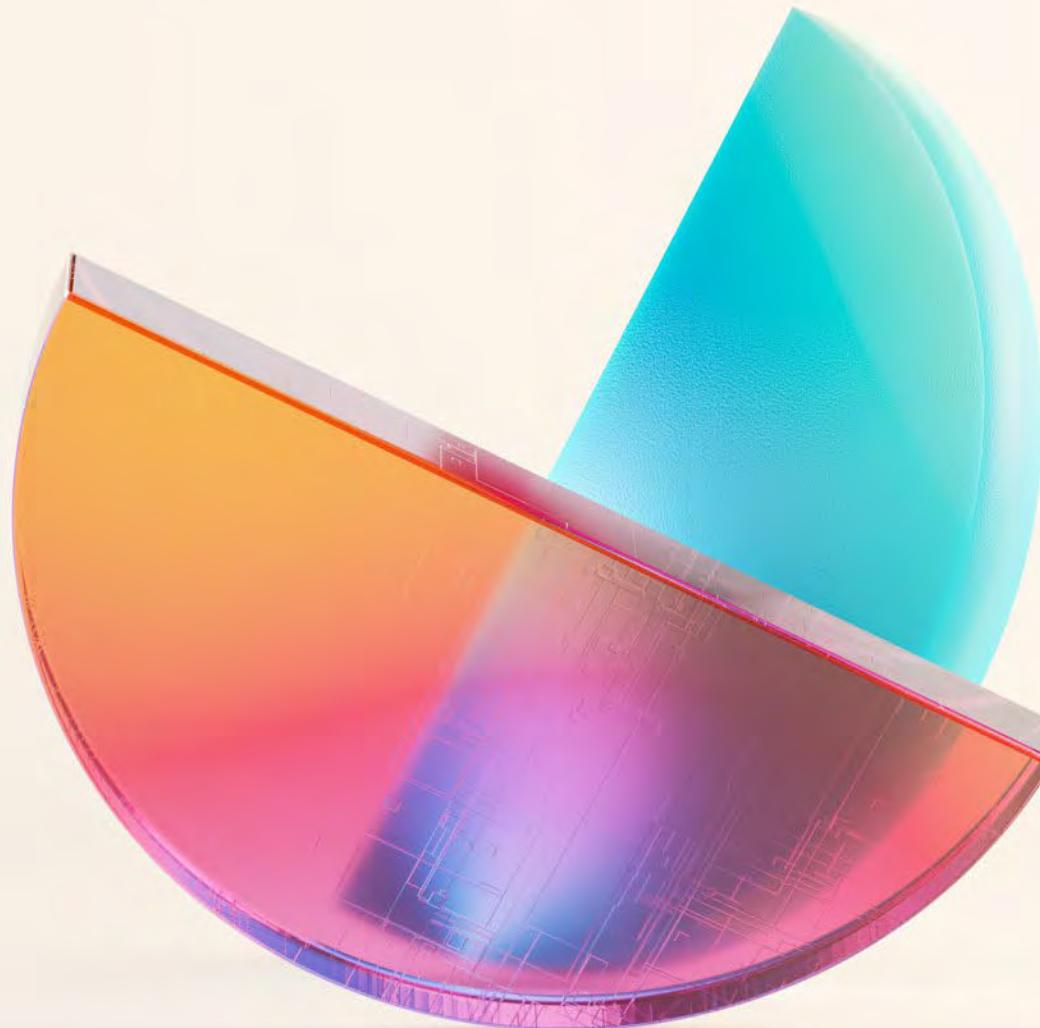


# Today's Agenda

Start	Minutes	Speaker	Topic
9:00:00 AM	15	Scott Sewell	Welcome / Introduction of Speakers
9:15:00 AM	15	Olivier Matrat	Intro to Fabric at a high level - value to BizApps users
9:30:00 AM	30	Milinda Vitharana	SynapseLink/FabricLink Product overview / Roadmap
10:00	30		Break Time
10:30:00 AM	45	Scott Sewell	Setting up / Getting to know Synapse/Fabric Link for <b>Dataverse</b>
11:15:00 AM	45	Jila Yadav	Setting up / Getting to know Synapse/Fabric Link for <b>F&amp;O / Virtual tables</b>
12:00:00 PM	60		Lunch
1:00:00 PM	60	Scott Sewell	Building and deploying a Dataverse Power BI report end-to-end
2:00	15		Break
2:15:00 PM	60	Jila Yadav	Building and deploying a D365 F&O Power BI report end-to-end Combining F&O with legacy data for advanced reporting
3:15:00 PM	30	Scott Sewell Milinda Vitharana	Other Topics and Use Cases
3:45:00 PM	15	All	Panel discussion & wrap-up
4:00:00 PM			End

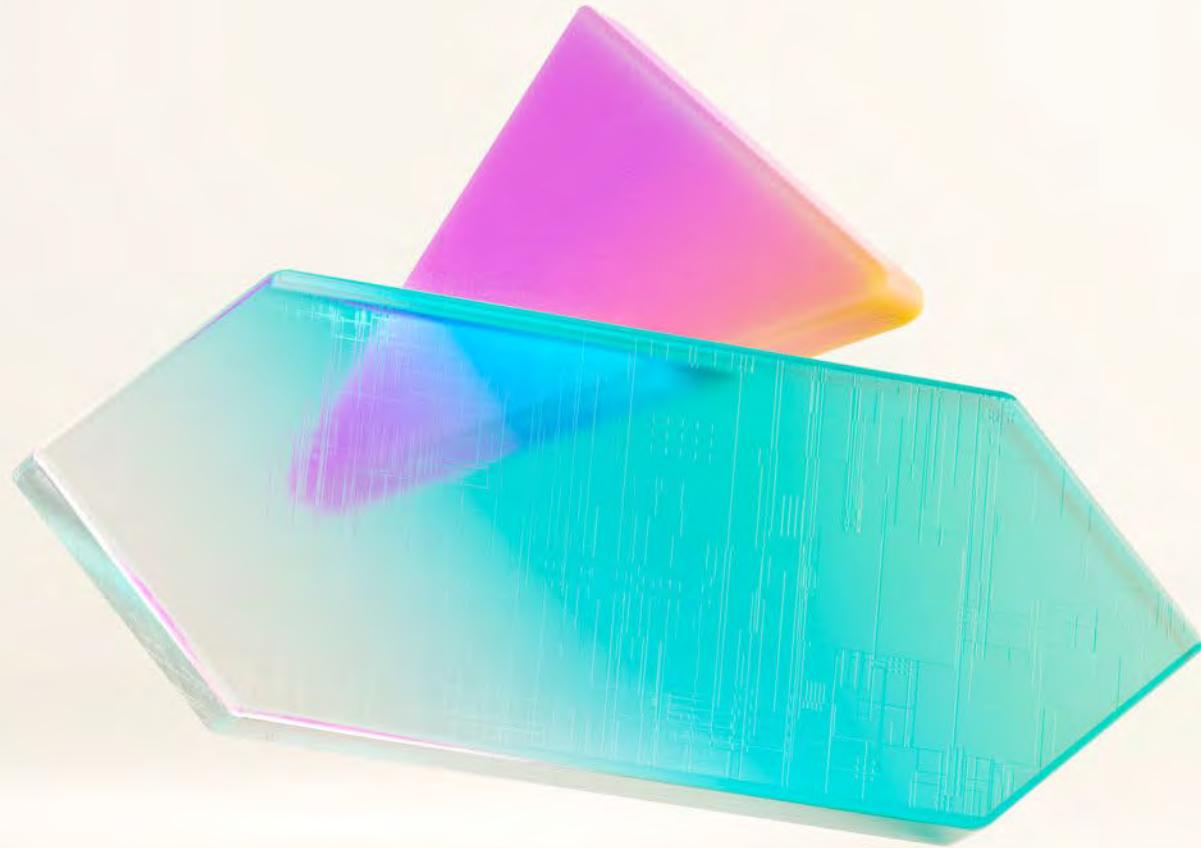


# **Getting to know “FabricLink” for Dataverse**

**Scott Sewell**

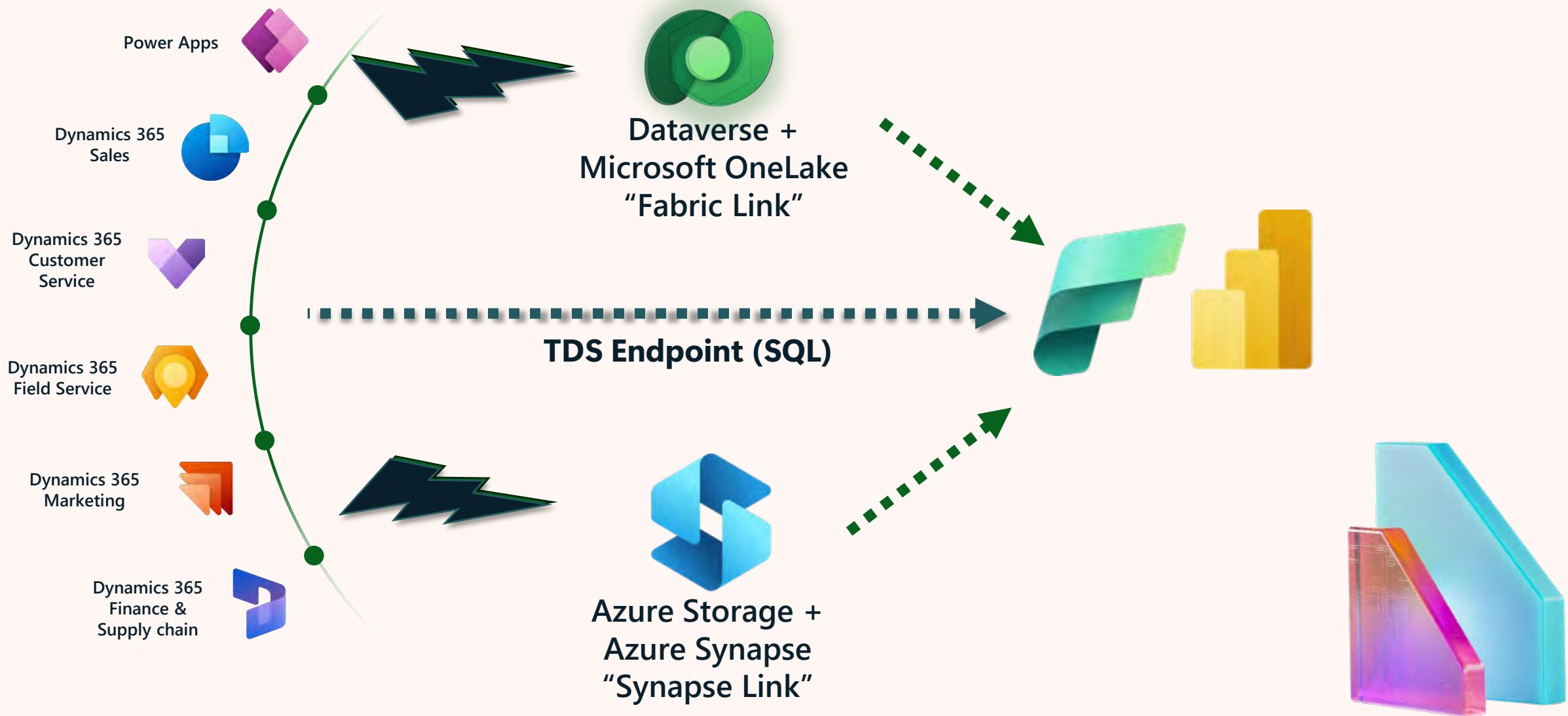
# Dataverse Modules: Morning and Afternoon



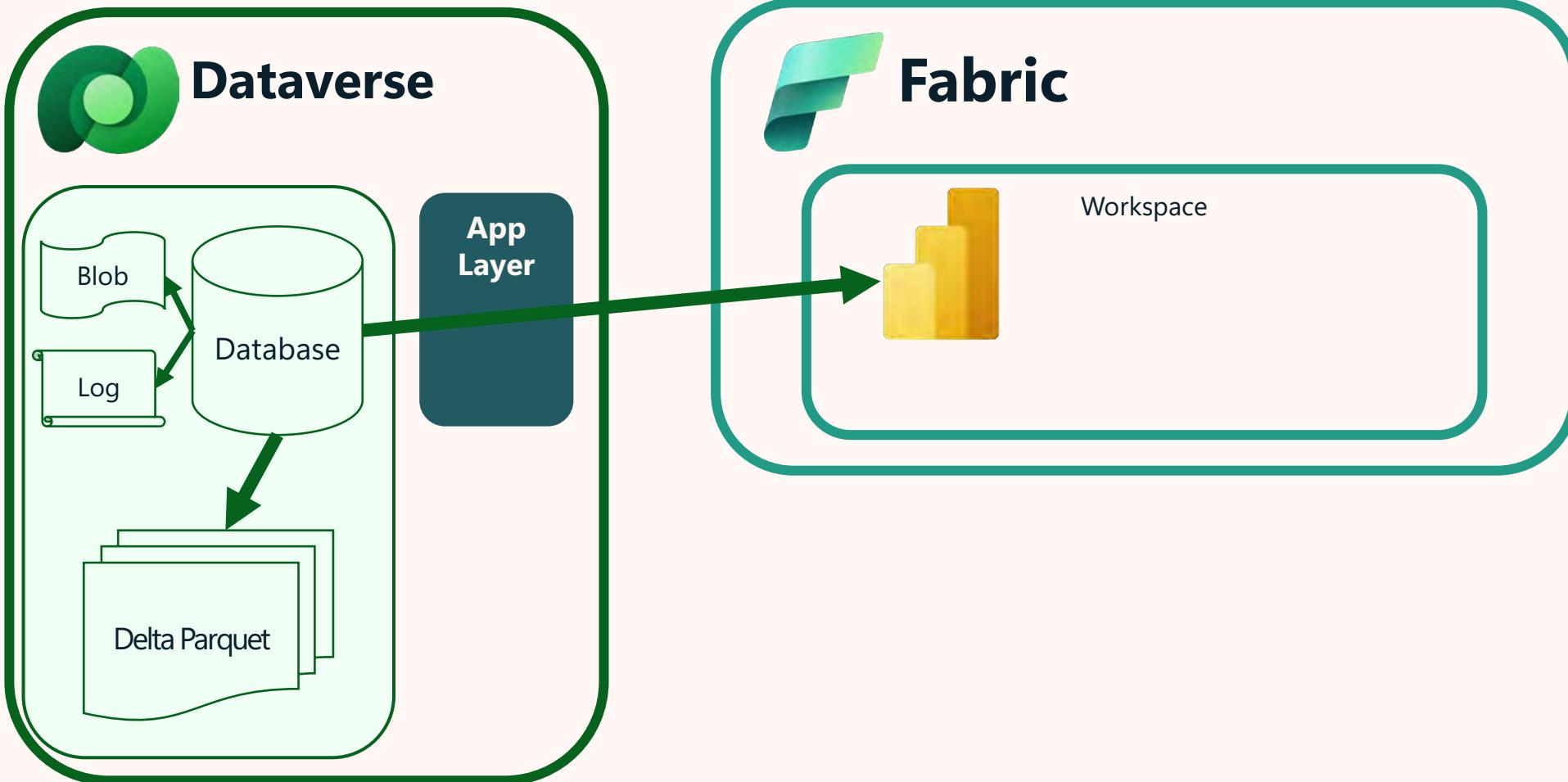


# Dataverse to Fabric Options:

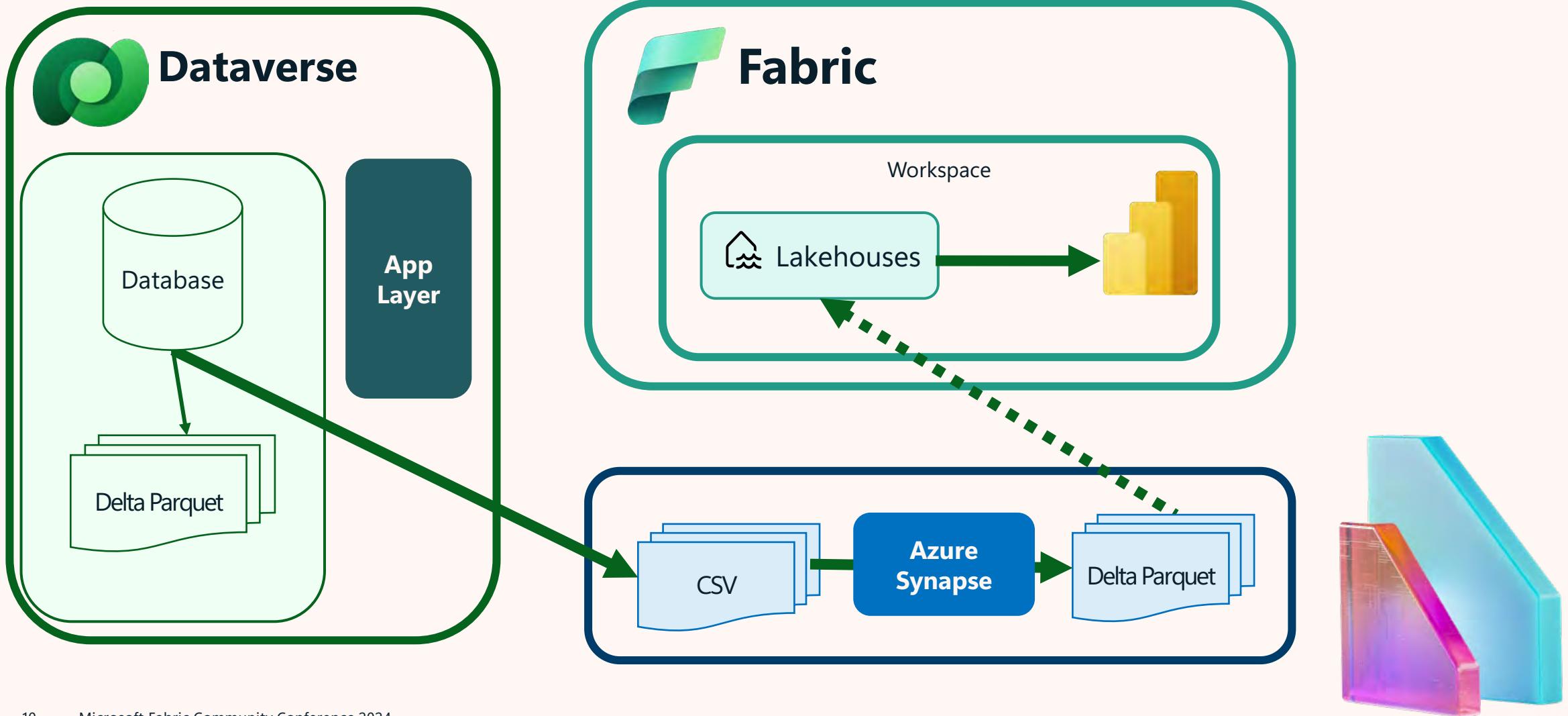
# Three Options for Dataverse-Fabric Connection



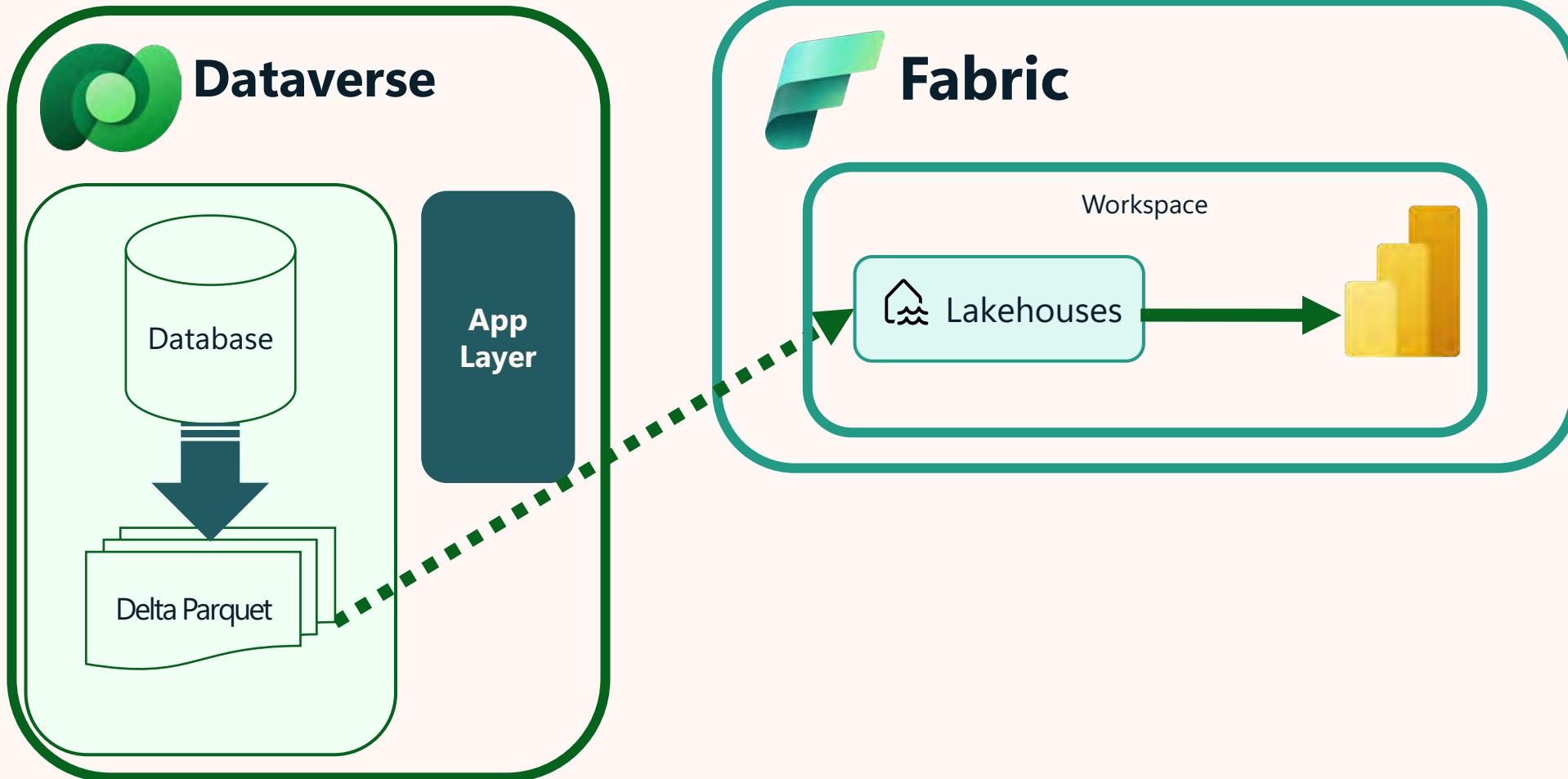
# TDS Endpoint



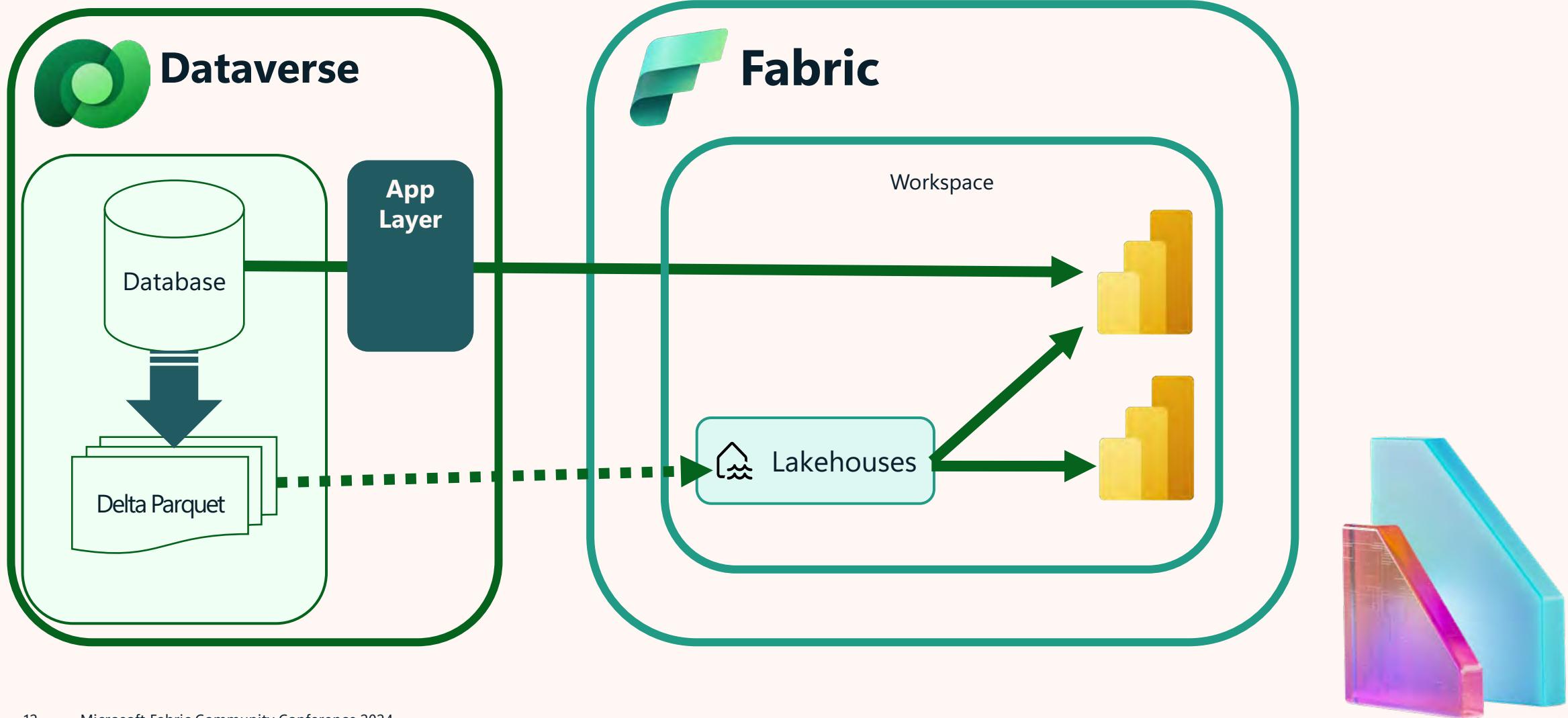
# Azure Synapse Link



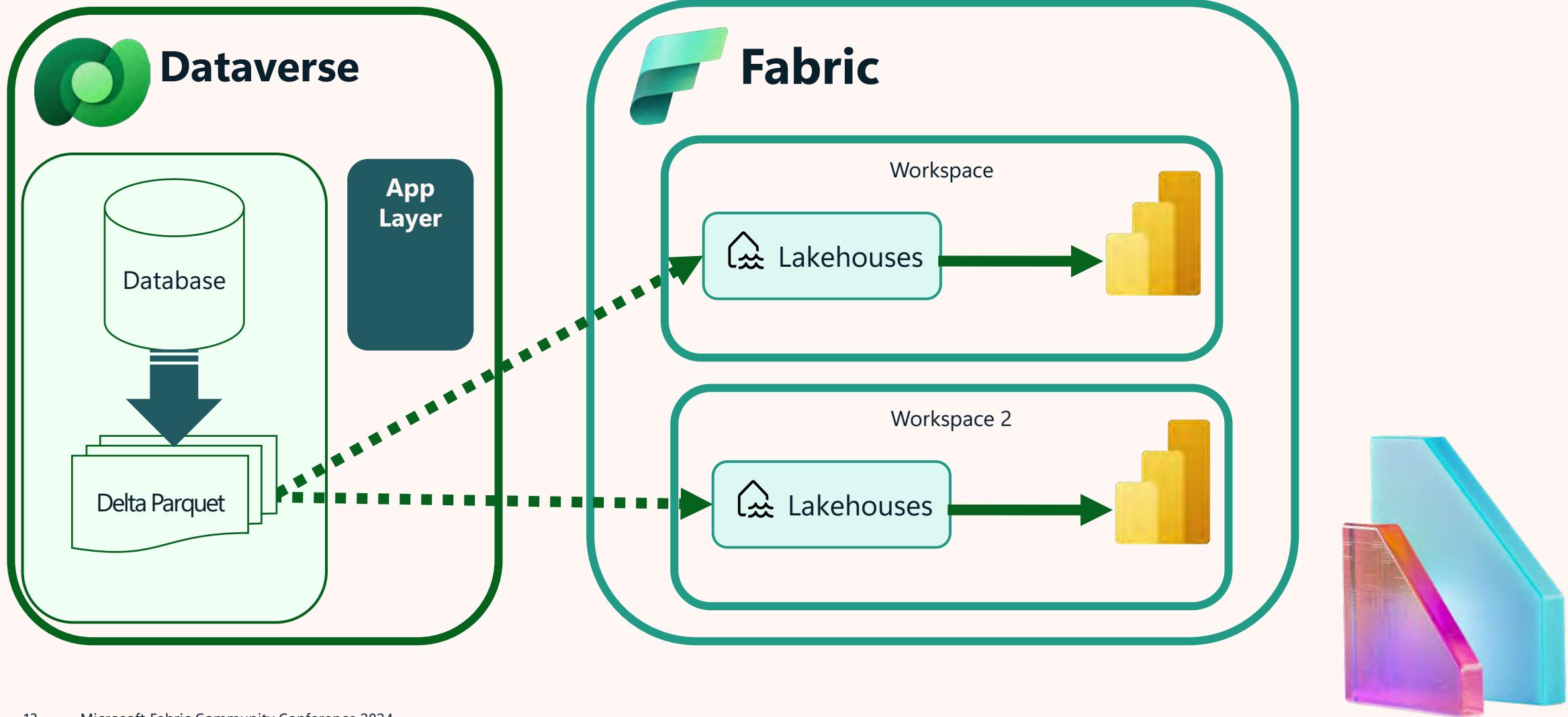
# Fabric Link



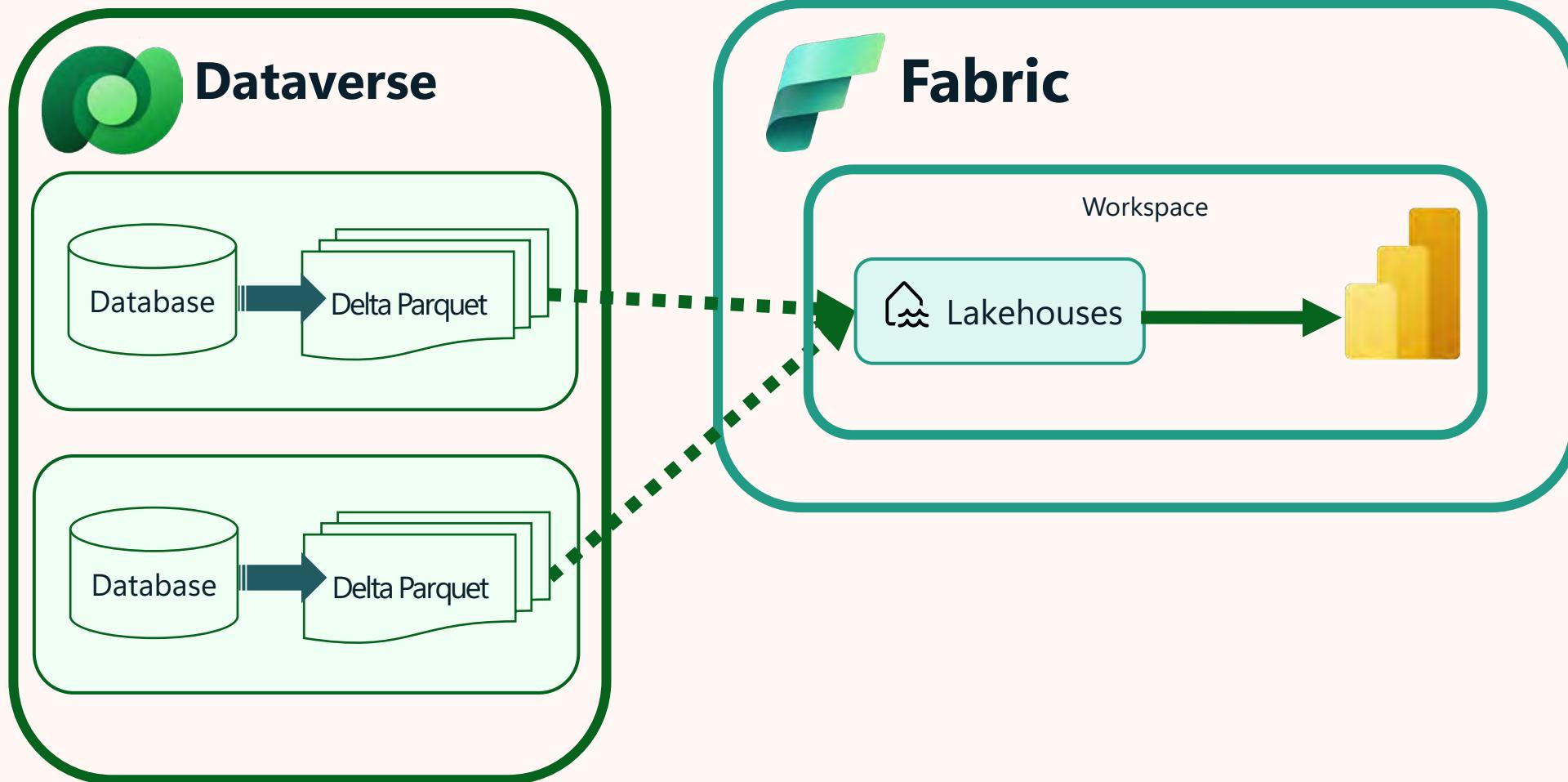
# Fabric Link + TDS Endpoint



# Fabric Links to multiple workspaces



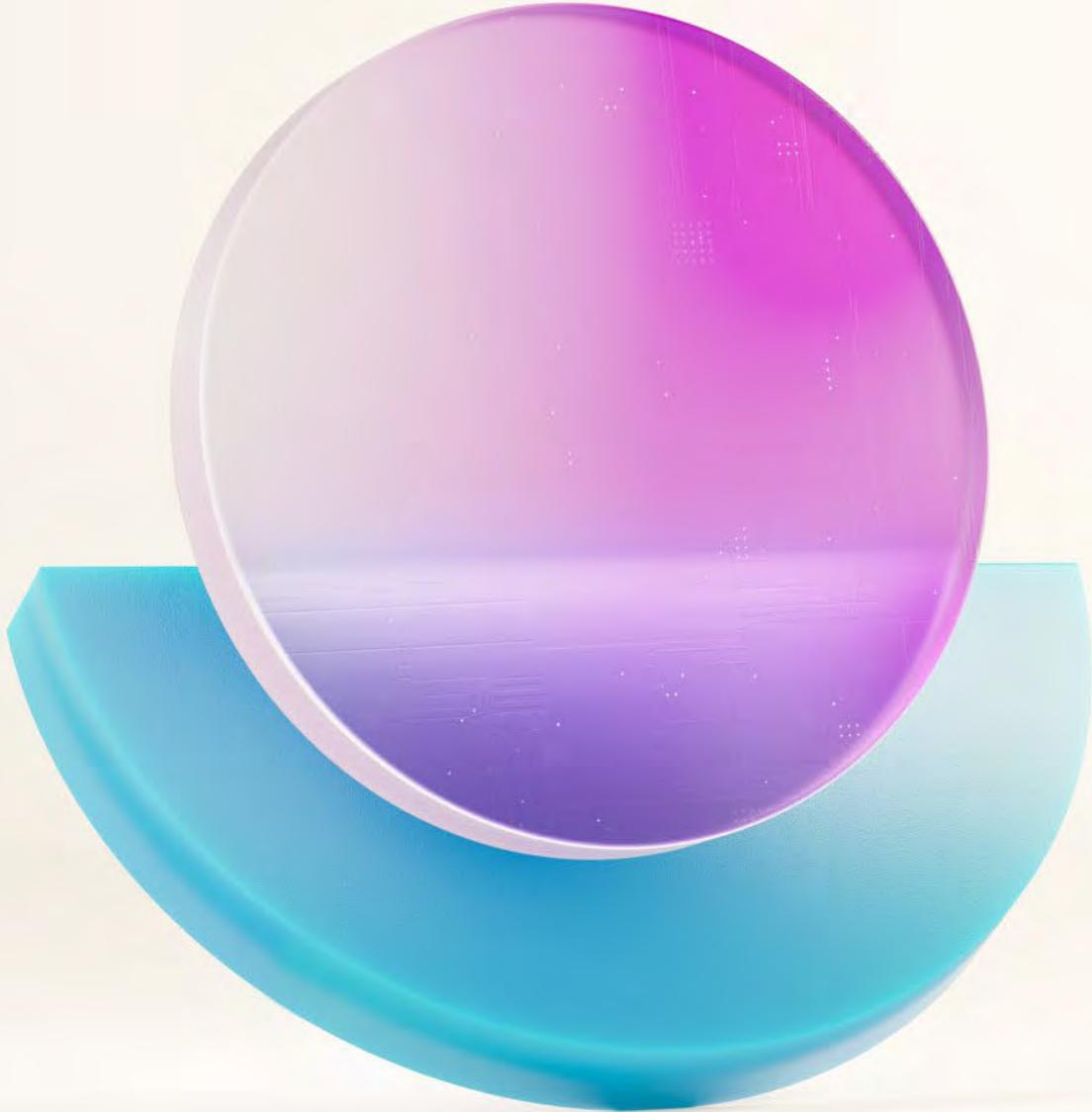
# Fabric Link from multiple environments to a workspace



# Three Options for Dataverse-Fabric Connection

- Dataverse TDS Endpoint
  - Use Cases
  - Considerations
- Azure “Synapse Link” - Standard / Incremental
  - Use cases
  - Considerations
- Microsoft OneLake “Fabric Link”
  - Use cases
  - Considerations





# Dataverse- FabricLink Configuration

# Creating the Microsoft OneLake / "FabricLink"

## Pre-Requisites

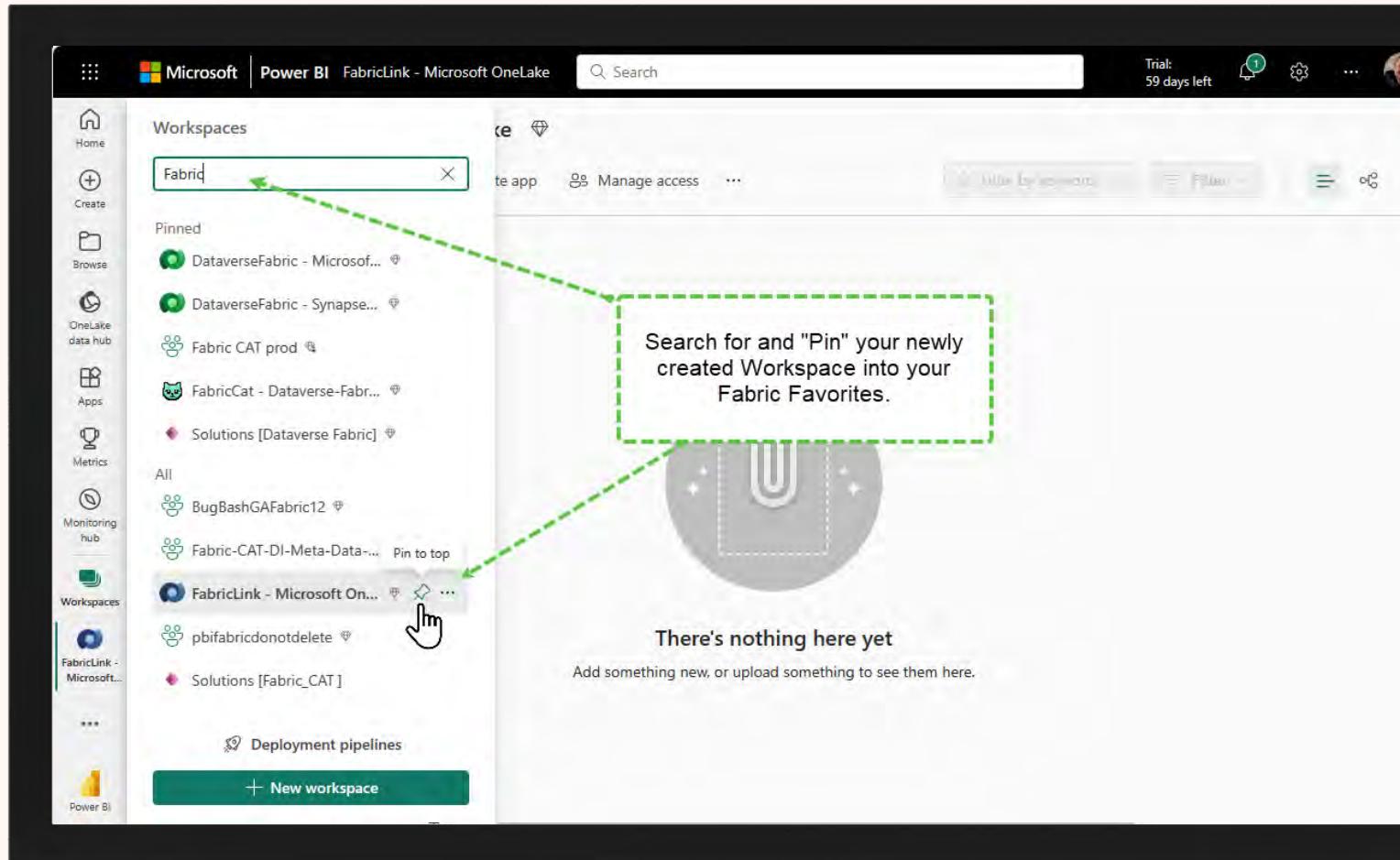
- Dataverse
  - You must have the System Administrator security role in the Dataverse environment.

- Fabric Capacity
  - You must be an administrator of the Power BI workspace.
  - Currently, the system supports these premium capacity SKUs: "P1", "P2", "P3", "P4", "P5", "F2", "F4", "F8", "F16", "F32", "F64", "F128", "F256", "F512", "F512", "F1024", "F2048", "DCT1", "FT1."



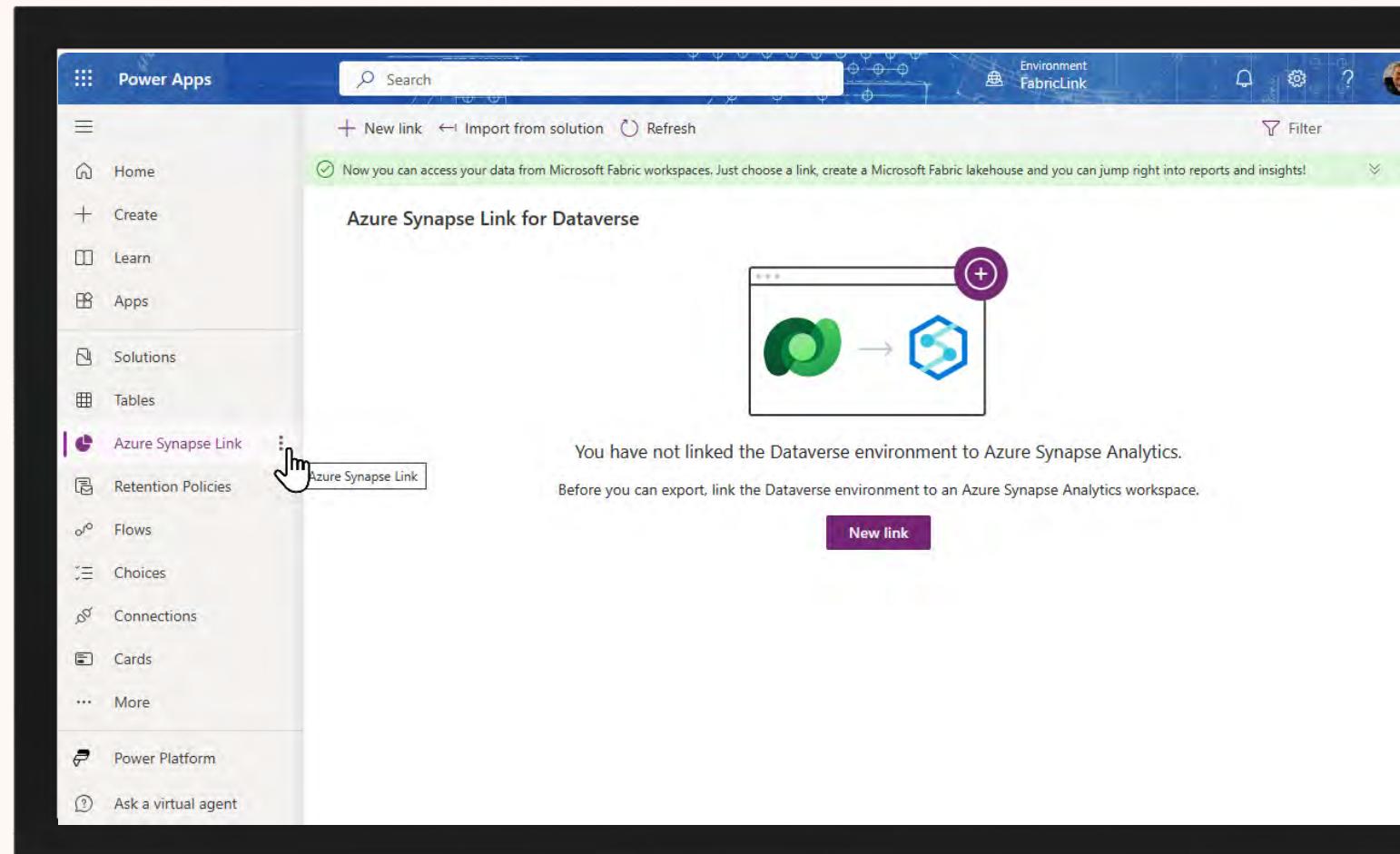
# Setup Fabric Link – Create the Workspace

- Create a Fabric Workspace to hold the FabricLink Lakehouse.
- Name it / add an icon
- Ensure it's set to 'Trial' or 'Fabric'
- Pin your Workspace to your favorites



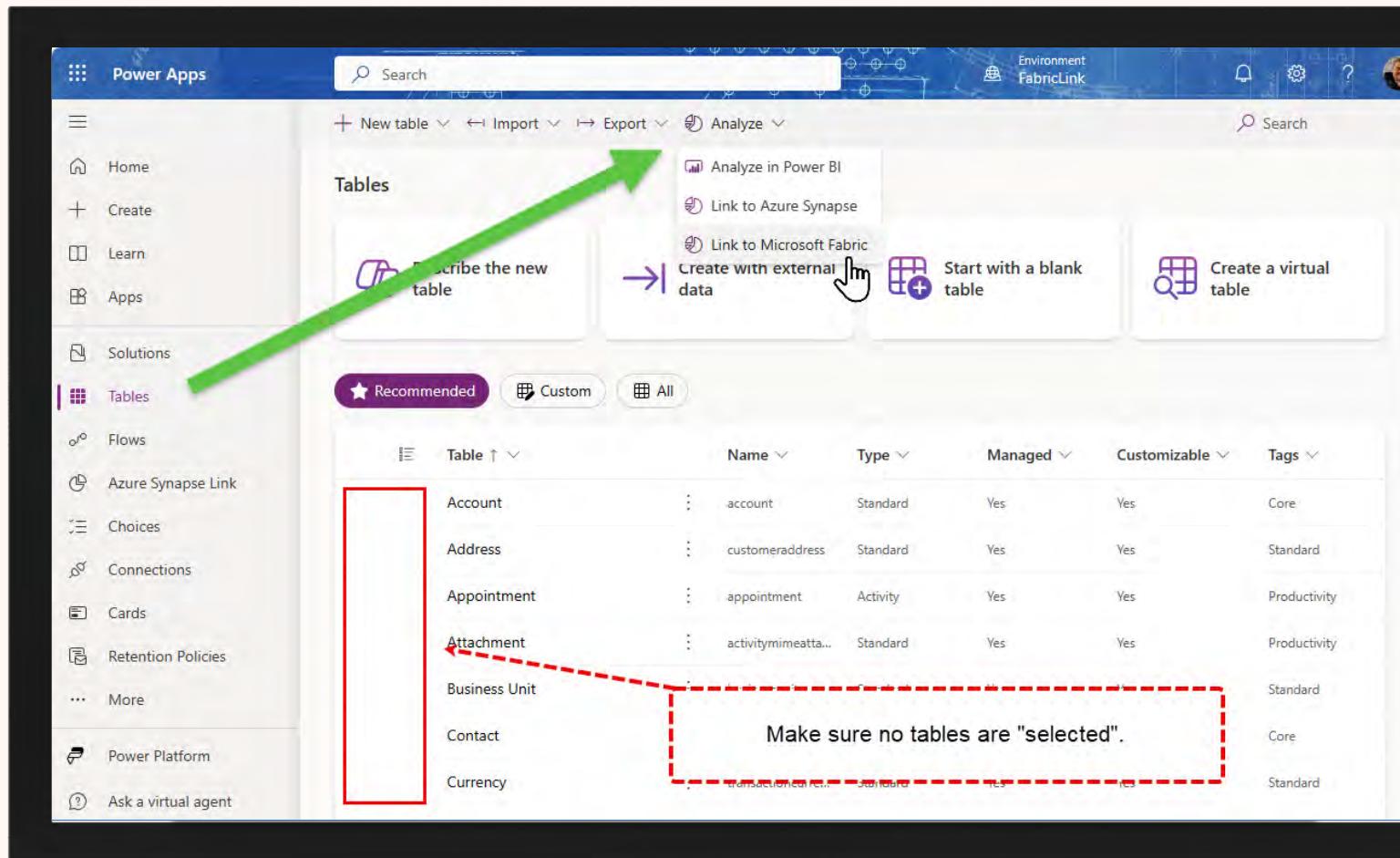
# Setup Fabric Link – Pin the Azure Synapse Link in Maker App

- <Https://Make.PowerApps.Com>
- Add the Azure Synapse Link panel to your list of tools in the Maker Portal
- You can use the “New Link” to determine your Dataverse’s Region / Geo
- New link starts the “Azure Synapse Link” Wizard
- This page will be where we manage Fabric Link



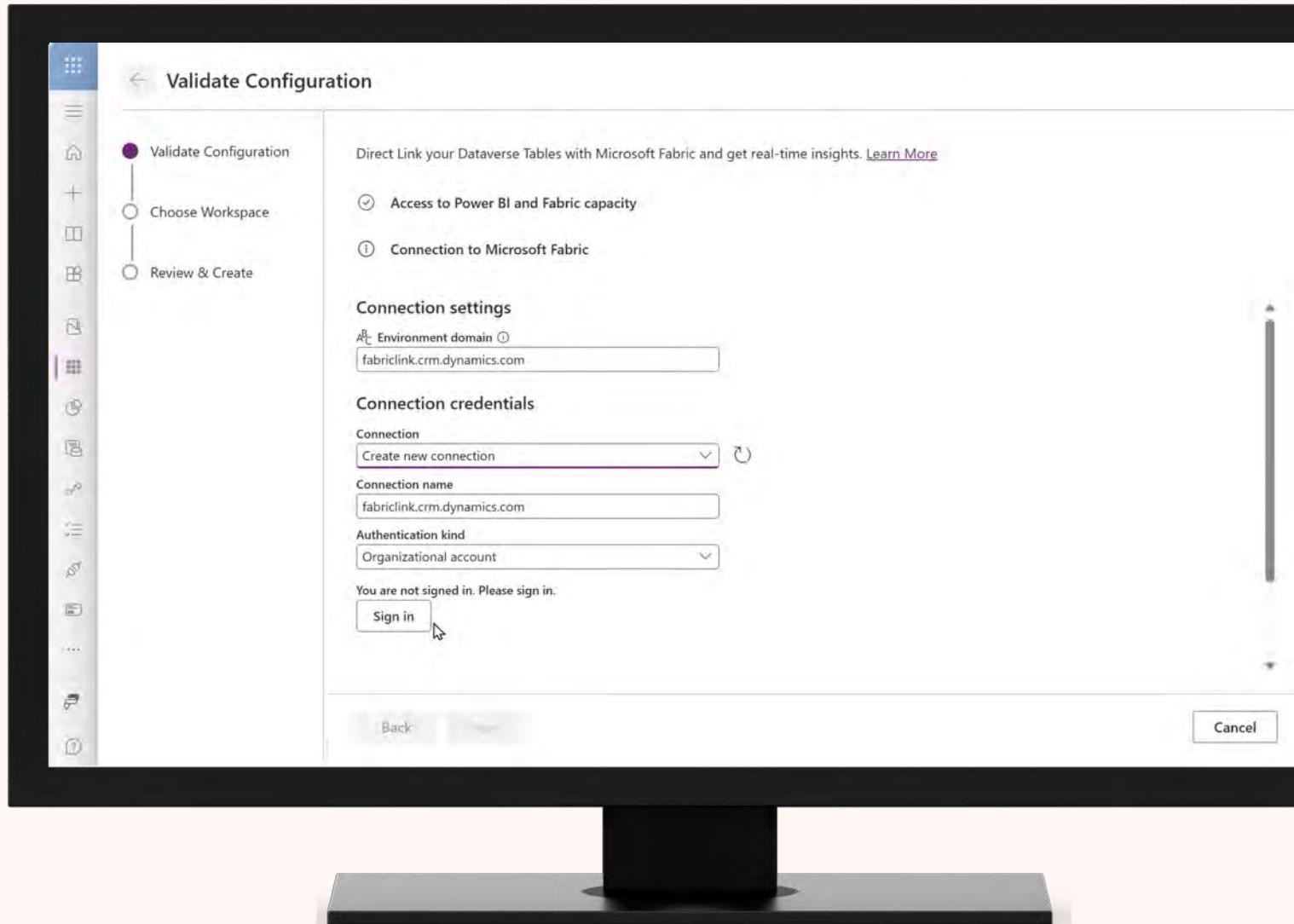
# Setup Fabric Link – Launch the Wizard

- Open the maker portal – ensure that you're on the right Dataverse org.
- From “Tables” go to the “Analyze” menu and choose **“Link to Microsoft Fabric”**



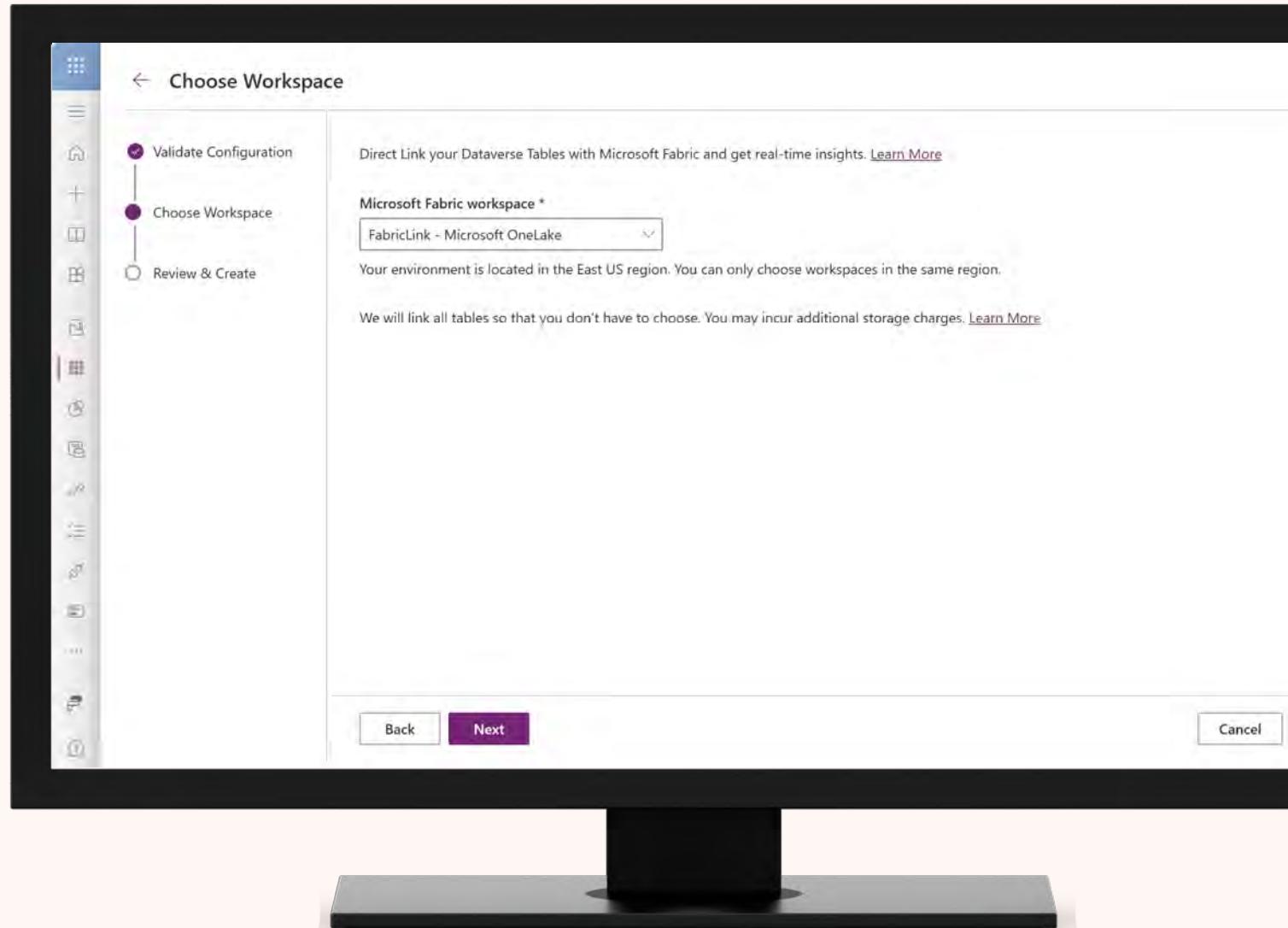
# Setup Fabric Link – Connection Settings

- Organizational Account
- Sign in with your Entra ID



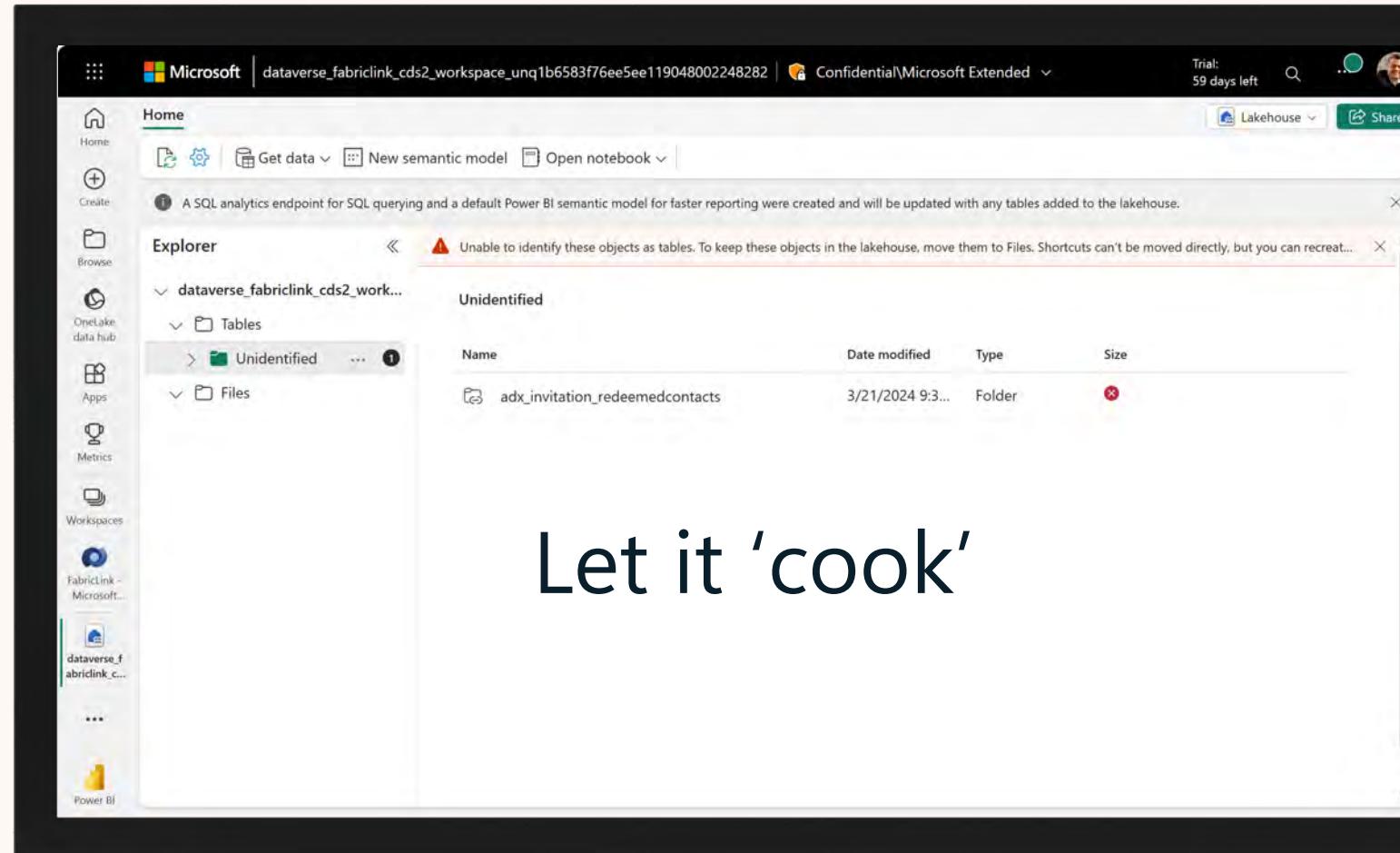
# Setup Fabric Link – Choose Fabric Workspace

- Select from drop-down



# Setup Fabric Link – Review and create

- This can take time to complete – be patient.
- It will eventually open to the Fabric Workspace – but the shortcuts won't be finished being created – give it time.
- This first sync will take time – maybe even several hours if you have lots of data – Be patient.



# Setup Fabric Link – Back to the Maker Portal

- On Azure Synapse Link, you'll now see the link to "Microsoft OneLake" – This is your gateway to your FabricLink environment.
- Click on Tables to view the list of tables and their status. – Again, this does take time if you're first setting it up.
- The toolbar here gives you
  - Refresh (this page)
  - Manage Tables
  - Refresh Fabric tables (update metadata in Fabric)
  - Unlink
  - View in Fabric

The screenshot shows the Microsoft Power Apps Maker Portal interface. The top navigation bar includes 'Power Apps', a search bar, and a 'FabricLink' environment switcher. The main content area is titled 'Azure Synapse Link for Dataverse > Microsoft OneLake' and displays a 'Tables' list. The table data is as follows:

Table ↑	Name	Sync status	Last synchronized ...	Count	Partition	Entity source	Fabric status
account	account	Active	-	Year		Dataverse	Created
actioncard	actioncard	Queued	-	Year		Dataverse	Created
activityfileattachment	activityfileattachment	Active	-	Year		Dataverse	Created
activitymimeattachment	activitymimeattachment	Queued	-	Year		Dataverse	Created
activityparty	activityparty	Active	-	Year		Dataverse	Created
activitypointer	activitypointer	Queued	-	Year		Dataverse	Created
adx_externalidentity	adx_externalidentity	Queued	-	Year		Dataverse	Created
adx_invitation	adx_invitation	Queued	-	Year		Dataverse	Created
adx_invitation_invite_contacts	adx_invitation_invite_contacts	Queued	-	Year		Dataverse	Created
adx_invitation_mspp_webrole_powerpagecomponent	adx_invitation_mspp_webrole_powerpagecomponent	Error	-	Year		Dataverse	Created
adx_invitation_rede	adx_invitation_rede	Active	-	Year		Dataverse	Created

# Setup Fabric Link – Refresh Fabric Tables

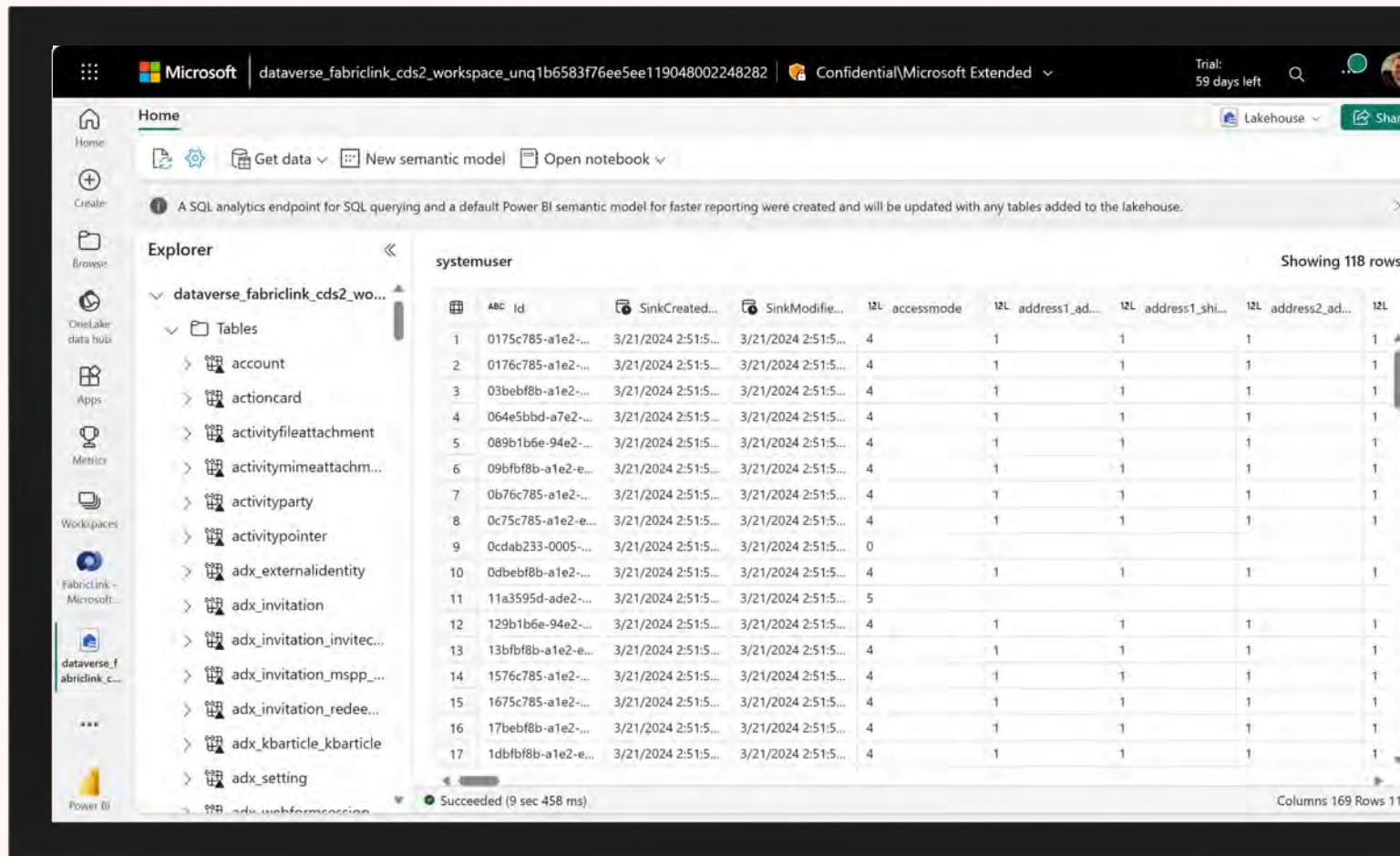
- Once the Sync status is Active for tables, Click Refresh Fabric tables
- This might take waiting on another refresh cycle before the metadata is fully ready for Fabric.

The screenshot shows the Power Apps portal interface. On the left, there's a navigation sidebar with options like Home, Create, Learn, Apps, Solutions, Tables, Azure Synapse Link (which is selected), Retention Policies, Flows, Choices, Connections, Cards, More, Power Platform, and Ask a virtual agent. The main content area is titled "Azure Synapse Link for Dataverse > Microsoft OneLake". It has two tabs: "Tables" (selected) and "Discover hub". Below the tabs is a table with the following columns: Table, Name, Sync status, Last synchronized ..., Count, Partition, Entity source, and Fabric status. The table lists various tables from the Dataverse, all with "Active" in the Sync status column and "Created" in the Fabric status column. A message at the top of the main area says "Successfully initiated request to refresh fabric tables. Click 'Refresh Fabric tables' to see the latest status." There are also buttons for Refresh, Manage tables, Refresh Fabric tables, Unlink Fabric, View in Microsoft Fabric, and a Filter button.

Table	Name	Sync status	Last synchronized ...	Count	Partition	Entity source	Fabric status
account	account	Active	-	Year	Dataverse	Created	
actioncard	actioncard	Active	-	Year	Dataverse	Created	
activityfileattachment	activityfileattachment	Active	-	Year	Dataverse	Created	
activitymimeattachment	activitymimeattachment	Active	-	Year	Dataverse	Created	
activityparty	activityparty	Active	-	Year	Dataverse	Created	
activitypointer	activitypointer	Active	-	Year	Dataverse	Created	
adx_externalentity	adx_externalentity	Active	-	Year	Dataverse	Created	
adx_invitation	adx_invitation	Active	-	Year	Dataverse	Created	
adx_invitation_invite_contacts	adx_invitation_invite_contacts	Active	-	Year	Dataverse	Created	
adx_invitation_mspp_webrole_powerpagecomponent	adx_invitation_mspp_webrole_powerpagecomponent	Active	-	Year	Dataverse	Created	
adx_invitation_rede	adx_invitation_rede	Active	-	Year	Dataverse	Created	

# Setup Fabric Link – Refresh Lakehouse in Fabric

- Unidentified = metadata hasn't been provided or refreshed yet.
- Click "Refresh" in the toolbar to have the lakehouse re-read the deltalake
- Now you should start seeing data



The screenshot shows the Microsoft Fabric Data Explorer interface. The left sidebar includes icons for Home, Create, Browse, OneLake data hub, Apps, Metrics, Workspaces, FabricLink - Microsoft, and Power BI. The main area has a toolbar with 'Get data', 'New semantic model', and 'Open notebook'. A message at the top states: 'A SQL analytics endpoint for SQL querying and a default Power BI semantic model for faster reporting were created and will be updated with any tables added to the lakehouse.' Below this is the 'Explorer' section, which lists a workspace named 'dataverse\_fabriclink\_cds2\_workspace\_unq1b6583f76ee5ee119048002248282'. Under 'Tables', there is a list of 17 tables: account, actioncard, activityfileattachment, activymimeattachment, activityparty, activitypointer, adx\_externalidentity, adx\_invitation, adx\_invitation\_invitee, adx\_invitation\_mspp, adx\_invitation\_redee, adx\_kbarticle\_kbarticle, and adx\_setting. To the right is a large table view titled 'systemuser' with 118 rows. The columns are: ABC\_Id, SinkCreated..., SinkModifie..., accessmode, address1\_ad..., address1\_shi..., address2\_ad..., and address2\_shi... . The table shows various user records with IDs ranging from 1 to 17. The status bar at the bottom indicates 'Succeeded (9 sec 458 ms)' and 'Columns 169 Rows 118'.

ABC_Id	SinkCreated...	SinkModifie...	accessmode	address1_ad...	address1_shi...	address2_ad...	address2_shi...
1	0175c785-a1e2...	3/21/2024 2:51:5...	3/21/2024 2:51:5...	4	1	1	1
2	0176c785-a1e2...	3/21/2024 2:51:5...	3/21/2024 2:51:5...	4	1	1	1
3	03bebfb8b-a1e2...	3/21/2024 2:51:5...	3/21/2024 2:51:5...	4	1	1	1
4	064e5bbd-a7e2...	3/21/2024 2:51:5...	3/21/2024 2:51:5...	4	1	1	1
5	089b1b6e-94e2...	3/21/2024 2:51:5...	3/21/2024 2:51:5...	4	1	1	1
6	09bfbfb8b-a1e2-e...	3/21/2024 2:51:5...	3/21/2024 2:51:5...	4	1	1	1
7	0b76c785-a1e2...	3/21/2024 2:51:5...	3/21/2024 2:51:5...	4	1	1	1
8	0c75c785-a1e2-e...	3/21/2024 2:51:5...	3/21/2024 2:51:5...	4	1	1	1
9	0cdab233-0005...	3/21/2024 2:51:5...	3/21/2024 2:51:5...	0			
10	0dbebf8b8b-a1e2...	3/21/2024 2:51:5...	3/21/2024 2:51:5...	4	1	1	1
11	11a3595d-ade2...	3/21/2024 2:51:5...	3/21/2024 2:51:5...	5			
12	129b1b6e-94e2...	3/21/2024 2:51:5...	3/21/2024 2:51:5...	4	1	1	1
13	13bfbfb8b-a1e2-e...	3/21/2024 2:51:5...	3/21/2024 2:51:5...	4	1	1	1
14	1576c785-a1e2...	3/21/2024 2:51:5...	3/21/2024 2:51:5...	4	1	1	1
15	1675c785-a1e2...	3/21/2024 2:51:5...	3/21/2024 2:51:5...	4	1	1	1
16	17bebfb8b-a1e2...	3/21/2024 2:51:5...	3/21/2024 2:51:5...	4	1	1	1
17	1dbfbfb8b-a1e2-e...	3/21/2024 2:51:5...	3/21/2024 2:51:5...	4	1	1	1

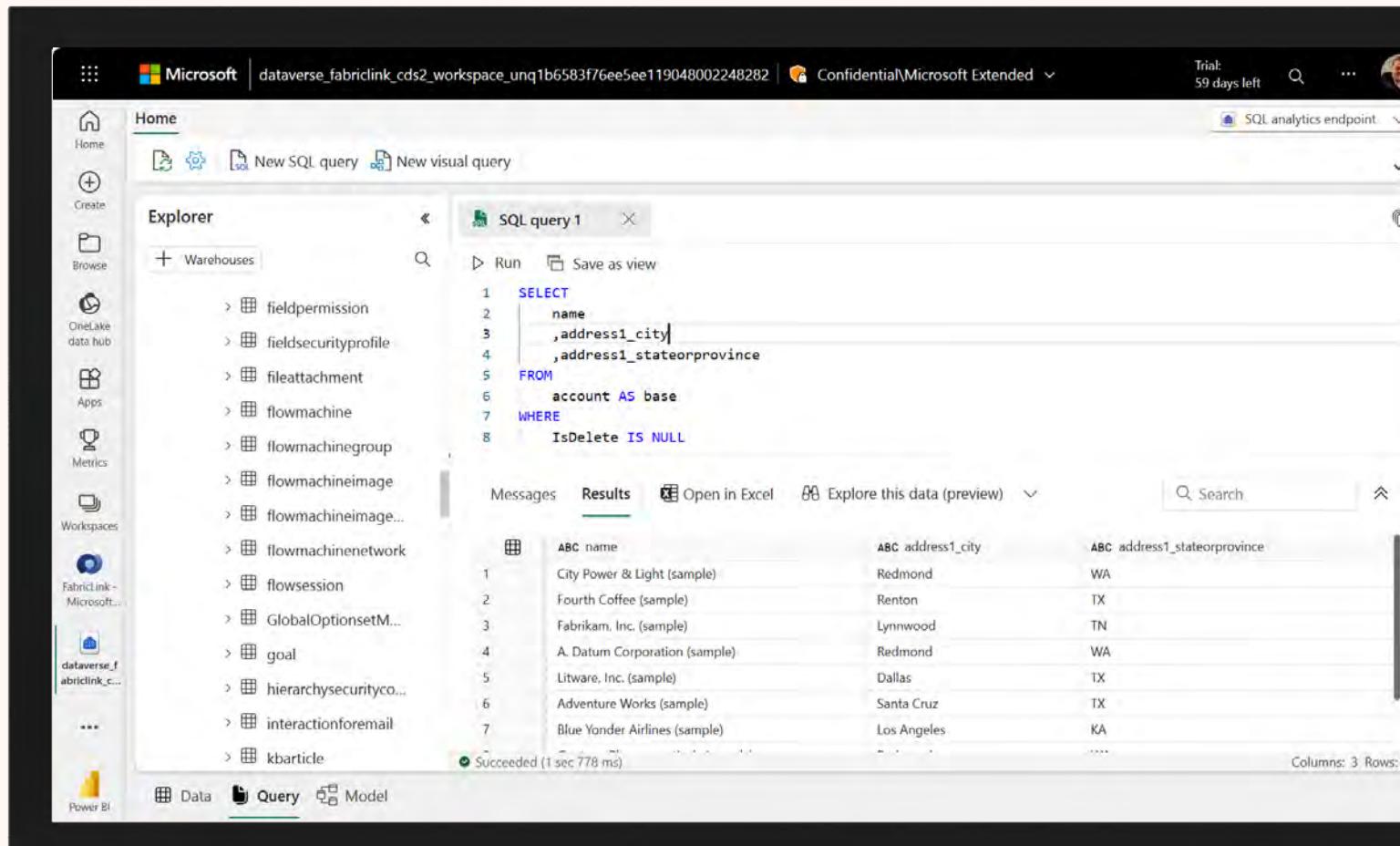


[https://github.com/mscottsewell/  
Dynamics365-Fabric-in-a-Day](https://github.com/mscottsewell/Dynamics365-Fabric-in-a-Day)

**Explore  
the data**

# Explore the data in the Fabric SQL endpoint

- You can use the query editor inside the Fabric SQL analytics endpoint
- Things to note:
  - Field and table names are CaSe SeNSiTiVe
  - Filter on (**IsDelete IS NULL OR IsDelete =0**) to eliminate deleted records
  - If you have LongTermRetention turned on you, can filter out archived rows with:  
**(msft\_datastate = 0 OR msft\_datastate IS NULL)**



The screenshot shows the Microsoft Fabric SQL endpoint interface. On the left, there's a navigation sidebar with icons for Home, Create, Browse, OneLake data hub, Apps, Metrics, Workspaces, and FabricLink. A specific workspace named "dataverse\_fabriclink\_cds2\_workspace\_unq1b6583f76ee5ee119048002248282" is selected. The main area has tabs for Home, New SQL query, New visual query, Explorer, and SQL query 1. In the Explorer tab, a folder named "Warehouses" is expanded, showing various tables like fieldpermission, fieldsecurityprofile, fileattachment, flowmachine, flowmachinemgroup, flowmachinemimage, flowmachinemnetwork, flowsession, GlobalOptionsetM..., goal, hierarchysecurityco..., interactionforemail, and kbarcitle. The SQL query 1 tab contains the following code:

```
1 SELECT
2     name
3     ,address1_city|
4     ,address1_stateorprovince
5 FROM
6     account AS base
7 WHERE
8     IsDelete IS NULL
```

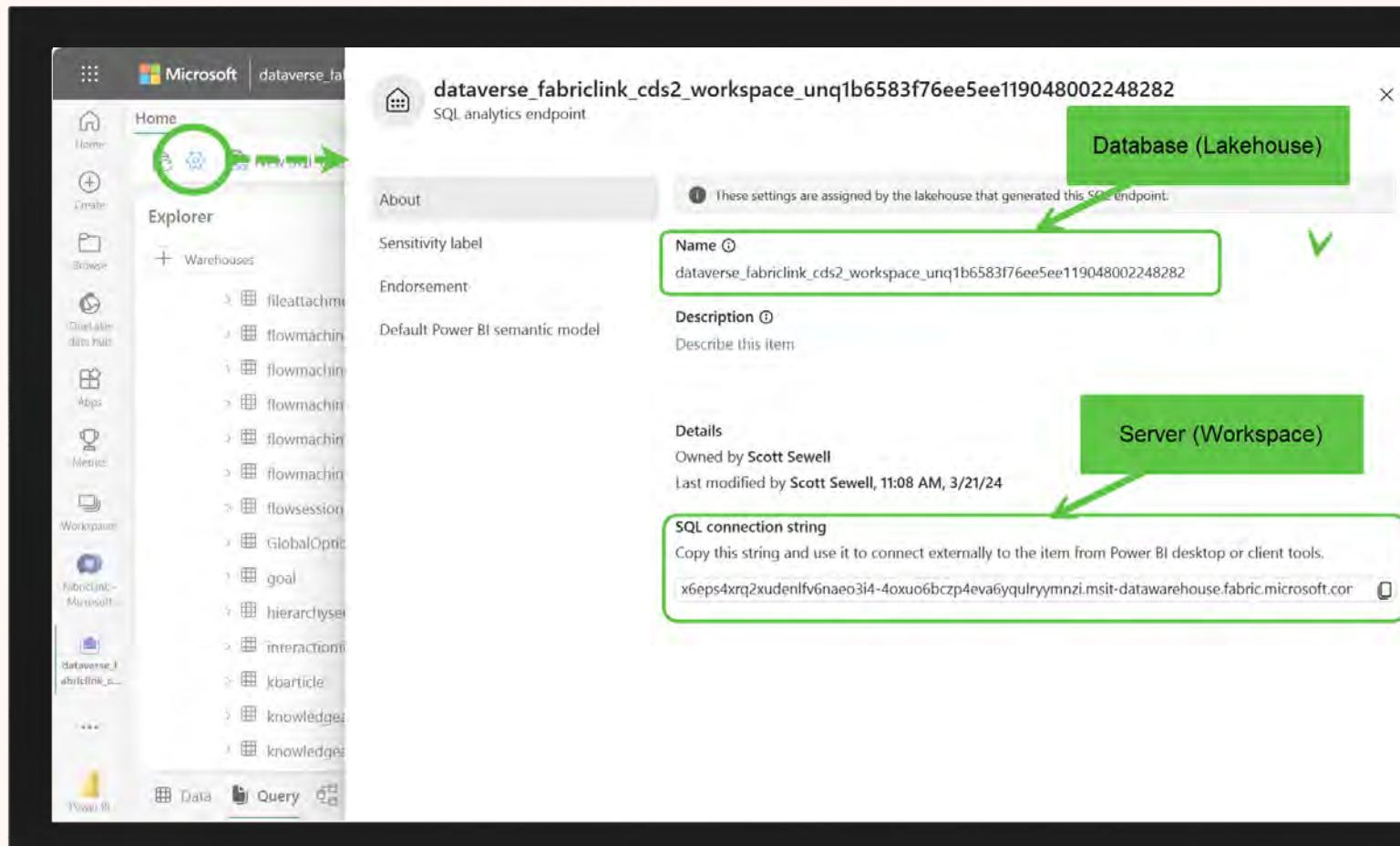
The Results tab displays the query results as a table:

	ABC name	ABC address1_city	ABC address1_stateorprovince
1	City Power & Light (sample)	Redmond	WA
2	Fourth Coffee (sample)	Renton	TX
3	Fabrikam, Inc. (sample)	Lynnwood	TN
4	A. Datum Corporation (sample)	Redmond	WA
5	Litware, Inc. (sample)	Dallas	TX
6	Adventure Works (sample)	Santa Cruz	TX
7	Blue Yonder Airlines (sample)	Los Angeles	CA

At the bottom, it says "Succeeded (1 sec 778 ms)".

# Explore the data in the Fabric SQL endpoint

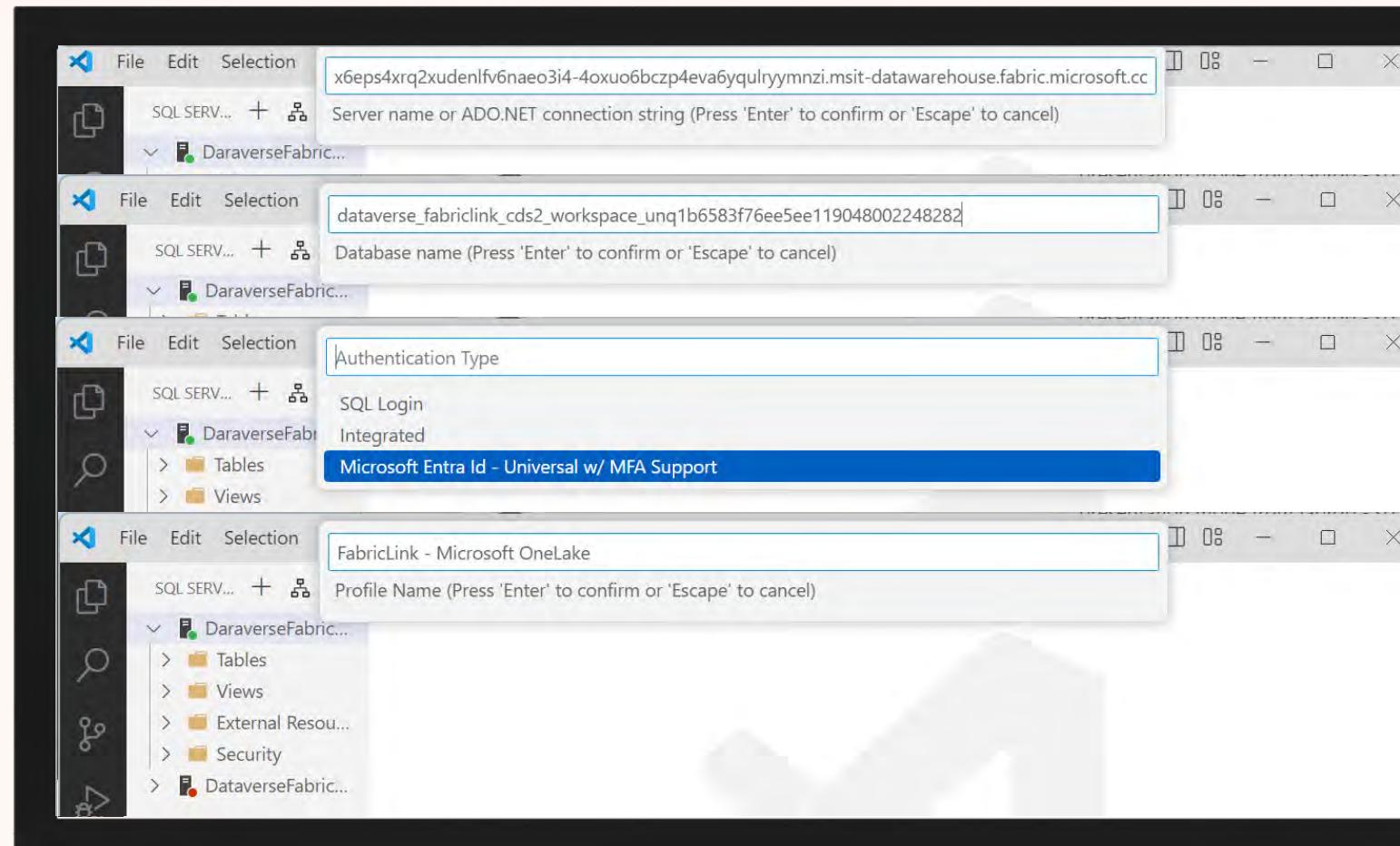
- Click on the Blue Gear to open the settings
- The Lakehouse “Name” ≈ SQL database
- The Workspace’s SQL Connection string ≈ SQL Server



# Explore the data in Visual Studio Code as SQL

Prerequisite: Visual Studio Code with the SQL Server (MSSQL) extension installed.

- Create a new connection
- Add the Server Name (SQL connection)
- Add the Database Name (Lakehouse name)
- Set the Authentication as Microsoft Entra Id and select your credentials.
- Give it a friendly name for your convenience.



# Explore the data in Visual Studio Code as SQL

- Click on the connection and choose "New Query"
- Write a quick query for a table to see the results

```
SELECT Base.name  
      , Base.address1_city  
      , Base.address1_stateorprovince  
      , Base.address1_country  
      , Base.revenue  
  FROM account AS Base  
 WHERE  
       Base.IsDelete IS NULL
```

- Be sure to filter out the deleted rows (which are mostly blank) with the "**IsDelete IS NULL OR IsDelete =0**" clause
- Copilot IntelliSense is, at times, so good it's creepy

The screenshot shows a Visual Studio Code interface with a dark theme. On the left is a sidebar with a tree view of database connections, showing 'DaraverseFabric...' expanded with 'Tables', 'Views', 'External Resou...', 'Security', 'DataverseFabric...', and 'FabricLink - Mic...'. The main editor area contains a SQL query:

```
1 SELECT Base.name  
      , Base.address1_city  
      , Base.address1_stateorprovince  
      , Base.address1_country  
      , Base.revenue  
  FROM account AS Base  
 WHERE  
       Base.IsDelete IS NULL
```

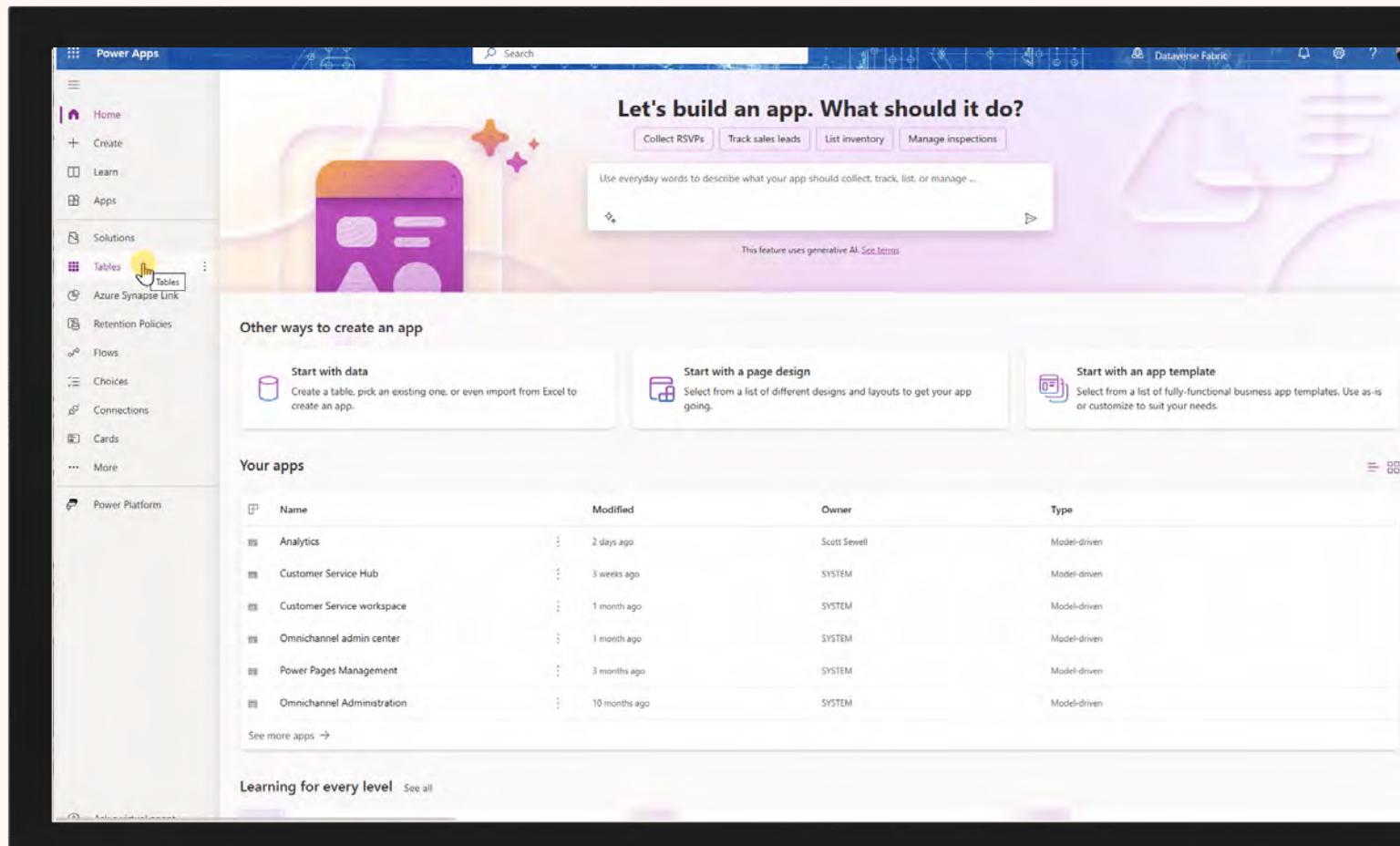
To the right of the editor is a 'RESULTS' panel displaying the query results as a table:

	name	address1_city	address1_state...	address1_count...
1	Mechanical Pro...	San Diego	CA	United States
2	Rally Master C...	Chandler	AZ	United States
3	Hiatus Bike Tou...	Paris	Seine-Saint-Denis	France
4	Retreat Inn (Wa...	Waterloo	Ontario	Canada
5	Reasonable Bicy...	Greeley	CO	United States
6	Racks and Secu...	Sunrise	FL	United States
7	Purple Bicycle ...	Scarborough	Ontario	Canada
8	Central Bicycle ...	Maidenhead	England	United Kingdom
9	Major Bicycle S...	Matraville	New South Wales	Australia
10	Fast Bike Work...	South Melbourne	Victoria	Australia
11	Rich Departme...	Lane Cove	New South Wales	Australia
12	Mail-Order Out...	Ellensburg	WA	United States
13	Best o' Bikes (S...	Saint Louis	MO	United States
14	Bike Dealers As...	Las Cruces	NM	United States
15	Mountain Emp...	Nashville	TN	United States
16	Acclaimed Bicy...	McDonough	GA	United States
17	Twelfth Bike St...	Edmonton	Alberta	Canada
18	Optimal Bikes (...	Campbellsville	KY	United States
19	Superlative Bik...	Miami	FL	United States
20	Urban Sports E...	Toronto	Ontario	Canada

At the bottom of the interface, there are status bars for 'Ln 9, Col 1', 'Spaces: 4', 'UTF-8', 'CRLF', 'SQL', and a file icon.

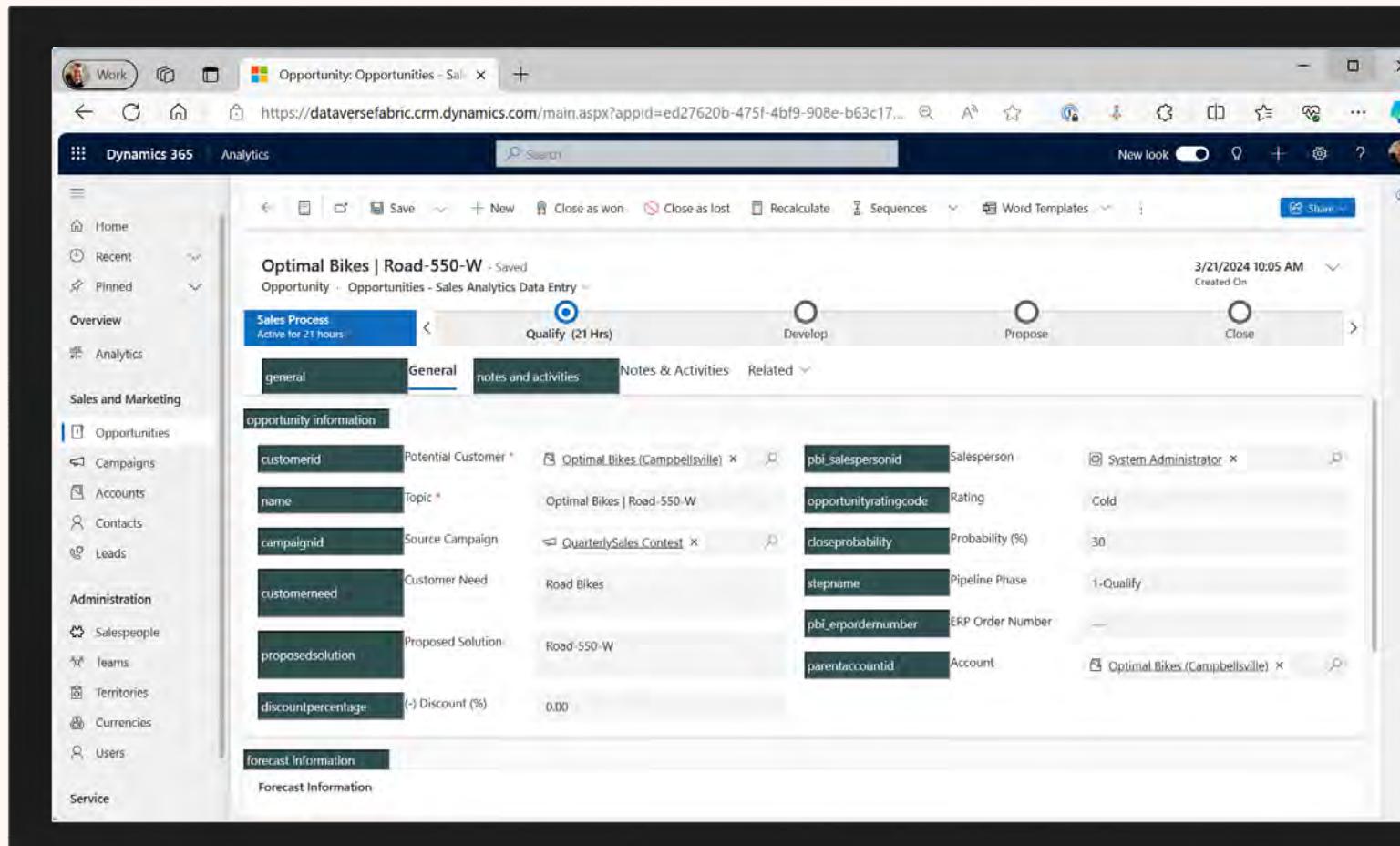
# Bonus Topic – Logical field names for SQL Queries

- Use the Power Apps Maker Portal.
- Edit a field to see the logical name associated with a field.



# Bonus, Bonus Topic – Logical field names for SQL Queries

- Use the “**Level up for Dynamics 365/Power Apps**” Browser Plugin
- Click on the Rocket Icon 🚀 in the browser
- Choose to view Logical Field Names





# Security

Complex security implementations in Dataverse are like snowflakes...  
They're beautiful... as long as you're not holding the shovel.

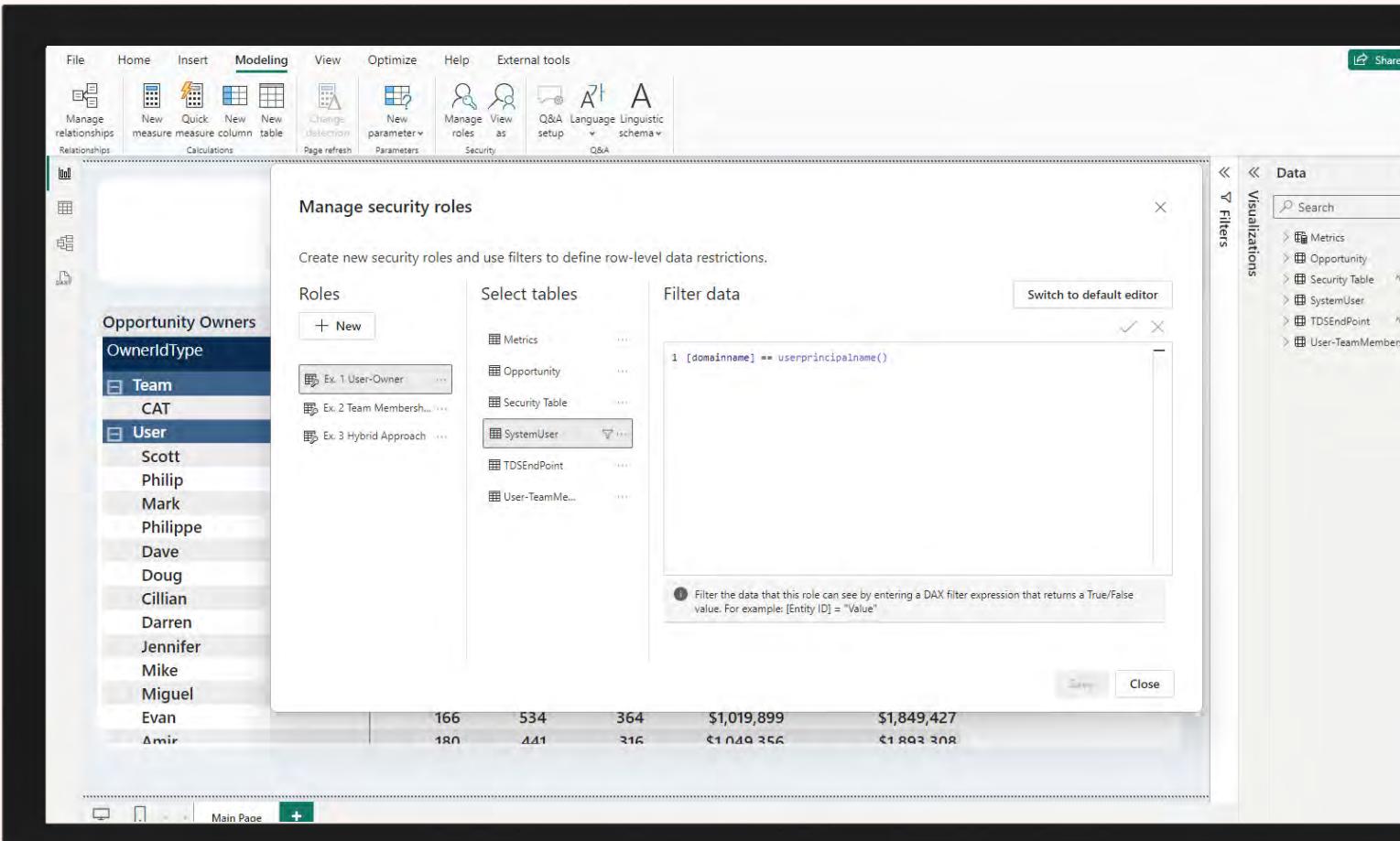
# Three types of security in a Dataverse-Power BI report

- Direct Query through TDS
  - Data retrieved from Dataverse at run-time using the user's credentials
- Row-Level in Semantic Layer
  - Visibility is controlled through attributes and rules in the report (RLS)
  - Test against a territory/owner/division etc. associated with the viewer.
- Report Level
  - If the user can see the report, they can see any data in it.
  - Reports can be restricted to individual users or groups
  - Reports might only show data at aggregate levels
- Beware the open-ended "Duplicate Dataverse Security" Req.



# Row-Level Security Demo

- Filters engaged by comparing the logged on user's `UserPrincipalName()` to a value (domainname) in a table, then applying a rule with that value.



The screenshot shows the 'Manage security roles' dialog in Microsoft Power BI. The 'Roles' section lists 'Opportunity Owners' with 'OwnerIdType' set to 'Team'. Under 'Team', 'CAT' is selected. Under 'User', a list of names (Scott, Philip, Mark, Philippe, Dave, Doug, Cillian, Darren, Jennifer, Mike, Miguel, Evan, Amir) is shown. The 'Select tables' section includes 'Metrics', 'Opportunity', 'Security Table', 'SystemUser' (selected), 'TDSEndPoint', and 'User-TeamMe...'. The 'Filter data' section contains the DAX expression: `1 [domainname] == userprincipalname()`. A tooltip explains: 'Filter the data that this role can see by entering a DAX filter expression that returns a True/False value. For example: [Entity ID] = "Value"'.

# Security in Dataverse-Power BI Report Considerations

Report-Level



Row-Level



TDS/SQL  
Direct Query

- Lowest Effort
- Fastest Speed
- Massive Datasets
- “Executives”

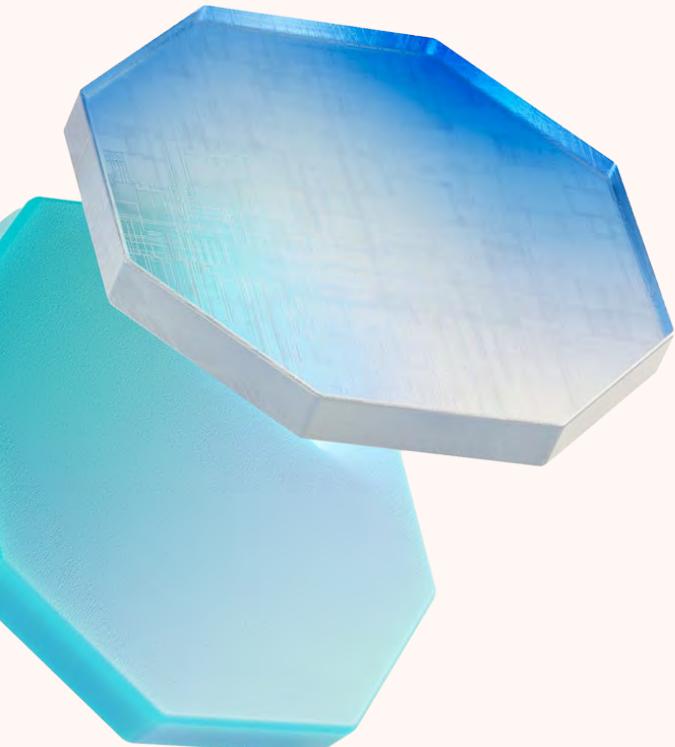
- Challenging
- Complexity affects speed
- Partitioned Results
- “Managers/Teams”

- S l o w e s t
- 1:1 match with Dataverse
- Individualized Data
- “Front-Line” employees
- TDS/SQL connection only



## Special Topics

# Time and Money



## Handling DateTime and Currency fields in data pulled in from Dataverse

These seems like obscure topics, but almost everyone gets bitten by it the first time.

- Dates in Dataverse are, for the most part, stored as DateTime in UTC format but displayed to the user based on their current application settings.
  - Convert Date-Times to a timezone standardized Date field
    - Filter/join/group on the Date-Only value
  - Be mindful of converting UTC datetimes to a user-friendly TZ
    - If you have significant timezone spans in your organization, consider adding a process to materialize non-timezone dependent dates for important metrics inside Dataverse.
- Currency fields are stored with a “base” value and displayed in a converted currency field. – Combining the values of a field with multiple currencies would be invalid. –
  - Always reference the ‘base’ fields for any type of calculation where different currencies might be included.

# Choice Values

Only the integer is stored in the row in Dataverse or FabricLink

It's joined at runtime in both places – smaller data and multi-language support

	name	statuscode	industrycode
1	Mechanical Products Ltd. ...	1	29
2	Rally Master Company Inc...	1	10
3	Hiatus Bike Tours (Paris)	1	29
4	Retreat Inn (Waterloo)	1	33
5	Reasonable Bicycle Sales (..	1	29
6	Racks and Security Syste...	1	29

	name	Status	Industry
1	Mechanical Products Ltd. ...	Active	Specialty Realty
2	Rally Master Company Inc.	Active	Distributors, Di...
3	Hiatus Bike Tours (Paris)	Active	Specialty Realty
4	Retreat Inn (Waterloo)	Active	Wholesale
5	Reasonable Bicycle Sales (..	Active	Wholesale
6	Racks and Security System...	Active	Specialty Realty

# Dataverse Fabric - Choice Values

Here's my go-to snippet:

```
LEFT JOIN [dbo].[stringmap] AS [entityname_attributename]
ON [entityname_attributename].langid = 1033
AND [entityname_attributename].objecttypecode = ''
AND [entityname_attributename].attributename = ''
AND [entityname_attributename].attributevalue = [Base].choicefieldname
```

Guide to using the above snippet:

langid	= the language code of values needed - 1033 = US English
objecttypecode	= entity name
attributename	= choice value field name
attributevalue	= choice numeric value from the record
choicefieldname	= choice value field name

In the list of fields in the query, just reference it in this form:

[entityname\_attributename].value AS [My Field Alias]



# Multi-Select Choices

A concatenated list of integers is stored in the row in Dataverse or FabricLink

Extra handling is needed

The screenshot shows a Dynamics 365 Analytics interface for a contact named Aaron Baker. The left sidebar includes sections for Home, Recent, Finned, Overview, Analytics, Sales and Marketing (Opportunities, Campaigns, Accounts, Contacts, Leads), Administration (Salespeople, Teams, Territories, Currencies, Users), and Service (Cases, Products). The main area displays contact information (First Name: Aaron, Last Name: Baker, Account Name: A Bicycle Association (De Witt), Role: Decision Maker) and a summary card for Aaron Baker showing Close % (54%), YTD Revenue Won (\$10,543), Revenue Open (\$195,676), and Lifetime Revenue Won (\$10,543). Below the contact card is a 'Smart Narrative' section stating: 'Revenue Won and total Revenue Open are negatively correlated with each other. Feb 2024 had \$8,921 Revenue Won, Revenue Open, and 52.4 % Close % Jan'. To the right of the contact card are two charts: 'Revenue Open by Sales Stage' and 'Revenue Won and Revenue Open by Year Month'. A green box highlights the 'Channel Activities' section, which lists various communication methods: Appointment, Email, Phone Call, Task, Service Activity, Social Activity, Teams chat, and Customer Voice alert. Below this list is a 'Select or search options' dropdown.

# Dataverse Fabric – Multi-Select Choice Values

[Dataverse to Fabric OneLake - Part 8 - Multi-Select Fields \(youtube.com\)](#)

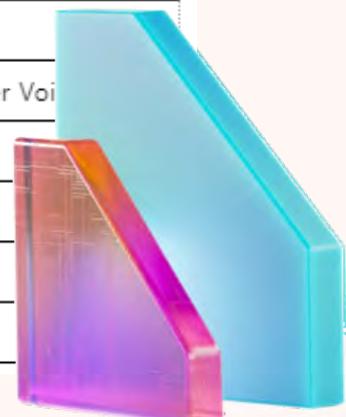
```
WITH CTE_contact_channelactivity AS
    (SELECT Base.contactid
        , STRING_AGG(contact_channelactivity.value, ', ') AS channelactivities_string
     FROM [dbo].[contact]
     CROSS APPLY string_split (Base.pbi_channelactivities , ';') AS string
    JOIN stringmap contact_channelactivity
        ON contact_channelactivity.attributename = 'pbi_channelactivities'
       AND contact_channelactivity.objecttypecode = 'contact'
       AND contact_channelactivity.langid = 1033
       AND contact_channelactivity.attributevalue = string.value
   WHERE
        Base.pbi_channelactivities IS NOT NULL
   GROUP BY
        Base.contactid )
SELECT Base.contactid
    , Base.fullname AS [Contact Name]
    , CTE_contact_channelactivity.channelactivities_string AS [Channel Activities]
   FROM [dbo].[contact] AS Base
  JOIN CTE_contact_channelactivity
    ON CTE_contact_channelactivity.contactid = Base.contactid
   WHERE
        Base.pbi_channelactivities IS NOT NULL;
```

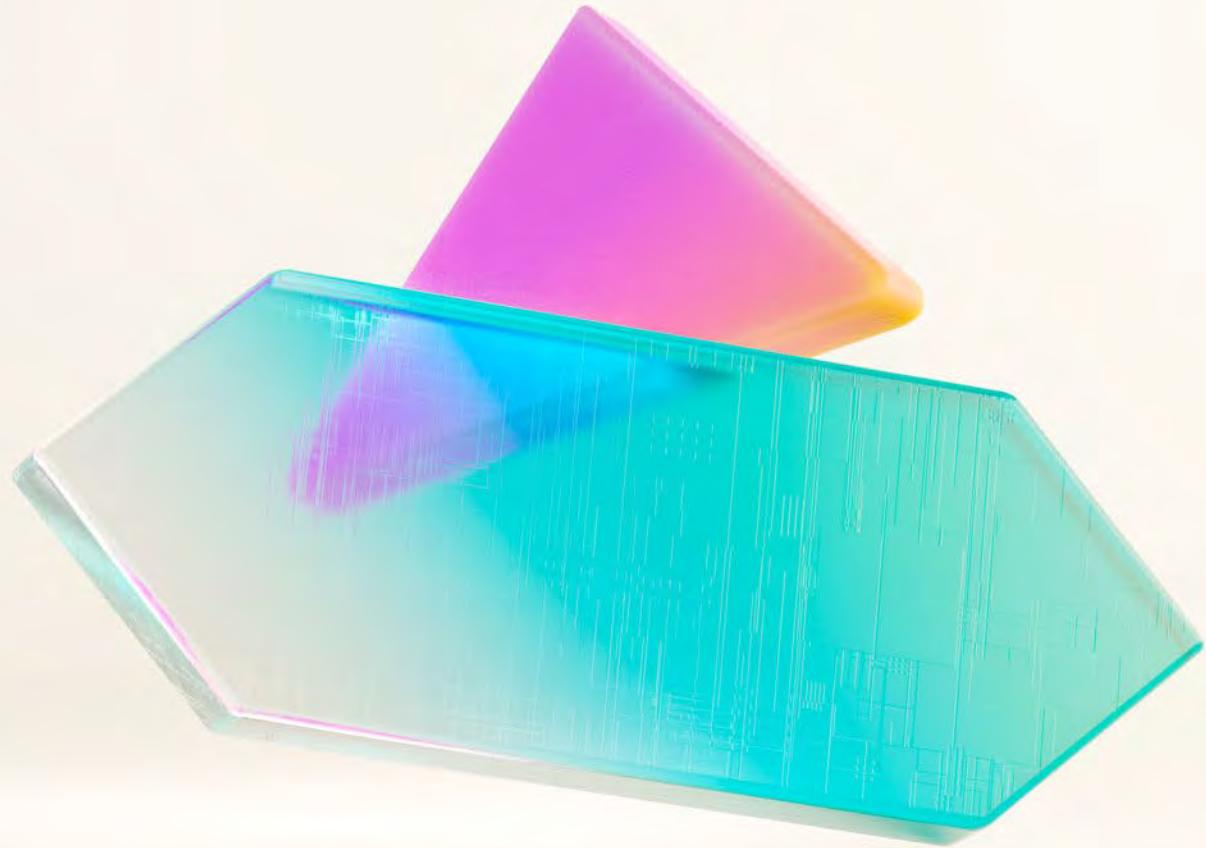


# Dataverse Fabric – Multi-Select Choice Values

[Dataverse to Fabric OneLake - Part 8 - Multi-Select Fields \(youtube.com\)](#)

RESULTS			
	contactid	Contact Name	Channel Activities
1	02314130-1f51...	Aaron Collins	Phone Call, Task, Customer Voice survey response
2	1a354130-1f51...	Aaron Chen	Appointment, Email, Phone Call, Task, Service Activity, Social Activity, Teams chat, Customer Voice alert, Customer Voice sur...
3	34d64a1f-1f51...	Aaron Campbell	Email, Task, Customer Voice survey invite
4	42d84a1f-1f51...	Aaron Butler	Phone Call, Task, Customer Voice survey response
5	5a92810e-1f51...	Aaron Alexander	Email, Task, Customer Voice survey invite
6	683a4130-1f51...	Aaron Adams	Phone Call, Task, Customer Voice survey response
7	6c7f810e-1f51...	Aaron Baker	Portal Comment, Invite Redemption, Copilot Transcript, Session, Conversation, Customer Voice survey response, Customer V...
8	76e60efe-1e51...	Aaron Bryant	Phone Call
9	84f74a1f-1f51...	Aaron Evans	Appointment, Email, Phone Call, Task, Service Activity, Social Activity, Teams chat, Customer Voice alert, Customer Voi
10	b690810e-1f51...	Aaron Allen	Session, Invite Redemption, Portal Comment
11	b88d810e-1f51...	Aaron Edwards	Session, Invite Redemption, Portal Comment
12	ee85810e-1f51...	Aaron Diaz	Email, Task, Customer Voice survey invite
13	fc324130-1f51...	Aaron Carter	Session, Invite Redemption, Portal Comment



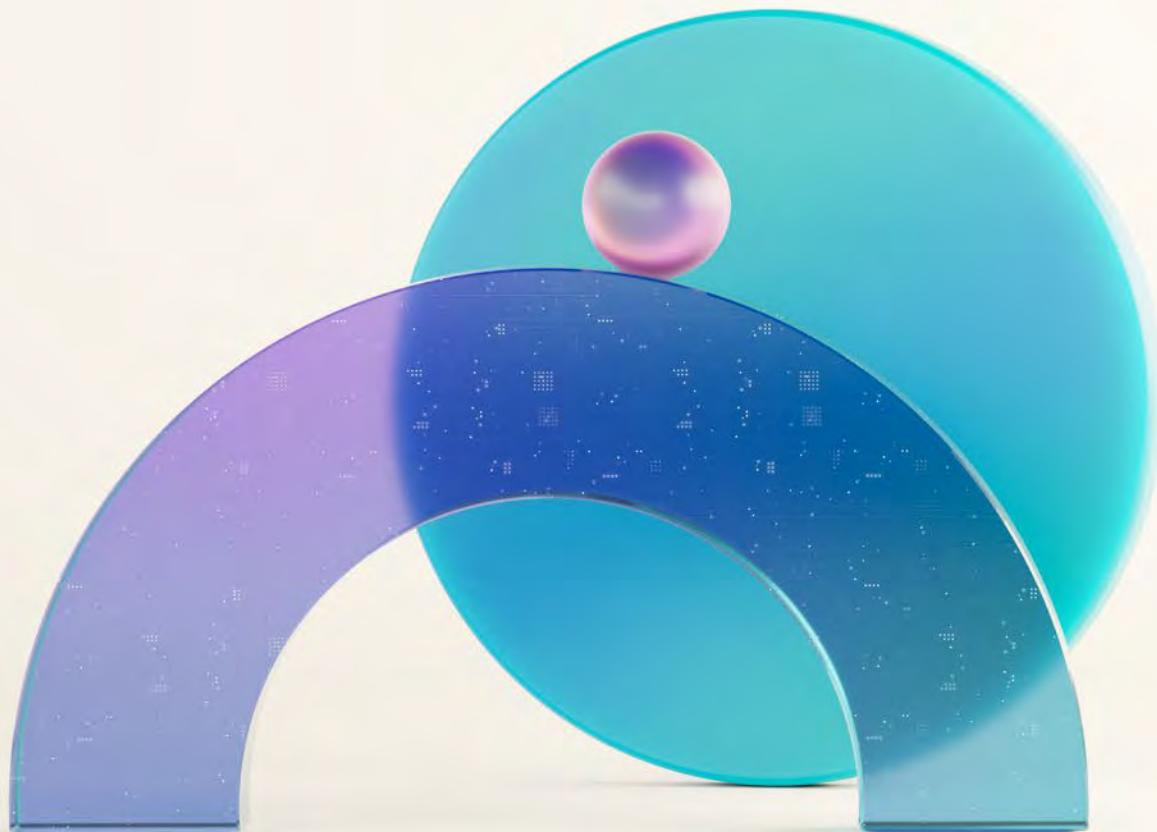


# Relaxing in the Lakehouse

# Explore the Lakehouse

- Lakehouse
  - Adding Shortcuts
- SQL Endpoint
  - Creating views





# Building Your Report

# Demo Sales Report

# Step 1 – Gather Requirements

- Focus, Focus, Focus
- Start small and iterate
- Try to anticipate re-usability



# Step 2 – Create the views

Build views to return only the data you want, formatted and named for end-user convenience



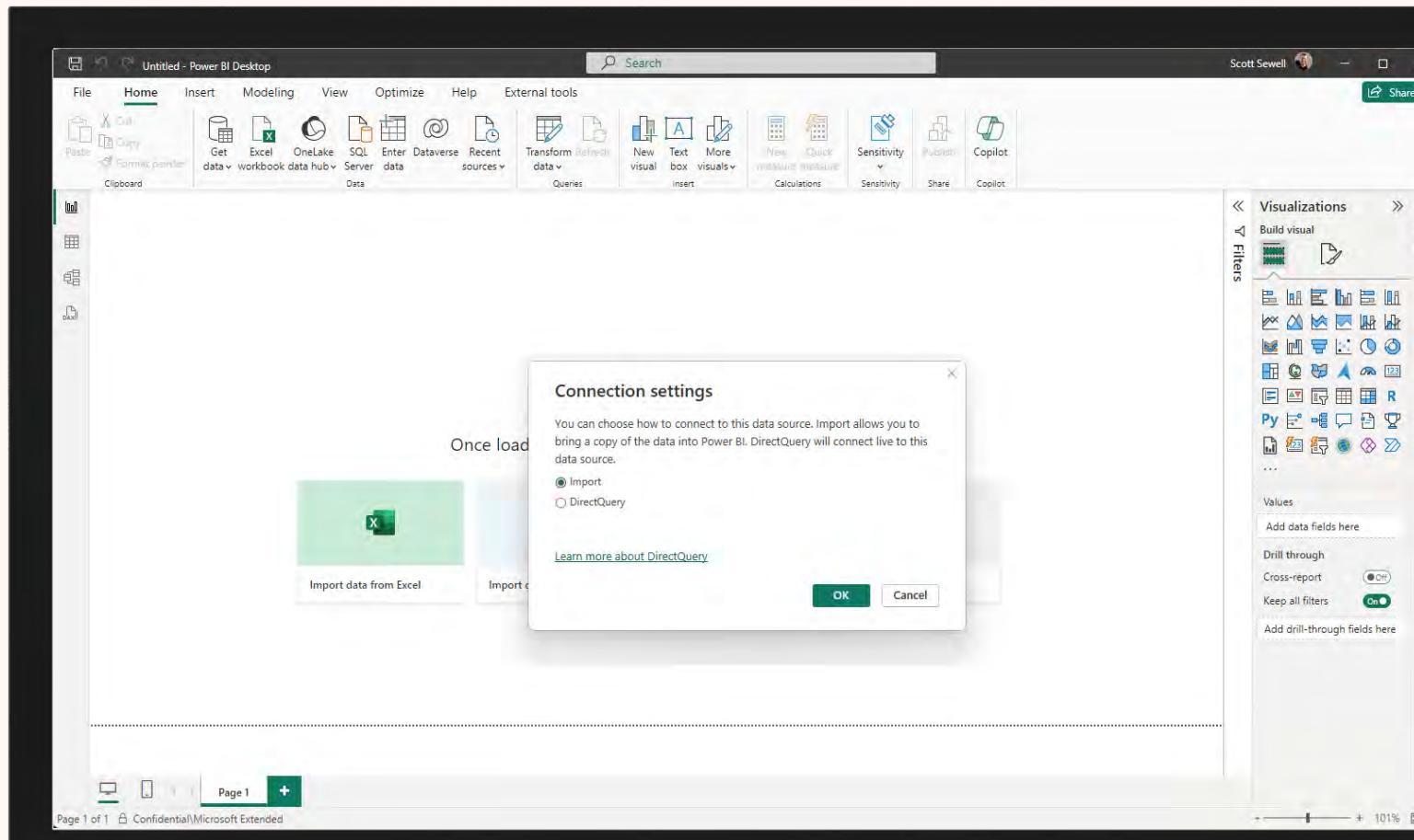
- Limit the number of fields to only required ones
- Any field presented to the user, alias it with the friendly name
- Add DateTime conversion to a Date-Only in your Time zone
- Ensure you're using Currency \_base fields
- Join the stringmap to get choice values
- Filters:
  - Exclude Deleted
  - Exclude Inactive Records as appropriate
  - Exclude Measures with no Facts
  - Date Boundaries for report scope
  - Include/Exclude LTR archived records

The screenshot shows a GitHub repository interface. The repository is named 'Dynamics365-Fabric-in-a-Day / Dataverse-Fabric / Building a report Step by Step'. A file named 'D365 Sales - Microsoft OneLake View Creation Script.sql' is displayed. The code in the file is as follows:

```
1  /*
2
3  This script creates the following four views in the lakehouse:
4  - Campaigns - for OOB Campaigns associated with Opportunities
5  - Customers - for OOB Accounts and Contacts associated with Opportunities
6  - Opportunities
7  - Owners - for OOB Teams and Users associated with Opportunities
8
9
10 Before running this script, be sure that the following Dataverse shortcuts are already in the 1
11 - account
12 - contact
13 - opportunity
```

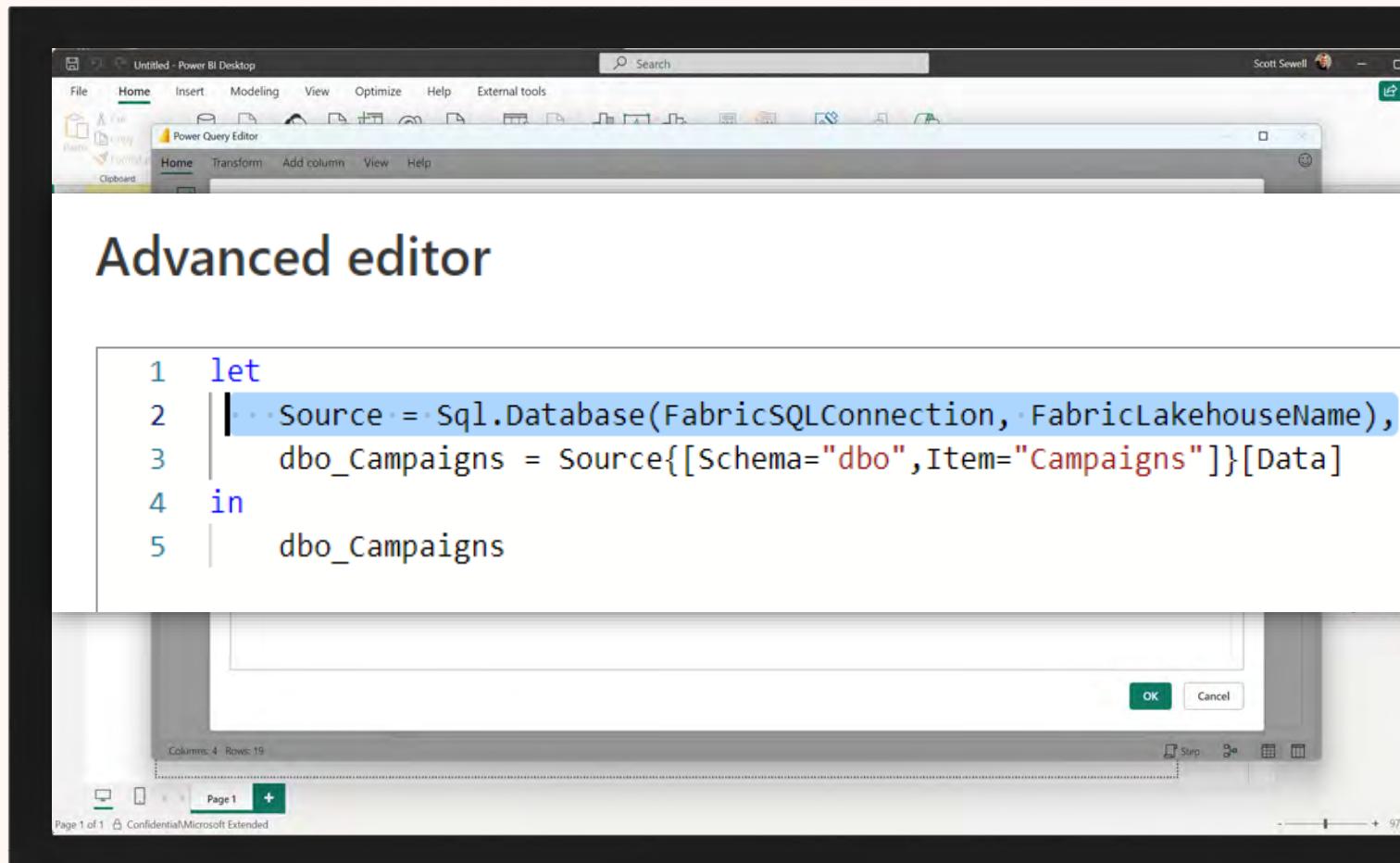
# Create the Report from Power BI Desktop

- OneLake data Hub
  - Select your lakehouse
  - Connect to SQL endpoint
- Give Credentials and wait---
- Choose the views
  - Click Transform Data
  - Select Import or DirectQuery



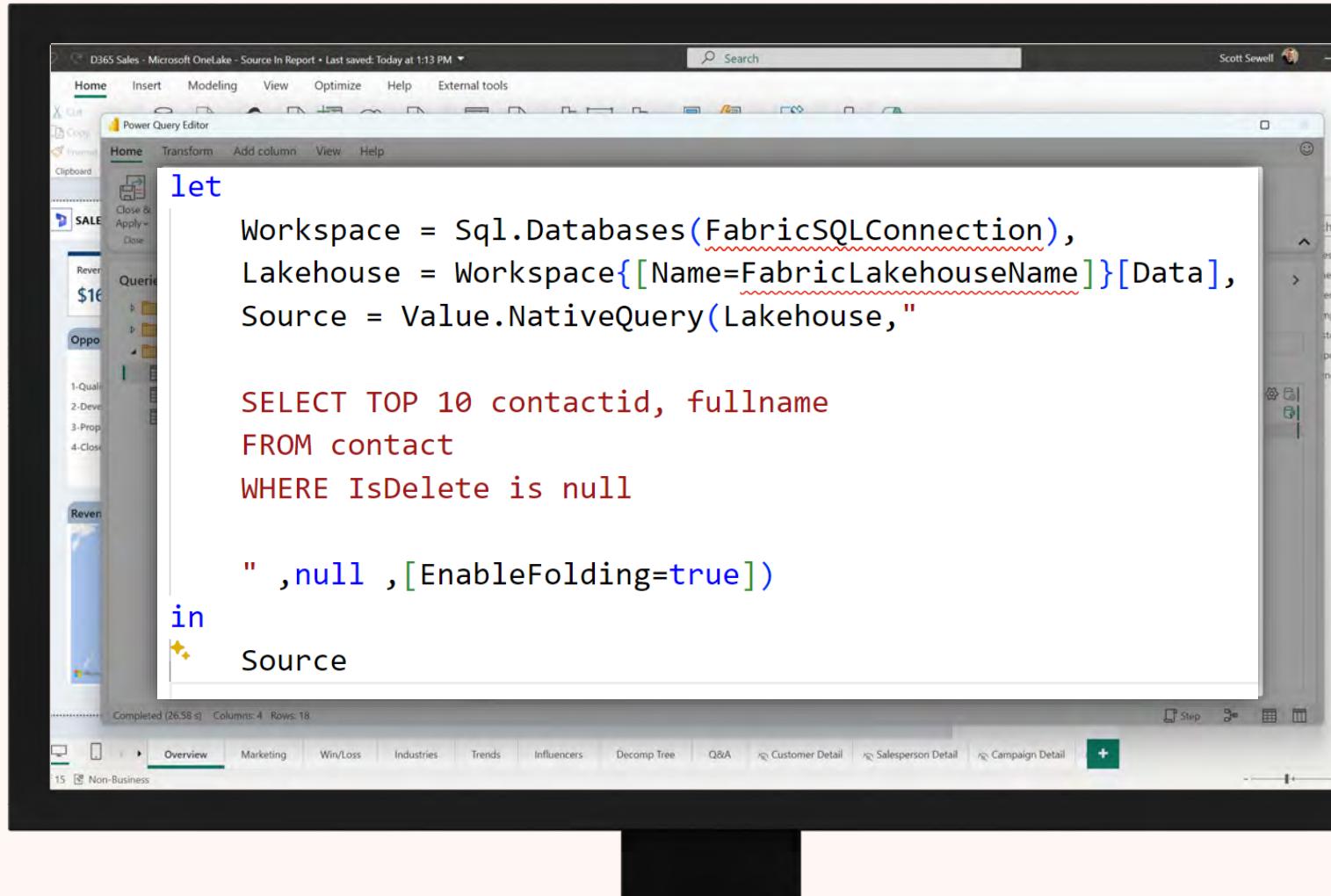
# Suggested – Create Parameter for Lakehouse and Database

- Add 2 new parameters
  - FabricSQLConnection
  - FabricLakehouseName
- Open the SQL Endpoint
- Click on the Blue Gear Icon
- Update the 2<sup>nd</sup> line of each query to use the parameters instead of hardcoding the values.



# Alternate Approach – Embed the Query directly in the Report

- You can create a Semantic layer with the query directly in it.
- Wrap the SQL query in a slightly different PowerQuery step.
- The [EnableFolding=true] hint will try to wrap any subsequent PowerQuery steps into the main query and retrieve it all at one time.
- Upside, it's self-contained and doesn't require anything on the server / downside



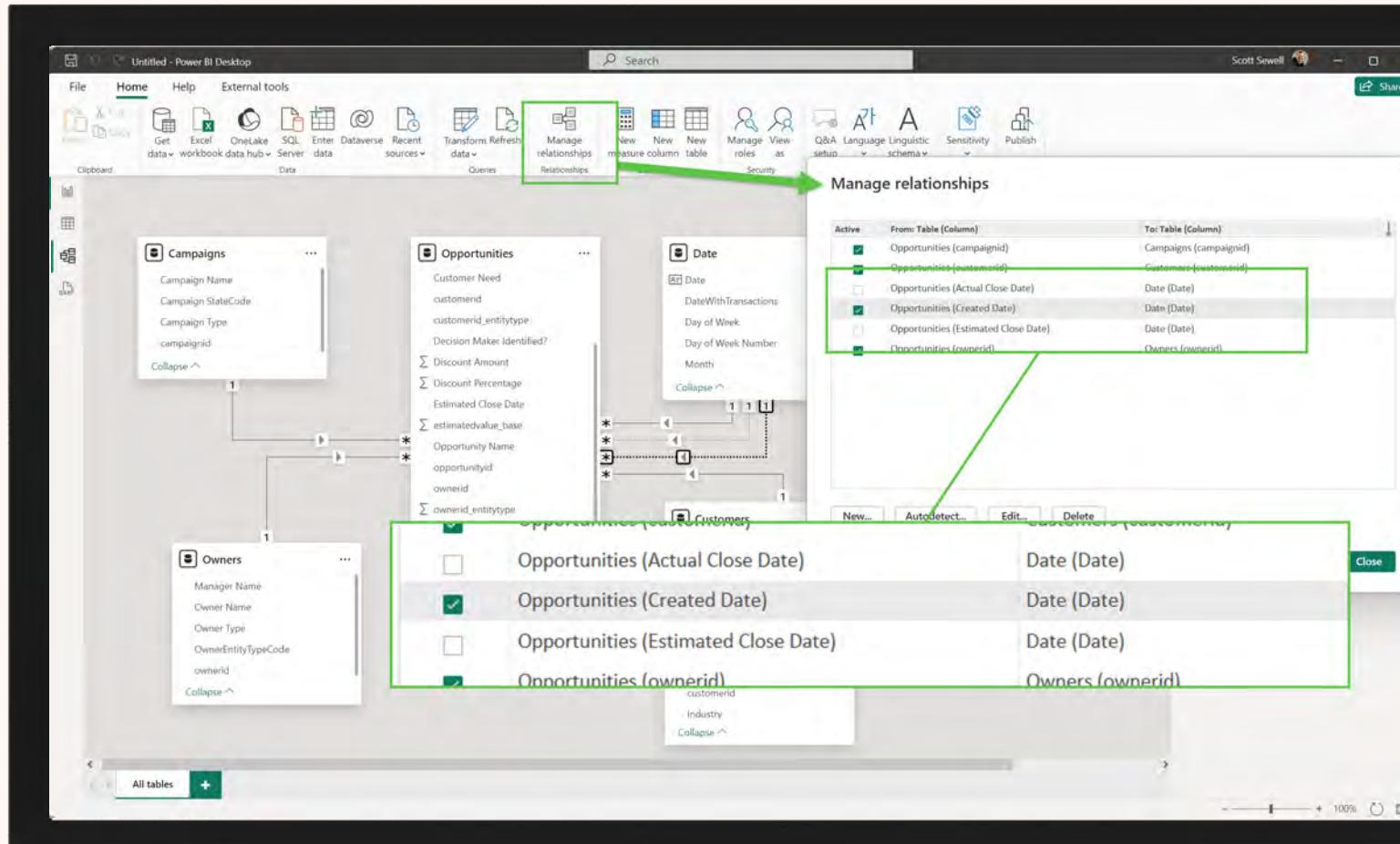
The screenshot shows the Microsoft Power BI Data Flow Editor interface. The main window displays a Power Query script:

```
let
    Workspace = Sql.Databases(FabricSQLConnection),
    Lakehouse = Workspace{[Name=FabricLakehouseName]}[Data],
    Source = Value.NativeQuery(Lakehouse,
        "SELECT TOP 10 contactid, fullname
        FROM contact
        WHERE IsDelete is null
        ",null ,[EnableFolding=true])
in
    Source
```

The script uses the `NativeQuery` function to execute a SQL query against a database in the Lakehouse. The `[EnableFolding=true]` hint is used to ensure the entire query is executed as a single step. The Power BI ribbon at the top includes tabs for Home, Insert, Modeling, View, Optimize, Help, and External tools. The left sidebar shows a list of queries and datasets.

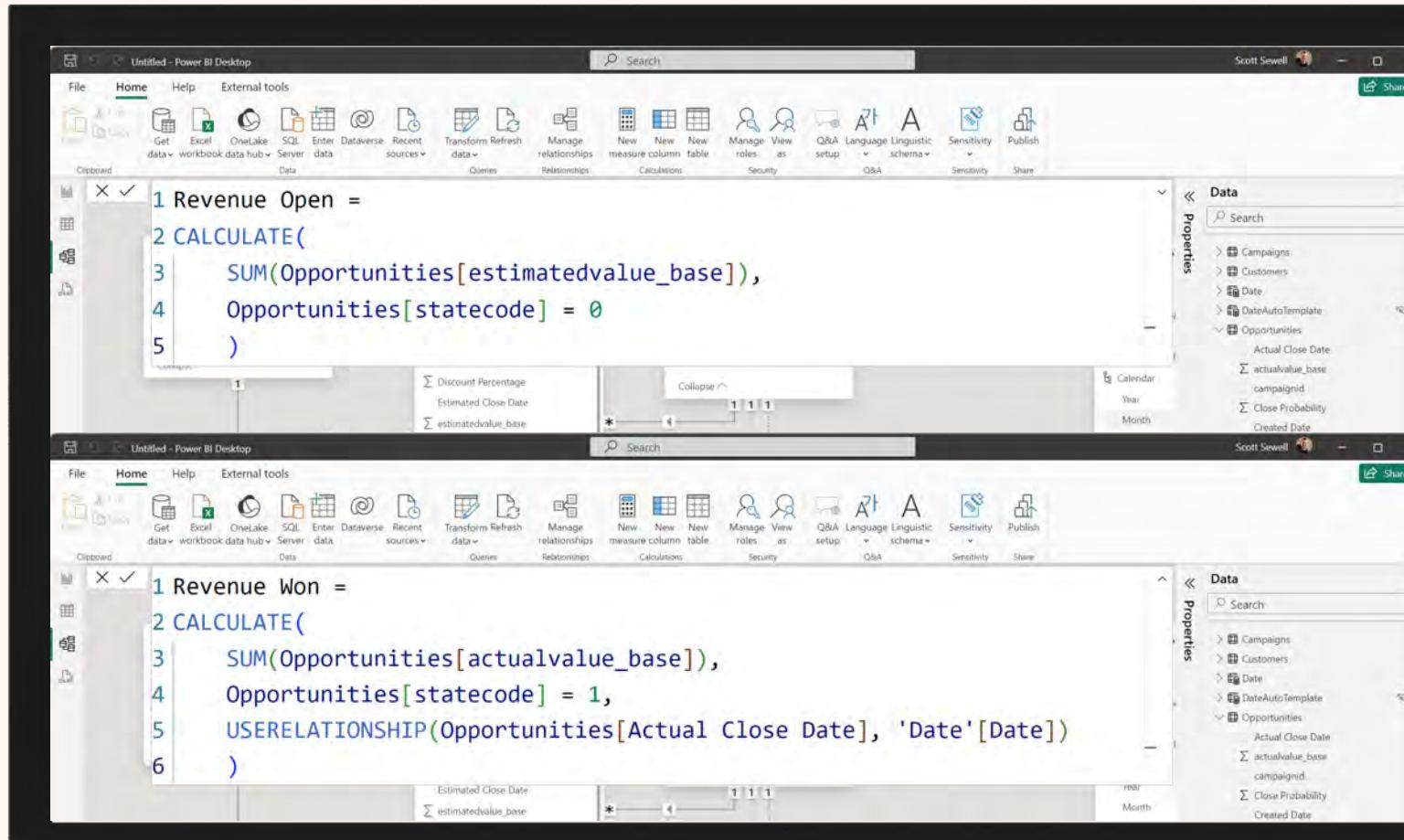
# Add a Calendar -Download Bravo from <https://bravo.bi>

- Disable Auto date/time in Options for report (and as a default)
- Allow Bravo to create a date table
- Create the Relationships between the Dates in the Fact Table and the Date Table
  - Connect 'Created On' first, since that should always have a value
  - The other two relationships will be inactive.



# Add basic measures

- Opportunity Count = countrows(opportunities)
- Revenue Open
  - Sum estimatedvalue\_base
  - Filter on statecode = 0
- Revenue Won
  - Sum
  - Filter on statecode = 1
  - Use date relationship of estimatedcloseddate



The screenshot shows two separate measure definitions in the Power BI Desktop Query Editor:

```
1 Revenue Open =
2 CALCULATE(
3     SUM(Opportunities[estimatedvalue_base]),
4     Opportunities[statecode] = 0
5 )
```

```
1 Revenue Won =
2 CALCULATE(
3     SUM(Opportunities[actualvalue_base]),
4     Opportunities[statecode] = 1,
5     USERELATIONSHIP(Opportunities[Actual Close Date], 'Date'[Date])
6 )
```

The interface includes the Power BI ribbon at the top, the Query Editor pane with the code, and the Data pane on the right displaying various tables and columns.

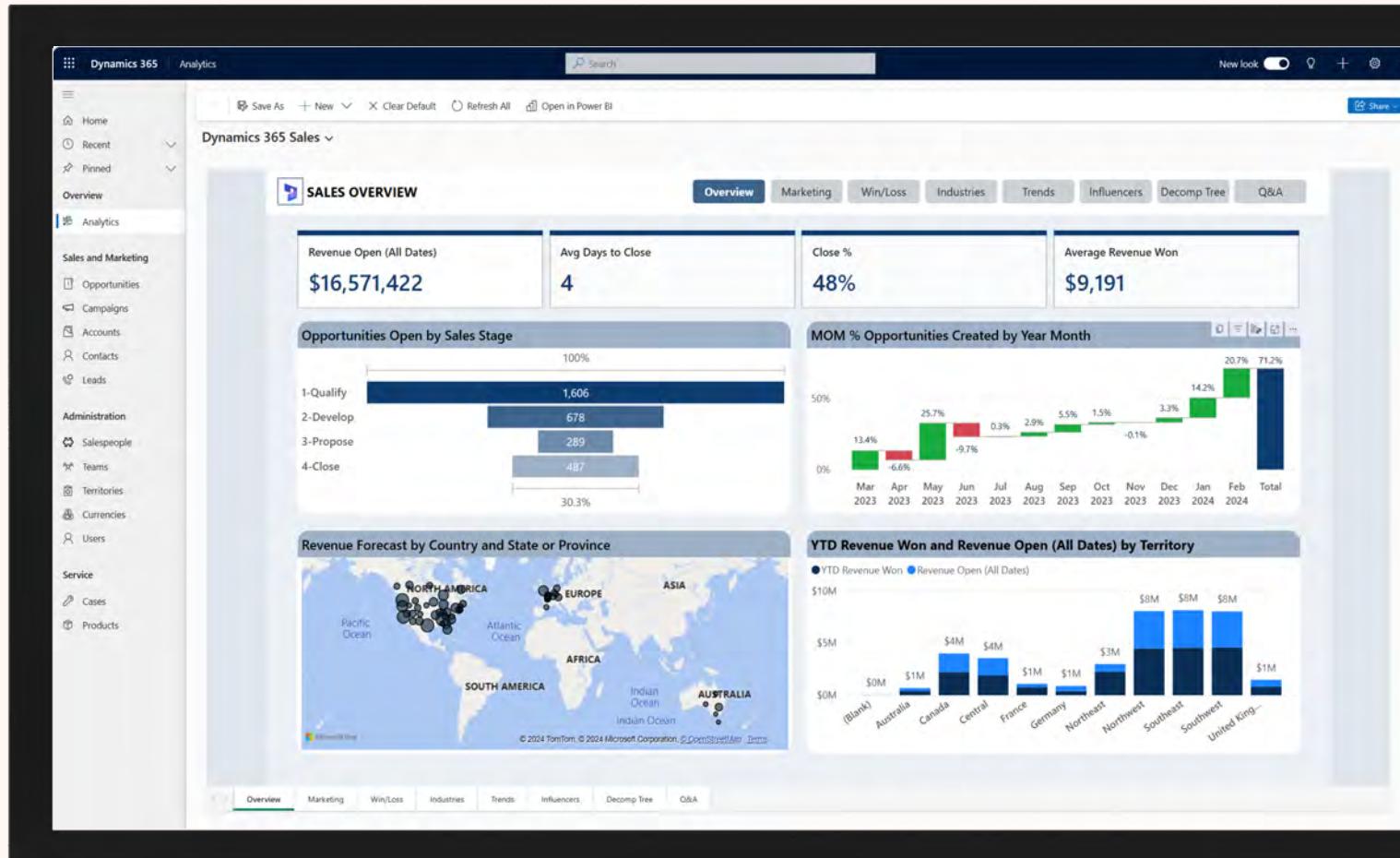
# Cleanup / Copilot Pre-Flight

- Hide Non-user-facing Fields
- Validate Table and Field Names
- Set field formatting options
  - Date format
  - Currency and numeric fields
  - Default summarization
- Categorize Geo & Hierarchies
- Add Synonyms
- Add Descriptions
- Row Labels and Key Columns
- Use a Measures Table  
`Sales Measures = {BLANK()}`
- Group measures into Folders



# Publish and add to a Model Driven App

- Publish report to a workspace
  - Set credentials and refresh
- In model driven app solution, create “New” “Power BI Embedded” dashboard
- Add to the report to the app
- Publish and enjoy!



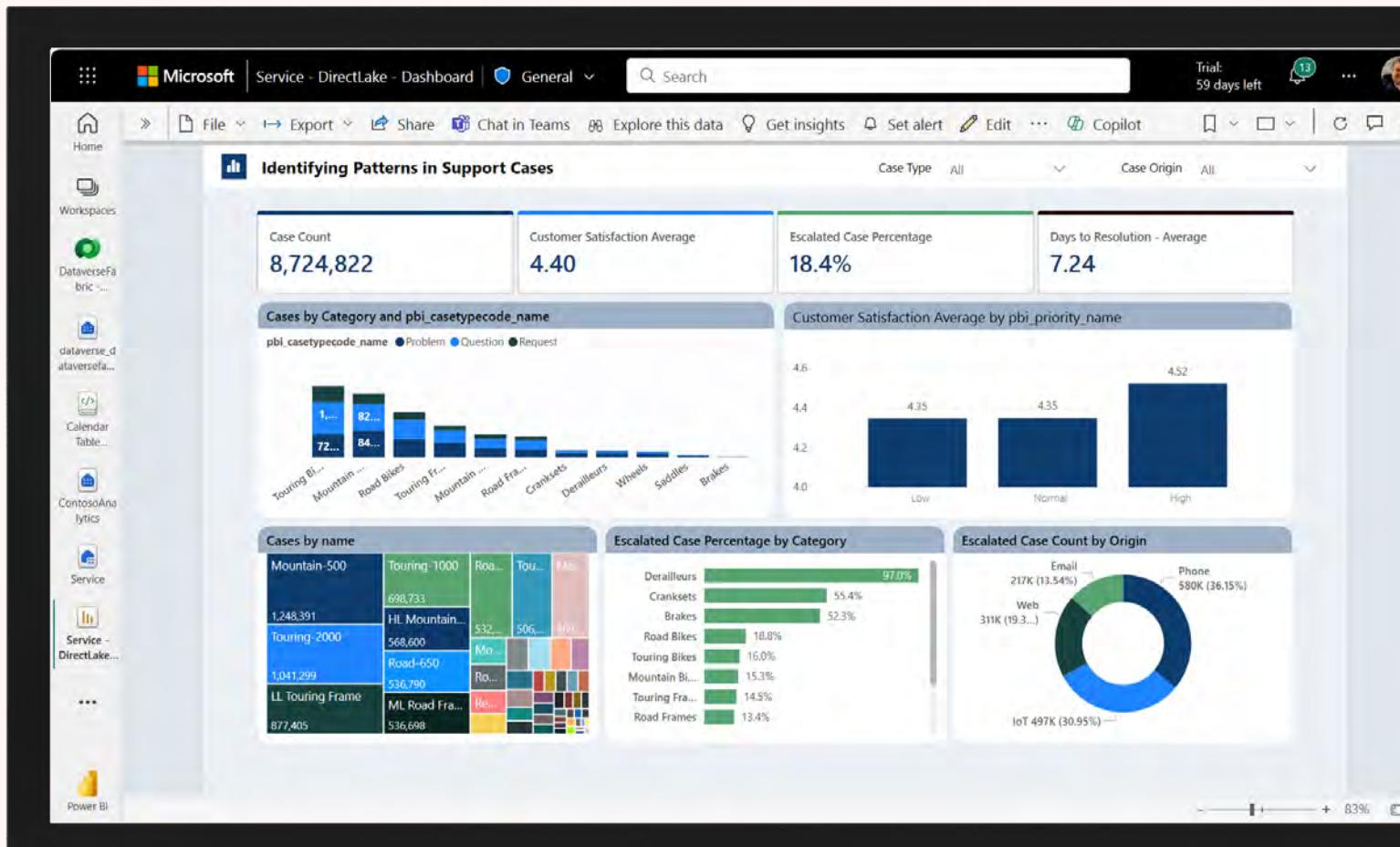
# Bonus Add Report to Form and filter

- Two Options
  - Use the “PowerBI Embedder” plugin for XrmToolBox
  - Add to a solution and use the native PCF Control
- Strengths and weakness with each approach



# DirectLake on D365

- Data is selectively pulled live from the Deltalake
- Amazing use cases if your data can be used little or no modification
- Using a view will cause it to fall back to DirectQuery.
- You'll need to deal with choice labels in your source.



# Pipelines

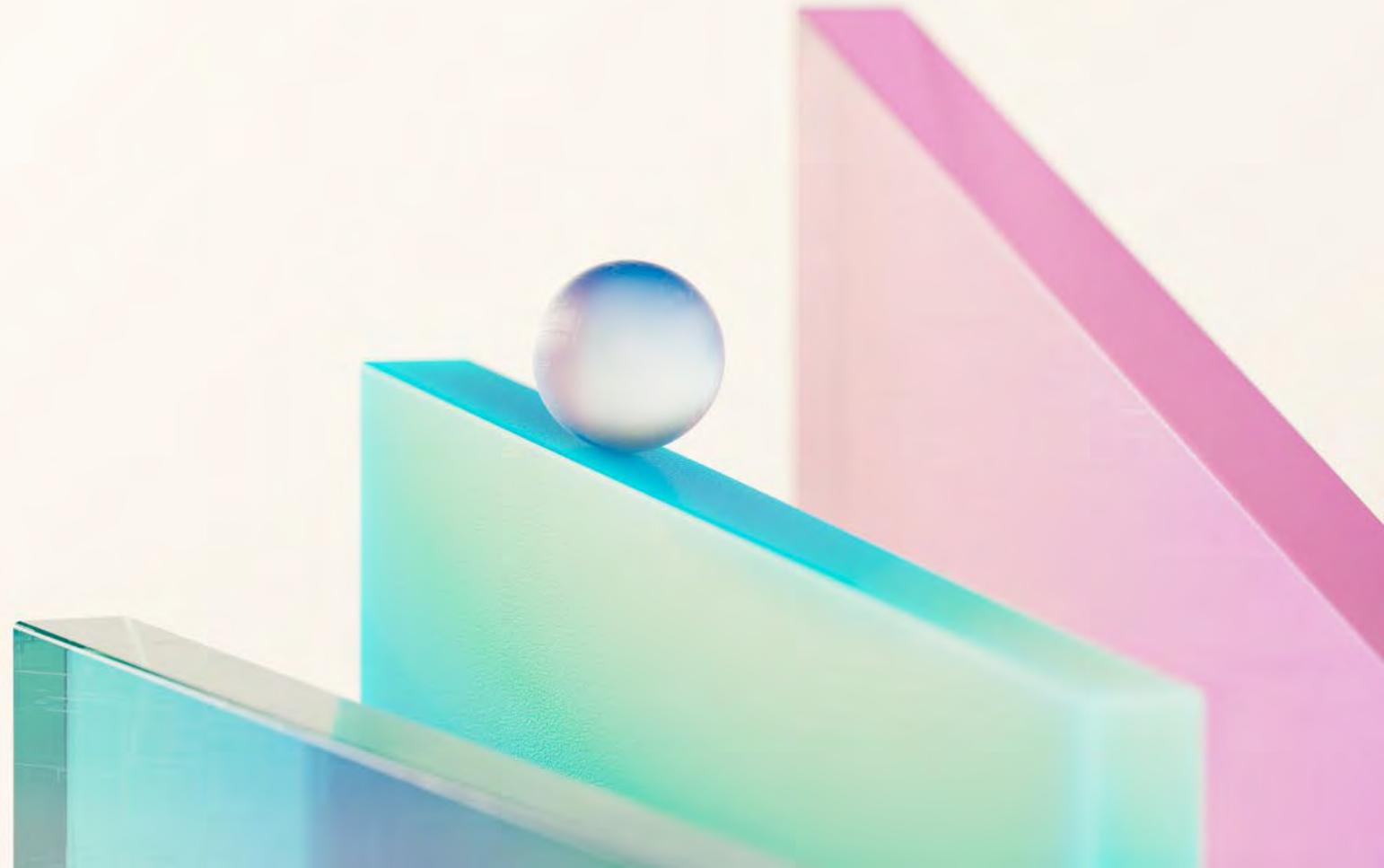
## Data Factory in Fabric

- You will need a SPN
  - [Creating Service Principals Really Easily Using Pac CLI -Carl de Souza](#)
  - [A Visual Guide To Power Platform Service Principal Setup \(MatthewDevaney.com\)](#)
- Create a query as your source
- Map to a destination entity
- Customer and other polymorphic Lookup fields are special – use @EntityReference to pass the record type.

The screenshot shows the Microsoft Fabric Data Factory interface. A pipeline named "Copy\_Incidents" is selected. The "Mapping" tab is active, displaying a list of columns being mapped from a source to a destination. The source is a "Service Incidents" table, and the destination is another "Service Incidents" table. The mapping details are as follows:

Source	Type	Destination	Type
caseorigincode	Int32	caseorigincode	Int32
casetypecode	Int32	casetypecode	Int32
customerid	Guid	customerid	Guid
customerid@EntityRef...	Nvarchar	customerid@EntityRef...	Nvarchar
customersatisfactionc...	Int32	customersatisfactionc...	Int32
followupby	DateTime	followupby	DateTime
incidentid	Guid	incidentid	Guid
isescalated	Boolean	isescalated	Boolean

# Thank you



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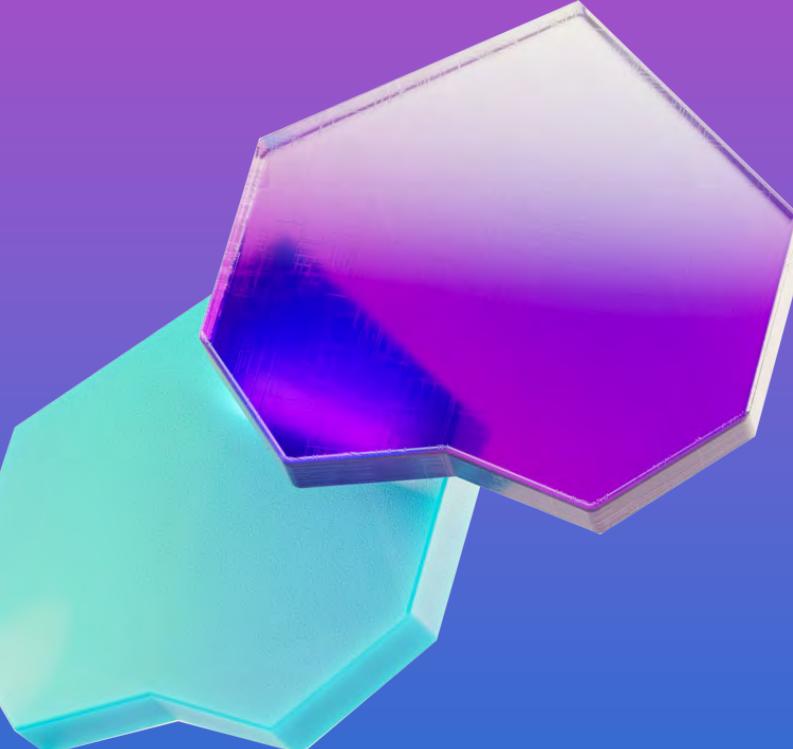
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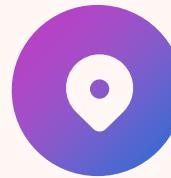
[aka.ms/FabricCareerHub](https://aka.ms/FabricCareerHub)

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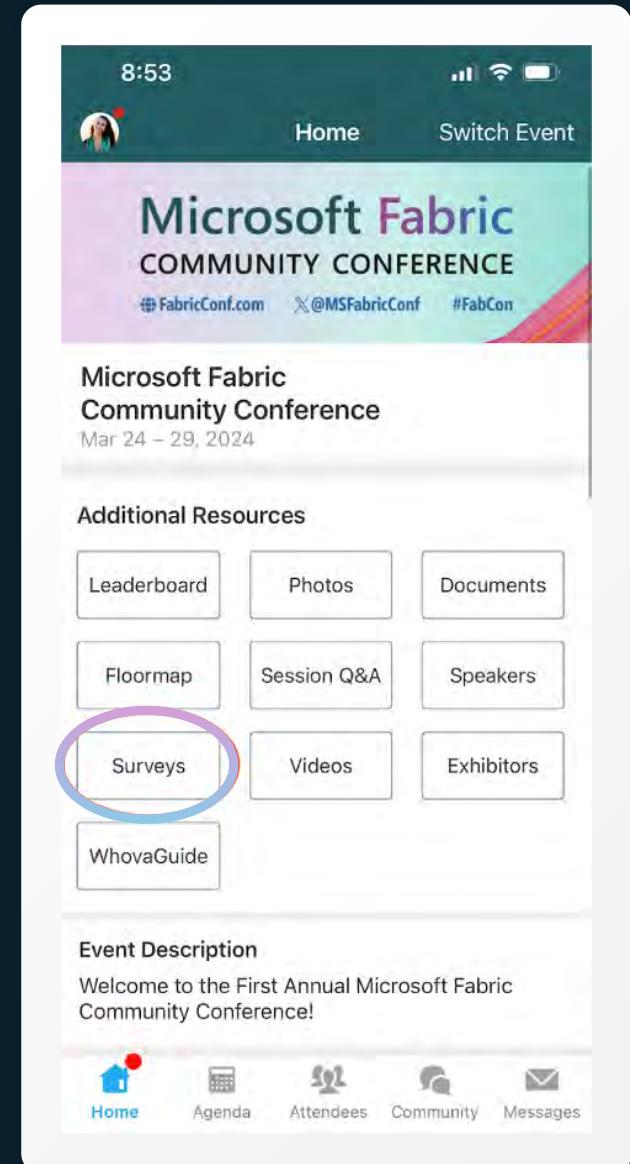
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In the pursuit of making next year's Microsoft Fabric Community Conference even better, we want to hear your feedback about this session.

Here's how easy it is!

- 1 Simply go to the **Whova App** on your smartphone
- 2 Scroll down on the Microsoft Fabric Community Conference Homepage to '**Additional Resources**' to click '**Surveys**'
- 3 Click **Session Feedback**
- 4 Scroll down to find this session title
- 5 Complete the session feedback survey
- 6 Finally, click '**Submit**'



# Whova



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# Microsoft Power Platform COMMUNITY CONFERENCE

POWER BI

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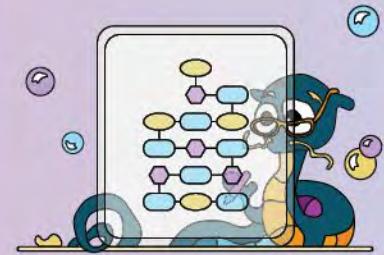
POWER APPS

POWER VIRTUAL AGENTS

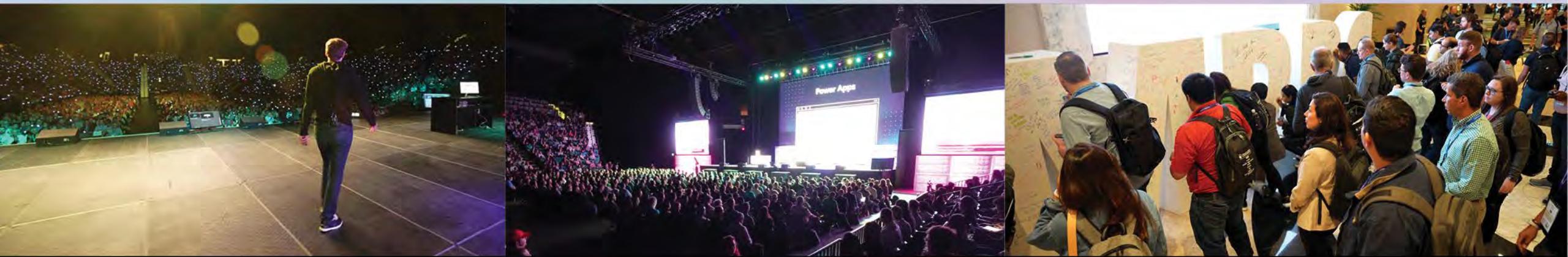
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# Thank you

