



007 is coming to Fabric!

Data Agent in Microsoft Fabric Context for
Agentic Workflows.

By RaKeTe-Technology

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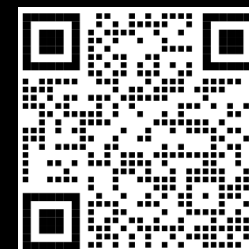
Cloud Solution Architect, AI + Data & Analytics

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08.10.2025

Datamonster Meetup, 47475 Kamp-Lintford



Agenda

- Introduction
- Data Agents Introduction
- How to create one?
- How they work
- AI Functions
- Data Science Features aka AI Foundry integration
- Model Context Protocol (MCP) in Fabric
- Power BI to leverage Agents?
- Roadmap & Summary



Introduction

About Ralph Kemperdick

Freelancer: Digital Architect, Big Data & Advanced Analytics

Coaching customers on Generative AI (OpenAI, ChatGTP), Data Engineering and Business Intelligence Projects

Market research on Agentic workloads and solutions as well as risk analysis

Working with diverse teams within MSFT on analytical, competitive and political challenges

Working with international customers on Data engineering and analytical project for more than 30 years.

Experienced due to my role in the workers council at Microsoft

Azure data platform Insider for Big Data and Synapse Analytics (one of 6 people in EMEA) – Running Synapse Academy to educate the broader team on the technology

Board member of the DataMonster.io community

Bitkom Advisory for Data & AI reviewing/co-authoring whitepapers for European and German politicians and EU related regulations, like the GDPR act and the upcoming AI act.

Married, living in Cologne, Germany

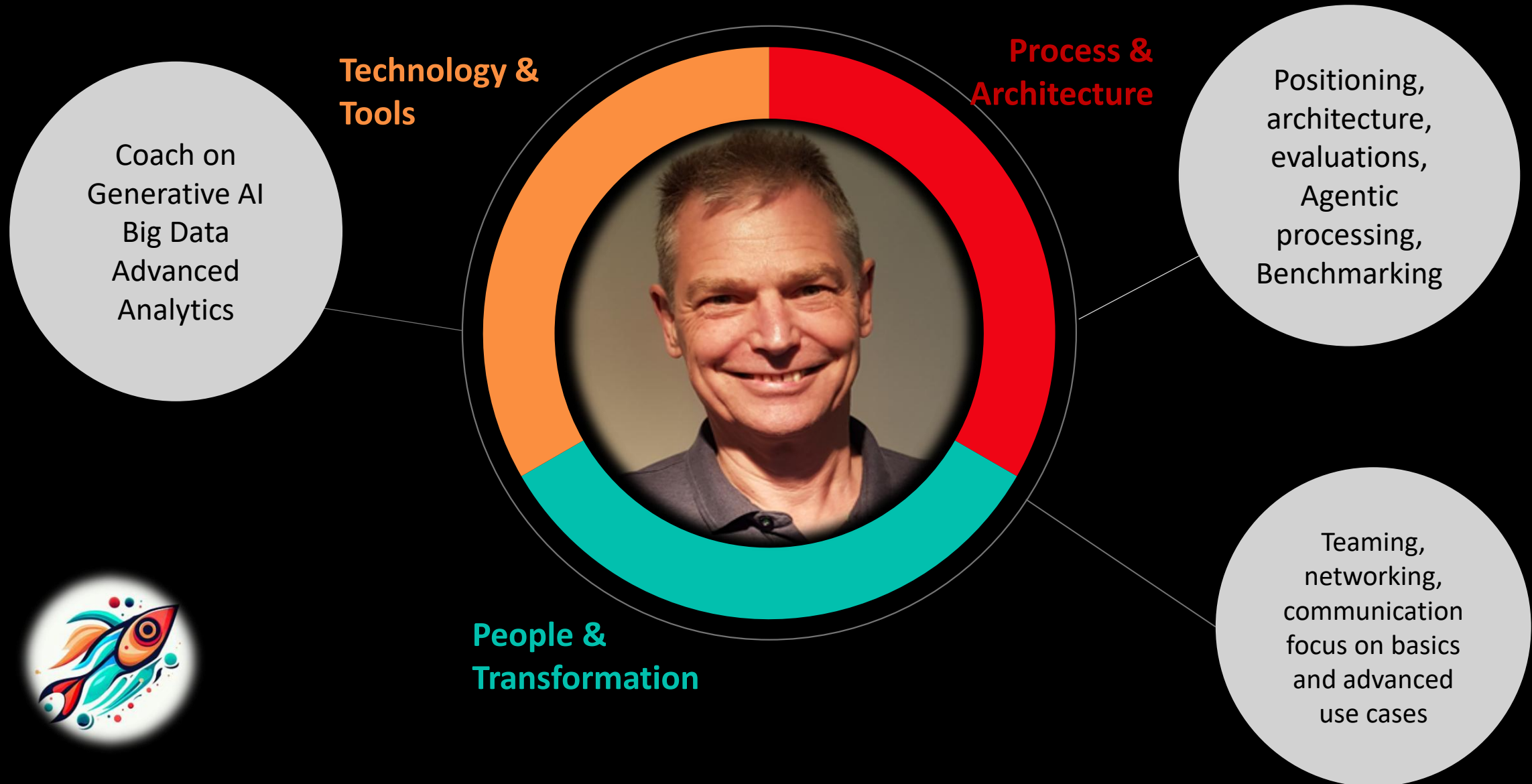
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GitHub: [ralphke](https://github.com/ralphke) (Ralph Kemperdick) (github.com)



RaKeTe-Technology Offerings



Overview



AI-powered experiences in Fabric

Gen AI accelerates your data journey



Copilot accelerated
experiences



AI on your data
(Data Agents)

Public Preview

Fabric data agents

Virtual analyst for deeper data insights

Why build Fabric Data Agents?

To ground your AI solutions in Enterprise Knowledge

Consumers



End-users



Agents



Applications



Developers



Fabric



Copilot Studio



AI Foundry



API endpoint

Data agents

What do I need to build a Data Agent?

Data domain knowledge

Entity relationships & business logic

Organizational terminology & semantics

Decision-making context

Data source knowledge

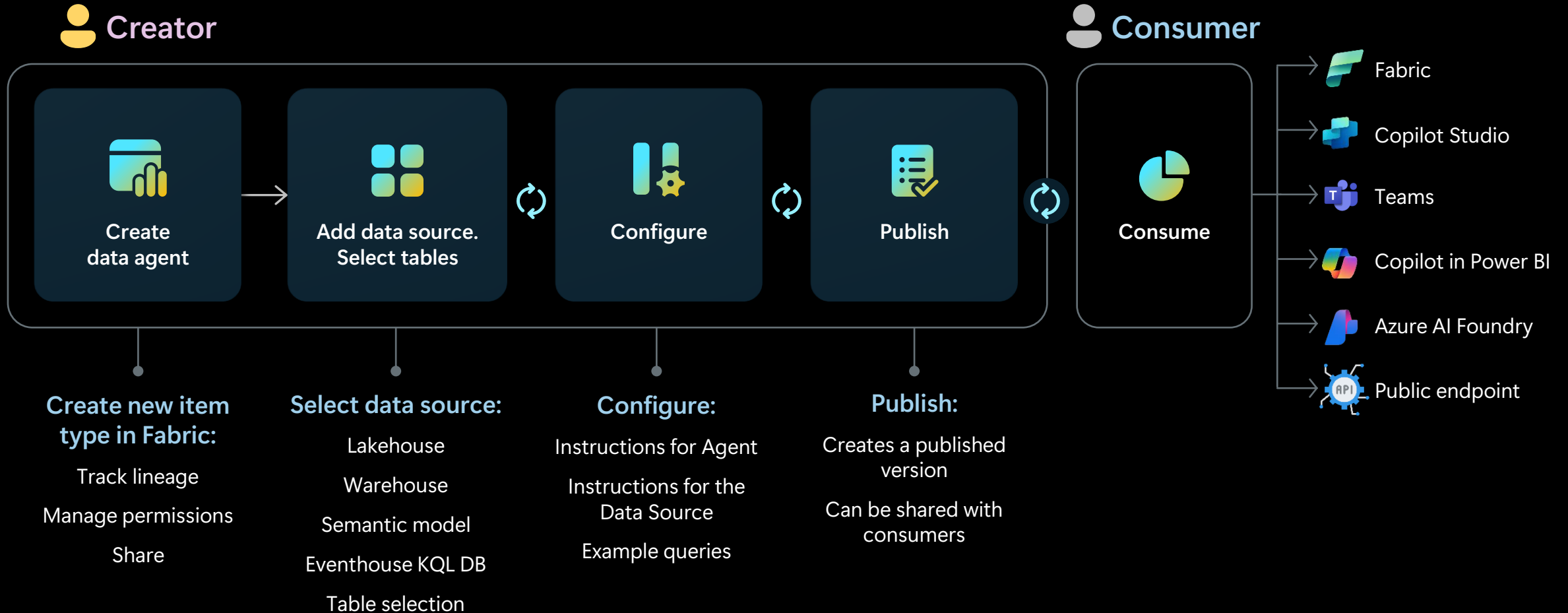
Location & access

Structure & schema

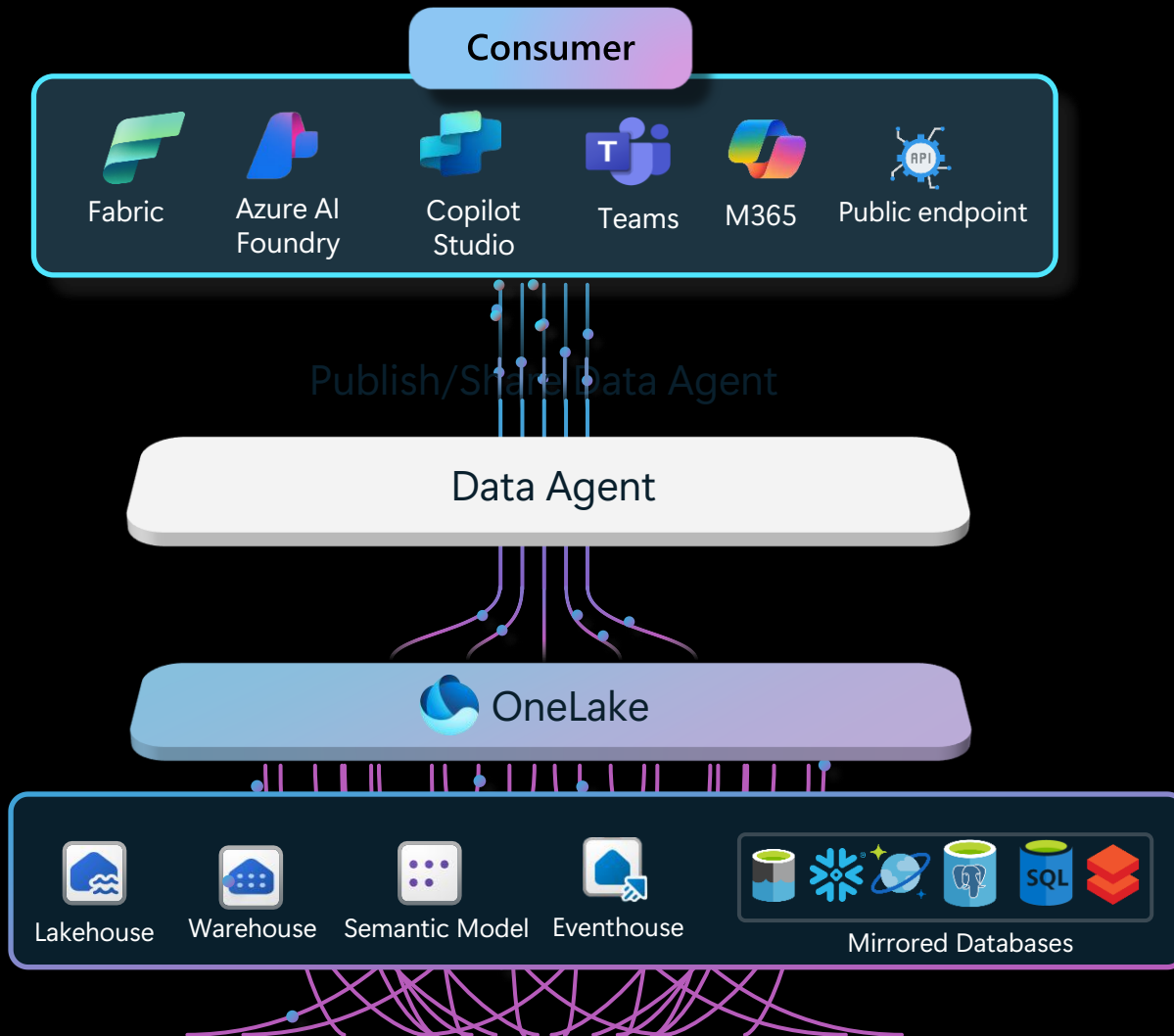
Quality & lineage

Data Agent end-to-end flow

End-to-end scenario



Fabric Data Agents



This **conversational data agent** allows users to interact with a virtual analyst



Tooling for creators from UI and SDK, with **new debugging capabilities**, making it easier to understand and refine responses

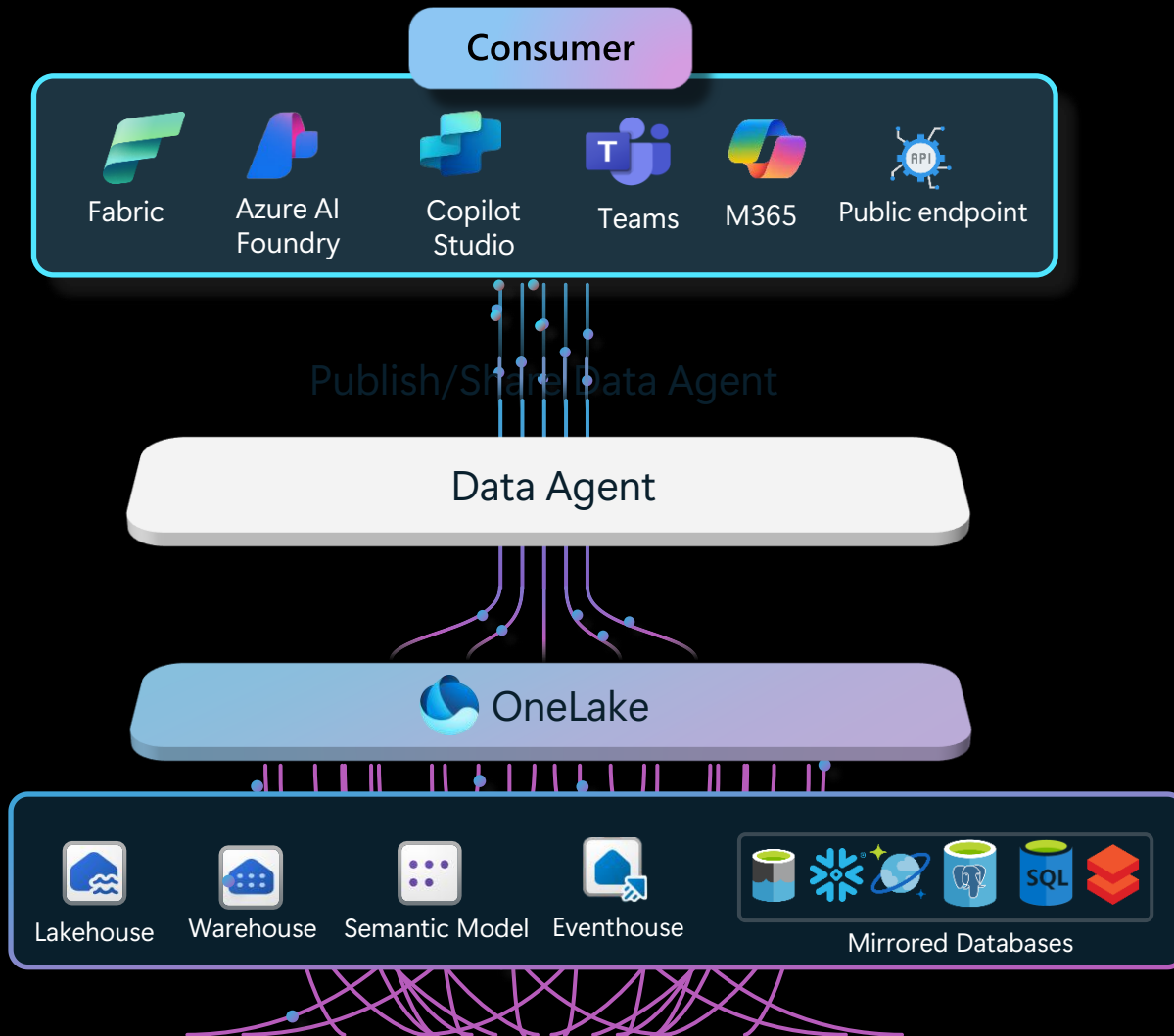


Seamlessly reason over data in OneLake, including **shortcuts and mirrored databases** to reason over **tables, files and real-time events** to create a powerful data expert tailored to your data domain



Your Data Agents can be consumed inside and outside of Fabric. Integrate with **AI Foundry, Copilot Studio, Teams** and with your own **custom applications**

Highlighted updates in Data Agents



A **virtual analyst** that allows users to interact with enterprise data in OneLake

 New

Seamlessly reason over data in OneLake, including **mirrored databases** to create a powerful data expert tailored to your data domain

 New

Support for data agents in **Git** and **deployment** pipelines, enabling agent ops for more **streamlined AI development**

 New

Invoke data agents externally with **detailed responses** including **SQL query execution steps**

What's new in Data Agents

Mirrored DB in Data Agents

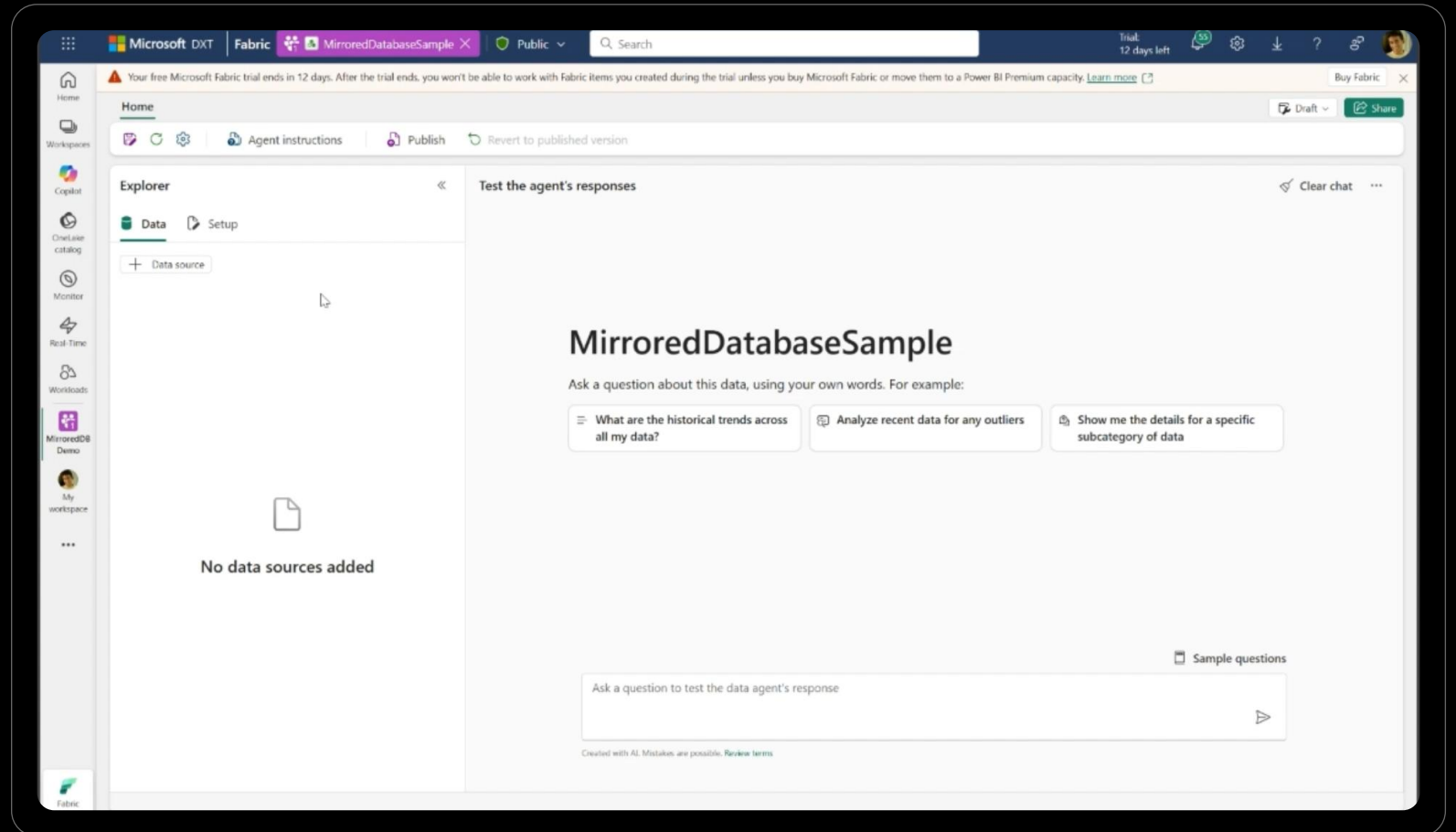
 Public Preview

Add **Mirrored Databases** as sources to data agents

Select Tables to scope the input to the Data Agent for your Data Source

Leverage our built in NL2SQL tool to **generate contextual queries** to answer questions over your mirrored data artifacts

Supported Mirrored DBs: **Oracle**, **Snowflake**, **SQL Server**, **Databricks UC**, **Azure SQL DBs**, and **more!**



Creator Tooling Improvements

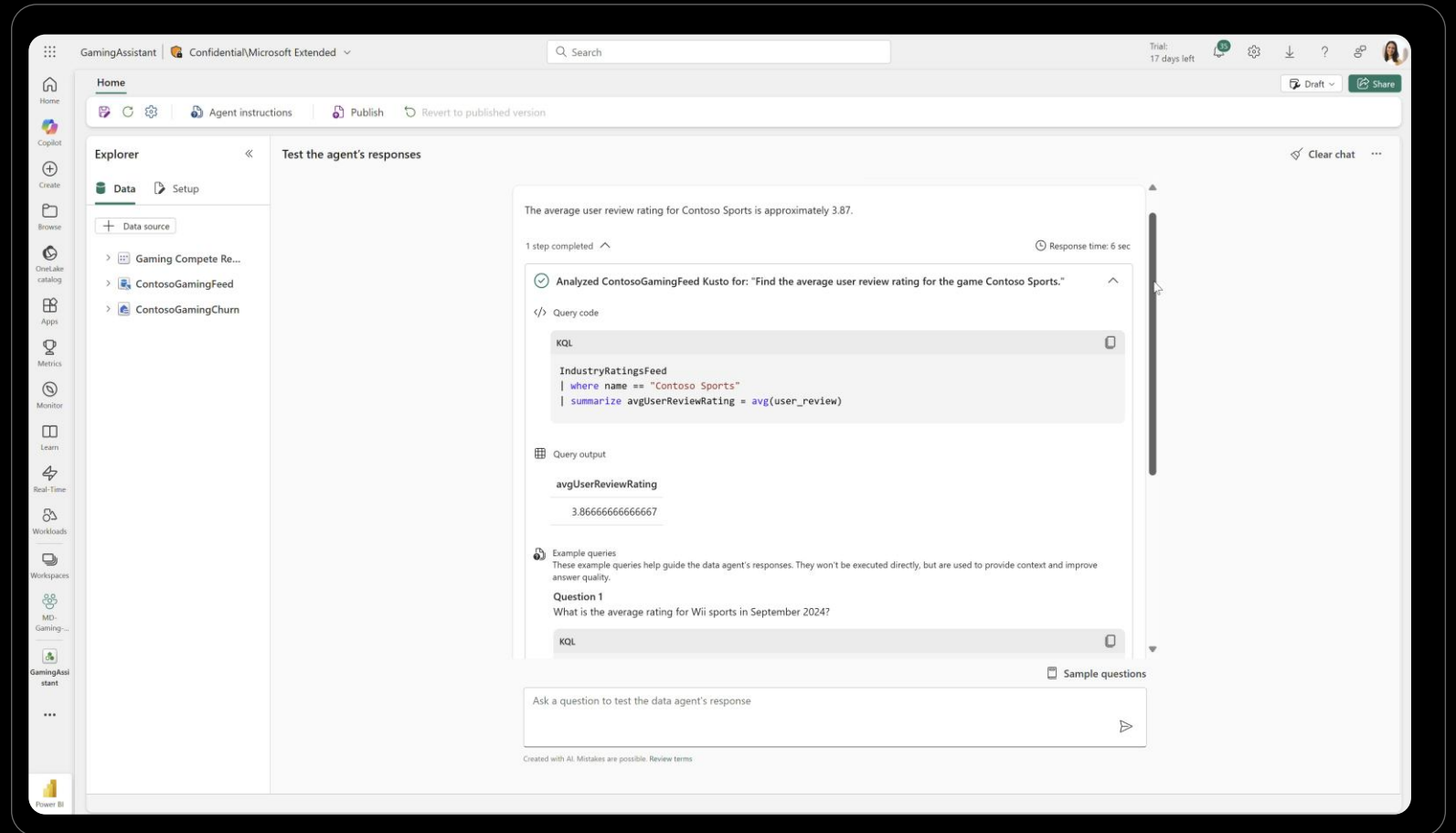
 Public Preview

Add **datasource** instructions to communicate table usage and join logic

Use the new **multi-tasking** experience for side-by-side authoring and testing

Use **markdown** editor for clear, organized instructions

Leverage **diagnostics** tools to trace referenced example queries and underlying steps



CI/CD and ALM for Data Agents

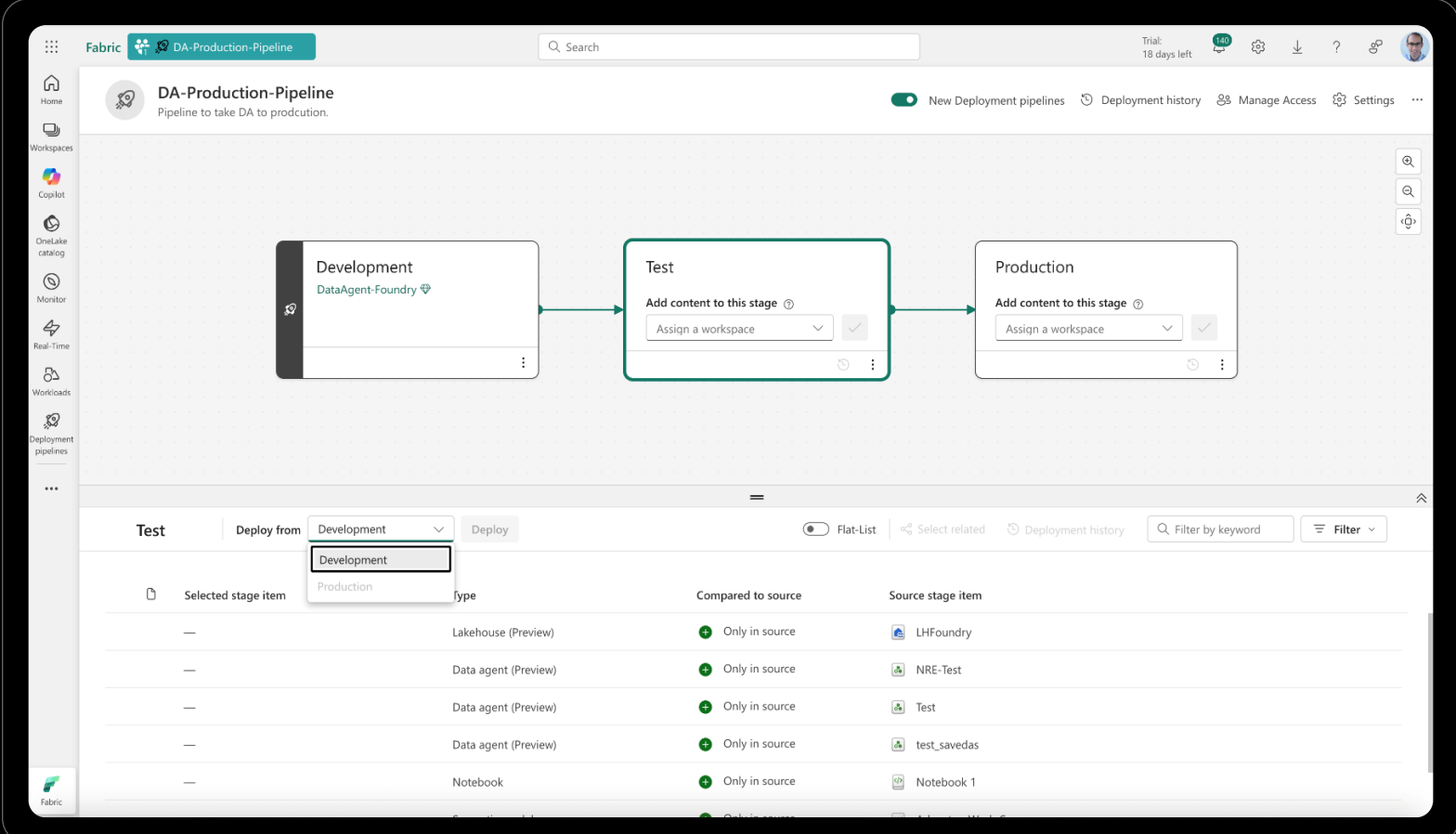
 Public Preview

Support for data agents in **Git** and **deployment pipelines**

Configuration changes tracked for development and published versions

Lineage is preserved during pipeline deployments in Git-connected workspaces

Enables **Agent-Ops** for more streamlined AI development



The screenshot displays the Microsoft Fabric interface for a pipeline named "DA-Production-Pipeline". The pipeline consists of three stages: Development, Test, and Production. The Test stage is highlighted with a green border. Below the pipeline diagram, there is a table comparing the Test stage items to the source stage items.

Selected stage item	Type	Compared to source	Source stage item
—	Lakehouse (Preview)	Only in source	LHFoundry
—	Data agent (Preview)	Only in source	NRE-Test
—	Data agent (Preview)	Only in source	Test
—	Data agent (Preview)	Only in source	test_savedas
—	Notebook	Only in source	Notebook 1

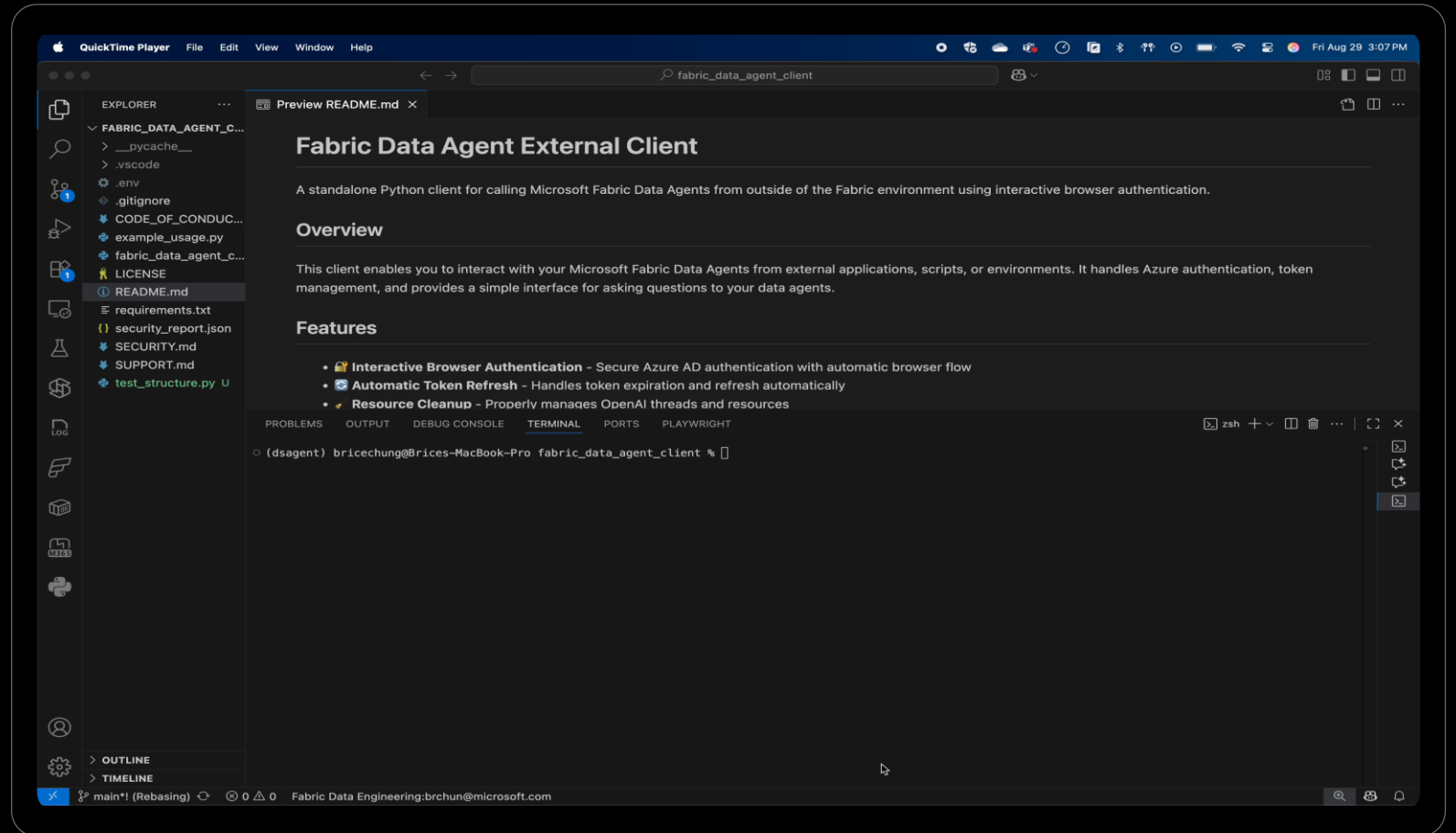
Fabric Data Agents public endpoint

 Public Preview

Connect from VSCode or external applications with **secure authentication**

Use familiar **OpenAI client patterns**

Query your data agents externally with **detailed responses including SQL query execution steps**



Unstructured Data in Data Agents

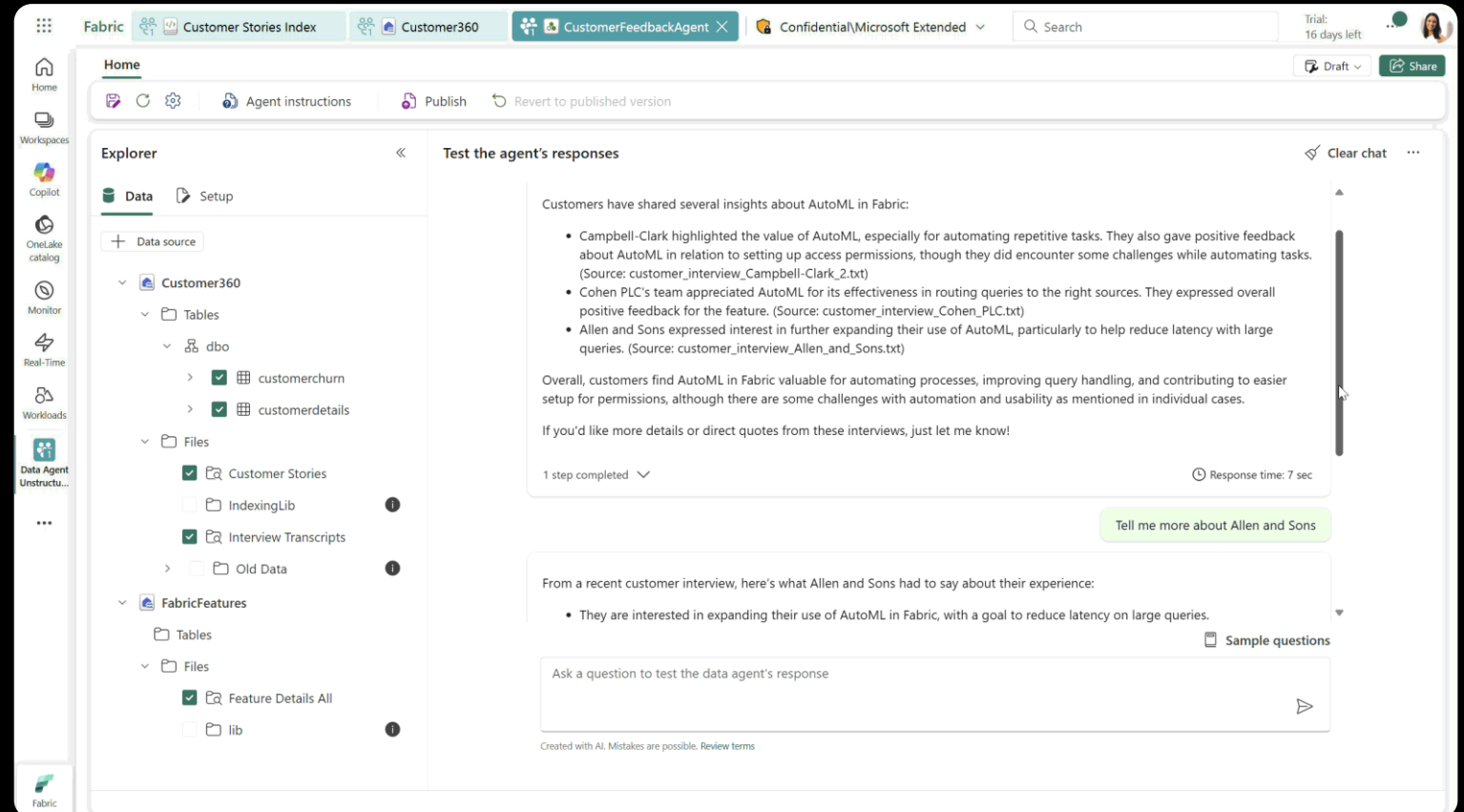
 Coming Soon

Leverage built-in notebook utilities to index PDFs and TXT files

Eliminate the need to provision or manage search resources

Select Lakehouse folders and ask natural language questions over unstructured data

Sign up for the Private Preview:
aka.ms/unstructured-data-prpr



Roadmap

AI



Data agents

- Unstructured data in data agents
- MCP support
- GA data agents
- Visualizations
- Creator/Consumer feedback loop



AI Functions

- AI functions in Dataflows Gen2
- AI functions in Fabric SQL Data Warehouse

Data Science

- MIFlow 3
- Cross workspace logging Models and Experiments
- Log models from outside Fabric
- Import models
- Model monitoring

Next Steps

Learning

- Emphasizing continuous learning and upskilling in a fast-changing environment is key to able to push boundaries

Discovering

- Encourage experimenting to uncover what really works and strive for meaningful impact

Deploying

- Applying models to real-life and create value.
Monitor and finetune, learn and repeat the process.

Learn more



Data agent documentation

<https://aka.ms/Fabric/create-data-agent>

aka.ms/fabric/data-agent/sdk/docs

aka.ms/data-agent-evaluation-sample



Call data agent endpoints

aka.ms/fabric/data-agent-python-client-sdk



AI functions in Fabric

aka.ms/ai-functions

aka.ms/ai-functions/blog



Feature request?

ideas.fabric.microsoft.com



Thank you!

