

Azure Synapse Link Setup

How to get data from D365 F&O through Dataverse and Fabric

Last update: September 2024
Version 2.2

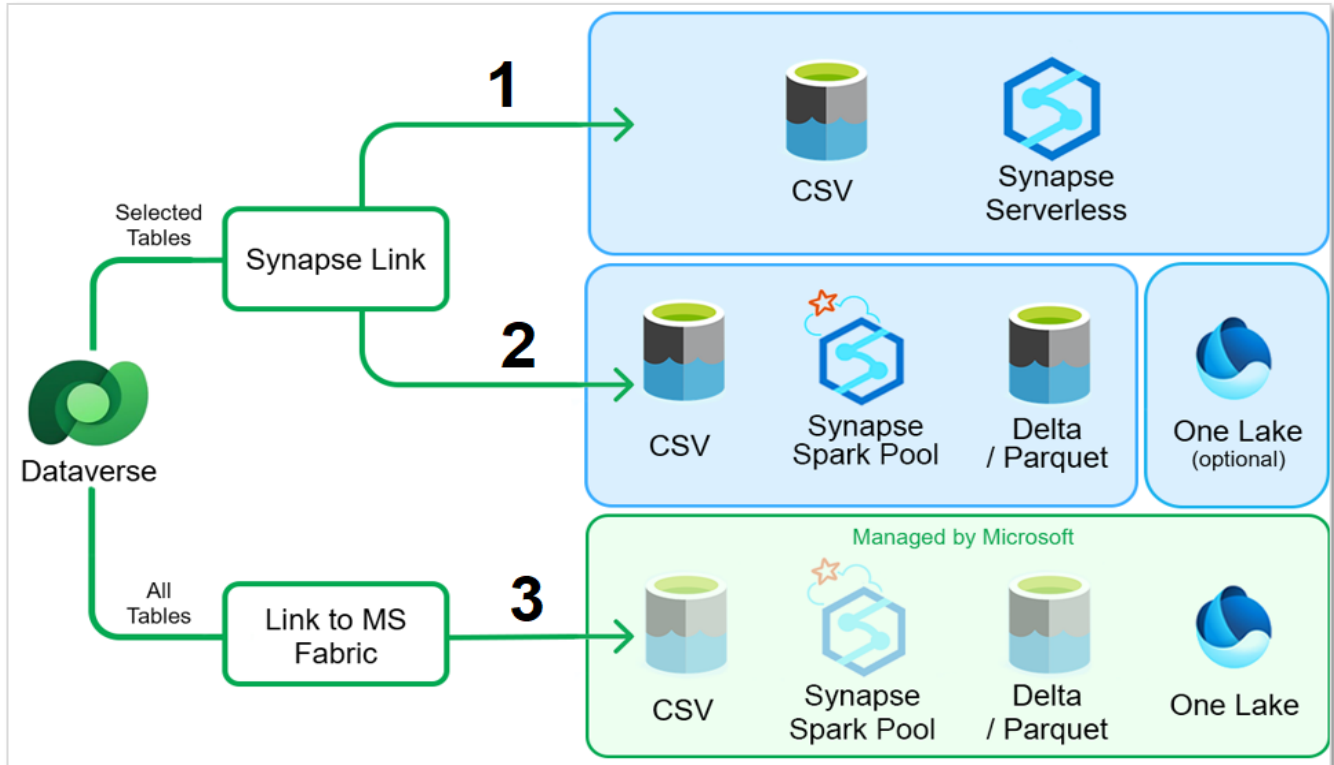
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1 Introduction

1.1 Architecture

D365 Finance and Operations data is not available to external tools due to security and performance reasons. Microsoft is providing the following ETL process options (extract, transform, load) to get data out of D365:



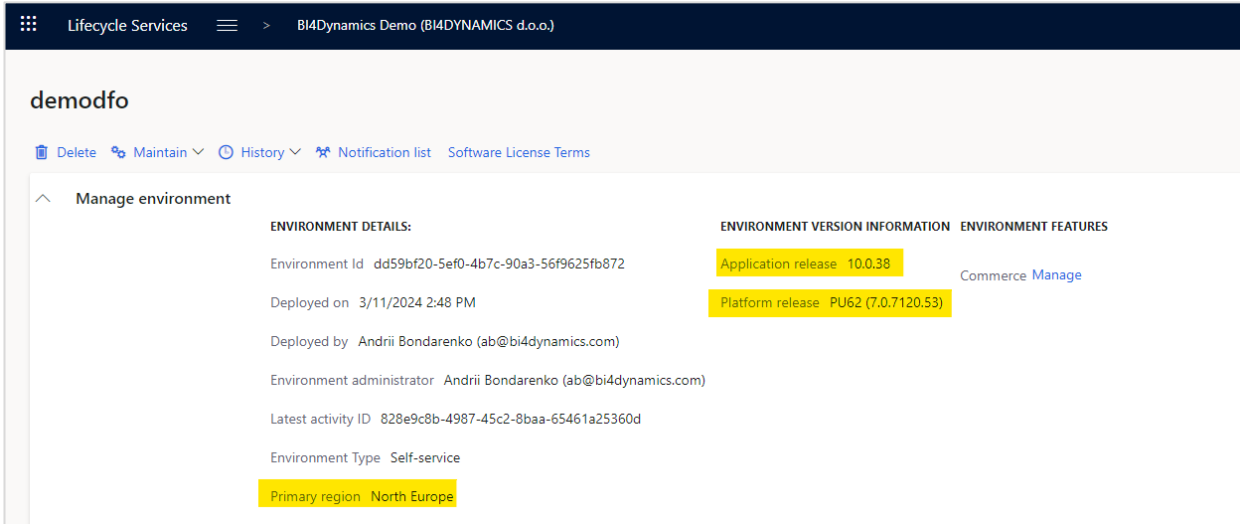
1.2 Implementation options comparison

| Option | Data Format | Installation & Management | Cost | Latency |
|----------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| #1: Synapse link | CSV files | The customer manually selects FO tables in Power Apps. | The most economical option is priced at 5\$ per TB of data processed. | Best latency among available options. On-Demand, delay up to 5 minutes. |
| #2: Synapse link with Spark Pool | Delta / Parquet | The customer manually selects FO tables in Power Apps. | Additional cost for Synapse Spark Pool, which is priced per hour. | Higher latency due to Spark conversion from CSV to Delta/Parquet format. Scheduled in 15 minutes. |
| #3: Link to MS Fabric | Delta / Parquet in OneLake | All Dataverse tables are selected by Microsoft, FO tables have to be selected manually in Power Apps. | The most expensive option: costs 40\$ per additional GB per month for database storage in Dataverse. Also, requires Fabric Capacity during the processing. | The highest latency due to the conversion process to One Lake. Scheduled in 60 minutes. |

1.3 Prerequisites (6)

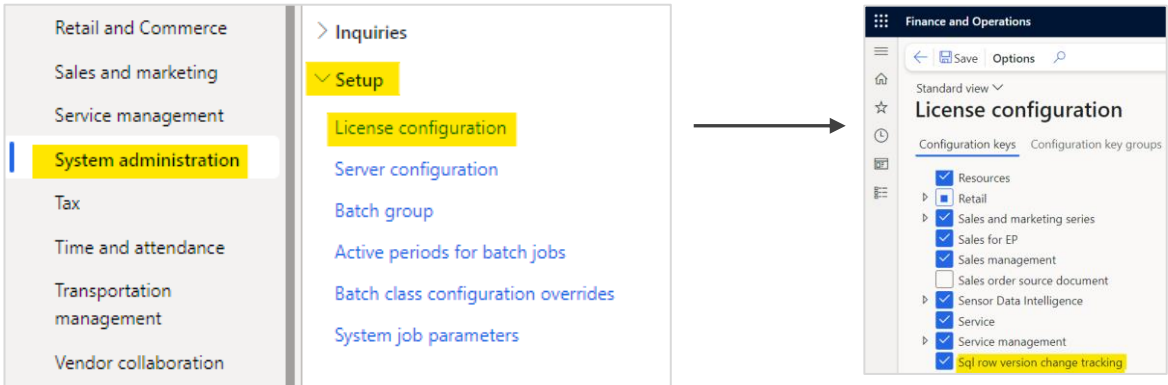
- 1. The DFO environment must be version 10.0.36 (PU 60) or higher
- 2. The resources in Azure must be created in **the same region** as your DFO environment
(not applicable for the latest versions of the DFO environment)

The version and primary region can be checked under **Manage environment** in **LifeCycle Services** under **Environment Full Details**:



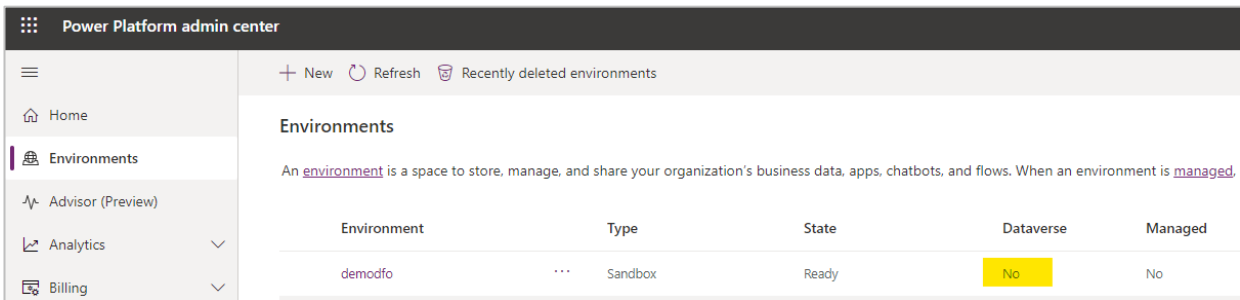
- 3. SQL row version change tracking property enabled under the License configuration in DFO

Please note that it can be enabled only in the **maintenance mode** during non-working hours. Maintenance mode must be enabled in **LifeCycle Services** under **Environment Full Details**. Once it is done, navigate to the **Finance and Operations** license configuration and enable this property:



- 4. Dataverse Environment with Power Platform Integration Setup

By default, the environment is created, but it does not have Dataverse capacities enabled:



To enable it, navigate to **Power Platform Integration** in **LifeCycle Services** and click on **Setup**:

Power Platform Integration

Expand your environments capabilities through Power Platform integration. Unlock features such as Dual-write, add-ins and all the capabilities of Microsoft Dataverse.

POWER PLATFORM ENVIRONMENT INFORMATION

Environment name demodfo

Environment Id fe5e5cc6-60b5-e69d-b193-07c926c38057

Status Initial Power Platform environment created. Use the Setup button to add Dataverse capabilities.

Setup

ENVIRONMENT ADD-INS

Power platform environment must be setup to install add-ins.

Select the option **Dynamics 365 standard** and finish the setup:

Power Platform Integration Setup

Use a different Power Platform Environment

No

Template

Dynamics 365 standard

I agree by selecting the template 'Dynamics 365 standard' that this Finance and Operations environment will be connected to a Power Platform environment with Dataverse. Platform solutions for Dual-write and Virtual Entities will also be installed but not enabled. Data will not be written via Dual-write to the Power Platform environment by default, but can be configured to do so as part of a later step.

By selecting any template other than the one mentioned above, data will be synchronized via Dual-write functionality by default. The available template options vary based on the licenses for the tenant which owns this LCS project.

☒ By clicking 'Setup' below, I agree that Power Platform Integration will be enabled and the Finance and Operations environment will be unavailable during this operation.

Once it is done, the setup should be completed, and the **Environment URL** should become available:

Power Platform Integration

Expand your environments capabilities through Power Platform integration. Unlock features such as Dual-write, add-ins and all the capabilities of Microsoft Dataverse.

POWER PLATFORM ENVIRONMENT INFORMATION

Environment name demodfo

Environment Id fe5e5cc6-60b5-e69d-b193-07c926c38057

Environment Uri https://operations-demodfo.crm4.dynamics.com/

Status Power Platform environment setup is complete. Features such as Dual-write, add-ins could be installed now.

Setup Dual-write application

Dual-write application will finish installing data entity mappings and configure data for sync across to Microsoft Dataverse. [Learn more](#)

ENVIRONMENT ADD-INS

Also, the **Dataverse** property in the **Power Platform admin center** should change to **Yes**:

| Power Platform admin center | | | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------|-----------|---------|----|
| + New Refresh Recently deleted environments | | | | | |
| Environments | | | | | |
| An environment is a space to store, manage, and share your organization's business data, apps, chatbots, and flows. When an environment is managed . | | | | | |
| Environment | Type | State | Dataverse | Managed | |
| demodfo | ... | Sandbox | Ready | Yes | No |

5. Account with Dataverse **system administrator** security role in Dataverse

The System Administrator role is required to create Azure Synapse Link in Power Apps.

Account role can be checked under **Settings > User** in the **Environment**:

The screenshot shows the Power Platform admin center interface. The left sidebar contains navigation links: Home, Environments, Advisor (Preview), Analytics, Billing, Resources, and Help + support. The main content area displays the 'Users' page for the 'demodfo' environment. It includes a breadcrumb trail 'Environments > demodfo > Settings > Users' and instructions on managing users. A table lists users, with 'Andrii Bondarenko' highlighted. Below the table, a detailed view of the user 'Andrii Bondarenko' is shown, including their profile picture (AB), status (Enabled), and roles. The 'System Administrator' role is highlighted in yellow. Other roles listed are 'Basic User' and 'Manage roles'. The 'Teams' section shows 'operations-demodfo' and 'Manage teams'.

6. The account must be also:

- **Storage Blob Data Contributor** and **Owner** of the **Azure Storage Account**
- **Owner** and **Synapse Administrator** of the **Synapse Workspace**
- **Reader** on the **Resource Group**

1.4 Microsoft Sources

<https://learn.microsoft.com/en-us/power-apps/maker/data-platform/azure-synapse-link-synapse>

<https://learn.microsoft.com/en-us/power-apps/maker/data-platform/azure-synapse-link-select-fno-data>

2 Setting up Azure Resources

2.1 Create a Data Lake Storage (Gen2) Account

Create a new **Storage Account** in the BI4Dynamics resource group. Make sure that the Storage Account is in the same region as your **DFO Environment**:

Home > Storage accounts > Create a storage account

Basics Advanced Networking Data protection Encryption Tags Review

Azure Storage is a Microsoft-managed service providing cloud storage that is highly available, secure, durable, scalable, and redundant. Azure Storage includes Azure Blobs (objects), Azure Data Lake Storage Gen2, Azure Files, Azure Queues, and Azure Tables. The cost of your storage account depends on the usage and the options you choose below. [Learn more about Azure storage accounts](#)

Project details

Select the subscription in which to create the new storage account. Choose a new or existing resource group to organize and manage your storage account together with other resources.

Subscription * Customers POC

Resource group * dataverse

Create new

Instance details

Storage account name * bi4dystorage

Region * (Europe) North Europe

Deploy to an edge zone

Performance * Standard: Recommended for most scenarios (general-purpose v2 account)

Premium: Recommended for scenarios that require low latency.

Redundancy * Locally-redundant storage (LRS)

Review < Previous Next : Advanced >

Enable **Hierarchical Namespace** and select **Hot Access Tier** in the tab **Advanced**:

Home > Storage accounts > Create a storage account

Basics Advanced Networking Data protection Encryption Tags Review

Certain options have been disabled by default due to the combination of storage account performance, redundancy, and region.

Security

Configure security settings that impact your storage account.

Require secure transfer for REST API operations ☒

Allow enabling anonymous access on individual containers ☐

Enable storage account key access ☒

Default to Microsoft Entra authorization in the Azure portal ☐

Minimum TLS version

Permitted scope for copy operations (preview)

Hierarchical Namespace

Hierarchical namespace, complemented by Data Lake Storage Gen2 endpoint, enables file and directory semantics, accelerates big data analytics workloads, and enables access control lists (ACLs) [Learn more](#)

Enable hierarchical namespace ☒

Access protocols

Blob and Data Lake Gen2 endpoints are provisioned by default [Learn more](#)

Enable SFTP ☐

Enable network file system v3 ☐

Blob storage

Allow cross-tenant replication ☐

Cross-tenant replication and hierarchical namespace cannot be enabled simultaneously.

Access tier ☒ Hot: Optimized for frequently accessed data and everyday usage scenarios

☐ Cool: Optimized for infrequently accessed data and backup scenarios

Azure Files

Enable large file shares ☐

Review < Previous Next : Networking >

Home > Storage accounts > Create a storage account

Basics Advanced Networking Data protection Encryption Tags Review

Hierarchical Namespace

Hierarchical namespace, complemented by Data Lake Storage Gen2 endpoint, enables file and directory semantics, accelerates big data analytics workloads, and enables access control lists (ACLs) [Learn more](#)

Enable hierarchical namespace ☒

Access protocols

Blob and Data Lake Gen2 endpoints are provisioned by default [Learn more](#)

Enable SFTP ☐

Enable network file system v3 ☐

Blob storage

Allow cross-tenant replication ☐

Cross-tenant replication and hierarchical namespace cannot be enabled simultaneously.

Access tier ☒ Hot: Optimized for frequently accessed data and everyday usage scenarios

☐ Cool: Optimized for infrequently accessed data and backup scenarios

Azure Files

Enable large file shares ☐

Review < Previous Next : Networking >

Under Networking keep the following selection, while **Recovery** settings can be unchecked:

Home > Storage accounts >

Create a storage account

Basics Advanced **Networking** Data protection Encryption Tags Review

Network connectivity

You can connect to your storage account either publicly, via public IP addresses or service endpoints, or privately, using a private endpoint.

Network access *

☒ Enable public access from all networks

☐ Enable public access from selected virtual networks and IP addresses

☐ Disable public access and use private access

i Enabling public access from all networks might make this resource available publicly. Unless public access is required, we recommend using a more restricted access type. [Learn more](#)

Network routing

Determine how to route your traffic as it travels from the source to its Azure endpoint. Microsoft network routing is recommended for most customers.

Routing preference ⓘ *

☒ Microsoft network routing

☐ Internet routing

[Review](#) [< Previous](#) [Next: Data protection >](#)

Home > Storage accounts >

Create a storage account

Basics Advanced Networking **Data protection** Encryption Tags Review

Recovery

Protect your data from accidental or erroneous deletion or modification.

☐ Enable point-in-time restore for containers

Use point-in-time restore to restore one or more containers to an earlier state. If point-in-time restore is enabled, then versioning, change feed, and blob soft delete must also be enabled. [Learn more](#)

☐ Enable soft delete for blobs

Soft delete enables you to recover blobs that were previously marked for deletion, including blobs that were overwritten. [Learn more](#)

☐ Enable soft delete for containers

Soft delete enables you to recover containers that were previously marked for deletion. [Learn more](#)

☐ Enable soft delete for file shares

Soft delete enables you to recover file shares that were previously marked for deletion. [Learn more](#)

Tracking

Manage versions and keep track of changes made to your blob data.

☐ Enable versioning for blobs

Use versioning to automatically maintain previous versions of your blobs. [Learn more](#)

Consider your workloads, their impact on the number of versions created, and the resulting costs. Optimize costs by automatically managing the data lifecycle. [Learn more](#)

☐ Enable blob change feed

Keep track of create, modification, and delete changes to blobs in your account. [Learn more](#)

Access control

☐ Enable version-level immutability support

Allows you to set time-based retention policy on the account-level that will apply to all blob versions. Enable this feature to set a default policy at the account level. Without enabling this, you can still set a default policy at the container level or set policies for specific blob versions. Versioning is required for this property to be enabled. [Learn more](#)

[Review](#) [< Previous](#) [Next: Encryption >](#)

Under Encryption select **Microsoft-managed keys** and **Blobs and files only**. Under Review revise the properties and create a storage account:

Home > Storage accounts >

Create a storage account

Basics Advanced Networking Data protection **Encryption** Tags Review

Encryption type * ⓘ

☒ Microsoft-managed keys (MMK)

☐ Customer-managed keys (CMK)

Enable support for customer-managed keys ⓘ

☒ Blobs and files only

☐ All service types (blobs, files, tables, and queues)

w This option cannot be changed after this storage account is created.

Enable infrastructure encryption ⓘ ☐

[Review](#) [< Previous](#) [Next: Tags >](#)

Home > Storage accounts >

Create a storage account

Basics Advanced Networking Data protection Encryption **Tags** **Review**

Basics

| | |
|----------------------|---------------------------------|
| Subscription | Customers POC |
| Resource Group | dataverse |
| Location | northeurope |
| Storage account name | bi4dynstorage |
| Deployment model | Resource manager |
| Performance | Standard |
| Replication | Locally-redundant storage (LRS) |

Advanced

| | |
|--------------------------------|----------|
| Enable hierarchical namespace | Enabled |
| Enable network file system v3 | Disabled |
| Allow cross-tenant replication | Disabled |
| Access tier | Hot |
| Enable SFTP | Disabled |
| Large file shares | Disabled |

Networking

| | |
|----------------------|--------------------------------|
| Network connectivity | Public endpoint (all networks) |
| Default routing tier | Microsoft network routing |
| Endpoint type | Standard |

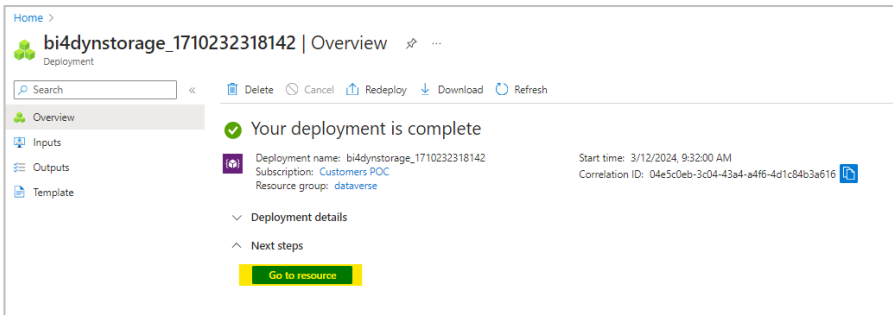
Security

| | |
|--------------------------------------------------------------|--------------------------|
| Secure transfer | Enabled |
| Allow storage account key access | Enabled |
| Default to Microsoft Entra authorization in the Azure portal | Disabled |
| Blob anonymous access | Disabled |
| Minimum TLS version | Version 1.2 |
| Permitted scope for copy operations (preview) | From any storage account |

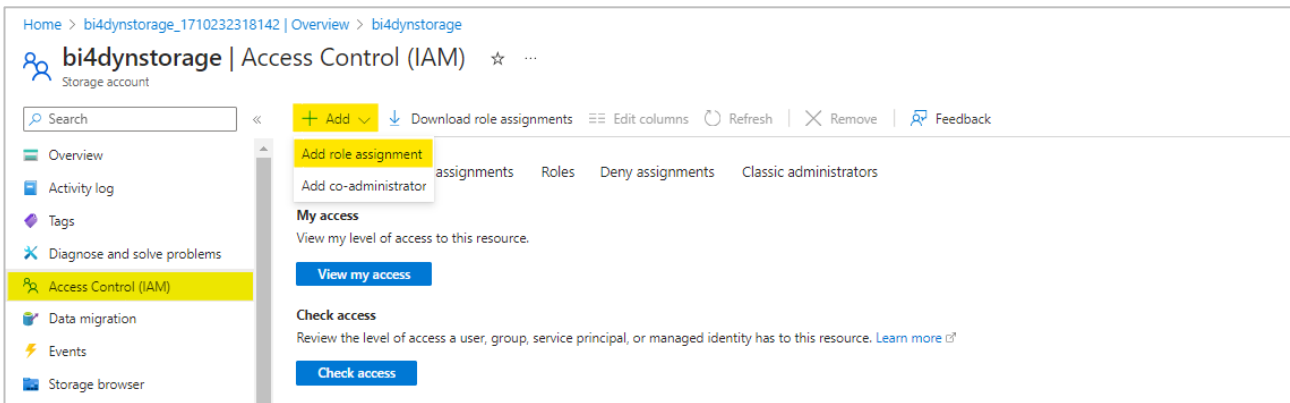
[Create](#) [< Previous](#) [Next >](#) [Download a template for automation](#)

2.2 Add Role Assignments to Data Lake Storage (Gen2) Account

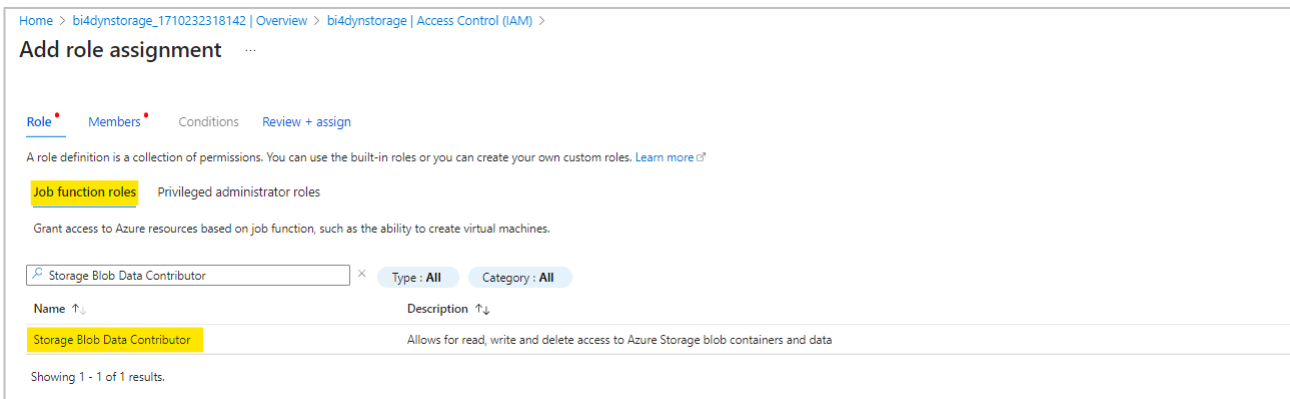
Once the resource is deployed, go to Storage Account:



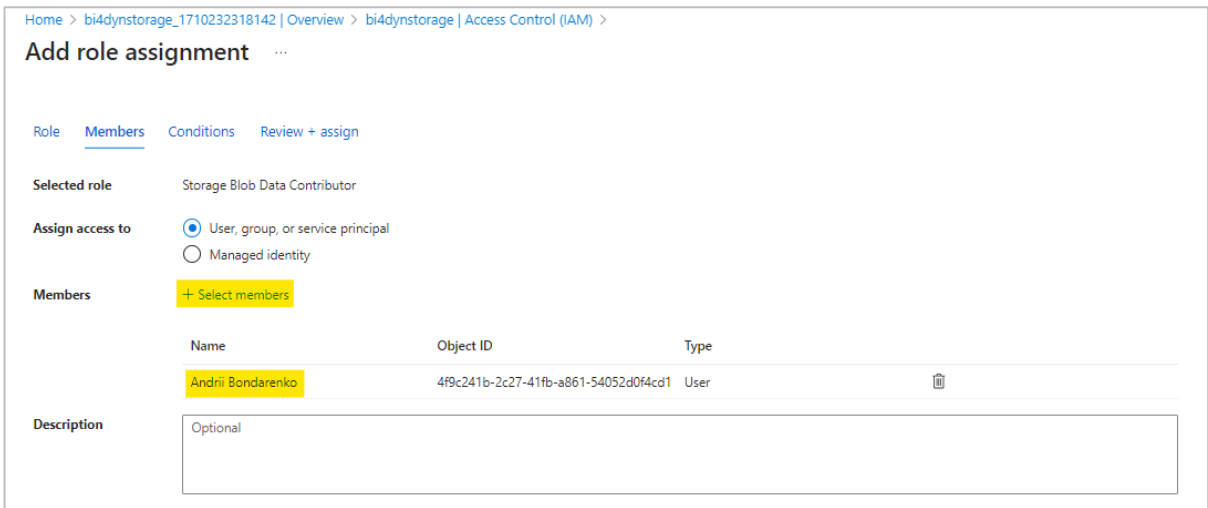
Under **Access Control (IAM)**, select **Add role assignment**:



Assign BI4Dynamics account with the role of **Storage Blob Data Contributor**:



Specify the user with the option **Select members** and assign the role:



Two roles cannot be assigned at the same time in Azure Portal. That is why similar actions should be performed for the role of **Owner**:

Home > bi4dynstorage_1710232318142 | Overview > bi4dynstorage | Access Control (IAM) >

Add role assignment

Role Members Conditions Review + assign

A role definition is a collection of permissions. You can use the built-in roles or you can create your own custom roles. [Learn more](#)

Job function roles **Privileged administrator roles**

Grant privileged administrator access, such as the ability to assign roles to other users.

⚠ Can a job function role with less access be used instead?

Owner × Type: All Category: All

| Name ↑↓ | Description ↑↓ |
|---------|--------------------------------------------------------------------------------------------------|
| Owner | Grants full access to manage all resources, including the ability to assign roles in Azure RBAC. |

Showing 1 - 1 of 1 results.

Once the role is selected, add the user:

Home > bi4dynstorage_1710232318142 | Overview > bi4dynstorage | Access Control (IAM) >

Add role assignment

Role Members Conditions Review + assign

Selected role Owner

Assign access to ☒ User, group, or service principal ☐ Managed identity

Members **+ Select members**

| Name | Object ID | Type |
|-------------------|--------------------------------------|------|
| Andrii Bondarenko | 4f9c241b-2c27-41fb-a861-54052d0f4cd1 | User |

Description Optional

To assign the role of **Owner** conditions should be specified. As the user will not be assigning any additional roles for the resource, the second or third option can be used to avoid creating specific conditions for the role:

Home > bi4dynstorage_1710232318142 | Overview > bi4dynstorage | Access Control (IAM) >

Add role assignment

Role Members Conditions Review + assign

Selected role Owner

What user can do ☐ Allow user to only assign selected roles to selected principals (fewer privileges) ☒ Allow user to assign all roles except privileged administrator roles Owner, UAA, RBAC (Recommended) ☐ Allow user to assign all roles (highly privileged)

Condition ☐ Preconfigured (All roles except privilege built-in roles)

Exclude roles: Owner, User Access Administrator, Role Based Access Control Administrator

2.3 Create Synapse Workspace

Create a new **Synapse Workspace** in the same resource group and region as your **Dataverse Environment**. Under **Select Data Lake Storage (Gen2) Account**, select the **account** created in a previous step and specify a new file system name as **bi4dcontainer**. In the tab **Security**, create a password for the **SQL Server admin login** and save it.

Home > Azure Synapse Analytics >
Create Synapse workspace

* Basics
* Security
Networking
Tags
Review + create

Create a Synapse workspace to develop an enterprise analytics solution in just a few clicks.

Project details
Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all of your resources.

Subscription *
Customers POC
Resource group *
dataverse
Managed resource group
Enter managed resource group name

Workspace details
Name your workspace, select a location, and choose a primary Data Lake Storage Gen2 file system to serve as the default location for logs and job output.

Workspace name *
bi4dmsynapse
Region *
North Europe
Select Data Lake Storage Gen2 *
From subscription
Account name *
bi4dmsynstorage
File system name *
(New) bi4dcontainer

We will automatically grant the workspace identity data access to the specified Data Lake Storage Gen2 account, using the Storage Blob Data Contributor role. To enable other users to use this storage account after you create your workspace, perform these tasks:

- Assign other users to the **Contributor** role on workspace
- Assign other users the appropriate **Synapse RBAC** roles using Synapse Studio
- Assign yourself and other users to the **Storage Blob Data Contributor** role on the storage account

Review + create
Previous
Next: Security >

Home >
Create Synapse workspace

* Basics
* Security
Networking
Tags
Review + create

Configure security options for your workspace.

Authentication
Choose the authentication method for access to workspace resources such as SQL pools. The authentication method can be changed later on.

Authentication method
Use both local and Microsoft Entra ID authentication
SQL Server admin login *
sqladminuser
SQL Password
Confirm password

System assigned managed identity permission
Select to grant the workspace network access to the Data Lake Storage Gen2 account using the workspace system identity.

Allow network access to Data Lake Storage Gen2 account.
The selected Data Lake Storage Gen2 account does not restrict network access using any network access rules, or you selected a storage account manually via URL under Basics tab.

Workspace encryption
Double encryption configuration cannot be changed after opting into using a customer-managed key at the time of workspace creation.

Choose to encrypt all data at rest in the workspace with a key managed by you (customer-managed key). This will provide double encryption with encryption at the infrastructure layer that uses platform-managed keys.

Double encryption using a customer-managed key
Disable

Review + create
Previous
Next: Networking >

Under the properties on the **Networking** tab, select the option **Allow connections from all IP addresses**.

Home >
Create Synapse workspace

* Basics
* Security
Networking
Tags
Review + create

Configure networking options for your workspace.

Managed virtual network
Choose whether to set up a dedicated Azure Synapse-managed virtual network for your workspace.

Managed virtual network
Enable
Disable
To control public network access to your Synapse workspace, you must enable managed virtual network.

Firewall rules
Azure Synapse Studio and other client tools will only connect to the workspace endpoints if this setting is selected.

Allow connections from all IP addresses to your workspace's endpoints. You can restrict these permissions to just Azure datacenter IP addresses and/or specific IP address ranges after creating the workspace.

Allow connections from all IP addresses

Encrypted connections
Azure Synapse Analytics applies TLS1.2 encryption protocol for all network connections.

Minimum TLS version
TLS 1.2

Review + create
Previous
Next: Tags >

Home > Azure Synapse Analytics >
Create Synapse workspace

* Basics
* Security
Networking
Tags
Review + create

Validation succeeded

Product Details
Azure Synapse Analytics workspace by Microsoft
Serverless SQL est. cost/TB
4.55 EUR

Terms
By clicking Create, I agree to the legal terms and privacy statement(s) associated with the Marketplace offering(s) listed above; (b) authorize Microsoft to bill my current payment method for the fees associated with the offering(s), with the same billing frequency as my Azure subscription; and (c) agree that Microsoft may share my contact, usage and transactional information with the provider(s) of the offering(s) for support, billing and other transactional activities. Microsoft does not provide rights for third-party offerings.

Basics
Subscription
Customers POC
Resource group
dataverse
Region
North Europe
Workspace name
(new) bi4dmsynapse
Data Lake Storage Gen2 account
https://bi4dmsynstorage.dfs.core.windows.net
Data Lake Storage Gen2 file system
(new) bi4dcontainer
Managed resource group
None
Role assignments
The Storage Blob Data Contributor role will be assigned on the specified Data Lake Storage Gen2 account to the workspace managed identity.

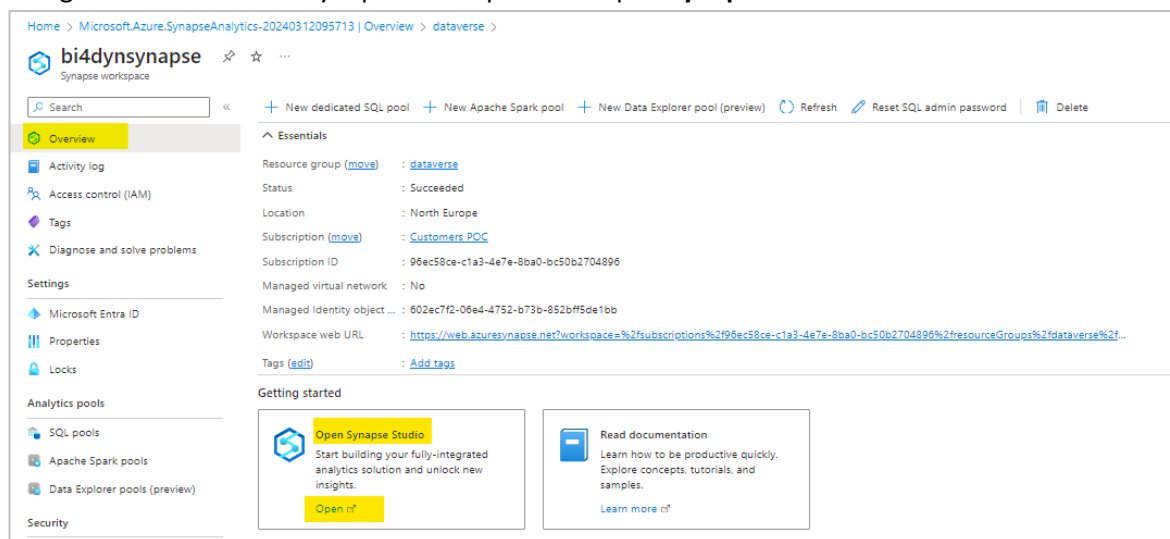
Security
Authentication method
Use both local and Microsoft Entra ID authentication
SQL Server admin login
sqladminuser
SQL Password
Double encryption
No

Networking
Managed virtual network
No
Allow connections from all IP addresses
Yes

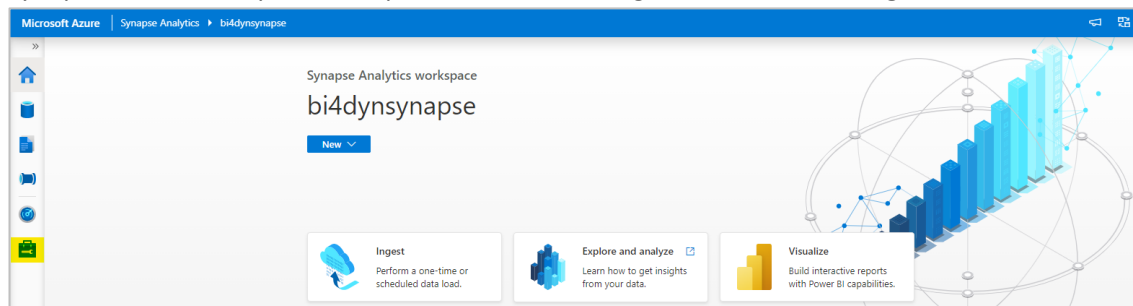
Create
Previous
Next
Download a template for automation

2.4 Assign the role of Synapse Administrator in Synapse Studio

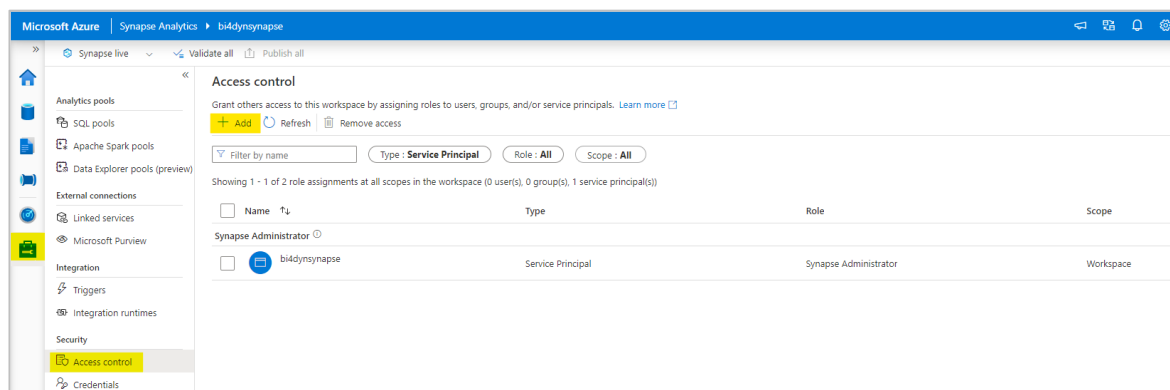
Navigate to **Overview** of Synapse Workspace and open **Synapse Studio**:



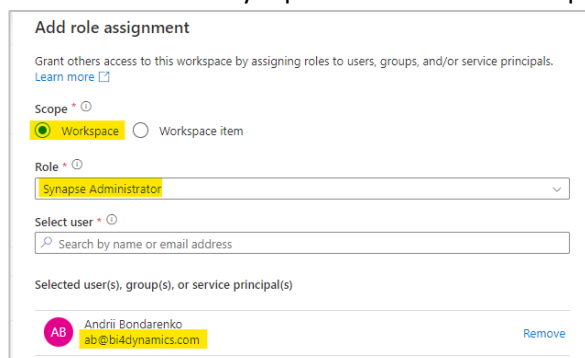
Synapse Studio will open in a separate window. Navigate to the tab **Manage** on the left side of the screen:



Select **Access Control** and click on **Add**:

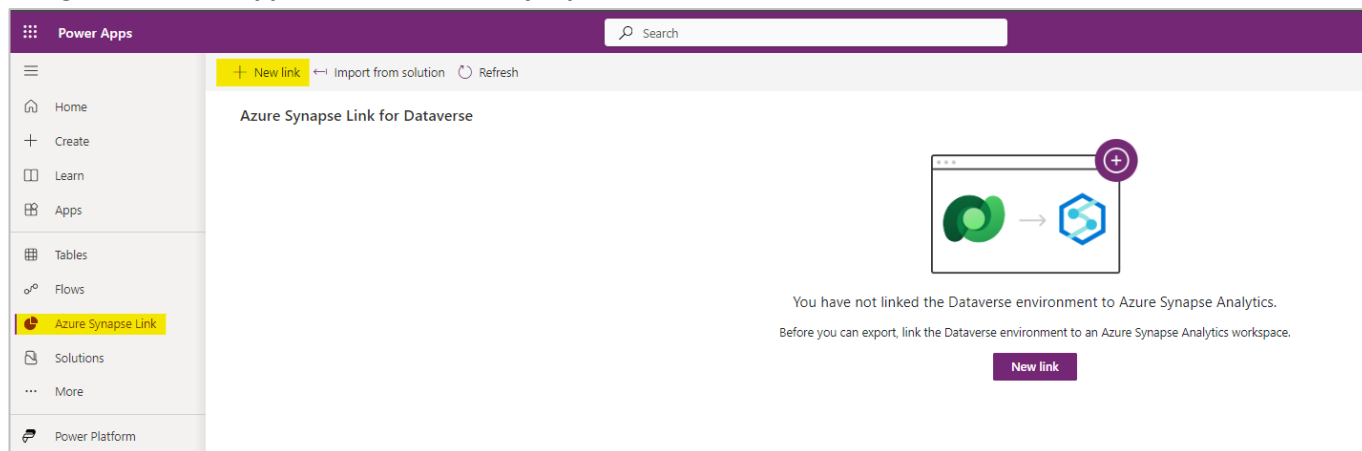


Select the roles of Synapse Administrator and specify the user:



3 Setting up Azure Synapse Link

Navigate to **Power Apps** and select **Azure Synapse Link**.



Set up a new link with the resources created in the previous chapter and click on **Next**:

New link

Select Azure resource

bi4dynstorage

Add Tables

Select Azure resource

Select the storage account and Azure Synapse workspace that you want link to the Dataverse environment. The storage account and Azure Synapse workspace must be in the same geography as your environment.

Your environment is located in: **North Europe** within the Azure geography: **Europe**

For optimal performance, we recommend attaching your Azure resource within the same region, preferably in one of the following location(s) : **North Europe**

You may choose to attach your Azure resource within the same geography as your Dataverse environment: Europe. For more details on Azure geographies, click [here](#).

☐ Connect to your Azure Synapse Analytics workspace

Subscription *

Microsoft Azure Sponsorship 1

Resource group *

DataverseSynapseLink

Storage account *

bi4dynstorage

☐ Select Enterprise Policy with Managed Service Identity

As part of linking the Dataverse environment to a data lake, you are granting the Azure Synapse Link service additional roles to your storage account. By using the Azure Synapse Link service, you agree that data may go outside of Power Apps' compliance boundary.

[For more information, see the Privacy Notice in the technical documentation for the service.](#)

Back

Next

Cancel

By default, only tables from Dataverse are available. Extend the option **Advanced** under the Dataverse and check the boxes on **Show advanced configuration settings** and **Enable Incremental Update Folder Structure**:

Dataverse

0 of 446 selected

Add Tables

Select the tables that you want to export. Only tables enabled for change tracking will be visible in the list below.

Advanced

Show advanced configuration settings

Enable Incremental Update Folder Structure

Time interval (in minutes)

Filter by keyword

Table

Name

Account

account

Account KPI Item

msdyn_accountkpiitem

Accountleads

accountleads

Action Card

actioncard

Action Card Usage

msdyn_actioncardactionstat

Activity

activitypointer

Activity File Attachment

activityfileattachment

Activity Party

activityparty

Adaptive Card Configuration

msdyn_adaptivecardconfiguration

Adx_invitation_invitecontacts

adx_invitation_invitecontacts

Adx_invitation_mssp_webrole_powerpagecomponent

adx_invitation_mssp_webrole_powerpagecomponent

Adx_invitation_redeemedcontacts

adx_invitation_redeemedcontacts

Adx_kbarticle_kbarticle

adx_kbarticle_kbarticle

Agent Status history

msdyn_agentstatushistory

AI Plugin Conversation Starter

aipluginconversationstarter

Once boxes are checked, the tab on the **D365 Finance & Operations** tables will be visible:

Dataverse

0 of 446 selected

D365 Finance & Operations

0 of 2951 selected

Add Tables

Select the tables that you want to export. Only tables enabled for change tracking will be visible in the list below.

Advanced

Show advanced configuration settings

Enable Incremental Update Folder Structure

Time interval (in minutes)

60

Click on this option to select the tables from **D365 Finance & Operations**:

Dataverse

0 of 446 selected

D365 Finance & Operations

0 of 2951 selected

Add Tables

Select the tables that you want to export. Only tables enabled for change tracking will be visible in the list below.

Advanced

Filter by keyword

Table

Name

Append only

Partition

1099 fields

Tax1099Fields

Month

Copy the tables for export under **D365 Finance & Operations** from the attached list: [List of Tables](#)

These tables are used by BI4Dynamics solution to recreate the standard model in our Data Warehouse. In total, **up to 220 tables** should be selected from the solution (some tables might not be available in newer versions of FO).

Leave the columns **Append Only** and **Partition** under the default setup as they will be automatically updated. **Append only** will be **checked** and **Partition** will be changed to **Year** for the FO tables right after creating the link.

New link

Dataverse
0 of 446 selected

D365 Finance & Operations
215 of 2951 selected

Add Tables

Select the tables that you want to export. Only tables enabled for change tracking will be visible in the list below.

Advanced

ASSETBOOK, ASSETBOOKTABLE, ASSETCONDITION, ASSETDEPBOOK, ASSETDEPBOOKTRANS, ASSETGROUP, ASSETLEDGER, ASSETLENDING, ASSETLOCATIO...

| Table | Name | Append only | Partition |
|------------|------------------------|--------------------------|-----------|
| Addresses | LogisticsPostalAddress | <input type="checkbox"/> | Month |
| Assortment | RetailAssortmentTable | <input type="checkbox"/> | Month |

Once the selection is saved, the Initial synchronization will start:

Azure Synapse Link for Dataverse

TablesDetailsDiscover hub

| Table | Name | Sync status | Last synchronized on | Count | Partition | Entity source | Fabric status |
|-----------|------------------------|--------------------------|----------------------|-------|-----------|---------------|---------------|
| Addresses | logisticspostaladdress | Initial sync in progress | - | - | Year | FrOTables | Not created |

When the synchronization is completed, the status should change to Active:

Azure Synapse Link for Dataverse

TablesDetailsDiscover hub

| Table | Name | Sync status | Last synchronized on | Count | Append only | Partition | Entity source |
|-----------|------------------------|-------------|------------------------|-------|-------------|-----------|---------------|
| Addresses | logisticspostaladdress | Active | 2/27/2024, 10:28:52 AM | 1503 | Yes | Year | FrOTables |

If the synchronization fails, you will see the following icon on Sync status:

Azure Synapse Link for Dataverse > bi4dynamicsstorageacc

TablesDetailsDiscover hub

| Table | Name | Sync status | Last synchronized on | Count | Append only | Partition | Entity source |
|-----------|------------------------|-------------|------------------------|-------|-------------|-----------|---------------|
| Addresses | logisticspostaladdress | Error | 2/27/2024, 10:28:52 AM | 1503 | Yes | Year | FrOTables |

For the error details click on the icon. The detailed Error message will be shown:

Errors in table 'Customer invoice lines'

CT-803: Row version change tracking configuration key disabled in linked environment. Some tables are paused. Visit aka.ms/SynapseLinkErrors to fix

For more details on the error message and its resolution, the following link can be used:
<https://learn.microsoft.com/en-us/power-apps/maker/data-platform/azure-synapse-link-troubleshooting-guide>

4 Adding Custom Tables to the Azure Synapse Link

Custom FO tables are not visible by default in Azure Synapse Link. Based on the official Microsoft documentation, custom tables require row version change tracking enabled manually:

Known limitations with finance and operations tables

Currently, there are limitations with finance and operations tables and Azure Synapse Link. We're working to address these limitations. To learn more about the upcoming roadmap and stay in touch with the product team, join the [preview Viva Engage group](#).

- You must create a new Azure Synapse Link profile. You can't add finance and operations apps tables to existing Azure Synapse Link profiles.
- Don't see all tables? Up to 2,750 Microsoft provided finance and operations apps tables are already enabled in Azure Synapse Link with application version 10.0.38. If you have a previous version of finance and operations apps, not all required tables can be enabled by default. You can enable more tables yourself by extending table properties and enabling the change tracking feature. For more information about how to enable change tracking, see [Enable row version change tracking for tables](#).
- **Don't see your custom tables? You must enable change tracking for them. More information: Enable row version change tracking for tables. If you're using a cloud hosted environment (CHE), you must perform a database sync operation to reflect the changes.**
- You can select a maximum of 1,000 tables in an Azure Synapse Link profile. To enable more tables, create another Azure Synapse Link profile.
- If the table selected contains data columns that are secured via **AOS Authorization**, those columns are ignored and the exported data doesn't contain the column. For example in a custom table named *CustTable*, the column *TaxLicenseNum* has the metadata property **AOS Authorization** set to **Yes**. This column is ignored when *CustTable* data is exported with Azure Synapse Link.

In particular, the property **Allow Row Version Change Tracking** of the table has to be changed to **Yes**:

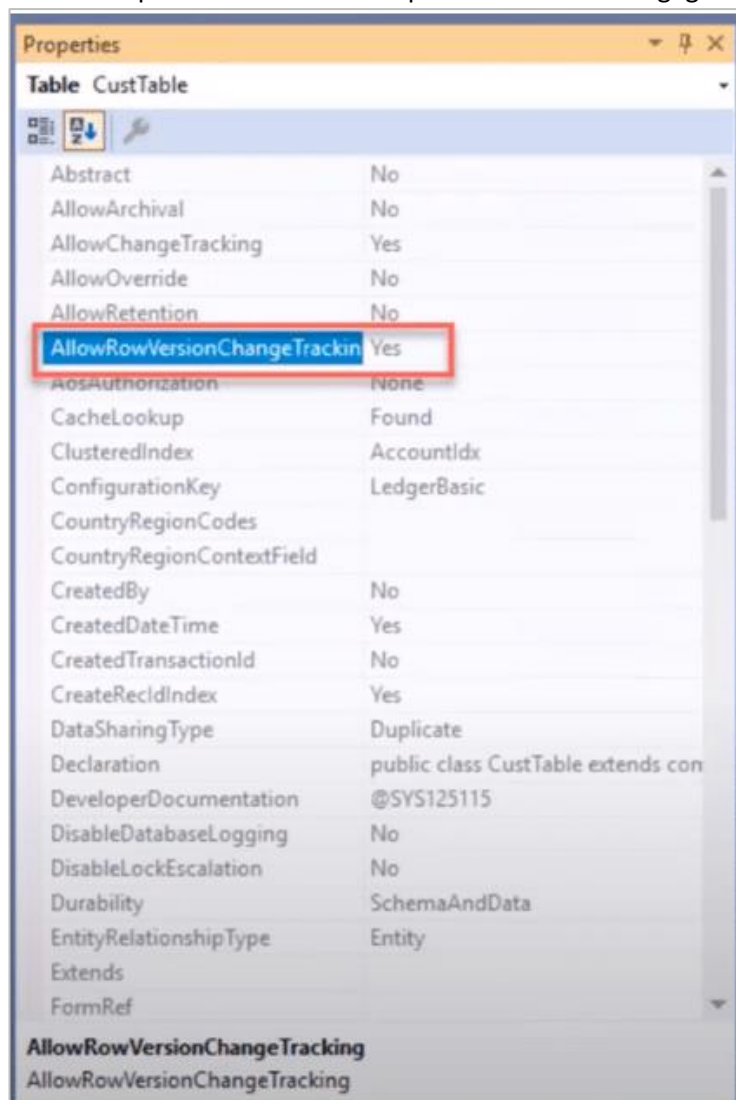
Enable row version change tracking for tables

To enable row version change tracking for a table, set the **Allow Row Version Change Tracking** property of the table to **Yes**. The table then gets a new system field of the **rowversion** type that's named **SysRowVersion**.

Note

Before version 10.0.34, while row version change tracking functionality was in preview, the row version column was named **SysRowVersionNumber**. In version 10.0.34, the **SysRowVersionNumber** column was replaced with a new **SysRowVersion** column. The **SysRowVersionNumber** column is now obsolete. In version 10.0.39, it's removed from the metadata of out-of-box tables. Don't make any dependencies for the **SysRowVersionNumber** column. If your code has a dependency on the older **SysRowVersionNumber** column, you are required to remove the dependency and test 10.0.39 in your sandbox environment before upgrading your production instance to 10.0.39.

The change is made in the table metadata accessed through Visual Studio.
The developer team or Microsoft partner should be engaged.



Please note that Synapse Link does not currently support derived columns in the FO tables. To get the data from a derived column, the base table for this column needs to be additionally selected in Azure Synapse Link:

- Table inheritance and derived tables are concepts in finance and operations apps. When choosing a derived table from finance and operations apps, fields from the corresponding base table currently aren't included. For example, if you choose `DirPerson` table, a table derived from `DirPartyTable` also known as the base table, exported data contains fields from the base table `DirPartyTable`. You need to select the base table in addition to the derived table if you need access to these fields. You can use this [FastTrack solution](#) provided on GitHub. This solution creates views, which include columns from base tables.

5 Setting up Application for Metadata Connector

Metadata connector is used to get database metadata (AOT) directly from **D365 Finance and Operations**. With the connector, the BI4Dynamics application will be able to know the structure and properties of the database such as:

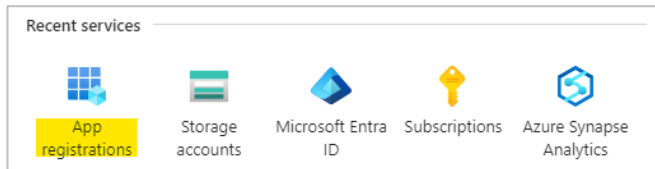
- list of tables and enums available in FO
- relationship between the tables
- profile, length, and type of each field in the tables

| | RecID | Profile | Table | TableName | Field | FieldName | FieldType | FieldLen | DataTypeName | FieldsDescription | EnumID | RelationTable | RelationTableName | RelationField | RelationFieldName |
|----|--------|---------|-------|-----------------|-------|-----------------------|-----------|----------|--------------|-------------------|--------|---------------|-------------------|---------------|-------------------|
| 1 | 516528 | 1 | 1449 | VENDINVOICEJOUR | 61455 | SYSSHARINGDATAAREID | UserType | 100 | String | 1 | -1 | 0 | | 0 | |
| 2 | 516531 | 1 | 1449 | VENDINVOICEJOUR | 61458 | SYSTARGETSCALEUNITID | UserType | 100 | String | 1 | -1 | 0 | | 0 | |
| 3 | 516515 | 1 | 1449 | VENDINVOICEJOUR | 61442 | MODIFIEDBY | UserType | 100 | String | 1 | -1 | 0 | | 0 | |
| 4 | 516530 | 1 | 1449 | VENDINVOICEJOUR | 61457 | SYSSCALEUNITID | UserType | 100 | String | 1 | -1 | 0 | | 0 | |
| 5 | 516521 | 1 | 1449 | VENDINVOICEJOUR | 61448 | DATAAREID | UserType | 100 | String | 1 | -1 | 0 | | 0 | |
| 6 | 516519 | 1 | 1449 | VENDINVOICEJOUR | 61446 | CREATEDBY | UserType | 100 | String | 1 | -1 | 0 | | 0 | |
| 7 | 516438 | 1 | 1449 | VENDINVOICEJOUR | 70 | NUMBERSEQUENCEGROUP | UserType | 100 | String | 1 | -1 | 0 | | 0 | |
| 8 | 516442 | 1 | 1449 | VENDINVOICEJOUR | 75 | PARMID | UserType | 100 | String | 1 | -1 | 0 | | 0 | |
| 9 | 516443 | 1 | 1449 | VENDINVOICEJOUR | 76 | PAYMDAYID | UserType | 100 | String | 1 | -1 | 0 | | 0 | |
| 10 | 516444 | 1 | 1449 | VENDINVOICEJOUR | 77 | PAYMENT | UserType | 100 | String | 1 | -1 | 0 | | 0 | |
| 11 | 516445 | 1 | 1449 | VENDINVOICEJOUR | 78 | PAYMENTSCHED | UserType | 100 | String | 1 | -1 | 0 | | 0 | |
| 12 | 516447 | 1 | 1449 | VENDINVOICEJOUR | 80 | POSTINGPROFILE | UserType | 100 | String | 1 | -1 | 0 | | 0 | |
| 13 | 516452 | 1 | 1449 | VENDINVOICEJOUR | 85 | PURCHID | UserType | 100 | String | 1 | -1 | 0 | | 0 | |
| 14 | 516437 | 1 | 1449 | VENDINVOICEJOUR | 69 | NUMBERSEQUENCECODE_LT | UserType | 100 | String | 1 | -1 | 0 | | 0 | |
| 15 | 516370 | 1 | 1449 | VENDINVOICEJOUR | 73 | ORDERACCOUNT | UserType | 100 | String | 1 | -1 | 0 | | 0 | |
| 16 | 516439 | 1 | 1449 | VENDINVOICEJOUR | 71 | OFFSESSIONID_RU | UserType | 100 | String | 1 | -1 | 0 | | 0 | |
| 17 | 516457 | 1 | 1449 | VENDINVOICEJOUR | 90 | RETURNITEMNUM | UserType | 100 | String | 1 | -1 | 0 | | 0 | |
| 18 | 516480 | 1 | 1449 | VENDINVOICEJOUR | 114 | VATNUM | UserType | 100 | String | 1 | -1 | 0 | | 0 | |
| 19 | 516484 | 1 | 1449 | VENDINVOICEJOUR | 118 | VENDGROUP | UserType | 100 | String | 1 | -1 | 0 | | 0 | |

This information allows creating the customizations in the BI4Dynamics application only with a couple of clicks.

5.1 Register an app in the Azure Active Directory

Navigate to App Registrations:



Register a new application with **Any Azure AD Directory - Multitenant** account type:

Home > App registrations >

Register an application

Name

The user-facing display name for this application (this can be changed later).

BI4D_Metadata ✓

Supported account types

Who can use this application or access this API?

☐ Accounts in this organizational directory only (BI4DYNAMICS d.o.o. only - Single tenant)
 ☒ Accounts in any organizational directory (Any Microsoft Entra ID tenant - Multitenant)
 ☐ Accounts in any organizational directory (Any Microsoft Entra ID tenant - Multitenant) and personal Microsoft accounts (e.g. Skype, Xbox)
 ☐ Personal Microsoft accounts only

[Help me choose...](#)

Redirect URI (optional)

We'll return the authentication response to this URI after successfully authenticating the user. Providing this now is optional and it can be changed later, but a value is required for most authentication scenarios.

Select a platform ▼ e.g. https://example.com/auth

Navigate to **Certificates & secrets** and create a new **Client Secret**:

Home > App registrations > BI4D_Metadata

BI4D_Metadata | Certificates & secrets

Overview
Quickstart
Integration assistant

Manage
Branding & properties
Authentication
Certificates & secrets
Token configuration
API permissions
Expose an API
App roles
Owners
Roles and administrators
Manifest
Support + Troubleshooting
Troubleshooting
New support request

Application registration certificates, secrets and federated credentials can be found in the tabs below.

Certificates (0) Client secrets (0) Federated credentials (0)

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

+ New client secret

| Description | Expires | Value | Secret ID |
|-----------------------------------------------------------|---------|-------|-----------|
| No client secrets have been created for this application. | | | |

Set the expiration to 730 days. Copy and save the **Value of the Client Secret**:

Add a client secret

Description: BI4Dynamics

Expires: 730 days (24 months)

Certificates (0) Client secrets (1) Federated credentials (0)

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

+ New client secret

| Description | Expires | Value |
|-------------|-----------|----------|
| BI4Dynamics | 2/28/2025 | Kmz***** |

The secret Value of the application is visible only immediately after the creation.
Do not forget to **copy and save** it before leaving Azure Portal.

5.2 Add BI4Dynamics Application

Navigate to **System Administration > Setup > Microsoft Entra ID applications**.

Organization administration
Payroll
Procurement and sourcing
Product information management
Production control
Project management and accounting
Questionnaire
Rebate management
Retail and Commerce
Sales and marketing
Service management
System administration
Tax
Time and attendance

Setup

- License configuration
- Server configuration
- Batch group
- Active periods for batch jobs
- Batch class configuration overrides
- System job parameters
- Entity Store
- PowerBI.com configuration
- Deploy Power BI files
- Configure performance tool
- System parameters
- Client performance options
- Personalization
- Office app parameters
- Configure cross-company data sharing
- Microsoft Entra ID applications**

Register a new application and insert the **Client ID** and **Name** of the app created in the previous step.

Finance and Operations

Microsoft Entra ID applications

Standard view

By enabling and using this feature, you consent to share your data with external systems. Data shared with a third-party service

Privacy Statement

Filter

| Client ID | Name | User ID |
|----------------------------------|---------------|---------|
| 7c7659c9-b40c-4f66-b5b4-34f9f94f | BI4D_Metadata | Admin |