



Microsoft Fabric Guidebooks



Data Science

“Microsoft Fabric is a new paradigm in how we work with data – it goes beyond BI as we know it.”

“It is probably the biggest innovation in data analytics since Power BI”

Mathias Halkjær
Principal Architect





Microsoft Fabric



Data Factory



Synapse Data
Engineering



Synapse Data
Warehouse



Synapse Data
Science



Synapse Real-Time
Analytics



Power BI



Data Activator
(coming soon)



OneLake

Collaboration

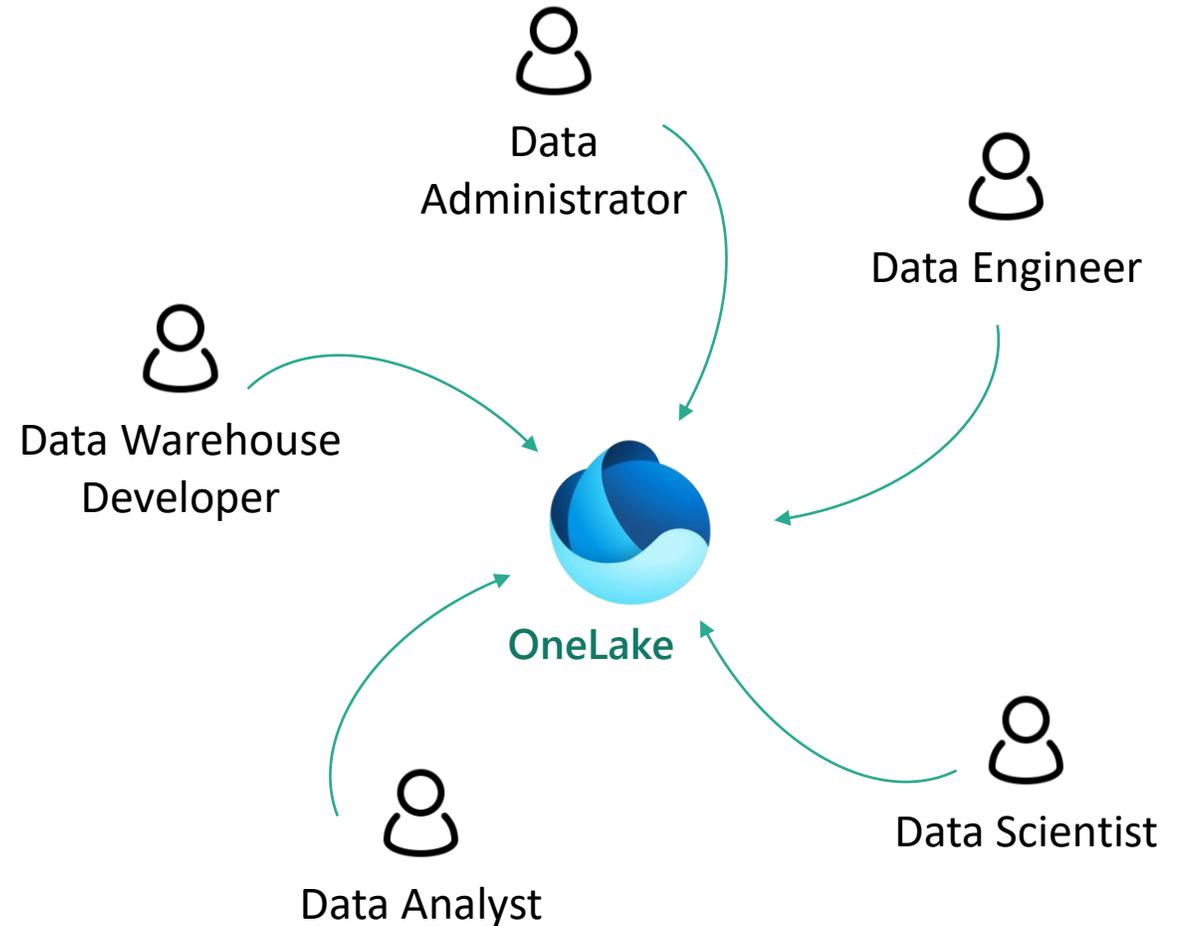


ONELAKE

With OneLake at its core, Microsoft Fabric unifies data disciplines and enhance collaboration across all data professionals.

OneLake both ties together all the tools, experiences and technologies – and by doing so the people working in it.

Never has it been as easy to share ones important and impactful work instantly with the right colleagues.



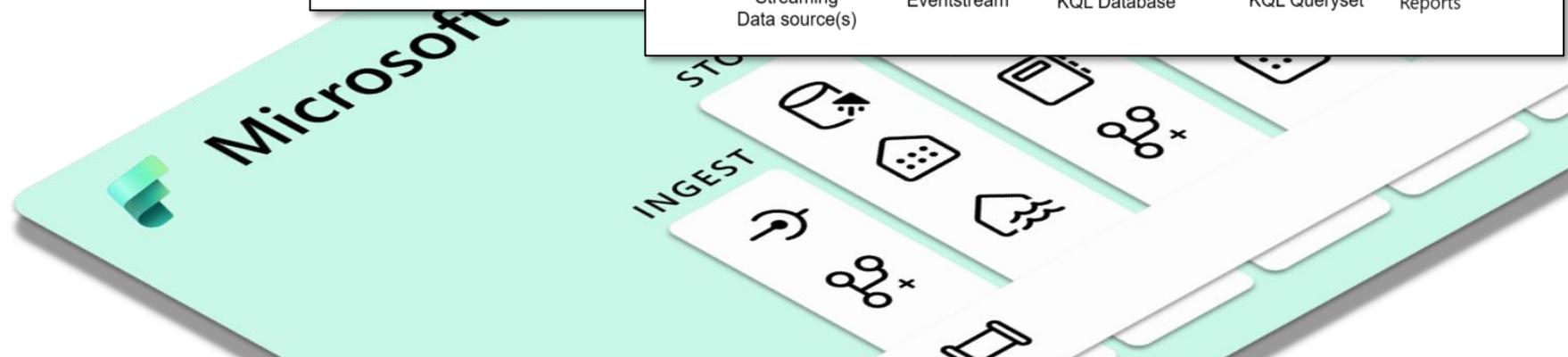
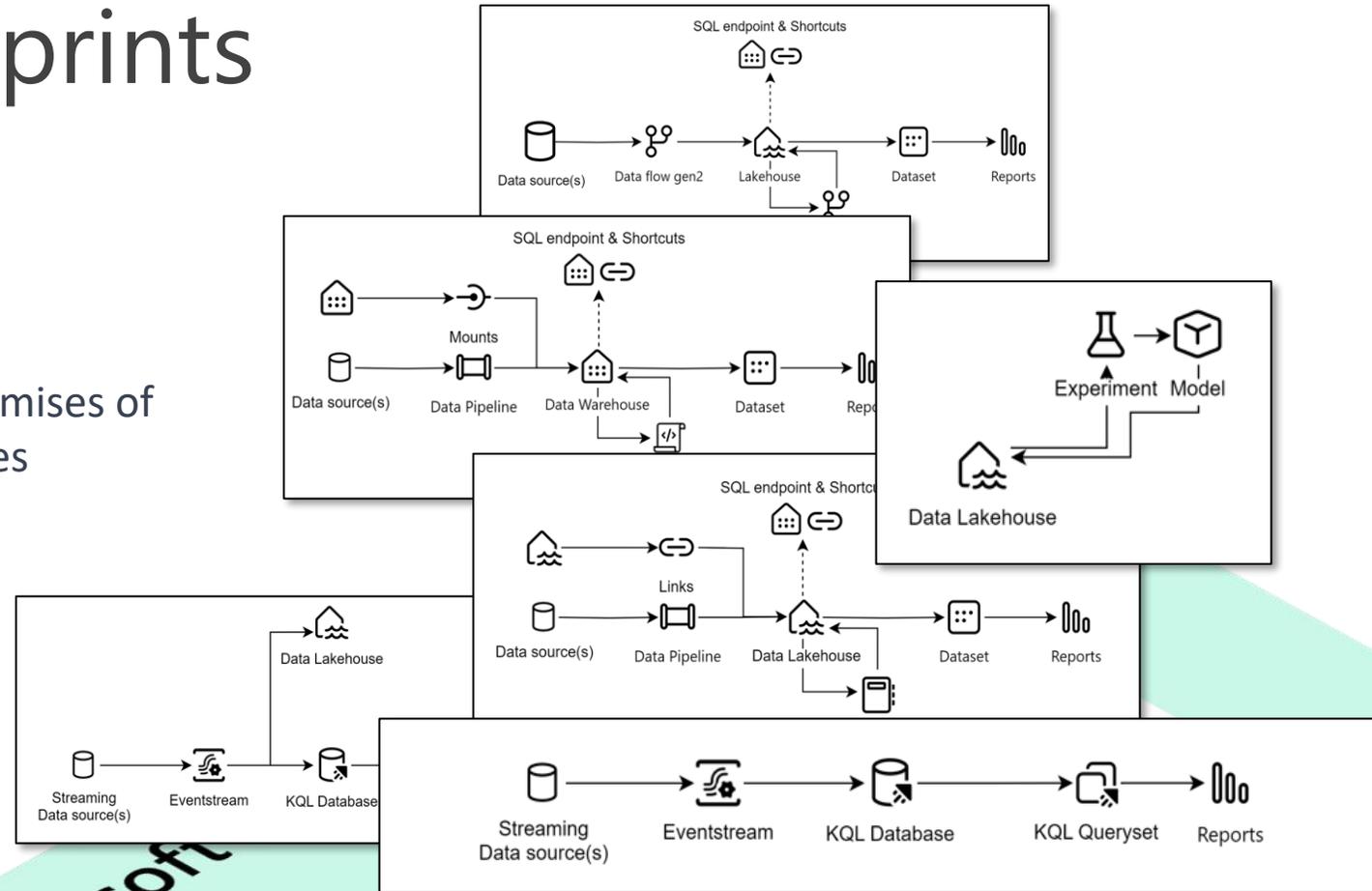


Architecture blueprints

ALL

“One Architecture” is one of the inaugural promises of Microsoft Fabric, that in many ways streamlines architectural complexities.

It does, however, present a variety of options and patterns, enabling users to customize their experience and maximize its potential according to their needs.



Capacity & pricing



CAPACITY



DOMAIN



WORKSPACE

Microsoft Fabric offers a variety of purchasable capabilities divided into SKUs, each providing unique computing power quantified by Capacity Units (CU).

Fabric features two SKU types:

- **Azure** – Billed per second with no commitment.
- **Microsoft 365** – Billed monthly or yearly, with a monthly commitment

SKU*	Capacity Units (CU)	Power BI SKU	Power BI v-cores
F2	2	-	0.25
F4	4	-	0.5
F8	8	EM/A1	1
F16	16	EM2/A2	2
F32	32	EM3/A3	4
F64	64	P1/A4	8
F128	128	P2/A5	16
F256	256	P3/A6	32
F512	512	P4/A7	64
F1024	1024	P5/A8	128
F2048	2048	-	256

Organization



CAPACITY



DOMAIN



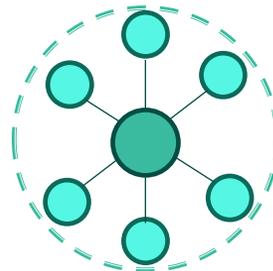
WORKSPACE

Warehouses, Lakehouses, Data Marts, Pipelines and Notebooks. Microsoft Fabric launched with more new gadgets and technologies than we could have ever dreamed of.

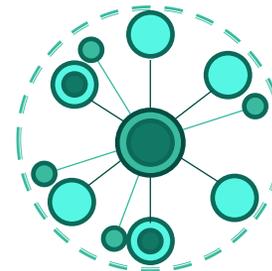
However, it's essential that as organizations, we don't overlook the foundational aspects such as our internal structure, objectives, and strategic planning.

One common organizational decision to consider when deploying a data platform like Fabric, is to choose between a centralized, decentralized, or hybrid implementation approach.

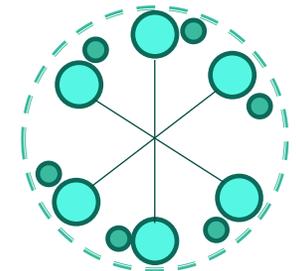
ENTERPRISE



HYBRID



SELF-SERVICE





Microsoft Fabric



Data Factory



Synapse Data Engineering



Synapse Data Warehouse



Synapse Data Science



Synapse Real-Time Analytics



Power BI



Data Activator
(coming soon)



OneLake

Synapse data science

With data science in Microsoft Fabric, you can utilize the power of machine learning features to seamlessly enrich data as part of your data and analytics workflows.

Data science is a crucial component of modern businesses, driving informed decision-making and predictive insights by leveraging the power of analytics.

The Data Science experience in Microsoft Fabric, includes Notebooks, Models and Experiments.

TOOLS



NOTEBOOK

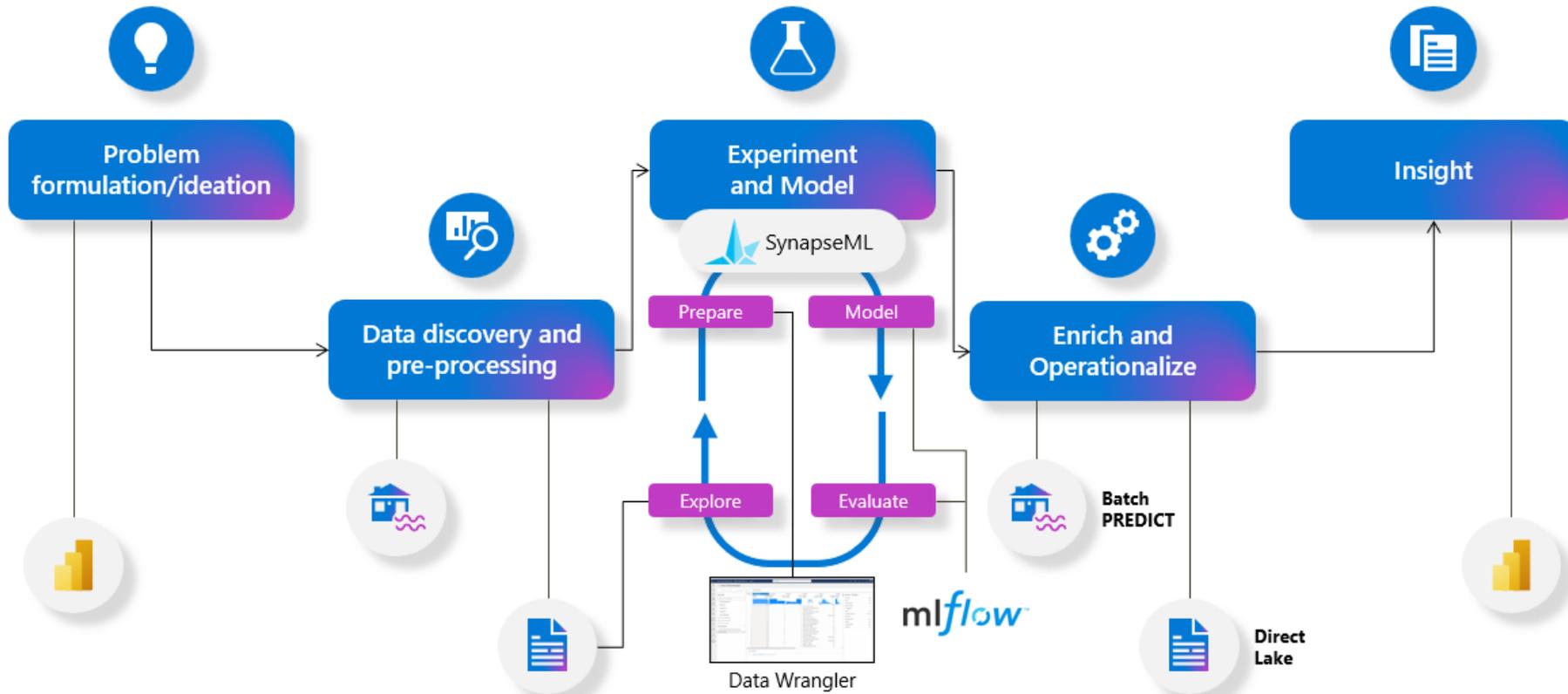


MODEL



EXPERIMENT

Data science for Business Insights



Notebooks in Data Science



NOTEBOOK

In Microsoft Fabric Data Science, notebooks serve as the main authoring tool, supporting native lakehouse integration and collaboration. They can be scheduled, added to workflows, and support Python and R libraries.

Notebooks offer integrated Spark monitoring with real-time advice from a built-in advisor. Users can oversee Spark jobs via a monitoring hub and leverage native VS Code integration for IDE use, working with notebooks, Spark jobs, and lakehouses, complete with debugging support.

“Python enables us to do anything we want with our data – Notebooks puts all that into an auditable structure”



Jesper Frederiksen
Architect, Fellowmind

MLflow model and experiment



MODEL

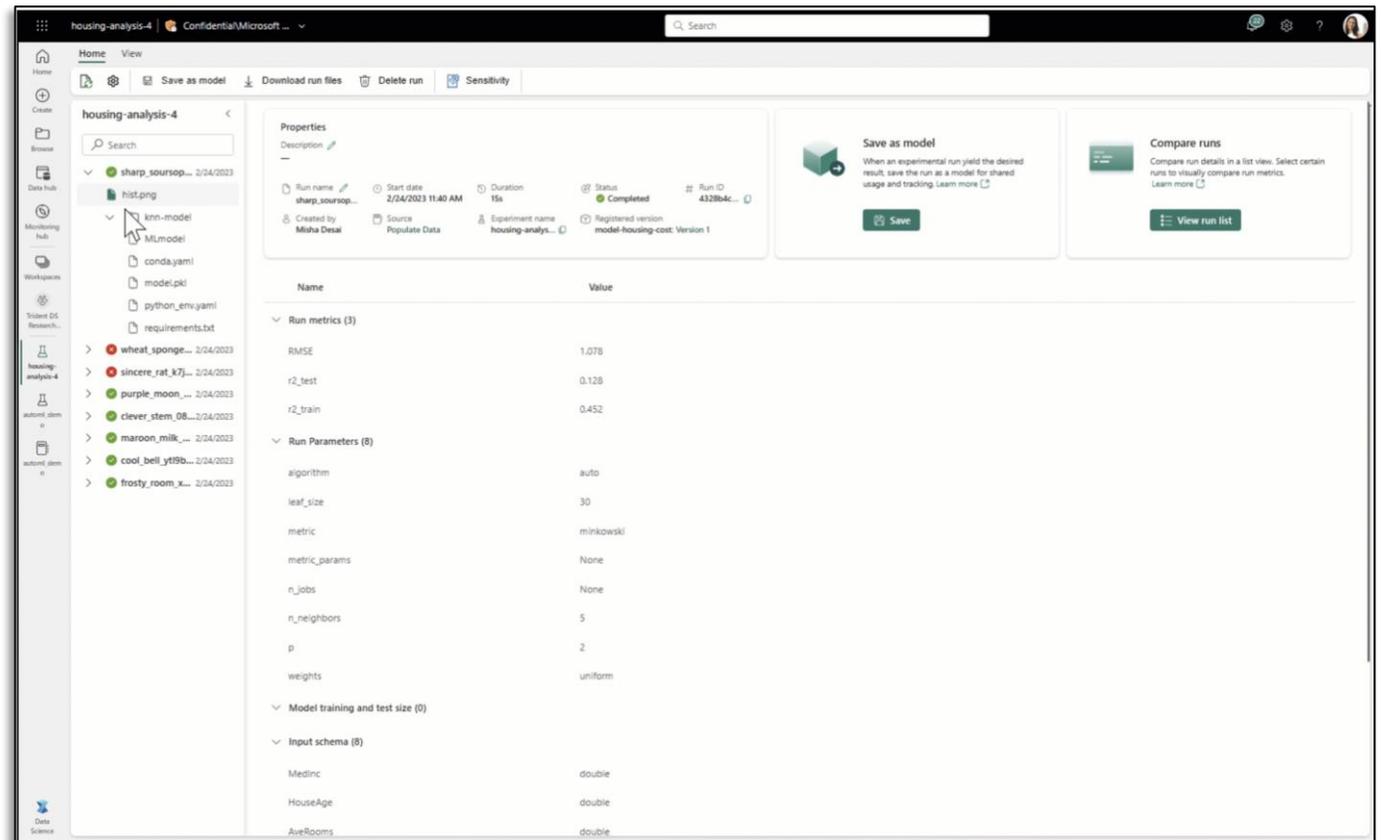


EXPERIMENT

Design and monitor ML models and experiments via MLFlow.

MLFlow's robust APIs enable straightforward handling and tracking of models and experiments in Microsoft Fabric.

This functionality facilitates effortless comparison of different experiments and automatic metric logging during model training.



Data Wrangler



MODEL

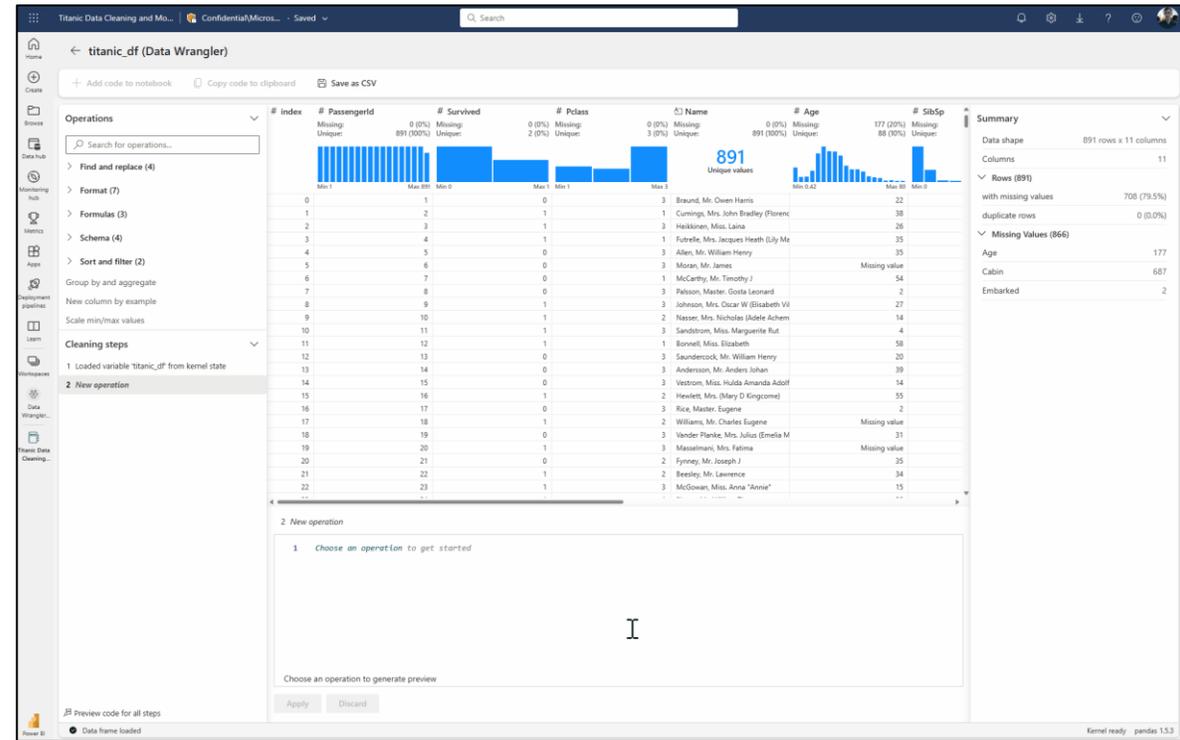


EXPERIMENT

Data Wrangler simplifies data cleaning and prep with a user-friendly interface while maintaining Python's robustness and reproducibility.

Its dynamic visuals, built-in analytics, and easy Pandas data integration cater to various skill levels, from beginners to seasoned pros.

Future features will support Spark and offer natural language processing to code through Azure OpenAI.



Coming soon in preview

Cognitive services



MODEL

Data Science in Microsoft Fabric will incorporate Azure Cognitive Services' ready-made AI models, including Text Analytics, Anomaly Detection, Text Translator, and Azure Open AI's base models.

Users can leverage these models directly, with no need for Azure resource pre-provisioning, simplifying the process of applying AI-enhanced alterations to data in Lakehouses.

Direct impact with DirectLake



MODEL



LAKEHOUSE

DirectLake, a revolutionary feature in Microsoft Fabric, serves predictions promptly to Power BI.

By establishing a live connection to OneLake data, Power BI users can access data in real-time. This enables data analysts to swiftly utilize the newly published work of data scientists, augmenting real-time collaboration and decision-making across the organization.

The unified Data Lake with OneLake and the DirectLake capability free up the formerly isolated data workspaces, uniting data siloes and bolstering data-driven innovation.

Get started today

Try Microsoft Fabric

[🔗 Try Fabric \(microsoft.com\)](https://microsoft.com/fabric)

Watch Fellowmind's monthly Power BI Update

[🔗 Power BI Update \(fellowmindcompany.com\)](https://fellowmindcompany.com/power-bi-update)

Connect with our Microsoft Data Platform MVPs

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[🔗 https://www.linkedin.com/in/brianbonk](https://www.linkedin.com/in/brianbonk)