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Establish a Fabric Connection



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# Establish a Fabric Connection

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Microsoft Fabric Data Agents can now be connected to nebulaONE using a new OAuth-based MCP (Model Context Protocol) connection. This integration allows users to query structured data housed in Fabric databases directly through nebulaONE's AI agent interface. Fabric Data Agents act as AI copilots grounded on specific datasets, enabling natural-language queries against complex, structured data.

To utilize this functionality, you first need to know about Fabric Data Agents.

What Are Fabric Data Agents?

Fabric Data Agents are AI-powered copilot constructs within Microsoft Fabric. Each agent is configured with:

- A set of instructions that define its behavior and scope.
- A grounded data source (e.g., a Fabric database) that the agent queries to answer user questions.

Data Agents are well-suited for complex, structured data scenarios such as workforce scheduling, regulatory compliance reporting, and operational analytics (e.g., hospital shift management with staff credentials, shift coverage, and overtime tracking).

⚠️ Note: Earlier iterations of Fabric Data Agents were unreliable and difficult to connect. An update in February 2026 significantly improved stability, and the nebulaONE OAuth connector now enables a seamless connection.

Architecture & Connection Model

One Connection Per Agent

Each Fabric Data Agent requires its own dedicated MCP connection to nebulaONE. You cannot route a single MCP connection to multiple data agents. This is done intentionally to ensure security. However, you can attach multiple Fabric Data Agent connections as knowledge sources on a single nebulaONE agent. For example:

| nebulaONE Agent          | Knowledge Source 1           | Knowledge Source 2                   | Knowledge Source 3                      |
|--------------------------|------------------------------|--------------------------------------|-----------------------------------------|
| Hospital Workforce Agent | Nurses Data Agent Connection | Security Staff Data Agent Connection | Operating Theatre Data Agent Connection |

When a user asks a question, the LLM will automatically determine which data agent(s) to call, and can interleave and correlate results from multiple agents into a single response.

Managing Connection Sprawl

As the number of data agents grows, the number of connections will grow proportionally. Cloudforce recommends naming the connections thoughtfully to ensure easy identification and selection. Future enhancements may include folders, groups, or filterable properties on connections to help administrators organize and manage large numbers of connections.

Authentication & Security

OAuth On-Behalf-Of (OBO) Authentication

The integration uses OAuth On-Behalf-Of (OBO) authentication, which ensures that all data access is governed by the user's own identity and permissions in Fabric.

How it works:

1. The first time a user interacts with a Fabric-connected agent (or when their authentication token has expired), nebulaONE will prompt them to log in directly within the chat interface.

2. The user's credentials are sent via the MCP connection to Fabric, which validates whether the user has access to the underlying data.
3. If the user does not have access, Fabric returns an authorization error — the agent will not return any data.

### Token Persistence

- Authentication is connection-based, not conversation-based. Once a user authenticates on one connection, that session applies across all conversations and agents using the same connection.
- The token automatically refreshes as long as the user remains logged into nebulaONE. Logging out of nebulaONE will require re-authentication.

### Granular Permission Enforcement

Fabric's security model is fully respected, including:

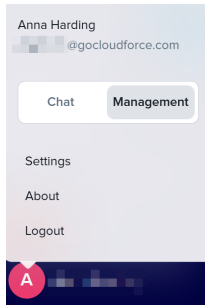
- Row-Level Security (RLS): Users only see rows they are authorized to access.
- Column-Level Security (CLS): Restricted columns (e.g., SSN) are excluded entirely from the dataset returned to unauthorized users.
- Object-Level Security: A user may be provisioned for the agent but not for the underlying data, resulting in an authorization error at the data layer.

Best Practice: Focus your security efforts on locking down the data in Fabric (permissions, RLS, CLS). Because all access flows through OBO authentication, you do not need to separately secure the nebulaONE agent against unauthorized data access — Fabric enforces the rules regardless of how users attempt to query the data.

### Build the Connection in nebulaONE

Prior to setting up the Fabric Connection in nebulaONE, a Fabric Data Agent must first be created/vetted. If you would like to contact Professional Services to consult/create Fabric data or Agents, please contact us.

Once a Fabric Agent is created, jump over to nebulaONE and create a Fabric Data Agent Connection.

| Step                                                                                   | Picture Reference                                                                    |
|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Within nebulaONE, click your initial in the bottom left and select <b>Management</b> . |  |
| Click <b>Connections</b> .                                                             |  |
| Click <b>New Connection</b> .                                                          |  |

|                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>In the bottom right, change the <b>Provider Type</b> to <b>Fabric Data Agent (MCP)</b> and then select <b>Let's go</b>.</p>                                                                                                     | <div><div>New Connection</div><div><div>Provider Type</div><div><div> <b>Fabric Data Agent (MCP)</b><br/>Connect to a Microsoft Fabric data agent using MCP. Requires user authentication via Microsoft Entra ID.</div><div>▼</div></div></div><div><div>Let's go</div></div></div>                                                                                                                                                                                                                                |
| <p>Enter a clear <b>Name</b> and <b>Description</b>. Select the desired Admin User Roles to manage the connection.</p> <p>Paste the <b>MCP Server URL</b> from the Fabric Data Agent into nebulaONE.</p> <p>Click <b>Save</b>.</p> | <div><div>New Fabric Data Agent (MCP) Connection</div><div><div><div>Basic Info</div><div><div>Name</div><div>Description</div><div>Admin User Roles</div><div>+ User Role</div></div></div><div><div>From Fabric:</div><div><div>Microsoft Fabric Data Agent</div><div><div>Agent Name</div><div>Agent ID</div><div>Agent URL</div><div>Agent Type</div><div>Agent Version</div><div>Agent Status</div><div>Agent Description</div></div></div></div></div><div><div>Fabric MCP Connection Settings</div><div><div>MCP Server URL</div></div><div><div>Cancel</div><div>Save</div></div></div></div> |
| <p>Once saved, a final confirmation message displays.</p>                                                                                                                                                                          | <div><div> Connection saved successfully! <span>×</span></div></div>                                                                                                                                                                                                                                                                                                                                                                                                                                              |

After the creation of the connection, add it as a knowledge source to any official agent (and don't forget you can Collaborate with the Agent in ONEchat).

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