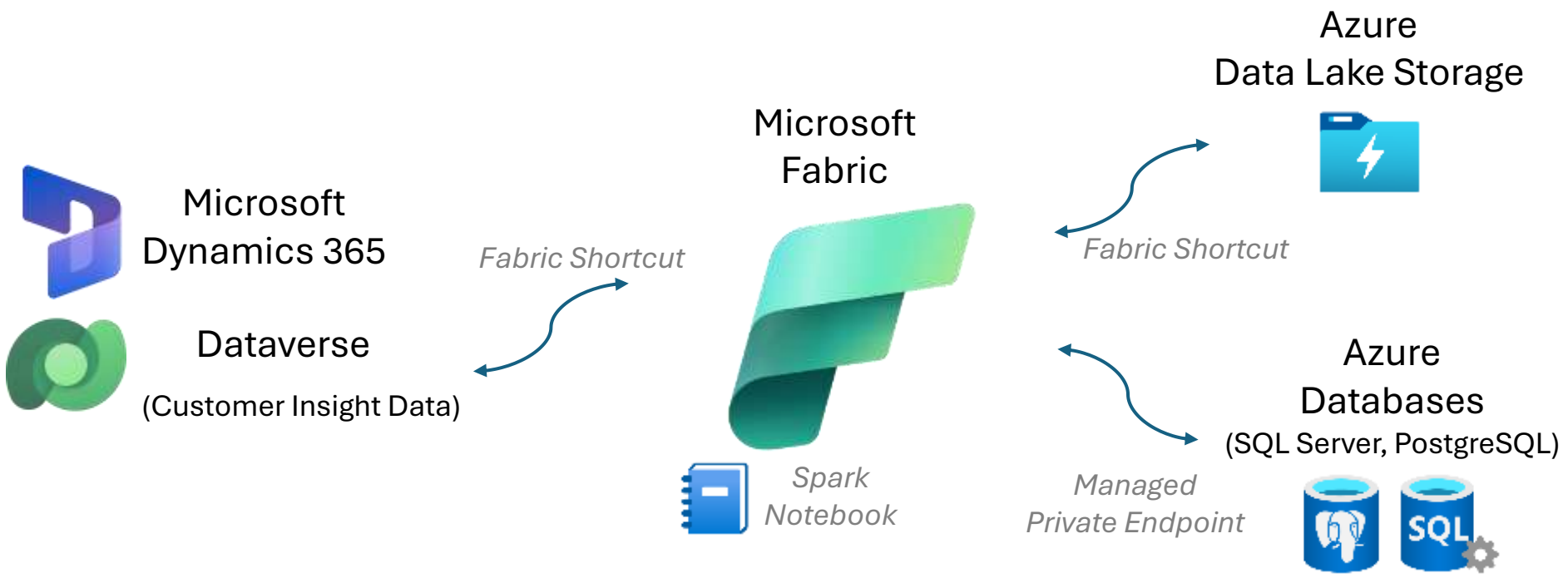
Microsoft Fabric Shortcut: Sink incremental data from Dataverse to Azure



Workflow for enabling Privatelink for Fabric instance

Workflow for enabling Privatelink for Fabric instance

Step	Executor	Procedure	Permission needed
1	BU	Azure portal > Subscription > Settings > Resource providers Search and register “Microsoft.Fabric”	Subscription Owner/Contributor
2	BU	Azure portal > Search “Microsoft.Fabric” Create Fabric Instance, select the same Region where BU’s data residency Share the Fabric instance name to M365 admin	Subscription/Resource Group Owner/Contributor
3	BU	Azure portal > Subscription > IAM > add role assignment “Owner” to M365 system admin	Subscription Owner
4	**M365 admin**	Access https://app.fabric.microsoft.com/ Right upper Gear icon > tenant settings> Search and enable “Azure Private Link”	M365 system admin
5	**M365 admin**	Login Azure Portal, switch subscription to BU’s sub > Search “Deploy a custom template”. Follow Step 2 “Create a Microsoft.PowerBI private link services for Power BI resource in the Azure portal”	M365 system admin + Subscription Owner
6	BU	Login Azure Portal, follow Step 3 “Create a virtual network” to Step 7 “Access Fabric privately from the virtual machine” You can skip VNET, VM, Bastion workflow if you already have them	Subscription/Resource Group Owner/Contributor

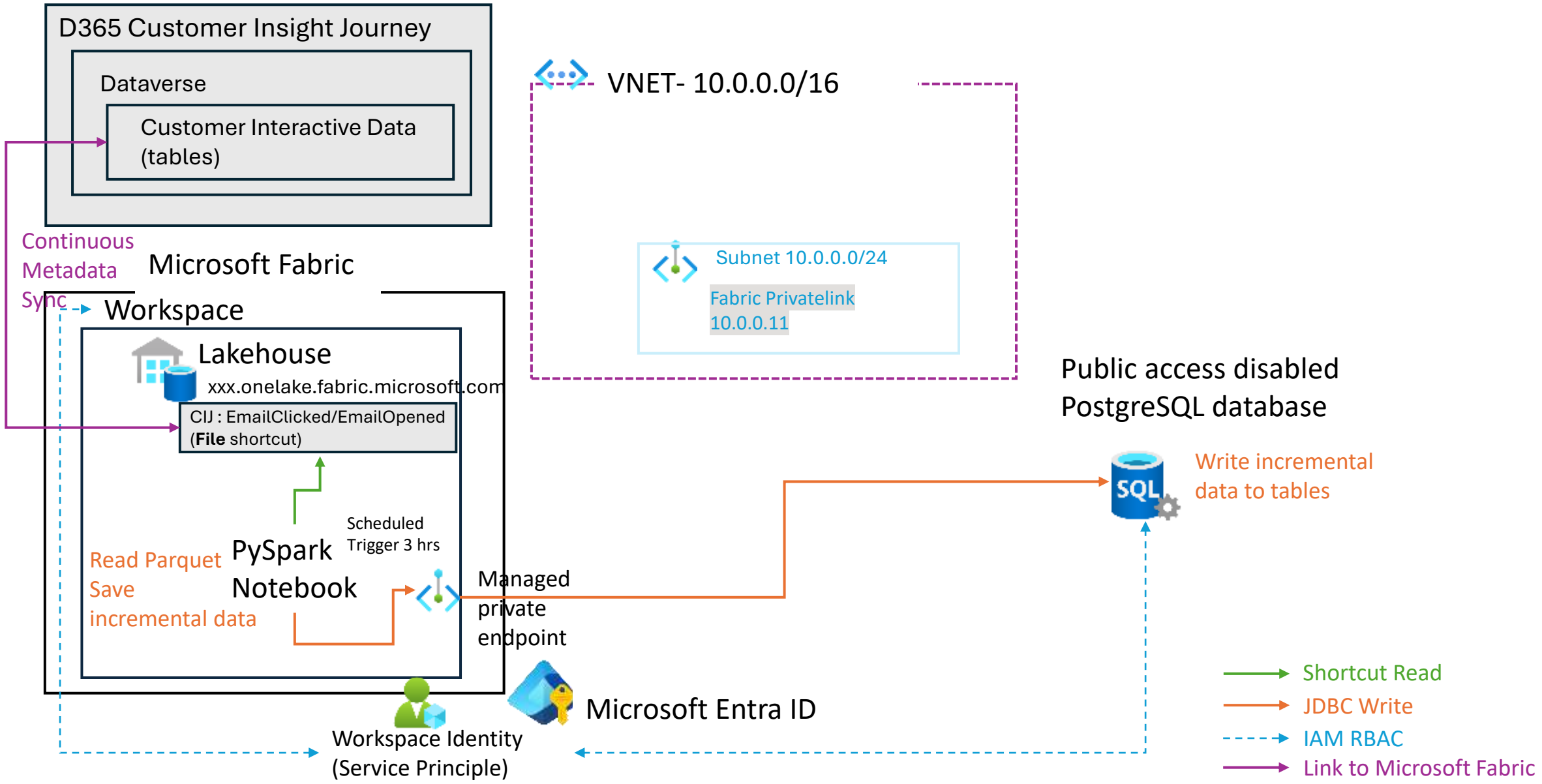
Workflow for enabling Privatelink for Fabric instance

Step	Executor	Procedure	Permission needed
7	BU	Access to https://app.fabric.microsoft.com/home Click "Power BI" icon > Workspaces > Create workspace - Workspace settings > License info > binding with your Fabric instance - Workspace settings > Workspace identity > enable identity	Subscription Owner + Fabric admin
8	BU	Login PowerApps Portal, https://make.powerapps.com/, > select D365CIJ environment > Tables > Analyze > click "Link to Microsoft Fabric" - Select the Fabric workspace - Wait for completion is necessary	D365 system admin+ Fabric admin
9	**M365 admin**	Use a VM to access https://app.fabric.microsoft.com/ Right upper Gear icon > tenant settings> Search and enable "Block Public Internet Access"	M365 system admin
10	BU, **M365 admin**	Wait for 15-20mins, access to https://app.fabric.microsoft.com/ via internet, to validate the Fabric entry point is blocked for public access	Any tenant user
11	BU, **M365 admin**	Access to https://app.fabric.microsoft.com/ via VM, to validate the Fabric entry point is accessible from VNET	Any tenant user from a VM

If any BU need to perform step8 again, need to ask M365 admin to perform step 9 for disabling the "Block Public Internet Access". Otherwise, step 8 will be failed

Workflow for setup Fabric shortcut for Dataverse

Fabric notebook read shortcut and write to PostgreSQL



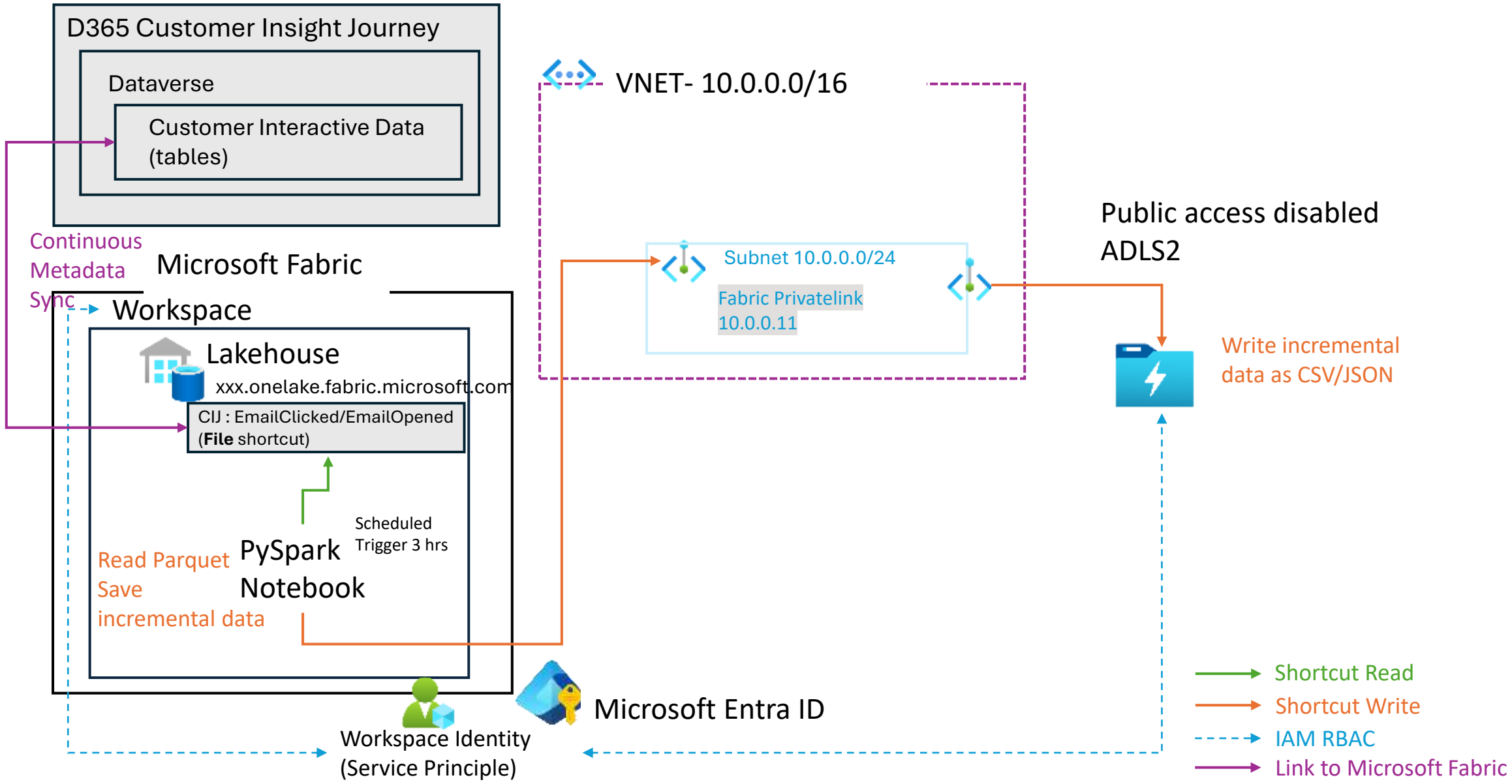
Workflow for Fabric notebook (PostgreSQL)

Step	Executor	Procedure	Permission needed
0	BU	Access to https://app.fabric.microsoft.com/home Click “Power BI” icon > Workspaces > Select your workspace - You will find a lakehouse named “Dataverse_xxx” is created by “Link to Microsoft Fabric”, you can delete this lakehouse - Create a new lakehouse, click “+New item” button, select lakehouse	Fabric workspace contributor
1	BU	Go to lakehouse page > click ”…” icon next to “Files” > New shortcut > Dataverse - Enter your D365 CIJ environment domain - Sign on your D365 system admin for “connection credentials” - Select the tables you needed “Customer Insights Journeys/EmailClicked / EmailOpened”	Fabric admin + D365 system admin
2	BU	Azure portal > your_postgresql > IAM Grant contributor role to your workspace identity	SubscriptionOwner/ Contributor
3	BU	Azure portal > your_postgresql > Overview > click JSON View > Copy Resource ID Fabric Workspace > Workspace settings > Network Security > Create > paste your PostgreSQL Resource ID to Resource identifier, pick sub-resource “PostgreSQL” Azure portal > your_postgresql > Network > Click the private endpoint with “Pending” status, click “Approve”	Subscription/Resource Group Owner/Contributor
4	BU	Azure portal > your_postgresql > Security > Authentication > - Microsoft Entra Admins : add your workspace identity - Authentication = PostgreSQL and Microsoft Entra authentication	PostgreSQL Contributor
5	BU	Azure portal > Microsoft Entra ID > Manage > App Registration > All applications > select your workspace name > Manage > Certificates & Secrets > + New client secrets, copy the secret value, not secret ID. Go to Overview, copy tenant ID and client ID, Azure portal > Azure Key Vault > create secret for AZURE-CLIENT-ID/ AZURE-TENANT-ID/ AZURE-CLIENT-SECRET Azure portal > Azure Key Vault > IAM > grant workspace identity with “Key Vault Secrets User “ role	Subscription Owner AKV Admin

Workflow for Fabric notebook (PostgreSQL)

Step	Executor	Procedure	Permission needed
6	BU	Create database named “fabricoutput” in your PostgreSQL	PostgreSQL admin
7	BU	Fabric Workspace > left lower corner, change to “Data Engineering” icon > import notebook > upload both “sink_delta_emailClicked_PostgreSQL.ipynb” and “sink_delta_emailOpened_PostSQL.ipynb”	Fabric Workspace Contributor
8	BU	Fabric Workspace > click the notebook “sink_delta_emailClicked_PostgreSQL” , remove existing lakehouse if any , click Lakehouse+ button, select your lakehouse,	
9	BU	Edit the notebook, AKV_ENDPOINT = https://**xxx**.vault.azure.net/ jdbc_url = "jdbc:postgresql://**xxx**.postgres.database.azure.com:5432/fabricoutput" cutoffdate = "2024-05-09 09:46:55“ any record’s timestamp before this cutoffdate will be ignored, will not be ingested to PostgreSQL	
10	BU	Fabric Workspace > click the “…” button next to the notebook “sink_delta_emailClicked_PostgreSQL” > Settings > Schedule > set your scheduled running period	
11	BU	Repeat steps 8-10 for the notebook “sink_delta_emailOpened_PostgreSQL”	
12	BU	The data will be stored in PostgreSQL database:“fabricoutput”, tables: “emailopened” and “emailclicked”	
13	BU	Testing routines 1. Open the notebook 2. Click Connect > New standard session > wait for session connected (8mins) > click “Run all” 3. To repeat the test , you need to unfreeze cell #4 “# just for debug”, change the cutoffdate value in cell #1 to the date you needed, unfreeze this cell #4 and then run this cell only then lasttimestamp will be reset. Freeze this cell again before you execute “Run all”	

Fabric notebook read shortcut and write to ADLS2



Workflow for Fabric notebook (ADLS2)

Step	Executor	Procedure	Permission needed
0	BU	Access to https://app.fabric.microsoft.com/home Click “Power BI” icon > Workspaces > Select your workspace - You will find a lakehouse named “Dataverse_xxx” is created by “Link to Microsoft Fabric”, you can delete this lakehouse - Create a new lakehouse, click “+New item” button, select lakehouse	Fabric workspace contributor
1	BU	Go to lakehouse page > click ”…” icon next to “Files” > New shortcut > Dataverse - Enter your D365 CIJ environment domain - Sign on your D365 system admin for “connection credentials” - Select the tables you needed “Customer Insights Journeys/EmailClicked / EmailOpened”	Fabric admin + D365 system admin
2	BU	Azure portal > Your_Storage_account_ADLS2 > IAM Grant storge account blob contributor role to your workspace identity	Subscription/Resource Group Owner/Contributor
3	BU	Azure portal >> Your_Storage_account_ADLS2 > Network Assume you have the private endpoint in the VNET that also has FabricLink endpoint created.	Subscription/Resource Group Owner/Contributor
4	BU	Azure portal > Microsoft Entra ID > Manage > App Registration > All applications > select your workspace name > Manage > Certificates & Secrets > + New client secrets, copy the secret value, not secret ID. Go to Overview, copy tenant ID and client ID,	Subscription Owner

Workflow for Fabric notebook (ADLS2)

Step	Executor	Procedure	Permission needed
5	BU	1. Azure portal > Your_Storage_account_ADLS2 > Endpoints 2. Copy Data Lake Storage endpoint https://xxx.dfs.core.windows.net/ 3. Fabric Workspace > your_lakehouse > click "…" icon next to "Files" > New shortcut > ADLS2 4. Paste your ADLS2 dfs endpoint, create connection, select Service Principal, fill in your tenant ID, client ID and client secret 5. Select your destination container and sub-folder in your ADLS2 (e.g. fabricoutput\emailclicked) 6. Give a name for this shortcut as "adls2_emailclicked" 7. Repeat step 1 for create new shortcut for "fabricoutput\emailopened"	Subscription/Resource Group Owner/Contributor + Fabric Workspace Contributor
6	BU	Fabric Workspace > left lower corner, change to "Data Engineering" icon > import notebook > upload both "sink_delta_emailClicked_ADLS2.ipynb" and "sink_delta_emailOpened_ADLS2.ipynb"	Fabric Workspace Contributor
7	BU	Fabric Workspace > click the notebook "sink_delta_emailClicked_ADLS2" , remove existing lakehouse if any , click Lakehouse+ button, select your lakehouse,	
8	BU	Fabric Workspace > click the "…" button next to the notebook "sink_delta_emailClicked_PostgreSQL" > Settings > Schedule > set your scheduled running period	
9	BU	Repeat step 7-8 for the notebook "sink_delta_emailOpened_PostgreSQL"	
10	BU	The data will be stored in ADLS2 container "fabricoutput" with path "\emailopened" and "\emailclicked"	
11	BU	Testing routines 1. Open the notebook 2. Click Connect > New standard session > wait for session connected (8mins) > click "Run all" 3. To repeat the test , you need to delete the folders inside fabricoutput container	

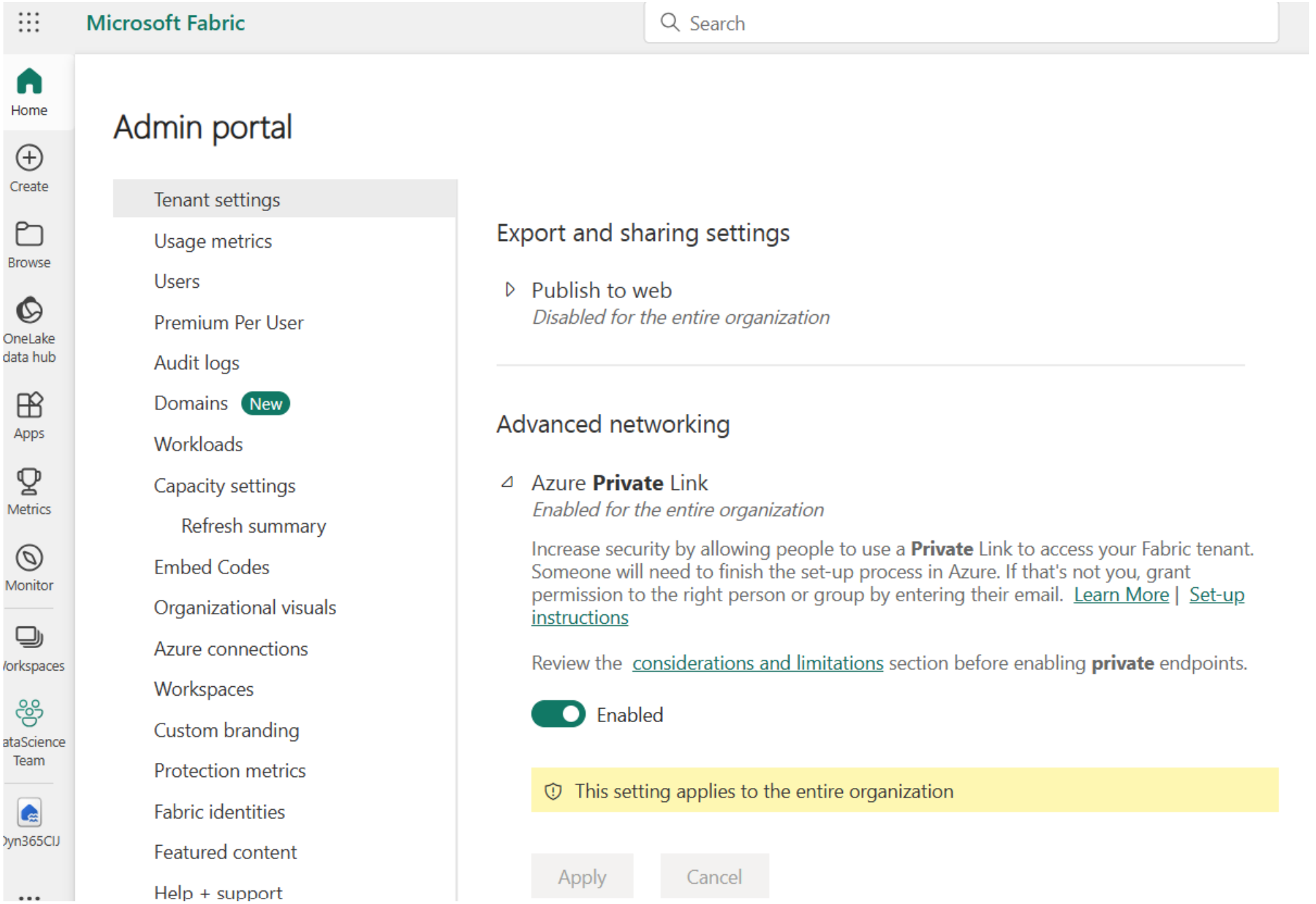
References

Set up and use private links for secure access to Fabric - Microsoft Fabric | Microsoft Learn

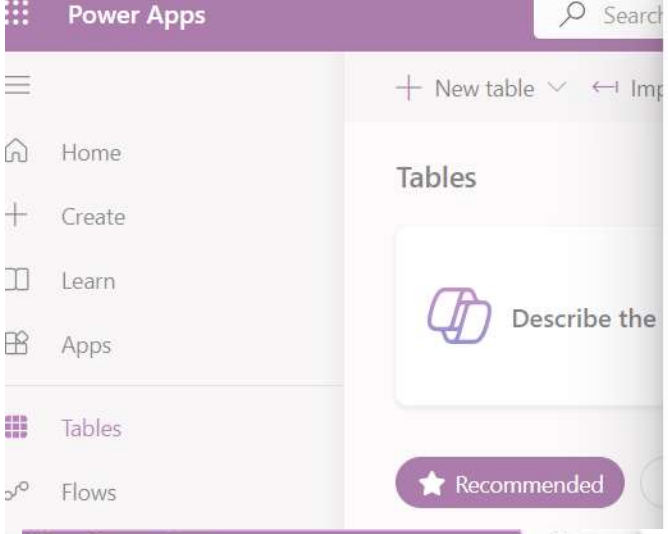
Link your Dataverse environment to Microsoft Fabric and unlock deep insights - Power Apps | Microsoft Learn

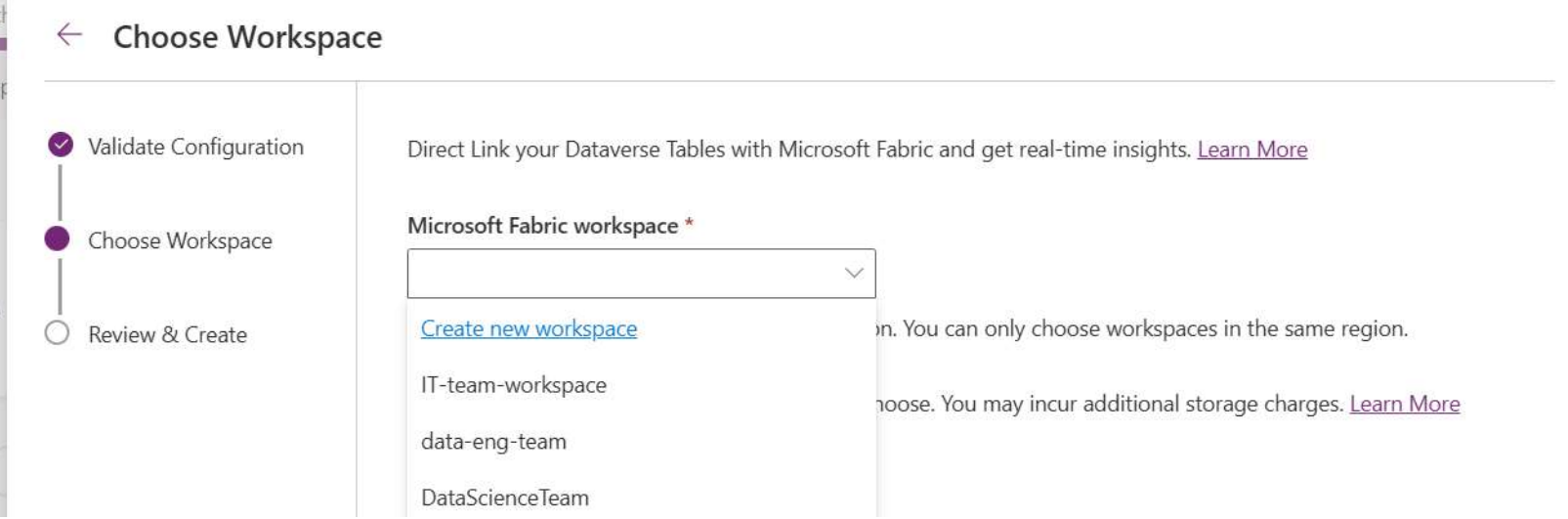
Screenshots : PrivateLink

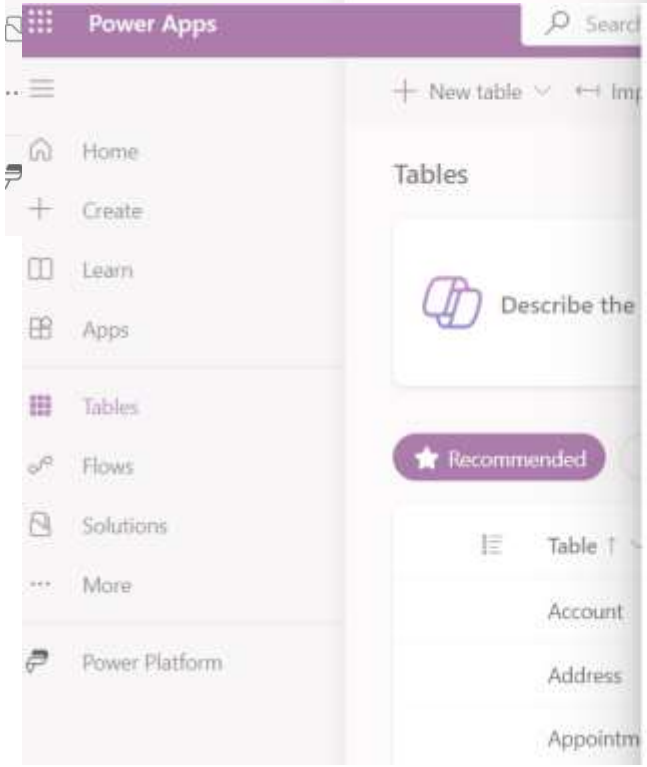
Privatelink Step 4

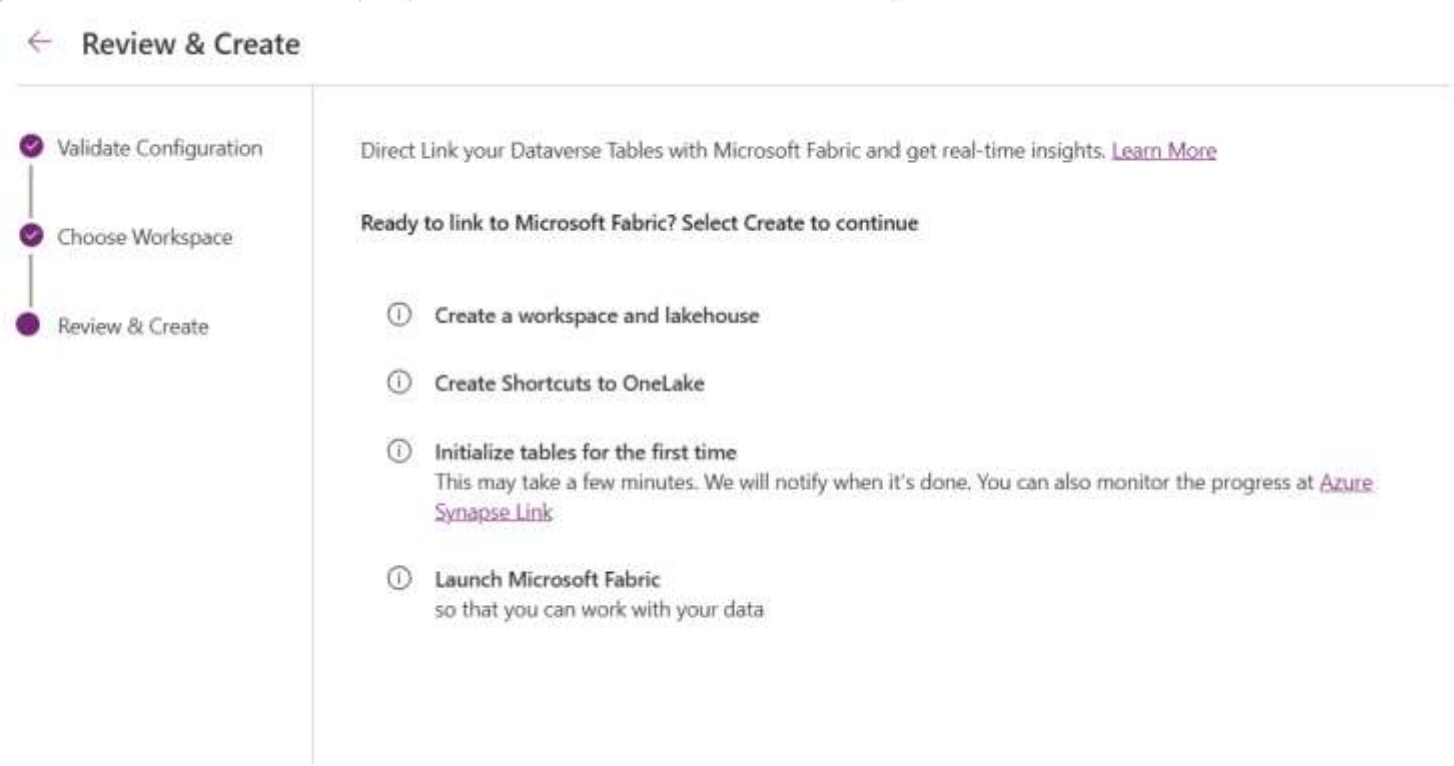


Privatelink
Step 8



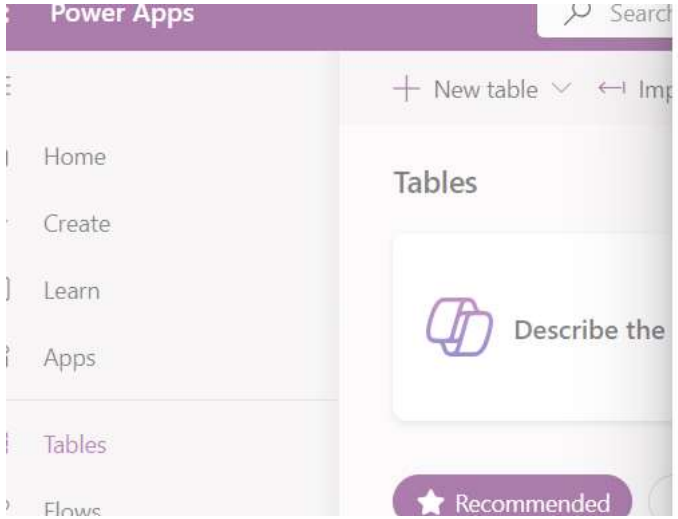


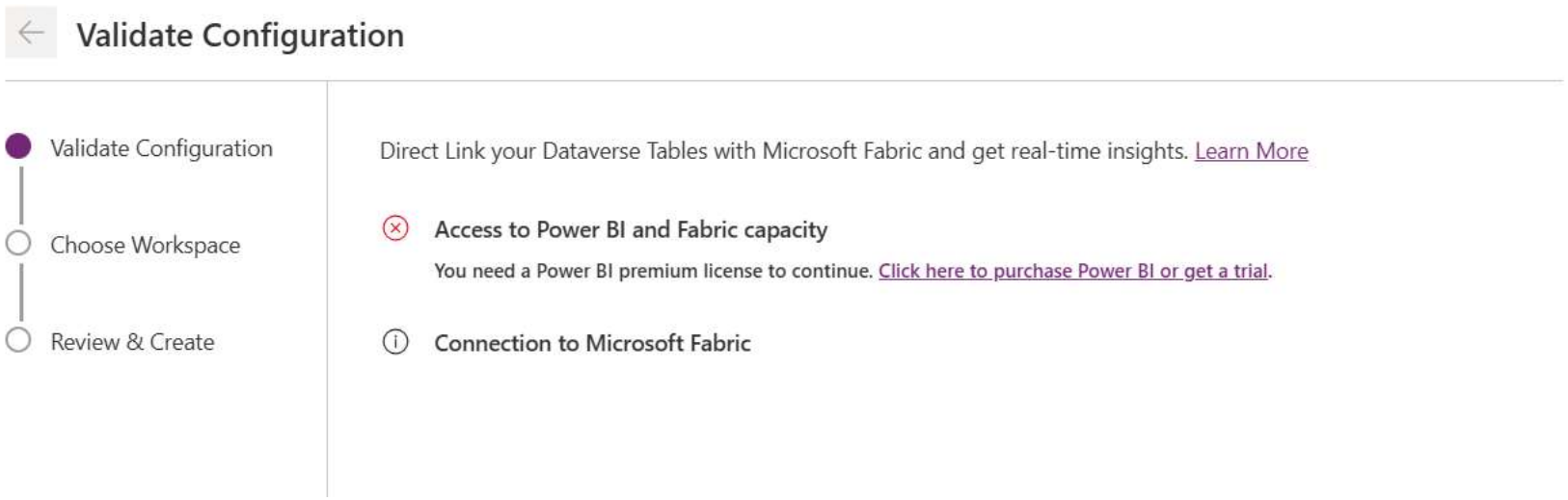




Block **Public** Internet Access
Enabled for the entire organization

If you disable public access, you cannot setup any "Link to Microsoft Fabric"





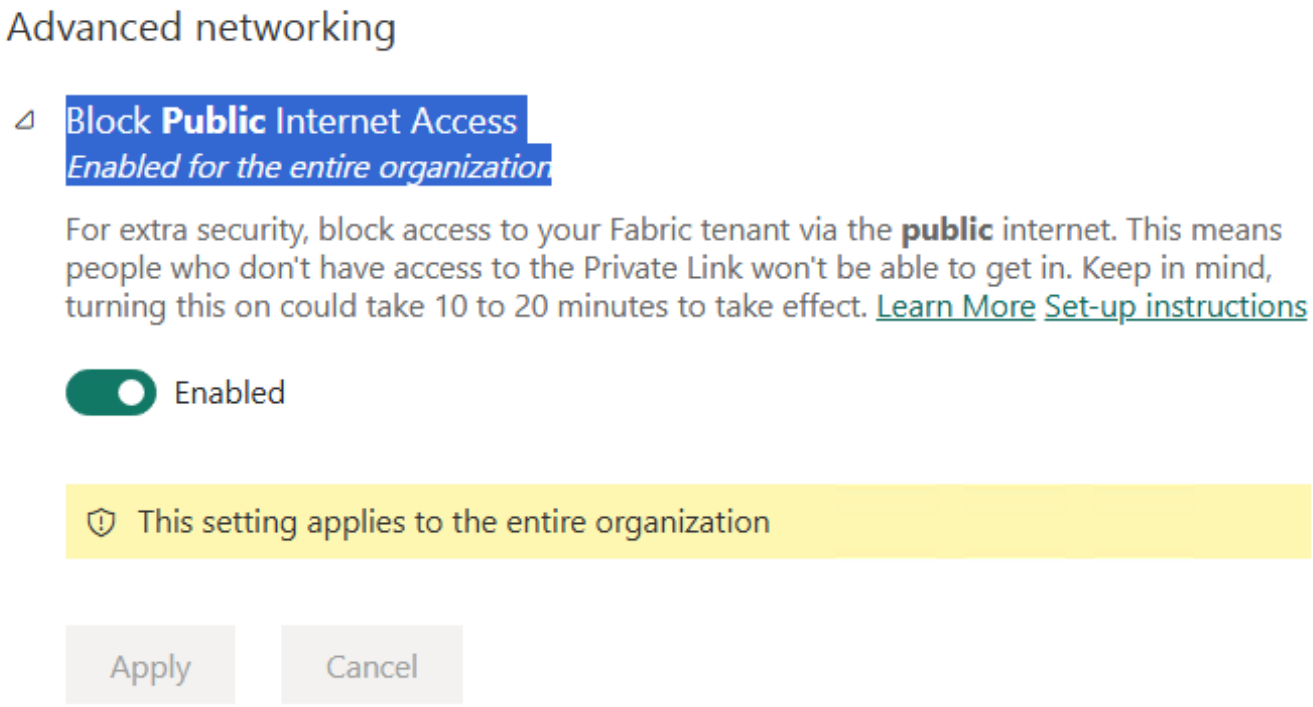
Block **Public** Internet Access

Enabled for the entire organization

Turn on Block Public Internet Access?

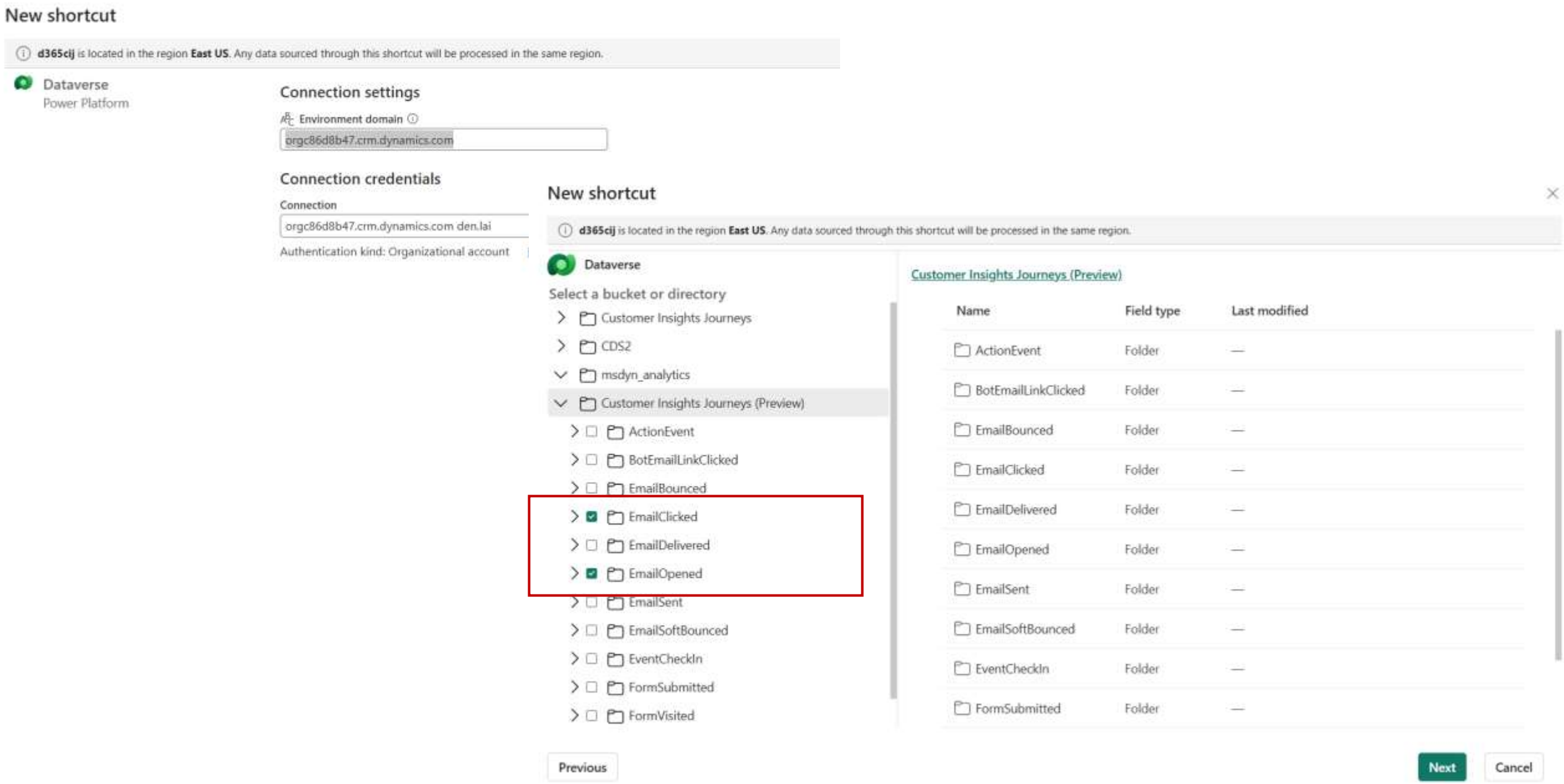
Private endpoints powered by Azure Private Link are not supported for some items in Microsoft Fabric, including Microsoft Fabric trial capacities. With the Block Public Internet Access setting on, users won't be able to use trial capacities, and unsupported items will not be visible or will return errors. For information about which Fabric items comply with Azure Private Link requirements, select Learn More

Privatelink
Step 9

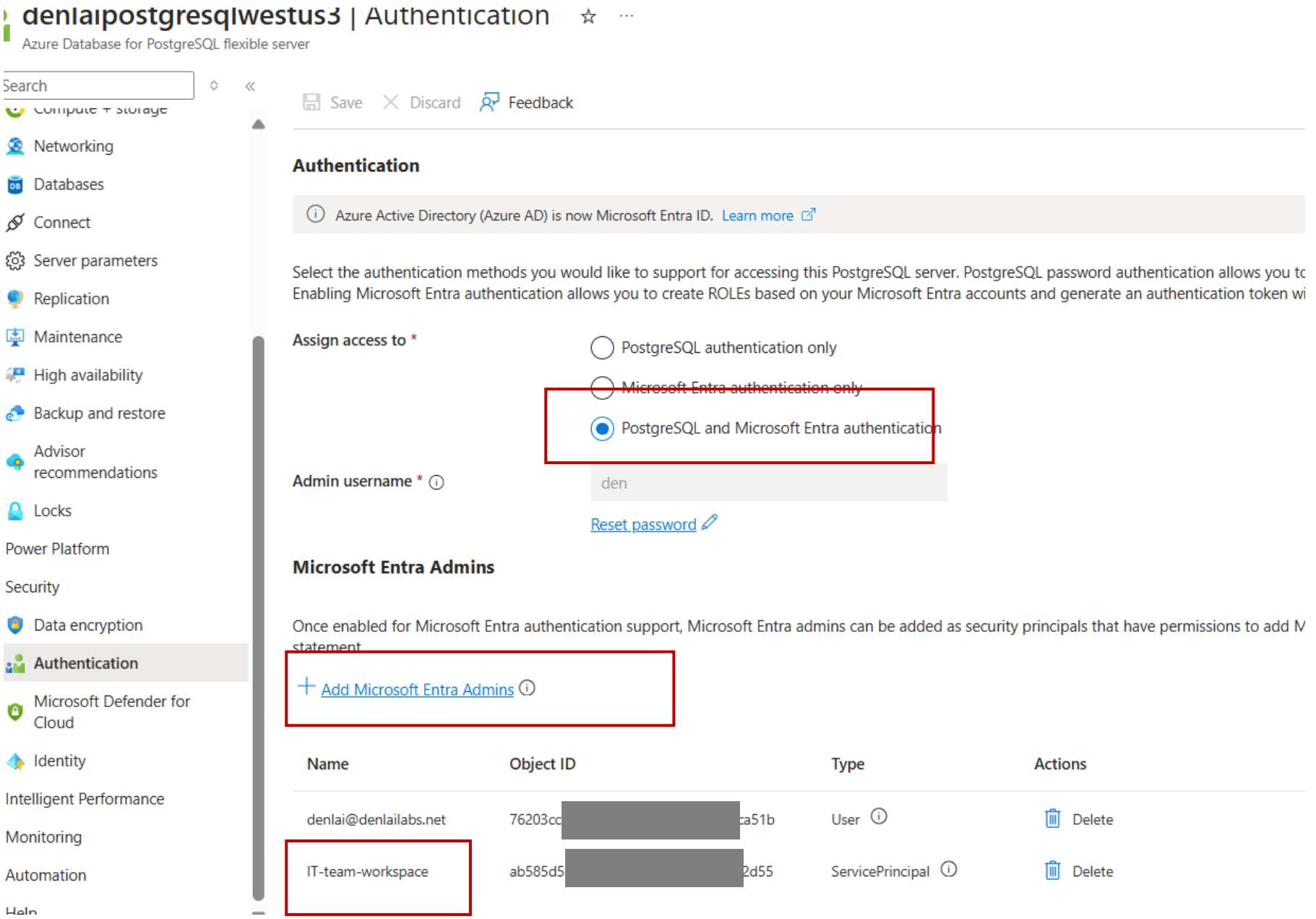


Screenshots : Fabric Shortcut

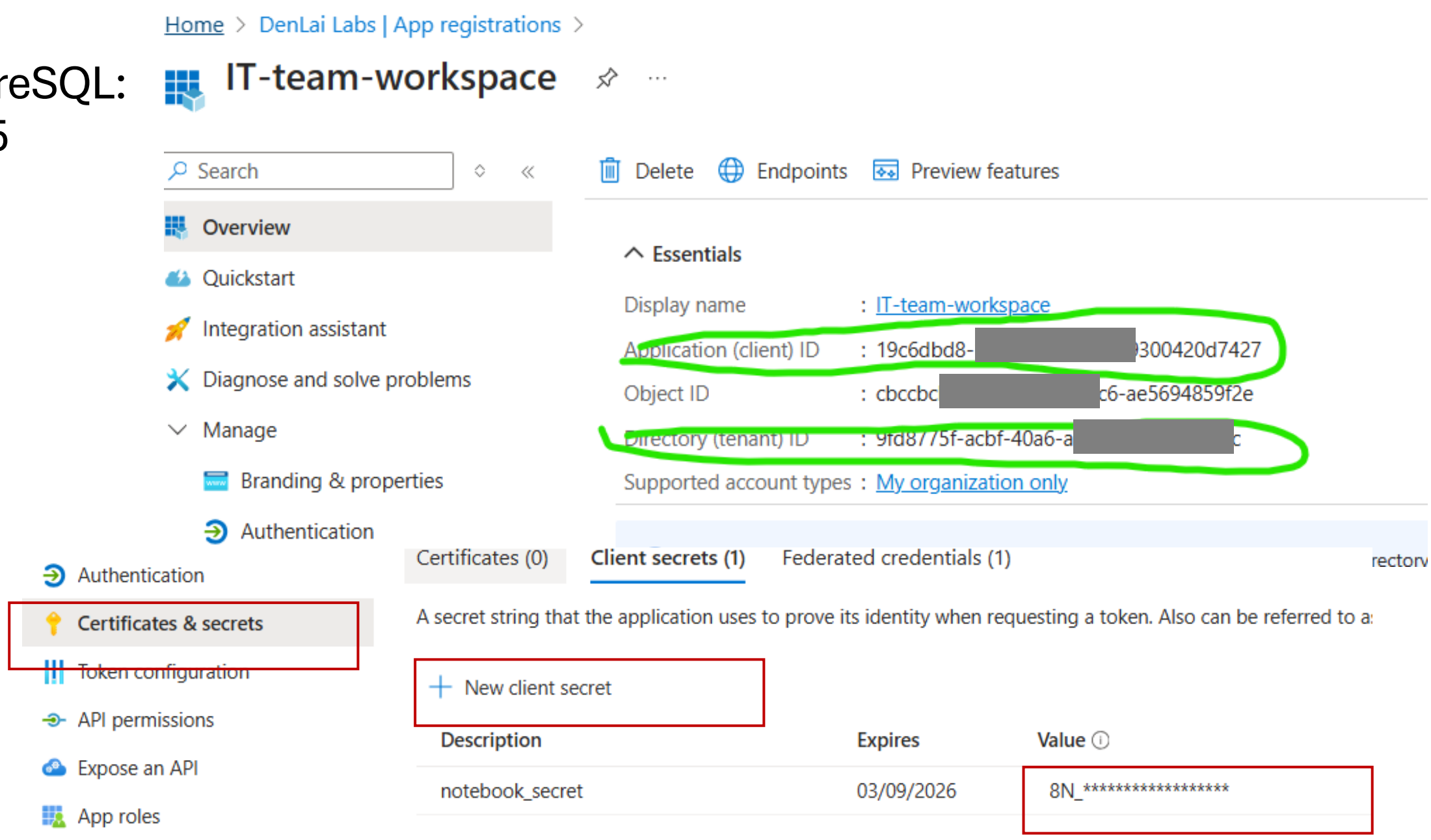
ADLS2/PostgreSQL: Step 1



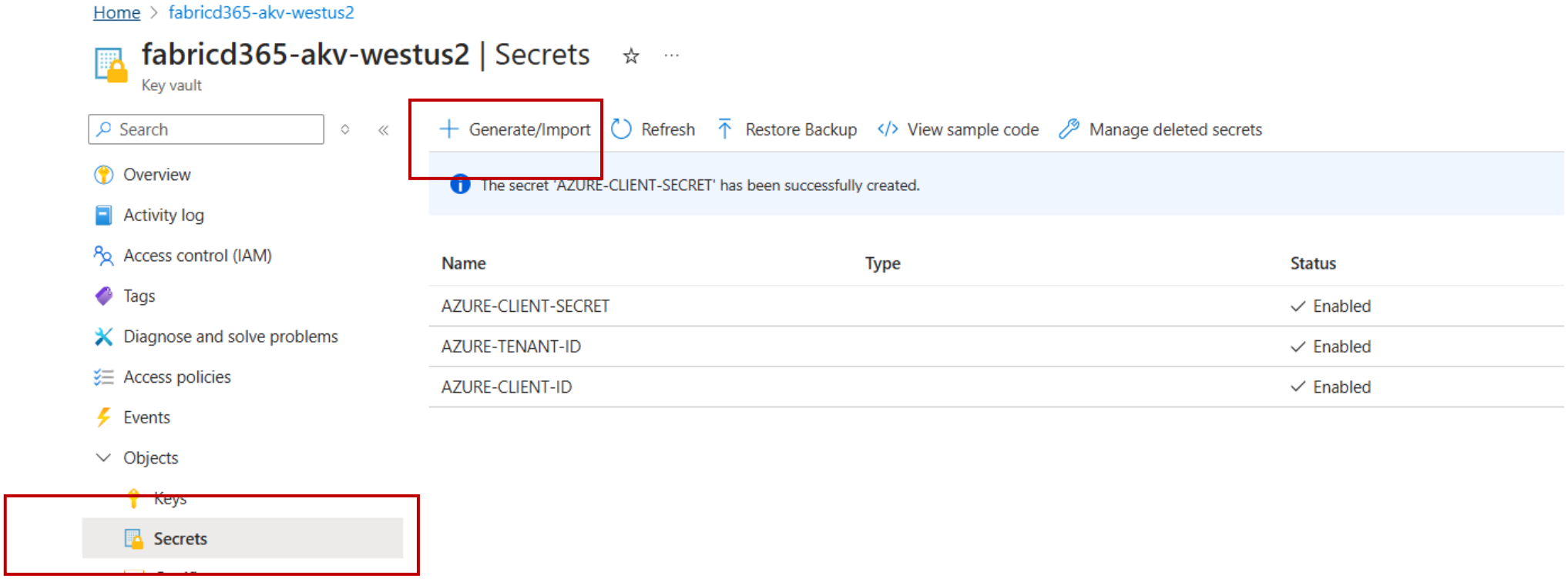
PostgreSQL: Step 4



PostgreSQL: Step 5

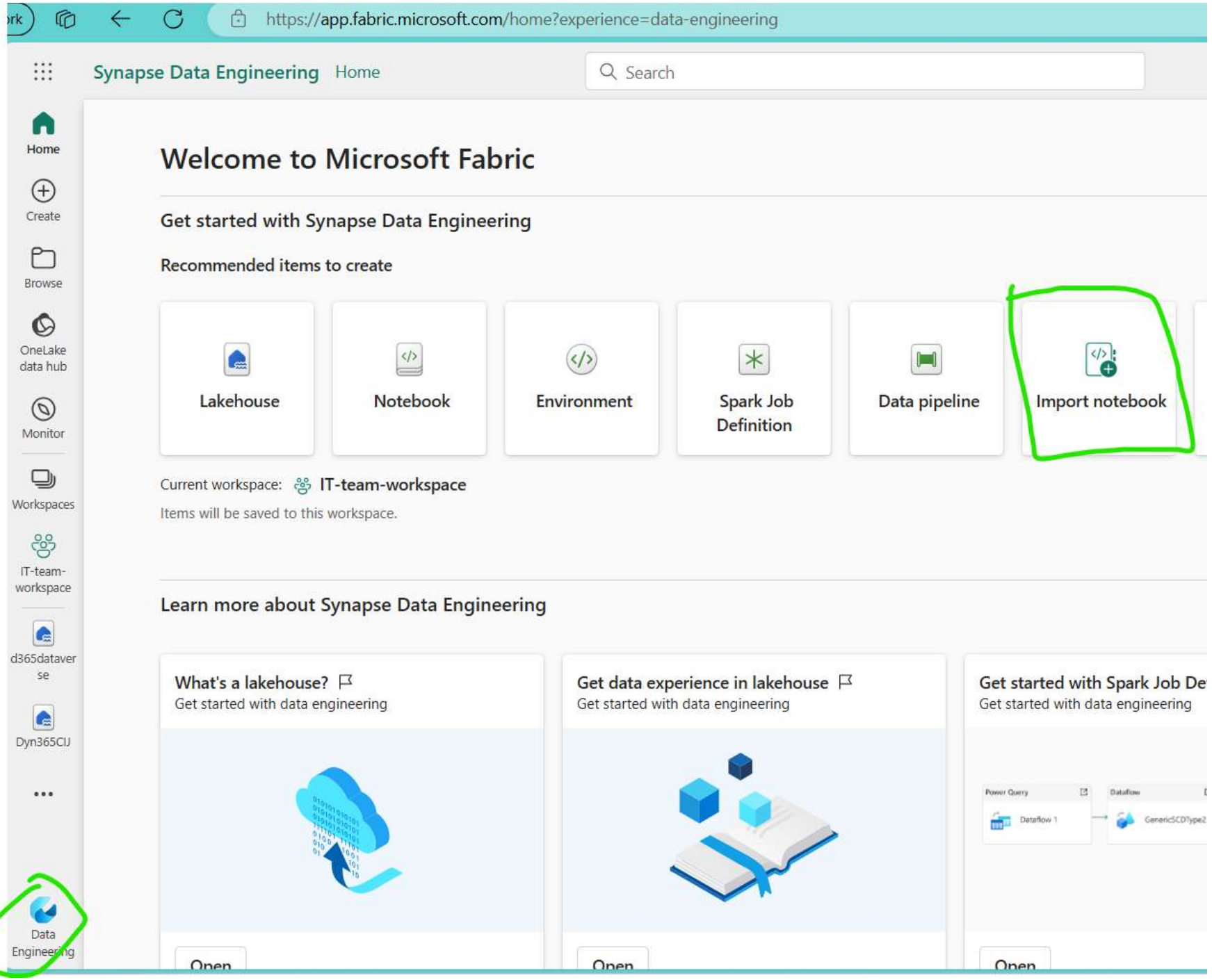


PostgreSQL: Step 5

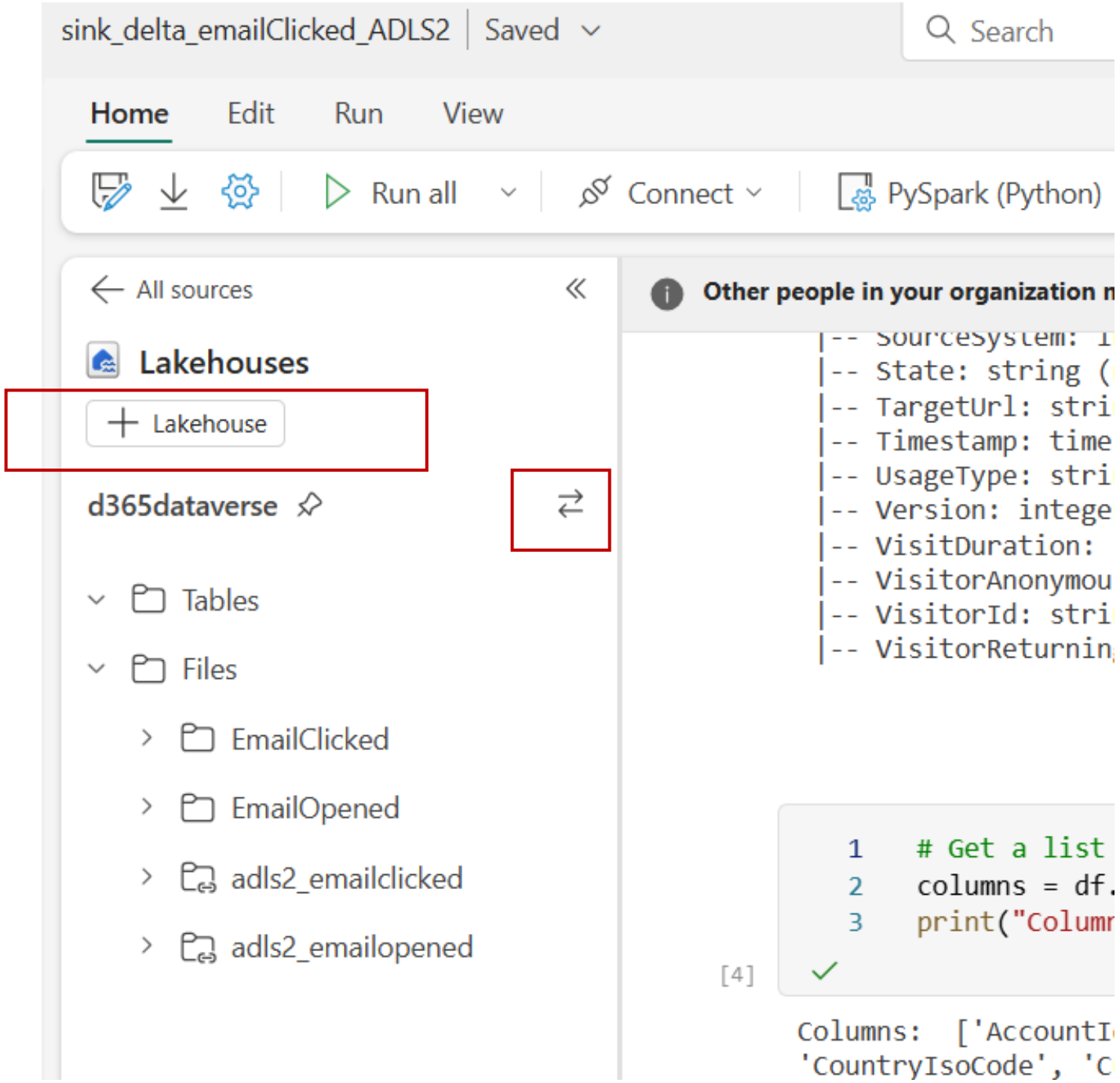



```
1
2  import os
3  #change to your service principle (Workspace identity) ClientID, tenantID and clientsecret
4  #customer should setup Azure Key Vault and store secret in AKV instead of hardcoding here
5  #https://www.datasarva.com/fabric-notebook-azurekeyvault/
6  os.environ["AZURE_CLIENT_ID"] = mssparkutils.credentials.getSecret('https://f                vault.azure.net/', 'AZURE-CLIENT-ID')
7  os.environ["AZURE_TENANT_ID"] = mssparkutils.credentials.getSecret('https://f                vault.azure.net/', 'AZURE-TENANT-ID')
8  os.environ["AZURE_CLIENT_SECRET"] = mssparkutils.credentials.getSecret('https                us2.vault.azure.net/', 'AZURE-CLIENT-SECRET')
```

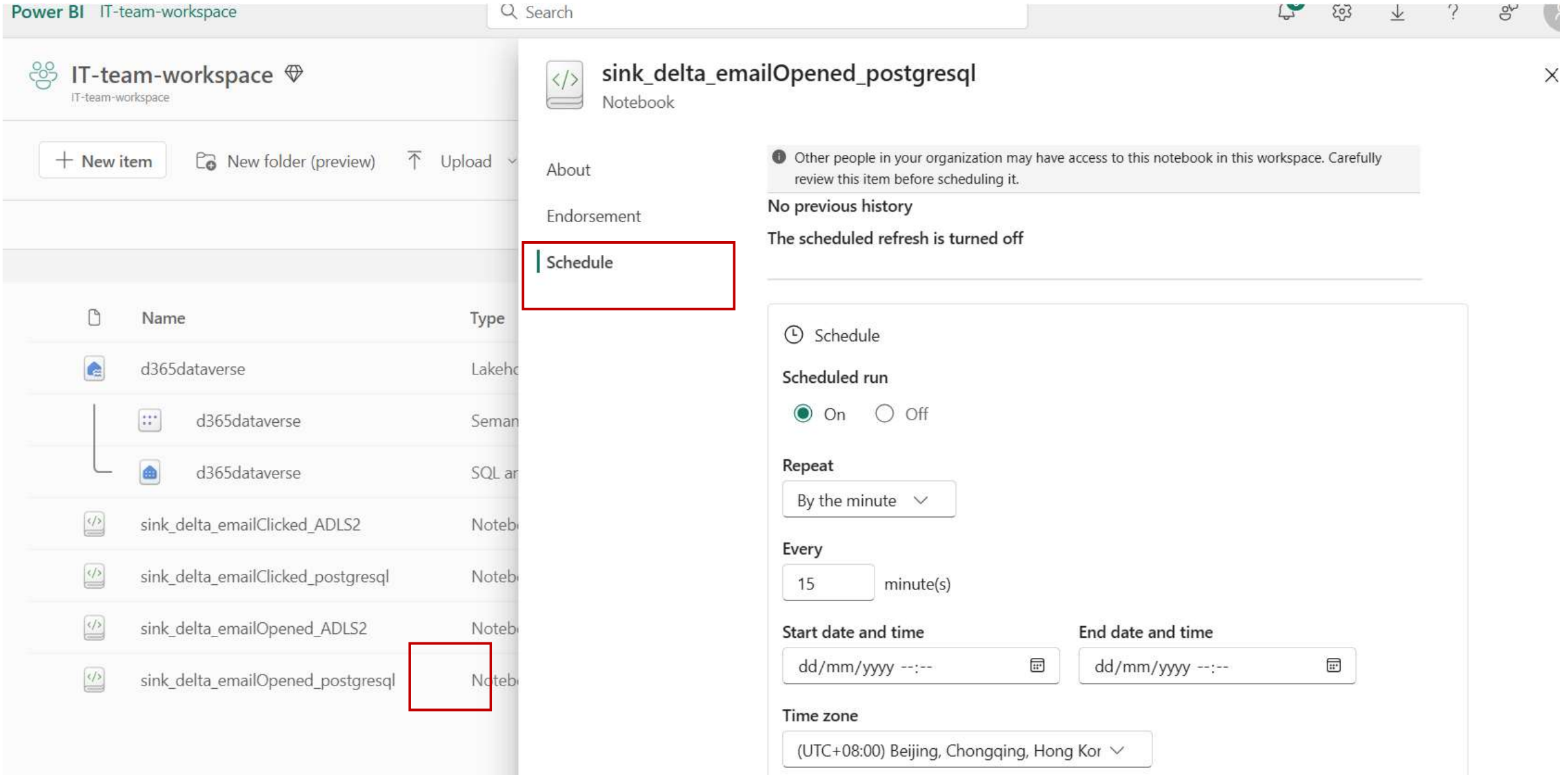
ADLS2 / PSQL Step 6



ADLS2 / PostgreSQL
Step 7



PostgreSQL: Step 9



PostgreSQL: Step 12