Querying SharePoint Data in Power BI

Options & Performance

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About Me

John Kerski

Microsoft® MVP Most Valuable Professional

Experience

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

Credentials

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

Contact Me

John Kerski

Blog

Slides:

Agenda

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

SharePoint Online List Version 1

SharePoint
V1 Connector
Power BI

With larger lists…

V1 - Pros & Cons

Pros

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

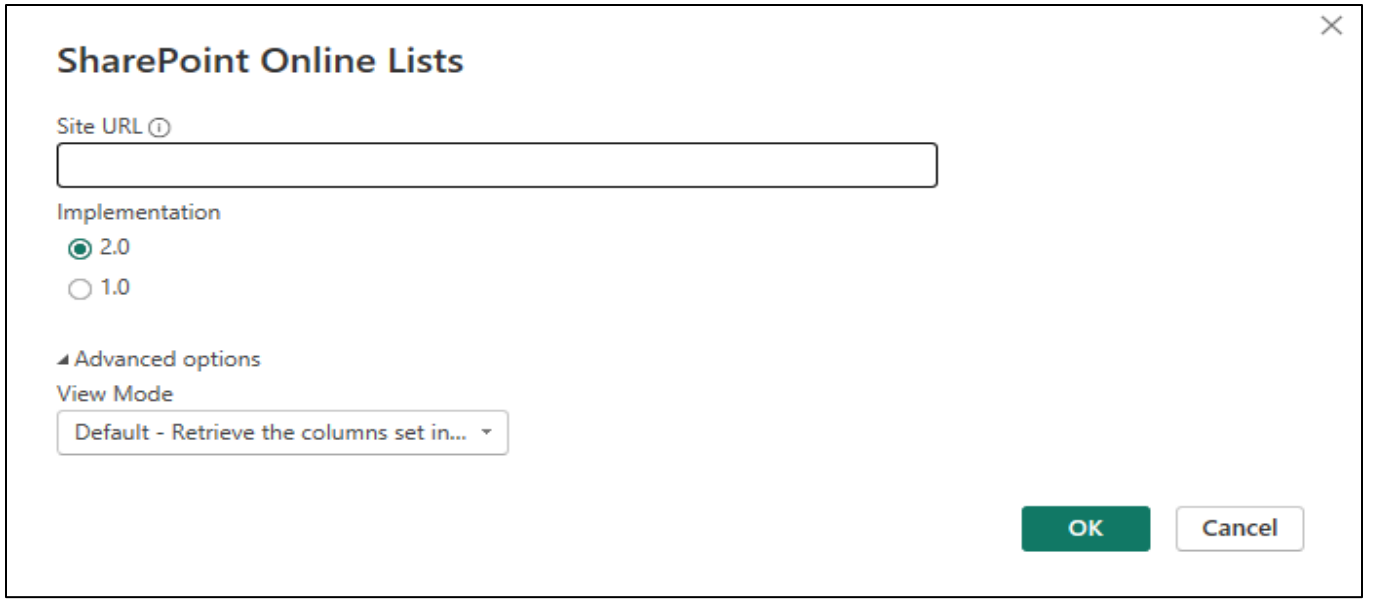
Cons

- 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



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
http://services.odata.org/Northwind/Northwind.svc
OK
Cancel

OData - Example

firstname	gender	sentence	bool	ID	Modified	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 Fabric Capacity (> 50,000 items)

Dataset	Median – Seconds to Refresh	Standard Deviation – Seconds to Refresh	Capacity Units	Number of Refreshes
V2	151.50	41.98	5,238.66	30
V1	103.20	8.36	5,053.90	30
OData	37.47	7.22	3,197.31	30
Custom-made	18.93	2.81	1,151.65	30

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

- Combining Data from different SharePoint site may conflict with privacy settings
  - Alternative: Do this in dataflows.

Questions?