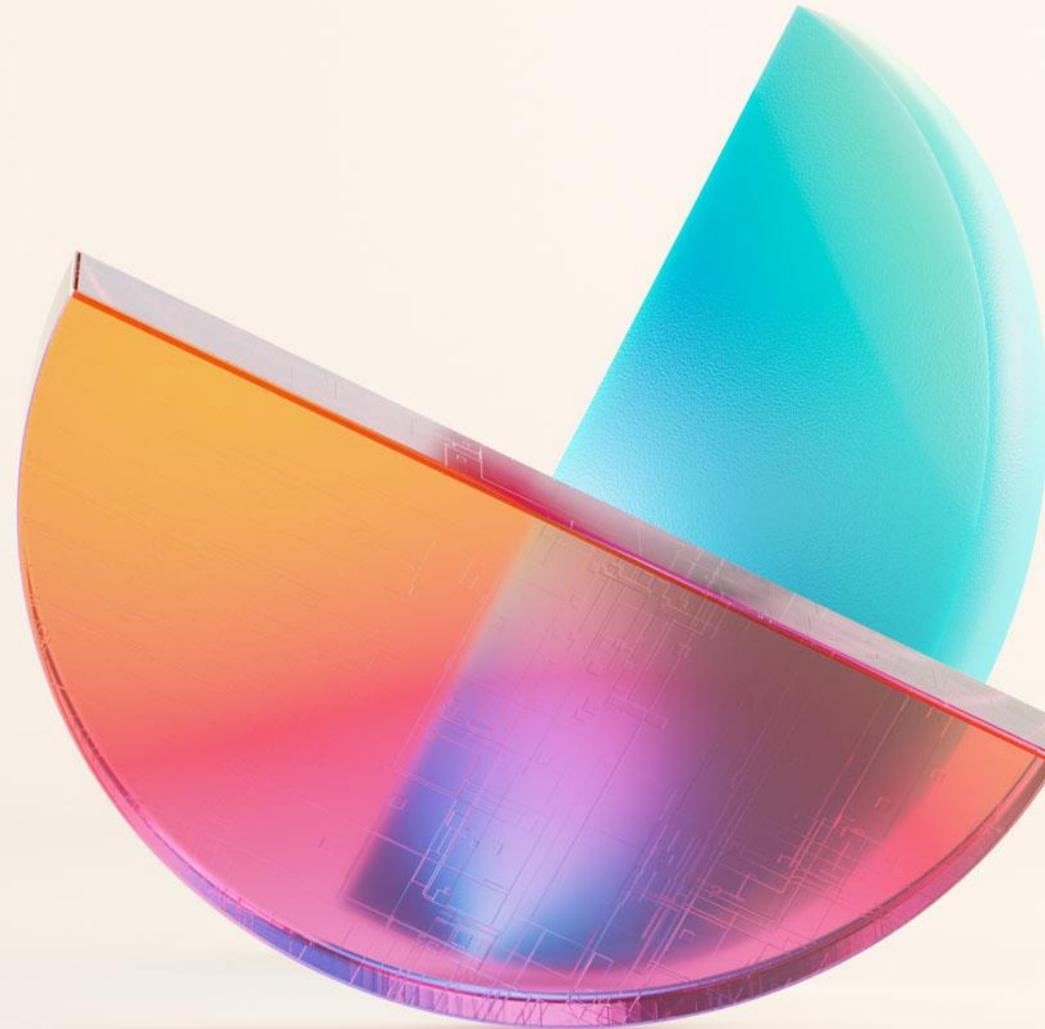
A large, abstract graphic on the left side of the slide features several overlapping 3D-style geometric shapes. A pink triangle is positioned at the top left. Below it is a large, translucent shape with a gradient from light pink to light blue. A smaller, semi-transparent teal shape sits atop the pink one. In front of these is a larger, more solid teal shape with a fine-grained texture. A small, smooth, metallic-looking sphere rests on the teal surface. The overall aesthetic is clean and modern, with soft lighting and shadows.

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>

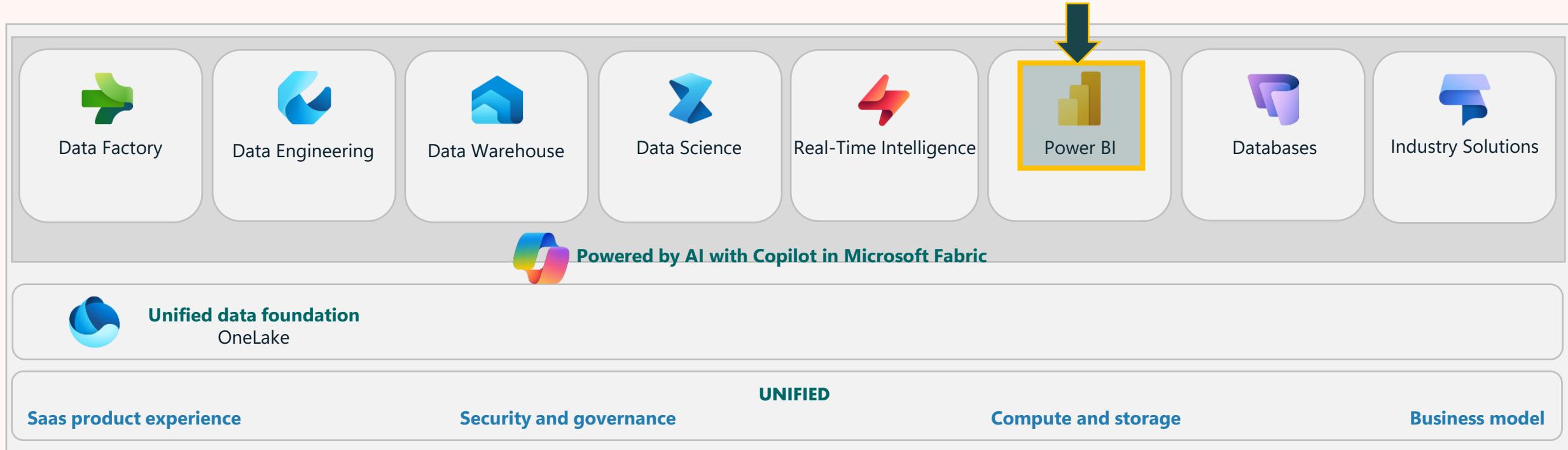
Microsoft Fabric
Community Conference



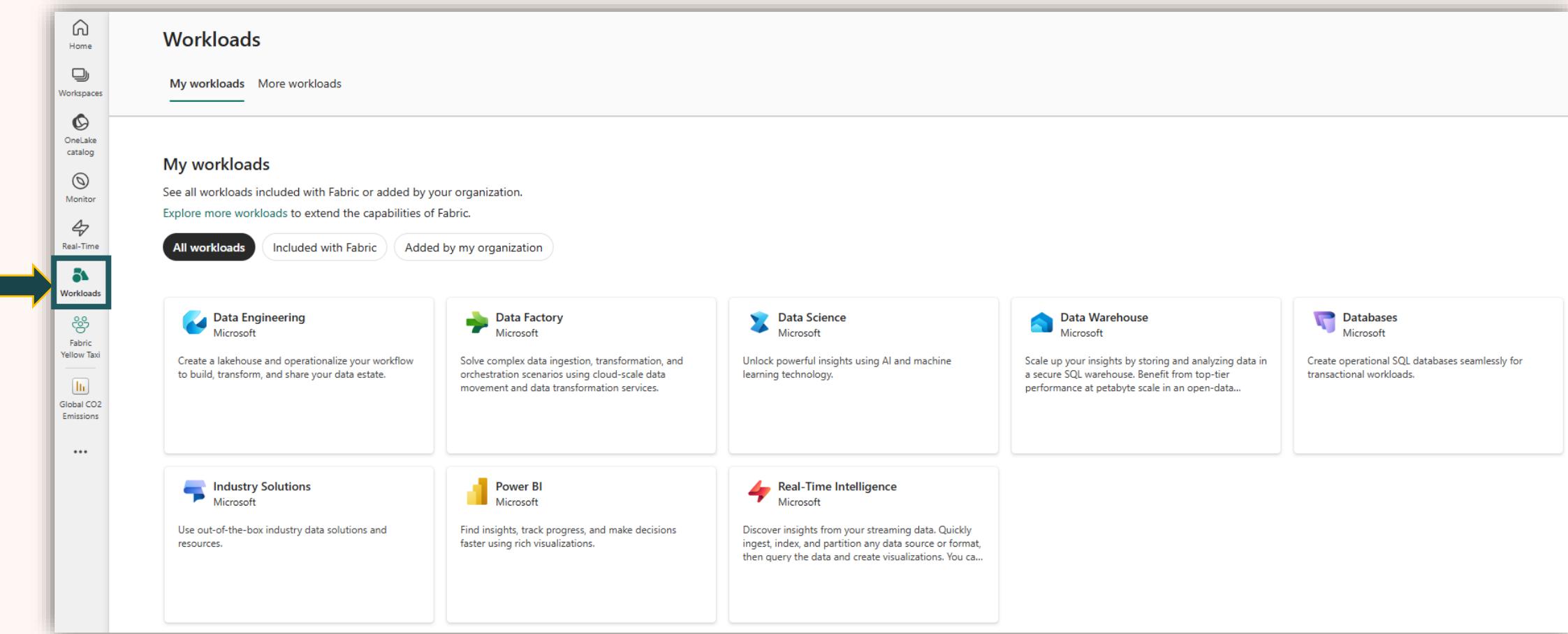
Microsoft Fabric Introduction

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

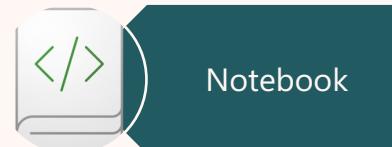
[Open](#)
- [Learn to monitor Data Factory](#) Monitoring your Data Factory

[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

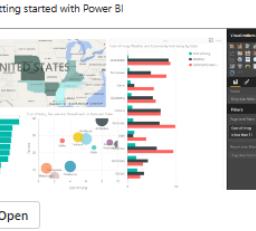
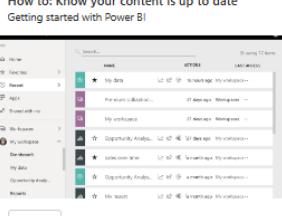
Power BI is a collection of software services, apps, and connectors designed to transform your diverse data sources into clear, visually engaging, and interactive insights. Whether your data is stored in an Excel spreadsheet or a mix of cloud-based and on-premises hybrid data warehouses, Power BI makes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

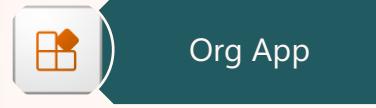
[Open](#)
- View and understand a Power BI report
Getting started with Power BI

[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's 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" card. The card shows a circular profile picture of a woman, the name "Pragati Jain", a redacted email address, and the text "Tenant Name: [redacted]". There's a "Switch tenant" button. Below that, it says "License type: Premium Per User". Under "Trial Status:", it shows "57 days left" and a "Cancel trial" button. At the bottom of the card, there are four links: "View account" with a gear icon, "Learn about Fabric trial" with a question mark icon, "Buy Fabric now" with a credit card icon, and "Learn about Fabric subscription" with a gear icon. A "Sign out" button is at the very bottom right of the card.



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 highlighted with a gray background. To the right of the sidebar, there is a search bar and a message indicating a SQL analytics endpoint and Power BI semantic model were created. Below the sidebar is a large data preview table titled 'nyctaxidatayellow'. The table has 23 columns and 1,000 rows. The columns include vendorID, tpepPickupLocationId, tpepDropoffLocationId, passengerCount, tripDistance, pickupLocationId, dropLocationId, startLon, startLat, endLon, endLat, rateCodeId, and storeAndFw... . The data shows various taxi trips from New York City, with columns like vendorID, passengerCount, and tripDistance containing numerical values. The table is paginated at the bottom with 'Columns 23 Rows 1,000' and navigation arrows. A status bar at the bottom 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 sidebar, titled 'nycTaxiWarehouse', contains sections for Home, Reporting, Workspaces, OneLake, Monitor, Real-Time, Workloads, Direct Lake 2024, and myTaxiWarehouse. The 'OneLake' section is expanded, showing 'Warehouses' (Test), 'Schemas' (dbo, INFORMATION_..., sys), 'Tables', 'Views', 'Functions', 'Stored Proc...', 'My queries', and 'Shared queries'. The main area features a large circular icon with two overlapping squares, labeled 'Query, model, or preview your data'. Below it is a text box stating 'You can use this editor to query, preview, or model your data for analysis. Start with a new query.' A 'New SQL query' button is located at the bottom right of this area.

Warehouse vs Lakehouse

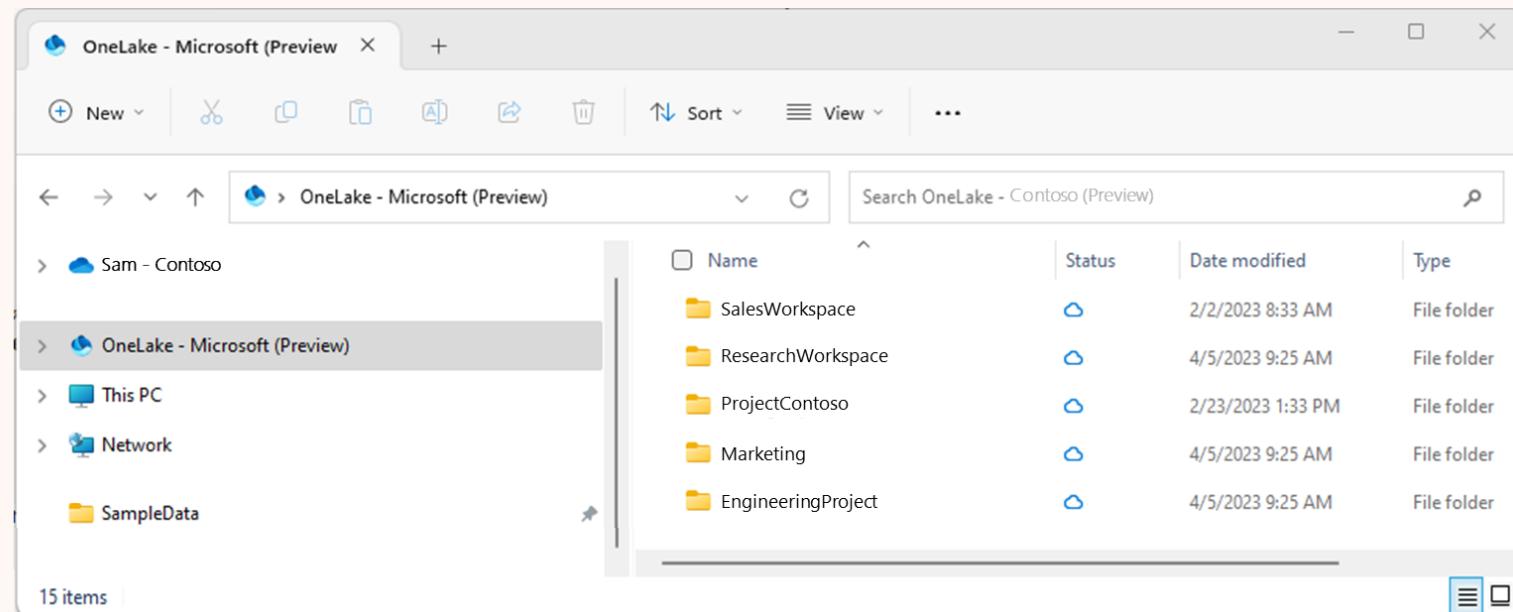
	 Warehouse	 Lakehouse
Data volume	Unlimited	Unlimited
Type of data	Structured	Unstructured, semi-structured, structured
Primary developer persona	Data warehouse developer, SQL engineer	Data engineer, data scientist
Primary dev skill	SQL	Spark(Scala, PySpark, Spark SQL, R)
Data organized by	Databases, schemas, and tables	Folders and files, databases, and tables
Read operations	T-SQL, Spark*	Spark, T-SQL
Write operations	T-SQL	Spark(Scala, PySpark, Spark SQL, R)
Multi-table transactions	Yes	No
Primary development interface	SQL scripts	Spark notebooks,Spark job definitions
Security	Object level, RLS, CLS, DDL/DML, dynamic data masking	RLS , CLS** , table level (T-SQL) , none for Spark
Access data via shortcuts	Yes	Yes
Can be a source for shortcuts	Yes (tables)	Yes (files and tables)
Query across items	Yes	Yes
Advanced analytics	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
Advanced formatting support	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
Ingestion latency	Available instantly for querying	Available instantly for querying

OneLake file explorer (preview)

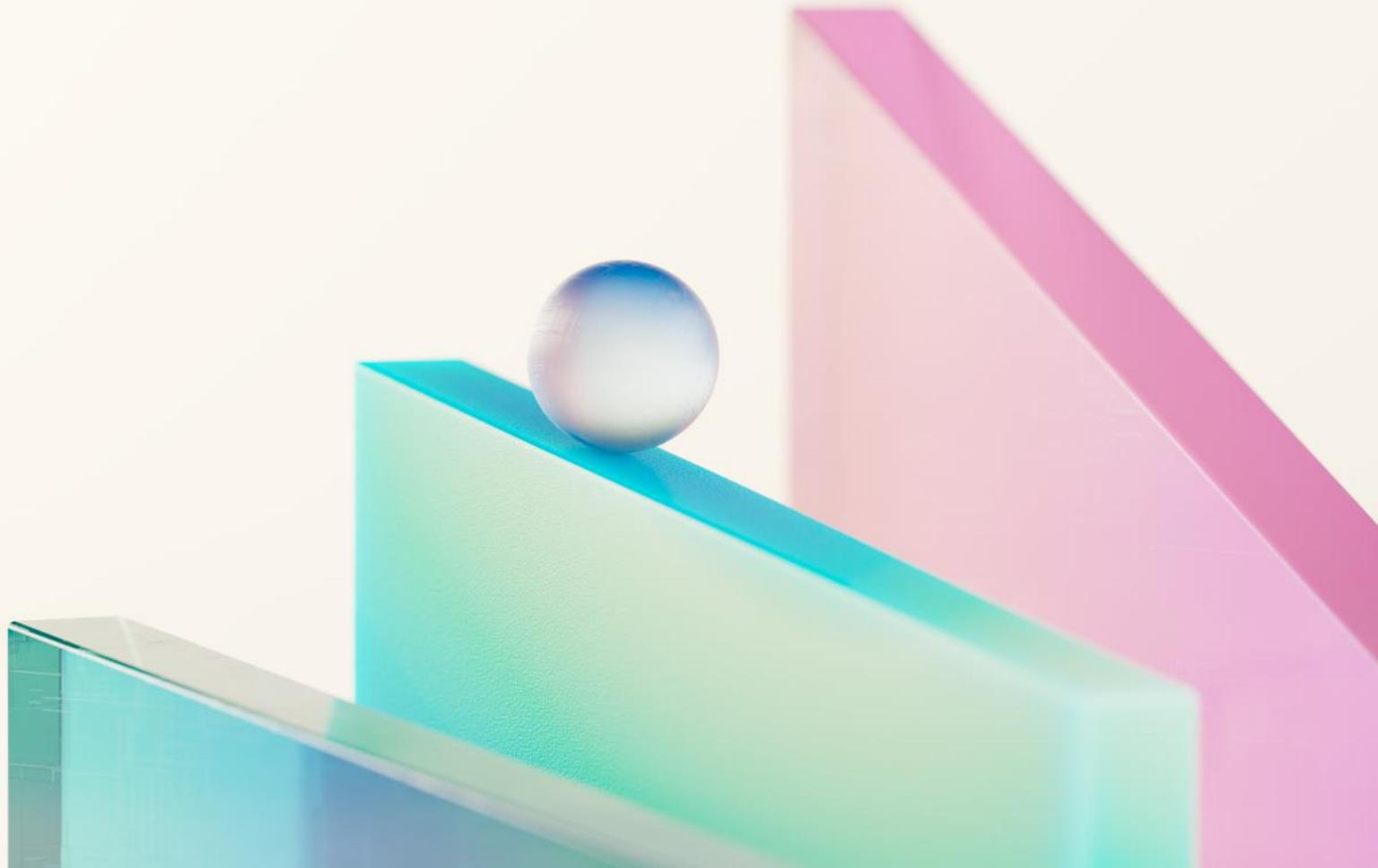
The OneLake file explorer application seamlessly integrates OneLake with Windows File Explorer.

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



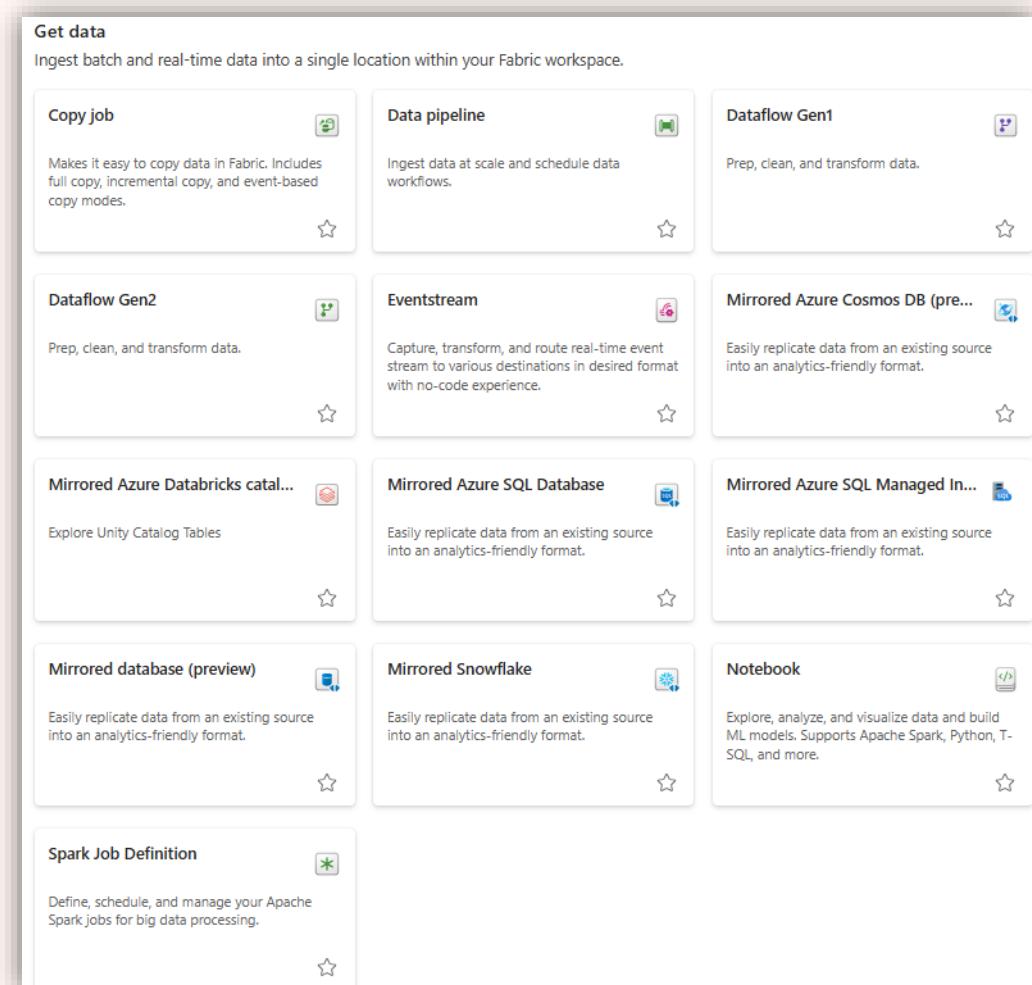


Data Ingestion

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

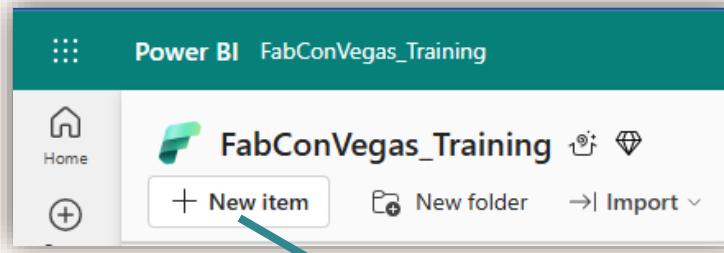


Notebook



Dataflow Gen2

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



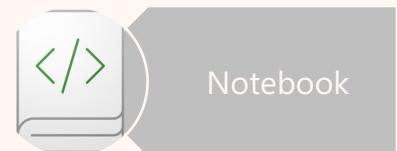
New item

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 preview data is:

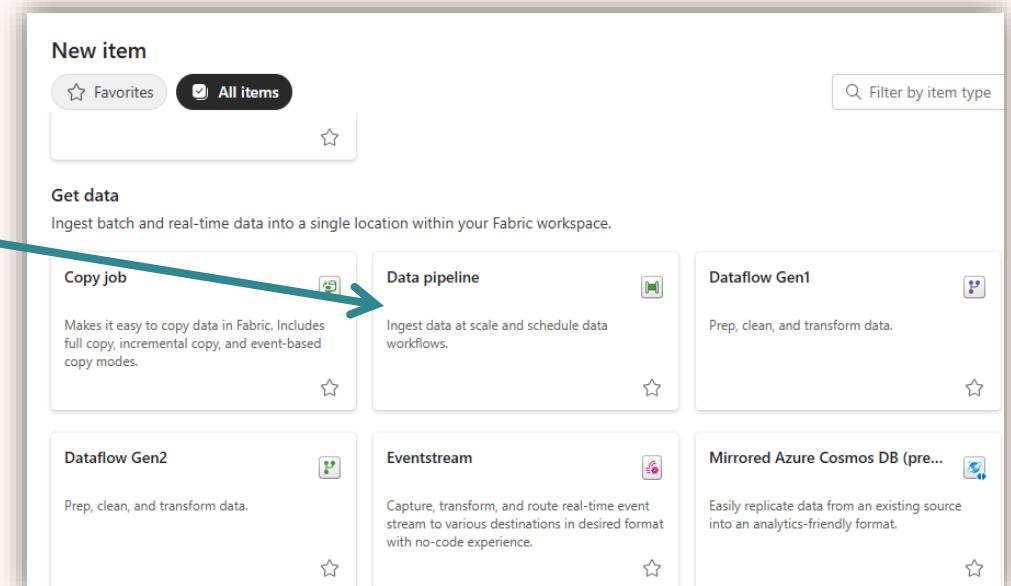
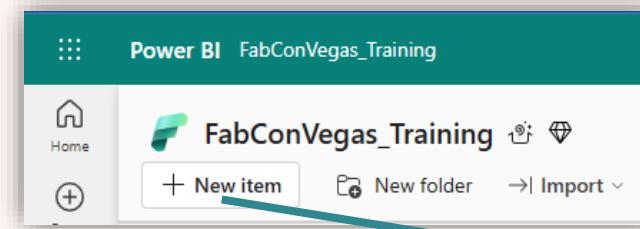
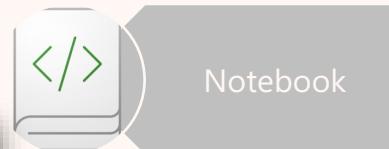
Id	Rate_Type
1	Standard Rate
2	JFK
3	Newark
4	Nassau or Westchester
5	Negotiated fare
6	Group ride

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

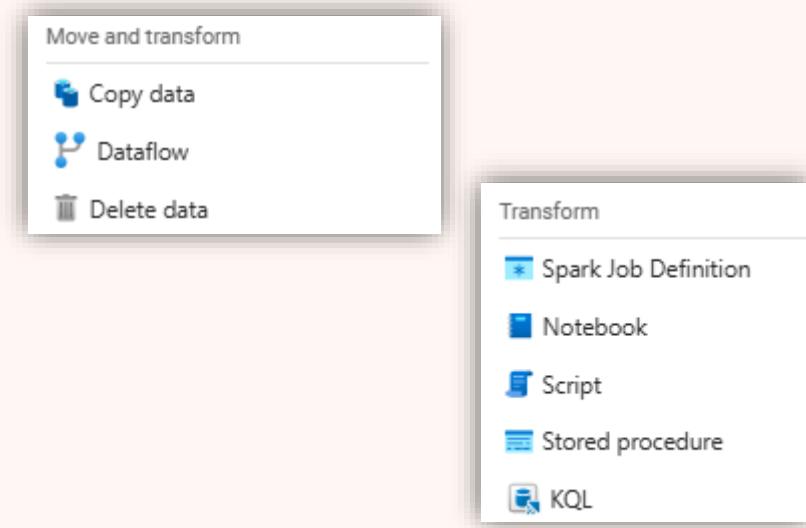
- Like Synapse and ADF Pipelines
- Can run interactively, be scheduled or be triggered when a file arrives or is deleted.
- Two core concepts:
 - ✓ Data Transformation
 - ✓ Control Flow





Common Data Transformations

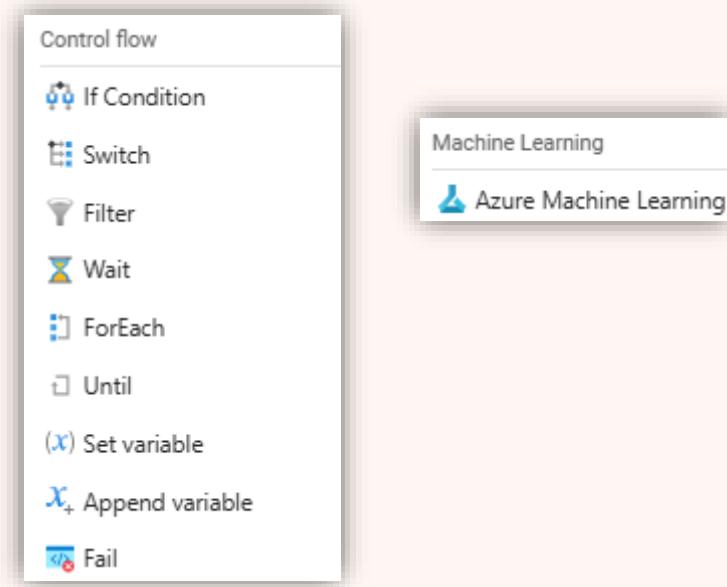
- Copy data
- Data flow
- Notebook
- Stored procedure
- Delete data





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

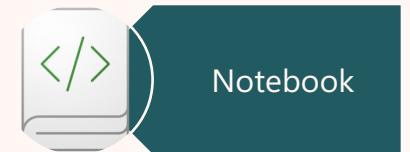
The screenshot shows the Microsoft Fabric Data Explorer interface. In the top left, there's a navigation bar with 'Power BI' and 'FabConVegas_Training'. Below it, there are buttons for 'Home', '+ New item', 'New folder', and 'Import'. A large teal arrow points from the '+ New item' button down to the '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

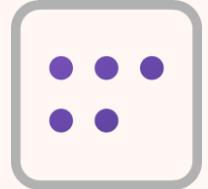
The screenshot shows the Microsoft Fabric Data Explorer interface with a notebook titled "nycTaxiYellow data Load Notebook". The notebook contains the following code:

```
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

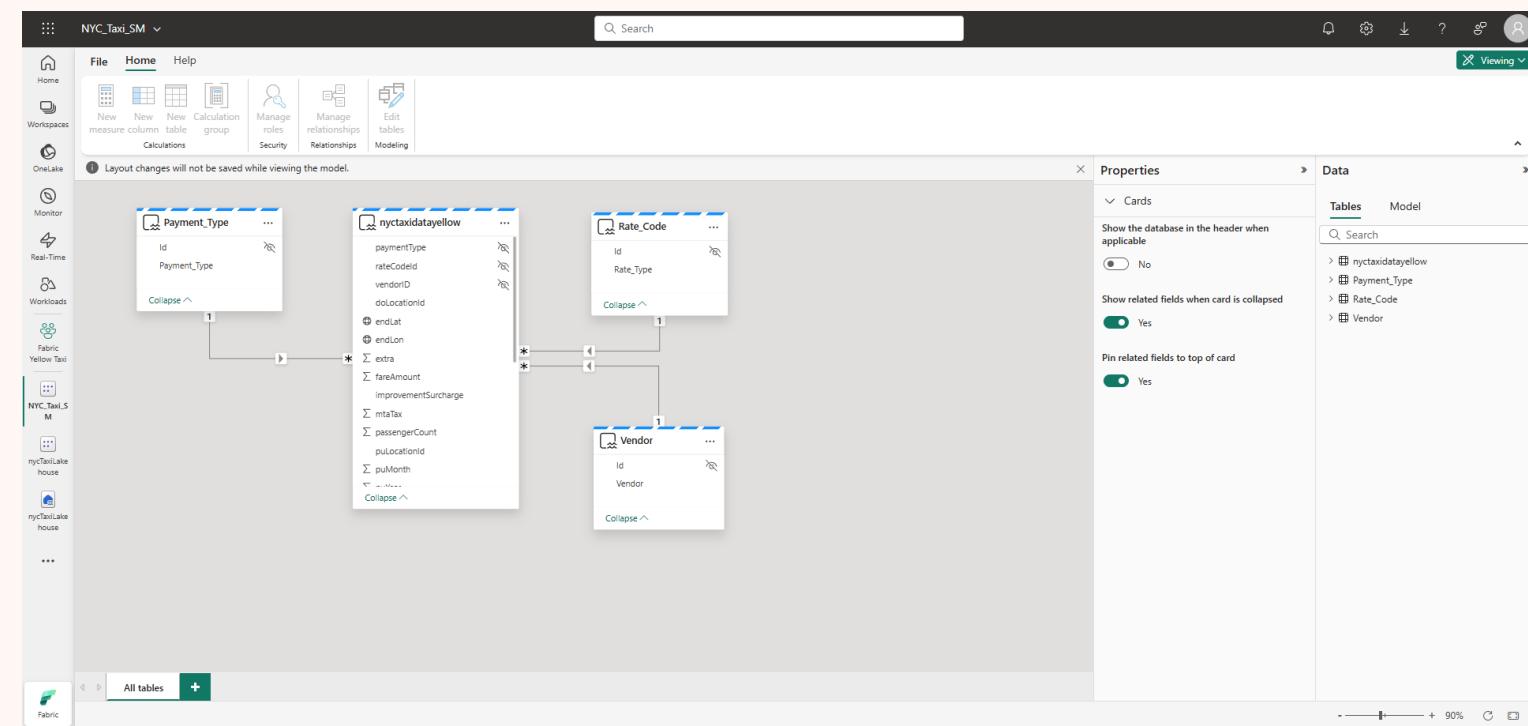


Semantic models are a logical description of an analytical domain, with metrics, business friendly terminology, and representation, to enable deeper analysis. Represent a source of data ready for reporting, visualization, discovery, and consumption.

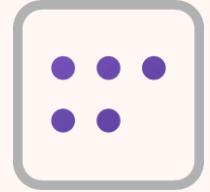
When you create a Warehouse or SQL analytics endpoint, a **default Power BI semantic model** is created.

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	—	—	—	—	



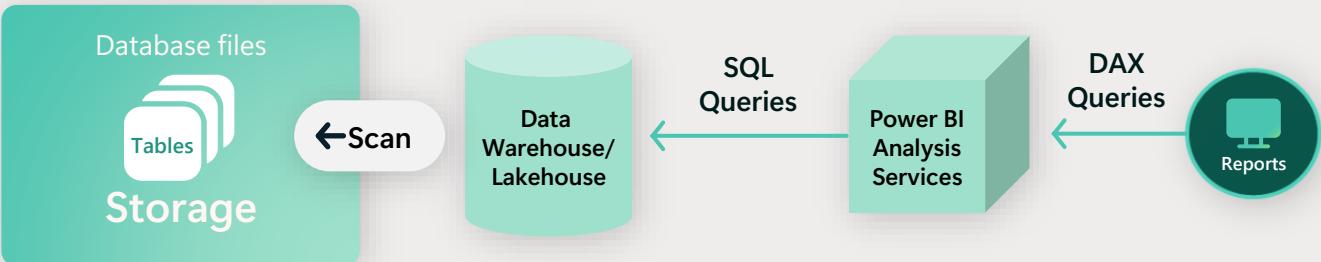
Direct Lake

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

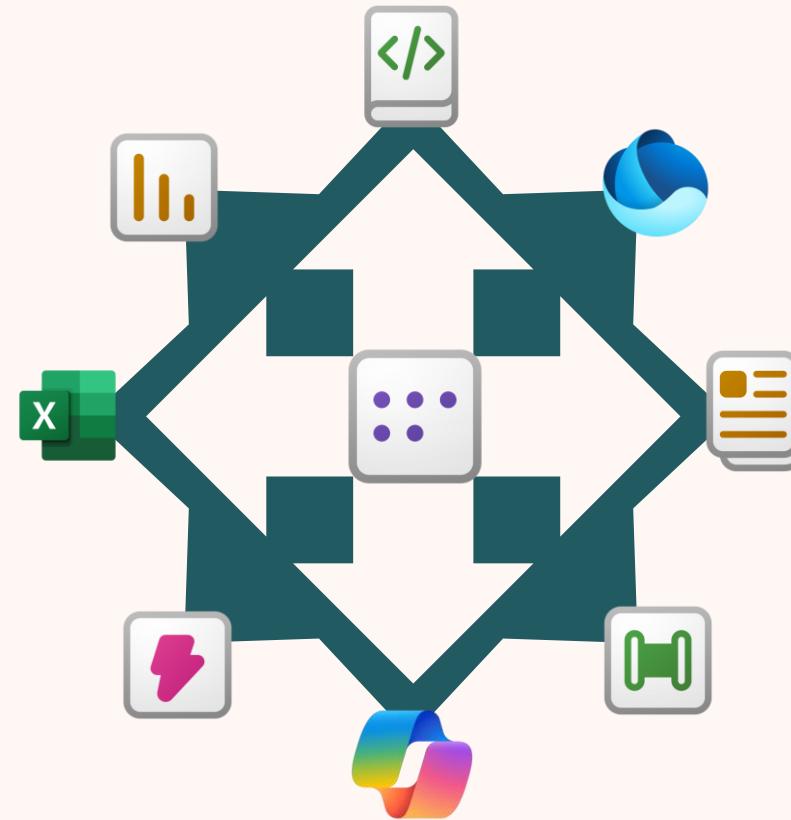
Semantic Model consumption



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:

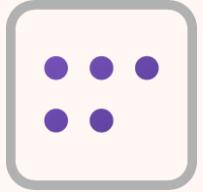
- Content Creators
- Self Service Users
- Data Scientists
- Data Architects
- Business End Users
- ...



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.

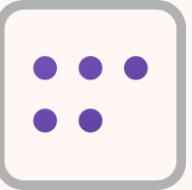
- Viewer - Can view all content in the workspace but can't modify it.
- Contributor - Can view and modify all content in the workspace.
- Member - Can view, modify, and share all content in the workspace.
- Admin - Can view, modify, share, and manage all content in the workspace, including managing permissions.

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.

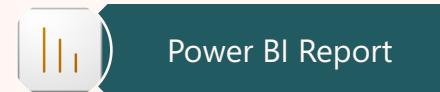


Report Build & Consumption

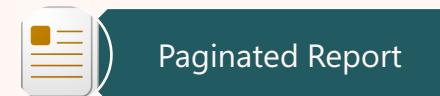
Report Build – Power BI



- 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

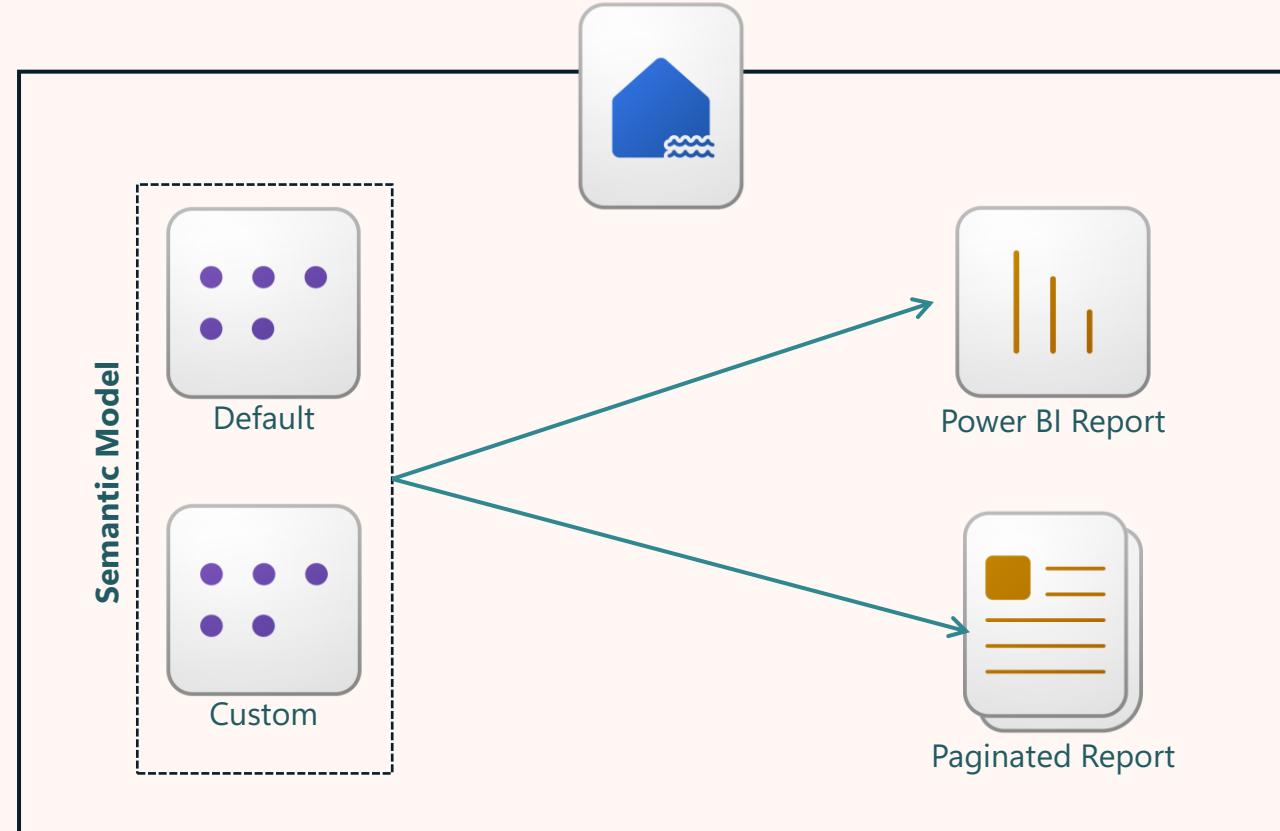


Paginated Report

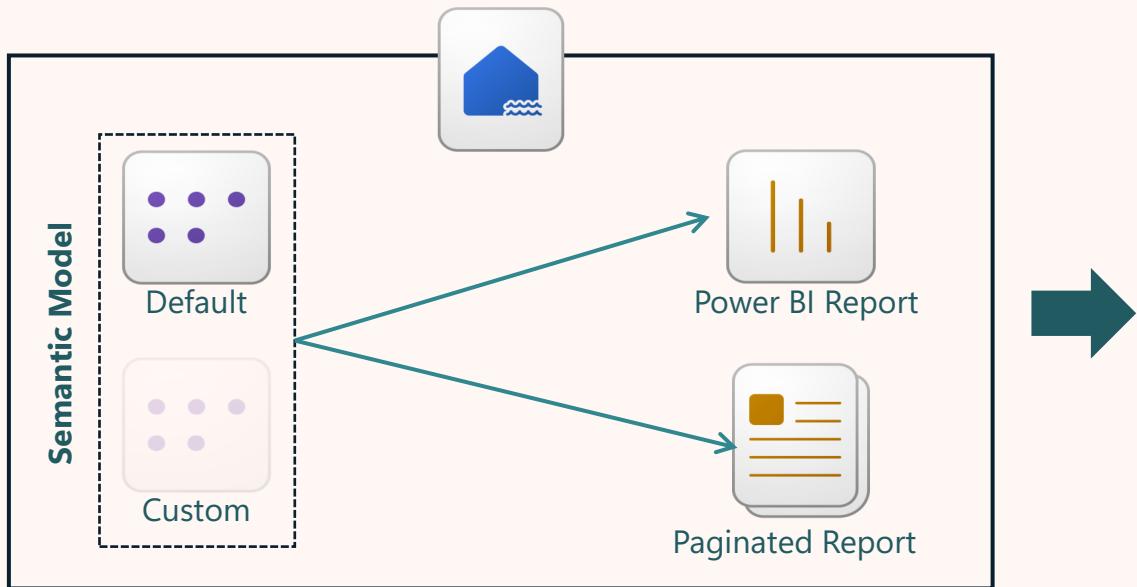


Exploration

Report Build – Flow Diagram



Report Build – using default Semantic Model



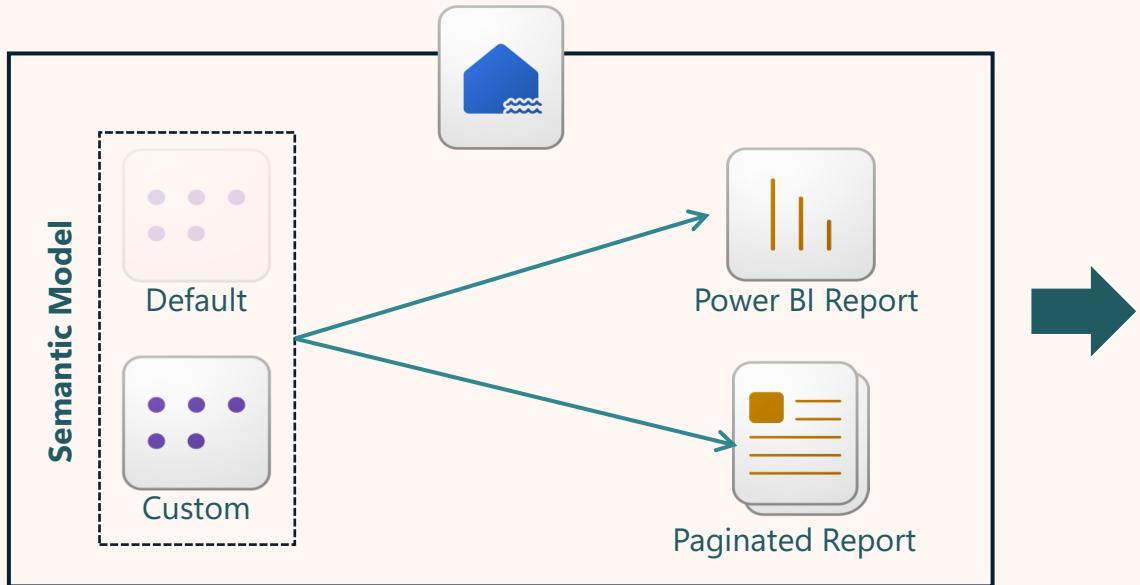
The screenshot shows the Microsoft Fabric interface for the "Fabric Yellow Taxi" workspace. The top navigation bar includes "Fabric", "Fabric Yellow Taxi", a search bar, and a gear icon. Below the navigation is a toolbar with "New item", "New folder", and "Import". The main area displays a list of items 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...)
SM_test		Semantic model

A context menu is open over the third item in the list, "nycTaxiLakehouse". The menu options are:

- 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
- 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

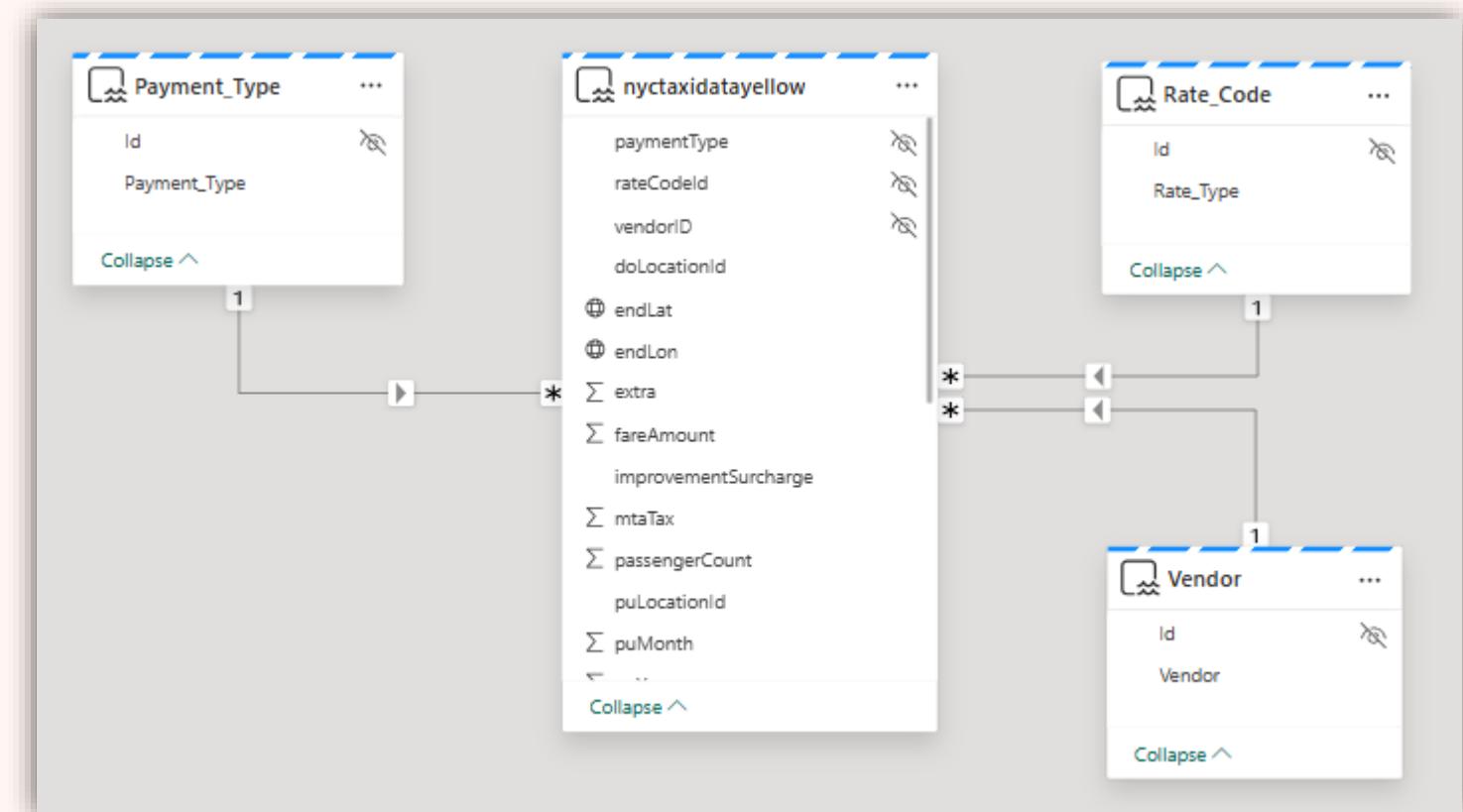
A context menu is open over the "NYC_Taxi_SM" item, listing options such as "Explore this data (preview)", "Analyze in Excel", "Create report", "Auto-create report", "Create paginated report (preview)", "Delete", "Security", "Rename", "Open data model", "Settings", "Refresh history", "Manage permissions", "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



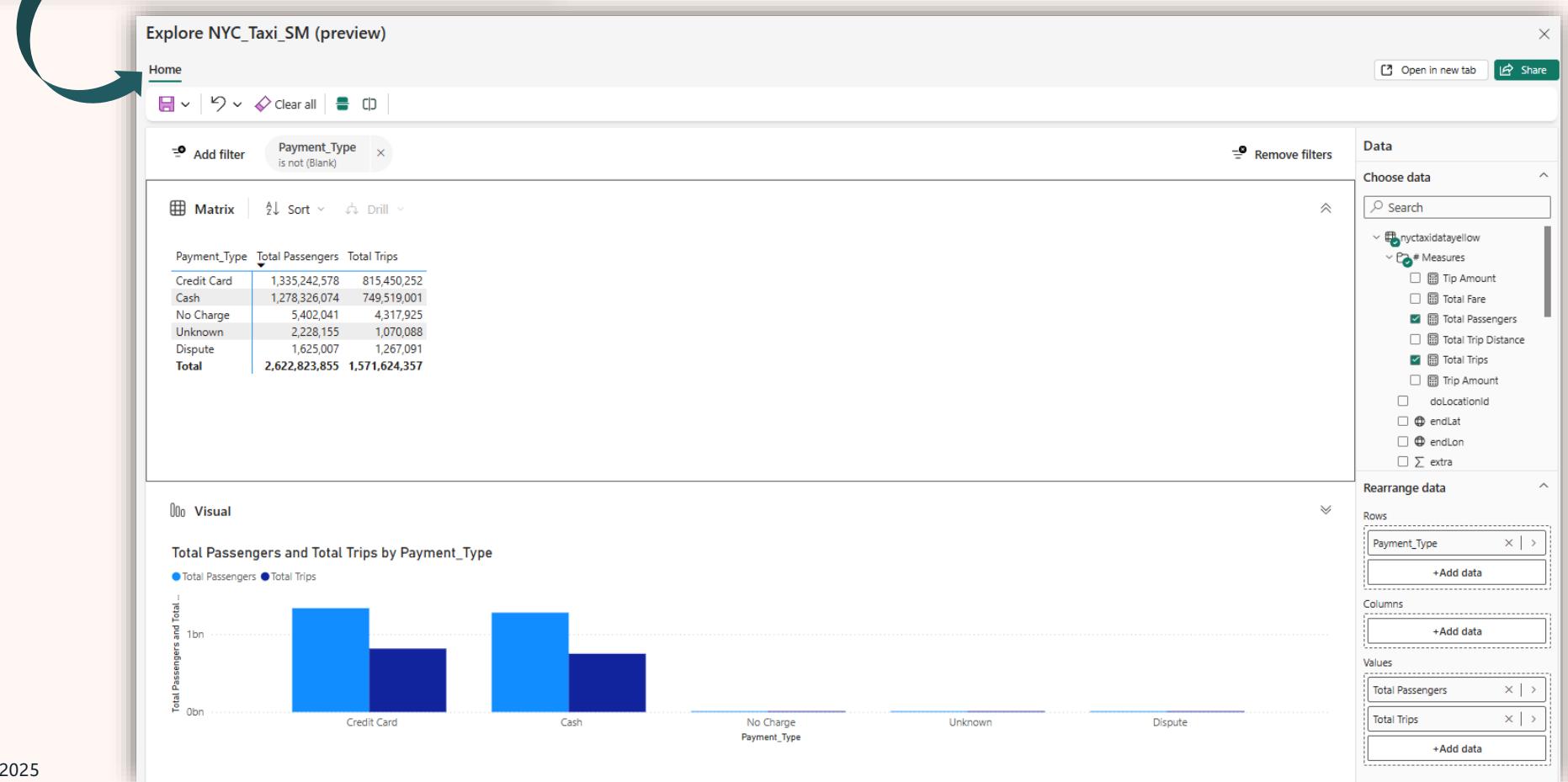
Report Build – Exploration



Nyc_Taxi_report ▾

File Export Share Explore Subscribe Set alert Edit ...

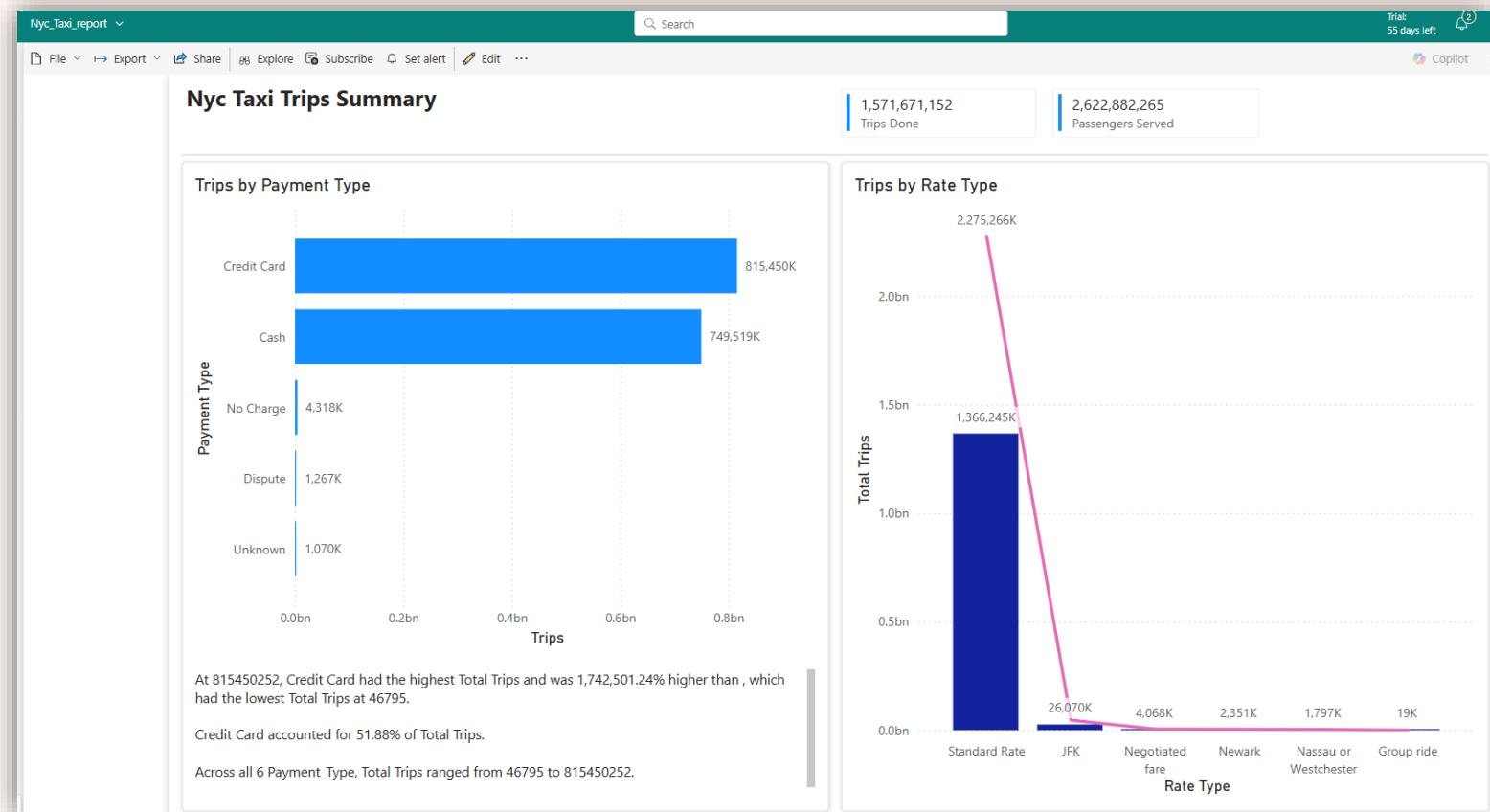
Before building the report, it's always good to explore data. Explore capability at report creation allows this analysis.



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!

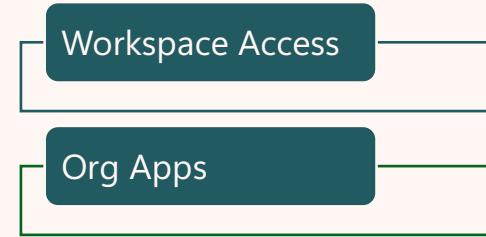
Report Consumption



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

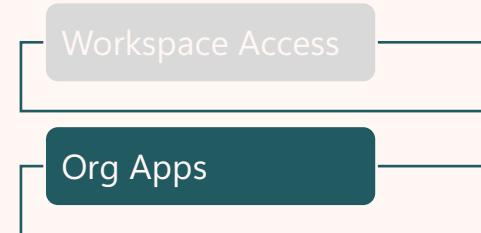
The screenshot shows the 'Manage access' dialog box for the 'Fabric Yellow Taxi' workspace. At the top, there's a green button labeled '+ Add people or groups'. Below it is a search bar with the placeholder 'Search within workspace'. A list of users is shown, starting with Miguel Felix (Admin). A context menu is open for Miguel Felix, listing 'Member', 'Contributor', 'Viewer', and 'Remove' options. To the right of the dialog box, there are two callout boxes: one labeled 'Workspace Access' with a dark teal background and another labeled 'Org Apps' with a light gray background.



Report Consumption – Org App

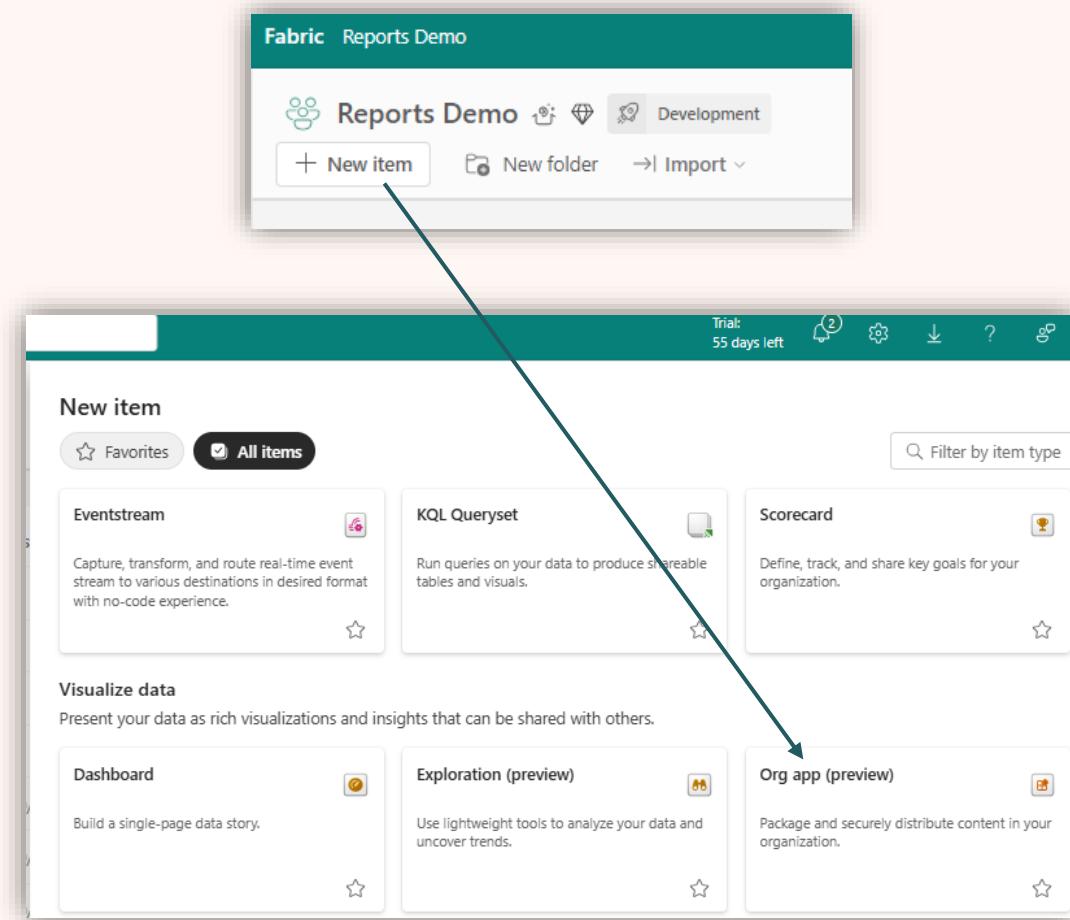
Another way of distributing reports with the users/user groups is via an Organisational App.

- 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 has a red dot, indicating new content. The main area displays a report titled 'Global Oil Production & Consumption Analysis' over a background image of an oil refinery at night. The report includes sections for 'Analysis Info' (Date Range: 1980 to 2020, Data Analyzed for 46 countries), 'Metrics used for Analysis' (Oil Production, Oil Consumption, Oil Reserves), and 'Top 5 Countries by' (Oil Reserve, Oil Production, Oil Consumption). A legend at the bottom indicates the flow from Country to Production to Consumption. The data tables show the following information:

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%

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 on the right. The main content area is titled "Reports View" and shows a preview of an app. The app has a teal header bar with the same trial information and a "Close preview" button. The main content of the app is titled "Global Oil Production & Consumption Analysis". It includes sections for "Analysis Info" (Date Range: 1980 to 2020, Data Analyzed for 46 countries), "Metrics used for Analysis" (Oil Production, Oil Consumption, Oil Reserves), and a "Top 5 Countries by" table. The table lists oil reserves, production, and consumption percentages for Saudi Arabia, Venezuela, Canada, Iran, and Iraq. The background of the app preview features a night-time photograph of an industrial oil refinery with tall, illuminated smokestacks. At the bottom of the app preview, there's a footer with the text "@datavibe".

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. The "Manage permissions" option is highlighted with a red arrow.

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 ...

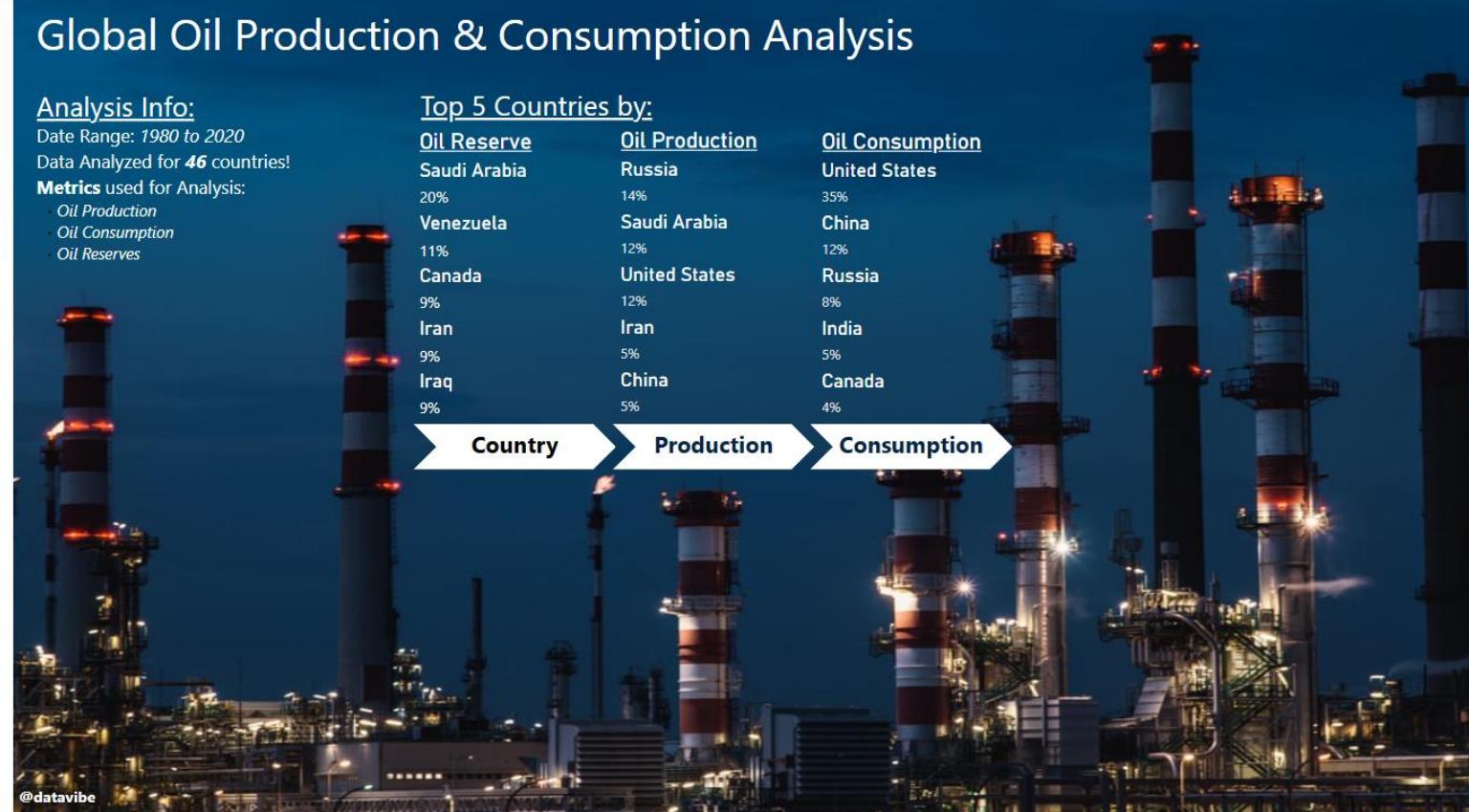
Global Oil Production & Consumption Analysis

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



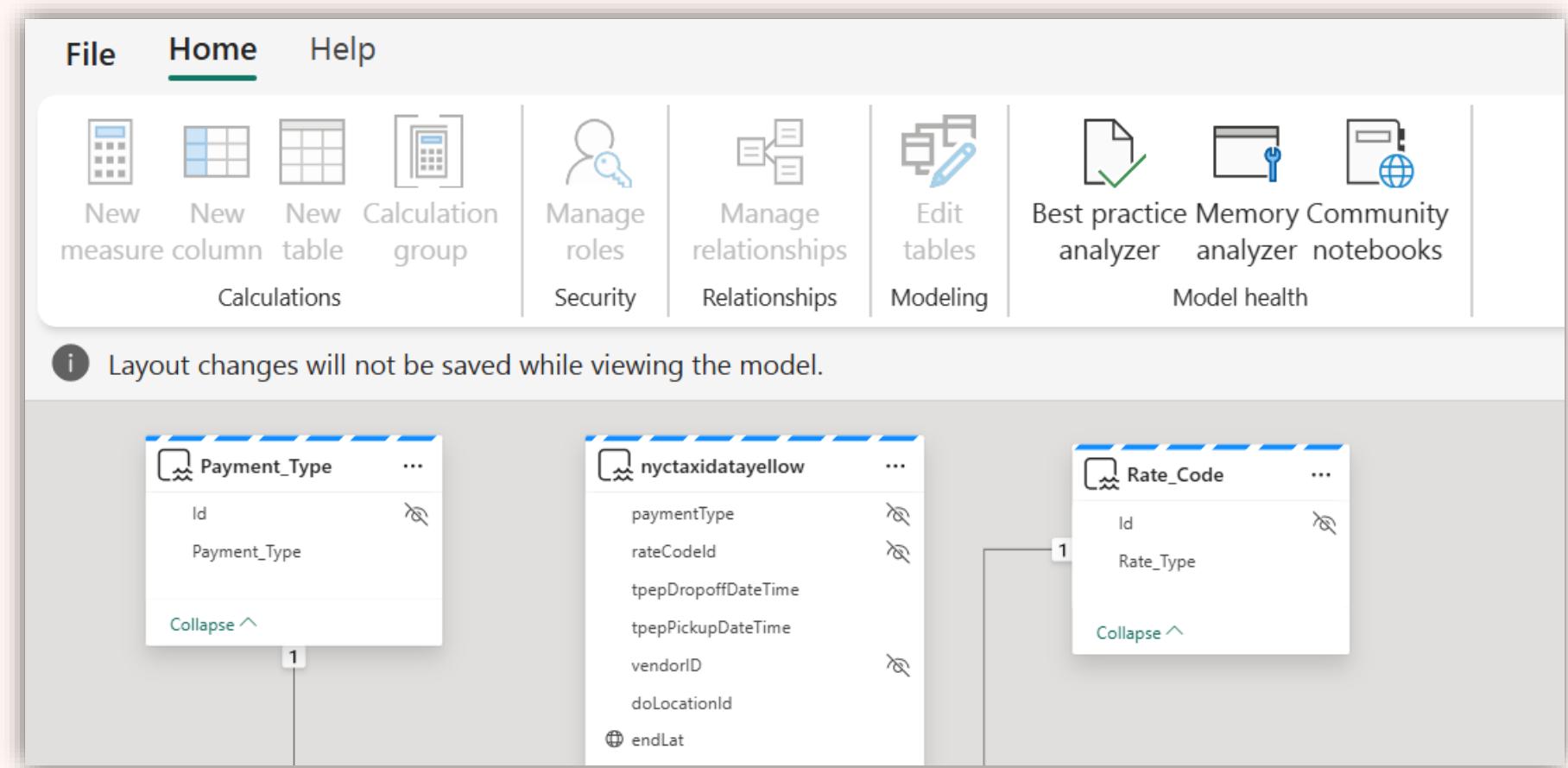
@datavibe



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

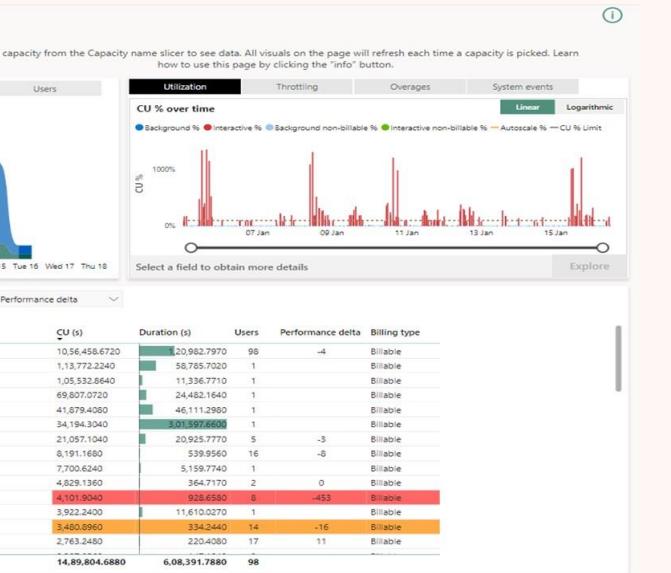
Designed to provide monitoring capabilities for Microsoft Fabric capacities.

Step 1:
Install the app from the AppSource

The screenshot shows the Microsoft AppSource website. In the search bar, 'Search AppSource Apps' is typed. 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 has a 'Pricing Free' button, a 'Get it now' button, and a 'Save to my list' button. The app's rating is 3.0 (44 ratings). Below the app card, there is a section titled 'Fabric capacity admins can gain visibility into the resources utilized by their Fabric Items' with a detailed description. At the bottom, there is a 'At a glance' section with three small dashboard cards.

Step 2:
Open the app from the app menu

The screenshot shows the Microsoft Fabric app menu. On the left, there 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 the message 'Apps are collections of dashboards and reports in one easy-to-find place.' Below this, there is a table with columns '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 for connecting to Microsoft Fabric Capacity Metrics. At the top, it says 'Connect to Microsoft Fabric Capacity Metrics'. Below this, there is a note: 'Get started setting up your app! Start by filling in the parameters. Then, you'll authenticate to all the data sources this app connects to.' Under the heading 'Parameters', it says '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 is highlighted with a red box and contains the placeholder 'An ID of a capacity you're an admin of' and 'For example: Enter a capacity ID of one capacity that you are an admin of'. The 'UTC_offset *' field contains the value '0'.

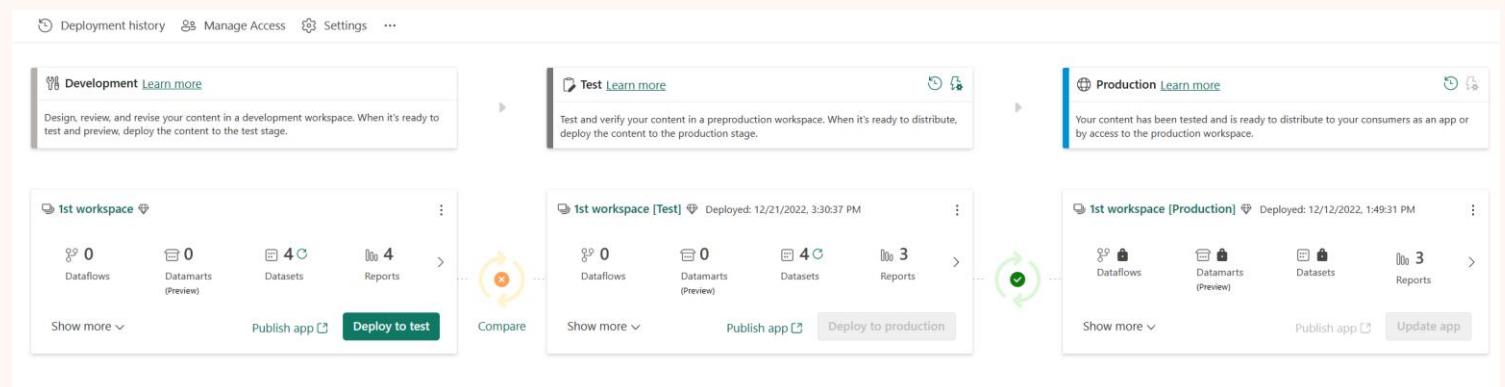
Lifecycle management

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:

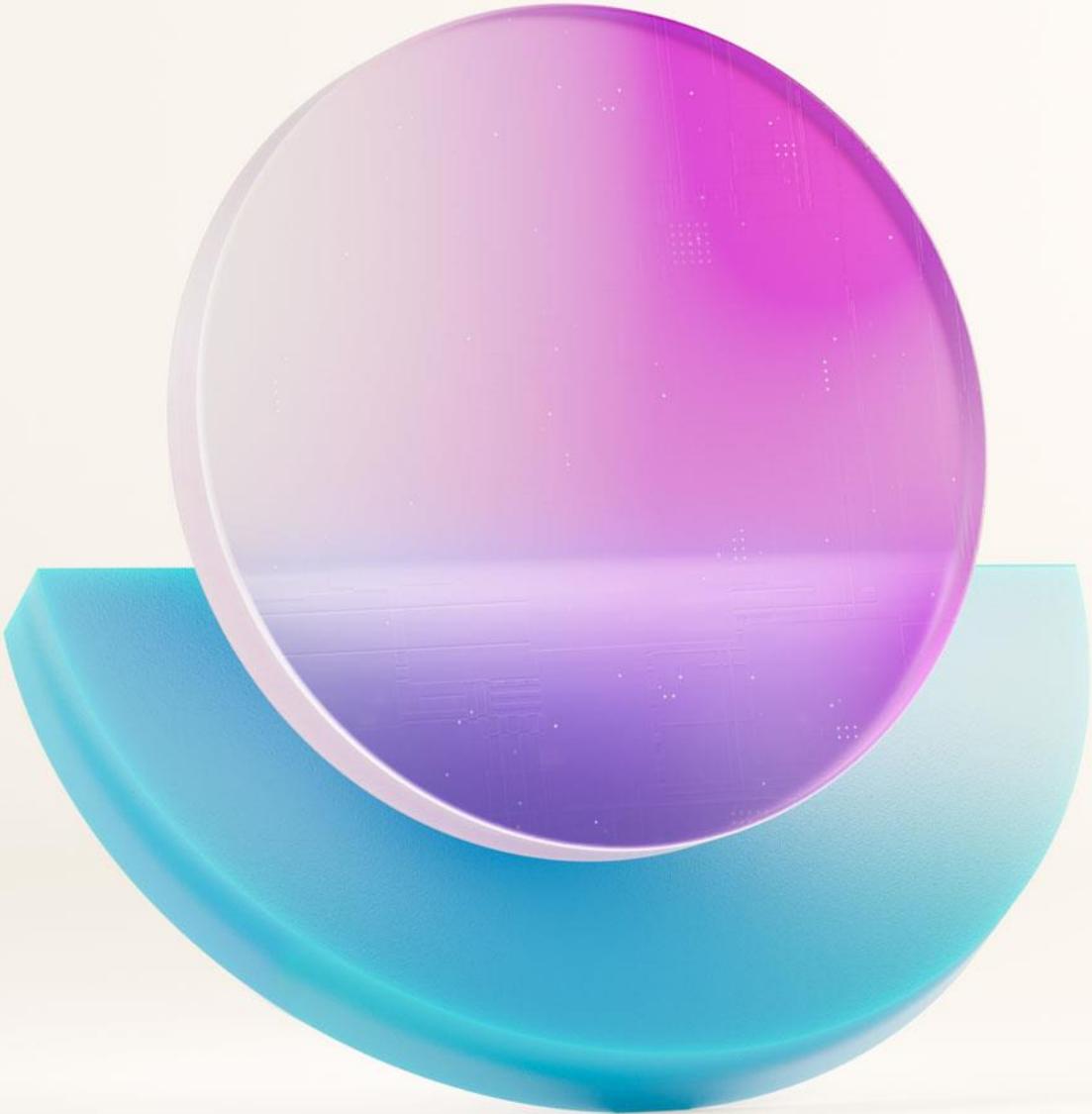


Summary

- 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!

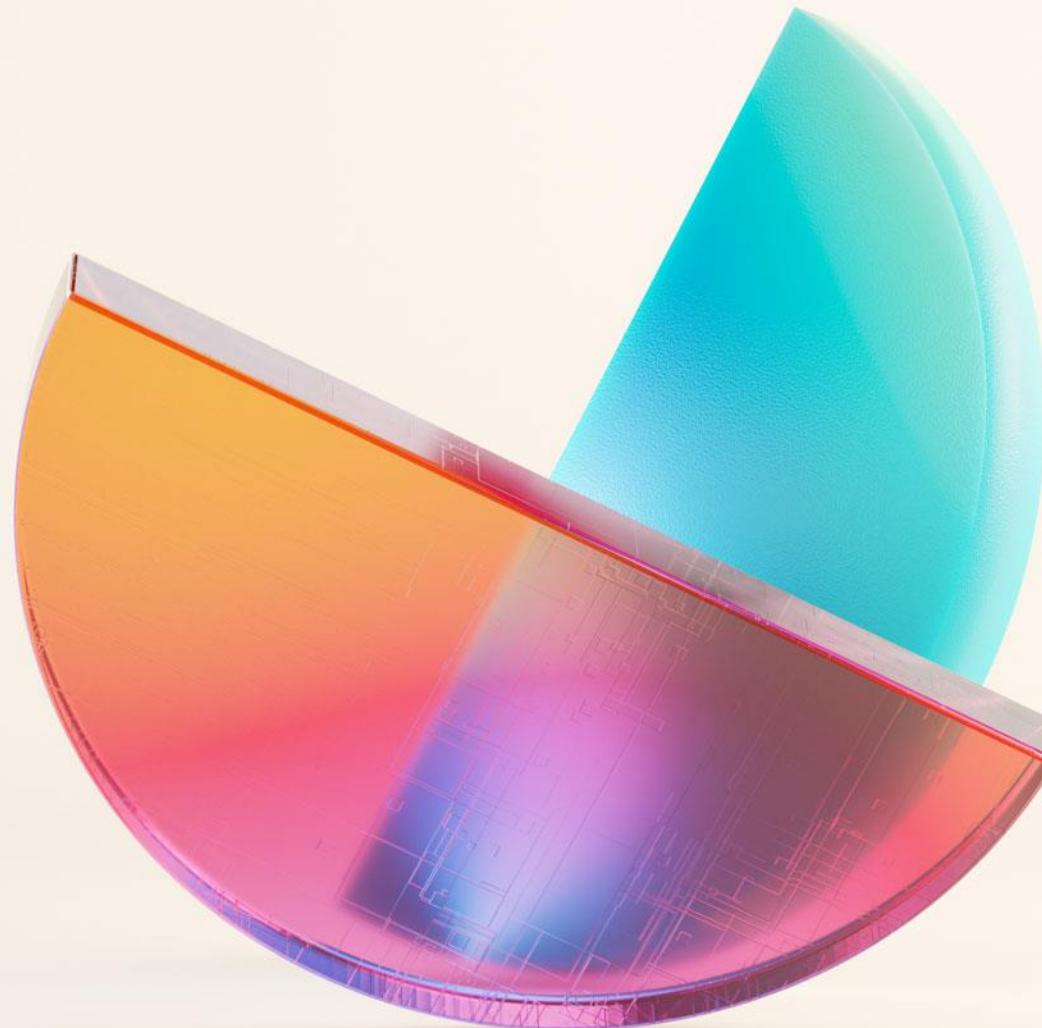
Visit the Fabric Community Lounge to learn more about this *limited-time offer*.



aka.ms/fabcon/dp700



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

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



aka.ms/FabricUserGroups

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



aka.ms/SuperUsers

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



aka.ms/MVP

Technology experts that share their knowledge and passion with the community