Optional Lab – Explore Additional Features

Lab Guide

October 2024

Contents

1. Document Purpose

This document describes the IP named "**Lab 6 – Explore Additional Features**" as a lab guide to execute lab 6 to explore features like security ,connecting with external tools in Microsoft Fabric

2. Lab Description

Explore Additional Features

This exercise revolves around exploring the additional features like securing the Lakehouse and connecting with external tools like Azure Storage Explorer , One lake Explorer , SSMS

Note : There is no dependency on other labs execution to run this lab

3. Lab Tasks

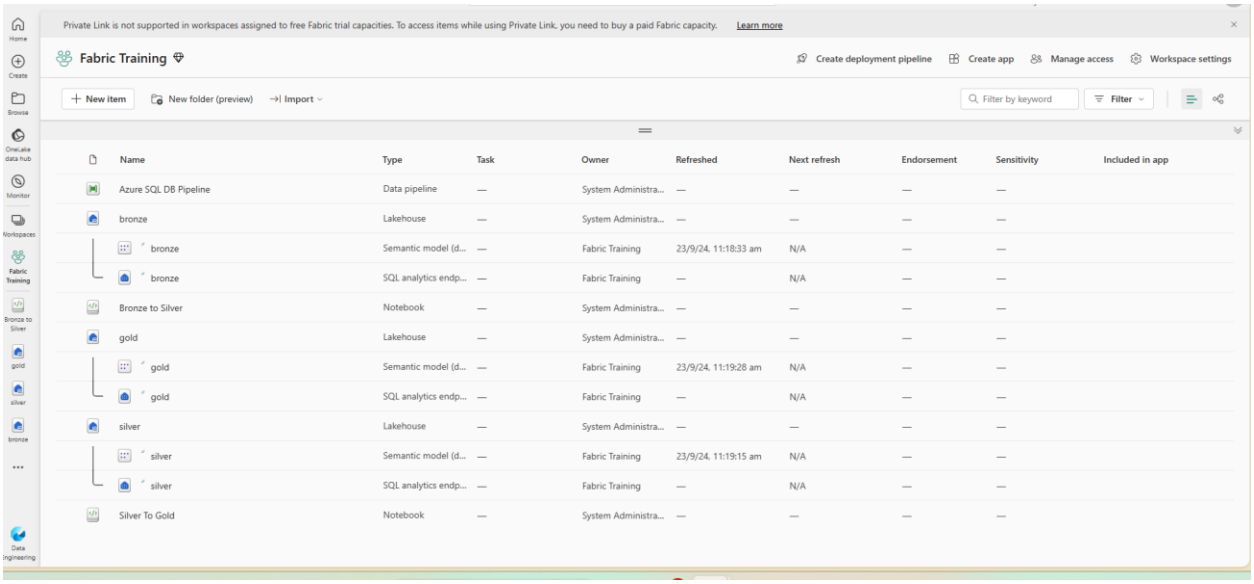
Task 4.1: Sharing a Lakehouse

In some cases, you may wish to share your lakehouse data with other users in your organization but you do not want to give them full access to your workspace or to the other items in the workspace. In this scenario, you can use Lakehouse Sharing to give access to a user or to a group of users.

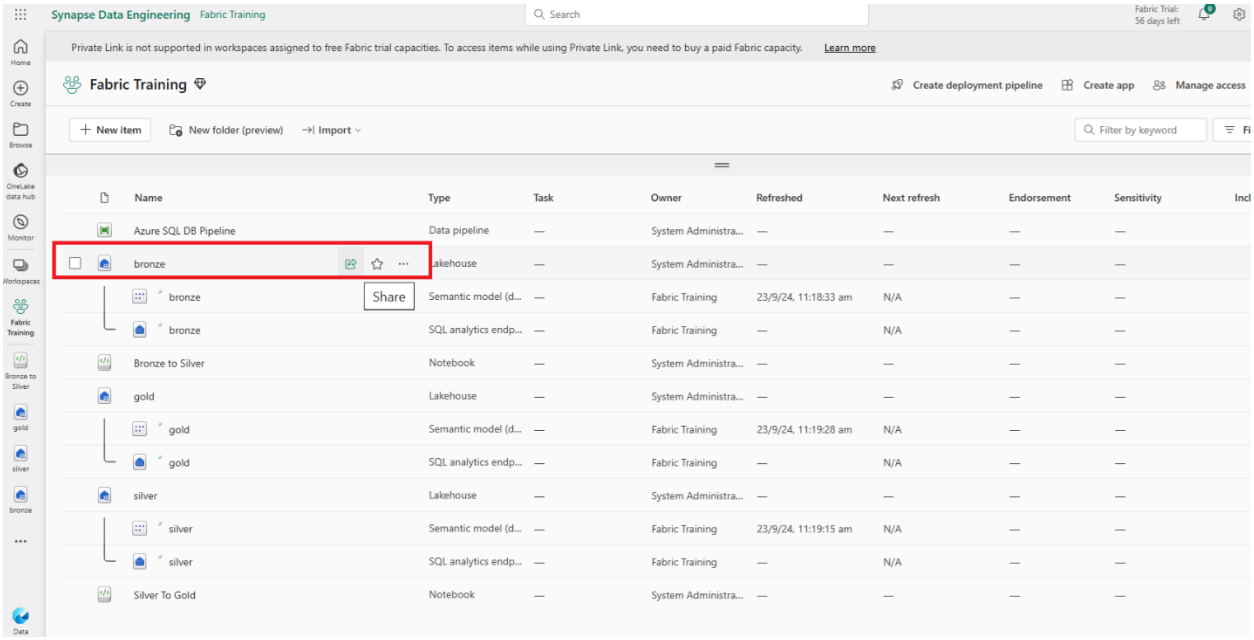
When you share your lakehouse, you are also granting access to the associated SQL endpoint and to the endpoint's default dataset. By default, this will be read-only access. Once your lakehouse has been shared, users will see it listed under the "Shared With Me" section in the Fabric UI.

Let's walk through how to share your lakehouse with another user.

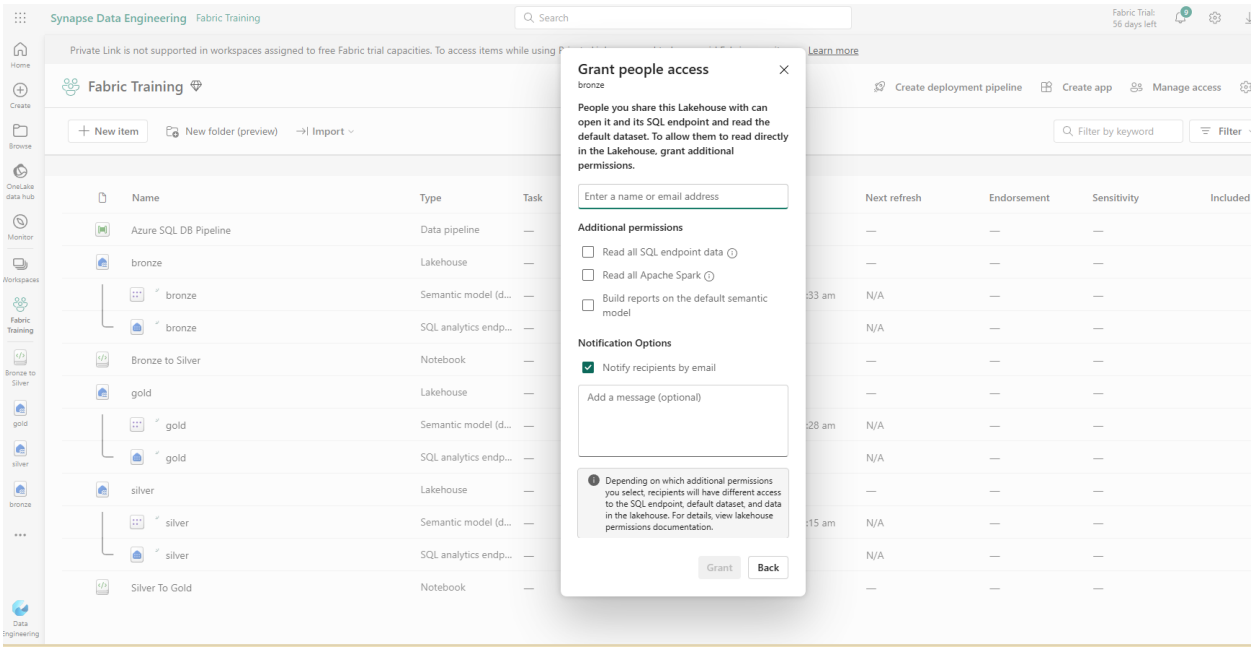
1. In Fabric, click the "Workspaces" button in the toolbar on the left side of the screen and navigate to the workspace – '***Fabric Training***' you have been using during this workshop.
2. In the Workspace view, you will see all of the resources in the workspace. Find the 'bronze' Lakehouse. In this exercise, we will share that lakehouse.



3. When your cursor hovers over the lakehouse, a “Share” icon will appear. Click the icon to open the “Grant people access” dialog box.

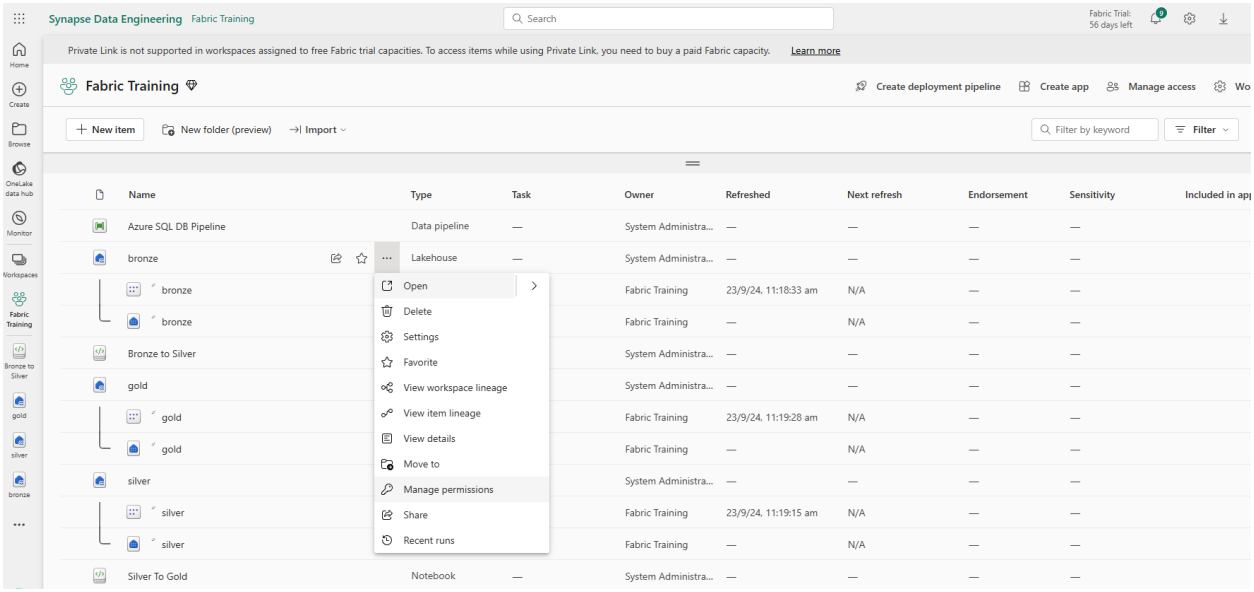


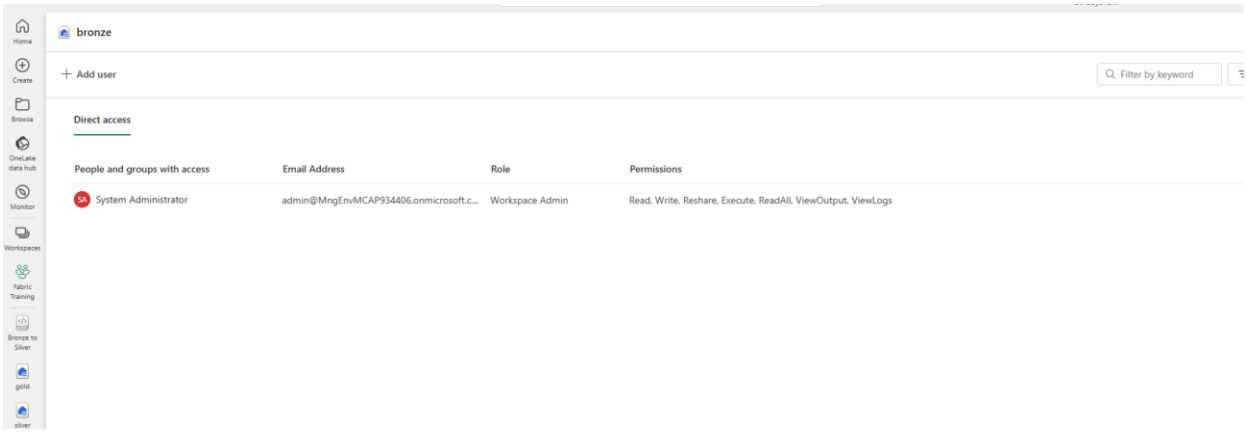
4. In the dialog box, enter the names or email addresses of the users or groups with whom you would like to share the lakehouse.



5. If you would like to grant additional permissions, select them in the list.
6. When you are ready, click the “Grant” button to share the lakehouse.

If you would like to revoke access to the lakehouse, you can select “Manage Permissions” from the lakehouse pop-up menu. This will show you everyone who has access to the lakehouse. Use the pop-up menu for each user or group to select “Remove access”.





Task 4.2: Securing the Lakehouse

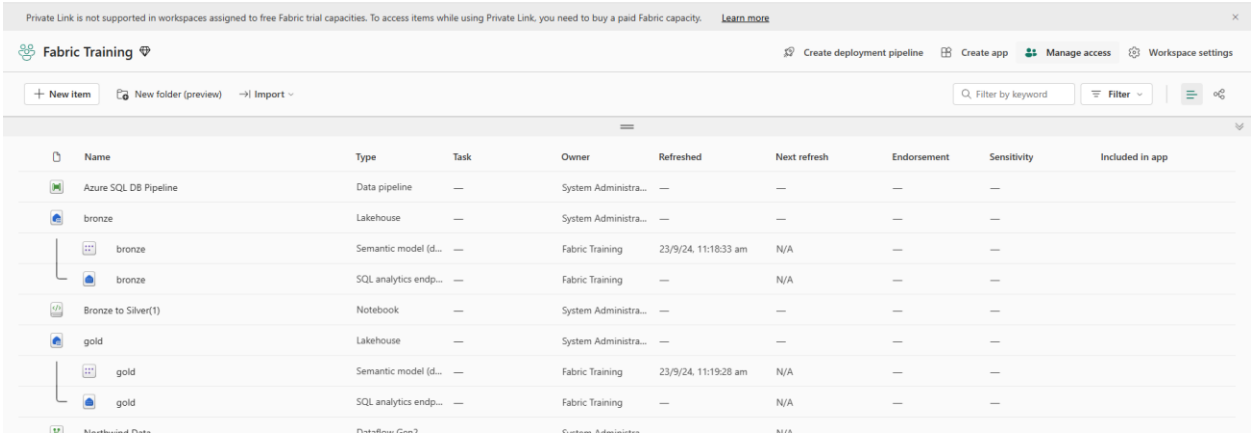
OneLake's security model is built around your organization's structure of experiences within Microsoft Fabric. Security is built on top of Azure Active Directory (Azure AD) authentication and is compatible with user identities, service principals, and managed identities. Using Azure AD together with Fabric, you can ensure that you keep your data safe without overly complex user schemes nor with redundant copies of data.

In Fabric, the primary boundary for security is the workspace. Each workspace is a single project area or domain where users can collaborate on shared data. Security in the workspace is managed through Fabric workspace roles. These roles allow you to manage who can do what within the workspace.

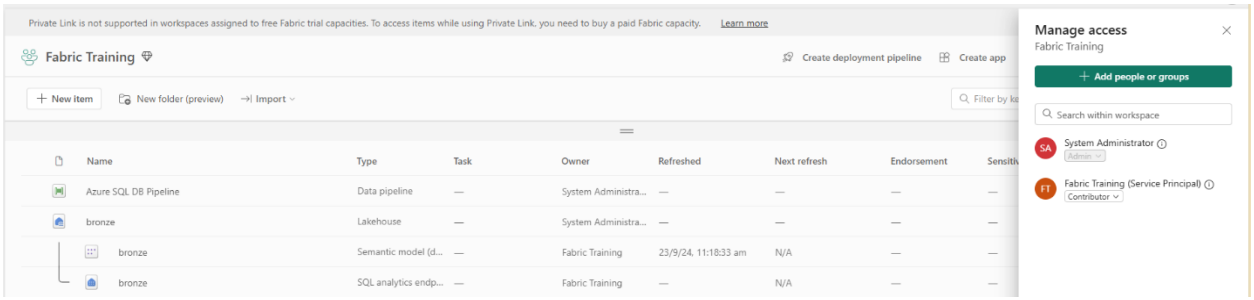
The basic roles in Fabric are: Admin, Member, Contributor, and Viewer. Roles can be assigned to individuals or to security groups, Microsoft 365 groups, and distribution lists. By default, the permissions granted by these roles will be applied to all objects within the workspace.

Let's see how this works by granting access to your workspace to another user.

1. In the Fabric portal, navigate to your workspace – ***Fabric Training***.
2. At the top of the screen, click the "Manage access" button.



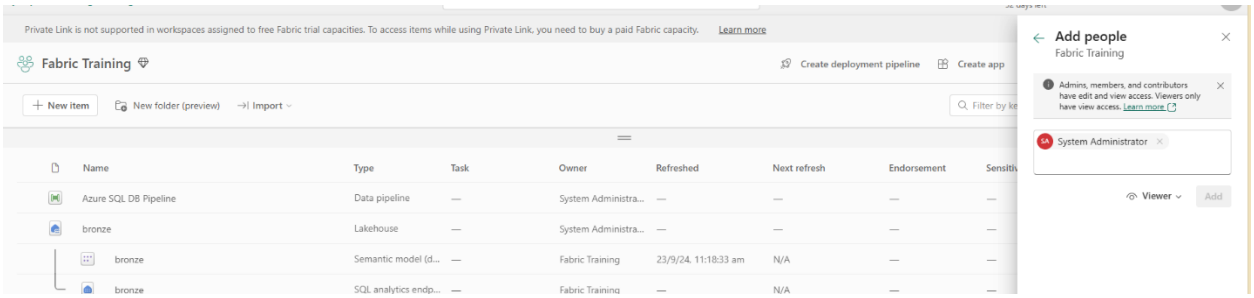
3. The “Manage access” panel will open on the ride side of the screen.



4. Click the “Add people or groups” button. Enter the name or email address of the user or group that you want to access your workspace. You can add multiple people and groups here.

5. Next to the “Add” button, select the role that you want to assign. The default is “Viewer” (which grants read-only access), but you can select other roles with elevated permissions.

6. Click the “Add” button.



The selected users or groups will be granted the role you selected. They can now access the objects in your Fabric workspace.

Further Reading:
OneLake security

Roles in workspaces in Microsoft Fabric

Task 4.3: Connecting with external tools

So far in this workshop, we have used tools built into the Fabric portal to work with data in our lakehouse. However, many users prefer to use familiar tools that run locally on their workstations to work with their data. Fabric supports a wide range of external tools, allowing users to choose their experience for connecting to the lakehouse.

[NOTE: You are encouraged to complete the "Azure Storage Explorer" section as part of this workshop. The other sections are optional since you may not have these tools installed on your workstation. The instructions for these tools are provided for your reference.]

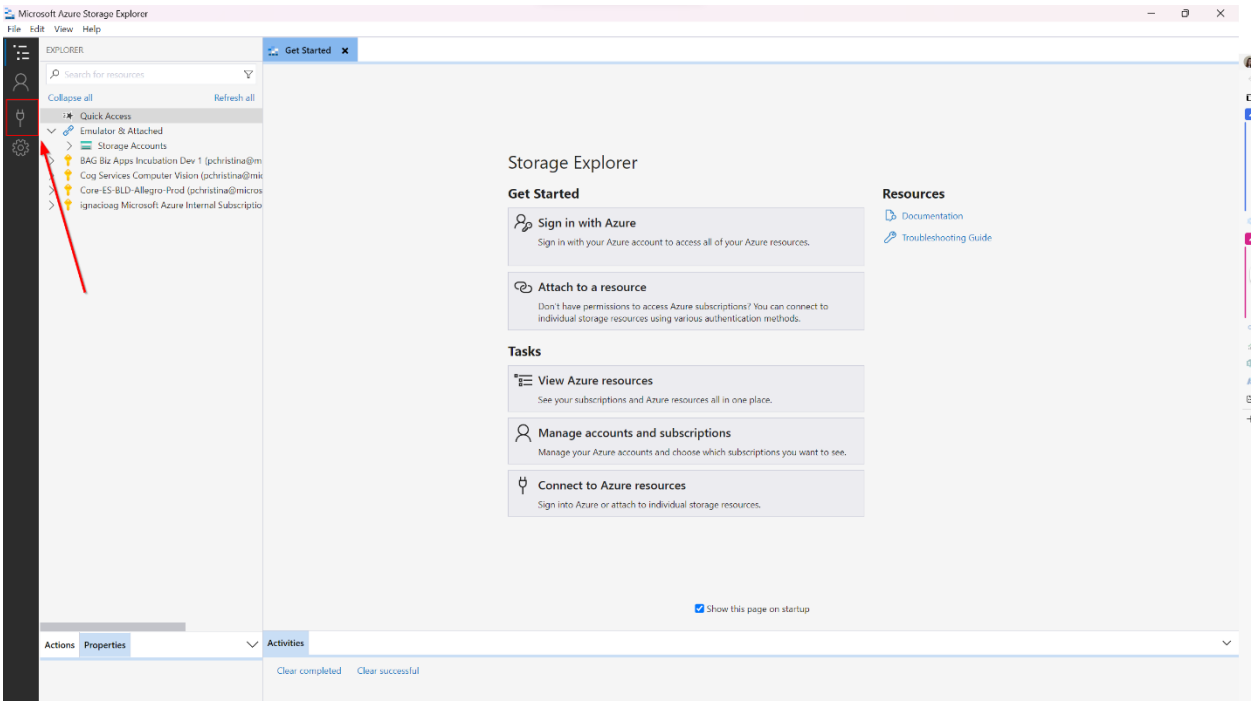
Azure Storage Explorer

Azure Storage Explorer is a local application that allows you to browse and interact with various storage systems in Microsoft Azure, including Azure Storage accounts and Azure CosmosDB databases. Since OneLake is underpinned by an Azure Storage account, we can use Azure Storage Explorer as a convenient way to interact with the files we have stored in OneLake.

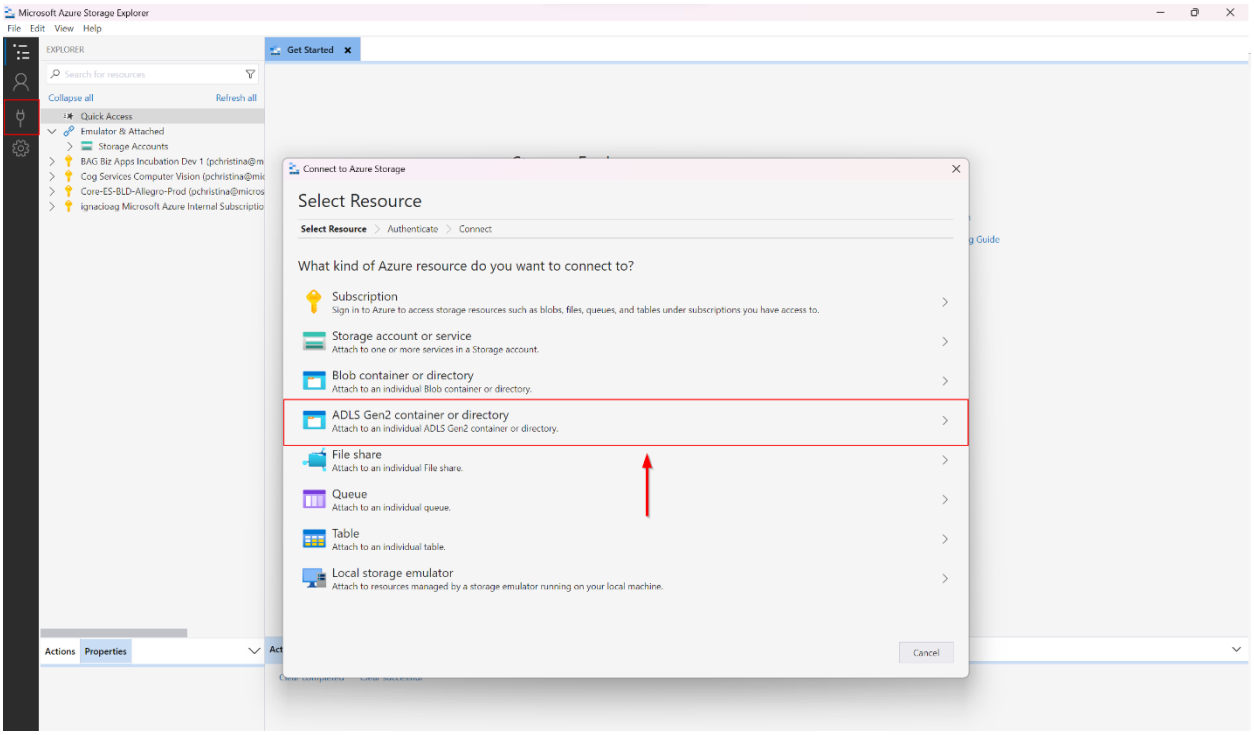
You can download Azure Storage Explorer here: Get started with Storage Explorer

To connect to OneLake with Azure Storage Explorer, follow these steps:

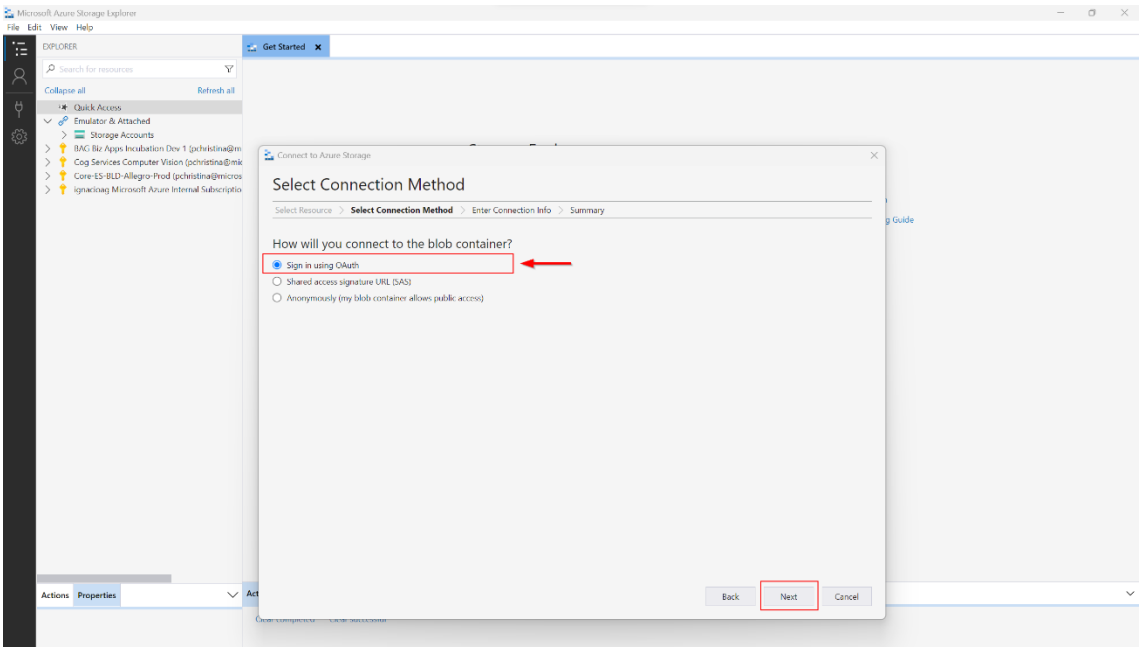
1. Launch Azure Storage Explorer on your computer. Select the "Connect" icon from the toolbar along the left edge of the screen. This will open the "Connect to Azure Storage" dialog box, which guides you through the process of establishing a connection.



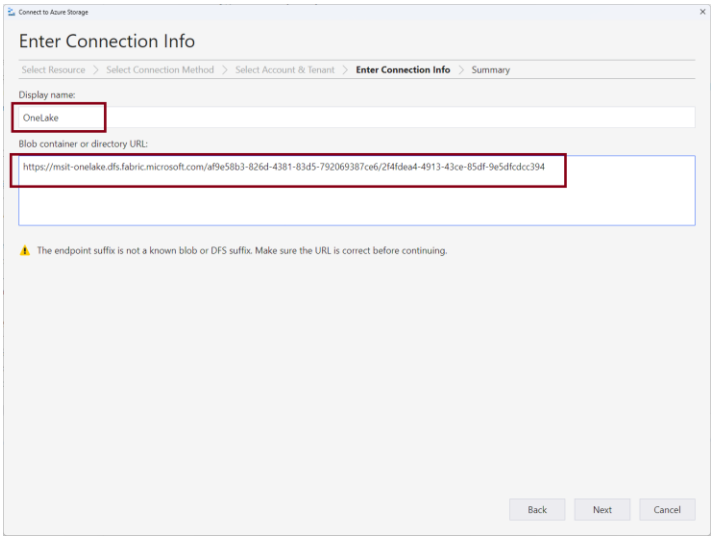
2. In the “Connect to Azure Storage” dialog box, click “ADLS Gen2 container or directory”



3. On the next page, select “Sign in using OAuth” as your method for connecting. Then click “Next”.



4. On the subsequent page, select the account with which you want to authenticate. If your authentication is not current, you may be prompted to enter your Azure Active Directory credentials.
5. Finally, you will be able to enter the connection information. For “Display name”, you can enter “OneLake” (or any other name that will help you remember what this connects to). In the “Blob container or directory URL”, you will enter the connection information for your OneLake storage account.

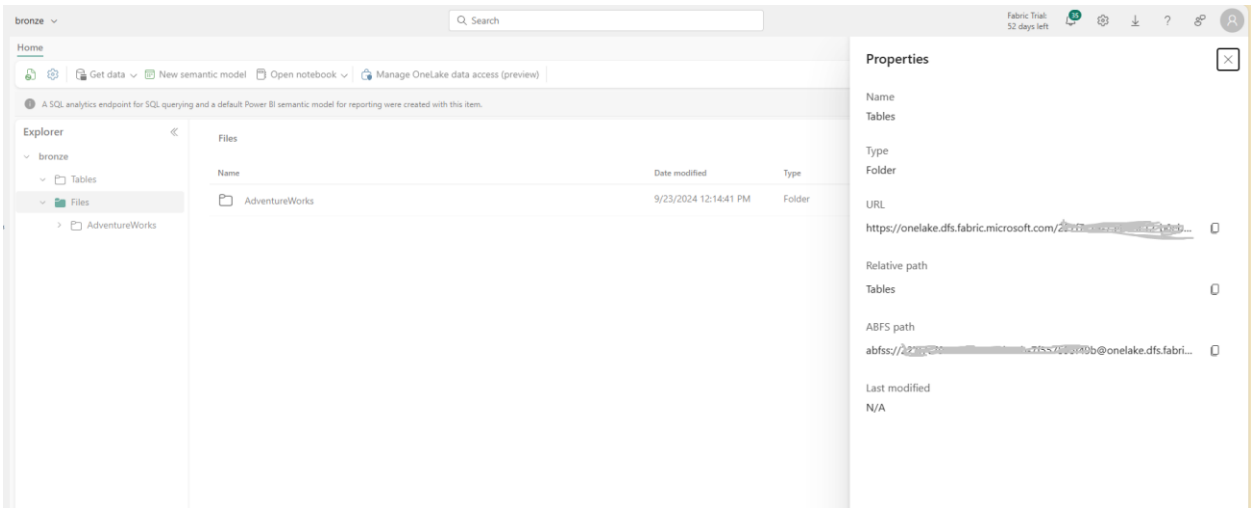


This URL will use the following pattern:
https://onelake.dfs.fabric.microsoft.com/{workspace-id}/{lakehouse-id}/

The workspace ID and lakehouse ID will be GUIDs.

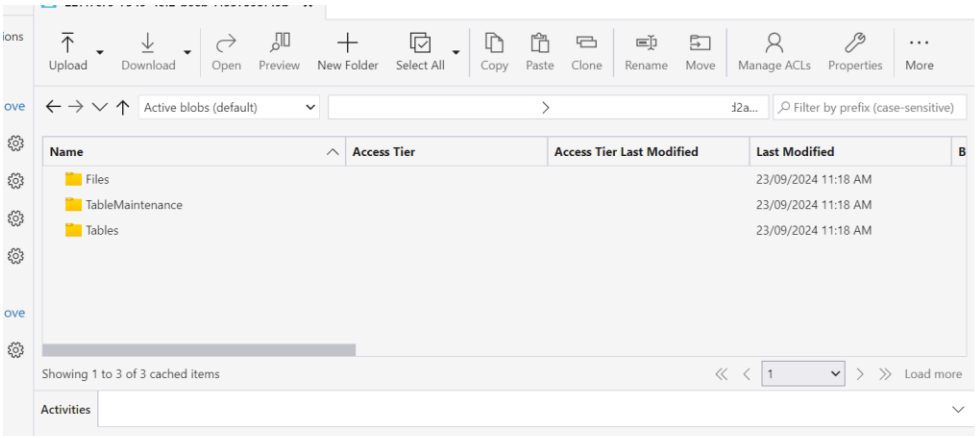
The easiest way to find this information is to open your lakehouse in the Fabric portal. In the Explorer, hover over the “Tables” folder and click the three dots to open the context menu. From the menu select “Properties”.

On the “Properties” pane, you will see a URL field. This URL points specifically to the “Tables” folder. If you remove “Tables” from the end of the URL, you can use it to access all of the resources in the lakehouse with Azure Storage Explorer.



Note: Azure Storage Explorer may display a warning that the URL does not refer to a “known blob or DFS suffix.” Microsoft Fabric is still in public preview, and Azure Storage Explorer has not yet been updated to recognize the OneLake URL scheme. Expect Storage Explorer to be updated as Microsoft Fabric nears General Availability.

After you insert your URL, the connection is complete, and you should see a similar page in Azure Storage Explorer:

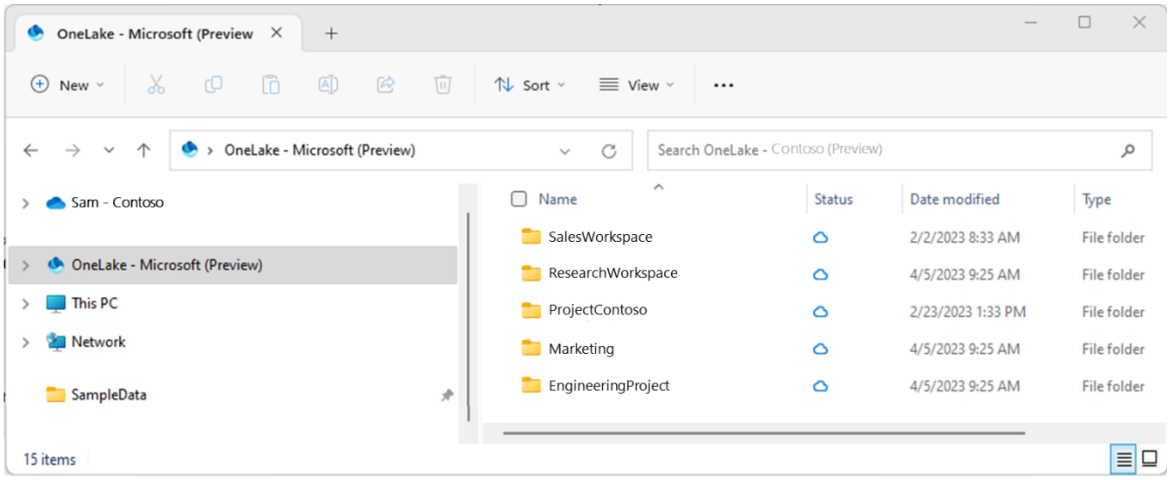


OneLake File Explorer

OneLake File Explorer is an innovative new feature of Fabric that allows access to data in OneLake to be seamlessly integrated into your local Windows File Explorer. We like to refer to this feature as "OneDrive for your data" because it allows you access your lakehouse data just as easily as you can access documents stored in OneDrive!

You can download OneLake File Explorer here: [Install OneLake File Explorer]

Once you complete the installation process, the tool will guide you through the configuration. You will then be able to access your data through Windows File Explorer. This allows you to easily upload and download data to OneLake.



SQL Server Management Studio (SSMS)

SSMS is the most popular tool for managing and working with Microsoft SQL Server databases. You can also use it to connect to a warehouse in Microsoft Fabric.

You can download SSMS here: Download SQL Server Management Studio (SSMS)

To connect to your Fabric warehouse, follow these steps:

1. In Microsoft Fabric, click the "Browse" button in the toolbar on the left side of the screen.
2. In your list of resources, find the warehouse you want to access. Click on it to open it.
3. When your warehouse opens, click the "Settings" icon in the toolbar at the top of the screen.
4. In the "About" panel, you will see the "SQL connection string". This provides all of the details for connecting to your warehouse. Copy the connection string.
5. In SSMS, click the "Connect" button in the Object Explorer and select "Database Engine..." from the drop-down list.
6. In the "Connect to Server" dialog box, paste your SQL connection screen into the "Server" field. For authentication, only "Azure Active Directory – Universal with MFA" is supported.

Once you are connected to your Fabric warehouse, you can use SSMS to manage database objects (like tables, views, and store procedures). You can also use the query editor to write SQL code against your Fabric warehouse.

Azure Data Studio

Azure Data Studio is a modern open-source, cross-platform hybrid data analytics tool designed to simplify the data landscape. Similar to SQL Server Management Studio, it is a powerful tool allowing data engineers and analysts to connect to a variety of database sources.

You can download Azure Data Studio here: Download and install Azure Data Studio

Connecting to your Fabric warehouse with Azure Data Studio is very similar to the steps above for connecting with SSMS. You will need to retrieve your SQL connection string from the warehouse as explained above. Then, in Azure Data Studio, on the "Welcome" page, select "New Connection". On the "Connection Details" dialog box, paste your SQL connection string in the "Server" field and select "Windows Authentication" for the "Authentication type" field.

Further Reading:
Connectivity to data warehousing

Integrate OneLake with Azure Storage Explorer

Access Fabric data locally with OneLake file explorer