

Intelligent Data Management Framework

Intelligent Data Management Framework for
Microsoft Dynamics® AX

Installation Guide

White paper

This document describes the system requirements and steps to install the Intelligent Data Management Framework for Microsoft Dynamics® AX (Data Management Framework).

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<http://www.microsoft.com/dynamics/ax/>



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Introduction

The Intelligent Data Management Framework for Microsoft Dynamics® AX (Data Management Framework) enables system administrators to optimize the performance of Microsoft Dynamics AX installations. The framework assesses the health of the Microsoft Dynamics AX application, analyzes current usage patterns, and assists in reducing database size.

The Data Management Framework allows you to analyze the Microsoft Dynamics AX database and maintain an optimal database size. You can use tools such as the analysis dashboard, database health check, and index defragmentation to monitor the database. Use the purge and archive functionalities to maintain the database size. The purge function deletes data from a set of related entities (tables) from the production database. The archive function moves data from a set of related tables in the production database to a standby database. This standby database (called the archive database) can be used for reporting purposes but cannot be updated.

The framework and this document use the term *offlining* interchangeably with *archiving* and *purge* interchangeably with *recycle*.

Audience

This white paper is designed for database and system administrators who are responsible for administration and maintenance of the Microsoft Dynamics AX application and Microsoft® SQL Server® database.

Prerequisites

To benefit from this white paper, you must have knowledge in the following areas:

- Microsoft Dynamics AX application and system administration
- SQL Server database administration, backup, recovery, and performance tuning
- Windows Server® administration, backup, recovery, and performance tuning

Before you begin

During the installation, you will be prompted to provide information about the following databases:

- **The production database.** The production database is the Microsoft Dynamics AX database in the production environment.
- **The production replica database.** The application health analysis requires running many queries to capture information from the Microsoft Dynamics AX modules. These application queries are extensive and, if applied to a production database, will adversely affect the response time for online users. Therefore, these queries are run against the production replica database by default. The accuracy of the application health check will depend on how well the application data in the production replica database mirrors that of the production database.

Verify that you have a production replica database in place with relevant application data before you begin the installation process. Determine a synchronization strategy to keep your production replica database as close to the production database as possible.

- **The management database.** Setup will create a new database, referred to as the management database, based on the information you provide during installation. The framework will use this database for internal use. You must provide a unique name for this database. We recommend that you use a name that easily identifies this database as the management database for the framework.

Note: The Data Management Framework stores the Microsoft Dynamics AX metadata information in the management database. When you run the post-installation tasks, the Data Management Framework synchronizes the metadata information from the production database with the management database. You must synchronize the production database with the management database whenever you change the metadata in your Microsoft Dynamics AX application. To synchronize the databases, follow instructions in [Post-installation tasks](#).

- **The archive database.** Setup program will create a new database, referred to as the archive database, based on the information you provide during the installation. The framework will use the archive database to store records that are moved from the production database by the archive schedules.

Warning: You must configure an Application Object Server (AOS) to connect with the archive database to view archived transactions. Be sure that users have only read access to the archive database. Modifying archived transactions will result in data inconsistency. The Data Management Framework cannot restore data from an archive database that has been modified.

Determine the location and initial size for data files and log files for the archive, management, and production replica databases. Be sure that the initial size is sufficient for optimal performance and that the location provides resources for future growth. For more information about database configuration, see [Planning database configuration for Microsoft Dynamics AX](#) and the Microsoft Dynamics AX Performance team's [blog](#).

System requirements

This section provides the system requirements for the Data Management Framework. Before installing the framework, be sure that the system you are working with meets or exceeds the minimum hardware and software requirements.

Network requirements

Install the Data Management Framework on a local area network (LAN) computer. Installing on a computer connected across a wide area network (WAN) will result in slower performance due to increased latency and is not recommended.

Hardware requirements

The following table provides the minimum hardware requirements to install and run the Data Management Framework.

Hardware	Minimum requirements
Processor	Intel Pentium/Celeron family or compatible Pentium III Xeon or higher processor; 1.1 gigahertz (GHz) or higher recommended
Memory (RAM)	1GB or more recommended
Hard disk space	14 megabytes (MB) for the Data Management Framework
Monitor	Super VGA (1024x768) or higher resolution
Pointing device	Microsoft Mouse or compatible pointing device
CD-ROM drive	Required for CD installation

Supported operating systems

The Data Management Framework is currently supported on 32- and 64-bit versions of the following operating systems.

Operating system
<ul style="list-style-type: none">• Microsoft® Windows Server® 2003 with Service Pack 2, Standard Edition, Enterprise Edition, or Datacenter Edition• Microsoft Windows Server 2008 Standard Edition, Enterprise Edition, or Datacenter Edition• Microsoft Windows Server 2008 R2 Standard Edition, Enterprise Edition, or Datacenter Edition• Microsoft Windows® Small Business Server 2003, Standard Edition, Premium Edition• Windows 7 Professional Edition or Ultimate Edition• Windows Vista® Business Edition, Ultimate Edition, or Enterprise Edition, Service Pack 1

Software requirements

You must have the following software installed on the computer before you attempt to install the Data Management Framework.

Software	Comment
Microsoft .NET Framework 3.5 SP1	
Microsoft Windows Installer 3.1 or above	
Microsoft Chart Controls for Microsoft .NET Framework 3.5	Requires .NET Framework 3.5 SP1
Microsoft Dynamics AX Windows client	For your version of Microsoft Dynamics AX
Microsoft Dynamics AX .NET Business Connector	For Microsoft Dynamics AX 4.0 or 2009
Microsoft Dynamics AX COM Business Connector	For Microsoft Dynamics AX 3.0
SQL Server® Integration Services runtime, and the client components	Same version, including service packs, as the SQL Server database in use. Use the SQL Server Setup program to install these components on the computer. You do not need to install other SQL Server components such as the SQL Server database engine.
Microsoft Office 2003 or 2007 (optional)	Only required if you use the Export to Excel function.
Microsoft Distributed Transaction Coordinator (MSDTC)	Configuration details provided in the next section.

Note: The Data Management Framework uses the .NET or COM Business Connector to work with the Microsoft Dynamics AX application. Be sure that the Business Connector is able to connect with the Microsoft Dynamics AX application successfully before you install the Data Management Framework.

Configure MSDTC

You must install and configure MSDTC on the SQL Server host and on the computer where you install the Data Management Framework.

Use the following steps and to open the **Local DTC Properties** dialog box. For details about Windows Server 2003, see the [How to enable network DTC access in Windows Server 2003](#) topic on TechNet. For details about Windows 7, Windows Vista, Windows Server 2008, and Windows Server 2008 R2, see [Enable Network DTC Access](#).

1. Click **Start**, click **Run**, type `dcomcnfg` and then click **OK** to open Component Services.
2. In the console tree, expand **Component Services**, click **Computers**, expand **My Computer**, click **Distributed Transaction Coordinator**, and click **Local DTC**.
3. Right-click **Local DTC** and click **Properties** to display the **Local DTC Properties** dialog.
4. Click the **Security** tab.
5. Set the following options on the **Security** tab and then click **OK**.

Configuration option	Recommended value
Network DTC Access	Enabled
Client and Administration	
Allow Remote Clients	Enabled
Allow Remote Administration	Enabled
Transaction Manager Communication	
Allow Inbound	Enabled
Allow Outbound	Enabled
No Authentication Required	Enabled

Database server requirements

The following table lists the database server requirements. Both 32-bit and 64-bit versions of SQL Server are supported. For system requirements to install SQL Server, see the [SQL Server web site](#).

Database server version
Microsoft SQL Server 2005 with Service Pack 2, Enterprise Edition or Standard Edition Note: Service Pack 3 with Cumulative Update 2 for SQL Server 2005 causes an error with SQL Server Integration Services packages. To resolve this error, install Service Pack 3 with Cumulative Update 5 for SQL Server 2005. For more information, see the Knowledge Base article .
Microsoft SQL Server 2008, Enterprise Edition or Standard Edition
Configuration of Microsoft Distributed Transaction Coordinator (MSDTC), as described in the preceding section

Caution: The Setup program will not work on SQL Server 2000 or Oracle database server.

Database requirements

During installation, Setup creates the following databases:

- Archive database
- Management database

During installation, Setup connects to the following databases:

- Microsoft Dynamics AX production database
- Production replica database

Installation prerequisites

Be sure that the following prerequisites are in place before you install the Data Management Framework.

1. The Microsoft Dynamics AX database must be on a SQL Server 2005 or a SQL Server 2008 instance. For installation details, see the [Using Microsoft Dynamics AX](#) web page.
2. The Data Management Framework currently supports versions 3.0, 4.0, and 2009 of Microsoft Dynamics AX.

Warning: The Data Management Framework provides archive templates only for versions 4.0 and 2009 of Microsoft Dynamics AX. In Microsoft Dynamics AX 3.0, you must create your own Archive Objects by using the discovery process.

3. The computer where you install the Data Management Framework must meet the hardware and software requirements detailed in the preceding section.
4. You must update the cross-reference information in the Microsoft Dynamics AX database. In the Microsoft Dynamics AX Windows client, click **Microsoft Dynamics AX > Tools > Development Tools > Cross-reference > Periodic > Update**. On the **Update cross-reference (w/recompile) form**, verify that the **Update Data Model** and **Update type hierarchy** fields are selected. Click **OK**. Wait for the Infolog message and verify that the cross-reference update is successful.

Rights required for installation

Before you install the Data Management Framework, make sure that the account you log in with has appropriate permissions. Work with a system administrator to make sure that you have these rights.

Note: If you install the Data Management Framework using a domain account other than your own, that account must have the appropriate permissions.

Action	Permissions required for the account
Install the Data Management Framework	The system administrator performing the installation must be a: <ul style="list-style-type: none">• Member of administrators group on the local computer.• Member of database creator (dbcreator) role on the server instance of SQL Server.

Action	Permissions required for the account
Create a service account	<p>The installation process requires you to enter an account name and password for the scheduler service. This service account must:</p> <ul style="list-style-type: none"> • Be a member of the Admin group in the Microsoft Dynamics AX application. • Must be a member of the server role public. Use the SQL Server Login Properties > Server Roles page to grant this permission. • Must have the following user mappings for the production, production replica, archive, and management databases. Use the SQL Server Login Properties > User Mapping page to grant these permissions: <ul style="list-style-type: none"> ○ db_owner ○ public <p>Note: The Setup wizard creates the management and archive databases during installation of the Data Management Framework. Be sure to provide the service account with the user mappings for the management and archive databases after the Setup wizard completes successfully.</p> • Must have the permission to View any database and View server state. Use the SQL Server Properties > Permissions page to grant these permissions. • Have Read, Write, and Modify permission to the folder, including subfolders, where you install the Data Management Framework.
Use the Data Management Framework console	<p>The system administrator using the Data Management Framework must:</p> <ul style="list-style-type: none"> • Be a member of the Admin group in the Microsoft Dynamics AX application. • Have Read, Write, and Modify permission to the folder, including subfolders, where you install the Data Management Framework. • Note: The Setup wizard creates this folder during installation. Be sure to provide the read and write permission for the installation folder to users after the Setup wizard completes successfully. • Must have the following user mappings for the production, production replica, archive, and management databases. Use the SQL Server Login Properties > User Mapping page to grant these permissions: <ul style="list-style-type: none"> ○ db_owner ○ public

Install the Data Management Framework

Check the following settings and services before you start the installation process.

1. On the computer where you plan to install the Data Management Framework:
 - a. Check the connection to Application Object Server (AOS). The Data Management Framework connects to the AOS specified in the active configuration in the Microsoft Dynamics AX configuration utility (**Start > Administrative Tools > Microsoft Dynamics AX 2009 Configuration**).
 - b. Start the Microsoft Dynamics AX Windows client and verify successful access to the Microsoft Dynamics AX application.
 - c. Verify that the SQL Server Integration Services service and the Distributed Transaction Coordinator service are running.
2. Verify that the SQL Server service is running on the database server.

Use the following steps to install the Data Management Framework.

1. Depending on your system architecture, double-click either **AXDataManagementFrameworkSetup_x86.msi** or **AXDataManagementFrameworkSetup_x64.msi**.
2. On the **Welcome** page, click **Next** to continue.
3. On the **Microsoft Software License Terms** page, read the license terms and then click **I accept the license terms**. Click **Next**.
4. On the **Setup components** page, click **Next** to accept the default installation location. To change the installation location, click **Browse**. Click **Next** to continue.
5. On the **Select Microsoft Dynamics AX version** page, select the version of the Microsoft Dynamics AX application you are using and click **Next**. The **Username** field will appear if you select version 3.0. Enter the user name for the Microsoft Dynamics AX 3.0 application in the field.
6. On the **Create new management database** page, in the **SQL Server instance** field, enter the name of the SQL Server instance where the management database will be created. In the **Database name** field, type a name for the management database. You must provide a name to create a new database. If you use the name of an existing database, the installation will fail with an error.
7. On the **Specify Microsoft Dynamics AX production database** page, in the **SQL Server instance** field, enter the name of the SQL Server instance that contains the production database. In the **Database name** field, enter the name of the production database for your Microsoft Dynamics AX implementation. Click **Next**.
Caution: The production database name you enter here must match the database name used in the Microsoft Dynamics AX server configuration utility.
8. On the **Specify Microsoft Dynamics AX production replica database** page, in the **SQL Server instance** field, type the name of the SQL Server instance that contains the production replica database. In the **Database name** field, type the name of the production replica database. This must be an existing database. Click **Next**.

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9. On the **Create new archive database** page, in the **SQL Server instance** field, enter the name of the SQL Server instance where the archive database will be created. In the **Database name** field, type a name for the archive database. You must provide a name to create a new database. If you use the name of an existing database, the installation will fail with an error.
 10. The **Specify e-mail settings** page captures the information required for e-mail alerts functionality. You are not required to provide this information at installation time and can configure e-mail alerts later. Optionally enter values for the following fields and then click **Next**.
 - a. In the **SMTP (outbound) server** field, specify the IP address of a valid SMTP server.
 - b. In the **SMTP port** field, specify the port number that will be used to send e-mail messages.
 - c. In the **From address** field, specify the e-mail address that will appear as the source of the mail.
 - d. In the **Username** field, specify the user name that is used to access the SMTP server.
 - e. In the **Password** field, specify the password that is used to access the SMTP server.
 - f. In the **Recipient list** field, specify one or more e-mail addresses for recipients. Separate multiple e-mail addresses with a semicolon.
 - g. In the **Company name** field, specify the name of your organization. The Data Management Framework will display this name in the **About** dialog.
 11. The Setup program will install a scheduler as a Windows service. On the **Specify service account** page, enter the **Account name** (Domain\UserName) and **Password** for the scheduler service account. Click **Next**.

Note: The account name you enter here must belong to the Admin group in the Microsoft Dynamics AX application and database permissions as specified in the [Rights required for installation](#) section
 12. On the **Ready to install** page, click **Install** to continue.
 13. Wait for Setup to complete. Click **Finish** to close the wizard.

Post-installation tasks

You must complete the post-installation tasks before you start the Data Management Framework console. The post installation tasks include the following actions:

1. Copy the label files from the installation folder to the Microsoft Dynamics AX application folder.
2. Update the SQL Server Integration Services (SSIS) package connection manager.
3. Check that the Microsoft Distributed Transaction Coordinator (DTC) is installed and configured properly.
4. Check that Microsoft Excel is installed. Microsoft Excel is an optional component. However, if you do not have Excel on the computer, the post-installation task will display a warning message. Excel is required for **Export to Excel** command to be available.
5. Update the SQL Server Integration Services (SSIS) packages with the locale information of the database.
6. Validate e-mail settings that are provided during the installation.
7. Launch the Microsoft Dynamics AX client to import an X++ project (XPO) and create classes that are required for the operation of the Data Management Framework.
8. Synchronize the metadata in the management database with the metadata in the Microsoft Dynamics AX application.

Use the following steps to complete the post-installation tasks:

1. Verify that the Microsoft Dynamics AX client starts and opens the Microsoft Dynamics AX application successfully.
2. Verify that you have updated the cross-reference system in the Microsoft Dynamics AX application. Without an updated cross-reference system, the post-installation process will fail with an error message. See [Installation prerequisites](#) for instructions.
3. Click **Start > All Programs > Intelligent Data Management Framework > Post-installation tasks** to complete the post-installation tasks. You can also navigate to the installation location and double-click **PostInstallSetup.exe**. The default installation location is C:\Program Files\Intelligent Data Management Framework for Microsoft Dynamics AX.

The post-installation checklist application runs in a command-prompt window. The application displays prompts in white. You must respond to the questions asked in white. Each starting step is displayed in yellow. Optional missing configuration details are also displayed in yellow. Each successfully completed step is displayed in green. Each unsuccessfully completed step is displayed in red.

The post-installation checklist application performs the following steps.

1. Launches a command-prompt window that is used to capture necessary information.
2. Copies label files to the Microsoft Dynamics AX application folder. These label files follow the Microsoft Dynamics AX development best practices and provide labels for the classes that are imported by the imported projects (XPOs).
3. Updates the package connection manager. The package connection manager is used to run the SQL Server Integration Services packages.
4. Validates proper configuration of the Microsoft Distributed Transaction Coordinator (MSDTC). The post-installation checklist displays an error message if the configuration is invalid. For configuration instructions, see [Software requirements](#).
5. Validates that Microsoft Office Excel is installed. Microsoft Excel is an optional component. However, if you do not have Excel on the computer, the post-installation task will display a warning message. Excel is required for the **Export to Excel** command to be available.

6. In this step, the pre-installation application queries the registry for the installed version of Excel and the existence of the Microsoft Office Primary Interop Assemblies (PIAs) for Excel. If the post-installation application does not find Excel or the Excel PIAs, it will display this message, "Verify that Microsoft Office Excel and Microsoft Office Primary Interop Assemblies (PIAs) are installed."

To use the export to Excel functionality, you must have Excel and the Excel PIAs installed on the computer. If required, download and install the PIAs after the post-installation application ends. For Excel 2003, see [Office 2003 Update: Redistributable Primary Interop Assemblies](#). For Excel 2007, see [2007 Microsoft Office System Update: Redistributable Primary Interop Assemblies](#).

7. Validates the configuration of e-mail settings. E-mail settings are optional during the installation. In case of missing or invalid e-mail configuration settings, the application displays a message informing you to configure the settings later. The Data Management Framework will send a test e-mail for the valid e-mail configuration.
8. Starts the scheduler service. The Data Management Framework uses a service called the Intelligent Data Management Framework for Microsoft Dynamics AX service. This service is also called the scheduler service and is used interchangeably with the service name. The post-install application will attempt to start the scheduler service and display a message indicating the success or failure of this attempt. Click **Start > Administrative Tools > Services** to verify that the service is running, or start the service manually.
9. Imports an X++ project (XPO) that is used to create classes that are used by the Data Management Framework. The post-installation application imports the XPO to the layer that is specified in the Microsoft Dynamics AX client configuration. For the name of the XPO, see [Manually running the post-installation tasks](#).

Warning: Be sure that the Business Connector points to the same layer that you plan to import the XPO into. Verify that the **Application layer object to open** list in the Microsoft Dynamics AX client configuration window points to the same layer for both the Business Connector and the Windows client.

10. The application prompts you to enter a response to import the XPO. Enter **Y** to import the XPO now and wait until you get a message indicating that the metadata synchronization is complete. The post-installation application imports the XPO to the layer that is specified in the Microsoft Dynamics AX client configuration, as detailed in step 9. Enter **N** to import the project manually. For instructions to manually import the XPO, see the [Manually running the post-installation tasks](#) section.

You must import this XPO successfully before you can start the Data Management Framework.

11. If you entered **N** in the preceding step, you will be asked if you want to synchronize the metadata. Enter **Y** to synchronize the metadata now or **N** to manually synchronize the metadata later.

Warning: You must complete this step successfully before you can start the Data Management Framework.

12. Press any key on the keyboard to continue. This is the last step, and when you press any key, the post-install application will close the command prompt window.

Framework checklist

After the successful completion of the post-installation tasks, launch the Data Management Framework from **Start > All Programs > Intelligent Data Management Framework > Intelligent Data Management Framework for Microsoft Dynamics AX**.

When you launch the application for the first time, the **Framework checklist** dialog will show two sets of checklists, the tasks that you must have completed successfully before launching the application, and the tasks you must complete during the first launch.

Click **Close** if you have not successfully completed the necessary tasks. Restart the application after completing the following tasks:

1. Update cross-reference in the Microsoft Dynamics AX application. For instructions, see [Installation prerequisites](#).
2. Complete the [Post-installation tasks](#) described in the preceding section.
3. Verify that the Data Management Framework for Microsoft Dynamics AX service is running.

You will see the **Framework checklist** dialog pane every time you launch the framework until you successfully complete the following checklists. Click **OK** to complete the following checklists in the **Scheduled tasks** window:

1. Successfully complete the baseline analysis snapshot of the production database.

On the menu bar, click **Schedule**. Use the following steps in the **Scheduled tasks** window to create a baseline analysis snapshot of the database. For detailed instructions on schedule creation, see the [Data Management Framework Administration Guide](#).

- a. In the **Task details** pane, enter values for the **Name** and **Description** of the schedule.
- b. In the **Schedule** tab, select **One time only** from the **Frequency** list. Select or enter the **Start date** and **Time**.
- c. Click **Save**.
- d. When prompted to validate the health check queries, click **No**. You will validate the queries in the next section.
- e. Click **Status > Refresh** to refresh the schedule. Wait for the schedule to complete with a **Pass** status.
- f. You are ready to use the **Analysis** menu for the database analysis.

2. Schedule and complete the health check analysis.

Use the following steps to create the baseline health check analysis. For more information on health check analysis, see the [Data Management Framework Administration Guide](#).

- a. Click **Administer > Application health check** to work with the health check queries. In the **Application health check queries** window, click **Validate queries** and wait for the validation to complete. Upon successful validation, the **Validate queries** button will be hidden and all the queries in the **Queries** node will appear in black.
 - b. Click **Schedule > Ledger periods** to create the ledger periods for the health check analysis. Enter required information in the **Task details** pane of the **Scheduled tasks** window and click **Save**. For this task, select **One time only** from the **Frequency** list. Wait for the ledger periods schedule to complete successfully before going to the next step.
 - c. Click **Schedule > System health check** to create the baseline health check analysis schedule. This schedule must start after successful completion of the ledger periods schedule you created in the preceding step. Enter required information in the **Task details** pane of the **Scheduled tasks** window and click **Save**. For this task, select **One time only** from the **Frequency** list.
 - d. Click **Status > Refresh** to refresh the schedule. Verify that both the ledger periods schedule and the baseline health check analysis schedule have completed with a **Pass** status.
 - e. You are now ready to use the **Analysis** menu for health check analysis. For instructions, see the [Data Management Framework Administration Guide](#).
3. Skip this step if you will not use the archive functionality. Synchronize metadata with the archive database. The metadata synchronization schedule copies the metadata from the production database to the archive database. For more information, see the [Data Management Framework Administration Guide](#). You must complete the metadata synchronization schedule successfully before going to the next step. Use the following steps to create a metadata synchronization schedule:
- a. Click **Schedule > Metadata** to work with the metadata synchronization schedule. Enter required information in the **Task details** pane of the **Scheduled tasks** window and click **Save**. For this task, select **One time only** from the **Frequency** list.
Note: Consider creating a periodic schedule to synchronize the metadata between the production and archive databases to keep the archive database in a consistent state.
 - b. Click **Status > Refresh** to refresh the schedule. Verify that the metadata synchronization schedule has completed with a Pass status.

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4. Skip this step if you will not use the archive functionality. Replicate master data from production database to archive database. You must complete the preceding step before creating a master data replication schedule. The master data replication schedule copies the master data tables from the production database to the archive database. For more information, see the [Data Management Framework Administration Guide](#). Use the following steps to create a master data replication schedule:
 - a. Click **Schedule > Master data** to work with the master data replication schedule. Enter required information in the **Task details** pane of the **Scheduled tasks** window and click **Save**. For this task, select **One time only** from the **Frequency** list.

Note: Consider creating a periodic schedule to synchronize the master data tables between the production and archive databases to keep the archive database in a consistent state.
 - b. Click **Status > Refresh** to refresh the schedule. Verify that the master data replication schedule has completed with a Pass status.

Verify that the schedules from the preceding steps are completed successfully with a **Pass** status. Now you are ready to work with the Data Management Framework.

Removing the Data Management Framework

The Data Management Framework can be uninstalled using the Control Panel. The uninstall program does not delete the management database, production replica database, or the archive database. Optionally, you can backup and then delete these databases manually.

Troubleshoot installation issues

This section provides information to help you troubleshoot issues you may encounter when running the Setup wizard.

Location of log files

The Data Management Framework creates all the log files in the <installation folder>\Logs folder where the default path for the <installation folder> is C:\Program Files\Intelligent Data Management Framework for Microsoft Dynamics AX.

Create and view the installation log file

The Setup program does not create an installation log file by default. Optionally, you can create the installation log file to capture the steps used by Setup and any errors generated. Use the following steps to create the installation log file.

1. Create an installation log file as follows:
 - a. Open a command prompt window.
 - b. Run the msixec command as shown in the following example.

```
msiexec /i "<Path of the msi file>\AXDataManagementFrameworkSetup_x86.msi or  
AXDataManagementFrameworkSetup_x64.msi (depending upon your operating system)" /L*v  
"<Path of the log file>\AXDataManagementToolSetupLog.txt"
```
 - c. Open the log file and search for "error". The following message is an example of the types of message contained in the log file.

```
CreateDatabase: Error 0x80040e14: failed to create to database: '<<Database name>>',  
error: Database '<<Database name>>' already exists. Choose a different database name.
```
2. Use the Windows event viewer to examine system logs containing any messages from the Data Management Framework.

Common error messages generated by Setup

You may encounter the following common error messages when running Setup.

1. **Database creation error.** If a database exists in SQL Server with the same name that you entered for the management or archive database, Setup will fail with an error message.
2. **Data type mismatch error.** If you attempt to connect to SQL Server 2000, you will get a SQL script error due to the data type mismatch.
3. **Missing prerequisites.** If you start Setup without the prerequisites, it will display an error message listing the missing components. Install the prerequisites and run Setup again.

The Data Management Framework fails to start

When starting the Data management Framework, you may encounter the following error: "An unhandled exception occurred and has been logged. Please contact support."

The preceding error message is a generic message that the Data Management Framework displays when the error condition is caused by an environmental issue such as permissions. This particular error condition typically occurs when the user does not have read, write, and modify permissions on the folder where you installed the Data Management Framework. To fix the error condition, apply **Read**, **Write**, and **Modify** permissions to the installation folder of the Data Management Framework and its subfolders. The default path is C:\Program Files\Intelligent Data Management Framework for Microsoft Dynamics AX.

Common error messages generated by the post-installation tasks

You may encounter the following common error messages from the post-installation tasks.

1. If you have not completed the cross-references update before starting the post-installation tasks, you will encounter the message, "You must update the cross-references in the Microsoft Dynamics AX application". Update the cross-reference system and then start the post-installation step. For instructions on updating the cross-reference system, see the Installation prerequisites section.
2. The post-installation tasks will fail in case of connectivity or security issues with the database or Application Object Server (AOS). The following error messages are typical:
 - a. XPO import completed with error(s), please contact administrator.
 - b. XPO import failed.
 - c. Metadata synchronization failed.

Fix the connectivity or security issues and verify that you can connect to the database server and the AOS. Then restart the [Post-installation tasks](#).

Alternatively, you can run the post-installation tasks manually. For instructions, see the section [Manually running the post-installation tasks](#) below.

3. The post-installation application fails to start the Data Management Framework scheduler service with the message, "Unable to restart the Data Management scheduler service. Restart the service manually (**Control Panel > Administrative Tools > Services**)". This error occurs when the password you used for the service account is incorrect. Use the **Services** management console to restart the service manually and reset the password for the service account.
4. If the post-installation tasks fail with the error message "Ax32.exe is not recognized as an internal or external command, operable program or batch file. XPO import failed", run the post-installation tasks manually. For instructions, see [Manually running the post-installation tasks](#).

Metadata synchronization fails

You may encounter an error message, "Inner exception: The operation failed. The class <xxxx> does not exist. Metadata synchronization failed." where <xxxx> is the name of the class.

This issue is caused by the Microsoft Dynamics AX application's cache, called Axapta Object Cache (AOC), on the Windows clients in a 3-tier configuration. You must clear the cache and then follow the instruction provided in the [Manually running the post-installation tasks](#) section.

Use the following steps to clear the cache.

1. Launch the Microsoft Dynamics AX Windows client.
2. From the Microsoft Dynamics AX menu, click **Tools > Development Tools > Application objects > Refresh Dictionary**.
3. From the Microsoft Dynamics AX menu, click **Tools > Development Tools > Application objects > Refresh Data**.
4. From the Microsoft Dynamics AX menu, click **Tools > Development Tools > Application objects > Refresh AOD**.

ODBC operation fails

You may encounter message "ODBC operation failed. Unable to log on to the database. [Microsoft] [ODBC Driver Manager] Data source name not found and no default driver specified. Object 'ODBC Connection' could not be created. Metadata synchronization failed."

This error usually occurs when the Microsoft Dynamics AX client is installed with SQL Server 2008 client components. The post-installation program fails during the metadata synchronization and displays the preceding error message.

To resolve this error, install the ODBC driver SQLCLI.DLL from SQL Server 2005 Setup. This file is available from <SQL Server 2005 installation media>\Servers\Setup folder. Use sqlncli.msi for 32-bit systems or sqlncli_64.msi for 64-bit systems. This file is required by the Application Object Server (AOS) to establish the database connection.

Manually running the post-installation tasks

Follow these steps to run the post-installation tasks manually.

1. Copy the label files, all the files within the folder, from the <Data Management Framework installation folder>\XPO\Labels\< version> to the Microsoft Dynamics AX application folder. Use the following table to select the <version> folder:

Microsoft Dynamics AX version	Select this folder to replace <version>
3.0	Not required; you do not need to import labels for Microsoft Dynamics AX 3.0.
4.0	4.0
2009	5.0

The default Data Management Framework installation folder is C:\Program Files\Intelligent Data Management Framework for Microsoft Dynamics AX. The default path for the Microsoft Dynamics AX 2009 application folder is C:\Program Files\Microsoft Dynamics AX\50\Application\Appl\<application instance name>. The default path for the Microsoft Dynamics AX 4.0 application folder is C:\Program Files\Microsoft Dynamics AX\40\Application\Appl\<application instance name>.

2. Navigate to C:\Program Files\Intelligent Data Management Framework for Microsoft Dynamics AX\XPO. Select the X++ project (XPO) file for your version of Microsoft Dynamics AX from the following table. Using the Microsoft Dynamics AX client, import the XPO file for your version of the Microsoft Dynamics AX application.

XPO file name	Microsoft Dynamics AX version
AXDataManagementToolProject30.xpo	3.0
AXDataManagementToolProject40.xpo	4.0
AXDataManagementToolProject50.xpo	2009

-
3. Once the XPO is successfully imported, edit the job **DMTPopulateMetadataJob** in the Application Object Tree (AOT). Enter appropriate values for the management database server name and management database name. Run the job. This job retrieves metadata and system information from the Microsoft Dynamics AX application and stores it in the management database. The Data Management Framework retrieves metadata information from the management database for its use.

Note: You must run this job when the Microsoft Dynamics AX application metadata changes, to synchronize the management database with the production database.

4. If the job in the preceding step has completed successfully, the following tables will contain records. Query the management database to verify that these tables are not empty:
 - a. AXAOTENUMINFO
 - b. AXAOTTABLEINFO
 - c. AXAOTFIELDSINFO
 - d. AXAOTINDEXINFO
 - e. AXAOTTABLERELATION
5. Synchronize the database. In the Microsoft Dynamics AX Windows client, click **Application Object Tree** from the toolbar. In the **AOT** window, right-click the **AOT > Data Dictionary** node, and select **Synchronize**.

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