

# Upgrades, updates, and hotfixes resources

Article • 05/08/2023

Upgrades, updates, and hotfixes can include moving to new product versions, code migration and upgrade, moving to an update, or deploying a hotfix.

The processes for each type of upgrade are similar, but different enough that we think that you should review the topics for a specific task before you begin.

## Upgrade from Microsoft Dynamics AX 2012 to finance and operations

To get started, review the following topics:

- [Upgrade from AX 2012 to finance and operations](#)
- [Prepare to migrate code to finance and operations](#)

## Migration from Microsoft Dynamics AX 2009 to finance and operations

This Tech Talk video provides an introduction to migration from AX 2009 to finance and operations: [Dynamics 365 for Operations – Tech Talk: Migration tools](#).

## Upgrade from a previous version of finance and operations

The steps for applying updates and upgrading differ between cloud and on-premises implementations.

### Cloud

If you are upgrading a cloud version of finance and operations, review the following topics:

- [Process for moving to the latest update of finance and operations](#)

# Upgrade from AX 2012 to finance and operations

Article • 07/21/2023

## ⓘ Important

Upgrade is currently only supported from either Dynamics AX 2012 R2 or Dynamics AX 2012 R3. For each release, please update to the latest available cumulative update before upgrading to latest finance and operations application release.

Finance and operations apps provide an upgrade path that customers who currently run Microsoft Dynamics AX 2012 can use to move their data and code to finance and operations apps. Currently, upgrades from Dynamics AX 2012 R3 and AX 2012 R2 are supported. The upgrade process is built on the following elements:

- Tools to help you bring forward existing custom application code from AX 2012.
  - A data upgrade process that you can use to bring your database forward.
- Therefore, you can upgrade your full transactional history.

## ⓘ Important

Dynamics AX 2012 implementations that are running some [deprecated features](#) can't currently be upgraded. For example, upgrade is not possible from systems that are using either virtual companies or data partitions. If you aren't sure whether your system can be upgraded, run the Upgrade analyzer tool.

## ⓘ Tip

AIM (Accelerate, Innovate, Move) is a new campaign and offering that provides qualified on-premises business applications customers a tailored path to the cloud with access to a dedicated team of migration advisors, expert business value and technology assessments, investment offers, tools, and migration support. Talk to your Microsoft representative or partner today to see if you qualify for various migration offers, including the AIM migration assessment. To learn more about the AIM assessment, please visit the [AIM Assessment page](#).

## Overview

# Upgrade from AX 2012 - Plan by using the Upgrade analysis report

Article • 07/21/2023

## ⓘ Important

Upgrade is currently only supported from either Dynamics AX 2012 R2 or Dynamics AX 2012 R3. For each release, please update to the latest available cumulative update before upgrading to latest finance and operations application release.

This article explains how to use the **Upgrade analysis** report to plan your upgrade from Microsoft Dynamics AX 2012. The report script is run against an AX 2012 database and parses tables for application setup and data volumes. It provides feedback about deprecated features, application settings, database settings, and table space savings.

Space saving observations provide cleanup routines in AX 2012 to help reduce the subscription cost for finance and operations apps. SQL configuration optimization suggestions can help speed up the upgrade processes. Additionally, the report warns if any AX 2012 features are obsolete in the current version. Therefore, you can plan ways to replace or work around those features.

## Download the report script

To download the **Upgrade analysis** report script (`UpgradeAnalysisReport.SQL`), go to [Upgrade Analysis Report](#).

## Run the report script

1. Open SQL Server Management Studio.
2. Open the **Upgrade analysis** report script (`UpgradeAnalysisReport.SQL`) in a new query window.
3. Change the database connection to your AX 2012 business data database (for example, `MicrosoftDynamicsAX`).

## ⓘ Note

# Upgrade from AX 2012 - Estimate effort by using the Code upgrade service

Article • 09/12/2023

## Important

Upgrade is currently only supported from either Dynamics AX 2012 R2 or Dynamics AX 2012 R3. For each release, please update to the latest available cumulative update before upgrading to latest finance and operations application release.

This article explains how to use the Code upgrade service in Microsoft Dynamics Lifecycle Services to help estimate the tasks and effort that are required in order to upgrade a code base from Microsoft Dynamics AX 2012 finance and operations.

## Note

In Dynamics Lifecycle Services, the **Code upgrade** is only available in the United States region. If your project is in another region, create a temporary Dynamics 365 finance and operations project in [lcs.dynamics.com](https://lcs.dynamics.com) and run the code upgrade. After you have completed the code upgrade, you can delete the temporary project. For more information about regions, see [Available geographies for Dynamics 365 finance and operations apps](#).

## Overview

The Code upgrade service converts an export of your AX 2012 model store to the correct format. However, the new version of your code won't be fully functional until a developer resolves any issues that the service identifies but can't resolve itself.

The Code upgrade service performs these actions:

- Directly resolve some types of conflict issues.
- For other issues, log Microsoft Azure DevOps tasks.
- Create a version of your code in the correct format, and check the new version into a new branch of your Azure DevOps project.

In the Analyze phase, we use the report to help estimate the effort that's required to complete code conversion activities.

# Upgrade from AX 2012 - Deploy a demo environment for analysis

Article • 10/19/2022

## Important

Upgrade is currently only supported from either Dynamics AX 2012 R2 or Dynamics AX 2012 R3. For each release, please update to the latest available cumulative update before upgrading to latest finance and operations application release.

This article explains why and how you should deploy a demo environment during the Analyze phase of your project for upgrading from Microsoft Dynamics AX 2012 to finance and operations.

By deploying a demo finance and operations environment, you gain hands-on experience with the program and can explore new features that you might be interested in. You also have an opportunity to validate differences in the program for your business processes, so that you can identify potential gaps or confirm that no gaps exist. At this stage in your upgrade project, your data and code won't be available in the environment. Therefore, you will have limited ability to validate that everything conforms to your business process. However, this step is the first step in that work stream.

If you haven't yet purchased licenses, and you're using a free trial, you can follow the steps in [Deploy a demo environment](#) to deploy a demo environment to a Microsoft Azure subscription that you bring yourself.

If you've already purchased licenses, you received a link to configure a special type of project in Microsoft Dynamics Lifecycle Services (LCS): an implementation project. The implementation project will let you deploy a dev/test environment and a sandbox environment. For more information about this type of environment deployment, see [Upgrade from AX 2012 - Data upgrade in sandbox environments](#).

## Important

It is recommended that before you run the upgrade, that you apply the latest [Quality Update](#) for the Dynamics 365 version you are using.

# Upgrade from AX 2012 - Pre-upgrade checklist for data upgrade

Article • 03/08/2024

## Important

Upgrade is currently only supported from either Dynamics AX 2012 R2 or Dynamics AX 2012 R3. For each release, please update to the latest available cumulative update before upgrading to latest finance and operations application release.

This article describes each task in the Microsoft Dynamics AX 2012 checklist that is associated with data upgrade to finance and operations apps.

## Installation

The pre-upgrade checklist for the Dynamics 365 upgrade is included in AX 2012 R3 cumulative update 13 (CU13). If you're on an older version, you must install one of the following updates:

- If you're upgrading from AX 2012 R3, install [KB 4035163](#).
- If you're upgrading from AX 2012 R2, install [KB 4048614](#).

## Note

If you're upgrading from AX 2012 R3, CU13 must be installed in your environment. If you're on an older version and have issues or concerns updating to CU13, contact Microsoft Support.

## Run the pre-upgrade checklist

To run the pre-upgrade checklist, follow these steps.

- Go to System Administration > Setup > Checklists > Dynamics 365 for Unified Operations data upgrade checklist.

If the checklist isn't shown, follow these steps.

# Upgrade from AX 2012 - Data upgrade in development environments

Article • 12/02/2024

## Important

Upgrade is currently only supported from either Dynamics AX 2012 R2 or Dynamics AX 2012 R3. For each release, please update to the latest available cumulative update before upgrading to latest finance and operations application release.

This is an exciting moment in the upgrade project. The output of this task provides the first upgraded dataset from Microsoft Dynamics AX 2012 to the latest finance and operations development environment.

Before you run this process in a shared sandbox environment, we recommend that you run it in a development environment. There are two reasons for this approach:

- It provides local data that developers can write and test their custom data upgrade scripts against.
- It helps reduce the overall time that is spent on iterations of the data upgrade process. In a development environment, an issue can be debugged immediately, code can be adjusted, and the upgrade can be rerun within minutes. Larger sandbox environments don't allow for this level of agility. In those environments, a minimum of several hours is required to debug and remediate issues, update code, deploy the updated code, and rerun the upgrade.

We strongly recommend running the [Upgrade analyzer](#) and respond to the identified issues before running data upgrade. This helps ensure that your data upgrade is quicker and easier.

## Important

Upgrades aren't supported on a Unified Developer Experience (UDE) environment. For a developer environment, use either a Cloud Hosted Environment (CHE) or the VHD VM that is run locally. For more information, see [Deploy and access development environments](#)

## End-to-end data upgrade process

# Upgrade from AX 2012 - Data upgrade in self-service environments

Article • 07/24/2024

This Microsoft Dynamics AX 2012 data upgrade process is for self-service environments. Complete the sections of this article in the following order:

1. [Prerequisites](#)
2. [Data upgrade process](#) – Run the DataMigrationTool.exe application to complete the upgrade process.
3. [Reporting section of the application](#) – Review the reports of the replication validation, replication status, data upgrade status, and rollback data upgrade status.
4. [Tooling section of the application](#) – This section helps you reset the process parameters and restart any of the processes.

## Prerequisites

1. A successful upgrade test has been completed in a cloud hosted (development) environment, or self hosted development VHD environment, with customer data. This test should have been run against the same application version and customizations as the self-service environment.
2. Download the [Data Migration Toolkit for Dynamics365 Version 1.0.12 \(or higher\)](#) from Microsoft Dynamics Lifecycle Services (LCS). In the Shared asset Library, select **Model** as the asset type, and then select the model file. Unblock the ZIP download via file properties before extracting.
3. Create a self-service environment in LCS. The environment should be in a **Deployed** state. It must be a self-service environment. Cloud-hosted, development environments can be used only for the [Upgrade from AX 2012 - Data upgrade in development environments](#) procedure.

### Important

It's recommended that before you run the upgrade, apply the latest **Quality Update** for the Dynamics 365 version you are using.

### Note

# Data upgrade process for AX 2012 to Dynamics 365 Finance + Operations (on-premises)

Article • 06/19/2024

## ⓘ Important

Upgrade is currently only supported from either Dynamics AX 2012 R2 or Dynamics AX 2012 R3. For each release, please update to the latest available cumulative update before upgrading to latest finance and operations application release.

This article explains the process for doing a data upgrade only. For information about how to do a code upgrade, see the upgrade guides that are available for cloud versions. The code upgrade tooling is available only through Microsoft Dynamics Lifecycle Services (LCS).

## AX 2012 upgrade to Dynamics 365 Finance + Operations (on-premises)

Two upgrade methods are currently supported:

- **Upgrade from your existing Dynamics 365 Finance + Operations (on-premises) environment** – This method is available only in version 10.0.31 and later. It's the recommended method when you're testing the upgrade end to end.
- **Upgrade from inside the VHD** – This method involves copying your database into the virtual hard disk (VHD) and running the upgrade from inside the VHD. Overall, this method is easier.
- **Upgrade where the VHD points to your database** – This method involves pointing the VHD upgrade process to your database. The upgrade process is still run from inside the VHD.

## ⓘ Note

The VHD doesn't require external network access to run the upgrade process.

## Prerequisites

# Upgrade from AX 2012 - Cutover testing (Mock cutover)

Article • 08/12/2022

## Important

Upgrade is currently only supported from either Dynamics AX 2012 R2 or Dynamics AX 2012 R3. For each release, please update to the latest available cumulative update before upgrading to latest finance and operations application release.

*Cutover* is the term that we use for the final process of getting a new system live. The cutover process consists of the tasks that occur after Microsoft Dynamics AX 2012 is turned off, but before finance and operations is turned on. The purpose of upgrade cutover testing (mock cutover) is to practice the cutover process, to help guarantee a smooth experience for everyone who is involved during the actual cutover to go-live.

There are three main workstreams during a cutover:

- **Technical workstream** – This workstream includes the data upgrade execution process. Your business will enforce a limit on the amount of downtime that is allowed. During this downtime, neither AX 2012 nor finance and operations will be available. This workstream might have to tune the data upgrade procedure to meet the business's downtime limit.
- **Functional workstream** – This workstream includes the configuration tasks that are performed after the data upgrade is completed. All these tasks must be documented and quantified, and a resource must be assigned, because both the functional workstream and the technical workstream must fit within the business's downtime limit.
- **AX 2012 rollback** - This workstream includes rolling back to an AX 2012 environment. Although it's unlikely that you will have to roll back, it's very important that you have a tested process in case you require it.

The following illustration shows the overall process for cutover to go-live as it will occur in the production environment.

# Upgrade from AX 2012 - Post-upgrade tasks

Article • 07/06/2022

## Important

Upgrade is currently only supported from either Dynamics AX 2012 R2 or Dynamics AX 2012 R3. For each release, please update to the latest available cumulative update before upgrading to latest finance and operations application release.

This article describes the tasks that you might have to perform in finance and operations apps, like Dynamics 365 Finance and Dynamics 365 Supply Chain Management, after you complete a code and data upgrade from Microsoft Dynamics AX 2012. A process data package (PDP) that is available in Microsoft Dynamics Lifecycle Services (LCS) includes links to the following menu items. This PDP will fill in the **Data validation checklist** workspace. The **Data validation checklist** workspace lets users track a project and monitor the tasks that are required in order to complete it.

## Document management

If you use document management, existing documents or attachments that are stored in the database should be migrated to Microsoft Azure Blob storage. To complete this migration, use the **Migrate files** button on the **Migrate files** tab on the **Document management parameters** page. This operation is not critical as document management can still access file stored in the database, but the files can take considerable database storage and the retrieval is less efficient. The file migration process will migrate all possible database files to Microsoft Azure Blob storage, reporting on any failures and continuing. If any errors are reported, attempt running the file migration process again.

If the file migration process isn't able to complete without failure, this may be that the files stored in the database are corrupt, which Microsoft is unable to repair. If this is the case, you can request a non-business critical support case be opened to enable conversion of the attachments into note records, which will retain any previous notes as well as the names of the files that were stored in the database. Note that the files themselves cannot be recovered.

## Print management

# Upgrade from AX 2012 - Functional test passes

Article • 08/12/2022

## Important

Upgrade is currently only supported from either Dynamics AX 2012 R2 or Dynamics AX 2012 R3. For each release, please update to the latest available cumulative update before upgrading to latest finance and operations application release.

After data upgrade is completed, we recommend that you complete a full functional test pass of all business processes. In a full functional test pass, you do an extensive retest of all business processes that are performed by using finance and operations. Tests should include both processes that have been brought forward from Microsoft Dynamics AX 2012 and new processes that use features from finance and operations.

Depending on your code quality, bug remediation and retesting might require several iterations of the functional test pass. After a bug is fixed, take care to retest all processes that are involved, to make sure that no downstream or upstream processes are affected by the change.

## Old data vs. new data

As you create a list of tests to perform, consider the impact of old data versus new data. This type of testing will help you uncover data-related bugs. The code that created the old and new data might be very different, and this difference can be a common root cause of bugs.

For example, if the business process that you're testing is cancellation of a purchase order, can you cancel a purchase order that was started before it was upgraded to the new system? Can you also cancel a purchase order that was started after the upgrade to the new system?

We used a very simple example here, but the testing requirement can be more complex, because many business processes in the system are interconnected, and the effect of old data versus new data effect is cumulative.

For example, here are the stages of a production test flow:

1. The item master is designed and released to a legal entity.

# Upgrade from AX 2012 - Prepare for go-live

Article • 08/12/2022

## Important

Upgrade is currently only supported from either Dynamics AX 2012 R2 or Dynamics AX 2012 R3. For each release, please update to the latest available cumulative update before upgrading to latest finance and operations application release.

As the go-live date approaches, it's important that you implement this series of steps to help ensure that the source Microsoft Dynamics AX 2012 system and the upgrade process both remain stable and consistent for go-live.

As part of this process, you must lock down any further code changes or application setup changes before you run the final cutover test.

## Code freeze

All code changes in the AX 2012 environment should be frozen. Implement an escalation process to handle any critical issues that appear in AX 2012. By default, any new code changes that are required should be implemented only in the new system, not in the AX 2012 environment. Implementation of proposed code changes in the AX 2012 environment should be discussed at the management level. If a code change is made in AX 2012, the same change must be made in the new system. In that case, another iteration of cutover testing and functional testing might be required.

## Application configuration freeze

All application configuration changes should be frozen in the AX 2012 environment, because these changes could affect how the new system behaves or how the data upgrade scripts behave. Configuration changes are changes in the AX 2012 application that are related to the configuration of system functionality. By freezing these changes, you help guarantee the stability of the data upgrade process.

Because configuration changes are typically controlled by the AX 2012 system administrator or a small group of trusted super users, we don't recommend that you enforce the freeze by changing security access. Instead, implement the freeze through a

# Upgrade from AX 2012 - Go live (Cutover)

Article • 08/12/2022

## ⓘ Important

Upgrade is currently only supported from either Dynamics AX 2012 R2 or Dynamics AX 2012 R3. For each release, please update to the latest available cumulative update before upgrading to latest finance and operations application release.

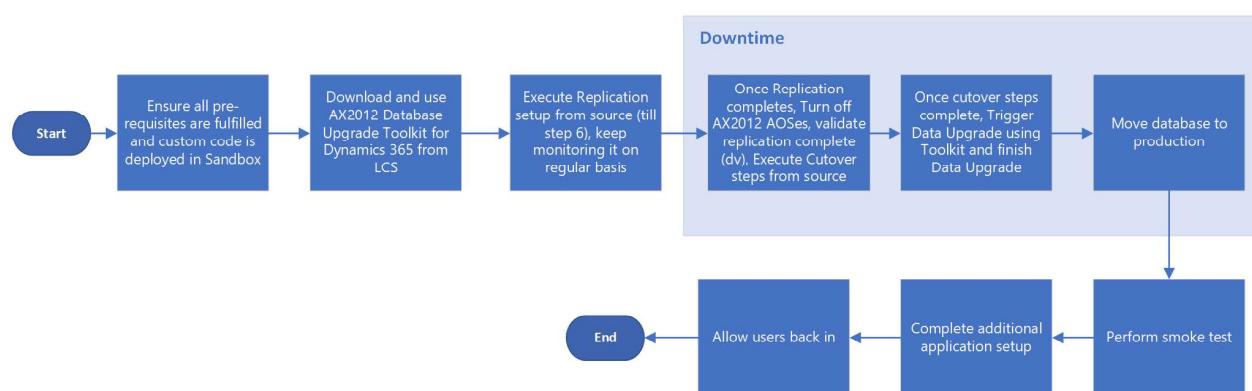
After you have successfully completed upgrade testing in a Standard or Premier Acceptance Test environment (Sandbox Tier 2 or higher), and you have also completed a successful test cutover, the time has arrived to upgrade your production environment and go live.

## ⓘ Note

The AX 2012 upgrade process should be run on the sandbox environment, not the production environment.

*Cutover* is the term that we use for the final process of getting a new system live. This cutover process consists of the tasks that occur after Microsoft Dynamics AX 2012 is turned off but before finance and operations is turned on. Before you plan your final cutover, you need to successfully complete one successful mock cutover as described in [Cutover testing](#).

The following illustration shows the overall process for cutover to go-live as it will occur in the production environment.



## ⓘ Note

# Upgrade from AX 2012 – Data upgrade FAQ

Article • 06/03/2022

This article answers some frequently asked questions about data upgrade during an upgrade from Microsoft Dynamics AX 2012.

## Is the Tier 2 Azure SQL database sized enough for upgrades of large databases?

If the database size grows, a Tier 2 sandbox that is deployed on an "elastic pool" should automatically be resized as required.

## Does the AX 2012 Database Upgrade Toolkit for Dynamics 365 support the Microsoft Government Community Cloud?

No, the AX 2012 Database Upgrade Toolkit for Dynamics 365 doesn't currently support the Government Community Cloud (GCC).

## What type of validation is done as part of the AX 2012 Database Upgrade Toolkit for Dynamics 365?

Few validations are done as part of the AX 2012 Database Upgrade Toolkit for Dynamics 365. For example, the toolkit validates that you've installed the required KBs (prerequisites) in AX 2012. If you haven't installed them, you can't start the replication process. There is also an option to run a record count check on the replicated data.

## What is the recommended approach if the source AX 2012 database is in a different region than the target database?

# Make the chart of accounts delimiter unique

Article • 06/19/2024

In Microsoft Dynamics AX 2012, you could use the same delimiter for your chart of accounts and dimension values. In current versions of finance and operations, you cannot have the same delimiter for the chart of accounts and dimension names or values. If there is a duplicate delimiter, you can change it after upgrade.

## Update delimiter

If there is a conflict with the chart of accounts, the chart of accounts delimiter and the project/subproject ID format can be changed. No other dimension delimiters can be changed.

- You can change the chart of accounts delimiter after upgrade in **General ledger parameters > Chart of accounts and dimensions > Change delimiter**.
- If the only conflict is with the project/subproject ID format, you can change that value in **Project management and accounting parameters > General > Modify subproject format**.

## Other considerations

Similar to project/subproject ID, any other master data records used as financial dimensions, such as vendors or customers, should not have account ID values that use the same character as the chart of accounts delimiter.

## How to determine if your environment requires updated delimiters

If delimiters in your upgraded environment are conflicting, you may experience instability when entering values in a segmented entry control or dimension entry control. This means that you will need to always use lookups or a flyout menu when entering account and dimension combinations.

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## Feedback

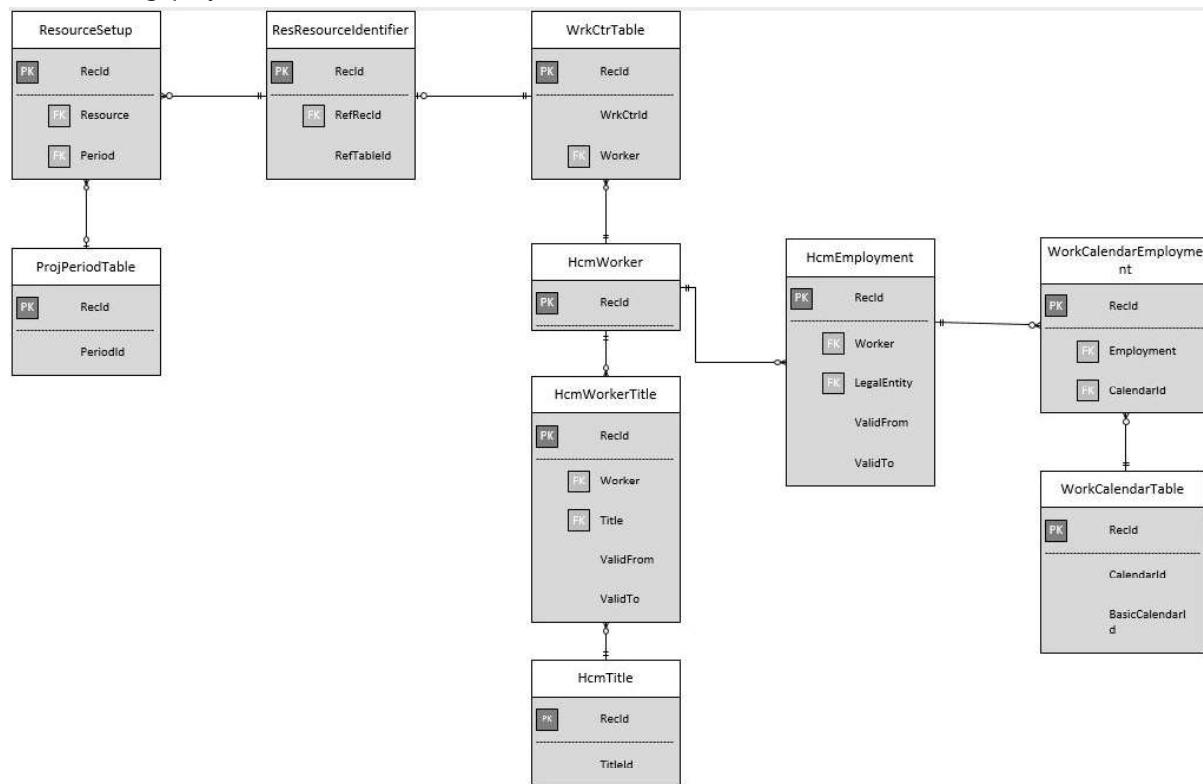
# Project resource scheduling data model

Article • 08/12/2022

This article provides information about the Project resource scheduling data model.

## Physical data model for Project resource scheduling

The following diagram represents the data design structure of the Project resource scheduling physical data model.



## Tables

The following table provides a list of additional tables that support the Resource management data model.

  Expand table

Table	Description
ResResourceIdentifier	Stores all resources and a subset of records from the <b>WrkCtrTable</b> table that are identified as resources. When a resource is added, a record will be added to the <b>WrkCtrTable</b> table. A record will also be added to this table with a

# Workflow subsystem updates in finance and operations

Article • 07/06/2022

This article reviews the workflow system in finance and operations. It describes the changes that have been implemented since Microsoft Dynamics AX 2012 and also includes links to more information about the workflow system.

The workflow system in finance and operations will be familiar to you if you've used Dynamics AX 2012. For more information about the workflow subsystem in Dynamics AX 2012, see the following topics.

 Expand table

To learn about this subject	See this article
The workflow system	<a href="https://technet.microsoft.com/library/dd309672.aspx">https://technet.microsoft.com/library/dd309672.aspx</a>
Workflow types by module	<a href="https://technet.microsoft.com/library/dd362043.aspx">https://technet.microsoft.com/library/dd362043.aspx</a>
Workflow elements	<a href="https://technet.microsoft.com/library/dd309626.aspx">https://technet.microsoft.com/library/dd309626.aspx</a>
Workflow actions	<a href="https://technet.microsoft.com/library/dd362144.aspx">https://technet.microsoft.com/library/dd362144.aspx</a>
Workflow participants	<a href="https://technet.microsoft.com/library/dd309598.aspx">https://technet.microsoft.com/library/dd309598.aspx</a>
Workflow examples	<a href="https://technet.microsoft.com/library/dd309636.aspx">https://technet.microsoft.com/library/dd309636.aspx</a>
Developing a workflow	<a href="https://msdn.microsoft.com/library/cc967389.aspx">https://msdn.microsoft.com/library/cc967389.aspx</a>
Implementing a workflow	<a href="https://msdn.microsoft.com/library/cc585061.aspx">https://msdn.microsoft.com/library/cc585061.aspx</a>

## Primary changes to the workflow system

Here are the primary changes that have been implemented in finance and operations:

- Integration with the new Application State Machine feature enables workflow events to be bound to state transitions on the underlying entity's state machine. This binding enables business logic to be centralized within the state machine and also enables the workflow system to be a declarative consumer of that state machine. The workflow metadata can reference a state transition that is performed when a specific workflow event occurs. Therefore, you can do state transitions within a workflow without writing any additional code.

# Transition from Analysis Services cubes to aggregate models

Article • 07/06/2022

This article explains how in-memory, real-time aggregate models are used for analytics, and why we transitioned from using Server Analysis Services (SSAS) cubes.

The world is moving to real-time, proactive analytics. Reporting and trending on historical data is being replaced by up-to-the-second visualizations and proactive guidance. In-memory, real-time aggregate models now replace the perspectives that were previously used for analytics.

## A historical look at perspectives and cubes

We envision embedded insights playing a key role in the finance and operations user experience. This vision has driven us to invest in building analytic capabilities within the product. In Dynamics AX 4.0, we introduced the concept of *perspectives*. The objective was to present a simpler view of the ERP schema, specifically modeled for reporting. This simpler view was referred to as perspectives. In Dynamics AX 4.0, the system generated reporting models (SMDL models) that enabled you to create ad-hoc reports with SQL Server Report Builder. In Dynamics AX 2009, we added the capability to generate SQL Server Analysis Services (SSAS) projects using metadata definitions in perspectives.

These projects become cubes when deployed to an SSAS server. In Dynamics AX 2012, we improved modeling in perspectives and improved tooling support for managing the lifecycle of SSAS projects. You could use Excel, as well as Power View, to explore data and create reports with cubes in Dynamics AX 2012. The SMDL technology was also deprecated. In Dynamics AX 2012, we stopped generating SMDL models.

## How perspectives are used now

As a developer, your "contract" with the system was a perspective. The system generated "stuff" to help you achieve your end goal. In Dynamics AX 2012, the "stuff" that was generated was SSAS projects. So the contract between you (the developer) and the system (the BI framework), was as follows:

- You modeled perspectives.
- The system generated the "stuff" needed to enable you to build visuals and reports.

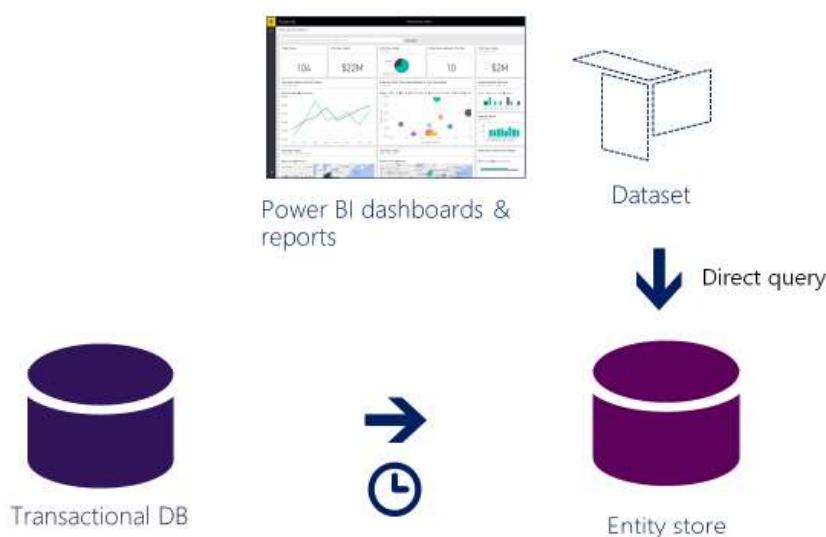
# Migrate upgraded AX 2012 R3 sales cubes to the entity store

Article • 08/01/2022

In this tutorial, you'll migrate an upgraded Microsoft Dynamics AX 2012 R3 cube schema to the entity store in a finance and operations application. You'll use the sales cube that was included in Dynamics AX 2012 R3 as an example.

The entity store will support near real-time Microsoft Power BI integration scenarios, as shown in the following diagram. For an overview of Power BI integration with entity store, see [Power BI integration with entity store](#).

## High volume, near-real time Power BI architecture



## New Power BI features included in the May 2016 and November 2016 updates

This tutorial requires the Dynamics 365 for Operations May 2016 update or later. You will use the following new capabilities in this tutorial:

- Stage an aggregate measurement in the entity store and refresh the data from Dynamics AX. You might prefer this option over in-memory real time aggregate measurements when:
  - You upgrade a Dynamics AX 2012 cube.
  - Your aggregate measurements are very large.
  - Data freshness (latency) from a few minutes up to a few hours is acceptable for reporting.

# Upgrade budget planning

Article • 09/29/2023

There are significant differences in budget planning between Microsoft Dynamics AX 2012 and Dynamics 365 Finance. Some features were not upgraded and therefore require reconfiguration. This article explains what must be reconfigured and also describes new features that should be considered after the upgrade is completed.

Budget planning in Finance has many enhancements that weren't available in Dynamics AX 2012. This article explains the changes that customers who upgrade must make. It also points out the new features that should be considered in the upgrade process. Because of the extent of the changes, any existing budget plans will not be able to be opened until the changes that are outlined in this article are made. However, reports should continue to work and not require additional changes.

## Overview of changes

Many significant changes have been made in Budgeting for finance and operations. These changes are intended to make Budget planning easier to configure and more reusable, to reduce year-over-year maintenance and setup. The following areas in AX 2012 no longer exist in Finance:

- Budget plan templates (Budget planning configuration)
- Budget plan folders (Budget planning configuration)
- Scenario constraints (Budget planning configuration)
- Templates for Budget planning stage rules and templates (Budget planning process)
- Matrix fields for worksheet templates
- Budget plan Microsoft Excel template wizard

Some new concepts can't be directly upgraded from the previous functionality. Therefore, you must complete some reconfiguration to address these new concepts. The following sections describe the concepts that have replaced the items in the preceding list.

## Columns

Columns are a new concept that replace parts of the Excel template and also matrix fields. Columns can represent a period, month, quarter, year, or all time. The time reference is dynamic. It points to a relative period or year in reference to the budget

# Troubleshoot development environments during upgrade

Article • 08/08/2024

This article provides troubleshooting guidance for upgrades of Microsoft Dynamics AX 2012 to Dynamics 365 Finance + Operations (on-premises) Tier-1 development environments.

## Scenario 1: The data upgrade is running slowly on the Tier-1 development environment.

### Solution

Ensure that your cloud-hosted environment is a suitably scaled Azure virtual machine (VM) stock keeping unit (SKU). Also ensure that you use premium storage when the VM is deployed from Microsoft Dynamics Lifecycle Services.

## Scenario 2: Log files on Dynamics AX 2012 SQL database AX fill up the disk.

### Solution

Set the recovery mode on the database to **Simple**. Confirm that there's enough free disk space for the upgrade database to grow.

## Scenario 3: A "Failed to create a session" error is generated during a prerequisite step.

During the additive or partial synchronization that is done as part of the prerequisite steps for the upgrade, you might receive an error that resembles the following example in the downloaded synchronization log:

Stopped DBSync monitoring. Microsoft.Dynamics.Ax.Xpp.ErrorException: Failed to create a session; confirm that the user has the proper privileges to log on to Microsoft Dynamics 365 Finance.

### Possible causes

# Debug data upgrade scripts

Article • 11/19/2024

This article provides guidance about how to debug data upgrade scripts.

## Background

During the PreSync and PostSync steps of a data upgrade, a large number of upgrade class methods are scheduled and run in batch mode. Those methods can be scheduled to run once in the case of global scripts or multiple times for each legal entity. The data upgrade methods are used to transform and update the table data from Microsoft AX 2012 to the version of Dynamics 365 finance and operations apps that you're upgrading to.

Occasionally, during an upgrade, you might find that the data method has errors. Errors can be the result of data quality issues in the source AX 2012 database. Customizations and data from previous versions of AX 2012 or earlier releases can cause these symptoms.

If an upgrade fails, you can use the following SQL statement to review the errors for the PreSync and PostSync jobs.

SQL

```
--Shows upgrade jobs that were in error, including error messages
select * from RELEASEUPDATESCRIPTSERRORLOG
```

Depending on the error message, you might have to debug the class method during upgrade testing to determine the cause. Learn how to monitor an upgrade in [Monitor the upgrade](#).

## Debugging steps

To debug a PreSync or PostSync upgrade class/method, follow these steps.

1. On the development virtual machine (VM) where you're running the data upgrade, open Visual Studio. (The VM can be in a cloud hosted environment or on a virtual hard disk [VHD].) Learn more in [Upgrade from AX 2012 - Data upgrade in development environments](#).

# Troubleshoot upgrades to Dynamics 365 Finance + Operations self-service environments

Article • 09/18/2024

This article provides troubleshooting guidance for upgrades of Microsoft Dynamics AX 2012 to Dynamics 365 Finance + Operations (on-premises) self-service environments.

## Scenario 1: The migration app prompts you to enter Project-Id and Environment-Id values.

### Solution

Make sure that the user who is doing the upgrade is part of the project and assigned to one of the following roles: **ProjectOwner**, **EnvironmentAdmin**, or **OperationsAdmin**.

## Scenario 2: Migration app database connectivity failed for the source database server or the target database server.

### Solution

In the migration app, complete step 1 in the [Data upgrade preparation: Environment setup activity](#) procedure.

## Scenario 3: The snapshot for any of the publications failed, and the failure can be tracked in Replication Monitor.

### Solution

In the SQL Server Replication Monitor, on the **Agents** tab, select the failed publication. Select and hold (or right-click) the snapshot agent, and then select **Start agent** to generate a snapshot.

# Troubleshoot PreSync and PostSync upgrade scripts during upgrade to Dynamics 365 Finance + Operations

Article • 07/06/2022

This article provides troubleshooting information for the PreSync and PostSync upgrade scripts that are run as part of the upgrade from Microsoft Dynamics AX 2012 to Dynamics 365 Finance + Operations (on-premises).

## Scenario 1: You receive the following error: "Duplicate key was found for the object name 'dbo.INVENTDIM' and the index name 'I\_XXXSHA1HASHIDX'."

During the final synchronization, you might see an error that resembles the following example in the downloaded synchronization log. (The table IDs in the index might differ.)

The CREATE UNIQUE INDEX statement terminated because a duplicate key was found for the object name 'dbo.INVENTDIM' and the index name 'I\_698SHA1HASHIDX'. The duplicate key value is (5637144576, gsmp, B92BAF2504FD67FC15A56F2DFACE09127715B54B).

The statement has been terminated. CREATE UNIQUE INDEX I\_698SHA1HASHIDX ON  
DBO.INVENTDIM(PARTITION,DATAAREAID,SHA1HASHHEX) WITH (MAXDOP = 1);

### Causes

There can be a few causes for this issue:

- The error typically appears when the string size of one of the dimension fields in the **InventDim** table has been extended in Dynamics AX 2012, but the same field wasn't extended in Dynamics 365. The extension might have been made directly on the table or in the extended data types (EDT) that the fields are derived from.

The following fields are used to create the hash value:

- ConfigId, InventBatchId
- InventColorId
- InventGtdId\_RU
- InventLocationId
- InventOwnerId\_RU
- InventProfileId\_RU
- InventSerialId
- InventSiteId
- InventSizeId
- InventStatusId
- InventStyleId
- LicensePlateId
- WMSlocationId

The data in the table isn't truncated. However, the data is truncated in the buffer at runtime when the hash value is created.

For example, the **InventSizeId** field has a default size of 10 characters, but the customer increased the size to 12 characters in Dynamics AX 2012. In this case, the field values 1234567890AA and 1234567890BB will both be shortened to 1234567890 when they are read into the buffer at runtime. Therefore, there will be a duplicate value in the runtime buffer, and the **ReleaseUpdateDB72\_Invent::updateSHA1HashHexInInventDim** upgrade method that generates the new hash value won't generate all hash values as unique.

- The data upgrade job didn't run as expected, or it wasn't completed as expected.

First run the following SQL query.

SQL

```
SELECT PARTITION, DATAAREAID, SHA1HASHHEX, COUNT(*)  
FROM INVENTDIM
```

# Monitor the upgrade

Article • 11/16/2024

This article provides scripts that you can run to monitor the upgrade process.

## Data upgrade step status

For cloud-hosted environments or virtual hard drive (VHD) base upgrades, run the following SQL script to view the steps and status of the upgrade.

For self-service upgrades, this script is equivalent to running the **DS** command from the Data migration toolkit.

SQL

```
--Following query shows the status of the data upgrade servicing
SELECT StartTime
      ,EndTime
      ,Steps
      ,SubSteps
      ,STATUS
FROM [DBUPGRADE].[DATAUPGRADESTATUS]
ORDER BY EndTime DESC
```

## Database activity

If a step takes a long time to be completed, it can appear that the upgrade process isn't running. In this case, you might want to validate that the process is running.

Run the following SQL script to check for database activity and the database synchronization steps:

- PreReqs-AdditiveDbSync
- PreReqs-PartialDbSync
- DbSync-SyncSchema
- FinalDbSync-SyncSchema

SQL

```
SELECT SPID      = er.session_id
      ,STATUS     = ses.STATUS
      ,[Login]    = ses.login_name
      ,Host       = ses.host_name
      ,BlkBy     = er.blocking_session_id
```

# Database synchronization performance

Article • 10/03/2024

This article describes the **Shadow copy sync** process that improves the performance of database synchronization during a Microsoft Dynamics AX 2012 upgrade in self-service environments.

## Background

During the upgrade, three synchronization processes are run:

- **AdditiveSync** – This process is run as part of the Prereq steps. It adds new tables and fields. It also adds most new indexes (except unique indexes) to existing tables.
- **DBSync** – This process is the first full synchronization, where new fields are added to existing tables, and changes are made to existing fields. Unique indexes that were disabled during the Pre-Sync step aren't created during this step.
- **FinalDBSync** – This process is the final database synchronization that syncs all remaining objects in the database and runs the final synchronization data preparation steps.

It isn't unusual for the synchronization processes to take several hours or longer. The time that is required depends on the size of the database. More specifically, it's related to large tables that have changes to the design.

During the DBSync process, one of the slowest changes is a change in the precision of a numeric field type. If a table contains multiple numeric fields that have changes, each **Alter column** statement can take minutes or hours to be completed. If each table has many of these column types, the running time of the synchronization increases. In AX 2012, the precision for most numeric field types is set to **32,16**. In Dynamics 365 Finance, the precision for most numeric field types is set to **32,6**.

## Solution

As a solution, the synchronization engine has a **Shadow copy sync** process. A new version of the table is created in the upgraded Dynamics 365 Finance format. This table has an owner schema that is named **Shadow**. Data from the old table is inserted into the new one. The following actions then occur:

1. Indexes are applied to the shadow table.
2. The old table in the **dbo** schema is dropped.

# Monitor replication for the Data migration toolkit

Article • 04/26/2023

The Data migration toolkit for Microsoft Dynamics 365 is used for self-service environments. It uses SQL replication to transfer data from the customer's on-premises SQL Server instance to the Azure SQL database that's used for Dynamics 365.

The toolkit is used both in upgrades from Dynamics AX 2012 to Dynamics 365 and in migrations from Dynamics 365 (on-premises) to Dynamics 365 in the cloud.

For more information, see the following articles:

- [Upgrade from AX 2012 - Data upgrade in self-service environments](#)
- [Move Lifecycle Services implementation projects from on-premises to the cloud](#)

The toolkit has an **RS** command that lets you monitor the replication status. For more information, see [Toolkit Reporting Section](#). However, you might want to monitor the replication directly in SQL Server Management Studio (SSMS). This article explains how to monitor replication and describes the specific steps of replication.

## Replication overview

By default, when you run the Data migration toolkit, two publications are created for tables that have primary keys, one publication is created for other objects (functions), and one publication is created for tables that don't have primary keys. Additionally, one final publication can be created for locked tables or record count mismatches, if it's required.

Each publication has two SQL agent jobs:

- **Snapshot agent** – This agent is responsible for the initial snapshot of the tables (articles) in the publication. It will create files in the snapshot folder for each table. For more information about these files, see the [File type details](#) section of this article.
- **Log reader agent** – This agent is responsible for pushing the snapshot to the target database (subscriber) and for any ongoing changes to the tables.

### Note

# Migrate document attachments from Dynamics AX 2012

Article • 02/11/2023

This article describes how to migrate document attachments from Microsoft Dynamics AX 2012.

## Background

In Dynamics AX 2012, attachments are stored in several locations, such as a file share, a database, or a local SharePoint server. The location for the attachments is set in the **Document Types** form for each file type.

In Dynamics 365 finance and operations, attachments are mostly stored in a private Azure Blob Storage location that is assigned to the environment. Alternatively, they are linked to a SharePoint online site that is under the customer's tenant.

Attachments will be available in Dynamics 365 after an upgrade from Dynamics AX 2012 only if they are migrated to the Dynamics AX 2012 database before the upgrade is done. A post-upgrade step then migrates them to the Blob Storage location.

## Migration options

To migrate document attachments from Dynamics AX 2012, you have two options. You can migrate them from a database location or a file share location.

 Note

Currently, migration of attachments from a local SharePoint site isn't supported.

### Option 1: Migrate attachments from a database location

Attachments that are already set up to be stored in the **DocuValue** table in the Dynamics AX 2012 database require no action.

### Option 2: Migrate attachments from a file share location

# Clean up source data for upgrade from Microsoft Dynamics AX 2012 to Dynamics 365 Finance + Operations

Article • 07/14/2023

This article describes how to clean up source data as part of an upgrade from Microsoft Dynamics AX 2012 to Dynamics 365 Finance + Operations (on-premises).

## Important

Any cleanup routine should be run only after the business has done detailed analysis and confirmed that the data is no longer required.

Always test each cleanup routine in a test environment before you run it in a production environment.

## Background

Over time, the Dynamics AX 2012 database can grow to a large size. Before the upgrade, you can reduce the size of the database by purging or archiving data. In this way, you can help reduce the time that is required to complete the data upgrade.

There are several tools and processes that you can use to clean up data:

- [Dynamics AX Intelligent Data Management Framework tool](#)
- [Cleanup routines in Microsoft Dynamics AX 2012](#)
- [Manual cleanup](#)

## Dynamics AX Intelligent Data Management Framework tool

Although the Dynamics AX Intelligent Data Management Framework (IDMF) tool is no longer being updated, you can use it to archive or purge data in the Dynamics AX 2012 database. For more information, see [Dynamics AX Intelligent Data Management Framework](#).

# Compress tables in Microsoft Dynamics AX 2012 environments

Article • 06/03/2022

This article describes how to compress tables in Microsoft Dynamics AX 2012 environments.

## Background

When you upgrade to Dynamics 365 in self-service environments, Dynamics AX 2012 environments that have large databases might generate errors that resemble the following example:

Managed Sync Table Worker encountered an exception, but is continuing because ContinueOnError is true. Table Sync Failed for Table: TaxTrans. Exception: System.InvalidOperationException: Database execution failed: The elastic pool has reached its storage limit. The storage usage for the elastic pool cannot exceed (4194304) MBs.

The statement has been terminated.

One way to help avoid errors of this type is to reduce the size of the Dynamics AX 2012 source database by compressing table and index data before you upgrade.

In Dynamics 365, you can compress tables and indexes by using page or row data compression.

Although most Dynamics AX 2012 customers don't enable compression out of the box, it can be enabled afterward. When compression is enabled, data that is replicated to Dynamics 365 will also be compressed. This compression should free up enough space in the database to enable the upgrade to be completed.

## Prerequisites

The following prerequisites must be in place before you compress the tables.

### Note

For the compression status of the tables to be replicated, you must use a version of the AX 2012 Database Upgrade Toolkit for Dynamics 365 that is dated March 30,

# Change the database collation for development environments

Article • 08/03/2023

**SQL\_Latin1\_General\_CI\_AS** is the only supported database collation in finance and operations apps. For self-service environments, the Data migration toolkit handles collation conversion as part of the SQL replication process. However, for development environments (Tier 1 cloud-hosted environments), the database collation must be changed before the data upgrade is run. This article describes how to change the collation.

For more information about SQL database collations, see [Collation and Unicode support](#).

## Change the database collation

To change the database collation, you must reconstruct the whole database. Use the [SqlPackage](#) tool.

1. Download and install SqlPackage. For more information, see [Download and install SqlPackage](#).
2. Export the Microsoft Dynamics AX 2012 database that you're upgrading to a **\*.bacpac** file. Open a Command Prompt window as an administrator, and run the following command. Edit the source server name, source database name, and target file as required.

```
SqlPackage.exe /Action:Export /SourceServerName:localhost  
/SourceDatabaseName:MicrosoftDynamicsAX  
/TargetFile:"C:\Temp\MicrosoftDynamicsAX.bacpac"  
/Properties:CommandTimeout=1200  
/Properties:VerifyFullTextDocumentTypesSupported=False
```

3. Use archiving software such as 7 Zip or WinZip to open the exported **\*.bacpac** file.
4. Extract the **model.xml** file from the **\*.bacpac** archive, and copy it to the same folder.
5. In your preferred editing tool, open the extracted **model.xml** file for editing.

# AX 2009 upgrade - Use the Data migration tool to migrate from Dynamics AX 2009 to finance and operations

Article • 08/12/2022

You can use the Microsoft Dynamics AX 2009 Data migration tool (DMT) to migrate your data from AX 2009 to finance and operations. Using the DMT is the only supported upgrade path from AX 2009. The DMT helps you find and fill gaps between the table schemas for each version, as well as helping you move your data.

## Note

Start your cloud migration journey with a no-charge, no-obligation migration assessment through the [Dynamics 365 Migration Program](#).

## Architecture

The following illustration describes the architecture of the DMT, and how data from the source system (AX 2009) is processed and moved to the target system (finance and operations).

# AX 2009 migration – Install the Data migration tool

Article • 08/12/2022

This article explains how to set up the Data migration tool (DMT) so that you can migrate data from Microsoft Dynamics AX 2009 to finance and operations.

## i Important

At this time, the DMT is in private preview. If you are interested you can sign up for the [Preview Program](#). The public release date for the DMT has not been set.

## Prerequisites

- Microsoft SQL Server 2008/2012/2014/2016.
- The Microsoft .NET Framework version 4.5 or later.
- Microsoft SQL Server machine that has Microsoft SQL 2012 Native Client installed.
- The Microsoft SQL Server Integration Services (SSIS) service is installed and running on the machine where the DMT service will be installed.
- SQL Server authentication must support both SQL authentication and Microsoft Windows authentication.
- Microsoft Access database engines that follows the version guidance in the following table.

[] Expand table

Office version	SQL Server 2008	SQL Server 2012 and later
No Microsoft Office on the VM	Access engine 32-bit	Access engine 64-bit
Microsoft Office 32-bit	Access engine 32-bit	Access engine 64-bit
Microsoft Office 64-bit	Access engine 32-bit and 64-bit	Access engine 64-bit

# AX 2009 migration – Generate maps

Article • 03/08/2024

Before you can migrate your data from Microsoft Dynamics AX 2009 to finance and operations, you must align your source data with your target environment. This article explains how to generate source-to-target mappings.

Before you can generate maps, you must provide the target URL, tenant URL, and service app ID to validate the connection.

## ⓘ Note

When you create a new app under Microsoft Microsoft Entra ID in the Azure portal, you have two options, **Web API** and **Native**. Select **Native**, and grant permissions to the native Microsoft Entra app.

## Prerequisites

Before you generate the data maps between the source and target environments, you must install the Data migration tool (DMT). For more information, see [AX 2009 migration - Install the Data migration tool](#).

## Generate maps

Follow these steps to generate maps for data migration.

1. In AX 2009, in the navigation pane, go to **Data migration > Setup > Configure connections**.
2. Review the field information to verify that it's correct, and then click **Validate**.
3. After the validation is completed, close the form.
4. Under **Setup**, click **Configure and generate maps**.
5. Verify that the information in the form is correct, and then click **Validate path**.
6. After validation is completed, click **Generate maps**.

## Feedback

Was this page helpful?



# AX 2009 migration – Create package templates

Article • 08/12/2022

Packages are created by following a predefined sequence. This sequence is based on the dependencies that the data entities have on each other. Because of these dependencies, when you import data entities, you must import the data entities in the defined order. Otherwise, you might encounter issues during import and configuration.

The Data migration tool (DMT) provides twenty predefined templates, as shown in the following illustration.

01-InitialSetupCEU
02-System administrationCEU
03-General ledgerCEU
04-BankCEU
05-Fixed assets and Ledger configur
06-Vendors payable setupCEU
07-Accounts payableCEU
08-Accounts receivableCEU
09-Inventory managementCEU
10-Product information management
11-Sales and marketingCEU
12-Human resourcesCEU
13-ProductionCEU
14-Project accountingCEU
15-Expense managementCEU
16-TaxCEU
17-Sales orderCEU
18-Purchase orderCEU
19-JournalsCEU
20-Opening BalanceCEU

You can customize an existing template, or you can create your own templates as you require.

Follow these steps to view and select the entity lists that will be used in the templates for migration.

1. In Microsoft Dynamics AX 2009, click **Data migration > Common forms > Entity list**, and then click **Apply sequence**. Close the message box.
2. Verify that the correct legal entity is selected, and then, in the **Show** field, select to view either all entities or only those entities that should be considered for migration.
3. In the **Template name** field, select a template.

# AX 2009 migration – Create migration groups

Article • 08/12/2022

When you create a definition for migration, you determine which entities should be packaged and exported together, and then put all the entities together in a migration group. A migration group is a set of entities that must be processed in a sequence, or that can logically be grouped together. The entities in a migration group are exported together, either from the source to staging or directly to a file package. In a migration group, you also associate legal entities. Migration groups must be set up before you begin the export process.

Follow these steps to create a migration group.

1. In Microsoft Dynamics AX 2009, in the navigation pane, click **Data Migration > Common forms > Create migration group**.
2. In the **Migration group** form, press CTRL+N or click **New** to create a new migration group.
3. Enter a name for the migration group. Then press Tab to move to the **Company** field, and click **Select company**.
4. In the **Select company accounts** form, select one or more companies to add to the migration group, and then click **OK**.
5. In the **Migration group** form, click **Entity**, and select the lines to include in the migration.
6. Fill in any gaps in the field mapping, as required.
7. Click **Apply sequence**, and then close the form.

---

## Feedback

Was this page helpful?

 Yes

 No

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# AX 2009 migration – Export packages

Article • 08/12/2022

You can use the Data Import/Export Framework (DIXF) service in Microsoft Dynamics AX 2009 to retrieve data that must be migrated to finance and operations. The export process is completed through a job ID. When you export, you can specify how the export job is defined. You can select the source data to export, the conversion value, and the field mapping. You can also apply a query to each source to limit what is exported.

The export package that the Data migration tool (DMT) generates can consist of one or many data entities. A typical data package consists of a group of entities for a specific task, such as import. For example, the data entities that are required for system setup might be part of one data package. The format of a data package is a compressed file that contains a package manifest, a package header, and any additional files for the data entities that are included.

Before you create a data package, plan out what should be included. In this way, you help guarantee that the correct entities, entity sequence, and fields are included.

Follow these steps to export the data package.

1. In AX 2009, in the navigation pane, click **Data migration > Common > Create migration group**.
2. In the **Migration group** form, select the migration group to export, and then click **Export now**.
3. In the **Export data** form, update the export file path as required, and then click **OK**.

---

## Feedback

Was this page helpful?



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# AX 2009 migration – Import packages

Article • 08/12/2022

Data can be imported for a group of logically related entities that are sequenced in the correct order. You have three options for importing Microsoft Dynamics AX 2009 data that you want to migrate:

- AX 2009
- Finance and operations

## AX 2009

You can import data for migration directly from the source system. Follow these steps.

1. In AX 2009, in the navigation pane, click **Data migration**.
2. Go to **Common > Create migration group**.
3. In the **Migration group** form, select the migration group to export, and then click **Export now**.
4. In the **Export data** form, select the **Import package in target** check box, and then click **OK**.

## Finance and operations

You can import data for migration by using your finance and operations environment. Follow these steps.

1. Sign in to your environment by using an Administrator role.
2. On the dashboard, select the **Data Management** workspace.
3. Select **Import**.
4. Enter the name of the package, and then, in the **Source data format** field, select **Package**.
5. Select **Upload**, and then select the appropriate package file from the location for the data that is being imported. All the files from the package are imported.

---

## Feedback

Was this page helpful?

 Yes

 No

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# Code migration and upgrade home page

Article • 12/31/2024

## Migrate your code

To migrate your code from Dynamics AX 2012 to Dynamics 365 Finance, Supply Chain Management, or Commerce, use the "Migrate and Create Solutions" methodology in Lifecycle Services.

## Key concepts

The following links (also included in the methodology) describe key concepts and steps in the migration process. The links are listed here in the order that we recommend you read them.

- [Prepare to migrate code to finance and operations](#)
- [Model split](#)
- [Removed or deprecated features for finance and operations](#)
- [Deprecated APIs](#)

## Learning path

- [Upgrade Dynamics AX 2012 to finance and operations apps](#)

## Additional concepts

- [Solve dependencies among models by using delegates during code migration](#)
- [How to import a SQL Server Analysis Services Project into the AOT](#)
- [Upgrades, updates, and hotfixes resources](#)
- [Workflow subsystem updates in finance and operations](#)
- [Migrate upgraded AX 2012 R3 sales cubes to the entity store](#)

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## Feedback

# Prepare to migrate code to finance and operations

Article • 08/12/2022

This article describes how the Lifecycle Services code upgrade service and Visual Studio tools help you migrate your code and metadata from Dynamics AX 2012 R3 to finance and operations. Most of these steps also apply to code migration between two major versions of finance and operations.

## Prerequisites

You will need access to a finance and operations development environments using Remote Desktop, and be provisioned as an administrator on the instance. We recommend you become familiar with some of the Finance and Operations development, customization, and user interface concepts before you upgrade your code. Here are some references.

- [Development tools](#)
- [Models and packages](#)
- [X++ programming language](#)
- [Extensions and Overlaying](#)
- [User interface development](#)

## Overview of the code migration process

### Model split

The finance and operations apps are split into several packages, or assemblies:

#### Platform Packages

- Application Platform
- Application Foundation
- Test Essentials

#### Application Packages

- Application Suite
- Other application packages.

# Configure the Azure DevOps mapping during code migration

Article • 08/12/2022

This tutorial shows how to map your development box to the Azure DevOps project after the Lifecycle Services (LCS) code upgrade service has completed.

The LCS code upgrade service automatically checks your upgraded code into Azure DevOps. You will then need to map your development box to the upgrade folder/branch in your Azure DevOps project (The name of the upgrade folder/branch depends on the version you migrated to). Within your upgraded folder, you will find three folders:

- Export
- Metadata
- Projects

## Key concepts

- **Export** is the project that contains the XML files after exporting from Microsoft Dynamics AX 2012. This project is your metadata in XML format before it is upgraded. This project is only relevant if you are upgrading from Dynamics AX 2012.
- **Metadata** is your upgraded code (metadata XML file).
- **Projects** are solutions that you can use during upgrade. One solution, `CodeMergeSolution`, is the solution that contains projects with the elements that have conflicts and need to be resolved. Another solution, `UpgradedSolution`, contains a collection of projects, one for each upgraded model.

## Map Azure DevOps to your development box

1. In Visual Studio, open the **Team Explorer** window by selecting **View > Team Explorer** from the top menu.
2. In the **Team Explorer** window, select **Connect**, and then select **Manage Connections > Connect to a Project**.
3. Follow the prompts to connect. From the list of available projects for your account, choose the project that you want to work on. Select **Connect**.
4. Now you need to map your workspace to the Azure DevOps folders. Go to the **Source Code Explorer** and do this mapping:
  - a. Projects >

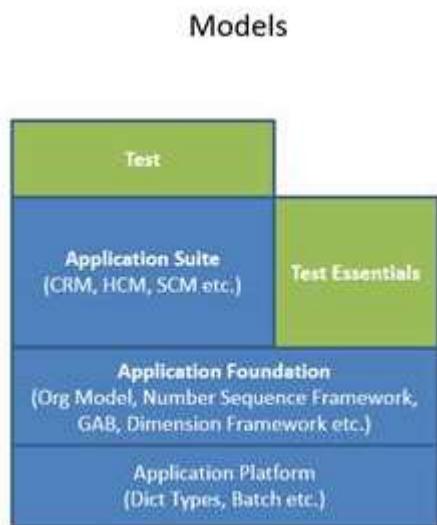
# Model split

Article • 05/30/2023

This article explains the split of the stack into three main models - the Application Platform, the Application Foundation, and the Application Suite.

## Overview

Developing modular code is the driving force behind the model split. Splitting the stack into multiple models provides many benefits, including faster compile time and a greater distinction between partner's IP in production. There are three main models: the **Application Platform**, the **Application Foundation**, and the **Application Suite**.



The **Application Platform** is the lowest model and contains the lowest level elements that interface with the kernel. The **Application Object Server (AOS)** can be started with only the **Application Platform**. The **Application Foundation** sits atop the **Application Platform** and contains framework functionalities that are shared by all applications. Finally, the **Application Suite** sits atop the **Application Foundation** and contains application specific elements. The Model Breakdown table in the appendix provides examples of components in each of these models. Each model is compiled into its own assembly with dependencies on lower layer model assemblies. The **Application Platform** does not depend on any other models. This implies a direct mapping of the model to an assembly.

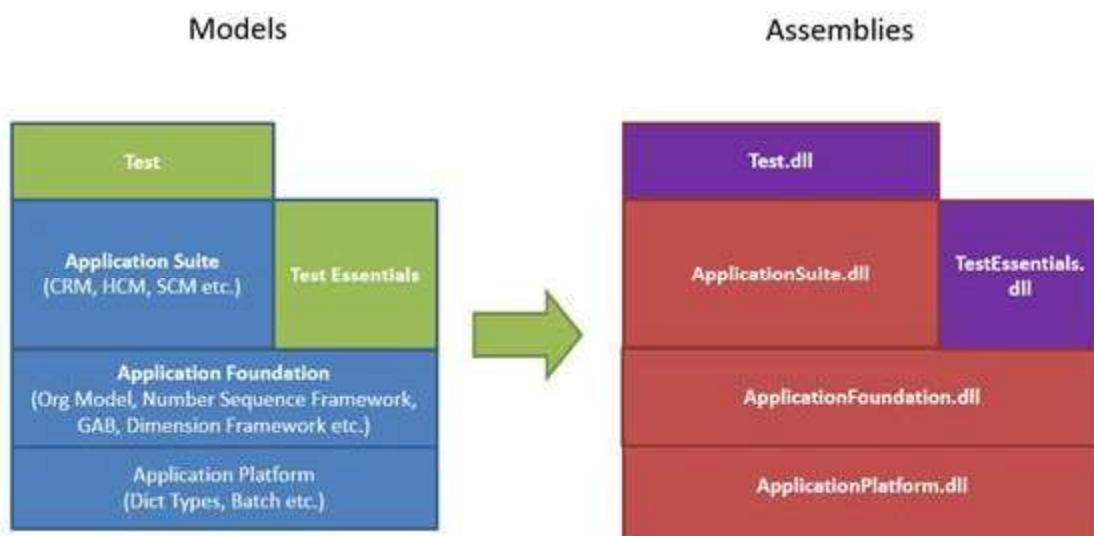
# Solve dependencies among models by using delegates during code migration

Article • 08/19/2022

This article explains how delegate methods serve as a means for defining a contract between the delegate instance and the delegate handler.

## Overview

Finance and operations is split into several models, with each model in separate package. The principal 3 models are Application Platform, Application Foundation, and Application Suite. With the model split, a hierarchy has been created where a higher model can take dependencies and access elements in the models below, but not in models above. For example, in this setup, Application Suite has full access to its elements, Application Foundation's elements, and Application Platform's elements. Application Foundation can access its own elements and those of Application Platform. Finally, Application Platform can only access its own elements. To learn about models and packages, see [Models and packages](#).



While the model split provides many benefits, it creates a problem when trying to access elements defined in higher models. Delegates are the recommended method for accessing elements in higher models from a lower model. Delegates are very similar to events in that when a delegate instance is invoked, a handler with compatible signature code is executed. This permits higher layer code, the handler, to be called by lower layer code, the delegate instance.

# Process for moving to the latest update of finance and operations

Article • 07/06/2022

This article explains the process of updating or upgrading to the latest release of finance and operations. It describes the overall process and supported scenarios, but it doesn't provide detailed instructions for every step of the process.

For information about the contents of each release of finance and operations, see [What's new or changed in finance and operations home page](#).

For information about One Version service updates, see the [One Version service updates overview](#).

## ⓘ Note

For those looking to upgrade to finance and operations from Microsoft Dynamics AX 2012, please see [Upgrade from AX 2012 to finance and operations](#).

## Definitions

- **Upgrade** – The process of moving from one official release of finance and operations to the next release, for source environments prior to version 8.0. Some examples are the move from 7.1 to 7.3, or from 7.3 to 10.0.1. The process involves setup of a free sandbox environment, code upgrade, and data upgrade.
- **Update** – The process of applying a binary package to an environment to move it from one official release of finance and operations to the next release, for source environments starting with version 8.0. This process has lower downtime requirements and doesn't involve data upgrade. For more information, see the [Rebuild and update](#) section later in this article.

## Paths to One Version

# Self-service upgrade to the latest version

Article • 08/09/2024

## Important

The process that is described here is now deprecated for data upgrade between older versions of finance and operations apps and the latest version. For more information about Dynamic AX 2012 upgrades, see [Upgrade from AX 2012 to finance and operations](#).

This article applies to the following starting versions:

- Microsoft Dynamics 365 for Operations version 1611 (November 2016) (also known as version 7.1)
- Microsoft Dynamics 365 Finance and Operations, Enterprise edition (July 2017) (also known as version 7.2)
- Microsoft Dynamics 365 Finance and Operations, Enterprise edition 7.3

In this tutorial, you will learn how to perform these tasks:

- Understand which version to select.
- Refactor your customizations as extensions.
- Run the data upgrade in a development environment.
- Do a self-service upgrade in a sandbox user acceptance testing (UAT) environment.
- Do a self-service upgrade in a production environment.

## Understand which version to select for upgrade

To align the self-service upgrade process to support continuous updates, each new release will cause the oldest release version to be discontinued.

For example, you have application version 7.3 with Platform update (PU) 23. Currently, the supported upgrade versions are 8.1.3 with PU 23, 10.0.0 with PU 24, and 10.0.1 with PU 25. When the next release, 10.0.2 with PU 26, is made generally available, it will be added to the available upgrade options, and 8.1.3 with PU 23 will be removed.

# Update environments from version 8.0 to 10.0.X

Article • 07/06/2022

This article explains the steps required to update existing finance and operations 8.0 environments to 10.0.X application releases.

## Background

Traditionally, moving to a newer application version has involved a rigorous upgrade that includes deployment of additional virtual machines, code upgrade, data upgrade, and scheduling several days in advance with the Microsoft Dynamics Service Engineering (DSE) team. You will notice that we are making the uptake of the latest version simpler, and this will continue to improve over time.

### Note

We are supporting an update experience as compared to a full upgrade. This is possible because there are **no Data Upgrade or Code Upgrade** steps between the 8.0 and 10.0.X application schema. The target environments will be updated just like you would apply a Platform update.

The high-level process to update from version 8.0 to 10.0.X includes the following:

1. Deploy 10.0.X developer and build environments.
2. Branch in version control and remove any application hotfixes.
3. Recompile custom extensions and/or ISV solutions.
4. Produce a single software deployable package.
5. Merge a deployable package with the 10.0.X binary update package.
6. Deploy to target environments for validation.
7. Deploy to Production.

## Deploy 10.0.X developer and build environments

Using Lifecycle Services, deploy at least one developer environment and a single, new build environment on application 10.0.X release.

# Software lifecycle policy and cloud releases

Article • 10/18/2023

This article outlines the lifecycle and support policies for the finance and operations online service.

## Modern Lifecycle Policy

The finance and operations online service is covered by the Modern Lifecycle Policy. The Modern Lifecycle Policy covers products and services that are continuously serviced and supported. For more information about this policy, see [Modern Lifecycle Policy](#).

Licensed customers must stay current with updates to the finance and operations online service in accordance with the following servicing and system requirements:

- Customers who purchase subscriptions of finance and operations apps experience continuous updates that are managed by Microsoft. Customers have the option to postpone one consecutive service update.
- Platform versions maintain backward compatibility with the application versions that are supported at the time of the platform release within the application support lifecycle. For more information about platform versions, see [What's new or changed in Platform updates](#).
- Critical fixes and non-critical updates are handled in the following way:
  - **Critical fixes** – Critical fixes include security fixes and any fixes that are required to adhere to the availability service level agreement (SLA) that the service supports. Critical fixes are available in the latest service update. In addition, to help protect customers and the online service, Microsoft might apply critical fixes directly to a customer's environment. If a critical fix must be applied, Microsoft notifies the customer about the required downtime window (if there will be any downtime) and applies the fix to the applicable environment. The critical fix updates the system to the latest update version.
  - **Non-critical updates** – Non-critical updates are made available through service updates and quality updates.

### Important

Microsoft doesn't investigate, troubleshoot, or provide any fixes to issues on versions that have reached their end of service. For end-of-service dates by release,

# Apply the latest platform update to environments

Article • 08/12/2022

This article explains how to apply the latest platform release to your finance and operations environment.

## Overview

In finance and operations, the platform consists of the following components:

- Binaries such as Application Object Server (AOS), the data management framework, the reporting and business intelligence (BI) framework, development tools, and analytics services.
- The following Application Object Tree (AOT) packages:
  - Application Platform
  - Application Foundation
  - Test Essentials

### Important

To move to the latest platform, your finance and operations implementation **cannot** have any customizations (overlayering) of any of the AOT packages that belong to the platform. This restriction was introduced in Platform update 3, so that seamless continuous updates can be made to the platform.

## Overall flow

The following illustration shows the overall process for upgrading the platform to the latest update.

# Upgrade data in development or demo environments

Article • 07/06/2022

## Important

The process that is described here is now deprecated for data upgrade between older versions of finance and operations apps and the latest version. For more information about Dynamic AX 2012 upgrades, see [Upgrade from AX 2012 to finance and operations](#).

This article explains how to upgrade an older database to the latest finance and operations application release.

The article provides instructions for upgrading your finance and operations database in a Tier 1 environment to the latest update. A Tier 1 environment is also known as a development, one-box, or demo environment.

In Tier 2 or higher environments, including Production, you will run through the self-service upgrade steps as outlined in [Self-service upgrade to the latest version](#).

## Important

- You do **not** have to upgrade your database if you're updating to the latest **platform** of finance and operations. Platform updates are backward-compatible. This article applies only to the process of upgrading between releases of finance and operations applications, such as an upgrade from Microsoft Dynamics 365 for Operations version 1611 (November 2016) to Finance and Operations 8.0.
- This process doesn't apply to the upgrade of document attachments that are stored in Microsoft Azure blob storage.
- All upgraded custom code has to be applied on the environment before running the data upgrade process.
- If you are on version 8.0 or later, there is no longer a data upgrade between application versions.

# Update the Visual Studio development tools

Article • 05/17/2024

This article explains how to update the development tools.

Use this tutorial to update your Visual Studio development tools with a new version. It explains how to uninstall your existing Visual Studio development tools and install the new extension. The new extension is in the form of an installable VSIX file. This file is a part of the binary hotfix available on the Dynamics 365 Lifecycle Services site. The VSIX file is located in the **DevToolsService\Scripts** folder of the binary hotfix package.

While working in Visual Studio, you might receive recurring feedback requests regarding new features.

To prevent the feedback requests from appearing in Visual Studio, run the following PowerShell command from a developer's machine:

PowerShell

```
Set-ItemProperty HKCU:\Software\Microsoft\Dynamics\AX7\Development\Configurations -Name ProvideFeedback -Value "No"
```

## ⓘ Note

You do not need to follow the instructions in this article if you are upgrading your finance and operations platform to Platform update 4 or newer. It is an automatic step that is part of the platform upgrade process.

## Prerequisites

To enable the use of finance and operations apps development tools, the **Visual Studio extension development** workload must be installed in your Visual Studio with the **Modeling SDK** option included.

If the workload isn't installed, follow these steps to add it.

1. Open your Visual Studio Installer app and select **Modify** on your Visual Studio installed app.

# Plan and prepare for compiling code against the latest update

Article • 06/03/2022

With the rollout of the One Version servicing plan, Microsoft is committed to backward compatibility from a binary and functional perspective. For detailed information about One Version, see [One Version service updates FAQ](#). Even with backward compatibility as a priority, there are situations where development activities may result in required code changes. Some of those situations are described below.

- When Microsoft makes an enumeration extensible, it is considered a binary compatible change. The compiler checks for unsafe extensible enumeration operations that depend on the integer value of a non-extensible enumeration. Any partner code that contains unsafe extensible enumeration operations will have compiler errors when re-compiled and will need to be modified. For more information, see [Add values to enums through extension](#).
- To avoid possible unresolved references when compiling, a partner model should reference the top-level modules and sub-modules. If this is not done, a Microsoft change that adds new resources in an unreferenced sub-module may cause an unresolved reference. To resolve the compilation error, add the sub-module as a reference.
- Some methods will be attributed as obsolete to signal that they will be fully deprecated in the future. Any compiler warning that is generated due to the calling or wrapping of an obsolete method should be investigated to ensure that the expected code path still exists. In some cases, Microsoft code will directly call the new method in place of the obsolete method. When this happens, the code built around the obsolete method will not execute when expected.

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## Feedback

Was this page helpful?

 Yes

 No

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# Apply updates to on-premises deployments

Article • 01/03/2025

This article explains how to apply supported updates to Dynamics 365 Finance + Operations (on-premises). All updates to on-premises environments are done through Microsoft Dynamics Lifecycle Services.

## Search for and download updates

For more information about how to find the updates that you can apply to your on-premises environment, see [Issue search in Lifecycle Services \(LCS\)](#). For information about how to download updates from the tiles in the **Updates** section of the **Environment details** page in Lifecycle Services, see [Download updates from Lifecycle Services \(LCS\)](#).

## Update an on-premises deployment

You can apply updates to an on-premises environment either during deployment or after the deployment is completed.

While an on-premises environment is being deployed, you can select to deploy a custom package in the **Advanced** settings. For more information about how to apply customizations or application X++ updates, see [Develop and deploy custom models to on-premises environments](#).

### Note

Merged packages, which include both platform and custom code, are restricted to use during quality updates only. They can't be utilized when updating to a newer service update. For instance, if you are updating from Dynamics 365 finance version 10.0.41 to 10.0.42, the service update must be applied before using a merged package.

To apply updates to an on-premises environment after it's deployed, follow these steps.

1. In Lifecycle Services, open the **Environment details** page for the environment.
2. Under **Maintain**, select **Apply updates**.

# Redeploy on-premises environments

Article • 06/19/2024

At some point, you might have to redeploy your on-premises environment. This could be to apply a new platform update or because of changes or issues in your implementation. Before you delete the environment you are currently working with, you should save your configuration setting information to use when you redeploy. This article describes how to save configuration settings and how to redeploy your environment.

## Save your configuration

Before you delete the environment you plan to update, use the following steps to save your configuration.

1. In LCS, navigate to **Project Settings > On-prem Connectors**.
2. Select the connector to your environment, and then click **Edit**.
3. On the **Edit connector** tab, navigate to **Configure Agent > Enter Configuration**.
4. Copy the value of the Download Fileshare location in the **Configuration Settings** section. You will need this later.
5. Log in to the on-premises environment file share machine and copy the `\agent\wp<environment name>\StandaloneSetup\config.json`. You can use the configuration settings in this json file to redeploy your environment.

## Configuration settings

The following tables provide information about configuration settings. Use the **Configuration setting** value from the .json file that you saved in the previous procedure.

### Active Directory Federation Services settings

[ ] Expand table

Field	Configuration setting
The email address of the user who will be the initial administrator (such as, <code>adminuser@yourdomain.com</code> )	<code>components.(AOS).parameters.provisioning.adminPrincipleName.value</code>
ADFS OpenID metadata endpoint for the Dynamics 365 Application group. (such as, <code>https://[federation-service-name]/adfs/.well-known/openid-configuration</code> )	<code>components.(AOS).parameters.activeDirectory.adfsMetadata.value</code>
ADFS OpenID Connect client ID	<code>components.(AOS).parameters.activeDirectory.adfsClientId.value</code>

# In-place upgrade process for on-premises environments

Article • 02/02/2023

This article provides the detailed process for upgrading on-premises environments of Finance + Operations (on-premises) from version 7.x to 10.0.x.

## ⓘ Note

Please perform the upgrade with your sandbox environment before upgrading your production environment.

## On-premises upgrade from version 7.x to 10.0.x

## ⓘ Note

Be aware that this upgrade process takes time to complete and Finance + Operations will be inaccessible for the entire duration of the data upgrade.

To upgrade from version 7.x to 10.0.x, there are two possible paths that are currently supported.

An overview of each path is given below:

- **Upgrading from within VHD** - This path involves copying your database into the virtual hard disk (VHD) and executing the upgrade inside it. Overall, this is the simpler method.
- **Upgrading with VHD pointing to your database** - This path involves pointing the VHD upgrade process to your database. The upgrade process is still executed from within the VHD.

## ⓘ Note

The VHD does not need external network access in order to carry out the upgrade process.

# Download updates from Lifecycle Services (LCS)

Article • 06/24/2024

This article covers what updates you should expect to see, and how you can get the latest updates by using Microsoft Dynamics Lifecycle Services.

## Get updates

To view the available updates, follow these steps.

1. Sign in to Lifecycle Services by using your credentials.
2. In the Lifecycle Services project, select an environment.
3. On the **Environment** page, scroll down to **Available updates**.

## Types of updates

- **Binary updates** are precompiled and cumulative. Therefore, every binary update includes all previous updates. In addition, these updates don't have to be compiled in a development environment but can be applied directly to a nondevelopment environment from Lifecycle Services.

If you're running an environment that has Commerce functionality and a customized instance of Cloud point of sale (POS), you must complete the additional steps that are listed under the software development kit (SDK) packaging.

For all versions of Microsoft Dynamics 365 Commerce, and for finance and operations apps that are version 8.1 and later, all updates, including updates for application models, are released as binary updates.

- **X++ updates** include updates to specific application functionality in application models. These updates can be independently downloaded and applied. You can select specific X++ updates to apply to your environment. Dependent X++ updates are automatically selected and downloaded. X++ updates are source code updates. Before they can be applied to a nondevelopment environment, they must be compiled in a development environment and merged with any customizations. X++ updates apply only to version 8.0 and earlier.

# Apply updates to cloud environments

Article • 03/17/2025

This article describes how you can use Microsoft Dynamics Lifecycle Services (LCS) to automatically apply updates to cloud environments.

## Important

Updates are applied using deployable packages. Applying updates causes system downtime. All relevant services are stopped, and you won't be able to use your environments while the package is being applied. You should plan accordingly.

## Supported environments

All customer-managed and Microsoft-managed environments deployed through Lifecycle Services are supported. For more information about self-service environments, see [Update an environment](#).

## Note

If you have a build environment, you can only use LCS to apply Binary updates and Data upgrade packages. You can't use LCS to apply an Application Deployable package.

For other environments (listed below), you must use Remote Desktop Protocol (RDP) to connect to the environment and install from the command line. For information about manual package deployment, see [Install deployable packages from the command line](#).

- Local development environments (Downloadable virtual hard disk [VHD])
- Multi-box dev/test environments in Microsoft Azure (Partner and trial projects)

## Key concepts

Before you begin, you should understand *deployable packages*, *runbooks*, and the *AXInstaller*. A deployable package is a unit of deployment that can be applied in any environment. A deployable package can be a binary update to the platform or other runtime components, an updated application (AOT) package, or a new application (AOT) package. The AXInstaller creates a runbook that enables installing a package. Learn

# Patch SQL Server Reporting Services (SSRS) in one-box environments

Article • 08/12/2022

The following procedure is for one-box development environments only.

## Patch the Reporting Service

The following procedure is for one-box development environments only.

- Download the patch .zip file from Lifecycle Services (LCS).
- If there are any font files in the Reporting Service patch's data folder, install these to the machine where SQL Server Reporting Services (SSRS) is running. For more information about installing fonts on Windows, see [How to install or remove a font in Windows](#). Any fonts that have already been installed do not need to be installed again.
- Copy the files in the Reporting Services patch scripts folder to the Report plug-in folder located under C:\Packages\Plugins\AxReportVmRoleStartupTask.
- Change the directory to the Report plug-in folder where you stored the script files.
- Using one of the methods listed below, replace the old instance of reporting extensions.
  - Remove/reinstall the reporting extension. The remove/reinstall option requires that redeploy all reports after you have finished the reinstallation..
  - Manually copy binaries to the sql server binary folder. If you choose to manually copy the files, then you do not need to redeploy reports.

## Remove/reinstall the reporting extension

Complete the following procedure as a user in the administrator group for the machine where SSRS is running.

- Using Windows PowerShell, remove the Dynamics SSRS extension by running the following script:
  - PowerShell .\DeploySsrsExtension.ps1 –UninstallOnly
- In PowerShell, reinstall the Dynamics SSRS extension by running the following script:
  - PowerShell .\DeploySsrsExtension.ps1
- Removing the reporting extension removes all the reports. If you have removed and then reinstalled the reporting extension, it is necessary to re-deploy the

# Update the Visual Studio development tools

Article • 05/17/2024

This article explains how to update the development tools.

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## ⓘ Note

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## Prerequisites

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If the workload isn't installed, follow these steps to add it.

1. Open your Visual Studio Installer app and select **Modify** on your Visual Studio installed app.

# Removed or deprecated features in previous releases

Article • 12/23/2024

## Important

This article is no longer updated. To see a current list of features that have been removed or deprecated from Finance and Operations apps, search for "Removed or deprecated features" content that relates to the app you're using.

This article describes features that have been removed or deprecated from Dynamics 365 for Finance and Operations and previous releases of that product.

- A *removed* feature is no longer available in the product.
- A *deprecated* feature is not in active development and may be removed in a future update.

This list is intended to help you consider these removals and deprecations for your own planning.

Detailed information about objects in Finance and Operations apps can be found in the [Technical reference reports](#). You can compare the different versions of these reports to learn about objects that have changed or been removed in each version of Finance and Operations apps.

## Finance 10.0.7 with Platform update 31

### Chinese voucher types without Account groups selection

 Expand table

Reason for deprecation/removal	Changed to the feature with account groups selection.
Replaced by another feature?	Yes
Product areas affected	Application

# Deprecation of methods and metadata elements

Article • 08/12/2022

As the Microsoft code base continues to evolve, some methods and metadata elements will no longer be required. Microsoft will mark these obsolete methods and metadata elements for deprecation.

- Methods are marked with the **SysObsolete** attribute. Typically, this attribute recommends an alternative to the method.
- For metadata elements, the **IsObsolete** property is set to **Yes**.

The deprecation is compatible with both binaries and design time. The referencing code will continue to work as expected, and no immediate action is required. During compilation, any references to deprecated artifacts are reported as compile **warnings**.

## Cleanup of deprecated elements

After a period of at least 12 months, Microsoft might delete obsolete methods and metadata elements.

However, if telemetry shows that any obsolete methods or metadata elements are still used, Microsoft will **not** delete them, to reduce the risk that consumers will be broken.

## Minimize your risk of being affected

Here are some tips that you, as a consumer of the Microsoft code base, can use to avoid being affected when methods and metadata elements are deprecated:

- Compile your code base at least every 12 months on top of the latest code base. If you receive any warnings because deprecated artifacts are used, address those warnings as soon as possible.
- Avoid **new** dependencies on deprecated artifacts. Microsoft might have just deleted the artifact, because there is a time window between when releases and telemetry are available.

## List of deprecated methods and metadata elements

# Deprecated APIs

Article • 08/12/2022

This document provides the list of deprecated APIs and migration guidance for some of the deprecated APIs.

## Overview

A number of APIs from Dynamics AX 2012 have been identified. The reason for the deprecation for each API varies. Most commonly, the reasons are one of the following:

- Not suited/applicable to the new client.
- Degrade performance.
- Chatty (cause lot of traffic back and forth between server and client).
- Redundant (framework automatically handles these now).

Throughout this table, under the

**Reason for Deprecation** heading, "the client" refers to the web client.

## List of deprecated APIs

[\[+\] Expand table](#)

Object	Type	Name	Notes
ActionPane	Method	tabChanged	Updates to ActionPanes (or controls inside of ActionPanes) should be done based on the active row, not when the tab becomes active.
ActionPaneTab	Method	selectionChanged	Updates to ActionPaneTabs (or controls inside of ActionPaneTabs) should be done based on the active row, not when the tab becomes active.
Box	Method	yesNoTextMenu-LinkText	
ComboBox	Method	getEditText	<b>Overview</b> N/A <b>Reason for deprecation</b> Redundant.