Microsoft Power Platform integration with finance and operations apps

Article • 05/13/2023

Microsoft Power Platform provides a suite of capabilities for Dynamics 365 applications via the Power Platform admin center. Today, finance and operations apps are not managed by the Power Platform admin center. However, over time more and more management capabilities will be migrated from Microsoft Dynamics Lifecycle Services (LCS) over to the admin center. In the interim, customers will be able to unlock features, such as dual-write functionality, virtual entities, add-ins, and more via Microsoft Power Platform integration functionality in LCS.

Getting started

To learn more about how to connect your environment to either a new or an existing Power Platform environment, see Enable Power Platform Integration.

Prerequisite reading

To understand the architecture of Microsoft Power Platform, Dataverse, dual-write, and virtual entities for finance and operations apps, you must understand how they work. Therefore, the following documentation is a prerequisite:

- Administer Power Platform
- What is Dataverse?
- Tables in Dataverse
- Entity relationships overview
- Create and edit virtual tables that contain data from an external data source
- What is Power Apps portals?
- Overview of creating apps in Power Apps

Tools and services unlocked with Microsoft Power Platform integration

Together, virtual entities, dual-write, business events, and data events make up the shared data layer for the convergence of finance and operations apps and the Dataverse platform. They are complementary technologies that are intended to work together.

Enable Power Platform Integration

Article • 02/23/2024

As part of the One Dynamics, One Platform effort, a growing number of customers get value out of integrating their finance and operations apps with Microsoft Dataverse and the Microsoft Power Platform ecosystem. Whether it's used to build low-code applications, or to fully integrate front-office and back-office processes and applications, the integration of these two systems is a common requirement for many customers.

Power Platform Integration is a feature you can enable in Microsoft Dynamics Lifecycle Services. It lets administrators link their finance and operations environments with new or existing Microsoft Power Platform–based environments.

After Power Platform Integration is established, your organization can perform these actions:

- Create low-code apps and flows by using the Power Platform environment that link to finance and operations apps.
- Integrate finance and operations apps data with the Dataverse platform by using virtual tables, business events, and dual-write features.
- Install and connect other Dynamics 365 applications with your finance and operations apps.
- Install add-ins and connect them with your finance and operations apps.

To learn more about Power Platform Integration, watch our TechTalk on the Microsoft Dynamics 365 Community YouTube channel.
https://www.youtube-nocookie.com/embed/HmJIuHhx3Hg

Initial Power Platform environment

By default, all finance and operations apps environments (sandbox and production) that are managed by Lifecycle Services receives an initial Power Platform environment **without** Dataverse. This environment is linked to your finance and operations environment, as shown in the following illustration. The relationship is one to one. Over time, your finance and operations apps is migrated to this location in Power Platform admin center. You can determine whether an environment in Power Platform admin center is linked to an environment from Lifecycle Services by looking at the finance and operations apps URL on the environment details page in Power Platform admin center.

Environment lifecycle operations - Core concepts

Article • 02/23/2024

Every day, administrators perform lifecycle operations on their environments. These operations include common activities such as backing up and restoring data and refreshing sandbox environments with new transactions from production instances. This article provides an overview of core concepts for environment lifecycle operations and includes links to more detailed scenario articles.

To learn more about Power Platform Integration, watch our TechTalk on the Microsoft Dynamics 365 Community YouTube channel.
https://www.youtube-nocookie.com/embed/HmJIuHhx3Hg

Terminology differences between Lifecycle Services and Power Platform admin center

For environment lifecycle operations, there are some terminology and technical differences between similar activities that admins perform in the two admin portals, Microsoft Dynamics Lifecycle Services and Power Platform admin center. The following table is a quick reference for each operation type and explains any nuances between the two experiences.

Expand table

Lifecycle operation	Lifecycle Services terminology	Power Platform admin center terminology	Comments
Create	Deploy	Provision	
Copy	Database Refresh	Copy	
Backup	Database Export	Backup (Custom or System-defined)	
Restore	Point-in-time restore	Restore (Custom or System-defined)	
Reset	Not applicable	Reset	This operation is blocked for connected Dataverse instances,

Connect finance and operations apps with a new Microsoft Dataverse instance

Article • 12/04/2024

Administrators in Microsoft Dynamics Lifecycle Services are finding that more capabilities require connection to Dataverse via Power Platform Integration. Customers who don't already use Dataverse for low-code applications and services, or with other Dynamics 365 apps, can quickly set up and connect an instance. This article explains how to connect your finance and operations apps environment with a new Dataverse instance to combine them into one logical environment.

This article goes through the following steps.

1. Select **Setup** on the **Power Platform Integration** tab.
2. Configure Dataverse by using a template.
3. Confirm that you want to proceed.
4. Wait for provisioning to be completed.

As an example of this scenario, a customer who has deployed a finance and operations apps environment wants to connect it to a new Dataverse environment. This operation unlocks popular features such as add-ins, dual-write, virtual entities, and out-of-box business events, so that the rich finance and operations apps data can be made available for low-code applications and services.

Power Platform connection isn't reversible

Connecting, or linking as it's also referred, a finance and operations apps environment to a Microsoft Dataverse instance isn't reversible. The integration between the two systems is done via the infrastructure and disconnecting them would result in data loss. If you wish to delete the Microsoft Dataverse instance, you may follow the guide - Delete environments when Power Platform Integration is enabled.

Prerequisites

The following prerequisites must be in place before you set up the Microsoft Power Platform integration:

- Make sure that at least 1 gigabyte (GB) of Microsoft Power Platform database storage capacity space is available for your tenant. If this space isn't available, the setup fails. To view your capacity, go to the Power Platform admin center.

Connect finance and operations apps with an existing Microsoft Dataverse instance

Article • 02/23/2024

Administrators in Microsoft Dynamics Lifecycle Services are finding that more capabilities require a connection to Dataverse via Power Platform Integration. However, if a Dataverse instance is already available from other Dynamics 365 apps, you might want to reuse it for this integration. This article explains how to connect your finance and operations apps environment with an existing Dataverse instance to combine them into one logical environment.

This article goes through the following steps.

1. Select **Setup** on the **Power Platform Integration** tab.
2. Set the **Use a different Power Platform environment** option.
3. Confirm that you want to proceed.
4. Wait for provisioning to be completed.

As an example of this scenario, a customer who is live with the Dynamics 365 Field Service application in a Dataverse-based environment through Power Platform admin center wants to connect their new finance and operations apps environment to it. This operation unlocks popular features such as dual-write, virtual entities, and out-of-box business events between the back-office and front-office applications.

Power Platform connection isn't reversible

Connecting, or linking as it's also referred, a finance and operations apps environment to a Microsoft Dataverse instance isn't reversible. The integration between the two systems is done via the infrastructure and disconnecting them would result in data loss. If you wish to delete the Microsoft Dataverse instance, you may follow the guide - Delete environments when Power Platform Integration is enabled.

Prerequisites

The following prerequisites must be in place before you set up the Microsoft Power Platform integration:

Dual-write setup from Lifecycle Services

Article • 02/23/2024

This article explains how to enable dual-write from Microsoft Dynamics 365 Lifecycle Services.

Prerequisites

Customers must complete the Power Platform integration as described in the following topics:

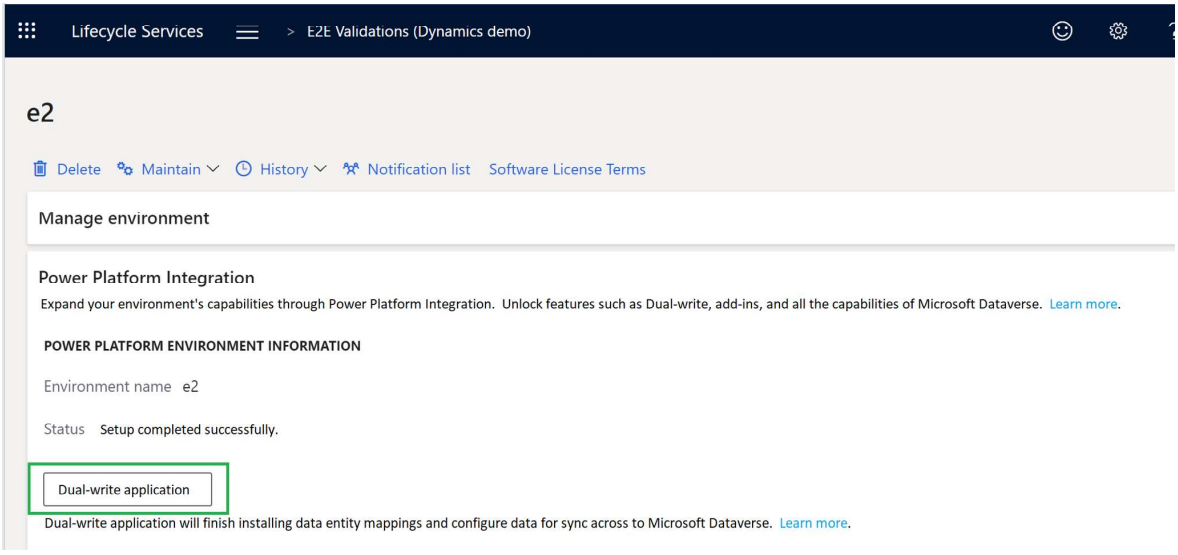
- If you don't yet use Microsoft Power Platform and want to expand your finance and operations environments by adding platform capabilities, see Connect finance and operations apps with a new Microsoft Dataverse instance.
- If you already have Dataverse and Power Platform environments, and want to connect them to finance and operations environments, see Connect finance and operations apps with an existing Microsoft Dataverse instance.

Set up dual-write for new or existing Dataverse environments

Follow these steps to set up dual-write from Lifecycle Services **Environment Details** page:

1. On the **Environment Details** page, expand the **Power Platform Integration** section.

2. Select the **Dual-write application** button.



Edit the properties of connected Dataverse environments

Article • 06/19/2024

When Microsoft Power Platform Integration is enabled, the finance and operations apps environment and the customer engagements apps environment are tightly connected. Administrators should regard these two platforms as one environment that has multiple apps. This article describes how Power Platform Integration affects the process of editing the properties of an environment.

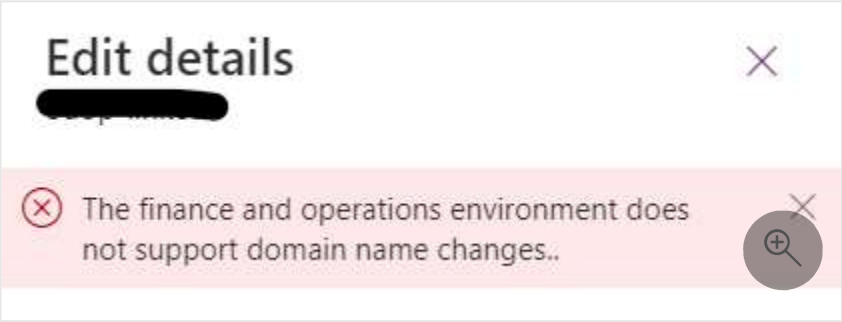
> **Important**
>
> Power Platform Integration isn't affected by the environment lifecycle scenarios that are described in this article.

Edit the properties of an environment by using Power Platform admin center

Administrators can edit the properties of an environment in Power Platform admin center when there's no link with a finance and operations app. Although most of the properties can still be edited, there's one exception:

- **URL –** For Dataverse environments that are linked to finance and operations apps, the URL can no longer be updated. If you try, you receive the following error message:

  > The finance and operations environment does not support domain name changes.



For more information about how to edit environment properties, see Edit properties of an environment.

Delete environments when Power Platform Integration is enabled

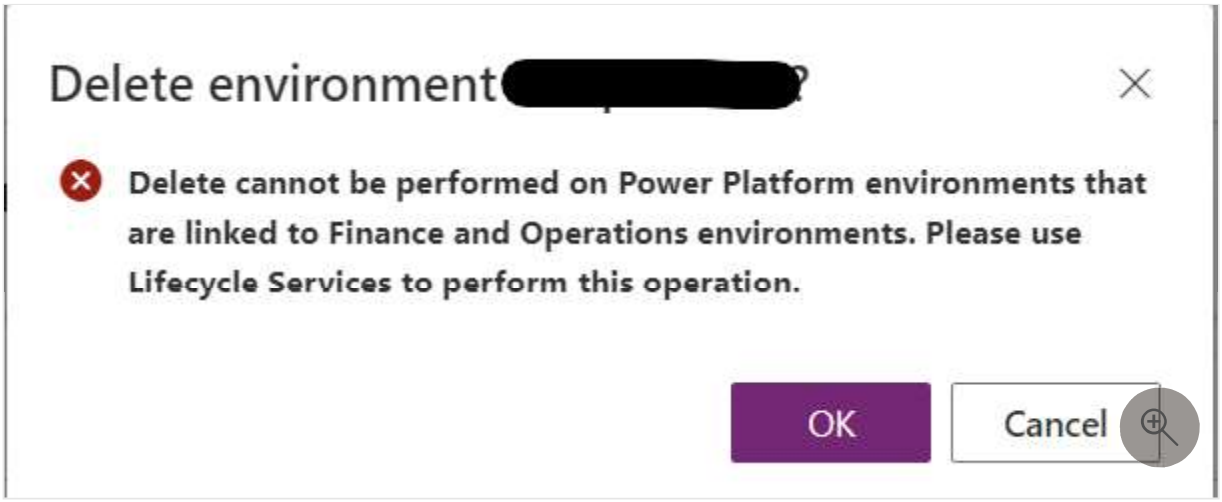
Article • 06/19/2024

When Microsoft Power Platform Integration is enabled, the finance and operations apps environment and the customer engagements apps environment are tightly connected. Administrators should regard these two platforms as one environment that has multiple apps. This article describes the options for deleting environments.

Delete an environment by using Power Platform admin center

You can't use Power Platform admin center to delete a linked environment. If you try, you receive the following error message:

> Delete cannot be performed on Power Platform environments that are linked to Finance and Operations environments. Please use Lifecycle Services to perform this operation.



Delete an environment by using Lifecycle Services

You can use Microsoft Dynamics Lifecycle Services to delete a finance and operations apps environment. The process doesn't change.

Recommendations

Change the type of connected environments

Article • 06/19/2024

When Microsoft Power Platform Integration is enabled, the finance and operations apps environment and the customer engagements apps environment are tightly connected. Administrators should regard these two platforms as one environment that has multiple apps. This article describes the environment lifecycle scenarios that are affected by Power Platform Integration.

> **Important**
>
> Power Platform Integration isn't affected by the environment lifecycle scenarios that are described in this article.

Change the environment type by using Power Platform admin center

You can convert a Power Platform admin center environment from a sandbox environment to a production environment, or from a production environment to a sandbox environment. However, we do **not** recommend this approach for linked environments, because this option isn't available for finance and operations apps.

The following sections describe aspects that you should consider when you change the environment type.

Sandbox to production

In this scenario, the Dataverse environment becomes a production environment, whereas the linked finance and operations apps environment remains a sandbox environment.

To link your Dataverse environment to a production finance and operations environment, follow these steps.

1. Deploy the finance and operations production environment without enabling Power Platform Integration.

Database and environment movements when Power Platform Integration is enabled

Article • 06/19/2024

When Microsoft Power Platform Integration is enabled, the finance and operations apps environment and the customer engagements apps environment are tightly connected. Administrators should regard these two platforms as one environment that has multiple apps. This article describes the environment lifecycle scenarios that are affected by Power Platform Integration.

> **Important**
>
> - We recommend that you perform the activities that are described in this article in parallel on both platforms. To find terminology that's specific to each platform, see **Environment lifecycle operations - Core concepts**.
> - Power Platform Integration isn't affected by the environment lifecycle scenarios that are described in this article, except when the environments are deleted.

Environment actions available in Power Platform admin center

This section describes the environment actions that are available in Power Platform admin center.

Back up environments

The procedure for backing up environments in Microsoft Power Platform doesn't change for connected environments. Remember that both code and data are backed up in Microsoft Power Platform. Only the database is backed up for finance and operations apps. For more information about how to back up Microsoft Power Platform, see Back up and restore environments.

Restore environments

Set up developer cloud-hosted environments by using Power Platform Integration

Article • 09/28/2023

Finance and operations apps have a rich development experience, as described in Develop and customize home page. As part of this experience, cloud development environments can be provisioned in your Microsoft Dynamics Lifecycle Services project. Cloud development environments are virtual machines (VMs) that a developer connects to by using Remote Desktop access. The developer can then develop code through the Microsoft Visual Studio environment.

This article highlights the steps to enable Power Platform Integration. For information about the configuration steps for cloud-hosted environments, see Deploy and access development environments.

Enable Power Platform Integration

Because of the architecture differences between cloud-hosted development environments and the sandbox or production environments, Power Platform Integration can't be set up after the developer environment is created. Therefore, you can set up Power Platform Integration only during the deployment of your cloud-hosted environment. In addition, you can connect a new cloud-hosted environment only with a new Microsoft Power Platform environment. You can't connect an existing environment of any type via Lifecycle Services.

> **Note**
>
> Lifecycle Services add-ins can't be installed on cloud-hosted environments. They're applicable only to sandbox and production environments.

To enable Power Platform integration, follow these steps.

1. During deployment of a cloud-hosted environment, select **Advanced settings** to access the Power Platform Integration setup.

Authentication and authorization

Article • 03/08/2024

Finance and operations apps and Microsoft Power Platform maintain separate user security. Users must have appropriate permissions in each environment to access finance and operations apps resources through Microsoft Power Platform. User setup can be simplified by synchronizing users between the two environments.

User provisioning

Creating finance and operations apps users in Microsoft Power Platform

There are three ways to automate the creation of finance and operations apps users in the Microsoft Power Platform environment:

- When a new Microsoft Power Platform environment is created as a linked environment that is linked to a finance and operations apps environment, all active users that are created in the Microsoft 365 admin center and that the **Dynamics 365 Finance** license is assigned to are automatically added as users in the new Microsoft Power Platform environment. For more information about how to create linked environments, see Enable the Microsoft Power Platform integration.
- When a new user is created in the Microsoft 365 admin center, and the **Dynamics 365 Finance** license is assigned, the new user is automatically created as a user in Microsoft Power Platform environments that are linked to a finance and operations apps environment. The process of creating the new user in Microsoft Power Platform can take up to an hour.
- If a user that the **Dynamics 365 Finance** license is assigned to signs in to the Microsoft Power Platform environment before user synchronization occurs, the user record is created when the Microsoft Power Platform environment is first accessed.

The creation of finance and operations apps users in linked Microsoft Power Platform environments can be automated. However, you can also add finance and operations apps users directly in Microsoft Power Platform by following the steps in Add users to an environment that has a Dataverse database.

Creating Microsoft Power Platform users in finance and operations apps

Dual-write home page

Article • 02/24/2023

These topics describe dual-write integration.

- What is dual-write?
  - Top reasons to use dual-write
  - What does dual-write mean for developers and architects of customer engagement app?
- What's new or changed in dual-write

Dual-write setup

- System requirements for dual-write
- Guidance for how to set up dual-write
- Dual-write setup from Lifecycle Services
- Enable dual-write for existing finance and operations apps
  - System requirements and prerequisites troubleshooting
  - Enable table map for dual-write
- Separated Dual-write Application Orchestration package
- Setup security roles and permissions
- User-specified team owner
- Uninstall dual-write application orchestration solutions

Managing dual-write after setup

- Customize table and column mappings
- Customize tables for additional fields, maps, or transformations
- Handling multiple table maps
- Edit a legal entity after dual-write setup
- Pause dual-write for maintenance
- Error management and alert notifications
- Application lifecycle management
- Reset dual-write connections

Mapping concepts between apps

What's new or changed in dual-write

Article • 01/24/2025

Dual-write is an out-of-box infrastructure that provides near-real-time interaction between customer engagement apps in Microsoft Dynamics 365 and finance and operations apps. To get started with dual-write, see the Dual-write home page.

January 2025

Global address book

The January regular release of dual-write GAB solution 3.5.2.131 contains the following bug fixes.

Expand table

Feature	Description	Status
Changed the conditions for contact entity business rules to prevent trigger conflicts	Added validation for the company name when contacts are created, to prevent trigger conflicts.	Bug fix
Support for offline functionality in **Postal address** entity main page	Updated JavaScript logic to read records in offline mode.	Bug fix
Address swapping fix while changing from **Prospect** to **Customer**	Fixed a race condition in a handler file that caused addresses to be swapped when the type was changed from **Prospect** to **Customer**.	Bug fix
Add **Party menu** option for dual-write GAB	Added party menu options in the Sales hub and Customer service hub to enable navigation to party-related information alongside **Accounts** and **Contacts**.	General availability

GAB solution details

Expand table

Solution name	Has new changes?	Previous version	New version
Party	Yes	3.5.2.161	3.5.2.263
Dynamics365GABExtended	Yes	3.5.2.161	3.5.2.263

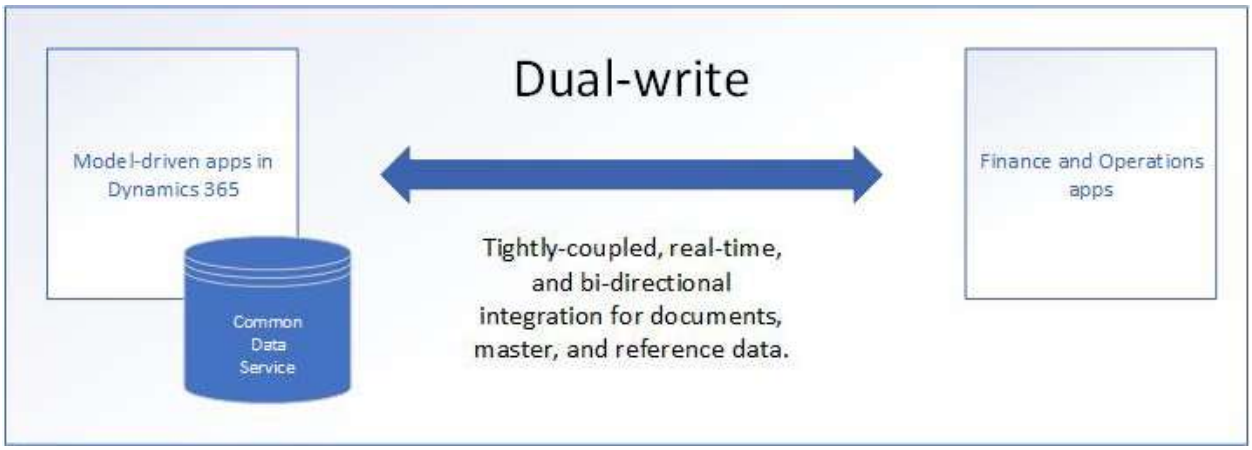
Dual-write overview

Article • 06/06/2024

What is dual-write?

Dual-write is an out-of-box infrastructure that provides near-real-time interaction between customer engagement apps and finance and operations apps. When data about customers, products, people, and operations flows beyond application boundaries, all departments in an organization are empowered.

Dual-write provides tightly coupled, bidirectional integration between finance and operations apps and Dataverse. Any data change in finance and operations apps causes writes to Dataverse, and any data change in Dataverse causes writes to finance and operations apps. This automated data flow provides an integrated user experience across the apps.



Dual-write has two aspects: an *infrastructure* aspect and an *application* aspect.

Infrastructure

The dual-write infrastructure is extensible and reliable, and includes the following key features:

- Synchronous and bidirectional data flow between applications
- Synchronization, together with play, pause, and catchup modes to support the system during online and offline/asynchronous modes.
- Ability to sync initial data between the applications
- Combined view of activity and error logs for data admins
- Ability to configure custom alerts and thresholds, and to subscribe to notifications
- Intuitive user interface (UI) for filtering and transformations

System requirements for dual-write

Article • 03/08/2024

What regions are available?

Currently, we support dual-write in the following regions:

- Asia
- Australia
- Brazil
- Canada
- Europe
- France
- Germany
- India
- Japan
- South America
- Switzerland
- United Arab Emirates
- United Kingdom
- United States

> **Note**
>
> There are currently no plans to support more regions.

The setup of a dual-write connection has the following requirements:

- finance and operations apps that have build version 10.0.9 (10.0.383.20013) (Quality update) and platform update 33 or later
- Customer engagement apps that have platform version 9.1.0000.11732 or later

Dual-write has these limitations:

- You can't run dual-write and the Prospect to cash solution for Data integrator side by side. If you're running the Prospect to cash solution for Data integrator, you must uninstall it.
- Dual-write setup is not supported on trial instances of finance and operations apps.

Guidance for dual-write setup

Article • 12/12/2023

You can set up a dual-write connection between a finance and operations environment and a Dataverse environment.

- A **finance and operations environment** provides the underlying platform for **finance and operations apps** (for example, Microsoft Dynamics 365 Finance, Dynamics 365 Supply Chain Management, Dynamics 365 Commerce, and Dynamics 365 Human Resources).
- A **Dataverse environment** provides the underlying platform for **customer engagement apps** (Dynamics 365 Sales, Dynamics 365 Customer Service, Dynamics 365 column Service, Dynamics 365 Marketing, and Dynamics 365 Project Service Automation).

> ⓘ **Important**
>
> The Human Resources module in Dynamics 365 Finance supports dual-write connections, but the Dynamics 365 Human Resources app doesn't.

Dual-write can be setup from Lifecycle Services for both new and existing environments involving finance and operations apps and customer engagement app. You can follow the guidance from Dual-write setup from Lifecycle Services.

Before you start dual-write on an entity, you can run an initial synchronization to handle existing data on both sides: Finance and operations apps and customer engagement apps. You can skip the initial synchronization if you don't have to sync data between the two environments.

An initial synchronization lets you copy existing data from one app to another bidirectionally. There are several setup scenarios, depending on the environments that you already have and the type of data in them.

The following setup scenarios are supported:

- A new finance and operations app instance and a new customer engagement app instance
- A new finance and operations app instance and an existing customer engagement app instance
- A new finance and operations app instance that has data and a new customer engagement app instance

Dual-write health check

Article • 06/19/2024

The dual-write health check runs validations to ensure that the environment meets system requirements, and that the required configurations for dual-write have been completed. The health check is typically done as part of the setup and configuration process for dual-write, to ensure the prerequisite configuration is completed before entity maps are set up. However, it can also be done as a troubleshooting step if issues occur after configuration is completed.

Run the dual-write health check

To run the dual-write health check, follow these steps.

1. In the finance and operations apps environment, on the **Dual-write** page, on the Action Pane, select **Health check**.
2. Follow the steps in the dual-write health check wizard.

Steps in the dual-write health check

There are two steps in the validation: the prerequisite health check and dependency validation.

Prerequisite health check

The prerequisite health check verifies that the system requirements and prerequisites have been met, so that the dual-write configuration can link the finance and operations apps environment to the Microsoft Dataverse environment. This check ensures that the required solutions have been installed in the environment, and that permissions have been configured to grant access to the environments.

For more information about the validations for prerequisite configuration, see System requirements and prerequisites. This article includes information about the health check results and the requirements for fixing any issues that the health check identifies.

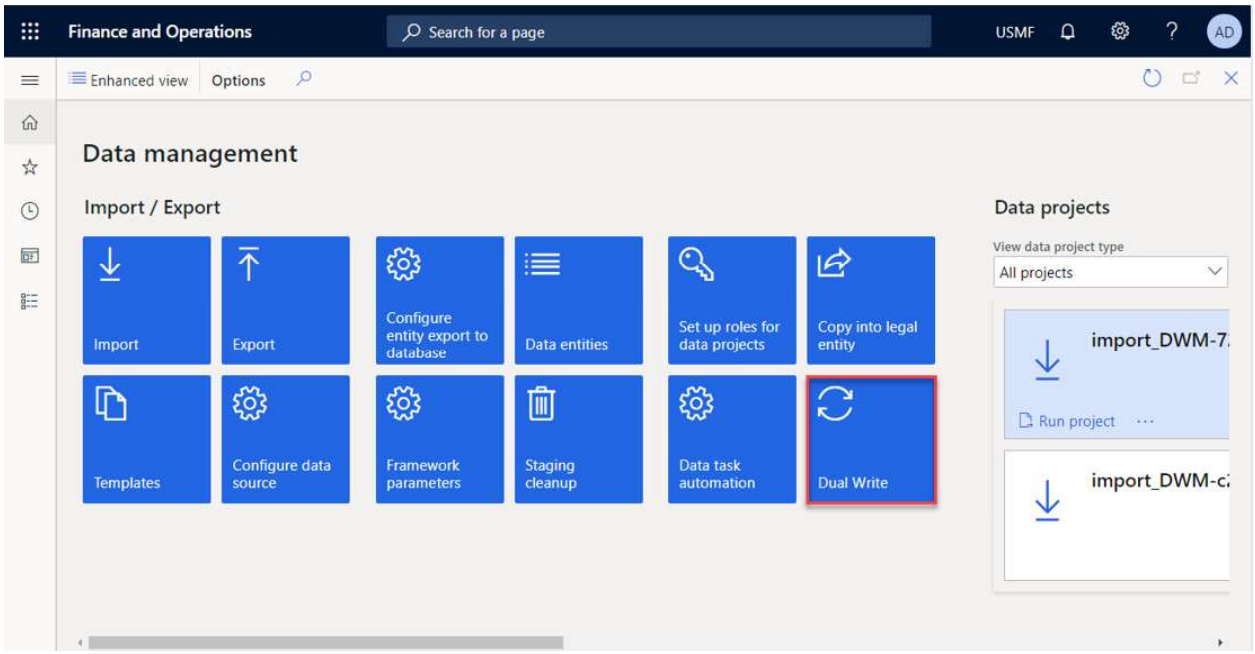
Dependency validation

After the prerequisites have been met, and the finance and operations apps environment and Dataverse environment are linked, you must configure the dual-write

Enable table maps for dual-write

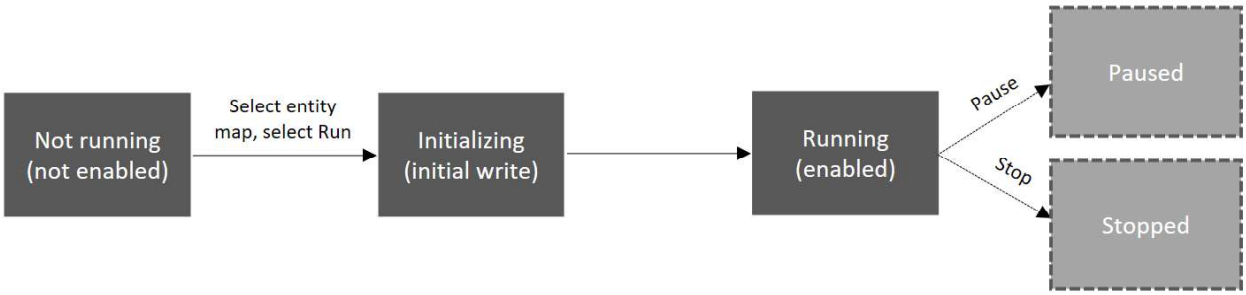
Article • 12/12/2023

To enable table maps for dual-write, Go to **Workspaces** > **Data management**, and select the **Dual Write** tile.



> **Note**
>
> If you don't see your table maps, or if you see a blank page, be sure to **Apply** the Dual-write application solutions that you installed as part of the initial system setup.

When you enable a table map for dual-write, it begins at the **Not running** status. The table map then goes through an initialization phase, where it does an initial write by copying pre-existing data on tables on both sides. When the table is completely enabled, it changes the status of the table map to **Running**.



Enabling entity map

While the status is **Running**, you can pause a table. All changes are then queued until you resume. When you resume, the table enters "catch-up mode" and plays back all the

Separated Dual-write Application Orchestration package

Article • 05/04/2023

Previously, the Dual-write Application Orchestration package was a single package that contained the following solutions:

- Dynamics 365 Notes
- Dynamics 365 finance and operations Common Anchor
- Dynamics 365 finance and operations Dual Write Entity Maps
- Dynamics 365 Asset Management App
- Dynamics 365 Asset Management
- HCM Common
- Dynamics 365 Supply Chain Extended
- Dynamics 365 Finance Extended
- Dynamics 365 finance and operations Common
- Dynamics 365 Company
- Currency Exchange Rates
- Field Service Common

Because it was a single package, this package created an "all or nothing" situation for customers. However, Microsoft has now separated it into smaller packages. Therefore, customers can select just the packages for the solutions that they require. For example, if you're a Microsoft Dynamics 365 Supply Chain Management customer, and don't require integration with Dynamics 365 Human Resources, notes, and asset management, you can exclude those solutions from the solutions that are installed. Because the underlying solution names, publisher, and map versions remain the same, this change is non-breaking. Existing installations can be upgraded.

Transition from the Dual-write Application Orchestration package to split packages

Article • 06/19/2024

Before March 2022, when customers set up dual-write, they had to install the Dual-write Application Orchestration package from Microsoft AppSource. This package contained solutions for all application logic, including all table maps. Therefore, customers were in an "all or nothing" situation, where they had to install all solutions, even if they had to use only a subset.

To fix this issue, Microsoft split the monolithic application orchestration package into smaller individual packages. These individual packages contain solutions that have the same name, publisher, and map versions as the application orchestration package. Therefore, this change is nonbreaking, and customers can easily upgrade environments by installing the required split packages from AppSource.

> **Important**
>
> The orchestration solution is no longer being maintained and will be deprecated. We recommend that you install the split packages, so that you can continue to benefit from enhancements and updates.

What you must do to install the split packages

Follow these steps for each environment.

1. Identify which split solution packages are required.
2. Install the required packages.
3. If table maps were updated in the split packages, apply the updates in the **Dual-write** workspace.

As for any app update, we recommend that you first complete these steps in lower environments and do regression testing for your specific use cases.

Step 1. Identify which split solution packages are required

Set up dual-write security roles and permissions

Article • 06/22/2023

This article describes the special security roles and permissions that are required for dual-write to work as expected.

Assign security roles to Microsoft Dataverse users

All Microsoft Dataverse users should be added to the **dual-write runtime user** and **dual-write app user** security roles.

Assign security role to the default owning team

In Dataverse, each business unit has a default owning team that uses the same name as the business unit. Global tables are associated with the root business unit. The default team of the root business unit should be assigned to a security role that gives read permissions to all Dataverse tables that participate in dual-write. For information about how to set up the security role, see Manage the security roles of a team.

To find the default team for the root business unit, follow these steps.

1. In a web browser, sign in to the Dataverse or customer engagement apps environment (for example, `https://[environment].dynamics.com`). Replace **[environment]** with your environment's name.

2. Open a new browser tab, and enter the following URL.

   `https://[environment].dynamics.com/api/data/v9.0/teams?$filter=isdefault eq true and businessunitid/_parentbusinessunitid_value eq null&$select=name`

   The result will resemble the following example.

```
{
    "@odata.context":
"https://[environment].dynamics.com/api/data/v9.0/$metadata#teams(name,
teamid)",
    "value": [
```

User-specified team owner

Article • 07/02/2022

In finance and operations apps, global tables are not associated with a company or legal entity. For these tables, you can specify a team and not use a default team as owner when writing to Microsoft Dataverse using dual-write.

By default, when you enable dual-write, the root business unit's default team will become the default owner for all rows integrated through dual-write. This may not be what you want when you want to limit access to these records to just a subset of users. It's not uncommon for an organization to have multiple departments defined by business units with corresponding teams under them. You don't want all users of the default team to have access to all the records integrated via dual-write. In these situations, you can specify a different team for each global table as an owner for these records.

Change the owning team

When you select a global table map such as **Global Products**, under **Table mappings**, you can view the list of teams in the **Update owning team** section. By default, dual-write uses the default team, which is indicated by a blank value. After you create a new map with a new version, you change the default behavior by picking a new team from the owning team list and then save the new value. The **Owning team** field is shown in the following screenshot.

Uninstall dual-write application orchestration solutions

Article • 08/12/2022

This article describes how to uninstall dual-write application orchestration solutions.

Some customers unintentionally install the dual-write application orchestration package that installs multiple solutions in their Microsoft Dataverse environment. Installation of the extraneous solutions in the package can cause unexpected and undesirable issues.

To fix issues that are related to installation of the dual-write application orchestration package, uninstall the unwanted dual-write solutions in the following order:

1. Dynamics365FinanceAndOperationsAnchor_managed
2. msdyn_OneFSSCM_managed (if present)
3. Dynamics365FinanceAndOperationsDualWriteEntityMaps_managed
4. Dynamics365Notes_managed (To uninstall this solution, you must open a support ticket with Microsoft.)
5. DualWriteCore_managed
6. Dynamics365AssetManagementApp_managed
7. Dynamics365AssetManagement_managed
8. Dynamics365SupplyChainExtended_managed
9. Dynamics365FinanceExtended_managed
10. HCMCommon_managed
11. Dynamics365FinanceAndOperationsCommon_managed
12. Dynamics365Company_managed
13. CurrencyExchangeRates_managed
14. msdyn_AssetCommon_managed
15. FieldServiceCommon_managed

If party and global address book solutions were installed, uninstall the solutions in the following order:

1. Dynamics365FinanceAndOperationsAnchor
2. Dynamics365FinanceAndOperationsDualWriteEntityMaps
3. msdyn_DualWriteCore
4. Dynamics365AssetManagementApp
5. Dynamics365AssetManagement
6. Dynamics365SupplyChainExtended
7. Dynamics365FinanceExtended
8. HCMCommon

Customize table and column mappings

Article • 04/10/2024

The out-of-box table maps have predefined table and column mappings that enable the flow of data between two apps. In this way, they serve as "blueprints." However, because every business is different, the default table maps might sometimes not be enough. Therefore, dual-write fully supports customization by providing ways to change table maps and column mappings.

> **Note**
>
> The Worker Personal details entity in Microsoft Dataverse doesn't contain the **Professional Suffix** field. However, this field can be added through extensibility. You can't save new values to the **Professional Suffix** and **Personal Suffix** fields of the Worker entity while you're mapping the Worker Personal details entity from Dataverse to the Worker entity in finance and operations apps. The **DirNameAffixPersonalSuffix** data source contains these fields and won't save values to fields that aren't available in finance and operations apps.

Customize column mappings, add transforms, and enable filtering

1. In your finance and operations app, on the **Dual-write** page, on the **Table mappings** tab, select the table map to customize.

   > **Note**
   >
   > Before you change table mappings, they must be stopped (not running). Otherwise, your changes won't be saved.

2. On the **Table mappings** tab, you can customize a column by selecting a new or custom column from either the finance and operations app or Dataverse.

Customization guidance for dual-write

Article • 08/12/2022

Dual-write provides out-of-box maps for some business processes. However, there might be scenarios where you need additional fields, maps, or transformations. The dual-write platform is extensible. You can create custom maps and extend existing maps with custom fields to sync data between finance and operations apps and Microsoft Dataverse. This article provides guidance and best practices for these customizations.

Before you customize any maps, you should be familiar with the tasks in Customize table and column mappings.

Guidance when the entity is in both the finance and operations app and Dataverse

If the entity is in both environments, create a dual-write map.

- Integration keys for the entity should match in both environments. If the entity key isn't available on either side, be sure to create entity keys. The integration key fields should be mapped to each other in the map.
- The **company** field should not be present in the mapping if the entity is legal entity–specific, because the **company** field will already be part of the key. For an example, review the **Customer groups (msdyn_customergroups)** entity mapping.
- Add filters to either the finance and operations environment or the Dataverse environment to trigger the dual-write map only on specific criteria. The **Customers V3 - Accounts or CDS Contacts V2 (Contacts)** map has several filters that you can use as examples.

Guidance when the entity is in the finance and operations app only

If the entity is in the finance and operations app only, create a new entity in Dataverse, and then add a map.

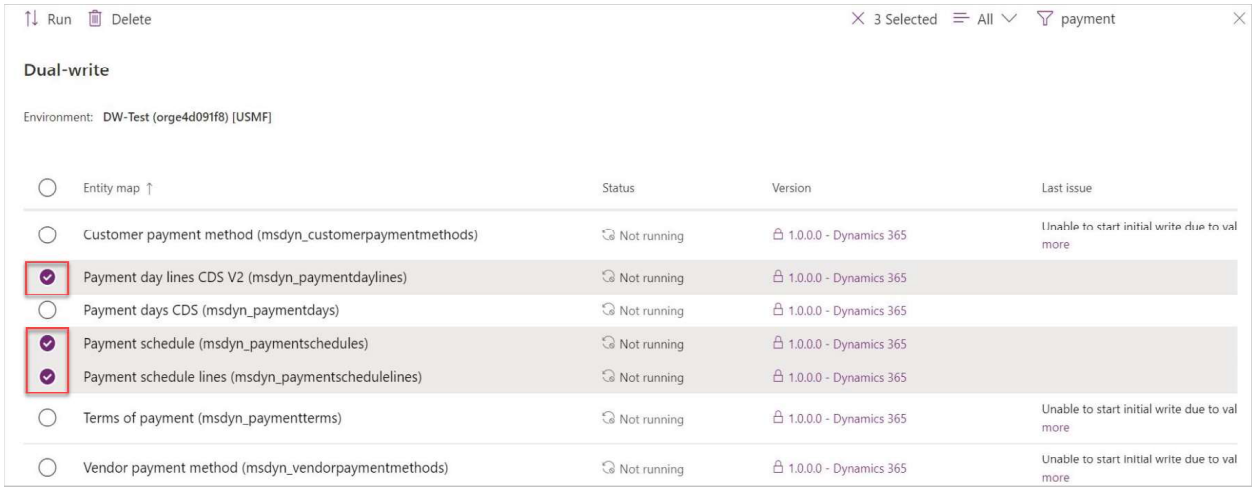
- If the finance and operations entity contains data that is legal entity–specific, be sure to add a lookup field to **cdm_companies** in the new Dataverse entity. If the finance and operations entity is global, a field for the company isn't required in the Dataverse entity.

Manage multiple table maps

Article • 08/12/2022

This article describes how to select multiple table maps, view a list of dependent table maps, enable the table maps and all of its related tables, and copy pre-existing data.

As part of day to day operations, there may be a need to bulk handle table maps. For example, you may want to simultaneously enable or pause a set of table maps. Instead of doing this one by one, which is cumbersome and time consuming, you can now enable, pause, resume, or stop more than one table map at the same time in the dual-write list page.



As part of enabling multiple table maps, you also get to view the list of all the dependent table maps by selecting **Show related table map(s)**.

Edit a legal entity after dual-write setup

Article • 03/29/2024

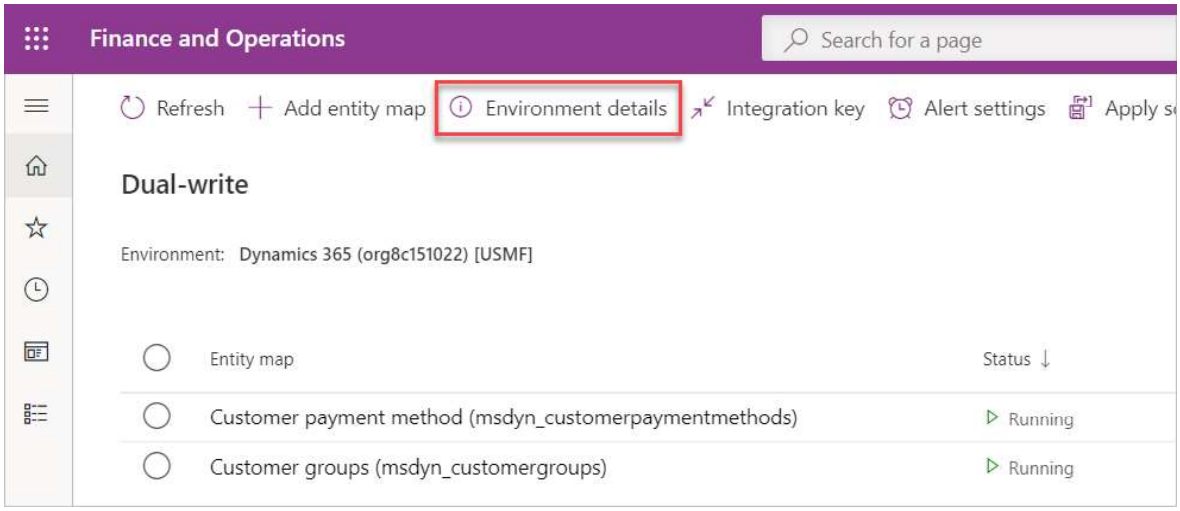
The dual-write wizard enables you to add or remove a company or legal entity after dual-write has been set up. You can do this without having to unlink and relink your dual-write environment.

The wizard enables you to link your finance and operations apps to Dataverse environments. As part of this wizard, you also can select one or more companies or legal entities. The company or legal entity list doesn't remain static and is constantly changing. This is because you may need to add new companies, especially as part of a phased rollout or acquisitions. Until now, you were unable to add a company or legal entity without system down-time, which required you to unlink and relink your environment. All of this can be expensive, especially because of pre-existing data. With this feature, you can add a company in a live environment without the need to unlink your existing dual-write environment.

Add a company or legal entity after dual-write has been set up

Follow these steps to add a company or legal entity after dual-write has been set up.

1. On the **Dual-write table map** list page, select the **Environment details** button.



2. On the **Legal entities** tab, you see the company that you selected as part of the dual-write wizard to link environments. In this example, the company is USMF.

Manage dual-write integration keys

Article • 04/03/2024

Integration keys for dual-write are the natural key for an entity that uniquely identifies a row of a Dataverse table. When a dual-write operation originates in finance and operations apps, the key is used to find the correct record to perform that operation on in the Dataverse table. For example, for a dual-write map that associates a finance and operations entity with the Global Product table in Dataverse, the integration key must be defined for the Global Product table to ensure that the map is processed correctly. An update or deletion of the product record in finance and operations apps can then find the unique related record to perform the operation on in the Global Product table.

> **Note**
>
> Integration keys must be defined only for Dataverse tables. They aren't required for finance and operations entities.

The integration key is based on an alternate key of the Dataverse table. The alternate keys on the table facilitate simplified programming and integration with external systems. These keys are essential in cases where an external system doesn't store the globally unique identifiers (GUIDs) that uniquely identify rows in Dataverse. For more information about alternate keys in Dataverse, see Define alternate keys to reference rows.

> **Important**
>
> The alternate key on the Dataverse table that's used for the integration key should include only columns that application users aren't allowed to change the value of. The integration key defines the relationship between the record in finance and operations apps and Dataverse. If the value of a column that's part of the alternate key is changed for a record, that change essentially changes the identity of the record and breaks the relationship between the record in finance and operations apps and Dataverse. It's important that keys are matched between the finance and operations apps and Dataverse.

Generating dual-write integration keys

Automated key generation

Pause dual-write for maintenance

Article • 10/20/2023

You can pause table maps, either manually or automatically via rules. By pausing table maps, you help ensure business continuity, especially during planned or unplanned maintenance. While the app is being maintained, users can continue to do their work and create records.

When you pause a table map that is in the **Running** state, all records that have been created or updated are queued until you resume the table map. The queued records are stored in secure Microsoft Azure storage. They're then played back when you resume the table map and put it back into the **Running** state.

> **Note**
>
> While a table map is in the **Paused** state, the following limits apply:
>
> - A pause can be active for a maximum of only one day.
> - There is a maximum size of 1 GB worth of records that can be queued.
>
> Paused maps must be reactivated in less than one day from the pause start date, or else pending changes can be lost impacting data consistency. Reaching either one of these limits results in a block on all additional records until the sync is resumed and the queued records are caught up. Users have to manually resume the job in order for the catch up to be completed.

Records that have been created or updated for a table map that is in the **Paused** state can be viewed on the **Queued records** tab for each table map.

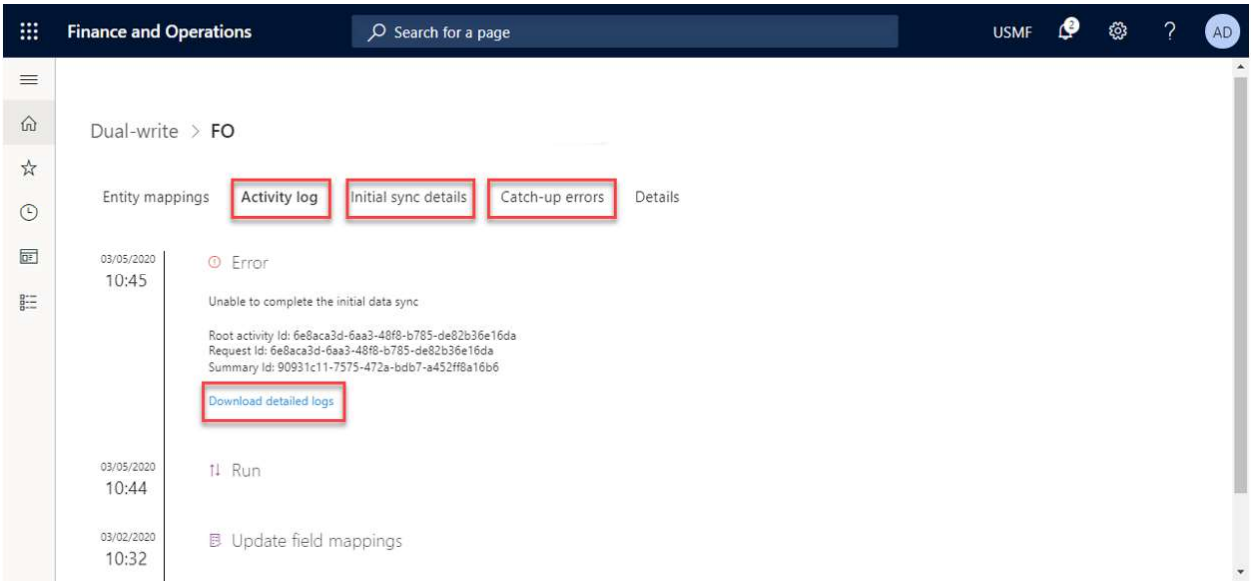
Error management and alert notifications

Article • 08/12/2022

Microsoft has invested lots of time and effort into making dual-write resilient to errors. However, if you encounter an issue while or after you enable table maps for dual-write, you can select specific table maps to get a consolidated view of all the activities and errors for them. This consolidated view includes error logs. The goal is to help you during troubleshooting by providing a single view of the activities for a table map.

Consolidated error management

The activity log provides a chronological list of events that a specific table map goes through from the **Not Running** status to the **Running** status. For example, the list can include mappings that are created, updates of column mappings, and mappings that are run. Additionally, if errors occur, you can download the logs to get the next level of details.



Re-running execution for Initial sync

If you encounter issues while you copy pre-existing data between finance and operations apps and Dataverse, the **Initial sync details** tab provides a count of the errors.

Application lifecycle management

Article • 08/12/2022

By making dual-write solution-aware, you enable basic application lifecycle management (ALM) capabilities, such as transportation and backup/restore of dual-write table maps across environments. You also enable scenarios where you can get solutions that are published by Microsoft or an independent software vendor (ISV) from AppSource.

What is a dual-write solution?

A dual-write solution can contain one or more dual-write table maps. These maps can be imported into your environment (by selecting **Solutions** in Microsoft Power Apps). They can also be exported to other environments as a package. You can import Microsoft-published or ISV-published table maps from AppSource, modify them in your test environment, test them, and then, when they are ready, export them to your production environment. Additionally, you can publish your solution through AppSource, so that other people can use it.

There two types of solutions: managed and unmanaged.

A managed solution can't be modified, and it can be uninstalled after it's imported. When you import an unmanaged solution, you add all the components of that solution into your environment. When you import an unmanaged solution that contains components that you've already customized, your customizations are overwritten by the customizations in the imported unmanaged solution.

For more information about solutions, see the solutions overview.

Install the dual-write core solution

The dual-write core solution contains metadata for your table maps and must be installed in your environments.

1. In Power Apps, in the left pane, select **Solutions**.
2. Select **Open AppSource**, and search for the solution that is named **Dual Write Core**.
3. Follow the prompts to import the solution.

Reset dual-write connections

Article • 11/03/2023

The initial configuration of the dual-write connection between finance and operations apps and Microsoft Power Platform is done in Microsoft Dynamics Lifecycle Services by using the Power Platform integration setup. For more information about this initial configuration, see Dual-write setup from Lifecycle Services. After it's done, there might be cases where you want to clear the dual-write connections and configuration, and start again from scratch. Alternatively, you might encounter a stuck state. In these cases, the dual-write platform lets you clear and reset all dual-write connections and configuration, so that you can set up dual-write again for the environment.

You can select between two options when you perform a reset:

- **Power Platform Link Dataverse Environment –** This option is the default and recommended option. It clears the dual-write connections between finance and operations apps and Dataverse, and resets the connection that links the finance and operations environment to the Dataverse environment that's configured with the Power Platform integration. If the dual-write connection is currently set up with a Dataverse environment other than the one that's linked through the Power Platform integration, that connection is cleared and reset to align the link with the Power Platform integration. The Power Platform integration is intended to link finance and operations apps to a Dataverse environment on a one-to-one basis, to enable tight integration between the two platforms.
- **Current Dataverse Environment –** This option clears the dual-write connection and resets the link to create a dual-write connection with the same Dataverse environment that the finance and operations environment is currently linked to. In previous releases, dual-write provided the option to create the dual-write connection to Dataverse environments other than the one that's linked through the Power Platform integration. Although that option is no longer available, it might have been used in your environment. During the reset for dual-write connections, select the **Current Dataverse Environment** option only if you want to re-create dual-write connections to link to the current Dataverse environment instead of changing the connection to align the link with the Power Platform integration.

> **Note**
>
> If the dual-write connection is currently configured to link to a Dataverse environment other than the one that's set up with the Power Platform integration,

Configure number sequences and autonumber columns when using dual-write

Article • 02/24/2023

By default, the number sequences in finance and operations apps and the autonumber columns in customer engagement apps aren't connected. In a scenario that involves a multi-mastered table, you must either plan for separate number sequence formats or create a range for each application. Here are some examples:

- In the finance and operations app, use F0001, F0002, and F0003. In the customer engagement app, use C0001, C0002, and C0003.
- In the finance and operations app, use US0001 through US4999. In the customer engagement app, use US5000 through US9999.

For the preceding examples to work in finance and operations data management when you do a live synchronization, you must ensure that field data validation is disabled for the autonumber field in the data entity mappings. If there's a business reason to run the validation, we recommend that you review the number sequence settings of the data entities that are in scope in the finance and operations app. These rules are validated only when the initial synchronization is run. Live synchronization isn't affected.

During the initial synchronization, if field data validation is enabled for the autonumber field, you must verify the following items for both the customer engagement app and the finance and operation app:

- The length of autonumber sequences must match.
- The numeric sequence value in the customer engagement app must be in the interval that's defined by the **Smallest** and **Largest** values in the number sequence settings in the finance and operation app.
- The constants that are used must be identical.

The number sequence settings that are used by data entities such as customers, orders, or quotes in finance and operations apps can be found on the **Accounts receivable parameters** and **Number sequences** pages. For more information, see Number sequences.

During the dual-write initial synchronization, you might receive an error message that resembles one of the following examples:

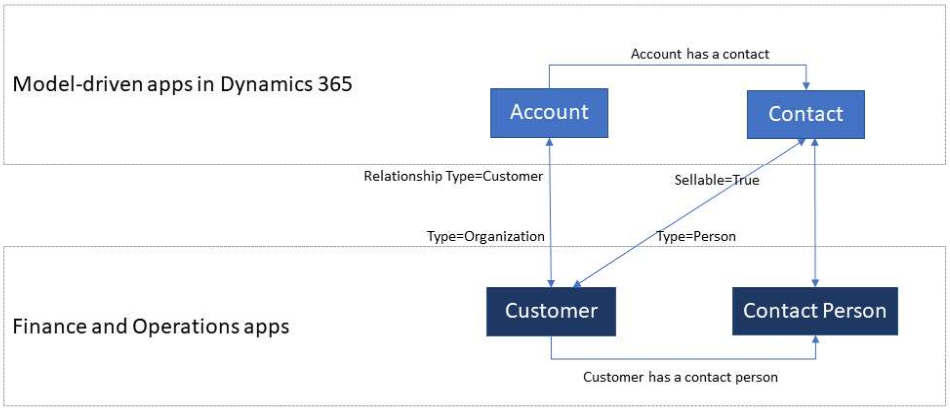
Integrated customer master

Article • 08/12/2022

Customer data can be mastered in more than one Dynamics 365 application. For example, a customer row can originate though sales activity in Dynamics 365 Sales (a customer engagement app), or a row can originate through retail activity in Dynamics 365 Commerce (a finance and operations app). No matter where the customer data originates, it is integrated behind the scenes. Integrated customer master gives you the flexibility to master customer data in any Dynamics 365 application and provides a comprehensive view of the customer across the Dynamics 365 application suite.

Customer data flow

Customer is a well-defined concept in applications. Therefore, the integration of customer data just involves harmonizing the customer concept between the two applications. The following illustration shows the customer data flow.



Customers can be broadly classified into two types: commercial/organizational customers and consumers/end users. These two types of customers are stored and handled differently in finance and operations and Dataverse.

In finance and operations, both commercial/organizational customers and consumers/end users are mastered in a single table that is named **CustTable** (CustCustomerV3Entity), and they are classified based on the **Type** attribute. (If **Type** is set to **Organization**, the customer is a commercial/organizational customer, and if **Type**

Integrated vendor master

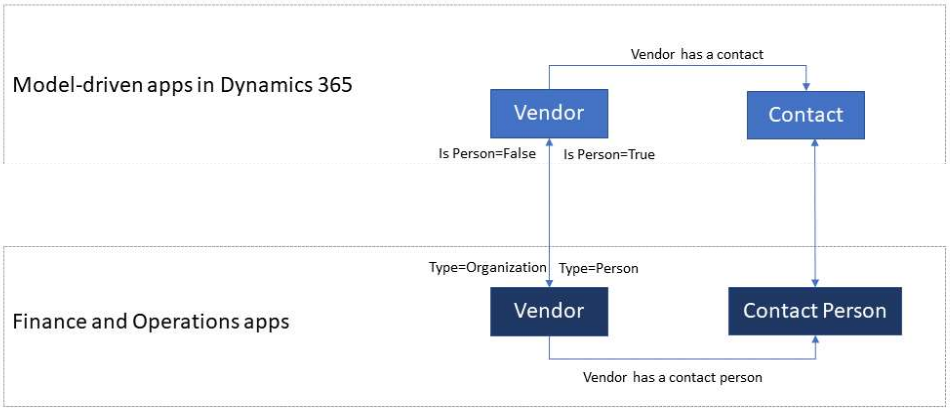
Article • 07/02/2022

The term *vendor* refers to a supplier organization, or a sole proprietor who supplies goods or services to a business. Although *vendor* is an established concept in Microsoft Dynamics 365 Supply Chain Management, no vendor concept exists in customer engagement apps. However, you can overload the **Account/Contact** table to store vendor information. The integrated vendor master introduces an explicit vendor concept in customer engagement apps. You can either use the new vendor design or store vendor data in the **Account/Contact** table. Dual-write supports both approaches.

In both approaches, the vendor data is integrated between Dynamics 365 Supply Chain Management, Dynamics 365 Sales, Dynamics 365 Field Service, and Power Apps portals. In Supply Chain Management, the data is available for workflows such as purchase requisitions and purchase orders.

Vendor data flow

If you don't want to store vendor data in the **Account/Contact** table in Dataverse, you can use the new vendor design.



If you want to continue to store vendor data in the **Account/Contact** table, you can use the extended vendor design. To use the extended vendor design, you must configure the vendor workflows in the dual-write solution package. For more information, see Switch between vendor designs.

Switch between vendor designs

Article • 09/29/2023

Vendor data flow

If you choose to use the **Account** table to store vendors of the **Organization** type and the **Contact** table to store vendors of the **Person** type, configure the following workflows. Otherwise, this configuration isn't required.

Use the extended vendor design for vendors of the Organization type

The **Dynamics365FinanceExtended** solution package contains the following workflow process templates. You will create a workflow for each template.

- Create Vendors in Accounts Table
- Create Vendors in Vendors Table
- Update Vendors in Accounts Table
- Update Vendors in Vendors Table

To create new workflow processes by using the workflow process templates, follow these steps.

1. Create a workflow process for the **Vendor** table, and select the **Create Vendors in Accounts Table** workflow process template. Then select **OK**. This workflow handles the vendor creation scenario for the **Account** table.

Customer loyalty cards and reward points

Article • 08/12/2022

Businesses classify customers and provide sophisticated services, based on customer shopping and spending patterns. For example, Dynamics 365 Commerce has the infrastructure and functions to facilitate and handle customer loyalty cards, reward points, loyalty-based pricing, and rewards-based shopping experiences. When data about customer loyalty cards and reward points in Commerce is synced to Dataverse, customer engagement apps can use that data. For example, Dynamics 365 Customer Service users can use the data to provide the same sophisticated services through the help desk.

Templates

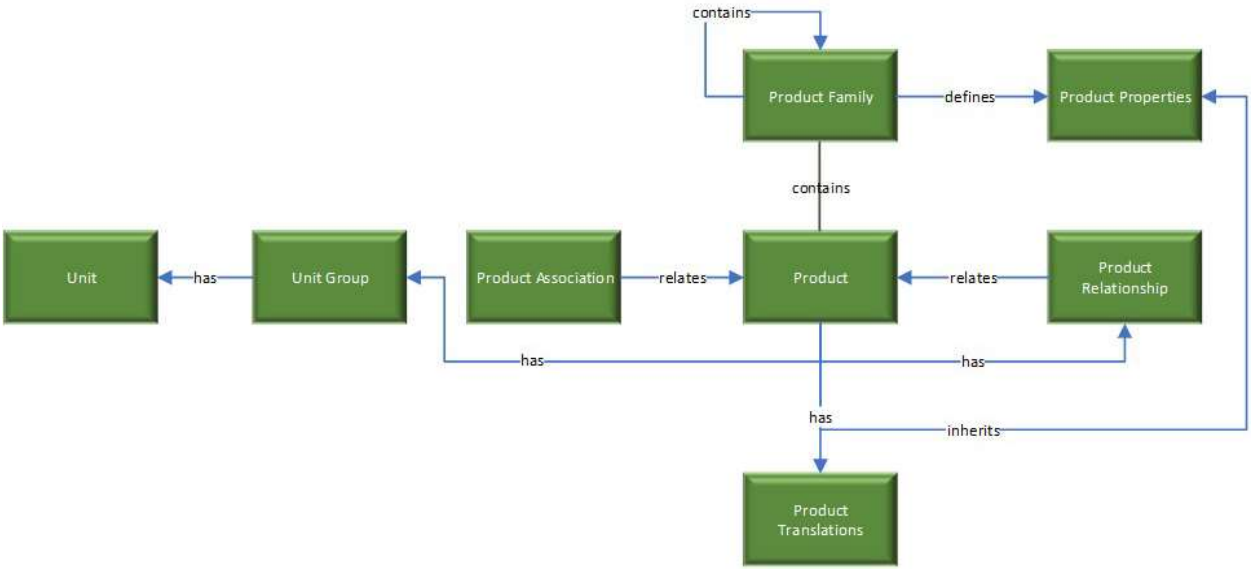
Finance and operations apps	Customer engagement apps	Description
Loyalty card	msdyn_loyaltycards	This template syncs information about customer loyalty cards.
Loyalty levels	msdyn_loyaltylevels	This template syncs information about customer reward points.
Loyalty reward points	msdyn_loyaltyrewardpoints	

Unified product experience

Article • 05/24/2024

When a business ecosystem is made up of Dynamics 365 applications, such as Finance, Supply Chain Management, and Sales, businesses often use these applications to source product data. This is because these apps provide a robust product infrastructure complemented with sophisticated pricing concepts and accurate on-hand inventory data. Businesses who use an external Product Lifecycle Management (PLM) system for sourcing the product data can channelize products from finance and operations apps to other Dynamics 365 apps. The unified product experience brings the integrated product data model into Dataverse, so that all application users, including Power Platform users, can take advantage of the rich product data coming from finance and operations apps.

The following image shows the product data model from Dynamics 365 Sales.



The following image shows the product data model from finance and operations apps.

Integrated sites and warehouses

Article • 08/12/2022

This article describes the integration of site and warehouse data between finance and operations and Dataverse. Operational sites and warehouses are common concepts in a Supply Chain Management application. They are used to model the supply chain of your company.

Templates

With the integration with Dataverse, these concepts and all their related information are available in Dataverse using the sites and warehouses data tables in the following table.

Finance and operations apps	Customer engagement apps	Description
Sites	msdyn_operationalsites	
Warehouses	msdyn_warehouses	

Company concept in Dataverse

Article • 09/29/2023

In finance and operations, the concept of a *company* is both a legal construct and a business construct. It's also a security and visibility boundary for data. Users always work in the context of a single company, and most of the data is striped by company.

Dataverse doesn't have an equivalent concept. The closest concept is *business unit*, which is primarily a security and visibility boundary for user data. This concept doesn't have the same legal or business implications as the company concept.

Because business unit and company aren't equivalent concepts, it isn't possible to force a one-to-one (1:1) mapping between them for the purpose of Dataverse integration. However, because users must, by default, be able to see the same rows in the application and Dataverse, Microsoft has introduced a new table in Dataverse that is named cdm_Company. This table is equivalent to the Company table in the application. To help guarantee that visibility of rows is equivalent between the application and Dataverse out of the box, we recommend the following setup for data in Dataverse:

- For each finance and operations Company row that is enabled for dual-write, an associated cdm_Company row is created.
- When a cdm_Company row is created and enabled for dual-write, a default business unit is created that has the same name. Although a default owner team is automatically created for that business unit, the team isn't used.
- A separate owner team is created that has the same name with a Dual Write suffix. It's also associated with the business unit.
- By default, the owner of any row that is created and dual-written to Dataverse is set to the "DW Owner" team that is linked to the associated business unit.

The following illustration shows an example of this data setup in Dataverse.

Initialize company data

Article • 06/08/2024

If you have an existing Microsoft Dataverse instance or finance and operations app instance that has business data, you might want to enable a dual-write connection against it. In this case, you must initialize the Dataverse data or finance and operations app data with company information before you enable dual-write. This initialization process is sometimes referred to as *bootstrapping*.

This article includes sample scenarios that explain how to use Azure Data Factory to initialize data in Dataverse tables for dual-write. It doesn't cover all tables, error handling scenarios, or lookups. Use this article and template as a reference to set up your own Azure Data Factory pipeline to import data into Dataverse or update data in Dataverse.

High-level scenario

Consider the **Customers** table in a finance and operations app, and the **Account** table in Dataverse.

- Use initial write to copy reference and dependent tables, such as **Company**, **Customer groups**, and **Terms of payment**, from the finance and operations app to Dataverse.
- Use the Data management framework to export data from the finance and operations app in comma-separated values (CSV) format. For example, set up an export project in Data management to export customers from each company by using the **DataAreaId** field in the finance and operations app. This process is a one-time manual process.
- Use Azure Blob Storage to store the CSV files for lookup and transformation. Upload the CSV file for your finance and operations customers into Azure Blob Storage.
- Use Azure Data Factory to initialize data in Dataverse.

The following illustration shows the workflow.

Organization hierarchy in Dataverse

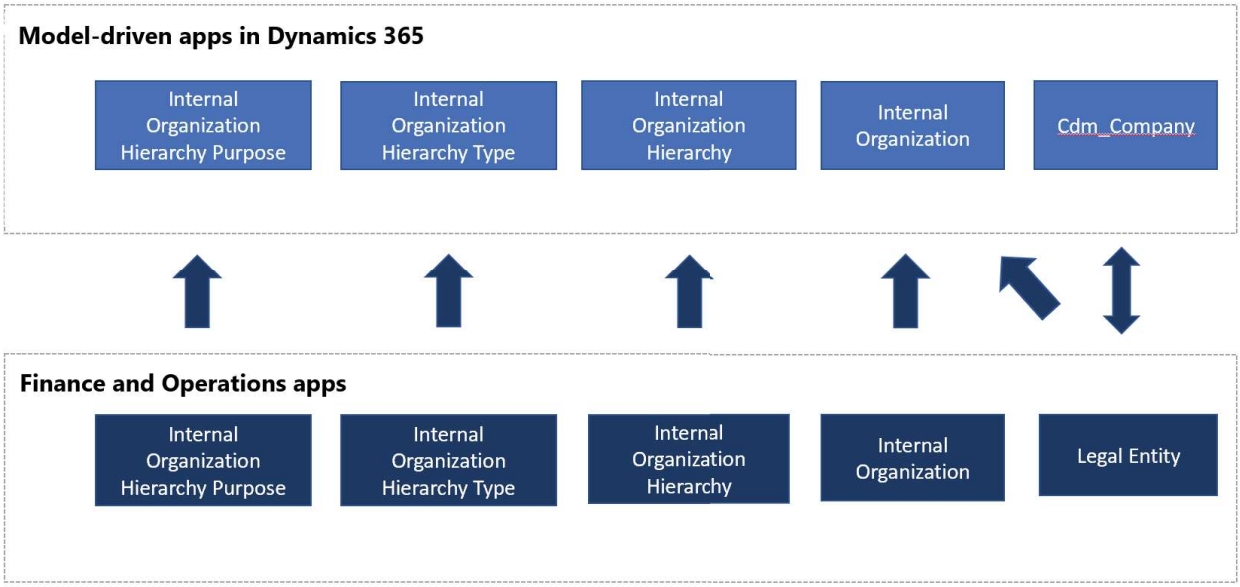
Article • 08/12/2022

Because Dynamics 365 Finance is a financial system, *organization* is a core concept, and system setup starts with the configuration of an organization hierarchy. Business financials can then be tracked at the organization level and also at any level in the organization hierarchy.

Although Dataverse doesn't have the concept of an organization hierarchy, it does have a few loose concepts, such as total sales revenue. As part of Dataverse integration, the organization hierarchy data structure is added to Dataverse.

Data flow

A business ecosystem that consists of finance and operations apps and Dataverse will continue to have an organization hierarchy. This organization hierarchy is built on finance and operations apps, but it's exposed in Dataverse for informational and extensibility purposes. The following illustration shows the organization hierarchy information that is exposed in Dataverse as a one-way data flow from finance and operations apps to Dataverse.



Organization hierarchy table maps are available for one-way synchronization of data from finance and operations apps to Dataverse.

Templates

Access to finance and tax reference data

Article • 08/12/2022

Every business works with a basic set of financial data, such as the fiscal calendar year, the currency that business is transacted in, the accounts that the money to run the business comes in to or goes out of, tax rates, and remittance. This data resides in finance and operations apps. However, it's exposed to Dataverse so that customer engagement apps can have a single source for finance and tax data. In this way, data is uniform across the business ecosystem.

Finance and tax data is integrated by using the following mappings:

- Integrated ledger
- Integrated tax master

Integrated ledger

Article • 08/12/2022

In a business application, ledger data defines the core set up for how a company does business. For example, ledger data describes the fiscal year the company follows, the currencies it transacts in, and the accounts it uses. This article describes the integration of this core financial data.

Templates

Ledger data includes a collection of core financial table maps that work together during data interaction, as shown in the following table.

Finance and operations apps	Customer engagement apps	Description
CDS Exchange Rates	msdyn_currencyexchangerates	
Chart of accounts	msdyn_chartofaccountses	
Currencies	transactioncurrencies	
Exchange rate currency pair	msdyn_currencyexchangeratepairs	
Exchange rate type	msdyn_exchangeratetypes	
Financial dimension format	msdyn_financialdimensionformats	
Financial dimensions	msdyn_dimensionattributes	
Fiscal calendar integration entity	msdyn_fiscalcalendars	
Fiscal calendar period	msdyn_fiscalcalendarperiods	
Fiscal calendar year integration entity	msdyn_fiscalcalendaryears	
Ledger	msdyn_ledgers	
Main account	msdyn_mainaccounts	
Main account categories	msdyn_mainaccountcategories	

Integrated tax

Article • 08/12/2022

Tax setup data defines the setup for both indirect taxes (VAT, GST, Sales tax) and withholding tax. It describes the tax calculation rule, tax rate, tax accounting, settlement, and other concepts.

Templates

Tax data includes a collection of table maps that work together during data interaction, as shown in the following table.

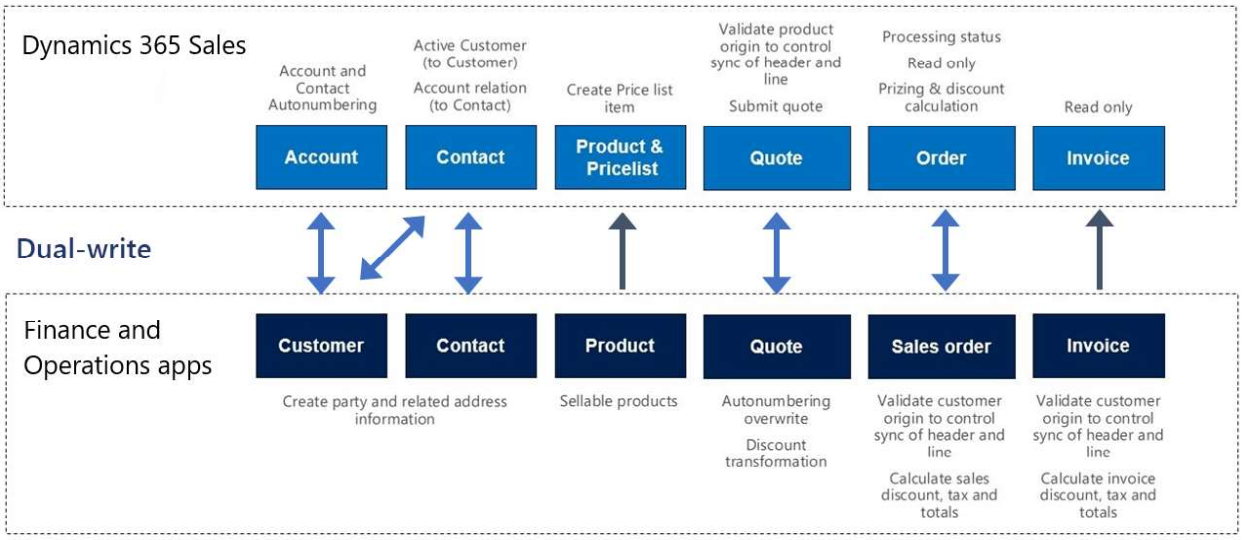
Finance and operations apps	Customer engagement apps	Description
Item sales tax group	msdyn_taxitemgroups	
Sales tax authorities	msdyn_taxauthorities	
Sales tax exempt code entity CDS	msdyn_taxexemptcodes	
Sales tax groups	msdyn_taxgroups	
Sales tax ledger posting groups V2	msdyn_taxpostinggroups	
Withholding tax codes	msdyn_withholdingtaxcodes	
Withholding tax groups	msdyn_withholdingtaxgroups	

Prospect-to-cash in dual-write

Article • 10/28/2024

In Microsoft Dynamics 365 apps, the prospect-to-cash process occurs through quotations or order processing workflows, and the financials are reconciled and recognized. Integration of prospect-to-cash with dual-write creates a workflow that takes a quotation and an order that originate in either Dynamics 365 Sales or Dynamics 365 Supply Chain Management, and makes the quotation and order available in both apps.

In the app interfaces, you can access the processing statuses and invoice information in real time. Therefore, you can more easily manage functions such as product stocking, inventory handling, and fulfillment in Supply Chain Management, without having to re-create the quotations and orders.



For information about customer and contact integration, see Integrated customer master. For information about product integration, see Unified product experience.

> **Note**
>
> In Supply Chain Management version 10.0.39 and later, accounts of the *Customer* and *Prospect* types are supported. This support enables an account qualification process where the account record is created and qualified first as a prospect and then as a customer. This process includes a process for automatically converting a prospect to a customer account in an integrated quotation scenario. For details about how to set up and enable this capability, see Enable and configure prospect integration in prospect-to-cash with Dynamics 365 Sales.

Add efficiency in quote-to-cash with Dynamics 365 Sales

Article • 06/10/2024

Microsoft Dynamics 365 Supply Chain Management uses dual-write to integrate with Dynamics 365 Sales. In Supply Chain Management version 10.0.34 and later, this capability has been improved to provide a more seamless quotation process flow across the two systems. Therefore, it allows for fewer touch points, better efficiency, and improved transparency. These changes are intended to be used only in the context of quote-to-cash integration between Sales and Supply Chain Management.

Sales quotation origin and ownership

Both Supply Chain Management and Sales store and show origin and ownership information for each quotation.

- *Origin* indicates which system originally created a quotation. The possible values of the **Origin** field are *Supply Chain Management* and *Dynamics 365 Sales*. The value is set when the quotation is created, and is read-only afterward.

- *Ownership* indicates which system currently owns a quotation. It determines which system owns the processing of a quotation through its lifecycle, and which system is allowed to update the quotation through its lifecycle. The possible values of the **Ownership** field are *Based on origin*, *Dynamics 365 Sales*, and *Supply Chain Management*.
  - *Based on origin* – The **Origin** value determines ownership.
  - *Dynamics 365 Sales* – The quotation is processed through its lifecycle from Sales.
  - *Supply Chain Management* – The quotation is processed through its lifecycle from Supply Chain Management.

When **Integrate quotation lifecycles** functionality is enabled in Supply Chain Management, the **Origin** and **Ownership** fields become visible for quotations, and the **Origin** field works in the following way:

- Quotations that are created in Supply Chain Management have an **Origin** value of *Supply Chain Management*.
- Quotations that are created in Sales have an **Origin** value of *Dynamics 365 Sales*.

Enable and configure extra efficiency in quote-to-cash with Dynamics 365 Sales

Article • 01/07/2025

Microsoft Dynamics 365 Supply Chain Management uses dual-write to integrate with Dynamics 365 Sales. In Supply Chain Management version 10.0.34 and later, this capability has been improved to provide a more seamless quotation process flow across the two systems. Therefore, it allows for fewer touch points, better efficiency, and improved transparency. To take advantage of these improvements, you must enable several new features in Supply Chain Management and make sure that you're using a qualifying version of the Dual-write Supply chain solution.

For a conceptual overview that describes how the improved quote-to-cash system works and how the integrated system will behave, depending on the features that you enable, see Add efficiency in quote-to-cash with Dynamics 365 Sales.

> **Note**
>
> By default, all sales quotations that were created before the feature is enabled will have an **Origin** value of *Dynamics 365 Sales* in Dataverse and *Supply Chain Management* in Supply Chain Management. This initial misalignment of **Origin** values and the resulting ownership will be aligned when the sales quotation header is synced for the first time. If the first post-uptake synchronization is invoked from an update in Supply Chain Management, *Supply Chain Management* will be synced as the **Origin** value. If the first post-uptake synchronization is invoked from an update in Sales, *Dynamics 365 Sales* will be synced as the **Origin** value.

Prerequisites

Before you can use the features that are described in this article, your system must meet the following requirements:

- You must be running Supply Chain Management version 10.0.34 or later.
- You must be running Dual-write Supply Chain solution version 2.3.4.203.

> **Important**
>
> Before you enable the functionality that's described in this article, we strongly recommend that you complete (that is, win or cancel) any existing sales quotations

Enable and configure seamless sync with Dynamics 365 Sales (preview)

Article • 10/28/2024

[This article is prerelease documentation and is subject to change.]

Microsoft Dynamics 365 Supply Chain Management includes a sophisticated pricing engine that handles trade agreements for prices and discounts. This pricing engine uses complex rules to determine the best price for a given order or quotation. When Supply Chain Management is integrated with Dynamics 365 Sales, you can either sync on demand by using the Supply Chain Management pricing engine or use *seamless sync*, as described in this article.

> **Important**
>
> - This is a preview feature.
> - Preview features aren't meant for production use and might have restricted functionality. These features are subject to supplemental terms of use, and are available before an official release so that customers can get early access and provide feedback.

With seamless sync, users who work on sales orders and sales quotations in Sales can view the results of calculations that the Supply Chain Management pricing engine does, without having to take any extra steps to get prices, discounts, and totals. As the users work in Sales, all the necessary data and calculation results are seamlessly synced between systems as required.

Seamless sync significantly improves scenarios where front-end staff mainly work in Sales to create and update sales orders and sales quotations. As users add or update order and quotation lines in Sales, updated line prices, discounts, and totals are calculated in Supply Chain Management and immediately reflected in the Sales user interface (UI), without requiring any extra taps or clicks. In most cases, users don't have to manually select **Price quote** or **Price order** in Sales to get updated line prices, discounts, and totals that show the results of calculations that are done in Supply Chain Management.

Prerequisites

Display seamless sync information on custom forms in Dynamics 365 Sales

Article • 12/27/2024

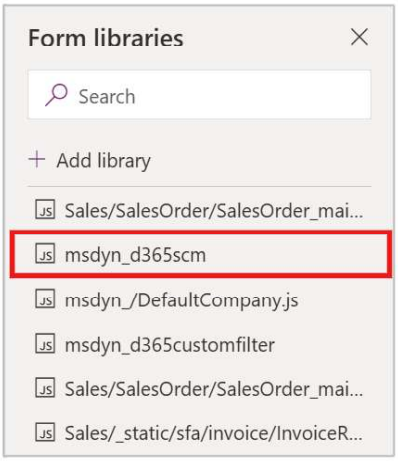
With seamless sync, users who work on sales orders and sales quotations in Dynamics 365 Sales can view the results of calculations that the Supply Chain Management pricing engine does, without having to take any extra steps to get prices, discounts, and totals. As users work in Sales, all the necessary data and calculation results are seamlessly synced between systems as required.

When you install the supply chain solution for Dynamics 365 Sales, it makes several modifications to the standard forms in Sales, including modifications that add seamless sync information to the standard Order, Quote, Order Product, and Quote Products forms in Sales. However, if your company uses custom forms for one or more of these entities (which is common), then you must modify your custom forms to enable seamless sync information to display correctly on them. This article describes how.

Add seamless sync information to custom Order or Quote forms

To add seamless sync information to custom Order or Quote forms in Sales, follow these steps.

1. Open the Power Apps Maker portal.
2. Open your custom *Order* or *Quote* form.
3. Select **Form libraries** and make sure that the library named `msdyn_d365scm` is present. If it isn't, select **Add library** and add it.



Enable and configure prospect integration in prospect-to-cash with Dynamics 365 Sales

Article • 04/26/2024

Microsoft Dynamics 365 Supply Chain Management uses dual-write to integrate with Dynamics 365 Sales. In Supply Chain Management version 10.0.34, several enhancements were released that provide a more seamless quotation process flow across the two systems. As of Supply Chain Management version 10.0.39, you can also use prospects in the sales quotation process. Several other enhancements are also supported, such as delivery date control in quotation revision and quotation winning scenarios.

For a conceptual overview that describes how the improved prospect-to-cash system works and how the integrated system behaves, see Work with prospects in prospect-to-cash with Dynamics 365 Sales.

To add *Enable prospect in prospect-to-cash with Dynamics 365 Sales* functionality to your system, you must install the required solution in your dual-write environment, enable mappings in Supply Chain Management, and turn on the feature that you want to use. This article describes how to set up and configure the features that you want to use.

Prerequisites

Before you can follow the procedures in this article, your system must meet the prerequisites that are listed in the following subsections.

Version requirements

To use the features described in this topic, your system must meet the following version requirements:

- You must be running Supply Chain Management version 10.0.39 or later.
- You must be running Dual-write Supply Chain solution version 2.3.4.312 or later.
- If you've deployed the dual-write global address book (GAB) solution, you must be running version 3.5.2.72 or later of the GAB solution.

Number sequence requirements

Work with added efficiency in quote-to-cash with Dynamics 365 Sales

Article • 09/29/2023

This article describes how to work with the improved quote-to-cash features when you integrate with Microsoft Dynamics 365 Sales. It provides information about how the enhanced features that you enable affect the behavior of the integrated system. For more information about how to enable these improvements for your system, see Enable and configure extra efficiency in quote-to-cash with Dynamics 365 Sales.

Set the default ownership for all sales quotations

When **Integrate quotation lifecycles** functionality is enabled in Dynamics 365 Supply Chain Management, you can set a default ownership for sales quotations in Supply Chain Management. The default ownership applies to all new sales quotations, regardless of which system they're created in.

Follow these steps to set the default ownership for all sales quotations.

1. In Supply Chain Management, go to **Accounts receivable** > **Setup** > **Accounts receivable parameters**.

2. On the **Dynamics 365 Sales integration** tab, on the **Sales quotation** FastTab, in the **Default ownership** field, select one of the following values:

    - *Based on origin* – The ownership of all new sales quotations will match the system that the quotations are created in.
    - *Supply Chain Management* – The ownership of all new sales quotations will be set to *Supply Chain Management*, regardless of which system the quotations are created in.
    - *Dynamics 365 Sales* – The ownership of all new sales quotations will be set to *Dynamics 365 Sales*, regardless of which system the quotations are created in.

Change ownership for a sales quotation

You can change the ownership of a sales quotation by opening it in Supply Chain Management. You can't change ownership from Sales.

Work with prospects in prospect-to-cash with Dynamics 365 Sales

Article • 04/26/2024

Microsoft Dynamics 365 Supply Chain Management uses dual-write to integrate with Dynamics 365 Sales. This capability includes the ability to integrate accounts of the *Prospect* type into the quotation and qualification process across the two systems. The combined solution enables companies to integrate the prospect lifecycle and quotation process flow across Sales and Supply Chain Management. Therefore, it allows for fewer touch points, better efficiency, and more transparency.

The features that are described in this article build on the sales quotation lifecycle integration features that were previously introduced.

This article describes how prospects work in prospect-to-cash scenarios and presents examples that illustrate this functionality. For details about how to enable and configure prospects in prospect-to-cash with Sales, see Enable and configure prospect integration in prospect-to-cash with Dynamics 365 Sales.

Definition of a prospect in prospect-to-cash with Sales

A prospect in Supply Chain Management is a *business relation* of the *Prospect* type, whereas a prospect in Sales is an *account* of the *Prospect* type. From an integration perspective, leads are completely different from prospects in both Sales and in Supply Chain Management. The features that are described in this article integrate accounts of the *Prospect* type in Sales with business relations of the *Prospect* type in Supply Chain Management.

Scenario 1: Prospect lifecycle managed from Supply Chain Management (prospect of the Organization type)

The following steps show what happens when you manage the prospect lifecycle from Supply Chain Management, and the prospect is of the *Organization* type.

1. In Supply Chain Management, go to **Sales and Marketing** > **Relationships** > **Prospects** > **All prospects**. Create a prospect of the *Organization* type.

Sync on-demand with the Supply Chain Management pricing engine

Article • 09/29/2023

Microsoft Dynamics 365 Supply Chain Management includes a pricing engine that handles trade agreements, price lists, customer loyalty programs, promotions, and discounts. This pricing engine uses complex rules to determine the best price for a given quotation or order. When it's integrated with Dynamics 365 Sales, you can choose whether all price-related calculations are done in Supply Chain Management and then synced to Sales, or whether Sales does selective price-related calculations for quotations and sales orders. You control the behavior by setting the **Use system pricing calculation** option in Sales, at **Settings** > **Administration** > **System settings** > **Sales**. When this option is set to *No*, Supply Chain Management is responsible for all pricing calculations. When it's set to *Yes*, part of the Sales pricing calculation logic is also applied. In the examples later in this article, the **Use system pricing calculation** option is set to *Yes*.

> **Note**
>
> In Supply Chain Management version 10.0.34 and later, an improved approach to pricing for sales quotations and sales orders is available. In this approach, Supply Chain Management becomes the price master, and no price-related calculations are done in Sales. For details about how to set up and enable this new approach, see **Enable and configure extra efficiency in quote-to-cash with Dynamics 365 Sales**. For more information about this feature, see **Sync on-demand with the Supply Chain Management pricing engine**.

Use the pricing engine from Supply Chain Management in Sales with Use system pricing calculation equal to Yes

1. In Sales, go to **Sales** > **Orders**.
2. Select **New** to create a new order, or select an existing order in the **My Orders** list.
3. Add a new order line.
4. If you're creating a new order, select **Price order** on the Action Pane. If you're updating an existing order, select **Recalculate** on the Action Pane.

Use the Dynamics 365 Commerce pricing engine with Dynamics 365 Sales

Article • 09/29/2023

This article describes how to use the Microsoft Dynamics 365 Commerce pricing engine to create sales quotations in Dynamics 365 Sales.

The Dynamics 365 Commerce pricing engine supports most business-to-consumer (B2C) pricing scenarios, such as store-level pricing, affiliation-based and loyalty-based pricing, mix-and-match discounts, quantity discounts, and threshold discounts. The pricing engine uses complex rules to determine the best price for a given quotation or order.

When you use dual-write, you have three options for your pricing needs. You can use the static pricing that comes from the price list in Dynamics 365 Sales, the pricing engine in Dynamics 365 Supply Chain Management, or the pricing engine in Dynamics 365 Commerce. Among these options, the Commerce pricing engine is best suited to B2C scenarios.

Use the Commerce pricing engine in Sales

> **Note**
>
> Currently, the Commerce pricing engine can be used only for quotation creation in the Sales. Sales order integration with the Commerce pricing engine isn't yet available.

When users initiate a quotation in Sales, the dual-write framework copies the quotation details to Commerce. Any changes to existing quotation lines or any newly added quotation lines in Sales are copied to Commerce. When users want to use the Commerce pricing engine to price the quotation, they can select **Price quote** to update the prices of the quotation, based on the Commerce pricing engine. Prices are then automatically updated in both Sales and Commerce.

Prerequisites

- Before you can use the Commerce pricing engine in Sales, you must follow the steps in Prospect-to-cash in dual-write.

Set up the mapping for the sales order status columns

Article • 06/16/2023

The columns that indicate sales order status have different enumeration values in Microsoft Dynamics 365 Supply Chain Management and Dynamics 365 Sales. Additional setup is required to map these columns in dual-write.

Columns in Supply Chain Management

In Supply Chain Management, two columns reflect the status of the sales order. The columns that you must map are **Status** and **Document Status**.

The **Status** enumeration specifies the overall status of the order. This status is shown on the order header.

The **Status** enumeration has the following values:

- Open Order
- Delivered
- Invoiced
- Cancelled

The **Document Status** enumeration specifies the most recent document that was generated for the order. For example, if the order is confirmed, this document is a sales order confirmation. If a sales order is partially invoiced, and then the remaining line is confirmed, the document status remains **Invoice**, because the invoice is generated later in the process.

The **Document Status** enumeration has the following values:

- Confirmation
- Picking List
- Packing Slip
- Invoice

columns in Sales

In Sales, two columns indicate the status of the order. The columns that you must map are **Status** and **Processing Status**.

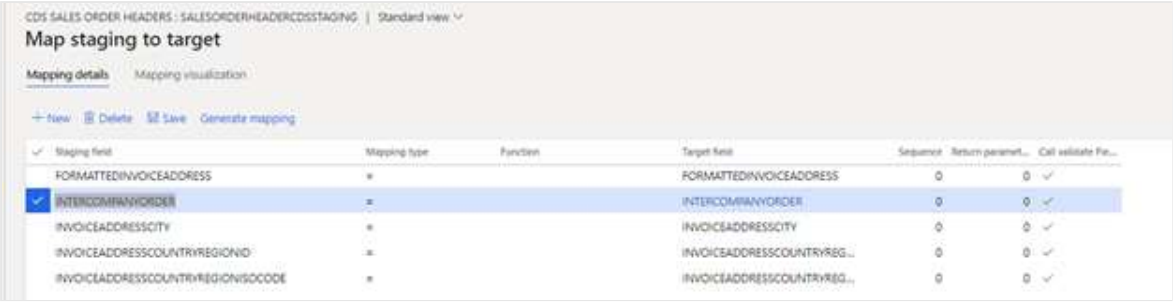
Filter intercompany orders to avoid syncing Orders and OrderLines

Article • 08/12/2022

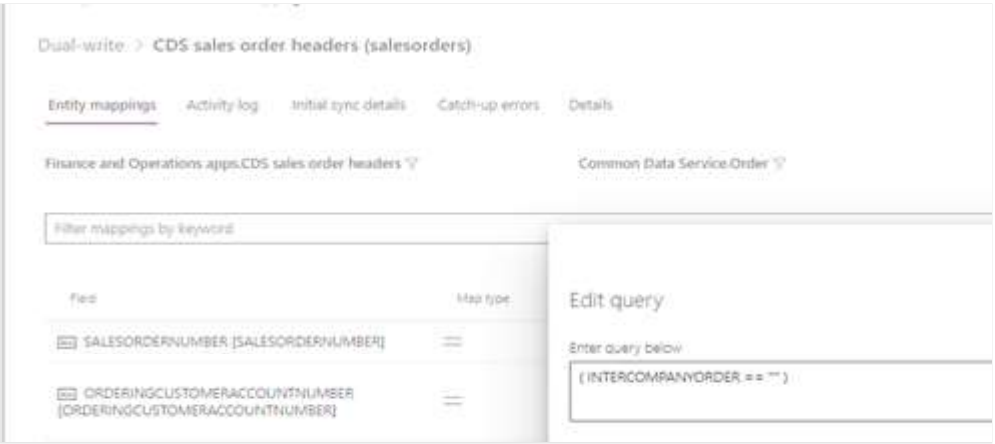
You can filter intercompany orders so that the **Orders** and **OrderLines** tables aren't synced. In some scenarios, the intercompany order details aren't required in a customer engagement app.

Each standard Dataverse table is extended through references to the **IntercompanyOrder** column, and the dual-write maps are modified so that they refer to the additional columns in the filters. Therefore, the intercompany orders are no longer synced. This process helps prevent unnecessary data in the customer engagement app.

1. Extend the **CDS Sales Order Headers** table by adding a reference to the **IntercompanyOrder** column. This column is filled in only on intercompany orders. The **IntercompanyOrder** column is available in the **SalesTable** table.



2. After **CDS Sales Order Headers** is extended, the **IntercompanyOrder** column is available in the mapping. Apply a filter that has `INTERCOMPANYORDER == ""` as the query string.



3. Extend the **CDS Sales Order Lines** table by adding a reference to the **IntercompanyInventTransId** column. This column is filled in only on intercompany orders. The **InterCompanyInventTransId** column is available in the **SalesLine** table.

Integrate procurement between Supply Chain Management and Field Service

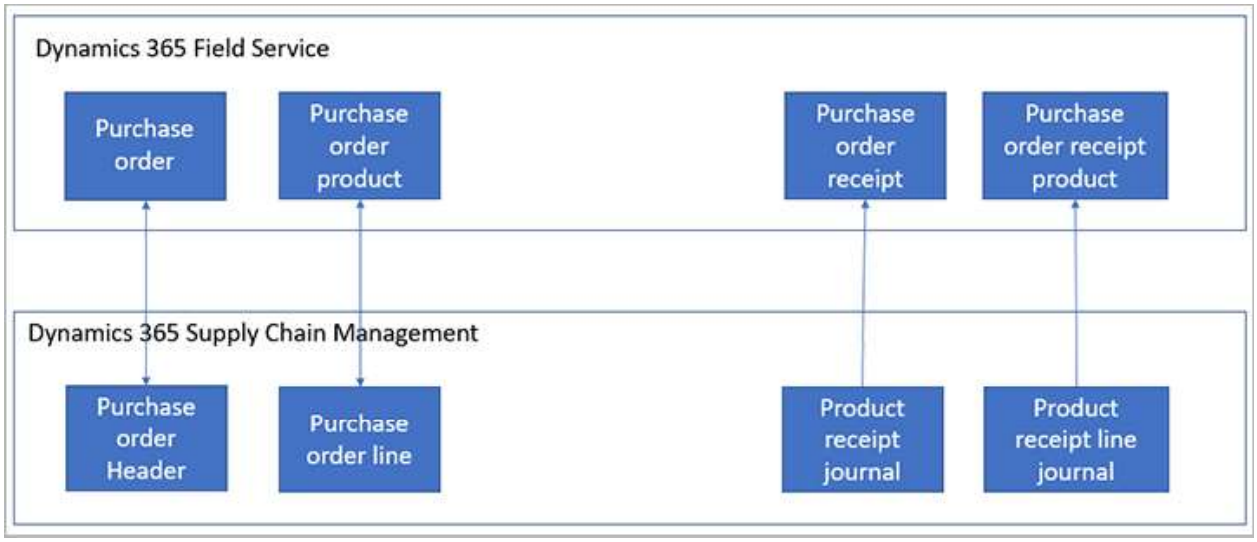
Article • 09/29/2023

> **Important**
>
> Some or all of the functionality noted in this article is available as part of a preview release. The content and the functionality are subject to change. For more information about preview releases, see **Service update availability**.

Microsoft Dynamics 365 Supply Chain Management provides robust procurement functionality. Dynamics 365 Field Service offers similar functionality that supports the purchasing processes that are associated with the service process. The functionality in these two apps is integrated through dual-write, and the resulting cross-functional use cases are enabled through table mappings, solution logic, views, and forms.

This integration supports purchase order creation and, in most cases, updates from both apps. However, Supply Chain Management controls pricing, addresses, and product receipt. Several powerful cross-functional use cases are enabled for organizations that use both Field Service and Supply Chain Management. These use cases enable procurements to be initiated and tracked across both systems.

The following illustration shows the tables in both systems and how they are mapped to each other. Purchase orders in Field Service reference an *account* row, whereas purchase orders in Supply Chain Management reference a *vendor* row. To resolve the integration, dual-write uses a reference to link *vendor* rows with *account* rows. For more information, see Integrated vendor master.



In-house assets for servicing

Article • 08/12/2022

Microsoft Dynamics 365 Field Service is designed to service customer assets. Asset management for Dynamics 365 Supply Chain Management is designed to maintain in-house assets. Integration of these two apps lets you use Field Service to service both customer assets and in-house assets. You can also classify the assets, based on functional location or hierarchy, and track the servicing at a detailed level.

For more information, see Integrate Dynamics 365 Field Service and Supply Chain Management.

Templates

In-house-assets include a collection of core table maps that work together during data interaction, as shown in the following table.

Finance and operations apps	Customer engagement apps	Description
Asset management asset lifecycle models	msdyn_assetlifecyclemodels	
Asset management asset lifecycle states	msdyn_assetlifecyclestates	
Asset management asset types	msdyn_customerassetcategories	
Asset management assets	msdyn_customerassets	
Asset management functional location lifecycle models	msdyn_functionallocationlifecyclemodels	
Asset management functional location lifecycle states	msdyn_functionallocationlifecyclestates	
Asset management functional location types	msdyn_functionallocationtypes	
Asset management functional locations	msdyn_functionallocations	
Asset management manufacturers	msdyn_manufacturers	
Asset management models	msdyn_models	
Asset management warranty	msdyn_warranties	

Inventory availability in dual-write

Article • 08/12/2022

By using inventory availability, you can check your inventory before you add a product to the **Quotations**, **Orders**, or **Invoices** page in Microsoft Dynamics 365 Sales. For example, you check inventory and determine a fulfillment date as one key task in the prospect-to-cash process.

If you don't have enough inventory, you can estimate a delivery date, based on projected inventory receipts and issues. You can also check the product's available-to-promise (ATP) information, where you can find the ATP quantity in the predefined time fence.

On-hand inventory

In Dynamics 365 Sales, a new **On-hand Inventory** button has been added to the header of the **Quotes**, **Orders**, and **Invoices** pages. When you select this button, a dialog box appears, where you can specify the company and the product that you want to check the on-hand inventory for. This dialog box shows the same information as On-hand inventory.

The dialog box returns the inventory information from Dynamics 365 Supply Chain Management. This information includes the following quantities:

- On-hand quantity
- Reserved on-hand quantity
- Available on-hand quantity
- Ordered quantity
- On-order quantity
- Reserved ordered quantity
- Total available quantity

ATP information

In Sales, a new **ATP Information** button has been added to line items on the **Quotes**, **Orders**, and **Invoices** pages. When you select this button, a dialog box appears, where you can specify the company, product, inventory site, inventory warehouse, and order quantity. This dialog box has the same settings that are described in Order promising.

Integrated worker, job, and position

Article • 05/11/2023

While mastered in only one app, worker data can be synchronized across multiple Dynamics 365 apps. For example, human resources (HR) data can be mastered in Dynamics 365 Human Resources and synchronized with Dynamics 365 Commerce, Dynamics 365 Finance, and Dynamics 365 Supply Chain Management. The data is integrated seamlessly behind the scenes. The ability to integrate data about workers ensures you're working with the same data across all Dynamics 365 apps, providing you a comprehensive view of your information.

Human resources

The integration of HR data involves just mapping the HR data between finance and operations apps and customer engagement apps.

Templates

HR data includes information about employees and contractors, positions, and jobs. A collection of table maps works together during data interaction, as shown in the following table.

Expand table

Finance and operations apps	Customer engagement apps	Description
Compensation job function	cdm_jobfunctions	
Compensation job type	cdm_jobtypes	
Employment job functions	msdyn_employmentjobfunctions	
Employment per company	cdm_employments	
Jobs	cdm_jobs	
Positions V2	cdm_jobpositions	

Party and global address book

Article • 08/05/2024

Party and **Global address book** are concepts in finance and operations applications. A party can be an organization or a person. It's convenient to globally store and manage properties of a party, such as the name, language, contacts, and addresses. Then, when a property value is changed in one place, the change is reflected in all places where the party is involved.

Party

A party is a person or an organization that is involved in a business. When the party concept is used, a person or an organization can play more than one role in a business (for example, customer, vendor, or contact). The role is based on the context and purpose. Here are some examples of roles from two fictitious companies, Contoso and Fabrikam:

- **Vendor –** A supplier organization, or a sole proprietor who supplies goods or services to a business. For example, if Fabrikam sells supplies to Contoso, Fabrikam is a vendor of Contoso.
- **Contact –** A person to contact. For example, if Contoso buys supplies from Fabrikam, employees at Contoso will reach out to the contact at Fabrikam.
- **Customer –** A person or company that buys things from a company. For example, if Contoso buys supplies from Fabrikam, Contoso is a customer of Fabrikam.

The party model is often used to represent medium to complex relationships between organizations and people, especially when a party plays more than one role. Here are some common examples:

- A party can be both a customer and a vendor. For example, in North America, Fabrikam sells electric wires to Contoso and buys assembled speakers from Contoso. In Europe, Fabrikam sells parts to Contoso, but it doesn't buy anything from Contoso.
- A party can be both an employee and a customer. For example, an employee of Contoso buys electronics from Contoso for personal use.
- There can be a many-to-many (N:N) relationship between a person and an organization. For example, Fabrikam provides service specialists and employs a placement coordinator. The placement coordinator matches service specialists to work requests from several of Fabrikam's customers. Contoso is one of Fabrikam's customers. When Contoso requires a service specialist, it contacts the placement

Using Microsoft Power Apps portals with the Party data model

Article • 08/12/2022

The Dual-write application orchestration solution version 2.0.999.0 and later includes data model changes to party and global address book for the Account and Contact tables. The changes allow many-to-many relationships that support advanced business scenarios. These changes are not supported by portal web roles, including the customer portal, that are shipped out-of-the-box or that existed in your environment before you installed dual-write. For the web roles to work as expected, you need to create new web roles by using the new data model.

In summary, the way the tables interact has changed, but the table permissions in the customer portal haven't changed. This article explains how to create new web roles that work with the new advanced data model.

This diagram shows the table relationship **without** the party and global address book data model:

This diagram shows the table relationship **with** the party and global address book data model:

Upgrade to the party and global address book model

Article • 02/22/2025

The Microsoft Azure Data Factory templates help you upgrade the following existing data in dual-write to the party and global address book model: data in the **Account**, **Contact**, and **Vendor** tables, and postal and electronic addresses.

The following three Data Factory templates are provided. They help reconcile the data from both finance and operations apps and customer engagement apps.

- Party template **(Upgrade data to dual-write Party-GAB schema/arm_template.json) –** This template helps upgrade **Party** and **Contact** data that is associated with **Account**, **Contact**, and **Vendor** data.
- Party postal address template **(Upgrade data to dual-write Party-GAB schema/Upgrade to Party Postal Address - GAB/arm_template.json) –** This template helps upgrade the postal addresses that are associated with **Account**, **Contact**, and **Vendor** data.
- Party electronic address template **(Upgrade data to dual-write Party-GAB schema/Upgrade to Party Electronic Address - GAB/arm_template.json) –** This template helps upgrade electronic addresses that are associated with **Account**, **Contact**, and **Vendor** data.

At the end of the process, the following comma-separated values (.csv) files are generated.

Expand table

File name	Purpose
FONewParty.csv	This file helps create new **Party** records inside the finance and operations app.
ImportFONewPostalAddressLocation.csv	This file helps create new **Postal Address Location** records in the finance and operations app.
ImportFONewPartyPostalAddress.csv	This file helps create new **Party Postal address** records in the finance and operations app.
ImportFONewPostalAddress.csv	This file helps create new **Postal Address** records in the finance and operations app.
ImportFONewElectronicAddress.csv	This file helps create new **Electronic Address** records in the finance and operations app.

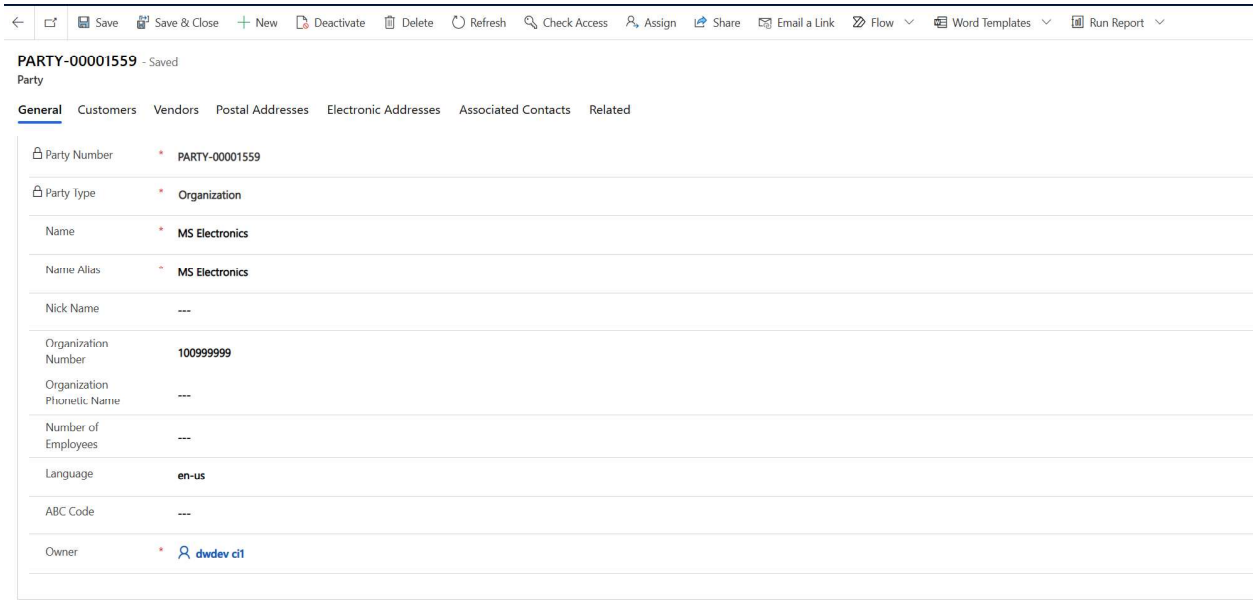
View party data

Article • 06/03/2022

Like account and contact data, party data can be accessed through a user interface (UI). The dual-write party and global address book solution version 3.3.0.5 provides a **Party** page where you can view, create, and manage party records together with all their associated customers, vendors, and contacts, and their postal and electronic addresses.

On the **Party** page, you can create a new party of the **Person** or **Organization** type.

The following illustration shows a party of the **Organization** type on the **General** tab.



After a party is created, you can use the tabs on the **Party** page to manage it.

Customers and Vendors tabs

The **Customers** tab lets you create and manage one or more customers from the party for different companies. If the party type is **Person**, you can create and manage customers of the **Person** type. These customers are known as *contacts*. If the party type is **Organization**, you can create and manage customers of the **Organization** type. These customers are known as *accounts*.

Note integration

Article • 05/20/2024

During business processes, Microsoft Dynamics 365 users often gather information about their customers. This information is recorded as activities and notes. This article describes the integration of note data in dual-write.

Customer information can be classified in the following ways:

- **Actionable information that a Dynamics 365 user handles on behalf of a customer –** For example, Contoso (a Dynamics 365 user) is conducting a game show. One of Contoso's customers (a customer) wants to attend the game show. The customer asks a Contoso employee to book a slot in the game show for them. The booking occurs in Contoso's event attendee's calendar.
- **Actionable information for a Dynamics 365 user –** For example, a customer who is purchasing a Surface unit enters special instructions that indicate that the device should be gift wrapped before delivery. These instructions are actionable information that should be handled by the Contoso employee who is responsible for packaging.
- **Nonactionable information –** For example, a customer visits the Contoso store and, during their conversation with a store associate, expresses interest in *Halo* games and gaming accessories. The store associate makes a note of this information. The product recommendations engine then uses it to make recommendations to the customer.

In general, actionable information is captured as *activities* in finance and operations apps and customer engagement apps. Nonactionable information is captured as *notes* in finance and operations apps, and as *annotations* in customer engagement apps.

> **Tip**
>
> Although notes are intended for nonactionable information, the apps won't prevent you from using them to store and handle actionable information if you want to use them in that way.

Microsoft is currently releasing functionality for note integration. (Functionality for activity integration will release later.) Note integration is available for customers, vendors, sales orders, and purchase orders.

Create a note in a customer engagement app

Dual-write mapping reference

Article • 10/07/2022

Mapping tables

Mapping types

There are several different mapping types. The following table explains the symbols used in the template tables.

Expand table

Symbol	Description
>	One-way
>>	One-way, and data is transformed in the process.
=	Bidirectional
><	Bidirectional, and data is transformed in the process.
<<	One-way, and data is transformed in the process.

Filters

The source filter and reverse source filter determine which rows are synchronized.

Default values

If a synchronized field does not exist in either the finance and operations table or the customer engagement table, then a default value is assigned in the synchronized table. In some cases, the default value is an integer that is a lookup to an attribute value in Dataverse. For example, in the **Contact** table, the default value for address1AddressTypeCode is 3 (**Primary address**).

Templates

Expand table

Finance and operations app	Customer engagement app	Description
All products	msdyn_globalproducts	
Asset management asset lifecycle models	msdyn_assetlifecyclemodels	
Asset management asset lifecycle states	msdyn_assetlifecyclestates	
Asset management asset types	msdyn_customerassetcategories	
Asset management assets	msdyn_customerassets	
Asset management functional location lifecycle models	msdyn_functionallocationlifecyclemodels	
Asset management functional location lifecycle states	msdyn_functionallocationlifecyclestates	
Asset management functional location types	msdyn_functionallocationtypes	
Asset management functional locations	msdyn_functionallocations	
Asset management manufacturers	msdyn_manufacturers	
Asset management models	msdyn_models	
Asset management warranty	msdyn_warranties	
CDS Contacts V2	contacts	
CDS Exchange Rates	msdyn_currencyexchangerates	

Set up and manage dual-write async in finance and operations apps (preview)

Article • 10/15/2024

[This article is prerelease documentation and is subject to change.]

This article explains how to set up and manage dual-write async in Microsoft Dynamics 365 finance and operations apps.

> **Important**
>
> This feature is a preview feature. Preview features aren't meant for production use and might have restricted functionality. These features are available before an official release, so that customers can get early access and provide feedback.

Enterprise applications support complex business processes. The real-time nature of business operations can result in long-running transactions and can therefore slow application response times. Although some business scenarios must be synchronous to ensure real-time consistency, other business scenarios work with eventual consistency. Dual-write async supports the second category of business scenarios by adding a new layer of data movement that occurs in near-real time between finance and operations apps and Dataverse.

Dual-write async provides the following benefits:

- It doesn't create long-running blocking transactions. Therefore, it allows for more scale on customizations.
- It avoids the real-time synchronization limits, such as transaction time-outs and transaction size limits.

In the era of low-code/no-code approaches, dual-write async makes it easy to manage data integration by enabling data synchronization to scale for application scenarios that support eventual consistency. Dual-write async is recommended for entities that have sizeable peak volumes, and where data ingestion is driven by background processes and doesn't require immediate feedback for any business operation. Based on the application entity, near-real-time synchronization decouples any bidirectional data synchronization. This behavior allows for a higher level of application customization without negatively affecting the live application.

Dual-write async has the following main functionality:

Manage errors in dual-write async in finance and operations apps (preview)

Article • 10/15/2024

[This article is prerelease documentation and is subject to change.]

This article explains how to set up error handling and manage errors in dual-write async in Microsoft Dynamics 365 finance and operations apps.

> **Important**
>
> This feature is a preview feature. Preview features aren't meant for production use and might have restricted functionality. These features are available before an official release, so that customers can get early access and provide feedback.

Centralized error handling and troubleshooting

For all data synchronization processes, you must be able to manage and troubleshoot any failures that occur during data synchronization. Dual-write async provides an easy-to-use self-service dashboard that provides centralized error handling and troubleshooting for data synchronization failures.

- The **Synch errors** tab provides details of the errors, as applicable.
- You can filter by date/time, entity, and data source.
- You can retry or dismiss the error conditions, based on the filter criteria. The retry and dismiss functionality works only when the integration job for dual-write synchronization is active.
  - **Retry –** Users can retry selected records, based on the specified filter criteria.
  - **Dismiss –** Users can permanently remove records from the error queue. After records are dismissed, they are no longer available for reporting or retries.

Dual-write async in finance and operations apps FAQ (preview)

Article • 10/15/2024

[This article is prerelease documentation and is subject to change.]

This article provides answers to frequently asked questions about dual-write async in Microsoft Dynamics 365 finance and operations apps.

> **Important**
>
> This feature is a preview feature. Preview features aren't meant for production use and might have restricted functionality. These features are available before an official release, so that customers can get early access and provide feedback.

What does "eventual consistency" mean in the context of dual-write async?

In eventual consistency for distributed systems (finance and operations apps and Dataverse), data is available for a finite time. It eventually becomes consistent, based on the business validations and logical constraints that one platform or the other imposes. The async process decouples live transactions from committing the transaction at the same instant. The data movement is offloaded to an internal processing queue, so that a background process can sequence and transfer it. Dual-write async doesn't replicate the transaction, because platform limits affect the performance of the data movement and constrain its scalability. Dual-write async uses parallelization and dependency charts to scale the data movement in an optimal way, as defined by the parameters of the integration job.

Which type of entities should be used for dual-write async?

Entities that can be grouped as part of a single transaction and are expected to have high volumes are good candidates for dual-write async. For example, a worksheet header and worksheet lines are grouped into a single transaction, where one or more header rows might have multiple child rows. During live synchronization, these entities routinely fail because of transaction, time-out, and size limits. We recommend that you

Considerations for initial synchronization

Article • 10/10/2023

Before you start dual-write on a table, you can run an initial synchronization to handle existing data on both sides: finance and operations apps and customer engagement apps. You can skip the initial synchronization if you don't have to sync data between the two environments.

The initial synchronization lets you copy existing data from one app to another bidirectionally, and there are several considerations when you run it. For example, you might have to migrate data before your go-live. In this case, data can be loaded into one side through data migration and then synced to the other side through the initial synchronization.

We recommend that you use the following approach for the initial synchronization:

- **Single-threaded tables:** First migrate data into the finance and operations app, and then trigger the initial synchronization to move the data over to Dataverse. Based on lab testing that Microsoft has done, this sequence has better performance than synchronization from Dataverse to finance and operations apps.
- **Multi-threaded tables:** First migrate data into Dataverse, and then trigger the initial synchronization to move the data over to the finance and operations app.

Constraints

Data migration slow-down with enabled dual-write

If you first activate the map in dual-write and then start to import data, migration performance will be poor. We recommend that you not activate running maps in dual-write until the data migration is completed.

Limit of 500,000 rows per run

The maximum number of rows that is allowed through initial synchronization is 500,000 per run. The limit of 500,000 rows applies to each legal table, because each legal entity runs separately. For more information, see Integrate data into Dataverse. In particular, pay attention to the note that states, "To optimize performance and not overload the apps, we currently limit project executions to 500k rows per execution per project."

If there must be more than 500,000 rows in a run when using initial synchronization, we recommend that you migrate data into the finance and operations app and Dataverse separately, and skip the initial synchronization.

Dual-write limits for live synchronization

Article • 12/23/2022

For more consistent availability and performance, limits apply when dual-write is used to write data to finance and operations apps and Microsoft Dataverse. These limits control dual-write transactions and are applied at the platform level. They are designed to ensure seamless writes and to help minimize failures.

Finance and operations apps and Dataverse have many processes that span large numbers of records and complex, multi-table transactions. Each environment has limits on the number of transactions, the number of records per transaction, and transaction time (that is, the time that is required to process the transaction). It's important that you understand these limits and their effect on the live synchronization capabilities of dual-write.

Legal Entities

Live synchronization supports up to 250 legal entities per transaction. This is different from initial synchronization which supports only 40 due to larger data volumes and related operations.

Transaction patterns

A process can write data in two different transaction patterns:

- **Single transaction** – All data that is written as part of the process is part of a single transaction.
- **Multiple transactions** – All the data that is written as part of the process is split into multiple transactions.

Single transaction

In a single transaction, all data that is written as part of the process is part of a single transaction. If a failure occurs, the whole transaction is rolled back.

A common example is a process that creates multiple invoices in a single transaction. In this case, either all invoices are committed in one transaction or, if an error occurs, all invoices are rolled back. The following code examples create multiple invoices in a single transaction.

Support for Field Service and Project Service Automation solutions

Article • 08/12/2022

Support for Field Service solutions

Microsoft supports dual-write on top of existing Dataverse environments that are based on Field Service solutions.

For more information, see Integrate Dynamics 365 Field Service and Supply Chain Management.

Support for Project Service Automation solutions

Microsoft supports dual-write on top of existing Dataverse environments that are based on Project Service Automation solutions.

Feedback

Was this page helpful? Yes No

Provide product feedback

Migrate Prospect to cash data from Data Integrator to dual-write

Article • 08/12/2022

The Prospect to cash solution available for Data Integrator is not compatible with dual-write. The reason for this is the msdynce_AccountNumber index on the account table that came as part of the Prospect to cash solution. If this index exists, you cannot create the same customer account number in two different legal entities. You can either choose to start fresh with dual-write by migrating the Prospect to cash data from Data Integrator to dual-write or you can install the last "dorman" version of the Prospect to cash solution. This article covers both of these approaches.

Install the last "dorman" version of the Data Integrator Prospect to cash solution

P2C Version 15.0.0.2 is considered the last "dorman" version of the data integrator Prospect to cash solution. You can download it from FastTrack for Dynamics 365 .

You need to install it manually. After installation, everything remains exactly the same, except the msdynce_AccountNumber index is removed.

Steps to migrate Prospect to cash data from Data Integrator to dual-write

To migrate your Prospect to cash data from Data Integrator to dual-write, follow these steps.

1. Run the Prospect to cash Data Integrator jobs to do one final full synchronization. In this way, you ensure that both systems (finance and operations apps and customer engagement apps) have all the data.

2. To help prevent potential data loss, export the Prospect to cash data from Microsoft Dynamics 365 Sales to an Excel file or a comma-separated values (CSV) file. Export data from the following entities:

    - Account
    - Contact
    - Invoice
    - Invoice products

Currency data-type migration for dual-write

Article • 02/20/2025

You can increase the number of decimal places that are supported for currency values to a maximum of 10. The default limit is four decimal places. By increasing the number of decimal places, you help prevent data loss when you use dual-write to sync data. The increase in the number of decimal places is an opt-in change. To implement it, you must request assistance from Microsoft.

The process of changing the number of decimal places has two steps:

1. Request migration from Microsoft.
2. Change the number of decimal places in Dataverse.

The finance and operations app and Dataverse must support the same number of decimal places in currency values. Otherwise, data loss can occur when this information is synced between apps. The migration process reconfigures the way that currency and exchange rate values are stored, but it doesn't change any data. After the migration is completed, the number of decimal places for currency codes and pricing can be increased, and the data that users enter and view can have more decimal precision.

Migration is optional. If you might benefit from support for more decimal places, we recommend that you consider migration. Organizations that don't require values that have more than four decimal places don't have to migrate.

Requesting migration from Microsoft

Storage for existing currency columns in Dataverse can't support more than four decimal places. Therefore, during the migration process, currency values are copied to new internal columns in the database. This process occurs continuously until all data has been migrated. Internally, at the end of migration, the new storage types replace the old storage types, but the data values are unchanged. The currency columns can then support up to 10 decimal places. During the migration process, Dataverse can continue to be used without interruption.

At the same time, exchange rates are modified so that they support up to 12 decimal places instead of the current limit of 10. This change is required so that the number of decimal places is the same in both the finance and operations app and Dataverse.

Dual-write FAQ

Article • 04/03/2024

This article lists frequently asked questions about dual-write and provides brief answers to help you quickly get the information that you require.

Dual-write setup

Do you plan to enable dual-write to use Dataverse as a hub between multiple finance and operations environments? If Dataverse is used as a hub, data can be synced between two or more finance and operations environments.

The current plan of record is to restrict dual-write to a one-to-one (1:1) mapping between a single finance and operations environment and a single Dataverse environment.

Can I control the sequencing of maps in dual-write, as I can in Data integrator?

Dual-write is transaction-based. For example, if a change in a finance and operations app triggers synchronization of multiple maps with Dataverse, by default, those changes are sequenced in the order in which they're updated in the database. This pattern makes more sense in the context of initial synchronization. The system provides related table maps in a specified order, and you can reorder the list so that it best suits your environment.

Do application users require any special permissions to enable or configure dual-write?

You must have two Microsoft Entra applications set up for the finance and operations environment and two application users set up in the Dataverse environment. These application users should contain the appropriate application IDs. For the connection to work properly, you must give the applications the relevant table permissions by using a security role. For more information, see Verify requirements and grant access.

General troubleshooting

Article • 08/12/2022

This article provides general troubleshooting information for dual-write integration between finance and operations apps and Dataverse.

> **Important**
>
> Some of the issues that this article addresses might require either the system admin role or Microsoft Azure Active Directory (Azure AD) tenant admin credentials. The section for each issue explains whether a specific role or credentials are required.

Enable and view the plug-in trace log in Dataverse to view error details

Trace logs can be useful when troubleshooting dual-write live sync issues between Finance & Operations and Dataverse. The logs can provide specific details to the teams who provide technical and engineering support for Dynamics 365. This article covers how to enable trace logs and how to view them. Trace logs are managed in the Dynamics 365 Settings page and require administrator level privileges to change and view.

Required role to turn on the trace log and view errors: System admin

Turn on the trace log

To turn on the trace log, follow these steps.

1. Log on to Dynamics 365, and then select **Settings** in the top navigation bar. On the Systems page, click **Administration**.
2. On the Administration page, click **System Settings**.
3. Select the **Customization** tab and plug-in, and then in the custom work flow activity tracing section change the dropdown to **All**. This will trace all activities and provides a comprehensive set of data for the teams who must review potential issues.

> **Note**

Troubleshoot issues during initial setup

Article • 01/03/2023

This article provides troubleshooting information for dual-write integration between finance and operations apps and Dataverse. Specifically, it provides information that can help you fix issues that might occur during the initial setup of dual-write integration.

> ⓘ **Important**
>
> Some of the issues that this article addresses might require either the system admin role or Microsoft Azure Active Directory (Azure AD) tenant admin credentials. The section for each issue explains whether a specific role or credentials are required.

You can't link a finance and operations app to Dataverse

Required role to set up dual-write: System administrator in finance and operations apps and Dataverse.

Errors on the **Setup link to Dataverse** page are usually caused by incomplete setup or permissions issues. Make sure that the whole health check passes on the **Setup link to Dataverse** page, as shown in the following illustration. You can't link dual-write unless the whole health check passes.

Troubleshoot issues during initial synchronization

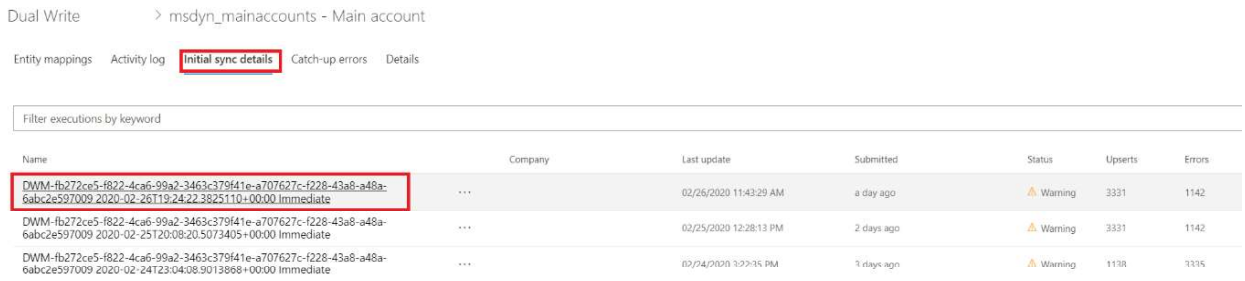
Article • 05/20/2024

This article provides troubleshooting information for dual-write integration between finance and operations apps and Dataverse. Specifically, it provides information that can help you fix issues that might occur during initial synchronization.

> **Important**
>
> Some of the issues that this article addresses might require either the system admin role or Microsoft Microsoft Entra tenant admin credentials. The section for each issue explains whether a specific role or credentials are required.

Check for initial synchronization errors in a finance and operations app

After you enable the mapping templates, the status of the maps should be **Running**. If the status is **Not running**, errors occurred during initial synchronization. To view the errors, select the **Initial sync details** tab on the **Dual-write** page.



In some cases, it may seem like the initial sync is stuck. If you see the initial sync status as **Running** for a long time, you can dig further into the status by examining the **FinOps job name** details in finance and operations apps. The following screenshots show how these items are related:

1. From the table map screen, select the **Initial sync details** tab, and select the desired execution. This takes you to the **Execution details** screen, that provides the **FinOps job name**.

Troubleshoot live synchronization issues

Article • 08/01/2023

This article provides troubleshooting information for dual-write integration between finance and operations apps and Microsoft Dataverse. Specifically, it provides information that can help you fix issues with live synchronization.

> ⓘ **Important**
>
> Some of the issues that this article addresses might require either the system admin role or Azure Active Directory (Azure AD) tenant admin credentials. Each section explains whether a specific role or specific credentials are required.

Live synchronization shows an error when you create a row

You might receive the following error message when you create a row in a finance and operations app:

[{\"error\":{\"code\":\"0x80072560\",\"message\":\"The user is not a member of the organization.\"}}], The remote server returned an error: (403) Forbidden."}}".

To fix the issue, follow the steps in System requirements and prerequisites. To complete those steps, dual-write application users who were created in Dataverse must have the system admin role. The default owning team must also have the system admin role.

Live synchronization shows an error when you try to save table data

Required role to fix the issue: System admin

You might receive the following error message when you try to save table data in a finance and operations app:

Cannot save the changes to the database. Unit of Work cannot commit transaction. Unable to write data to entity uoms. Writes to UnitOfMeasureEntity failed with error message Unable to sync with entity uoms.

Troubleshoot dual-write issues in finance and operations apps

Article • 08/12/2022

This article provides troubleshooting information for dual-write integration between finance and operations apps and Dataverse. Specifically, it provides information that can help you fix issues with the **Dual-write** module in finance and operations apps.

> **Important**
>
> Some of the issues that this article addresses might require either the system admin role or Microsoft Azure Active Directory (Azure AD) tenant admin credentials. The section for each issue explains whether a specific role or credentials are required.

You can't load the dual-write module in a finance and operations app

If you can't open the **Dual-write** page by selecting the **Dual Write** tile in the **Data management** workspace, the data integration service is probably down. Create a support ticket to request a restart of the data integration service.

Error when you try to create a new table map

Required credentials to fix the issue: The same user that setup dual-write.

You might receive the following error message when you try to configure a new table for dual-write. The only user that can create a map is the user who setup the dual-write connection.

Response status code does not indicate success: 401 (Unauthorized).

Error when you open the dual-write user interface

You might receive the following error message when you try to access dual-write from the **Data management** workspace:

Party and global address book troubleshooting

Article • 08/12/2022

This article provides troubleshooting information that can help you fix issues that are related to dual-write party and global address book functions.

Verify these prerequisites

Before you use the party and global address book functionality, make sure these are configured correctly.

- Integration keys.

Expand table

Map	Keys
Account	accountnumber [Account Number] msdyn_company.cdm_companycode [Company (Company Code)]
Contact	msdyn_contactpersonid [Account Number/Contact Person ID] msdyn_company.cdm_companycode [Company (Company Code)]
Contact For Customer/Vendor	msdyn_contactforpartynumber [Contact For Party Number] msdyn_associatedcompanyid.cdm_companycode [Associated Company (Company Code)]
Vendor	msdyn_vendoraccountnumber [Vendor Account Number] msdyn_company.cdm_companycode [Company (Company Code)]

- Map versions. For more information, see Party and global address book.

Error about Location ID key when you try to add an address

You might receive the following error message when you try to add an address to an account or contact in a finance and operations app or Microsoft Dataverse:

Unable to write data to entity msdyn_partypostaladdresses. Writes to DirPartyPostalAddressLocationCDSEntity failed with error message Request failed with status code BadRequest and CDS error code: 0x80040265 response message: An error

Troubleshoot issues related to solution awareness

Article • 03/08/2024

This article provides troubleshooting information for dual-write integration between finance and operations apps and Dataverse. Specifically, it provides information that can help you fix issues that are related to solution awareness.

> **Important**
>
> Some of the issues that this article addresses might require either the system admin role or Microsoft Microsoft Entra tenant admin credentials. The section for each issue explains whether a specific role or credentials are required.

Error on the Dual-write page

On the **Dual-write** page, you might receive an error message that resembles the following example:

The entity with a name 'msdyn_dualwriteentitymap' with namemapping='Logical' was not found in the MetadataCache.

To fix the issue, make sure that the dual-write core solution is installed in Dataverse. The dual-write core solution is a prerequisite for solution awareness.

Feedback

Was this page helpful? Yes No

Provide product feedback

Troubleshoot issues from upgrades of finance and operations apps

Article • 04/16/2024

This article provides troubleshooting information for dual-write integration between finance and operations apps and Dataverse. Specifically, it provides information that can help you fix issues that are related to upgrades of finance and operations apps.

> **Important**
>
> Some of the issues that this article addresses might require either the system admin role or Microsoft Microsoft Entra tenant admin credentials. The section for each issue explains whether a specific role or credentials are required.

Database synchronization errors

Required role to fix the issue: System admin

You might receive an error message that resembles the following example when you try to use the **DualWriteProjectConfiguration** table to update a finance and operations app to Platform update 30.

Console

```
Infolog diagnostic message: 'Cannot select a row in Dual write project sync
(DualWriteProjectConfiguration). The SQL database has issued an error.' on
category 'Error'. 10/28/2019 15:18:20: Infolog diagnostic message: 'Object
Server Database Synchronizer: ' on category 'Error'. 10/28/2019 15:18:20:
Infolog diagnostic message: '[Microsoft][ODBC Driver 17 for SQL Server][SQL
Server]Invalid column name 'ISDELETE'.' on category 'Error'. 10/28/2019
15:18:20: Infolog diagnostic message: 'SELECT
T1.PROJECTNAME,T1.EXTERNALENTITYNAME,T1.INTERNALENTITYNAME,T1.EXTERNALENVIRO
NMENTURL,T1.STATUS,T1.ENABLEBATCHLOOKUP,T1.PARTITIONMAP,T1.QUERYFILTEREXPRES
SION,T1.INTEGRATIONKEY,T1.ISDELETE,T1.ISDEBUGMODE,T1.RECVERSION,T1.PARTITION
,T1.RECID FROM DUALWRITEPROJECTCONFIGURATION T1 WHERE
(PARTITION=5637144576)' on category 'Error'. 10/28/2019 15:18:20: Infolog
diagnostic message: 'session 1043 (Admin)' on category 'Error'. 10/28/2019
15:18:20: Infolog diagnostic message: 'Stack trace: Call to TTSCOMMIT
without first calling TTSBEGIN.' on category 'Error'.
10/28/2019 15:18:20: Application configuration sync failed.
Microsoft.Dynamics.AX.Framework.Database.TableSyncException: Custom action
threw exception(s), please investigate before synchronizing again:
```

Verify dual-write configuration in finance and operations apps and Dataverse

Article • 08/12/2022

This article provides troubleshooting information for dual-write integration between finance and operations apps and Dataverse. Specifically, it explains how you can determine whether dual-write is configured in finance and operations apps and in Dataverse.

Verify that dual-write is configured in a finance and operations app

To determine whether the errors that you see when you try to save rows for update come from dual-write, first verify that dual-write is configured.

- If you have admin privileges in the finance and operations app, go to **Workspaces** > **Data management**, and select the **Dual-write** tile. If the details of the linked environments and the list of table maps that are running are shown, dual-write is configured.

○	Sales tax groups (msdyn_taxgroups)	Running	1.0.0.0 - Dynamics 365
○	Job detail (cdm_jobs)	Mappings created, not running	1.0.0.0 - Dynamics 365
○	Employment (cdm_employments)	Running	1.0.0.0 - Dynamics 365
○	Fiscal calendar year integration entity (msdyn_fiscalcalendaryears)	Running	1.0.0.0 - Dynamics 365

- If you don't have admin privileges, you will receive an error message, *Unable to write data to entity <entity name>*. In the example in the following illustration, you can't create a customer row in the finance and operations app, because dual-write is configured, but the customer group and payment terms reference data don't exist in Dataverse.

Error codes for dual-write and Data Integrator

Article • 04/03/2024

This article describes the error codes that can occur when you use Data Integrator to configure dual-write maps or data integration projects.

Expand table

Error code	Message	Details
DIPV1000	Connection validation failed	This error indicates that the Power Apps ApiHub connections that are used for data integration with Data Integrator are no longer valid. The error message details show the actual cause of the validation failure. You should fix the connections as indicated or re-create the connection sets to ensure that data integration continues to work. For more information about how to use Data Integrator to create connection sets, see How to create a connection set.
DIPV1001	Exceptions encountered during Dual-write project validation	This error indicates that an unknown exception was encountered during dual-write project validation. To get help with this error, contact Microsoft Support, and provide the exception details.
DIPV1002	Dual-write only supports mapping between cross-company entities or company-specific entities from both sides	Cross-company data sharing is enabled for the finance and operations apps entity that's used in the table map. However, dual-write isn't supported for an entity when cross-company data sharing is enabled. For more information, see Limitations. To fix this error, either disable cross-company data sharing for the finance and operations apps entity, or use a different entity for the table map.
DIPV1003	Integration keys are missing	Integration keys must contain at least one field to uniquely identify a table record. Integration keys are required for both dual-write and Data Integrator to work correctly between Dataverse and finance and operations apps. This error indicates that no integration key is defined for the Dataverse table that's used in the table map.

Errors codes for the table map health check

Article • 04/03/2024

This article describes error codes for the table map health check.

Expand table

Error code	Message	Detail
100	Minimum required finance and operations platform version is PU 43 to run finance and operations recommendations.	This feature requires platform updates for version 10.0.19 or later of finance and operations apps.
400	Minimum required finance and operations platform version is PU 43 to run finance and operations recommendations.	This feature requires platform updates for version 10.0.19 or later of finance and operations apps.
500	No project configurations found for project {project name}. This could be either the project isn't enabled or all the field mappings are unidirectional from customer engagement to finance and operations.	Check the mappings for the table map. If they're unidirectional from customer engagement apps to finance and operations apps, no traffic is generated for live synchronization from finance and operations apps to Microsoft Dataverse.
900	Invalid source filter {sourceFilter} format for entity {finance and operations UniqueEntityName}.	The source filter that's specified on the table map for finance and operations apps isn't syntactically correct. To validate the filter criteria, see Troubleshoot live synchronization issues.
1000	Entity {finance and operations UniqueEntityName} query used for dual-write live sync is {finance and operations EntityFilterQueryString}. Records that meet the query criteria are picked up for live sync.	The entity query that was returned is the backing SQL query for the entity. Check for inner joins or filters on the query that determine the business data that's being picked up for live synchronization. Inner joins and filters are mandatory conditions that must be fulfilled for each record that's being picked up for dual-write live synchronization.
1300	Virtual fields {s.EntityFieldName} for entity {finance and operations EntityMetadata.EntityProperties.LogicalEntityName} may not be tracked for dual-write.	Virtual fields from finance and operations tables aren't enabled for tracking. Live synchronization can sync the data but can't pick up the changes that are made on the columns.

Virtual entities overview

Article • 05/29/2024

> **Important**
>
> This functionality requires version 10.0.12 of finance and operations apps, and service update 189 of Microsoft Dataverse. The release information for Dataverse is published on the latest version availability page.

Virtual entities for finance and operations apps

Finance and operations apps are a virtual data source in Dataverse, and enable full create, read, update, and delete (CRUD) operations from Dataverse and Microsoft Power Platform. By definition, the data for virtual entities doesn't reside in Dataverse. Instead, it continues to reside in the app where it belongs. Before CRUD operations can be performed on finance and operations entities from Dataverse, the entities must be made available as virtual entities in Dataverse. CRUD operations can then be performed from Dataverse and Microsoft Power Platform on data that resides in finance and operations apps.

All Open Data Protocol (OData) entities in finance and operations apps are available as virtual entities in Dataverse, and therefore also in Microsoft Power Platform. Makers can now use data directly from finance and operations apps to build experiences in customer engagement apps. These experiences offer full CRUD capability and don't require copying to Dataverse. Power Apps portals can be used to build external-facing websites that enable collaboration scenarios for business processes in finance and operations apps.

Architecture

Virtual entities are a Dataverse concept that is useful beyond finance and operations apps. The following illustration shows how the finance and operations provider for virtual entities is implemented. The provider implements six primary methods. The first five methods are the standard CRUD operations: **Create**, **Update**, **Delete**, **Retrieve**, and **RetrieveMultiple**. The last method, **PerformAction**, is used to call OData actions, as described later in this article. Calls to the finance and operations virtual entity data provider (shown as "virtual entities plug-in" in the illustration) causes a Secure Sockets Layer (SSL)/Transport Layer Security (TLS) 1.2 secure web call to the

What's new or changed in the Virtual Entity solution provider?

Article • 09/28/2023

The Virtual Entity solution provider for finance and operations apps is a Microsoft AppSource package that provides near-real-time interaction with finance and operations apps data on Microsoft Power Platform.

July 2023 release

The July release of Finance and Operations Virtual Entity Solution Changes in Release 2.8.8 contains the following changes.

Virtual entity changes

Expand table

Type	Description	Status
Bug fix	Create finance and operations apps virtual entity OData actions using a unique name, to avoid naming conflicts. Action names now include the entity name, for example, **mserp_<entity name>_<action name>**, to ensure uniqueness.	General availability
Bug fix	Fixed error **An item with the same key has already been added**.	General availability
Bug fix	Solution supports .cab files instead of .zip files.	General availability
Bug fix	Removed **preview** from change tracking labels.	General availability
Bug fix	Improved performance when importing a solution that contains virtual entities, by caching entity metadata results.	General availability

Data archival changes

Expand table

Entity modeling

Article • 04/23/2025

> **Important**
>
> This functionality requires version 10.0.12 for finance and operations apps, while service update 189 is required for Microsoft Dataverse. The release information for Dataverse is published on the latest version availability page.
>
> The public entity name that is exposed in Dataverse metadata for the finance and operations virtual table uses the physical name of the finance and operations entity. This could be different from the public name of the entity as exposed by the OData metadata.

Building an app requires capabilities to perform relational modeling between entities that are being used in the app. In the context of virtual tables, there are scenarios where virtual tables and native tables in Dataverse must work together to enable the desired user experience. This article explains concepts of relational modeling that can be implemented using virtual tables for finance and operations apps.

Generating virtual entities

By default, virtual tables for finance and operations apps don't exist in Dataverse. A user must query the catalog entity to view the entities that are available in the linked instance of finance and operations apps. From the catalog, the user can select one or more entities, and then request that Dataverse generate virtual tables in Dataverse for these finance and operations entities. This procedure is explained in later sections.

Entity fields

When a virtual table is generated for a finance and operations entity, the system tries to create each field in the finance and operations entity in the corresponding virtual table in Dataverse. In an ideal case, the total number of fields is the same in both finance and operations entities and Dataverse virtual tables, unless there's a mismatch in supported data types between the finance and operations apps and Dataverse. For data types that are supported, the field properties in Dataverse are set based on the properties in the finance and operations app.

The rest of this section describes supported and unsupported data types. For more information about fields in Dataverse, see Fields overview.

Application lifecycle management for solutions that use virtual entities

Article • 05/17/2024

> **Important**
>
> This functionality requires version 10.0.12 for finance and operations apps, while service update 189 is required for Dataverse. The release information for Dataverse is published on the latest version availability page.

The application lifecycle for an end-to-end solution using finance and operations virtual entities will encompass both finance and operations as well as Dataverse. This article explains this in detail.

Solution management

Virtual entities for finance and operations don't exist in Dataverse until they are created. Virtual entities must be created inside a solution. The MicrosoftOperationsERPVE (Dynamics 365 ERP Virtual Entities) solution is used for this purpose. This solution will contain all the virtual entities that are created from an instance of finance and operations.

MicrosoftOperationsERPVE is a managed solution. By definition, a managed solution can't be modified after it has been generated. However, MicrosoftOperationsERPVE is a managed solution that grants privileges to update the components (that is, virtual entities) that are inside it. Therefore, new virtual entities can be added to the solution as they are created, and existing virtual entities can be updated as required. Nevertheless, the privileges to modify the managed solution are available only to the platform itself. Users can't make changes directly to the solution.

Because MicrosoftOperationsERPVE is a managed solution, solutions from customers, partners, and independent software vendors (ISVs) can take a dependency on it. This capability allows for consistent application lifecycle management (ALM) for solutions that use and depend on the virtual entities for finance and operations.

When a solution that depends on MicrosoftOperationsERPVE is exported, placeholders for the virtual entities that are used in the solution are added in the exported solution. When that solution is imported into another Dataverse environment, the import process also generates the dependent finance and operations virtual entities in the

Configure Dataverse virtual entities

Article • 04/09/2025

This article explains how to configure virtual entities for finance and operations apps in Microsoft Dataverse.

> **Important**
>
> The configuration steps in this article are required only for finance and operations apps environments for which the Microsoft Power Platform integration is **not** enabled. For finance and operations apps environments for which the Microsoft Power Platform integration is enabled, the virtual entity configuration that is outlined in this article is automatically performed as part of the process for enabling the integration.
>
> If Dataverse virtual entities were configured manually prior to enabling the Microsoft Power Platform integration, following the guidance in this article, the manual configuration is no longer used for the linked Power Platform environment after the Microsoft Power Platform integration is enabled. The virtual entities connect to the Dataverse environment using the automatic configuration provided by the Microsoft Power Platform integration. However, manual configuration for virtual entities may still be used to connect the finance and operations apps environment to additional Power Platform environments with which the Microsoft Power Platform integration has not been enabled.
>
> For more information about how to enable the Microsoft Power Platform integration for finance and operations apps environments, see Enable the Microsoft Power Platform integration.

Getting the virtual entity solution

The Dataverse solution for finance and operations virtual entities must be installed from Microsoft AppSource virtual entity solution. For more information, see finance and operations virtual entity.

Ensure the following solutions are installed in Dataverse.

- **Dynamics365Company -** This adds the **Company** entity, which is referenced by all finance and operations entities with a PrimaryCompanyContext metadata value.
- **MicrosoftOperationsVESupport -** This provides the core support for the finance and operations virtual entity feature.

Enable Microsoft Dataverse virtual entities

Article • 09/21/2022

Because many entities that are available in finance and operations apps are enabled for Open Data Protocol (OData), the entities aren't available as virtual entities in Microsoft Dataverse by default. After configuration is completed for finance and operations apps virtual entities in Dataverse, the virtual entities can be enabled in the Dataverse environment. Administrators can then determine which entities will be exposed as virtual entities that can be used in Dataverse.

> **Note**
>
> Configuration of finance and operations apps virtual entities in Dataverse is a prerequisite for enabling the virtual entities. The configuration is automatically done for finance and operations apps environments that are linked to a Microsoft Power Platform environment. For unlinked environments, manual configuration must be completed before the virtual entities can be enabled. For step-by-step information about how to configure finance and operations apps virtual entities in Dataverse, see Configure Dataverse virtual entities.

Generate virtual entities

1. Open the Power Platform admin center, and select the **Environments** tab.
2. In the **Environments** list, select the Power Platform environment associated with your finance and operations apps environment.
3. In the **Details** section of the environment page, select the **Environment URL** link to open the Power Platform environment.
4. At the top-right of the page, select the **Settings** gear icon, and select **Advanced Settings**.
5. At the top-right of the **Settings** page, select the **Advanced find** filter icon.
6. In the **Advanced find** page, select **Available finance and operations entities** in the **Look for** drop-down list.

Create and refresh virtual entities automatically

Article • 05/15/2024

This article provides information about automatic creation and refresh of virtual entities for finance and operations apps in Dataverse.

> **Important**
>
> Supported release information:
>
> - **Auto Refresh:** Supported platform versions are PU62 (7.0.7120.170), PU63 (7.0.7198.123), PU64 (7.0.7279.31), or later.
> - **Auto Create:** Supported platform versions are PU63 (7.0.7198.123), PU64 (7.0.7279.31), or later.

Changes that are made on data entities in finance and operations apps are visible to Dataverse through a manual refresh in Dataverse. The Auto Create and Refresh capability in finance and operations apps enables automatic metadata creation or modification in Dataverse to occur immediately, reliably, and efficiently. Automatic refresh of metadata ensures timely updates in Dataverse from finance and operations apps. By enabling the Automatic Create and Refresh capability, you eliminate the need to manually refresh finance and operations entities in Dataverse. This capability paves way to automatic creation of virtual tables in Dataverse for finance and operations apps data entities.

Track changes for finance and operations virtual tables in Dataverse

Article • 07/12/2024

[This topic is pre-release documentation and is subject to change.]

Row version change tracking for finance and operations

A new change tracking option has been added to finance and operations apps to enable incremental synchronization of data using the Microsoft Dataverse. The new change tracking is a prerequisute for several features such as Data archival, Synapse integration, Mobile offline and Relevance search. The goal, over time, is to unify all existing finance and operations data synchronization frameworks into one that is based on Dataverse synchronization services.

Prerequisite to track changes for finance and operations virtual tables in Dataverse

- The **Allow Row Version Change Tracking** metadata property, must be set to **Yes** for the data entity, see Allow Row version change tracking for Data entities.
- Finance and Operations entities must be visible in Dataverse, see Enable Microsoft Dataverse virtual entities.

Track changes for finance and operations virtual tables in Dataverse

If the above prerequisites are met, then the final step is to enable change tracking by selecting **Track changes** for the Virtual table in the Power Apps, see Enable change tracking to control data synchronization.

> **Important**
>
> - This preview feature is available from release 10.0.31 where the Microsoft Power Platform integration has been enabled with Dataverse database, see

Power Apps portals with finance and operations

Article • 07/01/2022

> **Important**
>
> This functionality requires version 10.0.12 for finance and operations apps, while service update 189 is required for Dataverse. The release information for Dataverse is published on the latest version availability page.

Power Apps portals will enable create, update, and delete (CRUD) operations to finance and operations entities that are available as virtual entities in Dataverse. This article explains the scenarios that are implemented in Power Apps portals for finance and operations apps.

Anonymous access from Power Apps portals

Collaboration scenarios in business processes such as bidding or onboarding of prospects in finance and operations require that external users participate from the Power Apps portal, even though they aren't users in finance and operations apps. The simplicity of anonymous access is appealing in these types of scenarios because the users, who might not be finance and operations apps users, don't have to sign in. However, they are expected to perform CRUD operations in finance and operations to complete any meaningful tasks in the business processes.

To ensure that only the required entities are enabled for anonymous access, a user in finance and operations must be designated as the user who is used for anonymous access. This designation is configured in the **Anonymous portal access user ID** field on the **Virtual entity** tab on the **System parameters** page (**System administration** > **System parameters**). The designated user can then be assigned to duties and security roles to control access to specific data that must be made available to all users who will interact anonymously from the Power Portal.

Note that because this scenario involves anonymous access, the only user context that matters, from a security perspective, is the user who is designated in the **Anonymous portal access user ID** field.

Authenticated access from Power Apps portals

Finance and operations virtual entities FAQ

Article • 08/03/2022

> **Important**
>
> This functionality requires version 10.0.12 for finance and operations apps, while service update 189 is required for Dataverse. The release information for Dataverse is published on the latest version availability page.

This article is a collection of frequently asked questions about finance and operations virtual entities.

Do Tier 1 finance and operations environments or demo topologies work?

Yes, Tier 1 and DEVTEST and DEMO topologies should work.

What version of finance and operations do I need?

10.0.12 is the minimum version that is required.

Can a solution from an independent software vendor (ISV) take a dependency on virtual entities? What does the application lifecycle management (ALM) look like?

Yes. The virtual entities are all generated in the MicrosoftOperationsERPVE solution, which isAPI-managed In other words, the items in the solution change as you make entities visible or hidden, but the solution is still a managed solution that you can take dependency on. The standard ALM flow just takes a standard reference to a virtual entity from this solution with the **Add existing** option in the ISV solution. Missing dependency of the solution will be checked when the solution is imported and during import, if a specified virtual entity doesn't yet exist, the virtual entity is automatically made visible.

Which entities from finance and operations do users see in the catalog in Dataverse?

Business events overview

Article • 11/26/2024

Business events provide a mechanism that lets external systems receive notifications from finance and operations apps. In this way, business actions can be performed in response to the business events.

Business events occur when a business process is run. During a business process, users who participate in it perform business actions to complete the tasks that make up the business process.

A business action that a user performs can be either a workflow action or a nonworkflow action. Approval of a purchase requisition is an example of a workflow action, whereas confirmation of a purchase order is an example of a nonworkflow action. Both types of actions can generate business events that external systems can use in integration and notification scenarios.

Prerequisites

Business events can be consumed using Microsoft Power Automate and Azure messaging services. Therefore, customers must bring their subscriptions to such assets to use business events.

> **Important**
>
> Business events must not be considered a mechanism for exporting data. By definition, business events are supposed to be lightweight and nimble. They aren't intended to carry large payloads to fulfill data export scenarios.

Business events that are implemented

Business events are implemented in some business processes out of the box. These business events include both workflow and nonworkflow business events. For more information, see Application business events, Workflow business events, and Alerts as business events.

A developer must use extensions to implement new business events. For more information, see Business events developer documentation.

Manage business event endpoints

Article • 06/19/2024

Endpoints let you manage the destinations that business events are sent to. Business events in finance and operations apps support the following endpoint types.

Expand table

Endpoint type	Tutorial
Azure Service Bus Queue	Business events and Azure Service Bus
Azure Service Bus Topic	Business events and Azure Service Bus
Azure Event Grid	Business events and Azure Event Grid
Azure Event Hub	Business events and Azure Event Hubs
Azure Blob Storage	Not applicable
HTTPS	Not applicable
Microsoft Power Automate	Business events and Microsoft Power Automate
Dataverse	Subscribe to events in Dataverse

Endpoints can be created for these messaging and event brokers out of the box. Some scenarios might require multiple endpoints for organized distribution of business events to consumers. You can create multiple endpoints to support these scenarios.

The Microsoft Azure–based endpoints must be in the customer's Azure subscription. For example, if Event Grid is used as an endpoint, the endpoint must be in the customer's Azure subscription.

A finance and operations app doesn't provision the endpoints. The endpoints must be created separately and provided to the app. The app then sends events to the endpoints that are provided. Customers might incur additional costs if they use these endpoints in their Azure subscription.

Subscribing to finance and operations apps events from Dataverse

Important

Application business events

Article • 06/03/2022

This article lists application business events.

Procure to pay

Expand table

Business event	Description	Module
Vendor invoice matched	This event is triggered when invoice matching validation is completed for a vendor invoice as part of the Procure to pay process.	Accounts payable
Vendor invoice posted	This event business event is triggered when a user posts a vendor invoice as part of the Procure to Pay process.	Accounts payable
Vendor payment posted	This event is triggered when a user posts a vendor payment as part of the Procure to pay process.	Accounts payable
Invoice register journal posted	This event is triggered when a user posts an invoice register journal as part of the Procure to pay process.	Accounts payable
Invoice journal posted	This event is triggered when a user posts an invoice journal as part of the Procure to pay process.	Accounts payable
Invoice approval journal posted	This event is triggered when a user posts an invoice approval journal as part of the Procure to pay process.	Accounts payable
Purchase order confirmed	This event is triggered when a purchase order is confirmed by a vendor. One of the following actions triggers the event: the user manually confirms a purchase order in the user interface for purchase orders, when the purchase order confirmation is executed in a batch, or when the confirmation is executed programmatically in intercompany scenarios. In scenarios where vendor collaboration is used, and the vendor collaboration policy is set to autoconfirm a purchase order, the trigger occurs when the	Procurement and sourcing

Workflow business events

Article • 06/29/2022

Workflow business events are generated at various points in the processing of a workflow.

Workflow construction

To construct a workflow, a developer can define workflows components in metadata and code in the Visual Studio tools.

An administrator can create workflows in the web client and then design them in the workflow designer. For more information, see Create workflows.

Workflow components

Workflow components are defined in metadata as:

- **Workflow types -** Also known as templates, workflow types define the elements allowed in a workflow. The administrator decides which elements are actually used when they create the workflow design.
  - In the Application Explorer, go to **AOT** > **Business Process and Workflow** > **Workflow Types**.
- **Workflow elements -** Workflow elements are the executable pieces that make up a workflow. For details, see Workflow elements.
  - Tasks (aka manual tasks) - Go to **AOT** > **Business Process and Workflow** > **Workflow Tasks**.
  - Approvals - Go to **AOT** > **Business Process and Workflow** > **Workflow Approvals**.
  - Automated tasks - Go to **AOT** > **Business Process and Workflow** > **Workflow Automated Tasks**.

Workflow runtime

After a workflow is submitted by a user, it is added to a queue and run using the **Workflow message processing** batch job. As the workflow runs, it will progress through all the connected workflow elements until it reaches the end. When the workflow runtime encounters a manual task element, it will create a work item for the user assigned to the task. When the workflow runtime encounters an approval element, it will create a work item for each user assigned to each approval step.

Batch business events

Article • 02/25/2025

The batch platform emits the following system business events.

Expand table

Business event	Description	Module
Batch job started	This event is fired when a batch job is marked as running.	Batch
Batch job finished	This event is fired when a batch job is completed.	Batch
Batch job failed	This event is fired when a batch job fails.	Batch
Batch job cancelled	This event is fired when a batch job is canceled.	Batch

Usage

Batch job started and batch job finished

The **batch job started** and **batch job finished** events can be used to monitor and identify long-running batch jobs. They can also be used to notify stakeholders if a job takes longer than expected. By default, these events are turned off in the application.

Batch job failed

The **batch job failed** event can be used to monitor specific batch jobs for failure, and to notify stakeholders in real time. By default, this event is turned on in the application.

Configure batch business events

1. Go to **System administration** > **Inquiries** > **Batch jobs**.
2. On the **Business events** tab, update the settings to raise batch business events.

The events have the following payload.

Expand table

Alerts as business events

Article • 06/03/2022

There are two kinds of alerts that can be configured by users. These are change-based alerts and due date alerts. For more information about the alerts functionality, see Alerts.

The change-based alerts and due date alerts can be configured to send out a business event as a mechanism to notify or trigger external applications or systems. This allows alerts to participate in advanced user notification scenarios and also in business process integration across systems.

To generate a business event from an alert, in the **Create alert rule** dialog box, set **Alert me with** > **Send externally** to **Yes**.

In order for alerts to be processed, the batch processes for change-based and/or due-date alerts should be set for batch processing for due-date events. For more information, see Batch processing for due-date events.

The business event for the change-based alert and/or the due date alert must also be active for the alert to be sent out as a business event. To learn more about the activation process, see Activating business events.

Data events

Article • 11/26/2024

Data events are events that are based on changes to data in finance and operations apps. Create, update, and delete (CUD) events can be enabled for each entity. For example, if the **Create** event is enabled for the **Purchase order headers V2** entity, an event notification is emitted every time that a new purchase order is created in the database.

All standard and custom entities in finance and operations apps that are enabled for Open Data Protocol (OData) can emit data events. In the data event catalog, each event for an entity is listed as a data event that subscriptions can be established for. The concept of activating the data event and associating it with an endpoint resembles the concept of business events. When a data event occurs, the payload of the event contains the corresponding entity record.

> **Important**
>
> Data events are available only in environments that the Microsoft Power Platform integration is enabled for. For more information, see Enable the Microsoft Power Platform integration.

Data event catalog

To access the data event catalog, select the **Data event catalog** tab on the **Business events** page (**System administration** > **Setup** > **Business event**). The data event catalog provides a complete list of the available data events in the finance and operations apps environment. For each data event, the list shows the category, event ID, and name. It also indicates whether the event is company-specific. You can filter the list by category and data event ID.

Business events in Microsoft Power Automate

Article • 06/29/2022

The finance and operations connector and Microsoft Dataverse connector are available for consuming business events in Microsoft Power Automate. The finance and operations connector has a **When a Business Event occurs** trigger. The Dataverse connector has a **When an action is performed** trigger. Either of these triggers can be used to subscribe to any of the business events that are available in finance and operations apps. Both triggers provide the same functionality, but the execution is slightly different.

The Dataverse connector lets you use the **When a row is added, modified or deleted** trigger to subscribe to data events in finance and operations apps. This trigger enables a Power Automate flow to be triggered by any create, update, or delete (CUD) event against a selected finance and operations apps entity.

Prerequisite

It's important that you understand business events. For more information, see the Business events documentation.

Subscribing to business events

Using the finance and operations connector

The finance and operations connector communicates directly with finance and operations apps to establish subscriptions, but it's triggered by Dataverse at runtime. The connector can connect to any instance of finance and operations apps on the Microsoft Entra tenant.

After the **When a Business Event occurs** trigger is added to a flow, the following information must be provided:

- **Instance –** Specify the host name of the instance where business events occur. Environment instances should be available in the provided drop-down menu, but if an environment is not listed it can be entered as a custom value.
- **Category –** Select the category of business events. The list of unique business event categories in the business event catalog in finance and operations apps is

Business events developer documentation

Article • 06/19/2024

This article walks you through the development process and best practices for implementing business events.

What is a business event, and what isn't a business event?

This question comes up every time that we start to think about use cases where business events can help. Is the creation of a vendor a business event? Is confirmation of a purchase order a business event? Is it a business event if you capture the event at the table level? Or should business events be captured only at the business logic level in a business process? These questions aren't just valid, but they are also a key article of discussion when a solution is planned and architected for integration. The following guidelines can help with this thought process and decision making.

Intent

The intent behind capturing a business event must be clearly understood. In other words, what is the reason for capturing the business event, and how it will be used by the recipient?

If your intent is to capture a business event so that you can take a business action outside finance and operations apps in response to a business event that occurs in the finance and operations apps, you have a good use case for business events. The business action that is taken in response to the business event can be to notify users about the business event and/or to call into another business application to take a business action, such as creation of a sales order. It's important that you look at the business action generically and not base the need for a business event on the type of business action that will be taken.

If your intent is to transfer data to a recipient and, in effect, realize a data export scenario, you don't have a good use case for business events. In fact, the use of business events for data transfer scenarios is a misuse of the business events framework. Such scenarios must continue to use data export mechanisms that are already available in data management.

Troubleshoot business events

Article • 03/08/2024

This article provides tips for troubleshooting issues that involve business events.

Expand table

Issue	Possible resolution
Unable to find navigation to business events in the **System parameters** form	You can access business events by going to **System administration** > **Set up** > **Business events**. This change was made when the business events feature was made generally available in Platform update 26.
Error: Unable to construct endpoint. Exception message: Error retrieving secret '[KeyValueSecretName]' from key vault 'https://[KeyVaultName].vault.azure.net/': Microsoft EntraSTS700016: Application with identifier '7e28cb03-dc28-43b5-b129-e13dcfb4b1fb' wasn't found in the directory 'ee3fe5c6-26af-42b1-9acf-5ee38e6ead6e'.	This can happen if the application hasn't been installed by the administrator of the tenant or consented to by any user in the tenant. It's likely that you may have sent your authentication request to the wrong tenant.
Error: Trace ID: 19dc9946-45b6-4335-9676-6a133dbf4000 Correlation ID: ecbc8a80-f9d0-41ec-9c8f-d334d050bd64 Timestamp: 2019-02-06 23:27:06Z	This error typically means that the value in the **Microsoft Entra Application ID** field is incorrect. Check the **Microsoft Entra Application ID** value in the customers Azure portal in **Microsoft Entra** > **App Registration**.
Error: Unable to construct endpoint. Exception message: Error retrieving secret '[KeyValueSecretName]' from key vault 'https://[KeyVaultName].vault.azure.net/': An error occurred while sending the request.	This error is likely due to an incorrect value in the **Key Vault DNS Name** field. To resolve this, go to the customer's Azure portal and open the key vault object. In the

Use cases for business events

Article • 06/29/2022

The following are potential uses cases for business events. These use cases aren't an exhaustive list of the potential use cases. Some of these use cases may not have been implemented yet either by Microsoft or other organizations. These use cases are meant to provide ideas and help with understanding business events.

Expand table

Business process	Use case	Value
Procurement	The procurement process frequently relies on manual intervention, so automating this process should increase procurement manager productivity.	You can make the procurement process more efficient by alerting procurement managers when quotation requests are sent, allowing for prompt follow-up and faster engagement. The goal is to have procurement managers follow up within three days and possibly create a Microsoft Power Automate that automates this follow up.
Procurement	Many organizations use manual processes to communicate internally and externally about production orders. Some organizations have complex approval processes for production orders, and need quick and easy ways to review and approve orders.	By creating business events that are triggered when production orders are updated, you can help improve communications between the back office and the production floor. When integration is required with third-party systems for production, the business events can also be used to help simplify the integration process.
Reporting	Managers are not informed about newly created financial reports. As a result, managers might analyze and make decisions based on outdated data.	You can make the reporting process more efficient by alerting managers when financial reports are sent, allowing for prompt follow-up and faster engagement. The goal is to have managers follow up within three days and possibly create a Power

Business events and Microsoft Power Automate

Article • 07/02/2022

This article explains how to configure and consume a business event from a Microsoft Power Automate endpoint by using the **When a Business Event occurs** trigger of the finance and operations connector.

This article shows how to perform the following tasks:

- Create a new flow in Power Automate.
- Trigger a business event.

The steps in this article show how use the finance and operations connector. However, they can also be applied to the process of creating flows in Power Automate for finance and operations apps business events and data events in the Microsoft Dataverse connector. For more information about finance and operations apps business events and data events that have the **When an action is performed** and **When a row is added, modified or deleted** triggers in the Dataverse connector, see Business events in Microsoft Power Automate.

Create a new flow in Power Automate

1. Sign in to Power Automate portal.

2. Select an existing environment where you have the permissions needed to create a Power Automate resource. The default environment is open to all companies.

3. Select **New** > **Create from blank**.

4. Search for **Dynamics 365 Finance** and select the connector.

5. You will notice a trigger named **When a Business Event occurs**. Select this trigger.

6. Select your environment instance, category, event name, and legal entity.

> **Tip**
>
> Take advantage of the auto-complete that Power Automate provides by entering only part of the environment instance URL or part of the event name.

Business events and Azure Event Grid

Article • 11/22/2024

This article explains how to configure a Microsoft Azure Event Grid endpoint, and how to consume a business event from Event Grid.

Scenario overview

Security best practices recommend that you store connection strings outside applications, in an Azure Key Vault drive, and that you give applications the correct access to the key vault keys, secrets, or certificates.

Here are two of the many benefits of this approach:

- Someone who gets access to the application database won't be able to get the third-party connection string.
- Maintenance is easier, especially when multiple applications access the same resources, because you must update connection strings in only one place.

The following is an overview of the procedures that you must complete:

1. Create a new Event Grid topic.
2. Create a new key vault to store the key for the Event Grid topic.
3. Register an Azure app that has permission to access the key vault.
4. Configure the parameters of the endpoint.
5. Consume the business event.

Procedure 1: Create a new Event Grid topic

1. Sign in to the Azure portal.
2. Select **All services** > **Integration** > **Event Grid Topics**.
3. Select **Add** to create a new Event Grid topic. Set the parameters, and then select **Create**. You can create a new resource group as a container for your lab, or you can use an existing resource group.
4. After deployment is completed, select the new Event Grid. On the property blade, select **Overview**, and make a note of the **Topic Endpoint** value. You need this value later.
5. Back on the property blade, select **Access keys**, and copy the **Key 1** value. You need this value when you configure the key vault in the next procedure.

Business events and Azure Service Bus

Article • 07/02/2022

This article explains how to configure a Microsoft Azure Service Bus endpoint and how to consume a business event from Service Bus.

Scenario overview

Security best practices recommend that you store connection strings outside applications, in an Azure Key Vault drive, and that you give applications the correct access to the key vault keys, secrets, or certificates.

Here are two of the many benefits of this approach:

- Someone who gets access to the application database won't be able to get the third-party connection string.
- Maintenance is easier, especially when multiple applications access the same resources, because you must update connection strings in only one place.

Here is an overview of the procedures that you must complete:

1. Create a new Service Bus namespace.
2. Create a new Service Bus topic and subscription.
3. Create a new key vault to store the Service Bus key.
4. Register an Azure app that has permission to access the key vault.
5. Configure a Business Events endpoint.
6. Consume the business event.

Create a new Service Bus namespace

1. Sign in to the Azure portal.

2. Select **All services** > **Integration** > **Service Bus**.

3. Select **Add** to create a new Service Bus namespace, and set the parameters. Select the **Standard** pricing tier. You can create a new resource group as a container for your lab, or you can use an existing resource group.

> ⓘ **Note**

Business events and Azure Service Bus Queue

Article • 03/08/2024

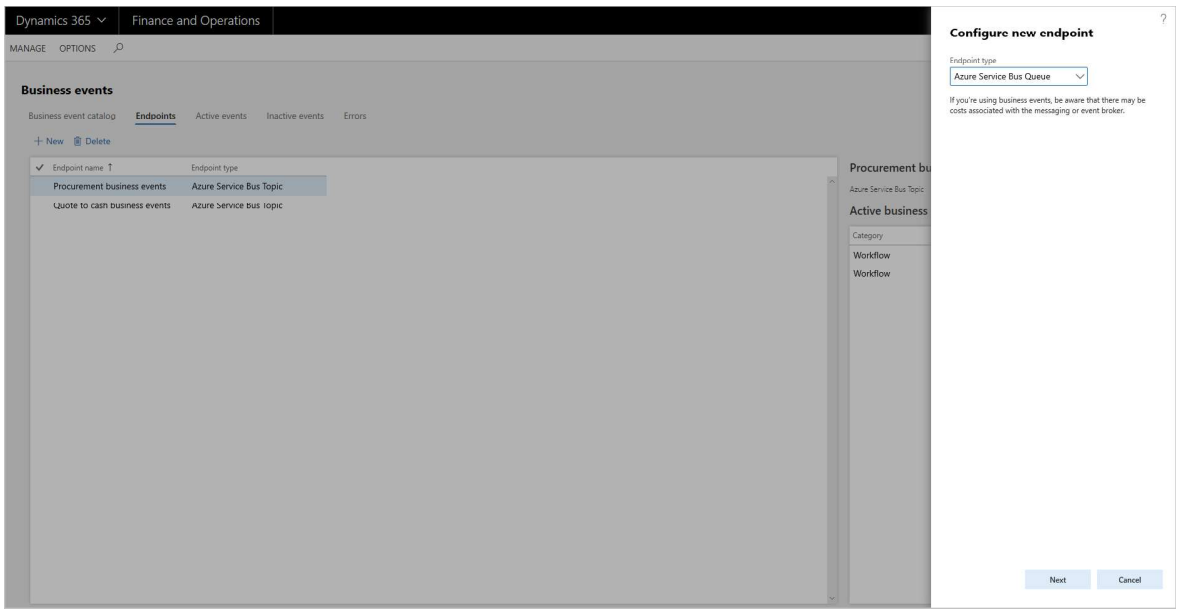
This article explains how to configure a Microsoft Azure Service Bus Queue endpoint.

Create an Azure Service Bus Queue endpoint

1. On the **Business events** page, on the **Endpoints** tab, select **New** to create an endpoint.

2. In the **Configure new endpoint** dialog box, in the **Endpoint type** field, select the appropriate endpoint type. To create an endpoint to a Service Bus queue, select **Azure Service Bus Queue**.

3. Select **Next**.



4. In the **Endpoint name** field, enter the name of the endpoint.

5. Set up Azure Key Vault to provide the secret to the Azure messaging resource.

6. Set up the Microsoft Entra application ID and application secret.

7. Back in the **Configure new endpoint** dialog box, in the **Queue name** field, enter the name that you created for the Service Bus queue in the Azure Service Bus Queue configuration in Azure.

Business events and workflow approvals

Article • 07/02/2022

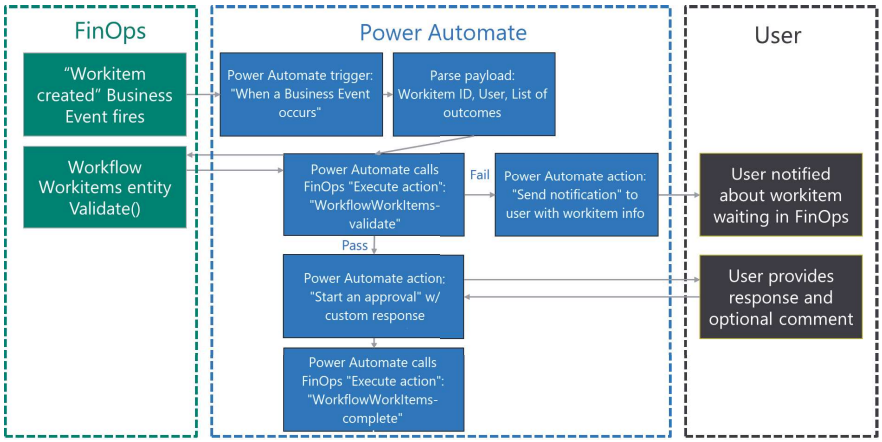
This article explains how to use Microsoft Power Automate to configure and consume a workflow business event for purchase requisition approval.

To complete this article, you must be running Microsoft Dynamics 365 Finance version 10.0.2 (May 2019) with platform update 26 or later.

Scenario overview

The following illustration shows the high-level process that you must configure by using Power Automate. Note the following points:

1. The application fires a business event whenever a new approval starts.
2. Power Automate trigger starts.
3. After parsing business event payload from F&O, next step is to check wheter the workflow instance ID received from F&O is still alive. This is a security step in case approval has already taken place or workflow has been recalled.
4. If the check is unsuccessful, an email is sent to notify the user about a potential work item in their workspace.
5. If the check is successful, a new Power Automate approval is started.
6. Then workflow is completed by using the outcome of the approval. The outcome can be either **Approve** or **Reject**.



Exercise 1: Create a new flow

1. Sign in to the Power Automate portal.

2. Select an existing environment where you have the right to create a flow resource. The **(default)** environment is available to all companies.

Business events and Microsoft Forms Pro

Article • 06/03/2022

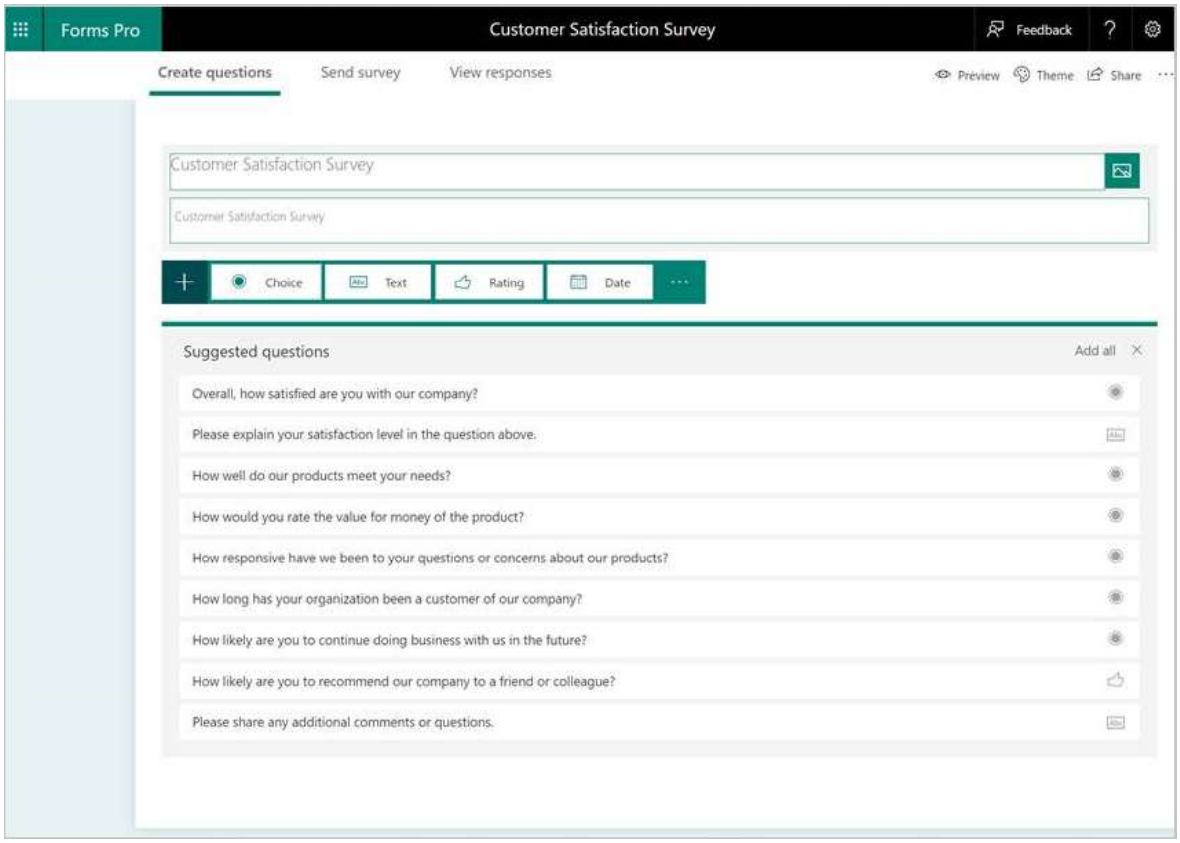
This article goes through a scenario where Microsoft Forms Pro is used to create a survey that can be used with business events. Specifically, in the scenario that is described here, a survey is sent to customers when a product has been shipped. The survey information is gathered by using Forms Pro.

Prerequisites

If you haven't used Forms Pro before, you should first read the Forms Pro documentation to learn how to use it.

Scenario

1. Create a survey. Based on the title that you enter for the survey, Forms Pro suggests survey questions.



2. The sales order tracks the shipment. When the product has been shipped, the status of the sales order is changed to **Delivered**.

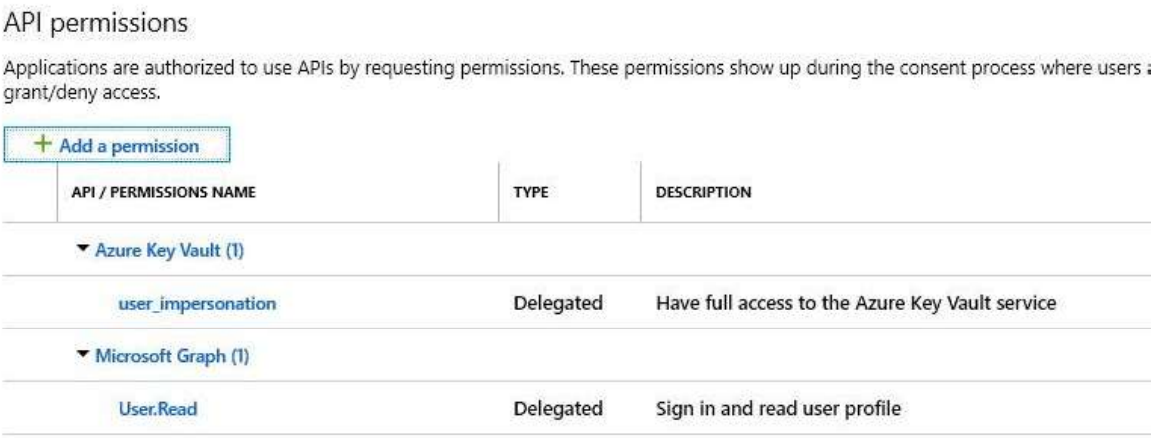
Business events and Azure Event Hubs

Article • 03/08/2024

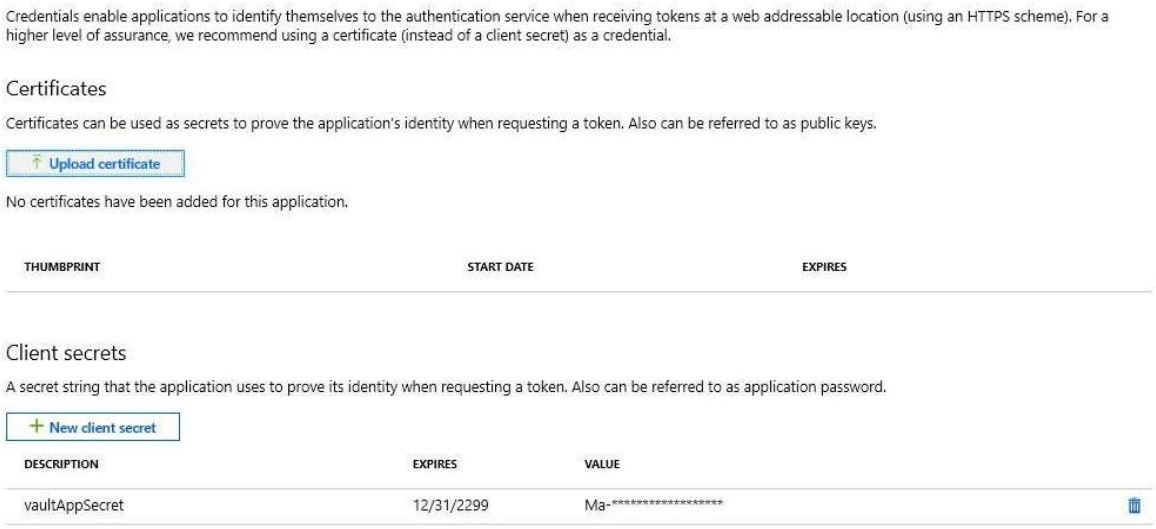
This tutorial describes the steps that you must follow to make business events work with Microsoft Azure Event Hubs.

1. In Azure portal, create an Active Directory application registration. Make a note of the application ID.

2. Give the app, permission to the Azure Key Vault application programming interface (API).



3. In the app registration, create an application secret. Make a note of the value.



4. In the key vault, give permission to the new app registration.

Subscribe to events in Dataverse

Article • 06/19/2024

> **Important**
>
> Before you subscribe to finance and operations apps business events and data events in Microsoft Dataverse, you must enable the Microsoft Power Platform integration. For information about how to enable the Microsoft Power Platform integration for a finance and operations apps environment, see **Enabling the Power Platform integration**.

You can subscribe to finance and operations apps business events and data events in Dataverse by registering plug-ins and software development kit (SDK) steps on the events in Dataverse. This article describes how to use the Power Platform Tools extension for Visual Studio to register a plug-in for a finance and operations apps event. The subscriptions are shown together with other subscriptions in the business event catalog in finance and operations apps. The endpoint then works like other endpoints in the finance and operations apps business event catalog.

Set up your development environment

Install the Power Platform Tools extension

Power Platform Tools for Visual Studio is an extension that provides code templates for Dataverse plug-ins. In includes a Dataverse explorer that shows tables, business events, and virtual entity data events. The explorer lets you register plug-ins directly from Visual Studio. The C# code for the plug-in can then be deployed directly to Dataverse from the solution.

For information about how to install the Power Platform Tools extension, see Install Power Platform Tools.

Create a project

After you've installed the Power Platform Tools extension, create a new project.

1. Open Visual Studio 2019 or later.

2. In the **Get started** dialog box, select **Create a new project**.

Business events in financial period close

Article • 01/23/2025

This article explains how to use business events in the financial period close business process to gain insights and provide internal controls.

To complete this article, you must be running version 10.0.2 (May 2019) with Platform update 26 or later.

Scenario overview

Task management is fundamental to managing business processes across industries. Out-of-box capabilities let users manage business process tasks in a structured manner. The **Financial period close** workspace illustrates these capabilities by offering a central location for managing tasks in a company's accounting period close process.

This article looks at an organization that recently decided to explore how it can use the **Financial period close** workspace to track and report tasks that are associated with every period close. Performance management and traceability are some of the challenges that this organization faces in the current setup. Therefore, the organization undertook an exercise in business process transformation to identify the capabilities of the **Financial period close** workspace. This exercise revealed the following business requirements:

1. The ability to be notified when tasks must be started
2. The ability to attach documents
3. Record management and disposition capabilities for attachments
4. The ability for multiple approvers to approve tasks, based on predefined logic
5. Task questionnaires for audits
6. Reporting capabilities to track the current status of the period close process and do performance analysis for insights into efficiency

High-level design

To achieve the previously mentioned requirements, the organization used out-of-box capabilities of the **Financial period close** workspace. A gap analysis revealed that, by doing minor extensions to the workspace and the underlying data entities, the organization could achieve requirements 2, 5, and 6, and could partially achieve requirement 4. To achieve requirements 1 and 3, and parts of requirement 4, the

Add-ins overview

Article • 11/03/2022

Add-ins provide a way to extend the functionality of finance and operations apps. All add-ins are installed and managed via the environment details page for sandbox and production environments in Microsoft Dynamics Lifecycle Services (LCS). For more information about the architecture and how to unlock this feature, see Microsoft Power Platform integration with finance and operations apps.

What add-ins are available?

New add-ins are made available on a regular basis. This section describes the add-ins that are currently available and provides links to more information about each.

Planning Optimization

The Planning Optimization Add-in for Microsoft Dynamics 365 Supply Chain Management enables master planning calculation to occur outside Dynamics 365 Supply Chain Management and the related SQL database. The benefits that are associated with the Planning Optimization functionality include improved performance and minimal impact on the SQL database during master planning runs. Quick planning runs can be done even during office hours. Therefore, planners can immediately react to demand or parameter changes. To learn more, see Master planning system architecture

Inventory Visibility

The Inventory Visibility Add-in is an independent and highly scalable microservice that enables real-time tracking of on-hand inventory. Therefore, it provides a global view of inventory visibility. To learn more, see Inventory Visibility Add-in.

Export to Azure Data Lake

The Export to Azure Data Lake feature is based on a microservice that exports finance and operations app data to Azure Data Lake and keeps the data fresh. To learn more, see Configure export to Azure Data Lake.

IoT Intelligence

Building mobile experiences over finance and operations data

Article • 12/31/2024

In today's digital world, organizations may have business processes within one or more of their finance and operations apps (Dynamics 365 for Finance, Supply Chain Management, Commerce, Project Operations, and Human Resources) that need to be available on mobile devices to allow their users to be productive wherever they are. With the deprecation of the finance and operations (Dynamics 365) mobile app (see Removed or deprecated platform features), the recommended way for building mobile experiences over finance and operations data is utilizing the tools available with the Power Platform integration, namely virtual tables and Power Apps.

Implementation steps

To build a mobile experience on top of finance and operations data, follow these high-level steps:

1. Ensure virtual tables exist covering the data and actions needed for your mobile experience. These may exist out-of-the-box, or you may need to create your own virtual table. This is important to allow your mobile experience to fetch the appropriate data from your finance and operations apps and to execute any actions needed for your mobile experience.
2. Create a new app on Power Apps that connects to the desired virtual table(s).
3. Once you have a mobile experience created on Power Apps, you can directly run your canvas app or model-driven app on Power Apps mobile.
4. For a seamless mobile experience, you can optionally wrap your Power Apps application as a custom-branded Android and iOS app for native distribution to end users. This option is currently only available for canvas apps.

Other useful links

- Using the Power Platform to extend finance and operations apps Tech Talk series
- Planning your Power Apps project
- Building your first model-driven app

Feedback

Policies and communications for Power Platform and Dynamics 365 Services

Article • 03/11/2025

> **Note**
>
> The new and improved Power Platform admin center is now in public preview! We designed the new admin center to be easier to use, with task-oriented navigation that helps you achieve specific outcomes faster. We'll be publishing new and updated documentation as the new Power Platform admin center moves to general availability.

Introduction

Microsoft regularly communicates work done to maintain and update Microsoft Power Platform (Power Apps, Power Automate, Microsoft Copilot Studio, and other services), and Microsoft Dynamics 365 apps (Sales, Customer Service, Supply Chain Management, and others) to ensure security, performance, availability, and to provide new features and functionality. Microsoft also communicates details of service incidents including the potential user experience, the start and end times of the incident, and any workaround that may be available.

For each of these scenarios, communication is provided through the Microsoft 365 admin center in the Message Center, and the Service health dashboard. The Microsoft 365 admin center also has the ability to send email for a weekly digest of all messages, emails for major updates only, and emails for data privacy messages. You can opt in to this communication stream by following the instructions in Preferences.

> **Note**
>
> Microsoft may also send direct email to users assigned to the Power Platform administrator or Dynamics 365 administrator role in an impacted tenant. If you're not sure who your admin is, learn more in Find your administrator or support person. To assign a service admin role to a user, follow the instructions in Assign a service admin role to a user.

Scheduled system updates and maintenance

Microsoft regularly performs updates and maintenance on the service and apps through a weekly update process. This update process delivers security and minor service improvements