Working with Qlik Sense

Table of Contents

1. Sourcing Data from Qlik Sense

1.1 Anonymized Data Upload Instructions for Hosted PoC

This article describes how to prepare for a Metric Insights Hosted PoC if you also use Qlik Sense.

What to Expect in our Proof of Concept (PoC)

1. Prepare the Qlik Sense QVF file

Export the application QVF file:

1. Go to management console https://<servername>/qmc/
2. Select **Apps** in the menu on the left
3. Select app and more actions, export

If your application has Section Access in the data load script, duplicate your application and remove or comment out the Section Access code before exporting.

2. Upload the QVW to Metric Insights

1. Go to: ftp bob.metricinsights.com
2. Provide the username and password you've been supplied with
3. Open the "upload" directory. This is the only directory you’re allowed to upload to on the ftp site:

```
cd upload
```

4. Change the working directory:

```
lcd /local/directory
```

5. Store a file by executing this command:

```
put local_file
```

On the receiving end, files go here: /var/ftp/demo/upload/

[OPTION 1] Command line (Mac Terminal, Windows PuTTY)

1. Go to: ftp bob.metricinsights.com
2. Provide the username and password you've been supplied with

3. Open the "upload" directory. This is the only directory you're allowed to upload to on the ftp site:

```
cd upload
```

4. Change the working directory:

```
lcd /local/directory
```

5. Store a file by executing this command:

```
put local_file
```

On the receiving end, files go here: /var/ftp/demo/upload/

[OPTION 2] Filezilla

1. Download Filezilla from https://filezilla-project.org/
2. Unzip the download file

MacOS NOTE: You might need to change your security settings at **Apple menu > System Preferences > Security & Privacy > General tab** in order to "Allow applications downloaded from: anywhere" (see screen below)

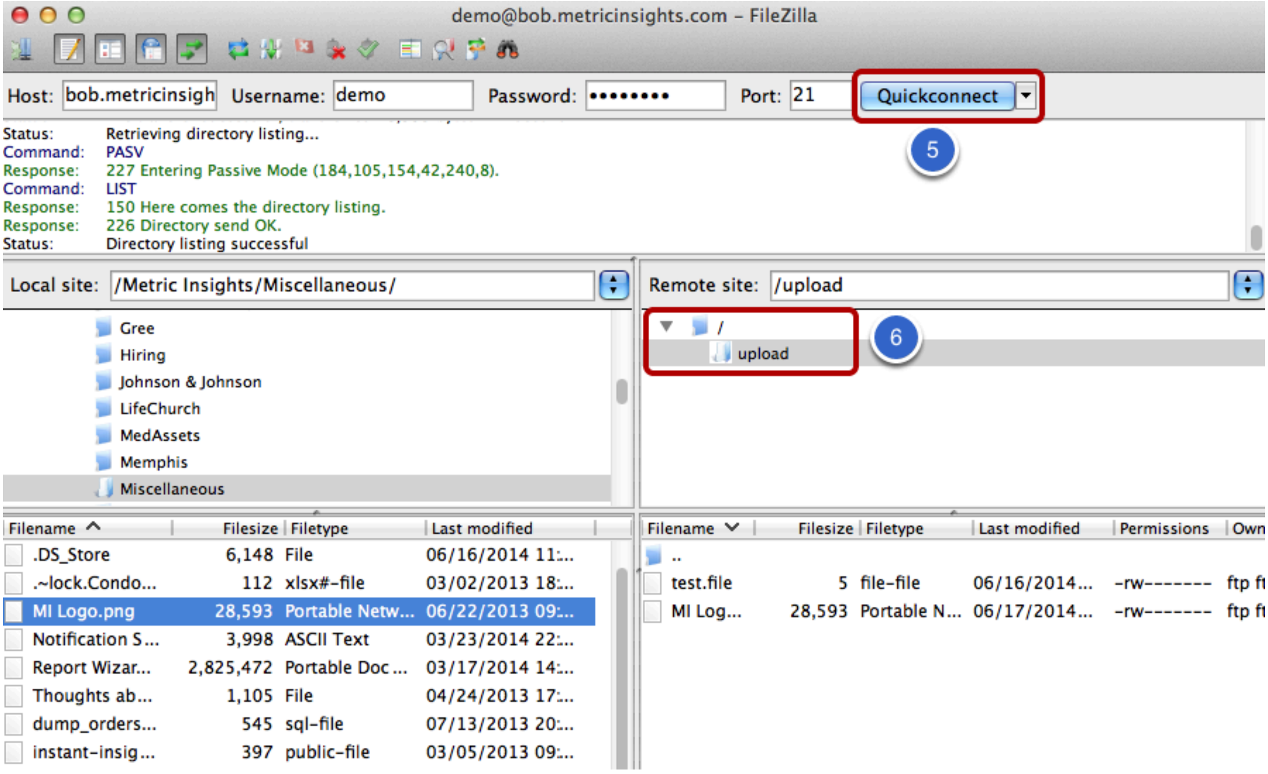
3. Start the Filezilla application.

4. Enter the following values at the top of the screen:

- **Host**: bob.metricinsights.com
- Provide the **username** and **password** you've been supplied with
- **Port**: 21 (or leave blank)

5. Click **Quickconnect** at the top right corner of the screen (see screen below)

6. Once the connection is established, you should see a directory tree on the right-hand side that includes the 'upload' directory. Double-click it to open it. Then just drag your file from the left-hand side to the upload directory



OPTION 3 - Dropbox

We can also share a Dropbox folder for you to upload the QVW file.

1.2 Prerequisites to connecting to Qlik Sense server

In order to connect to and authenticate against the Qlik Sense (QS) server, several requirements must be satisfied. Metric Insights accesses the Qlik Sense server via the same ports and protocol that your users access Qlik Sense via web browser - ports 80 (http) and 443 (https). In addition, Metric Insights accesses the Qlik Sense Websocket API over port 4747 as well as Qlik Sense Proxy REST API over port 4243.

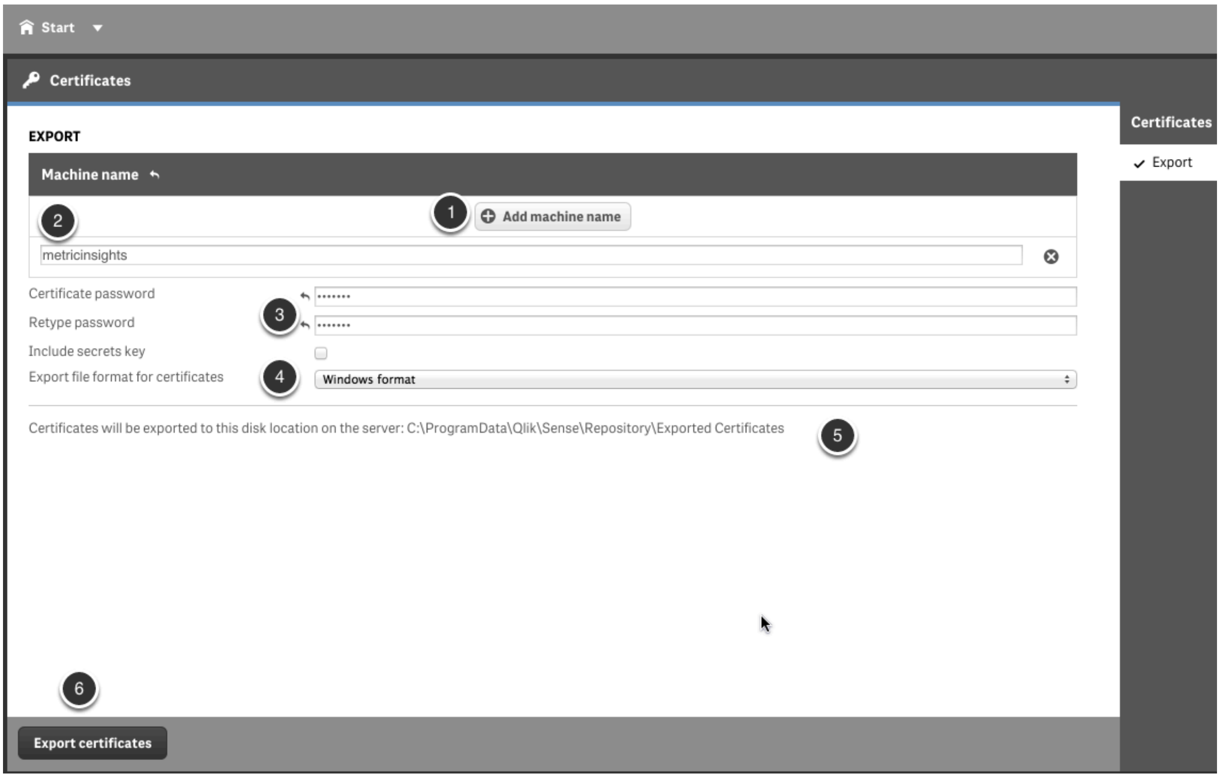
NOTE: If using a Load Balancer, forward the same ports (80/443, 4247 and 4243).

This article describes the process of fulfilling these requirements:

1. Create a Qlik Sense certificate (on QS server in QMC)
2. Install Java
3. Install a Remote Data Collector on the QS server
4. Configure the Qlik Sense certificate on the Windows machine
5. Install Chrome Browser on QS server (optional)
6. Create a qliksense.conf file

1. Create a Qlik Sense certificate (on QS server in QMC)

As of Release 5.5, Metric Insights uses a client certificate for authentication with the Qlik Sense server.



To create a certificate, go to your **Qlik Sense server** and sign into the **QMC**. In the QMC, go to the **Certificates** page and fill in the following fields:

1. **Add machine name**
2. **Machine name** can be any non-empty string
3. **Certificate password** (Required):
   - *Remember this value because you will need to enter it in Step 4* below and define it in the `qliksense.conf` *file in Step 6* .
4. **Export file format** must be “Windows format."
5. Disk Location where your certificate will be exported
   - *Qlik Sense creates the following certificate files:* ***client.pfx***, ***root.cer***, ***server.pfx*** *and exports them to the specified folder*
6. Click **[Export certificates]** to initiate the process

Instructions on exporting a Qlik Sense certificate can also be found in the following Qlik Sense help article **Exporting certificates**

2. Install Java on the machine

Follow this link to download and install Java.

3. Install a Remote Data Collector

A Remote Data Collector must be used to avoid certain Qlik Sense specific issues, such as:

- Getting an 'All Users have used their Tokens' error when working with the QlikSense plugin

For step-by-step installation instructions, see: Configure a Remote Data Collector

4. Configure Qlik Sense certificate on your Windows machine

> ⚠ Qlik Sense certificate is only required for Version 5.5.0 and beyond.

Copy the certificates created and exported in Step 1 to the directories specified below for use by the **Remote Data Collector (RDC)**.

If Qlik Sense is deployed on a cluster, copy the certificate files over to the machine where the RDC is installed:

1. Copy **client.pfx** from the Qlik Sense server to *C:\Program Files (x86)\Metric Insights\Certificates*
2. Copy **root.cer** from the Qlik Sense server to *C:\Program Files (x86)\Metric Insights\Certificates*
3. File **server.pfx** is not needed
4. Open a **Windows Command Prompt**, then run the `keytool.exe` as shown below (Java path location will be specific to your environment):

```
"C:\Program Files (x86)\Java\jre1.8.0_111\bin\keytool.exe" -keystore "C:\Program Files (x86)\Java\jre1.8.0_111\lib\security\cacerts" -importcert -alias qsnew10 -file "C:\Program Files (x86)\Metric Insights\Certificates\root.cer"
```

5. As prompted, enter keystore password: **changeit**
6. In the file `C:\Program Files (x86)\Metric Insights\Insightd\plugins\qliksense.conf` update the **client_key_pass** value with the **Certificate password** value you entered when creating the certificate.
   - If the `qliksense.conf` file doesn't already exist, go to Step 6 for instructions on creating the file.

5. Install Chrome Browser on QS server (optional)

If the Chrome Browser does not already exist on the QS server, install Chrome.

- Metric Insights utilizes a Chrome Driver to grab images of Report Objects. For the Chrome Driver to work, the Chrome browser must be present on the same system.
- Chrome driver and chromium are version-compatible. The compatibility is to be checked here **ChromeDriver - WebDriver for Chrome**.

Metric Insights has a one-shop-stop solution for Chrome and Chrome driver.

- You can download a zipped third-party folder from our AWS account `https://s3.amazonaws.com/metricinsights-share/thirdparty.zip`
- Click the link for the folder to be downloaded to your machine
- Unzip it and replace the **thirdparty** folder in `C:\Program Files (x86)\Metric Insights\Insightd`

6. Create a Qlik Sense configuration file

1. In *C:\Program Files (x86)\Metric Insights\Insightd\plugins* create a **qliksense.conf** file
2. Enter the following four parameters and provide values for them (leave the **pathToBrowser** and **pathToDriver** as in the example below if you replaced the third-party folder)

- **client_key_path**: specify the path to the **client.pfx** certificate file <- (*if using certificate auth*)
- **client_key_pass**: specify the password for **client.pfx** <- (*if using certificate auth*)
- **pathToBrowser**: specify the path to chrome.exe (Chrome Browser)
- **pathToDriver**: specify the path to chromedriver.exe (Chrome Driver)

Example:

```
client_key_path=C:\Program Files (x86)\Metric Insights\Certificates\
client_key_pass=<cert-password-from-step-1.3>
pathToBrowser=C:\Program Files (x86)\Metric Insights\Insightd\thirdparty\chrome-win32\
chrome.exe
pathToDriver=C:\Program Files (x86)\Metric Insights\Insightd\thirdparty\chromedriver.exe
```

NOTE

- As of Release 5.4.0 and beyond, *chrome.exe* (Chrome Browser) and *chromedriver.exe* (Chrome Driver) are included in the **RDC package.**
- **pathToBrowser** and **pathToDriver** variables do not need to be specified unless you want to use your own Chrome Browser and Chrome Driver files, in which case you have to define the path to these files in the *qliksense.conf* file.

What's next?

1. Start **Metric Insights Daemon** to make the **RDC** send a heartbeat to the Metric Insights application (on your Windows machine: **Services>>pick Metric Insights Daemon from the list >> Restart option**).
2. Go to Metric Insights UI and check the heartbeat for your **Remote Data Collector**.
3. Once the heartbeat is received, try the **"Test connection"** option in your Qlik Sense connection profile.

Optional commands for managing Qlik Sense certificates in Metric Insights

NOTE: if you want to delete keytool aliases created in step 4 above, then use the following commands:

List alias for root.cer in keytool:

```
"C:\Program Files (x86)\Java\jre1.8.0_111\bin\keytool.exe" -list -keystore "C:\Program Files (x86)\Java\jre1.8.0_111\lib\security\cacerts"
```

Enter keystore password: **changeit**

Delete alias for root.cer in keytool:

```
"C:\Program Files (x86)\Java\jre1.8.0_111\bin\keytool.exe" -delete -alias qsnew10 -keystore "C:\Program Files (x86)\Java\jre1.8.0_111\lib\security\cacerts"
```

Enter keystore password: **changeit**

Next: Collecting data. Upon setup, you can start pulling data from Qlik Sense. First, you need to configure data connection in Metric Insights, then begin collecting data.

1.3 Establish Connectivity to Qlik Sense

This article describes the process of creating a plugin Data Source to connect to Qlik Sense. This Data Source will allow data from existing Qlik Sense objects to be used in building elements using Metric Insights tools.

PREREQUISITES:

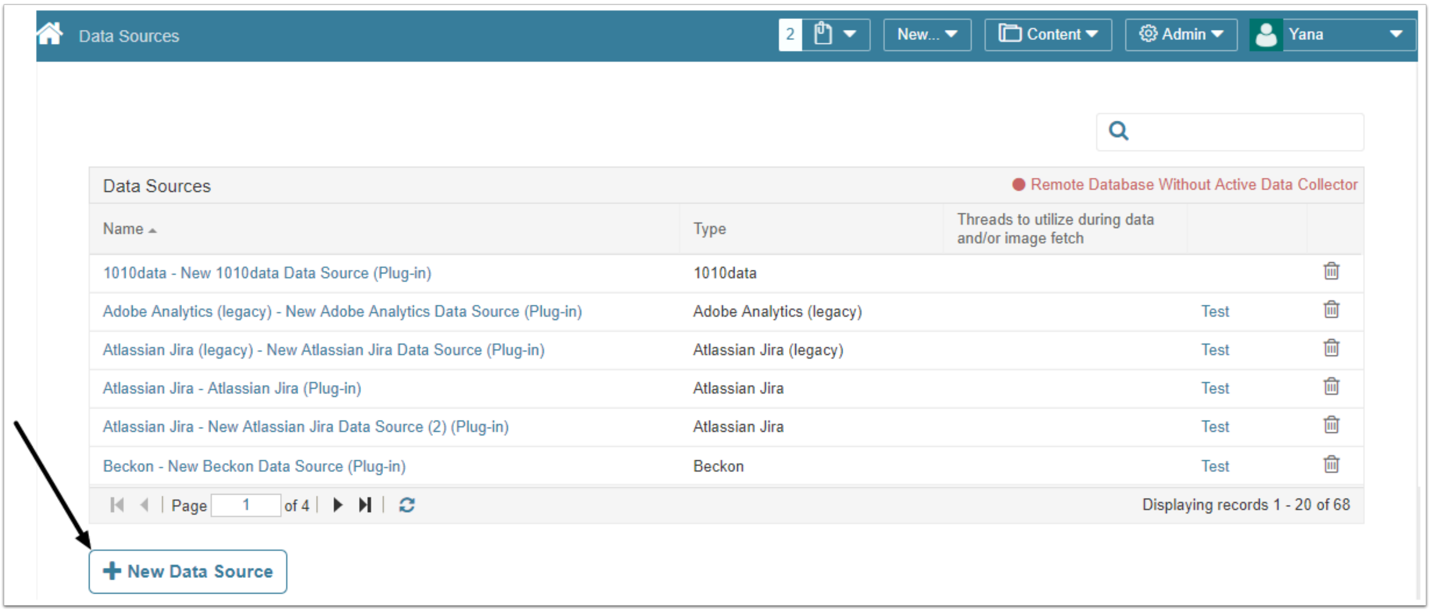
- Enable the following ports: 80 (HTTP), 443 (HTTPS), 4247 (Websocket API) and 4243 (REST API). If you have a Load Balancer, forward the same ports.
- For other step-by-step instructions, see [Prerequisites to connecting to Qlik Sense server]

The following article covers:

- [Required Qlik Sense Parameters]
- [Optional Qlik Sense Parameters]
- [Advanced Configuration]

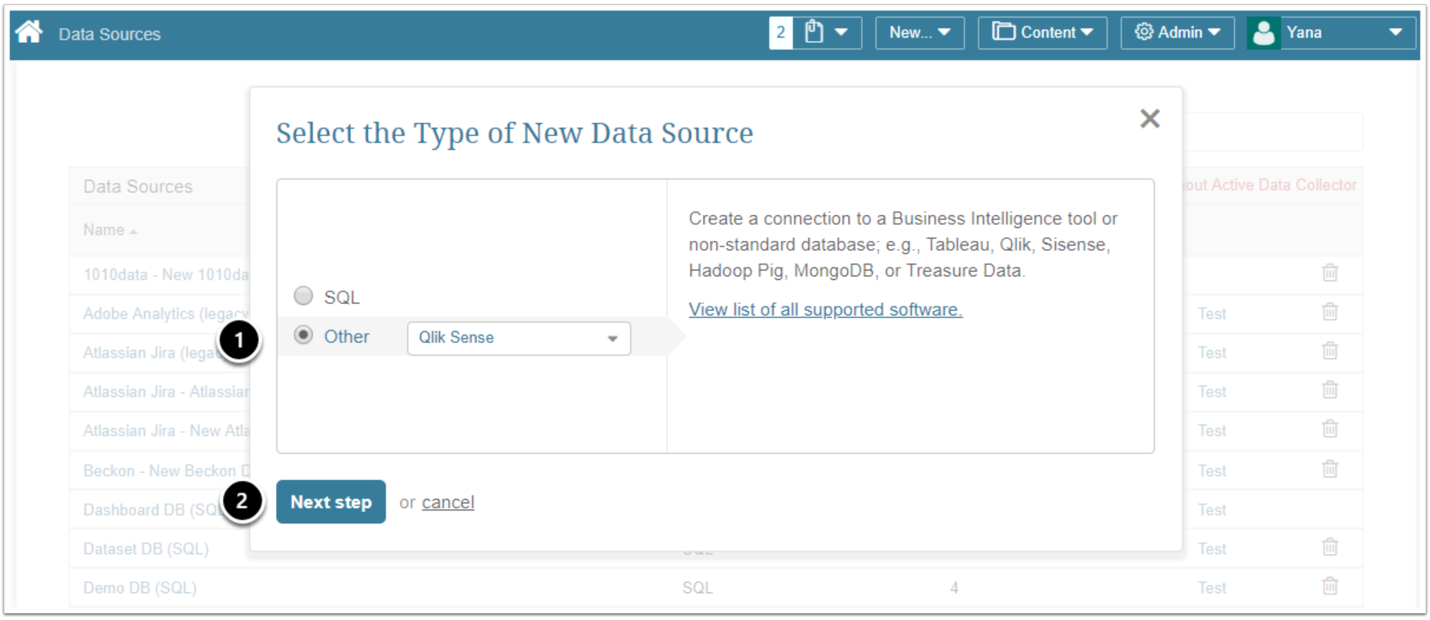
[Release 6.x]: 'Remote Data Collector' renamed to 'Remote Data Processor'

1. Access Admin > Data Sources



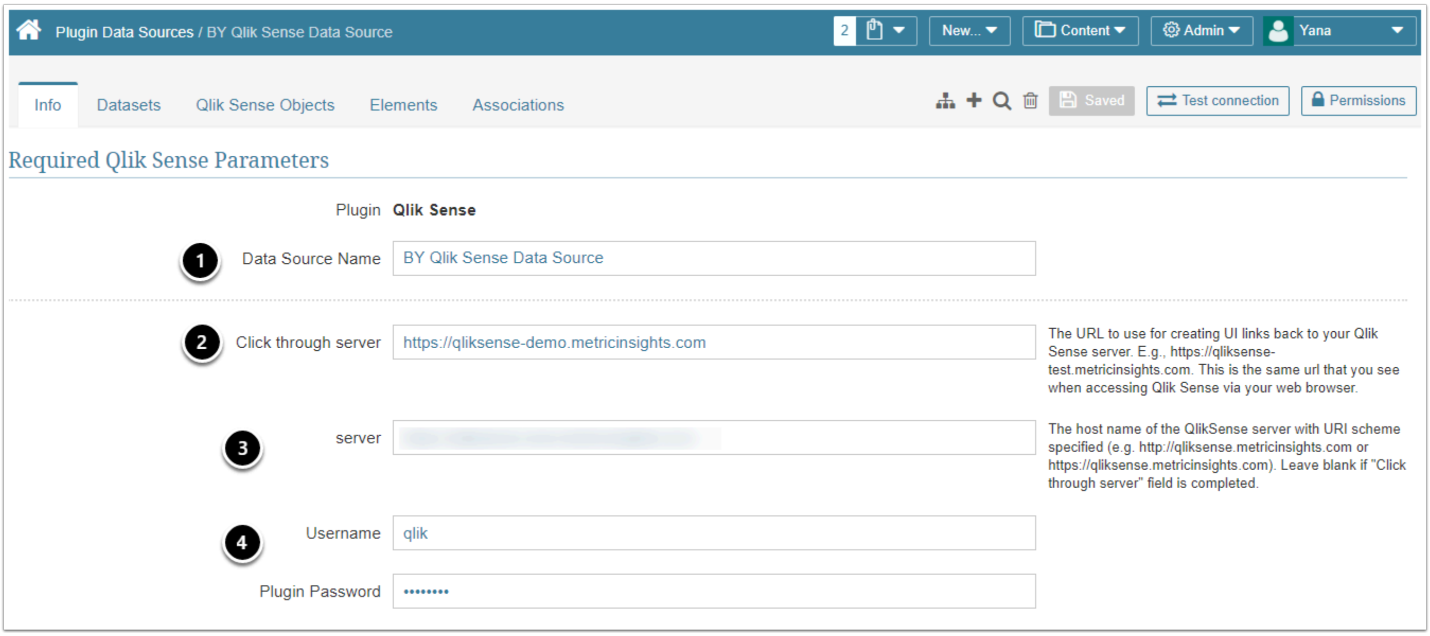
At the bottom of the screen click **[+New Data Source].**

2. "Select the Type of New Data Source" pop-up opens



1. Select "Other" and choose "Qlik Sense" from the drop-down list
2. **Next step**

3. Provide Required Qlik Sense Parameters



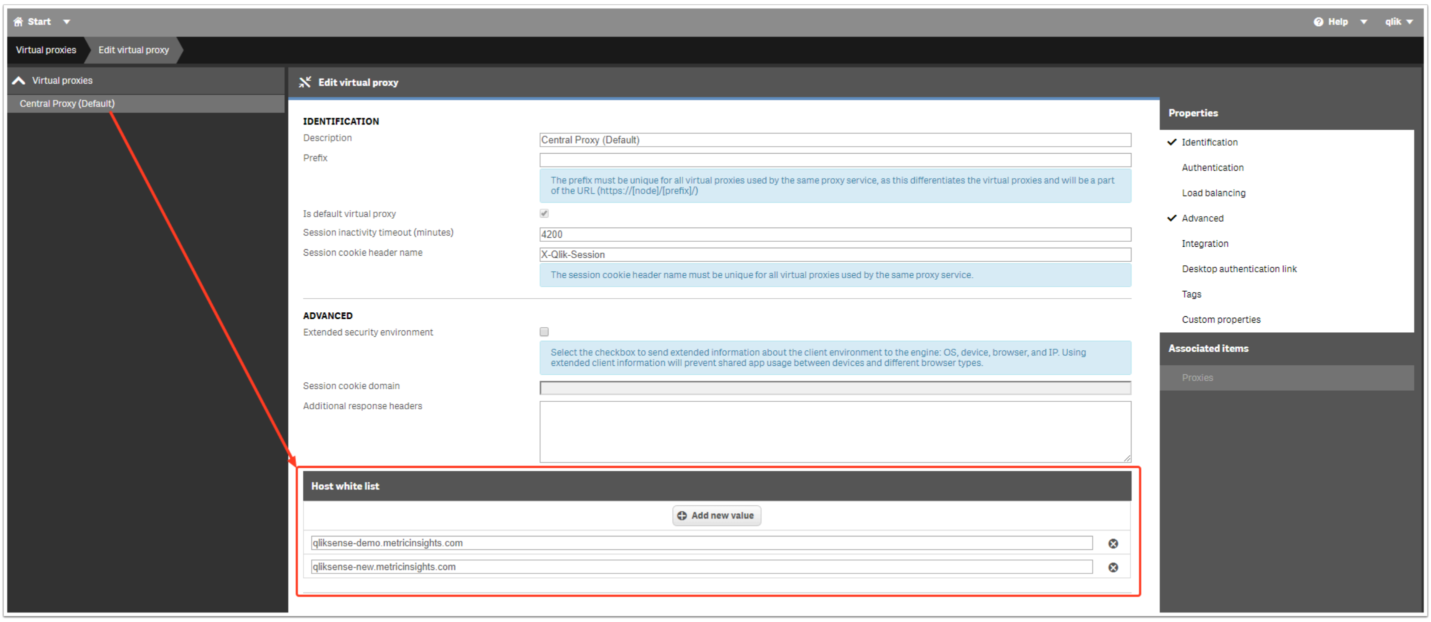
1. **Data Source Name** will default but may be modified
2. Input **Click through server** (this is the same URL that you see when accessing Qlik Sense via your web browser)
3. Enter the host name of the Qlik Sense **server**

4. Enter **Username** and **Plugin Password**

4. Configure a Host white list on the Qlik Sense server

> To allow Metric Insights to access Qlik Sense server, add your Metric Insights Instance(s) to the Host white list.

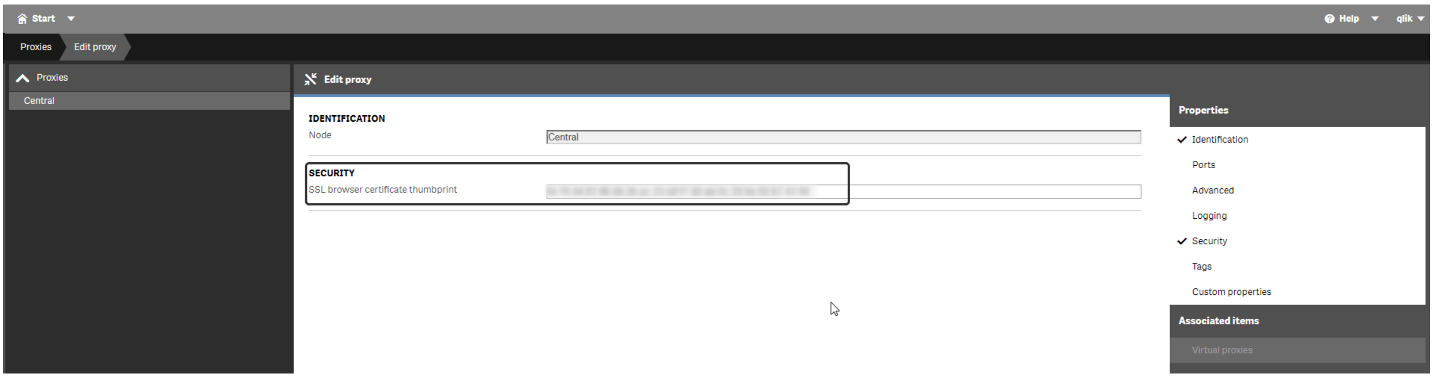
Secure Connection Virtual Proxy



Acess the **Host white list** via *Virtual Proxy* > *Profile* > *Properties* > *Advanced tab*.

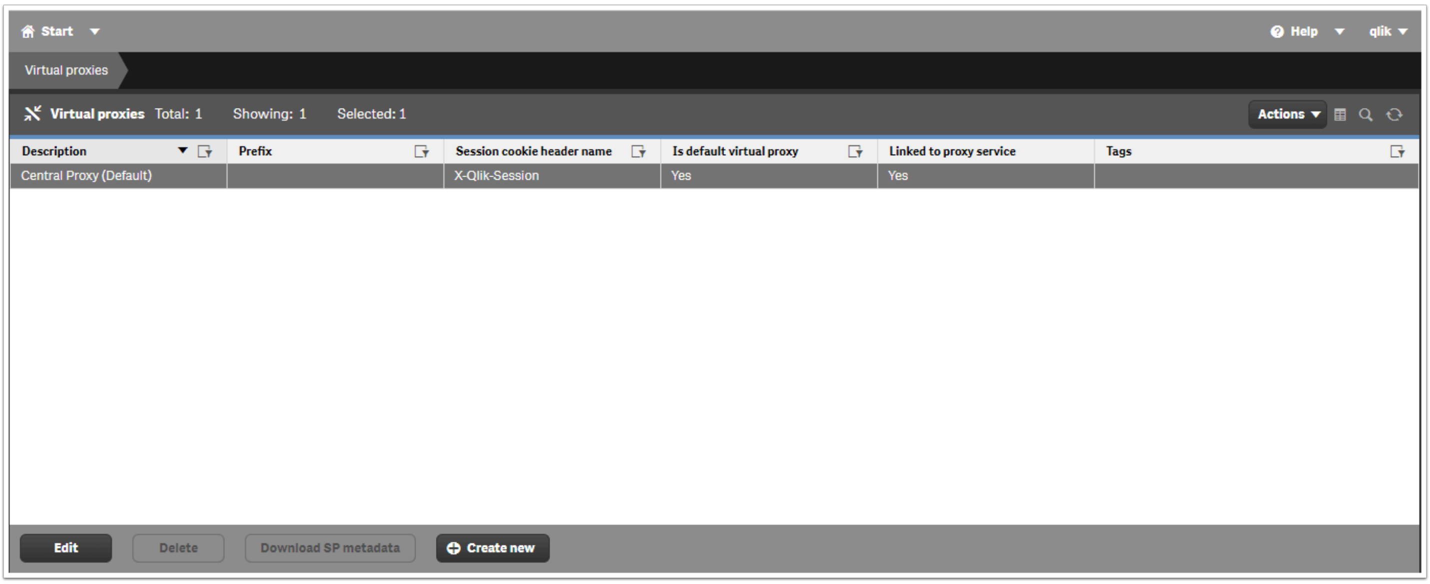
Connection Proxies (optional configuration)

> Additionally, you can secure your Connection Proxies and increase Session Timeout per Proxy site.



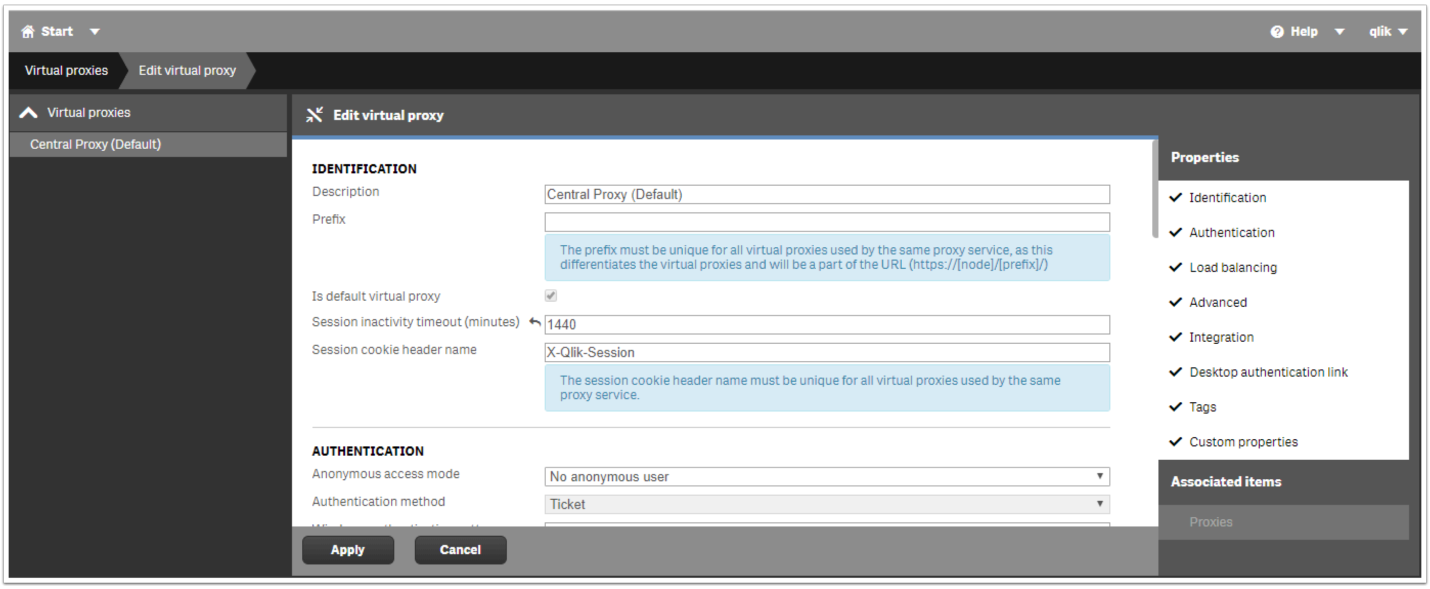
If your Qlik Sense uses a secure connection, provide a **certificate** by going to your Qlik Sense server and logging onto the QMC ([http://your-qliksense-server/qmc/virtualproxies).](http://your-qliksense-server/qmc/virtualproxies)

Increase session timeout for the Proxy site



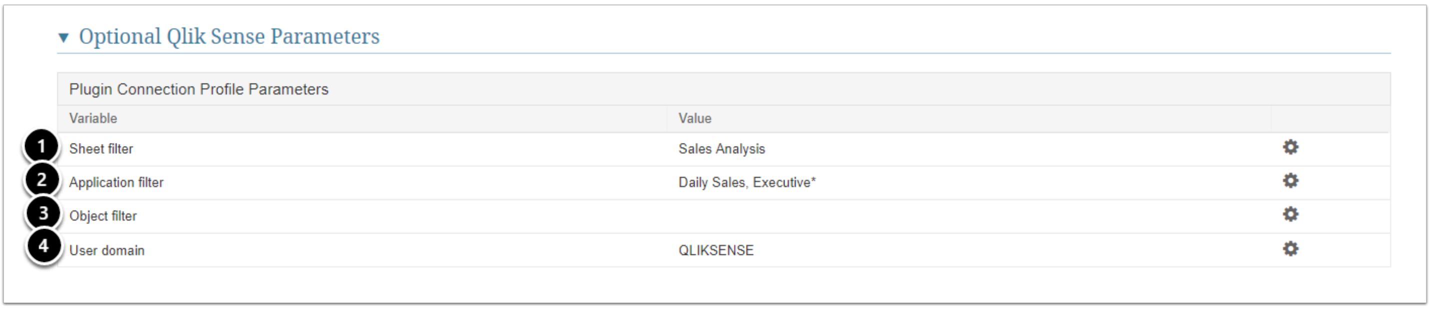
Navigate to your Proxy on the QMC.

Increase the session timeout



Increase the *Session inactivity timeout (minutes)*. This will allow Metric Insights to complete more job requests (e.g., getting data from a report) without Qlik Sense prematurely ending the session.

5. Optional Qlik Sense Parameters



To narrow the list of Qlik Sense External Reports fetched with your plugin, you can specify:

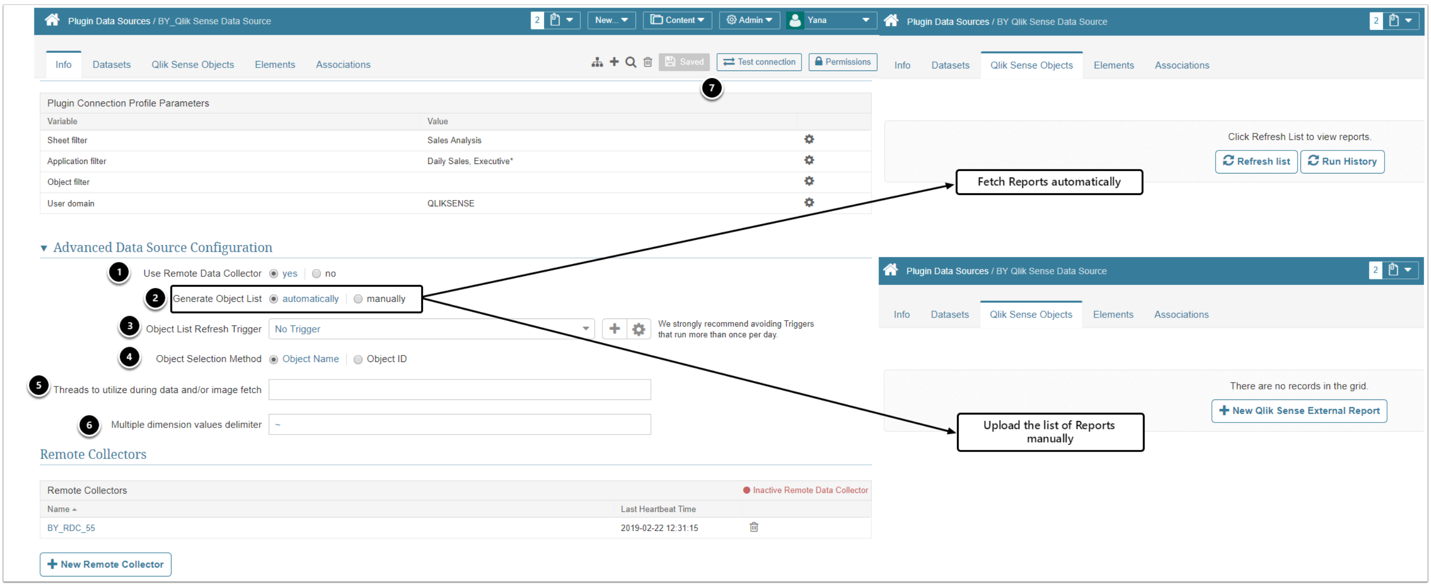
1. **Sheet filter:** the title(s) of your Qlik Sense Sheet(s)
2. **Application filter:** Application(s) you have created in Qlik Sense
3. **Object filter:** name(s) of Object(s) you need to bring from Qlik Sense
4. **User domain:** the domain group for your Username

NOTE:

You can provide several values for the following filter variables: Sheet, Application, Object. To do so, separate their values with a comma.

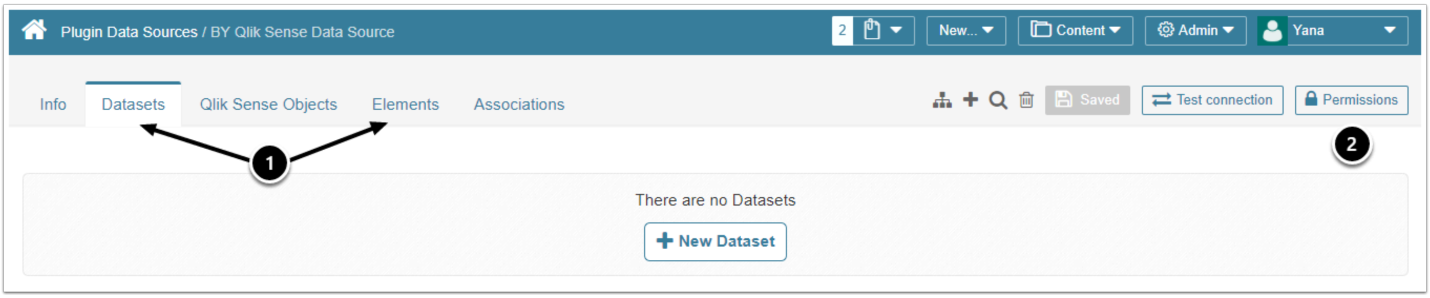
You can also configure the behavior of Qlik Sense plugin by using other parameters listed in qliksense.conf.

6. Advanced Configuration



1. Set **Use Remote Data Collector** to *yes* in order to bridge the link between MI and the Qlik Sense server. Then select the Remote Data Collector created when following the **Prerequisites to connecting to Qlik Sense server** article.
2. **Generate Object List**: This setting influences options available in the *Qlik Sense Objects* tab:
   - *automatically:* click Refresh list and all Reports are going to be fetched by the system
   - *manually:* Reports may be added one-by-one or via CSV file
3. **Object List Refresh Trigger:** from the dropdown, select the Trigger that will be used to fetch data via the Qlik Sense plugin
4. **Object Selection Method:** specify how Qlik Sense Objects will be fetched
5. Optionally, specify the maximum number of concurrent **Threads to utilize during data and/or image fetch** to be used in background processing when the system updates Metrics and Reports for this Data Source
   - If you do not specify any value for this setting, batch data collection processing will be single-threaded
6. **Multiple dimension values delimiter:** optionally, specify the Delimiter for Multiple Dimension Values (Configuring this parameter allows to support fetching aggregate data for several Qlik Sense Filter Values)
7. **Test Connection** (this will also **Save** your data)

7. Other settings



1. You can create Datasets or Elements directly from the respective tabs
2. Click **Permissions** to assign permissions to Groups or Power Users

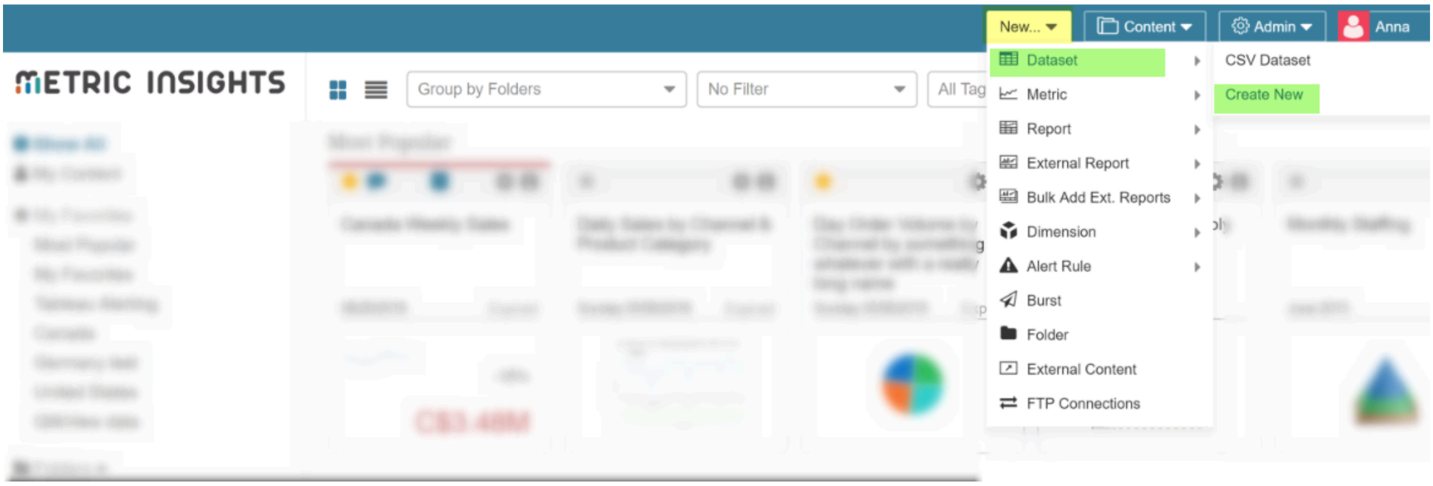
1.4 Create a Dataset sourced from Qlik Sense

This introductory article describes how to define the basic settings for a Dataset that is sourced from Qlik Sense.

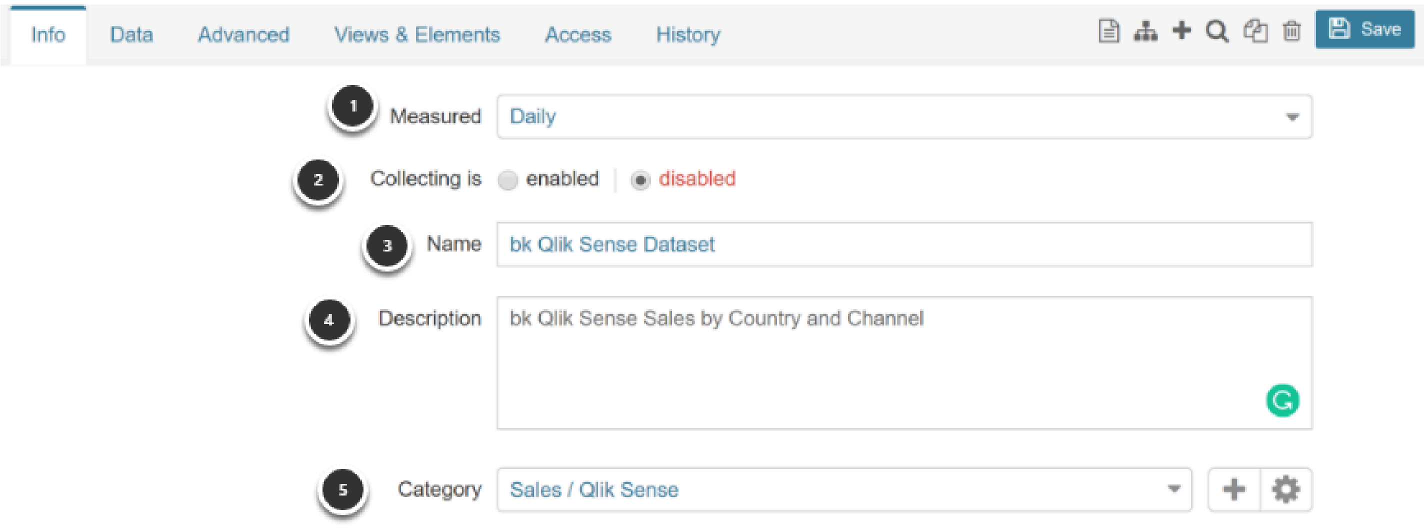
PREREQUISITES:

- **Data Source**: Metric Insights must have a working data source connection to Qlik Sense. If you have not yet configured a data source connection, see Establish Connectivity to Qlik Sense

1. Access New > Datasets > Create New



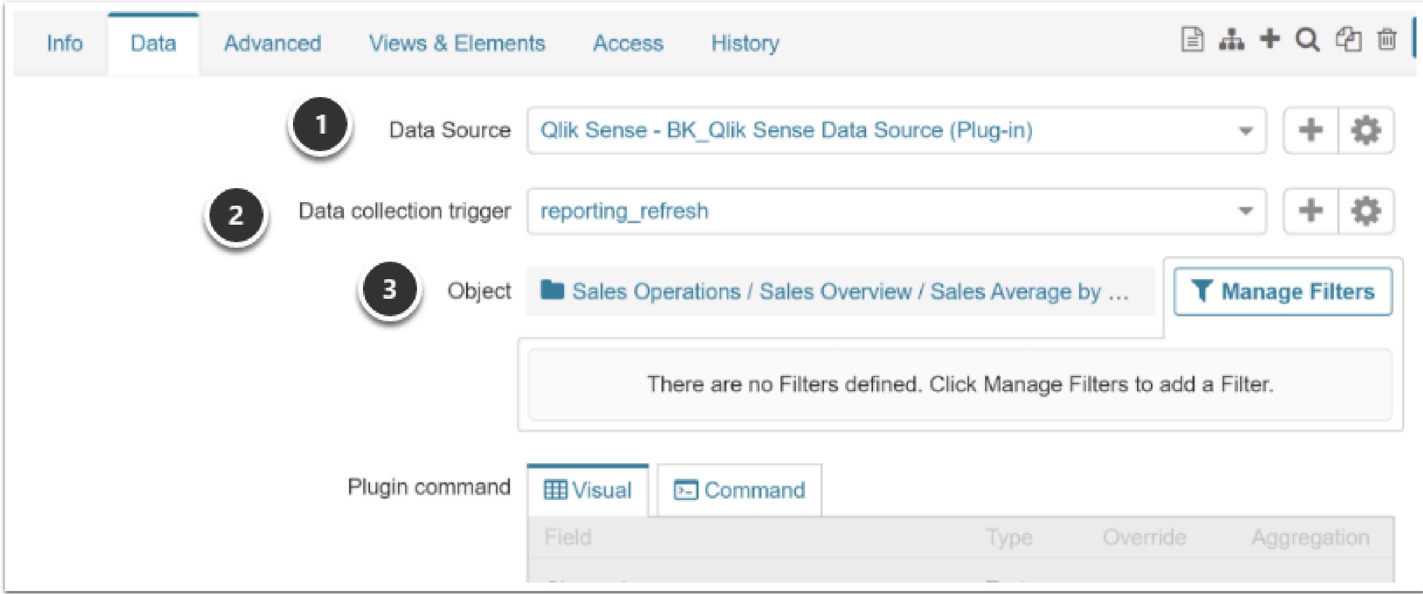
2. [Info tab] Define the basics



1. **Measured:** select the measurement interval that applies to the level of aggregation that you want in your result set.
2. **Collecting is**: 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.
4. **Description:** optional (defaults to '*Name*')
5. Place your Dataset in an existing **Category** or create a new one using '+' sign at right.

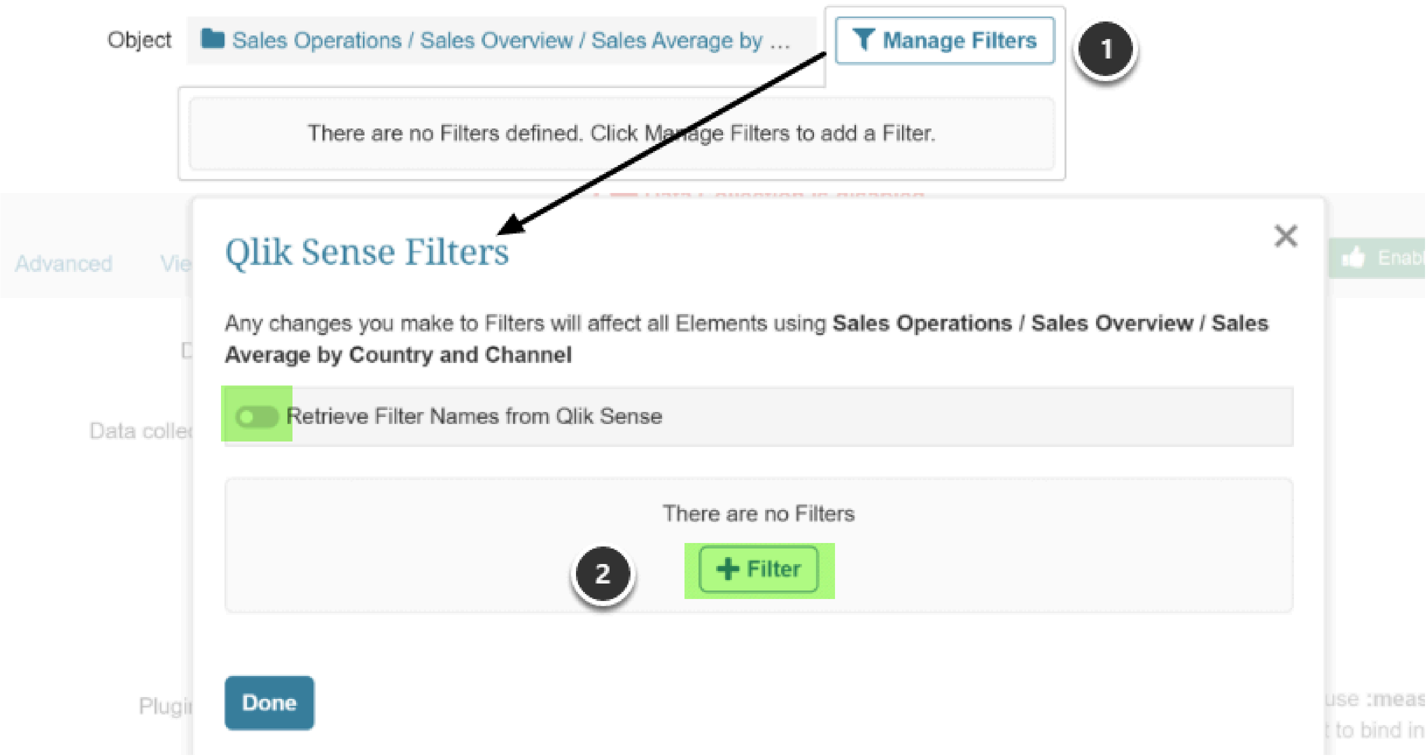
Move to the *Data* tab to define Qlik Sense as the source of data and how often it should be updated.

3. [Data tab] Configure data collection



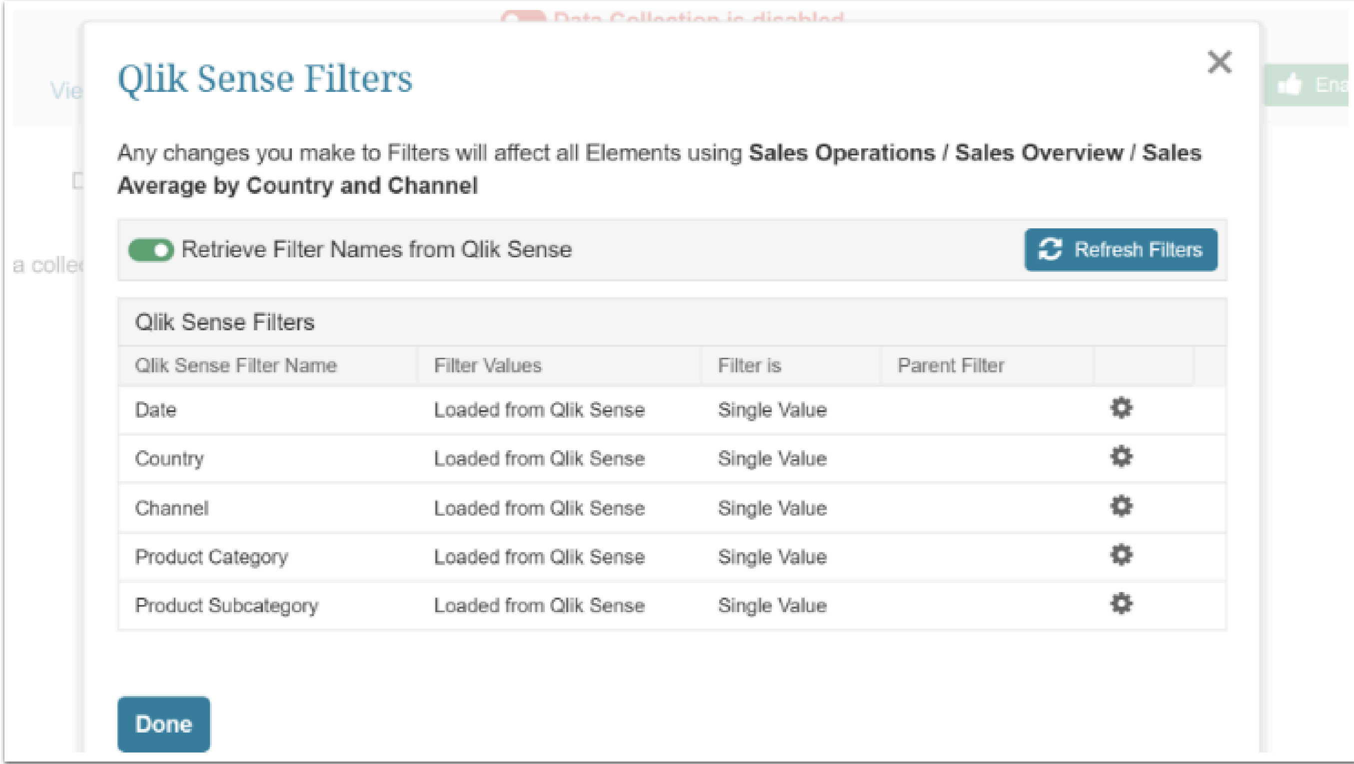
1. **Data Source**: Select the Qlik Sense plug-in serving as a Data Source for this Dataset. For more info, see: Establish Connectivity to QlikView Server
2. Set the **Data Collection Trigger** which is going to initiate updating information. If there is no option matching your requirements, scroll down to the bottom of the drop-down list and click **Add New Data Collection Trigger**.
3. Select the Qlik Sense **Object** from the drop-down list.

3.1. QlikView Filters



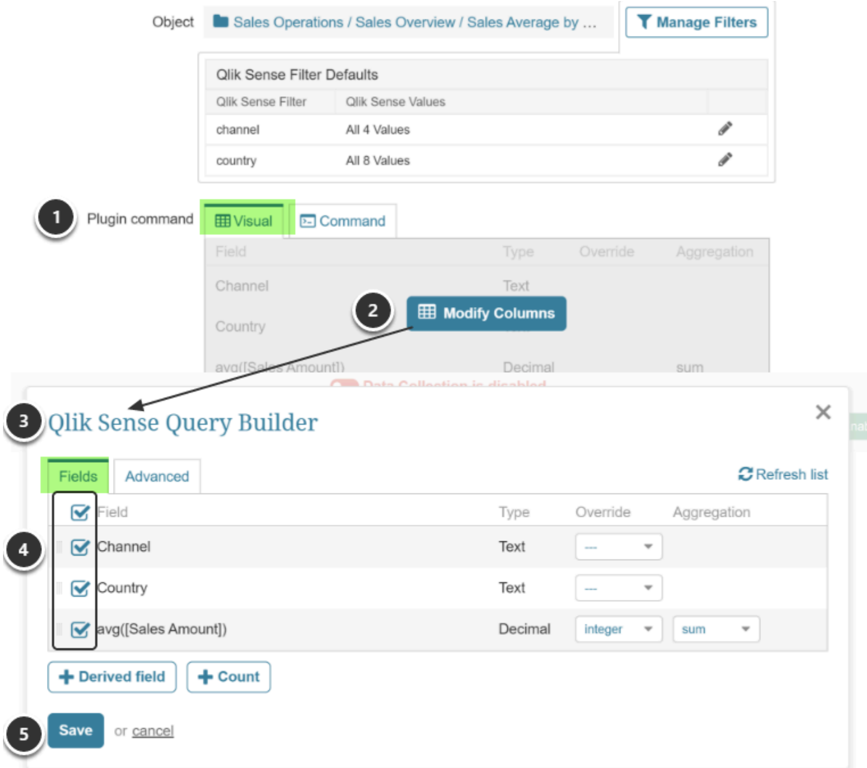
By default, all filters are set to 'Ignore Filter'. To change this setting:

1. Select [**Manage Filters**] and the ***Qlik Sense Filters*** pop-up opens
2. Either ***Toggle*** to auto-load the filters from Qlik Sense, or [**+ *Filter***] to add Filters manually. Example here is to Retrieve Filter Names automatically



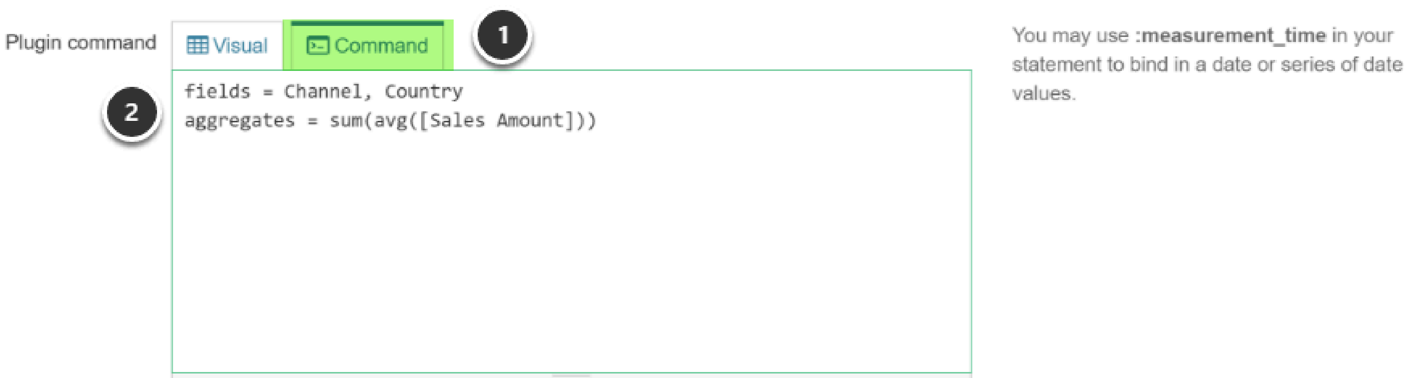
If you need more information on using Qlik Sense filters see [Pre-filtering Qlik Sense data (5.6+)]

3.2. Plugin Command: [Option 1] Visual Editor



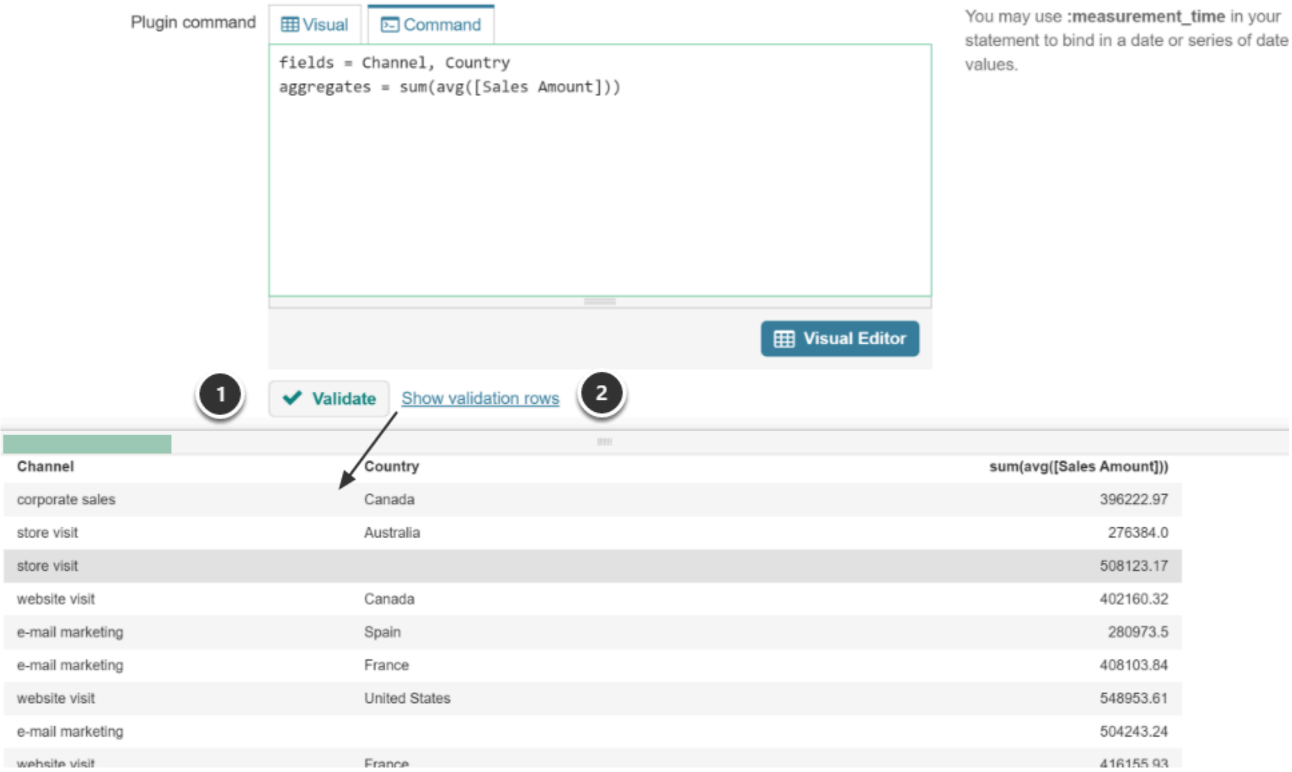
1. In the **Plugin command** box choose the **Visual** Editor option.
2. Click **Modify Columns**
3. The *QlikView Query Builder* pop-up opens
4. Select the parameters you would like to include to your Plugin command
5. **Save** your selections

3.3. Plugin Command: [Option 2] Manual Entry



1. In the **Plugin command** box choose the **Command** option
2. Write your command

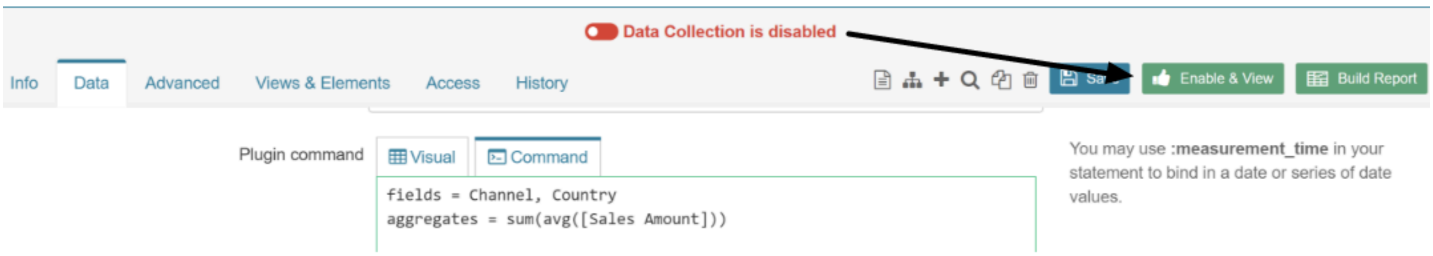
4. Validate your statement



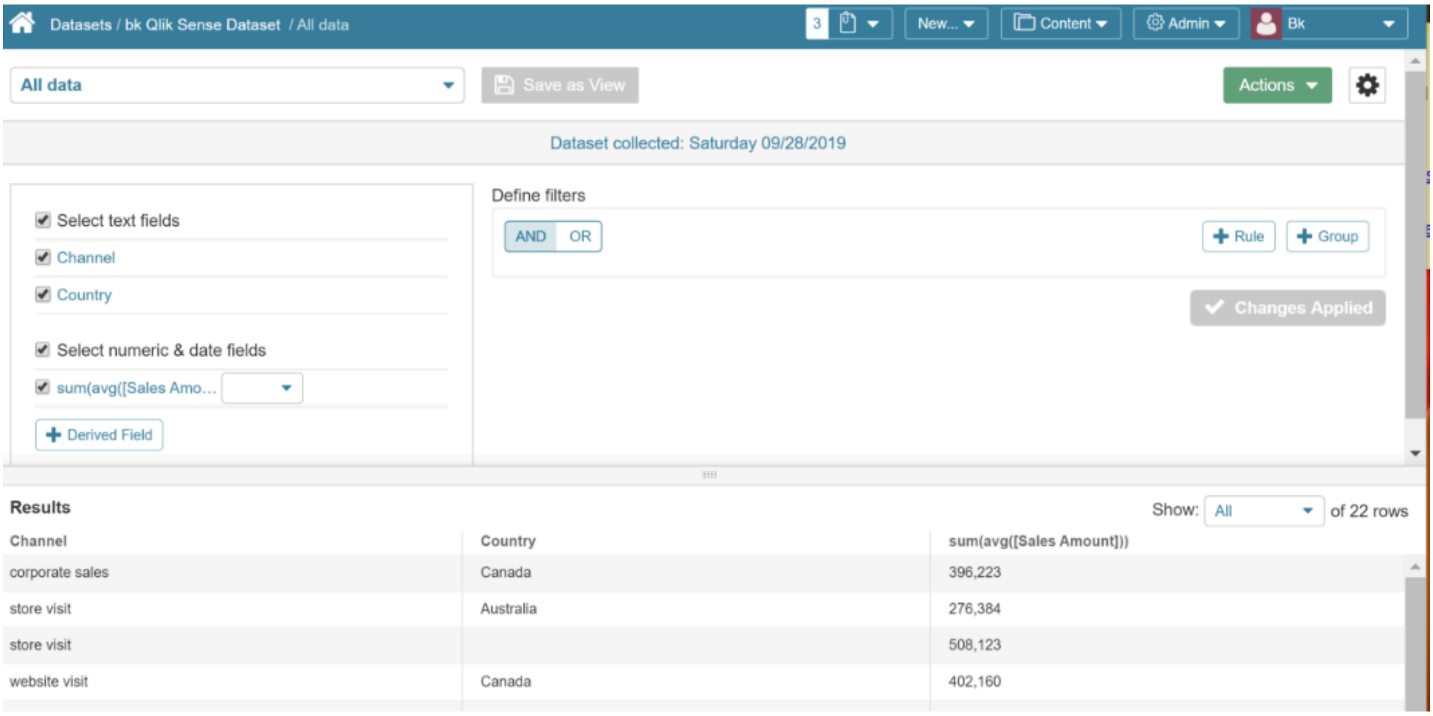
If you constructed the command via the Visual Editor, the command is going to be automatically validated after you **Save** your selection of parameters.

1. If you entered the command manually, click **Validate** below the text box to verify that your SQL statement is valid.
2. 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.

5. Enable and Publish/View



6. Review the Result



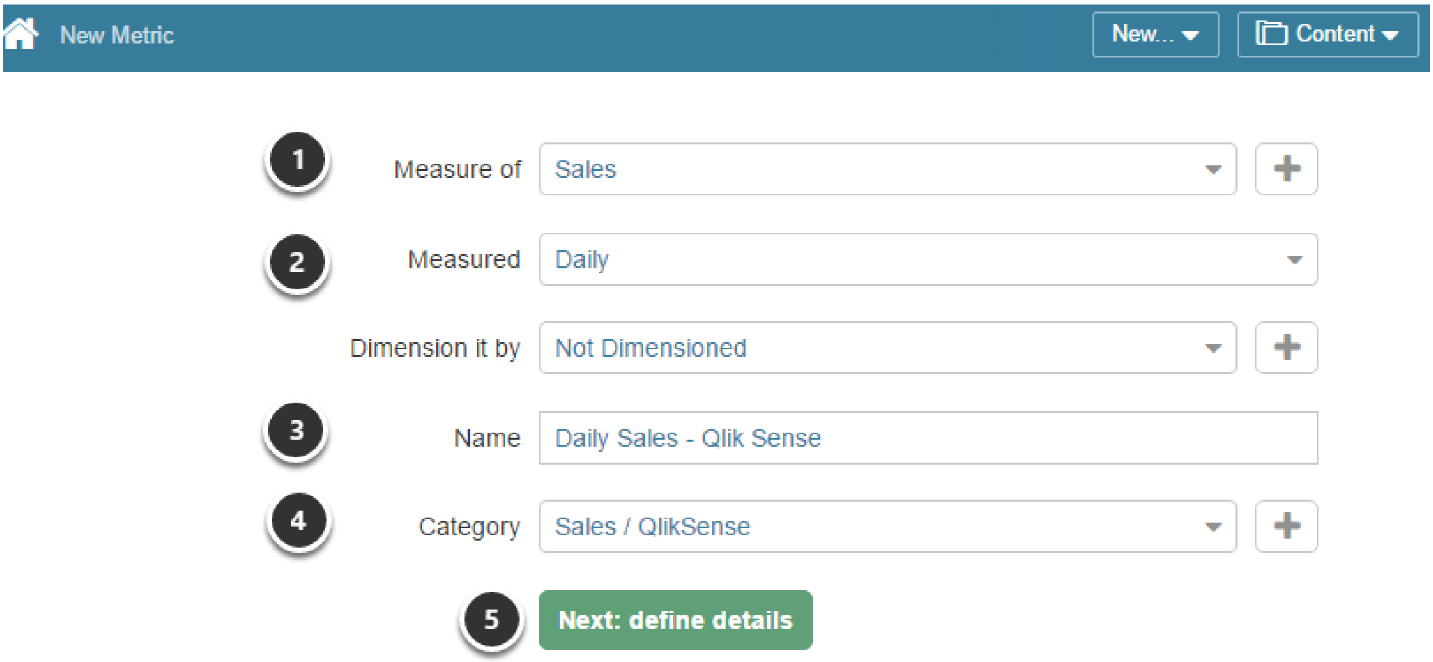
What would you like to do next?

- you may start working with it by filtering data and saving separate Create a Dataset View
- create an Access Map

1.5 How to Collect Data using Qlik Sense (Metric example)

This article will show you how to create an Element using a Qlik Sense plugin as a Data Source. It assumes that you have already established connectivity to your Qlik Sense server.

1. Access New > Metric

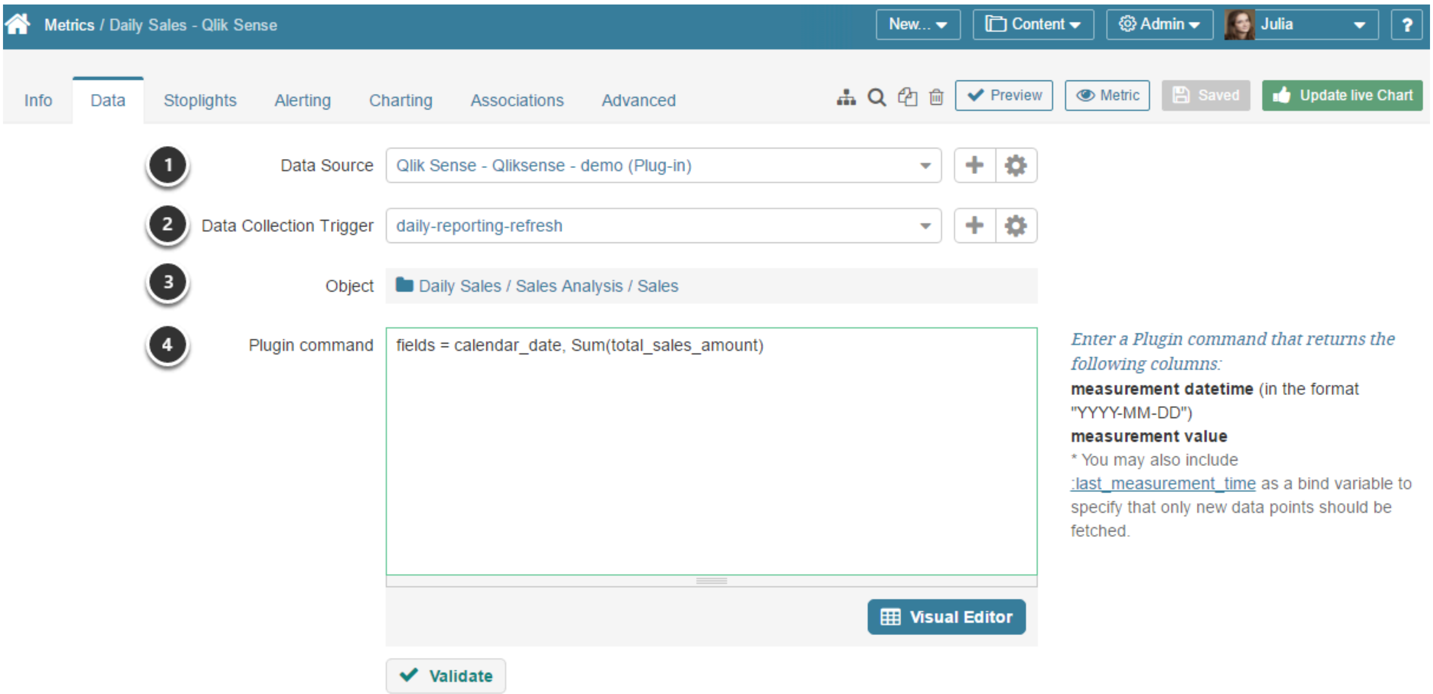


Provide the basic information required for creating a new Metric:

1. Define this Metric's **Measure**. If you do not see the measure that you want to use, you can create one directly from the bottom of this drop-down list
2. Select the **Measurement Interval** that applies to your element
3. Give the element a unique **Name**
4. Optionally, assign a **Category**.
5. Click **Next: define details** to proceed with Metric creation

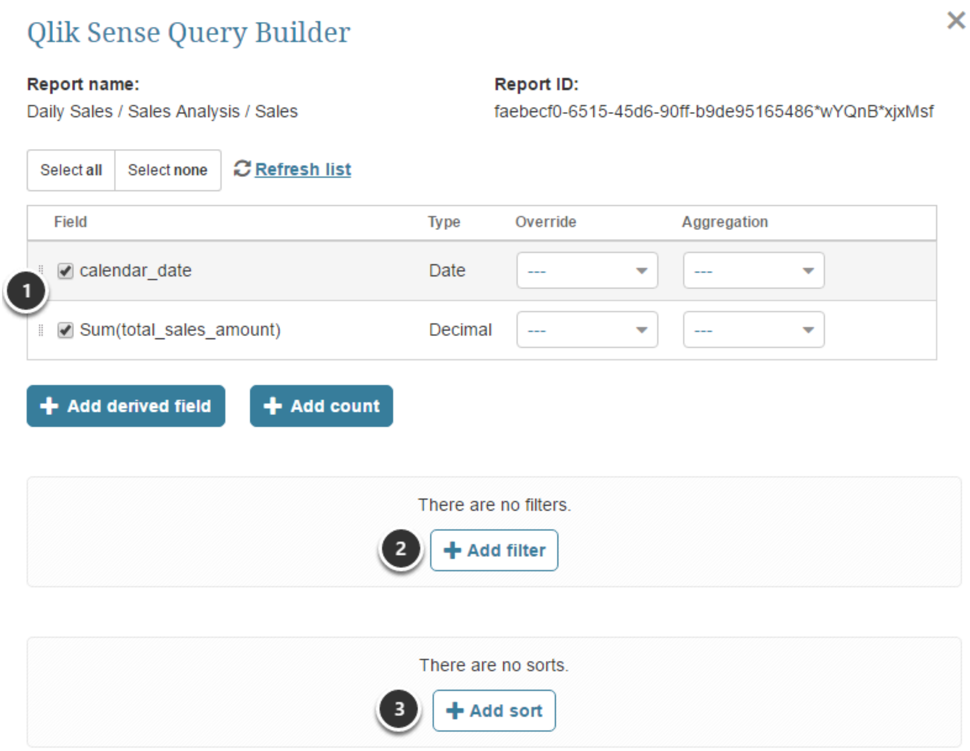
NOTE: To build a dimensioned Metric, you first need to create a Dimension sourced from the same data source.

2. Full Editor displays the Data Collection tab



1. Select the **Qlik Sense** plugin serving as a **Data Source** for this Metric
2. Set the **Data Collection Trigger** which is going to initiate updating information in this Metric
3. Select a Qlik Sense **Object** that should become a basis for this particular Metric
4. Input **Plugin Command** manually using MIQL (you may also reference a table with parameters below) or use a **Visual Editor**

2.1. Example using the Visual Editor



The *Qlik Sense Query Builder* is called by Visual Editor link

1. Select **Fields** and set **Expressions**
2. You can pre-filter the information before fetching it into Metric Insights. To do so, add Filters in the *Query Builder*
3. Optionally you can add 'ascending' and 'descending' **Sorting** to the field values

Save your settings. Command validation will start automatically.

Plugin Commands

The query must include the columns, listed in the hint box to the right of the **Plugin command** field:

1. *Optional.* Metric Insights dimension (for dimensioned Metrics and Reports only)
2. measurement datetime
3. measurement value

Note!

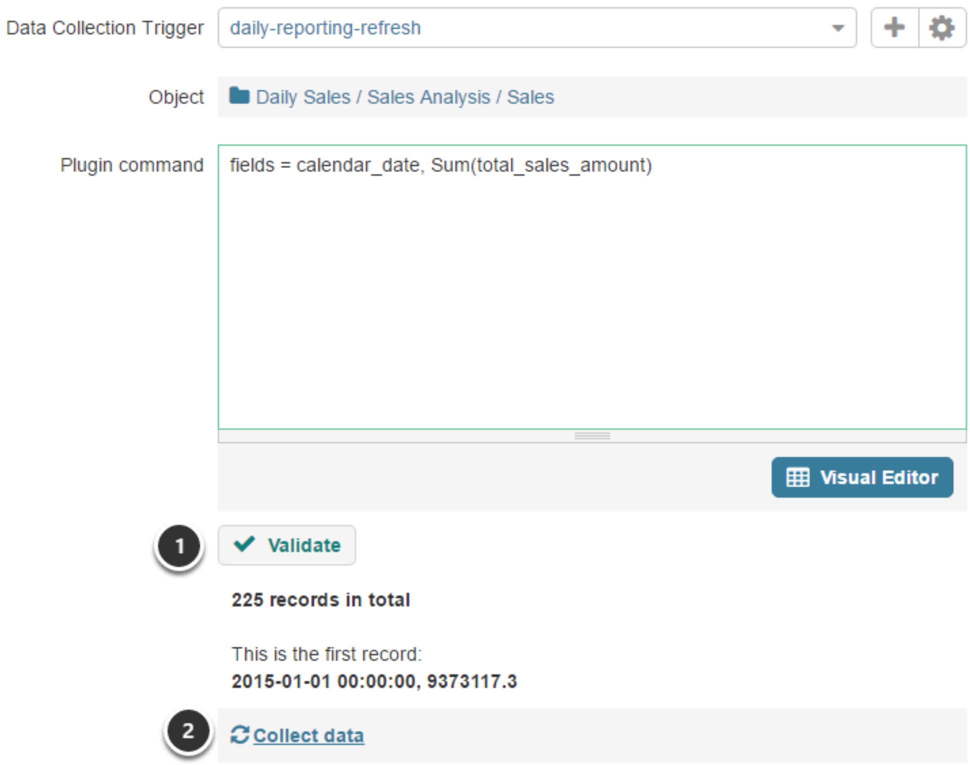
1. Entire field names that contain special characters, aggregation and commas must be enclosed in quotes (single or double).
2. It is acceptable to enclose all fields and values in quotes.

[...] + Notation is used to signify that the MIQL parts of a statement are optional/can be repeated.

Command	Description	Values	Example
fields (dimensions)	'Fields' store the data that is used by Qlik Sense and can be compared to columns in a database table, containing one or more values. Qlik Sense divides data in two major types: dimensions and measures. (**NOTE:** Make sure not to confuse dimensions in Qlik Sense and Metric Insights Dimensions created for Reports and Metrics.) Dimensions in Qlik Sense are descriptive attributes (typically textual fields or discrete numbers), while measures are the fields that can be measured, aggregated, or used for mathematical operations. Dimension fields are usually used for row or column headings.		fields = **Channel, Year Month, Total Gross Profit**
aggregates	It is often required to look at numerical data (which is referred to in Qlik Sense as Measures) in an aggregated form (via mathematical functions, such as summation, average, etc.) Aggregation functions perform a calculation on a set of values and return a single value. For example, if you have 3,000 sales transactions from 50 products in your data source, you might want to view the sum of sales for each product, so that you can decide which products have the highest revenue.	sum(field), avg(field), count(field), count(*), min(field), max(field)	aggregates = sum**(profit)**, min**(salary)**
filter	Using the 'filter' command you can exclude certain values or a range of values for a field. Several filering conditions can be combined by 'OR', 'AND'. **NOTE:** This filtering is performed by Metric Insights.	Each filtering condition consists of 3 values: field, corporate operator (<, >, =< <=, etc.), value (numeric, date or ':last_measurement_time')	filter = **Year Month == '2016-04-11'** AND **Avg Sales Per Day > 1000000**

external filter	Filtering may be also performed externally by Qlik Sense.	Qlik Sense handles external filters in the following format: /state/analysis/ select/(field)/(value)	/state/analysis/ select/**Product/ Wine**
sort	You can specify whether you want your field values to be sorted in the ascending or descenting order.	ASC, DESC	sort = Name **ASC**
var	This command allows creating a new custom field that can be used in all commands listed above.		var **mon_salary** = salary / 12 fields = Name, mon_salary

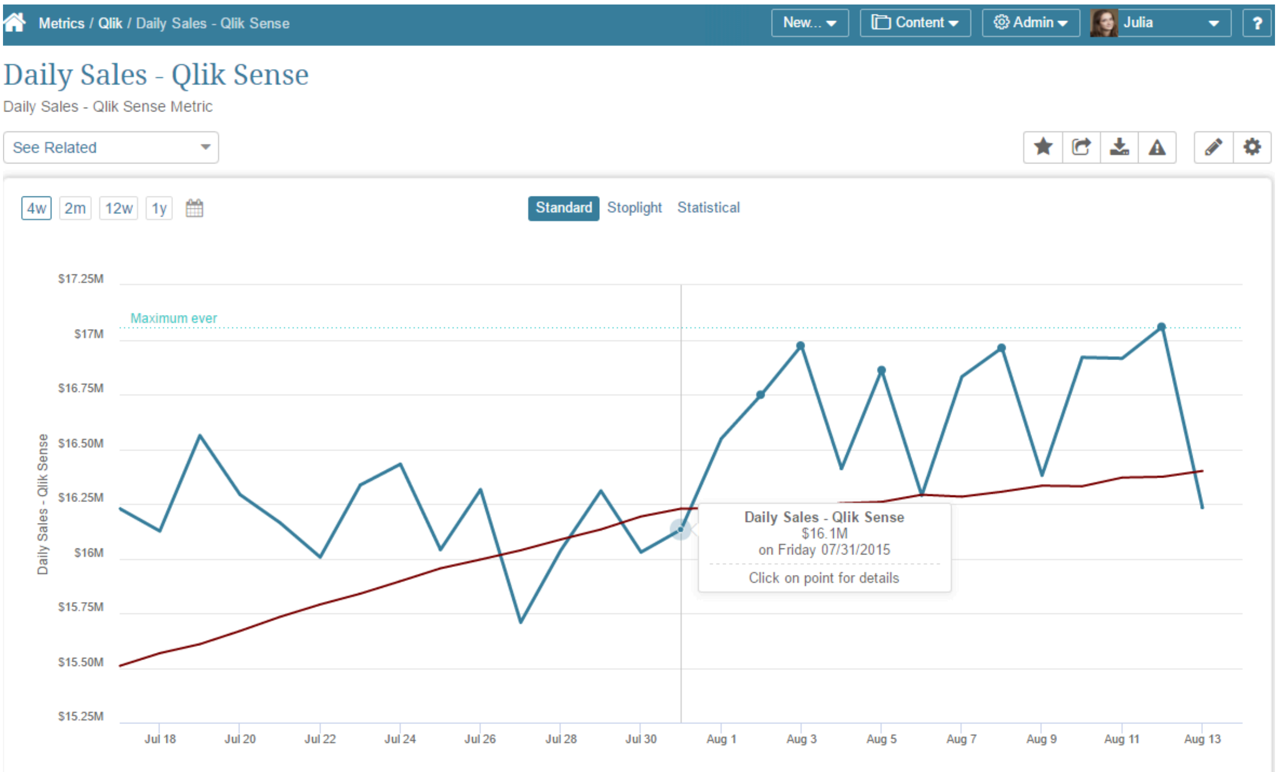
3. Collect Data for the Metric



If entering the plugin command manually:

1. **Validate** the command. If your statement is valid, the statement box is **green**; if there are any errors, the box is colored in **red** and errors will be explained in the field below.
2. **Collect Data**
3. At the upper right corner of the screen, click **Enable and Publish** to save the element and make it available to other Users in the system

4. [Result] Metric will be displayed in viewer



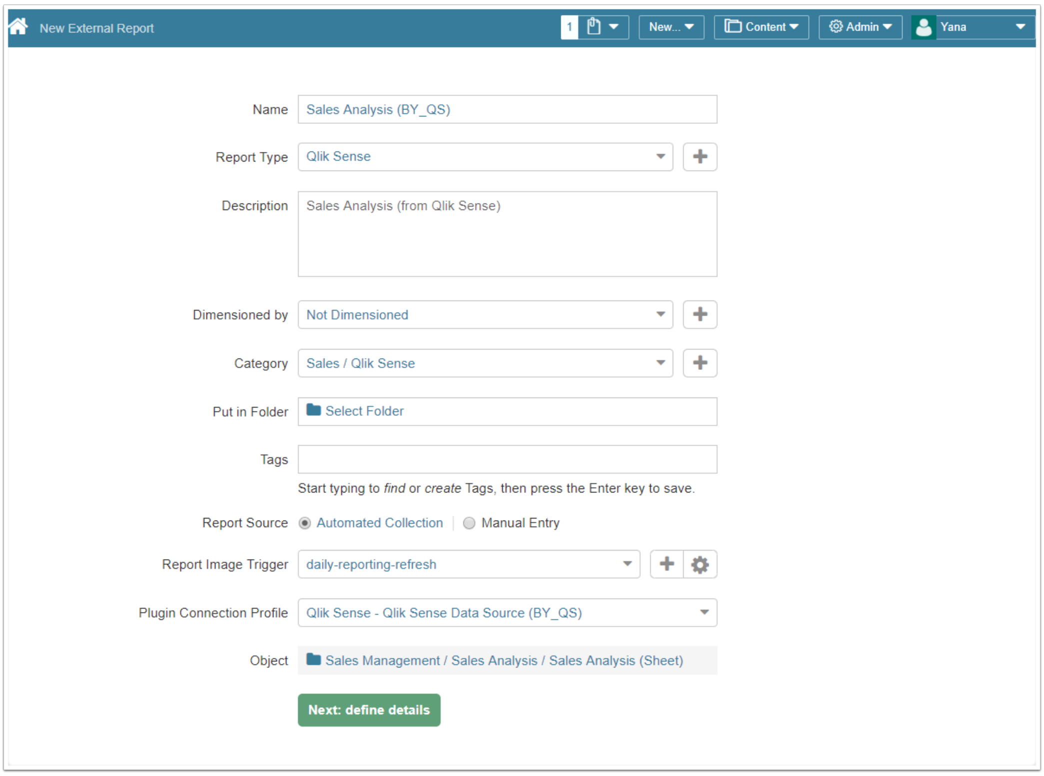
1.6 How to create an External Report from Qlik Sense

This article details how to build an External Report in Metric Insights that is linked to a Report on your Qlik Sense server.

It assumes that you have already established connectivity to Qlik Sense via the respective plugin connection profile.

If necessary, you can create a new *Report Type, Category*, or *Report Image Trigger* on the go by clicking the **[+] icon** next to the corresponding field.

1. Access New > External Report > Qlik Sense



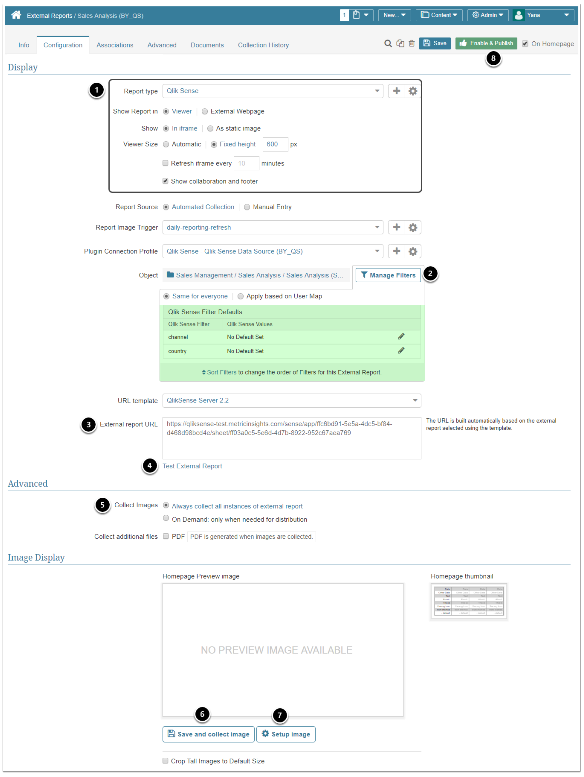
The *New External Report* screen opens. Provide the following information:

1. Give your new External Report a **Name**
2. Place your Report in a relevant **Category**

3. Define whether you want Report content to be updated manually or automatically. For **Automated Collection**, define the following settings:
   - Choose the **Report Image Trigger** from the drop-down list
   - Select the **Plugin Connection Profile** you have created for Qlik Sense
   - **Object:** Select a Qlik Sense Sheet (Object) from the corresponding connection profile

4. **Next: define details** to proceed with Report creation

2. Configuration tab > specify Report Details



1. **Show Report in:** change from default "External Webpage" if you want your Report to be displayed in Viewer
   - You can choose between the **iframe** and **static image** options
   - If you select **iframe**, you can specify the **Viewer Image Size**

2. Apply filters to your Report data by clicking **[+Manage Filters]**
   - For details, see [Pre-filtering Qlik Sense data (5.6+)]

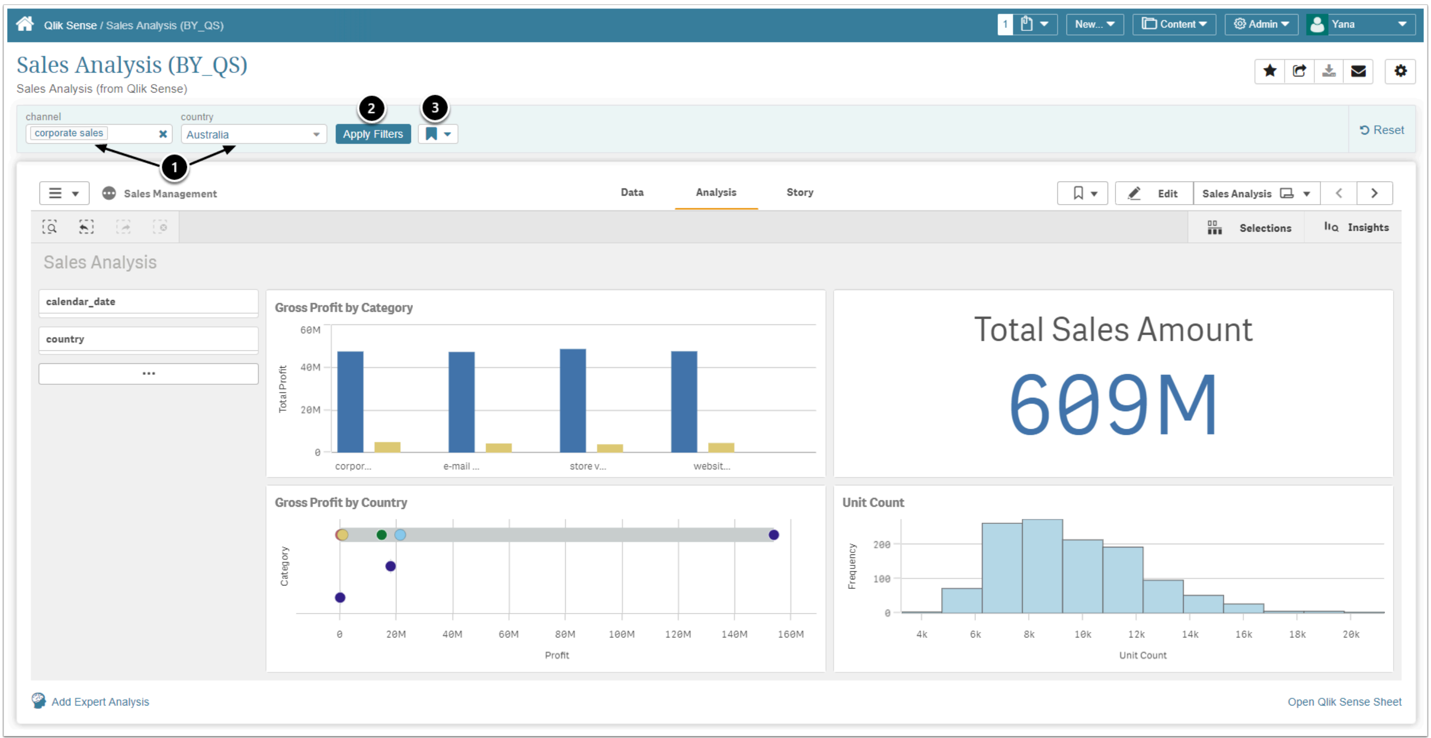
3. The **External Report URL** will be generated automatically based on your other inputs
   - You can modify the URL by appending a question mark (?) followed by any filter or parameter settings

4. **Test External Report**: you can optionally test how your Report will be displayed on External Webpage or in Viewer, depending on the display option selected in #1
5. **Advanced:**
   - *Always collect all instances of external report:* Collect all images and cache them on a schedule

- *On Demand: only when needed for distribution:* Individual images are only collected when they need to be included in an email

6. **Save and Collect Image** to generate a Preview Image for the Homepage
   - NOTE: when opting to display your Report as a **Static Image**, make sure you **Collect Image** before going to Viewer
7. Optionally, **Set up image size**
   - If not specified, it will default to 1200 x 800
8. **Enable and Publish** to be able to go to Viewer

3. Verify display in Viewer



To pre-filter Report Data in the Viewer:

1. Select the required **Filter Values**
2. Click **[Apply Filters]**
3. Optionally, save your Filter selections as personalized **Bookmarks**
   - For details, go to [Setting Personal Bookmarks (External Reports)]

1.7 Create a Qlik Sense Configuration File (deprecated in 6.x)

Qlik Sense Configuration file is used by the system to:

- Find a path to **client.pfx** certificate file (for details refer to Setup a Client Certificate for authenticating with Qlik Sense)
- Store a certificate password

1. Create a file

In the **opt/mi/datacollector/plugins/** directory, create a configuration file using the following command:

```
touch qliksense.conf
```

2. Open the file using any editor of your choice

3. Define the following parameters

Insert these 2 parameters and provide values for them:

- **client_key_path**: specify a path to the **client.pfx** certificate file.
- **client_key_pass**: enter the password that you used when creating the **client.pfx** file.

Example:

```
client_key_path=C:\Program Files (x86)\Metric Insights\Certificates\
client_key_pass=<cert-password>
```

Save your entries.

To see the complete list of variables that can be specified in the Qlik Sense configuration file, go to **qliksense.conf**

4. Give access permissions to the "qliksense.conf" file by issuing this command

```
chmod 777 qliksense.conf
```

1.8 Pre-filtering Qlik Sense data (5.6+)

As of Release 5.6.+, pre-filtering functionality has been redesigned to include auto-retrieval of Filters, while retaining the option to manually add Filter Values to Datasets/Elements sourced from Qlik Sense.

Qlik Sense Filters can be added by:

1. Retrieving Filter Names from Qlik Sense (auto-retrieval of all Filters/Filter Values from Qlik Sense)
2. Loading Filter Values from Qlik Sense (auto-retrieval of a single Filter and its Values from Qlik Sense)
3. Loading Filter Values from a Dataset (auto-loading of Filter Values from a Dataset in Metric Insights)
4. Mapping to Dimension Values in Metric Insights (auto-mapping of Filter Values in Qlik Sense to Dimension Values in Metric Insights)
5. Entering Filter Values Manually

PREREQUISITES:

- Establish Connectivity to Qlik Sense

[6.1.1 new feature] If your External Report Viewer is displaying duplicate Filters based on your BI Tool defaults, your Admin can reset the default behavior to remove the Metric Insights filters from Viewer display - How to omit Filters from External Reports.

Once filters are added to a Dataset/Element for the first time, they will be automatically added to all new respective Datasets/Elements with the same Data Source.

NOTE:

- External Filters are tied to Qlik Sense Sheets, not Metric Insights' Objects/Elements. This allows Filters to be reused multiple times.
- Redundant Filters or Filter Values can be set to "ignore".

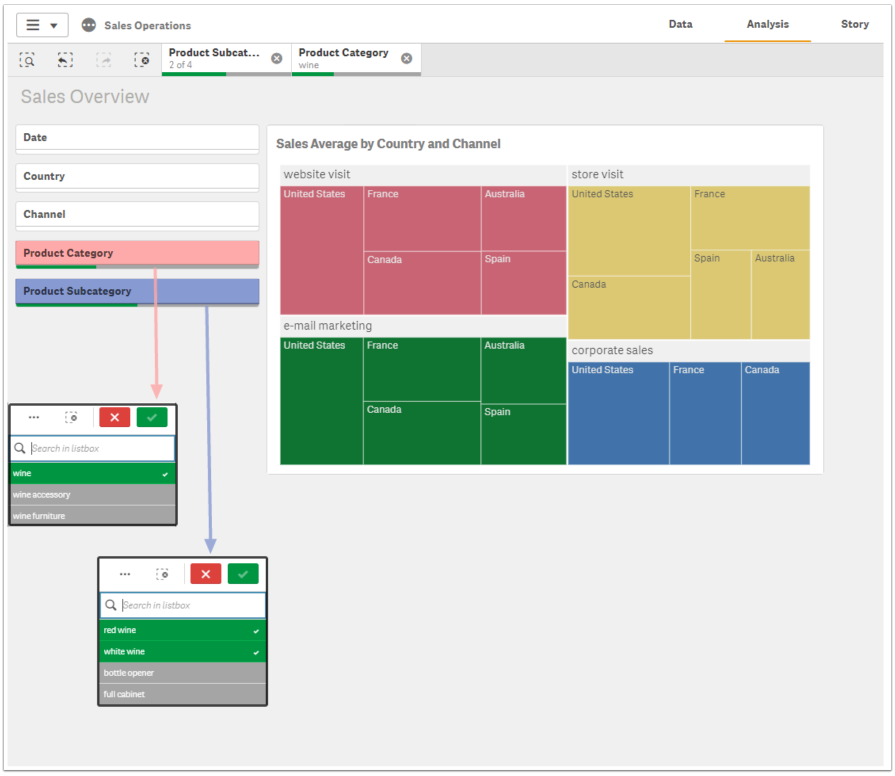
Where to find Filter Names in Qlik Sense?

Most of the data displayed by Qlik Sense Objects can be filtered by the offered criteria.

As exemplified by the image below, data in the corresponding charts has been refined by selected Filter values:

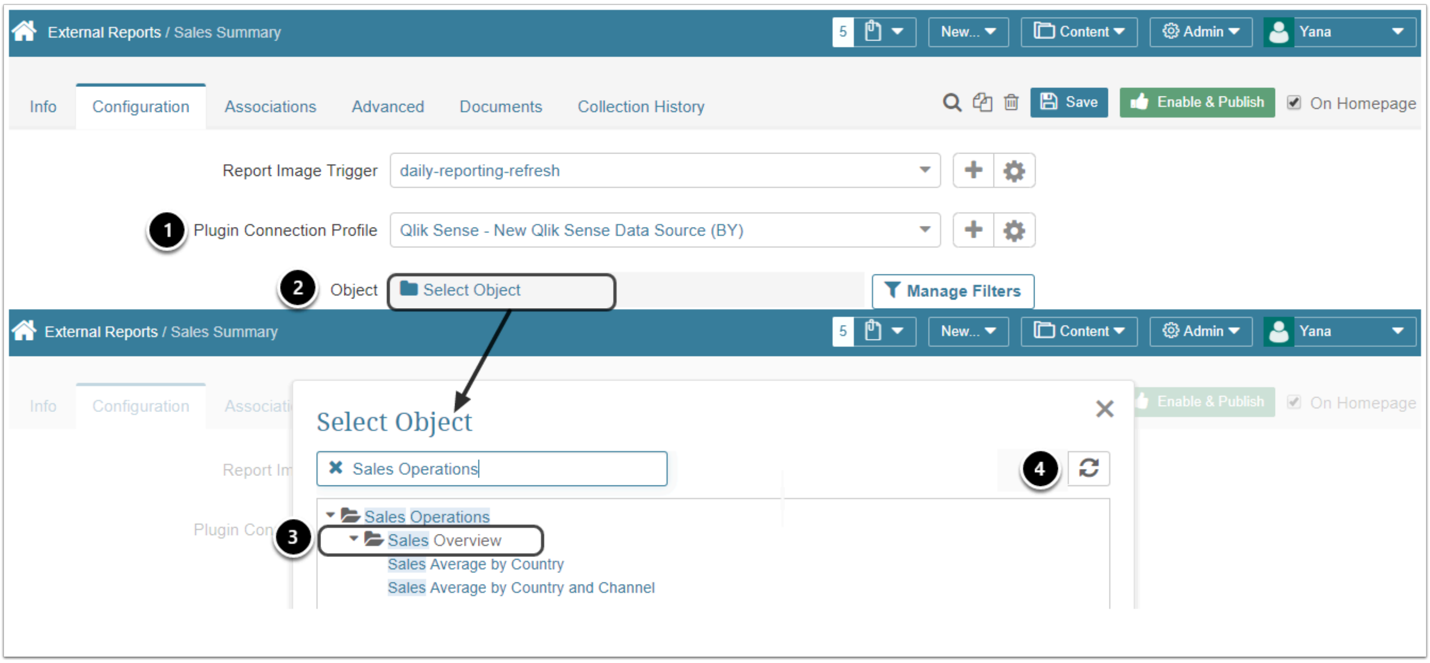
- **Product Category**: wine
- **Product Subcategory:** red wine, white wine

These Filters can either be automatically loaded to Metric Insights or added manually as needed.



1. Define a Source Object for an External Report

By specifying a Qlik Sense source element, Users will be able to fetch Filters applied to that element.

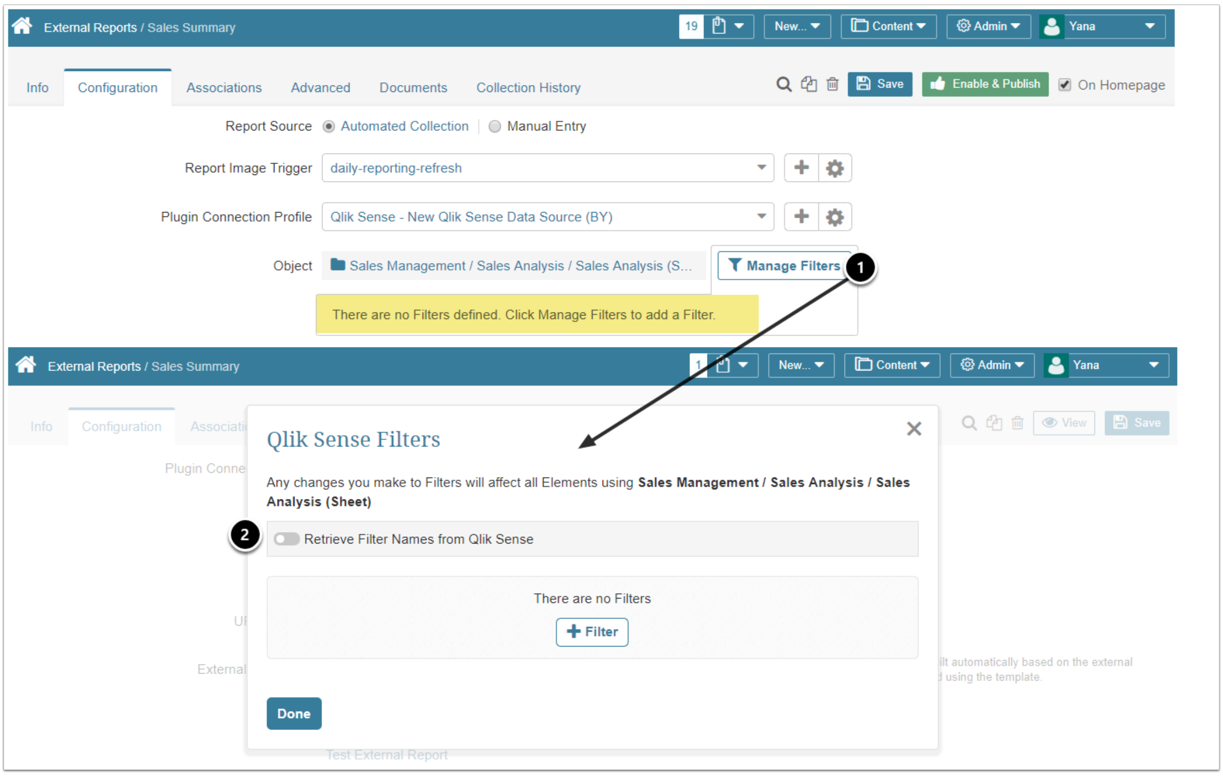


In the ***External Report Editor > Configuration tab***:

1. Select a **Plugin Connection Profile** that will be used for data collection
   - *For details on how to create a Plugin Connection Profile, refer to [Establish Connectivity to Qlik Sense](#)*
2. Click **[Select Object]** to access the list of available Qlik Sense Objects
3. Click the **[Object Name]** for it to be selected as a data source in Metric Insights
4. If you do not see the required item, use **Refresh**

2. Add Qlik Sense Filters to Metric Insights

The **Filter Management** option allows Users to add Filters and access the related functionality.



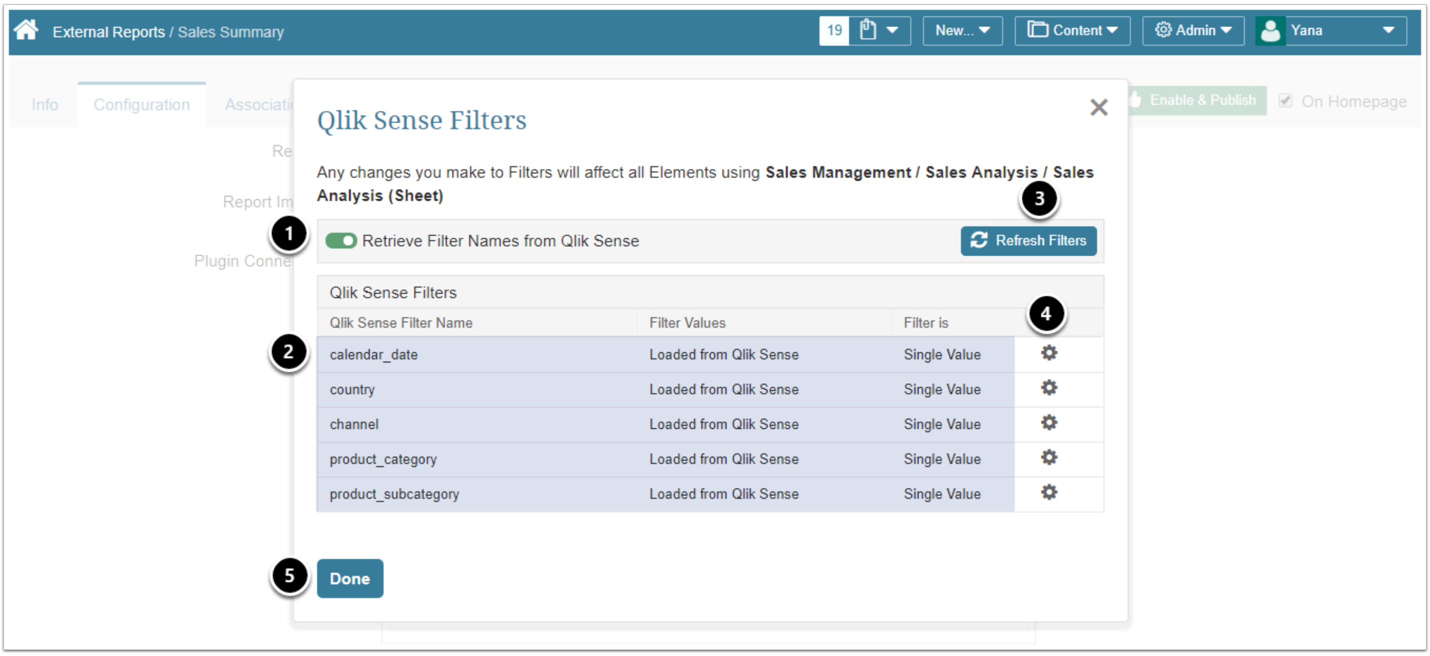
To be able to add Filters:

1. Click **[Manage Filters]**
2. For **auto-retrieval and complete Filter syncing**, activate the toggle (see details in Step 2.1)
3. For **other Filter-adding methods**, click **[+Filter]** (see details in Step 2.2, Step 2.3, Step 2.4 and Step 2.5)

2.1. Retrieve Filter Names from Qlik Sense

Selecting this option means that all Filters and Filter Values will automatically be fetched from Qlik Sense.

Filters added automatically cannot be deleted if the **"Retrieve Filter Names from Qlik Sense"** option is activated.

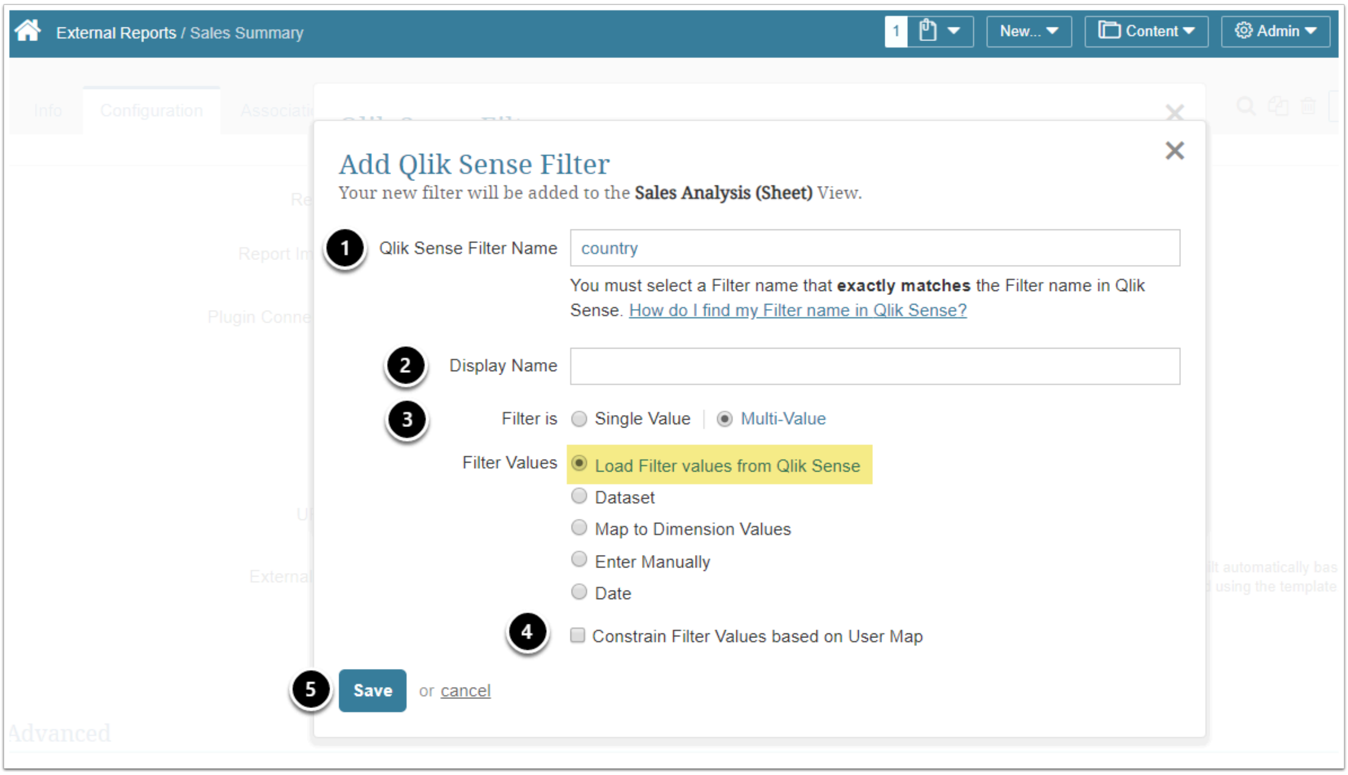


To enable auto-retrieval:

1. Activate the **Auto-Retrieval** option
2. The loaded **Qlik Sense Filters** will appear in a list below
3. **Refresh** the Filters' list as needed
4. To edit a Filter, use the **Edit (Gear) icon**
   - *For details refer to Edit Filter Properties*
5. Click **[Done]** to proceed

2.2. Load Filter Values from Qlik Sense

This option gives more control over which Filter Values to load to Metric Insights. Filters are added one by one, enabling Users to determine how many Filters will be fetched.

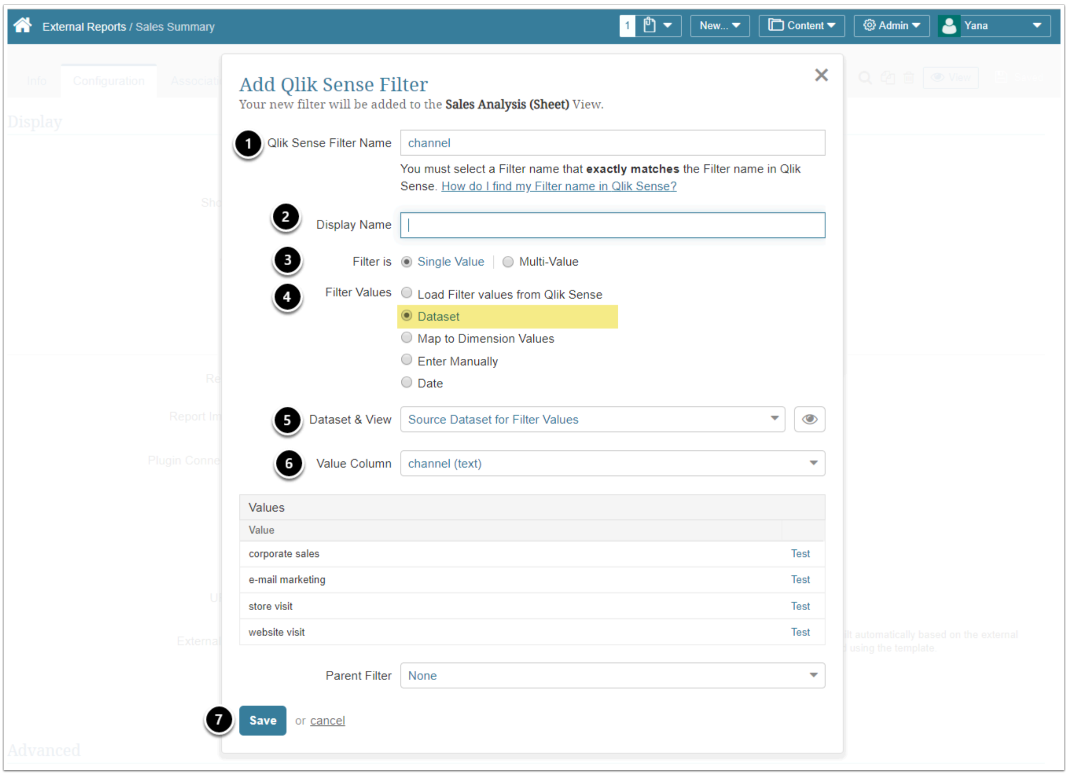


To automatically load a Filter:

1. Specify the Name of the Qlik Sense Filter that needs to be loaded
2. Optionally, specify a **Display Name** to override the original Name of a Qlik Sense Filter
3. Select the Type of Filter:
   - **Single Value** allows choosing one Filter Value in Viewer
   - **Multi-Value** allows choosing several Filter Values simultaneously and showing visualizations for the selected Values
4. Optionally, restrict certain Filter Values to specific Users with the **"Constrain via User Map"** setting
5. **Save** your entries

2.3. Load Filter Values from a Dataset

Loading Filter Values from a Dataset involves using a selected Dataset column as a source of Filter Values and mapping it to a specified Qlik Sense Filter Name.



To use a Dataset as a source of Filter Values:

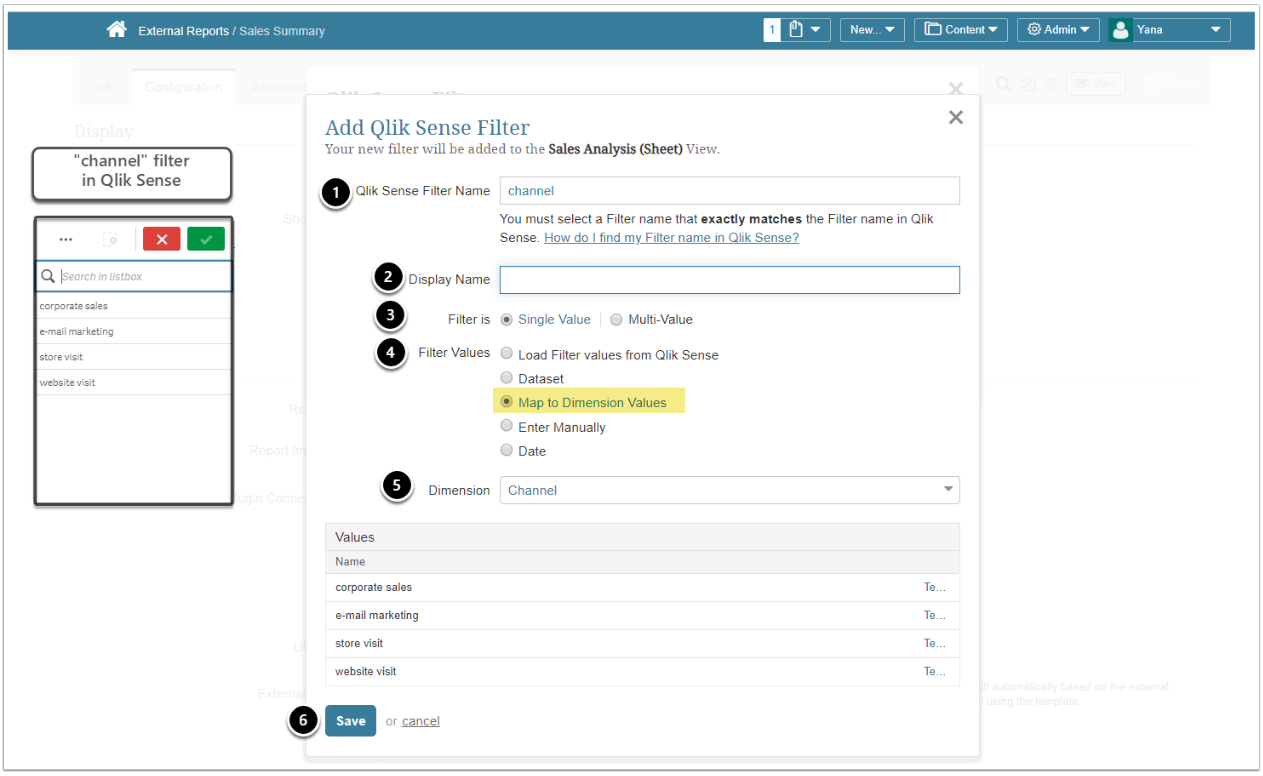
1. Input the [Name of the Qlik Sense Filter](#) *(exactly as it is spelled in Qlik Sense)*
2. Optionally, specify a **Display Name** to override the original Name of a Qlik Sense Filter
3. Select the Type of Filter:
    1. **Single Value** allows choosing one Filter Value in Viewer
    2. **Multi-Value** allows choosing several Filter Values simultaneously and showing visualizations for the selected Values
4. Choose **Dataset** as a source of Filter Values
5. Specify **Dataset & View** from which Values will be loaded
6. Select a Dataset **Column** that will be mapped to the specified Qlik Sense Filter
7. **Save** your entries

2.4. Map to Dimension Values in Metric Insights

Qlik Sense Filters can also be mapped to Dimensions in Metric Insights.

PREREQUISITES:

- [A Dimension must be configured in Metric Insights](#)

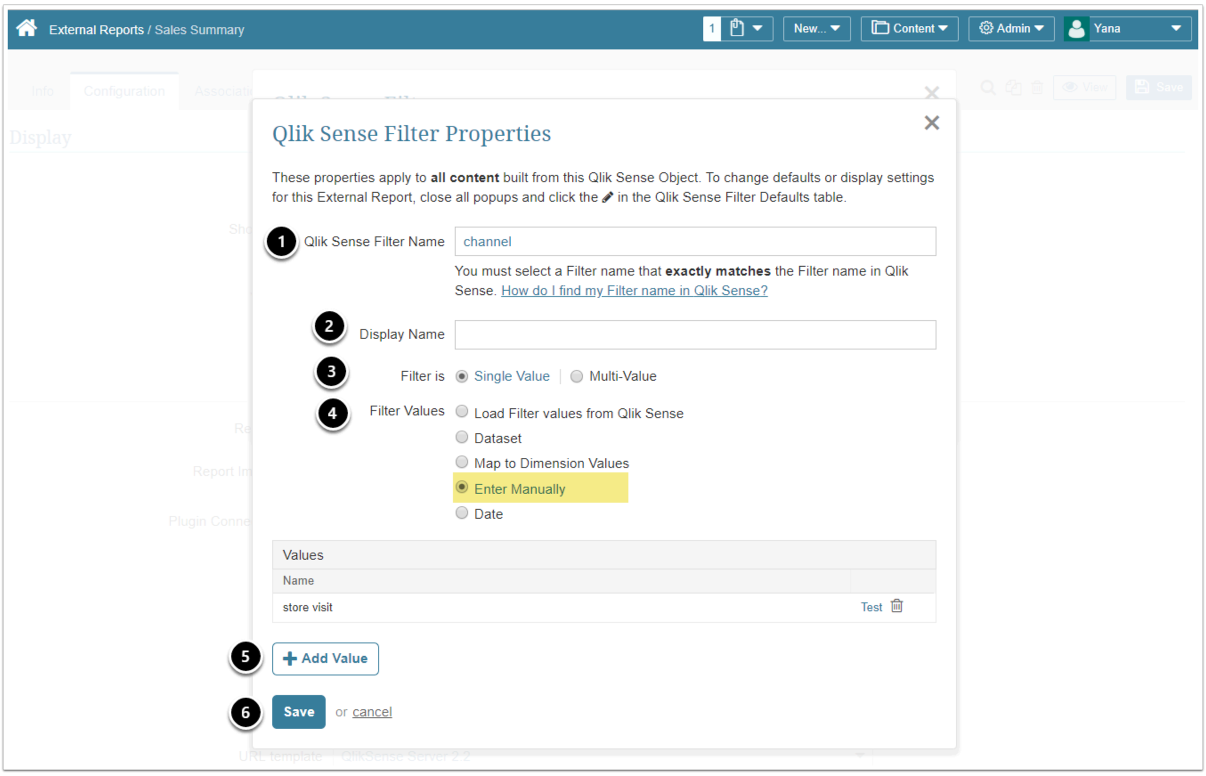


To map a Qlik Sense Filter to a preconfigured Metric Insights' Dimension:

1. Input the [Name of the Qlik Sense Filter] *(exactly as it is spelled in Qlik Sense)*
2. Optionally, specify a **Display Name** to override the original Name of a Qlik Sense Filter
3. Select the Type of Filter:
   - **Single Value** allows choosing one Filter Value in Viewer
   - **Multi-Value** allows choosing several Filter Values simultaneously and showing visualizations for the selected Values
4. **Filter Values:** choose "Map to Dimension Values"
5. Select a **Dimension** whose Values will automatically be loaded to the Values list
6. **Save** your entries

2.5. Enter Filter Values Manually

Using the manual setting, Users have full control over which Filters and Filter Values are added to an Object/Element in Metric Insights.

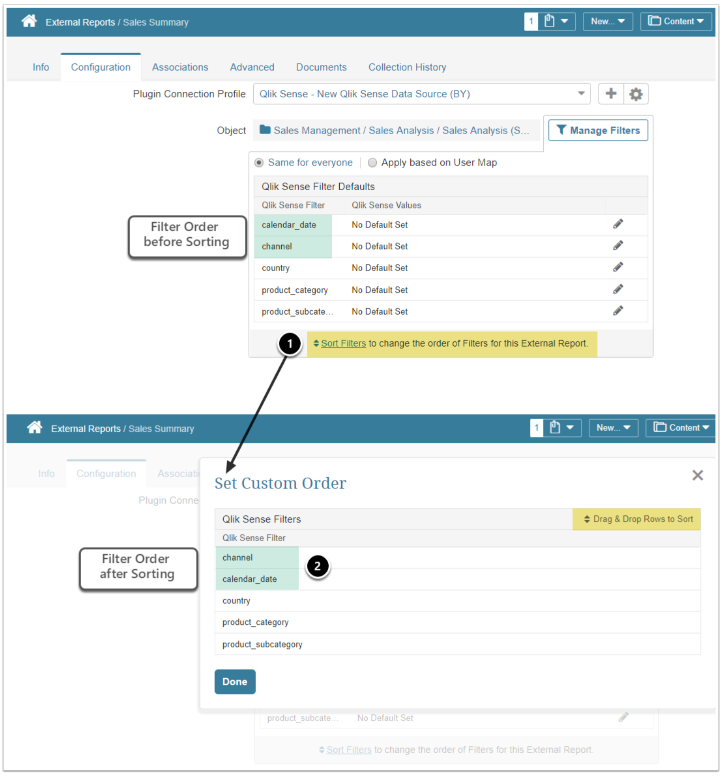


To enter Filter Values manually:

1. Input the [Name of the Qlik Sense Filter](#) *(exactly as it is spelled in Qlik Sense)*
2. **Display Name** will allow you to override the original Filter name; this Name will be used in Metric Insights
3. Select the Type of Filter:
   - **Single Value** setting will allow you to choose only one Filter Value in Viewer
   - **Multi-Value** setting enables the display of data in the External Report Viewer for several Filter Values at once
4. **Filter Values:** choose "Enter Manually"
5. Click **[+Add Value]** to add Values by hand
6. **Save** your entries

3. Customize the Filter Order with Sorting

You can specify the order in which the Filters will be displayed in External Report Viewer.

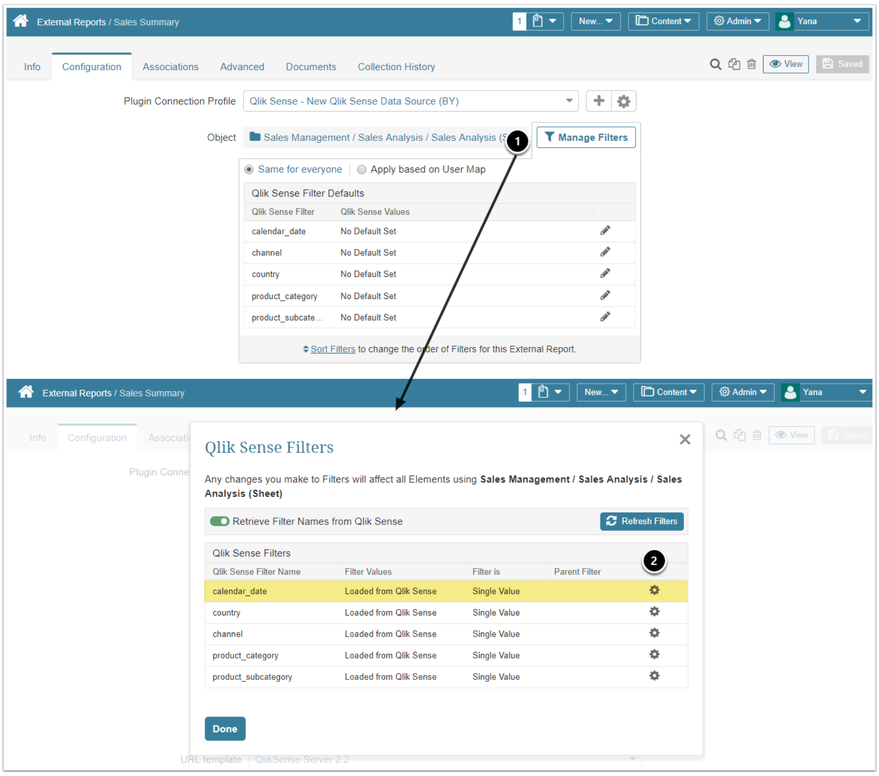


To set custom order in which the Filters will be displayed in Viewer:

1. Click **[Sort Filters]**
2. **Drag & Drop** rows to sort

4. Edit Filter Properties

Having added the Filters, Users can make custom changes to their settings.



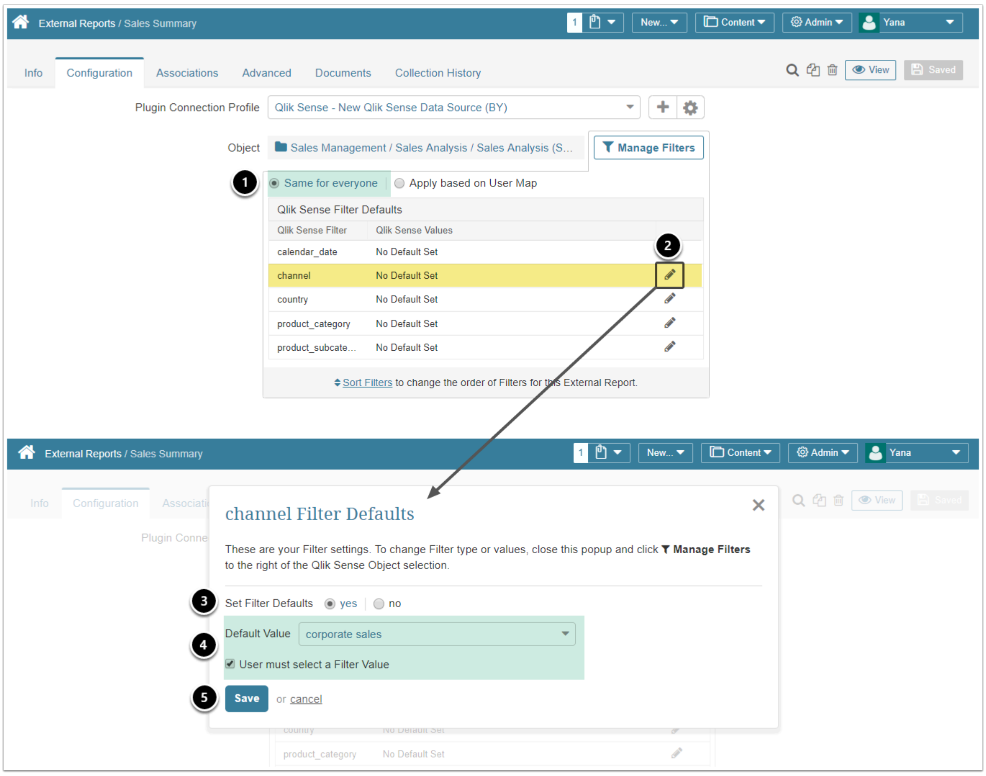
To edit a Filter:

1. Click **[Manage Filters]**
2. Choose the Filter that needs changing and click the **Edit (Gear)** icon

5. Set Filter Defaults

While configuring Filters, it is possible to apply default settings that are the same of everyone, or customize them with a User Map.

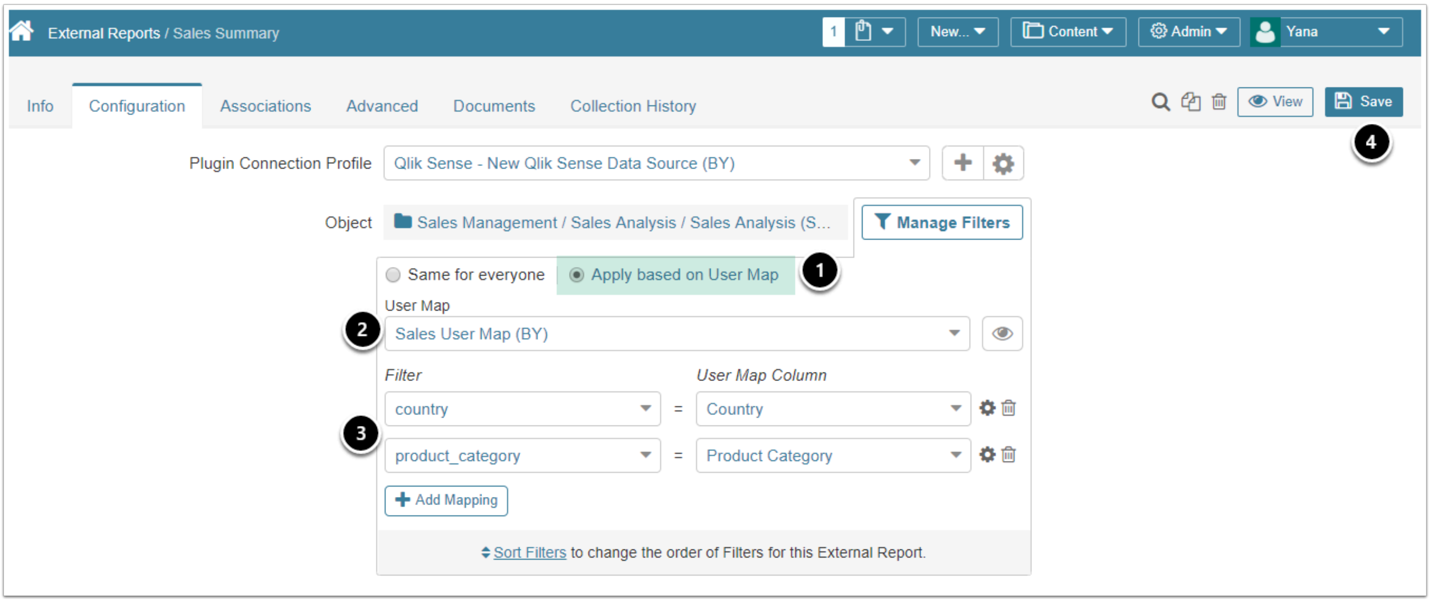
5.1. Configuring shared Defaults



To set shared Defaults:

1. Select **"Same for everyone"**
2. Click the Filter **Edit** (Pencil) icon
3. In the pop-up, **Set Filter Defaults** to "yes"
4. Specify the required **defaults**
5. **Save** your entries

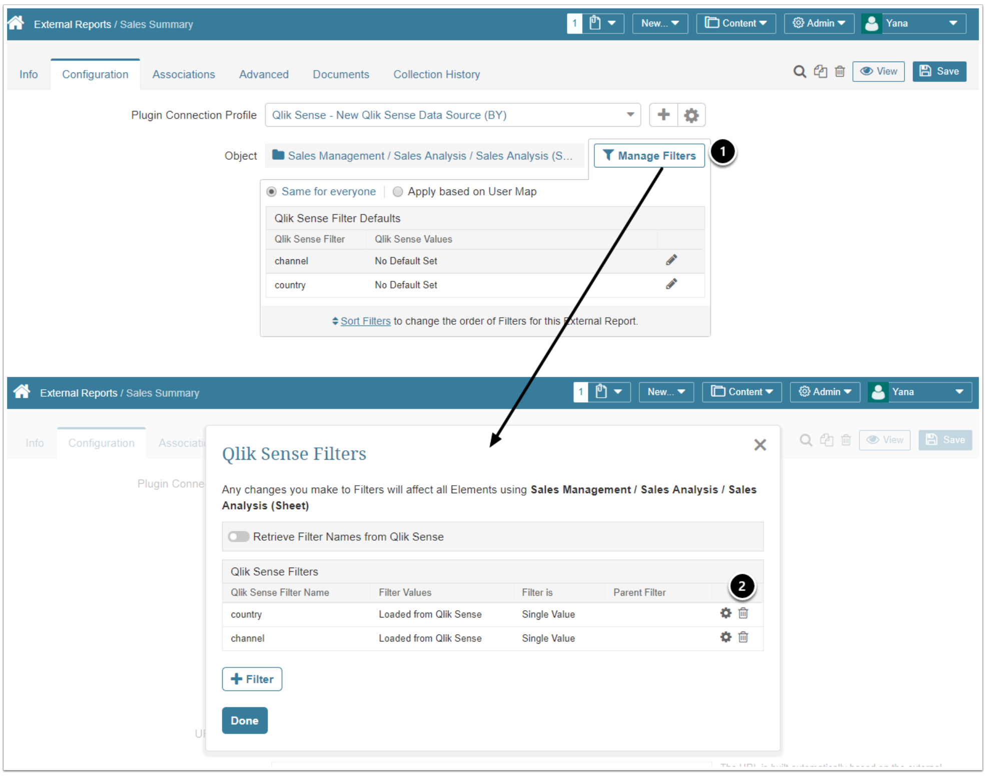
5.2. Personalizing Defaults



To set custom Defaults:

1. Select **"Apply based on User Map"**
2. Select a **preconfigured User Map**
3. Map **Filters** to **User Map Columns**
4. **Save**

6. Delete Filters



To delete some of the added Filters:

1. Click **[Manage Filters]** next to the name of a Qlik Sense Object
2. In the pop-up window, use the **Trashbin** icon in the respective row

What's next?

Setting Personal Bookmarks

1.9 Pre-filtering Qlik Sense data (prior to 5.6.0)

When sourcing data for Metrics, Reports, External Reports, Dimensions and Datasets from the Qlik Sense objects, you can pre-filter data before collecting it to Metric Insights. This functionality allows focusing on the exact slice of data that is required for analysis and exclude the data that is irrelevant for you and your research.

PREREQUISITES:

Establish Connectivity to Qlik Sense

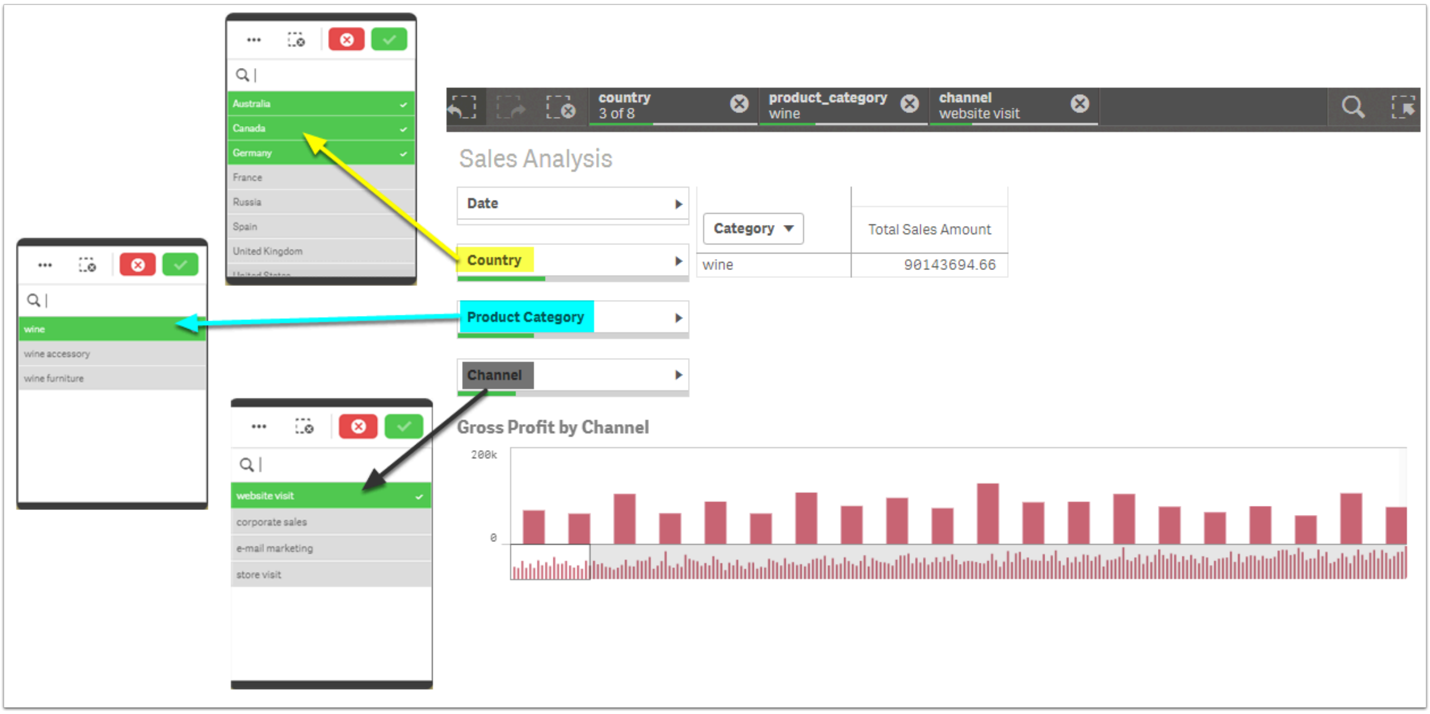
Use Case: Sample of a Qlik Sense Dashboard (click to open)

Most of the data displayed on the Qlik Sense Objects can be filtered by the offered criteria.

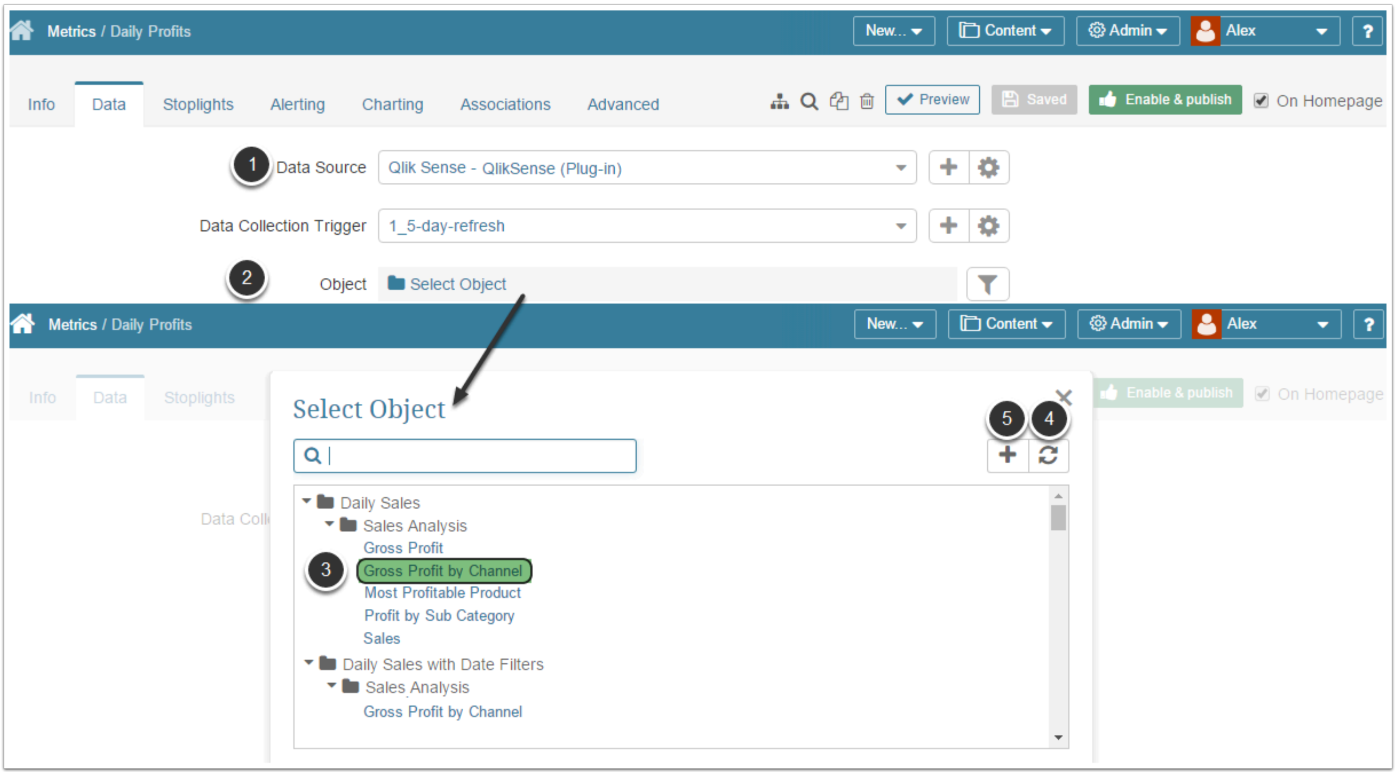
On the example below, the "Gross Profit by Channel" chart has been refined by values in 3 filters:

- **Country**: to Australia, Canada and Germany only
- **Product Category**: to wine
- **Channel**: to website visit only

If there is no need to fetch data for other filter values (other countries or channels), you can pre-filter Qlik Sense data before collecting it to Metric Insights.



1. Define a Source element (Object) for Data Collection in Metric Insights



Start off by creating an element. Once you get to the process of Data Collection, define the following:

1. **Data Source:** This is an entity that connects Qlik Sense and Metric Insights. For more information, see: Establish Connectivity to Qlik Sense
2. **Object**: Click **Select Object** to open the pop-up with the list of available Reports.
3. Items in the Object list have 3 level hierarchy (representing the path to a respective object in Qlik Sense). In our example the Chart we need is located at: *Daily Sales* application > *Sales Analys* sheet > *Gross Profit by Channel* is a name of a Chart itself.
4. If you do not see the required item, try refreshing the list by clicking the **Refresh** icon at the upper right corner of the pop-up.
5. Alternatively, rather than choosing an Object from the list in the pop-up, you can manually add the Object reference as follows:

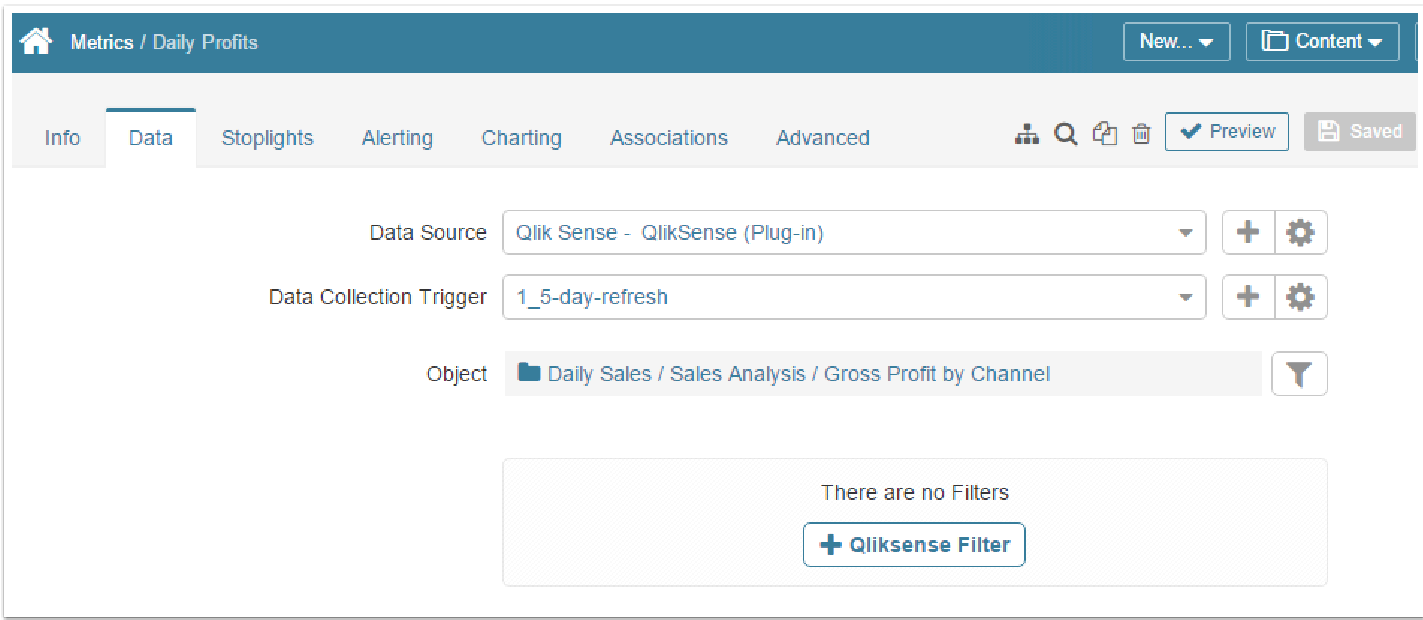
```
[Application name]&sheet=[Sheet name]&object=[Object name]
```

2. Adding Qlik Sense Filters to Metric Insights

Once filters are added to a Metric / Report or External Report for the first time, they are going to be automatically added to all new respective elements with the same Data Source / Sheet.

NOTE:

- External filters are tied to Qlik Sense Sheets, not Metric Insights' elements. This allows Filters to be reused for multiple elements (there is no need to create new Filters every time an element is created in Metric Insights).
- If there are more External Filters or Filter Values that you would like to use for the current element, you can always set the redundant ones to "ignore".

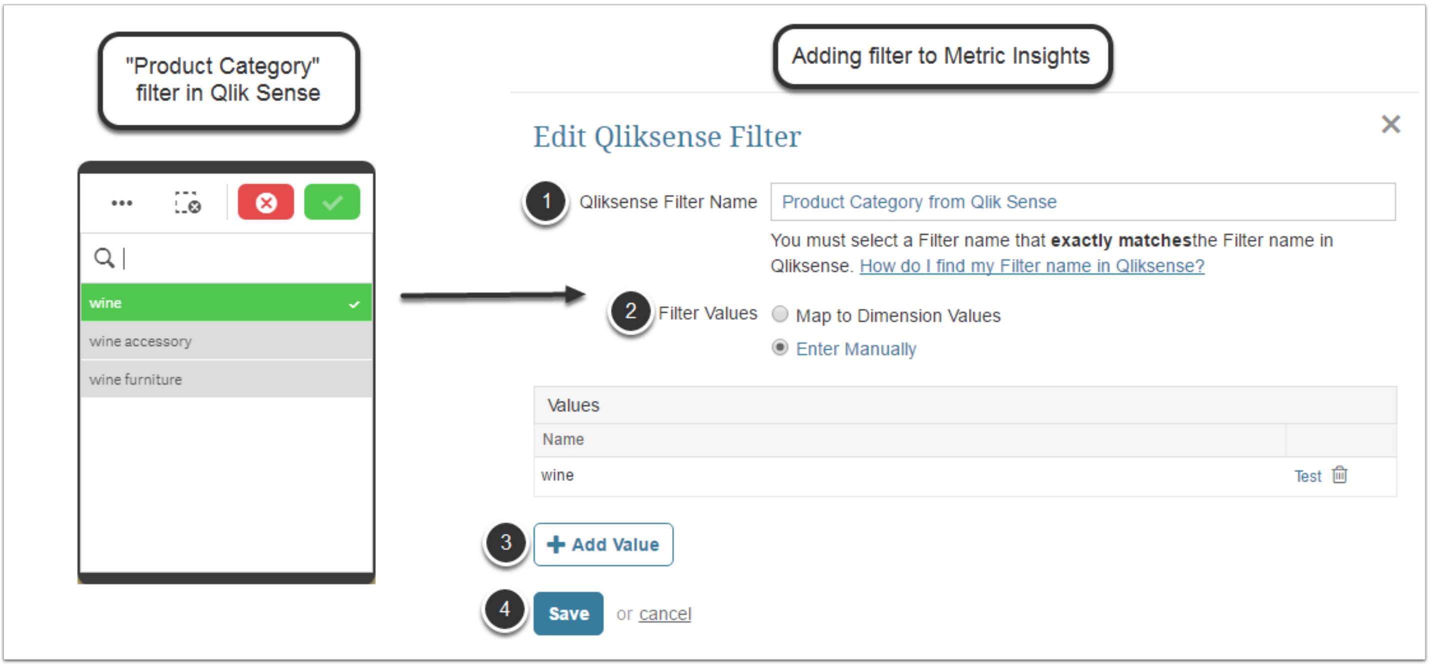


When creating a Metric / Report / External Report fetched from Qlik Sense, after you define the **Object** that should serve as a Data Source, you may pre-filter information that is going to be fetched.

To do that, click **[+ Qliksense Filter]**. Next, you can choose whether you are going to define filters manually or via the existing Dimension Values. For instructions on creating a Dimension sourced from QlikView see:

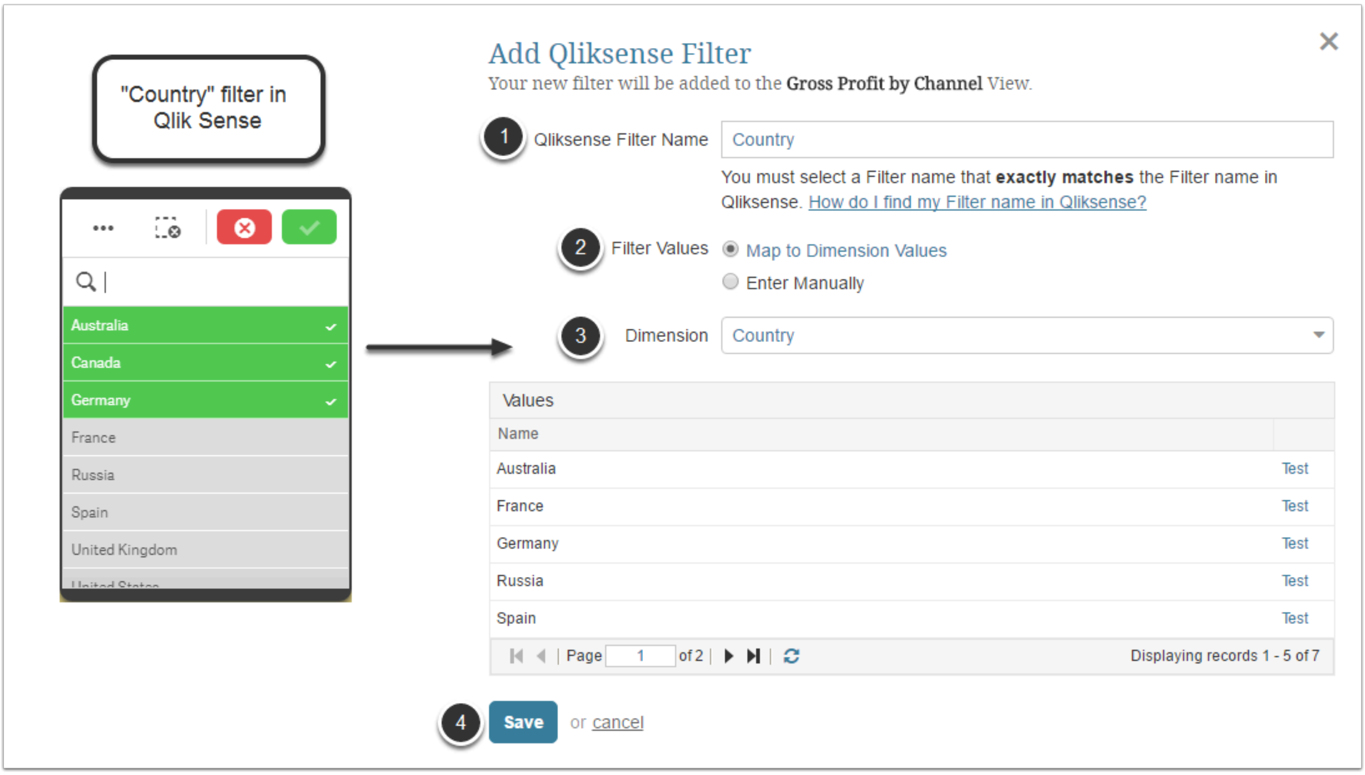
NOTE: Examples given below are taken from the Qlik Sense Object shown at the top of the page.

2.1. Enter Manually



1. **Qliksense Filter Name**: Define the name of the filter from Qlik Sense
2. **Filter Values:** choose 'Enter Manually'
3. Click **[+ Add Value]** and in the opened pop-up manually type in the name of the filter, for example, "wine". Be careful and make sure there are no typos or mistakes, otherwise the system will not be able to map this filter with Qlik Sense data. **Save** your entry. All added values should appear in the *Values* list.
4. **Save** your entries.

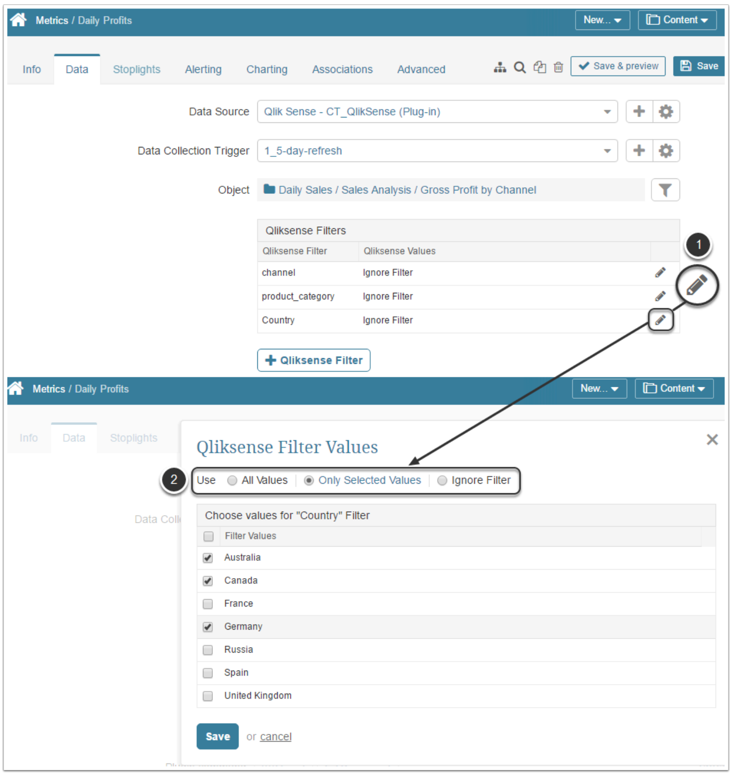
2.2. Using Dimension Values



If you have already used Qliksense filters to create Dimensions in Metric Insights, you can quickly choose which Dimension Values you want to use for pre-filtering:

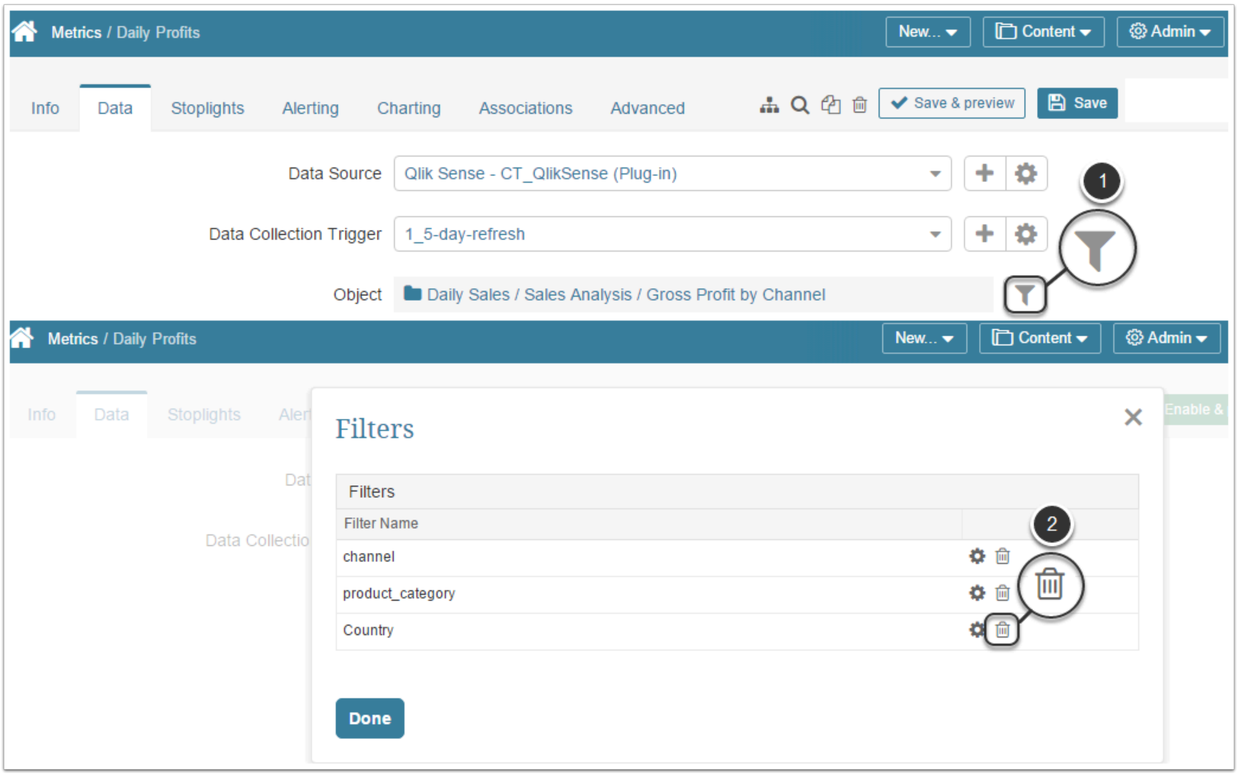
1. **Qliksense Filter Name**: Define the name of the filter from QlikView.
2. **Filter Values:** choose 'Map to Dimension Values'.
3. **Dimension:** select a corresponding Dimension from the drop-down list and all its Dimension Values are going to be loaded to the Values list automatically. For more details refer to: Create a Dimension with values fetched from Qlik Sense
4. **Save** your entries.

3. How do I add filters to a results set from Qlik Sense?



1. Click the **Pencil** icon in the filter row to set it up.
2. When the filter is added, you can use it for "All Values", "Only Selected Values" or ignore it.

4. Deleting Filters

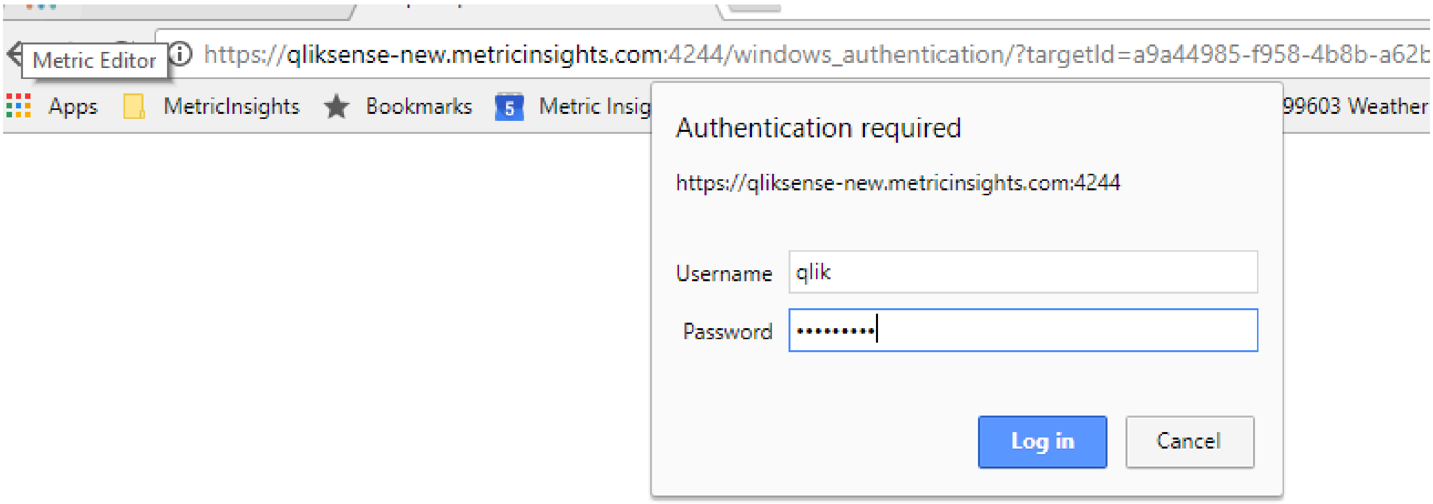


To delete some of the added filters: (1) click the **Filter** icon in the **Object** field and (2) choose the unnecessary filters. Click the **Trashbin** icon in the respective row.

1.10 How to find the correct Filter names in Qlik Sense?

Intro

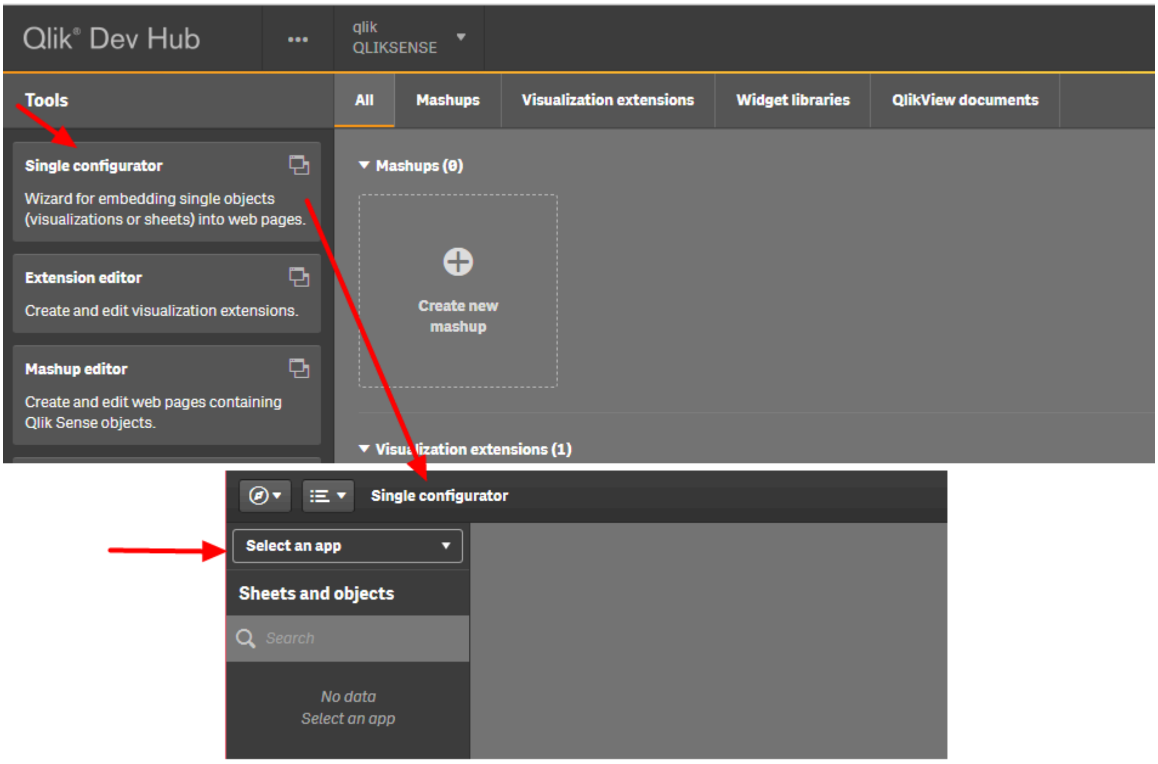
1. Log into your Qliksense instance



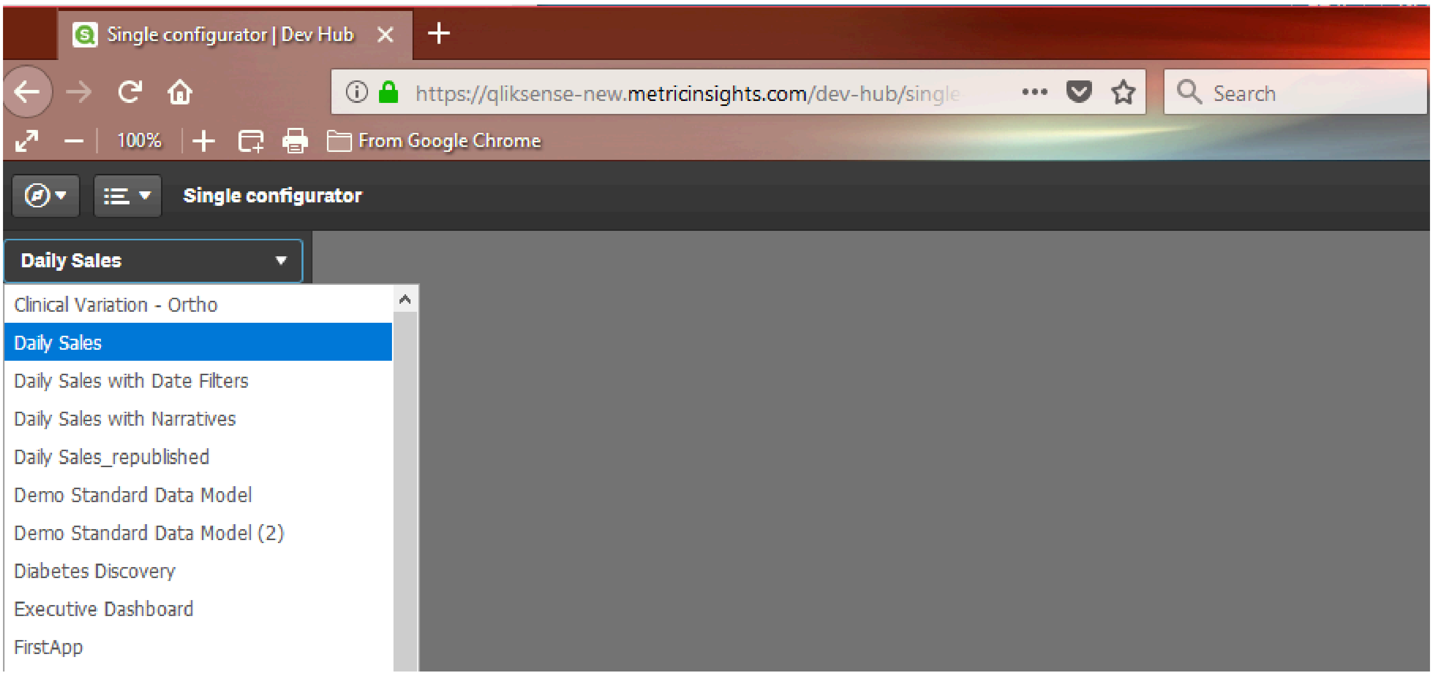
2. Append 'dev-hub' to the URL for your instance

ENTER to display the Development Hub application for your instance

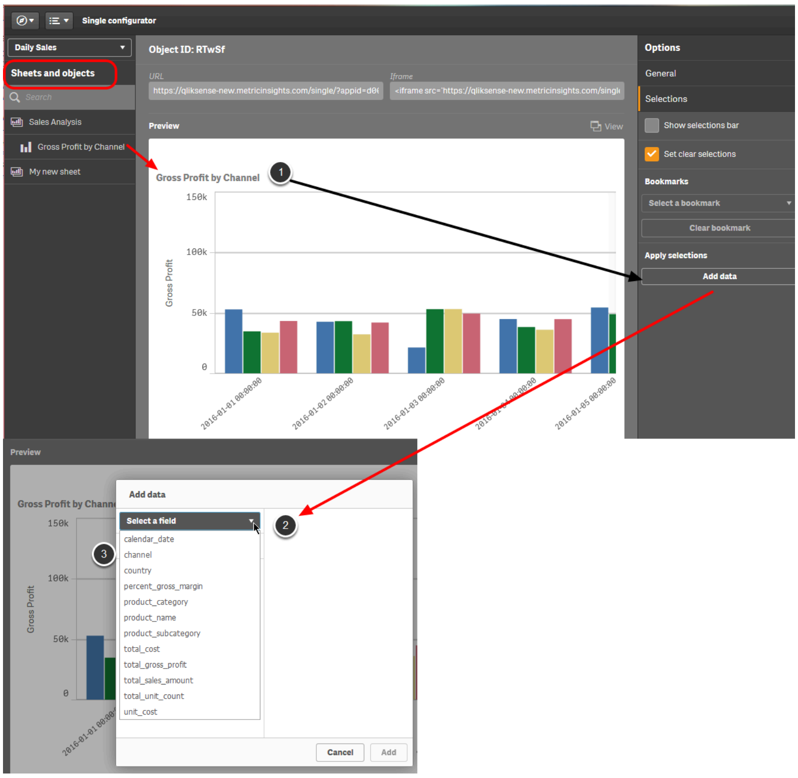
3. Under Tools, select 'Single configurator'



4. Select your application from the drop-down on next screen

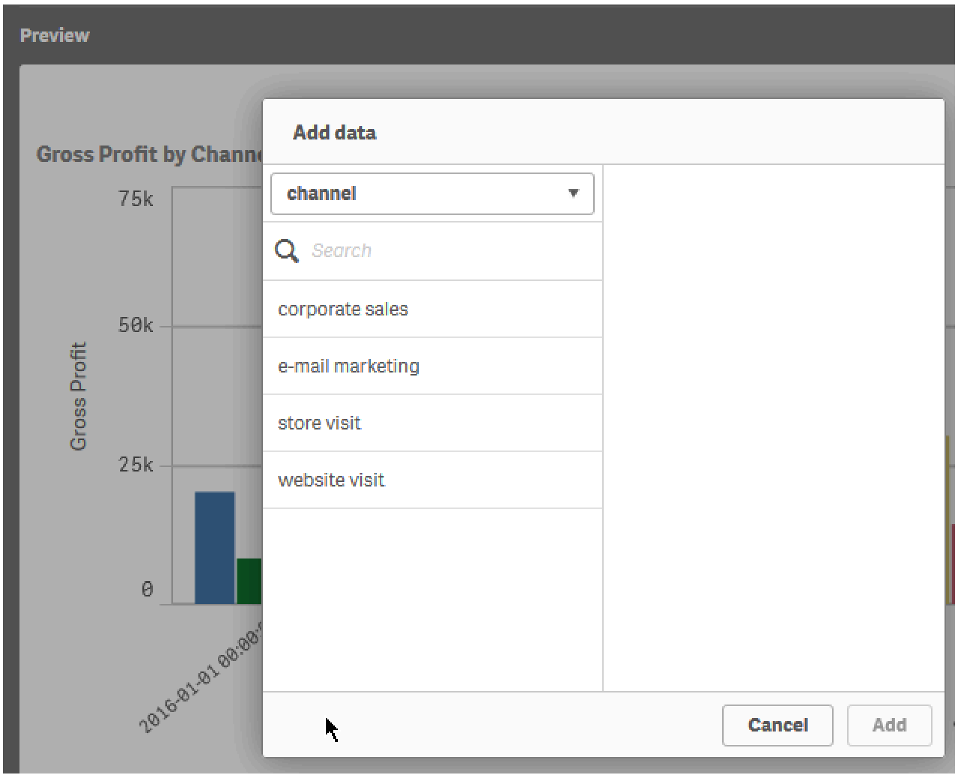


Select your sheet or object

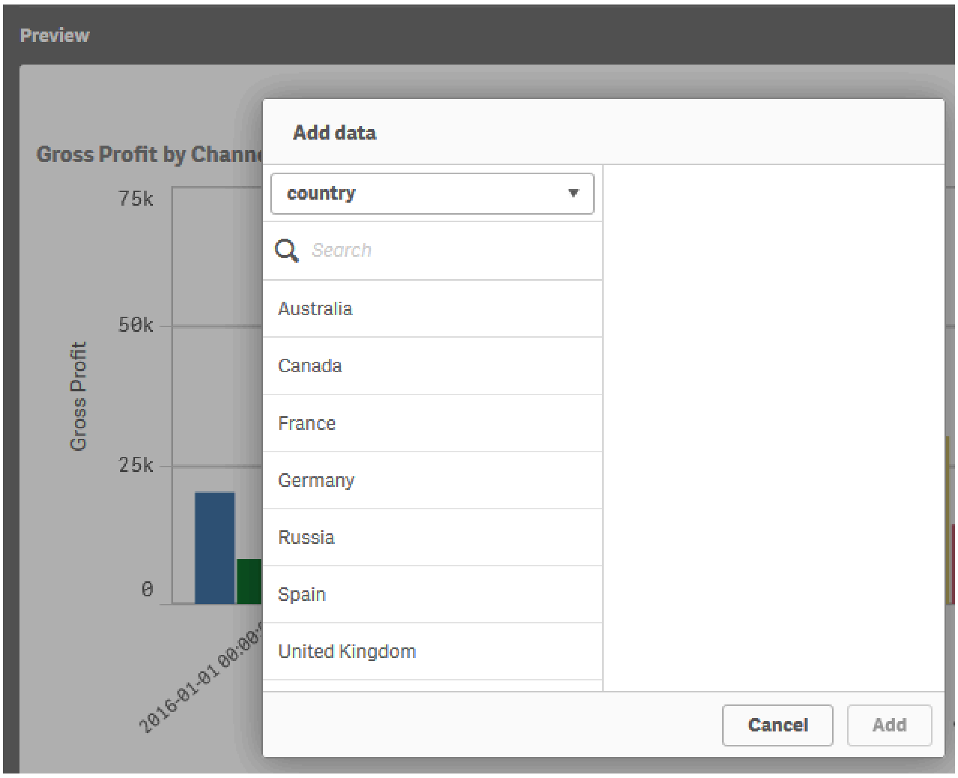


1. On the right panel, you open the drop-down ***Add data*** in the th**e Apply selection** section
2. Open the **Select a field** drop-down
3. For this example, we selected **Channel**

5. All of the values for this Filter are be displayed



6. Repeat to view all Filters you will be using



1.11 Add Qlik Sense Visualization to a regular Report

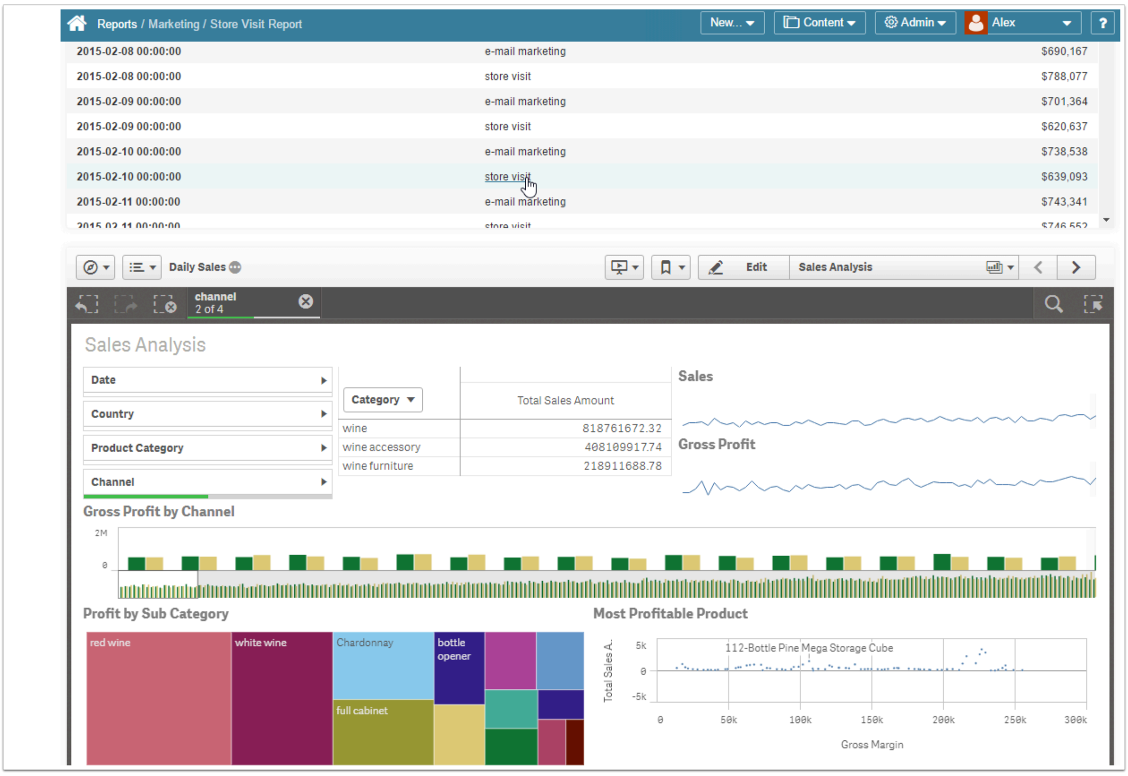
This feature allows combining internal Report and External Visualization in ONE Viewer regardless of their Data Source. For example, the internal report may be sourced from SQL or some BI tool and Visualization is going to be sourced from Qlik Sense.

PREREQUISITES:

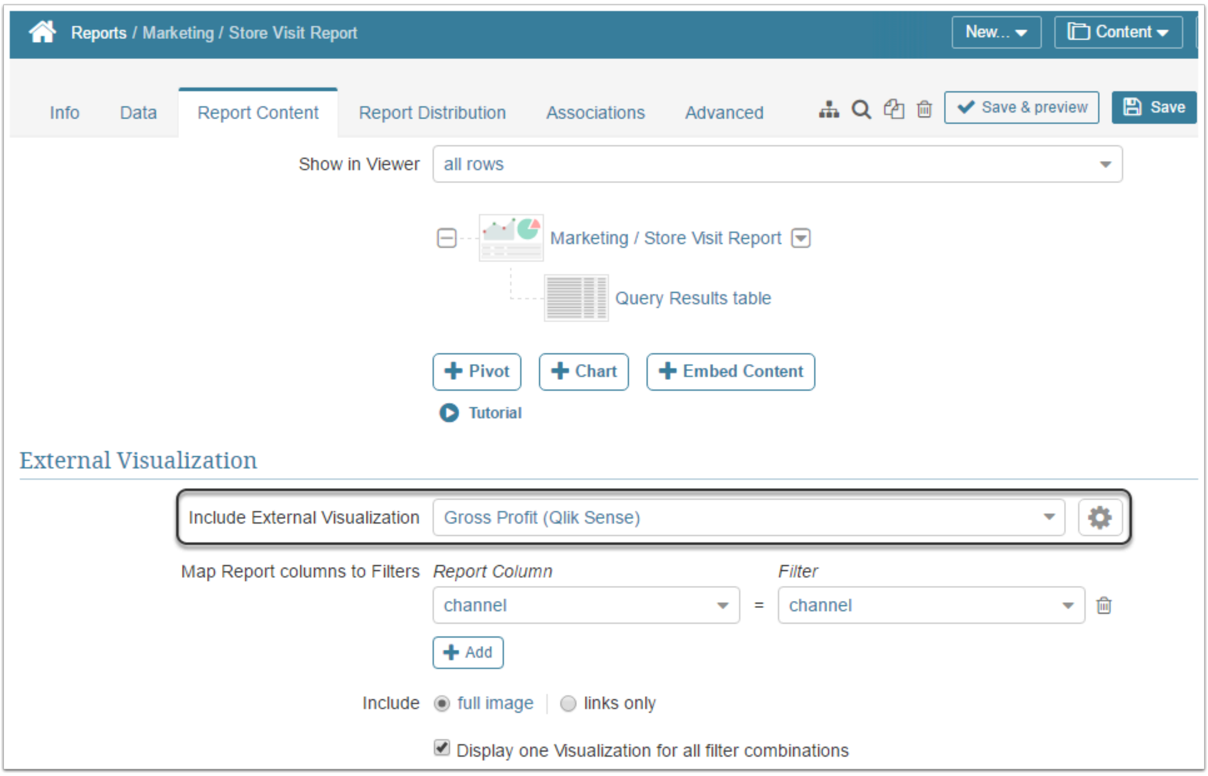
1. Create an External report from Qlik Sense
2. Apply filters to the external Report sourced from Qlik Sense
3. Create a Regular Report that is going to serve as a basis for embedding Visualization

Adding Visualization to a Report has been greatly simplified by the use of Dataset Reporting. For more information, see Dataset Reports Overview. The example below applies to Versions prior to v5.3.

EXAMPLE USE CASE (click to open)

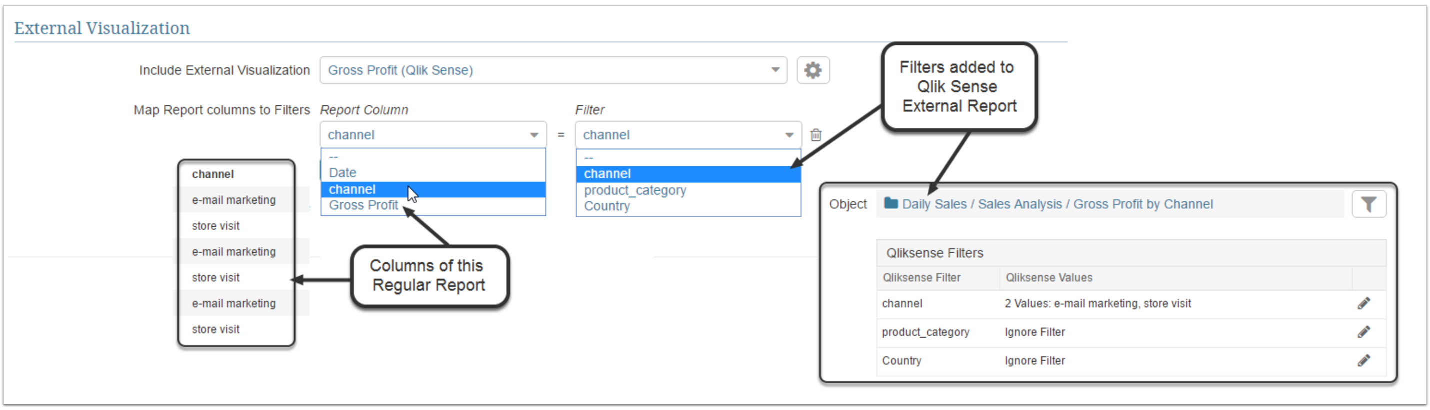


1. Access Report Editor > Report Content tab



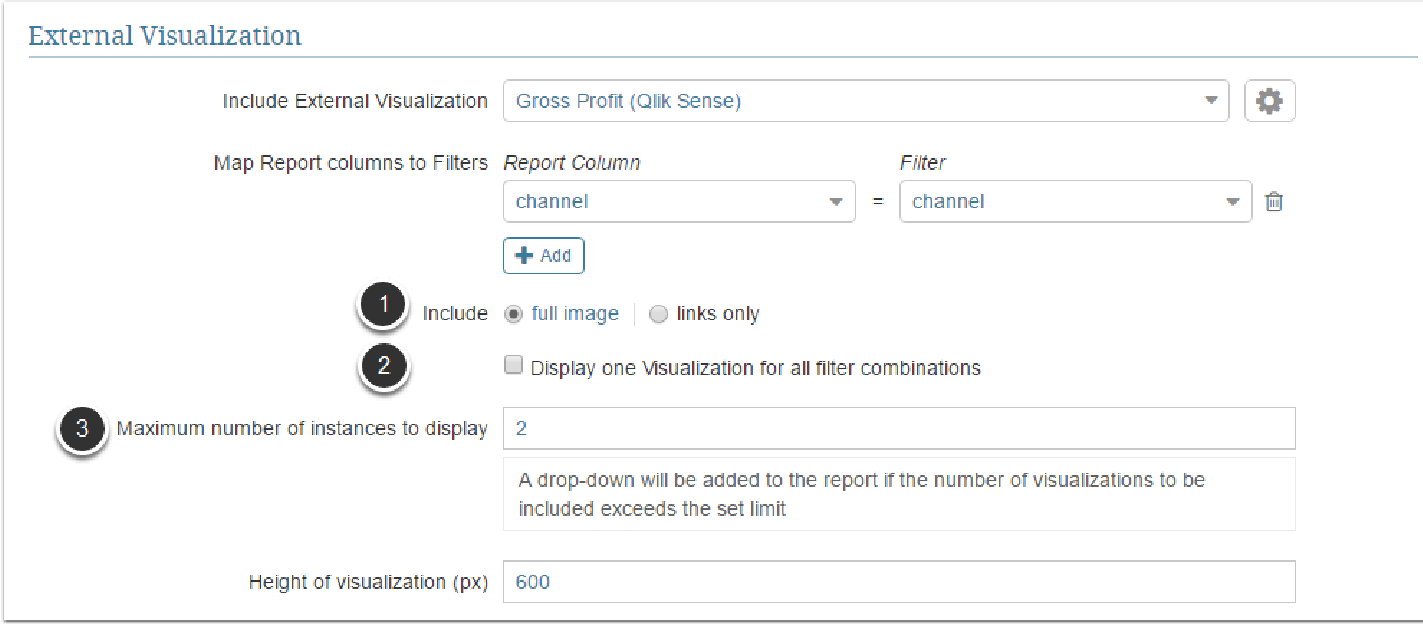
1. Open an existing regular Report or create a new one as described in this article: [Create a Simple (Undimensioned) Report]()
2. Find the **External Visualization** section; the **Include External Visualization** field is set to 'None' by default. Select the external Report that you have created as a Prerequisite to including Visualization to the Report. This page is dynamic, so additional fields are going to be shown after you select an External Report from the drop-down list.

2. Map Report Columns to Qlik Sense filters applied to the External Report



To learn how to add Qlik Sense filters to Metric Insights, refer to: [Pre-filtering Qlik Sense data]

3. Define Visualization settings



1. **Include**:
   - 'full image'**:** If this setting is selected, the Tableau visualization is going to be embedded below the Report table and Charts (if any). **NOTE:** Qlik Sense credentials are required to see the embedded Visualization.
   - 'links only'**:** values in the internal report become clickable and link to the External report source page (in this example to the Qlik Sense site)
2. *Is applicable if 'full image' is chosen in the field above.* **Display one Visualization for all filter combinations**:
   - **checked**: If this box is checked, values of the internal Report Table are going to be clickable and by clicking on them a user will be redirect to the Qlik Sense Visualization embedded at the bottom of the same Viewer.
   - **clear**: if the data in the internal report matches data in the Qlik Sense Visualization, each matching value is going to have its own Visualization. For example, if there are 2 Values in the internal report matching values in Qlik Sense, there are going to be 2 Visualizations.
3. *Is applicable if multiple Visualizations are enabled.* Maximum number of instances to display: You can limit the number of Visualizations shown on the page at once. If the number of values from the internal Report matching values from Tableau Visualization is less or equal (<=) to the number defined in this field, all of them are going to be shown in the Viewer one after another; if the number of matching Values exceeds the number defined in this field, Visualizations are going to be shown in the drop-down list, but will function in the same way.

4. Enable and Publish

1.12 Content Auto Synchronization

As of Version 6.2, Metric Insights includes the ability to Auto Synchronize content with BI tools. This functionality automates creation of External Reports from the BI tool objects and simplifies the process of updating existing External Reports.

This article describes how to:

- Enable Auto Synchronization
- View Created External Reports

Prerequisites:

- Created Data Source
- Created Category
- Created External Report Template

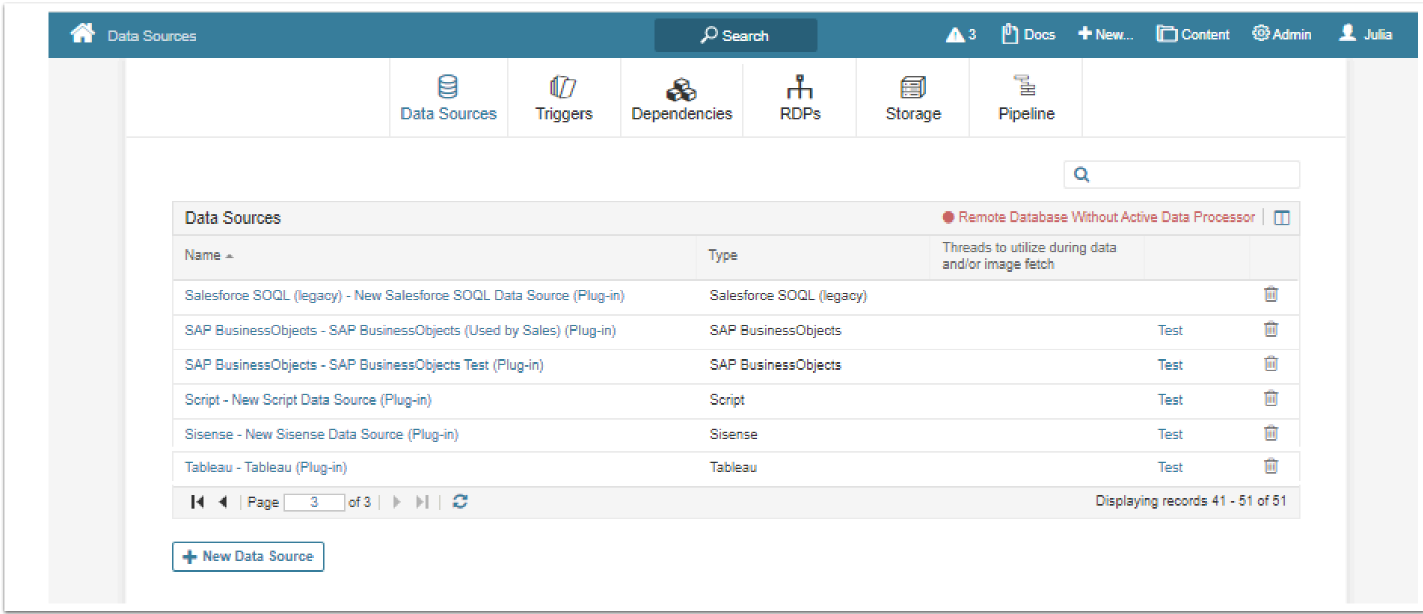
As of Version 6.2.1, the following Plugins are supported for Auto Sync:

- Cognos
- MicroStrategy
- Power BI
- Qlik Sense
- QlikView
- SAP Business Objects
- Tableau
- Tibco Spotfire

The example below show how to use Auto Sync with Tableau, but all the plugins will follow the same steps.

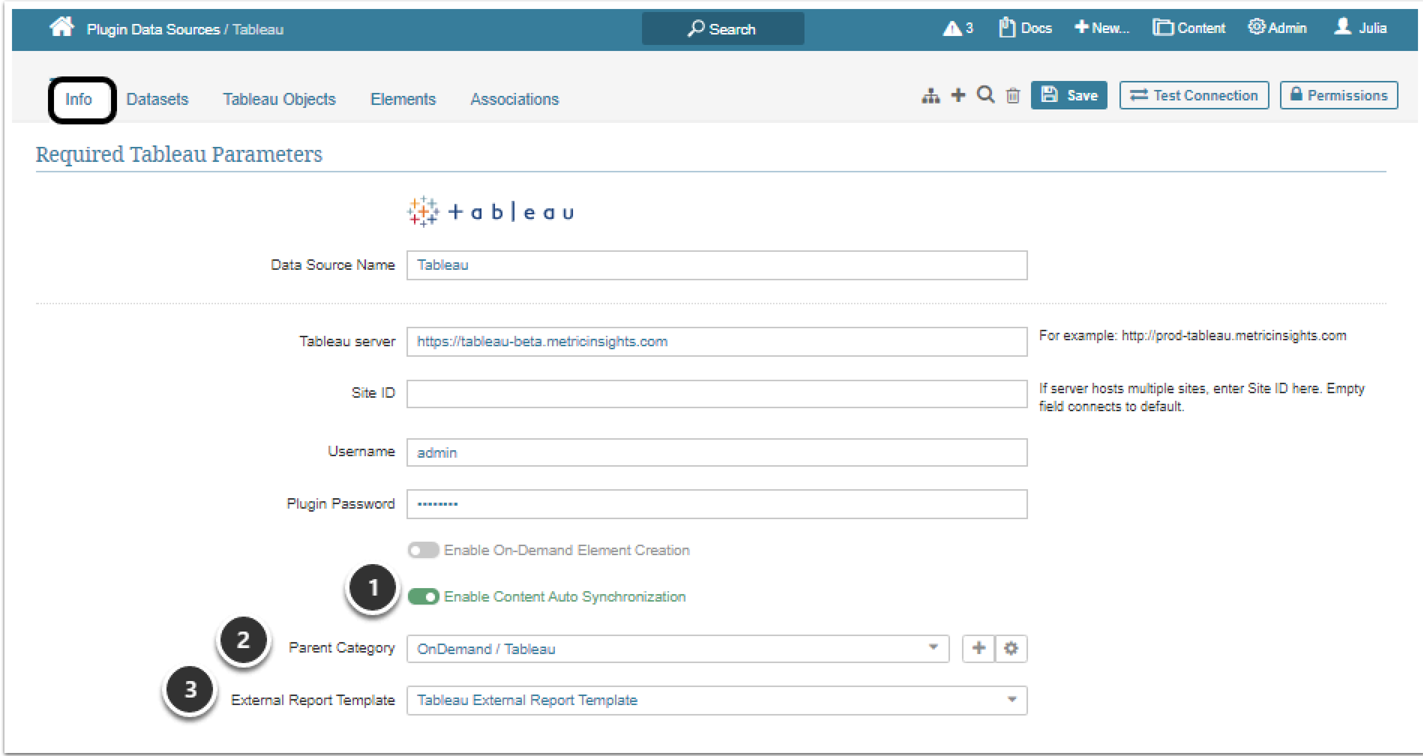
Enable Auto Synchronization

1. [Admin] > [Collection & Storage] > [Data Source]



In Data Sources, select a Plugin to access its editor.

2. Assign Category and External Report Template



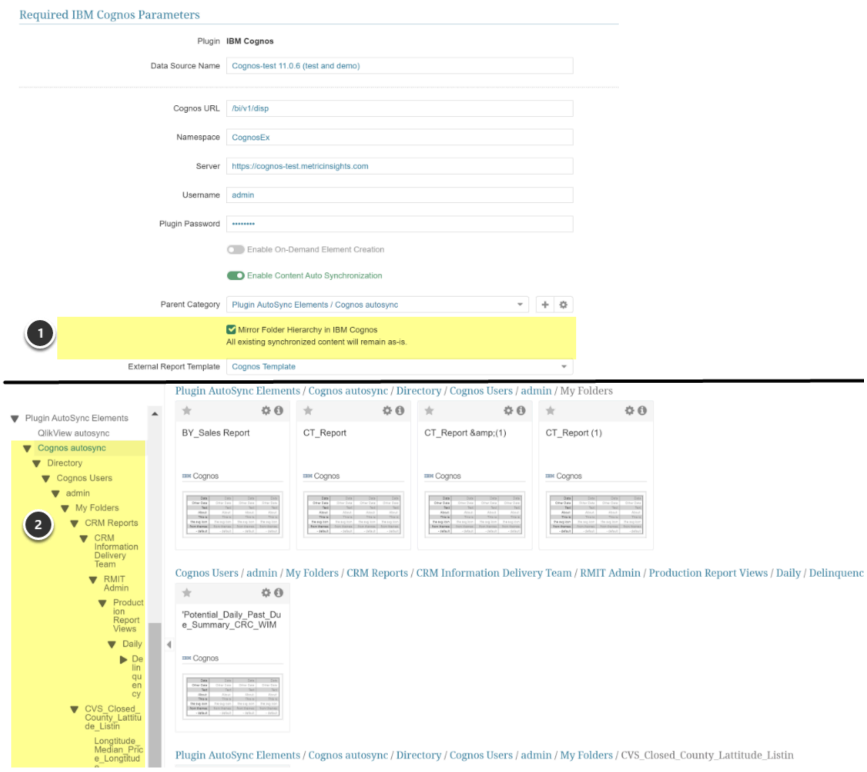
To create External Reports from the BI tool system:

1. Choose "Enable Content Synchronization" to display the next two buttons
2. Select the Category where External Reports are synced
3. Select an "External Report Template"

[Save]

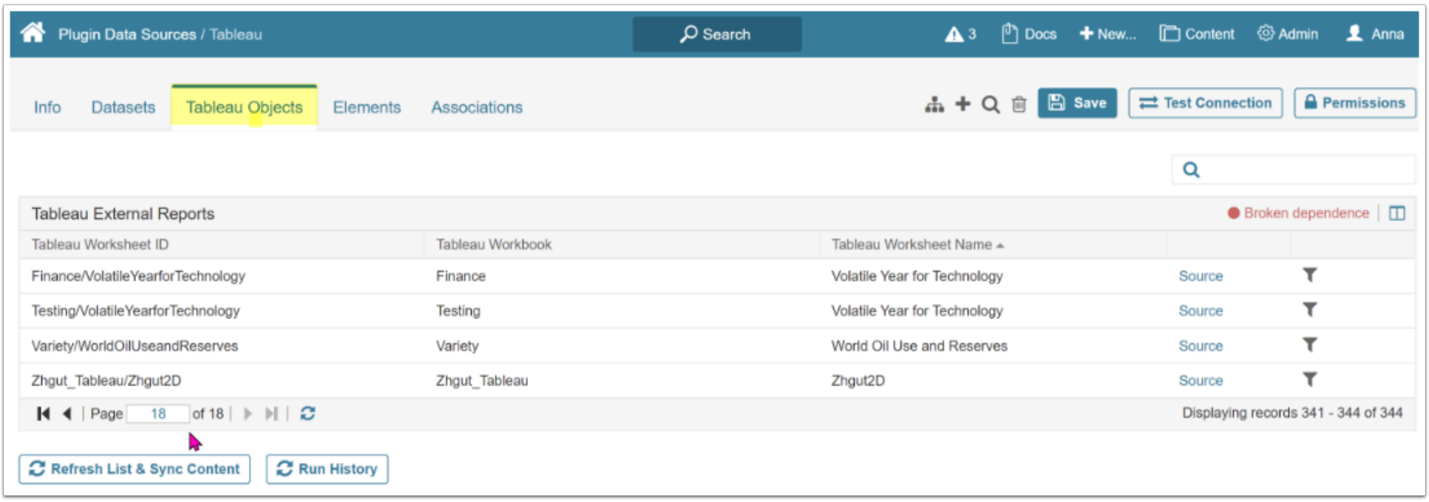
2.1. Mirror hierarchy option

(Release 6.2.1) This function is only implemented for Cognos and MicroStrategy



1. Checking the [**Mirror Folder Hierarchy**] on will automatically create subcategories to mirror the structure in your BI tool
2. Example of Cognos categories hierarchy in Metric Insights

3. Synchronize Content

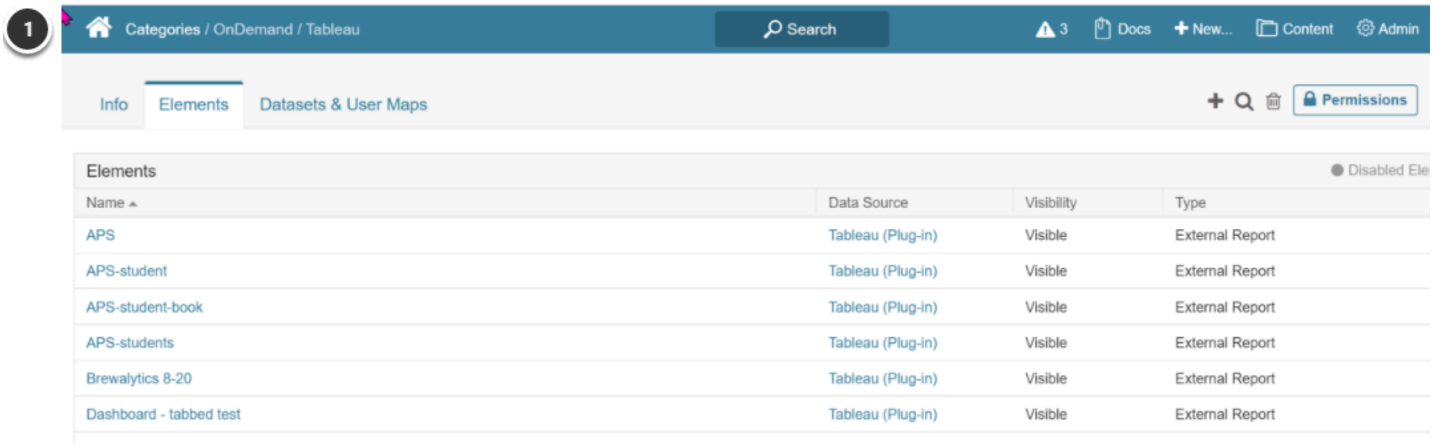


In [Plugin Data Source] Objects tab:

- [Refresh List & Sync Content] updates the Tableau Objects list and creates new External Reports placing them into the Category selected in Step 2
- [Run History] provides data on all previous sync runs

⚠ Each new automatically created External Report is named after the object of its origin.

View Synced External Reports



Once synchronization completes:

1. Synced External Reports are available in their assigned Category: Go to [Content] > [Categories]