Microsoft

APAC Partners Bootcamp BI and Analytics

Hands-on Lab

Contents

Purpose of this workshop

This workshop aims to guide participants through the fundamental setup of Microsoft Fabric for seamless integration with Dataverse while mastering key components of Microsoft Fabric. Throughout the workshop, participants will actively engage in hands-on activities to gain proficiency in the following areas:

- Linking Dataverse with Microsoft Fabric
    - Learn the process of establishing a connection between Dataverse and Microsoft Fabric.
- Microsoft Fabric – Serverless SQL Endpoint
    - Gain practical experience in utilizing Microsoft Fabric's Serverless SQL Endpoint for data management and retrieval.
- Microsoft Fabric – Power BI Semantic Model and Visualization
    - Explore the functionalities of Microsoft Fabric in creating a Power BI Semantic Model and visualization for enhanced data representation.
- Microsoft Fabric – Notebook
    - Familiarize yourself with Microsoft Fabric's Notebook feature, understanding its ETL capabilities.
- Bringing Insights back to Dataverse via Virtual Entity
    - Transferring insights generated in Microsoft Fabric back to Dataverse using Virtual Entity.

Prerequisites

Please follow the instructions here: BI Bootcamp Exercises Pre-requisites to complete the prerequisites.

Workspace creation

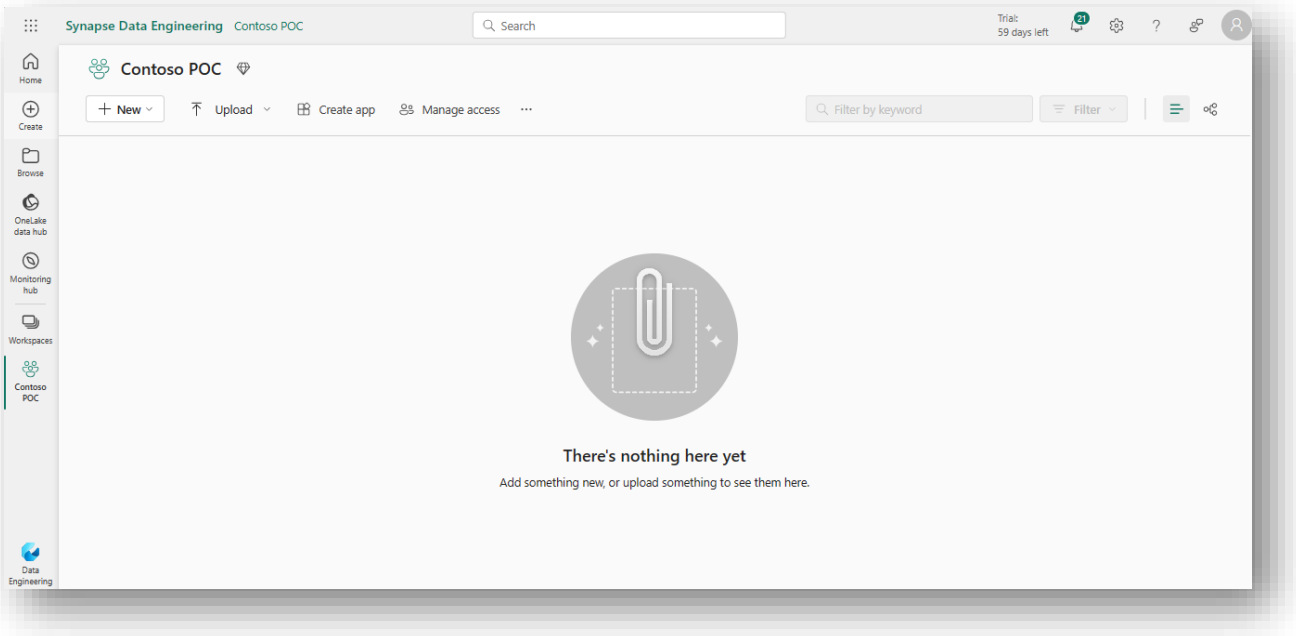
Estimated Time to Complete

5 minutes for the following steps

Steps:

1. Navigate to **https://app.fabric.microsoft.com/** with your credentials.
2. Select (Click) **Synapse Data Science** as Persona.
3. In the left pane click **Workspaces** -> **+ New Workspaces**
4. Input **Name** (“Contoso POC”) for the workspace then click **Apply**.

A new workspace should be established with empty items, as outlined below:



Notebook

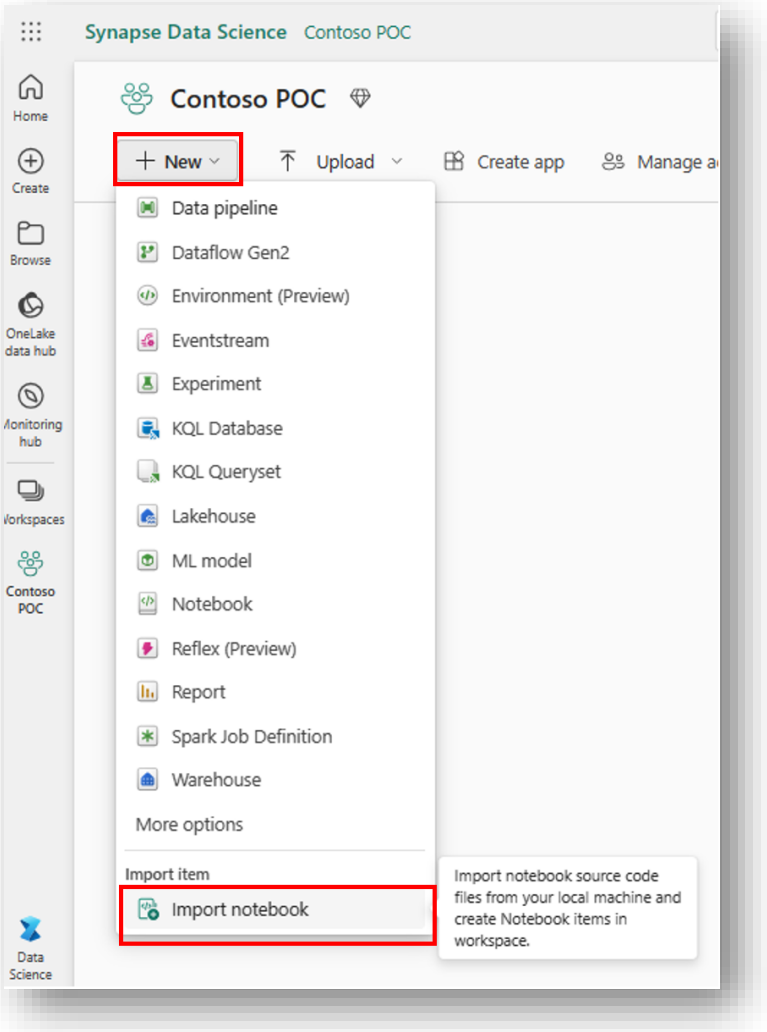
Estimated Time to Complete

25 minutes for the following steps

Steps:

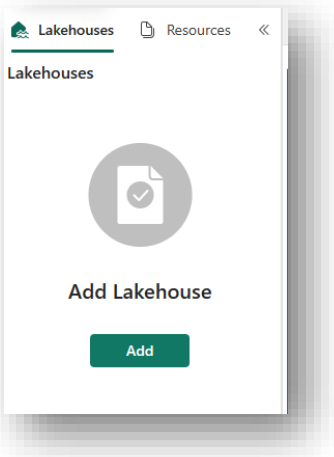
1. Download the Lab Notebook from Dynamics-365-FastTrack-Implementation-Assets/Analytics/DataverseLink/BI_Bootcamp_Hands-on-Notebook.ipynb at master · microsoft/Dynamics-365-FastTrack-Implementation-Assets · GitHub

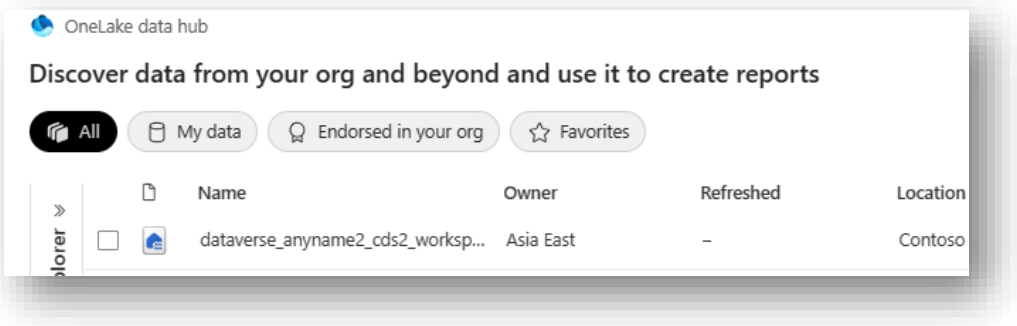
2. In workspace, click New -> Import notebook.



3. **Upload** the Notebook downloaded from step 1.
4. Open the Notebook by clicking the **Name**.

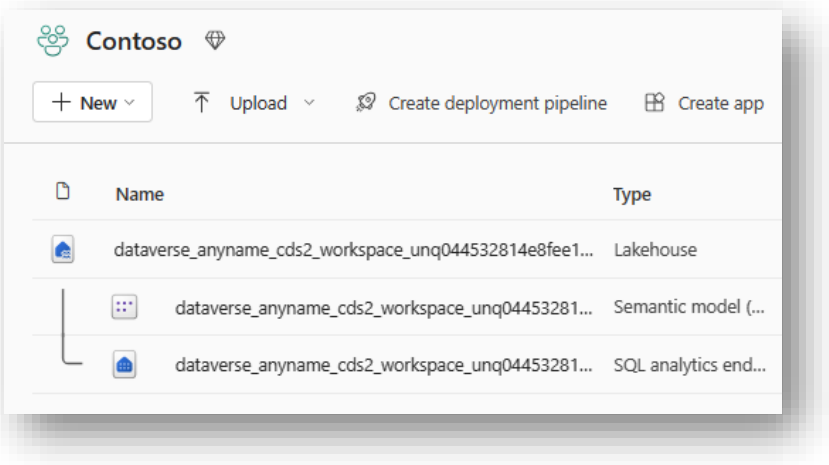
5. **Add Lakehouse** -> **Existing lakehouse** which connects to your Dynamics 365



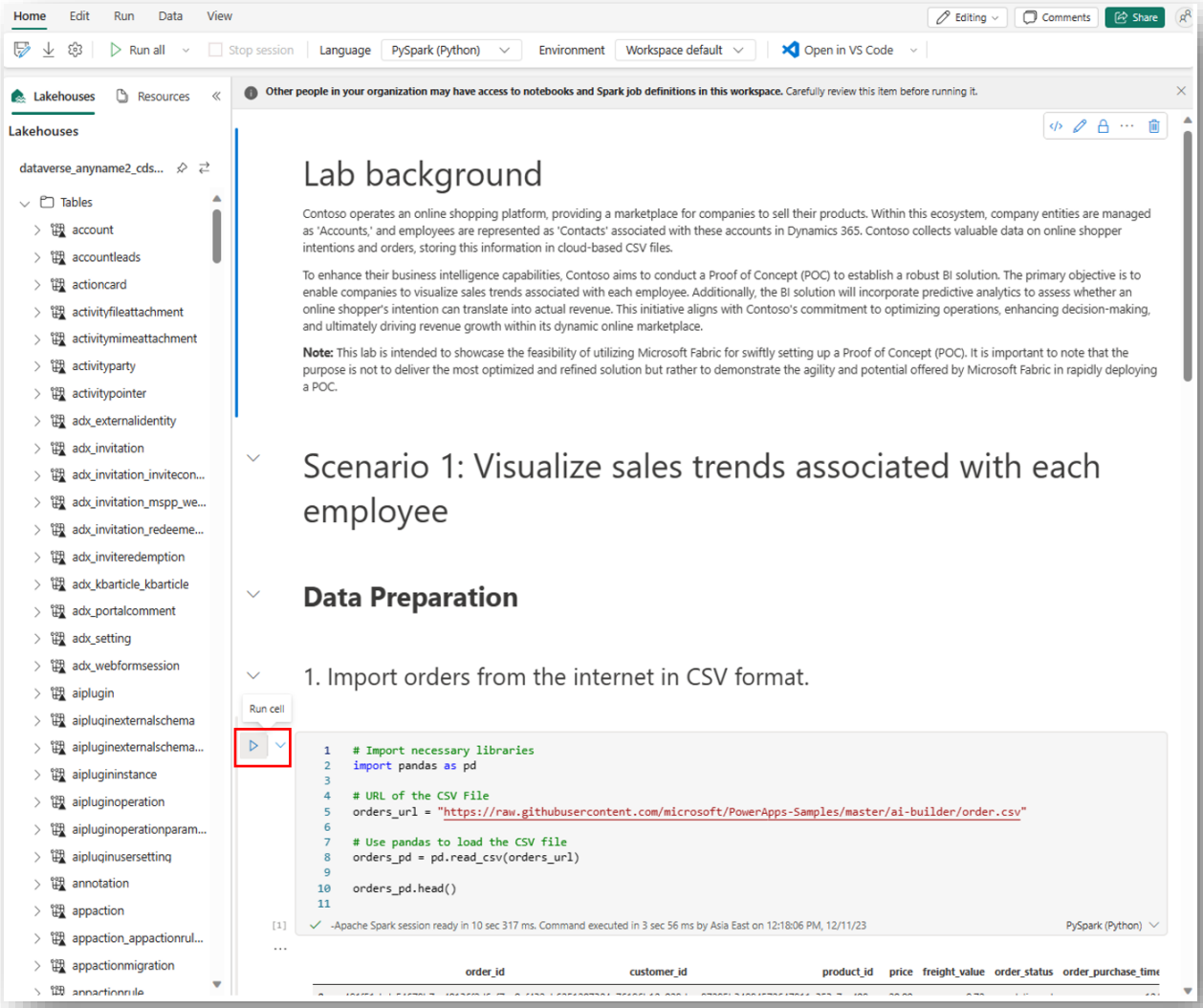


Hint: Dynamics 365 Link to Microsoft Fabric will by default create the following structure which will contain one Lakehouse, One SQL analytics endpoint and one Semantic Model with the following naming conventions.

dataverse_environmentname_cds2_workspace_environmentuniqueid



6. Expand the cell and follow the provided instructions to execute the cell sequentially and successfully complete the lab.



Hint: Notebooks consist of Code Cells and Markdown Cells. Code cells are executable blocks where you can use various languages, such as Pyspark and Spark SQL, to accomplish tasks. Markdown cells, on the other hand, are primarily used for documentation purposes.

Serverless SQL Endpoint

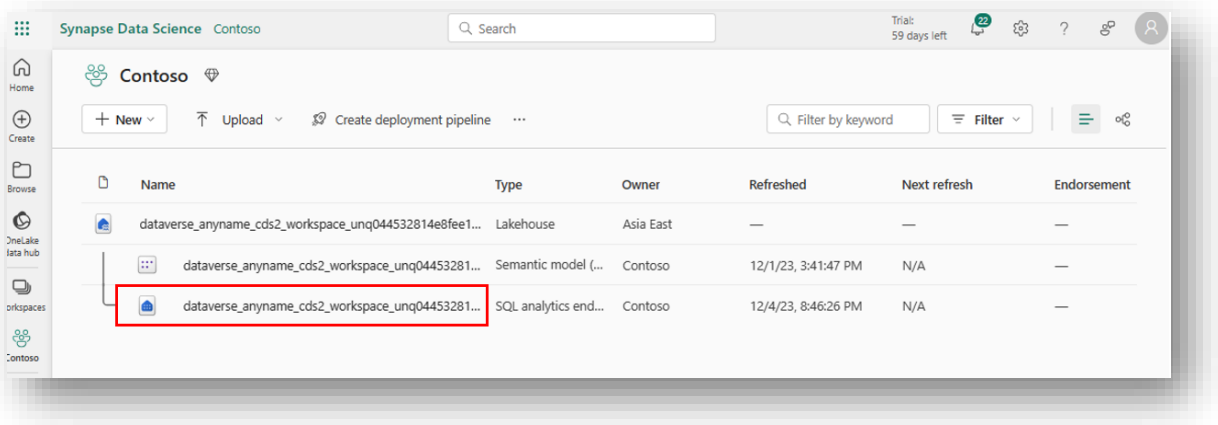
Estimated Time to Complete

10 minutes for the following steps

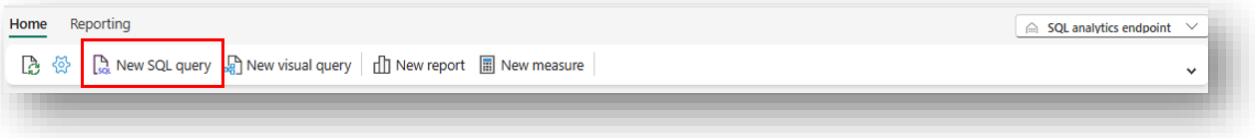
Steps:

1. Click Workspace in the left Pane then select the workspace you create during the prerequisite which connects to your Dynamics 365.

2. Click SQL analytics endpoint.



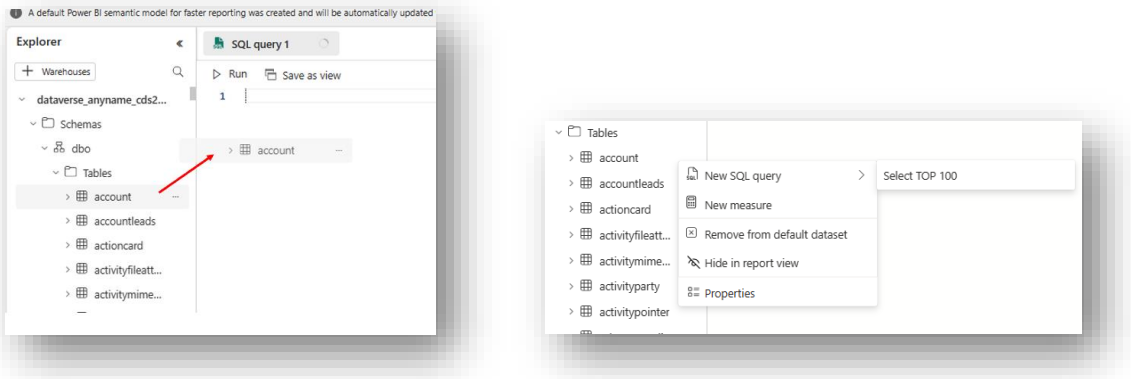
3. Click on "New SQL query" in the top pane to initiate the exploration of SQL queries on the serverless endpoint.



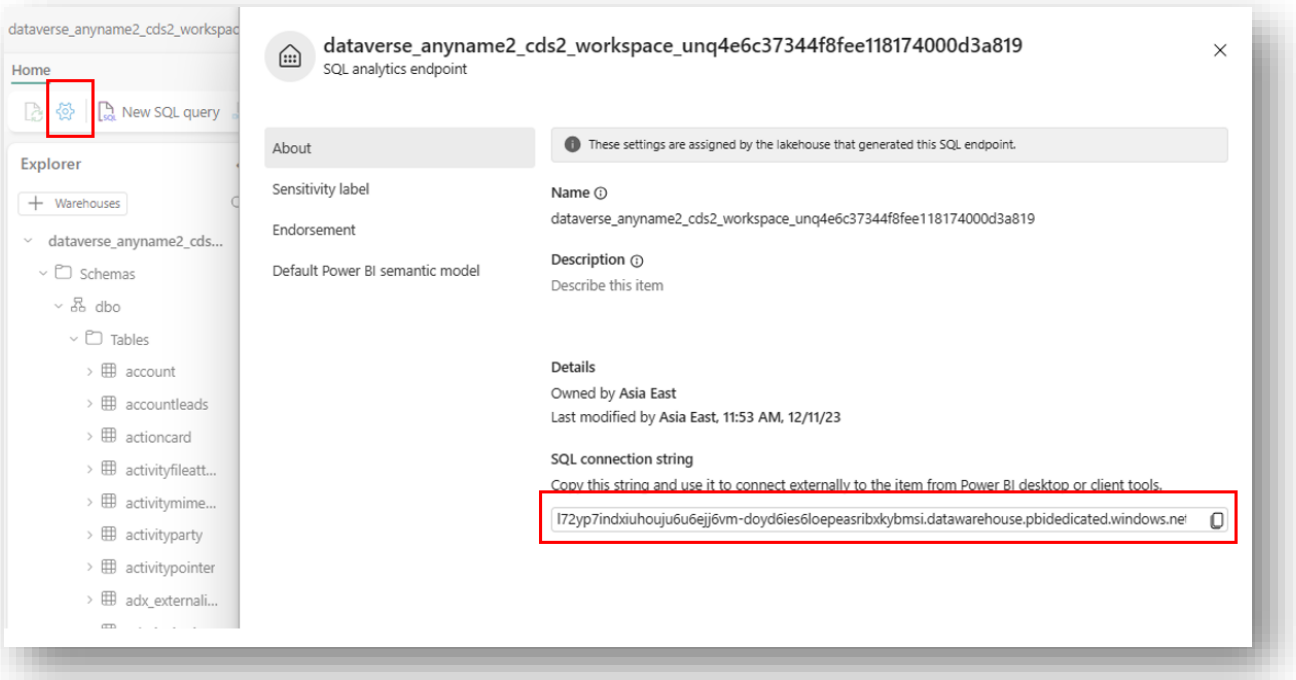
4. Query the tables "orders_with_contacts_agg" and "shopper_intentions_with_contacts" were created during the execution of the notebook to assess the completeness of the loading process.

```
SELECT count(*) from
[YouWorkSpaceName].[dbo].[shopper_intentions_with_contacts]
```

Hint: You can load a table onto the canvas by dragging it, or alternatively, click on the [...] icon next to the table, then select "**New SQL Query**" -> "**Select TOP 100**" to swiftly initialize a query.



Hint: Retrieve the SQL Connection string from the settings and utilize it to establish a connection to the Serverless endpoint using the tool of your choice.



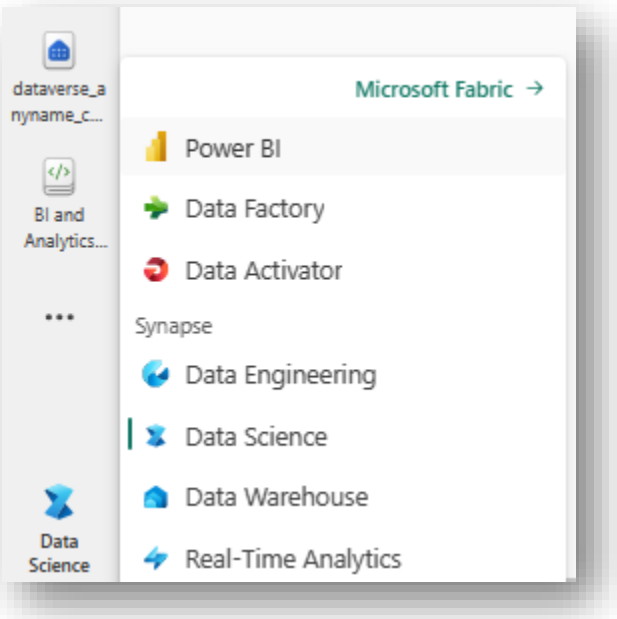
Power BI Model/Visualization

Estimated Time to Complete

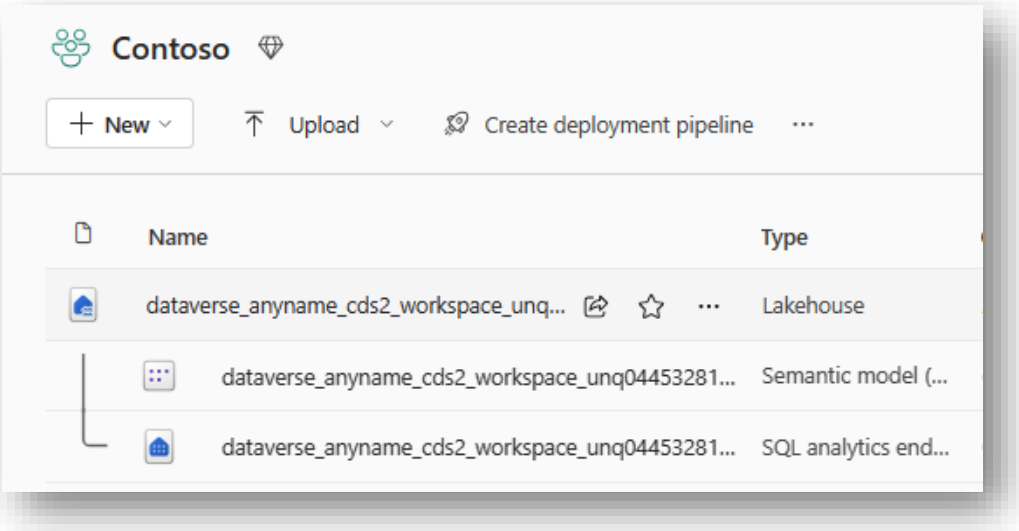
15 minutes for the following steps

Steps:

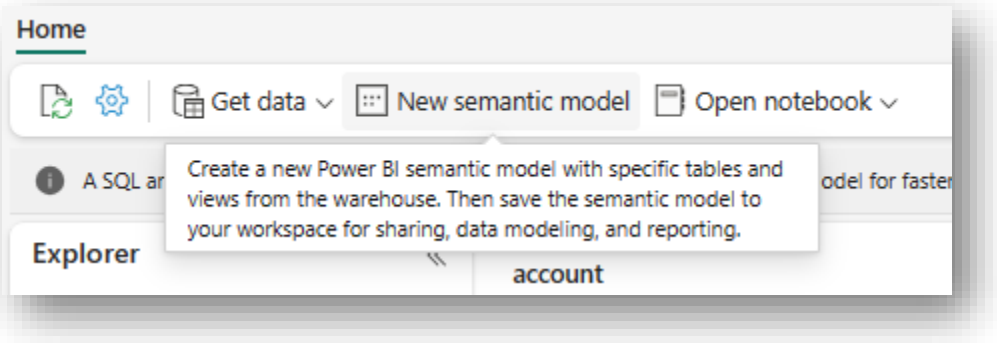
1. In the left bottom, Switch the Persona to Power BI.



2. Click Workspace in the left Pane then select the workspace you create during the prerequisite which connects to your Dynamics 365.
3. Click the Name of the Lakehouse to open it.

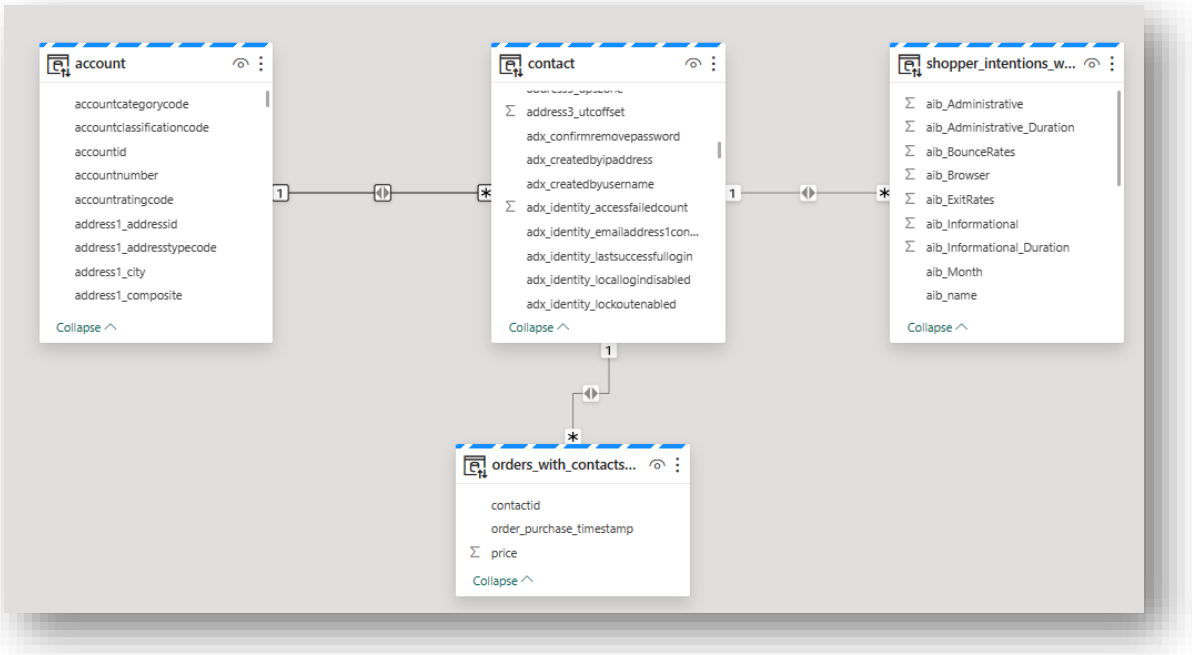


4. In the top Pane, click “New semantic model.”



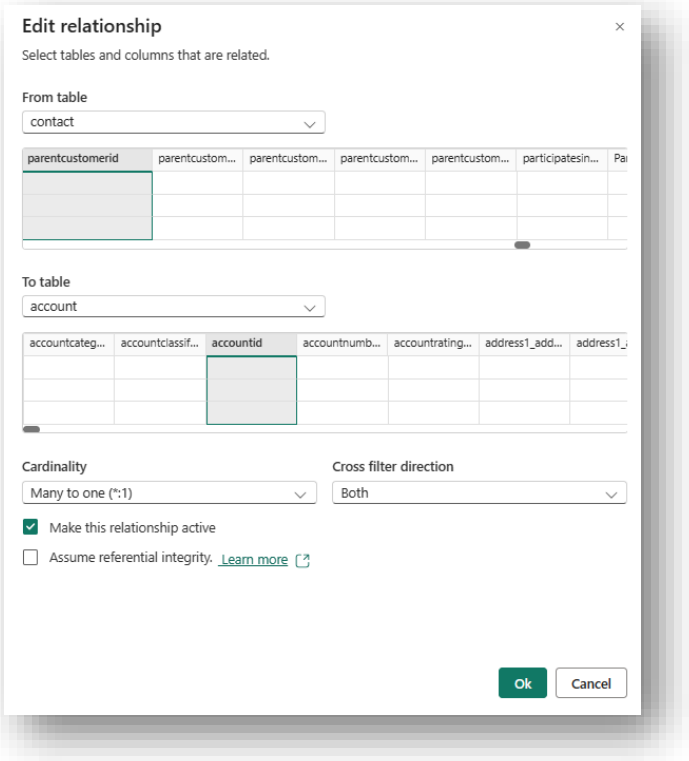
5. In the “New semantic model” window, Select the following tables and confirm.
    - account
    - contact
    - orders_with_contacts_agg
    - shopper_intentions_with_contacts

6. With the data modeling window open, in the Lab we will create three relationships between the tables.

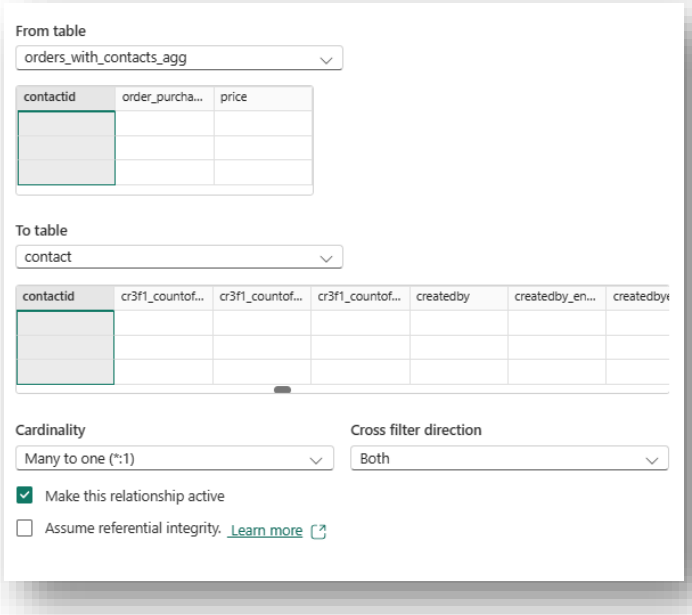


Hint: You can establish relationships by clicking on "Manage relationships" in the top pane, then selecting "+New relationship." Alternatively, you can simply drag a column from one table to the corresponding column in another table.

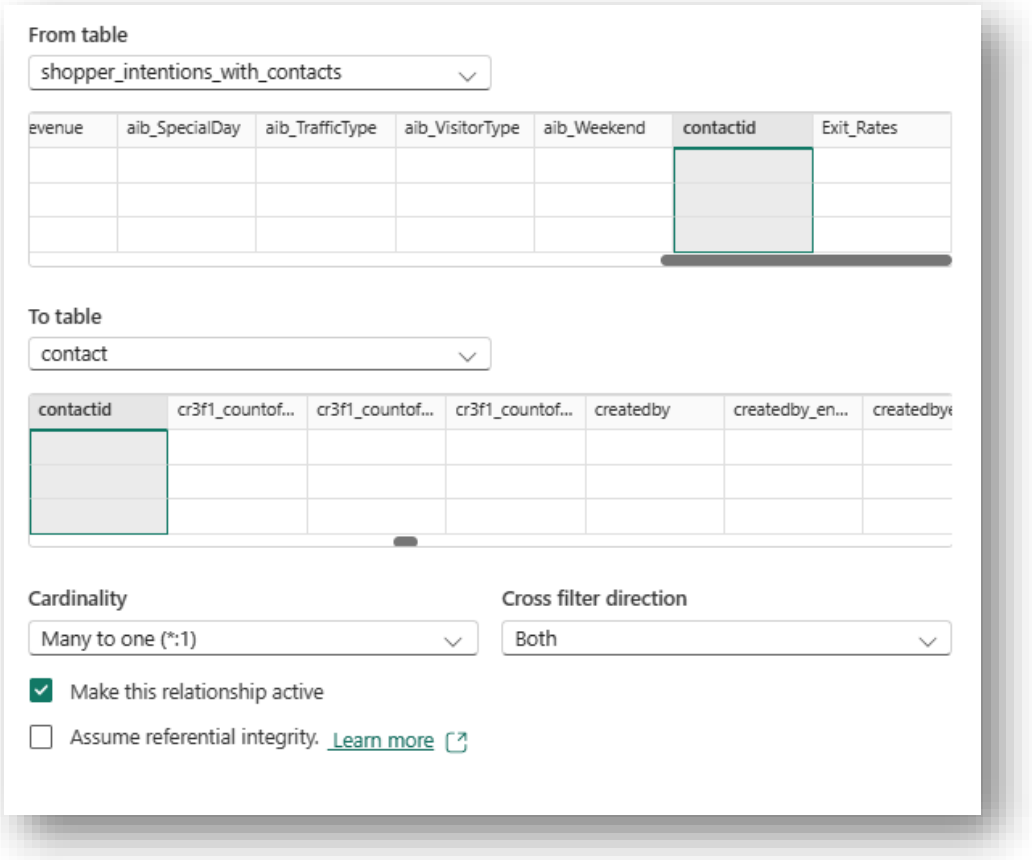
Relationship between “account” and “contact”.



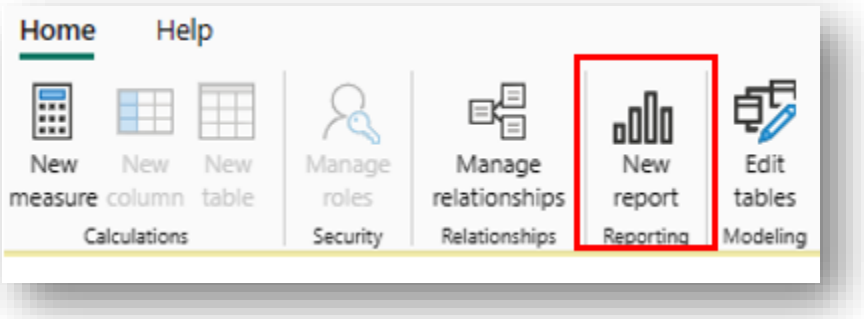
Relationship between “contact” and “orders_with_contacts_agg”.

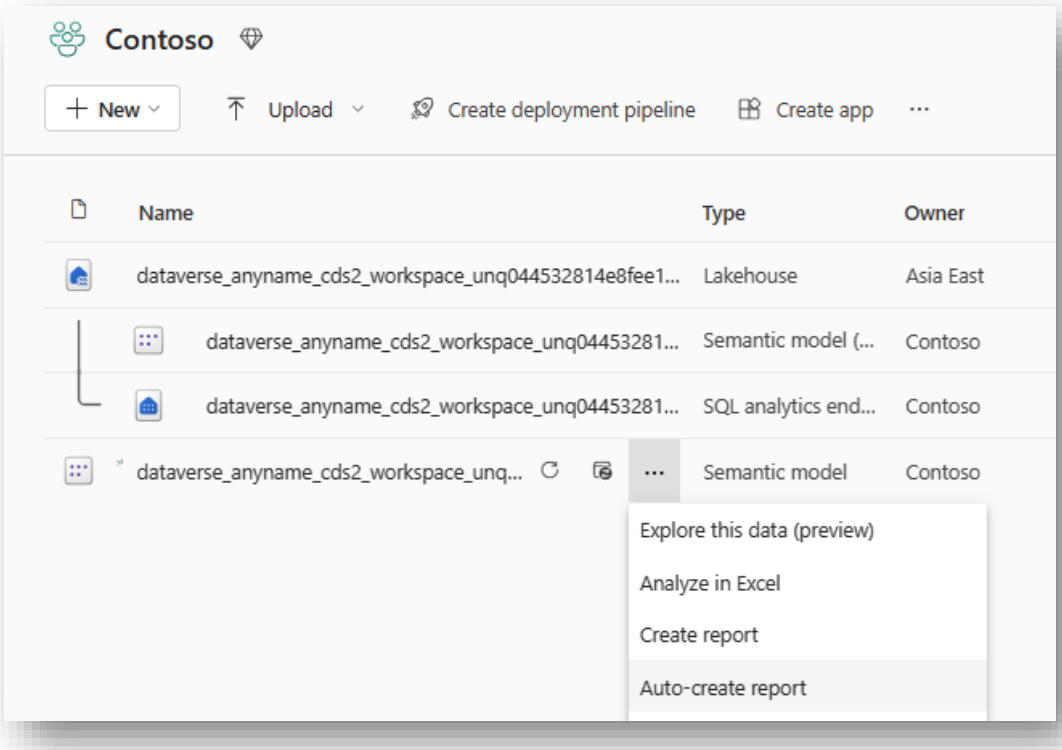


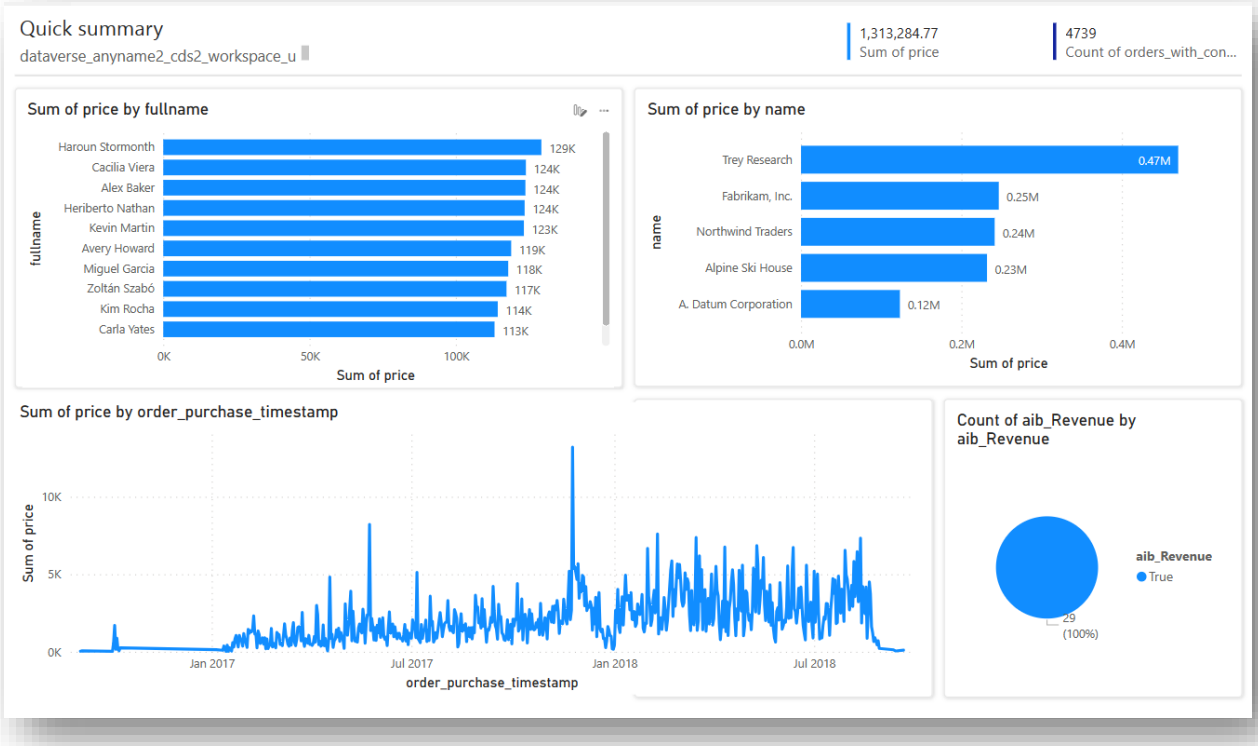
Relationship between “contact” and “shopper_intentions_with_contacts”



7. Click on "**New report**" in the top Pane to create a report from scratch. Alternatively, you can navigate back to the workspace item list, click on the [...] icon next to the semantic model you just created, and choose "Auto-Create Report." A sample report will be generated for you to explore and customize as needed.




Contoso
New
Upload
Create deployment pipeline
Create app
Name
Type
Owner
dataverse_anyname_cds2_workspace_unq044532814e8fee1...
Lakehouse
Asia East
dataverse_anyname_cds2_workspace_unq04453281...
Semantic model (...
Contoso
dataverse_anyname_cds2_workspace_unq04453281...
SQL analytics end...
Contoso
dataverse_anyname_cds2_workspace_unq...
Semantic model
Contoso
Explore this data (preview)
Analyze in Excel
Create report
Auto-create report


Quick summary
dataverse_anyname2_cds2_workspace_u
1,313,284.77
Sum of price
4739
Count of orders_with_con...
Sum of price by fullname
Haroun Stormonth 129K
Cacilia Viera 124K
Alex Baker 124K
Heriberto Nathan 124K
Kevin Martin 123K
Avery Howard 119K
Miguel Garcia 118K
Zoltán Szabó 117K
Kim Rocha 114K
Carla Yates 113K
fullname
0K
50K
100K
Sum of price
Sum of price by name
Trey Research 0.47M
Fabrikam, Inc. 0.25M
Northwind Traders 0.24M
Alpine Ski House 0.23M
A. Datum Corporation 0.12M
name
0.0M
0.2M
0.4M
Sum of price
Sum of price by order_purchase_timestamp
10K
5K
0K
Sum of price
Jan 2017
Jul 2017
Jan 2018
Jul 2018
order_purchase_timestamp
Count of aib_Revenue by aib_Revenue
aib_Revenue
True
29
(100%)

Bring insights back to Dataverse via Virtual Entity

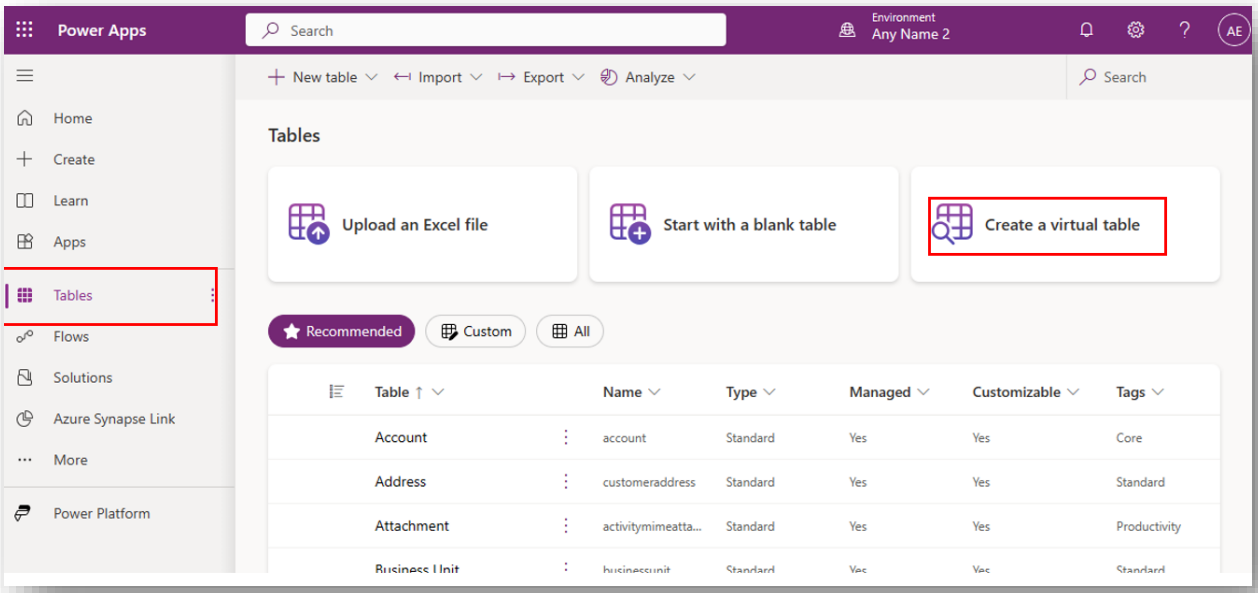
Note: This feature is under public preview.

Estimated Time to Complete

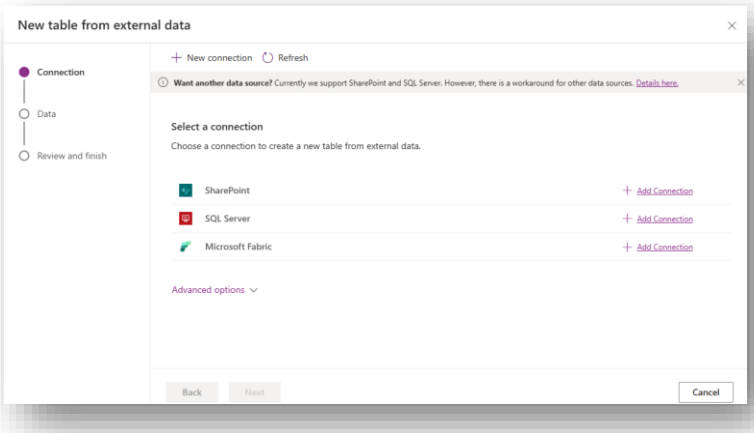
5 minutes for the following steps

Steps:

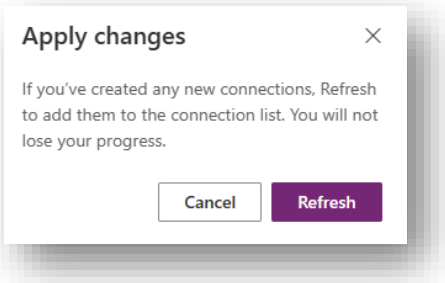
1. Navigate to https://make.**preview**.powerapps.com/ and select the environment you created for this Lab.
2. Click "**Tables**" then "**Create a virtual table**."

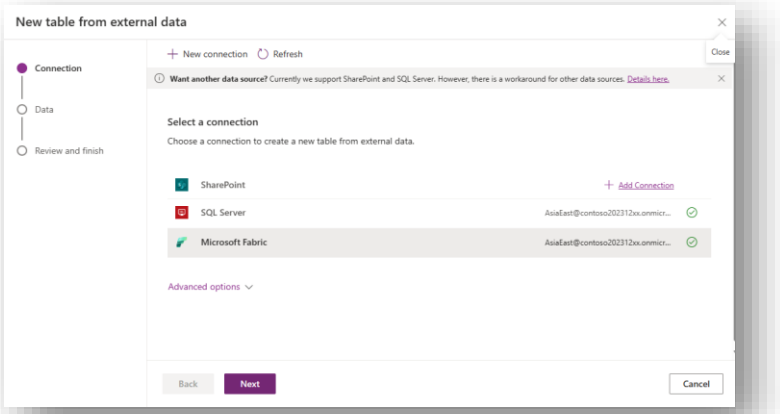


3. Click "Add Connection" next to "Microsoft Fabric", A Sign in windows popup, Sign in with your credentials.

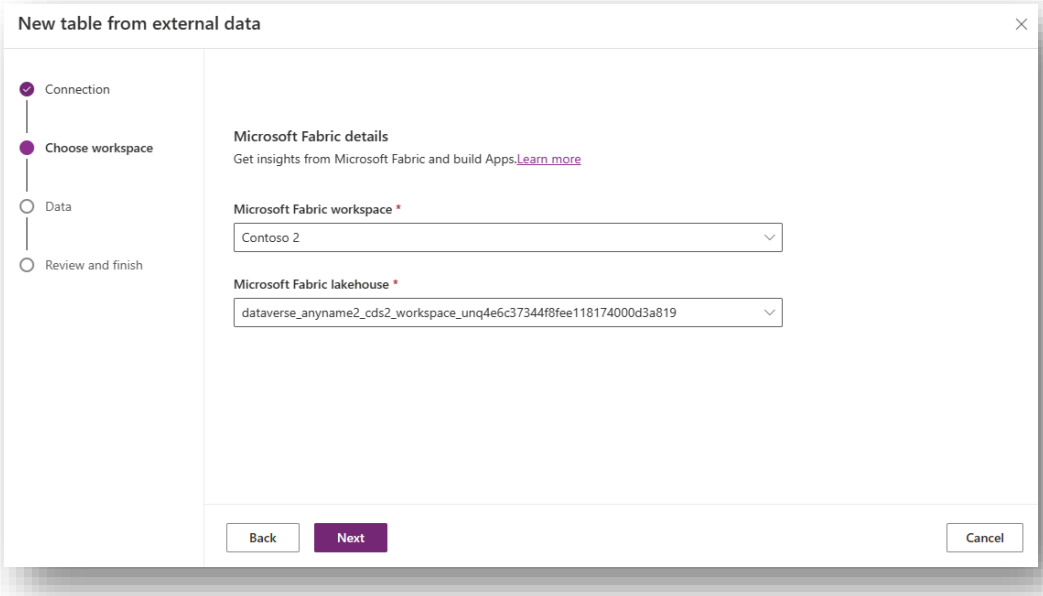


4. **Refresh** to Apply the changes then select "**Microsoft Fabric.**" then **Next**.

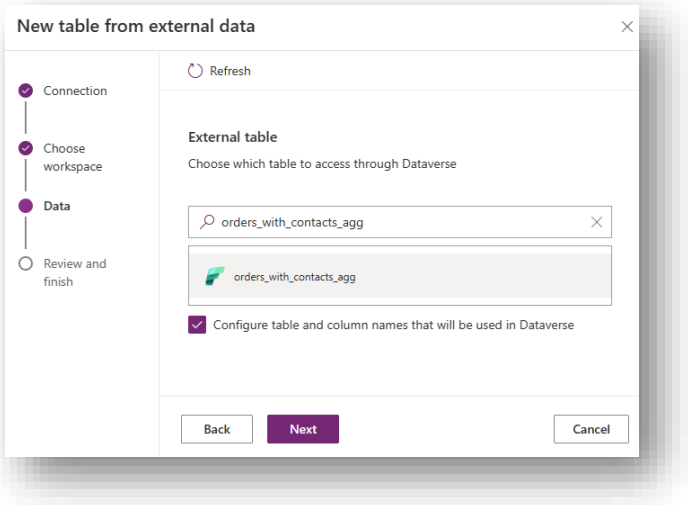




5. Select the **Microsoft Fabric workspace** and its **Lakehouse** which contains the table you want to bring in to Dataverse. Then click **Next**.

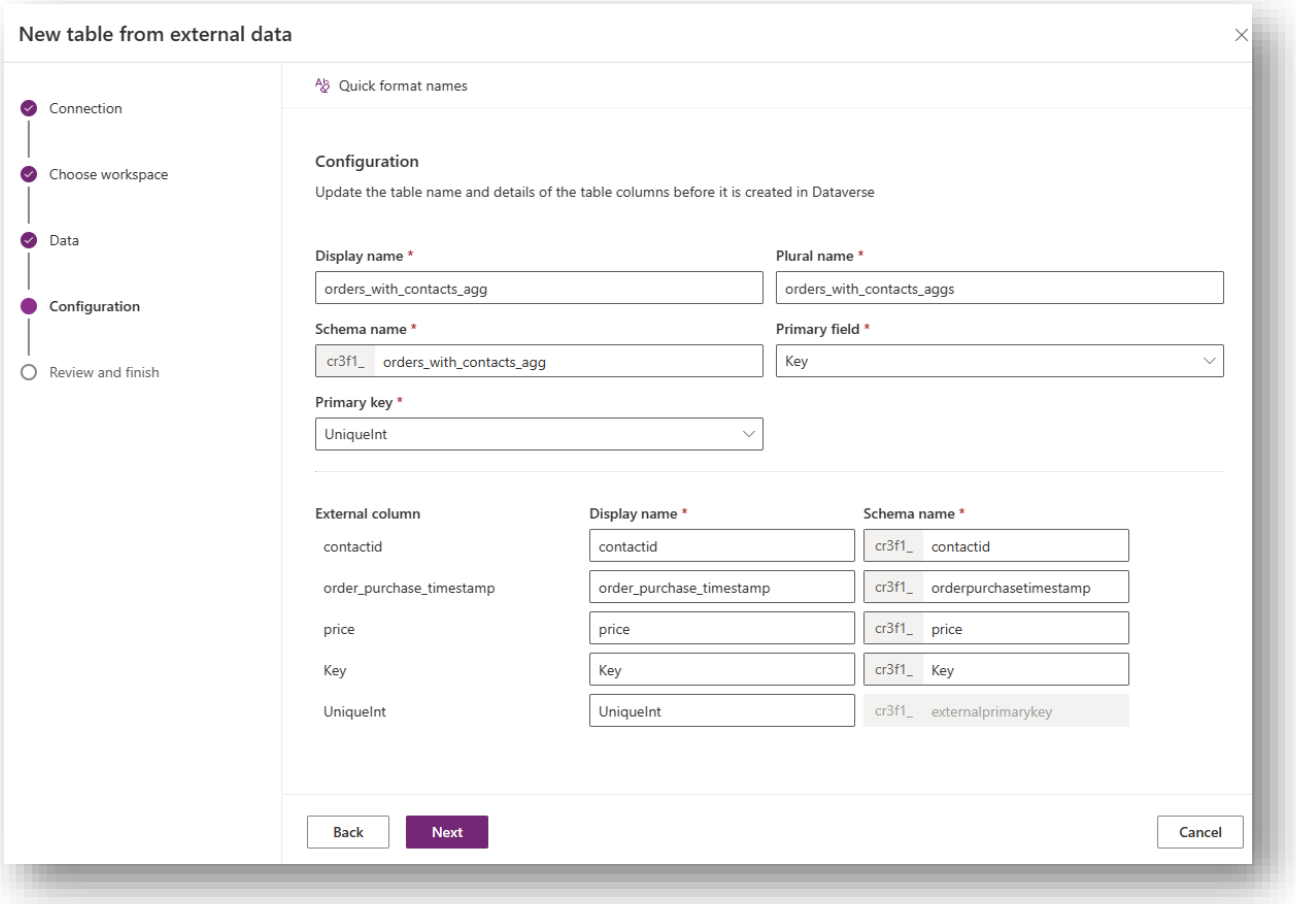


6. Select the table then click **Next**. * **orders_with_contacts_agg** for example.

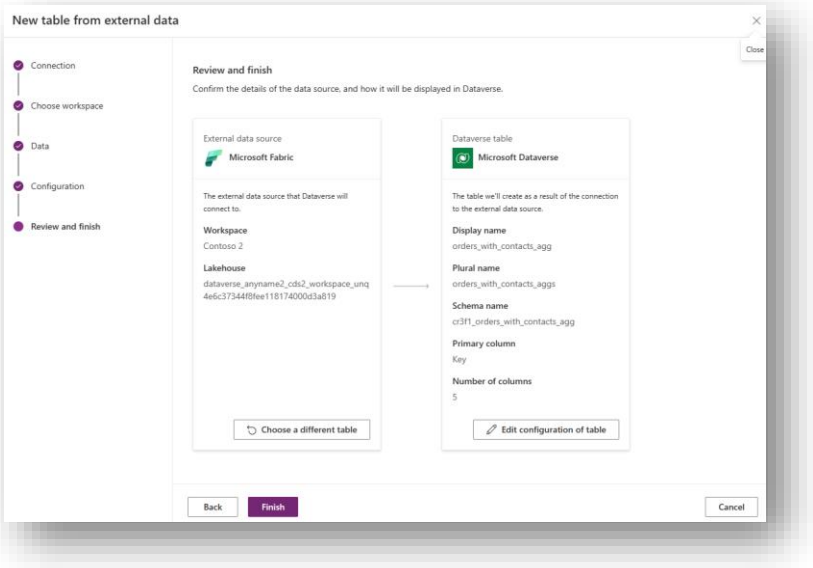


7. Most of the inputs are automatically filled for your convenience; proceed by clicking "**Next**."

Note: Change the **primary key** to UniqueInt, **Primary field** to Key.



8. Review and finish the creation of virtual entity.



Data retrieval through the Microsoft Fabric connection was successful, as demonstrated below.