

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

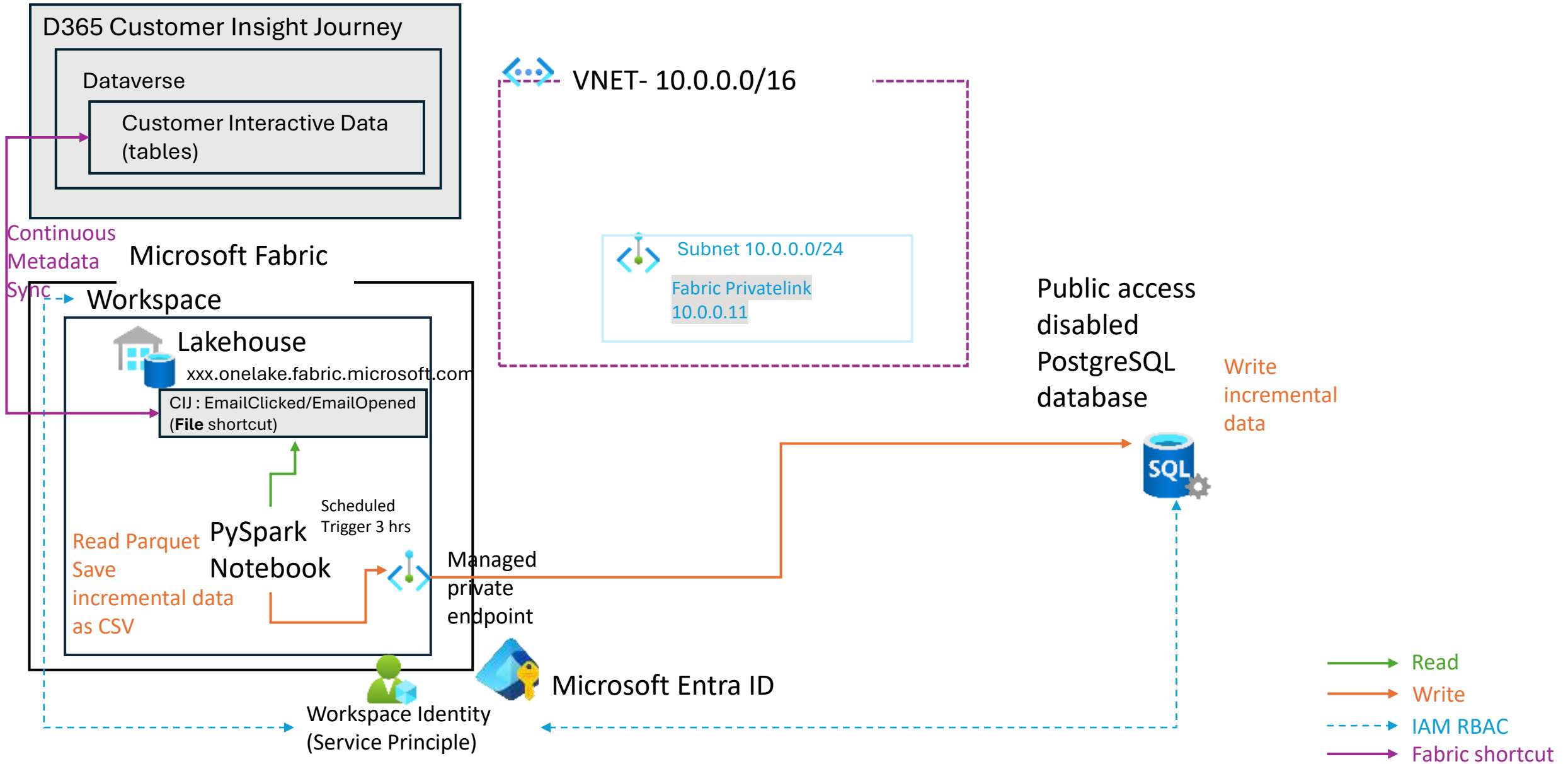
# Workflow for enabling Privatelink for Fabric instance

| Step | Executor              | Procedure  | Permission needed                 |
|------|-----------------------|--|-----------------------------------|
| 7    | BU                    | Access to <a href="https://app.fabric.microsoft.com/home">https://app.fabric.microsoft.com/home</a><br>Click “Power BI” icon > Workspaces > Create workspace<br>- Workspace settings > License info > binding with your Fabric instance<br>- Workspace settings > Workspace identity > enable identity | Subscription Owner + Fabric admin |
| 8    | BU                    | Login PowerApps Portal, <a href="https://make.powerapps.com/">https://make.powerapps.com/</a> , > select D365CIJ environment > Tables > Analyze > click “ <a href="#">Link to Microsoft Fabric</a> ”<br>- Select the Fabric workspace<br>- Wait for completion is necessary                            | D365 system admin+ Fabric admin   |
| 9    | <b>M365 admin</b>     | Use a VM to access <a href="https://app.fabric.microsoft.com/">https://app.fabric.microsoft.com/</a> Right upper Gear icon > tenant settings> Search and enable “ <a href="#">Block Public Internet Access</a> ”   | M365 system admin                 |
| 10   | BU, <b>M365 admin</b> | Wait for 15-20mins, access to <a href="https://app.fabric.microsoft.com/">https://app.fabric.microsoft.com/</a> via internet, to validate the Fabric entry point is blocked for public access  | Any tenant user                   |
| 11   | BU, <b>M365 admin</b> | Access to <a href="https://app.fabric.microsoft.com/">https://app.fabric.microsoft.com/</a> 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 <a href="https://app.fabric.microsoft.com/home">https://app.fabric.microsoft.com/home</a><br>Click “Power BI” icon > Workspaces > Select your workspace <ul style="list-style-type: none"><li>- You will find a lakehouse named “Dataverse_xxx” is created by “Link to Microsoft Fabric”, you can delete this lakehouse</li><li>- Create a new lakehouse with any name you prefer in your workspace, click “+New item” button, select lakehouse</li></ul> | Fabric workspace contributor                  |
| 1    | BU       | Go to lakehouse page > click “...” icon next to “Files” > New shortcut > Dataverse <ul style="list-style-type: none"><li>- Enter your D365 CIJ environment domain</li><li>- Sign on your D365 system admin for “connection credentials”</li><li>- Select the tables you needed “Customer Insights Journeys/EmailClicked / EmailOpened”</li></ul>  | Fabric admin + D365 system admin              |
| 2    | BU       | Azure portal > your_postgresql > IAM<br>Grant blob contributor role / contributor role to your workspace identity   | SubscriptionOwner/Contributor                 |
| 3    | BU       | Azure portal > your_postgresql > Overview > click JSON View > Copy Resource ID<br>Fabric Workspace > Workspace settings > Network Security > Create > paste your PostgreSQL Resource ID to Resource identifier, pick sub-resource “PostgreSQL”<br>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 > <ul style="list-style-type: none"><li>- Microsoft Entra Admins : add your workspace identity</li><li>- Authentication = PostgreSQL and Microsoft Entra authentication</li></ul>  | 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 value.<br>Go to Overview, copy tenant ID and client ID,<br>Azure portal > Azure Key Vault > create secret for AZURE-CLIENT-ID/ AZURE-TENANT-ID/ AZURE-CLIENT-SECRET  | Subscription Owner AKV Admin                  |

# Workflow for Fabric notebook (PostgreSQL)

| Step | Executor | Procedure  | Permission needed            |
|------|----------|--|------------------------------|
| 6    | BU       | Fabric Workspace > left lower corner, change to “Data Engineering” icon > import notebook > upload both “sink_delta_emailClicked_PostgreSQL.ipynb” and “sink_delta_emailOpened_PostgreSQL.ipynb”   | Fabric Workspace Contributor |
| 7    | BU       | Fabric Workspace > click the notebook “sink_delta_emailClicked_PostgreSQL”, remove existing lakehouse if any , click Lakehouse+ button, select your lakehouse,   |                              |
| 8    | BU       | Edit the notebook,<br>AKV_ENDPOINT = https://xxx.vault.azure.net/<br>Workspaceidty = “your_workspace name”<br>jdbc_url = "jdbc:postgresql://xxx.postgres.database.azure.com:5432/fabricoutput"<br>cutoffdate = "2024-05-09 09:46:55“ any record’s timestamp before this cutoffdate will be ignored, not ingest to PostgreSQL                     |                              |
| 9    | BU       | Fabric Workspace > click the “...” button next to the notebook “sink_delta_emailClicked_PostgreSQL” > Settings > Schedule > set your scheduled running period  |                              |
| 10   | BU       | Repeat step 7-9 for the notebook “sink_delta_emailOpened_PostgreSQL”   |                              |
| 11   | BU       | The data will be stored in PostgreSQL database:“fabricoutput”, tables: “emailopened” and “emailclicked”  |                              |
| 12   | BU       | Testing routines<br>1. Open the notebook<br>2. Click Connect > New standard session > wait for session connected > click “Run all”<br>3. Repeat the test, you need to unfreeze cell #3 “# just for debug”, change the cutoffdate value in cell #1 to the date you needed, any records stored in Dataverse before that cutoffdate will be ignored |                              |

# 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

Microsoft Fabric

Search

Home

Create

Browse

OneLake data hub

Apps

Metrics

Monitor

Workspaces

Data Science Team

Dyn365CU

...

Admin portal

Tenant settings

Usage metrics

Users

Premium Per User

Audit logs

Domains New

Workloads

Capacity settings

Refresh summary

Embed Codes

Organizational visuals

Azure connections

Workspaces

Custom branding

Protection metrics

Fabric identities

Featured content

Help + support

Export and sharing settings

▷ Publish to web  
Disabled for the entire organization

Advanced networking

△ Azure **Private** Link  
Enabled for the entire organization

Increase security by allowing people to use a **Private** Link to access your Fabric tenant. Someone will need to finish the set-up process in Azure. If that's not you, grant permission to the right person or group by entering their email. [Learn More](#) | [Set-up instructions](#)

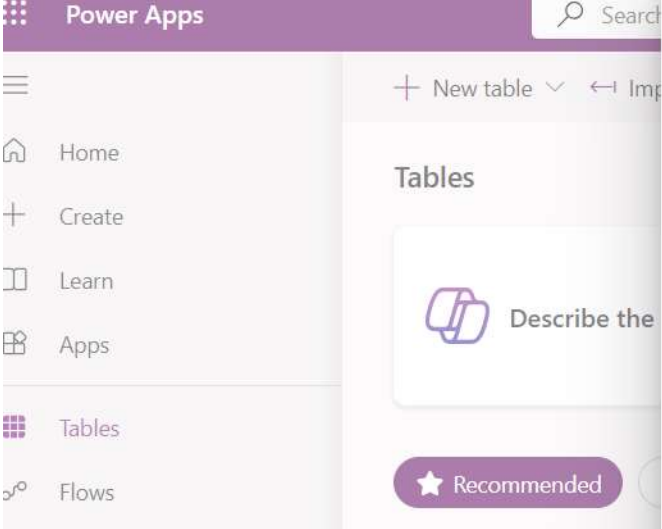
Review the [considerations and limitations](#) section before enabling **private** endpoints.

☒ Enabled

This setting applies to the entire organization

Apply Cancel

Privatelink  
Step 8



## Choose Workspace

- ✓ Validate Configuration
- Choose Workspace
- Review & Create

Direct Link your Dataverse Tables with Microsoft Fabric and get real-time insights. [Learn More](#)

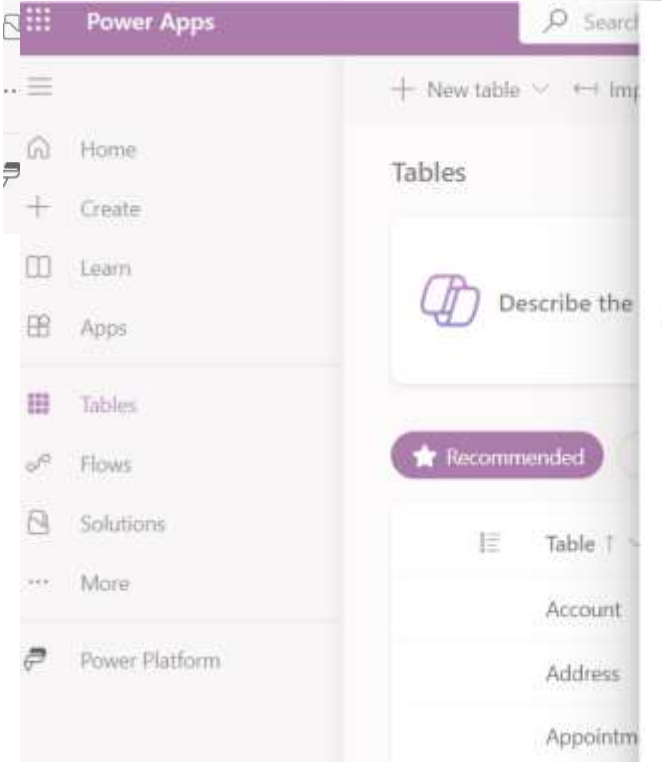
### Microsoft Fabric workspace \*

▼

[Create new workspace](#)  
IT-team-workspace  
data-eng-team  
DataScienceTeam

on. You can only choose workspaces in the same region.

choose. You may incur additional storage charges. [Learn More](#)



## Review & Create

- ✓ Validate Configuration
- ✓ Choose Workspace
- Review & Create

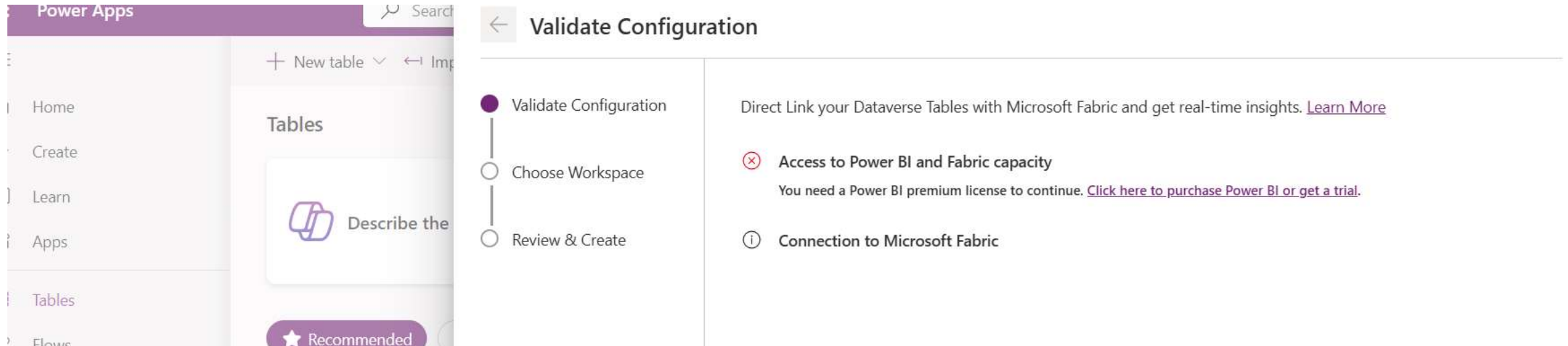
Direct Link your Dataverse Tables with Microsoft Fabric and get real-time insights. [Learn More](#)

### Ready to link to Microsoft Fabric? Select Create to continue

- ① Create a workspace and lakehouse
- ① Create Shortcuts to OneLake
- ① Initialize tables for the first time  
This may take a few minutes. We will notify when it's done. You can also monitor the progress at [Azure Synapse Link](#)
- ① Launch Microsoft Fabric  
so that you can work with your data

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

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



The screenshot displays the 'Power Apps' interface on the left, with the 'Tables' section selected. The main area shows the 'Validate Configuration' step of a process. The process flow includes 'Validate Configuration' (selected), 'Choose Workspace', and 'Review & Create'. The 'Validate Configuration' step shows a configuration error:

- Access to Power BI and Fabric capacity** (indicated by a red 'x' icon): You need a Power BI premium license to continue. [Click here to purchase Power BI or get a trial.](#)
- Connection to Microsoft Fabric** (indicated by an information icon 'i')

The error message states: "Direct Link your Dataverse Tables with Microsoft Fabric and get real-time insights. [Learn More](#)".

# 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](#)

### Advanced networking

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

For extra security, block access to your Fabric tenant via the **public** internet. This means people who don't have access to the Private Link won't be able to get in. Keep in mind, turning this on could take 10 to 20 minutes to take effect. [Learn More](#) [Set-up instructions](#)

☒ Enabled

 This setting applies to the entire organization

Apply

Cancel

Privatelink  
Step 9

Screenshots : Fabric Shortcut

# ADLS2/PostgreSQL: Step 1

## New shortcut

**d365cij** is located in the region **East US**. Any data sourced through this shortcut will be processed in the same region.

**Dataverse**  
Power Platform

### Connection settings

Environment domain

### Connection credentials

Connection

Authentication kind: Organizational account

### New shortcut

**d365cij** is located in the region **East US**. Any data sourced through this shortcut will be processed in the same region.

**Dataverse**

Select a bucket or directory

- > Customer Insights Journeys
- > CDS2
- > msdyn\_analytics
- > Customer Insights Journeys (Preview)
  - > ☐ ActionEvent
  - > ☐ BotEmailLinkClicked
  - > ☐ EmailBounced
  - > ☒ EmailClicked
  - > ☐ EmailDelivered
  - > ☒ EmailOpened
  - > ☐ EmailSent
  - > ☐ EmailSoftBounced
  - > ☐ EventCheckIn
  - > ☐ FormSubmitted
  - > ☐ FormVisited

#### Customer Insights Journeys (Preview)

| Name                | Field type | Last modified |
|---------------------|------------|---------------|
| ActionEvent         | Folder     | —             |
| BotEmailLinkClicked | Folder     | —             |
| EmailBounced        | Folder     | —             |
| EmailClicked        | Folder     | —             |
| EmailDelivered      | Folder     | —             |
| EmailOpened         | Folder     | —             |
| EmailSent           | Folder     | —             |
| EmailSoftBounced    | Folder     | —             |
| EventCheckIn        | Folder     | —             |
| FormSubmitted       | Folder     | —             |

Previous

Next

Cancel

# PostgreSQL: Step 4

denlaipostgresqlwestus3 | Authentication

Azure Database for PostgreSQL flexible server

Search

Compute + storage

Networking

Databases

Connect

Server parameters

Replication

Maintenance

High availability

Backup and restore

Advisor recommendations

Locks

Power Platform

Security

Authentication

Microsoft Defender for Cloud

Identity

Intelligent Performance

Monitoring

Automation

Help

Save Discard Feedback

### Authentication

ⓘ Azure Active Directory (Azure AD) is now Microsoft Entra ID. [Learn more](#)

Select the authentication methods you would like to support for accessing this PostgreSQL server. PostgreSQL password authentication allows you to create roles and users. Enabling Microsoft Entra authentication allows you to create ROLES based on your Microsoft Entra accounts and generate an authentication token with a Microsoft Entra ID token.

Assign access to \*

☐ PostgreSQL authentication only

☐ Microsoft Entra authentication only

☒ PostgreSQL and Microsoft Entra authentication

Admin username \* ⓘ

den

[Reset password](#)

### Microsoft Entra Admins

Once enabled for Microsoft Entra authentication support, Microsoft Entra admins can be added as security principals that have permissions to add or modify server parameters.

+ Add Microsoft Entra Admins ⓘ

| Name                  | Object ID         | Type               | Actions                |
|-----------------------|-------------------|--------------------|------------------------|
| denlai@denlailabs.net | 76203cc0-...ca51b | User ⓘ             | <a href="#">Delete</a> |
| IT-team-workspace     | ab585d50-...2d55  | ServicePrincipal ⓘ | <a href="#">Delete</a> |



# PostgreSQL: Step 5

[Home](#) > [DenLai Labs | App registrations](#) >



Search

Delete Endpoints Preview features

Overview

Quickstart

Integration assistant

Diagnose and solve problems

Manage

Branding & properties

Authentication

Authentication

Certificates & secrets

Token configuration

API permissions

Expose an API

App roles

Essentials

Display name : [IT-team-workspace](#)

Application (client) ID : 19c6dbd8- [redacted] 300420d7427

Object ID : cbcabc [redacted] c6-ae5694859f2e

Directory (tenant) ID : 9fd8775f-acbf-40a6-a [redacted] c

Supported account types : [My organization only](#)

Certificates (0)

Client secrets (1)

Federated credentials (1)

rectory

A secret string that the application uses to prove its identity when requesting a token. Also can be referred to a:

+ New client secret

| Description     | Expires    | Value ⓘ  |
|-----------------|------------|----------|
| notebook_secret | 03/09/2026 | 8N_***** |

# PostgreSQL:

## Step 5

Home > fabricd365-akv-westus2

### fabricd365-akv-westus2 | Secrets

Key vault

Search << + Generate/Import Refresh Restore Backup View sample code Manage deleted secrets




The secret 'AZURE-CLIENT-SECRET' has been successfully created.

| Name                | Type | Status    |
|---------------------|------|-----------|
| AZURE-CLIENT-SECRET |      | ✓ Enabled |
| AZURE-TENANT-ID     |      | ✓ Enabled |
| AZURE-CLIENT-ID     |      | ✓ Enabled |

Overview  
Activity log  
Access control (IAM)  
Tags  
Diagnose and solve problems  
Access policies  
Events  
Objects  
Keys  
Secrets

```
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[REDACTED]vault.azure.net/', 'AZURE-CLIENT-ID')
7 os.environ["AZURE_TENANT_ID"] = mssparkutils.credentials.getSecret('https://f[REDACTED]vault.azure.net/', 'AZURE-TENANT-ID')
8 os.environ["AZURE_CLIENT_SECRET"] = mssparkutils.credentials.getSecret('https://f[REDACTED]us2.vault.azure.net/', 'AZURE-CLIENT-SECRET')
```

# ADLS2 / PSQL Step 6


ork    <https://app.fabric.microsoft.com/home?experience=data-engineering>


**Synapse Data Engineering** Home


## Welcome to Microsoft Fabric


### Get started with Synapse Data Engineering


Recommended items to create


 Lakehouse


 Notebook

 Environment

 Spark Job Definition

 Data pipeline


 Import notebook

Current workspace:  IT-team-workspace  
Items will be saved to this workspace.

### Learn more about Synapse Data Engineering

#### What's a lakehouse?


Get started with data engineering



[Open](#)

#### Get data experience in lakehouse


Get started with data engineering




[Open](#)

#### Get started with Spark Job De

Get started with data engineering



[Open](#)

 Data Engineering

# ADLS2 / PostgreSQL

## Step 7

sink\_delta\_emailClicked\_ADLS2 | Saved

Search

Home Edit Run View

Run all

Connect

PySpark (Python)

← All sources

⏪

Lakehouses

+ Lakehouse

d365dataverse

Tables

Files

EmailClicked

EmailOpened

adls2\_emailclicked

adls2\_emailopened

↔

Other people in your organization n

-- SourceSystem: 1  
-- State: string (  
-- TargetUrl: stri  
-- Timestamp: time  
-- UsageType: stri  
-- Version: intege  
-- VisitDuration:  
-- VisitorAnonymou  
-- VisitorId: stri  
-- VisitorReturnin

1 # Get a list  
2 columns = df.  
3 print("Columr

[4] ✓

Columns: ['AccountI  
'CountryIsoCode', 'C



## PostgreSQL: Step 12

```
1 # just for debug
```

Run all above this cell

Run this cell and all below

Run selected code

 Unfreeze cell

```
StructType([  
    tField("lasttimestamp", StringTy
```

```
the DataFrame  
cutoffdate,)]  
df = spark.createDataFrame(data,
```

```
10 # Write DataFrame to PostgreSQL  
11 write_ts_df.write \  
12     .format("jdbc") \  
13     .option("url", jdbc_url) \  
14     .option("driver", "org.postgresql.Driver")
```