Write-back & Planning for Power BI. Period

Power ON Visual - Table Editor v2.8

Documentation and Troubleshooting Guide

Contents

Introduction

What

This document describes the Power ON **write-back** capable tool, **Visual Table Editor (VTE)**. The product is a custom visual developed for Microsoft Power BI, that enhances the user experience by enabling end-users to make permanent changes on data – aka write-back – enriching it with text input controls (like how you can see on modern Html pages, e.g.: date pickers, dropdowns, rich text) as well besides the traditional look and see feeling.

Here you will find a detailed overview of Table Editor. You will learn

- how to use it in your reports together with some common use-case implementations,
- how to configure it properly,
- what the pitfalls are you might encounter and how to overcome them.

For who

This document is intended both for technicians (developers, DBAs, BI professionals) who are aware of the depths of SQL Server, SSAS Tabular models, Azure Services and Power BI, but also users who mostly focus on building and preparing reports using Power BI Desktop.

Contact us

If anything is unclear or you wish to chat with one of our technical resources, please submit a ticket:
https://support.poweronbi.com

Overview

VTE let users edit any type of **row-level** information in Power BI. Most typical use case is managing dimension type data (like customers, products, etc.) – adding or removing records, editing existing members, changing attributes – as well as performing simple **data entry workloads**, or adding comments to existing fact table records. One can consider this visual as a replacement for an existing, simple form-like application, designed for master data or dimension **data management**.

VTE offers the following built-in features and components:

- Writing back values to the underlying data source
- Date Time picker for DATETIME data type columns
- Check Box control for BIT data type columns
- Dropdown list (called Selection) control for replacing key with values. For instance, instead of showing the Customer ID you can select the Customer Name, meanwhile saving the *key* back to the underlying table
- Search box that acts like an auto complete field for the most used values
- Multi line text box
- Supports copy and paste selected cells to / from VTE
- Paging, sorting
- Conditional formatting for numeric type columns
- Rich Text display for Text Area type columns
- and many more.

It is worth describing at a high level **how write-back works** for Tabular Models. Depending on your data source (SSAS In-Memory, SSAS Direct Query, or SQL only) Power ON write-back service performs the following operations:

- Captures the modified value and the user context, determines what T-SQL statements should be executed based on the change and the structure of the model
- Executes the compiled T-SQL statement against the underlying data source to save the modifications
- In case of SSAS in-memory models it will reprocess the table. (You will find suggestions on how to improve performance later in this document.)
- Initiates a refresh on the visual so, that the changes will appear in the report.

Support

Check out **Power ON Knowledge Base** articles at: https://support.poweronbi.com under Visual Planner for common use cases, tips, troubleshooting tools.

Please note, that in order to access the articles, you need to **register** on the site. It is advised, as you will be able **to submit tickets** if you encounter any difficulties or issues, so that our support team can give you the best service. You can also **email** us at: vizsupport@poweronbi.com

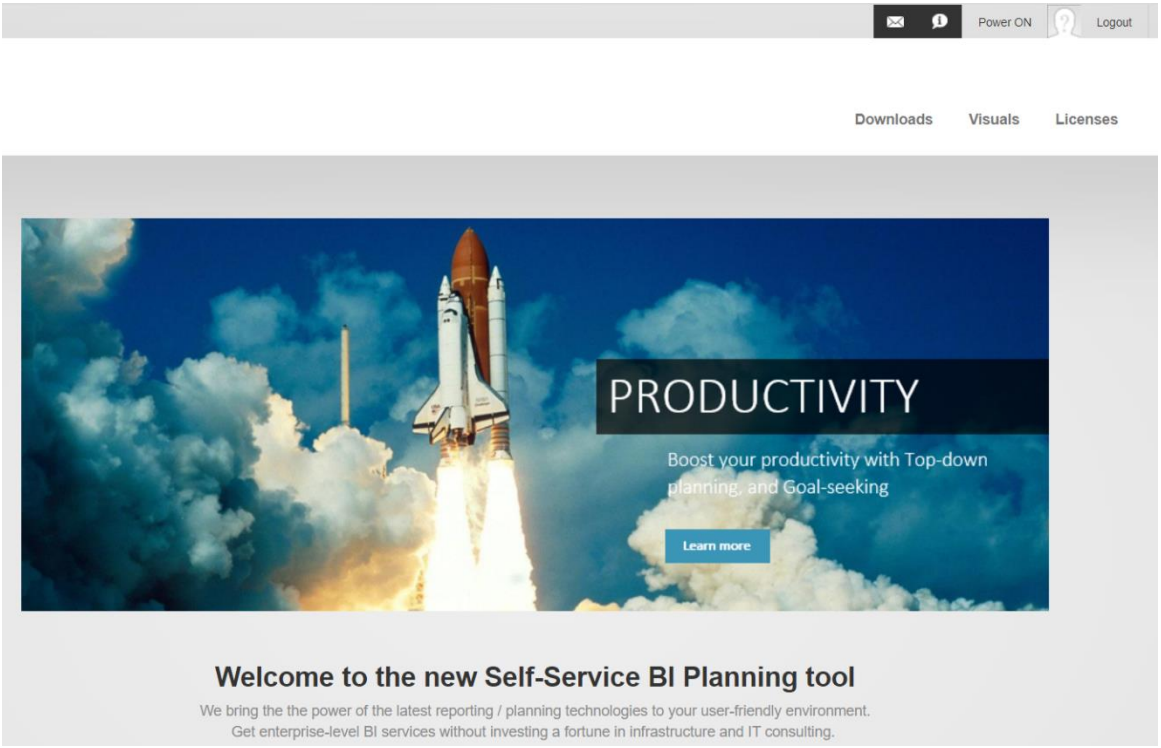
Versions

This document describes the **latest version** of Visual Table Editor; however, you can use the previous ones as well as they are included in the setup kit, but keep in mind that some of the features detailed here are not available in older versions.

The most recent visual is **tableEditor v2.8.pbiviz**.

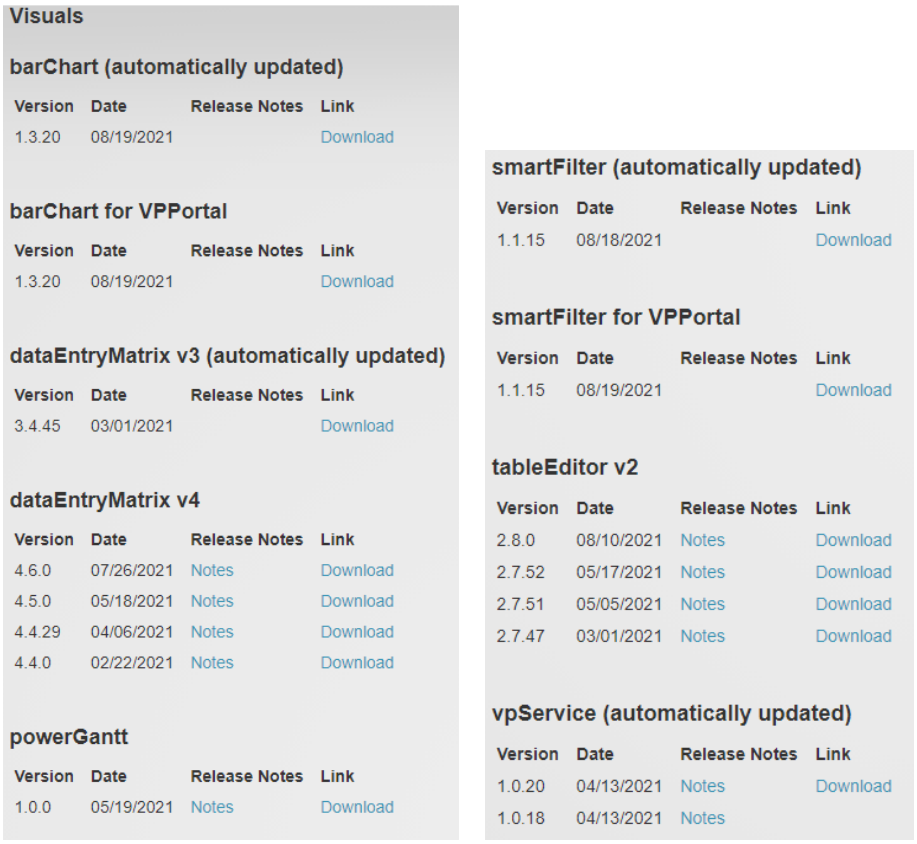
How can you download the different versions?

1. Register at **store.poweronbi.com** site with the same domain name you have registered originally
2. After login:



3. Click on **Visuals** in upper right corner

4. You can find our available write-back capable visuals and their different versions.



Visuals

barChart (automatically updated)

Version	Date	Release Notes	Link
1.3.20	08/19/2021		Download

barChart for VPPortal

Version	Date	Release Notes	Link
1.3.20	08/19/2021		Download

dataEntryMatrix v3 (automatically updated)

Version	Date	Release Notes	Link
3.4.45	03/01/2021		Download

dataEntryMatrix v4

Version	Date	Release Notes	Link
4.6.0	07/26/2021	Notes	Download
4.5.0	05/18/2021	Notes	Download
4.4.29	04/06/2021	Notes	Download
4.4.0	02/22/2021	Notes	Download

powerGantt

Version	Date	Release Notes	Link
1.0.0	05/19/2021	Notes	Download

smartFilter (automatically updated)

Version	Date	Release Notes	Link
1.1.15	08/18/2021		Download

smartFilter for VPPortal

Version	Date	Release Notes	Link
1.1.15	08/19/2021		Download

tableEditor v2

Version	Date	Release Notes	Link
2.8.0	08/10/2021	Notes	Download
2.7.52	05/17/2021	Notes	Download
2.7.51	05/05/2021	Notes	Download
2.7.47	03/01/2021	Notes	Download

vpService (automatically updated)

Version	Date	Release Notes	Link
1.0.20	04/13/2021	Notes	Download
1.0.18	04/13/2021	Notes	

5. Pick the preferable version of Table Editor and click on Download
    a. You can even download its **Release notes** if you like.

Prerequisites

Write-back Service

You must have a working and **configured write-back service** (PPWebService) installed in your environment. If that is set, in order to build a report, first you must **import the custom visual - the tableEditor v_latestVersion.pbiviz** file into your Power BI Desktop instance. Naturally, you need to do that for each report in which you want to use the Table Editor. The visual will be stored in the report itself, so other people will also be able to use the write-back capabilities, if they open it. In case of PowerBI cloud services there is an option to store the custom visual in a centralized repository for easier management. You can find more information on this URL: https://docs.microsoft.com/en-us/power-bi/developer/visuals/power-bi-custom-visuals-organization

The legacy version of the visual can be found in your **installation folder under Resources\PPWebService** in the **VPDemo.zip** archive file.
Also, VTE can be converted from other Power BI visuals, like other custom visuals in Power BI.

Before you begin, make sure that you have a properly configured write-back service (PPWebService) that is accessible from the point of the Report Server.

For more information about configuring the PPWebService, check out Power ON Knowledge Base articles at: https://support.poweronbi.com under Visual Planner – Write-Back Service for more details.

Please note, that in order to access the articles, you need to **register** on the site. It is advised, as you will be able to submit tickets if you encounter any difficulties or issues, so that our support team can give you the best service.

In case of on-premise installations or virtual machines hosted in the cloud make sure that your Power BI Report Server can access the host IIS machine of the PPWebService.
In case of Azure, the Web Applications are accessible by default. The webservice must have a designated connection string configured for the data source in the web.config connectionStrings section that is pointing to:

- In case of SSAS models: the used SSAS Cube
- In case of SQL only models: the used SQL database.

The web.config file can be found under the **WWWRoot** folder.
Connections to the data sources should be configured by your IT team. Please refer to the following article in our Knowledge Base on how to add ones at:
https://support.poweronbi.com/portal/kb/articles/how-to-add-a-new-data-source-for-write-back

You can find examples of valid connection strings for different data sources at:
https://www.connectionstrings.com/

The PPWebservice Service Account - used in the connection string - must have the following permissions:

- In case of SSAS models: administration right on the cube, plus data reader and data write roles on the underlying data source database of the cube.
- In case of SQL only models: data reader and data write roles on the SQL database.

The end users (or the user / Active Directory group they are in) must have:

- In case of SSAS models: data reader membership.
- In case of SQL only models: data reader role.

In case of impersonation enabled, the end users must have data writer role.

VPService visual

The VPService is a helper visual which establishes the connection between our newest visuals and the write-back service.

The benefits of this solution:

- faster release processes: switching from one version to another is much faster, which results in a quicker support from our side (e.g.: in case of implementing new features)
- You can change between the versions of the visuals easily.

The functions of VPService:

- Saves the changes
- Saves the comments (e.g.: in Data Entry Matrix visual)
- Sends the user information
- Opens the pop-up windows (e.g.: in Table Editor visual)

Warning message

This warning message is visible,

- if the report is in Edit mode,
- when the user is putting the report together in PowerBI Desktop,
- when the report is in Reading View mode and the user tries to save the changes and there is no VPService connection.

How to configure VPService visuals

After importing the visual you can see its icon () under the built-in visuals. You can check its version by right clicking on the icon and selecting 'About' in the menu. A pop-up window appears with the version information.

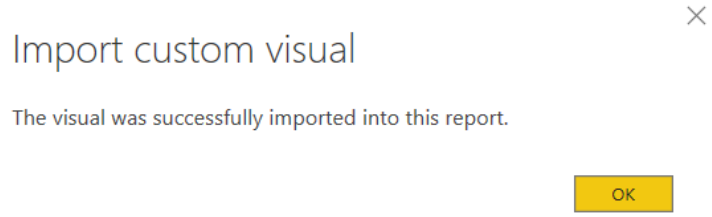
Add the VPService helper visual to your Table Editor related report.

Add an arbitrary field to VPService visual, e.g.: an ID.

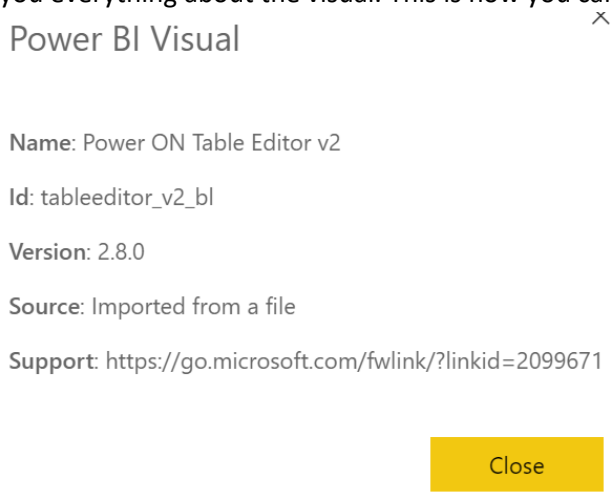
The content of the [Web Service] » **Url** property has to be **exactly the same** like in Table Editor ([Data Entry] » **Web Service**)!

Updating from an older version of Table Editor to v2.8

1. Download the newest version from the above URL.
2. Pick a Table Editor related report and download its .pbix file from: [File] » 'Download the .pbix file'
3. Rename the downloaded report to keep the original version and open it in PowerBI Desktop.
4. Click on the three dots in **Visualizations** pane:
5. Choose [Import a visual from a file] --> [Import]
6. Find the downloaded visual file (tableEditor_v2.pbviz). Most probably it has been saved into your [Downloads] folder. Click on it to be selected. After the selection its name will be seen in 'File name:', at the bottom of the pop-up window.
7. Click on [Open]
8. You will be notified about the successful import, so click on [OK].



If you go above its icon, in its ToolTip you will see the same text: 'Power ON Table Editor v2'.
If you **right click** on them and choose 'About' from the appeared menu, a pop-up window will tell you everything about the visual. This is how you can check their version number.



9. Select the Table Editor visual in your report and click on that Power ON Table Editor v2 icon, which version is 2.8. The visual in the report becomes the newer version and all of your previous settings remain the same.

Specific details

The most important one is that the target table for the write-back **must have a primary key** defined with the followings to keep in mind:

- composite keys are not supported.
- in case of SSAS data source the primary key must be part of the SSAS model and visible for end users, and it **must be added to the visual as a field**.
- if there are any specific business rules for creating a key for a new record you either must create your own custom trigger in your database to provide the new value during the operation. Or in case if you are able to compute the key based on existing data visible in the model with DAX, you can use the Computed Column property (see Configuration Options – Column Properties chapter).

Limitations

As all custom visuals developed for Power BI, due to Microsoft policies, VTE also has the following limitations:

- **Renaming** editable **columns** and tables in the Power BI report are **not supported**. They must be the same as they are called in the used data source.
  In case of SSAS models, the names should be equal to the names of the entities (visible in your model or in your report Fields sections).
  In case of SQL data source, the names of the entities should be the same as they are in the SQL tables (e.g.: if your table in SQL is called Customer, it should NOT be called Customers in your report). This rule should be also applied for the names of the fields / columns. Column's displayed header can be modified in the [Column properties] section of the visual.
- The characters '.' (**dot**) and [,],{,} and system reserved ones are **not supported in table names.** Dot can exist in schema names. If you have unsupported characters in your table name, we recommend creating a view on top over the table that complies with the required format and use that view when writing back.
- You cannot perform **aggregations** on the fields in the visual if you want to modify the value of that field. Fields are must be set to **Don't summarize** in the Visualizations » Fields » Values section, otherwise you will not be able to change values in those columns on which you have aggregations defined. However, you can still display aggregated value in your visual, but you will not be able to modify those inputs.
- All custom visuals developed for PowerBI have a default limitation set by Microsoft which is that **5000 records** can be displayed at one time. If your underlying table has more rows, consider using slicers in your report so that you will edit only a subset of the data and have a seamless workflow.
- Write-back to **measures** is not supported by the VTE. Only **row level data** can be modified. If you want to change the values of measures use the Data Entry Matrix (DEMx) visual instead. VTE is intended to be used in cases when you want to modify descriptive, dimension type data.
- Columns that are used as a data source for **Selection and Search** box cannot have TEXT or NTEXT data types if you DO NOT use the SmartFilter technique (described in the Selection column type section under [Column properties]). If you use this technique the restriction does not apply. To make sure if your column is supported for these controls, execute a SELECT DISTINCT on the column. Error means that you cannot use this column. The solution is that you should change the data type of the column to VARCHAR(MAX) or NVARCHAR(MAX)

- Modifying **Slowly Changing Dimensions** are not supported automatically, you need to implement your own logic as a SQL trigger for instance to handle this scenario.
- Complex **security rules** should be implemented by either built in SSAS roles with DAX or with Row Level Security policies in SQL Server. However, you have the possibility to control write-back on row level both front-end and back-end side, see Write-Back Security chapter.
- Non-writable **views** which serve as a data source for the table are not supported for write-back. Either materialize your view into a physical table, reduce the complexity of the view or you can create INSTEAD OF INSERT | UPDATE triggers to handle the operation. Typically, non-writeable views are that contains complex SQL queries with multiple joins, CASE statements in WHERE clauses, CTEs (Common Table Expressions), aggregations. You can test your view by duplicating it under a different name and executing an INSERT statement against it. If a view is writable and write-back still does not work, try to use SELECT DISTINCT in the view definition.
- In case of on-premise **Power BI Report Server** at least January 2019 version is required together with Power BI Desktop 2019 January or more recent versions.

Setup and configuration of the visual

This main section describes the available configuration options for the Table Editor. Also, the following pages describes a **short** step by step instructions for building a **simple** report using VTE. You will find the details of the configuration elements later in this document, it is recommended that while you are going over the steps you also look up each mentioned option.

Validate the write-back service

After installation you might want to be sure that the write-back service is installed properly. You can validate that by navigating to your deployed URL, which is in the following format:

http(s)://yourserverName/PPWebService/PPWebService.svc

If you see the following page after the page load, then the Write-Back Service is up and running.

PPWebService Service

You have created a service.

To test this service, you will need to create a client and use it to call the service. You can do this using the svcutil.exe tool from the command line with the following syntax:

```
svcutil.exe https://tszdell2015/PPWebService/PPWebservice.svc/mex
```

This will generate a configuration file and a code file that contains the client class. Add the two files to your client application and use the generated client class to call the Service. For example:

C#

```
class Test
{
    static void Main()
    {
        HelloClient client = new HelloClient();

        // Use the 'client' variable to call operations on the service.

        // Always close the client.
        client.Close();
    }
}
```

Visual Basic

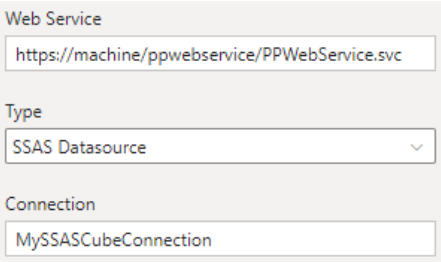
```
Class Test
    Shared Sub Main()
        Dim client As HelloClient = New HelloClient()
        ' Use the 'client' variable to call operations on the service.

        ' Always close the client.
        client.Close()
    End Sub
End Class
```

Setting up the basics

After you launched Power BI Desktop, connected to a data source and imported the visuals (VPService, Table Editor) into your report, the very first step is the configuration of VPService visual.

We have to tell the visuals where they can find the write-back service and which connection they should use during the process. You can see detailed information in this chapter how to configure VPService.

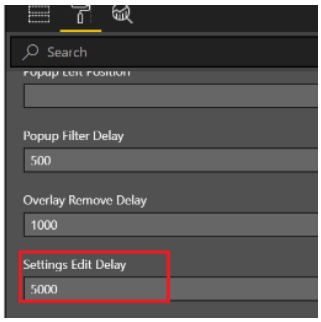
The configuration options will appear in the Format section of the Visualizations **after** you dropped the first column into the **Table Editor** visual. You must complete the following steps in order to have a working report element for the write-back functionality.



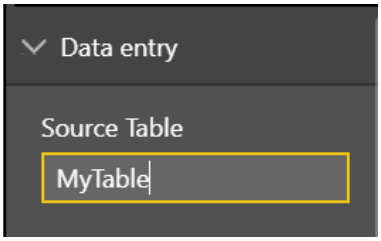
Starting with [Data Entry], you must set the **Web Service, Type** and **Connection** properties (see referring chapters) to make the write-back service working.

Note! The content of [Data Entry] » **Web Service** property has to be **exactly the same** like in VPService ([Web Service] » **Url**).

By default, the visual has a delay setting while you are modifying the table layout and it is set to 5 seconds. This is for handling lags when the end users are editing the report on the report server or in the cloud, but for authoring in Power BI Desktop you can lower this value if you go to Style » Settings Edit Delay. Recommended is 3 to 5 seconds.



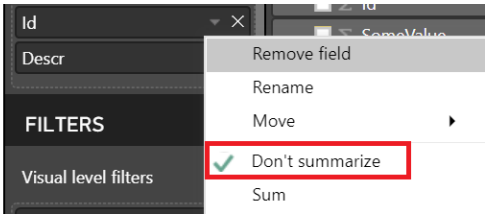
Selecting the table and adding columns



When the basics are set, you need to specify on which table you want to use the write-back functionality by setting the appropriate value in the **Source Table** property. Source table defines the target table, so each data modifications will be saved to this entity. Keep in mind, that although you can add other fields to the visual as well (e.g.: your Customer table is the target, but you also want to display sales value for each customer from the Sales table by adding a field or a measure) only fields that **belongs to the source table** will be taken into consideration during write-back.

It is imperative that you **add the primary key** of the table to the visual as well, therefore having a primary key defined on your table is necessary. Auto increment fields (liked IDENTITY type in SQL) works the best. You can add as many columns as you want from the table. Relationships defined in your model will be followed automatically by the Power BI engine, so you can add related table's columns as well, but as again, keep in mind that only those changes will be saved which are made on the selected table defined in the Source Table property.

After you selected your desired columns make sure that all the fields (which you want to include during the write-back) are set to **Don't summarize** in the Visualizations – Fields – Values section.



Configuring columns

After setting up the basics, for each column you dropped to the visual's field list you will see a set of configuration options under the [Column Properties] section under [Data Entry] group. These properties let you to set the appearance and behavior of the columns in your VTE. The most important setting is the **Column type**. For the primary key field, it must be set to ID, all other cases should correspond to the

underlying SQL column data type. You can specify if you want the column to be read only – so that you overwrite the general Enable Editing configuration per column-, you can change the header of the column and set the desired theming as well. For all properties see the Configuration Options – Column properties chapter.

Enabling operations

You can globally set which operations are allowed on the visual. A typical use case is that Delete, Editing and Inserting operations are granted, but you might want to restrict some operations. You can find all available options in the Configuration Options – Data Entry chapter.

Applying style

In the Style configuration section, you can specify global theme settings as you would do it in any similar visual. Visual specific properties can be found in the Configuration Options – Style section.

Publishing and testing the report

When you finished with your report, publish it to either your on-premise Power BI Report Server, or to PowerBI.com. The **write-back will only work** reliable when your report is **published**, so you cannot test the full functionality in Power BI Desktop while you are authoring it. After publishing your report try to modify a value and click on Save Changes. To validate that your changes are committed to the database, connect to your underlying database where your table can be found with a tool like SQL Server Management Studio, and execute a `SELECT * FROM yourTable` statement to see the content of the table. Your modification should be visible there as well as in your report.

Completing the above steps, you should have a working, simple, write-back capable report using Table Editor visual.

The following pages cover more detailed configuration options as well as typical use-cases that you might find useful for your needs.

Configuration options

This chapter contains detailed description of the available configuration options for Visual Table Editor.

Data Entry

This section contains the configurations regarding the main behavior of the visual.

WebService

Here you must set the write-back service URL which should point to the hosting machine – or app service – where it was installed. Typical URL is:
http(s)://WEBSERVICE_COMPUTER_NAME/PPWebservice/PPWebservice.svc

Be careful **not** to have an extra slash at the end of the URL. This has to match the URL that is set in the VPService helper visual configuration.

Type

This option is referring to the connection type that the write-back service will use. The setting is required.

- *SSAS Datasource*: Set a connection name in the Connection property defined in the web.config of the webservice
- *SQL Datasource*: The connection is set in the PPWebService web.config and you will have to refer it by its name in the Connection property
- *SSAS*: Set the connection string directly in the Connection property (leave the connection blank if using the default "**SSASConnection**" in set in the web.config of the webservice)
- *SQL*: Set the connection string directly in the Connection property (leave the connection blank if using the default "**SQLConnection**" in set **in the web.config** of the write-back service; meaning, leaving it blank, it will automatically look for the connection called "SQLConnection" in web.config)

These last two options are used for testing, developing purposes first.

Windows Authentication

If you are in an on-premise environment using Power BI Report Server and Windows Authentication is turned ON in the IIS for the write-back service this setting must be turned ON, so that the Windows credentials can be passed back to the underlying data source. If you are completely in the cloud - your reports are published to PowerBI.com service - and you are using Azure AD, the setting should be turned OFF, so that AD credentials will be used when accessing the data source.

In case of Gateway by turning Windows Authentication on will have the following effects: Instead of setting the PowerBI.com credentials in the write-back service request, the visual posts the windows login context. This value (e.g.: domain\user instead of username@domain.com) will be set if you use USERNAME() in computed and/or default value columns (see later in this document) as well in SQL context variables. Also, this makes possible to use impersonation, and it is **necessary to be turned ON** if **Windows Authentication** is set in **IIS** for the write-back service.

Connection

Specify Name of the SQL or SSAS connection defined in the web.config file of the webservice, or the connection string directly, or **leave blank** depending on the Type setting.

Customer

Customer name provided by us along with the License server license key. If already specified in the web.config file (generally, you don't have to set this as it is done by the setup), **leave blank. If you are sharing a webservice between multiple license keys, specify the customer key here, what you want to use.**

Domain

Set it to one of the following. Generally, this should **be left blank** as it is configured in the write-back service web.config file during setup.

- the fixed the name of the internal domain used (e.g., DOMAIN)
- *auto*: use the domain part (part after @) of the powerbi.com user
- *auto-short*: use the short domain part (part after @ and before the .) of the powerbi.com user
- *azure*: use the full powerbi.com username (e.g., user@domain.com) for Azure AD authentication
- leave empty for no domain (e.g., for a SQL authentication user)
- *SQL=…,SSAS=…* set domain options for SQL and SSAS separately
- Custom user mapping of powerbi.com users to SQL and SSAS users can be set up in the UserMapping table in the SQL database (should contain User, SQLUser, SSASUser varchar columns) For more information please visit: https://support.poweronbi.com/portal/kb/articles/custom-user-mapping-when-using-powerbi-com-service

Source Table

It is important that you configure this property correctly as misconfiguration can lead to save errors. Please read this chapter carefully.

This property will tell the write-back service which table should be the **target** for data modifications. The name of the write-back target table needs to be entered here. Note, that the property is case sensitive! For example, if you put fields into the visual from the Product table, this property value should be Product as you want to save the modifications to the product table.

You should **not rename** tables or columns in your report. If you need to change the visual representation of a column, you can use the **Title** property for the column under [Column Properties].

In case of SSAS data source the value must be the **name of the entity** exactly how it is specified in the model.

In case of SQL only data source the value must be the **name of the SQL table** that is being used with the visual.

In case of SQL connections when the table is in a **different schema then dbo**, you need to make some adjustments. When you import a table with a schema to a report, Power BI automatically try to rename the table for you. For instance if you are importing hr.SalesPerson table, in the Fields section you will see it renamed like Hr Sales Person. Because of this operation, VTE will not be able to determine on which table should it initiate the write-back process. Please do the followings to overcome this situation:

1. Rename the table in the Fields list so that it contains exactly the actual SQL table name **without** the schema (in the example it is SalesPerson)
2. Remove and re-add the columns to your Table Editor
3. Enter into the Source Table property the full qualified table name in the format of: schema.table (in the example it is hr.SalesPerson)

Image URL (Displayed)

You can set an image to be displayed instead of the table defined by an URL. More information in the Use Cases chapter regarding this.

Image Link

If this property is set, by clicking on the image (defined in by the previous setting) will take you to the specified URL.

Image position

Set the position of your image:

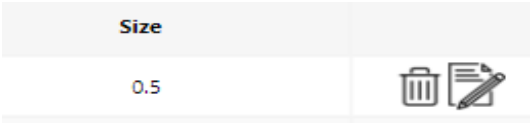
- Original: The original size of the image will be kept
- Contain: The image will be resized to fit inside the visual, so it will touch at least one side of the border
- Cover: Works as panscan, the image will be cropped.
- Stretch: If the image is smaller than the visual, it will be stretched to fit. The image can be distorted.

Enable Delete

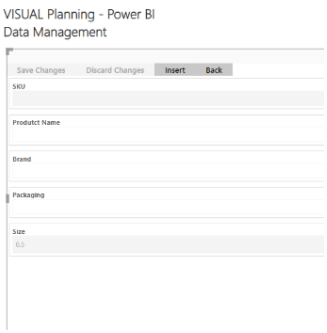
If it is turned ON, a trash icon will be displayed for each row which enables users to delete the selected records.

Enable Editing

If it is turned ON users will be able to edit existing records. You can set the nature of editing by setting the Details Editing property.



Details Editing



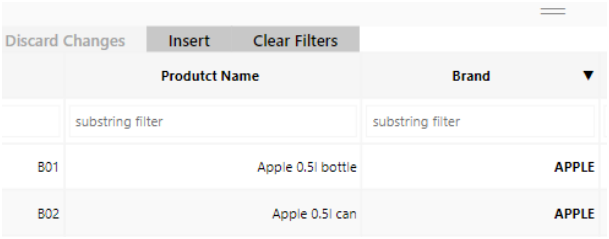
By enabling details editing instead of a table format view that you have by default, you can have a **form** view where only the selected row's properties are visible. You have the following options:

By selecting the *Optional* setting, a details icon appears beside each record in the table. By pressing the details icon, you can enter the details (forms) layout for the record.

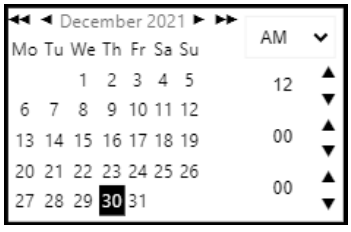
By selecting the *Exclusive* setting when you start changing values in a row it automatically enters the details edit layout for the record.

Under [Data Entry] » **Layout** if you select the *Details* layout option the Table Editor will always stay in the details (forms) layout.

Enable Filtering

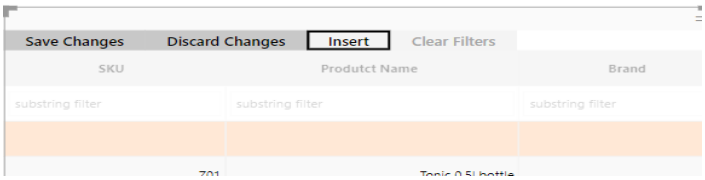


By enabling this setting an additional row will appear above the first row, and for each of the columns the end user has the ability for search. The behavior of the rendered filter cells is matched to the control type of the column. So, you can filter by entering text if the column data type is text, or by date picker if the data type is date or time, etc.



In case of a date picker, on the panel you can switch between years with  and  buttons.

Enable Insert



Enabling this setting end user will be able to add new records to the database. By clicking on insert an extra line will appear above the first row into which the new data can be entered.

Enable Paging

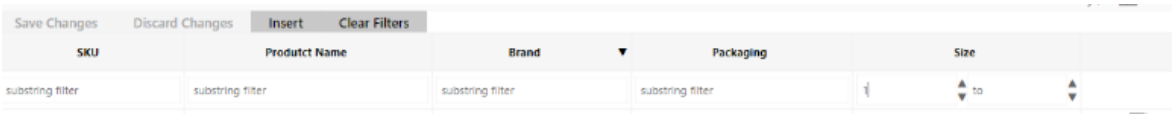
By turning this setting on, a paging bar will appear at the bottom of the visual. Not all rows will be loaded, only ten rows per page which gives the end user a faster response time. You can control how many rows are displayed on one page by setting the **Page Size** property.

Enable Set All

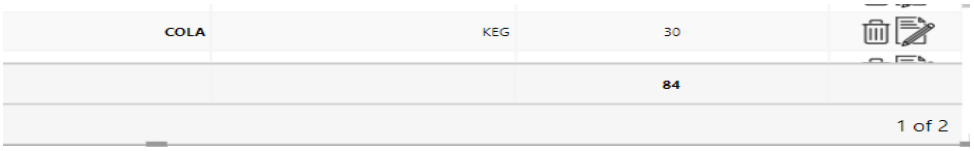
Enabling this a Set All bar appears at the bottom of the table editor. For each column you can enter or select a value here and press the Set button to set all values to the entered value. For numeric columns you can also use the inc, dec smart formulas (e.g.: inc10%). **All values** will be set (considering the limit of 5000 records) – not just the one you see on a given page.

Enable Sorting

By turning this setting on end users will be able to sort data (ascending or descending) by clicking on the **header** of a column. Only **one column** can be set for sorting at a time.



Enable Totals



After enabling this setting an extra row will appear at the bottom that will contain a sum of numeric values on the **actual page**. Only those columns will have this value where the column data type is set to Number.

Enable Page Totals

If this feature is enabled end users will also see the sum of the **numeric columns** of the full available dataset. If totals are also enabled, you will see the values in a format of: Total of the dataset (Total of the current page).

Enable Section Totals

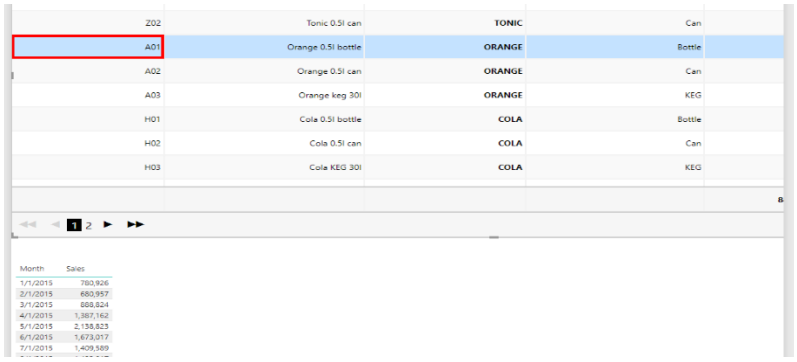
In order for this setting to work you have to **enable Section** ON at least one column under [Column properties]. In that case rows will be grouped by the section columns, and if Section Totals is enabled numeric type columns will be aggregated and displayed in the section header.

Enable Duplicating

A duplicate icon appears beside each record. If you press it the table editor makes a **copy** of the record, where you can change respective values and save changes.

Enable row selection

By enabling this setting, you will be able to pass the **current row as filter context** to any visual on the current report page. So, whenever an end user clicks on a row, other visuals will be filtered by the selection (only those entities will be affected that are in a relationship with the table in question). And the actual row id (the primary key of the row) will be selected in the actual filter context which will be propagated thru the entire relationship and the value can be used in another Table Editor on the same page. For instance, if you selected the product A01, and you created a simple table that show sales per month, it would present you the sales for the selected product. This setting should be also used in a master – detail use case where you have two Table Editors on a page, and you want to pass down the selected master record to the detail table. In this case one of the detail's table columns – that acts as a foreign key should be – the setting: Parent column under [Column properties] should be turned ON. You can find this use case described later in this document. See in more detailed description in this chapter.



Auto Save

After enabling this setting, changes will be saved back automatically when the user leaves the current row.

Instant Save

The value will be saved back immediately and automatically after leaving the cell.

Hide Save Changes and Discard Changes

If you enable any of these settings ('Auto Save' or 'Instant Save'), an additional property appears in [Style] group, which is called 'Hide Save Changes and Discard Changes'. You can enable this property, if you like and by this way the 'Save Changes' and 'Discard Changes' buttons disappear **and** the saving will work like how the 'Auto Save' is working for both cases. (Meaning it saves after leaving the row you just have modified).

Instant Edit

By default, you need to double click on a cell to edit it. If this setting is turned ON, instead of double click, values can be modified immediately by clicking on the cell.

Auto Refresh

If it is turned ON, after saving the **full** visual content will be refreshed to fetch new data. If it is turned OFF, the data source will not be queried.

Saving Complete Message

If it is turned ON a visual **notification** will be presented for the end user after a successful save in the bottom right corner.

Save Read Only Values

If duplicating is enabled AND you have a write security column or a column from a different table than the source table – meaning the content cannot be modified AND

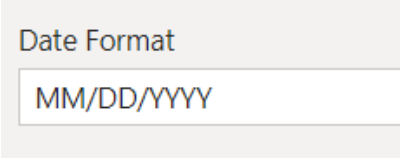
- 'Save Read Only Values' is **disabled**:
  After you click on the duplicating icon on a row, the copied content of the read only cell can be seen, however, when you save the new inserted row, the read only cell will not be saved back to the database.
- 'Save Read Only Values' is **enabled**:
  After you click on the duplicating icon on a row, the copied content of the read only cell can be seen and when you save the new inserted row, the read only cell will also be saved back to the database.

Input Culture

If end user's browser's culture or regional setting is **different** than the SSAS model property, it might happen that the numeric figures entered will not be saved correctly. If you experience this, set this property to en-US (only this one is supported) so that the figures formatting will revert back to a reliable one.

Date Format

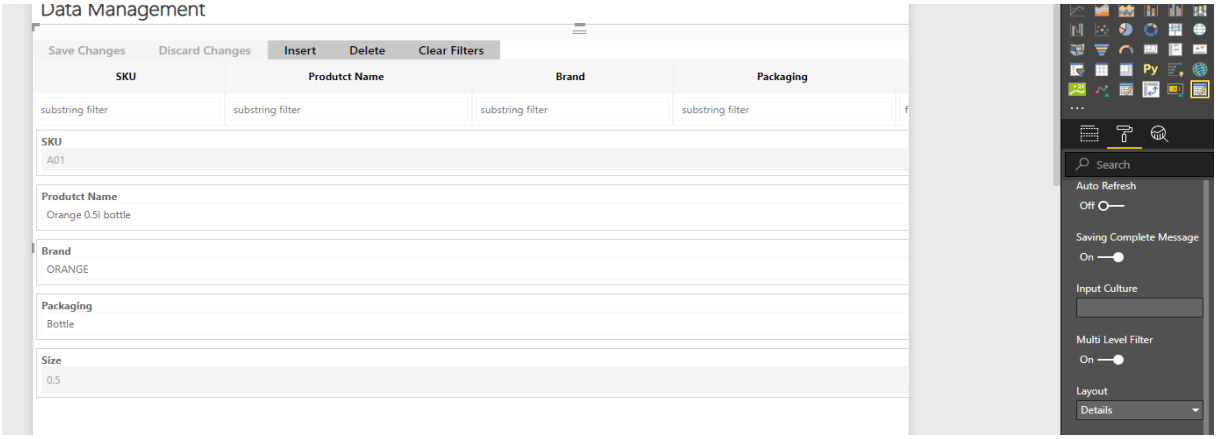
You can set the date format for each date type column.



Layout

You can determine the layout for the records by setting one of the following options:

- Table: you will see all records in a table formatted manner. One record in one row, multiple rows on the same page.
- Details: you will see each record on a form basis. So, on each page the end user will be able to see one record at a time.



Single Transaction

When you are editing multiple records at the same time you can control how these rows are committed back to the underlying database. If this setting is turned ON, all modifications will be saved back in one transaction. If it is turned OFF, each row will be committed in a separate transaction. Only applies to data sources where transactions are supported natively.

Filters Remain After Save

If the filtering option is enabled and you filter a column in the header of the visual and you modify and save something, the filter will be kept even after the saving.

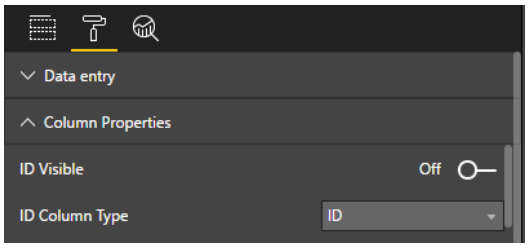
Column Properties

These settings will appear for each field that you dropped on the visual. With these you can control the behavior and appearance of the columns in the visual.

Visible

By turning it OFF the column will not be rendered to the end users, however data contained within will be written back during save.

Column type



You need to set the data type for all the columns that are on the visual. Making changes in this setting will influence how the cell will be rendered and how it is going to behave. Types can only be set for those columns for which the aggregation is set to Don't summarize in the report field's list window as only these fields can be saved during write-back. You can choose from the types below. *If this setting does not show up then make sure that the Source Table property along with the WebService URL and connection properties are correctly set.*

ID

VTE requires a Primary Key column to be defined in the table. This column needs to be defined as an ID column types in, and will hold a unique value per row. This column might be an identity column from SQL Server, in this case you might want to turn the visibility OFF for this field. If the key is not automatically determined by the server when inserting new records, then end users must enter a value for this, or use some DAX calculations to define a default value.

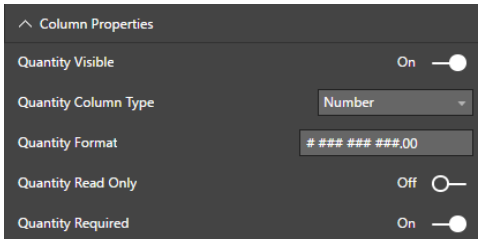
Text

One-line Textbox in the grid.

Text Area

Multi-Line textbox in the grid.

Number



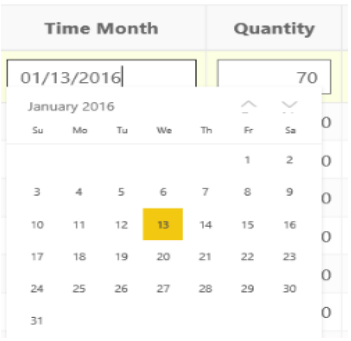
This type should be used in all numeric data types (decimal, currency, whole number) Number type columns can have format strings, which can be also extended. You can format in thousands, millions, billions, trillions using the following syntax: (space) K,M,B,T after the format string, e.g.:

$# ### ##0 K
$# ### ##0 M
$# ### ##0 B
$# ### ##0 T

- https://github.com/Microsoft/PowerBI-visuals-core/wiki/Value-Formatter
- https://github.com/Microsoft/powerbi-visuals-utils-formattingutils/blob/master/docs/api/value-formatter.md

Date

The Date Field brings up a data picker where you can set the date: When the user browses to a date, it returns that field back to the date field. The SQL Database field should be of the type Date or DateTime.



DateTime

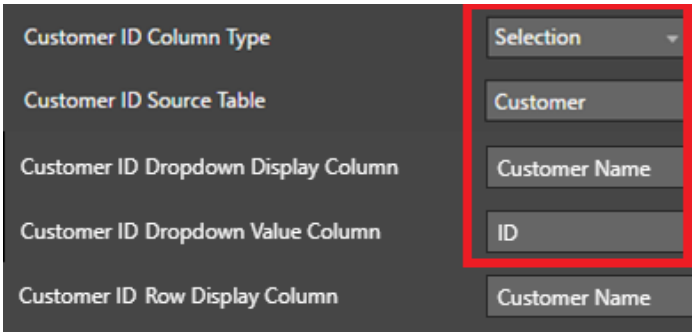
With this setting the time can be also set besides the date.

Selection

Using this column type, a **dropdown** control will be rendered for each cell in this column. In this case additional properties must be set. You can either define a fixed list of available values or you can use another related – or lookup - table to supply them.

For fixed list, provide values in the **Dropdown items list** input, separated by semicolons. If you also want to provide blank/empty value, use the following format: ;APPLE;TONIC;COLA. In this case no other settings are needed. During save the selected value will be written back to the underlying table.

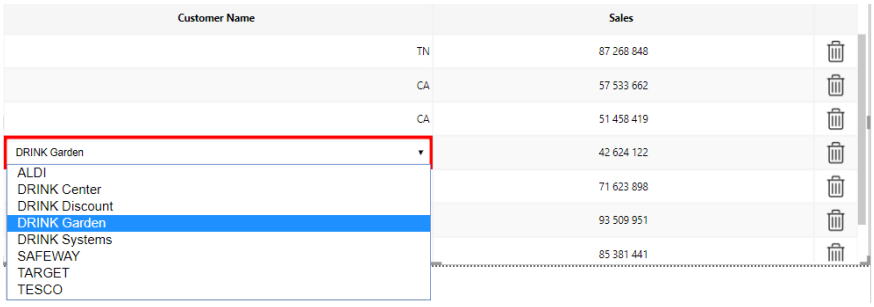
In case when the table has a foreign key with a numeric column which is in relationship with another table, and instead of showing the number you want to show the actual text representation of it to the end users and provide them the possibility to choose from a set of values, you might want to use that table to populate the dropdown. To sum, you have a Look Up table in your model. To be able to use it you need to adjust additional settings.

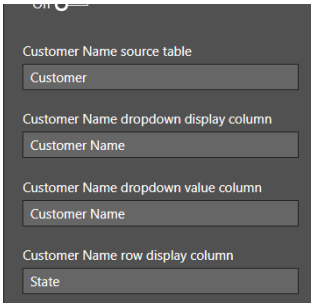


Selection type columns have the following settings:

- **Source Table**: table that contains the values for the dropdown list. If you are using SmartFilter visual to cache data (described in the next paragraph), you need to enter the name of the table as it is displayed in the Fields pane. If you are not using it or you connected to a SQL database directly, you need to provide here the name of the SQL table. If it is in a different schema then dbo, you need to provide it as well in the following format: *schemaName.TableName*
- **Dropdown Display**: This value will be displayed after the lookup. Usually this is the text field of your lookup table.
- **Dropdown Value** The value that will be matched in the lookup table using the value in the current cell. Usually this is the key column in your lookup table.

- **Row Display Column**: You can show different values in the dropdown when that is active then what you see on the rows, so you can adjust what should be displayed in the cell. If you want the same as shown in the dropdown you just need to leave this setting empty. However, if you want to display a different column from the same base table (e.g.: instead of the Customer Name the



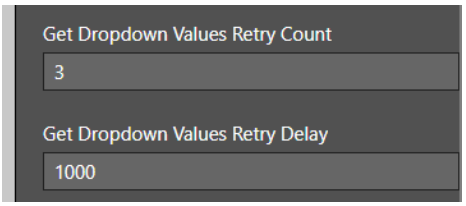


  Customer State) add this column as hidden to the Table Editor and provide the name of it here. In the example above we have the Customer Name from Customer table and the Sales measure from the Sales table. We have created a dropdown for the Customer Name using the Customer lookup table, but instead of showing that property in the rows, we display the state of the customer. When we edit the cell, we will see the customer names in the dropdown.

When a source table provided there can be two ways of getting the data for the visual. By default, the visual will use the write-back web service to retrieve the data by **querying** the underlying data source. With this method, RLS defined in SSAS will not be honored, as all data will be fetched from the source SQL table. In some cases, this extra round trip to the server can be slow. You can increase the performance and honor any existing RLS with the following technique.

Import the **SmartFilter Helper** visual to your report (use that is provided in the setup kit, you should not obtain it from the marketplace) and add it to the report page. Add those fields (ID and name) to the SmartFilter visual, that are used for the dropdown: the display value and row display column. Using this, the available values for the dropdown will be stored in the SmartFilter, Table Editor will recognize it, so it will not query the write-back service.

If you experience some delay in rendering the dropdown values in the cells, you can adjust the Get Dropdown Values Retry Count and Delay settings under Style:



If your table in question has a relationship with table that provides the value for the dropdown control, you can further increase performance by applying the following steps:

- If not already present, add the related table and column for the display column to the data model (along with the relationships to the source table)
- Add the related name column to the Table Editor columns (can set visibility to false)
- Set the Row Display Column property to the name of the related name column (as it appears in Power BI, not the SQL column name).

Filter on SmartFilter

If you want to restrict the available values in the dropdown, you can do that.

After adding the fields (ID and name) to the SmartFilter in your report, apply a *visual level* filter on the SmartFilter to restrict the available values. In this case you will not see all possible values in the dropdown for selecting purposes, however you will be able to see those rows in the Table Editor visual, which have other values than the available ones.

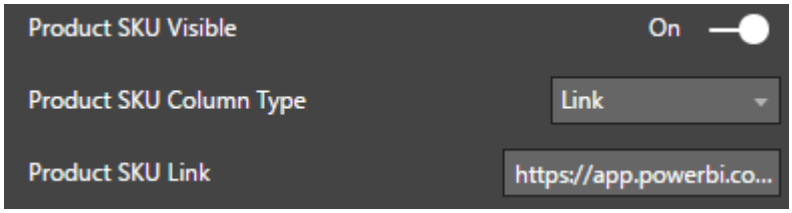
You can find a detailed possible use case in this Knowledge Base article in this topic.

Check Box

Column types for Boolean values can be set to Check box.

Link

For certain column types you can enable Link of a Dashboard or Report in Power BI. The PBI Admin author defines the "Link" setting as follows:



https://app.powerbi.com/reportEmbed?groupId=[PBI GrouId]&reportId=[Power BI Report ID]&filter=FilterTable/FilterColumn eq '[ListTable].[ListColumn]'

Where [ListTable].[ListColumn] is a column in the Table Editor (can be hidden), and FilterTable/FilterColumn is the column the drill through report is filtered by (cannot contain spaces)

e.g.: https://app.powerbi.com/reportEmbed?groupId=de5b6768-f934-42ab-8bfb-d116580969a5&reportId=d6da3384-38ea-4bf1-9c82-83a782dda6de&filter=Product/SKU eq '[Sales].[Product SKU]'

You need to activate the [Column Properties] » … **Open Link In New Tab** option for a Link type column, the report specified in the [Column Properties] » … **Link** property should open up in a new tab. Please note that this type of link needs to be in the standard report URL format e.g.:

https://app.powerbi.com/groups/67b8eeaf-429d-477f-aa89-78949e9a7b00/reports/a791d2f5-9e87-4dc9-a7c6-b55e7fa5ad3d?filter=FilterTable/FilterColumn eq '[ListTable].[ListColumn]'

Link filter

If this property is enabled, assuming you have a column with a clickable link, and you click on the link in a row, it will show you those data (from a sub-report for example) which related to that particular row.

Otherwise, the link shows every row.

User

In some special cases the user cannot be automatically determined from the PowerBI environment. In this case you can include a user column in the table to determine the current user for security purposes (e.g. using the USERNAME() formula in DAX or the CURRENT_USER in T-SQL)

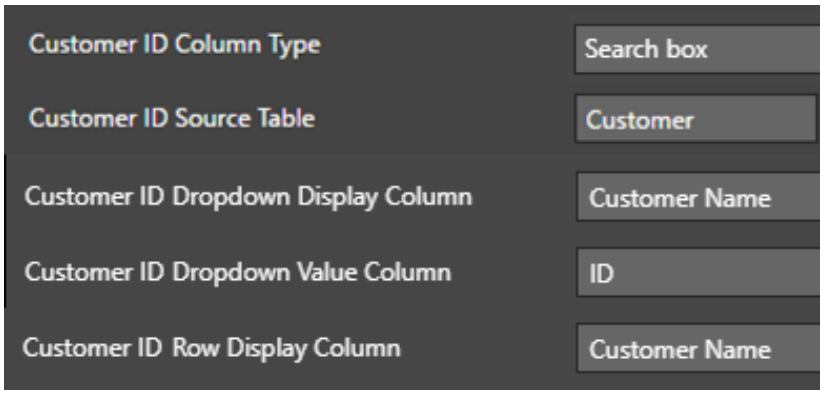
Image

If the column contains URLs that are pointing to an image and you want to display them in the cell, you should choose Image type.

Search Box

For larger lookup tables use the Search Box field type instead of the Selection. This displays a textbox control where the user can type in part of the name or id and it displays a dropdown list of names and values the first few matches.

For the search box to display a name column instead of the value column, the related name column and table needs to be added to the data model and set up as the Row Display column, similarly to the Selection column type. Also add the name column to the Table Editor as hidden. If the Row Display column is not set the name column is only displayed in the search dropdown and the value column is displayed in the table.



In case of SSAS Import models the response time is tied to how fast Analysis Server can respond as DAX & MDX queries are used. That could result in a slower performance.

Title

If you need to display a different text in the visual then how it is displayed in the field list, you can rename the header for that column by specifying a new value here.

Show Total

Only available for numeric type columns. If it is turned ON values will be summarized in the footer section.

Computed value

To define a value for a given column for display and also for write-back, you can use simple expressions to obtain a value in run-time.

The expression can contain:

- DATE() – Current date without time
- NOW() – Current date with time
- USERNAME() – Current Power BI user's username part
- DOMAIN() – Current Power BI user's domain part
- USERPRINCIPALNAME() – Current Power BI user full email address format
- TableName.ColumnName – value of another column in the same record
- TableName.MeasureName – Let's assume we have a measure: Table.Column1 * Table.Column2
  Necessary steps:
  - Measure should be included as a column into the Table Editor
  - You can hide this measure (see Visibility property on the column)
  - Add TableName.MeasureName to that column's Computed value property where you want to apply the Table.Column1 * Table.Column2 expression.
- other fixed string
- Javascript expressions that an eval statement can evaluate e.g.: Table.Column1 * Table.Column2

If a Computed value is set to a column, then the column becomes read-only. Even if the column is read-only, the Computed value will be written-back to the database. This is also true for the situation when the column is hidden (not visible). The value which has been calculated by the Computed value, will be always recalculated.

In the case of a non-inserted row: The Computed value does not appear instantly in the cell, only after modifying another cell in the related row.

In the case of an inserted / duplicated row / "Always Show Insert Row": The Computed value appears in the cell instantly.

This setting can be used with the 'Display Default Value' setting too. *See the Display Default Value section for how the two settings work together.*

Default value

Default value works similarly as Computed value.

In the case of a non-inserted row: The default value does not appear immediately in the empty (BLANK or null) cells, only after modifying another cell in the related row.

In the case of an inserted / duplicated row / "Always Show Insert Row": The default value appears in the cell instantly.

In an **empty** cell where a default value has been set up, the default value will appear when you double-click on the cell; &

- If you just leave this cell by clicking somewhere else or hitting one of the arrow buttons on the keyboard, the default value will disappear.
- If you hit the ([Shift]+)[Enter] button on the keyboard, the default value will be written into the cell.
- If you complete the default value with additional information, no matter which button you hit on the keyboard (an arrow, [Shift]+[Enter], [Enter]), the content will be written into the cell.

In a **non-empty** cell where a default value has been set up, the default value will not appear when you double-click on the cell.

If a column is set to read-only, then the 'Default Value' setting disappears from the [Column Properties].

This setting can be used with the 'Display Default Value' setting too: *See the Display Default Value section for how the two settings work together*.

Display default value

With Computed value property: If the 'Display default value' is turned ON, then the Computed value appears in all cells of the column, no matter if we edit the row or not.

With Default value property: If the 'Display default value' is turned ON, then the Default value appears immediately in all empty cells (BLANK or null) of the column.

Connection between Computed value & Default value

If the column has a Default value & a Computed value, then the Computed value will be shown because it is a higher priority.

If the column has a Default value only, then the Default value will be shown.

Read only

Turning this setting on will prohibit any kind of update on the given column. Columns originated from a different related table will be automatically set to read only.

Exclude column from save

If it is turned ON the value will not be saved during write-back.

Wrap text

If it is turned ON, long texts set with Text Area column type will be wrapped to fit the current cell.

Width

A custom width for the given column can be set in pixels.

Required

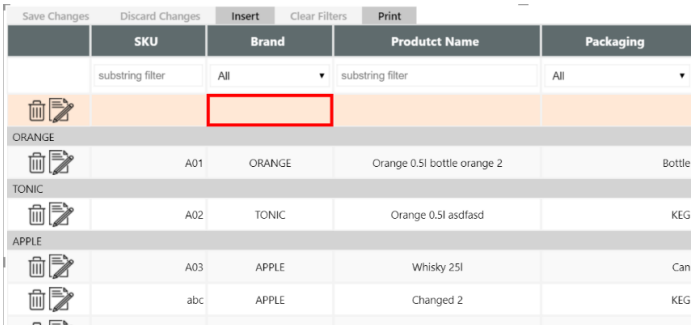
Turning this setting on will make the column mandatory. If the given cell has blank value, changes cannot be saved.

Alignment

Set the text alignment for the column.

Section

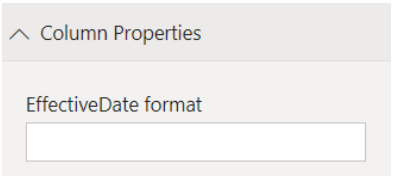
Turning this property ON for the column and sorting it by the same column will result in a grouping on the current page of the visual.



Format

It is available for numeric and date/datetime type of columns.

You can specify a format string used to render the number or date/datetime columns.



Date format example:

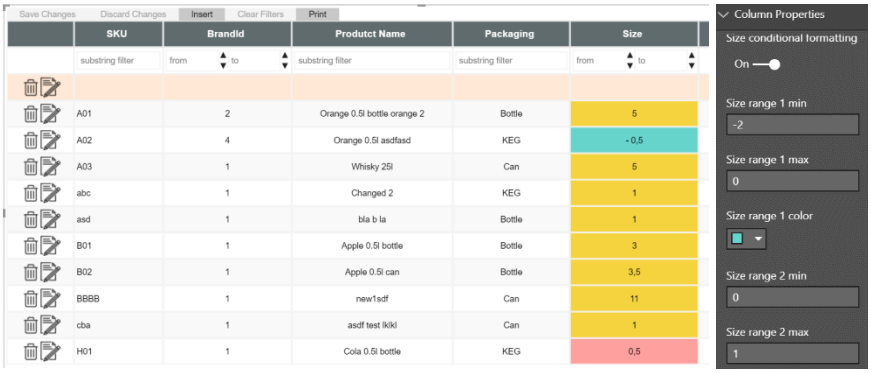
- DD/MM/YYYY
- MM/DD/YYYY hh:mm:ss

Date format priority list:

1. The primary date format is, taking it from [Column Properties] » **Date Format** property
2. Secondary date format is from [Data Entry] » **Date Format** property
3. Last but not least the 3rd option from the priority list is taking the date format from database/ Power BI/ etc.

Conditional formatting

Only available for numeric type columns. When enabled you can define 10 ranges with dedicated colors that will be applied for the given cell.



Primary font color

For each odd row, the text will be rendered in the given color.

Primary background color

Each odd row will have the set background color.

Secondary font color

For each even row, the text will be rendered in the given color.

Secondary background color

Each even row will have the set background color.

Parent column

This setting should be used together **with Enable row selection** setting and intended to be used in a master-detail scenario. If you have multiple VTE on the same page of your report, and you have enabled row selection on your master visual (e.g.: it is editing the product category), you can enable this setting on your detail visual (e.g.: product). Upon new record insertion, the visual will capture the master Table Editor's primary key and will use that value for this selected column. See in more detailed description in this chapter.

Write security column

You can prohibit modifications on a given row by creating a calculated column or a **measure** in your model or in your report. The formula complexity is not restricted, so you can develop any kind of logical evaluation of the present columns and the filter context to determine if the selected row is editable or not.

The write security column must return one of the following values:

- empty string or Blank value, if the cell should not be eligible for modifications
- any value (preferable 1 numeric or TRUE Boolean) to allow modifications.

For instance, the following measures can be used:

```
CanWrite = IF(VALUES('Product'[BrandId]) = 1;"";1)
```

Which means that those products that belong to the Brand, where the Id is 1, will be read only.

For a more complex case when you want to control security based on user privileges as well, you can use the following pattern:

```
IsWriteable:=MAXX('UserMapping',IF('UserMapping'[UserName]=
USERNAME(),"",1))
```

You need to add this measure to your Table Editor and enable the write security property for this column.

For a detailed example, please refer to the following article:
https://support.poweronbi.com/portal/kb/articles/implement-complex-write-security-per-entity

Style

Properties that are predicated on PowerBI default settings or which are self-explanatory are not listed here, only Table Editor's special settings.

Cell Padding

You can increase or decrease the padding to all cells, in pixels. However, if icon(s) can be found in rows (e.g.: trash, duplicating), the icon(s) determines the height of the row.

Page Size

You can determine how many rows you would like to see in one page, by giving a number, e.g.: 10 (rows).

Always Show Insert Row

If it is turned ON, a blank row will be displayed on the top of the Table Editor, for new record insertion.
If **Enable Insert** property is disabled, this setting will be hidden.

Minimum Row Height

This determines the minimum height of the rows in pixels. Its default value is 40. If you have an icon in your row, e.g.: trash icon, it determines the minimum height.

Controls on the left

The icons of the enabled operations will be displayed on the left instead of on the right.

Table transparent

By turning this setting on the table becomes transparent so that background settings on the page will be visible behind the visual.

Possible use cases:

1. Your Table Editor has an own color, meaning 'Background' in ON & 'Transparency' is 0%. If in this situation you enable Table Transparent, to be able to experience the transparency, you need to set 'Transparency' to 100%.
2. If 'Background' is OFF & Table Transparent is enabled, your Table Editor becomes transparent.
3. If header / footer / value / total / Set All background color is set to a color and you enable Table Transparent, your Table Editor becomes transparent.

Header / footer URL

Applies only in print mode. The entered image will be rendered in the header / footer of the printed page.

Dynamic Header / Footer Content

Applies only in print mode. The text entered in the setting will be rendered on the document in the printed page's header/footer section. Allows users to display additional information (in HTML or plain text formats) in the header, footer, end sections, after the Header/Footer/End URL's content. The content here is limited to 250 characters due to Power BI limitations. The following keywords are replaced with their respective content in these sections: USERNAME(), NOW(), DATE()

Take Footer Style Setting from Header

The printed header style will match the visual style if this setting is turned ON.

Apply Column Alignment to Header

The printed header alignment will match the visual style if this setting is turned ON.

Display column name in section header

If a column where section is enabled and this setting is turned ON, the title will be displayed for each section too.

Text Area Display Line Breaks

Replaces <enter> line break chars with html compatible line breaks <br> in Text Area type columns.

Get Dropdown Values Retry Count

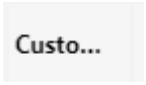
The value provided here will control the visual that how many times it should try to get the values for the dropdown columns in case of unsuccessful retrieval in case the dropdown values are retrieved from a SmartFilter helper visual.

Get Dropdown Values Retry Delay

The setting determines the delay in seconds between each try.

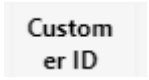
Wrap Header Text

There are three different operations for wrapping:



- no wrap: works like in the previous versions.
- wrap with ellipsis - wraps the column header text **if necessary** (e.g.: the visual is too narrow or has fixed column width which indicates wrapping) and if it is still too long and there are no spaces left to break the header by them, so, displays ellipsis.

- wrap with word break: it breaks the words until it fits into the cell width.



External Stylesheet URL

If you are using Fonts that are not web-safe, you might need to load an external stylesheet for it to render properly. You can specify the URL here. Make sure, that the CSS contains woff fontface definitions so that you will be able to reference the font by its name in the visual settings.

Use cases

This chapter describes typical uses cases that you can implement in your environment to enrich Table Editor feature leveraging native database objects. Chapter references Microsoft's SQL Server's features.

Copy – Paste in Table Editor

What you need to know about copy-paste functionality in Table Editor now is, to be able to paste more lines, you must take care of the following settings, and considerations:

- Set '**Page Size**' to that number how many rows you would like to paste. Because you can insert as many rows as the 'Page Size' is set. (The default value is 10.)

- Be ensured '**Instant Edit**' property is disabled. Otherwise, everything what you have in your clipboard will be pasted into one cell. Because in case of instant edit for the first click on the cell the cursor can be seen inside the cell.
- **Click on [Insert]** button as many, as many rows you want to paste.
- Copy the content from Excel and paste it from the proper place.
- If you have a selection type of value in your Table Editor, make sure you have the exact content, from where you are copying.
- Make sure you
  - did not change the order of your columns
  - you have the same type of columns

  from where you are copying.

Performance optimization

In case of large fact tables reprocessing in-memory SSAS models can take some time. The write-back service can determine which portion of your data should be processed. For that you can implement special partitioning. Please refer to the following article in our Knowledge Base for examples, walk throughs and tips:

- https://support.poweronbi.com/portal/kb/articles/performance-tips-for-direct-query-mode
- https://support.poweronbi.com/portal/kb/articles/performance-optimization-tips
- https://support.poweronbi.com/portal/kb/articles/implement-ssas-partitioning-for-improved-write-back-performance
- https://support.poweronbi.com/portal/kb/articles/dedicated-table-for-write-back-using-ssas-partitioning

Note, that if you implement the Partitioning technique, you need to add the Partition column to the visual to the field collections. That means that this column must be visible in your SSAS model. You can turn visibility OFF in the visual under [Column Properties]. Also turn ON read only for this field.

Custom validation

You can create complex validation logics by leveraging SQL server features, more precisely **triggers** to check certain conditions and send back message to the client in case of violation of a business rule. The core logic of the trigger can contain anything you like, only the return method of your message needs to be in a certain format. The following example shows how to return a custom message in a trigger:

```
IF (@YourCondition)
   THROW 50001, N'<SQLError>Cannot save modifications due to violation of business rules.</SQLError>', 1
```

Auditing

This chapter will provide you a guide how to capture the username who is modifying the current record. Please refer to the following articles in our Knowledge Base:

https://support.poweronbi.com/portal/kb/articles/get-user-name-on-back-end-during-write-back-sql-server

https://support.poweronbi.com/portal/kb/articles/audit-data-modifications

For example, if you are using Table Editor to modify the content of the Product table, you can create a ProductAudit table with the same structure as the table in question with columns that can contain extra information about the operation, like:

- ModifiedBy – the user's name
- ModifiedAt – the date
- OldValue
- NewValue

The following trigger will capture the actual user's name and the current date, and saves it to an audit table:

```
CREATE TRIGGER [dbo].[trg_ProductAudit] on [dbo].[Product]
AFTER INSERT, UPDATE
AS
BEGIN

	DECLARE @USERNAME VARCHAR(255)

	SET  @USERNAME = CAST(SESSION_CONTEXT(N'user_name') as varchar(255))

	INSERT INTO [dbo].[ProductAudit]
	SELECT
	[SKU]
	,@USERNAME
	,GETDATE()
	FROM INSERTED

END
```

Write-back security controlled within the visual

You can control which rows are editable inside the visual by using a measure created for this purpose. This measure can be deployed into your SSAS model, or it can be an embedded measure in the report itself.

Add the write security measure to the visual and turn ON the Write Security Setting for this field. Please read the Write Security Column paragraph in this document.

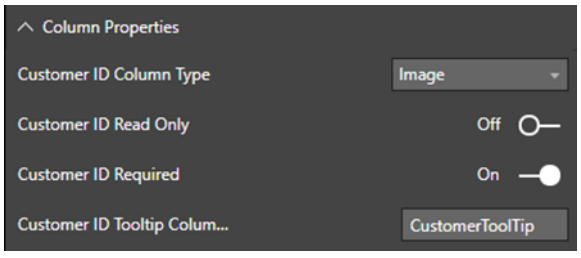
Write-back security leveraging SQL Server Row Level Security feature or triggers

Please refer to the following articles in our Knowledge Base:

https://support.poweronbi.com/portal/kb/articles/control-write-back-permissions-on-back-end-sql-server

https://support.poweronbi.com/portal/kb/articles/implement-complex-write-security-per-entity

Image columns with Tooltips

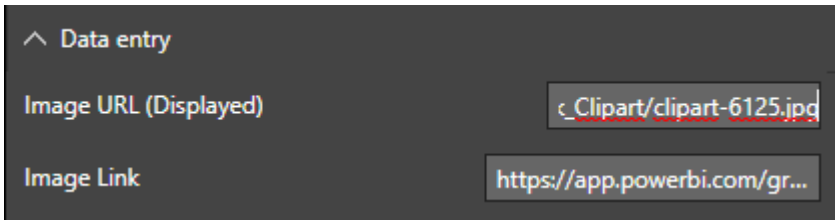


If the [Column Properties] » … **column type** setting is set to Image then the string values in the column data is interpreted as Image URLs and displayed in the column cell contents (column type can only be set for the table defined under [Data Entry] » **Source Table**).

If the Properties\ … Tooltip Column is set to a column in the same table, the value in that column in the corresponding row is set as the tooltip of the image.

Image Link Mode

If the [Data Entry] » **Image Url**, Image Link options are set up, the Table Editor displays a single image specified in Image URL, and navigates to URL specified in Image Link, when the image is clicked.

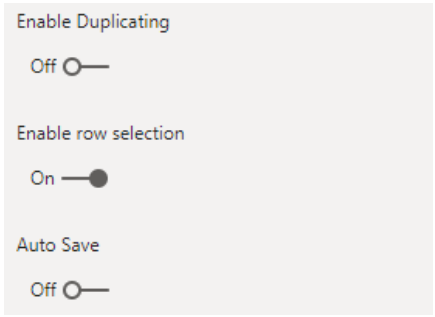


Master-detail view with bookmarks

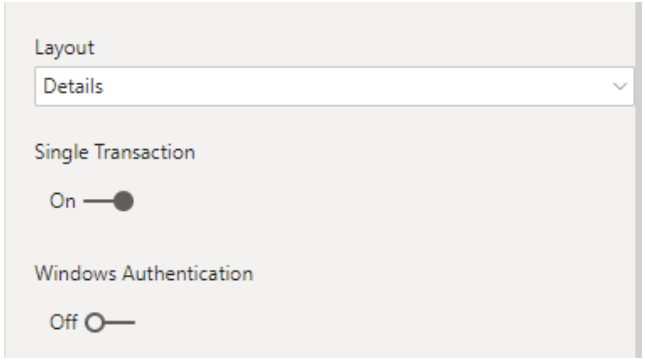
If you are looking for a simple solution for master – detail editing, please have a look at the following article:
https://support.poweronbi.com/portal/kb/articles/master-detail-editing-with-two-table-editor

With bookmarks you can create a master/detail page structure showing and hiding detailed information to the selected row.

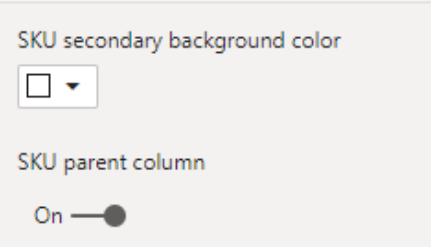
Set up Table Editors: Drag and drop one TE for master and another for detailed view. In master TE, Switch **Enable row selection** on:



In the Table Editor you want to use for details, switch **Layout** to *Details*:



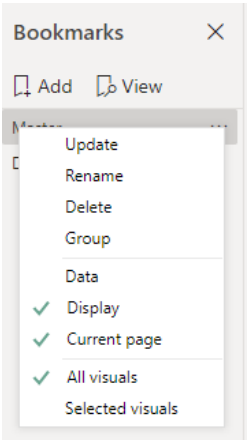
If you will insert new rows in the detailed view, switch **parent column** as described at Parent column



Enable bookmarks: In view menu in Power BI desktop, turn ON Bookmarks Pane.

Show/hide visuals: In view menu turn ON Selection pane. With this you can show/hide visuals on a page.

Design page layout: Two bookmarks needed. On 'master' bookmark hide the detailed Table Editor, on detailed bookmark hide master Table Editor. On each bookmark, unmark the **Data** option so the master TE can filter the detailed one:



You can use shapes to navigate between bookmarks, there is an *Action* property where you can set what should happen once clicked.

Storing image in columns

Combining the latest version of the Write-back Service (at least the version from July 2020, consult the knowledge base on how to update the Webservice) with the Table Editor Rich text feature, you can save images into columns. To do that, you need to do the followings:

- Edit the web service's web.config file, add the following key to the app settings collection: <add key="StoreImages" value="True" />

With the above instead of storing the images as base64 strings inside the target SQL column, it will be converted and saved as a jpeg file in the web service's Images folder. That is necessary to overcome html tag string length limitation set by the PowerBI service. Otherwise saving large images would result in an error while rendering the report.

- In the visual's configuration under [Column properties] for the target column set the type to TextArea, and turn ON the Rich Text feature

You can find some more complex examples in these articles:

- https://support.poweronbi.com/portal/en/kb/articles/saving-images-to-columns-with-table-editor
- https://support.poweronbi.com/portal/en/kb/articles/table-editor-saving-images-as-comments

Troubleshooting

For all cases, please visit our Knowledge Base at: https://support.poweronbi.com/ to find a solution for your problem. Below you can find common cases. If your issue cannot be solved by the provided materials, please open a ticket on our support site, and Power ON will assist you. Also, you can use the debug settings of Table Editor – described in the next chapter - to acquire more details on the problem.

Column Type configuration setting is not showing up in [Column Properties]

Symptom: The property Column type is not showing up at all.

Cause: There can be three reasons for this: one or more of the following properties are not set correctly:

- Source Table – case sensitive, must match the table name
- Web service
- Connection Name / Type

Solution: Please read the relevant chapters in this document.

Cell cannot be selected, no value can be entered

Symptom: You have a write-back capable cell, but you cannot click into the input field, you cannot enter any value. The cell is not showing the selected status – default format is red bordered.

Cause: Most possible cause is that the *column was renamed* in the Power BI report. Each column you use as a write-back target should have the exact name as it is in your SSAS model, or in the case of SQL-only connection, the name of the columns should correspond to the SQL table columns. It is very typical that for instance in SQL you have a CustomerName column, which is renamed to Customer Name in the report.

Another reason can be that the *Source Table* property is not set properly. Please read the relevant chapter in this document.

Also make sure that *Don't summarize* is set for the field in question.

Solution: Match the names. You can give your desired header title for the column in the [Column Properties] » **Title** section. Examine the Source Table property, set the field to don't summarize.

Please refer to these articles:

- https://support.poweronbi.com/portal/kb/articles/troubleshooting-writeback-and-dropdown-columns
- https://support.poweronbi.com/portal/kb/articles/trouble-shooting-data-entry-in-visual-table-editor

Missing ID

Symptom: You receive a Missing ID message when you try to save modifications.

Cause: The followings can be:

1. Your target SQL table for the write-back does not have a primary key defined
2. The primary key of the table is not imported/visible in your model

3. The primary key field is not part of the column collection of the visual
4. The Column Type property is not set to ID for the field.
5. The column has been renamed.

Solution: Depending on the cause you should make the following adjustments:

1. Create a primary key on the table (see pre-requisites) and import it to your model
2. Import your existing primary key and make it visible in your model
3. Add the primary key field to the visual. You can turn the visibility of for the column.
4. Set the Column Type property for the primary key to be ID.
5. Match the column names as it described in the pre-requisites section.

Network Error

Symptom: You receive Network Error message when you try to save data.

Cause: You may get this error typically in the following cases:

- the write-back service URL is not set correctly – or it is malformed - in the [Data Entry] settings
- the write-back service is not reachable or off-line
- bad connection name or/and type was specified
- the license service is stopped unexpectedly
- Missing files in the web service folder, or typo / malformed strings in the web.config file
- Windows / Kerberos authentication issue
- Missing Service Principal Names
- Missing Active Directory permissions for service accounts
- Report server URL web service URL format mismatch
- Invalid SSL certificate

Solution: Make sure that the write-back service is up and running and reachable (firewall not interfering) as it is described earlier in this document. Verify that the referenced connection exists in the write-back service configuration and the connection type is selected correctly.

A particular error can indicate a license service failure. Please refer to this article:
https://support.poweronbi.com/portal/kb/articles/error-the-communication-object-system-servicemodel-channels-servicechannel-cannot-be-used-for-communication-because-it-is-in-the-faulted-state

If you encounter CORS issue, please check the web.config file of the write-back service for typo-s, and also missing DLL-s and config files inside the web service folder. As a last resort, try updating the web service file following these articles:

- https://support.poweronbi.com/portal/kb/articles/how-to-update-the-service-manually-azure-cloud
- https://support.poweronbi.com/portal/kb/articles/how-to-update

If you encounter SSL error, make sure that the certificate is issued by a trusted authority for the full qualified domain name of the IIS server, or that the certificate is set to ignore by the client's browser in case of self-signed certificate, or if the certificate is issued internally by your organization and you try to reach the report outside of the organization domain.

If you are using Power BI Reporting Services on-premises, make sure that the Report Server URL and the web service URL format matches. Either both have to reference the machine name or the full qualified domain name, and both have to be http or https.

In the case of on-premises installation in a domain with Windows Authentication, make sure that Service Principal Names are created for your SQL and SSAS servers and the correct domain users are used for the services. An SPN is also needed for the service account that is running the PPWebService on the IIS machine as the Application Pool user. Make sure that delegation is enabled in your Active Directory from the App Pool's user (which must be a trusted user) to the SQL/SSAS services. If these are not set correctly, Kerberos authentication issues can occur, which might result in HTTP 403 or 404 errors or log-in popups appearing. Please refer to the following article and contact your internal IT team:
https://support.poweronbi.com/portal/kb/articles/configure-iis-for-kerberos-authentication

The visual is not working in Power BI Desktop or the settings are not shown.

Symptom: The visual is not rendered, or Table Editor specific setting are not displayed (like [Data Entry], [Column Properties], etc.)

Cause: Generally, there can be two reasons for this:

- your machine is running out of memory, therefore Power BI Desktop cannot render the elements properly
- your Power BI Desktop Cache is outdated.

Solution: Free up memory on your computer by closing other applications. For clearing the Power BI Desktop cache, please refer to the article in our Knowledge Base at:
https://support.poweronbi.com/portal/kb/articles/power-bi-desktop-clear-cache

Save Failed

Symptom: You receive Save Failed message when you try to write-back to the selected table.

Cause: You may get this error if there is a configuration error in your visual, the write-back service is not configured properly, or in the following cases:

- there is a custom validation implemented that prohibits write-back
- SQL objects are interfering with the data modification TSQL statements (like security policies, triggers, unique constraints, etc.)
- the service account used by the write-back service does not have permission on the underlying SQL database to make the necessary modification on the source table

Solution:

- Check if the service account has the necessary permissions, the password has not expired
- Verify that RLS policies or triggers are not prohibiting the operations

As there can be various reasons for this error, review the paragraphs in this chapter and please also visit our Knowledge Base to find the solution at: https://support.poweronbi.com

If you were not able to overcome your issue, please submit a ticket on our support site or write as at vizsupport@poweronbi.com and we will contact you shortly to help you investigate and fix the problem.

Debug

Diagnostic Mode

By default, Diagnostic Mode is disabled, so the whole content of Debug property group is disabled.

Turning it ON reveals all the debug settings. These settings are for debugging and developing purposes for developers in the first place.