

Querying SharePoint Data in Power BI

Options & Performance

August 15th, 2024



About Me

Experience

- 11+ years with Microsoft BI stack
- 8+ years with PowerPivot/Power BI
- 5+ years with Azure DevOps

Contact Me

X @JKerski

in John Kerski

 Blog

Credentials

- MCSE: Productivity
- MS: PBI Data Analyst
- PMP



John Kerski



Slides:



Agenda

- SharePoint Online List Version 1
- SharePoint Online List Version 2
- OData
- Custom-made (Web.Contents)

SharePoint Online List Version 1



A screenshot of a configuration dialog box titled "SharePoint Online Lists". The dialog has a close button (X) in the top right corner. It contains a text input field for "Site URL" with a help icon (i) to its right. Below this is a section for "Implementation" with two radio button options: "2.0" and "1.0". The "1.0" option is selected, indicated by a green dot. At the bottom left, there is a link "Advanced options" preceded by a right-pointing triangle. At the bottom right, there are two buttons: "OK" (green) and "Cancel" (white with a grey border).

SharePoint Online Lists

Site URL ⓘ

Implementation

☐ 2.0

☒ 1.0

▸ Advanced options

OK Cancel



SharePoint
V1 Connector

The background image is a scene from the animated movie 'Wreck-It Ralph'. Ralph, a large, muscular man with spiky brown hair and a red shirt, is holding a large silver tray with several stacks of pancakes. He is looking down at the pancakes with a determined expression. In the foreground, there is a round table with a pink polka-dot tablecloth. A small white rabbit-like character is sitting on a chair to the left of the table, holding a fork with a pancake. A small blue cat-like character is sitting on a chair to the right of the table. In the background, there is a pink counter and shelves filled with various pastries and donuts.

Power BI

With larger lists...



V1 - Pros & Cons

Pros

- Easy To Use
- Good for small lists (< 5,000 items)

Cons

- Get More Data Than Needed
- Lots of “Cleanup” Power Query Steps
 - Remove Columns
 - Expand Columns
- Slow for larger lists
 - Especially with several lookups

Roche's Maxim on Data Transformation

Data should be transformed as far upstream as possible, and as far downstream as necessary

SharePoint Online List Version 2

×

SharePoint Online Lists

Site URL ⓘ

Implementation
☒ 2.0
☐ 1.0

⌵ Advanced options
View Mode

Default - Retrieve the columns set in... ▾

OK

Cancel

V2 - Pros & Cons

Pros

- Easy To Use
- Good for small lists (< 5,000 items)

Cons

- Public View dependency could lead to schema drift
 - Or Errors
- Slow for larger lists
 - Especially with several lookups

OData

×

OData feed

☒ Basic ☐ Advanced

URL

OData - Example

ABC 123	firstname	ABC 123	gender	ABC 123	sentence	ABC 123	bool	ABC 123	ID	ABC 123	Modified	ABC 123	Modified By	
	Delbert		Male		Cum sociis natoque penatibus et magnis dis parturient montes, nascet...		TRUE		1		2024-02-27T20:54:03Z		Record	
	Nell		Female		Curabitur in libero ut massa volutpat convallis. Morbi odio odio, eleme...		TRUE		2		2024-02-27T20:54:03Z		Record	
	Khalil		Male		Morbi vestibulum, velit id pretium iaculis, diam erat fermentum justo, ...		TRUE		3		2024-02-27T20:54:03Z		Record	
	Gordan		Male		Morbi vel lectus in quam fringilla rhoncus. Mauris enim leo, rhoncus se...		TRUE		4		2024-02-27T20:54:03Z		Record	
	Hayyim		Male		Morbi a ipsum. Integer a nibh. In quis justo.		FALSE		5		2024-02-27T20:54:03Z		Record	
	Jordan		Male		Donec quis orci eget orci vehicula condimentum.		FALSE		6		2024-02-27T20:54:04Z		Record	
	Currey		Male		In est risus, auctor sed, tristique in, tempus sit amet, sem. Fusce conse...		FALSE		7		2024-02-27T20:54:04Z		Record	
	Deane		Male		Suspendisse potenti. Nullam porttitor lacus at turpis. Donec posuere ...		TRUE		8		2024-02-27T20:54:04Z		Record	
	Tracy		Female		Nulla ut erat id mauris vulputate elementum. Nullam varius. Nulla facil...		FALSE		9		2024-02-27T20:54:04Z		Record	
	Tobiah		Male		Nam congue, risus semper porta volutpat, quam pede lobortis ligula, s...		FALSE		10		2024-02-27T20:54:04Z		Record	

`/_api/lists/GetByTitle('SampleData')/items?$select=field_1,field_3,field_6,field_7,ID,Modified,Editor/EMail,Editor/Title&$expand=Editor&$top=5000`

OData - Pros & Cons

Pros

- Good for large lists

Cons

- You must learn OData syntax:
[Working with lists and list items with REST | Microsoft Learn](#)
- Defaults to SharePoint Paging Limit
 - 5,000 items, 100-page limit
 - 50 network calls

Custom-made (Web.Contents)

fnGetFields

- *You*
 - Supply list name
- *Function*
 - Contacts the /fields endpoint in SharePoint to retrieve the pertinent columns about the SharePoint list.

Table of Fields

- *You*
 - Filter fields furthermore to refine query.

fnGetSharePointData

- *You*
 - Supply the Table of Fields
 - Provide any additional filters.
- *Function*
 - Converts Fields into Odata query.
 - Automatically expand results.

[An alternative way to import SharePoint list data into Power BI. \(github.com\)](#)

[Share a query - Power Query | Microsoft Learn](#)



Results on a Premium Capacity

Dataset	Median – Seconds to Refresh	Standard Deviation – Seconds to Refresh	Number of Refreshes
V2	52.0	3.8	60
V1	44.6	3.4	60
OData	15.1	3.1	60
Custom-made	9.0	18.0	60

Custom-made - Pros & Cons

Pros

- Good for large lists
- You don't have to learn OData syntax
- You can use template to generate OData you

Cons

- Standard Deviation was slightly higher
- Combining Data from different SharePoint site may conflict with privacy settings
 - Alternative: Do this in dataflows.

Questions?



How was the session?

Search for **WHOVA**
in the App Store or
Google Play



Fill out the Surveys in the
TechCon365DC Event App
and be eligible to win **PRIZES!**

