DATASETS

Table of Contents

1. Understanding Datasets

1.1 Understanding Datasets

Datasets function as an additional layer between Data Sources and elements created in Metric Insights. This functionality gives users without a technical background the ability to utilize data. With Datasets there is no need to understand the structure of source database, know SQL or the syntax of other BI tools. Datasets allow:

- Data to be easily staged to support business users in creating their own Metric Insights content without having to understand underlying Data Sources
- Snapshots of data from a Data Source without having to create and maintain "staging reports".
- Creation of exception and change reports from any Data Source without having to understand Data Source-specific syntax or SQL   See also Dataset/User Map Security Overview (Release 5.2.1 and beyond)
- Utilization of dynamic filtering to identify exceptions and changes in large, complex data sets without any dimensional restrictions

For more details refer to: Create a Dataset

1.2 Create a Dataset from any Data Source

Datasets serve as a staging layer between Data Sources and Metric Insights elements (Metrics and Reports).

The ultimate goal of Dataset functionality is to separate data loading, staging and discovery from data display and distribution. A Dataset (and its Dataset Views) can be used as the source for multiple Reports and Metrics, allowing a single source for many different elements and use-cases.

⚠ To understand how our Security model interacts with Datasets, see **Datasets** in the **Controlling Access within Metric Insights** manual**.**

Video Tutorial

1. Access New or Content menu > Datasets

1.1. New Menu >Dataset > Create New
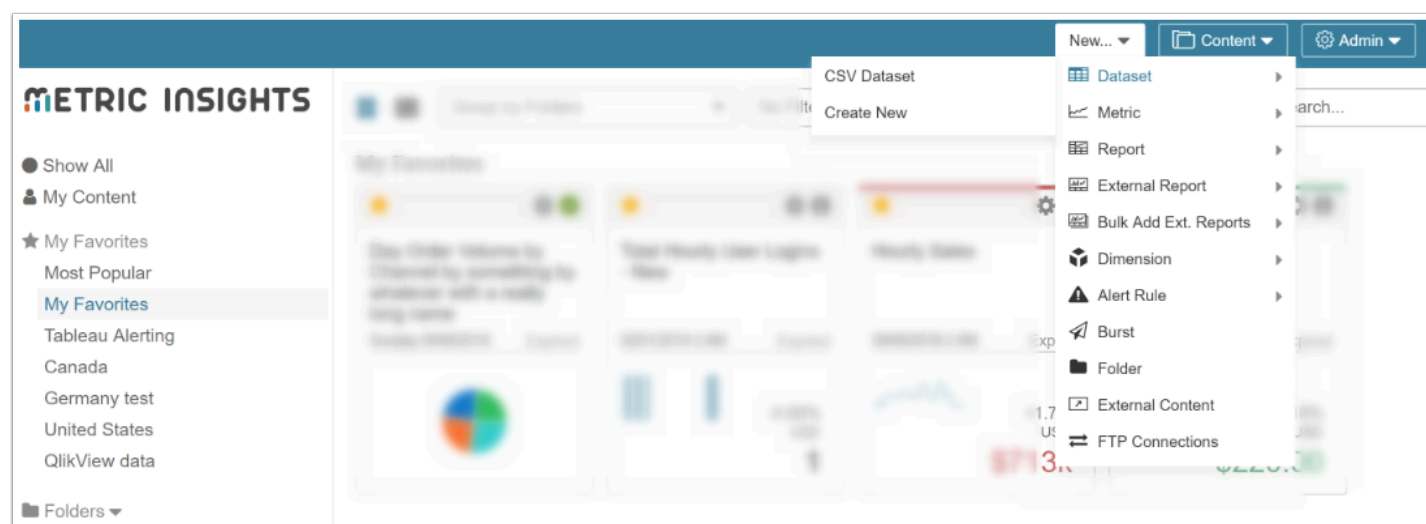
1.2. Content menu > Datasets > New dataset

Below the grid, click **[+ New dataset]**

1.3. Add Dataset from a Dataset view (Materialize a Dataset)

> New feature in Release 6.2.2 is the ability to Create a new Dataset from a Dataset View via the Actions dropdown.

The new Dataset is automatically created and enabled. Continue with the steps below to modify any of the defaults as needed.

> 💡 One new Dataset may be created from a View. After one is created, you will no longer see the option on the Action Dropdown.

2. [Info tab] Define the basics

1. **Measured:** select the measurement interval that applies to the level of aggregation that you want in your result set.
2. **Collecting**: new Datasets are always disabled by default to make sure that you can take time to configure them properly before enabling. This setting is duplicated at the top of the screen.
3. **Name:** provide a unique name for your dataset. Preferably, the dataset name should explain what kind of data it contains.

Move to the *Data* tab to define the source of data and how often it should be updated.

3. [Data tab] Configure data collection

3.1. [Data tab] for a Plug-in (Tableau example)

> 💡 **PREREQUISITES**:

> • **Data Source**: Metric Insights must have a working data source connection to Tableau. If you have not yet configured a data source connection, see instructions for your particular BI Tool here: <u>Connecting To Data Sources.</u>

3.1.1. First find the Tableau Report you want to further use as a Dataset
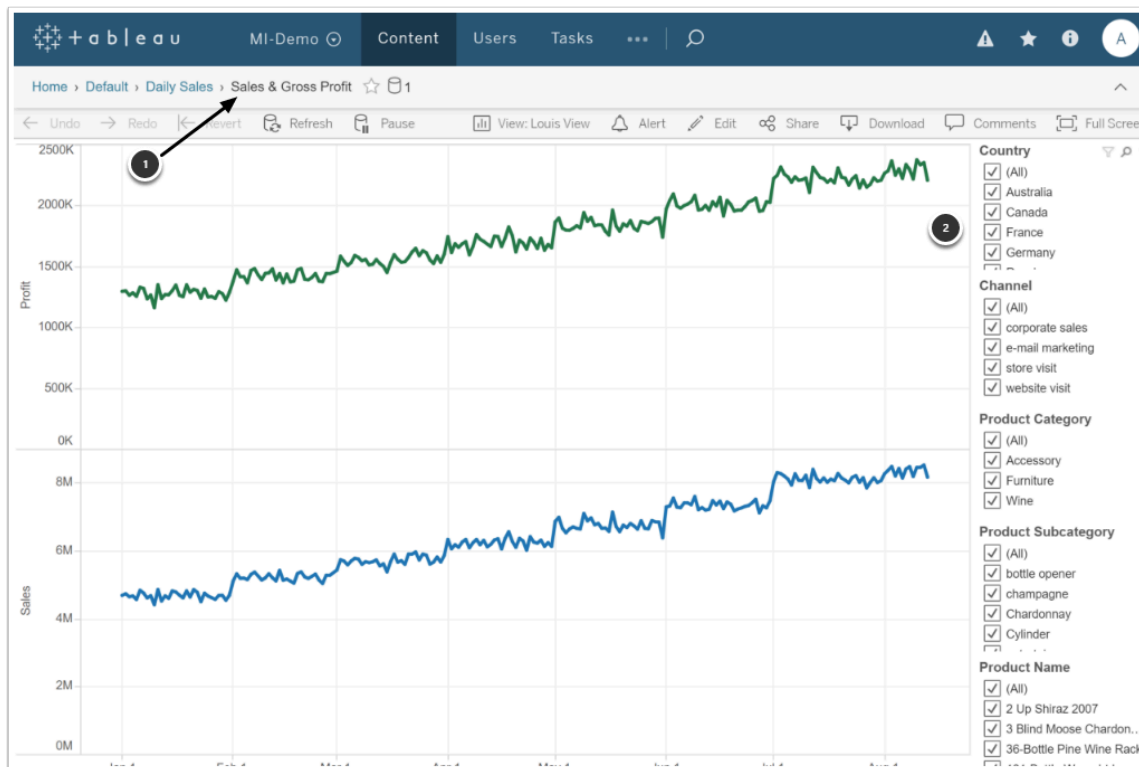
At the Tableau dashboard pay attention to:

1. **Worksheet name**: You will need to remember this when defining your Data Source
2. You can filter elements sourced from your BI Tool, see <u>Setting</u> Filters below. You can also include some of these filter values into your fetch command. Both of these will enable MI to load data selectively, choosing only the values you really need instead of fetching all the data from this worksheet.

3.1.2. [Configuration tab] This is the 5.6 version, your display may differ

1. **Data Source**: Select the Tableau plug-in serving as a Data Source for this Dataset. For more info, see: [Establish Connectivity to Tableau Server](#)
2. Set the **Data Collection Trigger** which is going to initiate updating information in a Metric or Dimension Values. If there is no option matching your requirements, scroll down to the bottom of the drop-down list and click **Add New Data Collection Trigger**.
3. Select the *Tableau Worksheet* from the drop-down list.

3.1.3. Setting Filters

For more details, see examples in [Pre-filtering BI tools (External Reports)](#)

1. Select **Manage Filters**
2. The **Add Tableau Filter** pop-up opens
3. You must exactly match the Filter Names used in Tableau - see First find the Tableau Report you want to further use as a Dataset above or select the on-screen Help link.
4. You can enter the **Filter Values** manually or by mapping to existing Filters in Dimensions or other Datasets
5. The **Values** grid will be populated with your choice
6. **Save** the changes made and optionally add more Filters

3.1.4. Optionally you can limit the values

By default, filters are set to 'All'. To change this setting:

1. Click **Edit** (a **Pencil** icon)
2. The *Tableau Filter Values* pop-up opens
3. You have 3 options to choose from:
   - '***Use** All Values*'
   - '***Use** Only Selected Values*'
   - '***Ignore Filter***'

4. In case you need to include only certain values, select them in the list.

3.1.5. Plugin Command: [Option 1] Visual Editor

1. Select the **Visual** Editor option.
2. **Select Columns**
3. The *Tableau Query Builder* pop-up opens
4. Select the parameters you would like to include to your Plugin command
5. **Save** your selection.

3.1.6. Plugin Command: [Option 2] Manual Entry

1. In the **Plugin command** box choose the **Command** option.
2. Write your command. For a hint on plugin commands, refer to <u>Plugin commands</u>

3.1.7. Select "Validate" to preview data

3.2. [Data tab] for SQL (Database example)

1. **Data Source**: Choose a data fetch method from drop-down list. A SQL-based Data Source is used in this example. For more details on other available data sources and specific fetch method requirements, see Understanding Data Sources

2. **Data Collection Schedule:** select how often data should be recollected for this Dataset to ensure that it contains relevant data.

3. Write a **SQL Statement** defining the data to be extracted from the database. You may use **:measurement_time** in your statement to bind in a date or series of date values. See also:
   How do I use the :measurement_time bind variable?

4. **Validate** your statement. If you have included **:measurement_time** parameter in your statement, it is required to specify Measurement Time for Parameter Substitution.

5. If the statement is valid, a **Validation Rows Preview** section pops-up at the bottom of the screen. You can also open it by clicking **Show validation rows** under the **SQL Statement** box.

4. Optionally, customize the display of your Dataset values

4.1. SQL example

1. Click **Save to** display the **Dataset Columns** table.
2. Dataset Columns: This table can be used to rename column names and define precision for numeric fields if needed. In the given example, there are a few fields that could use better Column Names and let's say we would like the Total_unit_count to be a whole number rather than the default value of 2 decimal points.
3. Click the **Gear** for each field you would like to rename
4. On the resulting pop-up:
   - Type in a new **Column Name**
   - If the data element is a floating-point integer, you can also change the number of decimals to display using the drop-down list on the **Precision** field.

4.2. BI Tool example

1. Select **Modify Columns**
2. **Query Builder** opens
3. Apply **Overrides** and **Aggregations** as needed

4.3. Special and accented characters

⚠ **Special and accented characters (Éé Êê Èè Ëë Ââ Àà Ää Ïï Îî Üü Ûû Ùù Ÿÿ Çç Ôô Öö ?ß Ææ Œœ)**

Regardless of the Dataset's Data Source, Metric Insights supports special and accented characters. Please note, that after the command is validated, and data is distributed to columns and the **Dataset Columns** table is shown, the special characters may be converted to the underscore symbol [_] in the **Reference Name** column. This behavior is only characteristic for the *Dataset Editor* and doesn't cause issues in the Viewer.

| Info | Data | Advanced | Views & Elements | Access | Collection History |

Tableau Filters

Tableau Filter	Tableau Values	
NÊêamÈèe	4 Values: AÆælex, KÛûolyan, and 2 others	✏

+ Tableau Filter

Plugin command

⊞ Visual   ⌐ Command

Field	Type	Override	Aggregation

⊞ Select Columns

You may use **:measurement_time** in your statement to bind in a date or series of date values.

✔ Validate   Show validation rows

Dataset Columns

Column Name	Reference Name	Type	Display Mask	Contain NULLS?	
NÊêamÈèe	n__am__e	text		No	⚙
Year of DÜüaÛûtÙùe	year_of_d__a__t_e	int		No	⚙
CÊëoÂâuÀânÄätÎïrÌîy	c__o__u__n__t__r__y	text		No	⚙
SÝÿaÇçlÔôaßßrÆæyŒœa	s__a__l__a__r__y__a	int		No	⚙
lééd	i__d	int		No	⚙

5. Advanced settings

Validation performed for: 2016-04-06 Change this value

Dataset Columns

Column Name	Reference Name	Type	Precision	
Order Date	calendar_date	datetime		⚙
channel	channel	text		⚙
country	country	text		⚙
Total Units	sum_total_unit_count_	float	0	⚙
Total Sales Amt	sum_total_amount_	float	2	⚙

① Snapshot Dataset? (keep history) ⦿ yes ○ no

Save a full copy of the data (a 'snapshot') each time it is collected, and append the collection time to all the snapshot values. This is useful when you want to compare Datasets over time that do not have timestamps in them natively.

② Can historical instances be backfilled? ⦿ yes ○ no

Include current Day ⦿ yes ○ no

Max empty instances to fetch 2

1. Snapshot Datasets are associated with keeping Dataset history and having the ability to compare Dataset instances over time.
   - If this the Dataset is not defined as a Snapshot dataset (this field is set to 'no'), then only the most recent instance of the Dataset will be retained
   - If it is a Snapshot Dataset (the history is going to be kept, for more details refer to: Snapshot Datasets: Comparing Instances), then an additional setting will be exposed below, namely, **Can historical instances be backfilled?** (see below)

2. *This field is shown for Snapshot Datasets only.*
   - If the **Can historical instances be backfilled?** field is set to 'no', then only one instance of the Dataset will be computed at run time and it is required to set the value for the ':measurement_time' variable in the field below. It's important to note that while only one instance of the Dataset will be computed at run time, a new instance of the Dataset will be computed at each succeeding refresh interval. Since history is kept (the *Snapshot Dataset?* field is set to 'yes'), all instances will be retained. This technique can be used to create 'snapshots' of your underlying data at fixed time intervals.
   - If this field is set to 'yes', then multiple instances of the Dataset can be computed at run time and the ':measurement_time' variable is defined automatically by the system.

See also: [How do I use the: measurement_time bind variable?](#)

At the upper right corner of the screen, click **Enable and Publish**.

6. Enable and Publish to open the Dataset Viewer

Your Dataset is now ready for use.

7. What would you like to do next?

- You may start working with it by filtering data and saving separate [Dataset Views](#)
- [Creating Elements from Datasets](#)
- If you chose to create s Snapshot Dataset, you may find this article useful: [Snapshot Datasets: Comparing Past Instances](#)
- Create a [User Map](#)

1.3 Create a Dataset View

Datasets are designed to serve as pool of data and as data sources for new elements, such as Metrics and Reports.

Additionally, you can seed out specific data by creating Dataset Views.

This article answers the following questions:

- How to create a View from the Dataset Viewer?
- How to define additional rules and conditions by which to filter the data?

PREREQUISITES:

- Create a Dataset from any Data Source
- *Optionally*: Create an Access Map and Apply an Access Map to a Dataset

1. Access New > View

On the *New Dataset View:*

1. **Dataset:** select a dataset that should serve as a Data Source for new View
2. **Name:** should be unique and descriptive
3. **Visibility**: define whether you create this View for your own use or if it can be available for other users with permission to access the Dataset. Views may have 2 visibility modes:
   - **Public**: Can be created by Admins and Power Users with the appropriate **Privileges and Permissions** (see Understanding Power Users (Release 5.3 and beyond) and accessed by anyone who can view the Dataset; see Dataset/User Map Security Overview (Release 5.2.1 and beyond)
     - Metrics and Reports can be created only from **Public** Views

- **Private**: Can only be accessed by Admins or the user who created the View

Click **New Dataset View** to proceed with defining criteria for this new View in the *Dataset Viewer*.

2. Choose fields for this View

1. Select text, date and numeric fields that should be included into your View
2. Choose aggregation method for numeric fields (Sum, Avg, Min, Max, Count)
3. Define additional filters the total dataset.
4. Click **Apply Changes** to limit the results set to the selected fields

3. Review a new View with its results set

1. Results are displayed below the *Select Field* box
2. **Save** this View

4. Alternatively, Views can be created right from the Dataset Viewer

1. Open any View (select 'All data' for full range of fields)
2. Complete Steps 2 and 3 as above
3. At the top of the page click **Save as View** and the pop-up will allow you to create a new View as shown in Step 1

5. Defining Filters (Conditions)

Dataset Views allow seeding out the required information using conditional filtering. You may mix several simple or compound **AND / OR] filters** to focus on a highly specific data slice. The results set will be displayed right on the same page.

Let's review the use cases given below.

5.1. Example of Simple Filter criteria

Use Case: Show any product sales of more than $20,000 in Australia via corporate sales channel. Note that all of the filters are **AND filters**, since we want to find data matching **all** of these criteria.

1. Select the following columns from the dataset for the view: Product Name, Channel, Country, Sales, Units, Sales Per Unit.
2. **Define filters**: click **[+ Rule]** and define criteria for each new rule.

3. Note that all of the filters are **AND filters**, since we need to find data matching ALL of these criteria.
4. **Apply Changes** to update the **Results**

You may create a separate View out of this data slice by clicking **Save as View** at the top of the page.

5.2. Example of Compound Filter criteria

Use Case: Include any product sales for more than $20,000 in Canada for any channel **OR** for more than $10,000 in Australia for any channel.

1. Select the following columns from the Dataset for the view: Product Name, Channel, Country, Sales, Units, Sales Per Unit.
2. **Define filters**: Our use case consists of 2 groups of conditions: click **[+ Group]** and define criteria for the first and second group:
   - **[Group 1]**: country = Canada **AND** sales > 20,000
   - **[Group 2]**: country = Australia **AND** sales > 10,000

3. Choose the **OR filter** to define relations between the Groups
4. **Apply Changes** to update the **Results** set

You may create a separate View out of this data slice by clicking **Save as View** at the top of the page.

What would you like to do next?

- [Dataset/User Map Security Overview (Release 5.2.1 and beyond)](#)
- [Delete](#) an unnecessary Dataset View?
- [Compare Past Dataset View Instances](#)
- [Create a Report from a Dataset View](#)
- [Create a Metric from a Dataset View](#)

1.4 Dataset Viewer - Exception Detection (select fields / define derived fields and filters)

In the sections below, this article answers the following questions:

- How to limit results to selected fields?
- How to define filters?
- Apply a Rule versus a Group?
- How to use AND/OR operators?
- How to track data changes
- How to save changes as a separate View?

For release 5.0.5 and beyond:

- How to add Derived Fields to a Dataset's Result set?
- How to compare Dataset date fields to Snapshot (historical) dates?

1. Fields Selector

You can limit the display of Dataset's **All Data** only to those fields that are required for your data analysis.

Just select the fields you need in the **Select Fields** section, click **Apply Changes** in the right side of the screen and the **Result** set is going to be updated and only those columns that you have selected are going to be displayed.

2. [Version 5.0.5 and further] How to add Derived Fields to Dataset's Result set?

Construct Derived Field ✕

| Name | Sales - 30% |

Precision [2 ▾] digit(s)

| Expression | [sales]-([sales]*0.3) |

Use **Tab** to open autosuggest or it will be opened automatically after typing "["
Learn the Expression Syntax

Update Field or cancel

Derived fields include values that do not exist in a Data Source itself but are calculated from one or more existing numeric fields via basic arithmetic expressions and non-aggregate numeric functions.

For more details refer to:

- Derived fields for Data Processing (Overview / Create / Aggregate)
- Expression Syntax for Derived Fields Formulas

3. Defining Filters

In addition to selecting specific fields, you can filter data using custom conditions. The process of creating a filter is similar to constructing a sentence: you choose a subject, comparison conditions and the values which are going to serve as a reference for filtering.

Part	Description	Example
Subject	The column you want to base the filter on. This drop-down list includes the same values as those displayed in the the **Filed Selector** to the left of the **Filter** section.	name, units, country
Condition	Contains a set of comparison operators which define the **Subject**. This drop-down list includes different values depending on whether the values in the selected subject are text or integer: *For text columns*: exactly matches, contains, is in list, is not empty, does not equal, starts with. *For integer columns*: equals, is more than, is more than or equal to, is less than, is less than or equal to, does not equal. Some of the conditions define the relationship between the **Subject** and the **Value** that follows; others function independently and do not require a specific Value.	Different for text and integer fields
Value	The Value of the subject you're basing the filter on: *keyword, text or numeric value*. Value may be added with wildcard (%%)representing alphanumeric characters.	corporate sales, 5000, Spain

4. Types of Filters

You can use filters to seed out the required information using conditional filtering. You may mix and match several simple Rules or compound filters (Groups) as defined in Create a Dataset View aggregated via **[AND / OR]** operators to focus on a highly specific data slice. The Results set will be displayed right on the same page.

Rule (Simple Filter Criteria)

Group (Compound Filter Criteria)

5. AND / OR Operators

When you're using multiple Rules and Groups of conditions, you can use an **AND / OR** switches. You can not mix and match AND / OR for the set of applied filters but if you add a group of conditions, you may apply an alternative operator to it.

In the example below the following filters are applied to a dataset. All of them are aggregated by the AND operator, meaning that all of 3 filters should be TRUE:

1. Simple Rule
2. A Group of 3 conditions aggregated by the OR operator (ANY of 3 conditions should be TRUE)
3. A Group of 2 conditions aggregated by the OR operator (ANY of 2 conditions should be TRUE)

Operator	Description
AND	We return all rows that match ALL of the filters.
OR	We return all rows that match ANY of the filters.

6. [Version 5.0.5] How to compare Dataset date fields to Snapshot (historical) dates

In Versions prior to 5.0.5 date comparisons could be performed to a constant or if there is more than one date field in a Data Source - to other date fields.

In version 5.0.5 a new comparison option has been added - **snapshot date**. Snapshot date is the date when the Dataset has been collected or updated.

Datasets may be:

- **Single Instance:** show only when the Dataset has been collected (as shown in the picture below)
- **Multi-Instance** (Snapshot dataset): keeps history of Data updates.

User can filter on a date field by comparing the field to the dataset effective date for a *single instance* or *multi-instance* dataset.

Multi-Instance Dataset Example (click to open)

7. How to track changes - comparing instances

You can compare the data from the current period to the prior period to highlight changes. For more details refer to this article: Snapshot Datasets: Comparing Instances.

8. Saving field selection and applied filters as a separate View

- There is no need to apply the same filters to review the same **Results** set later. You can save the Results set with selected fields and applied filters as a separate **View**. To learn more about Views, refer to: Create a Dataset View
- Dataset Views can serve to quickly create Reports / Metrics. Refer to Create a Report from a Dataset View or Create a Metric from a Dataset View for more details.

1.5 Create a Statistical Model (Datasets)

The new functionality implemented in Version 5 allows Users to easily create a statistical model to find anomalies in data containing a large number of dimension values. This process can surface specific anomalies across thousand of records and dimensions, allowing reports and metrics to be easily created with this reduced information.

For an example, we will create a Stats Model from an existing Dataset containing Sales data from our test database. We want to find any values of 'Cost of Product', 'Sales Amount' or 'Gross Profit' that fall outside of 2 standard deviations from a 30-day moving average. We want to perform this evaluation across these dimensions: Country, Channel, and Product sub-category.

⚠ You can only create Stats Models on Datasets that 'keep history', aka Snapshot Datasets, and you need to use the 'All Data' View.

💡 Security requirements for Power Users;

See [Understanding Power Users (Release 5.3 and beyond)](#) and [Dataset/User Map Security Overview (Release 5.2.1 and beyond)](#)

1. Creating Statistical Models from the Dataset Viewer

ℹ️ Stats Models can only be created from the 'All Data' Views

In our example, the **All data View** of the Dataset provides the following:

Measures :

1. Cost of product
2. Sales amount
3. Gross profit amount

Dimensions:

- Product_subcategory
- Country
- Channel

2. Actions > Build Stats Model will open the Stats Model editor

1. **Name** - default is '*Statistical Model*' appended to your Dataset Name - Name may be modified.
2. **Date column** - choose a *Date* from the Results field or use '*Snapshot Date*' if your Dataset is snapshotted.
3. **Moving Average Interval** - select a moving average range that will produce statistically relevant data.
4. **Upper and Lower Control Limits** provide calculations used in I-MR statistics. Provide the multiplier used to generate upper and lower control boundaries.
5. The generated Stats Model returns only records that fall outside of a specified number of standard deviations. Lower numbers will include more results, higher numbers fewer records but significantly anomalous results. Set your Volatility limit to control the number of records returned in your stats model.
6. You can compute volatility for the either the *current(latest) Calendar date* or for *all Calendar values.*
7. Dimension value is defaulted but can be changed or added to by clicking on *[+ Dimension]*
8. Measure values is also defaulted but can be changed or added to by clicking on *[+ Field]*

3. Select Dimensions (filters) and Measures for your Stats Model Results

1. **Dimensions** - We have selected 3 filters. We have also selected Include Totals for each dimension to generate stats for every unique combination of filter values against all other filter values including aggregated totals. In this example, a Total value will be calculated for All Countries, All Channels, All Product-subcategories, as well as all channels and products for each country, all countries and products for each channel, etc.
2. **Measures** - select those measures you are interested in
3. You can add any number of computed fields via *[+ **Derived** Field]*
4. Check to Include a generated column that concatenates all Measure Names greater than your specified volatility limit (in this example, all measures with values greater than 2 standard deviations from 30-day moving average)
5. If you have checked #4, you may elect to alternately display one row for each separate measure with an anomaly instead of concatenating.
6. **Save** to create your Stat Dataset - note that this may take some time and that you can exit this page while this processing occurs

4. Review Results of one row per Measure setting

5. To change options, simply Edit > Statistical Model

6. Review Results of this Model will quickly highlight those elements with Anomalies

1. For email Marketing in Australia, Chardonnay has anomalies in all 3 Measures - *Total Cost, Total Sales Amount, Total Gross Profit*
2. For Website Visits in Australia, the Gift Set has only one measure showing an anomaly - *Total Gross Profit*
3. And Germany is showing anomalies for Champagne in two channels

7. Save this new Stat Model as a new View
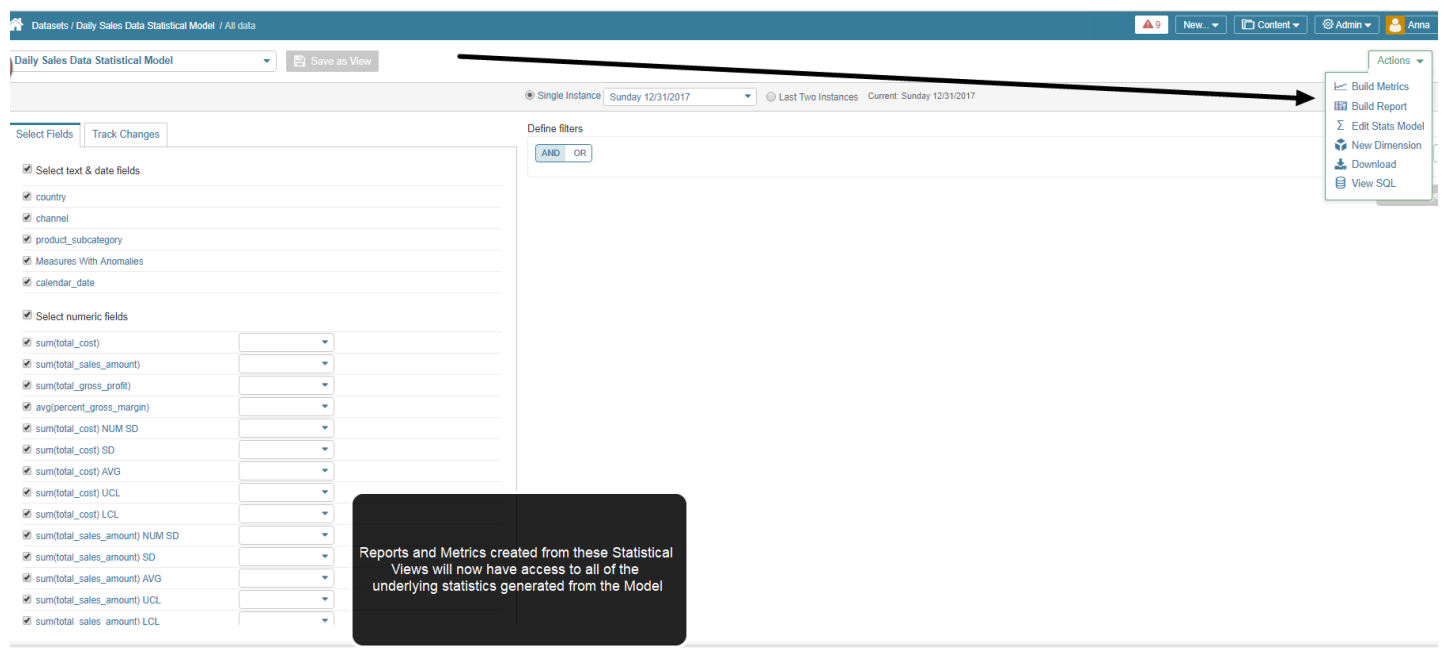
You can create Rules against the Stats dataset and save these as views (in example, Stats Records where the total sales are over 1 Million, etc.)

1. Click **[Save as View]**
2. Add meaningful **Name** for your View on the Pop-up

3. Select **Public** if you want others to be able to View and Use this Stat Model, otherwise it this view will only be available to you
4. **Save**
5. Statistical Models are saved as Views

> 💡 All editing of Statistical Models must be done from the Dataset Viewer as Stat Datasets will not appear in
>
> Content > Dataset menu

8. Now you can easily create multiple reports and metrics directly from this View

Selecting **Action > Build Report** will take you directly to a defaulted report that you can edit, or simply Publish and Enable to display on your Homepage

> 💡 For details on creating elements from Statistical Datasets refer to this article for more information: Sourcing Reports / Metrics / Dimensions from "Existing Datasets - SQL"

We can simply edit this newly created report to just display the fields we are interested in and then [Enable & publish]

Then the Report can be Viewed, Burst, or Shared

9. How to create a 'Derived Field'

> ⓘ For details on Constructing Derived fields see: <u>Derived fields for Data Processing (Overview / Create / Aggregate)</u> and <u>Expression Syntax for Derived Fields Formulas</u>

1.6 Create a Dataset from a Regular Report

⚠️ The Migrate from Report to a Dataset function will not be supported in Version 6 - please migrate any Reports prior to installation of V6.

Reports and Datasets have similar nature: each of them displays data in the form of a Table.

Datasets provide extended functionality by providing the ability to choose certain fields, create complex filters and save your selection as custom Views which can be further used for creating new Reports and Metrics in few clicks. Datasets are aimed at automating system behavior and releasing Administrators from ineffective routine tasks. Taking this into account, we offer the ability to effortlessly migrate data from regular Reports into Datasets.

Follow the steps in this article to learn how to do it.

Review Power User access requirements in [Dataset/User Map Security Overview (Release 5.2.1 and beyond)](#) and [Understanding Power Users (Release 5.3 and beyond)](#)

PREREQUISITE: Allow to use a Report as a Source

1. Choose the Report that you want to turn into a Dataset, open its editor. **NOTE:** This option is only available for Reports sourced from configurable Data Sources, such as a SQL database or from a plugin.
2. Open the *Data* tab in the *Report Editor*
3. At the bottom of the page set the **Use Report as Source** field to 'yes'. The system saves data in a Table and generates the Table name below as shown at the picture above.

Now this Report can be converted to a Dataset.

1. Access Admin > Utilities > Migrate Report to Dataset

Migrate Report to Dataset   ✕

(1) Report   [Sales by Channel and Country (example)   ▼] ⚙

(2) Dataset Name   [Sales by Channel and Country (example)   ]

> Report Data will be migrated to a Dataset, and the Report will be disabled.
>
> Only enabled reports with data saved in a system table are eligible for migration. Change reports and reports sourced from data files, metrics, or other existing reports can **not** be migrated.

(3) **Migrate to Dataset**

1. Select the Report which should serve as a source for a future Dataset from the drop-down list. (This drop-down list is populated with the Reports that are **(1)** sourced from a configurable Data Source (SQL / Plugin) and **(2)** may be used as Source (are saved as system table as shown at the previous screen). If you invoke the Migration Utility from the *Report Editor* or *Report Viewer*, this report will be default in this drop-down list.
2. Define the name of a future Dataset, The system automatically offers the same name as the source Report has, however, you can change it to a unique descriptive name of your choice.
3. Click **Migrate to Dataset**

2. View the resulting Dataset

1. If the Report that you used to create a Dataset also serves as a Data Source for some Metric or another Report, the system will display a reminder to re-associate those elements with the new Dataset.
2. Click **View** to open the *Dataset Viewer* and **Edit** to open the *Dataset Editor*.

3. Settings / Permissions

- **Settings**: Dataset settings which are identical to those that Reports have (**Measure, Category, Snapshot dataset?**) are automatically duplicated from Report settings.
- **Permissions**: NO Permissions (can be viewer at the *Report Editor > Advanced tab > Permissions*) are automatically delegated from Reports to Datasets.
- **Dimensioned Reports**: If the Report which serves as source for a new Dataset is Dimensioned, a column with Dimension Values is going to be added to a Dataset.

Result

What would you like to do next?

- Learn what you can do from the Dataset Viewer
- You may start by filtering data to Create a Dataset View
- If you chose to create a Snapshot Dataset, you may find this article useful: Snapshot Datasets: Comparing Past Instances
- Create a User Map and apply it to this Dataset to limit access to data
- Create a Tableau Dataset

1.7 Delete a Dataset View

Removing a View is subject to the following rules:

• Admins may delete any Dataset View except the default "All Data"
• Users are able to delete Views that they create.

CAUTION: *Views that have been used to create Content can only be deleted after all related objects have been deleted, one by one.*

Dataset Views are listed in the drop-down list found at the top left corner of the *Dataset Viewer.* A view can be deleted using one of the following methods:

1. When a View is opened, using the **Trashcan** (delete) icon to the right of **Save as** button
2. From the Dataset Editor > Views & Elements tab, using the **Delete Selected Views** button that is enabled when one or more Views is/are selected

1. Using the Trashcan on a Selected View on the Dataset Viewer
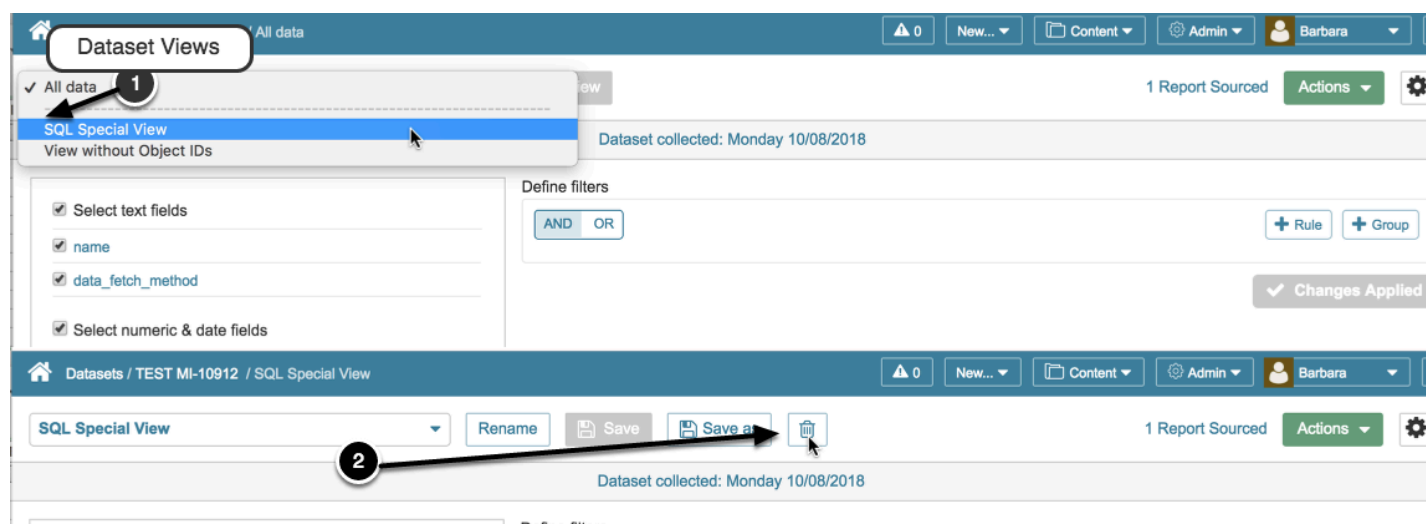
1. Select a View and click on its Name to open
2. Click on the **Trashcan** icon and confirm the delete

2. Using Dataset Editor > Elements and Views tab

Click the **Edit (Gear)** icon at the top right corner of the *Dataset Viewer* to open the *Dataset Editor*

1. Clcik *the Views & Elements tab*
2. In the Views grid, select one or more Views
3. Click **Delete Selected Views**.
4. At the top right corner of the screen click **Update Data** to make sure that the respective changes are going to be made at the *Dataset Viewer*.

2. Comparing "Last Two Instances" / Track Changes

2.1 Snapshot Datasets: Comparing "Last Two Instances" / Track Changes

The following article describes how to track changes in paired datasets instances.

This article answers the following questions:

1. How to enable Snapshot Dataset mode
2. How to find rows that have been added/removed or changed since the previous data collection
3. How to apply filters to Changed, New and/or Removed rows
4. How to use Derived Fields when comparing instances

PREREQUISITES:

• Create a Dataset

⚠ This article describes the functioning of Snapshot Dataset that was updated in Version 5.0. If you are using an earlier version of Metric Insights, please see Snapshot Datasets: Comparing Instances (older versions)

1. Comparing Instances is only available for Snapshot Datasets

If in the *Dataset Editor > Data tab* the **Snapshot dataset?** field is set to 'yes', than in the *Dataset Viewer* the following options are available:

- Reviewing a **Single Instance** of this Dataset; e.g., yesterday
- Tracking changes in the **Last Two Instances** of this Dataset; e.g., yesterday's data compared to what occurred the day before yesterday).

NOTE: You can compare ANY instance saved during previous data collections to its instance collected the day before.

Choose the date which you want to compare to the prior one

Example: In this example, the instance collected on Friday 04/14/2017 is used, meaning that it will automatically be compared to the instance collected prior to it on Thursday 04/13/2017.

2. Tracking Changed, New and Removed rows

> ℹ️ The **Track Changes** function allows fetching a selection of **New** and/or **Removed** and/or **Changed** rows. Whenever you choose to include more than one Type of rows' alteration; e.g., **Changed+New**, **Changed+New+Removed**, then each row in the **Results** set is assigned a corresponding label in the **Change Type** column.

To compare values and track changes/updates in Last Two instances:

1. Switch to the **Last Two Instances** mode
2. The **Track Changes** option is now available for use
3. Define whether you want to see which rows have been changed / new / removed since the previous date by selecting the appropriate check boxes
4. **For each field:** specify the field (parameter) by which the comparison is going to be performed
5. Click **Apply Changes** to update the **Results** set

Results: Only those rows where the values defined during Step 4 have been changed / new / removed since collecting the prior instance are shown.

3. Applying filters to Changed, New and/or Removed rows

NOTE: For detailed information on filters used for comparing instances, refer to: Applying Filters when comparing "Last two Instances"

You can apply different set of filters to the rows that are **Changed** and to those which are **New or Removed**.

1. In the example above we defined the following filters:

   - For **Changed** rows: only rows where Country = 'Canada'
   - For **New/Removed** rows: where Name = '101-Bottle Wrought Iron Wine Jail'

2. **Apply Changes** to update the Results set
3. In the **Results** set, only requested rows have been fetched.

4. Using Derived Fields when Comparing Instances

Derived Fileds include values that do not exist in a Data Source itself but are calculated from one or more existing numeric fields via basic arithmetic expressions and non-aggregate numeric functions.

NOTE: For detailed information on derived fields, refer to: Understanding Derived Fields

4.1. [Option 1] Constructing Complex Formulas

When constructing a formula for a Derived field in the **Last Two Instances** mode, you can include the same field, but from **current** and **prior** instances.

> ⚠ Derived fields with formulas including **current** and **prior** values become UNAVAILABLE when switching to a **Single Instance** mode.

Construct Derived Field ✕

Name	% Difference of units sold
Precision	2 ▼ digit(s)
Expression	([units]/[Prior units])*100-100

Use **Tab** to open autosuggest or it will be opened automatically after typing "["
Learn the Expression Syntax

Update Field   or cancel

4.2. [Option 2] Using Derived fields when constructing Filters

Derived fields can also be used to construct filters. In this case they are treated the same way as regular fields if the formula contains **only current values** (The drop-down lists in filters section will include **current** and **prior** value options). See the image below.

Alternatively, if the complex formula of a Derived Field includes **both current and prior** values which are required for calculation (as shown above), the drop-down lists in filters section will include only **current** value option.

> 💡 **What would you like to do next?**
>
> - [Get more information on filters available in the "Last Two Instances" mode](#)
> - [Learn about Derived fields in Datasets](#)
>
>   Other helpful articles:
>
> - [Create a Report from a Dataset View](#)
> - [Create one or multiple Metrics from a Dataset View (Version 5.1 and beyond)](#)
> - [Dataset/User Map Security Overview (Release 5.2.1 and beyond)](#)

2.2 Filter combinations for comparing "Last two Instances"

Datasets offer an easy and intuitive way to refine data when comparing history instances. This way, it is easy to know which rows have been added / deleted or changed. For introductory information on Snapshot Datasets and comparing data instances, refer to: Snapshot Datasets: Comparing "Last Two Instances" / Track Changes.

To narrow the data to specific requirements / parameters, users can build sophisticated filters. This article provides a basic understanding of how to use filters when comparing instances.

This article answers the following questions:

1. How to compare specific values for current and prior period (for example, compare sales made via a specific channel yesterday and day before yesterday)?
2. How to add simple filters?
3. How to add compound filter criteria?

1. Comparing current and prior values for a specific field

1. Filters allow defining additional criteria to compare current and prior values by various conditions. **NOTE:** Current and prior filters are shown only in the **Track Changes** mode.
2. **Results:** Sales and Prior Sales columns are shown in the **Results** set and only those rows where the condition is met are shown.

2. How to add simple filters

Use Case: Include rows if the sales in any country have increased by any amount over the prior day.

1. **For each fields**: Select the field with constant (or unchanged) values. This field will serve as the basis for comparing other changed values. In this example, such fields are Channel and Country; i.e., allows identifying changes when Channel and Country are unchanged
2. Click **[+ Rule].**
3. Construct a Rule by selecting parameters for comparing current and previous values from the drop-down lists. You may add as many Rules as required to remove unnecessary data.
4. **Apply changes** to update the **Results** set
5. **Results:** Sales and Prior Sales columns are shown in the **Results** set and only those rows where the condition is met are shown.

> ℹ️ You may create a separate View out of this data slice by clicking **Save as View** at the top of the page.

3. How to add compound filter criteria

Use Case: Include rows if **units** sold via 'website visit' channel **have increased** over the prior day **OR** if **sales** made via 'website visit' channel are **10% higher** than over the prior day.

Identify the key fields across which changes will be tracked included in the **Select Field** list. In this example, you should select ONLY Channel, Country, units, and sales for inclusion in the display.

1. **For each field**: Select the field with constant (or unchanged) values. The Id fields should be Channel and Country
2. **Define filters**: Apply filters. In this use case, this consists of 2 groups of conditions: click **[+ Group]** and define criteria for the first and second group:
   - **[Group 1]**: units increased in 'website visit' channel
   - **[Group 2]**: sales are 10% higher in 'website visit' channel
3. Choose **OR filter** to define relations between the Groups
4. **Apply changes** to update the **Results**
5. **Results:** Units / Prior units and Sales / Prior Sales columns are displayed in the **Results** set and only those rows where the condition is met are shown.

> ℹ️ You may create a separate View out of this data slice by clicking **Save as View** at the top of the page.

2.3 Snapshot Datasets: Comparing Instances (older versions)

While the Video Tutorial is still valid and useful, newer versions of Metric Insights also allow you to find rows that have been **changed** in addition to those added or removed.

See Snapshot Datasets: Comparing "Last Two Instances" / Track Changes (Version 5.0.5)

The following article describes how to track changes in paired datasets instances.

This article answers the following questions:

- How to find rows have been added and removed over the prior period
- How to compare specific values for current and prior period (for example, compare sales made via a specific channel yesterday and day before yesterday).

PREREQUISITES:

- Create a Dataset

Video Tutorial

This option is only available for Views of Snapshot Datasets

If in the *Dataset Editor > Data tab* the **Snapshot dataset?** field is set to 'yes', than in the *Dataset Viewer* the following options available:

- Reviewing a **Single Instance** of this Dataset (for example, yesterday), or
- Tracking changes in the **Last Two Instances** of this Dataset (for example, yesterday's data compared to what occurred the day before yesterday).

NOTE: You can compare ANY instance saved during previous data collections to its instance collected the day before.

1. Choose the date that you want to compare to the prior one

Datasets

Example: In the example, we choose the instance collected on Saturday 12/17/2016, meaning that it will automatically be compared to the instance collected prior to it on Friday 12/16/2016.

2. Tracking New and Removed rows

1. Select **Last Two Instances** mode
2. The **Track Changes** option is now available for use
3. You can now specify whether you want to see what fields have been added to the instance, the fields have been removed or both since prior period
4. **Id fields:**
5. Click **Apply Changes** to update the **Results**

Only those rows where the values defined in **Id fields** have been changed/added/removed since collecting the prior instance are shown.

Use case: If there are no rows in the Result set

In the example above, values from the **calendar_date** column are going to be new every day, since it includes values collected for a new day; values from **units** and **sales** are also highly likely to be different, unless the same amount of product units has been purchased or the sum of sales for current period is identical to the sum of sales for the prior period. The Dataset compares instances by values in **channel** and **country** columns:

New sales have been made in all countries and by all channels, but values in **country** and **channel** columns remained the same; e.g., Country = Australia, canada, France, Germany with

Channel = corporate sales, store visit, website visit, email marketing), so the system has no changes to display in the **Results** set.

3. Defining additional filters

1. Filters allow defining additional criteria to compare current and prior values by various conditions. **NOTE:** Current and prior filters are shown only in the **Track Changes** mode.
2. If additional filters are applied to the results set, choose unchanged parameters (as in the example above) in the **Id fields** section. See the following example:

3.1. Simple Filter criteria

Use Case: Include rows if the sales in any country have increased by any amount over the prior day.

1. **By field**: Select the field with constant (or unchanged) values. This field will serve as a basis for comparing other changed values. The Id fields are Channel and Country, analyzing changes when Channel and Country are unchanged
2. Click **[+ Rule].**
3. Define the parameters for comparing current and previous values from the drop-down lists.
4. **Apply changes** to update the **Results** set

More rules can be added to the filters.

You may create a separate View out of this data slice by clicking **Save as View** at the top of the page.

3.2. Compound Filter criteria

Use Case: Include rows if **units** sold via 'website visit' channel **have increased** over the prior day **OR** if **sales** made via 'website visit' channel are **10% higher** than over the prior day.

You want the key fields across which changes will be tracked included in the **Select Field** list. In this example, you should select ONLY Channel, Country, units, and sales for inclusion in the display.

1. **By field**: Select the field with constant (or unchanged) values. The Id fields should be Channel and Country (i.e. you are looking for changes when Channel and Country are unchanged)
2. **Define filters**: Then you can apply filters. In our use case, this consists of 2 groups of conditions: click **[+ Group]** and define criteria for the first and second group:
   - **[Group 1]**: units increased in 'website visit' channel
   - **[Group 2]**: sales are 10% higher in 'website visit' channel

3. Choose **OR filter** to define relations between the Groups
4. **Apply changes** to update the **Results**

You may create a separate View out of this data slice by clicking **Save as View** at the top of the page.

4. What would you like to do next?

- [Create a Report from a Dataset View](#)
- [Create one or multiple Metrics from a Dataset View (Version 5.1 and beyond)](#)
- [Dataset/User Map Security Overview (Release 5.2.1 and beyond)](#)

3. Creating Elements from Datasets

3.1 Create one or multiple Metrics from a Dataset View

⚠ This article describes the procedure that is applicable to Version 5.1 and newer. For prior Versions refer to [Create a Metric from a Dataset View (prior to 5.1 release)](#).

User Interfaces may vary slightly from release to release.

Datasets offer a quick and highly automated way of building new Metrics. This article describes step-by-step process of creating Metrics IN BULK from a specific Dataset.

Admins and Power Users have an ability to create one or **multiple** metrics from a Dataset View. This easy-to-use proces helps to minimize the number of data entry fields that are usually required to be completed in order to create a Metric.

Since Metrics always represent time series data, the source Dataset View must contain a date column and a column with values.

PREREQUISITES:

1. [Create a Dataset from any Data Source](#)
2. [Create a Dataset View](#)

---

1. Open a Public Dataset View

1. Open the Dataset View to be used as the Data Source of the Metric
2. Ensure that the selectedView has a date column and a column containing values. If your Dataset is a snapshot, the Snapshot date may serve as a date column. Refer to: Snapshot Datasets: Comparing Instances
3. At the top right corner of the page, open the **Actions** menu
4. Select the **Build Metric** option.
    1. If this Dataset View is Private, the system will automatically make it accessible to other users (Public)
    2. If at least one element (Report or Metric) has already been built from this View, it cannot be changed to private.

2. Define the basic settings

Define the basic settings for the Metric being created. This is accomplished by choosing the correct column name from the respective drop-down list. The list for each field is populated based on its Column Type; for example, the **Date column** drop-down list will only contain options representing date values. Since the **Results** set is always visible below, you see exactly what you are including in the Metric.

1. **Measurement Interval:** select the Measurement Interval that applies to the level of aggregation that you want in your result set
2. **Value column:** Select the name of a numeric field containing values
3. **Date column:** This may be either a date column from the Dataset or the Snapshot date, if applicable
4. **Name:** is populated automatically based on the selection made in the fields above, but you can change it to a unique and descriptive name of your choice.

Optional. For creating dimensioned Metrics only.

5. **Dimension using column:** Dataset's text columns may serve to dimension the Metric, meaning create a separate Chart per each Dimension Value. With a column used in this example (**Country**), separate Charts are created for each Dimension Value; e.g., France, Australia, Germany. This allows different sets of Alert Rules to be applied to each Chart and specific security Permissions to be granted to individual Users subscribed to the Alert.
    1. **Map to Dimension in Metric Insights**: if you already have a Dimension with values matching to those in the selected Dataset column, you can choose it from the drop-down list; otherwise, you can create one on the fly by clicking: "None - create new Dimension".

Click **Add Metric** to save these settings and preview the resulting Metric.

> 💡 Settings such as **Data Source** (the method used to fetch the data) and **Data Collection Trigger** (how often this Metric is updated), and **Category,** *are automatically* inherited from the source Dataset.

Preview the resulting Metric

If only one Metric is being built, click **Build Metric** and let the system finish the procedure.

3. Build additional Metrics

1. Each time you click **Add Metric,** the **# Metrics defined** displayed in the middle of the screen is incremented

> ⚠️ **These Metrics are just prepared, they are not built yet.**

2. Change the settings in the **Add Metric** section to build another element
3. Preview any of the prepared Metrics by clicking the name of the Metric that is currently shown **bolded** in the **Preview**
4. When ready to publish all Metrics, click **Build All Metrics**.

Result

The Metrics that have been built are available on the Homepage.

⚠ 1 New... ▾ 🗀 Content ▾ ⚙ Admin ▾ Julia ▾ ?

‹ Back Profit higher than 4000

Dataset Collected: Thursday 07/13/2017

Add Metric

This data is Measured...

Monthly

Value column

Total Gross Profit

Date column

Day of Calendar Date

Name

Aggregate using

Sum

3 Metrics Built ✕

3 Metrics have been created and are now available on the Homepage.

Monthly Profit Dimensioned by Country	⚙
Sales Amount	⚙
Profit by Country Dimensioned by Country	⚙

Done View on Homepage

a Metric and select it to see a preview.

3.2 Create a Change Report from a Dataset

With Datasets, it is easy to create Reports displaying changes in data. Now, the Dataset Viewer allows the creation of separate Views that surface relevant data changes. These views can be used to build Change Reports. A detailed step-by-step instruction is provided below.

PREQUISITE:

Build a Dataset that keeps history (a Snapshot Dataset). For details, see:

· [Snapshot Datasets: Comparing "Last Two Instances" / Track Changes (Version 5.0.5)](#)

⊘ Beginning in Version 5.3, creating Reports has been greatly enhanced by using the new Dataset Reporting feature - please see: [Dataset Reports Overview (New in 5.3)](#) But the major steps to create a default report are the same.

---

1. Access Dataset Viewer

1. Access **Content > Datasets**

---

2. Choose a **Source Dataset** for your Change Report
3. In the Dataset Editor **click [View]** to open Dataset Viewer

2. Display data changes in Dataset View

1. *Select Fields tab*: select data to be included in the Dataset View
2. *Track Changes tab*: determine those changes need to be monitored
3. Define filters to be used to surface changes
4. Apply Changes

3. Verify the display of changes

1. Check **Results** to see how data is displayed (with *Changes Applied*, only data that reflects these changes will be shown)
2. Save changes as a new **View**
3. Click **Actions > Build Report**

NEXT: User is taken to the Report Editor

4. Verify the Report defaults (using older legacy report format)

In the Report Editor:

1. *Info tab* > **Report type** is set to Standard
2. *Data tab* > **Snapshot Report** is set to "Yes"
3. *Data tab* > **Historical Instances can be backfilled** is set to "Yes"

5. Enable and Publish Report

1. **Enable and publish** the Report (Data Collection will be activated and the pop-up will prompt to Update Report History)
2. **Update Report History** to be able to see data changes in the Report Viewer

---

6. Change Report is displayed in the Viewer

7. What do you want to do next?

💡 **Subscribe to receive notifications:**

This allows to User receive immediate / daily / weekly / monthly emails with Report updates.

To learn more, check:

• **[Report Notifications] Subscription Options, Settings available**

3.3 Sourcing Reports / Metrics / Dimensions from "Existing Datasets - SQL"

All Datasets created in the system are saved as SQL tables that can be used to source data for creating new objects: Reports, Metrics and Dimensions. Refer to the respective section below.

- Sourcing a Report
- Sourcing a Metric
- Sourcing a Dimension

The method described in this article represents an alternative to: **Create a Report from a Dataset View**

Sourcing a Report (Introduced in Version 5.0.5)

1. Access New > Report

1. **Name the Report**: Define a unique descriptive name of your element
2. **Reported**: choose the Measurement Interval from the drop-down list
3. **Category**: select a Category for this element
4. To define Data Collection details, click **Next: Define Report**

2. Full Editor displays the Data Collection tab

1. **Data Source:** select "Existing Datasets - SQL"
2. Click the **Source of Reports** icon to view the Datasets that have been saved as source tables
3. Open the **Available Datasets** drop-down list to select a source Report and view its associated fields
4. In the **SQL Statement using report names and columns** text box, define the fetch command required to extract data from existing Dataset's table
5. Alternatively, use a **SQL Builder** tool to select report(s)

NOTE: Approach constructing the fetch command in the same manner as sourcing a Metric from an Existing Report

3. Verify your Statement

Click **Show data** below the SQL statement box. If your command is valid, the command box is **green** and the **Report Columns** are shown in the table below; if there are any errors, the box is colored in **red** and errors are explained below the statement box.

At the upper right corner of the screen click **Enable and Publish**.

Sourcing a Metric (Introduced in Version 5.1)

1. Access New > Metric

Provide the basic information required for creating a new metric:

1. Select the **Measurement Interval** that applies to your element. Your Metric Insights instance comes with a standard set of **Measurement Intervals**, each of which has a series of settings that control such behavior as display of values, alert parameters, default naming conventions, and chart labels.
2. Give the element a unique **Name**
3. *Optionally*, assign a **Category**
4. Click **Next: define details** to proceed with data collection

2. Full Editor displays the Data Collection tab

1. **Data Source:** select "Existing Datasets - SQL"
2. Click the **Source of Reports** icon to view the Datasets that have been saved as source tables
3. Open the **Available Datasets** drop-down list to select a source Report and view its associated fields.
4. In the **SQL Statement using Dataset names and columns** text box, define the fetch command required to extract data from existing Dataset's table

NOTE: Approach constructing the fetch command in the same manner as sourcing a Metric from an Existing Report

3. Validate your SQL statement and Collect data

1. Click **Validate** below the SQL statement box. If your command is valid, the command box is **green** and the number of records available for collecting is shown below; if there are any errors, the box is colored in **red** and errors are explained below the statement box.
2. **Collect data**

Once the data is collected, in the upper right corner fo the screen click **Enable & Publish**.

> ♀ To learn about other settings in the Metric Editor, refer to: <u>Metric Editor (Data, Stoplights, Alerting, Charting, Associations)</u>

3.4 Create a Metric from a Dataset View (prior to 5.1 release)

Datasets offer a quick and highly automated way of building new Metrics. This article describes step-by-step process of creating a Metric out of the specific Dataset View.

Since Metrics always represent time series data, in order to create a Metric your Dataset View must contain a column with dates and a column containing values.

PREREQUISITES:

- Create a Dataset View

⚠ Newer releases have a simplified method of creating metrics from a Dataset. See Create one or multiple Metrics from a Dataset View (Version 5.1x)

1. Open a Public Dataset View

1. Open the Dataset View that is to be the data source of the Metric.

---

2. Make sure that your View includes a columns with dates and values
3. At the top right corner of the screen, open the **Actions** menu
4. Select the **Build Metric** option.
    1. If this Dataset View is Private, the system will offer to automatically make it Public and accessible to other users
    2. If at least one element (Report or Metric) has been built from this View, it can no longer be designated as private

You are redirected to the *Metric Editor*.

2. [Info tab] Define the basics

1. Name: is populated automatically with the name of the Dataset View. You can change it to a unique and descriptive name of your choice.
2. *Optional settings*:
    • **Category:** helps organizing tiles at the Homepage. You can grant access to elements through Categories.or more details refer to: [Create a Category](#)
    • **Certified**: this setting serves to identify elements that have been approved as being valid and accurate. For more details refer to: [Certifying an Element](#)
    • **Topics/Tags**: relate elements to each other. For more details refer to: [Create a Topic](#)

3. [Data tab] Check Data Collection Configuration

All the fields that define the Data Collection process are populated automatically based on the selection made in Dataset View.

1. **Data Source**: in this example a Dataset is the selected Data Source
2. **Data Collection Trigger**: Set the Trigger to initiate updating information in the Metric
3. **Dataset & View**: Select the combination of a Dataset and its View from the drop-down list
4. **Date / Value column**: make sure that date and value columns display the expected data
5. **Include**: specify whether you want to fetch all data, or rows after a certain date

3.1. Check for available data

1. Click **Check for data** to see what records are available for collecting
2. The number of available records and an example of a first one is displayed in the results shown below
3. Click **Collect** data to fetch rows for the Metric.

Enable and Publish the Metric.

Result
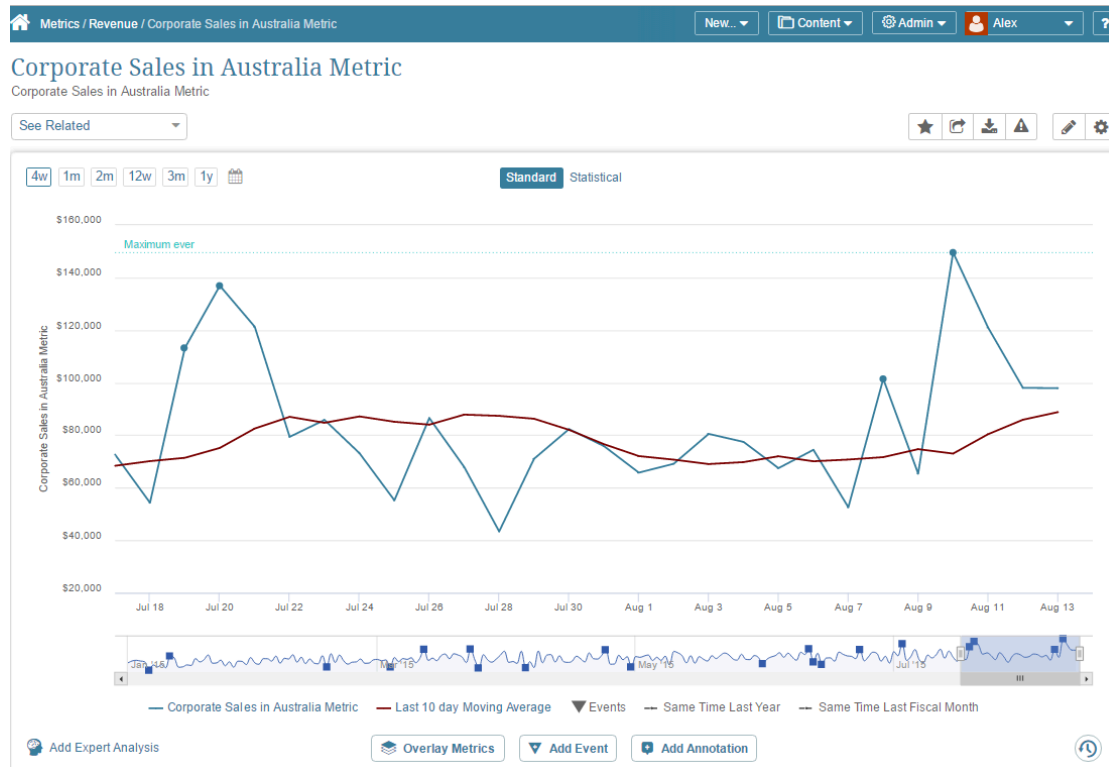
3.5 Create a Report from a Dataset View (prior to 5.1 release)

Datasets offer a quick and highly automated way of building new Reports. This article describes the step-by-step process of creating a Report from a specific Dataset View.

PREREQUISITES:

- [Create a Dataset View](#)

⚠️ Due to extensive enhancements, the new Dataset Reports (versions after 5.1) are expanded and can be referenced in this chapter: [Dataset Reports - new in 5.3](#)

1. Open a Public Dataset View

1. Open the Dataset View to be the source of the Report
2. At the top right corner of the page, click the **Actions** menu
3. Select the **Build Report** option.

---

1. If this Dataset View is Private, the system will offer to automatically make it Public and accessible to other users.

You are redirected to the *Report Editor*.

2. [Info tab] Define the basics

1. **Report Type:** Choose the type of Report is to be contented. Change Reports provide the ability to effectively analyze trends in data over a period of time. For more details refer to: [Create a Change Report](#)
2. **Name:** is populated automatically with the name of the Dataset View. You can change it to a unique and descriptive name of your choice.
3. *Other settings:*
   - **Category:** helps organizing tiles at the Homepage. You can grant access to elements through Categories. For more details refer to: [Create a Category](#)
   - **Certified:** this setting serves to identify elements that have been approved as being valid and accurate. For more details refer to: [Certifying an Element](#)
   - **Topics/Tags**: relate elements to each other. For more details refer to: [Create a Topic](#)

Move to the *Data* tab.

---

3. [Data tab] Check Data Collection Configuration

All the fields defining the Data Collection process are populated automatically based on the associated Dataset View.

1. **Data Source:** in this example a Dataset serves as a Data Source
2. Expire cached data:
3. **Expire on start of:** Set the trigger which is going to initiate updating information in a Reports
4. **Dataset & View:** Select the combination of a Dataset and its View from the drop-down list
5. Review the **Sample result set**.
6. Once you confirm that the **Sample result set** contains the expected data, click **Enable and Publish** at the top right corner of the screen.

Advanced Settings

Report Display options

Optionally, the Report display can be customized using the following options:

1. Modify the **Display Name** of the column header
2. Select to have values appear as **Currency**
3. **Format** numeric value display
4. Enter a **Description** that will be displayed on hover of the column
5. Select the columns to appear in the **Results**
6. Choose to have **Totals** displayed for numeric data
7. Modify the display order of the columns
8. Add a custom **formatted field** to the report if needed

Other Settings

1. Select whether or not the Report should be saved as a Snapshot (see [What is a Snapshot Report](#))
2. Select the date-time value to be used as the **effective date** value for the Report.
   1. This value is only applicable to reports with saved historical instance.
   2. New Time Command values may be added from drop-down as needed

Additional options:

If you want the complete result set shown in the report (without pivoting the data), set **Save as system table** to 'Yes'

If you want to have a charting interval drop-down in your report ('Last 6 Months', 'Last Year', etc...), specify the date column that should be used to drive this control in **Include date filter based on** from the available choices in the drop-down

4. Result

New... ▼ | 🗔 Content ▼ | ⚙ Admin ▼ | Julia ▼ | ?

Corporate Sales Data
Corporate Sales Report

★ ⬈ ⬇ ⚠ | ⚙

Corporate Sales Data

⤢ ⚙

calendar date	channel	country	name	product category	units	sales
2017-01-03 00:00:00	corporate sales	Australia	36-Bottle Pine Wine Rack	wine furniture	71.00	$7,064
2017-01-03 00:00:00	corporate sales	Canada	112-Bottle Pine Mega Storage Cube	wine furniture	34.00	$5,185
2017-01-03 00:00:00	corporate sales	Canada	36-Bottle Pine Wine Rack	wine furniture	57.00	$5,672
2017-01-03 00:00:00	corporate sales	Canada	Agricola Ferrero Brunello di Montalcino 2005	wine	119...	$12,251
2017-01-03 00:00:00	corporate sales	Canada	Allegrini Amarone della Valpolicella Classico 2005	wine	146...	$14,447
2017-01-03 00:00:00	corporate sales	Canada	Allegrini La Grola Veronese 2006	wine	96.00	$8,827
2017-01-03 00:00:00	corporate sales	Canada	Allegrini Soave 2008	wine	94.00	$5,259
2017-01-03 00:00:00	corporate sales	Canada	Chateau Mouton-Rothschild	wine	4.00	$11,500
2017-01-03 00:00:00	corporate sales	Canada	Cheval Blanc	wine	6.00	$20,269
2017-01-03 00:00:00	corporate sales	Canada	Leonetti Merlot Washington	wine	5.00	$5,750

🧠 Add Expert Analysis

Add a comment ...

Details
Business owner: Julia Nesova
Technical owner: Julia Nesova

Category: Revenue

---

4. Dataset Reports - Revised in 5.5

4.1 Dataset Reports Overview

As of Release 5.3, Metric Insights offers new dynamic Reporting capabilities, with the release of 5.5, that functionality has been expanded. Dataset Reports are now in feature parity with Legacy Reports.

This article gives a brief overview of the range of expanded Reporting options available in Release 5.5.

1. **Ways to create a Dataset Report**
2. **Update optional data on Info tab**
3. **Elements of Data tab**
4. **Basics of Report Content tab**
5. **Apply Report Filters**
6. **Table Formatting options**
7. **Apply Column Aggregation**
8. **Apply Conditional Formatting**
9. **Create a Pivot table**
10. **Create Various Charting Displays**
11. **Create Banners - Text Displays**
12. **Add External Visualizations and easily apply Hyperlinks**
13. **Manually apply Hyperlinks**
14. **Add attachments such as PDFs and Spreadsheets**
15. **Subscribe to Report Notification or Schedule a Burst**

💡 **PREREQUISITES**:

1. An Existing **Dataset** or you can Create a Dataset

1. Ways to create a new Dataset Report

1.1. Directly from the Dataset Editor
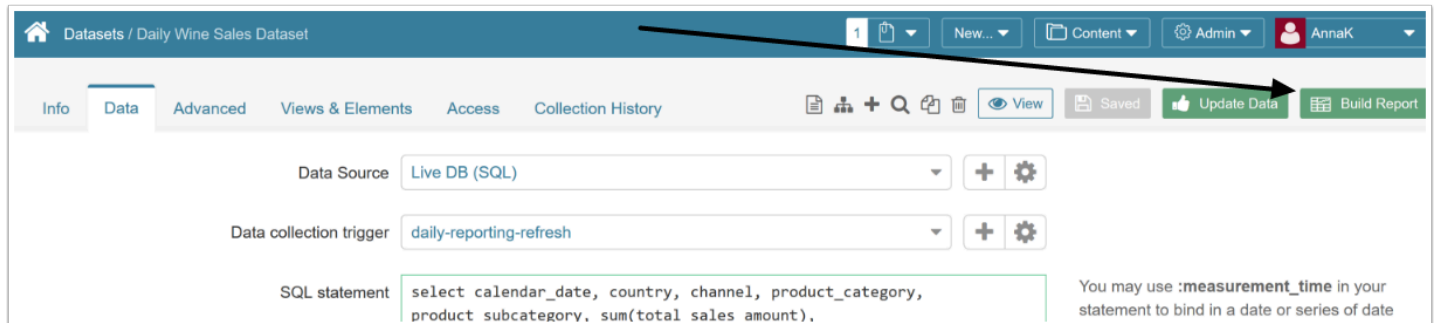
(New in 5.5) Simply select the **[Build Report]** icon from the Data tab of the *Dataset Editor.* This option will use the 'All Data' View by default.

1.2. From any Dataview (Actions > Build Report)
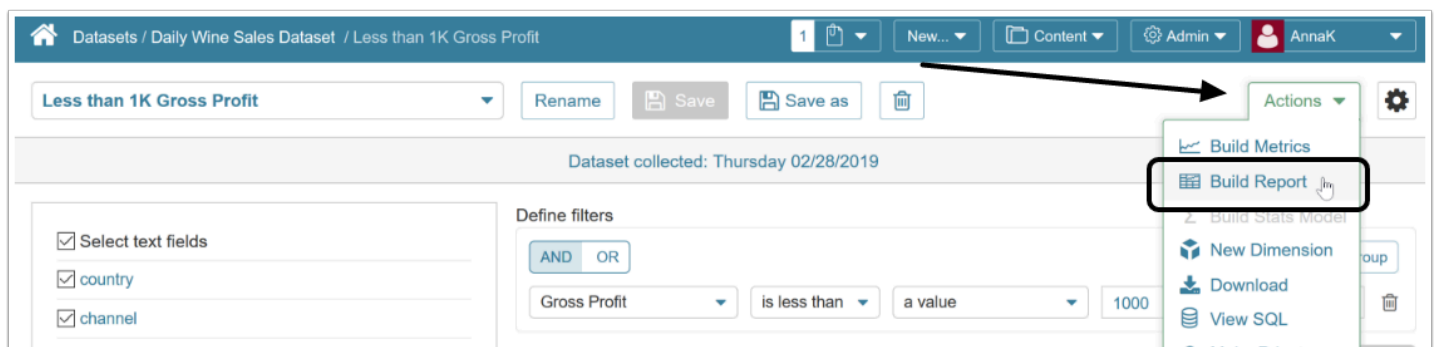
1.3. Access via New > Reports > Dataset Reports
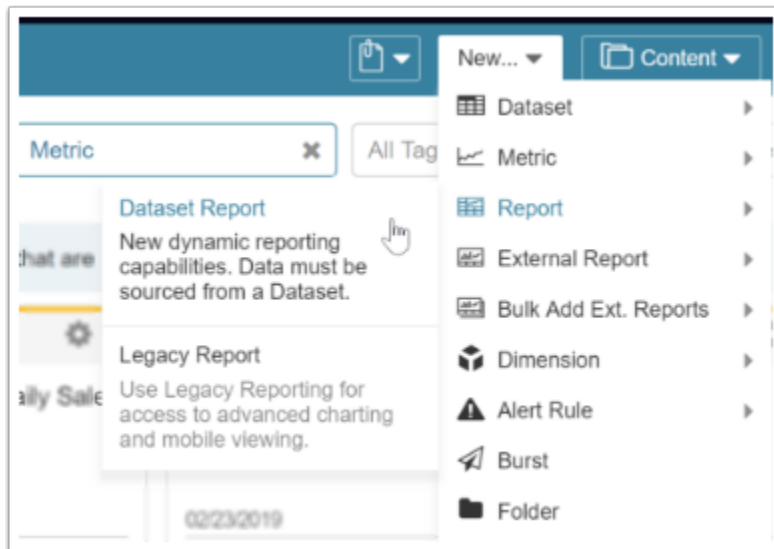
1.3.1. Define the Basics

Select **Next: define details** to open Full Report Editor

2. Report Editor >Info tab -- update optional fields

1. **[6.1.0]** As of Release 6.1.0, it is possible to flag elements and then Migrate Content using our Export/Import Migration Scripts. Click for details: Scripted Migration via Category and Element Editors
2. The **Description** field defaults from the Name, but if this is not sufficiently descriptive, you may change it
3. **Certified:** Certification is a means for Admin and Power Users to identify elements that have been approved as being valid and accurate. For details refer to: Certifying an Element
4. **Tags** (*are referred to as **Topics** in Versions prior to 5.1*): Tags / Topics are used to relate elements to each other for purposes of identifying similar Charts when the **See Related** drop-down list in the *Metric Viewer* is populated allowing a more in-depth analysis of trends. For details refer to: Create a Topic / Tag

3. Report Editor > Data tab

1. From the drop-down, select **Dataset & View**
2. Click **[Show Data]** This will also validate the report.
3. **[Save & View]** or just **[Save]**

Your Report is now ready to view, but you will probably want to apply some of the Report Formatting option available in the *Report Content tab*.

4. Basics of the Report Content tab

1. A full Report Table will be set up with the formatting applied in your Dataset (if any). Selecting **Edit** for any object will produce a slide-out Editor.
2. Additional Objects are created using drag-and-drop to move the icons into the '*Drop Components Here*' area

- **Tables** or **Pivot** tables product separate Editors
- **Text** allows free-form 'banner' sections to be displayed / **External Visualizations** are easily added to the Report
- A variety of pre-formatted **Charts** are also available

3. The **up-down icon** allows you to move the various items within the Report

4.1. Example of drag-and-drop for a Range Chart

The corresponding Editor will slide out from the right based on icon selected.

4.2. Select object to display on Report tile
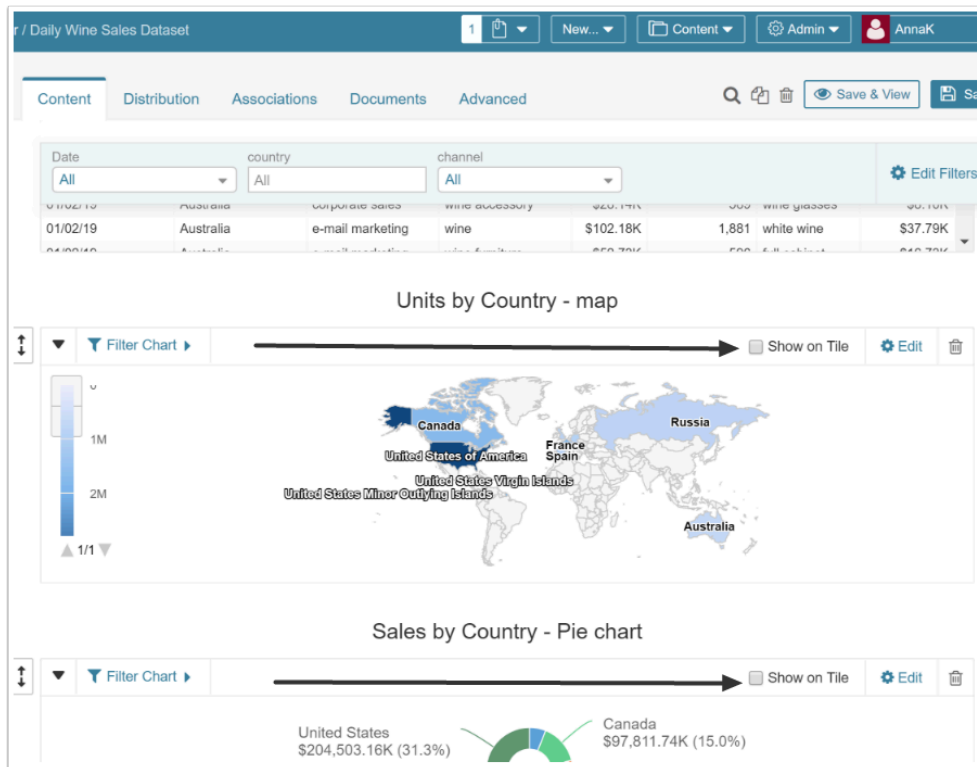
1. Specify which Chart or Table will appear on the Homepage tile by activating the **Show on Tile** option. Only one object will be allowed, any other checkbox will be de-selected.

5. Apply Filters at Report or Element Level

1. **Report Filters** work much like the Dimension filters but allow greater diversity. These drop-downs apply to all elements of the report and can be adjusted by anyone viewing the Report.
2. **Table (or Chart) Filters** are defined by the Report creator, apply only to one object, and cannot be manipulated by Users.

For more details see Applying Filters in Dataset Reports

6. Table Formatting via Edit > Table or Column drop-downs

6.1. Basic Formatting via Table Editor (select Edit icon on top/right)

The **Table Editor** will slide out for your input. The options for formatting a Table are many! To highlight a few:

1. Select a *font* for this Table
2. Format the *Header* - in this example we have chosen to display the Header in red
3. **Limit Rows** - checking this option will display the Show First option for input
4. Drag-and-drop to **order** the Table (Section and Grouping option explained below) or use the *Sort Order* option below the Columns section
5. Select options for individual fields (see below) by using the *Edit icon*
6. [6.1.2] **Hide Unused columns** allows multiple columns to be hidden/unhidded. Option will be activated when one of the columns is unchecked.
7. Apply Rules for Formatting based on specified conditions. The *Conditional Formatting* can also be applied at the field level via the corresponding edit icon, but all conditions will display on the Table Editor
8. Check *Grand Totals* to your data and optionally relabel this field

[**Apply**] to view changes in the Table

6.2. Apply Sections and Groupings in Table Editor

Sections and Grouping provide an easy way to customize your Table for easy viewing.

Sections provide the ability to specify an external break column (sections) for a report grid so that tables can be shown one per value of the column.

Grouping provides the ability to specify that a column should group values. When set, the column values that are repeated are instead shown as a blank.

Example with data collected by Channel, Country, and Category - native Table:

country	channel	Category	Sales Amt	# of Units	Subcategory	Gross Profit
Germany	store visit	wine	$120.04K	1,980	red wine	$21.55K
Germany	store visit	wine furniture	$27.75K	195	full cabinet	$3.31K
Germany	store visit	wine accessory	$46.82K	791	bottle opener	$0.24K
Germany	website visit	wine	$72.36K	1,476	red wine	$7.18K
Germany	website visit	wine furniture	$38.87K	384	half cabinet	$3.10K
Germany	website visit	wine accessory	$58.57K	1,079	bottle opener	$3.73K
Russia	corporate sales	wine	$128.88K	2,589	red wine	$31.71K
Russia	corporate sales	wine furniture	$31.08K	298	half cabinet	$5.04K
Russia	corporate sales	wine accessory	$60.64K	1,088	bottle opener	$12.53K
Russia	e-mail marketing	wine	$131.55K	3,038	red wine	$35.27K
Russia	e-mail marketing	wine furniture	$59.22K	701	half cabinet	$10.08K
Russia	e-mail marketing	wine accessory	$80.09K	1,874	bottle opener	$12.48K
Russia	store visit	wine	$110.99K	2,232	red wine	$29.37K

6.2.1. Apply Sections and Grouping via drag-and-drop

To apply External break on **Country**, and Group by **Channel** then **Category**:

1. Check the **Sections and Grouping boxes** to open the corresponding input areas
2. Drag the **Country** field from the **Columns** section into **Sections** area
3. Drag both **Channel** and **Category** from the **Columns** section into **Grouping** area
4. The example below also applied basic color formatting by editing separately each of the three fields

Resulting Table:

> A full description of this process is available in Using Sections and Groups in Dataset Report Tables

6.3. Via the Column Drop-downs

To edit individual Columns, open the drop-down next to the Column name. You can easily Sort or Hide the column, apply Text and Fill color, etc. Or you can **Edit Column** to slide the full Column Editor.

7. Aggregation of numeric values

In earlier versions of Dataset Reports, if you wanted to Aggregate values in your Report, you needed to create a new Dataset View with required Field Aggregations and then create a new Report from this.

In 5.5 you can perform this in the Report Editor for multiple Tables simply by setting the Aggregation method at the Table column level. See how here Aggregation of numeric values.

8. Conditional Formatting

Conditional Formatting allows you to set Rules and Conditions that can highlight when specific conditions occur in your data (aka Anomalies!)

8.1. Edit table

Select **[+ Rule]** under *Conditional Formatting* to display the options available

You can choice to compare and format any of your data fields; the options available will differ for text, date, and numeric fields as a couple of examples below illustrate.

8.2. Example - comparing a field to a value

1. Select any of the data columns from the drop-down
2. Select both the condition, and either **value** or **another data column.** Your options in the drop-downs will vary based on both the *Data* and *Condition* chosen.
3. Select Format options: *text* or *background color*, *bold, italic*, or any combination of these by clicking on the icons
4. Select if you want to apply the formatting to a *single value* or *Entire Row*

8.3. Comparing a numeric field to another numeric field

8.4. All Conditions are expressed in plain language on the Report Editor

1. **[Apply]** to produce the Report layout viewed on the left.
2. Rules can be edited or deleted via icons viewed here.

9. Pivot Tables

Pivot Tables function much like other Tables in the Report Editor, but provide fewer options, especially when applying Conditional formatting as this can only be done at the Column level.

For more details see Pivot Tables in Dataset Reports

1. Specify the **Pivot's Name**
2. Determine **Row Values**
3. Determine **Column Values**
4. Specify **Measure** that will be used to calculate values
5. Optionally**,** specify if you want to include **Grand Totals for Columns and Rows** and if so, determine their formatting
6. **Apply**

10. Create Various Charting Displays

There are numerous charting options available by simply dragging-and-dropping one of the Chart icon(s). A slide-out will appear from the rights allowing you to select your options.

For details for the various Charts and options available see <u>Creating Charts in Dataset Reporting</u>

11. Create Rich Text Blocks

Users can now add blocks of text to your Dataset Reports to make them even more informative and compelling. To use this option, drag the Text tile to the Report Canvas and add the desired information.

Some options are:

1. Formatted Text
2. Bullet and numbered lists
3. Tables
4. Hyper-links
5. Variables

The following formatting functionality is supported:

- Undo/redo (change history)
- Bold, Italic, text alignment (left, center, right)
- Hyperlinking
- Font color, background-color
- Font family
- Font size
- [5.5.1] Tables
- [5.5.1] Ordered and Unordered lists
- [5.5.1] Source code (HTML) viewing and editing (Variables)

For more details on Text Blocks, see [Working with Text Blocks](#)

12. External Visualizations and Hyperlinks

12.1. Drag & Drop External Visualizations to expose the Editor

12.2. Chose your External Visualization and Click "Link Visualization to Data Table"
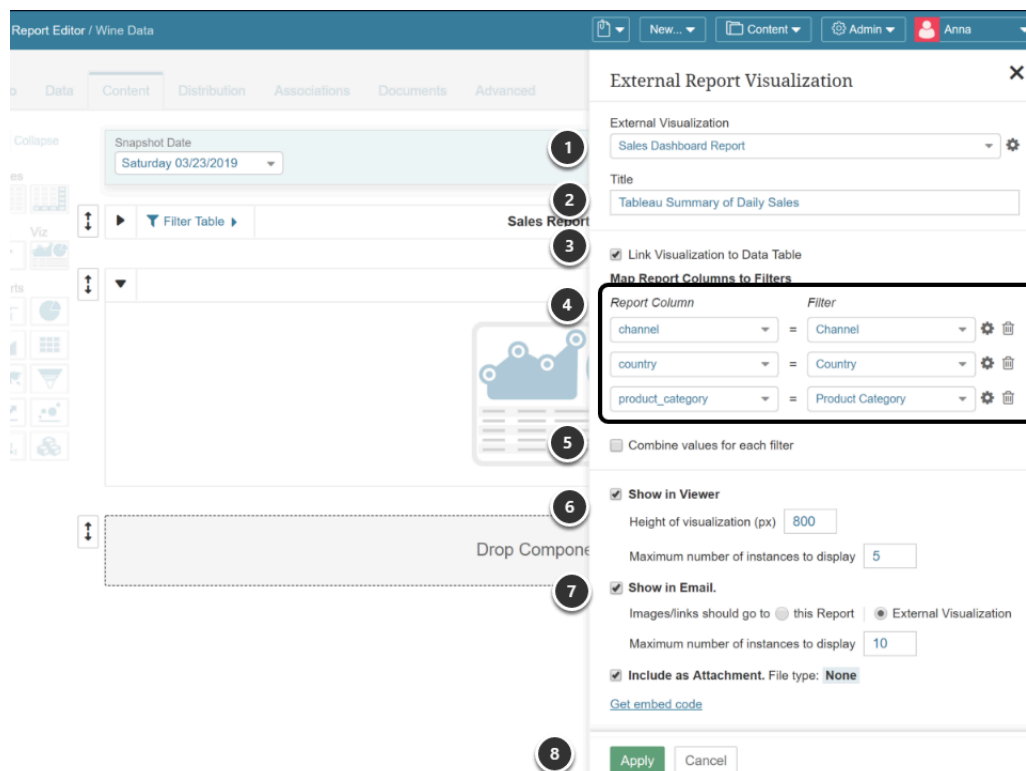
1. From the drop-down, choose **External Report Visualization** with which your Dataset Report will interact.
2. Optionally, create a **Title**.
3. **"Link Visualization to Data Table"** to link Column Values to a Visualization.
   - In the *Dataset Report Editor*, when you click such a link, the Visualization will open on an external webpage.
   - In the *Dataset Report Viewer*, when you click the table link, the Visualization will open in the Viewer.
4. **Map Report Columns to Filters**. Clicking **[+Add]** allows mapping more Report columns to External Filter values.
5. If you select "***Combine values for each filter***", the same Visualization will be displayed for All Filter Values. If this box is clear, you can select the number of instances to display in Viewer and in an email. Options for ***Maximum number of instances to display*** will appear in both **Show in Viewer** and **Show in Email**
6. Optionally, select to ***Show in Viewer***. You can specify:
   - the Height of Visualization
   - the Maximum number of Instances
7. Optionally, select to ***Show in Email***. You can define:
   - whether clicking the image in an email will open your Dataset Report or External web page

- the Maximum number of instances

8. *Apply*

12.3. Result of Hyperlinks for an External Visualization

ℹ️ When you click a link in the Table, the Visualization will display data filtered for the chosen option(s)
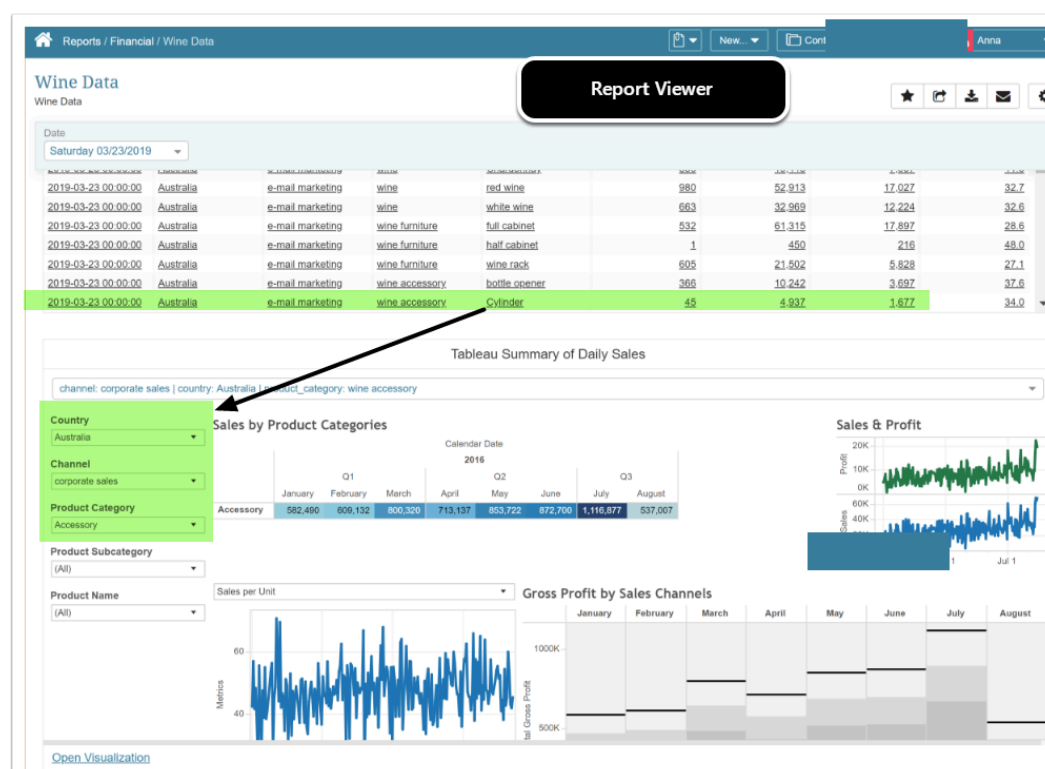
13. How to add Hyperlinks (without including an External Visualization)

If you are not linking to an External Visual contained in your Report, you will need to link each field individually. Basically, you edit the field where the link is being located and manually enter the Hyperlink code to access it.

This is more fully explained in Creating Hyperlinks in a Dataset Report.

> 💡 If you are linking to a External Visual, this process is automated. See details above at External Visualizations and Hyperlinks.

13.1. Where and how to create the link to one column
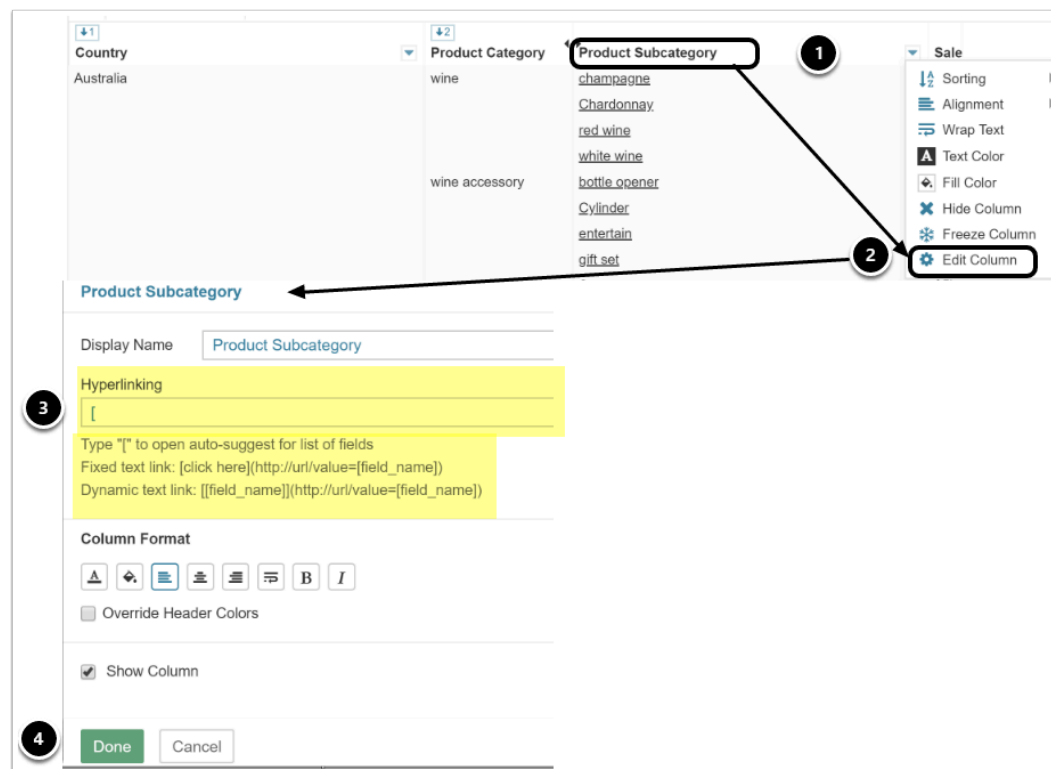
1. Open Column drop-down
2. Select *Edit Column* to open the **Column Edito**r
3. In the **Hyperlinking** field
   1. Type "[" to open auto-suggest for list of fields (see below)
   2. To create a Fixed text link use this format: `[click here](http://url/value=[field_name])`
   3. To create a Dynamic text link use this format: `[[field_name]](http://url/value=[field_name])`

4. **[Done]**
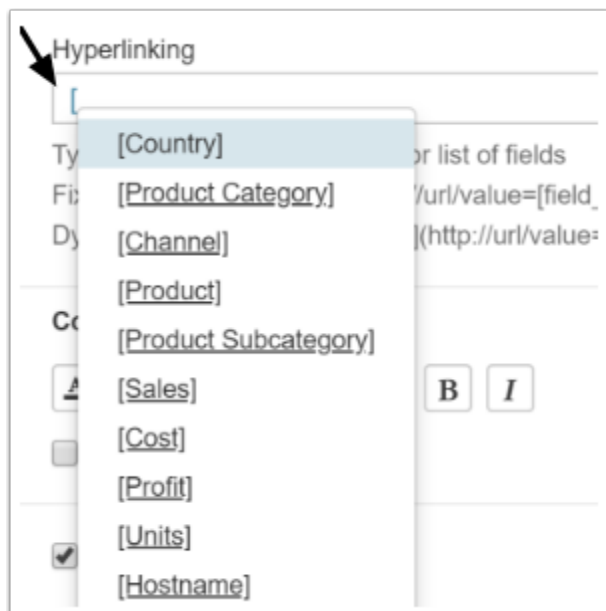
14. Report Distribution tab - set attachment type / empty report option
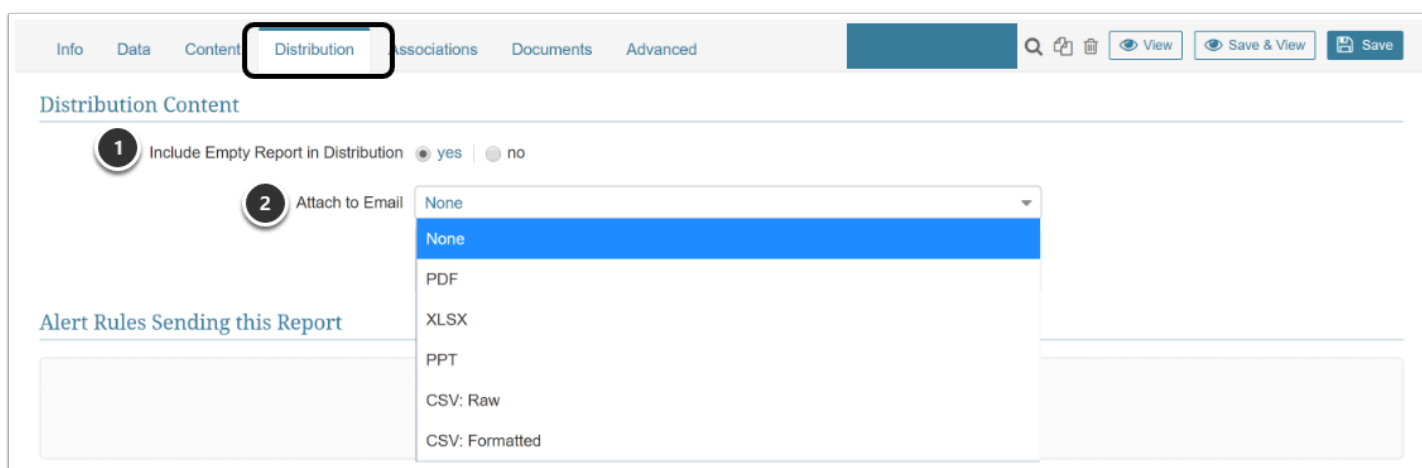
1. [Release 6.1.1] Specify if you want reports with no data to be distributed. For more details, see Generating Empty Dataset Reports (when there is No Data)
2. If you have chosen to include any **Attachments** to your report, you must specify the format in the **_Report Distribution tab_**. **Note:** This setting will apply to all Charts and Tables electing to include attachments.

15. Configure Report Notifications (from Report Viewer)
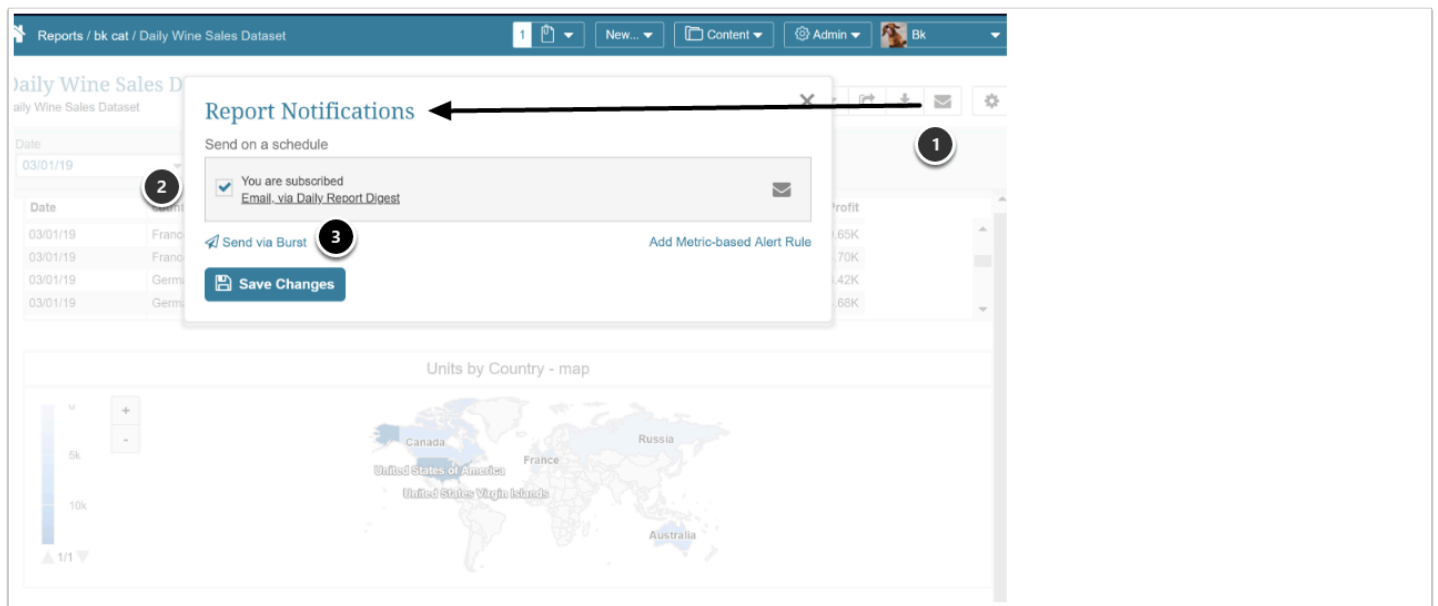
1. Select **Notification icon** in the far right side of Viewer
2. **Check box** to receive this Report Daily
3. Optionally, send this Report in a **Burst**

> 💡 For more information, refer to Report Notifications] Subscription Options, Settings available

4.2 Applying Filters in Dataset Reports

There are two types of Filters available in the Content tab of the Report Editor. These Filters limit the data that is displayed when viewing the Report online or in Notifications such as Bursts or Digests:

1. **Report Filters** apply to **all** of the Report's elements (Tables, Charts, and linked External Visualizations). These appear as drop-downs that can be adjusted by the Viewer, much like Dimension drop-downs in older versions of Metric Insights.
2. **Table Filters** apply to a **single** Table or Chart, are fixed, and can only be modified in the Report Editor.

💡 An Overview of Dataset Report features is available here [Dataset Reports Overview](#)

Access Filters via the Report Editor's Content tab

1. Create Filters applicable to entire Report (Report Filters)

Top Image - Report built from Snapshot Datasets

1. A Date Filter is created automatically for all Snapshot Reports
2. To add other Report level Filter(s) select the **Edit Filters** on far right

Lower Image - Report build with dates already present in data

- **Click to add Filters** link

Report Filters Editor will slide out from the right

1.1. Simply drag-and-drop to select Columns for Filtering
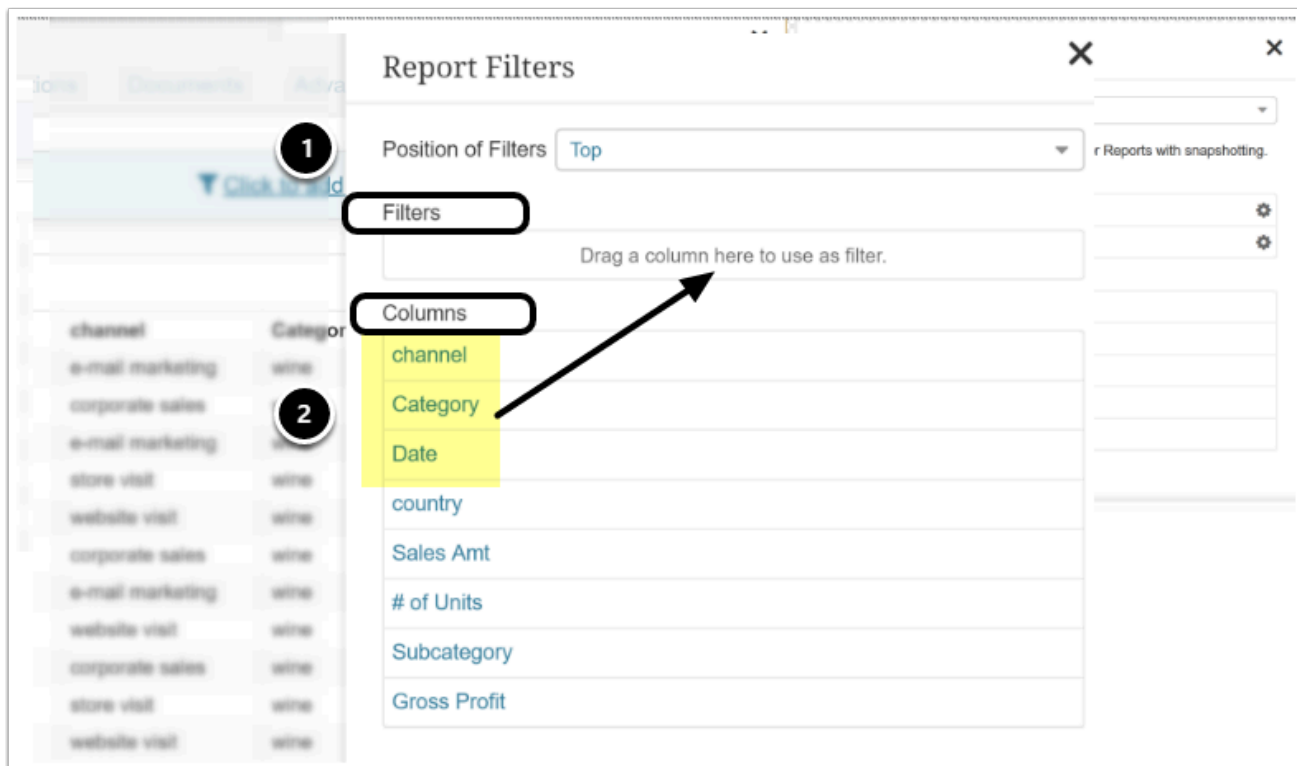
1. **Position Filter** display either *Right, Left, or Center*
2. To select Filters, simply drag fields from **Columns** section to the **Filters** section

1.2. Edit each Filter using the edit gear (or accept Default values)

1.3. Editor for filter fields displays varies based on field characteristics

On this slide-out form, you can

1. You can add a *Label (*optional**)**, select **Filter,** and the **Sort** criteria from the drop-downs
2. (new in 6.2.0) When selected **Filter** is "dropdown", the option to Include "All" value is available
3. Click *Done* to return to ***Report Filter Editor***
4. ***Apply***

1.4. Table will now be viewed based on your Filter choices in both the Editor and the Viewer.

Note that the *Channel* and *Country* Filters were manipulated in the **Viewer example.**

1.5. Example of a Filter slide-out of a Dimensioned Report with snapshot data

Note following differences:

1. **Snapshot Date** does not appear in the Report Filters at all
2. The **Dimension** (Product Category) appears in Report Filters in list of Dimensions (not available for editing)
3. **Country** was added as a Report Filters and can be edited

2. Apply Filters to a single Object in the Report

1. Click Filter icon for selected Table to open field for input
2. Rules and Grouping section opens - this section functions just like the Alert Editor Rules section
3. *Add a Rule* You can add as many Groupings and Rules as you need
4. *Apply*

3. Example of filtering for High Values Sales

3.1. How to remove Filter display or actually remove the Filter Rules

1. Clicking the 'X' will hide the Filter information, but filtering will still be applied
2. You can expose the Filter for modification by again clicking on the Filter Table icon
3. Rules and Groups can be removed via the associated trashcan icons

4. Example showing how the two filters work on other elements in Report
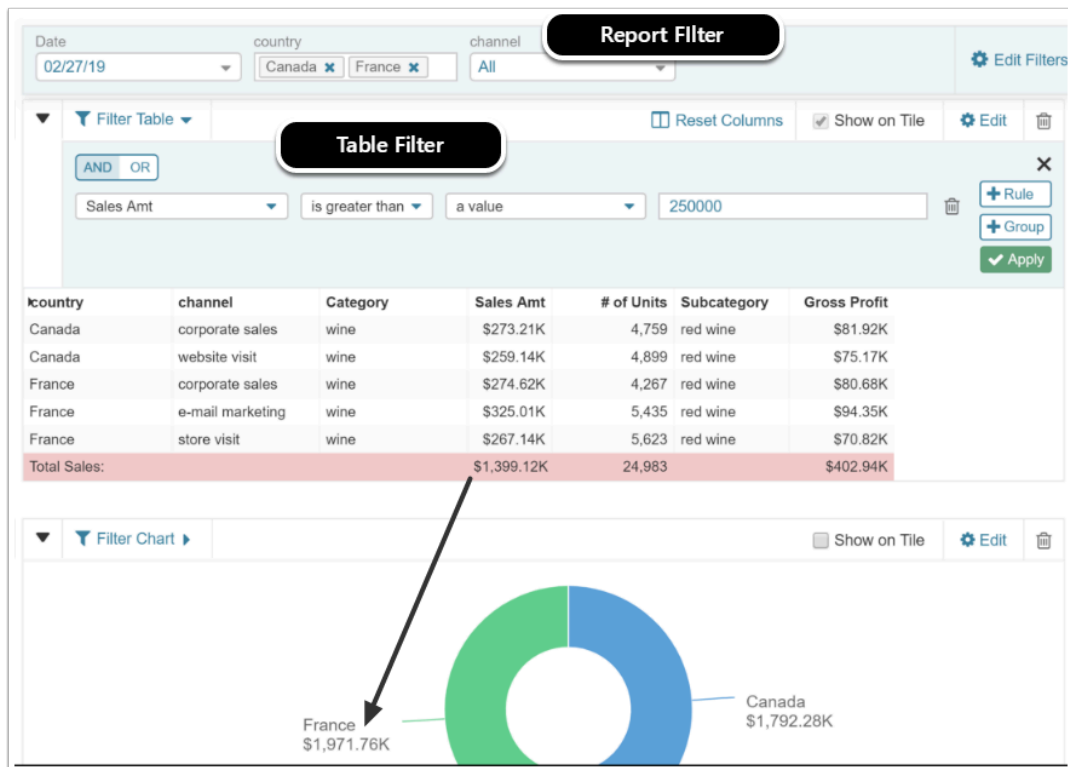
Note that both the **Table** and the **Pie Chart** are displaying only data for the selected countries of **Canada** and **France** due to the **Report Filter**.

The **Table** is further restricted by the **Table filter** (**Sales > $25k**) while the Chart displays **Total Sales** for each country.

4.3 Using Sections and Groups in Dataset Report Tables

Two of the easiest way to enhance the appearance of your Report are explained below.

Sections provide the ability to specify an external break column (sections) for a report grid so that tables can be shown one per value of the column.

Grouping provides the ability to specify that a column should group values. When set, the column values that are repeated are instead shown as a blank.

> ℹ Example of Grouping and Sections applied to a large table of Sales by Country, Channel, and Product Category extracted from a Tableau Dataset.

1. Initial Report Table

2. How to apply Grouping (edit the Table)

1. Check the **Grouping** box
2. Grouping grid opens
3. Use Drag-and-drop to move fields from **Columns** section to **Grouping** section
4. Columns in Grouping will immediately appear in the **Sort Order section** - adjust the sort as needed
5. Use the field level **edit** icon(s) to apply additional formattings, such as Colors or Hyperlinks

1. Grouping one - **Country**
2. Grouping two - **Channel**

3. How to apply Sections (edit the Table)

1. Check the **Sections** box
2. Sections grid opens

3. Use Drag-and-drop to move fields from **Columns** grid to **Sections** grid
4. Fields placed in Grouping grid will immediately appear in the **Sort Order** section - adjust the sort as needed
5. Use the field level **edit** icon(s) to apply additional formatting, such as Highlighting

4. Combined Grouping and Sectioning example

1. **Section** by **Country**
2. **Grouping** by **Channel**
3. **Secondary Grouping** by **Product Category**

4.4 Adding Column Aggregation to Dataset Report Tables

In Release 5.5 we have added the ability to aggregate numeric fields directly in the Report without the need to a create a new view first. The Report function mimics the ability in the Data Viewer as seen below.

How to access aggregation options:

- via column drop-downs
- via the Column Editor
- via the Table Editor

How aggregation works:

1. Aggregation regardless of type (sum, average, minimum, maximum, etc.) allows to display unique pairs of values. If you choose to aggregate values based on a particular parameter (country, product category), the aggregation function will produce only ONE resulting value that will be a sum, an average, a minimum or a maximum value calculated based on all existing values for that parameter.
2. When aggregation is applied, matching values in all visible columns will be displayed in sets.
3. Since aggregation produces pairs of unique values, sorting will not be applied to the aggregated column.
4. Aggregation can be applied to multiple numeric columns.
5. Both hidden and displayed columns are included in aggregation.

Known issue for 5.5.0:

- After aggregation has been applied to any numeric column, sorting can not be applied to any other column.

Report without Aggregation

1. Aggregate via Column drop-downs

2. Aggregate via Table Editor

1. Edit the **Table**
2. Edit the numeric **field**(s)
3. Select type of **Aggregation**

Done / Apply to return to full Table Editor

3. Resulting Table

country	channel	Category	Sales Amt	# of Units	Gross Profit
Australia	e-mail marketing	wine furniture	$1,579.10K	15,559	$488.03K
Australia	store visit	wine	$5,624.95K	108,877	$2,014.08K
Australia	store visit	wine accessory	$2,754.21K	58,658	$819.66K
Australia	store visit	wine furniture	$1,446.64K	14,187	$452.64K
Australia	website visit	wine	$6,197.14K	115,006	$2,262.94K
Australia	website visit	wine accessory	$3,068.29K	63,169	$913.90K
Australia	website visit	wine furniture	$1,568.38K	15,206	$489.32K
Canada	corporate sales	wine	$14,565.13K	271,857	$4,022.72K
Canada	corporate sales	wine accessory	$7,250.06K	152,403	$1,254.09K
Canada	corporate sales	wine furniture	$3,897.58K	38,759	$763.81K
Canada	e-mail marketing	wine	$14,650.09K	270,781	$4,075.11K
Canada	e-mail marketing	wine accessory	$7,013.14K	149,996	$1,202.74K
Canada	e-mail marketing	wine furniture	$3,783.51K	37,634	$747.04K

Filter Table | Reset Columns | ✔ Show on Tile | ⚙ Edit

4. Aggregate by 'Ave' instead of 'Sum' - Results

country	channel	Category	Sales Amt	# of Units	Gross Profit
Australia	e-mail marketing	wine furniture	$25.47K	251	$7.87K
Australia	store visit	wine	$90.72K	1,756	$32.49K
Australia	store visit	wine accessory	$44.42K	946	$13.22K
Australia	store visit	wine furniture	$23.33K	229	$7.30K
Australia	website visit	wine	$99.95K	1,855	$36.50K
Australia	website visit	wine accessory	$49.49K	1,019	$14.74K
Australia	website visit	wine furniture	$25.30K	245	$7.89K
Canada	corporate sales	wine	$234.92K	4,385	$64.88K
Canada	corporate sales	wine accessory	$116.94K	2,458	$20.23K
Canada	corporate sales	wine furniture	$62.86K	625	$12.32K
Canada	e-mail marketing	wine	$236.29K	4,367	$65.73K
Canada	e-mail marketing	wine accessory	$113.12K	2,419	$19.40K
Canada	e-mail marketing	wine furniture	$61.02K	607	$12.05K

Filter Table

If this is to be your final iteration of the Report, you should Edit the numeric values so that the Field names correctly reflect the values of the data - as seen in the Report Viewer below.

Daily Wine Sales Dataset report Data for Monday 03/04/2019

Daily Wine Sales Dataset

country	channel	Category	Average Sale Am	Ave # Units	Average Gross Profit
Australia	corporate sales	wine	$95.44K	1,844	$34.12K
Australia	corporate sales	wine accessory	$48.61K	1,024	$14.70K
Australia	corporate sales	wine furniture	$25.95K	268	$8.09K
Australia	e-mail marketing	wine	$87.70K	1,697	$31.35K
Australia	e-mail marketing	wine accessory	$47.60K	1,010	$14.15K
Australia	e-mail marketing	wine furniture	$25.47K	251	$7.87K
Australia	store visit	wine	$90.72K	1,756	$32.49K
Australia	store visit	wine accessory	$44.42K	946	$13.22K
Australia	store visit	wine furniture	$23.33K	229	$7.30K
Australia	website visit	wine	$99.95K	1,855	$36.50K
Australia	website visit	wine accessory	$49.49K	1,019	$14.74K
Australia	website visit	wine furniture	$25.30K	245	$7.89K
Canada	corporate sales	wine	$234.92K	4,385	$64.88K

4.5 Working with Text Blocks

Users can add blocks of text to Dataset Reports to make them even more informative and compelling. To use this option, drag the **Text** component to the Report Canvas and select options as needed. **Variables** in Text Blocks allow Users to add high-level KPIs to their Dataset Reports.

💡 [6.1.1 new] New option to define your own formulas for Variables in a Text block allowing maximum flexibility in highlighting Issues and Results.

1. Formatting options
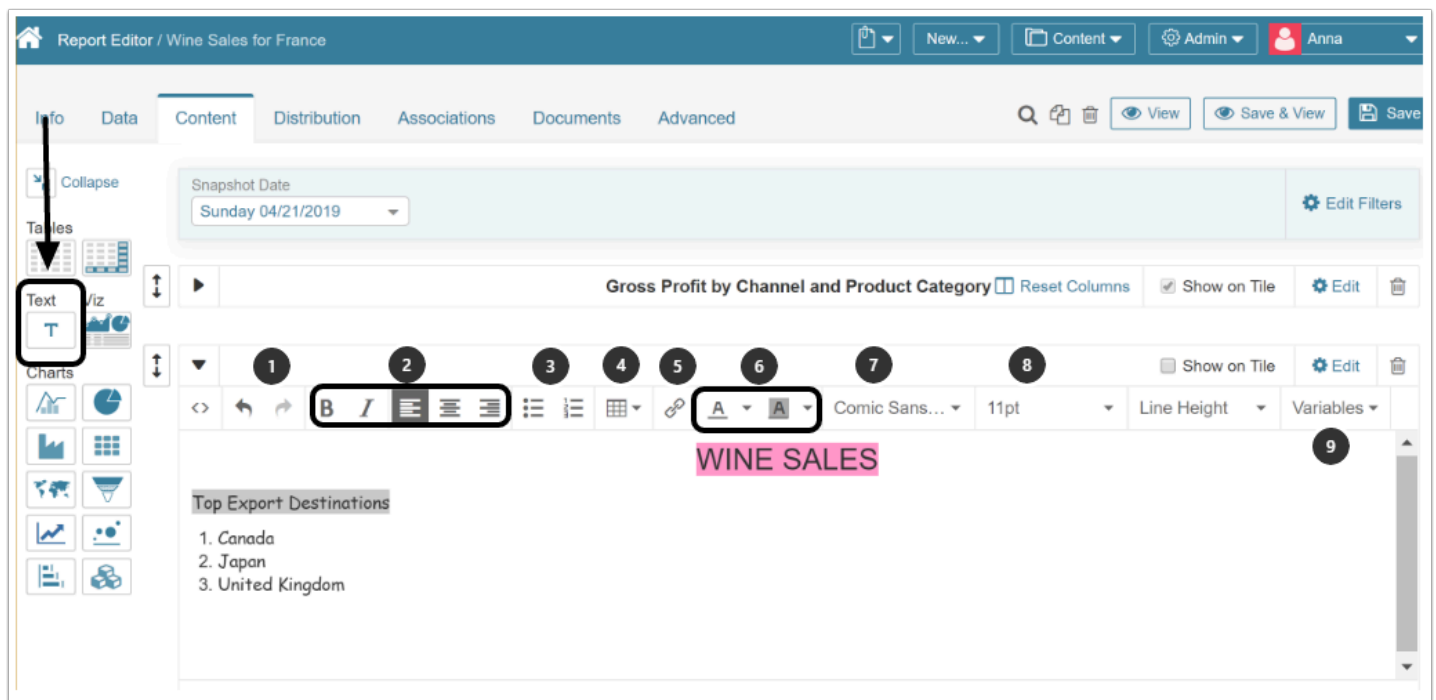
The following formatting functionality is supported:

1. Undo/redo (change history)
2. Bold, Italic, text alignment (left, center, right)
3. [5.5.1] Ordered and Unordered lists
4. [5.5.1] Tables
5. Hyper-linking
6. Font color, background color
7. Font family

8. Font size
9. [5.5.1] Source code (HTML) viewing and editing (Variables)

2. Adding Variables and Formulas
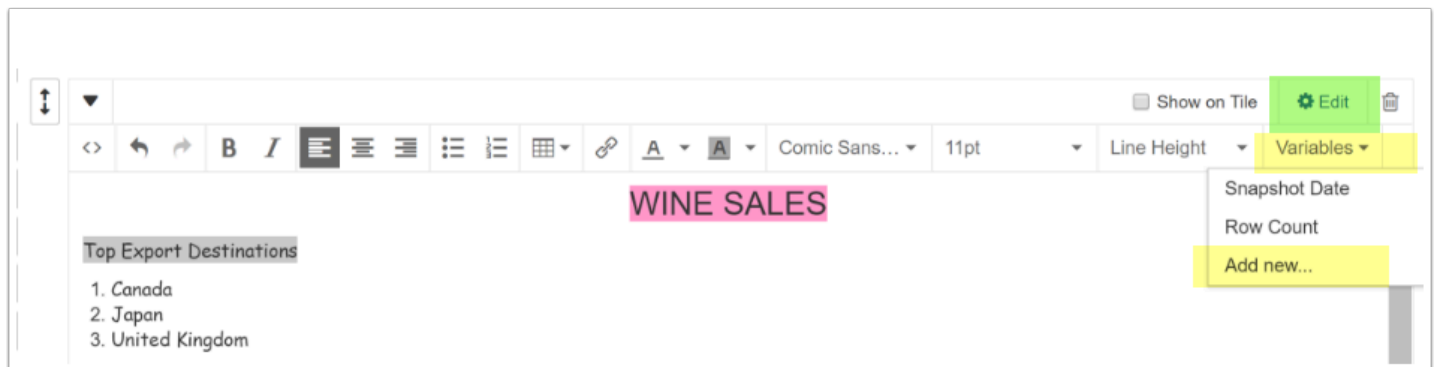
The default list of Variables can be extended from:

1. Text Block Editor via **edit icon**
2. Variables drop-down (***Add new..*** will open the Text Block editor)

Text Block editor will slide out for input

2.1. The Text Block Editor - Variables

> 💡 The Formula feature is new in Version 6.1.1—older versions will not display [+ Formula]. Your Formulas will display in the Variables dropdown on the Text Block component.

1. Give the Text Block a descriptive Title (optional)
2. Select [+ Variable] to display drop-down options for:
3. System defined type of aggregation (Sum, Ave, Min, Max...)
4. Variable (field name or formula name)

[Apply] to add these options to your list of Variables in Text Block

The new Variable is now available for use anywhere in your Text Block simply by selecting from the **Variable** dropdown.

2.2. The Text Block Editor - Formulas

💡 Variables must be defined prior to creating the Custom formulas that display them.

1. Select **[+Formula]** to open popup for new Variable + Format
2. Input meaningful **Display Name** (optional)
3. Create your F**ormula** using "[" to provide list of available Variables, plus mathematical / arithmetic symbol(s)
4. Select a **Display Mask** if you do not wish to use the default
5. **[+ Formatting Rule]** allows you to use standard formatting to select color, text size, background, etc for the Variable
6. **Validate Formula** allows you to verify result before selecting DONE to return to Variable Editor

2.2.1. Mathematical operations supported

- Add   +
- Subtract -
- Multiply *
- Divide /
- Multiple operators (x*y) + z / b
- Power()

- Mod()
- ABS()

2.3. Edit the Text Block to clarify the meaning and then select a Variable from list

The Variable will appear at the point of your cursor and will be replaced in the Viewer and emails with correct value.

Example below show that Formatting may also be applied to these options (Bold, Larger type applied)

4.6 Creating Manual Hyperlinks in a Dataset Report

> 💡 If you are linking to an **External Visual that is included** in your Report, the hyperlink process is much simplified. See details here

> ⚠️ The system is expecting numeric hyperlinks to be **unformatted**. If you are linking on a **formatted** numeric field, you can add " (Formatted)" suffix to column name like [Total Sales Amount (Formatted)]. Note: there is a space between the Field Name and (Formatted).

1. How to create the link

1. Open Column drop-down (**Subcategory**)
2. Select *Edit Column* to open the **Column Edito**r
3. In the **Hyperlinking** field
   1. Type "[" to open auto-suggest for list of fields in your Report (see below)

2. To create a Fixed text link use this format: `[click here](http://url/value=[field_name])`

3. To create a Dynamic text link use this format: `[[field_name]](http://url/value=[field_name])`

4. **[Done]**
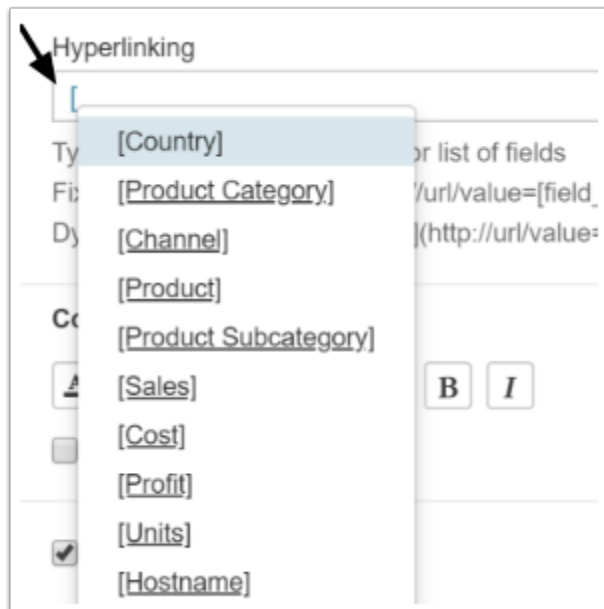
2. How to find the values used in hyperlinks

2.1. Simple example of linking to a Metric dimensioned by Country

Note that if you are linking to a **Dimensioned element**, you will need to change **'=' (equals)** to **'/' (slash)** for the Value field:

- **Online example:** [[field_name]](http://url/value=[field_name])
- **Change for passing a Dimension:** [[field_name]](http://url/value/[field_name])

1. Entering the symbol "[" twice to open a list of fields in your current Report. Simply select the element you want to apply the link to appear on. Enter another "]"
   - Our link is going to be applied to the field = Country

2. To find the URL of the target of the link, just View the element
   1. entire URL for Metric chart is https://stg530.metricinsights.com/chart/index/index/element/107913/segment/7558/Country/[country]/uco/3311
   2. This metric is segmented (dimensioned) by *country* - note the exact format of this field. For example, *Country* is capitalized.
   3. Copy the URL up through the element number and replace " http://url " with this value

---

3. The '***value***' field is the name of the field we are passing to the linked Report. This name must be formatted exactly as it is in the URL above
4. Field_name will again be chosen by entering an '[' and selecting the correct field name in current report
5. So here is the completed formula: [[country]](https://stg530.metricinsights.com/chart/index/index/element/107913/Country/[country])
6. [[field_name]](http://url../value/ [field_name])

2.2. Example of linking using multiple fields

In this example we are linking the *Product Category* to a the the Table dashboard filtered by *Channel, Country, and Category* shown below.
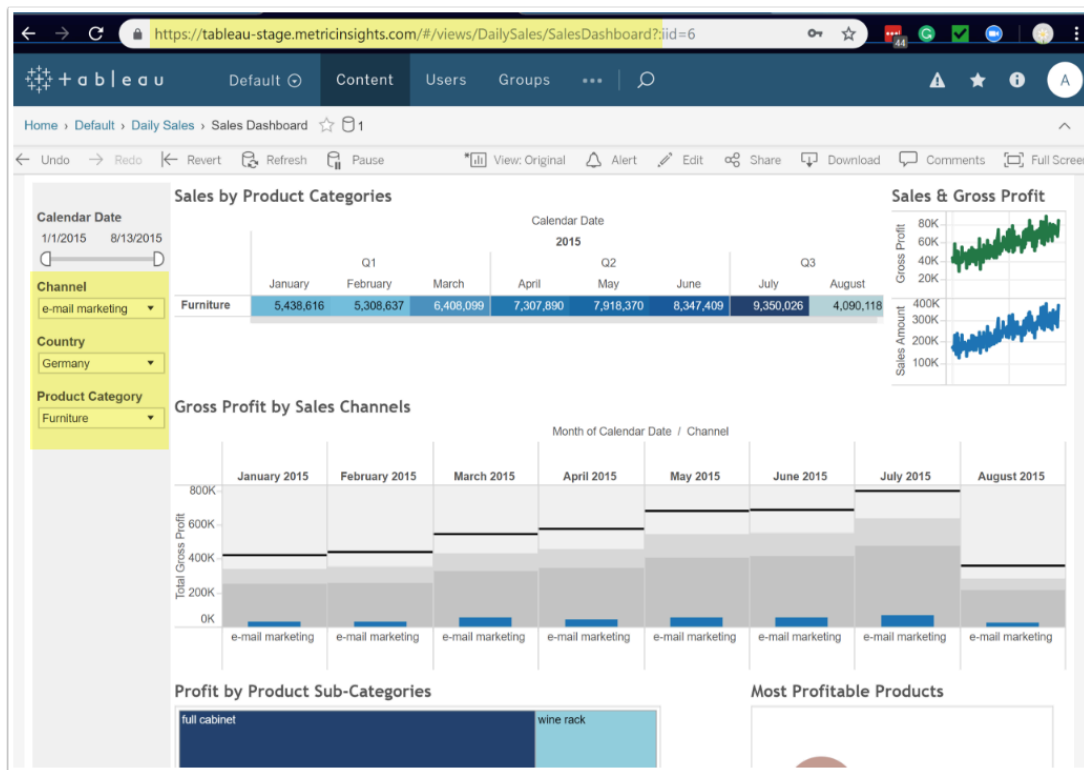
Following the simple example above: [[field_name]](http://url/value=[field_name])

1. The field_name that will contain our Report field containing the link
2. The URL portion is formatted from the Tableau URL: https://tableau-stage.metricinsights.com/#/views/DailySales/SalesDashboard?:iid=6
3. To locate the "value=" portions of the formula
    1. If your Report was created from Tableau we need to Access the Dataset Editor
        1. In the Data section of your report, link back to the Dataset View
        2. Click the Edit icon to access the Dataset Editor > Data section
        3. Find the exact Tableau filter names labeled as Reference Name in the Dataset Columns grid

Now you have everything you need to construct the link passing the correct filters:

- Use "[[" to select *'Product'*
- Use the portion of the URL up to and including the '?'
- When linking with multiple filters, all filters must be preceded by an '&'
- Use the **Reference Name** as shown above as the '*value*'   Based on the link-to element, you may have to find the names within the SOL statement instead.
- Use the "[" again to select the correct field from your report to pass as filter
- Repeat for additional filters and complete with a closed quote ")"

```
[[Product]](https://tableau-stage.metricinsights.com/#/views/DailySales/SalesDashboard?
/&channel=[channel]&country=[country]&product_category=[Category])
```

Do not include any spaces between characters
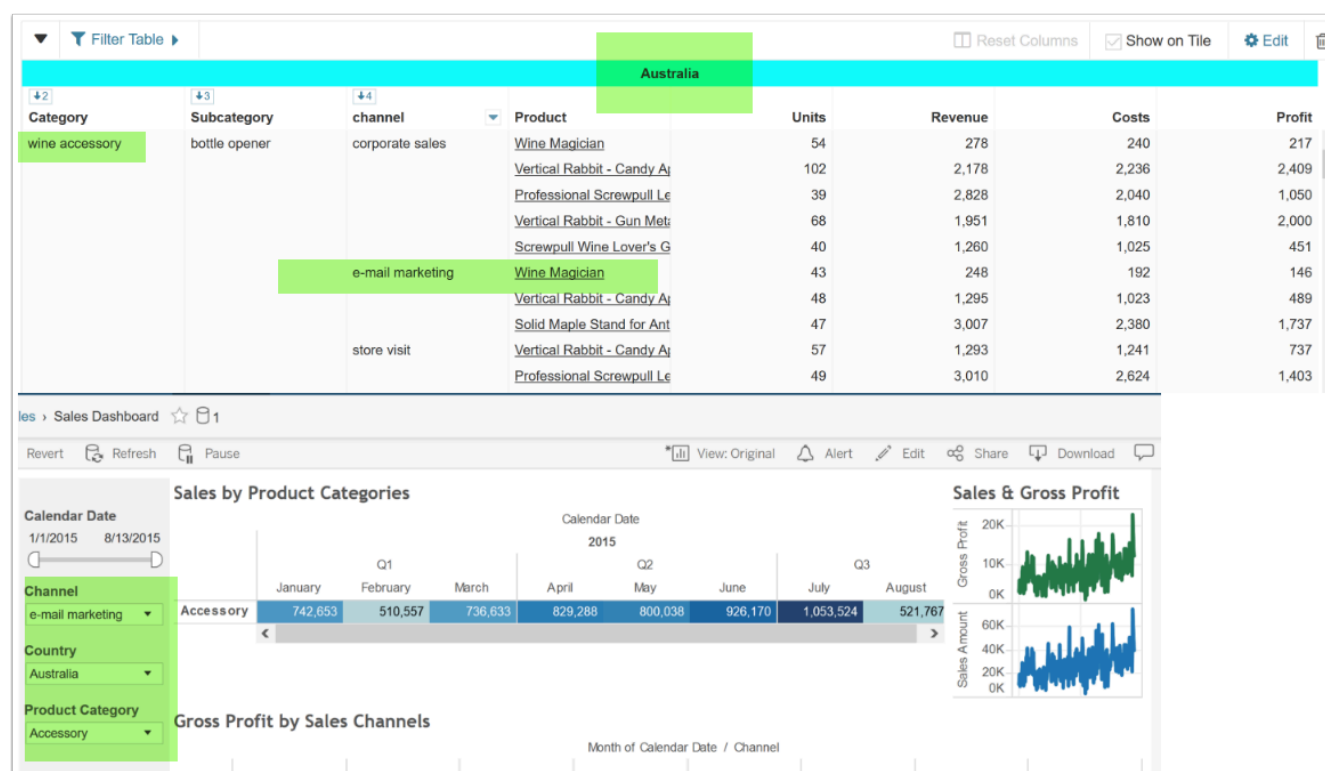
4.7 Creating Pivot Tables in Dataset Reports

Original full table filtered by Date

1. To create a Pivot Table

1. Drag the **Pivot table** icon into the work area (*Drop Components Here*)

2. Pivot Table editor will slide out from the right

1. Input a meaningful **Title** for your Table (optional)
2. Select one **Row**
3. Select one **Column**
4. Select which **Field** you want to measure and how it should be aggregated (Sum, Min, Max, Avg, Count)
5. Indicate if your Report should include any **Grand Totals**
    1. Click check-box to select Grand Totals for either or both Columns and Rows (or uncheck to omit Totals)
    2. Select location for the Grand Totals and the Label to be used
    3. Select the Format icons available to highlight or change placement

3. Results for a basic Pivot Table as set in #2

product_category	Australia	Canada	France	Germany	Russia	Spain	United Kingdom	United States	Category Totals
wine	415522	237750	693821	296084	732389	317238	427648	1649860	**4770311**
wine accessory	230086	75684	346633	150662	418186	144984	142934	841655	**2350825**
wine furniture	134508	68281	212575	74473	228522	94537	85411	440206	**1338514**
Country Totals	**780116**	**381716**	**1253029**	**521219**	**1379097**	**556760**	**655992**	**2931721**	**8459650**

4. Add Conditional Formatting to pinpoint anomalies

1. Edit the Field you are measuring
2. Select *[+ Formatting Rule]* at bottom of **Editor**
3. Enter the condition(s) you wish to draw attention to
4. Pick any or all of the following formatting options: Letter color, Area color, Bold, Italic
5. You may add as many Rules as you want

Then click **Done** on *Field Editor* and **Apply** on *Table Editor*

4.8 Creating Charts in Dataset Reports

As of Release 5.5, Dataset Reports are powered with new charting capabilities. The enhanced functionality allows for better data presentation that will serve a wider range of User needs.

Available charting options include:

1. Line/Bar/Area charts
2. Pie charts
3. Map charts
4. Bubble charts
5. Range charts

This list can be extended to include custom charts. For details, refer to Adding Custom Charts to Dataset Reports

PREREQUISITES:

1. Build a **Dataset Report** either from the *Dataset Viewer (via Actions > Build Report)* or via *New > Report*
2. Go to the **Content tab** of the *Dataset Report Editor*

For more information on Dataset Reports, go to Dataset Reports Overview (New in 5.3)

How to add a Chart
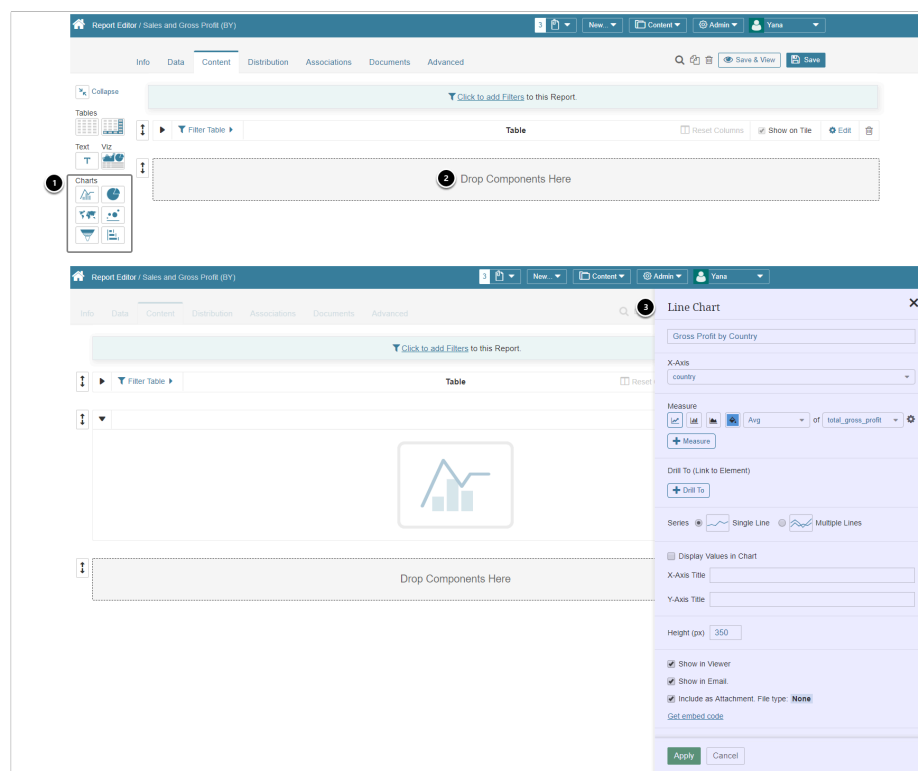
On the *Content tab*:

1. Select the required option from the **Charts** section
2. Drag the Chart tile to the **Drop Components Here** area
3. The **Chart Editor** will open automatically. Configure your Chart using available options

Once the Chart has been added, you can **pre-filter** its data.

How to Filter Chart data

For better and more precise control over data visualization, you can add Chart Filters.

This can be done after the Chart has been displayed for viewing.
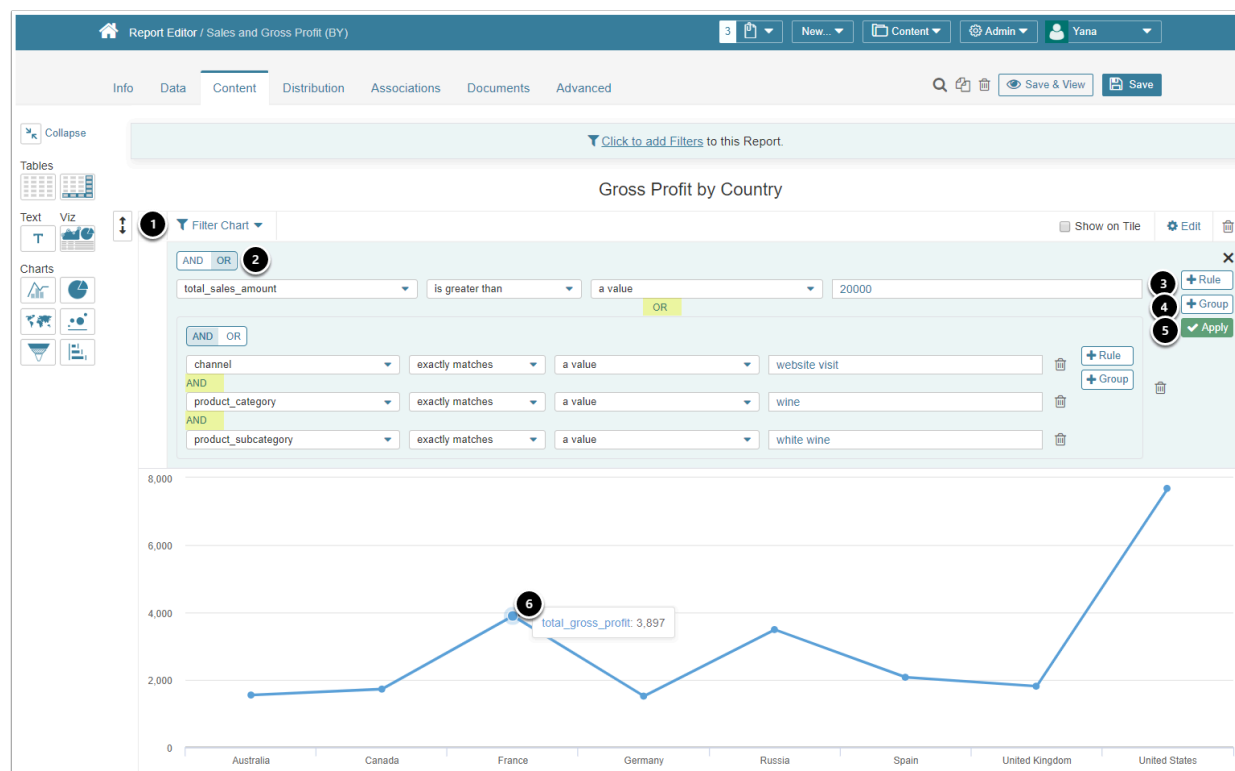
1. Click **[Filter Chart]** to open the section
2. Select the Operator (**AND|OR**) that will be used to filter data
3. Add a Rule by clicking **[+Rule]**
4. To add a Group of Rules, click **[+Group]**
5. **Apply** to see the result
6. Optionally, you can view exact measurement values for your data by selecting a point on the Chart

Change the Charts' default display options

Users can modify the appearance of their Charts *(colors, line width, bar shape, etc.)* from the Chart Layout Editor.

- Access the Editor from **Admin > Charting Options > Chart Layouts >** select **Metric Chart Layout**
- For details, refer to Change default colors for Charting objects
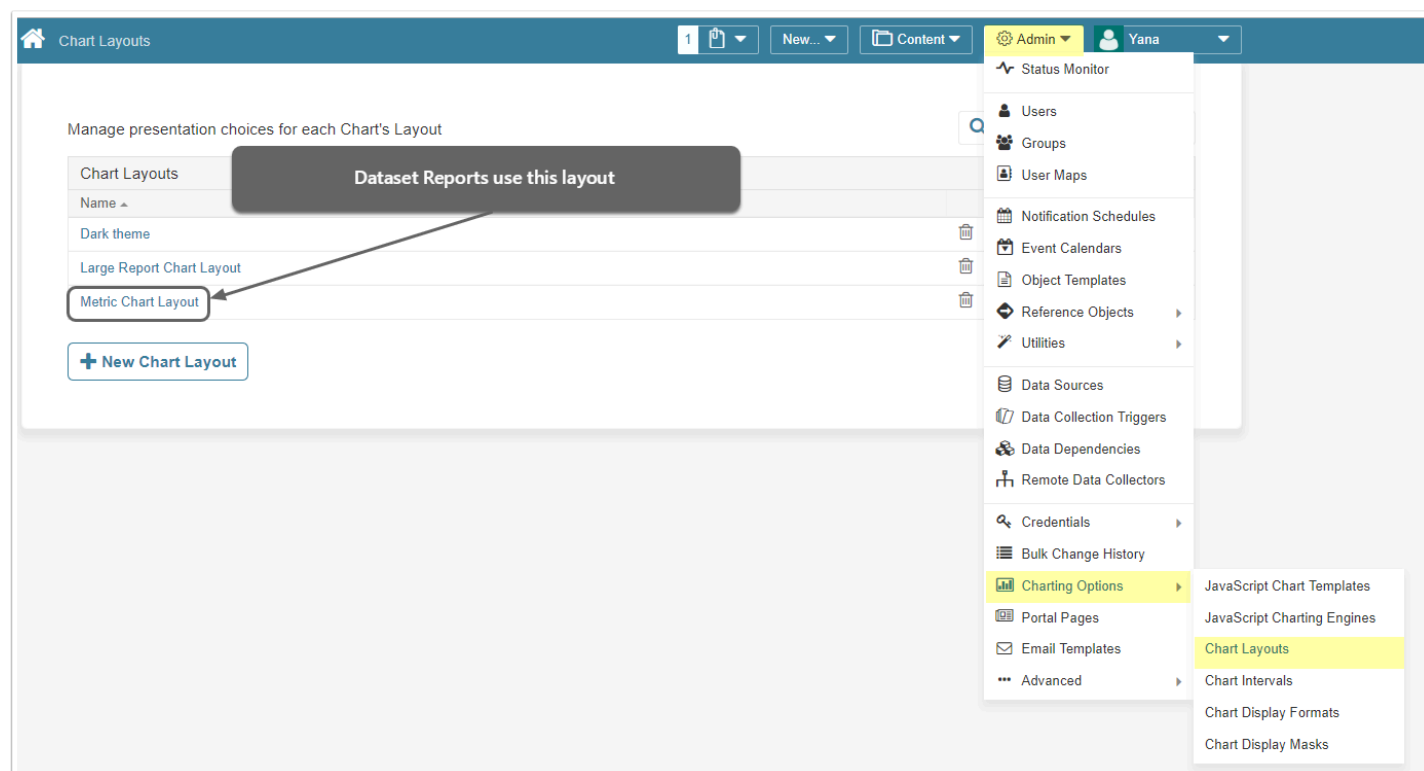
1. Line/Bar/Area charts

1.1. Line and Area charts
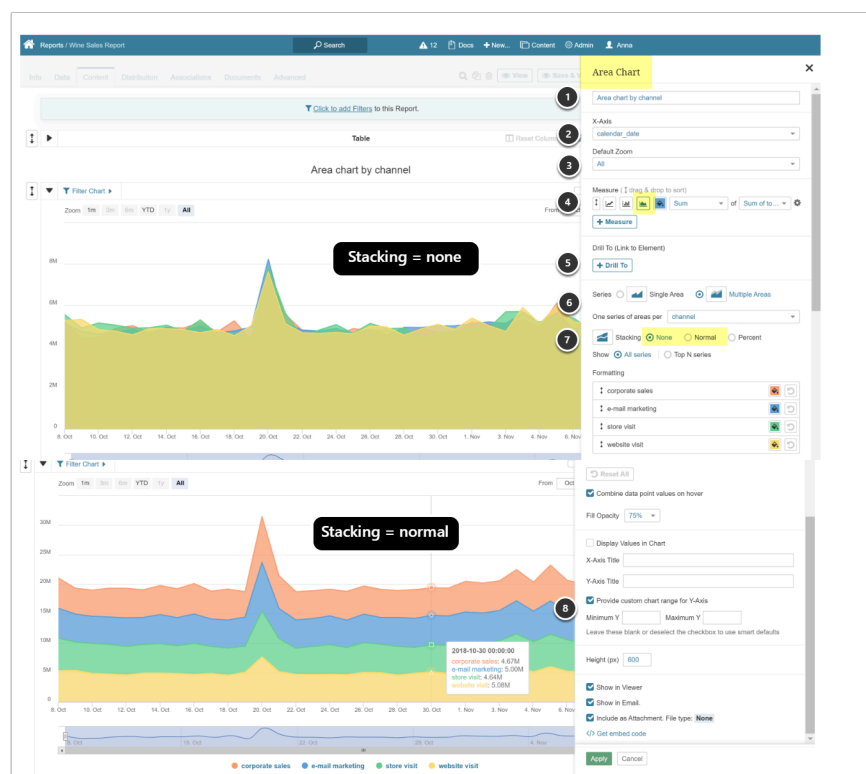
1. Specify the **Name** of your Line/Area Chart
2. Define which measurement values will be displayed on the **X-axis**
3. If applicable, choose a relevant **Date Zoom** option (a month, three months, half a year, year-to-date, a year, or all)
4. **Measure**: choose the type of Chart (Line/Area) by clicking the respective tile; from the dropdown, select the type of aggregation and the column whose values will be aggregated
5. **[+Drill To]:** optionally, click the button to link your chart to another Metric Insights' element
   • The link to the element will instantly be displayed in the Chart Editor

6. **Series:** select "Single" to make your Chart display a single Measure, and "Multiple" to show several Measures
   • By opting to have several Measures represented in your Chart, specify the additional Measure (in our case, **One series of areas per** Product Category) that will be shown on the Chart's X-Axis

7. [new in 6.2.2] To control display, set the **Stacking** control: Upper image display shows the "*none*" option, the lower image is the "*normal*" option and "*percent*" option will display the percents for all data points on the normal image.
8. [new in 6.2.0] To set a **Chart Range** for the Y-axis, click **[Provide custom chart range..]** to open the Minimum and Max value fields for input

Set other options as desired and click [Apply]

1.2. Example of Line Chart with Stacking set to 'Percent'
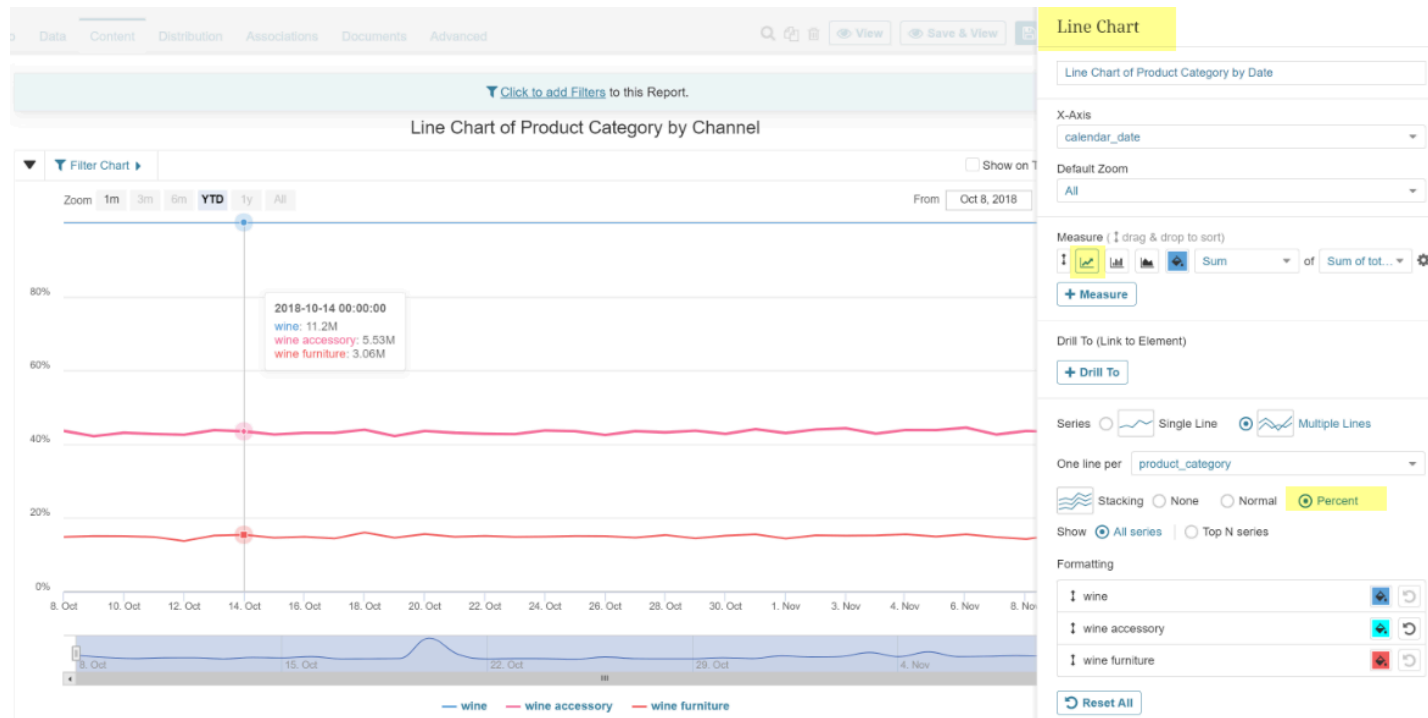
See explanation of settings in 1.1 Area chart

1.3. Bar Charts
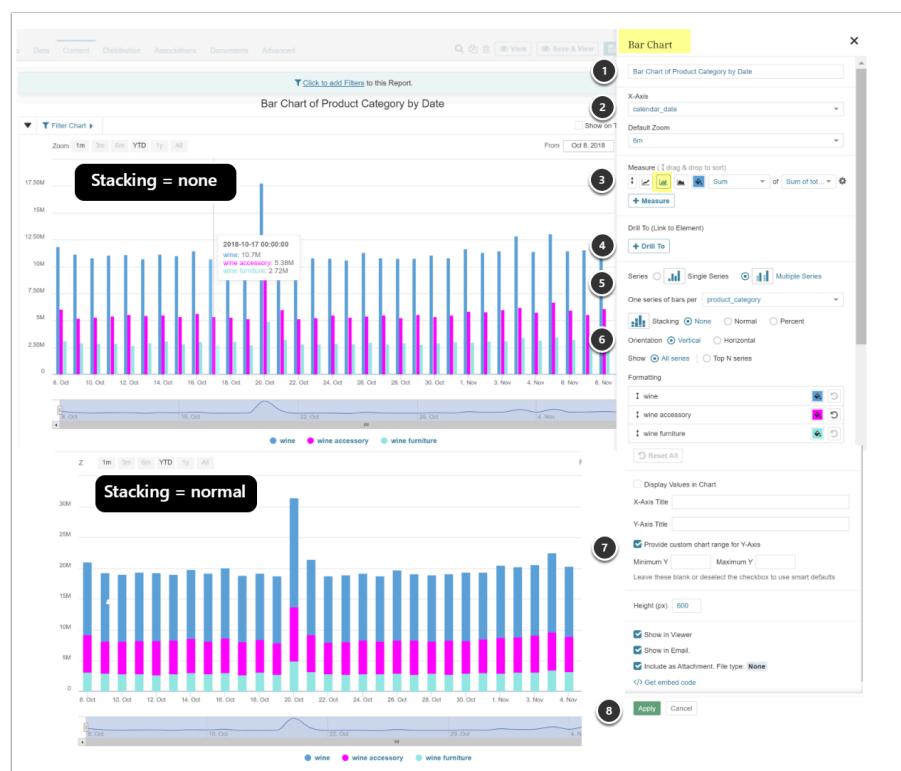
1. Specify the **Name** of your Chart
2. Define which measurement values will be displayed on the **X-axis**
3. **Measure**: choose the type of Chart (Bar) by clicking the respective tile; from the dropdown, select the type of aggregation and the column whose values will be aggregated
4. **[+Drill To]:** optionally, click the button to link your chart to another Metric Insights' element
   • The link to the element will instantly be displayed in the Chart Editor

5. **Series:** select "Single" to make your Chart display a single Measure, and "Multiple" to show several Measures
   • By opting to have several Measures represented in your Chart, specify the additional Measure (in our case, **One series of bars per** Product Category) that will be shown on the Chart's X-Axis

6. If required, change **Orientation** and **Stacking** defaults
7. [new in 6.2.0] To set a **Chart Range** for the Y-axis, click **[Provide custom chart range..]** to open the Minimum and Max value fields for input
8. Configure other settings as desired and click **[Apply]** to save your inputs

1.4. Re-order the series in a Multi-series Line/Bar/Area chart
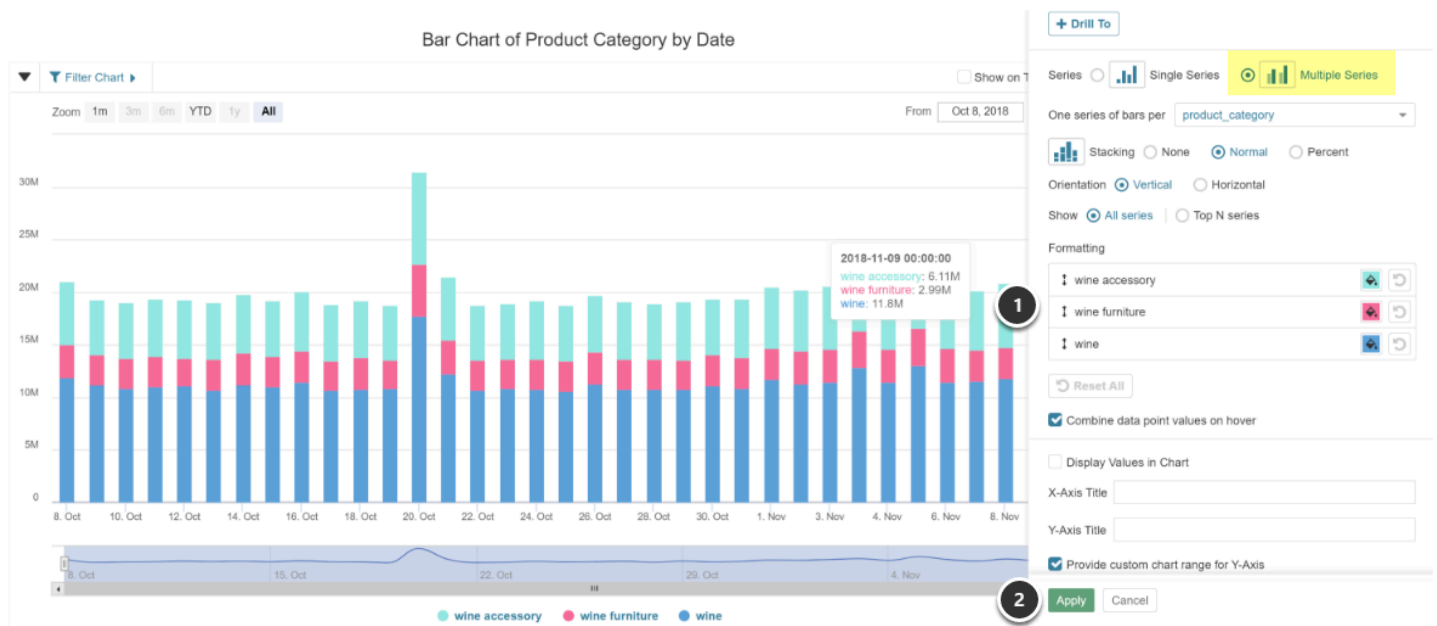
1. [new in 6.2.2] Using vertical arrows, drag the formatting components up or down
2. Apply

2. Pie charts
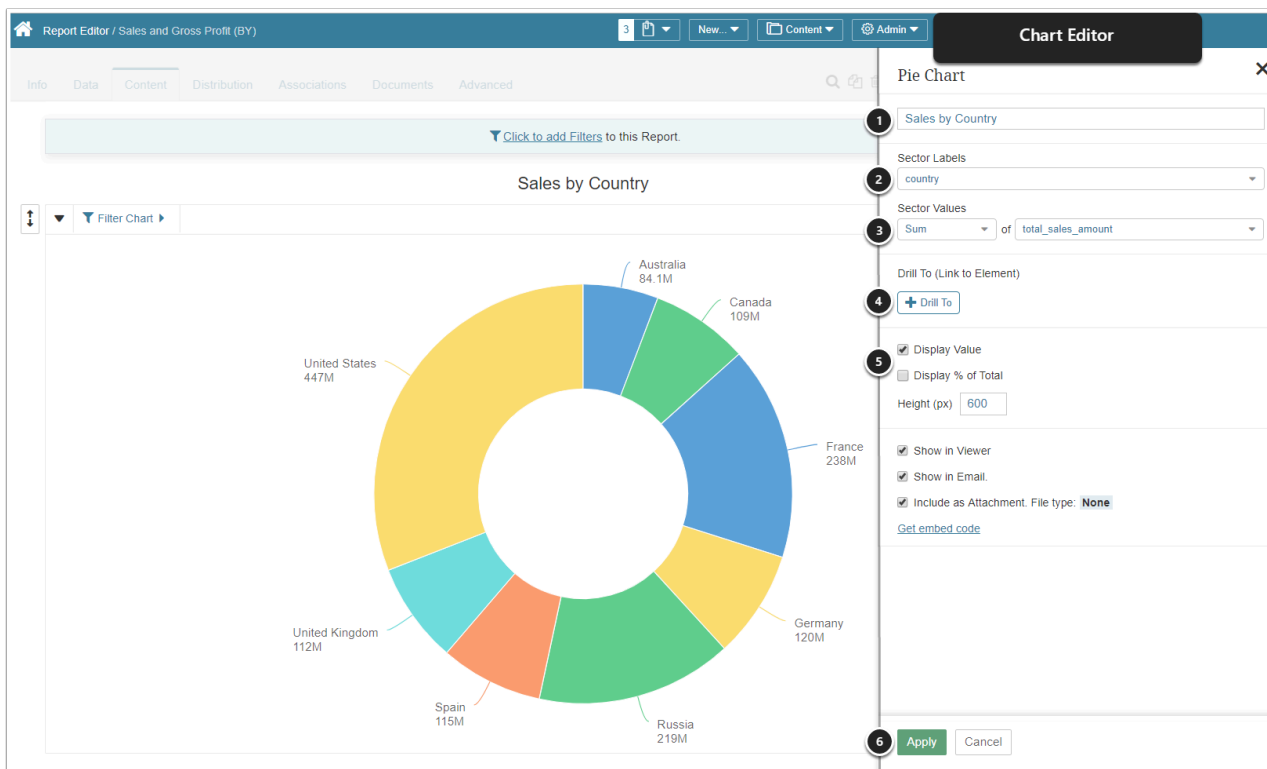
1. Specify the **Name** of your Pie Chart
2. **Sector Labels:** define which measurement values will be displayed by the Pie Chart sectors
3. **Sector Values:** from the dropdown, select the type of aggregation and the column whose values will be aggregated
4. **[+Drill To]:** optionally, click the button to link your chart to another Metric Insights' element
   - The link to the element will instantly be displayed in the Chart Editor

5. Optionally, select the Chart to show **Display Values** and/or **Display % of Total**
6. Configure other settings as desired and click **[Apply]** to save your inputs

3. Map charts
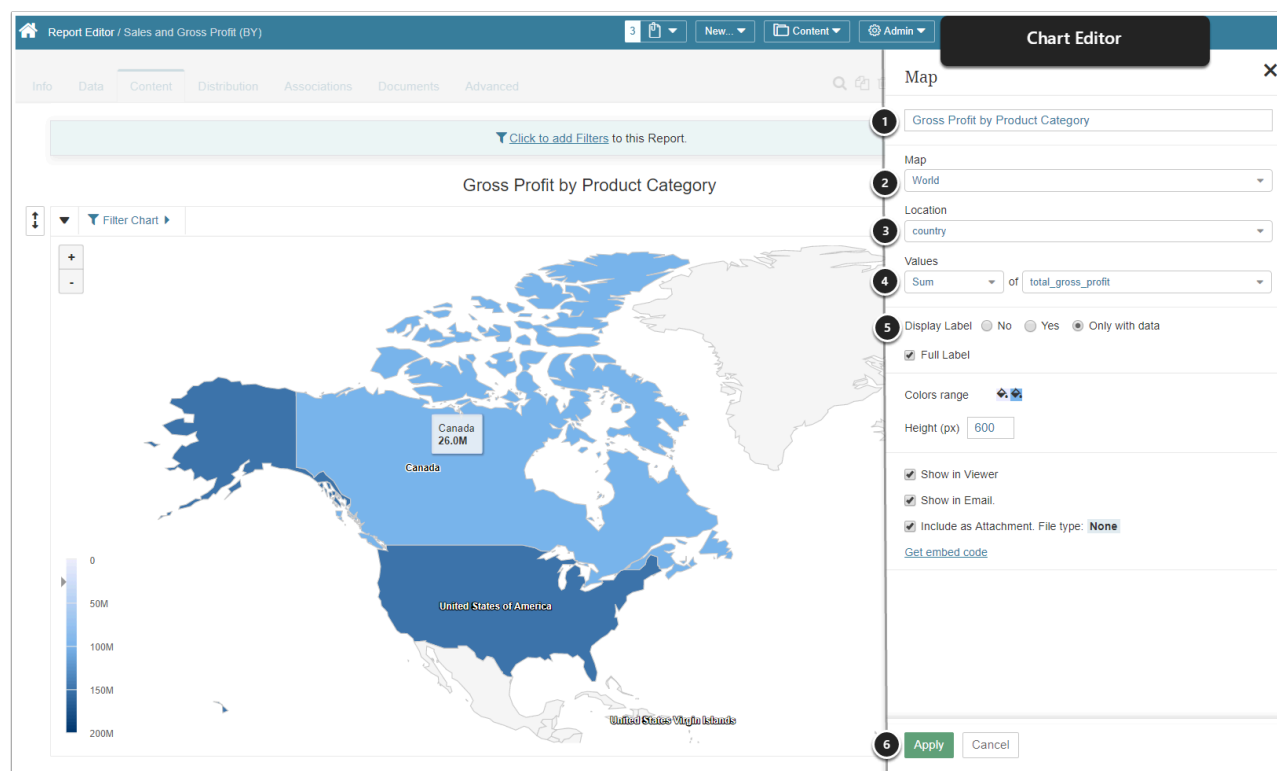
1. Specify the **Name** of your Map Chart
2. **Map:** from the dropdown, choose the type of map that will displayed (World Map, World Region or Country)
3. **Location:** from the dropdown, select the data column containing relevant country names or world region names
4. **Values:** from the dropdown, select the type of aggregation and the column whose values will be aggregated
5. **Display Label:** determine if and how you want your map to be labeled
6. Configure other settings as desired and click **[Apply]** to save your inputs

4. Bubble charts
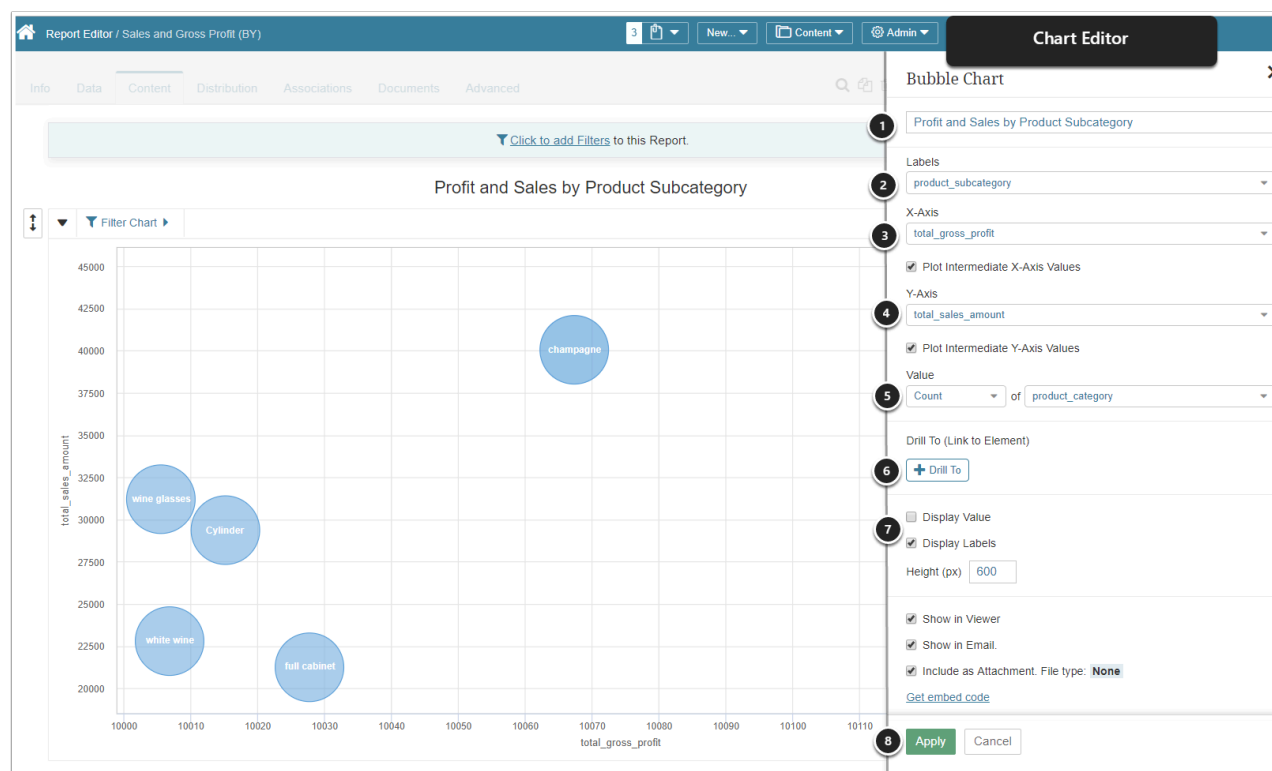
1. Specify the **Name** of your Bubble Chart
2. **Labels:** from the dropdown, select which Column Values will be displayed as Labels on the Chart Bubbles
3. **X-Axis:** define the Measure whose values will be displayed on the **X-axis**
4. **Y-Axis:** define the Measure whose values will be displayed on the **Y-axis**
5. **Value:** from the dropdown, select the type of aggregation and the column whose values will be aggregated
6. **[+Drill To]:** optionally, click the button to link your chart to another Metric Insights' element
   - The link to the element will instantly be displayed in the Chart Editor

7. **Display Value/Display Labels:** determine if and how you want your Bubble Chart to show Values and/or Labels
8. Configure other settings as desired and click **[Apply]** to save your inputs

5. Funnel charts
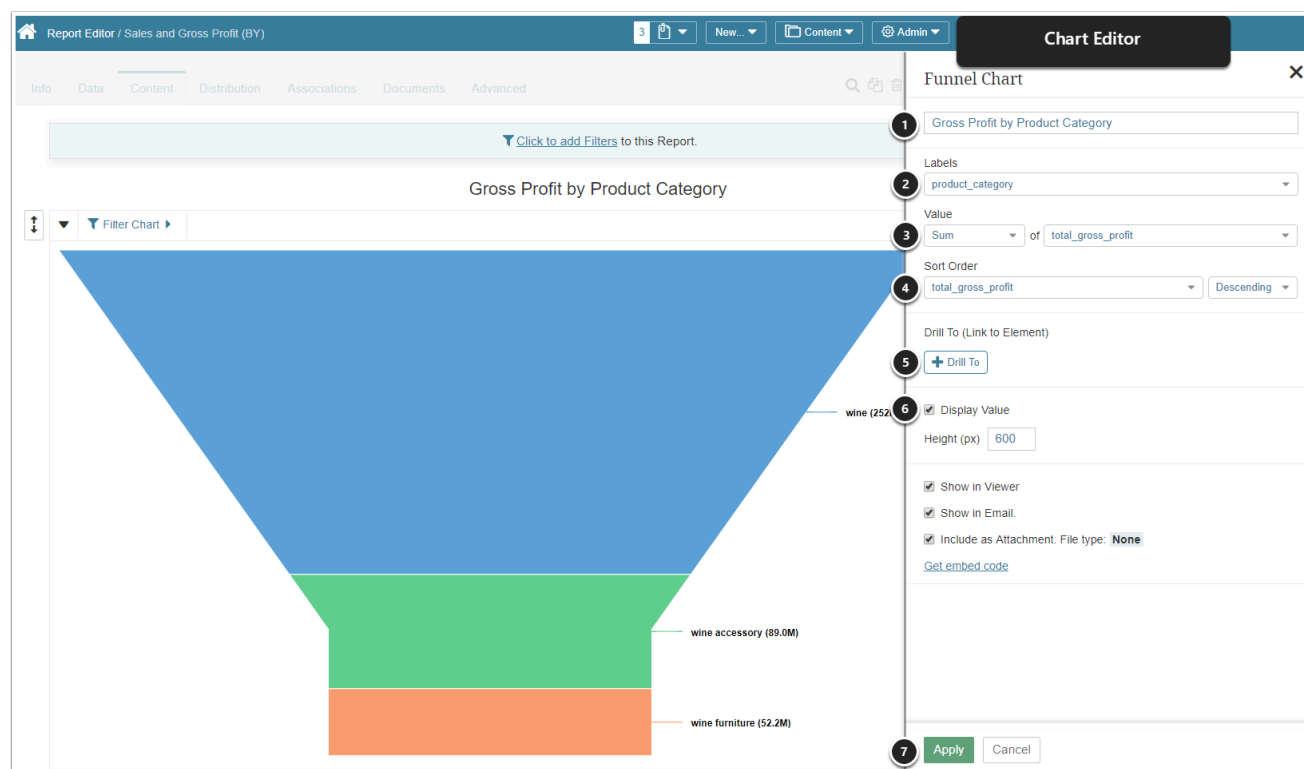
1. Specify the **Name** of your Funnel Chart
2. **Labels:** from the dropdown, select which Column Values will be displayed as Labels on the Funnel Chart
3. **Value:** from the dropdown, select the type of aggregation and the column whose values will be aggregated
4. **Sort Order:** specify the Measure whose values will be sorted and determine the sorting order (Ascending or Descending)
5. **[+Drill To]:** optionally, click the button to link your chart to another Metric Insights' element
   • The link to the element will instantly be displayed in the Chart Editor

6. **Display Value:** uncheck the box if you do not want measurement values to appear on the Chart
7. Configure other settings as desired and click **[Apply]** to save your inputs

6. Range charts
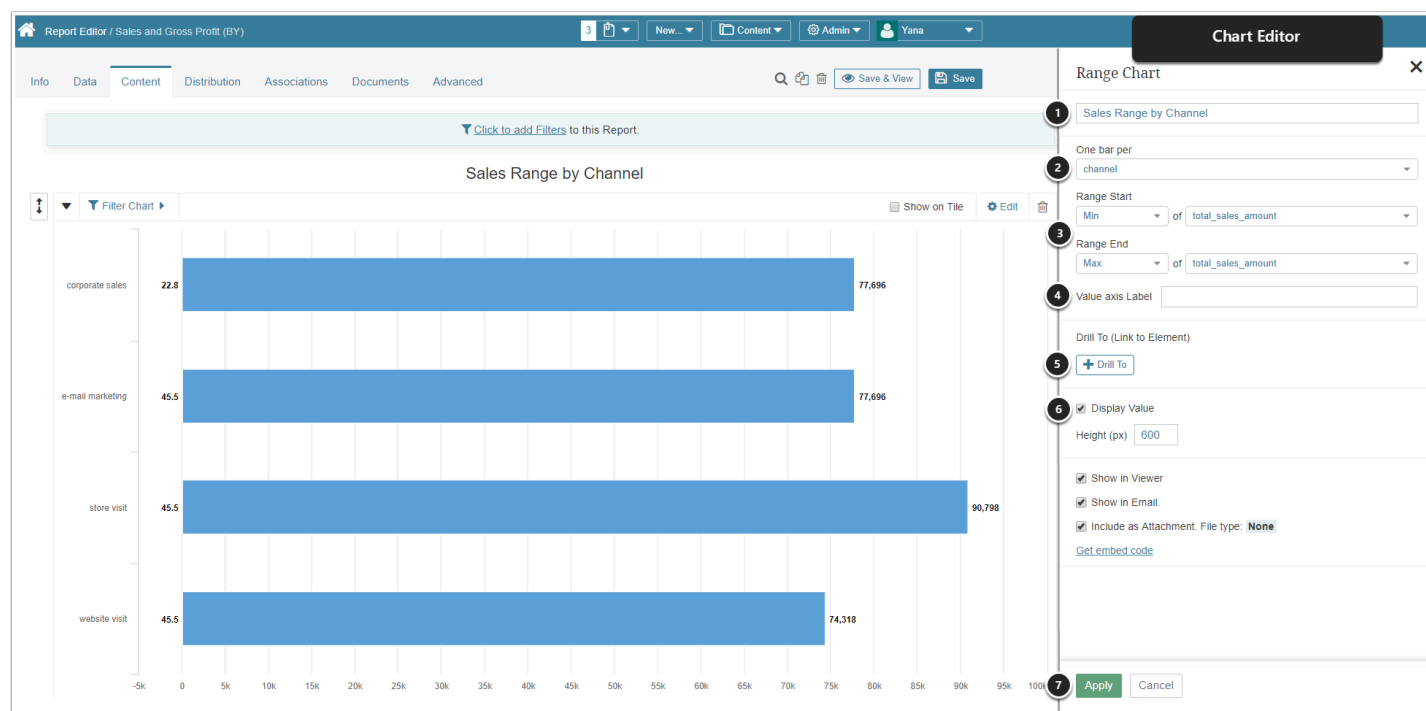
1. Specify the **Name** of your Range Chart
2. Define which Measure each **Chart bar** will represent
3. Determine the **Start** and **End** Values for your Range Chart
4. **Value Axis Label:** if needed, label the Axis that displays Measure Values
5. **[+Drill To]:** optionally, click the button to link your chart to another Metric Insights' element
   - The link to the element will instantly be displayed in the Chart Editor

6. **Display Value:** uncheck the box if you do not want measurement values to appear on the Chart
7. Configure other settings as desired and click **[Apply]** to save your inputs

4.9 Adding Custom Charts to Dataset Reports

Dataset Reporting in Version 5.5 allows for custom configuration of Charts available to content builders. Metric Insights Admins can now extend the existing list of the default charts available, beyond Line/Bar/Area charts, Pie charts, Map charts, Bubble charts, Funnel charts and Range charts.

This article details how to add a Custom Chart to Metric Insights and make it available for use in Dataset Reporting for all content builders.

- For more information, refer to Creating Charts in Dataset Reporting

⊘ If you are working with older Reports, please reference this older article - Add Custom JavaScript Charts to Legacy Reports

1. 1.Access via Admin > System > Charting Options

1. Activate Template section
2. **[+New Chart Template]**

---

2. Add a new Chart Template

On the "Add JavaScript Chart Template":

1. Switch the Template to **"enabled"**
2. Define the **Name**
3. From the dropdown, select the required **Charting Engine**
4. Specify the **Width** and **Height**
   • Defaults are 900x600, modify if required

5. **Send as HTML:** switch to "yes" to be able to control how your Chart is displayed in an email by your email program (NOTE: this requires writing an additional piece of HTML code)
6. **Save** to proceed to Editor

3. Chart Template Editor > Info tab

ℹ   Design your Chart by providing the code and adding custom properties in the corresponding sections.
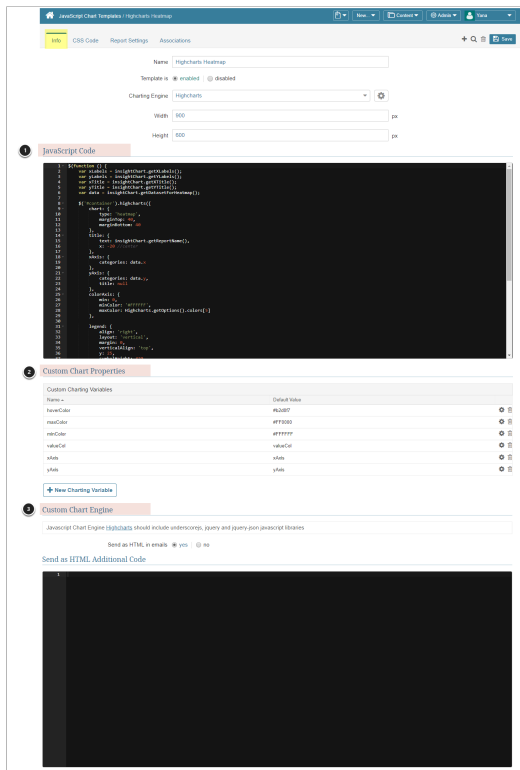
On the *Info tab*, configure the following:

1. **JavaScript Code**
   • JavaScript Code is the only required code for the Chart Template

2. **Custom Chart Properties**
   • Depending on your needs, add your own Charting Variables
   • Click [+New Charting Variable] to customize your Chart with labels, colors or custom actions

3. **Custom Chart Engine [optional]**
   • Send as HTML in emails: set to "yes" to see additional options
   • Enter the HTML additional code to configure how your Chart will be displayed by your email program

4. **CSS code [optional]**
   • For further control of the Chart formatting, input the CSS code in the corresponding tab

4. Chart Template Editor > Report Settings tab

ℹ To make your Chart accessible for Dataset Reporting, go to the Report Settings tab.

1. **Enable for Dataset Reports:** must be switched to "yes" if you plan to use this Chart Template when building Dataset Reports
2. **Use Legacy Data Format:** defaults to "yes", switch to "no" if necessary
   - *Legacy Data Format* requires less space and allows faster data transfer (***NOTE:*** *this format has to be additionally converted for use by applying a special function*)
   - When Legacy Data Format is turned off, you will be using the *new Data Format* that does not need to be converted and is ready for use (***NOTE****: data in this format requires more storage space and is transferred more slowly*)

3. Click **[Select Icon]** to open a pop-up with options
4. **Description:** Add a description of how this chart should be used. This is helpful for content builders who are not familiar with the chart type and might need some guidance.
5. **Save** your inputs

5. Your Chart Template is ready for use
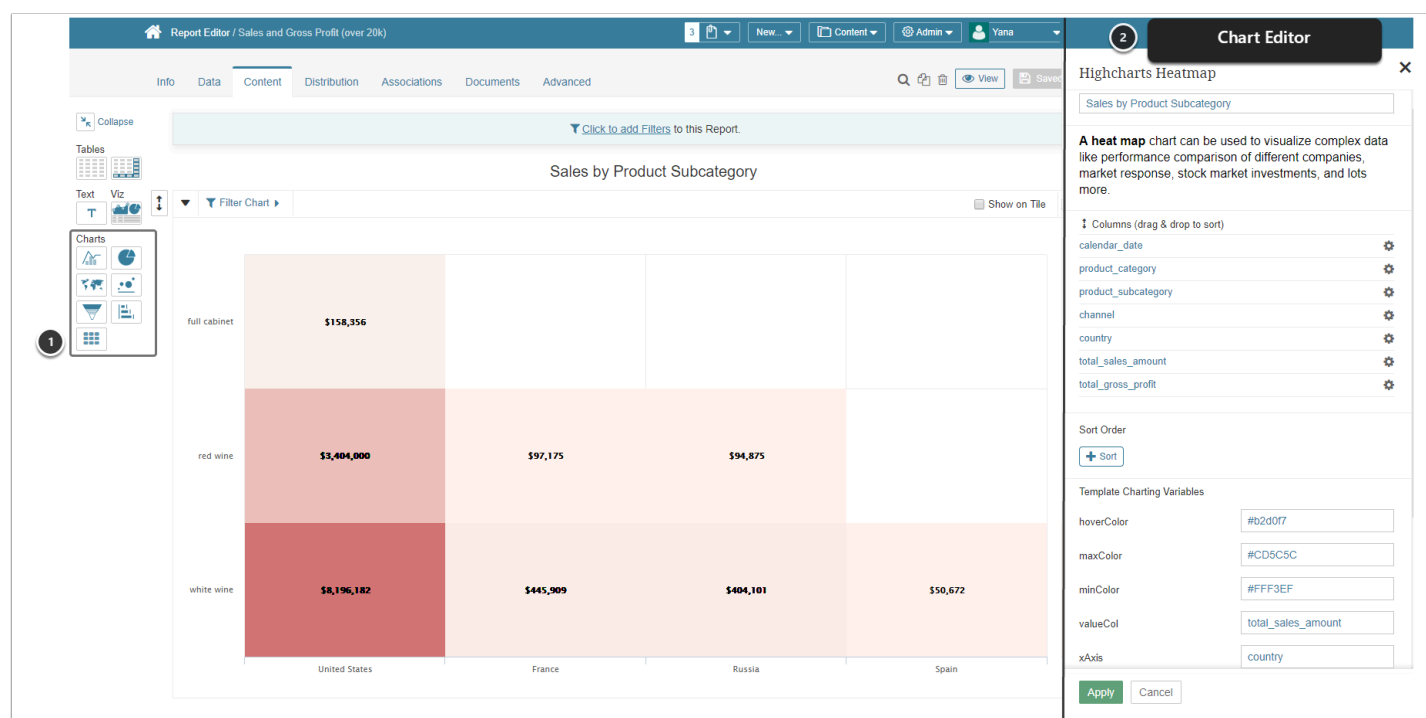
1. After a Custom Chart has been added, it will appear as a new option in the Charts section
2. Use the Chart Editor to configure your Chart
    - For details, click Creating Charts in Dataset Reporting

---

5. Creating Derived Fields in Datasets

5.1 Understanding Derived Fields

The general purpose of Datasets functionality, as well as the ability to included **Derived fields**, is to allow users to manage data from any **Data Source** in a simple intuitive manner, with no need to master the specifics of syntax commonly used in various databases or Business Intelligence services.

Derived fields include values that do not exist in a Data Source itself but are calculated from one or more existing numeric fields via basic arithmetic expressions and non-aggregate numeric functions.

This article covers:

- Sample Use Case
- Video Tutorial
- Derived Fields Overview
- How to add Derived Fields to a Dataset
- Rules of Aggregation for Derived Fields
- How to use Derived Fields for creating Elements and Metrics

SAMPLE USE CASE

1. **Challenge:** Calculate % of decrease of Units Sold and show it in Results
2. **Solution:** Add a derived field with arithmetic formula
3. **Result:** % Decrease of units sold is shown as an additional field in the Dataset Results

Click to see each step in details

Challenge: Calculate % of decrease of Units Sold and show it in Results

Challenge:

The Dataset View shown in the picture above is set up in a way to compare values in Current and Prior instances in order to track potential data changes. It is called "Decreased Sales" and helps to elicit those items, where the number of units sold decreased from the Prior period.

What is the percentage of decrease of Units Sold?

Solution: Add a derived field with arithmetic formula
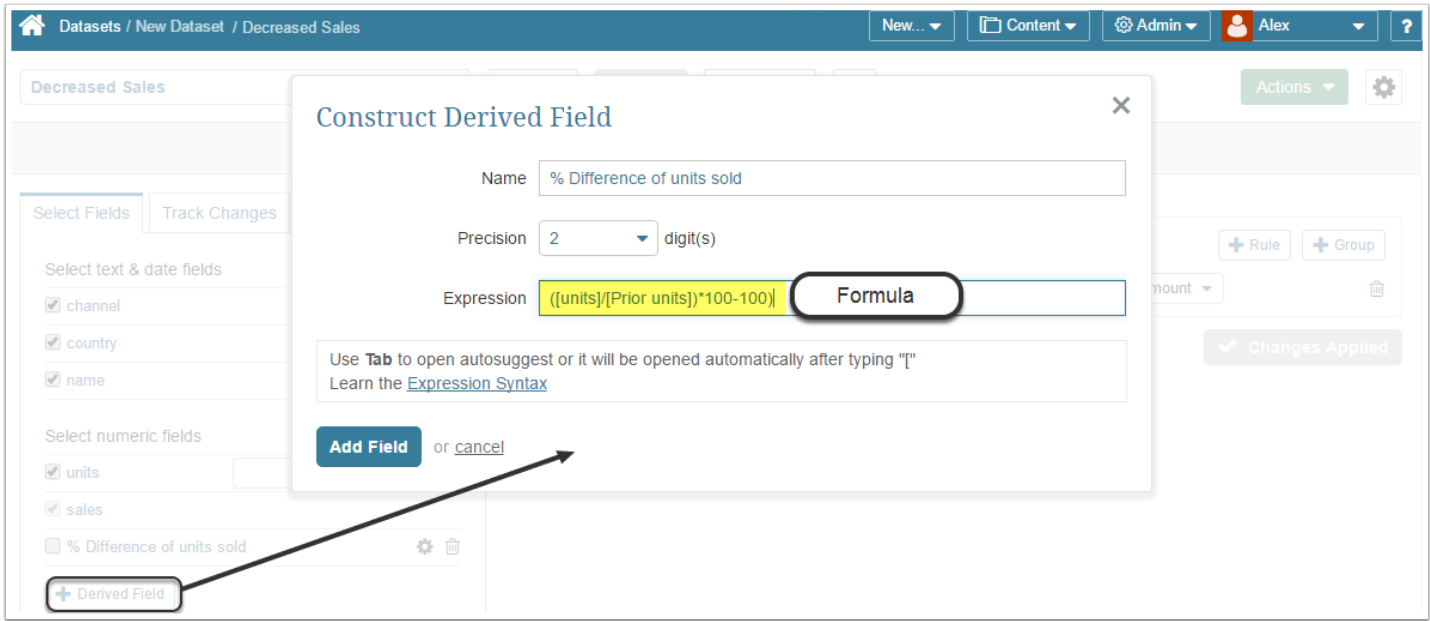
Solution:

Add a **Derived Fiel**d with a formula that calculates the percentage of decrease.

```
([units]/[prior units])*100-100)
```

NOTE: Since this formula calculates the difference for Last Two Instances (current and prior), it is not applicable for a Single Instance.

Result: % Decrease of units sold is shown as an additional field in the Dataset Results
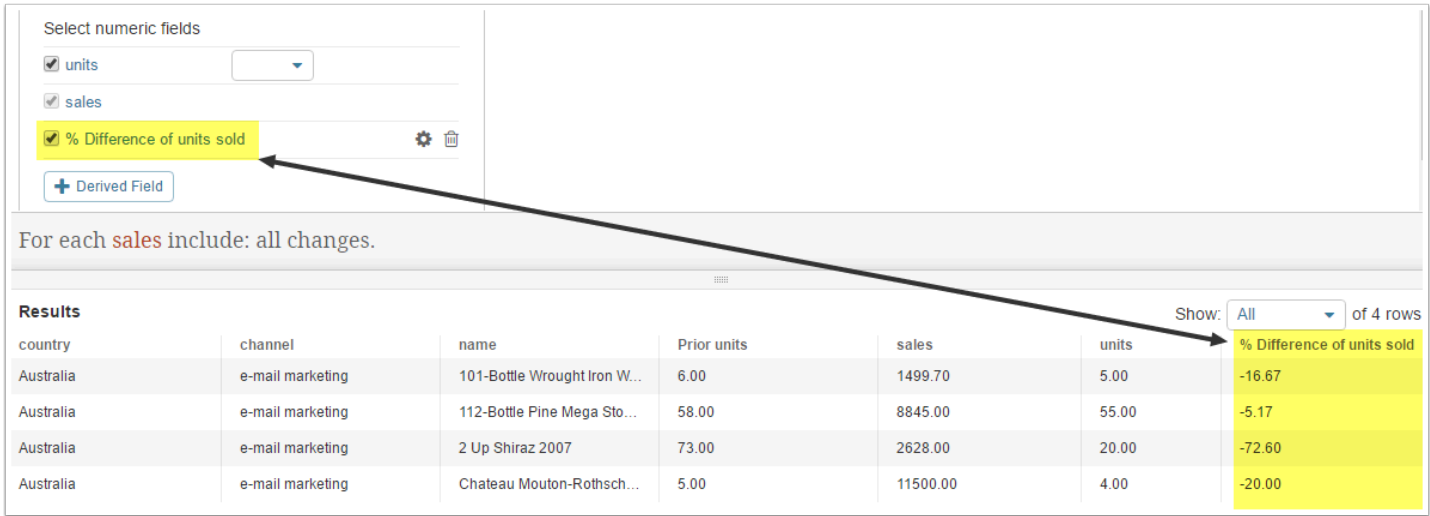
Result:

*The percentage per each row is included as a new field in a **Results** set.*

Video Tutorial

Derived Fields Overview

Derived Fields support basic arithmetic processing as well as standard MySQL functions that can be applied in-line.

- **Formulas:** Preview the formula used for a **Derived Field** by hovering over the respective field in the **Select Fields** check list. To see the list of available mathematical expressions, see: Expression Syntax for Derived Fields Formulas
- **Dataset Views**: Derived fields are created and assigned to a specific Dataset View but can be duplicated together with a View
- **Filter Criteria**: **Derived Field**s are supported in filter criteria the same way as regular dataset source fields
- **Comparing Instances**: **Derived Fields** are applicable both for single instances and in case of comparing instances of snapshot Datasets: in this case the system provides the ability to include **current** and **prior** variables in a mathematical formula (as shown in the **Sample Use Case** above). For more details refer to: Using Derived Fields when comparing Instances

How to add Derived Fields to a Dataset
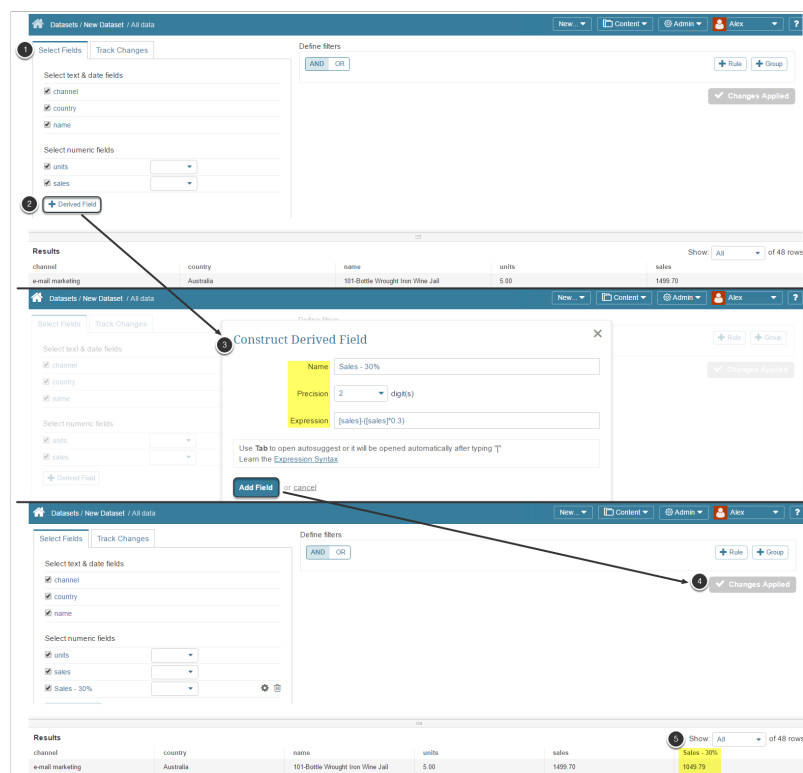
To add a Derived Field to a Dataset:

1. Access *Dataset Viewer* > find the **Select Fields** check list
2. Below the existing fields click **[+ Derived Field]**
3. The *Construct Derived Field* pop-up opens. Specify the following:
   - **Name:** provide a unique descriptive Name for the new column
   - **Precision:** Specify the number of decimals to be displayed in the field in the Results set
   - **Expression:** define the formula for calculating new required values. For more details refer to: [Expression Syntax for Derived Fields Formulas](#)
     - **NOT**E: Only NON-Derived fields are available for constructing formulas for derived fields.

4. Click **Add Field**. The pop-up closes, click **Apply Changes**
   1. *If not applied, the Results set is not updated with the new column*

5. A new column with calculated values is added to the **Results** set

Rules for Aggregation of Derived Fields

Aggregation can be applied to **Derived Fiel**ds (**Sum, Avg, Min, Max, Count**). Consider that:

- Aggregation cannot be applied to a Derived Field if it is already applied to one of the columns used in a formula
- *Last Two Instances case*. Aggregation cannot be applied to a Derived Field if Current and Prior Values are used in a formula

Derived Fields for creating new Elements

Derived Fields can be used as Value fields both for Metrics and Reports. To create a Metric with a Derived Field used as a value field:

1. Access *Actions > Build Metric*. For detailed instructions, refer to: [Create one or multiple Metrics from a Dataset View (Version 5.1 and beyond)](#)
2. **Value Column:** Select a Derived field from the drop-down list
3. **Aggregate using**: Refer to rules of Aggregation described above

5.2 Expression Syntax for Derived Fields Formulas

- For general information on Derived fields, refer to: Understanding Derived Fields

Supported SQL Mathematical Functions

Supported Expression	Description	Example
abs	The absolute value or modulus is used to turn a negative number into positive.	abs([sales]) ; abs([sales]-[Prior sales])
ceiling (ceil)	Returns the smallest integer value which is greater than, or equal to the specified number.	ceiling([sales]) ; ceil([sales]-[Prior sales])
div	Division.	[sales]/2
floor	Returns the largest integer value which is greater than, or equal to the specified number.	floor ([sales]) ; floor([sales]-[Prior sales])
exp	Used to get the value of the base of natural logarithm number e, raised to the power of a number specified as argument.	
if	Takes 3 expressions and if the first expression is true, not zero and not NULL, it returns the second expression. Otherwise, it returns the third expression.	if([sales]>1000,1,0) ; if([sales]-[Prior sales]>1000,1,0)
ifnull	Takes 2 expressions and if the first expression is not NULL, it returns the first expression. Otherwise, it returns the second expression	ifnull([sales],[sales]) ; ifnull([sales],[Prior sales])
log (ln)	The inverse of the exp() function.	log([sales]) ; log([sales]-[Prior sales])
mod	Returns the remainder of a number divided by another number.	
pi	Returns the value of π(pi)	pi()*[sales] ; pi()*([sales]-[Prior sales])

Supported Expression	Description	Example
power (pow)	Returns the value of a number raised to another.	pow([sales],2) ; pow([sales]-[Prior sales],2)
radians	Converts the value of a number from degrees to radians.	radians([sales]) ; radians([sales]-[Prior sales])
rand	Returns a random floating-point value between the range 0 to 1. When a fixed integer value is passed as an argument, the value is treated as a seed value and as a result, a repeatable sequence of column values will be returned.	
round	Rounds a number to a specified amount of decimal places specified as an argument up to a number specified as another argument.	round([sales],2) ; round([sales]-[Prior sales],2)
sign	Returns the sign of the argument.	sign([sales]) ; sign([sales]-[Prior sales])
sin	Returns the sine of the argument.	sin([sales]) ; sin([sales]-[Prior sales])
sqrt	Return the square root of the argument.	sqrt([sales]) ; pow([sales]-[Prior sales])

6. Apply Access to Datasets via User Maps

6.1 Create a User Map

The Dataset creator can grant access to the specific slices of data (rather than the entire Dataset). This is accomplished via a User Map. The User Map restrictions will also apply to any Reports created from this Dataset.

💡 To understand the Privileges and Permissions Users must have to work with Datasets , see Security section for [Datasets](#)

Video Tutorial

What is a User Map?

In the image below:

- **All Data / Dataset**: Contains the all the data available to create content from a Dataset. In this example, there are 3 columns of data (country, channel, total order volume)
- **User Map**: Allows you to grant Users access to limited amount of rows. It must contain a column with usernames and specific values in the Dataset columns to filter data to a relevant subset. A User Map dimensions the result set with ALL information and makes different mappings available to the designated users.

In this example, User access is restricted to specific **Countries.** If the User Map is applied to a Dataset, all included users will not see the Dataset with ALL available values but will view the Dataset differently according to the User Map restrictions. The same rules apply to elements created from this Dataset.

All Data / Dataset

country	channel	Total order Volume (US$)
Australia	corporate sales	1,905,595
Australia	e-mail marketing	2,105,670
Australia	store visit	2,107,399
Australia	website visit	2,188,952
Canada	corporate sales	5,498,112
Canada	e-mail marketing	5,754,181
Canada	store visit	5,416,011
Canada	website visit	5,210,045
France	corporate sales	6,088,441
France	e-mail marketing	5,983,273
France	store visit	6,335,549
France	website visit	5,923,806
Germany	corporate sales	3,118,898
Germany	e-mail marketing	2,725,568

User Map

user	country
alex	Australia
alex	Canada
alex	France
alex	Germany
barbara	Canada
barbara	Germany
bernard	Australia
bernard	France
bob	Australia
bob	Canada
bob	France
bob	Germany
dan	Germany
dan	Germany

In the example below, both Country AND Channel is mapped to the Dataset in order to further restrict the results that are available to each user.

All Data / Dataset

country	channel	Total order Volume (US$)
Australia	corporate sales	1,905,595
Australia	e-mail marketing	2,105,670
Australia	store visit	2,107,399
Australia	website visit	2,188,952
Canada	corporate sales	5,498,112
Canada	e-mail marketing	5,754,181
Canada	store visit	5,416,011
Canada	website visit	5,210,045
France	corporate sales	6,088,441
France	e-mail marketing	5,983,273

User Map

user	country	channel
alex	Australia	corporate sales
alex	Australia	e-mail marketing
alex	France	corporate sales
alex	France	e-mail marketing
barbara	Australia	corporate sales
barbara	Australia	website visit
bernard	Canada	store visit
bob	France	e-mail marketing
bob	France	store visit
bob	France	website visit

1. Access Admin > Datasets > User Maps tab

At the bottom of the page click **[+ New User Map]**.

2. [Info tab] Define the basics

1. Create a unique and descriptive **Name** for your User Map
2. **Save** and proceed to the *Data* tab to define user access

---

3. [Data tab] Fetching / Uploading data: CSV file example

1. **Data Source**: Select the method of collecting the data for User Map. In this example, data is uploaded via 'CSV or Excel file'. When this method is selected, click **Load data** below this field and define a date for which you are adding data to the Dataset.
2. The *Load From File* pop-up opens.
3. Confirm that the **Delimiter** character is the same as in your CSV file
4. Click **Browse** and select the CSV file containing data for the User Map. This file must contain a column with usernames and a column (or several ones) with values to which respective users may have access.
5. Click **Load**

3.1. Successful upload

If the file data is successfully processed:

1. A **Dataset Columns** table with respective values is displayed below
2. **Validation Rows Preview** section displaying the values uploaded pops up at the bottom of the screen
3. **Dataset User Name Field**: select the name of the column which lists usernames in this field

4. [5.6+] User Map as a source of Filter defaults

⚠ This functionality is supported for External Reports only.

In addition to access constraints, a User Map can work as a source of Filter presets for External Report data. This means that viewing defaults can be configured for multiple Users with a single User Map.

For more information on pre-filtering, refer to:

• Pre-filtering BI tools (External Reports)

In order to set User Map as a source of Filter defaults:

1. Go to **External Report Editor > Configuration tab**
2. **Manage Filters** section > select **Apply based on User Map**
3. Choose a **User Map** with presets to specific **Filters/Filter Values**
4. Map **Filters** to available **User Map Columns**

4.1. External Report Viewer with an applied User Map

Coming into the Report Viewer, each User included in the User Map will see correct Filter defaults.
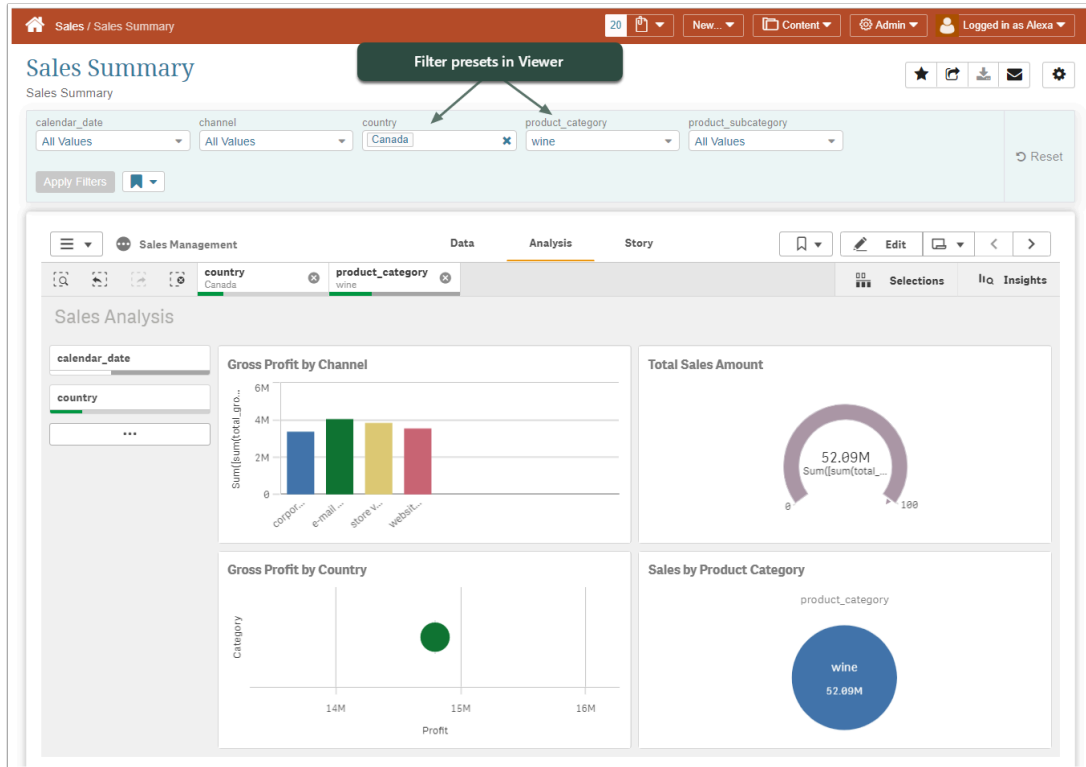
What would you like to do next?

[Apply a User Map to a Dataset](#)

[Create New Burst](#) - [and apply the User Map](#)

[Apply User Map to a Dimension (new in Release 5.2)](#)

6.2 Apply a User Map to a Dataset

User Maps allow defining the slices of data that specific users are allowed to see in the **Dataset Viewer** and the **Report Viewer** for any Reports created from that Dataset.

It functions as a stencil applied to a Viewers for Data and Reports, showing only allowed data and hiding the rest of it, but this 'stencil' may be different for different users in accordance with access settings defined in the User Map.

⚠️ Prior to Version 5.5, Admin Users had unlimited access to all elements in Metric Insights. New in Version 5.5, when User maps are applied to Datasets the User map will control **view** access for All User**s including Admin Users!**

New Settings on the Dataset **Viewer** and Dataset Report **Editor** allow the User Map data filter to be applied OFF by Users with Edit Access. Toggling the **Apply User Map** off will not prevent the User Map from being applied in the **Report Viewer** or any **Notifications** (such as Digests and Burst) sent to Users.

💡 A User Map limits the data visible but it does NOT affect overall access. Report and Dataset access continues to be governed by the Metric Insights Security Model for [Datasets](#) or [Elements](#) for Power and Regular Users.

PREREQUISITES:

Dataset and a **User Map** corresponding to the elements in the Dataset.

1. Applying a User Map to the Dataset (access Content> Dataset)
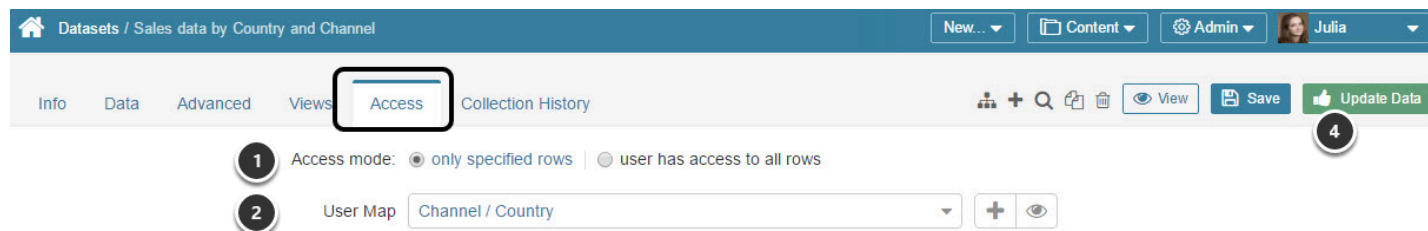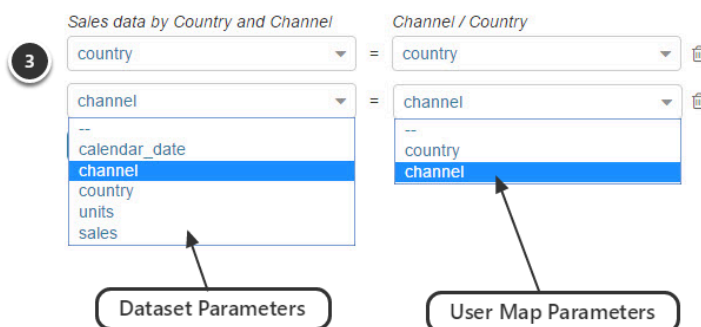
On the Access tab of Dataset Editor:

1. **Access Mode**: set to 'only specified rows'
2. **User Map**: select the previously created User Map from the drop-down list. User Map must contain Usernames in the first column and another column(s) that specify columns in the Dataset
3. **Column Mapping**: define the parameters map the elements in the Dataset to those in the User Map
4. At the upper right corner of the screen click **Update Data**.

According to the User Map 'Arlen' has access to data for **Countries** of Canada, Germany and United Kingdom, but only for the **Channel** = 'website visit'.

6.3 Wildcard Entries in User Maps

Version 6.2.0 introduces the option for Wildcard Entries in User Maps. This feature helps to simplify the process of building User Maps and determining values that can be accessed by different users.

This article describes:

- [Setup a User Map with wildcards](#)
- [Example of applying to a Dataset](#)
- [Scenarios](#)

❗ Wildcard Entries may slow processing significantly. Metric Insights does not recommend using this function for complex User Maps.

1. How to set User Maps to allow Wildcards
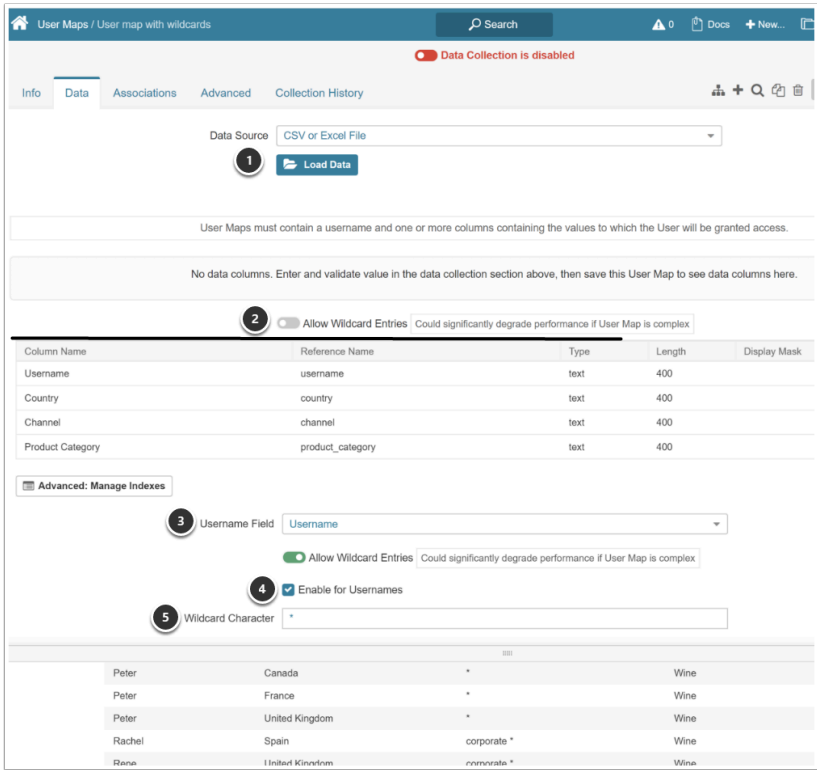
Edit User Map > Data tab

1. Load the User Map file

---

2. Select "Allow Wildcard Entries" to allow wildcard use in all value fields and to open the additional fields as seen in second screen
3. Check "Enable for Usernames" to apply the wildcard Username field also (as in example #2 in Step 1)
4. Enter a Wildcard character
    1. Default value is set as a system variable "USER_MAP_WILDCARD_CHARACTER_DEFAULT" (access Admin > System Variables)
    2. Enter any other symbol valid for just this User Map

Save and Enable the User Map

1.1. Example of a User Map utilizing Wildcards

> ℹ️ Examples in this article are created using CSV/Excel file, although the system allows User Maps to be built with other Data Sources.
>
> [Create a User Map](#)

The above example show the various ways wildcards can be used - note that wildcard is defined as an "*"

1. Ryan is granted access to all Country, Channel, and Product Category values
2. Everyone (wildcard) has access to "United States" for all Channel and Product Category values. This also applies to any User not included in the User Map.
3. Anna only has access to Wine, bought from a store visit, for two Countries (Canada and Spain)

---

4. Patrick is granted access to only one Channel (email marketing) and one Product (wine) in three Countries (Canada, France, and Spain)
5. Peter has access to all Channels in three Countries (Canada, France, and Germany), but only for Wine sales

2. Apply User Map to Datasets (and other objects)

> ℹ️ User Maps that utilize wildcards can also be applied to both External Reports and Bursts as described in:
>
> • [External Report Overview](#) or see "Create External Report" for your specific BI Tool
> • [Create New Burst](#)
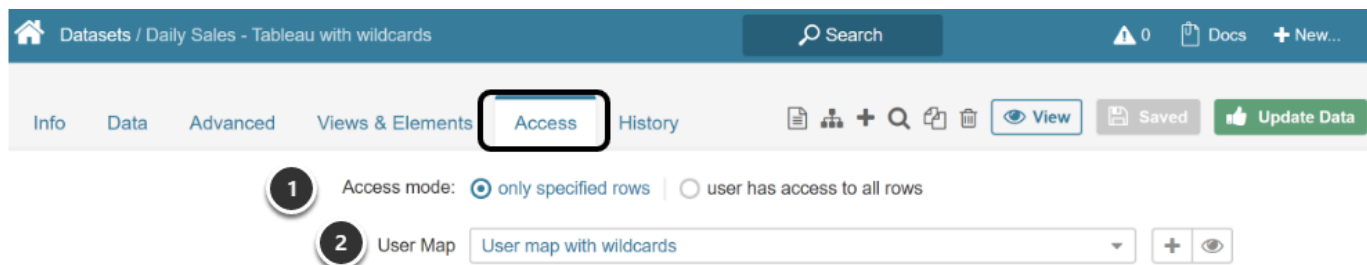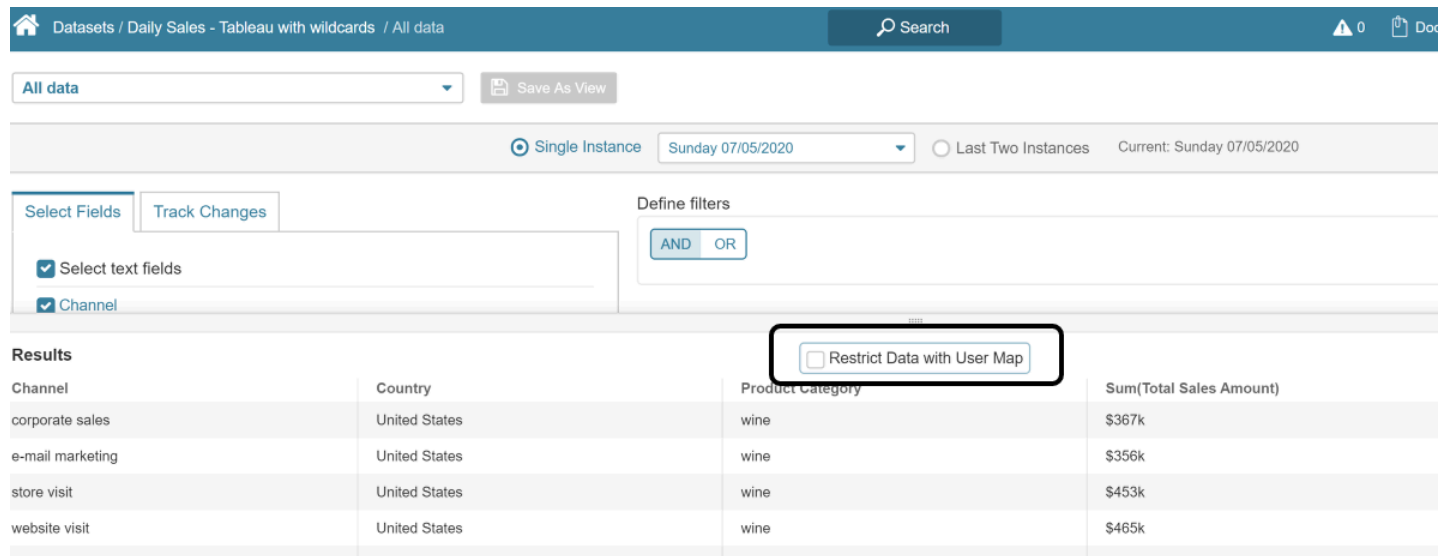
1. Set Access mode to "only specified rows"
2. Select User Map from drop-down
3. Map the values from the Dataset to the values in the User Map
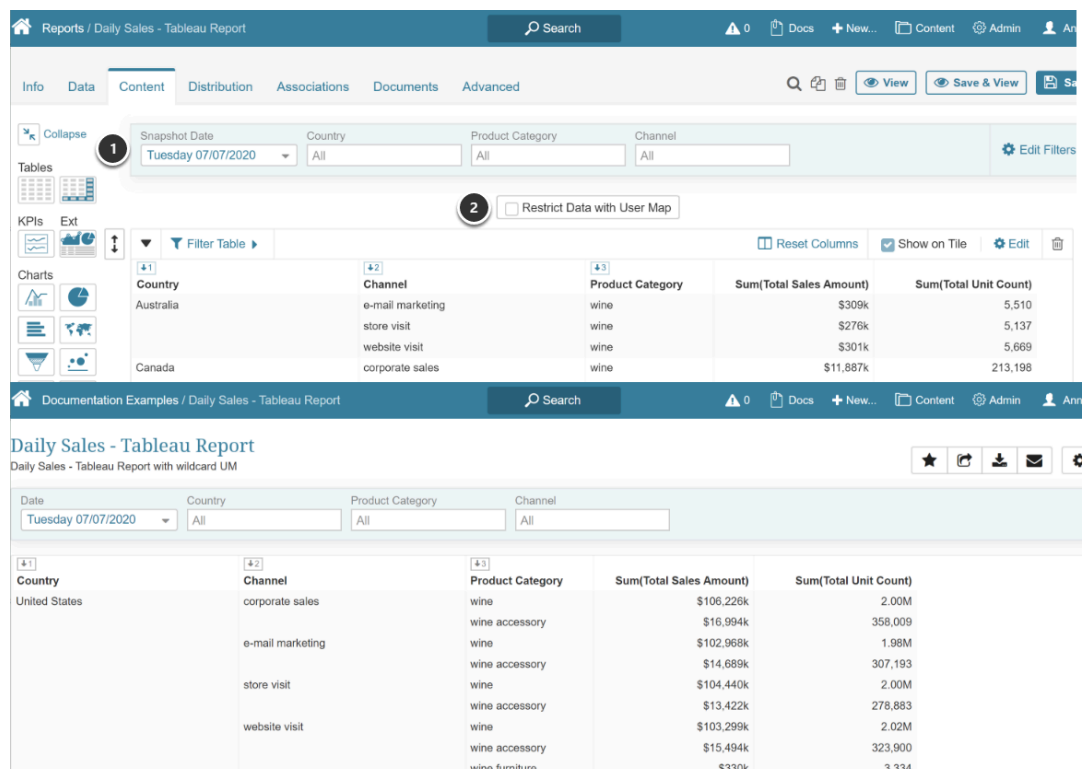
2.1. Option to restrict access will be applied to all Dataset Views

2.2. Create a Dataset Report and its User Map is automatically applied

To easily check access restrictions, apply some filters:

1. Our example is applying Filters and Grouping to simplify viewing
2. Select "Restrict Data with User Map" in Editor (optional)

3. Dataset Report will automatically apply restrictions in Viewer

3. Report Viewer results for the various scenarios

3.1. Scenario 1 - Ryan

 Ryan is determined by:

1. Wildcards in all value fields related to his Username
2. (Wildcard in Username is not relevant)

3.2. Scenario 2 - User is not in User Map

Abby's access is determined by:

1. Wildcard in User Name applies to all Users, including those with View or Edit Access but not in User Map

3.3. Scenario 3 - Anna

Anna's access is determined by:

1. Two sets of rules applied specifically to her
2. Wildcard in Username applies to all Users

3.4. Scenario 4 - Patrick

Patrick's access is determined by:

1. Three sets of rules applied specifically to him
2. Wildcard in Username applies to all Users