



Write-back & Planning for Power BI. Period

Power ON Visual – Power XL Pivot v1.2.1

# Documentation and Troubleshooting Guide

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## Introduction

This document describes Power ON's **write-back** capable tool, **Power XL Pivot (PXLPI)**. The product is a custom visual developed for Microsoft Power BI, that enhances the user experience by enabling end-users to make permanent changes to data – aka write-back – by targeting measures and DAX expressions.

On the following pages you will see/ learn

- a **detailed** overview of Power XL Pivot visual,
- 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 meet and how to overcome them.

## Audience

The **audience** of this document are both technicians (developers, DBAs, BI professionals) who are aware of the depths of SQL Server, Tabular models, Azure Services, Excel and Power BI, but also users who mostly focus on building and preparing reports using Excel or Power BI Desktop.

Some sections are focusing on more technical specific subjects.

## Contact us

If you find something unclear for you, ask for support either from your local IT or from Power ON by submitting a ticket on our site: <https://support.poweronbi.com>.

## Overview

Power XL Pivot lets users make changes to figures that result from DAX expressions defined aggregations. In traditional dimensional modeling, these aggregations are calculated on fact tables. The context of the calculation is determined by the dimension – or lookup – tables that are in a relationship with the fact table. PXLP makes updating the result of your measures possible.

Power XL Pivot offers the following built-in features and components:

- Write-back values to the underlying data source
- Make changes to figures by using smart formulas or exact values
- Update values on totals, subtotals that cascade down to members
- Enter, paste Excel formulas, smart formulas
- Supports copy and paste selected cells to / from the visual
- Create comments on cells
- Conditional formatting for any type of column
- Supports copy whole PXLP with headers:
  1. Press [CTRL] + [a] → this selects the data table (corner cells, header cells, content cells)
  2. Press [CTRL] + [c] → the selected content will be copied to clipboard.
- and many more.

It is worth describing at an elevated level **how write-back works** for Tabular models. Depending on your data source (Power BI Premium dataset, SSAS dataset) Power ON Write-Back Service performs the following operations:

- Captures the modified value together with its **tuple** (intersection of dimensions on which the measure is calculated for the given cell) and the user context. After the service understands what to do, based on the Tabular model structure (relationships, table queries and measure definitions) it composes T-SQL statements that should be executed.
- Executes the compiled T-SQL statement against the underlying data source (fact table) to save the modifications
- In the case of Power BI premium dataset or SSAS in-memory models it will reprocess the table.
- 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 [Visuals] » [Visual Planner] for common use cases, tips, troubleshooting tools.

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

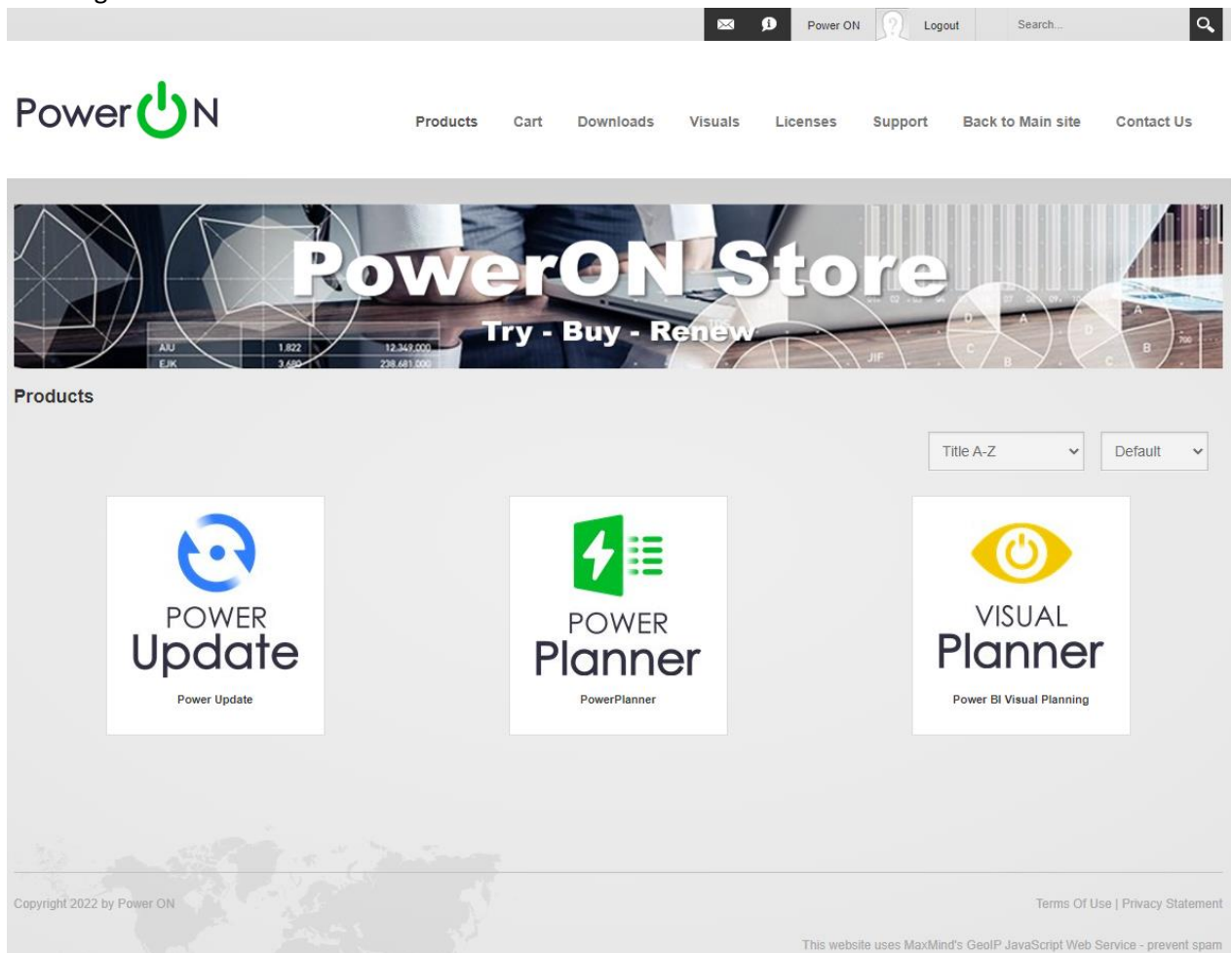
## Versions

This document describes the **latest version** of Power XL Pivot.

The most recent visual is **powerXL\_pivot.1.2.1.pbviz**.

How can you download the different versions?

1. Register at **store.poweronbi.com** site with the same domain name you have registered originally. During the registration, please make sure to use the email address for both the username and email address field.
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 |                       | <a href="#">Download</a> |
| barChart for VPPortal                      |            |                       |                          |
| Version                                    | Date       | Release Notes         | Link                     |
| 1.3.20                                     | 08/19/2021 |                       | <a href="#">Download</a> |
| dataEntryMatrix v3 (automatically updated) |            |                       |                          |
| Version                                    | Date       | Release Notes         | Link                     |
| 3.4.45                                     | 03/01/2021 |                       | <a href="#">Download</a> |
| dataEntryMatrix v4                         |            |                       |                          |
| Version                                    | Date       | Release Notes         | Link                     |
| 4.6.0                                      | 07/26/2021 | <a href="#">Notes</a> | <a href="#">Download</a> |
| 4.5.0                                      | 05/18/2021 | <a href="#">Notes</a> | <a href="#">Download</a> |
| 4.4.29                                     | 04/06/2021 | <a href="#">Notes</a> | <a href="#">Download</a> |
| 4.4.0                                      | 02/22/2021 | <a href="#">Notes</a> | <a href="#">Download</a> |
| powerGantt                                 |            |                       |                          |
| Version                                    | Date       | Release Notes         | Link                     |
| 1.0.0                                      | 05/19/2021 | <a href="#">Notes</a> | <a href="#">Download</a> |
| smartFilter (automatically updated)        |            |                       |                          |
| Version                                    | Date       | Release Notes         | Link                     |
| 1.1.15                                     | 08/18/2021 |                       | <a href="#">Download</a> |
| smartFilter for VPPortal                   |            |                       |                          |
| Version                                    | Date       | Release Notes         | Link                     |
| 1.1.15                                     | 08/19/2021 |                       | <a href="#">Download</a> |
| tableEditor v2                             |            |                       |                          |
| Version                                    | Date       | Release Notes         | Link                     |
| 2.8.0                                      | 08/10/2021 | <a href="#">Notes</a> | <a href="#">Download</a> |
| 2.7.52                                     | 05/17/2021 | <a href="#">Notes</a> | <a href="#">Download</a> |
| 2.7.51                                     | 05/05/2021 | <a href="#">Notes</a> | <a href="#">Download</a> |
| 2.7.47                                     | 03/01/2021 | <a href="#">Notes</a> | <a href="#">Download</a> |
| vpService (automatically updated)          |            |                       |                          |
| Version                                    | Date       | Release Notes         | Link                     |
| 1.0.20                                     | 04/13/2021 | <a href="#">Notes</a> | <a href="#">Download</a> |
| 1.0.18                                     | 04/13/2021 | <a href="#">Notes</a> |                          |

5. Pick the preferable version of Power XL Pivot and click on [Download](#)
- 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, to build a report, first you must **import the powerXL\_pivot.1.2.1 and vpService pbviz** files into your Power BI Desktop instance. You need to do that for each report in which you want to use PXLP. The visuals 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 the case of Power BI cloud services, there is a way 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>

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

In the case of **on-premises** 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 the case of **Azure**, the Web Applications are accessible by default. The webservice must have a dedicated connection string configured for the data source in the web.config 'connectionStrings' section that is pointing to the used Power BI premium dataset or SSAS Cube.

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:

- administration rights on the cube, plus data reader and data write roles on the underlying data source database of the cube
- if you intend to use the Commenting feature, the SQL permissions must be elevated to dbo, otherwise data reader and data writer roles are sufficient.

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

- data reader membership on the Power BI premium dataset or SSAS cube

In case of impersonation enabled, then the end users must have data writer role on the underlying SQL databases.

## VPService visual

The VPService is a helper visual that sets up the connection between our newest visuals and the Write-Back Service. VPService is updated automatically from the web, you do not need to update it manually, like other non-legacy versions of the visuals.

The benefits of this solution:

- faster release processes: switching from one version to another is much faster, which results in quicker support from our side (e.g.: in the 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)

## How to configure VPService visual

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 Power XL Pivot 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** as in Power XL Pivot ([Power XL] tab » [Data Entry] section » **Writeback Service URL**)!

## Warning message

**VPService is not connected!**

This warning message can be seen, when

- the user is building the report *in PowerBI Desktop*,
- the report is in *Edit mode*,
- the report is in Reading View mode and the user tries to save the changes and *there is no VPService connection*.

**VPService is not connected.  
Request has been queued.**

This applies to all VPService based visuals (e.g.: > TE v2.7.23, DEMx v4.x, PowerGantt, Power XL Table visuals).

## Tabular Model requirements

The most important thing is that you must have a **Power BI premium dataset or SSAS tabular** model created. Without a Tabular semantic model, write-back on measures cannot be done.

The following conditions must meet your Tabular Model:

- **Power Query** data sources for tables are supported but only **without ANY transformation**. If you have an ETL-like logic in your table definitions using Power Query:
  - consider moving that logic back to the SQL Server level (with writable views)
  - or make the transformation in your data flow (SSIS) so that you have fully prepared data in your data warehouse
  - or you can augment your model and can create separate tables for write-back.
  - In case of SSAS, the best practice is to use native SQL query definitions for your entities.
- **Calculated tables** cannot be used for or during the write-back. You can have calculated tables in your model, but you cannot use that table in the PXLP visual (neither on rows, nor on columns), and you cannot use that calculated table as a filtering element (like slicers, page/report level filters). If you have a calculated table in your model, you will need to turn OFF strict model structure checking – described in Models with calculated tables and columns chapter – otherwise you will receive an error. Best practice is to create a separate perspective in your model where you have only the supported entities.
- **Calculated columns** cannot be used for or during write-back. You can have calculated columns in your model, but you cannot write-back on them, neither can you use these columns as dimension members on the DEMX's rows or columns.
- **Relationships** based on calculated columns are not supported. The relationships defined in your Power BI premium dataset or SSAS model must be able to be mapped to SQL tables and join operators. Every column which is part of a relationship cannot be hidden in the model.
- Write-back on **simple and additive measures** are supported by default, these are:
  - SUM(), AVERAGE()
  - And if only one column is used in the expression: SUMX(), AVERAGEX()
  - Datatype of numeric column which is included in a measure must be float
- To support write-back on **complex measures** you need to fill in the **Description** field of your measure – in Visual Studio or Tabular Editor – that will tell the service which table and column it should target when committing the operation.
- **Complex measures** which:
  - have multiple different columns in the expressions
  - changes the filter context (CALCULATE, FILTER, ALL, etc.)
  - works with tables (CALCULATETABLE, ADDCOLUMNS, SUMMARIZE, etc.)
- Example measure: SUMX(Sales; Sales[Quantity] \* Sales[UnitPrice])
  - In this case if you want the Quantity field to be changed put Quantity in the 'Description' property of your measure.
- **Limitation in measures:** In a complex measure, only multiplication or division operations are supported. The engine works with ratios therefore cannot handle addition and subtraction.

## Limitations

As with all custom visuals developed for Power BI, due to Microsoft's policies PXLN also has the following limitations:

- **Renaming columns** and tables in the Power BI report is **not supported**. They must be the same as they are called in the used data source. In the 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).
- The characters '[' and ']' (**brackets**) are **not supported** in measure names
- The character '.' (**dot**) is **not supported in table names**, but they 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 follows the required format and use that view when writing back.
- All custom visuals developed for PowerBI have a default limitation set by Microsoft which is that 30000 records can be displayed at one time. In the case of the DEMX visual this means **30000 cells**. If the product of the number of the rows and columns (dimension members) used in your matrix exceeds this, consider using slicers in your report so that you will edit only a subset of the data and have a seamless workflow.
- **DAX Expression COUNTROWS(Table)** is not supported for write-back.
- Non-writable **views** which serve as a data source for the fact 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-writable views have 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.
- In the case of on-premises **Power BI Report Server** at least January 2019 version is required together with Power BI Desktop 2019 January or more recent versions.
- If you use **slicers**, page-, report-, or visual level filters you must use the **SmartFilter** helper visual as well. This is described in the [Importance of SmartFilter](#) chapter.
- When the rows are drilled up to the highest level, the collapsing cannot be used.

## Setup and configuration of the visual

This main section describes the available configuration options for Power XL Pivot. Also, the following pages describe **short** step-by-step instructions for building a **simple** report using PXL P. You will find the details of the configuration elements later in this document.

### Validate the Write-Back Service

After installation you might want to be sure that the Write-Back Service is installed properly. You can confirm 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://tszdel12015/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.

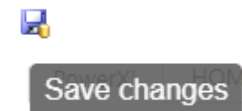
        ' Always close the client.
        client.Close()
    End Sub
End Class
```

## Power XL Pivot legend

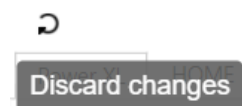
The screenshot shows the Power XL Pivot application interface. The top ribbon includes tabs for Power XL, HOME, INSERT, FORMULAS, DATA, VIEW, SETTINGS, PIVOTTABLE ANALYZE, and DESIGN. The DESIGN ribbon is expanded, showing options like 'Save Layout', 'Import', 'Reset', 'Enable Xlsx export', 'Enable Pdf export', 'Writeback Service URL' (https://ppwebse), 'Connection' (PowerOnTraining), 'Data Type', 'Model Connection Str', 'Auto-fit Columns', 'Manage', 'Enable goal seek', and 'Goal Seek'. The main area displays a pivot table with columns for BrandName, Product Name, and various months. The PivotTable Fields task pane on the right shows the 'sheet(s)' filter. Annotations with red boxes and arrows point to these specific elements.

Designer ribbon can be collapsed with ^ symbol in its right bottom corner.

Helper tooltips appear if you hover above the icons:



You can edit data on the pivot table in the pivot sheet, then press the [Save changes] button to save them into the data source using the Write-back Service.



You can discard all cell data changes, comment changes by clicking on [Discard Changes] button. This function also resets the layout to the last saved layout.



By selecting a cell on the pivot table and pressing the [Add comment] button you can add / update a comment for that intersection of data (tuple). Saving the comment in the data source only happens after you click on the [Save changes] button.



By selecting a cell on the pivot table and pressing the [Delete comment] button you delete a comment for that intersection of data (tuple). Deleting the comment in the data source only happens after you click on the [Save changes] button.



### Set goal seek



### Export to Pdf

Using the [Export to PDF] button you can export the current workbook state to a PDF file. PDF export only supports Portrait mode with a fixed page size and margins.



### Export to Xlsx

Using the [Export to Xlsx] button you can export the current workbook state to an .XLSX Excel file.

The export preserves the PivotTable and the hidden PivotData sheet, and it is no longer linked to the Power BI data.

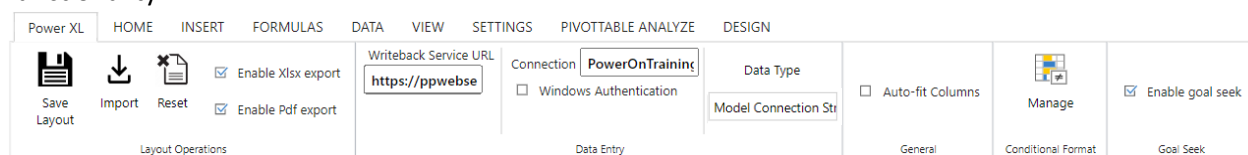
## Setting up the basics

After you launched Power BI Desktop, connected to a data source, and imported the visuals (VPSERVICE, Power XL Pivot) into your report, configure VPSERVICE visual.

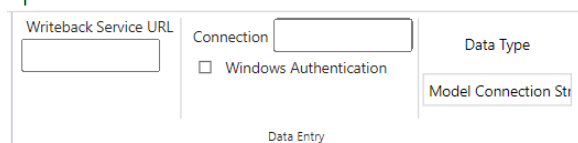
We must tell the visuals where they can find the Write-Back Service and which connection they should use during the process. [You can see detailed information in this chapter on how to configure VPSERVICE.](#)

⚠ Unlike other Power ON custom visuals, in case of Power XL family  
**please use the designer ribbon,**  
 if you want to set something up.

The configuration options will appear in the designer ribbon **after** you drop the first column into **Power XL Pivot** visual. You must complete the following steps to have a working report element for the write-back functionality.



## Specific details



[Power XL] tab of the designer ribbon » [Data Entry] section: you must set the **Writeback Service URL**, **Connection** and **Type** properties (see referring chapters) to make the Write-Back Service working.

**Note!** The content of **Writeback Service URL** property must be **exactly the same** as in VPSERVICE visual ([Web Service] » **Url**).

Also please make sure you use the pivot properly, meaning adding measure(s) to the Values and multiple dimensions to Rows and Columns. A table supports two dimensions; however, pivot makes easier to

display data across multiple dimensions. Dimensions are usually text or date(time) type of values, the measures are numeric values.

### Writeback Service URL

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](http(s)://WEBSERVICE_COMPUTER_NAME/PPWebservice/PPWebservice.svc)

Be careful **not** to have an extra slash at the end of the URL.

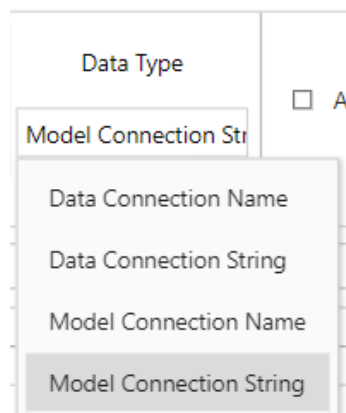
### Connection

Specify the name of the Tabular model connection (Power BI premium dataset or SSAS model) defined in the web.config file of the webservice, or the connection string directly, or **leave blank** depending on the 'Type' setting.

**Note:** Maximum length of this property is 250 characters.

### Data Type

This possibility refers to the connection type that the Write-Back Service will use.



The setting is required.

- *Model Connection Name*: Set a connection name in the 'Connection' property defined in web.config of the webservice
- *Model Connection String*: Set the connection string directly in 'Connection' property (leave the connection blank if using the default "**Model Connection**" in set in the web.config of the webservice)
- *Data Connection Name*: Do not use this option
- *Data Connection String*: Do not use this option

The *Model Connection String* options is used for testing, developing purposes primarily.

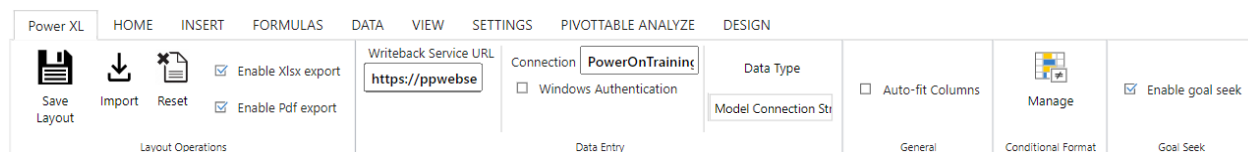
### Publishing and testing the report

When you have finished your report, publish it to either your On-premises Power BI Report Server or to PowerBI.com. After publishing your report try to change the cell value and click on [Save changes] icon. Your modification should be visible in your report.

Completing the above steps, you should have a working, simple, write-back capable report using Power XL Pivot visual.

## [Power XL] tab

The [Power XL] tab contains the Power XL Pivot specific settings. All other designer tabs are general Spreadsheet tabs.



## Layout Operations

### Save Layout

Saving the configurations, styles, settings, conditional formatting etc. which have been set up on designer ribbon.

In Power BI 'Edit mode', report designers can edit the visuals' settings and persist them, by saving the report. If you modify the content of [Power XL] tab only, saving the report is enough to persist the settings. If the report layout (e.g.: formatting, pivot field list, etc.) is also changed, the 'Save Layout' button on the designer ribbon also needs to be pressed before saving the report.

### Import

**Import is disabled in the current 1.2.1 version of the Power XL Pivot!**

A workbook layout including the pivot table can be imported.

The imported Pivot table needs to be on the Pivot sheet.

### Reset

If you click on the [Reset] button, it drops the layout, the content of external cells and cancels import.

It does not reset Power BI settings on designer ribbon.

Imported / Saved layout can be reset to a blank Pivot sheet / workbook using the Reset Layout button.

### Enable Xlsx / PDF export

Turning it ON it enables the export Excel / PDF export on the button row on top of the designer ribbon.

Using the [Export to PDF] button you can export the current workbook state to a PDF file. PDF export only supports Portrait mode with a fixed page size and margins.

Using the [Export to Xlsx] button you can export the current workbook state to an .XLSX Excel file. The export preserves the PivotTable and the hidden PivotData sheet, and it is no longer linked to the Power BI data.

## Data Entry

These settings set up the connection details for the Write-back Service.

### Windows Authentication

If you are in an On-premises environment using Power BI Report Server 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 (Active Directory), the setting should be turned OFF, so that AD credentials will be used when accessing the data source.

In the case of Gateway turning ON Windows Authentication 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 it possible to use impersonation, and it is **necessary to be turned ON if Windows Authentication** is the required choice set for authentication in IIS for the Write-Back Service.

## General

### Auto-fit Columns

Turning it ON it will automatically change the column widths equally.

## Conditional Format

### Manage

The report designer can create conditional rules for the Pivot sheet under [Home] » Styles » Conditional Format » Manage, then use the [Power XL] » Conditional Format » Manage form to assign Conditional rules to Value fields in the Pivot table. (Multiple formatting rules can be assigned to multiple Value fields which are evaluated in order of creation.)

The conditional rules are only applied to non-total cells. Formatting due to conditional rules overrides other formatting, including goal seek background color.

## Goal Seek

### Enable goal seek

You can use the goal seek functionality to only modify selected cells to achieve a target goal.

Consider the example below, where we want to decrease of total sales by 3% for the APPLE brand for April month, but by only modifying the Apple 0.5l bottle and can product.

You can do it by selecting the product cells and marking them for goal seek by clicking on Set goal seek icon, followed by a dec3% smart formula applied on the sub total row.

When you hit [Enter] key on your keyboard, that 3% decrease will be distributed amongst these two products.

## Documentation and Troubleshooting Guide

| Sum of Quantity_E | BrandName   | Productct Name    | ShortMonth |
|-------------------|-------------|-------------------|------------|
| 4,322,566         | APPLE       | Apple 0.5l bottle | 4,322,566  |
| 4,392,436         | APPLE       | Apple 0.5l can    | 4,392,436  |
| 2,784,322         | APPLE       | Apple 0.5l KEG    | 2,784,322  |
| 5,372,406         | APPLE       | Apple 3l can      | 5,372,406  |
| 1,322,290         | APPLE       | Apple 3l KEG      | 1,322,290  |
| 18,194,020        | APPLE Total |                   | 18,194,020 |

You can turn OFF this functionality too. In this case the icon (  ) disappears from the icon row.

## Edit data

You can edit data in Power XL Pivot by multiple methods:

- Enter values, smart formulas or Excel formulas into a cell.
- Paste values or Excel formulas.
- Drag cells with values or Excel formulas.

## Spreading

Updated values currently dynamically spread down proportionately on the client-side (if the original cell value is 0 or empty equally) to the underlying data loaded from Power BI (this data might already be aggregated).

Only additive measures are currently supported for client-side spreading.

## Smart Formulas

You can enter smart formulas instead of a value, e.g.: inc1000, inc10%, dec10000, dec10%, mul2, div2.

You can invoke smart formulas on cells. Instead of typing exact values, you can use the following formulas:

- inc# : increases the value by the given # number

- inc%# : increases the value by the given # percentage
- dec# : decreases the value by the given # number
- dec%# : decreases the value by the given # percentage
- mul# : multiplies the value by the given # number
- div# : divides the value by the given # number
- E# : only usable on total or sub totals. Will evenly distribute the # number between the detail rows in the aggregation group instead of proportional distribution.

Multiple Smart Formulas can be applied in the same cell e.g.: inc5 mul3 dec8%

### Equal allocation

If you enter “E” before the value (e.g.: E100000), equal spreading is applied instead of proportional spreading.

**Note!** The result of actual spreading performed on the server side might be different than the client-side spreading “preview” in the case when the data used in the visual is already on an aggregated level or if the measure used in the visual is not additive.

### Enter Excel formulas / Paste values, formulas

You can enter an Excel formula like =D3\*3 instead of a value.

You can paste one or more values / formulas to one or more cells. Copying / Pasting works the same way as it works in Excel.

**Note!** Pasting skips read-only cells. Pasting values and formulas can be mixed.

### Using SmartFilters

On its own the Power XL Pivot visual is not able to pick up external report slicers or filters that are not part of the field list of the Pivot Table in the Pivot worksheet. For each of these external filters or slicers a SmartFilter helper visual needs to be added to the report with the relevant filtered field added to the field list of the SmartFilter.

The tuple used to store a comment should contain selections received from SmartFilter helper visuals or Pivot Slicers added to the Pivot table in the Pivot worksheet of the Power XL Pivot visual, but only if a single item is selected. In this case multiple items are selected that are ignored in the tuple.

## Write security measure

If you add a Field to the field list of the visual that starts with the same name as another field added to the value fields area of the pivot table and ends with `_Security` (e.g.: the Pivot table contains the Quantity field in the values area, and the visuals field list contains the Quantity\_Security field, which is not added to the any areas in the Pivot Table). Then the `_Security` field is treated as a write-security field for that value field. If the value of the write security field in any of the underlying records loaded from Power BI (might be aggregated) for a cell in the Pivot table contains 0, false, "", or NULL then the cell becomes read only.

## Troubleshooting

! Please keep in mind, that when we support our clients and partners we are focusing on our product and not on Excel functionalities.

For all cases, please visit our Knowledge Base at: <https://support.poweronbi.com/> to find a solution to 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 help you.

### 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 stopped unexpectedly
- in case of On-premises or Gateway installations the Windows Authentication setting is turned accordingly in the visual under Data Entry based on the IIS authentication settings
- 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 meet a CORS issue, please check the web.config file of the Write-Back Service for typos, and 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 meet an 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 must reference the machine name or the full qualified domain name, and both must be http or https. Also, if Windows Authentication is set in the IIS configuration make sure that **Windows Authentication** is enabled in your visual under [Data Entry] group.

In the case of On-premises installation in a domain with Windows Authentication, make sure that Service Principal Names (SPN) 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 Power XL specific settings are not displayed.

**Cause:** There can be two reasons for this generally:

- 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 cell.

**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

If you are not able to overcome your issue, please submit a ticket on our support site or write at [vizsupport@poweronbi.com](mailto:vizsupport@poweronbi.com) and we will contact you shortly to help you investigate and fix the problem.