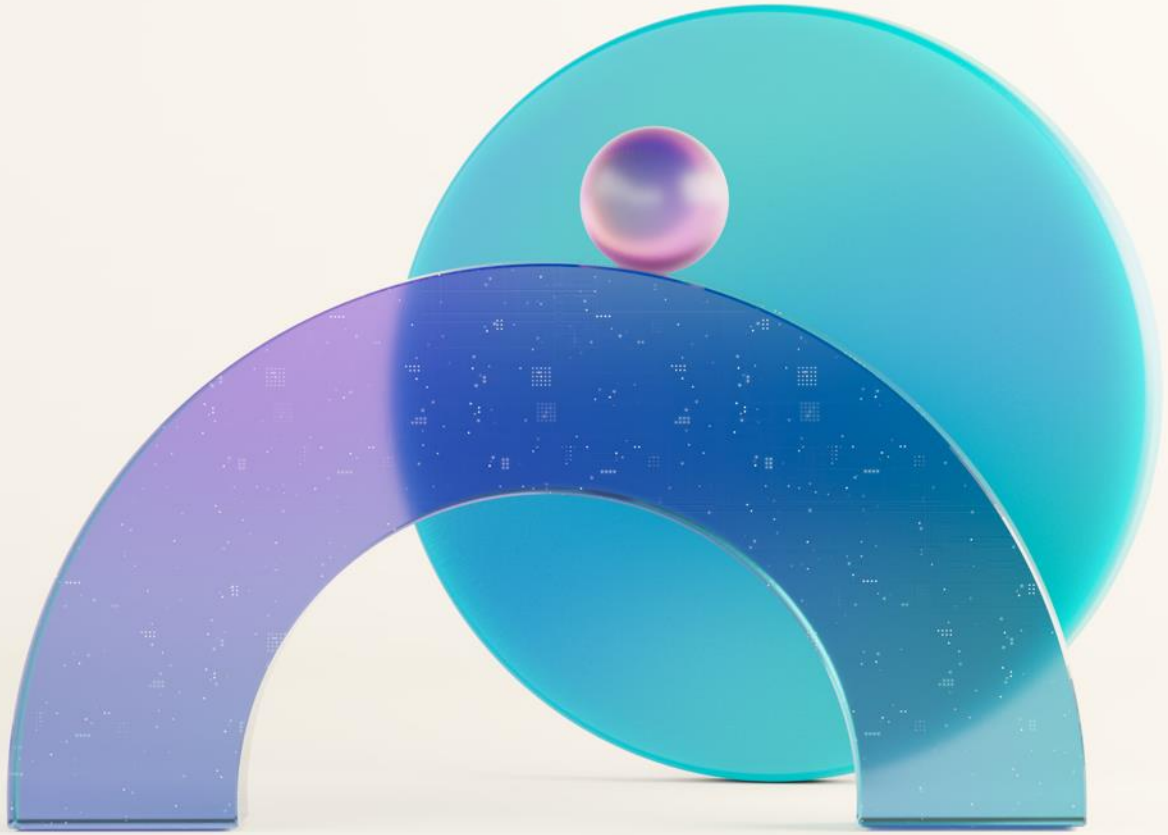
Microsoft



AI in Fabric

Enrich and transform data using Generative AI in Fabric

Agenda

01 Introduction

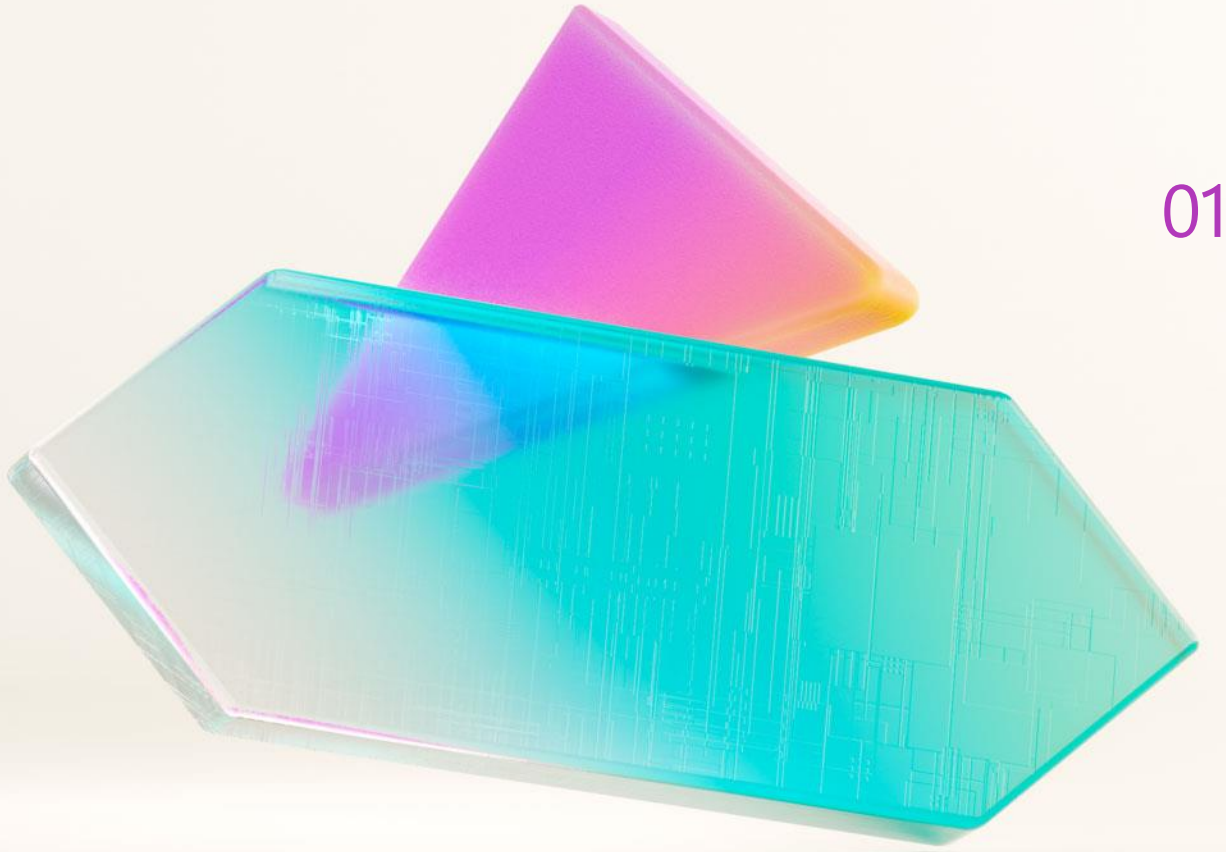
02 Connect AI Foundry to Fabric

03 AI Functions

04 AI Copilots

05 Data Wrangler

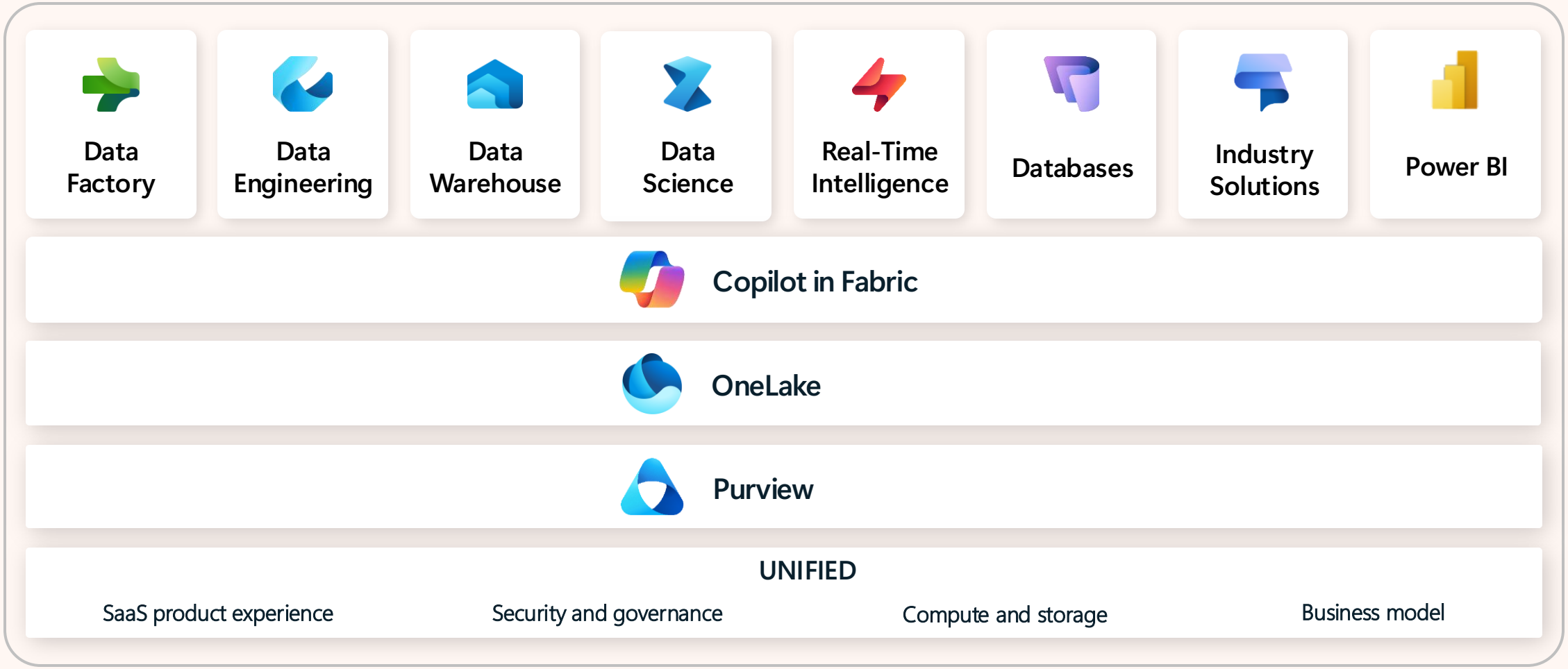
06 AI Services in Fabric

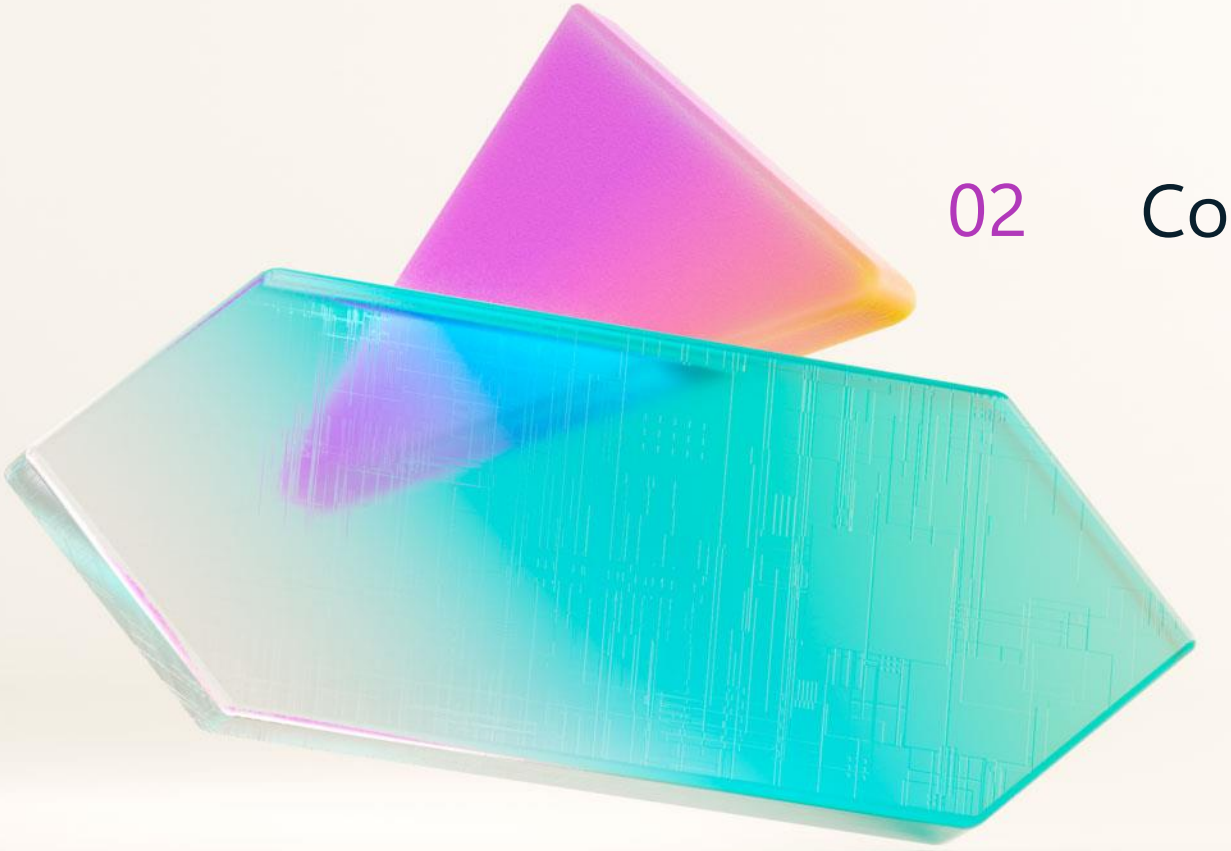


01 Introduction to Fabric

Microsoft Fabric

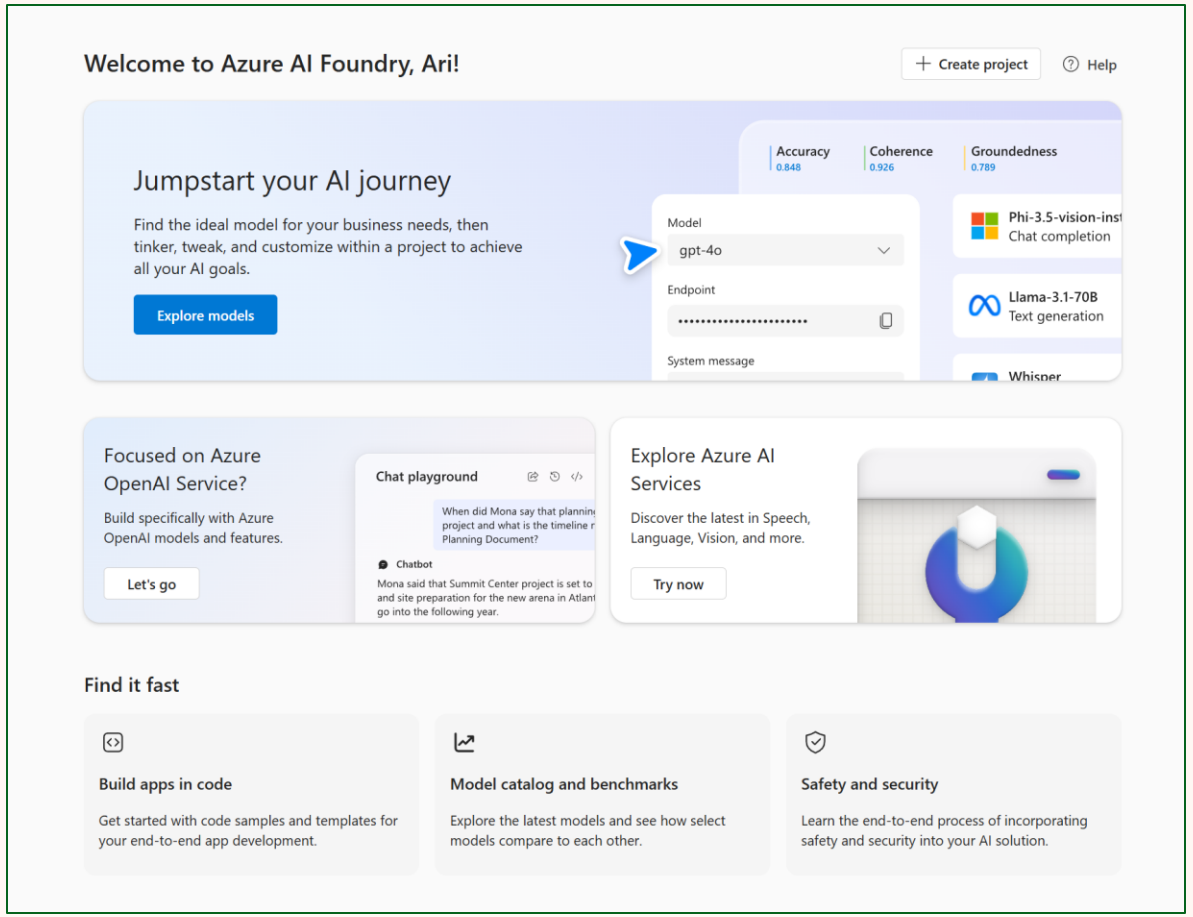
The unified data platform for the era of AI



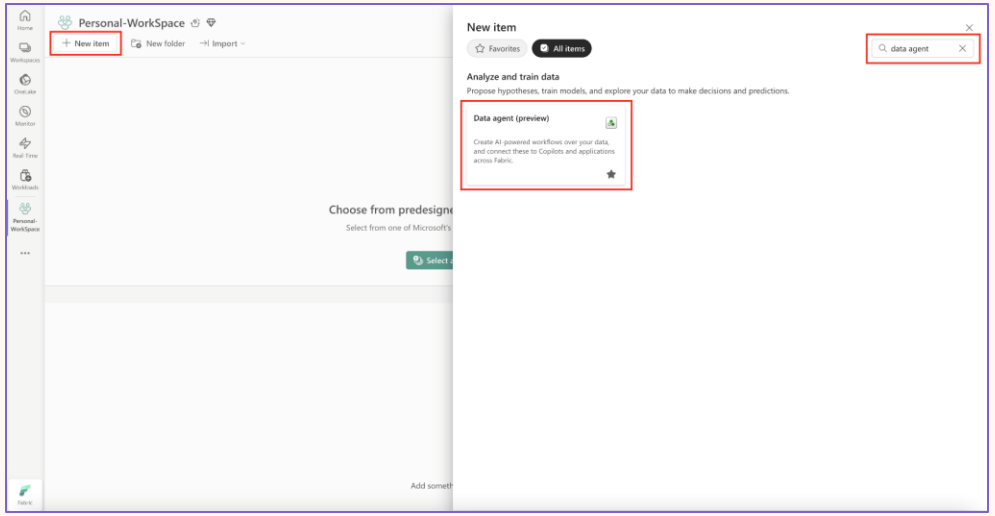


02 Connecting AI Foundry to Fabric

Connecting AI Foundry to Fabric



Fabric Data Agent



03 AI Functions in Fabric

Get started with AI functions today

Public preview

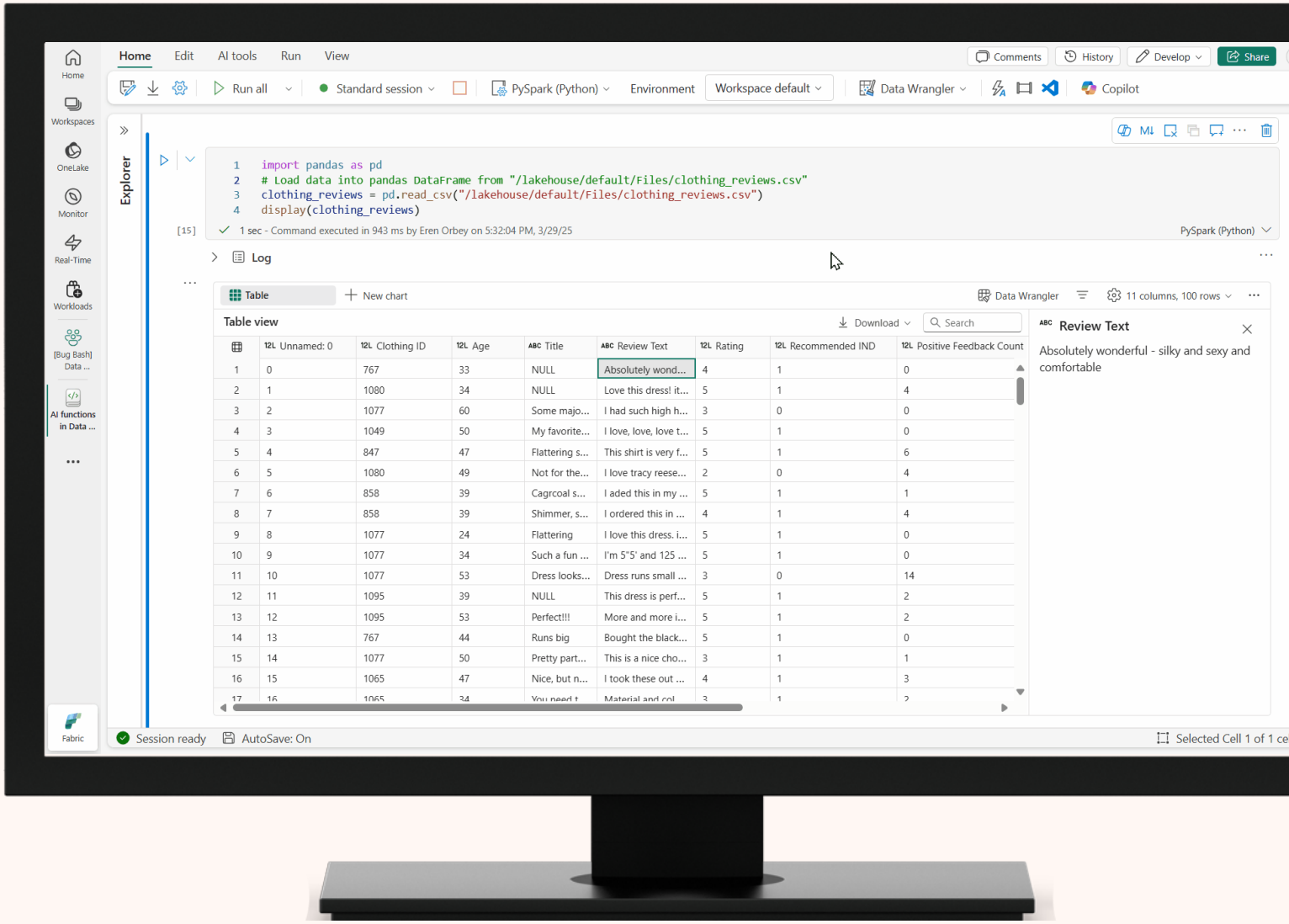
Announcement: aka.ms/ai-functions/blog

Documentation: aka.ms/ai-functions

Function	Description	Learn more
`ai.similarity`	Compare the meaning of input text with a single common text value or with pairwise values.	aka.ms/ai-functions/similarity
`ai.classify`	Classify input text values according to labels you choose.	aka.ms/ai-functions/classify
`ai.analyze_sentiment`	Identify the emotional state expressed by input text.	aka.ms/ai-functions/analyze-sentiment
`ai.extract`	Find and extract specific types of information from input text, for example locations or names.	aka.ms/ai-functions/extract
`ai.fix_grammar`	Correct the spelling, grammar, and punctuation of input text.	aka.ms/ai-functions/fix-grammar
`ai.summarize`	Get summaries of input text.	aka.ms/ai-functions/summarize
`ai.translate`	Translate input text into another language.	aka.ms/ai-functions/translate
`ai.generate_response`	Generate responses based on your own instructions.	aka.ms/ai-functions/generate-response

Seamless data enrichment with AI functions

- Transform **pandas or Spark DataFrames** with GenAI using just a **single line of code**
- Choose from **summarization, classification, custom text generation,** and much more
- Coming soon:
  - **AI functions in SQL** for Data Warehousing
  - **AI functions in Data Wrangler** for low-code GenAI data prep



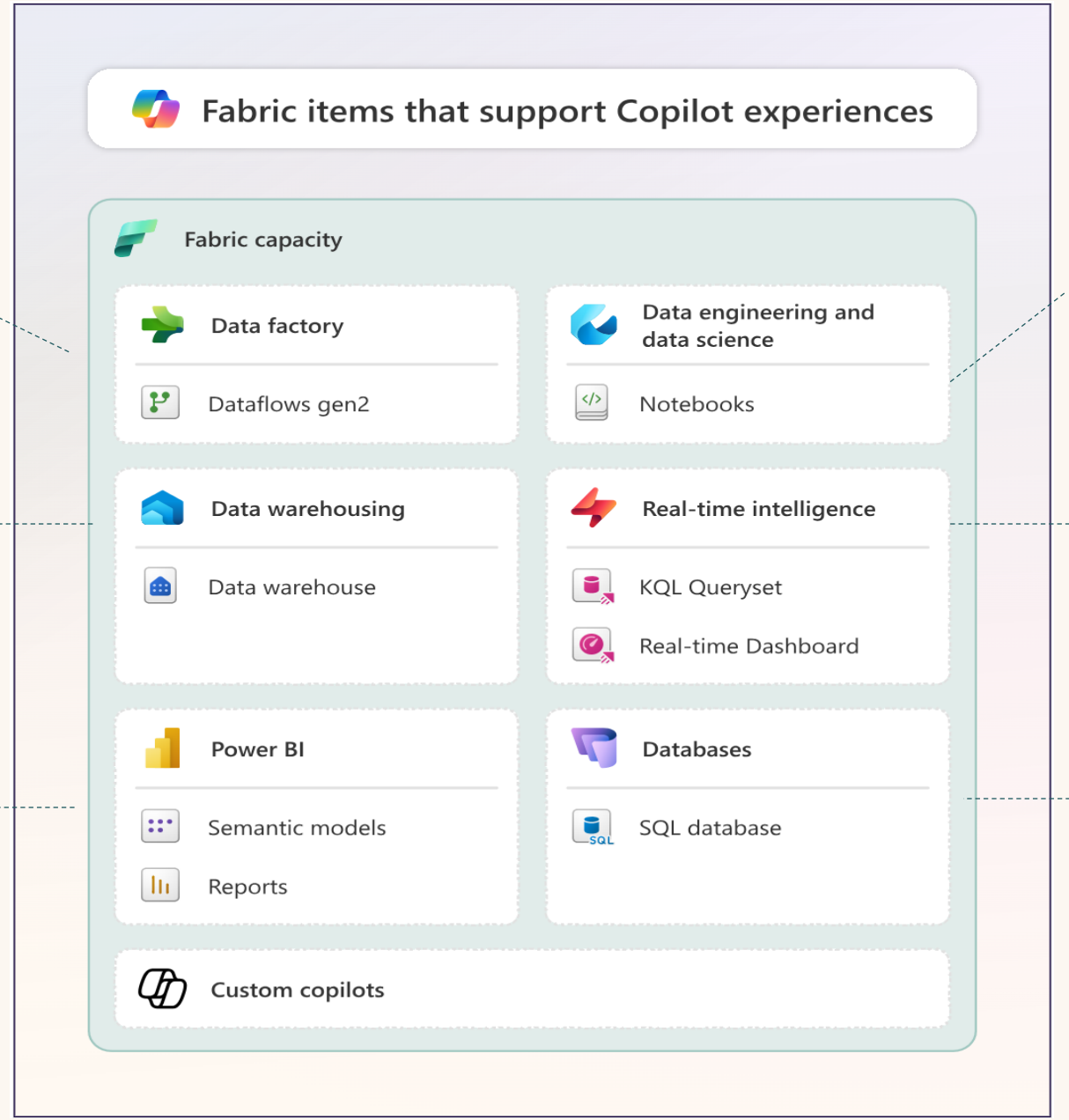
04 Copilots in Fabric

Copilot in Microsoft Fabric

Get intelligent code generation to transform data with ease and code explanations to help you better understand complex tasks

Write and explain T-SQL queries, or even make intelligent suggestions and fixes while you are coding

Quickly create report pages, natural language summaries, and generate synonyms.



Quickly generate code in Notebooks to help work with Lakehouse data and get insights.

Translate questions into KQL queries that you can execute.

Write and explain T-SQL queries, or even make intelligent suggestions and fixes while you are coding

Copilot in Fabric | Data Factory

Dataflows Gen 2

•Generate new transformation steps for an existing query.

•Provide a summary of the query and the applied steps.

•Generate a new query that may include sample data or a reference to an existing query

Data Pipelines

- Pipeline Generation: Using natural language, you can describe your desired pipeline

- Error message assistant: troubleshoot Data pipeline issues with clear error explanation capability and actionable troubleshooting guidance.

- Summarize Pipeline: Explain your complex pipeline with the summary of content and relations of activities within the Pipeline.

Copilot in Fabric | Data Engineering and Data Science

Use Copilot to enrich, model, analyze and explore your data in notebooks

Work with Copilot to understand how best to analyze your data

Chat with Copilot to create and configure ML models

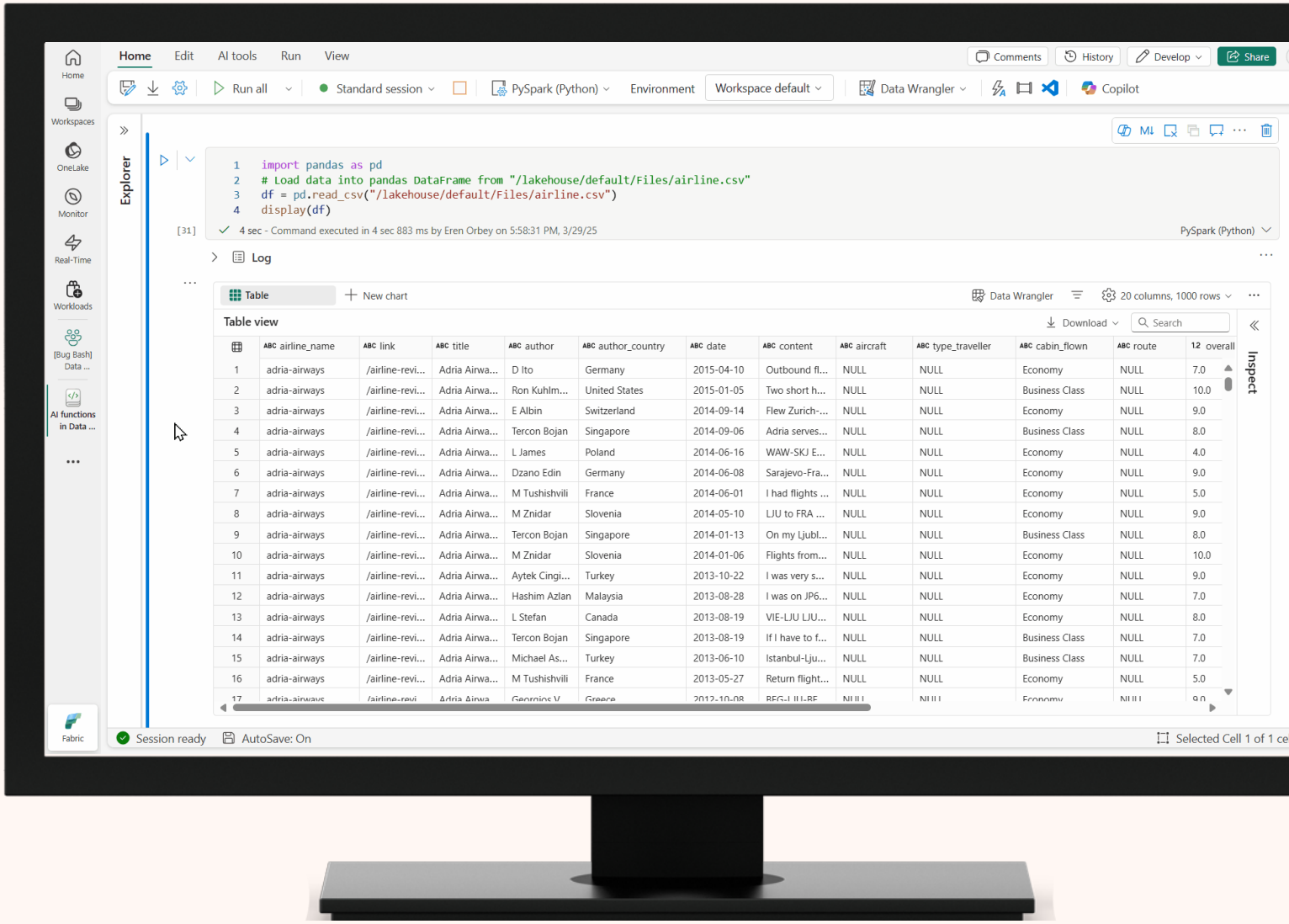
Write code faster with inline code suggestions from Copilot

Use Copilot to summarize and explain code to understand how it works

- **Data Exploration**
  Example : "What is the distribution of the 'age' column in this dataset?"
- **Data Cleaning**
  Example："How can I handle missing values in this dataset?"
- **Data Transformations**
  Example : "How do I normalize the 'sales' column?"
- **Visualizations**
  Example : "Plot a scatter plot of 'height' vs 'weight'."
- **Machine Learning and Model Evaluations**
  Example : "Train a decision tree classifier on this dataset."
- **Get Suggestions**

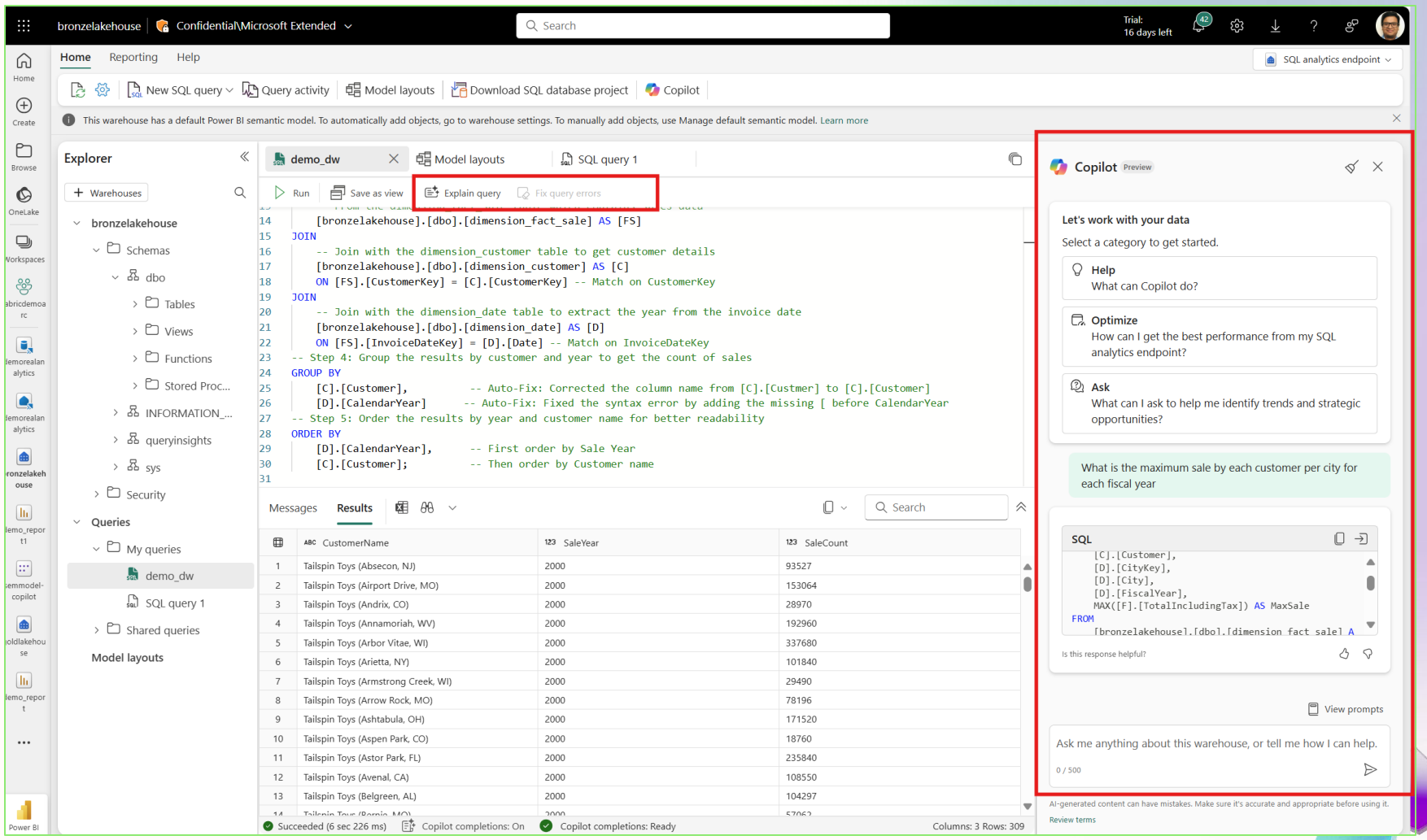
AI guidance in notebooks with Copilot

- Ask Copilot for help from a **built-in chat pane** with sample prompts to get started
- Leverage Copilot **directly from any code cell** for a more natural developer experience
- Use quick actions to **explain, optimize, and document code**
- Debug Python or PySpark logic with **just a few clicks**



Copilot in Fabric | Data Warehouse (Preview)

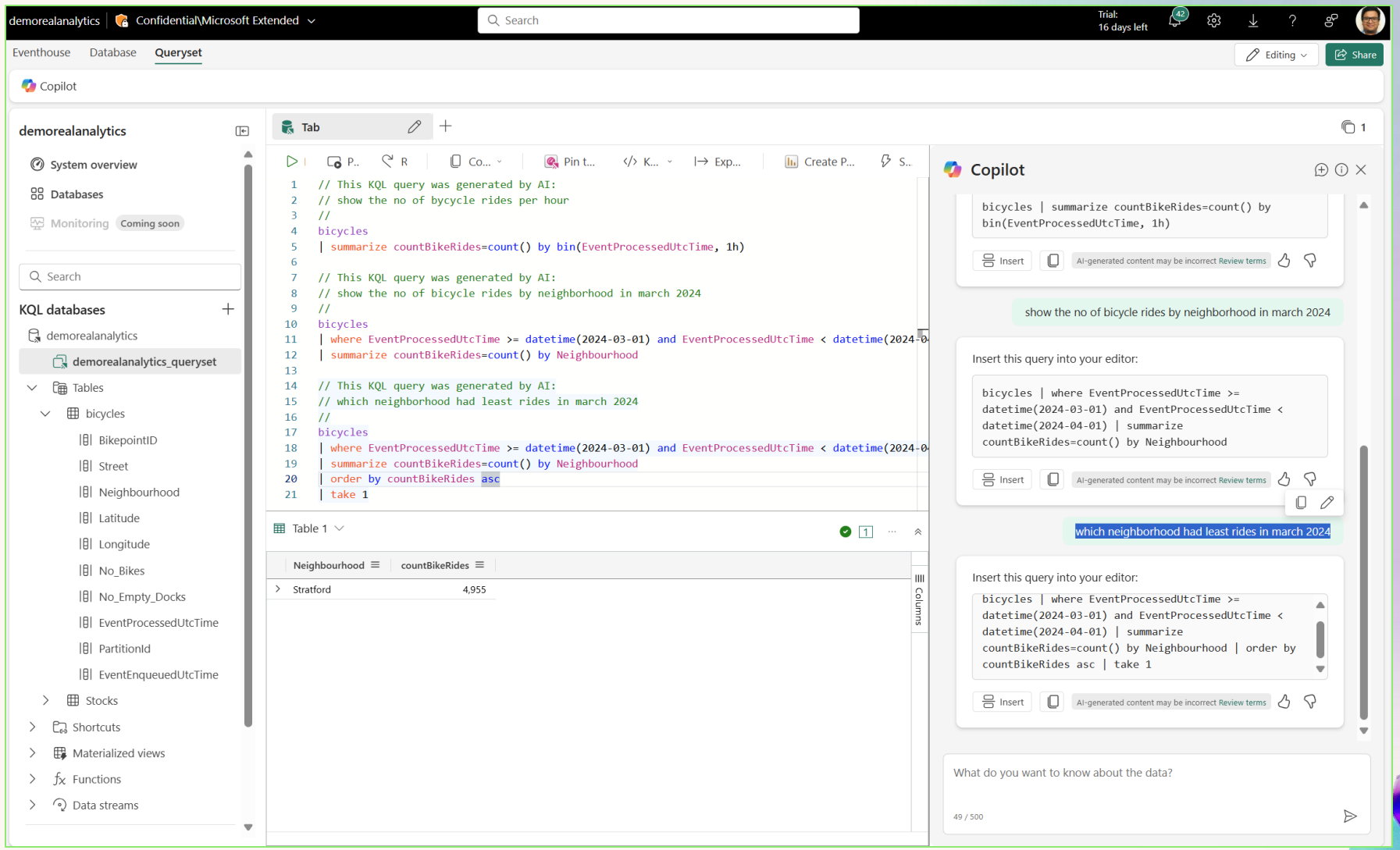
- Natural Language to SQL.
- Code completion.
- Quick actions.
- Intelligent Insights.



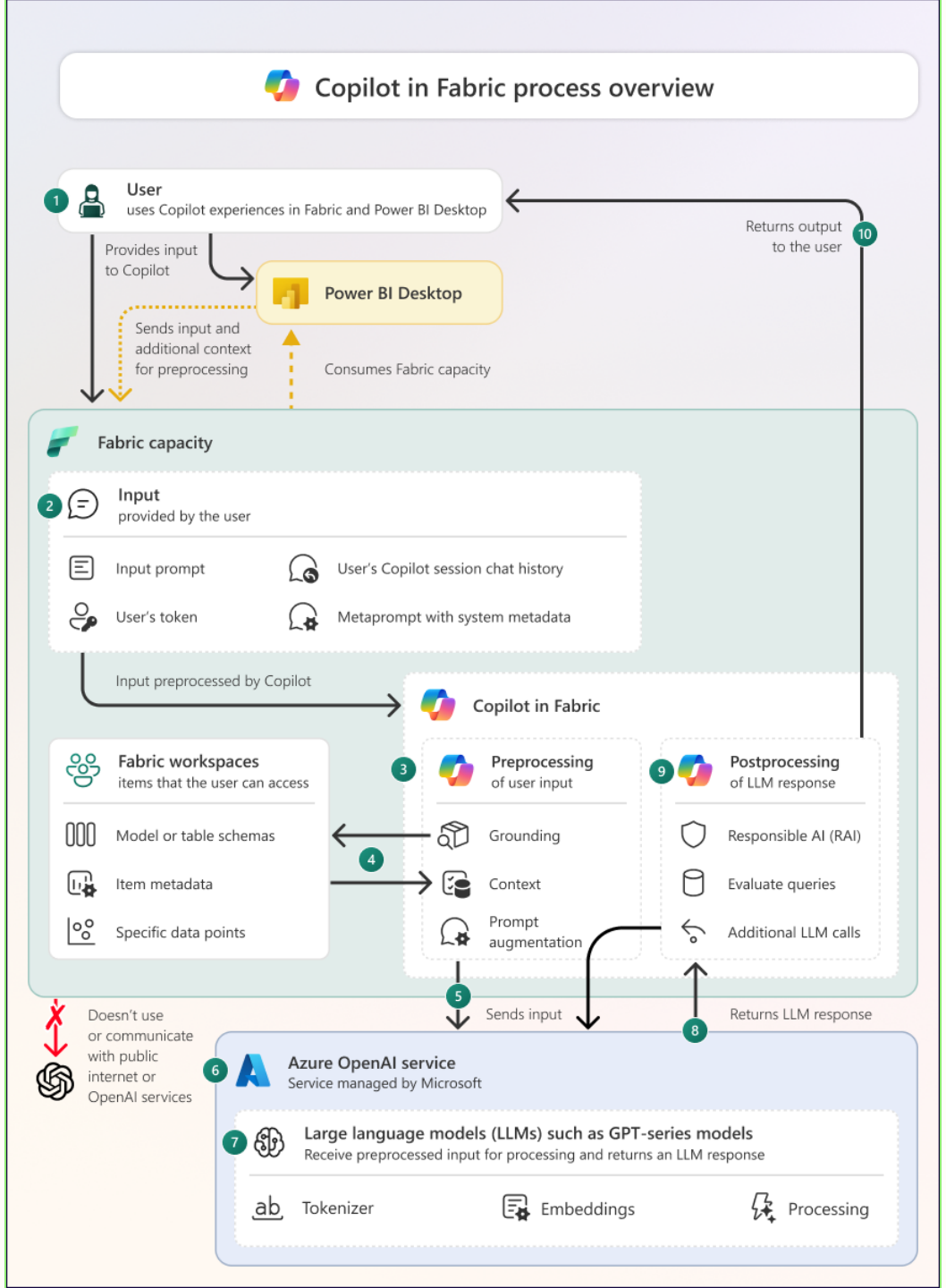
Copilot in Fabric | Real-Time Intelligence

Explore and analyze your real-time data with ease in Copilot

- Ask questions about your real-time data in conversational language
- Automatically translate it to a KQL query you can execute
- Get the most from your time-series data stored in Eventhouse even if you're less familiar with KQL queries



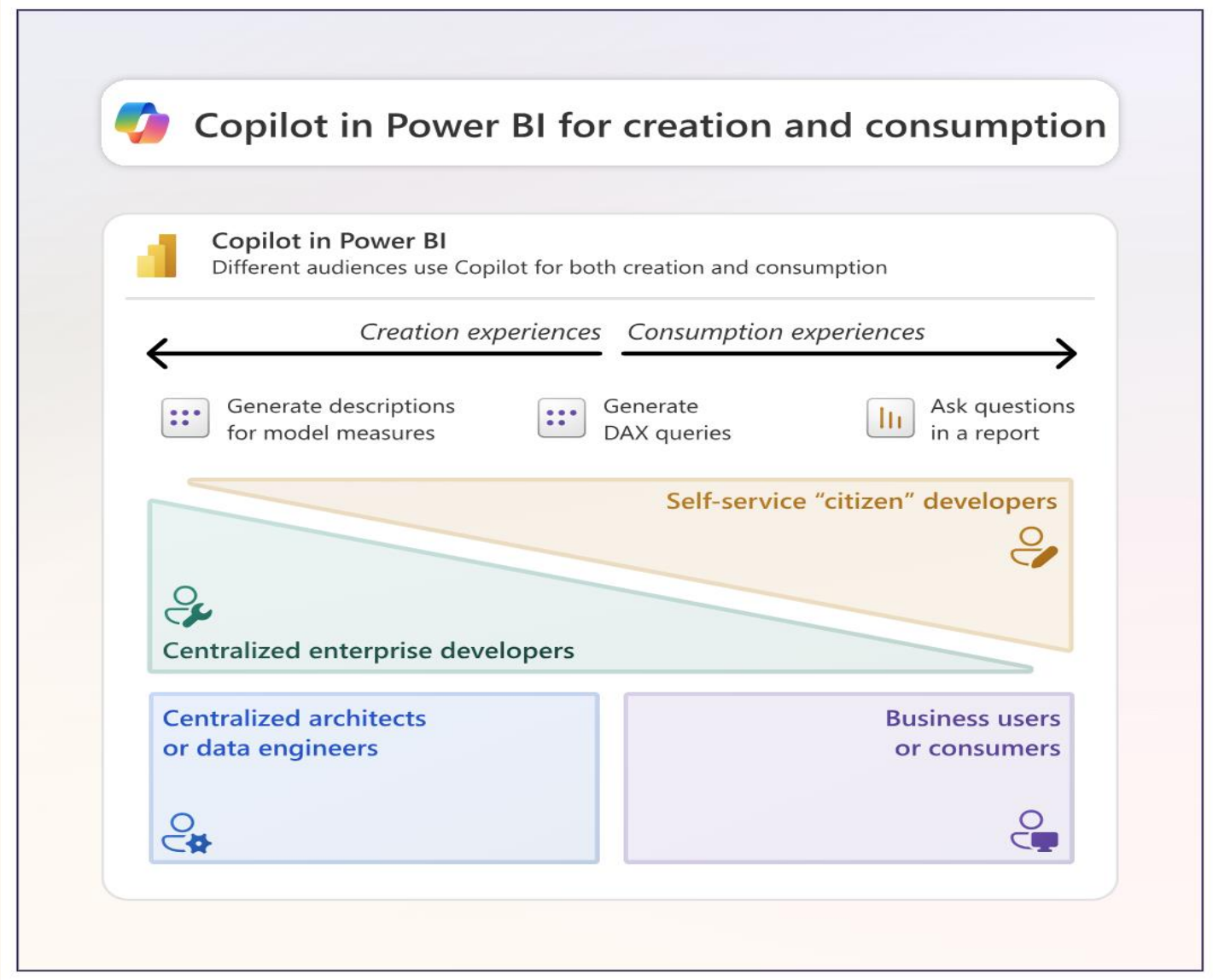
How Copilot works



Copilot in Fabric | Power BI

Stay focused on your business outcomes and unlock insights in your data

- Create beautiful and insightful reports just by chatting with Copilot
- Define metrics and calculations for your data model just by describing them in natural language
- Use Copilot to find and summarize insights in your data

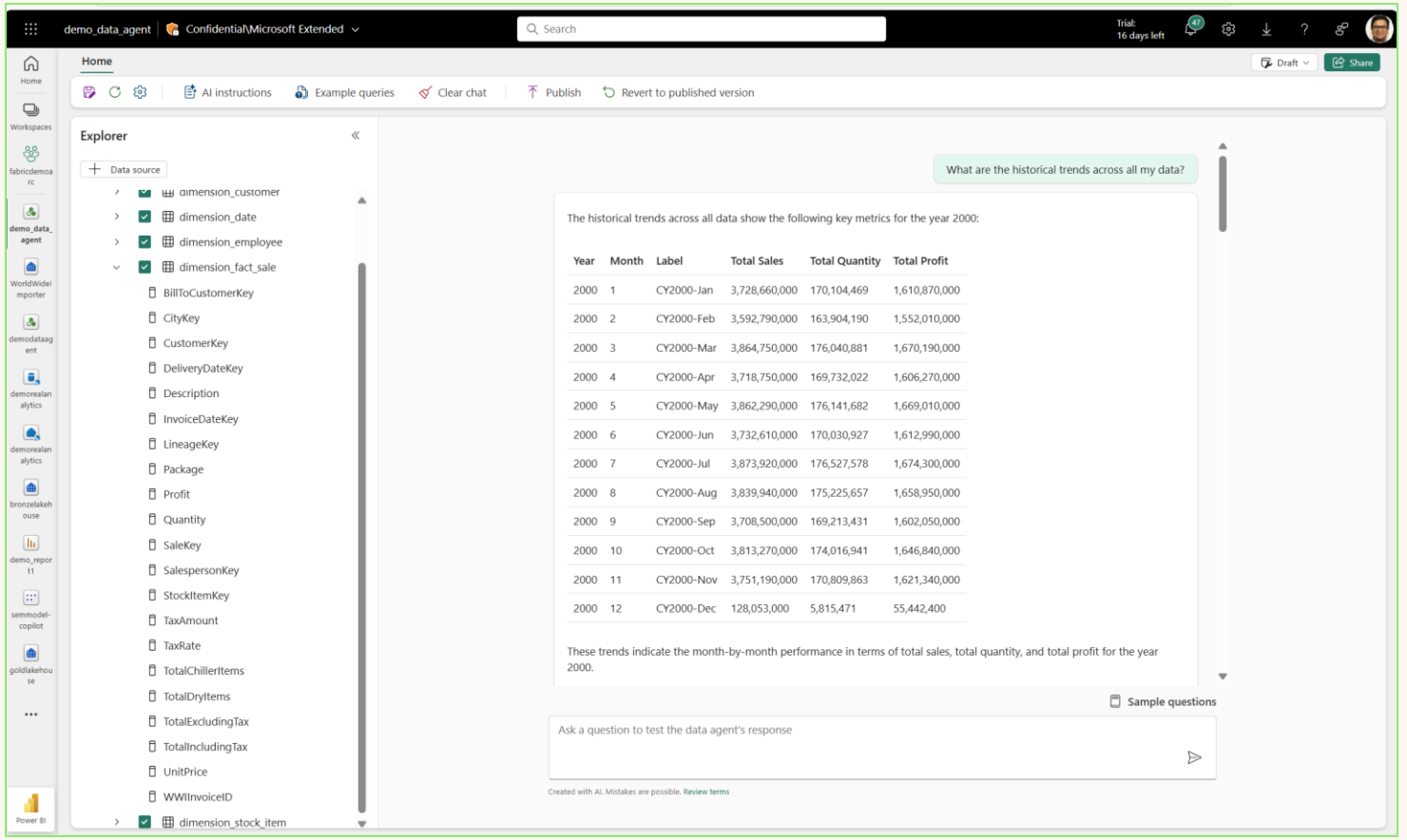


Copilot in Fabric | Fabric Data Agent

Enable custom Q&A on your data in Fabric

Define custom business semantics and grounding **unique to your org**

Scale the custom experiences to **M365 Chat, Copilot Studio**, and **Azure AI Studio**



NL2SQL

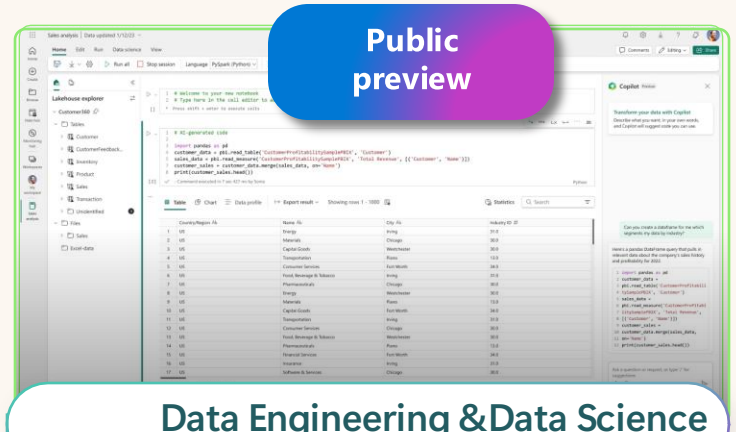
NL2DAX

NL2KQL

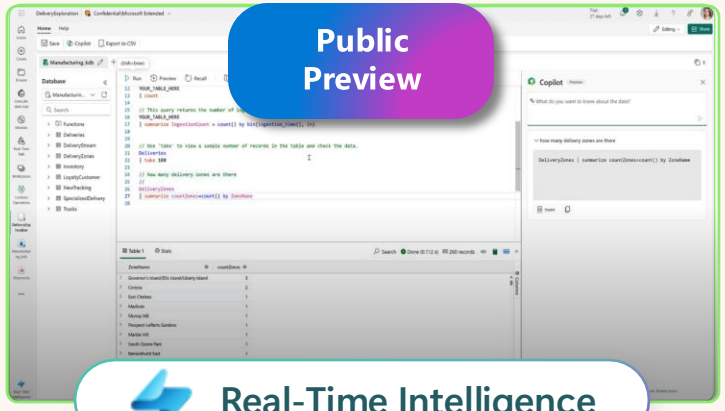
Copilot in Fabric status

Data Factory

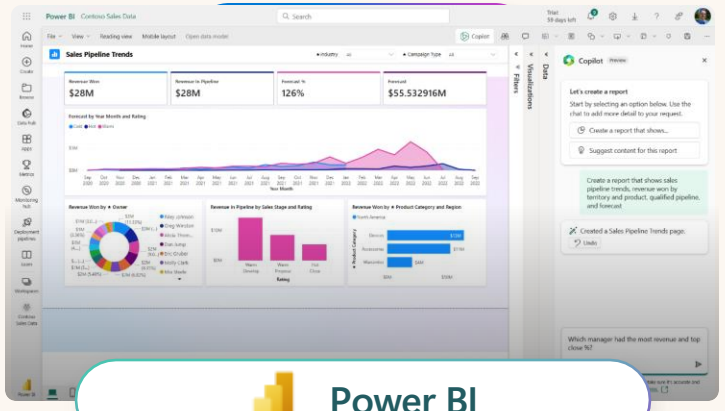
Data Warehouse



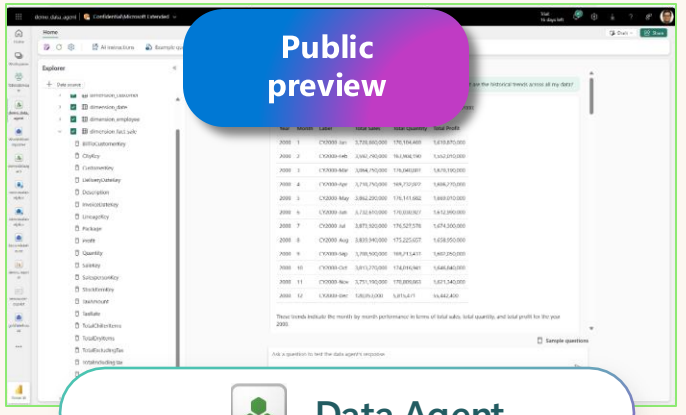
Data Engineering &Data Science



Real-Time Intelligence



Power BI



Data Agent

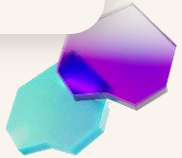
Enabling Copilot in Fabric

1. Your administrator needs to enable the tenant switch before you can start using Copilot. Administrators can read the article Copilot tenant settings for details.

2. Your F64 or P1 capacity needs to be in one of the regions listed in this article, Fabric region availability.

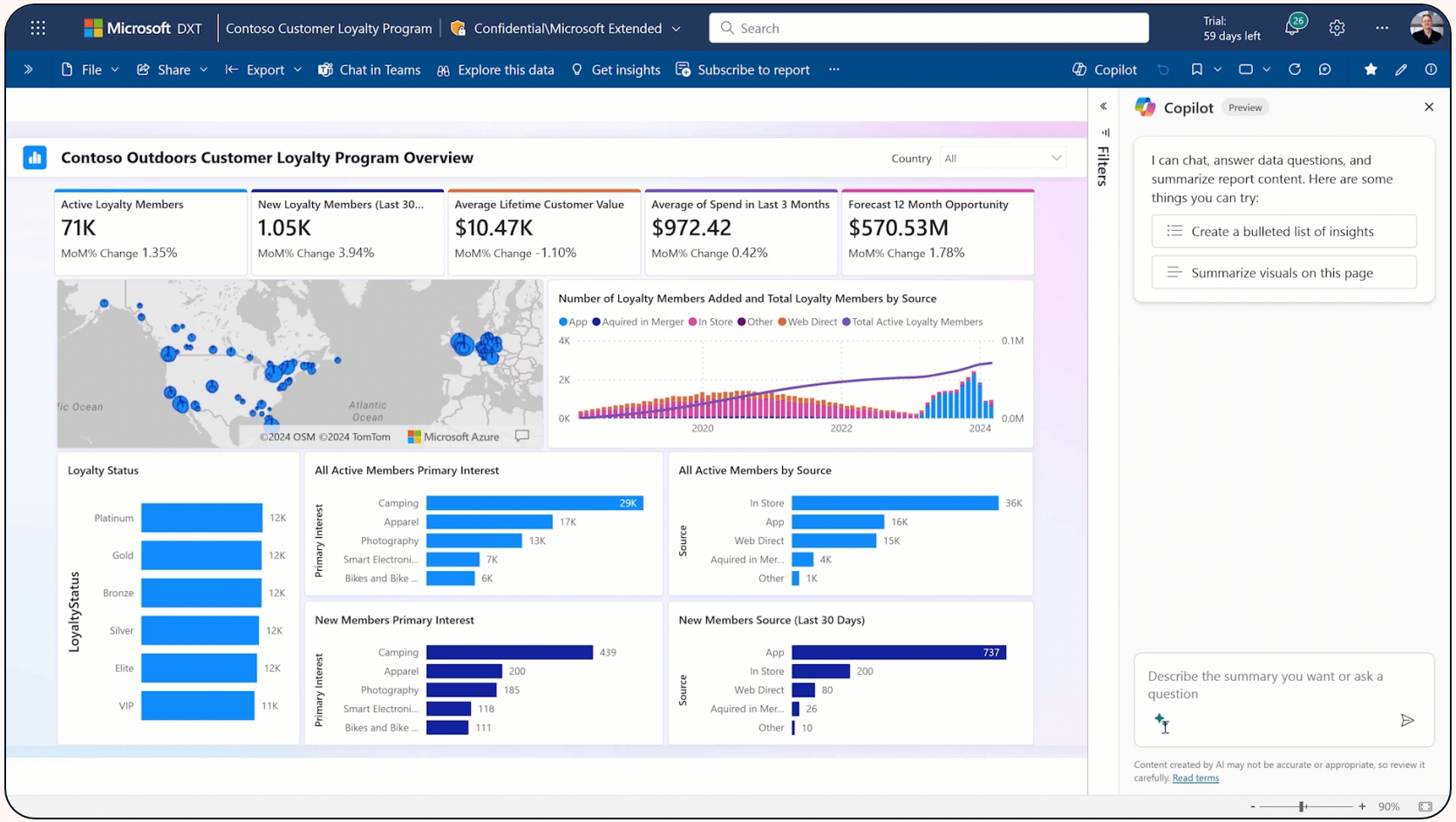
3. If your tenant or capacity is outside the US or France, Copilot is disabled by default unless your Fabric tenant admin enables the Data sent to Azure OpenAI can be processed outside your tenant's geographic region, compliance boundary, or national cloud instance tenant setting in the Fabric Admin portal.

4. Copilot in Microsoft Fabric isn't supported on trial SKUs. Only paid SKUs (F64 or higher, or P1 or higher) are supported.



AI-driven insights for consumers

Copilot isn't just for creators

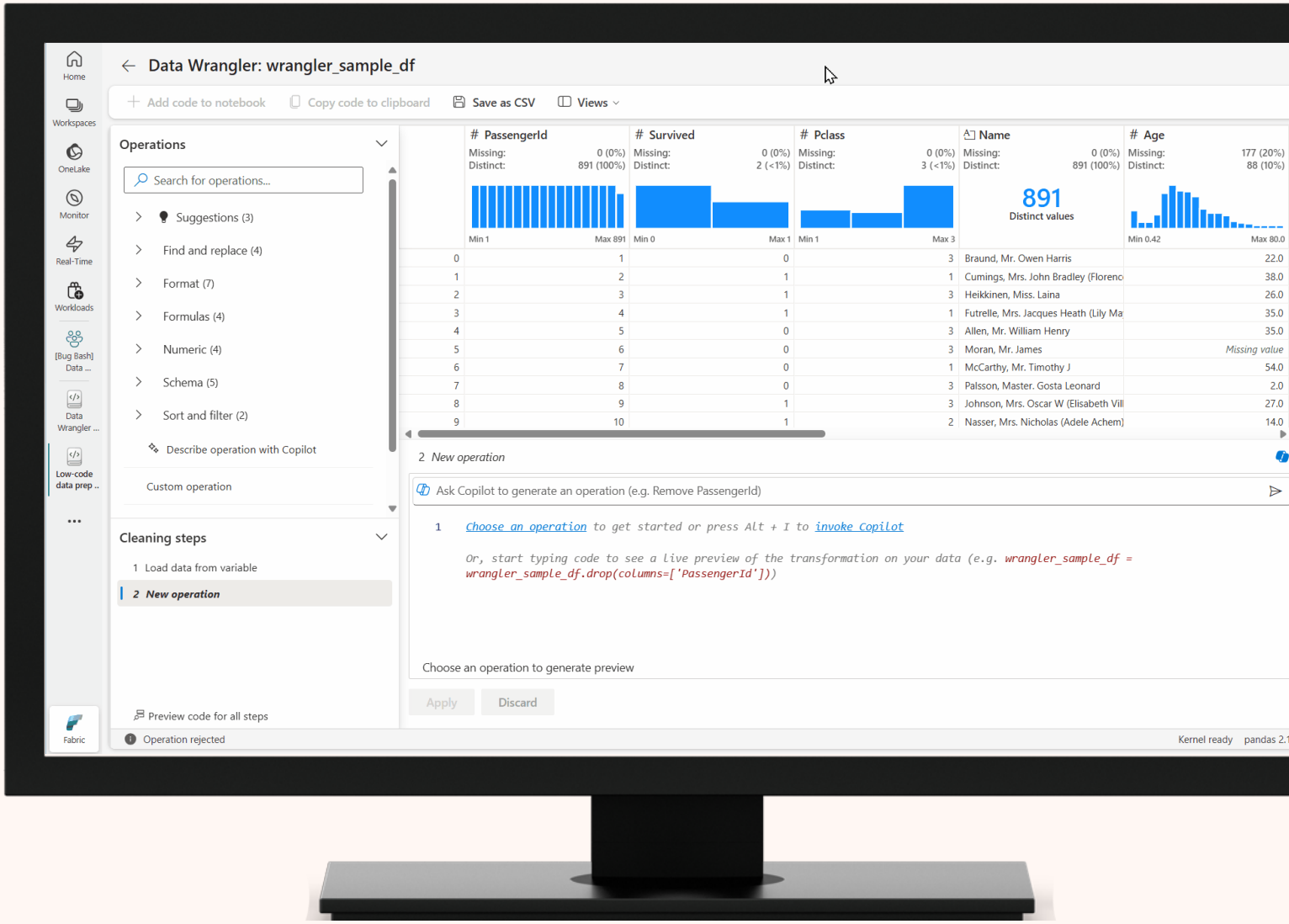


05 Data Wrangler in Fabric

AI-powered analysis with Data Wrangler

Coming soon

- Explore data in a **dynamic, Excel-like interface** with live stats and visualizations
- Browse and apply data-cleaning operations with **AI suggestions**
- Ask Copilot to generate **code based on your descriptions**
- Automatically convert **custom code from pandas to PySpark**



07 AI Services in Fabric

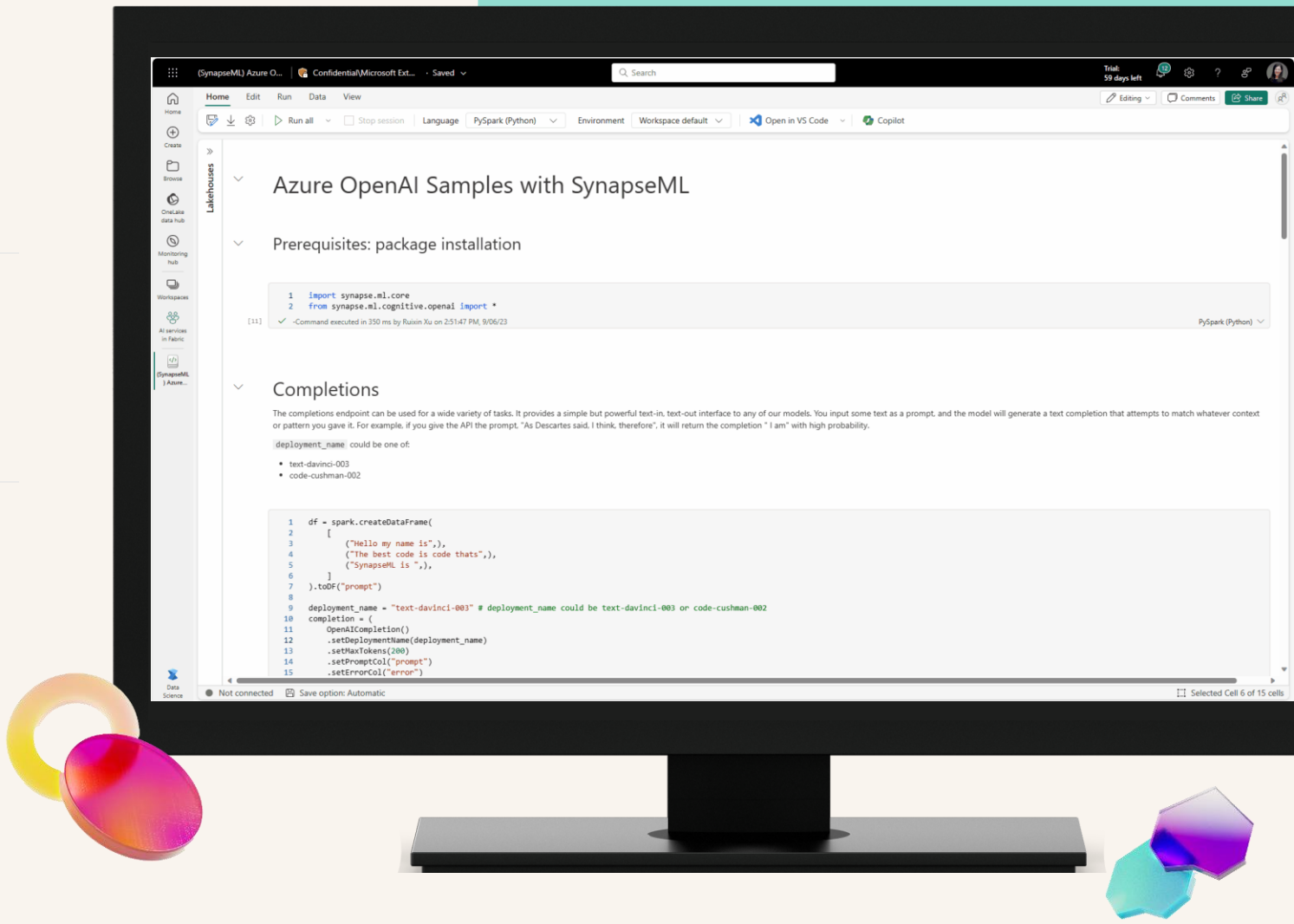
LLM programming made easier

Powered by SynapseML

Empowering developers with native **Azure OpenAI model integration.**

Use **LangChain** and **Semantic Kernel** to develop and scale custom generative AI models – right from your Fabric Notebook.

Massively scalable, AI powered data processing made easier, through **SynapseML.**



AI services in Fabric

- Azure AI services help developers and organizations rapidly create intelligent, cutting-edge, market-ready, and responsible application. with prebuilt and customizable APIs and models
- Fabric provides two options to use Azure AI services:
  - **Pre-built AI models in Fabric (preview)**
    - Fabric seamlessly integrates with Azure AI services, allowing you to enrich your data with prebuilt AI models without any prerequisite. We recommend this option because you can use your Fabric authentication to access AI services, and all usages are billed against your Fabric capacity. This option is currently in public preview, with limited AI services available.
    - Fabric offers Azure OpenAI Service, Text Analytics, and Azure AI Translator by default, with support for both SynapseML and the RESTful API. You can also use the OpenAI Python Library to access Azure OpenAI service in Fabric. For more information about available models, visit prebuilt AI models in Fabric.
  - **Bring your own key (BYOK)**
    - You can provision your AI services on Azure and bring your own key to use them from Fabric. If the prebuilt AI models don't yet support the desired AI services, you can still use BYOK (Bring your own key).
    - To learn more about how to use Azure AI services with BYOK, visit Azure AI services in SynapseML with bring your own key.

Thank you

Resources

- Overview of Copilot for Data Science and Data Engineering in Microsoft Fabric
- Create a Fabric data agent
- Accelerate data prep with Data Wrangler
- Develop, execute, and manage notebooks
- Transform and enrich data seamlessly with AI functions
- Empowering agentic AI by integrating Fabric with Azure AI Foundry
- Use Azure AI services in Fabric

Useful Copilot Links

Overview	Overview of Copilot in Fabric - Microsoft Fabric | Microsoft Learn
How Copilot in Fabric works	How Copilot in Microsoft Fabric works - Microsoft Fabric | Microsoft Learn
Copilot in Power BI	Copilot in Power BI integration - Power BI | Microsoft Learn Use Copilot with semantic models - Power BI | Microsoft Learn Use Copilot with Power BI reports - Power BI | Microsoft Learn
Copilot in Data Factory	Copilot for Data Factory overview - Microsoft Fabric | Microsoft Learn
Copilot in Data Warehouse	Microsoft Copilot in Microsoft Fabric in the Data Warehouse Workload Overview - Microsoft Fabric | Microsoft Learn
Copilot in Data Engineering and Data Science	Overview of Copilot for Data Science and Data Engineering in Microsoft Fabric (preview) - Microsoft Fabric | Microsoft Learn
Copilot in Real Time Intelligence	Copilot for Real-Time Intelligence (nl2kql) - Microsoft Fabric | Microsoft Learn
Copilot in Fabric Billing	Copilot consumption - Microsoft Fabric | Microsoft Learn Data agent consumption - Microsoft Fabric | Microsoft Learn
Fabric Data Agent	Create a Fabric data agent (preview) - Microsoft Fabric | Microsoft Learn