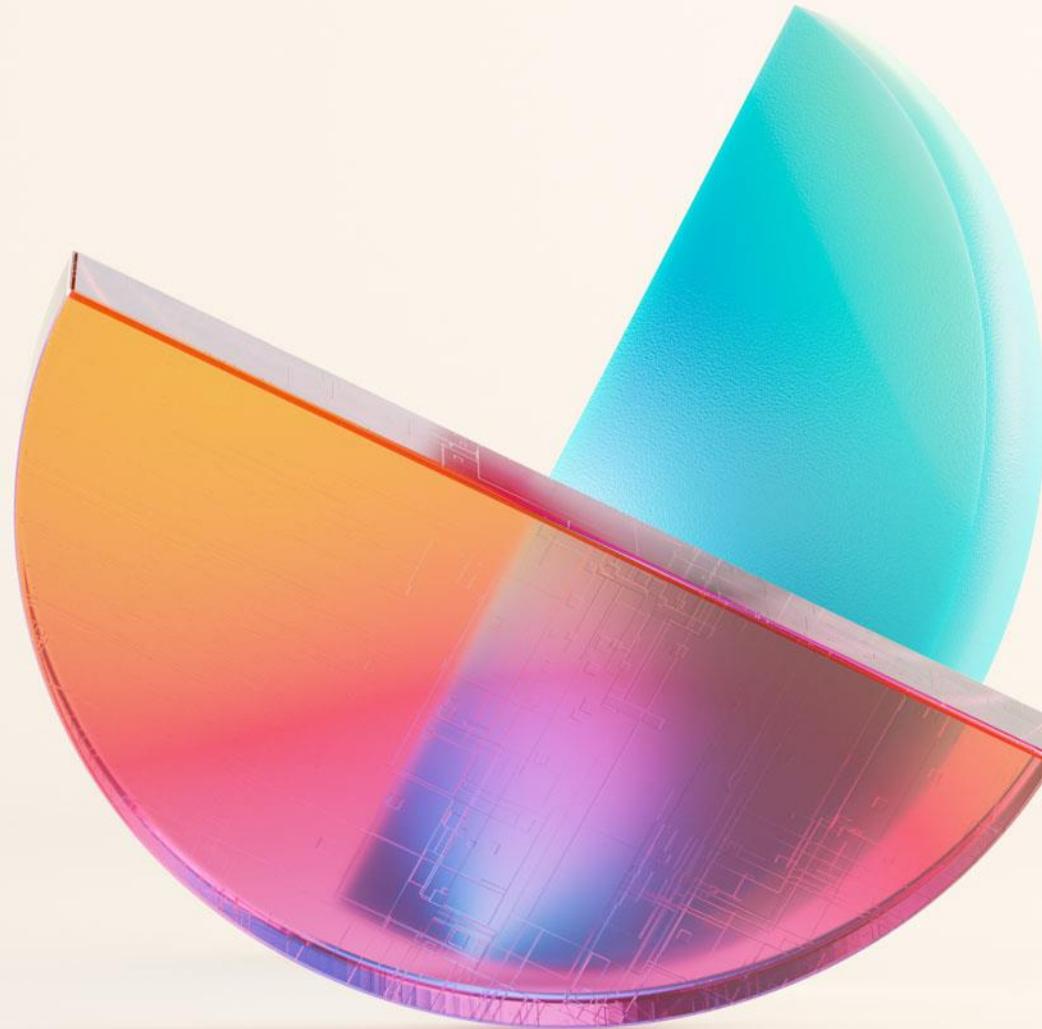
A large, abstract graphic on the left side of the slide features several overlapping 3D-style geometric shapes. A pink triangle is positioned at the top left. Below it is a large, translucent shape with a gradient from light pink to light blue. A smaller, semi-transparent teal shape sits atop the pink one. In front of these is a larger, semi-transparent shape with a gradient from light green to light blue. A small, shiny, metallic sphere with a blue-to-white gradient sits on the teal shape. To the right of the graphic, the text is centered.

# Microsoft Fabric Community Conference



# Navigating End-to-End Power BI Development in the Cloud

Pragati Jain, Miguel Felix



**Pragati Jain**  
**Manager, Analytics Experience**



Blog: <https://datavibe.co.uk/>



Microsoft Data Platform MVP



**Miguel Félix**  
**Lead BI Architect**



Blog: <https://pbiportugal.com/>



**Super User at Microsoft Fabric  
Community**



# Agenda

01

Microsoft Fabric  
Introduction

05

Semantic Model  
Consumption

02

Data Landing

06

Report Build &  
Consumption

03

Data Ingestion

07

Monitoring

04

Semantic Modelling

08

Summary & QA

# Pre-requisites Before the Workshop

- Fabric Trial License
- Download files from GitHub Location:

<https://github.com/Pragati1187/FabConVegas2025>

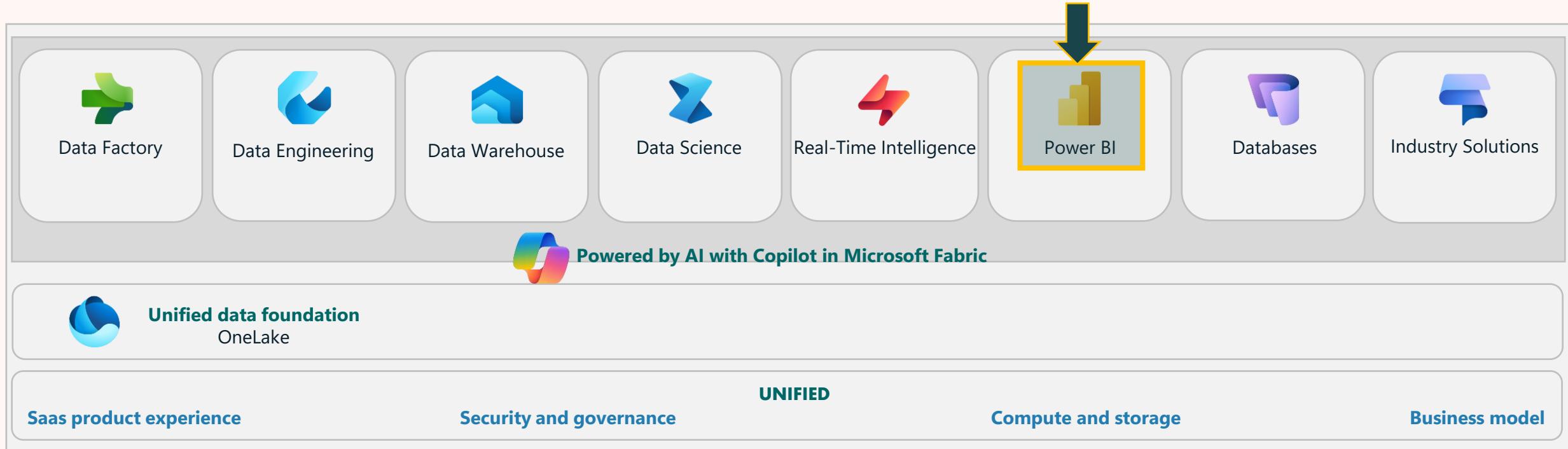
Microsoft Fabric  
Community Conference



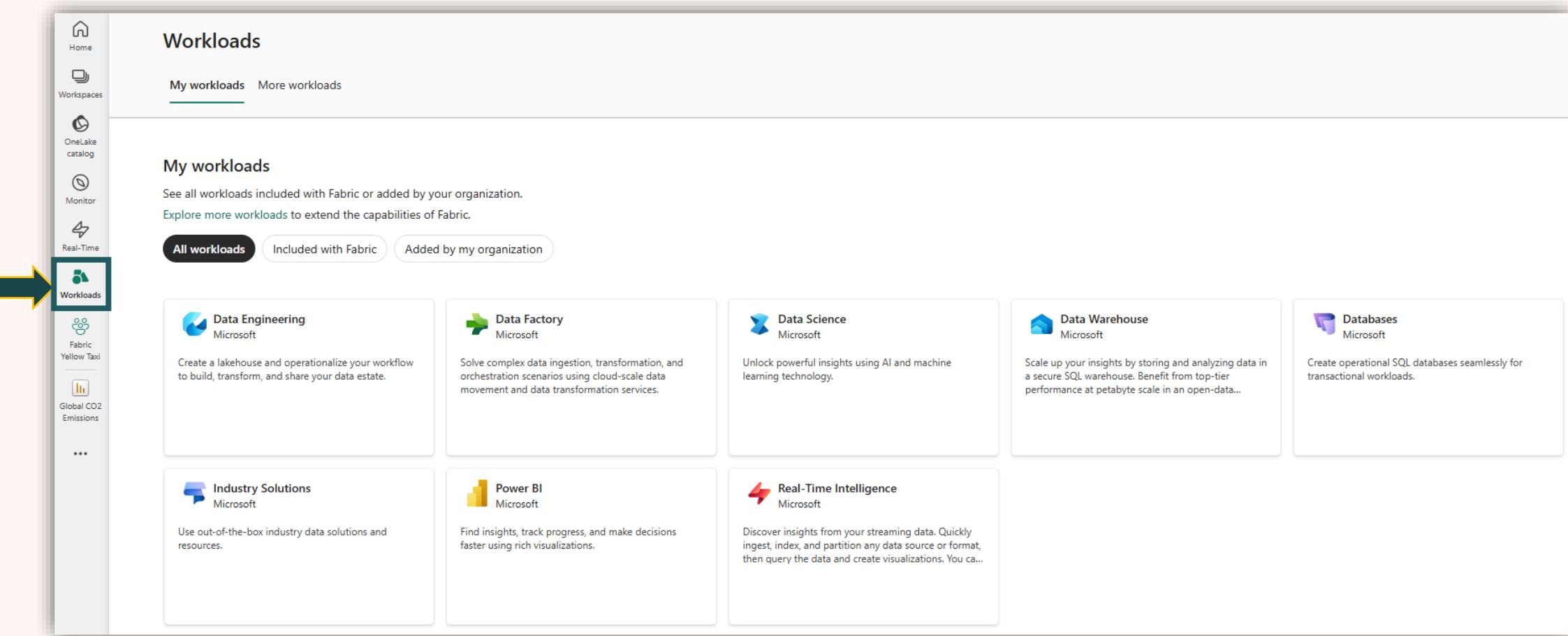
# Microsoft Fabric Introduction

# Microsoft Fabric Architecture Diagram

- Unified Analytics Solution
- End-to-end analytical platform that brings together all the analytical capabilities



# Navigating to Workloads



The screenshot shows the Microsoft Fabric interface, specifically the 'Workloads' section. On the left, a vertical sidebar lists various navigation items: Home, Workspaces, OneLake catalog, Monitor, Real-Time, All workloads (which is selected and highlighted in black), Included with Fabric, Added by my organization, Workloads (highlighted with a yellow arrow), Fabric Yellow Taxi, Global CO2 Emissions, and three dots for more options.

**Workloads**

My workloads More workloads

**My workloads**

See all workloads included with Fabric or added by your organization. Explore more workloads to extend the capabilities of Fabric.

All workloads Included with Fabric Added by my organization

**Data Engineering Microsoft**  
Create a lakehouse and operationalize your workflow to build, transform, and share your data estate.

**Data Factory Microsoft**  
Solve complex data ingestion, transformation, and orchestration scenarios using cloud-scale data movement and data transformation services.

**Data Science Microsoft**  
Unlock powerful insights using AI and machine learning technology.

**Data Warehouse Microsoft**  
Scale up your insights by storing and analyzing data in a secure SQL warehouse. Benefit from top-tier performance at petabyte scale in an open-data...

**Databases Microsoft**  
Create operational SQL databases seamlessly for transactional workloads.

**Industry Solutions Microsoft**  
Use out-of-the-box industry data solutions and resources.

**Power BI Microsoft**  
Find insights, track progress, and make decisions faster using rich visualizations.

**Real-Time Intelligence Microsoft**  
Discover insights from your streaming data. Quickly ingest, index, and partition any data source or format, then query the data and create visualizations. You ca...



# Data Factory Workload

[← Return to workloads](#)

## Data Factory

Solve complex data ingestion, transformation, and orchestration scenarios using cloud-scale data movement and data transformation services

**About**

**Item types**

- Dataflow Gen2
- Data pipeline
- Azure Data Factory (previews)
- Apache Airflow job (previews)
- Copy job
- Mirrored database (previews)

**Available workspaces**  
This workload can be used in all your workspaces

**Publisher support**

[Documentation](#) [Help](#)

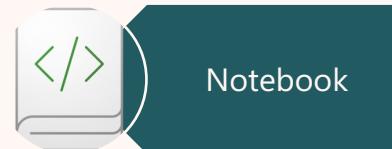
**Overview**

**Description**  
Publisher: Microsoft

Data Factory offers a streamlined data integration experience, allowing you to ingest, prepare, and transform data from various sources such as databases, data warehouses, Lakehouses, real-time data, and more. Whether you're a citizen developer or a professional, you can easily transform data using intelligent transformations and a comprehensive set of activities using dataflows and pipelines.

**Get started**

- [Learn to use Data Factory](#) Get started with Data Factory  
  
[Open](#)
- [Create your first dataflow](#) Get started with dataflows  
  
[Open](#)
- [Create your first data pipeline](#) Get started with data pipelines  
  
[Open](#)
- [Learn to monitor Data Factory](#) Monitoring your Data Factory  
  
[Open](#)
- [Learn to transform data with dataflows](#) Using AI to learn from examples in data transformation  
  
[Open](#)
- [Create your first API for GraphQL](#) Get started with API for GraphQL  
  
[Open](#)
- [Create your first user data functions](#) Get started with user data functions  
  
[Open](#)



# Power BI Workload



← Return to workloads

## Power BI

Find insights, track progress, and make decisions faster using rich visualizations

**About**

**Item types**

- Report
- Exploration (preview)
- Org app (preview)
- Paginated Report (prev...)
- Scorecard
- Dashboard
- Metric set (preview)
- Streaming dataset

**Available workspaces**

This workload can be used in all your workspaces

**Publisher support**

Help [?](#)

**Overview**

**Description**

Publisher: Microsoft

Power BI is a collection of software services, apps, and connectors designed to transform your diverse data sources into clear, visually engaging, and interactive insights. Whether your data is stored in an Excel spreadsheet or a mix of cloud-based and on-premises hybrid data warehouses, Power BI makes it easy to connect, visualize, uncover key insights, and share them.

**Get started**

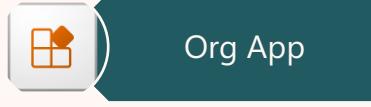
- Explore basic Power BI concepts  
Getting started with Power BI  
  
[Open](#)
- Intro—What is Power BI?  
Getting started with Power BI  
  
[Open](#)
- Quick start—Getting around in the service  
Getting started with Power BI  
  
[Open](#)
- View and understand a Power BI report  
Getting started with Power BI  
  
[Open](#)
- How to: Know your content is up to date  
Getting started with Power BI  
  
[Open](#)



Power BI Report



Exploration



Org App



Paginated Report



# Getting Started with Microsoft Fabric

- Sign for Microsoft Fabric [60-day trial license](#)
- Start with Microsoft [Learn Paths](#)
- Microsoft Fabric [Documentation](#)



# Microsoft Fabric Trial Enablement

Once signed-up for Microsoft Fabric trial license, it will show under the User details on the Microsoft Fabric portal.  
**It is a 60-day trial.**

A screenshot of the Microsoft Fabric portal. At the top, there is a dark header bar with the text "Trial: 57 days left" and icons for notifications, settings, download, help, and a user profile picture. Below the header is a "Profile" modal window. The modal shows a profile picture of a woman named Pragati Jain, her tenant name (redacted), and a "Switch tenant" button. It also displays her license type as "Premium Per User", trial status as "57 days left", and a "Cancel trial" button. At the bottom of the modal are links: "View account", "Learn about Fabric trial", "Buy Fabric now", and "Learn about Fabric subscription". A "Sign out" button is located at the bottom right of the modal. To the left of the modal, there is a sidebar with the text "Build a machine learning" and "Complete an end-to-end tu" followed by a plus sign icon.



# Admin Portal

Make sure to enable Microsoft Fabric settings under Tenant Settings in Admin Portal after signing-up for trial license!

Ask your Fabric Administrator when the tenant is owned by someone else!

Admin portal

Tenant settings New

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

There are new or updated tenant settings. Expand to review the changes. ▾

Microsoft Fabric

- ▷ Users can create Fabric items  
*Enabled for the entire organization*
- ▷ Users can create and use ADF Mount items (preview)  
*Disabled for the entire organization*
- ▷ Users can create Healthcare Cohort items (preview)  
*Disabled for the entire organization*
- ▷ Users can create and use Apache Airflow jobs (preview)  
*Enabled for the entire organization*
- ▷ SQL database (preview)  
*Enabled for the entire organization*
- ▷ Users can discover and create org apps (preview)  
*Enabled for the entire organization*
- ▷ Product Feedback  
*Enabled for the entire organization*
- ▷ Users can create and share AI skill item types (preview)  
*Disabled for the entire organization*
- ▷ Users can discover and use metrics (preview)  
*Enabled for the entire organization*
- ▷ Mirrored Azure Databricks Catalog (preview)  
*Enabled for the entire organization*
- ▷ Users can be informed of upcoming conferences featuring Microsoft Fabric when they are logged in to Fabric  
*Disabled for the entire organization*



# Quick Tour to Microsoft Fabric Environment



Fabric Home

Search

Trial: 57 days left

New workspace General Basic data analytics Data analytics using a SQL ... Medallion Event analytics Lambda Sensitive data insights Basic machine learning models

What is Microsoft Fabric? Watch this 1-minute introductory video

Ingest data into Fabric Complete an end-to-end tutorial for Data Factory

Build a lakehouse Complete an end-to-end tutorial for Lakehouse

Build a warehouse Complete an end-to-end tutorial in Data Warehouse

Build a machine learning model Complete an end-to-end tutorial in Data Science

Build Comp

Recent workspaces Recent items Favorites

Filter by keyword Filter

Name FabConVegas\_Training Fabric Yellow Taxi Reports Demo FabricContoso

Opened 15 minutes ago 50 minutes ago an hour ago 2 hours ago

Let's familiarise ourselves with Microsoft Fabric Portal to get started!



# Data Landing

# Lakehouse



Data architecture platform to store, manage and analyze all your data in a single location & easily share across the entire enterprise

## *Key Capabilities:*

- Structured and unstructured data capabilities
- Flexible and scalable solution
- Handle large data volumes of all types and sizes
- Built-in SQL endpoint
- “Direct Lake” mode supported for blazing fast performance
- Easily ingest data into the Lakehouse through a variety of methods
- Share your Lakehouse as a data product with consumers

The screenshot shows the Microsoft Fabric Lakehouse interface. On the left, the 'Explorer' sidebar is open, displaying a tree structure of workspaces and tables. The 'nycTaxiLakehouse' workspace is selected, and under it, the 'Tables' section shows the 'nyctaxidatayellow' table, which is currently highlighted. The main area displays a preview of the 'nyctaxidatayellow' table with 1000 rows of data. The columns listed are: vendorID, tpepPickupLocationId, tpepDropoffLocationId, passengerCount, tripDistance, pickupLocationId, dropLocationId, startLon, startLat, endLon, endLat, rateCodeId, and storeAndFw... . The data preview shows various taxi trip records from June 2012, including coordinates and passenger counts. At the bottom of the preview, a message indicates 'Succeeded (12 sec 550 ms)'.

# Warehouse



Enterprise scale data warehouse with open standard format. Minimal set-up and deployment, no configuration of compute or storage needed

## *Key Capabilities:*

- OneLake in open Delta format with easy data recovery and management
- Lake-centric warehouse stores data
- Fabric Mirroring for Zero-ETL integration of data from Azure SQL, Snowflake, Azure Cosmos DB, Azure Databricks, Azure SQL Managed Instance, Open
- Data loading and transforms at scale, with full multi-table transactional guarantees provided by the SQL engine
- Virtual warehouses with cross-database querying and a fully integrated semantic layer
- Flexibility to build data warehouse or data mesh based on organizational needs and choice of no-code, low-code, or T-SQL for transformations

The screenshot shows the Microsoft Fabric Data Warehouse interface. The left side features a sidebar with various sections: Home, Reporting, Workspaces, OneLake, Monitor, Real-Time, Workloads, Direct Lake 2024, and myTaxiWarehouse. The 'myTaxiWarehouse' section is expanded, showing 'Warehouses' (with 'Test' selected), 'Schemas' (including 'dbo', 'INFORMATION...', 'sys', and 'Security'), 'Tables', 'Views', 'Functions', 'Stored Proc...', 'My queries', and 'Shared queries'. The main workspace is titled 'nycTaxiWarehouse' and contains a large circular placeholder image with the text 'Query, model, or preview your data' and a note: 'You can use this editor to query, preview, or model your data for analysis. Start with a new query.' At the bottom right of the workspace is a button labeled 'New SQL query'.

# Warehouse vs Lakehouse

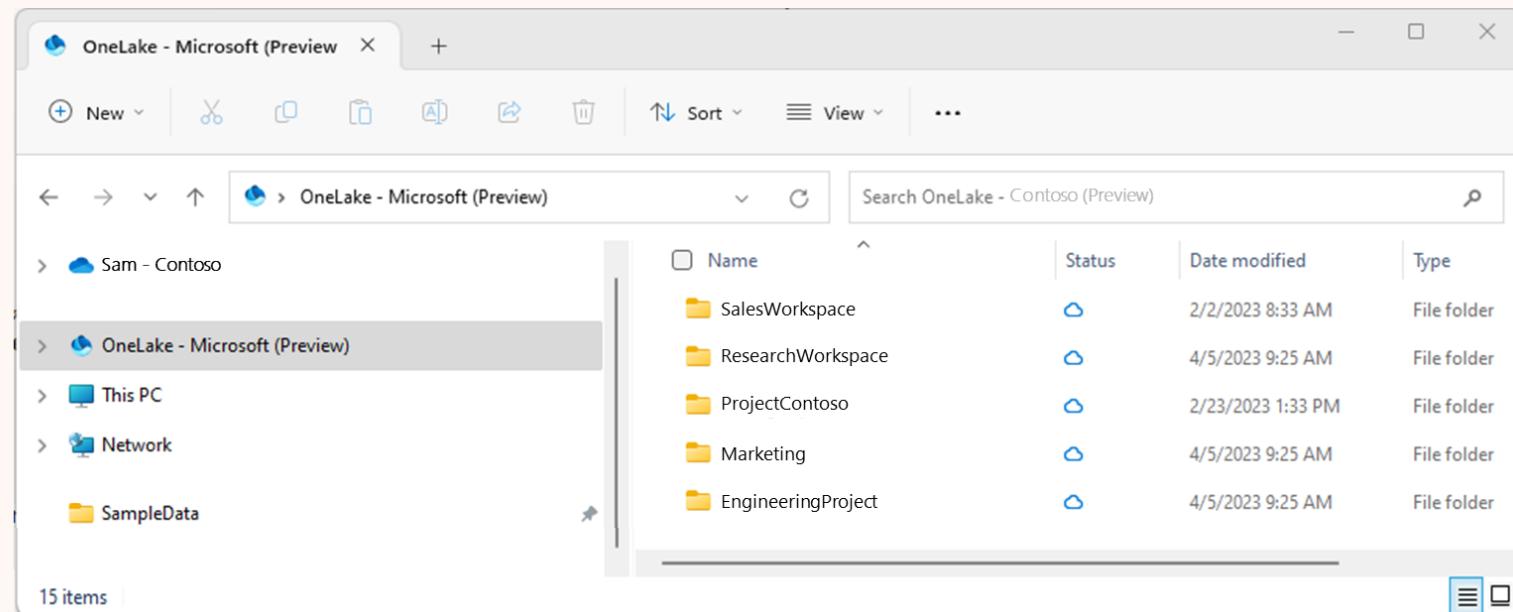
	 <b>Warehouse</b>	 <b>Lakehouse</b>
<b>Data volume</b>	Unlimited	Unlimited
<b>Type of data</b>	Structured	Unstructured, semi-structured, structured
<b>Primary developer persona</b>	Data warehouse developer, SQL engineer	Data engineer, data scientist
<b>Primary dev skill</b>	SQL	Spark(Scala, PySpark, Spark SQL, R)
<b>Data organized by</b>	Databases, schemas, and tables	Folders and files, databases, and tables
<b>Read operations</b>	T-SQL, Spark*	Spark, T-SQL
<b>Write operations</b>	T-SQL	Spark(Scala, PySpark, Spark SQL, R)
<b>Multi-table transactions</b>	Yes	No
<b>Primary development interface</b>	SQL scripts	Spark notebooks,Spark job definitions
<b>Security</b>	Object level, RLS, CLS, DDL/DML, dynamic data masking	<a href="#">RLS</a> , <a href="#">CLS**</a> , <a href="#">table level (T-SQL)</a> , none for Spark
<b>Access data via shortcuts</b>	Yes	Yes
<b>Can be a source for shortcuts</b>	Yes (tables)	Yes (files and tables)
<b>Query across items</b>	Yes	Yes
<b>Advanced analytics</b>	Interface for large-scale data processing, built-in data parallelism and fault tolerance	Interface for large-scale data processing, built-in data parallelism and fault tolerance
<b>Advanced formatting support</b>	Tables defined using PARQUET, CSV, AVRO, JSON, and any Apache Hive compatible file format	Tables defined using PARQUET, CSV, AVRO, JSON, and any Apache Hive compatible file format
<b>Ingestion latency</b>	Available instantly for querying	Available instantly for querying

# OneLake file explorer (preview)

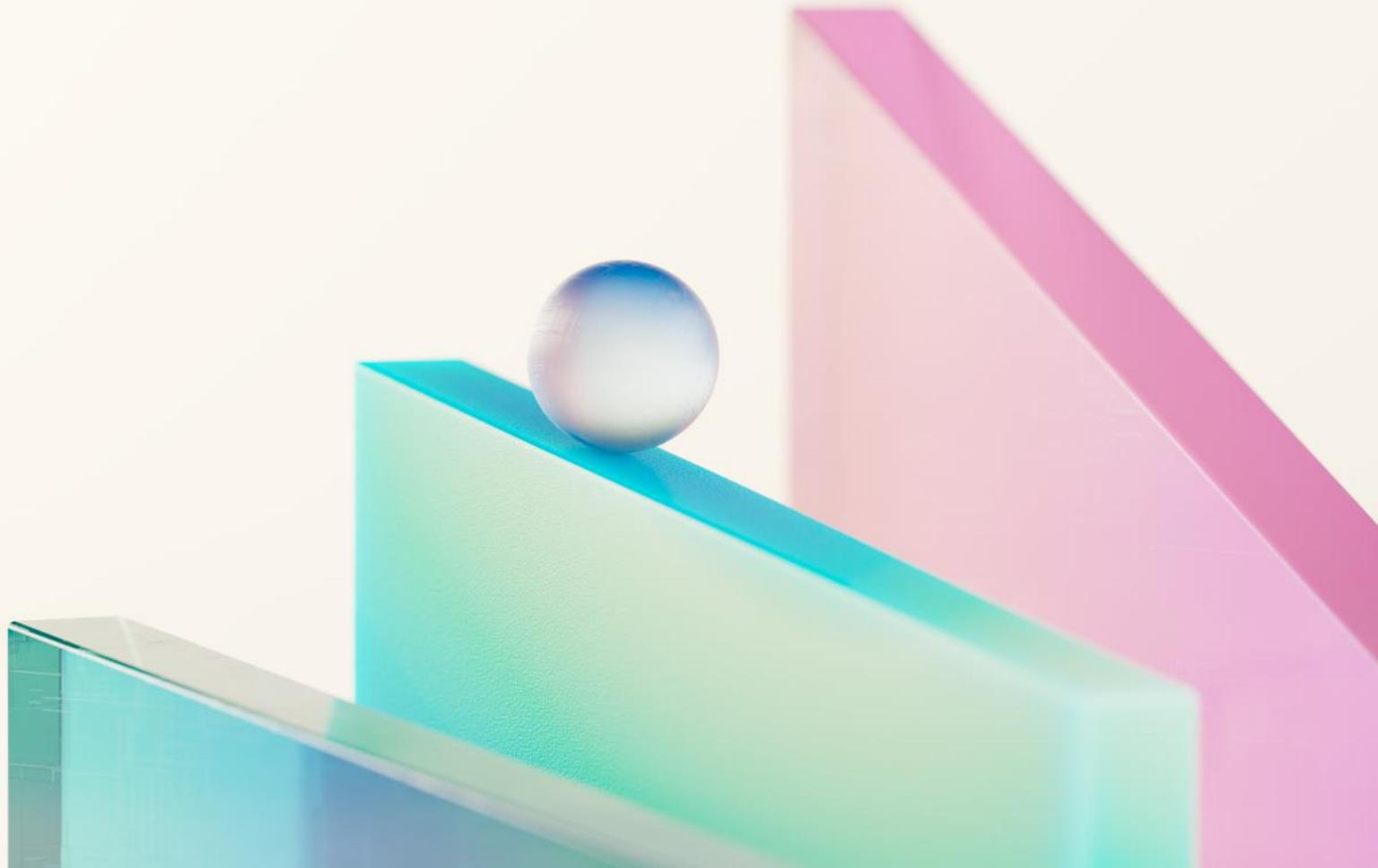
The OneLake file explorer application seamlessly integrates OneLake with Windows File Explorer.

## *Key Capabilities:*

- Automatically syncs all OneLake items
- "Sync" refers to pulling up-to-date metadata on files and folders, and sending changes made locally to the OneLake service.
- Syncing doesn't download the data, it creates placeholders. Flexible and scalable solution



# Demo Time



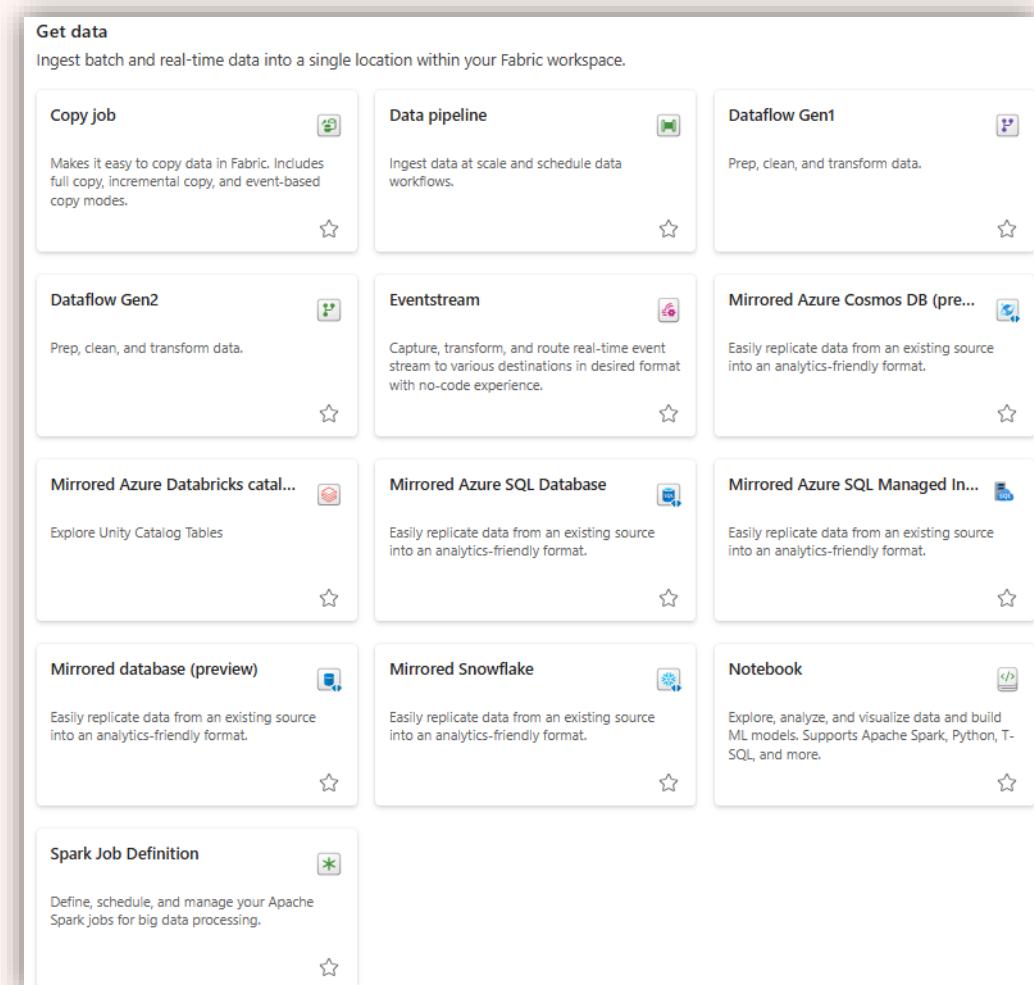


# Data Ingestion

# Data Ingestion

Data Ingestion in Microsoft Fabric can be done using various methods.

- Copy Job
- Data Pipeline
- Dataflow Gen2
- Eventstream
- Notebook
- Spark job definition
- Mirrored Azure Cosmos DB and many more.



# Data Ingestion Methods to Focus

Today we will be focussing on the following three data ingestion methods:

- Dataflow Gen2
- Data Pipeline
- Notebook



Dataflow  
Gen2



Data Pipeline

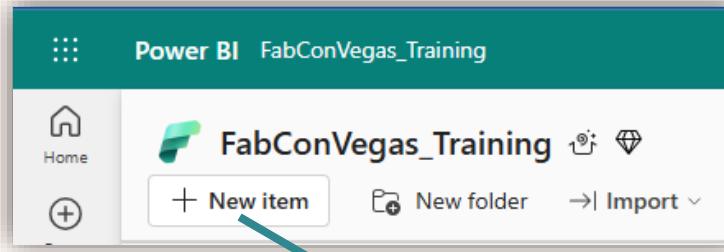


Notebook



# Dataflow Gen2

- Cloud based ETL tool for building a scalable transformation process
- Supports multiple data sources for data ingestion and transformation



New item

All items

Get data

Ingest batch and real-time data into a single location within your Fabric workspace.

Copy job	Data pipeline	Dataflow Gen1
Makes it easy to copy data in Fabric. Includes full copy, incremental copy, and event-based copy modes.	Ingest data at scale and schedule data workflows.	Prep, clean, and transform data.
Dataflow Gen2	Eventstream	Mirrored Azure Cosmos DB (pre...)
Prep, clean, and transform data.	Capture, transform, and route real-time event stream to various destinations in desired format with no-code experience.	Easily replicate data from an existing source into an analytics-friendly format.





# Dataflow Gen2 Destinations & Transformations

- Transformed data can be written to one of the following destinations:
  - ✓ Lakehouse
  - ✓ Warehouse
  - ✓ Azure SQL Database
  - ✓ Azure Data Explorer (Kusto)
- Power Query online web-based experience is supported with low-code/no-code approach (100+ transformations available)
- Dataflows can be reused by Data Analysts further to create specialized datasets for reporting & analytics



# Power Query Online View

Demo Time!



The screenshot shows the Microsoft Power Query Online View interface. The top navigation bar includes 'nycTaxiDF', 'Power Query' (with a green checkmark), 'Dataflow saved', 'Search', 'Trial: 56 days left', and a user profile icon. The main menu has tabs for 'Home', 'Transform' (which is selected), 'Add column', 'View', and 'Help'. The 'Transform' tab has a ribbon of tools: Group by, Use first row as headers, Transpose, Reverse rows, Count rows; Replace values, Detect data type, Pivot column, Unpivot columns, Move, Convert to list; Split column, Format, Merge columns, Extract, Parse; Statistics, Standard, Scientific, Rounding, Trigonometry; Date, Time, Duration, Number column; and Text column.

The left sidebar shows 'Queries [4]': Payment Type, Trip Type, Vendor Id, and Rate Code Id. The 'Rate Code Id' query is currently selected, showing a preview of a table with columns 'Id' and 'Rate\_Type'. The table data is:

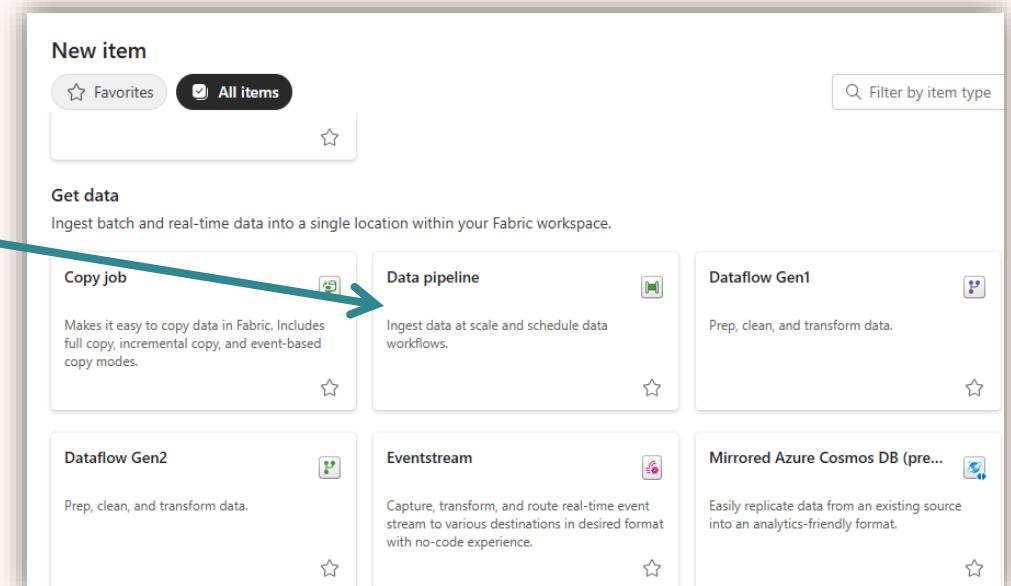
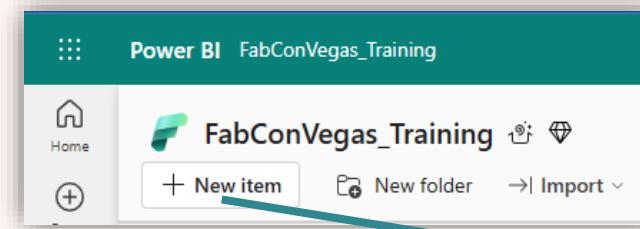
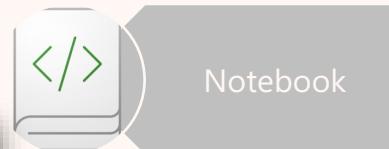
Id	Rate_Type
1	Standard Rate
2	JFK
3	Newark
4	Nassau or Westchester
5	Negotiated fare
6	Group ride

The right side of the interface contains several panes: 'Query settings' (Properties, Name: Rate Code Id, Entity type: Custom), 'Applied steps' (Source, Navigation, Promoted headers, Changed column type, Renamed columns), and 'Data destination' (Lakehouse).



# Data Pipelines

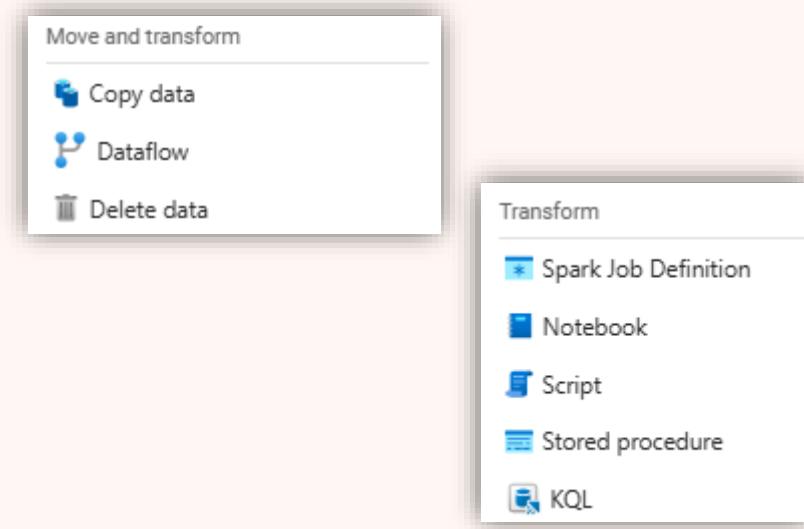
- Like Synapse and ADF Pipelines
- Can run interactively, be scheduled or be triggered when a file arrives or is deleted.
- Two core concepts:
  - ✓ Data Transformation
  - ✓ Control Flow





# Common Data Transformations

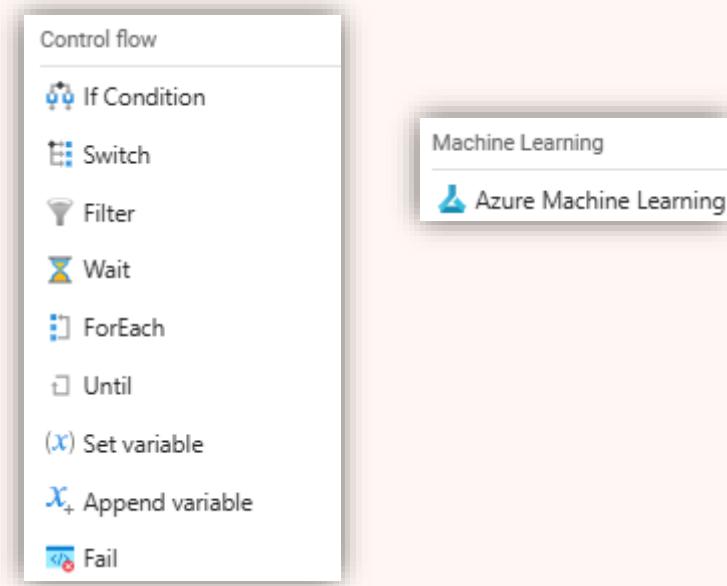
- Copy data
- Data flow
- Notebook
- Stored procedure
- Delete data





# Common Control Flow Activities

- Loop
- Conditional Branching
- Parameters & Variables
- Azure batch/Databricks/ML integration
- Get Metadata
- Teams
- Web activity





# Data Pipelines Demo

- Copy Activity

A screenshot of the Microsoft Fabric Data Pipelines interface. The top navigation bar shows the pipeline name "nycTaxiDataPipeline" and a trial status "Trial: 55 days left". The main menu includes Home, Activities, Run, View, Validate, Run, Schedule, Add trigger (preview), View run history, Copy data, Dataflow, Notebook, Lookup, and Invoke Pipeline (Preview). A modal window titled "Copy data" is open, showing a single activity named "Copy\_213" with a blue trash can icon. The bottom of the interface has standard UI elements like back, forward, and search.



# Notebooks

- Work with markdown language and code
- Powered by Spark compute
- Support for variety of languages: PySpark, Scala, SparkSQL, SparkR, HTML

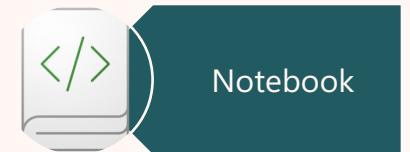
The screenshot shows the Microsoft Fabric Data Explorer interface. In the top left, there's a navigation bar with 'Power BI' and 'FabConVegas\_Training'. Below it, there are buttons for 'Home', '+ New item', 'New folder', and 'Import'. A large teal arrow points from the '+ New item' button down to the 'New item' section of the main content area. In the 'New item' section, there are three options: 'Mirrored database (preview)', 'Mirrored Snowflake', and 'Notebook'. The 'Notebook' option is highlighted with a teal arrow pointing to its description: 'Explore, analyze, and visualize data and build ML models. Supports Apache Spark, Python, T-SQL, and more.'.



Dataflow  
Gen2



Data Pipeline



Notebook



# Notebooks Capabilities

- Multi-source support (files, RDMS)
- High concurrency as Notebooks can use same session
- Ideal for data ingestion, complex transformations & code sharing
- Comments & Tagging is supported
- Environments are available
- Notebook ribbon has updated features



# Notebooks Demo

- Notebook Introduction
- Environment
- Ingesting Data
- Delta Tables

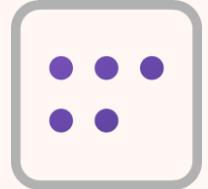
The screenshot shows the Microsoft Fabric Data Explorer interface with a notebook titled "nycTaxiYellow data Load Notebook". The notebook contains the following code:

```
1 # Welcome to the notebook
2 # This Notebook loads the publicly available New York Yellow Taxi data to Lakehouse in a table
3

1 # Azure storage access info
2 blob_account_name = "azureopendatastorage"
3 blob_container_name = "nyctlc"
4 blob_relative_path = "yellow"
5 blob_sas_token = "r"
```

The notebook is running in a PySpark (Python) environment. The status bar at the bottom indicates: "[1] ✓ - Session ready in 26 sec 366 ms. Command executed in 2 sec 218 ms by Pragati Jain on 3:22:26 PM, 5/20/24".

# Semantic Model

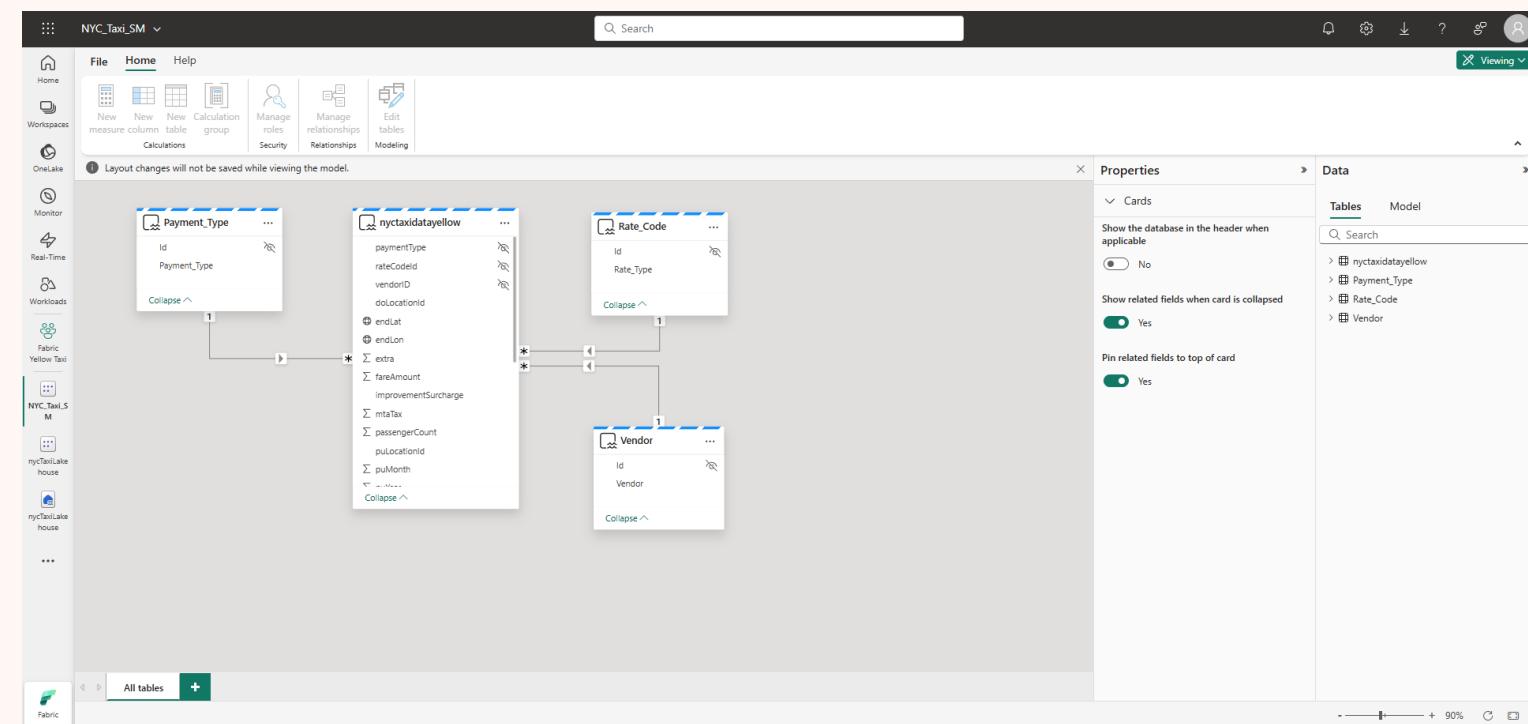


Semantic models are a logical description of an analytical domain, with metrics, business friendly terminology, and representation, to enable deeper analysis. Represent a source of data ready for reporting, visualization, discovery, and consumption.

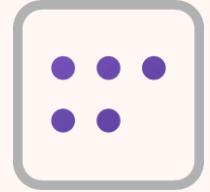
When you create a Warehouse or SQL analytics endpoint, a **default Power BI semantic model** is created.

## Key Capabilities:

- Expand warehousing constructs to include hierarchies, descriptions, relationships.
- Catalog, search, and find Power BI semantic model information in the OneLake catalog.
- Set bespoke permissions for workload isolation and security
- Create measures, standardized metrics for repeatable analysis.
- Create Power BI reports for visual analysis.
- Discover and consume data in Excel.
- Third party tools availability to connect and analyze data.



# Default Semantic Model



## Limitations:

- Model editor experience limited
- Create relationships
- Apply some columns properties (ex: format)
- Cannot create calculated columns
- Cannot set Row Level Security
- Meta-data is not replicated to other semantic models

	Name	Location	Type	Task	Owner	Refreshed	Next refresh	Endorsement	Sensitivity	Included in app
	nycTaxiLakehouse	Fabric Yellow Taxi	Lakehouse	Store Data	Pragati Jain	—	—	—	—	
	nycTaxiLakehouse	Fabric Yellow Taxi	Semantic model (default)	Store Data	Fabric Yellow T...	7/5/2023, 6:25:08...	N/A	—	—	
	nycTaxiLakehouse	Fabric Yellow Taxi	SQL analytics endpoint	Store Data	Pragati Jain	—	—	—	—	



# Direct Lake

Composite Model  
Dim Import  
Fact Direct Query

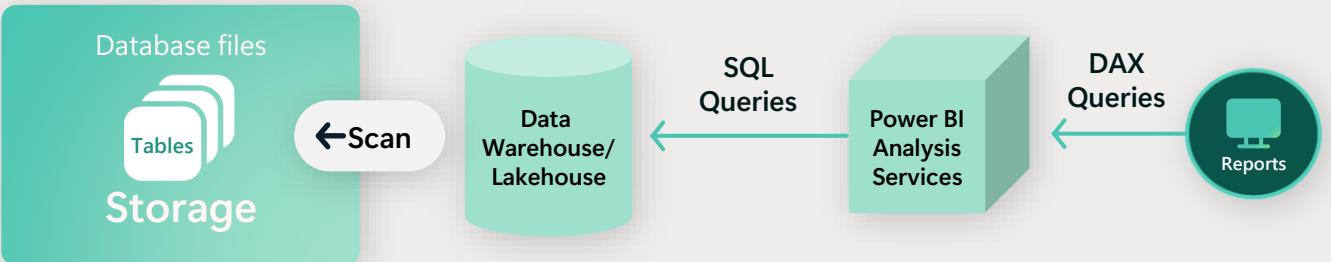
## Import Mode

Latent  
Duplicative  
Fast



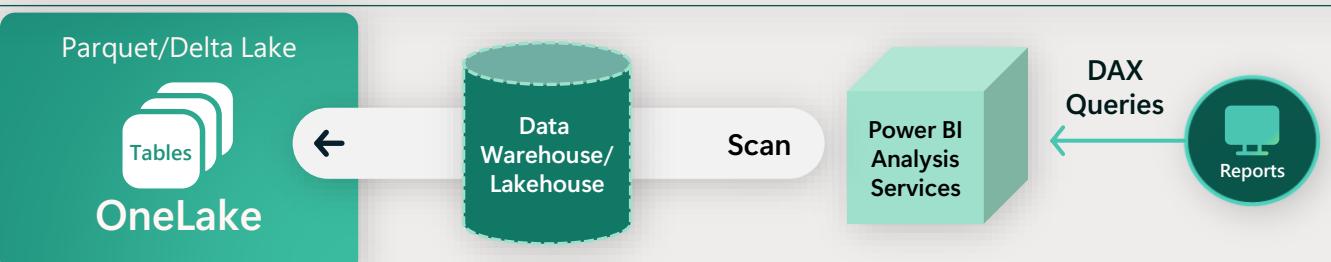
## Direct Query Mode

Slow  
"Real time"



## Direct Lake Mode

Fast  
"Real time"





# Semantic Model Consumption

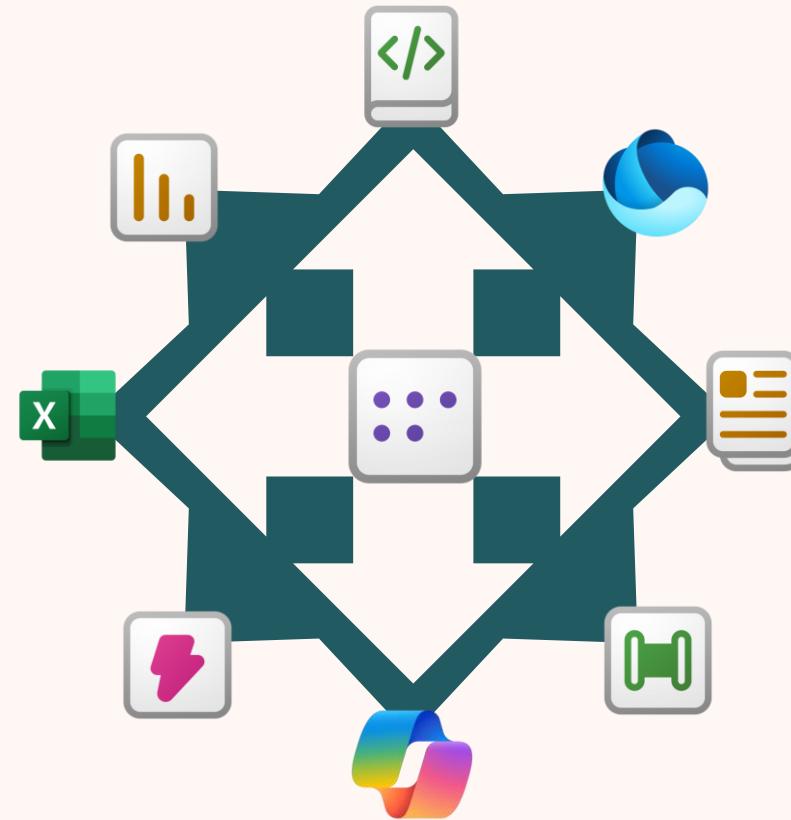
# Semantic Model consumption



Semantic models can access and be accessed by different workloads inside Fabric. There are also new options and new tools available to expose your data to the users in different ways.

## Users:

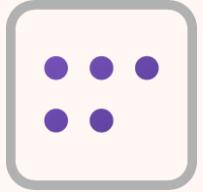
- Content Creators
- Self Service Users
- Data Scientists
- Data Architects
- Business End Users
- ...



## Assets

- Power BI Reports
- Excel Files
- Notebooks
- Reflex
- CoPilot
- ...

# Semantic Model Security



Microsoft Fabric flexible permission model that allows you to control access to data in your organization.

## *Workspaces:*

*Workspace roles are used to control access to workspaces and the content within them. Roles are assigned to individual users or groups.*

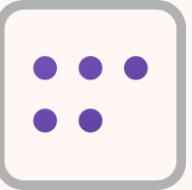
- Viewer - Can view all content in the workspace but can't modify it.
- Contributor - Can view and modify all content in the workspace.
- Member - Can view, modify, and share all content in the workspace.
- Admin - Can view, modify, share, and manage all content in the workspace, including managing permissions.

## *Item Permissions (view, modify and manage individual items)*

Item permissions are used to control access to individual Fabric items within a workspace. Item permissions are confined to a specific item and don't apply to other items.

- Semantic Model
- Warehouse
- Data Factory
- Lakehouse
- Data science
- Real-Time Intelligence

# Semantic Model Security



Microsoft Fabric has a flexible permission model that allows you to control access to data in your organization. This article explains the different types of permissions in Fabric and how they work together to control access to data in your organization.

## *Compute Permissions:*

*Permissions can also be set within a specific compute engine in Fabric, specifically through the SQL analytics endpoint or in a semantic model. Compute engine permissions enable a more granular data access control, such as table and row level security.*

- Row-level security in Fabric data warehousing
- Row-level security (RLS) with Power BI
- Object-level security (OLS)

## *OneLake permissions (data access roles)*

OneLake has its own permissions for governing access to files and folders in OneLake through OneLake data access roles. OneLake data access roles allow users to create custom roles within a lakehouse and to grant read permissions only to the specified folders when accessing OneLake. For each OneLake role, users can assign users, security groups or grant an automatic assignment based on the workspace role.

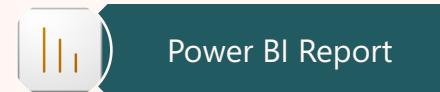


# Report Build & Consumption

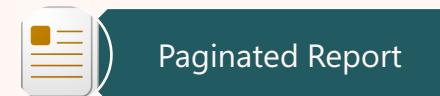
# Report Build – Power BI



- Power BI reports can be built in the cloud environment by directly consuming the Semantic Model within Lakehouse
- Semantic model that can be used:
  - ✓ Default Semantic model
  - ✓ Custom Semantic model
- Reports that we can create:
  - Power BI report
  - Paginated report
- Reports can be created using:
  - ✓ Auto-create option
  - ✓ Create from scratch



Power BI Report

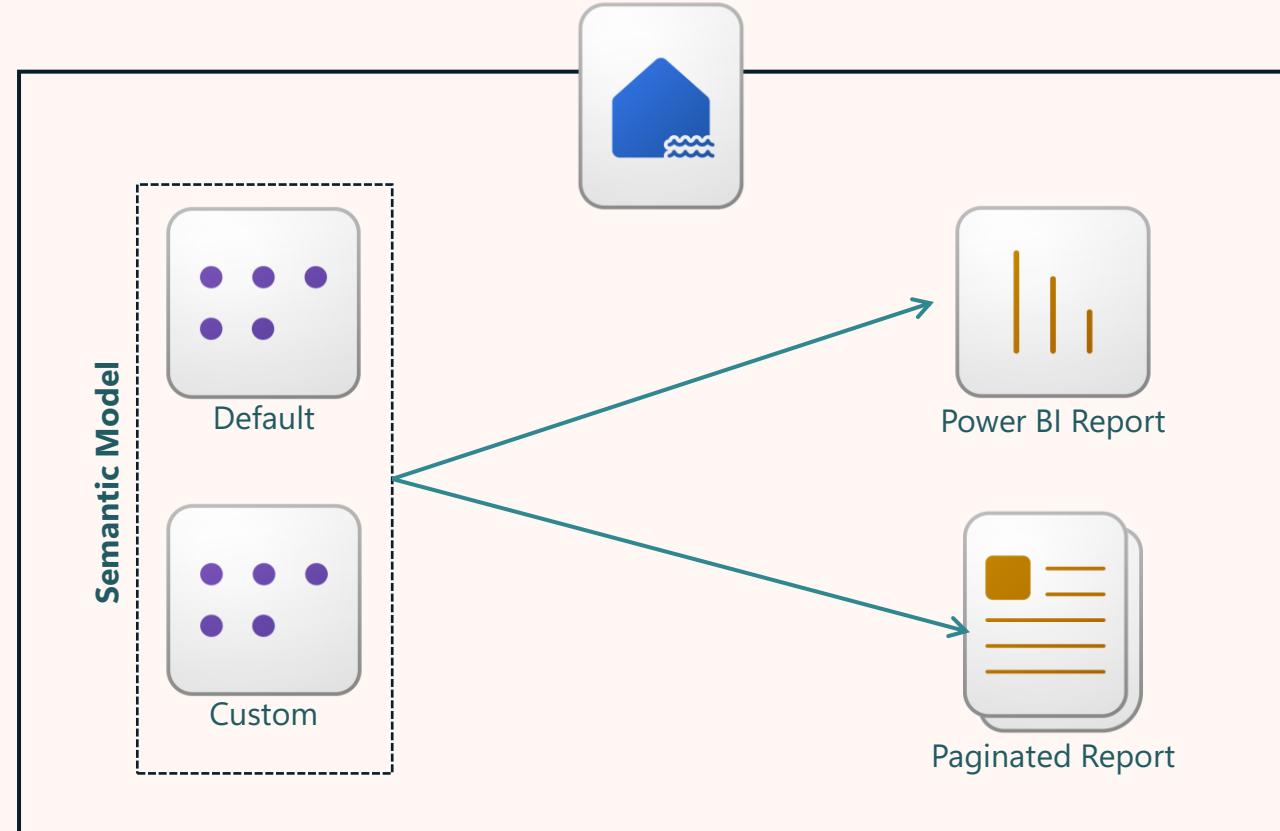


Paginated Report

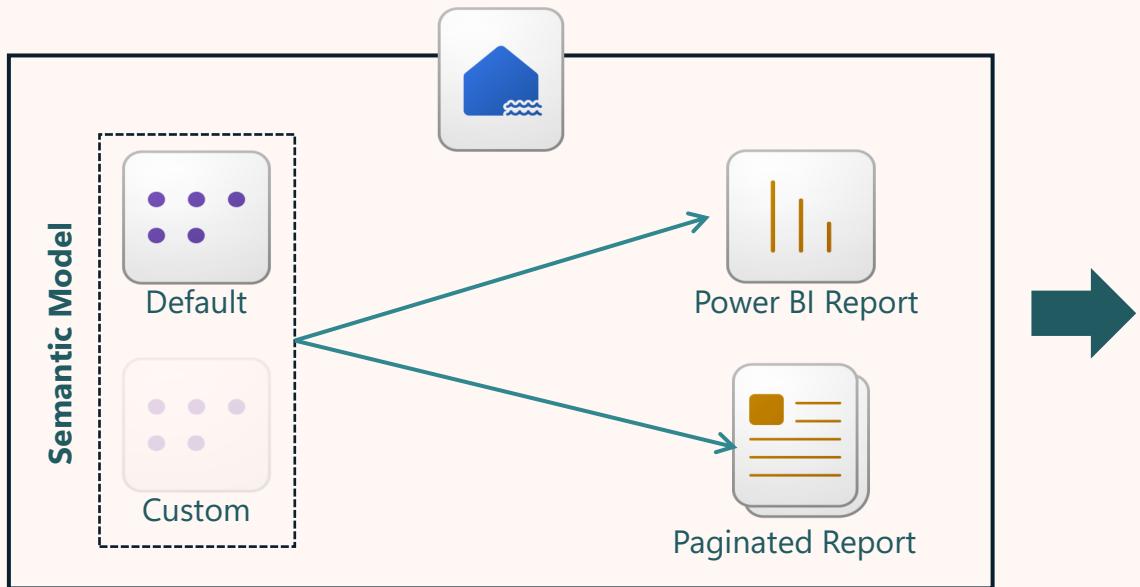


Exploration

# Report Build – Flow Diagram



# Report Build – using default Semantic Model

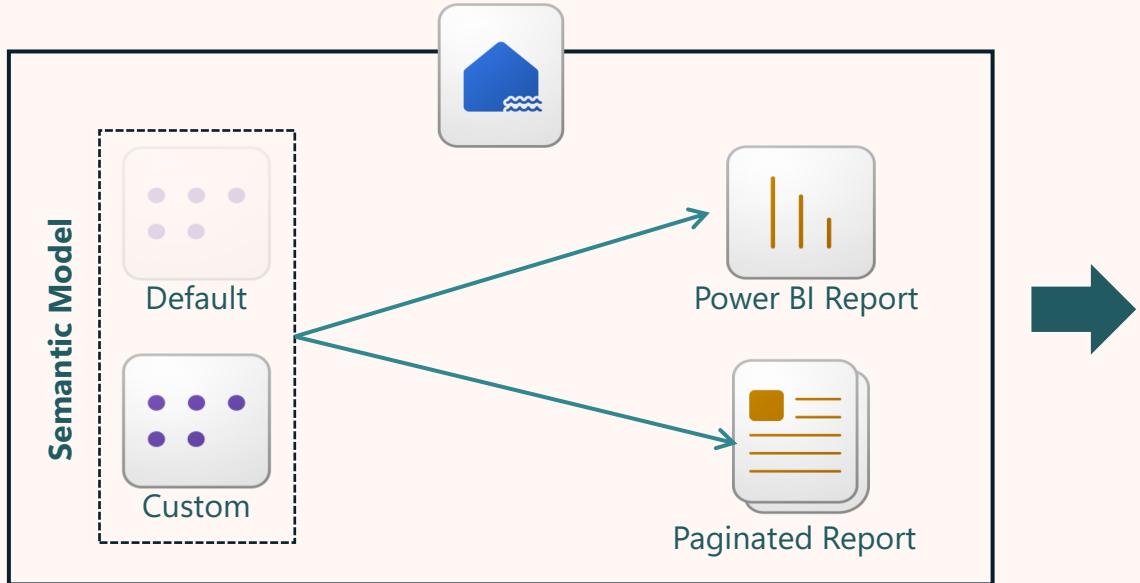


Screenshot of the Microsoft Fabric interface showing the "Fabric Yellow Taxi" workspace. The navigation bar at the top includes "Fabric", "Fabric Yellow Taxi", a search bar, and a gear icon. Below the navigation is a toolbar with "New item", "New folder", and "Import". The main area shows a list of items under "Fabric Yellow Taxi > Filtered results". The list includes:

Name	Location	Type
NYC_Taxi_SM	Fabric Yellow Taxi	Semantic model
nycTaxiLakehouse	Fabric Yellow Taxi	Lakehouse
nycTaxiLakehouse	Fabric Yellow Taxi	Semantic model (de...)
nycTaxiLakehouse	Fabric Yellow Taxi	SQL analytics endpoint...
SM_test	Fabric Yellow Taxi	Semantic model

A context menu is open over the second "nycTaxiLakehouse" entry, listing options: "Explore this data (preview)", "Analyze in Excel", "Create report", "Auto-create report", "Create paginated report (preview)", "Security", "Open data model", "Settings", "Refresh history", "Manage permissions", "View workspace lineage", "View item lineage", "Write DAX queries", and "Version history".

# Report Build – using custom Semantic Model



The screenshot shows the Microsoft Fabric interface with the title "Fabric Fabric Yellow Taxi". The main area displays a list of items under "Fabric Yellow Taxi > Filtered results". The items are:

Name	Location	Type
NYC_Taxi_SM	Fabric Yellow Taxi	Semantic model
nycTaxiLakehouse		Lakehouse
nycTaxiLakehouse		Semantic model (de...)
nycTaxiLakehouse		SQL analytics endpo...
SM_test		Semantic model

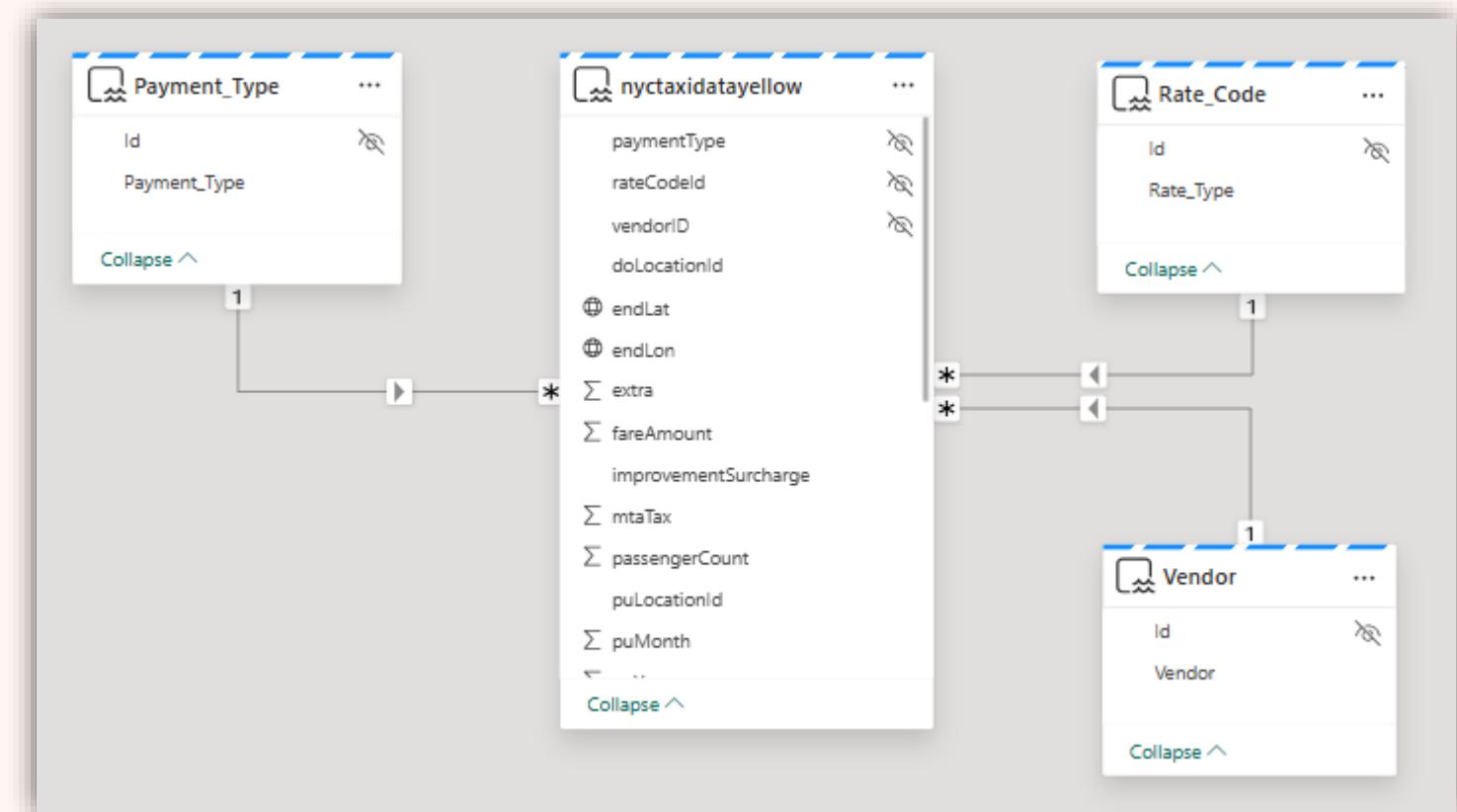
A context menu is open over the "NYC\_Taxi\_SM" item, listing options such as "Explore this data (preview)", "Analyze in Excel", "Create report", "Auto-create report", "Create paginated report (preview)", "Delete", "Security", "Rename", "Open data model", "Settings", "Refresh history", "Manage permissions", "View workspace lineage", "View item lineage", "Move to", "Write DAX queries", and "Version history".

# Report Build – using custom Semantic Model – WHY?



Custom semantic models should be preferred to create reports

- Give better control on the data
- Flexibility to include only what is required to create reports
- Has only what you need
- Can create multiple custom semantic models within the same Lakehouse



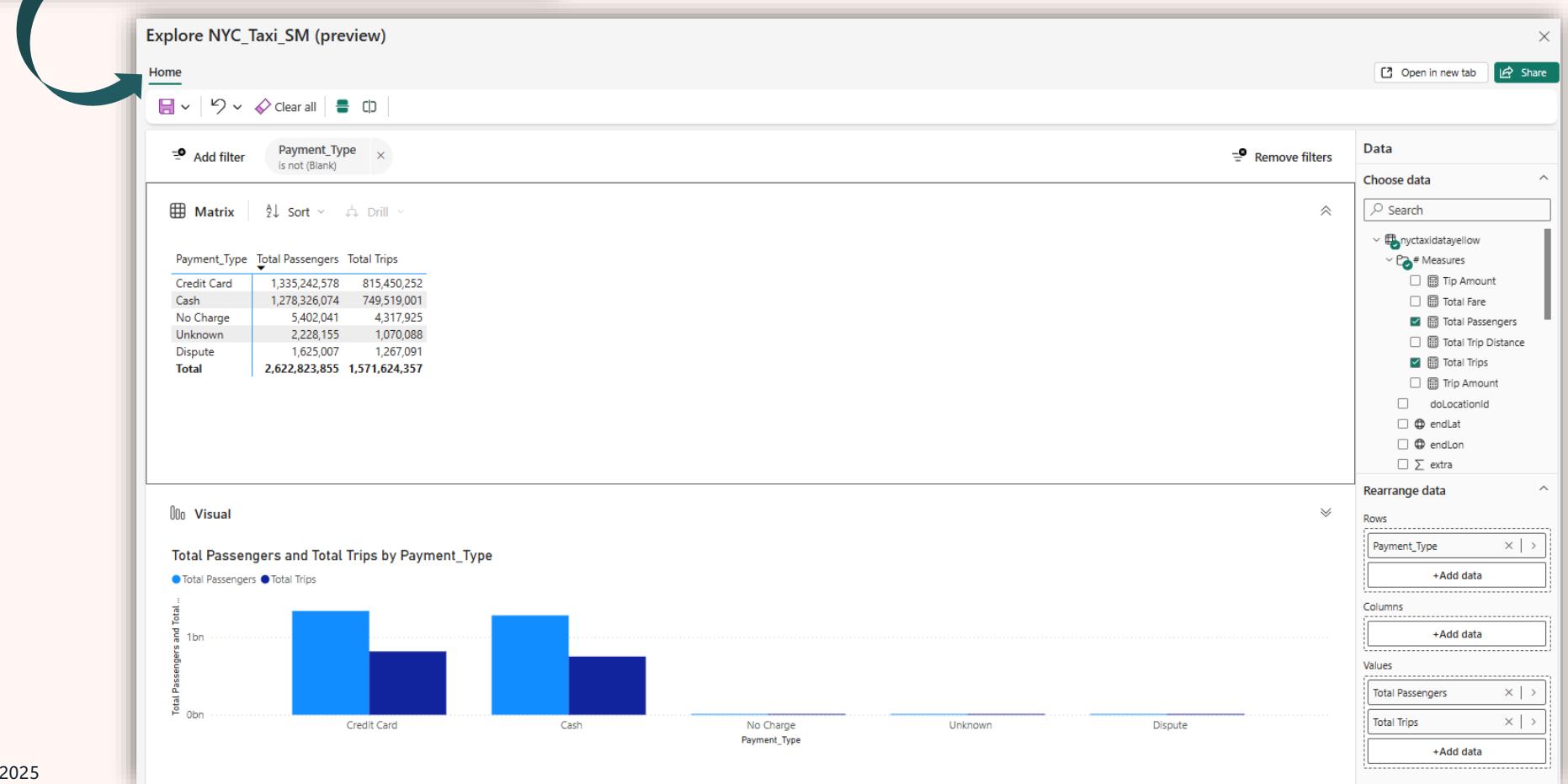
# Report Build – Exploration



Nyc\_Taxi\_report ▾

File Export Share Explore Subscribe Set alert Edit ...

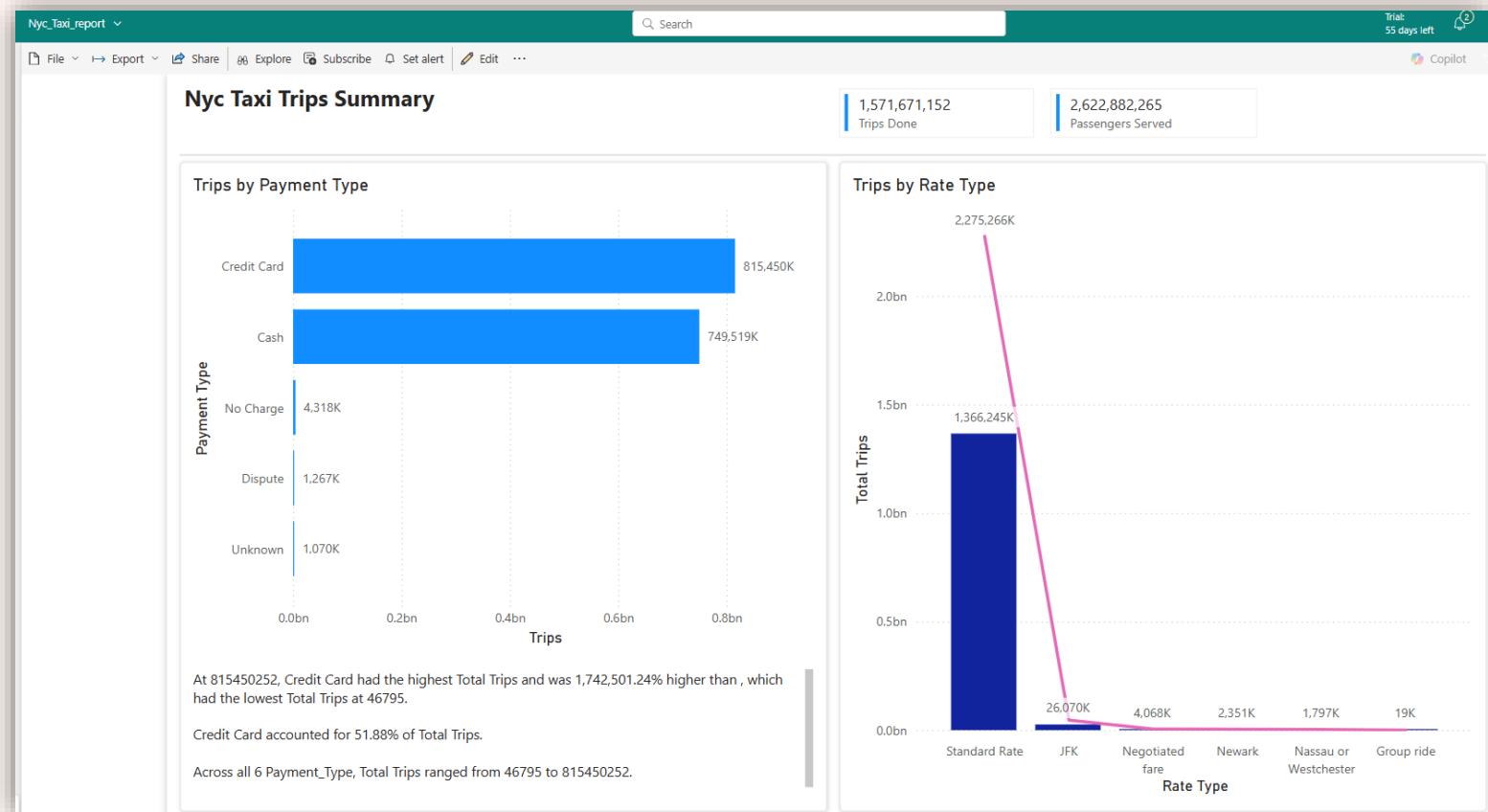
Before building the report, it's always good to explore data.  
Explore capability at report creation allows this analysis.



# Report Build – Demo



- Power BI Report
  - ✓ Auto-create
  - ✓ From scratch
- Paginated Report – demo if time permits otherwise a ready report will be shown
- Exploration



# Limitations on Report Build in the Cloud



- Limited formatting of reports
- Limitation around adding images
- Can't choose report layouts and themes
- Custom themes not supported
- No support for features like field parameters.
- Checking a DAX measure impact on reporting is not straight-forward. Going back one step is required. (Semantic model → add DAX measure; “refresh” model; new measure is available for reporting)
- It's a new capability which is evolving very quickly!

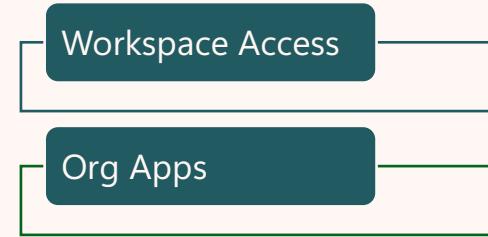
# Report Consumption



Once the reports are built, the next step comes is distribution of these reports across multiple users/user groups.

The distribution or consumption of report can be done in 2 ways:

- Workspace Access
  - ✓ Setting up right workspace roles for the users
- Organisational (Org) Apps (currently in preview)
  - ✓ Create organisational apps to share reports in Microsoft Fabric enabled workspace



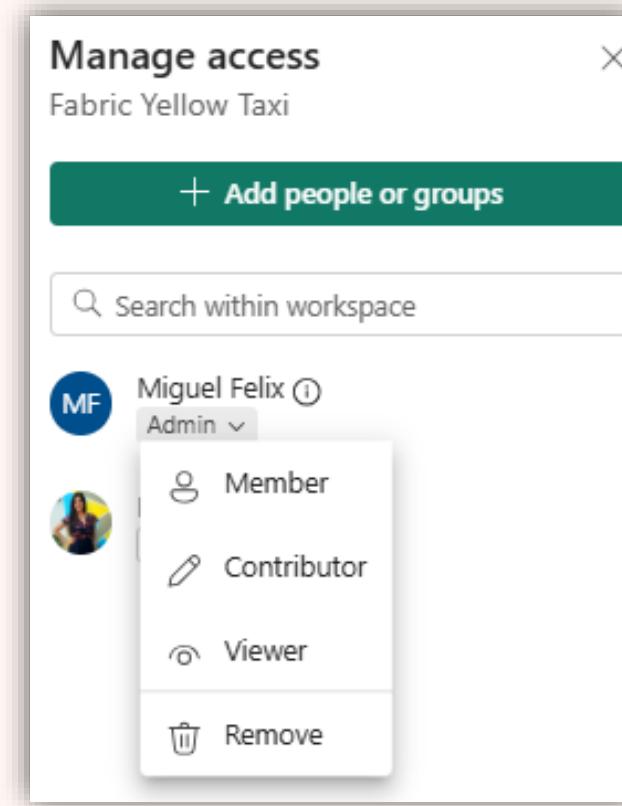


# Report Consumption – Workspace Access

Once the reports are built, the next step comes is distribution of these reports with users/user groups.

One of the ways to distribute content with the users is to set up the right Workspace roles for the users.

- Admin
- Member
- Contributor
- Viewer – Give users access to workspace with Viewer role when want to share only reports



Workspace Access

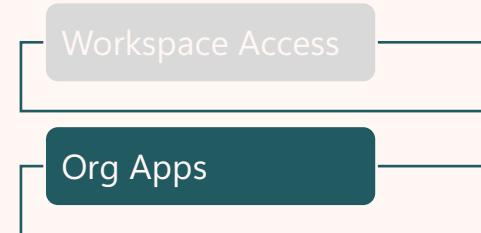
Org Apps



# Report Consumption – Org App

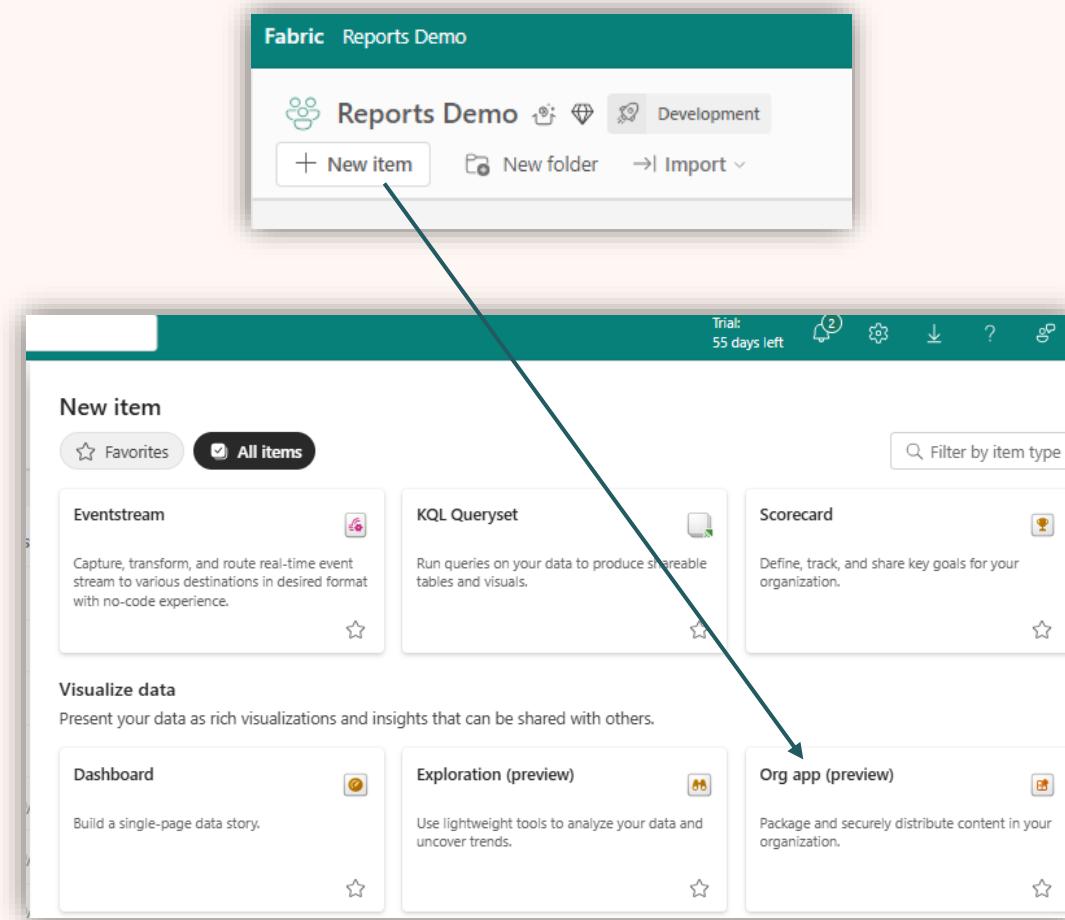
Another way of distributing reports with the users/user groups is via an Organisational App.

- This is currently in preview
- Fabric trial/Fabric capacity license is required on workspace
- Enable Org Apps setting under Admin portal
- User should have either of these workspace roles to create and manage an org app:
  - ✓ Admin
  - ✓ Member
  - ✓ Contributor
- Can create multiple org apps within a workspace



# Report Consumption – Org App (continued)

An Org App can be created as a new item on the workspace.



# Report Consumption – Org App (continued)



Once the Org App is created, **Add Content** to add reports to the org app and **Save** it.

The screenshot shows the Microsoft Fabric interface with the 'Reports View' selected. On the left, the sidebar includes 'Home', 'Workspaces', 'OneLake catalog', 'Monitor', 'Real-Time', 'Workloads', 'Reports Demo', and 'Reports View'. The 'Reports View' icon is highlighted. In the center, a report card titled 'Global Oil Production & Consumption Analysis' is displayed over a background image of an oil refinery at night. The report card contains the following information:

- Analysis Info:**
  - Date Range: 1980 to 2020
  - Data Analyzed for 46 countries!
- Metrics used for Analysis:**
  - Oil Production
  - Oil Consumption
  - Oil Reserves
- Top 5 Countries by:**

Oil Reserve	Oil Production	Oil Consumption
Saudi Arabia	Russia	United States
20%	14%	35%
Venezuela	Saudi Arabia	China
11%	12%	12%
Canada	United States	Russia
9%	12%	8%
Iran	Iran	India
9%	5%	5%
Iraq	China	Canada
9%	5%	4%
- Country Production Consumption**

# Report Consumption – Org App (continued)



Once the Org App is saved, check the **Preview** of the app.

The image shows a screenshot of the Microsoft Fabric interface. On the left, there's a preview of an Org App with a green header bar containing icons for notifications (3), settings, download, and help, along with a trial status "Trial: 55 days left". A blue arrow points from this preview area to the main content area. The main content area is titled "Reports View" and shows a preview of the "Reports View" app. The app has a dark teal header with a search bar and navigation icons. Below the header, there's a sidebar with links to "worldOilProduction", "Global CO2 Emissions", and "Top music records". The main content area features a large title "Global Oil Production & Consumption Analysis" over a background image of an oil refinery at night. It includes sections for "Analysis Info", "Metrics used for Analysis" (listing Oil Production, Oil Consumption, and Oil Reserves), and a "Top 5 Countries by" table comparing Oil Reserve, Oil Production, and Oil Consumption across countries like Saudi Arabia, Russia, United States, China, and Canada.

Oil Reserve	Oil Production	Oil Consumption
Saudi Arabia 20%	Russia 14%	United States 35%
Venezuela 11%	Saudi Arabia 12%	China 12%
Canada 9%	United States 12%	Russia 8%
Iran 9%	Iran 5%	India 5%
Iraq 9%	China 5%	Canada 4%

# Report Consumption – Org App (continued)



Fabric Reports Demo

Reports Demo Development

+ New item New folder Import

Name	Type	Task
Migrate_Import_to_DirectLake	Folder	—
Reports	Folder	—
Semantic_Models	Folder	—
Analysis org		
CO2 Emissions Analysis		
CO2 Emissions Analysis		
CO2 Emissions Analysis DL		
DF_Import_to_DirectLake		
LH_Import_to_DirectLake		
LH_Import_to_DirectLake		
LH_Import_to_DirectLake		
NB_Import_to_DirectLake		
Reports View		

A context menu is open over the "Reports View" item, showing options: Open, Delete, Settings, Favorite, View workspace lineage, View item lineage, View details, Move to, Share, Manage permissions, and Edit. An arrow points from the "Manage permissions" option in this menu to the "Manage access" section in the second screenshot.

Once the Org App is saved, choose **Manage Access** option to set up right user/user group access to the org app.

Fabric

Reports View

+ Add user

Direct access

People and groups with access	Email Address	Role	Permissions
Pragati Jain		Workspace Admin	Read, Write, Reshare



# Org App vs Power BI App

- Multiple apps per workspace.
- Items that can be included: Power BI reports, Fabric Notebooks & Real-time dashboards.
- User with share permission, can share the app with others.
- Users don't need to install Org app.
- If user access removed from the app, it's access to semantic models and other items is automatically revoked. **(this holds true when user is added as well)**

Org App



- One app per workspace.
- Items that can be included: Power BI reports.
- Only the specific roles on the workspace can manage access of the app.
- Users need to install an app to see it.
- If user access removed form the app, their access to semantic model remains. This needs to be done manually.

Power BI App



# Org App – Demo



Reports View ▾

Search

Trial: 55 days left

Add content Save Settings Customize View app Share

App elements + Add

Home Workspaces OneLake catalog Monitor Real-Time Workloads Reports Demo Reports View ...

File Export ...

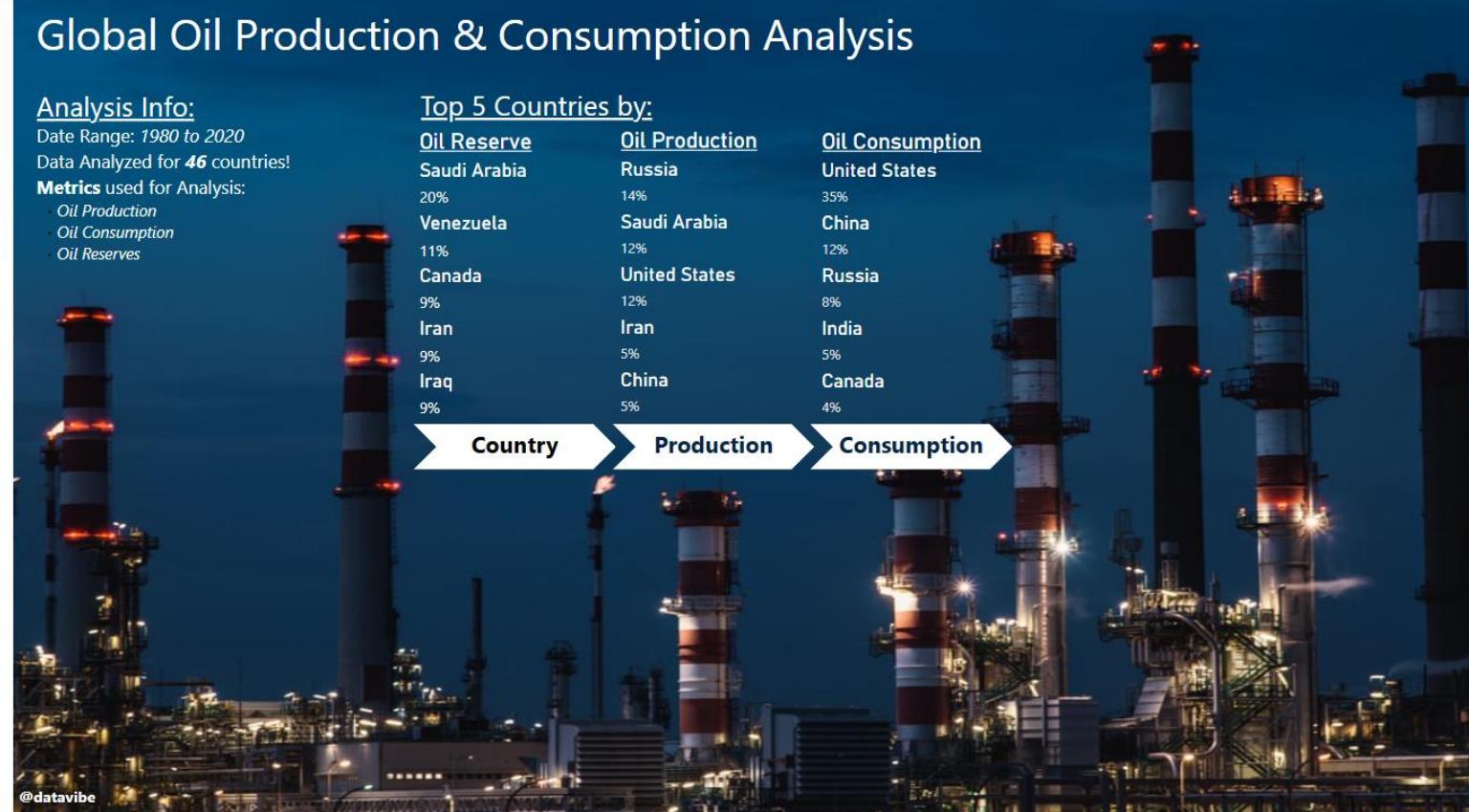
## Global Oil Production & Consumption Analysis

**Analysis Info:**  
Date Range: 1980 to 2020  
Data Analyzed for **46** countries!  
**Metrics** used for Analysis:  
Oil Production  
Oil Consumption  
Oil Reserves

**Top 5 Countries by:**

Oil Reserve	Oil Production	Oil Consumption
Saudi Arabia 20%	Russia 14%	United States 35%
Venezuela 11%	Saudi Arabia 12%	China 12%
Canada 9%	United States 12%	Russia 8%
Iran 9%	Iran 5%	India 5%
Iraq 9%	China 5%	Canada 4%

Country Production Consumption



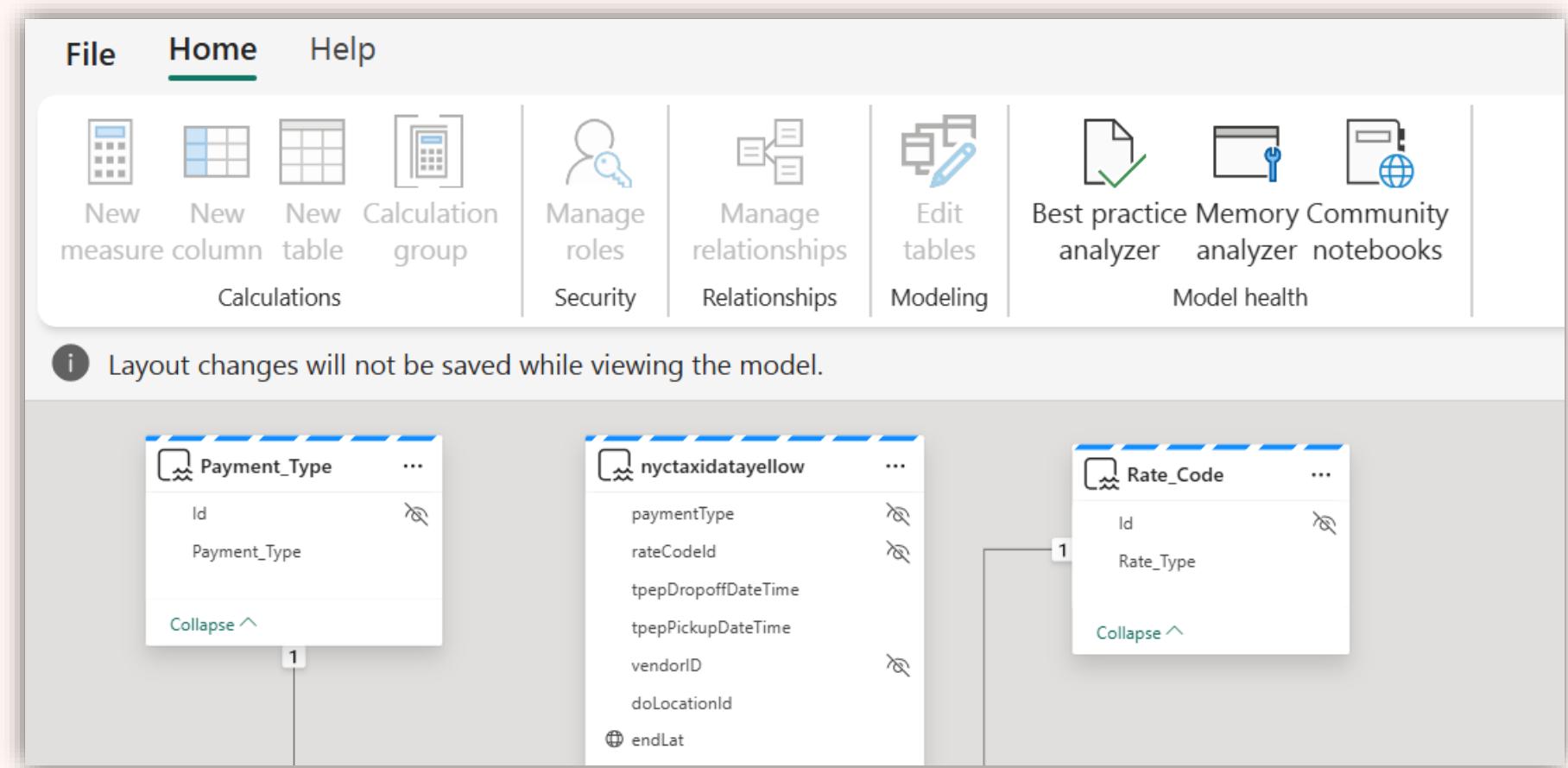
@datavibe



# Monitoring

# Semantic Model Assessment

Assessing and understanding your semantic model is an important step in end-to-end development.



# OneLake catalog

Centralized place that helps you find, explore, and use the Fabric items you need, and govern the data you own.

**Explore tab:**  
Items list with an in-context item details

The screenshot shows the Microsoft Fabric interface with the 'OneLake' icon highlighted in the sidebar. The main area displays the 'OneLake catalog' with a list of items. A specific item, 'Fabric Capacity Metrics', is selected, showing detailed information like Type (Semantic model), Owner (Miguel Felix), and Refreshed date (3/17/25, 3:27:15 PT). The sidebar also includes links for Home, Workspaces, Monitor, Real-Time, Workloads, and My workspace.

Name	Type	Owner	Refreshed
Fabric Capacity Metrics	Semantic model	Miguel Felix	3/17/25, 3:27:15 PT
YellowCabCompany	Lakehouse	Miguel Felix	—
OneLake catalog governance repo...	Semantic model	Miguel Felix	3/13/25, 6:18:25 PT
Guardrails Model	Semantic model	Miguel Felix	1/23/25, 10:02:56 PT
Adventure Works - Report	Semantic model	Miguel Felix	1/19/24, 7:56:37 PT
PowerBISSummit	SQL analytics endpoint	Miguel Felix	1/2/24, 10:45:07 PT
PowerBISSummit	Semantic model (default)	Miguel Felix	1/2/24, 10:29:51 PT
Formação	Semantic model	Miguel Felix	2/5/25, 8:42:57 PM
DLLakehouse	Lakehouse	Miguel Felix	—
Sales Setup	Semantic model	Miguel Felix	11/18/24, 4:59:59 PM
Table	Semantic model	Miguel Felix	2/11/25, 3:00:29 PT
Formação - Vendas	Semantic model	Miguel Felix	11/24/23, 5:08:23 PT
DLake Multiple Tables	Semantic model	Miguel Felix	11/30/24, 9:20:00 PT
DirectLakeModel	Semantic model	Miguel Felix	2/15/24, 9:44:16 AM

**Govern tab:**  
Basic, high-level insights about the content in Fabric.

**Your governance status at a glance**  
View key insights about the content you've created in Fabric. Data last refreshed: 03:36 PM, 3/17/25

**Domains**: 1

**Workspaces**: 11

**Items**: 182

**Items you own by type**

Type	Count
Semantic model	57
Report	33
SynapseNotebook	22
Datamart	19
Lakehouse	13
Pipeline	12
(Blank)	11

**Items you own by last refresh**

Period	Count
Last month	~5
2-4 months	~18
> 4 months	~30

**Recommended actions**

- Increase the percentage of endorsed items
- Refresh your inactive data items
- Apply relevant policies

**Top solutions**

**Monitor**  
View and track the status of activities across all the Fabric workspaces you can access.  
[Open](#)

**Data lineage and impact analysis**  
View lineage relationships between content items and see how changes impact downstream, before you make them.  
[Lineage in Fabric—Microsoft Learn](#)  
[Impact analysis—Microsoft Learn](#)

**Endorsement**  
Encourage content creators to promote their work as endorsed.  
[Endorsement—Microsoft Learn](#)

# Microsoft Fabric Capacity Metrics

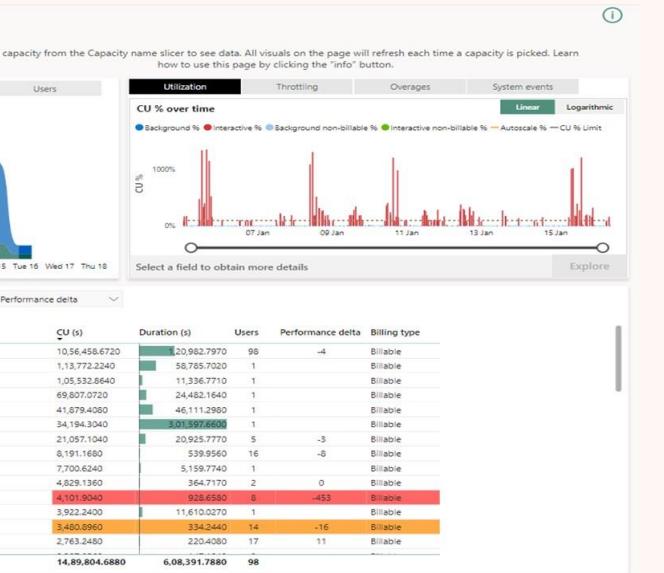
Designed to provide monitoring capabilities for Microsoft Fabric capacities.

Step 1:  
Install the app from the AppSource

The screenshot shows the Microsoft AppSource website with the search bar set to "Search AppSource Apps". Below the search bar, there are filters for "All", "Apps", "Categories", "Industries", "Consulting Services", and "Partners". The main content area displays the "Microsoft Fabric Capacity Metrics" app by Microsoft. It includes a "Get it now" button and a "Pricing Free" link. The app's rating is 3.0 (44 ratings). The "Overview" section highlights that fabric capacity admins can gain visibility into resources utilized by their fabric items. It also features a "At a glance" section with three dashboard tiles.

Step 2:  
Open the app from the app menu

The screenshot shows the Microsoft Fabric Capacity Metrics app menu. On the left is a sidebar with icons for Home, Create, Browse, OneLake, Apps (which is highlighted with a red box), Metrics, Monitor, Learn, Real-Time, and Workloads. The main content area is titled "Apps" and contains a table with columns for Name, Owner, and Updated. A row for "Microsoft Fabric Capacity Metrics" is selected and highlighted with a red box. The owner is Miguel Felix and the last update was on 3/17/2025, 2:58:30 PM.



Step 3:  
Configure the app with your Capacity ID

The screenshot shows a configuration dialog titled "Connect to Microsoft Fabric Capacity Metrics". It has a "Parameters" section with a note: "Make sure all required (\*) parameters are filled in before connecting to your data." There are two input fields: "CapacityID \*" and "UTC\_offset \*". The "CapacityID" field has a placeholder: "An ID of a capacity you're an admin of. For example: Enter a capacity ID of one capacity that you are an admin of." The "UTC\_offset" field has a placeholder: "Numerical values ranging from 14 to -12. To signify a Half hour timezone, use .5. For example, for Iran's standard time enter 3.5." Both fields are highlighted with red boxes.

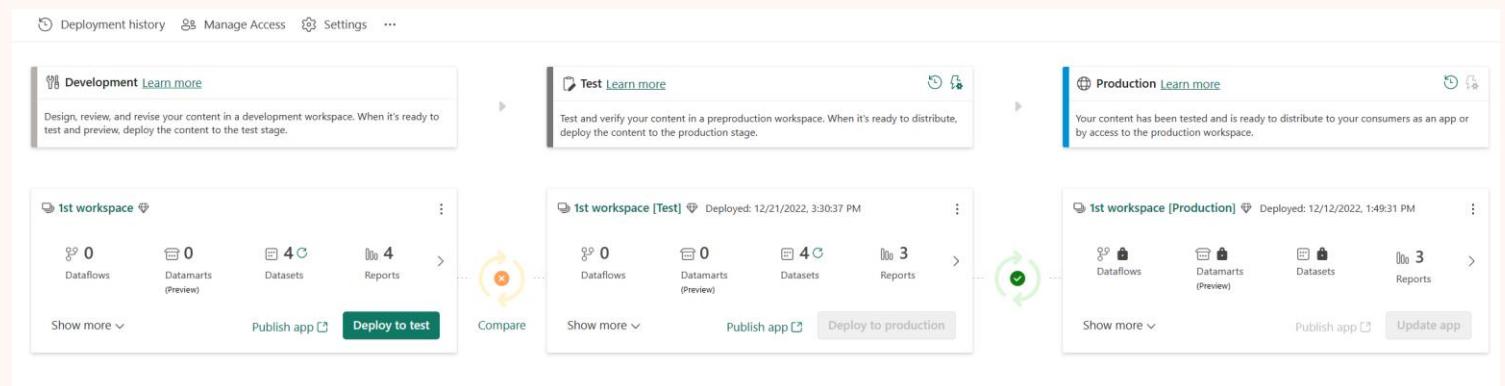
# Lifecycle management

Provide a standardized system for communication and collaboration between all members of the development team throughout the life of the product. Lifecycle management facilitates an effective process for releasing products quickly by continuously delivering updated content into production and ensuring an ongoing flow of new features and bug fixes using the most efficient delivery method.

## Git Integration:

The screenshot shows a "Source control" interface with a "ProxyPremium" repository selected. Under the "Updates 6" tab, there is a table with columns "Item" and "Status". The items listed are: "CoreModelSameFolder" (green), "ProxyModel\_Daily" (green), "ProxyModel\_SameWS\_D..." (green), "CoreModelSameFolder" (green), "ProxyModel\_Daily" (green), and "ProxyModel\_SameWS\_D..." (green). At the bottom right is a green "Update all" button.

## Deployment pipelines:

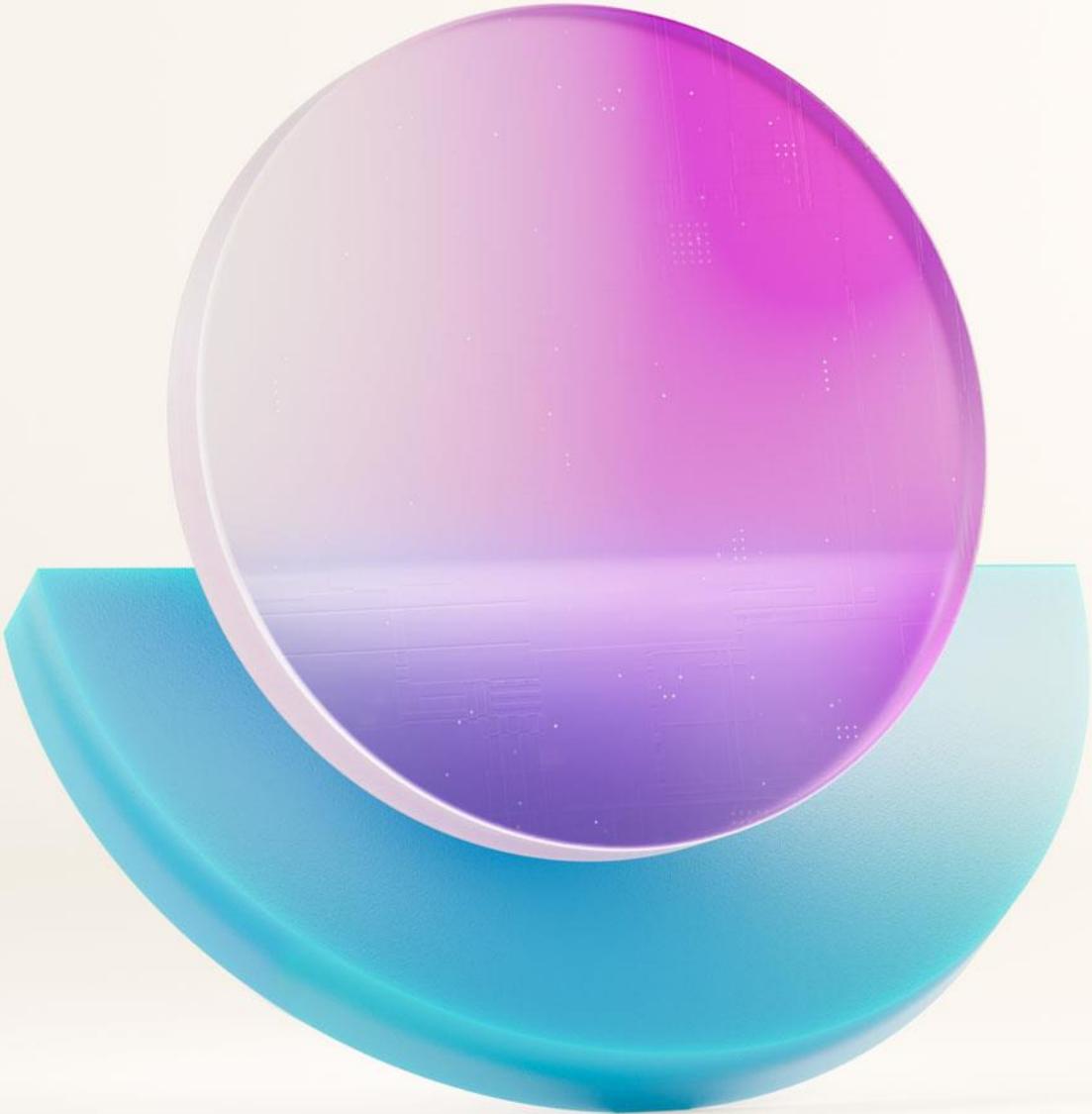


# Summary

- Microsoft Fabric Introduction
- Data Landing
- Data Ingestion
- Semantic Modelling
- Semantic Model Consumption
- Report Build & Consumption
- Monitoring

Thank You  
Happy To Answer Any  
Questions!





## Fast-track your career in data and AI

Become a Microsoft Certified Fabric Data Engineer Associate – take Exam DP-700 for free!

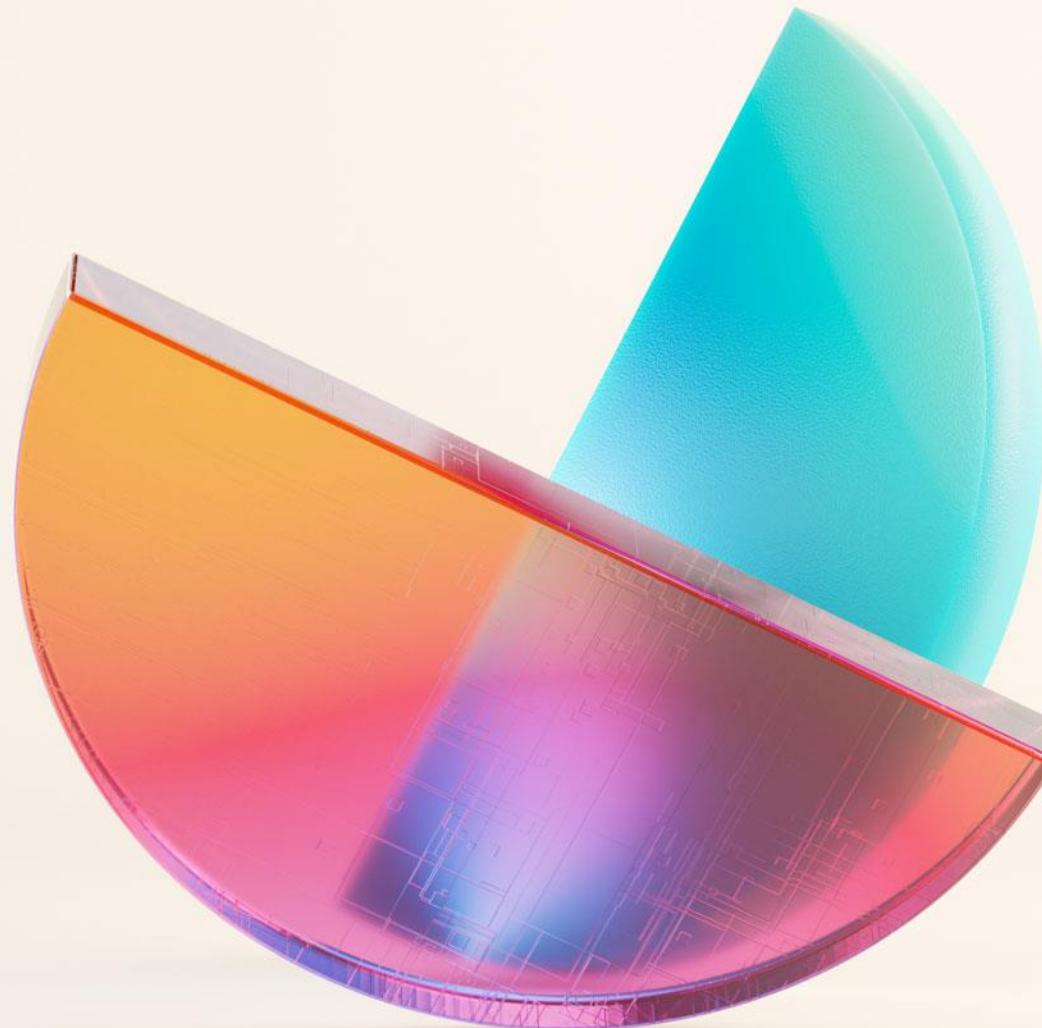
Visit the Fabric Community Lounge to learn more about this *limited-time offer*.



[aka.ms/fabcon/dp700](https://aka.ms/fabcon/dp700)



Microsoft Fabric  
Community Conference



Learn more about  
Microsoft Fabric



Power your AI transformation with a  
complete data platform



# Get Involved in the Fabric Community



## [aka.ms/FabricCommunity](https://aka.ms/FabricCommunity)

Connect with community members, ask questions, and learn more about Fabric



## [aka.ms/FabricUserGroups](https://aka.ms/FabricUserGroups)

Find a user group that matches your interests in your area or online



## [aka.ms/SuperUsers](https://aka.ms/SuperUsers)

Spread your Fabric knowledge, insights, and best practices with others



## [aka.ms/MVP](https://aka.ms/MVP)

Technology experts that share their knowledge and passion with the community