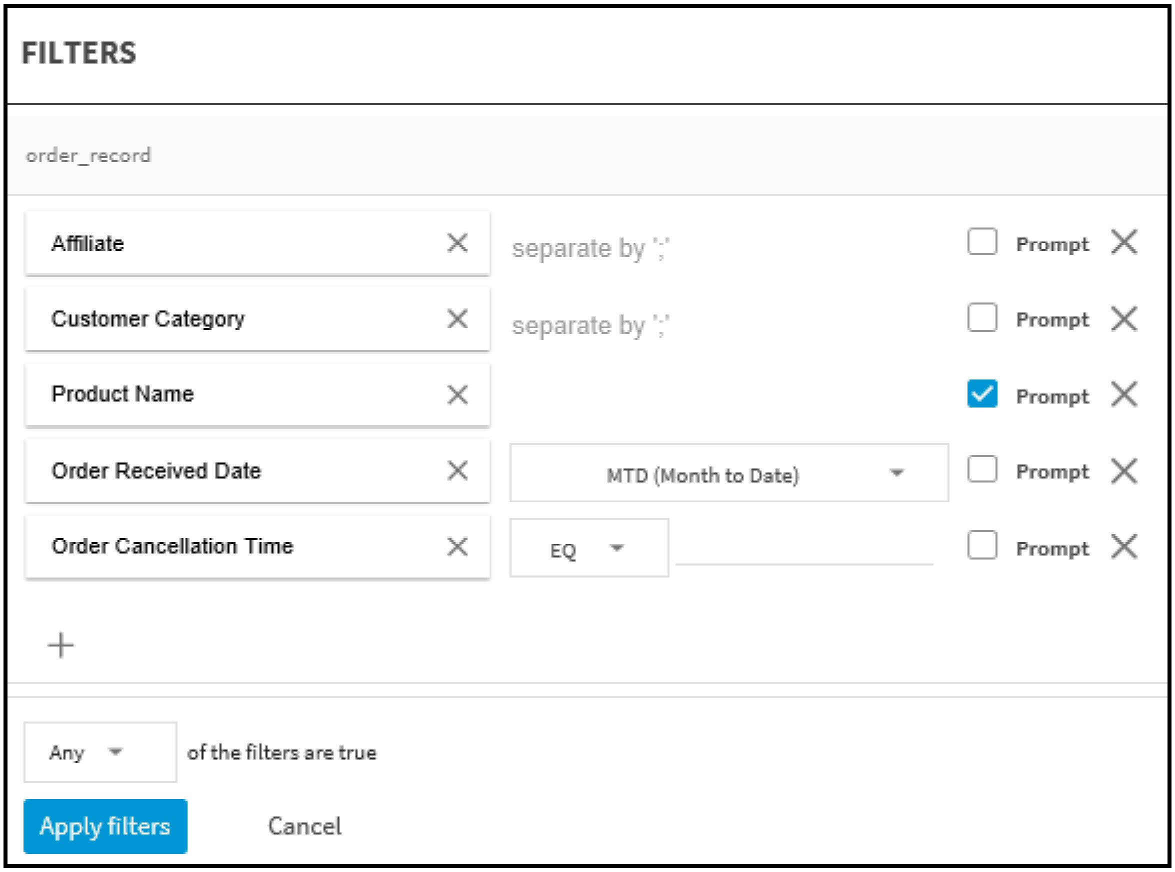
1. Create a new report or open an existing report.
2. Select the **Refresh Data** button in the top right of the screen to populate your report.
3. Select **Preview** to see your report in full screen view.



3.2.9 FILTER

Use Filter to include or exclude data in the report.

1. Create a new report or open an existing report.
2. Select the **Filter** button in the top right of the screen.



3. Select the data by which you want to filter in the **Please Select an Artifact** drop-down list box.

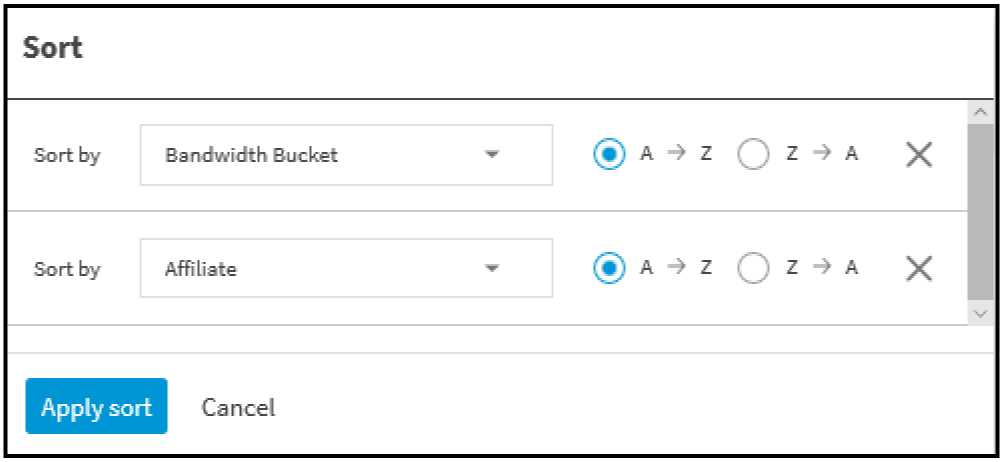
	Note: By default, the artifact will be separated with a semi-colon (;) unless you change it.

4. Select the **Prompt** check box to alter the separator.
5. Select **additional requirements** based on the type of artifact. For example, select date information.
6. Select ⊞ to add additional Filter criteria.
7. Select ⊠ to delete Filter criteria.
8. Select how to Filter from **the of the filters are true** drop-down list box:
   - **All** – All of the artifacts must be present to be included in the report.
   - **Any** – Any of the artifacts must be present to be included in the report.
9. Select **Apply filters**.

3.2.10 SORT

Use Sort to determine the order in which data displays in the report.

1. Create a new report or open an existing report.
2. Select the **Sort** button in the top right of the screen.



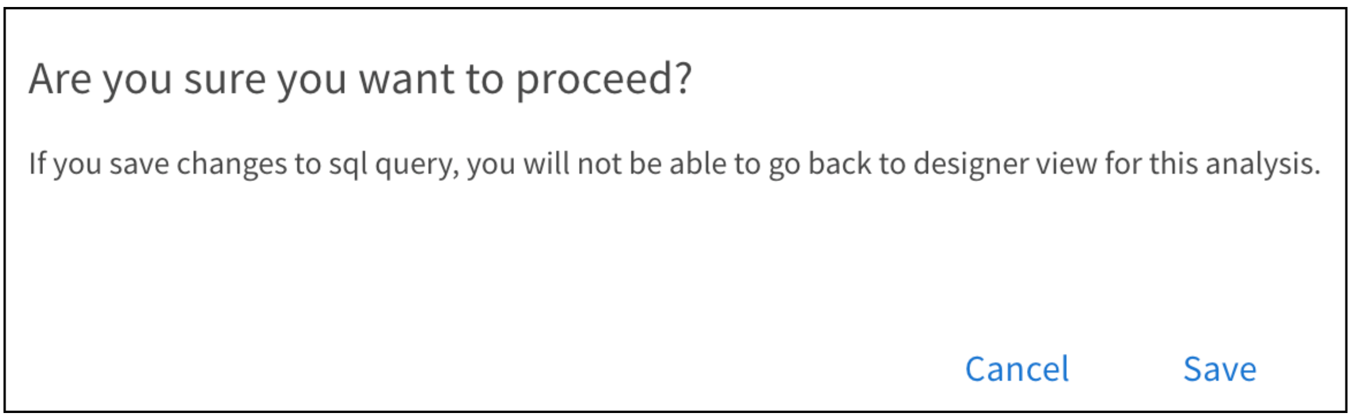
3. Select the field by which you desire to sort in each of the **Sort By** drop-down list boxes.
4. Select to **sort order** ascending from A to Z or descending from Z to A.
5. Select **Apply sort**.

3.2.11 QUERY

Use Query to save your analysis as an SQL Query. The field names for the column names are defined in the semantic layer configuration and not the field aliases you see in design mode.

1. Create a new report or open an existing report.
2. Select the **Query** button in the top right of the screen.
3. Select **Save**.

4. Select **Save**.

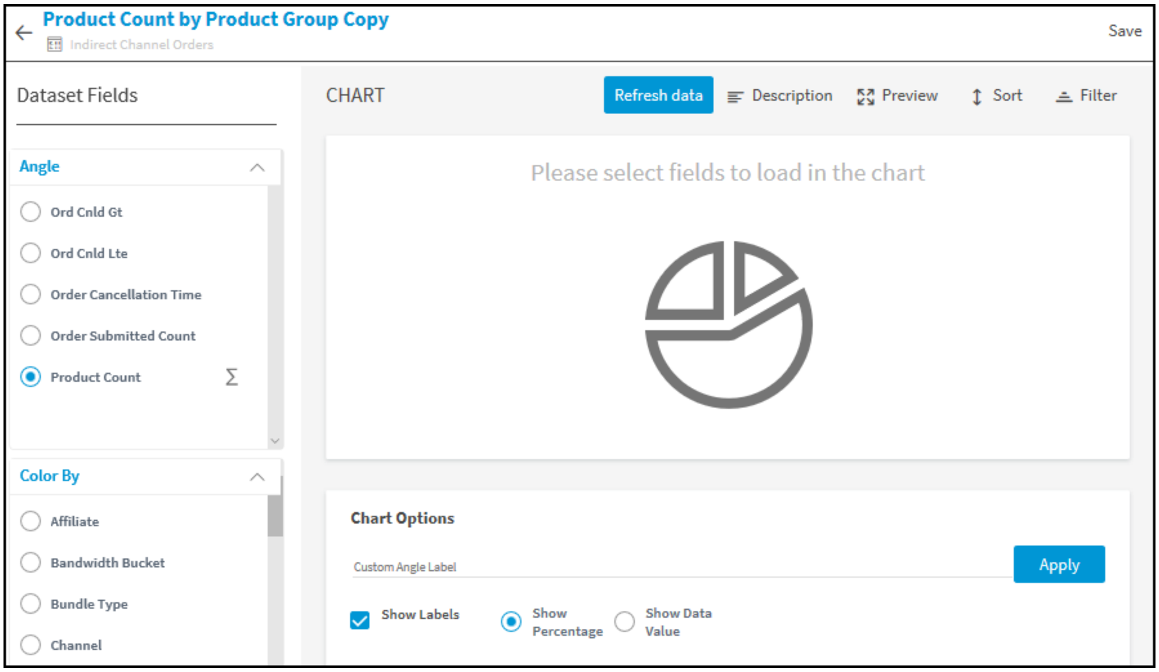


Note: If you select Save in this prompt, you will not be able to return to the designer view for this analysis and will have to recreate it.

3.2.12 FORK

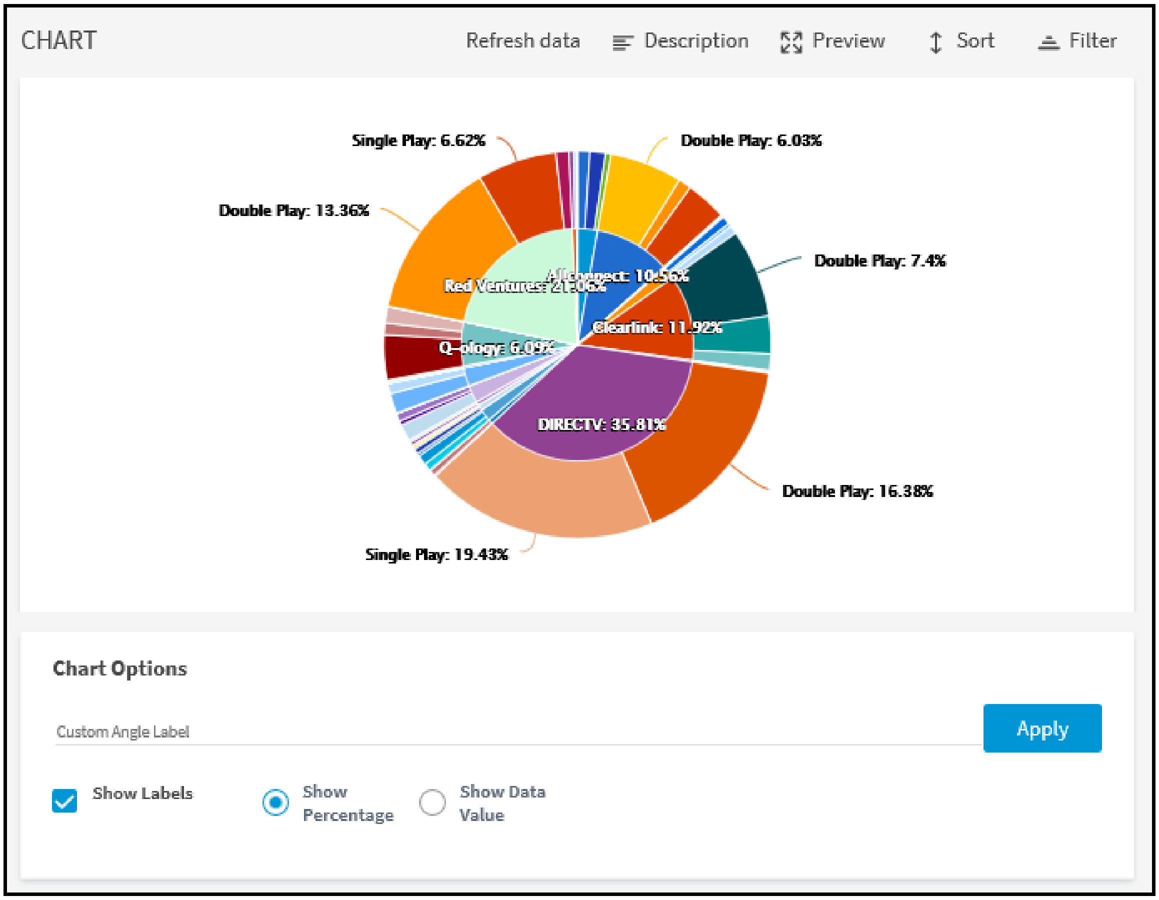
Use Fork to clone or copy an existing analysis to edit the data and create a new analysis.

1. Select the **Fork** icon next to the analysis you desire to copy. 



2. Select the **Dataset Fields** to display in your report.
3. Select the **Chart Options** and select **Apply**.

- **Show Labels** enables you to display chart values as a percentage (**Show Percentage**) or as a value (**Show Data Value**).



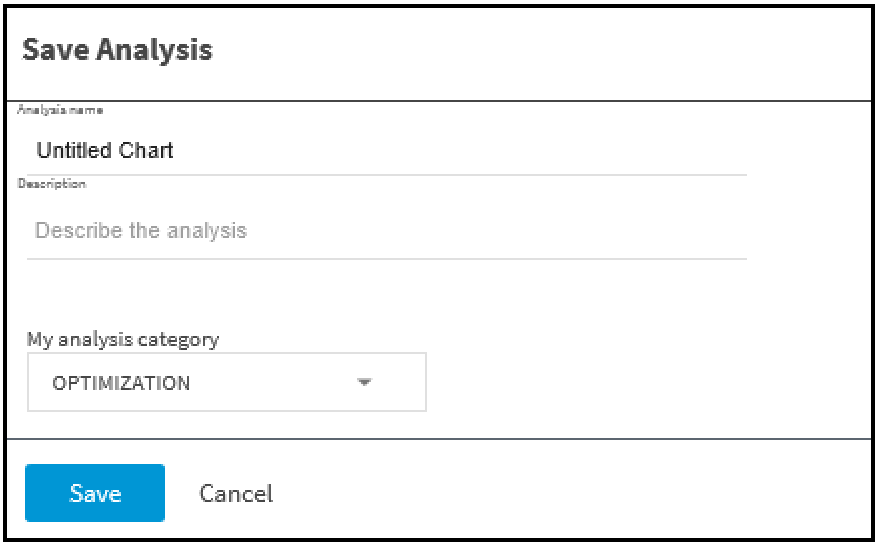
Note: Select the **Refresh data** button to update the analysis with the newest data.

4. Select **"Description" on page 48** to provide a detailed and meaningful definition of what the report analysis displays.
5. Select **"Preview" on page 49** to see your report in full screen view.
6. Select **"Sort" on page 51** to determine the order in which data displays in the report.
7. Select **"Filter" on page 50** to include or exclude data in the report.
8. Select **Save**. Refer to "Save Analysis" on the next page.

3.2.13 SAVE ANALYSIS

To save the report:

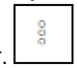
1. Create a new report or open an existing report.
2. Select the **Save** button.

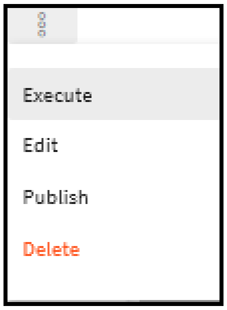


3. Enter an **Analysis name**.
4. Enter a **Description** for the report if you did not already do so using "Description" on page 48.
5. Select they type of report in the **My analysis category** drop-down list box. The Administrator adds the categories. By default, the read-only Canned Analysis report displays.
6. Select **Save**.

3.2.14 REPORT OPTIONS

Use report options to execute an analysis, edit an analysis, publish an analysis, or delete an analysis.

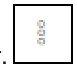
1. Select the **Analysis Button** next to the report you desire to alter. 

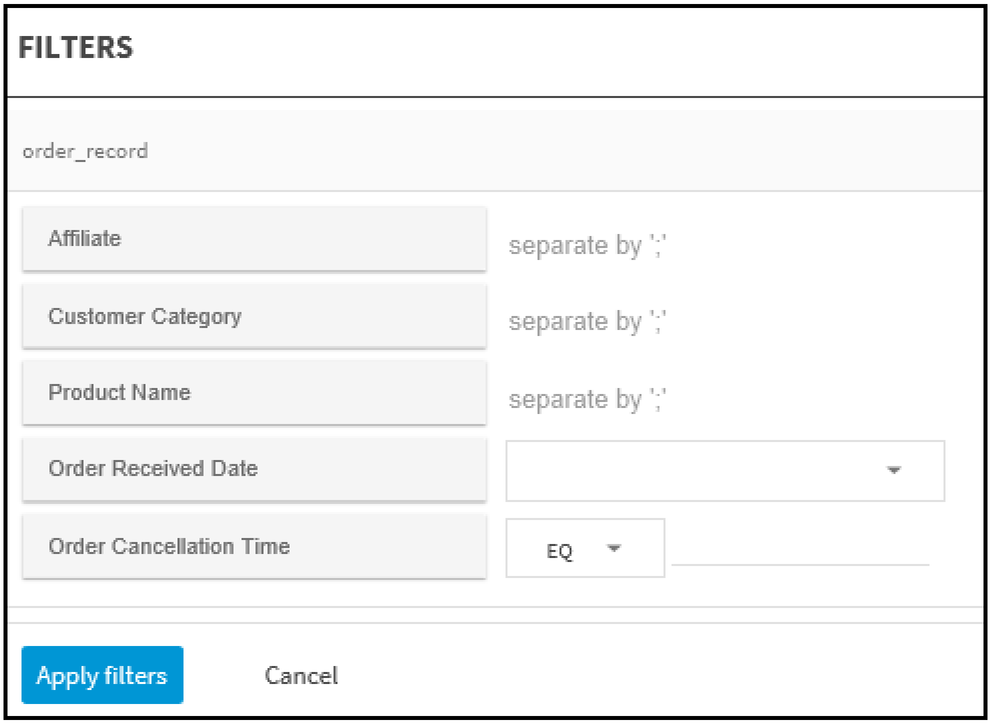


- **Execute** – Run and refresh the results in Analyze module to acquire the latest data for an analysis. Refer to "Execute" on the next page.
- **Export** – Download analysis your computer via the browser. The format depends on where you are in the application: CSV for reports and Excel (XLSX) for pivot data. Refer to "Export" on page 58.
- **Edit** – Change the report analysis data. Refer to "Edit" on page 59.
- **Publish** – Publish the data to a shared sub-category. Publish enables you to move an item to a different sub-category. Publish also gives you the ability to create, edit, remove a schedule for automatic recurring execution. Refer to "Publish" on page 60.
- **Delete** – Delete the report. Refer to "Delete" on page 61.

3.2.14.1 Execute

Use Execute to run and refresh the results in Analyze module to acquire the latest data for an analysis.

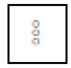
1. Select the **Options** next to the report you desire to alter. 
2. Select **Execute**.



3. **Change fields** as desired.
4. Select **Apply filters**.

3.2.14.2 Export

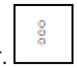
Use Export data and download it your computer via the browser. The format depends on where you are in the application: CSV for reports and Excel (XLSX) for pivot data.

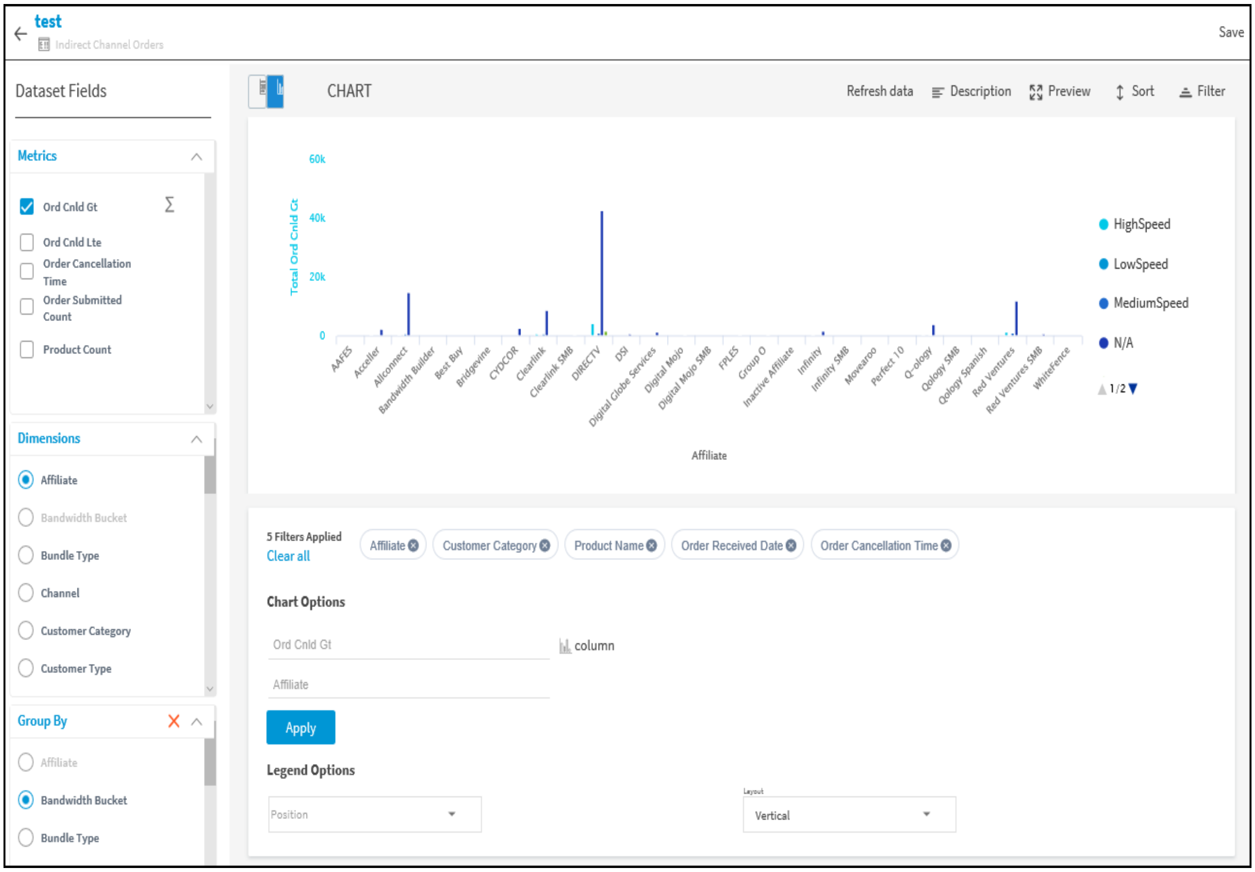
1. Select the **Options** next to the analysis you desire to alter. 
2. Select **Export**.

3. **Open** or **Save** as desired.

3.2.14.3 Edit

Use to change the report analysis data.

1. Select the **Options** next to the report you desire to alter. 
2. Select **Edit**.



3. Delete **Filters Applied** if necessary.
4. Select the **Data Fields**: **Metrics**, **Dimensions**, and **Grouped By**. This is the data acquired from the data lake from which you can populate a report.

Chart Options differ depending on the previous selections:

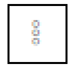
5. Select **Inverted** or **Not Inverted** to determine the origin of how certain reports display. Refer to "Inverted or Not Inverted" on page 47.
6. Select the **Legend Options** which is the location where the legend displays: **Left**, **Right**, **Top**, or **Bottom**.
7. Select the **Layout** which determines the direction the report displays on the page: **Vertical** (portrait) or **Horizontal** (landscape).

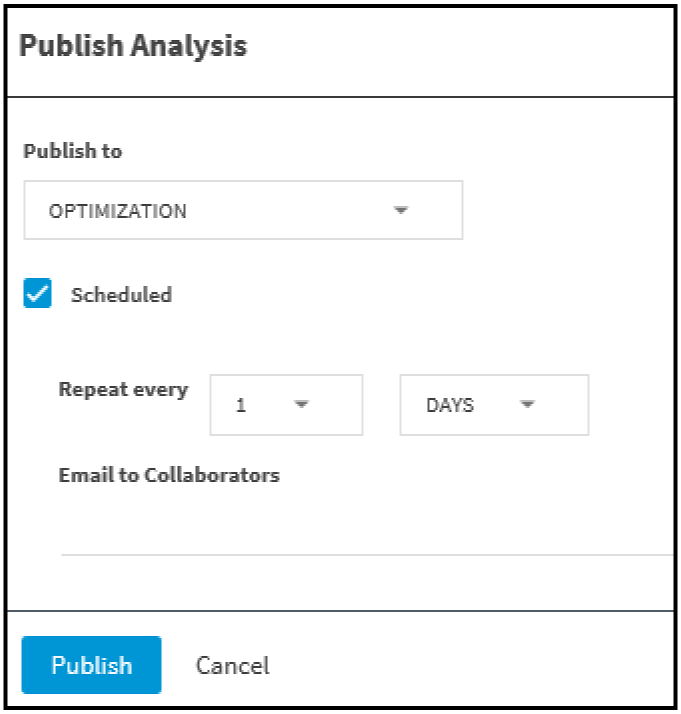
Use the options in the upper right corner of the screen to further define your report.

8. Select **Refresh Data** to populate or update the report. Refer to "Refresh Data" on page 48.
9. Enter a **Description** for the report. Refer to "Description" on page 48.
10. Select **Preview** to view the report. Refer to "Preview" on page 49.
11. Select **Sort** define order of the data. Refer to "Sort" on page 51.
12. Select **Filter** to categorize the data for the report. Refer to "Filter" on page 50.
13. Select **Save**. Refer to "Save Analysis" on page 55.

3.2.14.4 Publish

Use to publish the data to a shared sub-category. Publish enables you to move an item to a different sub-category. Publish also gives you the ability to create, edit, remove a schedule for automatic recurring execution.

1. Select the **Options** next to the report you desire to alter. 
2. Select **Publish**.



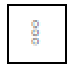
3. Select the **Category** under which to Publish this analysis.
4. Select the **Scheduled** check box to enable a schedule for automatic recurring execution.
5. Select how often you desire the analysis to run from the **Repeat every** drop-down list boxes.
6. Enter the email addresses of the **Email to Collaborators** you desire to receive an alert when the analysis executes.

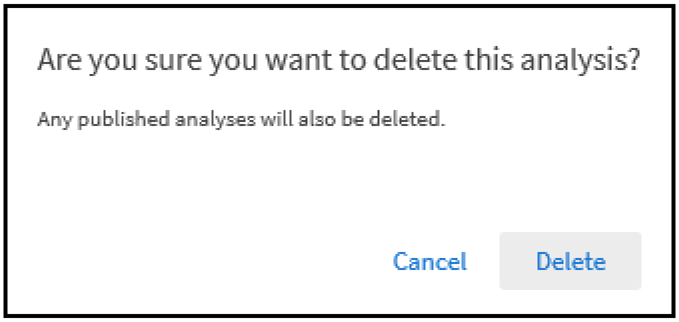
	**Note:** Add a semicolon (;) between email addresses to include multiple collaborators.

7. Select **Publish**.

3.2.14.5 Delete

Use to delete an analysis.

1. Select the **Options** next to the analysis you desire to alter. 
2. Select **Delete**.



3. Select **Delete**.

Glossary of Terms

B

BDA

Big Data Analytics

D

Data Lake

A data lake is a storage repository that holds a vast amount of raw data in its native format until it is needed. While a hierarchical data warehouse stores data in files or folders, a data lake uses a flat architecture to store data.

DNS

Domain Name System (DNS) server is a computer server that contains a database of public IP addresses and their associated hostnames, and serves to resolve, or translate, those common names to IP addresses as requested.

E

Elasticsearch

Elasticsearch is a distributed, RESTful search and analytics engine capable of solving a growing number of use cases. Elasticsearch centrally stores data for discovery.

F

FQDN

Fully Qualified Domain Name

FTP

File Transfer Protocol.

I

IP

IP Address

K

KPI

Key Performance Indicator

S

SAW

Synchronoss Analytics Workbench

SIP

Synchronoss Insights Platform

Index

L

N

P

Q

R

S

T

U

V

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