Synapse Link for Dataverse F&O Tables

Use managed identities for Azure with your Azure data lake storage

The steps documented here have been refined from the official MS documentation located here: <https://learn.microsoft.com/en-us/power-apps/maker/data-platform/azure-synapse-link-msi>

Prior recording is here: [NMG Synlink Ent Policy Setup.mp4](https://edgewater.sharepoint.com/:v:/r/sites/fullscope/cso/Reporting_BI/Shared%20Documents/Synapse%20Link%20Documentation/Configuration%20Documentation/NMG%20Synlink%20Ent%20Policy%20Setup.mp4?csf=1&web=1&e=kHymOa)

The purpose of this document is to allow for securing the Azure Data Lake Storage Account holding the D365FO data. Without the policy, the storage account must remain open to all networks. With the policy in place, the storage account’s network configuration can be changed to “Selected Networks Only”. The Enterprise Policy and Managed Identity authenticate Dataverse as a trusted connection and allows access through the ADLS firewall.

The Managed Identity / Enterprise Policy should be configured before creating the Synapse Link. However, if the Synapse Link is already created, the Enterprise Policy can also be created and the Link can be configured to use the Policy.

Allow 1 hour to complete setup of the Synapse Link Enterprise Policy.

The following needs to be completed on a laptop or server, logged in with a user who is:

* Azure Entra ID / AAD Admin
* Azure Subscription Owner
* Power Platform Administrator

**Prerequisites:**

1. Download and install Powershell 7:
   1. Via Powershell: winget install --id Microsoft.Powershell --source winget
   2. Or download the MSI x64 installer package: <https://learn.microsoft.com/en-us/powershell/scripting/install/installing-powershell-on-windows?view=powershell-7.4#installing-the-msi-package>
2. Azure CLI is required on your local machine. [Download and install](https://aka.ms/InstallAzureCliWindows)
3. Open Powershell 7 (run as administrator)
4. Execute the following commands in Powershell7 (these can take a while)
   1. YY
5. Browse to this Github link and download the Common.zip file: <https://github.com/microsoft/PowerApps-Samples/blob/master/powershell/managed-identities/Common.zip>
   1. Click this button to download the zipA screenshot of a computer

      Description automatically generated
6. Extract the contents of the zip file to the PC where Powershell7 is installed. Be certain that you are extracting all of the files and retaining the folder structure! Note where you are extracting this to as you will need to browse to this location via powershell. (ex: c:\downloads\common\\*)
7. Create your Azure Resources first for Synapse Link:
   1. Resource Group: RG*-REGION-*CLIENT\_NAME-D365fosynlink-NONPROD
   2. ADLS Storage: dlsd365fosynlink*REGION*nonprod
   3. Synapse: synw- *REGION-*CLIENT\_NAME-D365fosynlink-NONPROD
      1. Use these settings for the Spark Pool:<https://learn.microsoft.com/en-us/power-apps/maker/data-platform/azure-synapse-link-delta-lake#recommended-spark-pool-configuration>
      2. A screenshot of a computer program

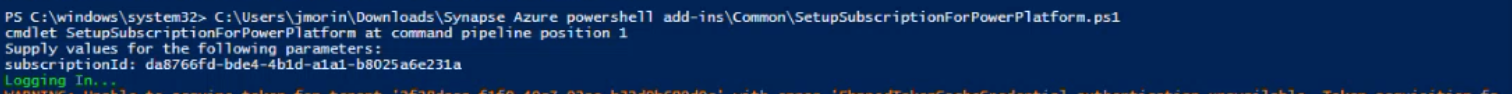
         Description automatically generated

**Enable enterprise policy for the selected Azure subscription**

A close-up of a blue background

Description automatically generated

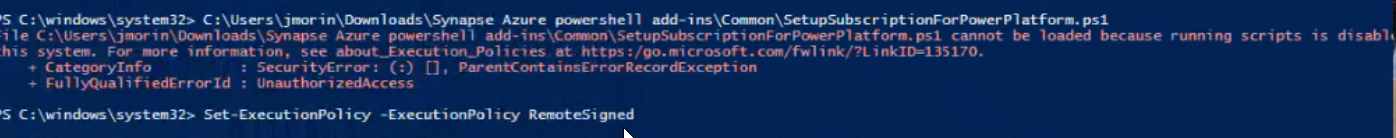
1. Open Powershell 7 with run as administrator and sign into your Azure subscription using the command: az login
   1. More information: [Sign in with Azure CLI](https://learn.microsoft.com/en-us/cli/azure/authenticate-azure-cli)
2. (Optional) if you have multiple Azure subscriptions, make sure to run Update-AzConfig -DefaultSubscriptionForLogin {Azure subscription id} to update your default subscription.
3. In Powershell7, use cd commands to navigate to the folder where the Common.zip was extracted.
4. To enable the enterprise policy for the selected Azure subscription, run the PowerShell script **./SetupSubscriptionForPowerPlatform.ps1**.
   1. Provide the Azure subscription ID.
   2. Output:



A screenshot of a computer

Description automatically generated

If you get an error when trying to run the Powershell script:

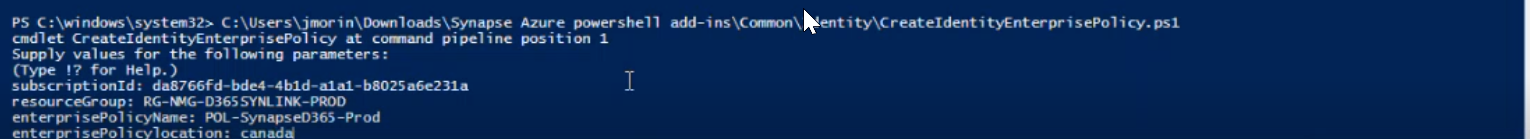


**Create enterprise policy**

**A blue background with black text

Description automatically generated**

1. Create the enterprise policy. Run PowerShell script:  ./CreateIdentityEnterprisePolicy.ps1
   1. **Record these items in Notepad, because you’re going to need to copy and paste multiple times!**
   2. Provide the Azure subscription ID
      1. Browse to the subscription in the azure portal to get the subscription ID
   3. Provide the Azure resource group name.
      1. Resource group name for the Synapse Link azure resources (ADLS & Synapse Workspace)
   4. Provide preferred enterprise policy name.
      1. Recommend using “Policy-{resource group name}” as the policy is tied directly to the RG.
   5. Provide the Azure resource group location.
      1. Typically going to be “unitedstates” or “canada” if there’s an error, look at what is allowed and try again. It may need to be the more exact location for your Azure resources, “eastus”, etc.
2. Save the copy of the ResourceId after policy creation.
   1. **copy and paste the entire output into notepad**
   2. The resource ID will be needed a couple times and is also referred to as the policyARMId.
      1. Here is an example: /subscriptions/ef740b43-5262-4061-9028-d4ef5627a197/resourceGroups/RG\_KGPBI\_SynLink\_QA/providers/Microsoft.PowerPlatform/enterprisePolicies/Policy\_RG\_KGPBI\_SynLink\_QA

****

**A blue screen with yellow and green text

Description automatically generated**

**\*Note that the ResourceId and value are highlighted in yellow**

**A blue screen with white text

Description automatically generated**

**Grant reader access to the enterprise policy via Azure**

* Identify the user who will be responsible for the initial creation of the Synapse Link OR linking this policy to the existing Synapse Link.
* This user must have the following permissions:
  + Azure Subscription Owner (with ability to assign permissions)
  + Power Platform Administrator
  + Dataverse Environment linked to F&O:
    - System Administrator
    - Synapse Link Service Access Role

1. For the user identified above, goto the Azure Portal, Entra ID, find the user’s account and copy the user’s ObjectID.
   1. A screenshot of a computer

      Description automatically generated
2. In Powershell7 run the following command, replacing the <objId> with the user’s **ObjectID** and the <EP Resource Id> with the enterprise policy ID.
   1. New-AzRoleAssignment -ObjectId <objId> -RoleDefinitionName Reader -Scope <EP Resource Id>

A screenshot of a computer

Description automatically generated

**Connect enterprise policy to Dataverse environment**

1. Obtain the Dataverse environment ID.
   1. Sign into the [Power Platform admin center](https://admin.powerplatform.microsoft.com/).
   2. Select Environments, and then open your environment.
   3. In the Details section, copy the Environment ID.
   4. To link to the Dataverse environment, run this PowerShell script: ./NewIdentity.ps1
      1. Provide the Dataverse environment ID.
      2. Provide the ResourceId / PolicyARMId from the policy creation step
      3. StatusCode = 202 indicates the link was successfully created.

A blue screen with white text

Description automatically generated

A blue screen with white text

Description automatically generated

**Create your Synapse Link Profile Now:** [**Synapse Link Configuration**](https://edgewater.sharepoint.com/sites/fullscope/cso/Reporting_BI/Shared%20Documents/Synapse%20Link%20Documentation/Configuration%20Documentation/Synapse%20Link%20Configuration.docx?web=1)s

Select the option at the bottom to use the Enterprise Policy.

1. Sign into [Power Apps](https://make.powerapps.com/?utm_source=padocs&utm_medium=linkinadoc&utm_campaign=referralsfromdoc) and select your environment.
2. On the left navigation pane, select **Azure Synapse Link**, and then select **+ New link**. If the item isn’t in the side panel pane, select […More](https://learn.microsoft.com/en-us/power-apps/maker/canvas-apps/intro-maker-portal#1--left-navigation-pane) and then select the item you want.
3. Select **Select Enterprise Policy with Managed Service Identity**, and then select **Next**.
4. Add the tables you want to export, and then select **Save**.

**If your Synapse Link Profile was already created, then add the enterprise policy to the existing Synapse Link:** <https://learn.microsoft.com/en-us/power-apps/maker/data-platform/azure-synapse-link-msi#enable-managed-identity-for-an-existing-azure-synapse-link-profile>

**Your synapse link is created and the enterprise policy is enabled….Now you can secure the storage account:**

**Configure network access to the Azure Data Lake Storage Gen2**

1. A blue background with black text

   Description automatically generatedGo to the [Azure portal](https://portal.azure.com/).
2. Open the storage account connected to your Azure Synapse Link for Dataverse profile.
3. On the left navigation pane, select **Networking**. Then, on the **Firewalls and virtual networks** tab select the following settings:
   1. **Enabled from selected virtual networks and IP addresses**.
   2. Under **Resource instances**, select **Allow Azure services on the trusted services list to access this storage account**
4. Select **Save**.