

#FABCONSQLCON2026

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Embedding Power Apps in Microsoft Fabric Power BI Reports

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Agenda

- Why Embed Power Apps in Power BI Report?
- How Data is Stored in Fabric Matters
- Embedding a Power App Canvas App
- Using a Power App Flow for Writing Back
- Refreshing the Report After a Change



Why Embed Power Apps in Power BI Report?

- The Challenge: Insight vs Action

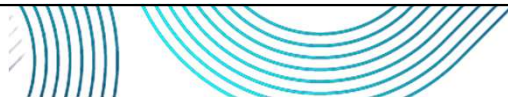
- Reports Provide Insights
 - But Acting on Data Happens in Other Systems
- Switching between systems introduces
 - Lag Time
 - Potential for Errors
- Organizations need to close the loop between analytics and execution

Power BI (Insight) → Power Apps (Action) → Power BI (Refresh Report)



Fabric Semantic Model Modes

Mode	Speed	Freshness	Scale	Features Support	Best For
Import	 Fastest	 Stale until refresh	Medium–Large	Full DAX & features	Small–medium datasets, analytical dashboards
DirectQuery	 Moderate	 Real-time	Very Large	Limited modeling	Large/operational datasets, real-time ops
Direct Lake	 Near-Import	 Near real-time	Very Large	Expanding quickly	Fabric-native analytics, OneLake users
Composite	 Balanced	 Depends on setup	Very Large	Hybrid flexibility	Mixed workloads, enterprise BI strategies



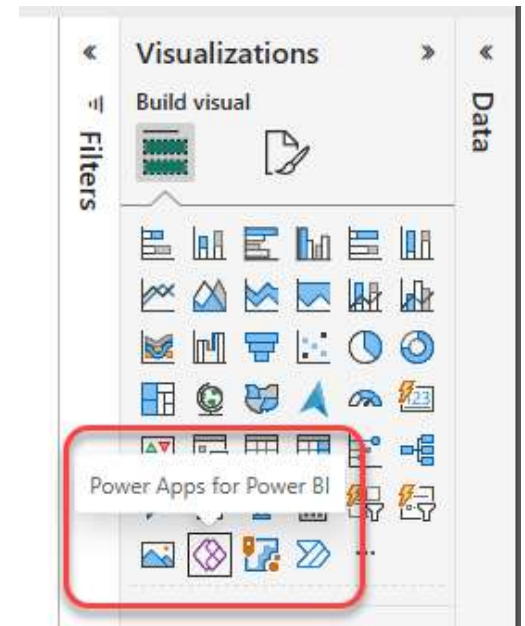
Challenges & Workarounds

- Lakehouses are Read-Only
- Data Warehouses don't Enforce Primary Keys
- Potential Workarounds
 - Data Warehouse – Power Automate for Writeback
 - Composite Storage
 - Data in Fabric (Read-Only)
 - Writeable Data in Other Systems
 - Store Data in Writeable Format
 - Fabric SQL database
 - Fabric Mirrored SQL databases



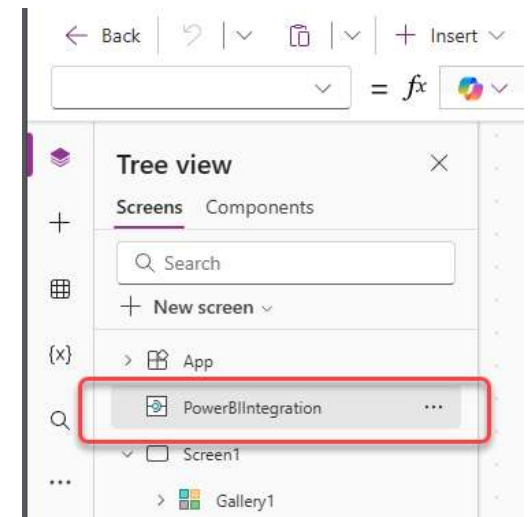
Embedding a Power App in a Power BI Report

1. Add the Power Apps Visual to the report
 2. Select Data Fields to Pass to App
 3. Choose to
 - Create a New Canvas App in a Specific Environment
 - Use an Existing App
 4. Edit the App Normally
 5. Save & Publish the App
- Default Settings in New Canvas App to Consider Changing
 - Portrait Layout
 - Fixed Non-Responsive Layout
 - Locked Aspect Ratio
 - Important: Remember to Share App with Users!



PowerBIIntegration Control in Power Apps

- A PowerBIIntegration Object is added to a Canvas App embedded in a Power BI Report
- PowerBIIntegration.Data property contains a Table of Selected Data from the Report
 - Read-Only
 - Limited to 100 Records
- Integration is One-Way from Power BI to Power Apps
- PowerBIIntegration.Refresh() function can be used to refresh the report after changing data
 - Only Available in Apps Created by the Power BI visual
 - Only Supports DirectQuery Data sources – Not Direct Lake



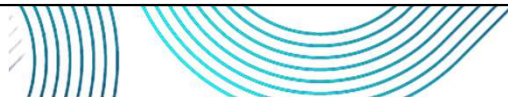
Issues with Writeback

- **Fabric Data Storage Options**

- **Lakehouse** Optimized for large-scale analytical storage using the Delta Parquet format.
- **Warehouse** Structured, relational storage with extended SQL capabilities.
- **Fabric SQL Database (Preview)** Managed Azure SQL Database experience within Fabric.

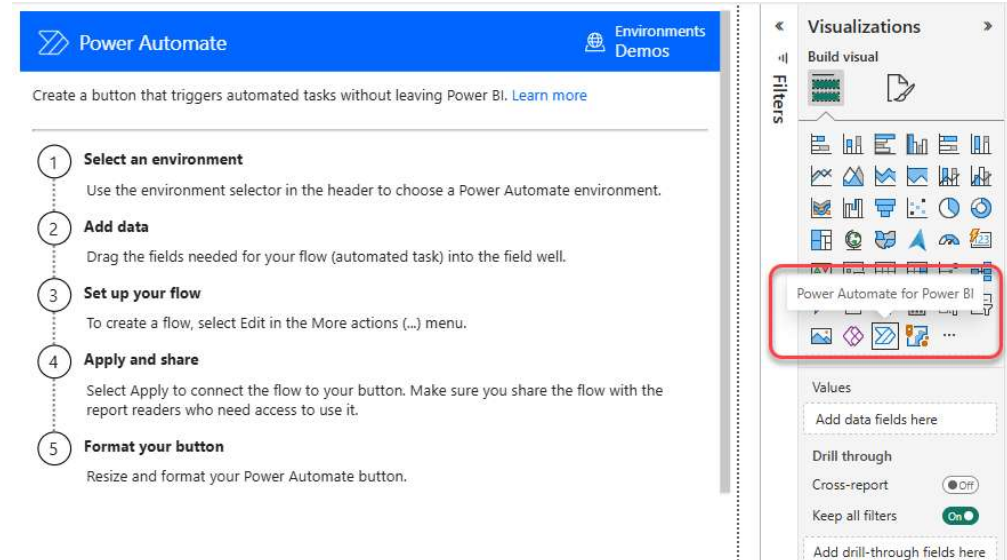
- Most SQL Analytics Endpoints are Read-Only
- Writing to Backend Data Requires a Semantic Model Refresh
- Power Apps has Stringent Requirements for SQL Updates

Fabric Storage	SQL Endpoint
Lakehouse	Read-Only
Warehouse	Essentially Read-Only
Fabric SQL or Mirrored SQL	Read-Write

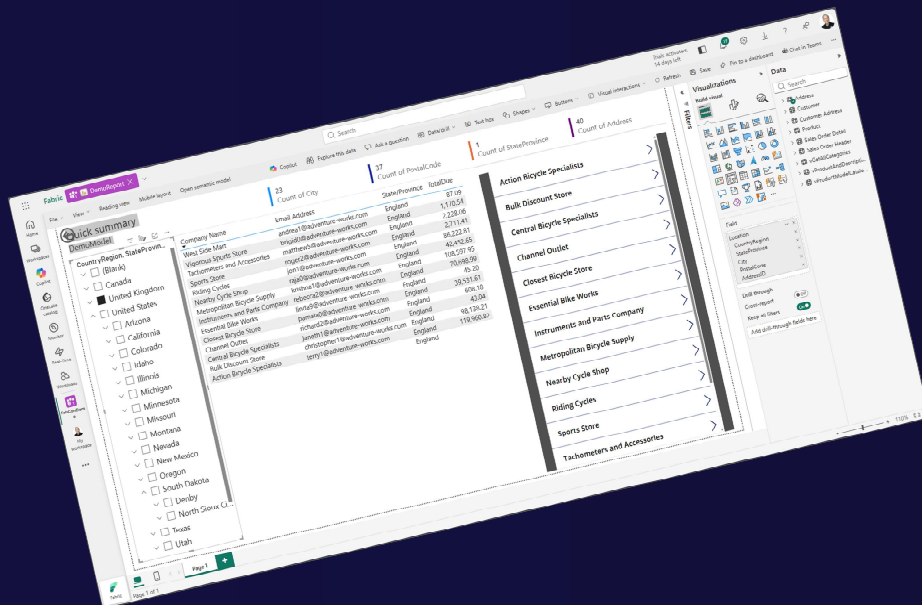


Calling a Power Automate Flow

- 3 ways to Trigger a Flow
 1. Manually from a Power Automate Visual Button in the Report
 2. In Response to a Data Source Event
 3. Manually from an embedded Power App
- May be Required for Saving
 - SQL connections in Power Apps Requires a Private Key



Embedding an App

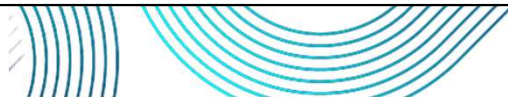


demo

Automatic Page Refresh

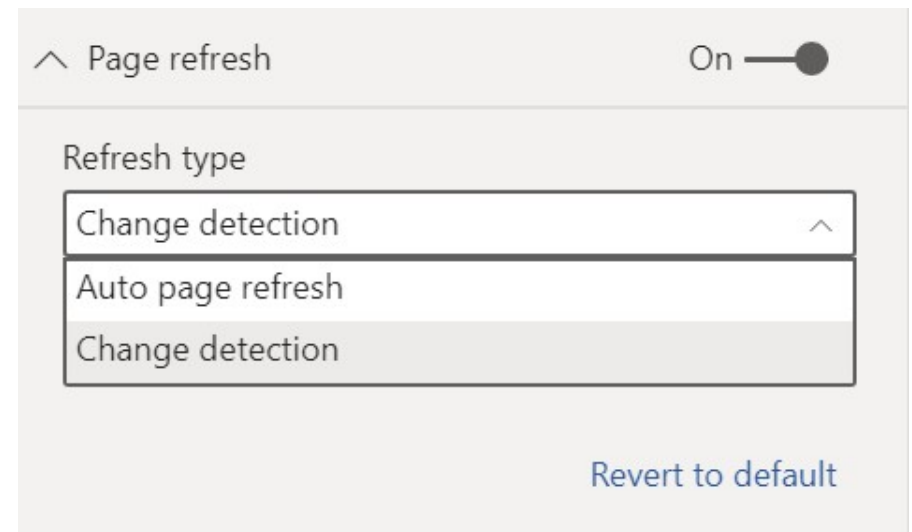
- Note that this is a Page Refresh and not a Report Refresh
- Updates data shown on a page as soon as possible after data has been added or updates
- Availability depends on storage mode
 - Import mode not supported
 - DirectQuery is fully supported in a dedicated capacity
 - Direct Lake is fully supported in a dedicated capacity
 - Other storage modes also supported
- All visuals on a page are refreshed

Storage mode	Dedicated capacity	Shared capacity
Direct Query	FI supported: Yes CD supported: Yes Minimum: 1 sec. Admin override: Yes	FI supported: Yes CD supported: No Minimum: 30 min. Admin override: No
Direct Lake	FI supported: Yes CD supported: Yes Minimum: 1 sec. Admin override: Yes	FI supported: Yes CD supported: No Minimum: 30 min. Admin override: No
Import	FI supported: No CD supported: No Minimum: N/A	FI supported: No CD supported: No Minimum: N/A



Refresh Types

- Fixed interval
 - This refresh type updates all visuals in a report page based on a constant interval such as one second or five minutes
- Change detection
 - This refresh type refreshes visuals on a page based on detecting changes in the data rather than a specific refresh interval
 - Import storage mode is not supported
- A list of supported storage modes can be found here:
[Automatic Page Refresh in Power BI Desktop - Power BI | Microsoft Learn](#)



Enabling/Adjusting Page Refresh in the Admin Center

- Change detection and Automatic Page Refresh can be turned on/off in the Admin portal Capacity settings area
- Minimum intervals can be set

Admin portal

Tenant settings New
Users
Premium Per User
Audit logs
Domains
Workloads
Tags
Capacity settings
Refresh summary
Embed Codes
Organizational visuals
Organizational themes (preview)
Azure connections
Workspaces
Custom branding
Fabric identities
Featured content
Help + support

☒ On

SEMANTIC MODELS

Observe XMLA-based workspace settings (which may override capacity settings)

☒ On

Enable parallel queries for DirectQuery

☒ On

Query Memory Limit (%)

0

Query Timeout (seconds)

3600

Max Intermediate Row Count

100000

Max Result Row Count

214748

Max Offline Dataset Size (GB)

0

Automatic page refresh

☒ On

Minimum refresh interval

1 Minutes

Change detection measure

☒ On

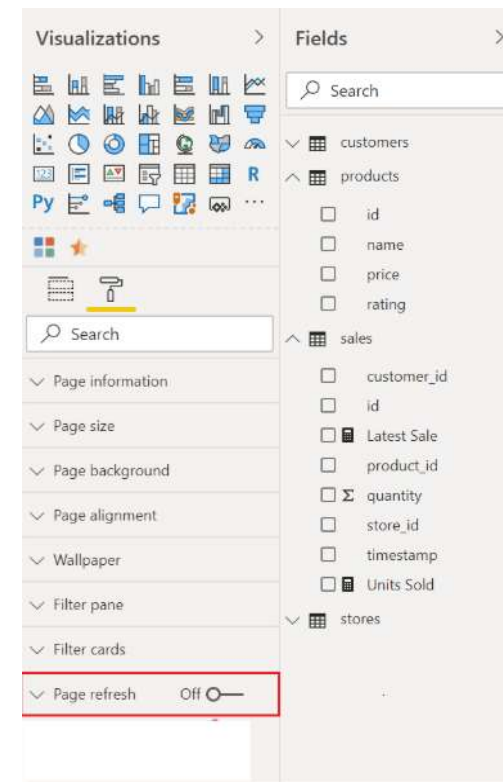
Minimum execution interval

30 Seconds

XMLA Endpoint

Configuring the refresh interval on a page

- Page refresh can be turned on/off and configured in page Format options settings
- **If the Page Refresh setting does not appear, your data source does not support automatic page refresh**



Fixed Interval Configuration

- Default minimum fixed interval is 30 minutes
- Minimum allowed is 1 second
- May need to adjust in Admin portal

 Page refresh On 

Refresh type

Auto page refresh 

Refresh this page every

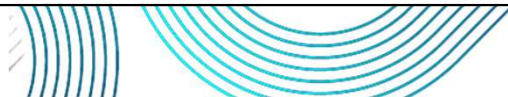
2

seconds 

[Hide details](#)

Enabled by your admin
Admin interval **1 second**
Actual rate **2.1 seconds**
Last refresh **11:22:05 PM**

[Revert to default](#)



Change Detection Configuration

- Relies on a measure
- Can use existing measure or create a new one
- Choose a calculation for the measure between count, count distinct, minimum, maximum, and sum
- .After you select a measure, define how often Power BI will Check for changes
- Example: Count the IDs in a table. Change will be detected when the number of IDs change

The screenshot shows the 'Change detection' configuration dialog. It has a title bar with a diamond icon and a close button. Below the title is a subtitle: 'Improve performance by only refreshing your data if the result of this measure changes.' The dialog is divided into two main sections. The left section contains three settings: 'Measure type' with radio buttons for 'Existing' and 'New' (selected); 'Choose a calculation' with a dropdown menu showing 'Count (Distinct)'; and 'Choose a field to apply it to' with a text box containing 'id' and a clear button. Below these is 'Check for changes every' with a text box containing '5' and a dropdown menu for 'Minutes'. The right section, titled 'Fields', has a search bar and a list of fields grouped by table: 'customers' (age, email, id, name, phone_number), 'products' (id, name, price, rating), and 'sales' (customer_id, id, Latest Sale, product_id). The 'id' field under 'customers' is selected. At the bottom right are 'Apply' and 'Cancel' buttons.

Change detection

Improve performance by only refreshing your data if the result of this measure changes.

Measure type

☐ Existing

☒ New

Choose a calculation

Count (Distinct)

Choose a field to apply it to

id

Check for changes every

5 Minutes

Fields

Search

- customers
 - age
 - email
 - ☒ id
 - name
 - phone_number
- products
 - id
 - name
 - price
 - rating
- sales
 - customer_id
 - id
 - Latest Sale
 - product_id

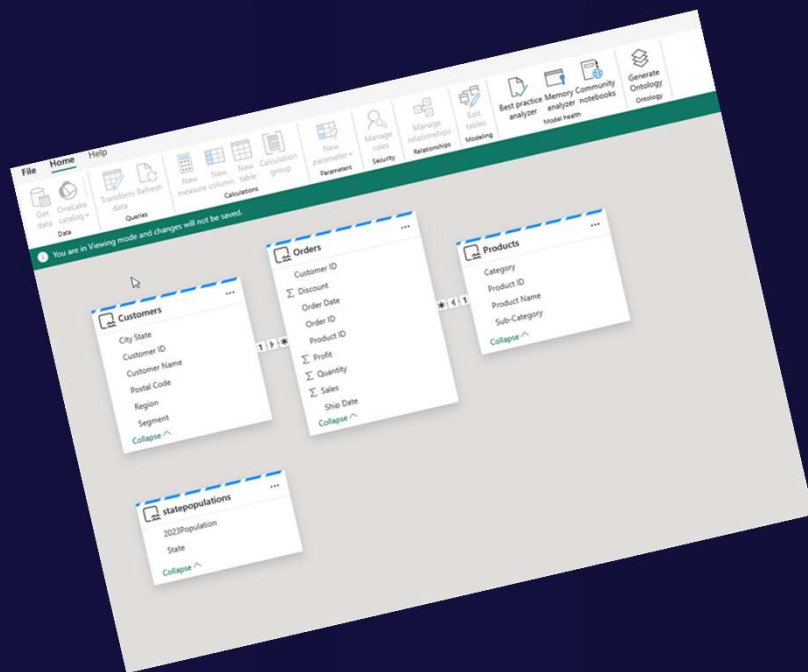
Apply Cancel

Practical Implications

- When fixed interval can be expensive
 - Many visuals on the page
 - Complex measures
 - Wide fact tables
 - High refresh frequency (e.g., every 5–10 seconds)
 - Many concurrent viewers
- When change detection is preferable
 - You have a reliable “last updated” signal
 - Data changes intermittently, not constantly
 - You want to minimize SQL load and Premium capacity usage



Auto Refreshing the Report



demo

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Join the SQL User Panel



Influence our SQL roadmap and ensure
it meets your real-life needs

<https://aka.ms/JoinSQLUserPanel>

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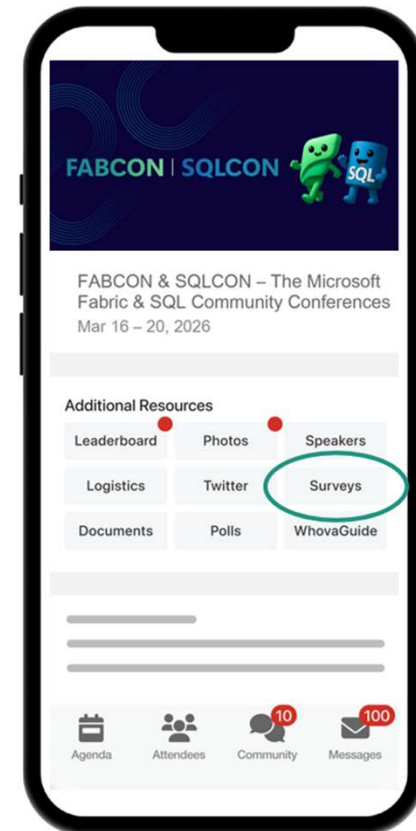
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