Lab 4 – Fabric Data Agent for structured data insights

Create a Microsoft Fabric data agent using the Gold (curated) tables produced in Lab 2, and validate natural-language Q&A over your curated FEMA claims data. This agent will enable underwriting agentic reasoning and decision support.

Lab Goals

• Create a Microsoft Fabric data agent

• Test Microsoft Fabric data agent with underwriting specific natural-language Q&A

Dependencies and Prerequisites

- Microsoft Fabric workspace (Contributor access)
- Lab 2 completed (Gold tables available in a Lakehouse/

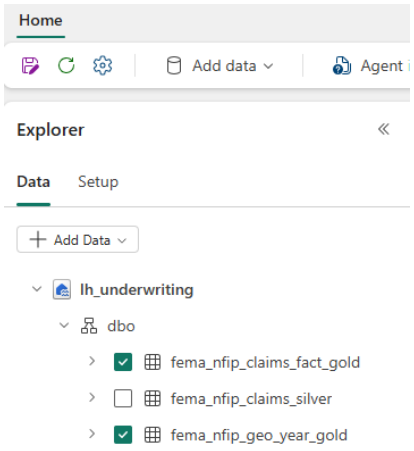
Outputs of This Lab

- Deployed (published) Fabric Data agent

Hands-On Activities: Step by step instructions

1. Create a Fabric data agent

1. In Microsoft Fabric, go to your workspace.
2. Create a **Data agent** artifact. Click + New Item ➔ Data agent.
3. Add your data source:
    - Click + Add Data
    - Select the Lakehouse that contains the **Gold** tables from Lab 2. Below is a sample configuration.
    - Tip: You don't need the Silver table for the agent. Keep the selection tight—fewer tables = better answers.



4. If needed, configure permissions and access so the agent can read the data sources you attach.

3. Add Agent instructions and sample queries

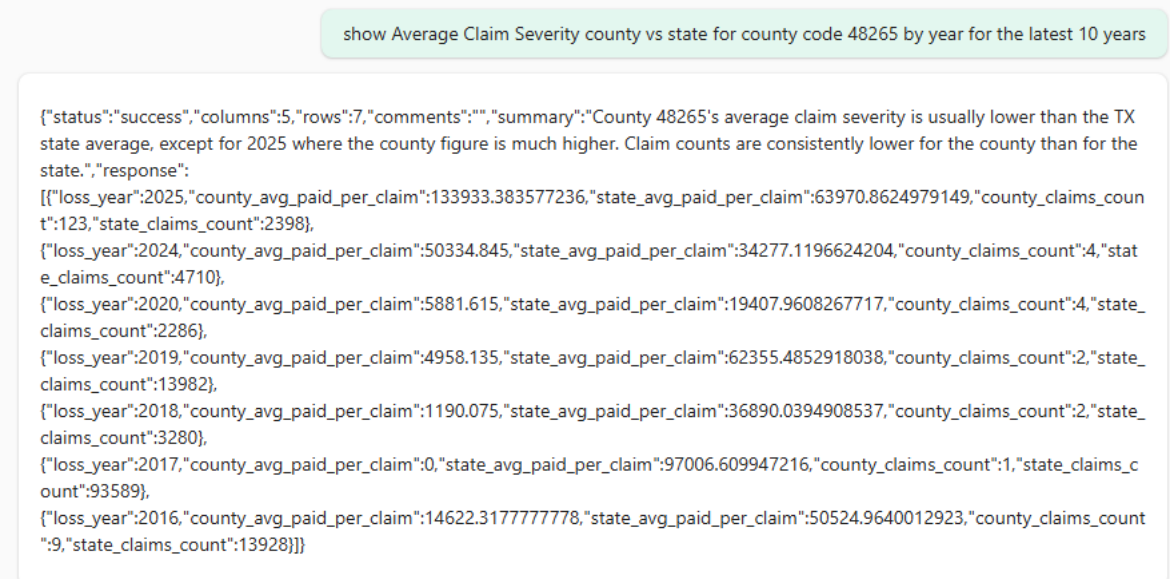
- Guide the data agent to the best data sources for different types of questions by writing a detailed system prompt.
    - Use sample instructions provided in the Fabric_Data_Agent_Instructions.txt. Paste that in Setup → Agent instructions and update as you test/tune it. Consider aligning your instructions to recommendations from Data agent configurations - Microsoft Fabric | Microsoft Learn
- **Add sample queries**: add pairs of natural language questions and SQL queries to guide the agent's responses.
    - Use sample queries provided in example_data_agent_queries.json as a starting point and tune it.
- Optionally, add data source instructions as per this document.

4. Validate the data agent with underwriting-style questions

Run a test set of prompts such as:

- “What are key claims trends for zip code 78725?”
- “what are key trends related to Texas July flooding events?”
- “show Average Claim Severity county vs state for county code 48265 by year for the latest 10 years”

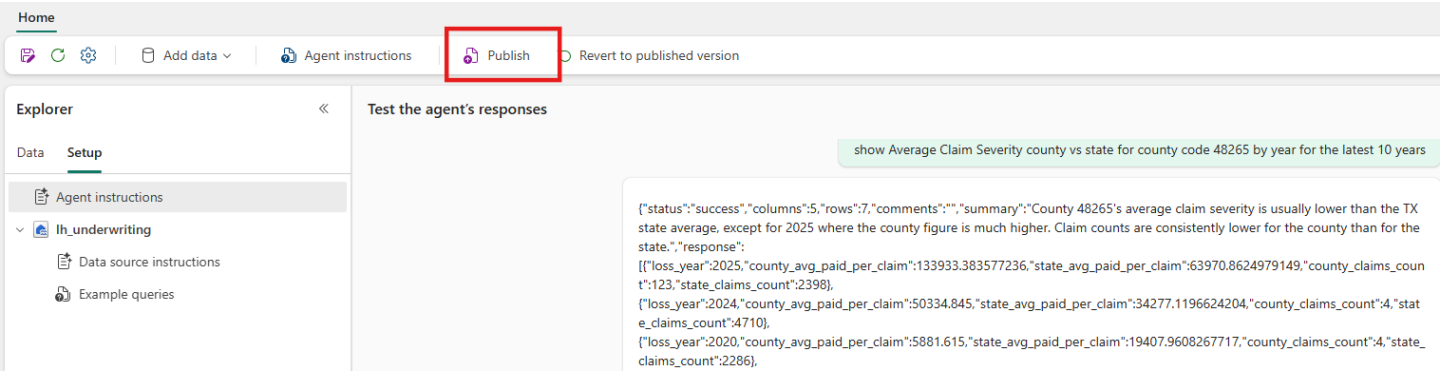
You should see a JSON output – sample output provided below.



5. Publish the Fabric data agent

After you validate the performance of the Fabric data agent, you should publish it so you can then use that in multi-agent workflow and applications. You can also use it from Microsoft Foundry.

Screenshot showing selection of the Publish option.



Refer to the latest instructions at [Fabric data agent scenario (preview) - Microsoft Fabric | Microsoft Learn]