

Implement a Lakehouse with Microsoft Fabric

What Is a Lakehouse?

A lakehouse is a modern way of storing and organizing data. It is a great option if you want a scalable analytics solution that maintains data consistency.

Example

Imagine a giant digital “storage room” where you can keep all kinds of data — photos, receipts, videos, spreadsheets — without needing to organize them first.

Later, when you need to analyze or clean them, you can do that inside the same space.

A lakehouse gives you the flexibility of a messy storage room (data lake) and the organization of a library (data warehouse) in one place.

Work with Delta Lake Tables

Delta Lake is a table format that supports ACID transactions and time travel.

Fabric lakehouse tables are Delta tables with Parquet files + a _delta log folder.

Example

Google Docs:

- Every change is saved
- You can go back to older versions
- Multiple people can edit safely

That's Delta Lake for data.

Implement a Lakehouse (Medallion Architecture)

- Bronze Layer
 - Raw data, untouched - it stores data in original format.
 - Example:
Dumping all your phone photos into one folder.
- Silver Layer
 - Cleaned and validated data – Data is transformed by removing nulls, deduping, and merging.
 - Example:
Sorting your photos by date and removing duplicates.
- Gold Layer
 - Business-ready, enriched data – Data to be used for analytics and reporting.

- Example:
Creating albums like “Vacation 2024” or “Family Events”.

Data Transformation & Orchestration

Transformation

Changing data to make it useful using: Dataflows Gen2, notebooks.

Orchestration

Coordinating multiple steps using: Pipelines.

Real-Life Example

Transformation = chopping vegetables

Orchestration = planning the entire recipe from start to finish