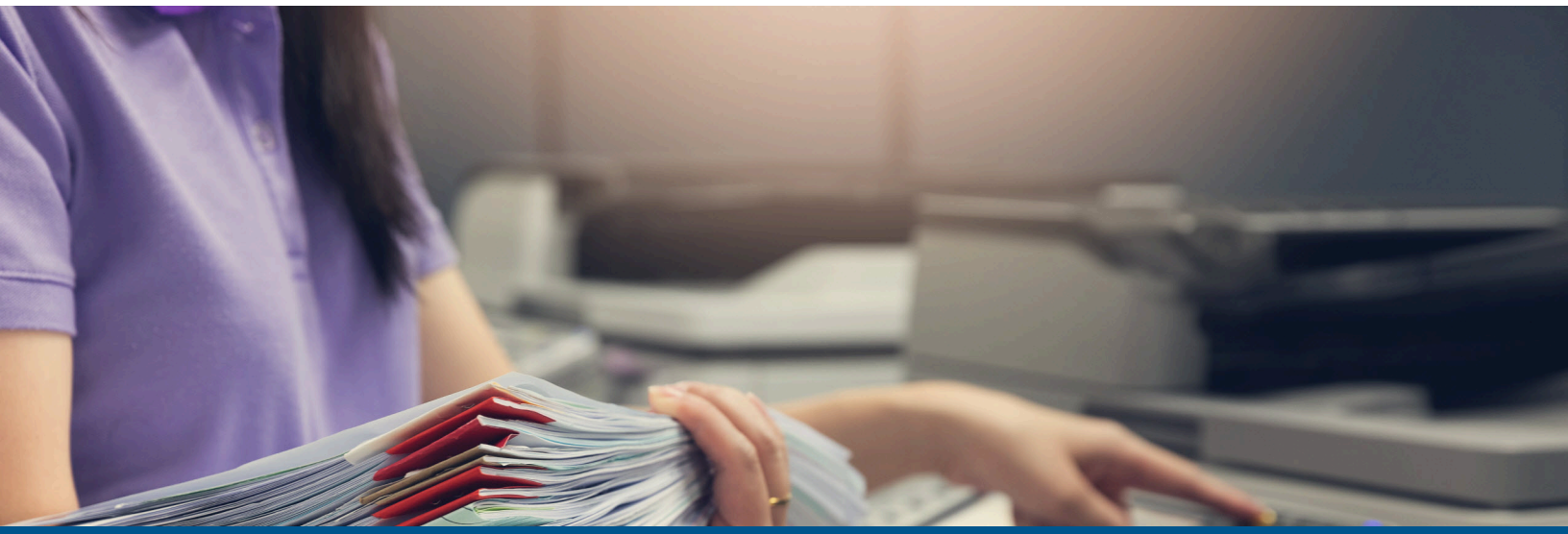

Ephesoft Transact
Installation Guide for Windows

Version: 2023.1.00

Date: 2023-09-26

EPHESOFT
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Table of Contents

Preface

This guide contains essential information and procedures for super administrators who are responsible for installing or upgrading Ephesoft Transact in a Windows environment. The guide also explains key details related to licensing, configuration, and working with your database, and more.

Related documentation

The documentation set for Ephesoft Transact is available online: [1]

https://docshield.kofax.com/Portal/Products/Transact/2023.1.00-oismpn77w5/Transact.htm

In addition to this guide, the documentation set includes the following items:

Ephesoft Transact Getting Started Guide
Contains general information about using Ephesoft Transact.

Ephesoft Transact Installation Guide for Linux
Includes instructions on how to install and upgrade Ephesoft Transact on Linux.

Ephesoft Transact Developer's Guide
Provides resources related to scripting in Transact, resources for developers to create and manage custom plugins, along with Transact Web Services API.

Ephesoft Transact Administrator's Help
Offers detailed online assistance for Ephesoft Transact users assigned to the administrator role. Use this guide to get assistance in managing batch classes and batch instances.

Ephesoft Transact User Help
Offers detailed online assistance for Ephesoft Transact users assigned to the operator role.

Ephesoft Transact System Configuration Help
Provides assistance for users who are assigned to the super administrator role. Super administrators complete system-level operations, installations, and system configuration.

Ephesoft Transact Release Notes
Use this document to learn what is new with the latest Transact release, identify outstanding defects and workaround solutions where applicable, and refer to the list of issues resolved in this release.

Ephesoft Transact Technical Specifications
Use this document to learn about supported operating systems and other system requirements.

[1] You must be connected to the Internet to access the full documentation set online.

Training

Kofax offers both classroom and computer-based training that will help you make the most of your Ephesoft Transact solution. Visit the Kofax Education Portal for details about the available training options and schedules.

Getting help with Kofax products

The Kofax Knowledge Portal repository contains articles that are updated on a regular basis to keep you informed about Kofax products. We encourage you to use the Knowledge Portal to obtain answers to your product questions.

To access the Kofax Knowledge Portal, go to https://knowledge.kofax.com.

The Kofax Knowledge Portal is optimized for use with Google Chrome, Mozilla Firefox, or Microsoft Edge.

The Kofax Knowledge Portal provides:

- Powerful search capabilities to help you quickly locate the information you need.
  Type your search terms or phrase into the **Search** box, and then click the search icon.
- Product information, configuration details and documentation, including release news.
  To locate articles, go to the Knowledge Portal home page and select the applicable Solution Family for your product, or click the View All Products button.

From the Knowledge Portal home page, you can:

- Access the Kofax Community (for all customers).
  On the Resources menu, click the **Community** link.
- Access the Kofax Customer Portal (for eligible customers).
  Go to the Support Portal Information page and click **Log in to the Customer Portal**.
- Access the Kofax Partner Portal (for eligible partners).
  Go to the Support Portal Information page and click **Log in to the Partner Portal**.
- Access Kofax support commitments, lifecycle policies, electronic fulfillment details, and self-service tools.
  Go to the Support Details page and select the appropriate article.

Chapter 1

Introduction

With Ephesoft Transact, you can scan and extract data from documents that arrive in formats such as paper or email attachments. Transact automates the end-to-end document processing workflow with minimal operator interaction.

This guide provides important information about installing and upgrading Ephesoft Transact on Windows, including:

- Preparations, decisions, precautions, settings, and tips to help you successfully and efficiently install or upgrade Transact
- Database management requirements
- Multi-server environment installation and upgrade notes
- Instructions for installing and upgrading Transact in silent mode

System requirements

The primary source of information about supported versions and other Transact requirements is the *Ephesoft Transact Technical Specifications* document, which is available on the Ephesoft Transact Product Documentation site.

Chapter 2

Installation instructions

This chapter provides important information about installing Transact in the following environments:

- Operating System: Windows
- Environment types: Single and multi-server

  Steps unique to a multi-server installation are identified where applicable in this document.

- Installation types : Normal or silent

Installation overview

Transact installation process follows this general sequence of tasks. Before you proceed, see *Ephesoft Transact Release Notes 2023.1.00*.

Installation Task	General Scope of Activity
Installation prerequisites	Prepare for installation by gathering installation resources and verifying that the environment and databases are supported.
Obtain and launch the Install Wizard package	Launch the Install Wizard with the Windows Command Prompt. Complete all settings and dialogs as prompted.
License and launch Transact	License and launch Transact, then log in. Upon completion of this task and document, all authorized administrators and operators can log in for operations.

Installation prerequisites

Perform these steps to prepare for a successful software installation and startup:

1. Determine if you need to perform a single-server or multi-server installation.

Steps unique to a multi-server environment installation are identified where applicable throughout this document. Follow the instructions and adjust as necessary if upgrading on a multi-server environment.

2. Verify that Transact 2023.1.00 is supported on your operating system.
   For additional information, see *Ephesoft Transact Technical Specifications*.
3. Verify that your database version is supported.
   See *Ephesoft Transact Technical Specifications*.
4. The following database information is required when you run the Install Wizard:
   - User name and password
   - Database connection parameters

     The Transact Install Wizard does not install any database management systems (DBMS). You need to install and configure any relevant DBMS prior to installing Transact.

   - If you install Transact for the first-time using Maria DB, see Install and migrate to MariaDB for Windows for additional information.
   - If you use Microsoft SQL Server as your database, see Prerequisites for configuring Transact with Microsoft SQL Server and complete the steps before proceeding.
5. Verify that the Internet connectivity is available for this installation.
6. Verify or complete .NET 4.8 installation on the server before running the Install Wizard.
   You will not be able to proceed with the installation if the listed requirements are not met. You can download .NET 4.8 from the Microsoft website.
7. Confirm the requirements of the SharedFolders directory for this installation.

   This directory is used as a shared resource between Transact servers in a multi-server installation.

   You can install the SharedFolders directory in either of the following locations:
   - **Local Disk**: By default, the Install Wizard installs SharedFolders on the local system where you install Ephesoft Transact. Select this location for single-server installations.
   - **Network File Share Server**: We recommend you to install the SharedFolders directory on a network shared folder because it allows for future growth and scalability. Select this location for multi-server installations. If you plan to use SharedFolders from a Network File Share Server, complete the following steps prior to running the Install Wizard:
     a. Obtain the Universal Naming Convention (UNC) server name for the network server.
     b. Create a base network path on that server that can host the SharedFolders directory.

The Install Wizard creates the SharedFolders directory on the network server in a later step. The network server and base network path must be online and available when you run the Install Wizard.

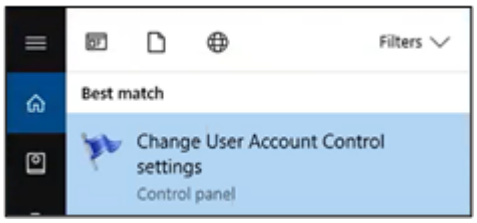
⚠ All multi-server installations require the SharedFolders to be on a network server.

Prepare the server for the installation

1. Log in to Windows and set the **User Access Control** (**UAC**) to **Never notify**.

   ℹ This is a temporary setting, and you must re-enable **UAC** after completing the installation.

   a. From the Windows **Start** menu, search for **User Access Control** or **UAC**. The Windows Control Panel displays the link. Click this link to display the page.

   The **User Account Control Settings** screen appears.

   b. If the security setting is closer to the **Always notify** part of the scale, adjust this setting to the lowest position (**Never notify**). Then, confirm this setting.

   c. Accept the changes.

2. Create a Windows service account or confirm the user name and password for an existing Windows service account to be used with Transact.

You are now ready to obtain and launch the Install Wizard.

Multi-server installation

If you install Transact in a multi-server environment, it is important to follow the instructions outlined in Registration, SharedFolders, and installation information. The steps for both single and multi-server environments are similar up to the Registration, SharedFolders, and installation information section.

Obtain and launch the Install Wizard package

Perform these steps to download and launch the Transact Install Wizard:

1. To obtain the Transact installer:

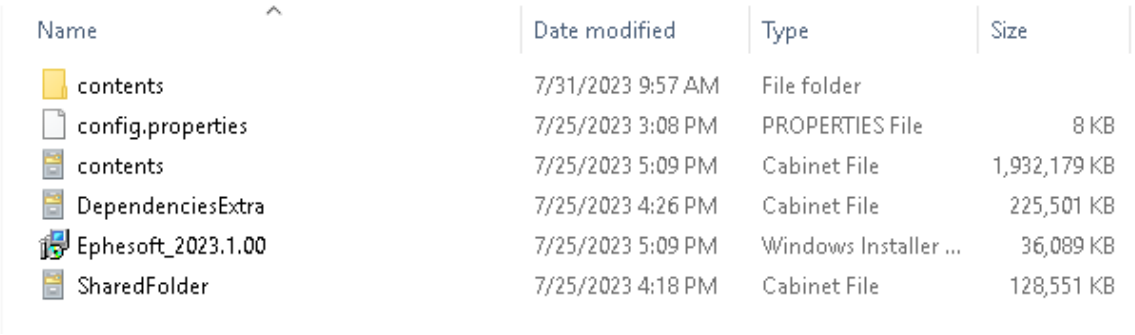
   a. Visit Customer Support Portal, which includes download links for full installers, service packs, and related information.

   b. Registration is required. Contact the Support team for credentials to the Customer Support Portal.

2. Download the Transact Installer. This is a compressed file with the following filename: `Ephesoft_Transact_<Version Number>_Windows.zip`
3. Extract all contents of this .zip file to a temporary location.

   You must extract all elements of the installer package.

   The following image illustrates the contents of the extracted installer package.



Name	Date modified	Type	Size
contents	7/31/2023 9:57 AM	File folder	
config.properties	7/25/2023 3:08 PM	PROPERTIES File	8 KB
contents	7/25/2023 5:09 PM	Cabinet File	1,932,179 KB
DependenciesExtra	7/25/2023 4:26 PM	Cabinet File	225,501 KB
Ephesoft_2023.1.00	7/25/2023 5:09 PM	Windows Installer ...	36,089 KB
SharedFolder	7/25/2023 4:18 PM	Cabinet File	128,551 KB

4. Open the Windows Command Prompt as an Administrator and navigate to the directory where you extracted the installer .zip file, then execute the following command to install Transact:

```
msiexec.exe /i Ephesoft_2023.1.00.msi
```

5. Click **Run** to continue launching the Install Wizard.

   The **Ephesoft Transact 2023.1.00 Setup** screen appears.
6. Click **Next**.
7. When prompted, read the end-user license agreement, select the check box to accept the terms, and click **Next** to continue.
8. In the **Ephesoft Transact Prerequisites Check** window, click **Next** when the prerequisites check is successfully completed.

   The Install Wizard may take several minutes to perform these prerequisite checks. If a warning occurs during the prerequisites check, click **Details** for more information.

.NET Framework 4.8 installation

If prompted to perform the .NET Framework installation, follow the instructions in this section.

1. The installer performs a check to verify that the .NET Framework 4.8 is installed.

   The following factors enable or disable the **Next** button:

   - The **Next** button is enabled if the .NET Framework 4.8 is installed on the system.
   - The **Next** button is disabled if the .NET Framework 4.8 is not installed on the system. A **Download** button is available instead. Follow these steps:

     a. Click **Download** and follow the appropriate link.

     b. Download and install .NET 4.8 Framework.

     c. Follow the instructions in the .NET 4.8 Framework installer to complete the installation.

2. Click **Next**. The Install Wizard performs a check of Microsoft Visual C++ Redistributables. Refer to this list of Visual C++ redistributables for the required versions of these files.

   The Install Wizard may display the following message: "Ephesoft Transact prerequisites are being installed in the background." Allow time for the background configuration processes to complete. Continue to Define service credentials.

Define service credentials

If you are running the Transact server as a Windows service, the Install Wizard prompts you to select an account to use. Select the account that complies with your organization's security policy.

- In most cases, users select **Local System Account**.
- To use another existing account, select **This Account**, enter the user name and password for an account that has full access permissions to the network SharedFolders path, and click **Next**.

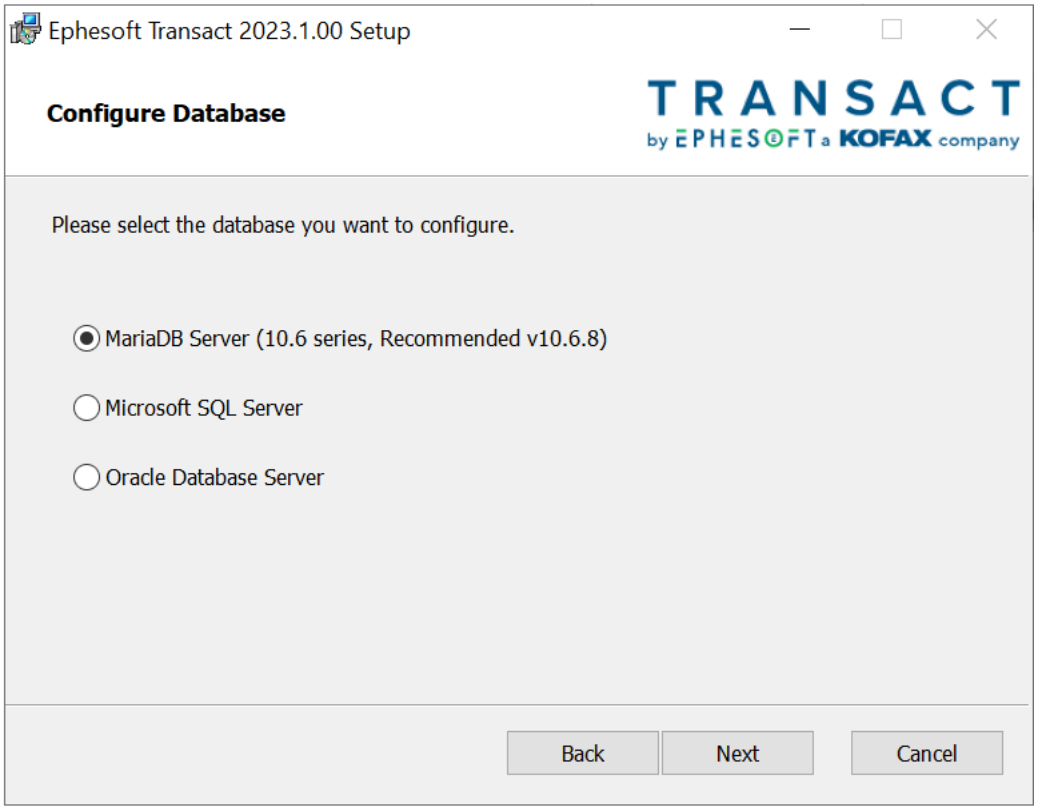
  Use this option with a Windows service account that has access to the SharedFolders component, whether locally or remotely. We recommend that you configure SharedFolders on a network location for future growth and scalability.

Proceed to Select and set up the database.

Select and set up the database

In the Configure Database window, perform the following steps to select and set up your database.

1. Select the database to configure and click **Next**.



For the information about the supported versions, see *Ephesoft Transact Technical Specifications*.

2. Follow the instructions for the selected database:
   - MariaDB configuration (the default selection in the Install Wizard)
   - Microsoft SQL Server configuration
   - Oracle database configuration

MariaDB configuration

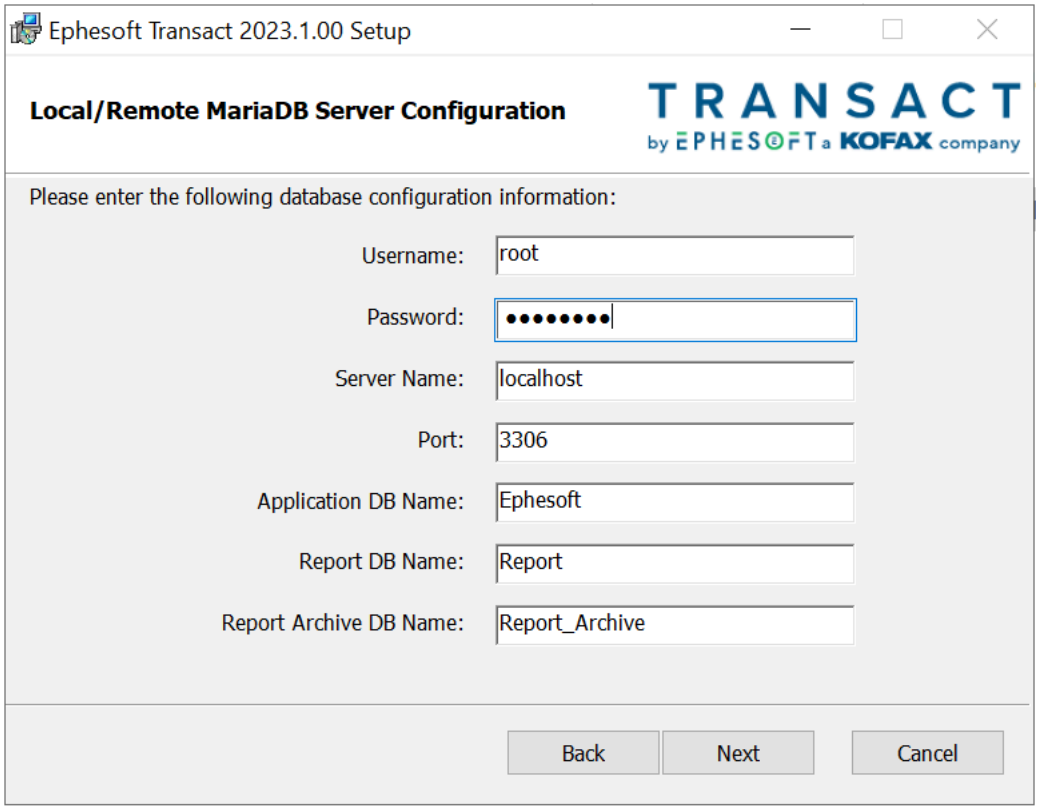
The Install Wizard does not install MariaDB as a part of the installation process. You need to configure the MariaDB server prior to running the Transact Install Wizard. The Install Wizard allows you to connect to an existing MariaDB server during the installation of Ephesoft Transact.

For the latest information about MariaDB version support and MariaDB installation, see:

- Install and migrate to MariaDB for Windows
- *Ephesoft Transact Technical Specifications*

To create and connect a database on the MariaDB server for Transact, follow these steps.

1. In the Transact Install Wizard **Local/Remote MariaDB Server Configuration** window, enter the database configuration information.



a. Enter the user name and password for an account that has the rights to create databases on the MariaDB server.

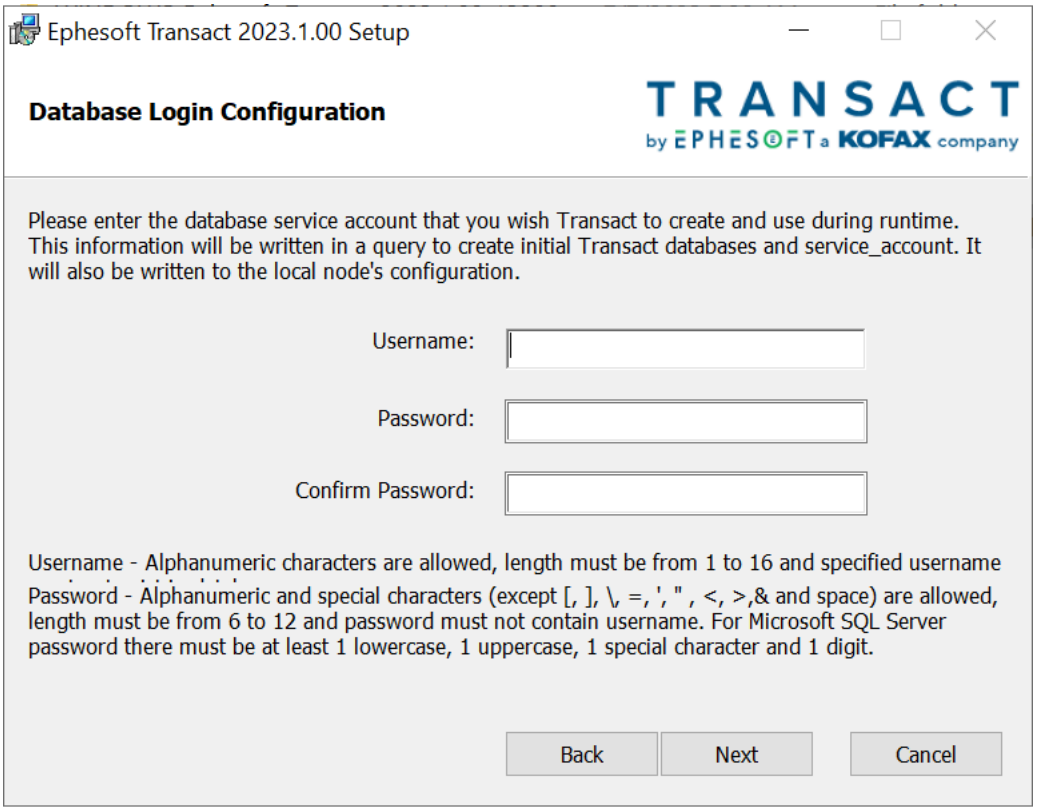
b. Enter the server name or IP address and port for the MariaDB server.

c. The **Application DB Name**, **Report DB Name**, and **Report Archive DB Name** fields are pre-populated with the default values.

When you enter the required information, click **Next**.

2. In the **Database Login Configuration** window, specify the login credentials to be used as the service account to connect Transact and the databases at runtime and then click **Next**.

The Install Wizard performs a check of the database connectivity. An error message is displayed if the database is unreachable.



Continue to Configure LibreOffice to proceed with the Install Wizard.

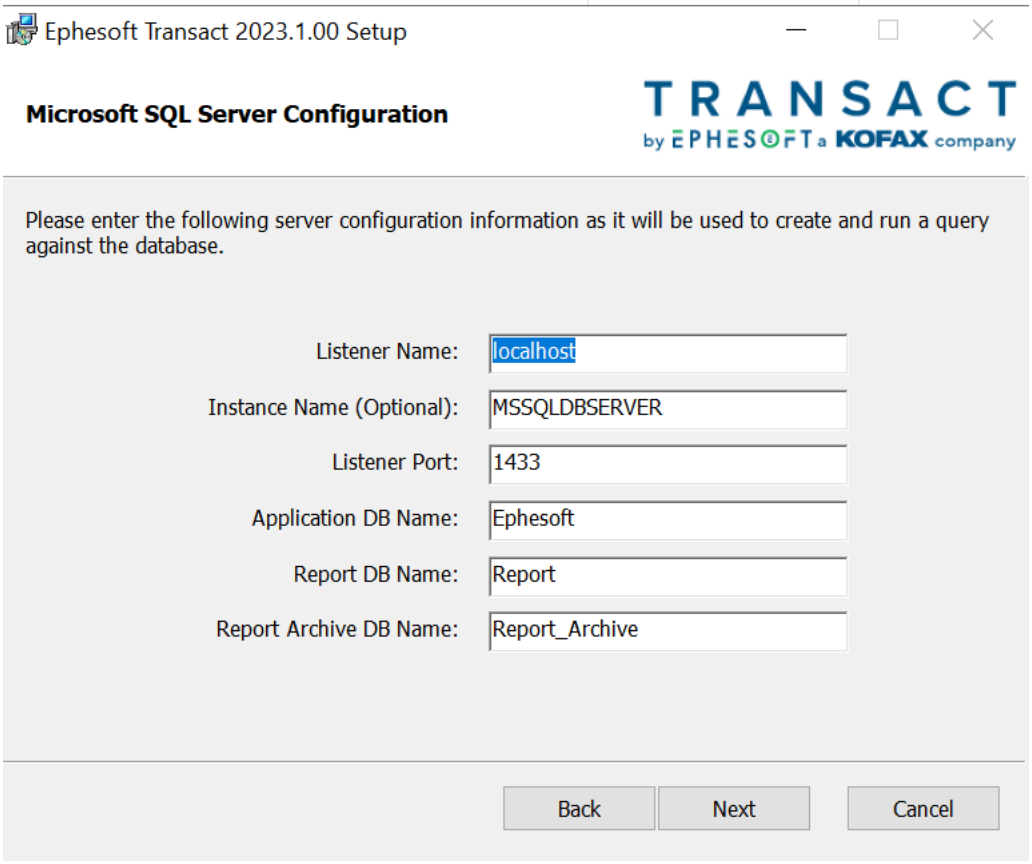
Microsoft SQL Server configuration

Before you configure Microsoft SQL Server, refer to Prerequisites for configuring Transact with Microsoft SQL Server and complete the steps. Then, follow the steps in this section to configure the database during the installation of Transact.

1. In the **Configure Database** window, select **Microsoft SQL Server**.
2. (Optional) Select additional options only if applicable to your installation process.
   - Enable Always On feature for Microsoft SQL Server
   - Windows Authentication

   The Install Wizard does not support the installation of a new instance of Microsoft SQL Server. The only option is to configure an existing Microsoft SQL instance.

   If you select both options, the following window appears.



3. If you selected additional options earlier, complete the **Microsoft SQL Server Configuration** window as follows:
   a. If **Windows Authentication** was not selected, enter the user name and password for an account that has the rights to create databases on the Microsoft SQL Server.
   b. Enter the listener name or IP address and port for the Microsoft SQL Server.
   c. The **Application DB Name**, **Report DB Name**, and **Report Archive DB Name** fields are pre-populated with the default values.
   d. Click **Next**.
4. If **Windows Authentication** was not selected, the **Database Login Configuration** window appears.
   Specify login credentials to be used as the service account to connect Transact and the databases at runtime and then click **Next**.

   The Install Wizard performs a check of the database connectivity. An error message is displayed if the database is unreachable.

Continue to Configure LibreOffice to proceed with the Install Wizard.

Oracle database configuration

Follow these steps when setting up an Oracle database during the installation of Transact.

1. In the **Configure Database** window, select **Oracle Database Server**.
2. In the **Oracle Server Configuration Information** window, select one of the following options. With either option, a Security Identifier (SID) is required.
   - **Create new oracle schema**
   - **Use existing oracle schema**
3. Enter the appropriate information in the text fields for the Oracle database and click **Next**.

Continue to Configure LibreOffice to proceed with the Install Wizard.

Configure LibreOffice

After completing the database setup, the LibreOffice Configuration window appears.

1. Use the default port number, unless your network specifically requires a different port.
2. Click **Next** to proceed.

Configure authentication mode

1. In the **Authentication Mode** window, select one of the following options:
   - **Standard Form Authentication** (default)
   - **PKI Authentication**
2. Select either **HTTP** or **HTTPS**.
3. Click **Next**.

PKI authentication

If you selected the Standard Form Authentication option, skip this section and proceed to Configure user connectivity settings.

PKI Authentication using HTTP

Follow these steps if using HTTP:

1. In the **User Connectivity Settings** window, select one of the following connection types:
   - **LDAP**

     If you are performing a fresh installation of Transact and do not have Microsoft Visual C++ 2010 installed, you need to perform a separate installation of LDAP. See OpenLDAP: Separate installation for more information.

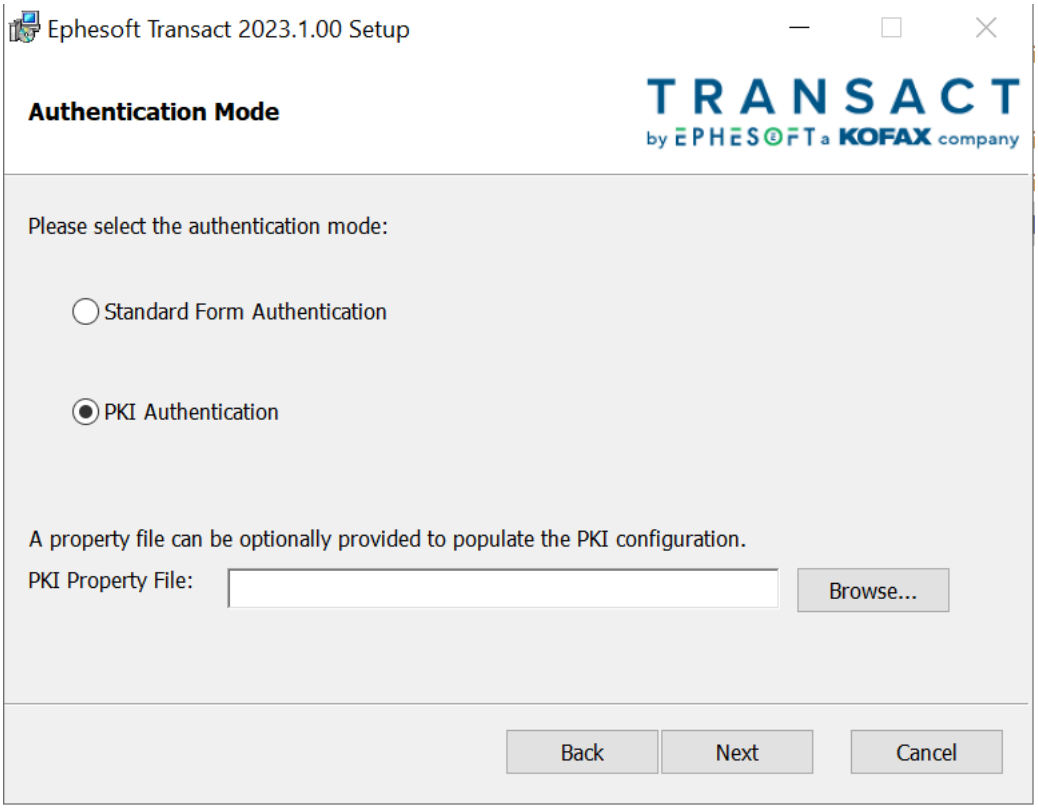
   - **Active Directory**
   - **Tomcat**
2. Proceed to Configure user connectivity settings for the next step in configuration.

PKI Authentication using HTTPS

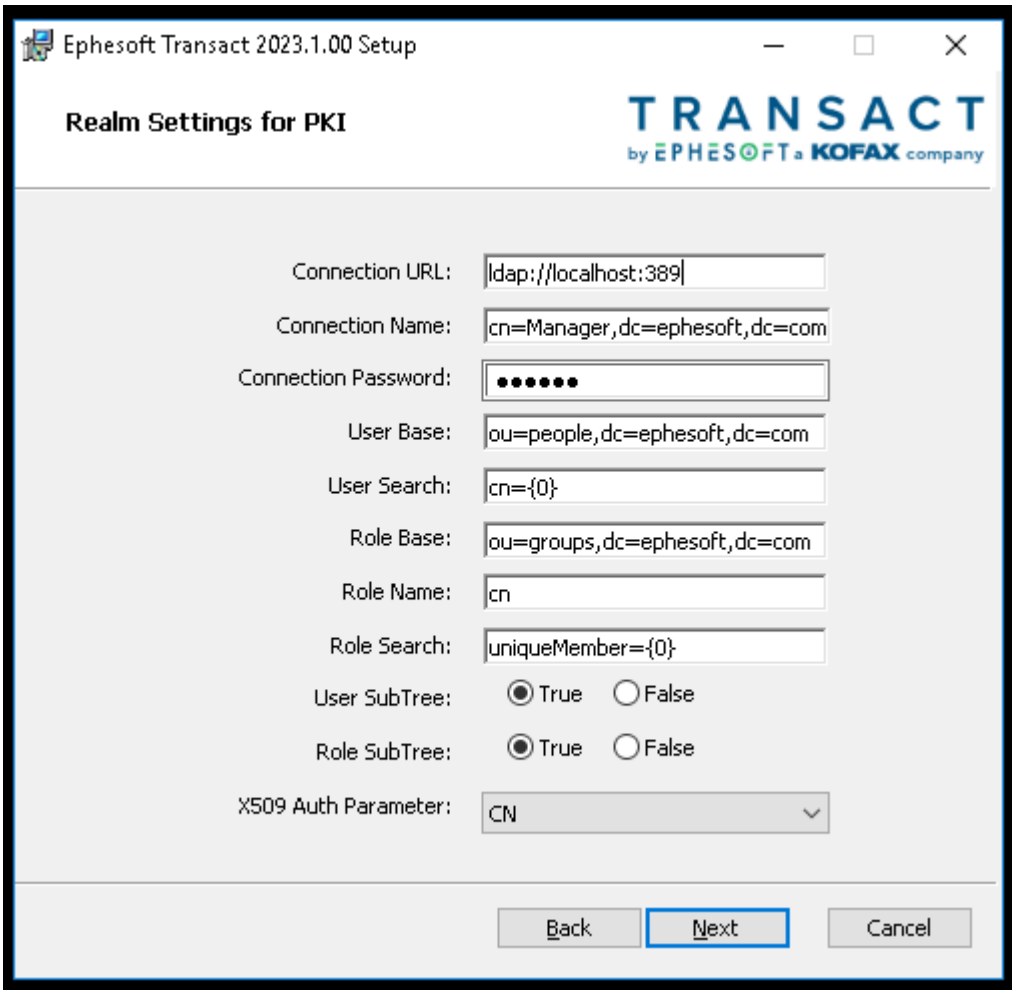
Follow these steps if using HTTPS.

1. In the **Authentication Mode** window, select one of the following options:
   - **Standard Form Authentication**
   - **PKI Authentication**

   If you select **PKI Authentication**, an additional field appears that allows you to navigate to and select the PKI Property file. Complete this field.



2. Click **Next** to configure the Certificate Details for PKI.
   Both certificates are defined on the server for this installation.
   - **Server Cert** is a Java Keystore File (JKS) file for the server. Provide the JKS file and password for HTTPS configuration for the server certificate.
   - **CA Cert** is the certificate file for a client system. Provide the **CA Cert**, **Password**, and **Alias Name** for the client certificate.



3. Enter the appropriate information in the text fields and click **Next**.
4. In the **Connector Settings for PKI** window, enter the information in the text fields, define the corresponding settings, and click **Next**.

Configure user connectivity settings

Once you configure the authentication mode and provided the related information, the Install Wizard displays the User Connectivity Settings window.

1. Select the connection type and click **Next**.
   - **LDAP**
   - **Active Directory**
   - **Tomcat** (default)
2. For LDAP and Active Directory, in the **User Connectivity Settings** window, enter the appropriate information in the fields and click **Next**.

   For Tomcat, no additional configuration is required.

Registration, SharedFolders, and installation information

Once you complete the User Connectivity Settings window, the Registration Information window appears.

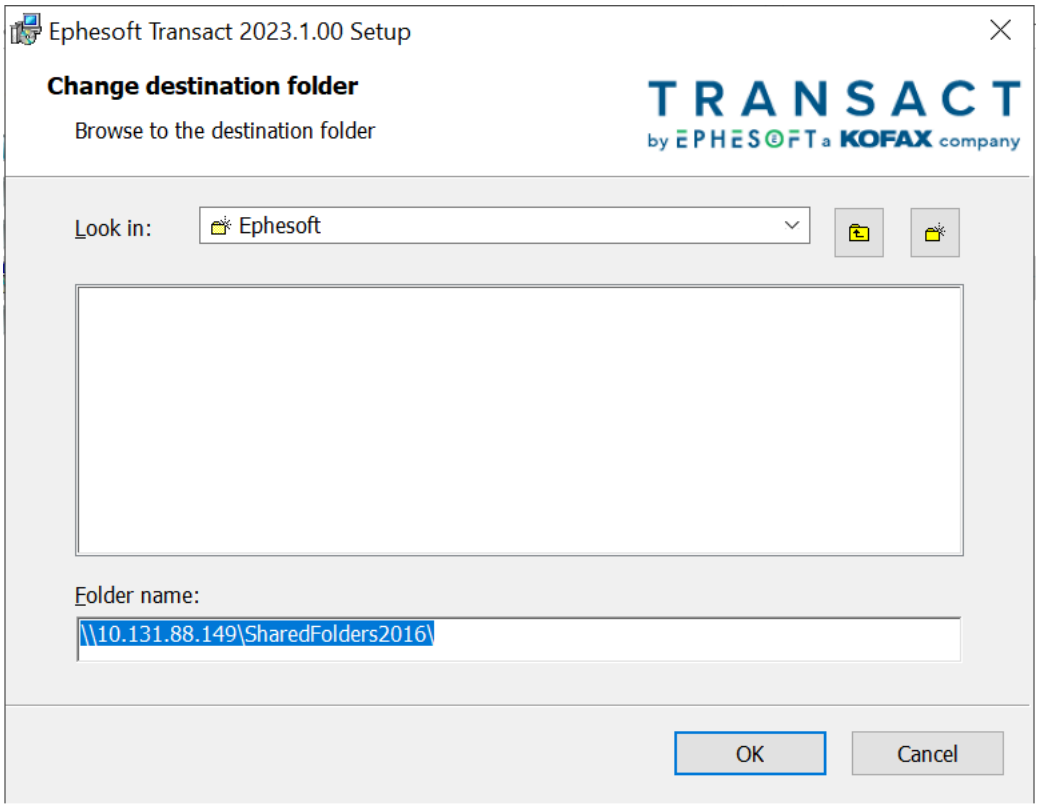
1. In the **Registration Information** window, enter the appropriate information in the text fields and click **Next**.
2. In the **Shared Folder Configuration** window, define settings for the SharedFolders component, as described in Installation prerequisites.

   It is a requirement to use SharedFolders configured on a network location for multi-server installations.

   All steps up to this point are done regardless of server environment (single or multiple). The following steps vary, depending on a single or multi-server installation.

3. Configure shared folder options and click **Next**.
   - Select **No** if you install Transact on a single-server environment or if you install the first server in a multi-server environment.
   - Select **Yes** if you install the second (third, fourth, and more) server in a multi-server environment.
4. Optionally, in the **Installation Folder** window, select the **Install Shared folder separately** check box and define the network location (if using SharedFolders on a network for this installation).

   For multi-node Transact environments, a network share is recommended. When installing subsequent servers for multi-server deployments, the **SharedFolders** directory must be installed on a file share that is accessible by all servers in the cluster. To do so, click **Change** to provide the network location of a previously installed shared folder.



5. In the **Installation Folder** window, click **Next** .

Run and finish the Install Wizard

After you select the folder location, the **Ready to Install** window appears.

If required, click **Back** to adjust your configurations in previous windows.

1. Click **Install**. The status bar displays.
   This may take some time. Once the installation is completed, the **Post-Installation Instructions** window appears.
2. Read the post-installation instructions and perform the necessary tasks, then click **Next**.
3. Select **Restart my computer**.

   A restart is required for Transact to function properly.

4. Click **Finish**.
5. When the installation is complete, re-enable the **User Access Control** (UAC) on this server.

This step reactivates the UAC after the installation is finished.

- From the Windows **Start** menu, select the **User Access Control** settings. The Windows Control Panel displays a link. Click this link to open the page.
- In the **User Account Control Settings** window, adjust this setting to the desired position for normal operations. The system prompts you to confirm this setting. Accept the changes.

This completes your installation. Continue to License and launch Transact.

License and launch Transact

After starting the Transact service, you are ready to launch Transact.

We recommend that you restart the service after your license is installed. For additional information about support for Microsoft SQL Server, refer to Platform Configuration and Third-Party Integrations.

1. Follow the steps listed in Licensing Requirements.
2. Open a web browser.
3. Enter the following Transact URL: `http://<server_name>:8080/dcma/home.html`

   Allow time for the background configuration processes to complete. The initial startup may require several minutes.

4. When the Transact home page appears, select **Administrator** or **Operator** to log in.
5. Enter the username and password.

   The system may require additional time to complete the initial login.

Chapter 3

Upgrade instructions

This chapter provides important information about both upgrading Transact in a single or multi-server Windows environment. Instructions for a standard or silent upgrade are provided.

Steps unique to a multi-server upgrade are identified where applicable in this document.

Upgrade overview

The upgrade to Transact 2023.1.00 follows this general sequence of tasks. Before you proceed, see *Ephesoft Transact Release Notes 2023.1.00*.

Installation task	General scope of activity
Upgrade prerequisites	Prepare for the upgrade by gathering the required resources and verifying that the environment and databases are supported.
Prepare the server for upgrade	Perform these steps to prepare the server for the upgrade Install Wizard.
Obtain and launch the Install Wizard package for upgrade	Launch the 2023.1.00 Install Wizard with the Windows Command Prompt. Complete all settings as prompted.
License and launch Transact after upgrade	Perform these steps to complete the upgrade to Transact 2023.1.00.

Upgrade prerequisites

Perform these steps for a successful software upgrade and startup:

1. Determine if you need to perform a single-server or multi-server upgrade.

   The upgrade requires approximately 10 GB for disk space.

   Steps unique to a multi-server environment upgrade are identified where applicable throughout this document. Follow the instructions and adjust as necessary if upgrading on a multi-server environment.

2. Verify that the existing installation of Transact is supported for direct upgrade to Transact 2023.1.00.
   - If the system is currently running Transact version 2022.1.xx, your system is supported for direct upgrade to Transact 2023.1.00.

     After the upgrade, reinstallation is recommended for the AI Table Rule Builder and Cloud OCR (Advanced HOCR) plugins.

   - If the system is currently running a release prior to Transact 2022.1.00, you need to upgrade to version 2022.1.00 before upgrading to Transact 2023.1.00.

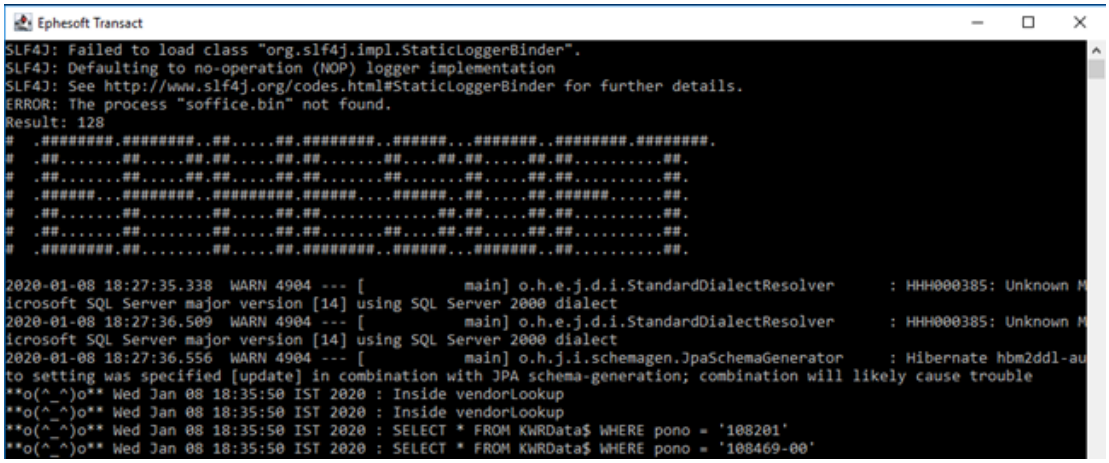
     If you are required to perform an intermediate upgrade, then you must successfully start Transact 2022.1.00 before upgrading to version 2023.1.00 or the upgrade process will fail.

3. See *Ephesoft Transact Technical Specifications 2023.1.00* to verify that Transact 2023.1.00 is supported on your operating system.

Prepare the server for upgrade

Perform these steps to prepare the server for an upgrade to Transact 2023.1.00.

1. Stop Transact, whether running as an application or service:
   - To stop Transact when running as an application:
     a. Close the Java Console in which Transact is running by pressing CTRL + C.

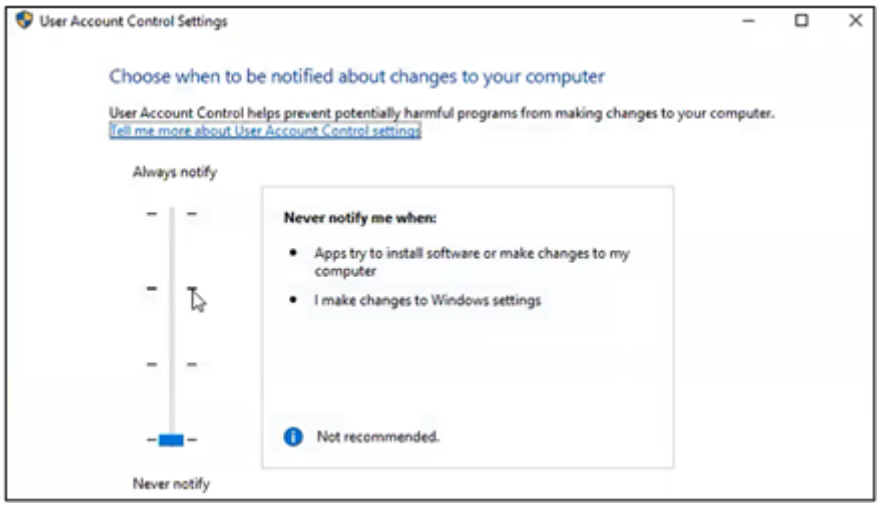


     b. Open the Windows Task Manager and click **End Task** to terminate the following processes, if they are not yet terminated:
        - `soffice.exe`
        - `soffice.bin`
   - To stop Transact when running as a service:
     a. In the Windows Control Panel, navigate to **Services** > **Desktop App**.

   b. Right-click the **Services** utility and run as administrator. **The Services (Local)** screen displays. Scroll down to **EphesoftTransact**.
   c. If the **EphesoftTransact** service is running, right-click **EphesoftTransact**, and click **Stop**. The service stops.
   d. Close the Windows Service Control utility.
2. Close all open files inside the existing Ephesoft Transact installation directory.
3. Ensure that the target Windows installation drive has enough space for extraction of the installer setup file and the backup files that the installer will create.
   Depending on the size of the existing Ephesoft Transact instance, you may require 10 GB of space for the installation.
4. Log in to the Windows system and set the **User Access Control** (UAC) to **Never notify**.

   This is a temporary setting, and you must re-enable UAC after completing the installation.

   Do the following:
   a. From the Windows Start menu, search for **User Access Control** or UAC. The Windows Control Panel displays the link. Click this link to open the page.
   b. In the **User Account Control Settings** window, move the slider to the lowest position, **Never notify**.



   c. When prompted, confirm the change.
5. If you previously installed Transact using a Windows service account and you want to use that same account after the upgrade, ensure you know the account credentials (user name and password) before starting the upgrade procedure.

You are now ready to obtain and launch the Install Wizard.

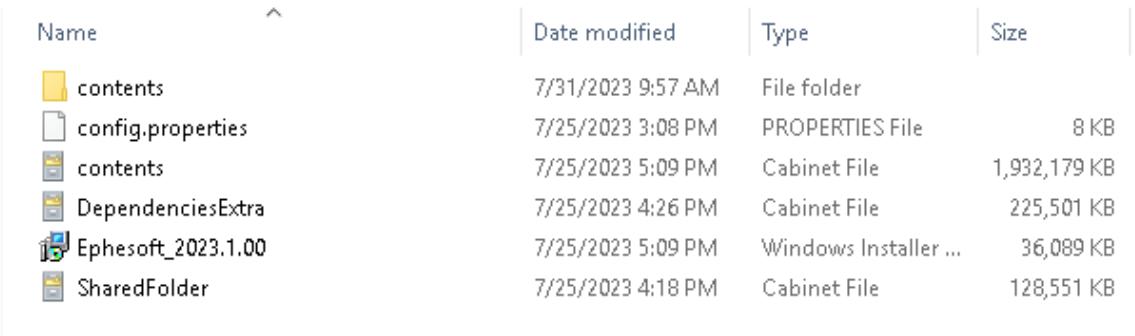
Obtain and launch the Install Wizard package for upgrade

Transact
Transact, finish processing for all batches.

If any unfinished batches exist after the upgrade, they must be reprocessed from the beginning as new batches.

1. To obtain the Transact installer:
   a. Visit Customer Support Portal, which includes download links for full installers, service packs, and related information.
   b. Registration is required. Contact the Support team for credentials to the Customer Support Portal.
2. Download the Transact installer, which is a .zip file with the following file name:
   `Ephesoft_Transact_<Version Number>_Windows.zip`
3. Extract all contents of the zip file to a temporary location. Right-click the file, and from the pop-up menu, select **Extract All**.

   You must extract all elements of the installer package.



Name	Date modified	Type	Size
contents	7/31/2023 9:57 AM	File folder	
config.properties	7/25/2023 3:08 PM	PROPERTIES File	8 KB
contents	7/25/2023 5:09 PM	Cabinet File	1,932,179 KB
DependenciesExtra	7/25/2023 4:26 PM	Cabinet File	225,501 KB
Ephesoft_2023.1.00	7/25/2023 5:09 PM	Windows Installer ...	36,089 KB
SharedFolder	7/25/2023 4:18 PM	Cabinet File	128,551 KB

4. If you are logged in as the Administrator, right-click `Ephesoft_2023.1.00` and click **Install**. Otherwise, open the Windows Command Prompt as an Administrator. Navigate to the directory where you extracted the installer .zip file, then execute the following command to download the Windows installer package:

```
msiexec.exe /i Ephesoft_2023.1.00.msi
```

5. After you launch the Windows installer package, the Transact 2023.1.00 Setup screen appears. The **Next** button is disabled while the installer determines if there is enough disk space to install the software.

As a reminder, you will need approximately 10 GB of disk space for the upgrade. If you need to make space available for the upgrade, remove any files and apps that you no longer need. If there is sufficient disk space, the Transact 2023.1.00 Setup screen will refresh and the **Next** button will be enabled. Click **Next**.

6. Read the end-user license agreement to be aware of any changes, select the check box to accept the terms, and click **Next** to continue.

   When upgrading and launching the installer for the first time, Windows may report the installer as Not Responding on the **End User License Agreement** window. Do not cancel the installation, while the installer is performing upgrade checks, which may take approximately 5 minutes.

7. The **Ephesoft Transact Prerequisites Check** window appears. Click **Next** when the prerequisites check is acceptable. Continue to .NET Framework 4.8.

   The Install Wizard may take several minutes to perform these prerequisite checks. If a warning appears, click **Details** for more information.

   The following is an example of this type of message:

   ```
   JAVA_HOME environment variable is already defined. This will get modified during Transact installation. If you do not want this to happen, please cancel the installation.
   ```

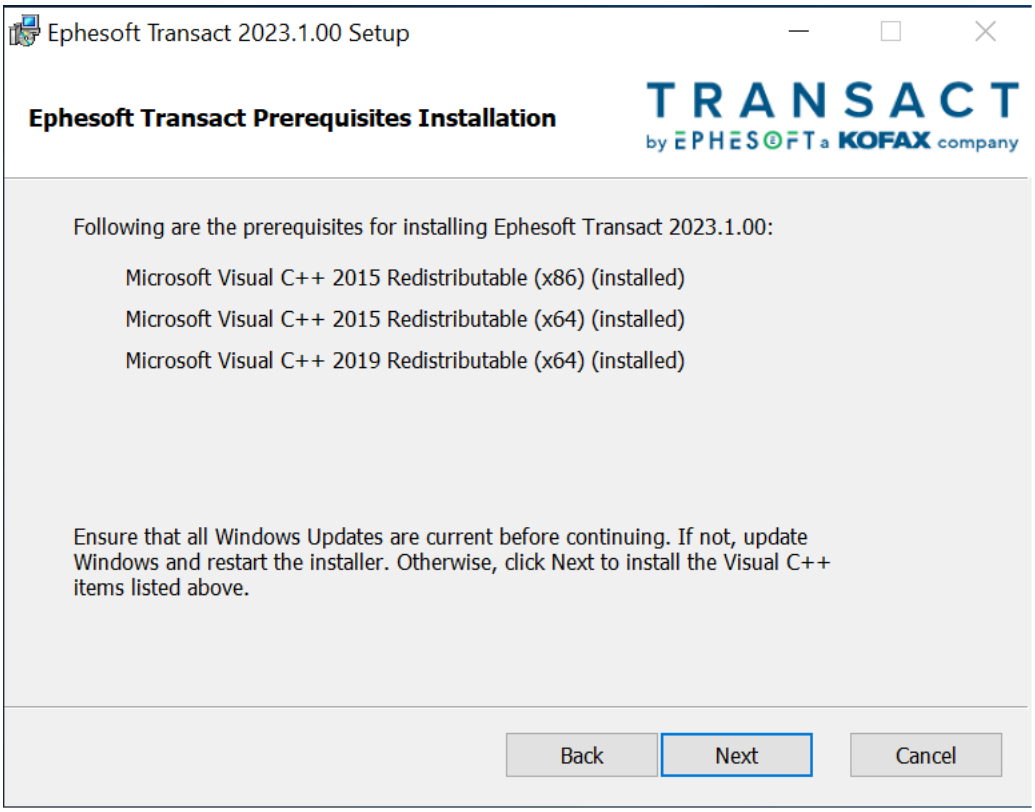
.NET Framework 4.8

1. Transact performs a check to verify that the .NET Framework 4.8 is installed.

   The following factors enable or disable the **Next** button:

   - The **Next** button is enabled if the .NET Framework 4.8 is installed on the system.
   - The **Next** button is disabled if the .NET Framework 4.8 is not installed on the system. A **Download** button is displayed instead. Follow these steps:
     a. Click **Download** and go to the appropriate link.
     b. Download and install the .NET 4.8 Framework.
     c. Follow the instructions in the .NET 4.8 Framework installer to complete the installation.

2. Click **Next**. The Install Wizard performs a check of Microsoft Visual C++ Redistributables.



Refer to this list of Visual C++ redistributables for the required versions of these files.

The Install Wizard may display the following message: "Transact prerequisites are being installed in the background." Allow time for the background configuration processes to complete.

Configure service credentials and database

If you are running the Transact Server as a Windows service, the Install Wizard prompts you to select which service account to use. It is recommended to use the same Windows account that was used to install your previous version of Transact. Choose the account that complies with your organization's security policy.

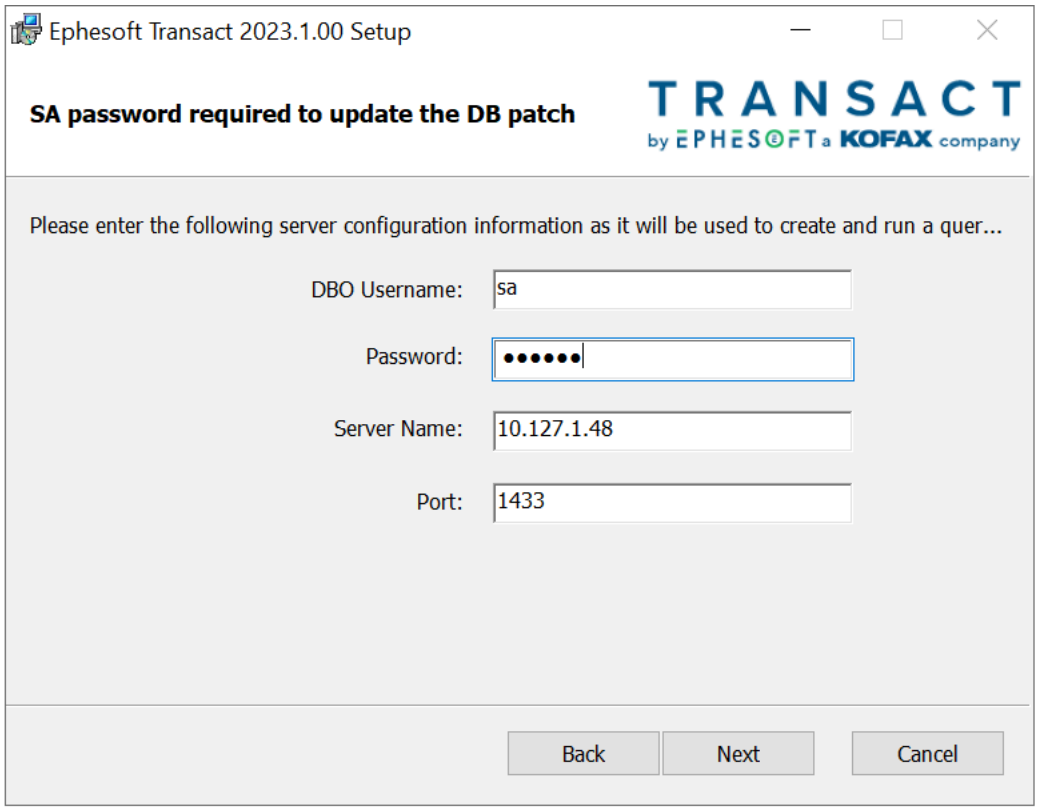
1. In most cases, users select **Local System Account**.
2. To use another existing account, select **This Account** and enter the user name and password for an account that has full access permissions to the network SharedFolders path.

   Use this option with a Windows service account that has access to the SharedFolders component, whether locally or remotely. We recommend you to configure SharedFolders on a network location for future growth and scalability. To proceed, enter the user name and password for an account that has full access permissions to the network SharedFolders path.

3. Click **Next**. The **Upgrade Installation** window appears.

4. The following steps vary depending on a single or multi-server upgrade.
   - Select the **Apply database changes** check box if you are upgrading a single-server environment or if you are upgrading the first server in a multi-server environment.
   - Do not select the **Apply database changes** check box if you have already upgraded the first server in your multi-server installation and are now upgrading a subsequent server.
5. Click **Next**. The Install Wizard checks if you have enough disk space for the upgrade installation. If your server does not have enough space, the warning message appears.

   If you see this message, click **Cancel** to exit the Install Wizard. Clear the appropriate amount of disk space and restart the Install Wizard.
6. In the **Database Backup** window, select the check box if you have a database backup and click **Next**.
7. If you see the message that Transact files or folders are in use, close any open files or folders in the Transact installation area, click **OK** to return to the previous Install Wizard window, and click **Next**.
8. If an issue occurs upon executing the database patch, the following window appears.



   Refer to Transact Upgrade Stops When Upgrading to 2020.1.03 or Above with MSSQL Server and Windows Authentication to resolve the issue.
9. If you do not receive any warnings, the installer is ready to perform the upgrade. Click **Next** to continue the upgrade.

Run the Install Wizard

The **Ready to Install** window appears after you complete the database backup.

If required, click **Back** to adjust your configurations in previous windows.

1. Click **Install**.
   A **Status** bar displays the installation progress.

   This may take some time. Once the upgrade is completed, the **Post-Installation Instructions** window appears.

2. Read the post-installation instructions and perform the necessary tasks, then click **Next**.
3. Select **Restart my computer** and click **Finish**.

   A restart is required for Transact to function properly.

4. When the upgrade is complete, re-enable **User Access Control** (UAC) on this server.
   This step re-activates UAC after installation is finished.
   a. From the Windows **Start** menu, select the **User Access Control** settings. The Windows Control Panel displays a link. Click this link to open the page. The **User Account Control Settings** window displays.
   b. Adjust this setting to the desired position for normal operations. The system prompts you to confirm this setting. Accept the changes.

License and launch Transact after upgrade

1. To complete the upgrade, refer to Licensing Requirements.

   We recommend that you restart the service after your license registry is updated.

2. Compare the post-upgrade properties files against the pre-upgrade properties files.
   You must match the configuration settings of the post-upgrade property files to the pre-upgrade property files.

   Prior to installing the upgrade, the upgrade Install Wizard creates a backup folder to store the pre-upgrade configuration settings and components.

3. Use the Winmerge tool to compare and merge the pre-upgrade configurations into the post-upgrade configurations.
   Original configuration files are backed up on the same server. You can navigate to the Ephesoft Transact Install Directory and find the backup folder for your previously installed version of

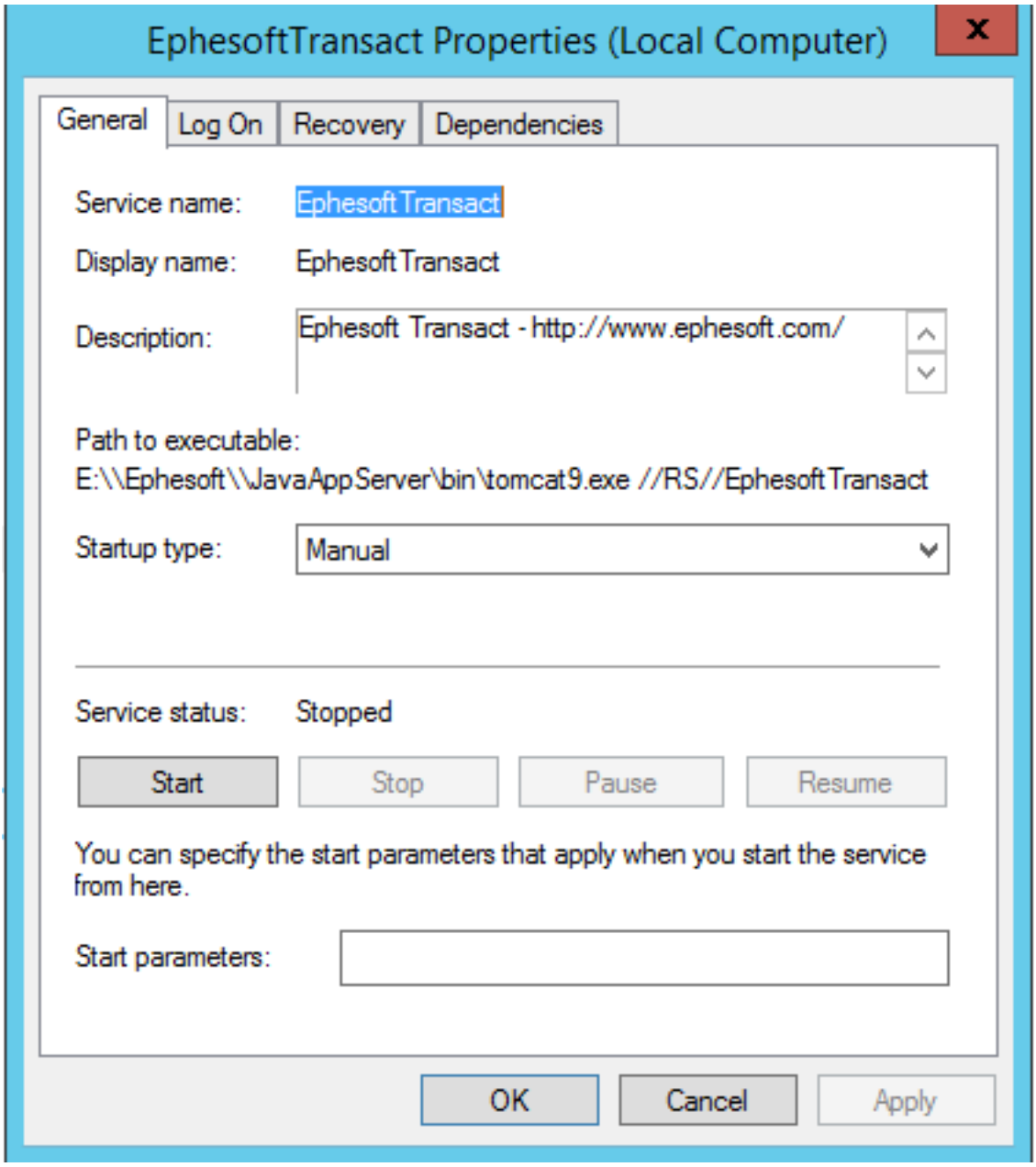
Transact to get access to your old configuration files and settings. Properties, files settings, or components that are unique to each deployment can include the following:

- Computer names
- Database paths
- HTTPS settings (as applicable)
- ImageMagick settings (as applicable)
- JavaAppServer settings
- Keystore location settings
- Registry settings
- Single Sign On (SSO) configurations
- User connectivity settings for Active Directory, Apache Tomcat or LDAP

Refer to Folders where Customer-specific Data is Stored for additional information.

4. Start the Transact service from the Windows Services interface. This initiates the post-upgrade process.

 You may select to change the **Startup Type** option to **Automatic** so that Transact will start automatically whenever the server reboots in the future.



The first startup after the post-upgrade process performs updates to the database, batch classes, and other Transact elements.

5. After starting the Ephesoft Transact service, you are ready to launch Transact.
6. Open a web browser and enter the following Transact URL: `http://<server_name>:8080/dcma/home.html`

Allow time for the background configuration processes to complete. The initial startup may require several minutes.

7. On the Ephesoft Transact home page, select **Administrator** or **Operator** to log in.
8. Enter the user name and password.

Chapter 4

Licensing

The licensing model for Transact is based on either a core or consumption-based sales model. Additional Transact features can be purchased as add-ons to a core-based license, or are available for consumption-based licenses depending on the bundle you have purchased.

The following table provides additional details on add-ons and their availability for each license type.

Feature	Core sales model	Consumption sales model		
		Standard	Professional	Enterprise
Advanced Reporting	$	✓	✓	✓
Cloud HyperExtender Plugin	✓ *	✓ *	✓	✓
Web Services APIs	$		✓	✓
ID Extraction Plugin	$	$	$	$

The * symbol denotes 1,000 images free when you self-register.

The *$* symbol denotes a premium add-on.

If you purchase the Professional or Enterprise bundle, please self-register for Cloud HyperExtender and submit a license request to expand the 1,000 images to the amount that was purchased.

To obtain additional licenses for these features, log in to the Customer Support Portal and go to **Licenses**.

Licensing prerequisites

The following list outlines prerequisites required to obtain the Transact license.

- An installed instance of Transact: If you have not yet completed this step, see Installation instructions for your version of Transact.
- Transact license server: The number of cores in the Transact environment is used to configure the license. See How to Set Up an Ephesoft License Server for more information.
- For multi-server environments, a server failover mechanism is required. For more information about configuration, see the License Server Failover Mechanism.

Obtain a Transact license

To obtain a license for your version of Transact whether it is a core or consumption-based license, you need to determine your server core count. See License details for instructions to access this information.

Retrieve the details.properties file

To complete your license request, you need to submit your `details.properties` file to Transact from the Customer Support Portal. To prepare the `details.properties` file, perform the following procedure:

1. Retrieve a copy of the `details.properties` file from the Transact installation folder.
   This folder is located in the following path: `{Installation Folder}\Dependencies\licensing WINDOWS`
2. Ensure each MAC address for your system is included in the file.

   If the Device Address is missing or incorrect, it must be manually populated. See License details for instructions on locating the MAC address for your system.

3. Navigate to the Customer Support Portal and log in. In the **Licenses** request form, complete the required fields and upload the `details.properties` file to submit a license request.

Install the Transact license

To install the license file for either a new installation or an upgraded version of Transact, execute the following steps:

1. If the Windows system has ever had a prior installation of Transact, open the Windows Registry and delete the following key:

   ```
   HKEY_LOCAL_MACHINE\SOFTWARE\JavaSoft\Prefs\com\ephesoft
   ```

   Verify that all users are set to have full control over the Registry key path `HKEY_LOCAL_MACHINE\SOFTWARE\JavaSoft\Prefs\com\`

2. Copy the new `ephesoft.lic` file to the `\Ephesoft\Dependencies\license-util` folder.
   If a previous license file exists, you must delete the original license file, then rename the new license file to the original filename: `ephesoft.lic`.
3. Open the Windows command prompt as an Administrator and navigate to the `\Ephesoft\Dependencies\license-util` folder.
4. From this folder in the command prompt, type `install-license.bat` and then press Enter.
   We recommend running `install-license.bat` twice to ensure the license applies correctly.

5. Refresh and ensure the following registry path exists:

```
HKEY_LOCAL_MACHINE\SOFTWARE\JavaSoft\Prefs\com\ephesoft\
```

If you observe issues with Transact after completing the above steps, please refer to the help articles on common issues that may occur during license installation.

If these articles do not resolve your issue, please contact Support and include your log files.

To access your license information once installed, see License details.

License details

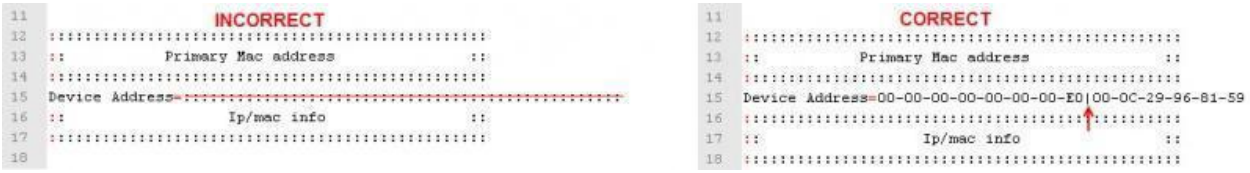
Verify server core count

To determine the number of server cores that require licensing, identify your operating system and follow these steps:

1. Right-click in the **Windows Task Bar** or **Start Menu**.
2. Click **Task Manager** > **More Details**.
3. Click **Performance** > **CPU**. The quantity of logical processors is displayed.

Obtain MAC address

When retrieving the `details.properties` file, the MAC address(s) should resemble the format illustrated on the right side of the following figure:



If the **Device Address** is missing or appears incorrect, the file must be manually populated. To obtain the MAC address(es), open a command prompt from the system, then run the `ipconfig /all` command.

View license details in Transact

For both informational and troubleshooting purposes, perform the following steps to access the License Details screen in Transact.

The following example uses a Transact 2019.2 release version with a 4.5.0.0 license file installed. Your version may appear differently, depending on your version of Transact.

1. Log in to Transact with Super Administrator privileges. Expand the navigation pane on the left and click **System Configuration**.

2. Click **License Details** to view the contents and settings of the current license.
   The following table describes how each of the licensing items is used within the product.

Field or Switch	Description
Account Name	The name of the organization on the license.
Server Type	Production or non-production.
Sales Model	Core or consumption-based license. For more information on consumption-based licenses, refer to the *License Consumption Report* in the *Ephesoft Transact System Configuration Help*.
Application Version	Displays the currently installed Transact version. This field might contain a software version that is more recent than the original software version when the license was purchased.
License Version	Displays the version of the license generator schema. License version schemas are compatible with multiple versions of Transact, and may not exactly match your version of Transact.
License ID	The unique identifier assigned to each Transact license.
License Expiry Date	Displays the date on which this Transact license expires.
License Expiration Display Message	Displays the number of days before license expiration. This is when the system will prompt users about upcoming license expiration.
Reporting License Type	Identifies the type of reporting functions that are supported in this license. The three options for this field are as follows: • Standard: only Dashboard and Throughput reports are displayed in the user interface. • Advanced: this setting includes Throughput reports and Correction reports. • Advanced with Custom Reporting: this setting includes everything from Advanced, with the additional ability to create a completely different user interface, using the Logi library. This is a development license.
Web Service License Type	Identifies the use of Web Services by (1) Image Count or (2) service hits per day.
Web Service Hits Per Day	If the above field is set to "Web Service hits per day," the number of daily Transact Web Service requests displays here.
Additional OCR Language Pack	Lists the language packs that are supported by OCR engines in this installation.
Image Count	Displays the image count for this license, which may be one of the following: • Annual total • Subscription total for the life of the subscription, if different than an annual total • Unlimited
Overage Image Count	The number of images that a user can process after exceeding the image count specified in their contract.

Field or Switch	Description
Remaining Number of Images	Specifies the remaining number of images that can be processed before Transact stops if the license is image count based.
Handwriting Recognition+ Switch	Currently not in use.
Handwriting Recognition+ Expiry Date	Currently not in use.
Handwriting Recognition+ Image Count	Currently not in use.
Handwriting Recognition + Remaining Number of Images	Currently not in use.
Identification Extraction Switch	Indicates the status of the Identification Extraction plugin as either **ON** or **OFF**.
Identification Extraction Expiry Date	Displays the date when this Identification Extraction license expires.
Identification Extraction Image Count	Displays the image count for the Identification Extraction license, which may be one of the following: • Annual total • Subscription total for the life of the subscription, if different than an annual total • Unlimited
Identification Extraction Remaining Number of Images	Specifies the remaining number of images that can be processed with the Identification Extraction plugin if the license is image count-based.
Remaining Hits Per Day	Specifies the number of remaining Web Service hits allowed in the day if the license is Web Service by hits per day.
Web Service Switch	Indicates whether web service API calls are enabled for service. • This value is set to **ON** if this installation supports using API service calls. • This value is set to **OFF** if this installation does not use API service calls.
Verify Platinum Switch	Indicates whether this installation includes multi-server connectivity (**YES**) or single-server deployment (**NO**).
High Performance Switch	Any installation of 8 cores or more allows this switch to be enabled (**ON**). Enabling high performance allocates half of the available cores for OCR functions: • 8-Core Transact license: 4 OCR Cores • 16-Core Transact license: 8 OCR Cores • 32-Core Transact license: 16 OCR Cores
MAC Address	Lists the MAC address(es) associated with this installation. If there are multiple cores, each MAC address is separated by the pipe (|) symbol.
Number of Cores	Cites the number of cores for this licensed installation.

Field or Switch	Description
Operating System	Identifies the operating system for this installation and license.

Chapter 5

Additional resources

This chapter includes additional reference information to assist with the installation and upgrade process for Ephesoft Transact.

Best practices for a multi-server environment

A multi-server environment involves two or more servers running simultaneously with a shared database and shared folders. This page describes best practices when deploying a multi-server Transact cluster.

Database

- Install MSSQL or MySQL on a server that will not be a processing or UI server. This minimizes running processes, utilized RAM, and network requests sent to this server.
- Run a second server which hosts the redundant databases for Transact. This will minimize single points of failure in case of hardware or OS issues.
- Set up weekly database backups. Transact must be stopped for backups to occur.

SharedFolders

- Install SharedFolders on a machine separate from any of the processing or UI servers. This is to minimize network requests to the server and drive hosting SharedFolders.
- Set up weekly backups of SharedFolders. Transact must be stopped for backups to occur.
- If possible, RAID (redundant array of independent disks) storage is recommended.

Workflows and configurations

- Email import should run on a UI server to minimize CPU utilization and network traffic to the processing servers. This will help processing servers focus on the Transact workflow.
- Schedule the clean error job to stagger across each server. This can help prevent deadlocks which may occur if this executes simultaneously on multiple servers. To do so:

  1. Open the **dcma-workflows.properties** file, located at `[Ephesoft_Directory]\WEB-INF\classes\META-INF\`.
  2. Locate the **dcma.clean.error.job.cronjob.expression** property.
  3. Set the value to be offset for each server. This can vary depending on your business needs. For help creating cron expressions, see "Cron expressions" in *System Configuration Help*.

The following is an example of staggering this value across three servers:

- Server 1: 0 0/30 * ? * *
- Server 2: 0 5/30 * ? * *
- Server 3: 0 15/30 * ? * *

- Depending on your version of Transact, you may need to adjust your pickup settings to maximize batch pickup and processing across servers. See "Pickup service" in *Ephesoft Transact System Configuration Help* for more information.

Prerequisites for configuring Transact with Microsoft SQL Server

See *Ephesoft Transact Technical Specifications* to determine which operating system, database, and third-party integrations are supported for your version of Ephesoft Transact.

If using an existing database, make sure you have SQL Server client installed. For that, download and install the following software on the Ephesoft Transact server in the following order before installing Ephesoft Transact.

1. Microsoft SQL Server 2012 Native Client – QFE (Version 11.4.7001.0)
2. Microsoft ODBC Driver 17 for SQL Server (Version 17.8.1)
3. Microsoft Command Line Utilities 15 for SQL Server (Version 15.0.2)

Database type matching in server.xml and Windows registry

Whenever Transact is installed, database information is stored both in the `server.xml` file and Windows registry. If required, the user can change the database for Ephesoft Transact and update the database details in the `server.xml` configuration file. However, the Windows registry will still contain entries created at the time of installation. While this does not have any consequence for current system operation, it used to create problems after the application was upgraded. During the upgrade, the system picks up the details from the registry and automatically updates the `server.xml` file. As a result, the upgraded application could refer to a database that was no longer present and go into an error state.

In Ephesoft Transact 2023.1.00, the database details in `server.xml` are matched with the corresponding registry entries every time you upgrade the application. If these parameters match, the installation will proceed. If these parameters don't match, the system will stop the installation with the error message "`Installer has detected difference in selected database type in Windows Registry and Server.xml. Please update the configuration in registry to match the server.xml and re-try the installation`". At this stage, you can make the required changes either in the `server.xml` file or Windows registry to make sure the details point to the same database. After this, the upgrade must be restarted.

Consider the following example.

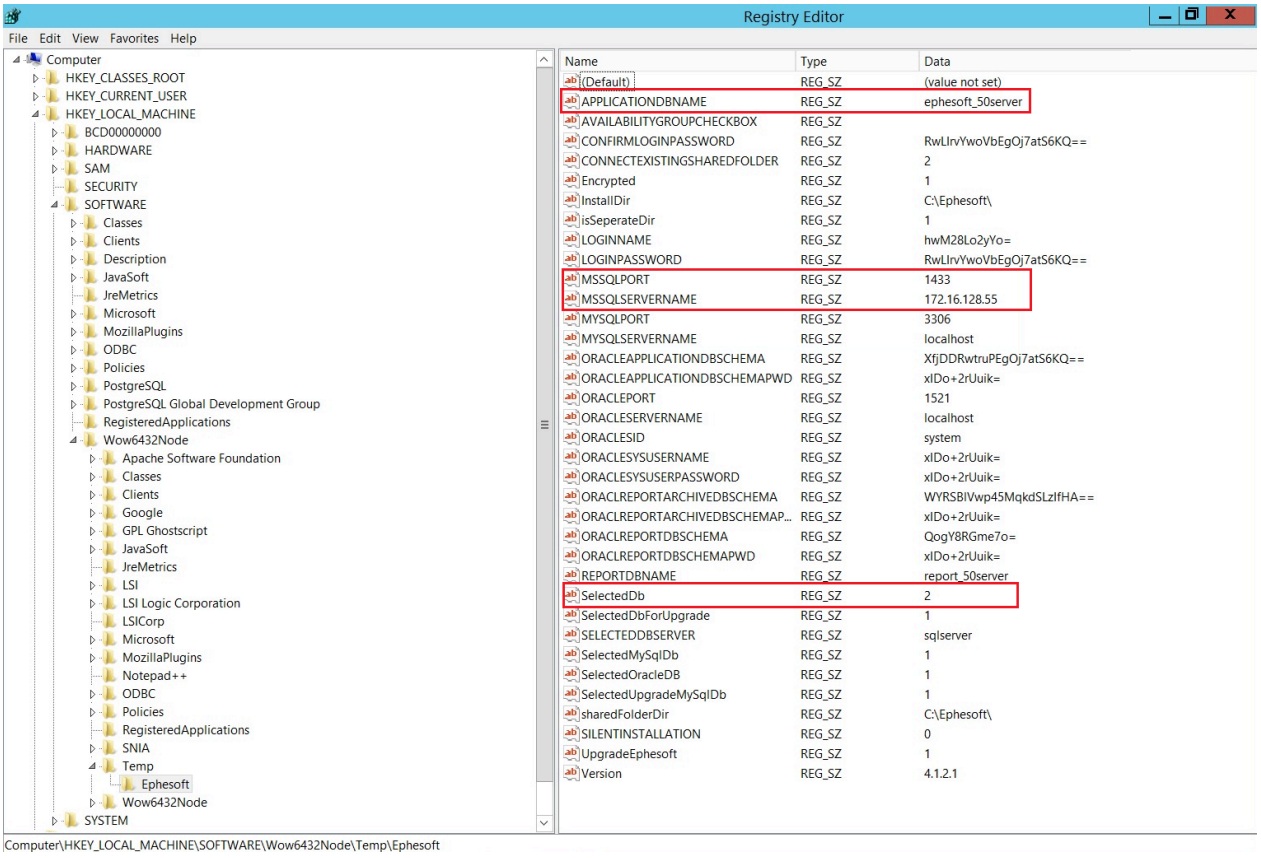
When you install Ephesoft Transact, database entries are created both in the `server.xml` file (`C:\Ephesoft\JavaAppServer\conf`) and Windows registry. The database details in these entries are the same.

server.xml

```
<Listener className="org.apache.catalina.security.SecurityListener" />
-->
<!--APR library loader. Documentation at /docs/apr.html -->
<!-- comment this Listener when using PIV/CAC configuration -->
<Listener className="org.apache.catalina.core.AprLifecycleListener" SSLEngine="on" />
<!--Initialize Jasper prior to webapps are loaded. Documentation at /docs/jasper-howto.html -->
<Listener className="org.apache.catalina.core.JasperListener" />
<!-- Prevent memory leaks due to use of particular java/javax APIs-->
<Listener className="org.apache.catalina.core.JreMemoryLeakPreventionListener" />
<Listener className="org.apache.catalina.mbeans.GlobalResourcesLifecycleListener" />
<Listener className="org.apache.catalina.core.ThreadLocalLeakPreventionListener" />
<Listener className="com.ephesoft.dcma.tomcat.listener.BeforeStopEventListener" />
<!-- Global JNDI resources
     Documentation at /docs/jndi-resources-howto.html
-->
<GlobalNamingResources>
  <Resource name="jdbc/ephesoft" auth="Container" factory="com.zaxxer.hikari.HikariJNDIFactory" type="javax.sql.DataSource" minimumIdle="5" maximumPoolSize="100" connectionTimeout
  ="300000" driverClassName="net.sourceforge.jtds.jdbc.Driver" jdbcUrl="jdbc:jtds:
  sqlserver://172.16.128.55:1433;databaseName=ephesoft_50server;sendStringParametersAsUnicode=true;prepareSQL=3" dataSource.implicitCachingEnabled="true" dataSource.user="dc123"
  dataSource.password="Test@123" connectionTestQuery="Select 1" />
  <Resource name="jdbc/reports" auth="Container" factory="com.zaxxer.hikari.HikariJNDIFactory" type="javax.sql.DataSource" minimumIdle="5" maximumPoolSize="100" connectionTimeout=
  "300000" driverClassName="net.sourceforge.jtds.jdbc.Driver" jdbcUrl="jdbc:jtds:
  sqlserver://172.16.128.55:1433;databaseName=report_50server;sendStringParametersAsUnicode=true;prepareSQL=3" dataSource.user="dc123" dataSource.password="Test@123"
  dataSource.implicitCachingEnabled="true" connectionTestQuery="Select 1" />
  <Resource name="jdbc/reports_archive" auth="Container" factory="com.zaxxer.hikari.HikariJNDIFactory" type="javax.sql.DataSource" minimumIdle="5" maximumPoolSize="100"
  connectionTimeout="300000" driverClassName="net.sourceforge.jtds.jdbc.Driver" jdbcUrl="jdbc:jtds:
  sqlserver://172.16.128.55:1433;databaseName=report_50server_archive;sendStringParametersAsUnicode=true;prepareSQL=3" dataSource.user="dc123" dataSource.password="Test@123"
  dataSource.implicitCachingEnabled="true" connectionTestQuery="Select 1" />
  <!-- Editable user database that can also be used by
       UserDatabaseRealm to authenticate users
  -->
```

Extensible Markup Language file — length : 12,014 lines : 177 — Ln : 35 Col : 86 Sel : 0 | 0 — Windows (CR LF) — UTF-8-BOM — INS

Database details in server.xml file

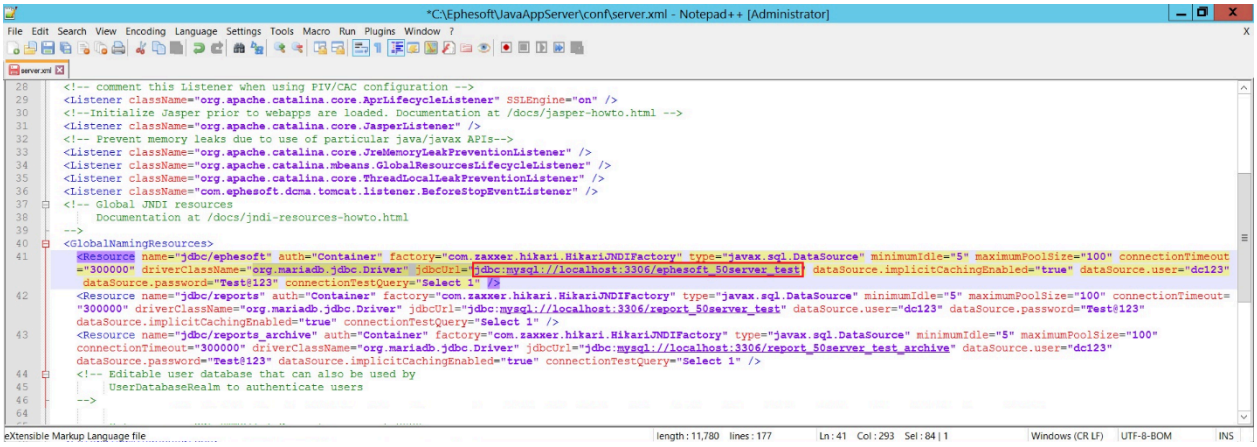


Database details in Windows registry

The SelectedDb entry in the Windows registry has one of the following values:

- 1 – MariaDB
- 2 – MS-SQL
- 3 – Oracle

Suppose you decide to use a different database and change the database details in the `server.xml` file accordingly.



When you try to upgrade Transact, the error message appears.

Before restarting the upgrade, you will have to go back to the `server.xml` file or Windows registry and make the required changes so that database details match. After this, the upgrade can continue normally.

Form Authentication and HTTPS support

The Ephesoft Transact installer supports Form Authentication both for HTTP and HTTPS protocols. The application can be set up to authenticate users on the basis of data provided during the installation itself. If you are installing Ephesoft Transact on a secure server, you can also specify SSL Certificate details. All provided data will be saved/updated/mapped automatically in the following files:

- `server.xml` (`<Ephesoft Installation Directory>JavaAppServerconf`)
- `web.xml` (`<Ephesoft Installation Directory>JavaAppServerconf`)
- `dcma-user.connectivity.properties` (`<Ephesoft Installation Directory>ApplicationWEB-INFclassesMETA-INFdcma-user-connectivity`)
- `dcma-batch.properties` (`<Ephesoft Installation Directory>ApplicationWEB-INFclassesMETA-INFdcma-batch`)
- `config.properties` (included in Ephesoft Transact installation package)

If you are installing Ephesoft Transact with HTTPS protocol, the keystore file with SSL certificate details is copied to the Certs folder of Ephesoft Installation Directory.

Windows installer:

1. Form Authentication with HTTP
2. Form Authentication with HTTPS
3. Form Authentication for silent installation

For Form Authentication for the Linux installer, see *Ephesoft Transact Installation Guide for Linux*.

Use Form Authentication with HTTP

1. Start the installation process by running the Ephesoft Transact Windows installer.
2. Follow the installation process until you reach the **Authentication Mode** step.
3. Select **Standard Form Authentication** and **HTTP** communication protocol, and click **Next**.
4. Select the **Connection Type** and configure connectivity details. There are three available connection types: LDAP, MS Active Directory and Tomcat.
   - **Tomcat** is selected by default and does not require any configurations.
   - For **LDAP**, configure the following details. You can hover over the text field to get more information on each parameter.

Configurable property	Description
Connectivity URL	A valid URL to connect to LDAP server. The connection URL should be in the following format: `ldap://<server_address>:<port_number>`.
Domain Name	The domain component name for the LDAP configuration.
Domain Organization	The domain component organization name for the LDAP configuration.
User Name	A valid username to connect and access LDAP server (the username of the user responsible for interacting with the server).
Password	A valid password to connect and access LDAP server (the password of the user responsible for interacting with the server).
Group Search Filter	A search string for searching groups.
User Search Filter	A search string for searching users.
Ldap User Base	The relative path under which all the users' information will be located. This attribute defines where to look for a user.
Ldap Group Base	The relative path under which all the groups/roles information will be located. This path will be relative to the domain components specified by the user.

   - For **Active Directory**, configure the following details. You can hover over the text field to get more information on each parameter.

Configurable property	Description
Connectivity URL	A valid URL to connect to LDAP server. The connection URL should be in the following format: `ldap://<server_address>:<port_number>`.
Domain Name	The domain component name for the LDAP configuration.
Domain Organization	The domain component organization name for the LDAP configuration.
User Name	A valid username to connect and access LDAP server (the username of the user responsible for interacting with the server).

Configurable property	Description
Password	A valid password to connect and access LDAP server (the password of the user responsible for interacting with the server).
Group Search Filter	A search string for searching groups.
User Search Filter	A search string for searching users.
AD Context Path	The directory path where the intended user resides. This parameter is optional and can be left empty.
AD Group Search Filter	This attribute helps to filter search results and can have the following operators: |(OR), &(AND) and !(NOT). Example: ((!(cn=a*))(|(cn=ephesoft*)(&(cn=b*))) This parameter is optional and can be left empty.

   a. Click **Next** to continue.

5. Configure **Realm Settings for HTTP**, and click **Next** to continue.

Configurable property	Description
Connectivity URL	A valid URL to connect to LDAP/Active Directory server. The connection URL should be in the following format: `ldap://<server_address>:<port_number>`.
Connection Name	A valid username to connect and access LDAP/Active Directory server (the username of the user responsible for interacting with the server).
Connection Password	A valid password to connect and access LDAP/Active Directory server (the password of the user responsible for interacting with the server).
User Base	The relative path under which all the users' information will be located. This attribute defines where to look for a user.
User Search	A search string for searching users.
Role Base	The relative path under which all the roles information will be located. This attribute defines where to look for a role corresponding to a user.
Role Name	Role name defines which attribute is used for a role.
Role Search	A search string for searching roles.

   This completes the process of configuring Form Authentication with HTTP server.

6. Proceed with the installation process.

Use Form Authentication with HTTPS

1. Start the installation process by running the Ephesoft Transact Windows installer.
2. Follow the installation process until you reach the **Authentication Mode** step.
3. Select **Standard Form Authentication** and **HTTPS** communication protocol, and click **Next**.
4. Now, provide the path and the password for the keystore file containing SSL certificate details, and specify the port on which you will run the application. Click **Next** to continue.

5. Select the **Connection Type** and configure connectivity details. There are three available connection types: LDAP, MS Active Directory, and Tomcat.
   - **Tomcat** is selected by default and does not require any configurations.
   - For **LDAP**, configure the following details. You can hover over the text field to get more information on each parameter.

Configurable property	Description
Connectivity URL	A valid URL to connect to LDAP server. The connection URL should be in the following format: `ldap://<server_address>:<port_number>`.
Domain Name	The domain component name for the LDAP configuration.
Domain Organization	The domain component organization name for the LDAP configuration.
User Name	A valid username to connect and access LDAP server (the username of the user responsible for interacting with the server).
Password	A valid password to connect and access LDAP server (the password of the user responsible for interacting with the server).
Group Search Filter	A search string for searching groups.
User Search Filter	A search string for searching users.
Ldap User Base	The relative path under which all the users' information will be located. This attribute defines where to look for a user.
Ldap Group Base	The relative path under which all the groups/roles information will be located. This path will be relative to the domain components specified by the user.

   - For **Active Directory**, configure the following details. You can hover over the text field to get more information on each parameter.

Configurable property	Description
Connectivity URL	A valid URL to connect to LDAP server. The connection URL should be in the following format: `ldap://<server_address>:<port_number>`.
Domain Name	The domain component name for the LDAP configuration.
Domain Organization	The domain component organization name for the LDAP configuration.
User Name	A valid username to connect and access LDAP server (the username of the user responsible for interacting with the server).
Password	A valid password to connect and access LDAP server (the password of the user responsible for interacting with the server).
Group Search Filter	A search string for searching groups.
User Search Filter	A search string for searching users.
AD Context Path	The directory path where the intended user resides. This parameter is optional and can be left empty.

Configurable property	Description
AD Group Search Filter	This attribute helps to filter search results and can have the following operators: |(OR), &(AND) and !(NOT). Example: ((!(cn=a*))(|(cn=ephesoft*)(&(cn=b*))) This parameter is optional and can be left empty.

This completes the process of configuring Form Authentication with HTTPS server.

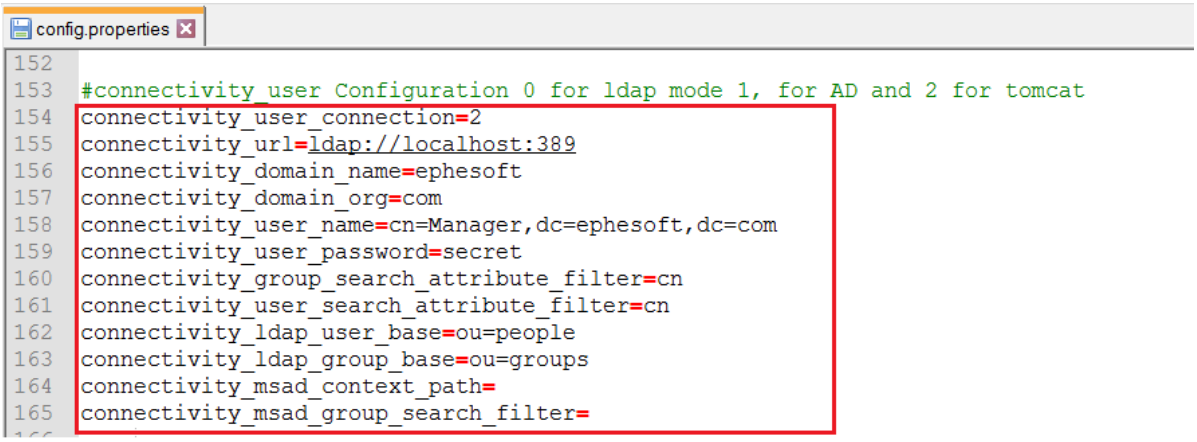
6. Proceed with the installation process.

Configure Form Authentication for silent installation

1. Open the `config.properties` file shipped along with the installer.
2. Configure the below mentioned parameters.

config.properties

```
109
110
111 #Authentication mode 0 for Form Authentication and 1 for PIVCAC (PKI) authentication mode
112 pivcac_selected_mode=0
113
114 #Form Authentication Configuration 0 for HTTP 1 for HTTPS
115 form_authentication_http_or_https=0
116
117 #if HTTPS selected then please provide keystore file  and its password
118 form_authentication_keystore_file_path=C:\\PIV\\sample-certificates\\servercert.jks
119 form_authentication_keystore_password=enter_servercert_password
120
121 #In case of PIV CAC(PKI authentication) please provide server certificate and ca
    certificate file path and its password
122 pivcac_server_cert_path=C:\\PIV\\sample-certificates\\servercert.jks
123 pivcac_server_cert_password=enter_servercert_password
124 pivcac_ca_cert_path=C:\\PIV\\sample-certificates\\cacerts.jks
125 pivcac_ca_cert_password=enter_cacerts_password
126
127 #Realm settings for PIV CAC or HTTPS(Form authentication)
128 pivcac_realm_connection_url=ldap://localhost:389
129 pivcac_realm_connection_name=cn=Manager,dc=ephesoft,dc=com
130 pivcac_realm_connection_password=secret
131 pivcac_realm_user_base=ou=people,dc=ephesoft,dc=com
132 pivcac_realm_user_search=cn={0}
133 pivcac_realm_role_base=ou=groups,dc=ephesoft,dc=com
134 pivcac_realm_role_name=cn
135 pivcac_realm_role_search=uniqueMember={0}
136 pivcac_realm_userSubtree=true
137 pivcac_realm_roleSubtree=true
```



Connectivity details must be provided only for LDAP or MS Active Directory. Tomcat does not require connection configuration.

Configurable property	Description
`pivcac_selected_mode`	The type of authentication mode you want to use. • 0 for Form Authentication • 1 for PKI Authentication
`form_authentication_http_or_https`	The communication protocol, which will be used for Form Authentication. • 0 for HTTP • 1 for HTTPS
`form_authentication_keystore_file_path`	The path to the keystore certificate with SSL information. Required only if HTTPS is selected.
`form_authentication_keystore_password`	The password for the keystore certificate with SSL information. Required only if HTTPS is selected.
`pivcac_realm_connection_url`	A valid URL to connect to LDAP /Active Directory server. The connection URL should be in the following format: `ldap://<server_address>:<port_number>`
`pivcac_realm_connection_name`	A valid username to connect and access LDAP/Active Directory server (the username of the user responsible for interacting with the server).
`pivcac_realm_connection_password`	A valid password to connect and access LDAP/Active Directory server (the password of the user responsible for interacting with the server).
`pivcac_realm_user_base`	The relative path under which all the users' information will be located. This attribute defines where to look for a user.
`pivcac_realm_user_search`	A search string for searching users.

Configurable property	Description
pivcac_realm_role_base	The relative path under which all the roles information will be located. This attribute defines where to look for a role corresponding to a user.
pivcac_realm_role_name	Role name defines which attribute is used for a role.
pivcac_realm_role_search	A search string for searching roles.
pivcac_realm_userSubtree	This attribute defines the search scope. Set to `true` to search the entire subtree rooted at the User base entry. Set to `false` to request a single-level search including only the top level.
pivcac_realm_roleSubtree	This attribute defines the search scope. Set to `true` to search the entire subtree rooted at the Role base entry. Set to `false` to request a single-level search including only the top level.
connectivity_user_connection	The type of connection you want to use for the application. • 0 for LDAP • 1 for MS Active Directory • 2 for Tomcat
connectivity_url	A valid URL to connect to LDAP server. The connection URL should be in the following format: ldap://<server_address>:<port_number>
connectivity_domain_name	The domain component name for the LDAP configuration.
connectivity_domain_org	The domain component organization name for the LDAP configuration.
connectivity_user_name	A valid username to connect and access LDAP server (the username of the user responsible for interacting with the server).
connectivity_user_password	A valid password to connect and access LDAP server (the password of the user responsible for interacting with the server).
connectivity_group_search_attribute_filter	A search string for searching groups.
connectivity_user_search_attribute_filter	A search string for searching users.
connectivity_ldap_user_base	The relative path under which all the users' information will be located. This attribute defines where to look for a user.
connectivity_ldap_group_base	The relative path under which all the groups/roles information will be located. This path will be relative to the domain components specified by the user.
connectivity_msad_context_path	The directory path where the intended user resides. This parameter is optional and can be left empty.

Configurable property	Description
`connectivity_msad_group_search_filter`	This attribute helps to filter search results and can have the following operators: |(OR), &(AND) and !(NOT). Example: `((!(cn=a*))(|(cn=ephesoft*)(&(cn=b*)))` This parameter is optional and can be left empty.

3. Save the changes.

Perform routine Ephesoft Transact backups

On a daily basis

1. Create a backup of the Ephesoft Transact system database by executing command: `mysqldump -uephesoft -pephesoft ephesoft2 > ephesoft_daily_12082011.sql`

   The database is saved to a file that reflects its status as a daily backup, and includes the date information. For additional details, please review the Create a Full Database Backup article on the Microsoft support site.

2. Backup the **SharedFolders** directory.

   `EphesoftSharedFolders` folder: The SharedFolders directory and the databases are the two primary pieces required to bring the server up. This folder also contains custom batch classes and training.

At major upgrade junctures

Copy the Ephesoft Transact installation folder to a backup location. The critical items that need to be added to the backup directory are:

1. `C:\Ephesoft\Application\WEB-INF` folder: Application-specific configuration options and workflow customizations, if any. This folder also includes META-INF folder, `lib` folder and `web.xml` file, which may be modified for customizations.
2. `C:\Ephesoft\Application\application\Context.xml` file: Includes the services enabled and disabled i.e. email import service can be enabled here.
3. `C:\Ephesoft\Application\log4j.xml` file: Includes logging settings for the application.
4. `C:\Ephesoft\Application\i18n` folder: Includes UI language files including custom locales.
5. `C:\Ephesoft\Application\images` folder: Includes UI image files. Customer may have their own logos.
6. `C:\Ephesoft\Dependencies\license-util\ephesoft.lic` file: The license file used for the system.
7. `C:\Ephesoft\Report\ephesoft-reporting\META-INF\dcma-performance-reporting` folder: Includes configuration and customizations for reporting module.
8. `C:\Ephesoft\JavaAppServer\conf` folder: Includes configuration files for Java Application Server.

9. `C:\Ephesoft\Dependencies\OpenLDAP` folder: Includes OpenLDAP database and configuration files.

Install and migrate to MariaDB for Windows

This document provides information on important changes related to MariaDB and MySQL on Windows.

- The Ephesoft Transact installer does not install any database management systems (DBMS).
- Ephesoft Transact does not support MySQL databases.

For more information on supported database versions, see *Ephesoft Transact Technical Specifications*.

Install Ephesoft Transact

Follow these instructions if you are installing Ephesoft Transact for the first time.

Check for MariaDB

Check your system for an existing instance of MariaDB before installing Ephesoft Transact.

- If you do not have an existing instance of MariaDB, proceed to Install MariaDB.
- If you have an existing instance of MariaDB that is supported for Ephesoft Transact 2023.1.00, you can return to Installation instructions.
- If you have an existing instance of MariaDB that is not supported for Ephesoft Transact 2023.1.00, you will need to install a supported version. Proceed to Install MariaDB.

Upgrade Ephesoft Transact

Follow these instructions if you are upgrading Ephesoft Transact. This section provides instructions on how to upgrade or migrate your database in the following cases:

- Existing MariaDB
- Existing MySQL

Existing MariaDB

If you have an existing instance of MariaDB, ensure that your instance of MariaDB is a supported version before upgrading Ephesoft Transact. For more information, see *Ephesoft Transact Technical Specifications*.

- If your instance of MariaDB is supported for upgrade to Ephesoft Transact 2023.1.00, you can return to Upgrade instructions.
- If your instance of MariaDB is not supported for upgrade to Ephesoft Transact 2023.1.00, you will need to perform a backup of Ephesoft Transact before installing a supported version. Proceed to Create a database backup.

Existing MySQL

If you are currently using MySQL with your version of Ephesoft Transact, you will need to perform a backup of Ephesoft Transact before installing MariaDB. Proceed to Create a database backup.

Create a database backup

This section outlines how to configure and create backups for previously installed MariaDB or MySQL databases. This process is required to restore and migrate the necessary data for Ephesoft Transact to function in the newly installed MariaDB instance and the newly created required databases.

If you do not need to perform a database backup, proceed to Install MariaDB. Otherwise, follow the steps listed below.

1. Open the Windows command prompt. Click **Start** and type `cmd`. Press **Enter**.
   The **Command Prompt** opens.
2. Back up the **ephesoft**, **report**, and **report_archive** databases from the pre-existing database.
   a. Run the following command in the MariaDB installation bin folder, located in `<Transact Installation Folder>\Dependencies\mariadb\bin`.

   ```
   mysqldump -u<root username> -p<root user password> -h<server hostname> -P<database port number> <Database name> --single-transaction --routines --quick --lock-tables=false > <Folder location>.sql
   ```

   Code listed in angled brackets are placeholders. Replace the placeholders with the relevant information. For `<Folder location>` include the full folder path where the backup file will be created.

   b. Run the mysqldump command for the **ephesoft**, **report**, and **report_archive** databases. Below are sample commands for each:

   ```
   D:\Ephesoft\Dependencies\mariadb\bin\mysqldump.exe -uroot -pPassw0rd -hlocalhost -P3306 ephesoft --single-transaction --routines --quick --lock-tables=false > C:\dbdump\ephesoft_backup.sql
   ```

   ```
   D:\Ephesoft\Dependencies\mariadb\bin\mysqldump.exe -uroot -pPassw0rd -hlocalhost -P3306 report --single-transaction --routines --quick --lock-tables=false > C:\dbdump\report_backup.sql
   ```

   ```
   D:\Ephesoft\Dependencies\mariadb\bin\mysqldump.exe -uroot -pPassw0rd -hlocalhost -P3306 report_archive --single-transaction --routines --quick --lock-tables=false > C:\dbdump\report_archive_backup.sql
   ```

   Each database dump must be written to a unique backup file. You must create backups for any additional databases that may have been created on your original database. For example, if you have a separate database to hold FuzzyDB lookup tables.

   Always restore and verify your data on your alternate MariaDB DBMS before considering de-provisioning an unused DBMS.

3. Continue to Install MariaDB to proceed.

Install MariaDB

This section provides information on how to install MariaDB on Windows. For more information on supported MariaDB versions, see *Ephesoft Transact Technical Specifications*.

1. Download a supported version of MariaDB from the MariaDB Foundation.
2. When the download is complete, open the Windows installer package
3. Click **Next**.
4. Read the end-user license agreement. Select **I accept the terms in the License Agreement** and click **Next**.
5. In the **Custom Setup** screen, select a database instance of the MariaDB Server and choose any desired features to install. All features are installed by default except the debug symbols. Select **Browse** to change the installation location if desired.

   ⚠ MariaDB must not be installed anywhere inside the Ephesoft Transact folder path.

6. In the **Default instance properties** screen, select **Modify password for database user 'root'** and enter a new root password in the text field. Confirm the new password by retyping it in the **Confirm** field.
   - As an optional step, you can select **Enable access from remote machines for 'root' user**.
7. Select **Use UTF8 as default server's character set** and click **Next**.
8. Select **Install as service** and **Enable networking**. Fill in the fields for **Service Name** and **TCP port**.
9. Click **Next** to proceed through the prompts until the following screen displays. Click **Install** to begin the installation.
10. Once the installation is complete, click **Finish** to complete the installation and exit the **Setup Wizard**.

You have successfully installed MariaDB for Windows. If you previously created a database backup, proceed to Restore backup files. Otherwise, return to the installation or upgrade guide for your version of Ephesoft Transact.

Restore backup files

If you previously performed the steps in Create a Database Backup, follow the instructions here to restore your MariaDB or MySQL data.

⛔ You must perform this step, or your data will be lost.

1. Ensure the original MariaDB or MySQL database is stopped and disabled, and the new MariaDB database is running.
2. Restore the **ephesoft**, **report**, and **report_archive** databases from the database backup with the following command:

```
mysql.exe -u<root username> -p<root user password> -P<database server port> <Database name> < <Folder location>\database_backup.sql
```

Code listed in angled brackets are placeholders. Replace the placeholders with the relevant information. For `<Folder location>` include the full folder path where the backup file will be created.

a. Run the above command for the **ephesoft**, **report**, and **report_archive** backup files. Below are sample commands for each:

```
mysql -uroot -pPassw0rd -P3306 ephesoft < C:\dbdump
\ephesoft_backup.sql
mysql -uroot -pPassw0rd -P3306 report < C:\dbdump\report_backup.sql
mysql -uroot -pPassw0rd -P3306 report_archive < C:\dbdump
\report_archive_backup.sql
```

Always restore and verify your data on your alternate MariaDB DBMS before considering de-provisioning an unused DBMS.

You have successfully restored your backup files.

Installer rollback support

The Ephesoft Transact installer supports the full rollback, taking backup of the entire current application as well as the registry before installing a new version. Now, if any error occurs during the upgrade, the new installation is completely rolled back, and the previous version is reinstated. This feature is applicable only to upgrade cases on Windows.

The installer rollback is initiated in the following cases:

- If the user clicks Cancel at any point of the User Interaction sequence explained below.
- If any error occurs during the upgrade, which prevents successful installation of a new version, for example:

  Exception while updating the placeholder

  Exception while merging property file

  Exception while merging web.xml

  Exception while merging applicationContext.xml

  Exception while merging server.xml

  Exception while copying jdk folder for 64/32 bit

  Exception while copying ghostScript folder for 64/32 bit

  Error while executing DB script

Every time the installer rollback is initiated:

- All the new files and folders copied during the upgrade are deleted.
- Old files from the full backup are copied back to the installation folder.
- Registry entriesare deleted for the new version.

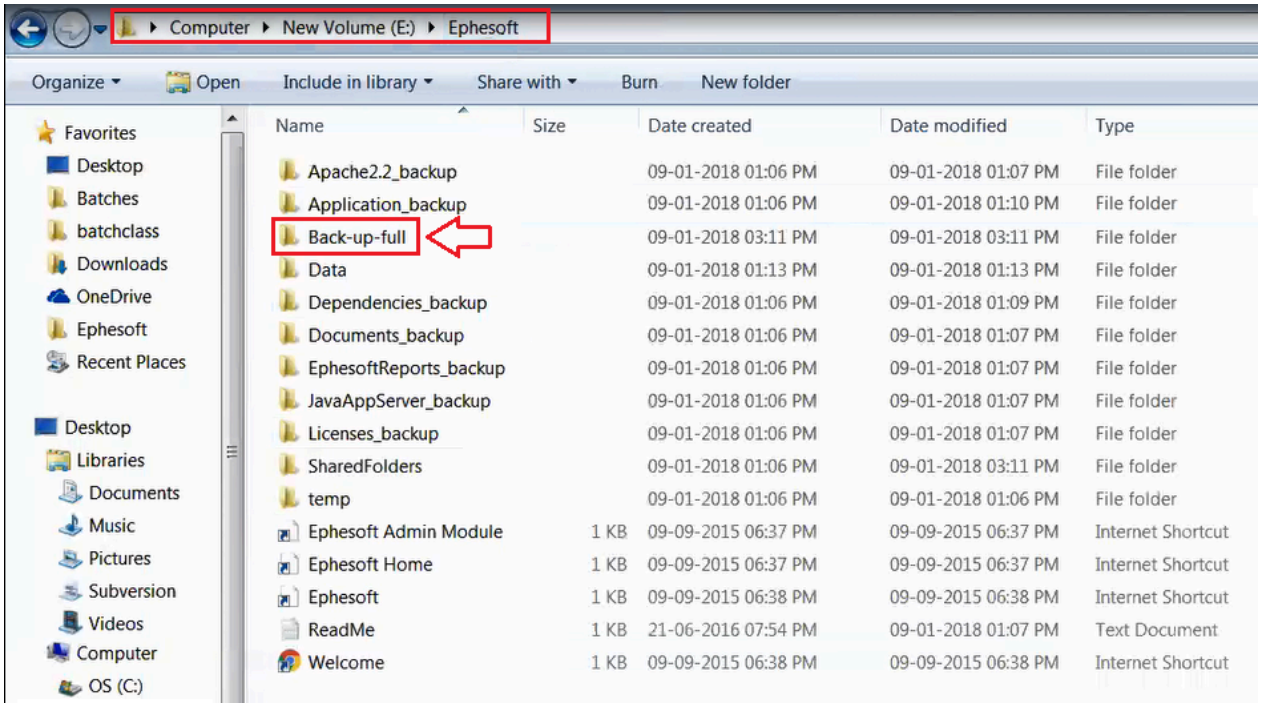
- Registry entry is restored from full backup.
- Entry from the components (add/remove programs) gets reverted.
- New shortcuts from the Program menu are deleted and old shortcuts from the full backup are copied to the program menu.
- All the services (Ephesoft Transact/Open Ldap) get started.

1. DB rollback is not supported. The user must take the DB backup before installing a new application version.
2. In the Shared Folders, the system backs up only those files, which need to be updated.
3. If the network disconnects while accessing Shared Folders on remote location, the rollback does not happen for the Shared Folders changes.

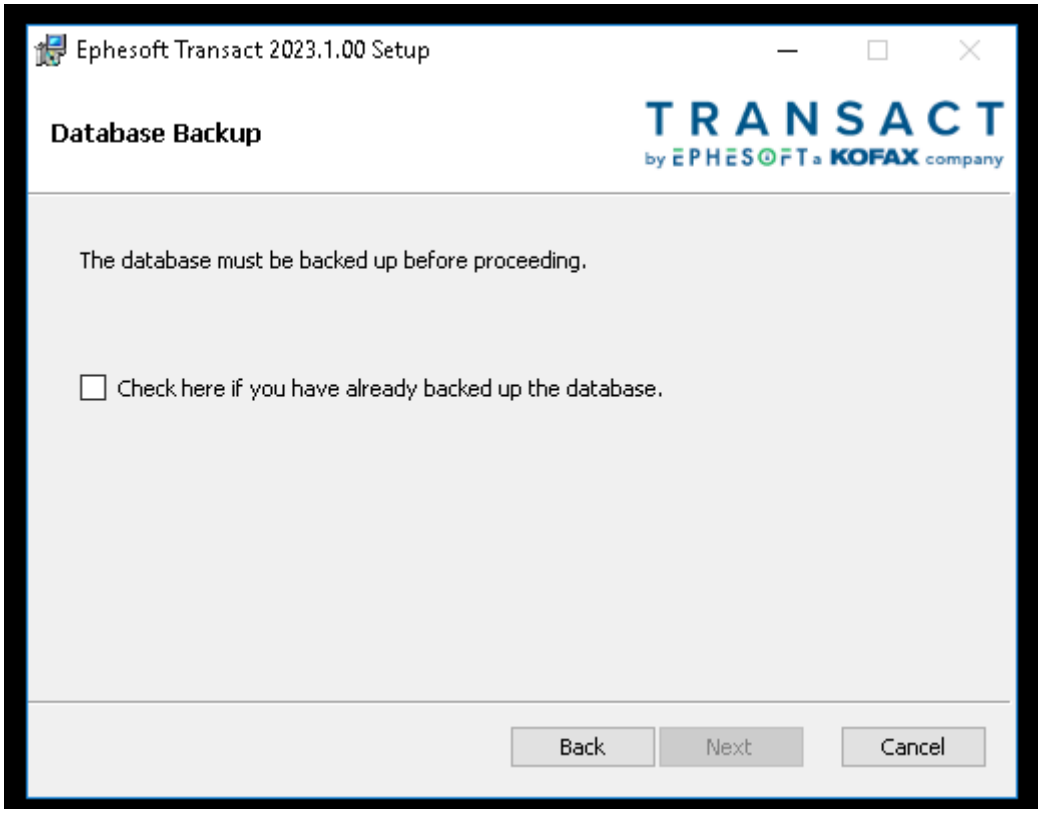
Rollback during normal installation

The normal Ephesoft Transact installation is performed in two sequences: the User Interaction sequence and the Execution sequence.

The User Interaction sequence includes several steps that require input/confirmation from the user, up to the screen with Install option. During this stage, the system takes the backup of all application folders and saves the back-up files in the Back-up-full folder in the Ephesoft Installation Directory of the currently installed version. At the same time, the other folders are also renamed as follows:



Since users must take the Database backup themselves, the following screen is available in the Installation Wizard. The Next button is disabled until the user confirms that DB was backed up by selecting the check box.



At any point of User Interaction sequence, the user can press the Cancel button present on all UI screens to stop the installation process. This initiates the rollback to the previous version – the application folders are renamed ("backup" suffix will be removed) and the backup files are deleted to restore the system to its original state.

The Execution sequence starts when the user clicks Install on the Ready to Install screen that appears right after confirming the Database backup.

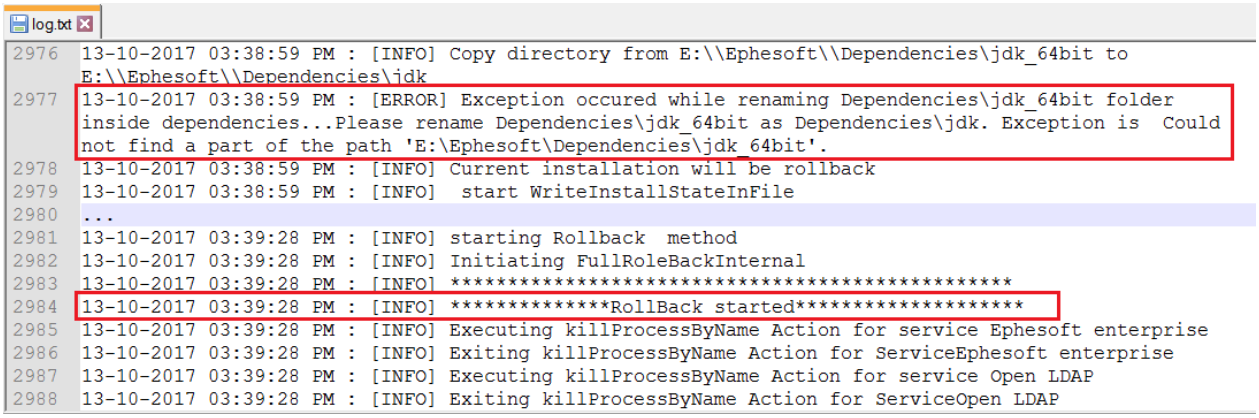
Once the user clicks Install, the window with the progress bar appears. From this point on, the user is not able to cancel the installation process. If they click Cancel, the message "The installation cannot be canceled at this point." is displayed.

If any error occurs during the Execution sequence, the installer initiates the rollback automatically.

Once the rollback is complete, the message is displayed, informing the user of the error and location of the log file with error details.

ℹ This dialog is not applicable if the user clicks Cancel during the User Interaction stage.

The installation log can be found in the `Ephesoft\logs` folder (`<User Home Directory>\AppDataLocal\Ephesoft\logs\Log.txt`).


log.txt

```
2976  13-10-2017 03:38:59 PM : [INFO] Copy directory from E:\\Ephesoft\\Dependencies\jdk_64bit to
      E:\\Ephesoft\\Dependencies\jdk
2977  13-10-2017 03:38:59 PM : [ERROR] Exception occured while renaming Dependencies\jdk_64bit folder
      inside dependencies...Please rename Dependencies\jdk_64bit as Dependencies\jdk. Exception is  Could
      not find a part of the path 'E:\Ephesoft\Dependencies\jdk_64bit'.
2978  13-10-2017 03:38:59 PM : [INFO] Current installation will be rollback
2979  13-10-2017 03:38:59 PM : [INFO]  start WriteInstallStateInFile
2980  ...
2981  13-10-2017 03:39:28 PM : [INFO] starting Rollback  method
2982  13-10-2017 03:39:28 PM : [INFO] Initiating FullRoleBackInternal
2983  13-10-2017 03:39:28 PM : [INFO] ************************************************
2984  13-10-2017 03:39:28 PM : [INFO] **************RollBack started*******************
2985  13-10-2017 03:39:28 PM : [INFO] Executing killProcessByName Action for service Ephesoft enterprise
2986  13-10-2017 03:39:28 PM : [INFO] Exiting killProcessByName Action for ServiceEphesoft enterprise
2987  13-10-2017 03:39:28 PM : [INFO] Executing killProcessByName Action for service Open LDAP
2988  13-10-2017 03:39:28 PM : [INFO] Exiting killProcessByName Action for ServiceOpen LDAP
```

The Back-up-full folder created in the Ephesoft Transact Installation Directory during the rollback is also saved (now with the previous version number in the name). If any error occurs during the rollback, Ephesoft Transact can be restored to the previous version manually using this folder, as the system takes the full backup of application, registry, and the Program menu.

Rollback during silent installation

The silent installation follows the same Execution sequence as with the normal installation. In silent installation inputs are taken from the `config.properties` file shipped along with the installer (for more information, refer here).

To start the silent installation, use the following command:

```
msiexec /i <path where msi is copied> /qb-! /norestart USERINPUTSPATH=<path
where properties file is copied>
```

Example:

```
msiexec /i E:\WINDOWS_Ephesoft_2023.1.00\Ephesoft_2023.1.00.msi /qb-! /
norestart USERINPUTSPATH=E:\WINDOWS_Ephesoft_2023.1.00\config.properties
```

Make sure to take the Database backup before starting the installation of a new version.

If the installer encounters any error while reading and validating the input, the installation process stops, and the same rollback activity is followed as in the case of normal installation described above.

Since this is a silent installation, no message appears at the end of the rollback procedure. To confirm the details, refer to the installation log in the `Ephesoft\logs` folder (`<User Home Directory>\AppData\Local\Ephesoft\logs\Log.txt`). The log file contains information about the error and the rollback process, if it was initiated.

Log-on service user credentials

In Ephesoft Transact, you can select whether to install the service with the local system account or another account. A new section has been added to the installer with two options: **Local System Account** and **This Account**. If you select the first option, the system will automatically pick up the credentials and create a service for the local system account. This is the same as previous functionality.

If you select the second option, you have to provide the corresponding username and password. This information will be used by the installer to create a Windows service for a specified account.

The user of the specified account should be allowed to run the service.

To add a user with the right to log on as a service:

- In the Windows Start menu, type **Local Security Policy** and select the **Local Security Policy** desktop app.
- Open the **Local Policies** folder and select **User Rights Assignment.**
- In the right panel, right-click **Log on as a service** and select **Properties**.
- Click **Add User or Group** to add your user and provide the details. Then, click **OK**.
- If required, restart your system.

Once installation of Ephesoft Transact is complete, the log-on service user details are saved in the Ephesoft Transact service properties (see **Services** > **Ephesoft Transact** > **Properties** > **Log on**).

Make sure not to make any changes in the Ephesoft Transact service properties to avoid log-on errors.

The Ephesoft Transact installer is shipped as a .zip file. To install the application, you need to extract the content, and then run the .msi installer.

Multi-server deployment

This feature allows user to set up multi server environment for Ephesoft Transact. By using multi server environment, two or more servers can run at the same time having shared database and shared folders.

This feature helps the user to increase the throughput via processing the batches using multiple servers.

User can install Ephesoft Transact through installer on all the machines by following mentioned steps:

Installing Ephesoft Transact on the first machine

1. On database configuration screen, enter the following information:
   - Port = `3306`

- Application DB name = `ephesoft`
- Report DB name = `report`

The same information, entered here, should be used while installing Ephesoft Transact on other machines.

Port number should not already be in use.

2. Fill in Registration information
3. Select **No** option on shared folder configuration screen.
4. The path of shared folders should be such that it should be shared over the network, so that it can be accessed by the other machines also.

   For example: `[file://server_name/path_to_shared_folders OR \server_namepath_to_shared_folders]`

   Server 1:

   Install Shared folder to: `[\server_nameEphesoft]`

   This will create folder named "SharedFolders" folder inside the Ephesoft Transact folder on the server.
5. Now complete the installation by following the standard steps.

The installation path should not contain white spaces.

Install Ephesoft Transact on the other machines

1. Database information needs to be same as entered for first install. This is very critical step in multi server setup.
2. Select "Yes" option on shared folder configuration screen.
3. On destination folder configuration screen, user should enter the path of shared folder same as entered while installing on first machine.

   Example on Server 2:

   Shared folder path is : `\server_nameEphesoft`

   This will link it with the already existing folder named "SharedFolder" on the network share.
4. Now complete the installation by following the standard steps.

Other configurations

The cron expression will have different values at different machines for following cron jobs at:

```
{Application}WEB-INFclassesMETA-INFdcma-workflowsdcma-workflows.properties

dcma.pickup.cronjob.expression=15 0/1 * ? * *

dcma.resume.cronjob.expression=15 0/1 * ? * *

e.g.

For server 1

dcma.pickup.cronjob.expression=15 0/1 * ? * *
```

```
dcma.resume.cronjob.expression=15 0/1 * ? * *


For server 2

dcma.pickup.cronjob.expression=45 0/1 * ? * *

dcma.resume.cronjob.expression=45 0/1 * ? * *
```

All the machines running in multi-server environment should be verified by a single Ephesoft Transact license, installed on an Ephesoft Transact server. To do so, following steps need to be followed:

The license server host configuration should be changed in the machines where the license server is not running i.e. they all should refer to the machine with Ephesoft Transact license installed and license server running. This is done by changing the `ephesoft.license.server.host` property in `license-client.properties` file, to the IP address of the machine on which license server is running.

Sample properties file: **META-INF** > **ephesoft-license-client** > **license-client.properties**

Change Ephesoft Transact port number

Sometimes it is necessary to change the port that Ephesoft Transact operates on. This is to prevent conflicts with other programs that are using `port:8080`.

Shut down Ephesoft Transact if it is currently running.

1. Navigate to the `web.xml` file found at **Ephesoft Installation Directory** > **ApplicationWEB-INFweb.xml**
2. User needs to change this value from:

   ```
   <context-param>

   <param-name>port</param-name>

   <param-value>8080</param-value>

   </context-param>
   ```

3. to this:(or the desired port number)

   ```
   <context-param>

   <param-name>port</param-name>

   <param-value>8090</param-value>

   </context-param>
   ```

4. Navigate to `dcma-batch.properties` found at **Ephesoft Transact Installation Directory** > **ApplicationWEB-INFclassesMETA-INFdcma-batchdcma-batch.properties**
5. Then proceed to change this from:

   ```
   batch.base_http_url=http://localhost:8080/dcma-batches
   ```

   to this:

```
batch.base_http_url=http://localhost:8090/dcma-batches
```

6. Navigate to `server.xml` file found at **Ephesoft Transact Installation Directory** > **EphesoftJavaAppServerconfserver.xml**
7. Change the highlighted value below to match the port number in the previous files (8090 or the desired port number)

```
<Connector port=”8080” protocol=”HTTP/1.1”

connectionTimeout=”20000”

redirectPort=”8443” />
```

The easiest way to do this is to do a find/replace for "8080" and replace all cases of 8080 with 8090 (or the desired port number).

8. Change this:

```
<Server port="8005” shutdown="SHUTDOWN">
```

To this:

```
 <Server port="8006” shutdown="SHUTDOWN">
```

9. Change this:

```
<Connector port="8009” protocol="AJP/1.3” redirectPort="8443” />
```

To this (or desired port):

```
 <Connector port="8019” protocol="AJP/1.3” redirectPort="8443” />
```

10. Restart Ephesoft Transact.

Multi-server deployment over multiple regions

This section describes how to deploy an Ephesoft Transact failover mechanism which provides a high-availability support for Ephesoft Transact services such as Folder Monitor service across servers over multiple regions (Data centers and cloud) and helps recover servers from crashes. If one of the servers fails, then a failover mechanism initializes another live server in multi-server environment and starts to provide (folder monitor) service through newly initialized server. Thus, user experiences minimum or no disruption in services. At present, two services are managed by the failover mechanism, specifically folder monitor and application script.

Introduction

Ephesoft Transact Server Failover Cluster is a group of independent servers that work together to increase the availability of applications and services.

Ephesoft Transact Server Failover Clustering provides infrastructure features that support the high-availability and disaster recovery scenarios. The services that were hosted on that node can be automatically or manually transferred to another available node in a process known as failover.

Database

All the servers with in multi-server set up will share the single instance of Ephesoft Transact database which will be the mode of synchronization between the servers.

Ephesoft Transact Database will be running in all circumstances and will form the basis of all communication between the servers.

Approach

The Ephesoft Transact database will contain two tables to keep track of number of servers and also which server is responsible for providing which service.

The two tables are as follows:-

- `server_registry`: To keep record of active and inactive servers.

Field name	Data type	Description
ID	BIGINT	ID is primary key of server_registry
ip_address	VARCHAR(255)	Ip_address is the IP address of the server
app_context	VARCHAR(255)	app_context is the application context like /dcma
port_number	VARCHAR(255)	Port_number is the port number on which application is running like: 8080
is_active	BIT	Is_active is 1 for active server and 0 for in-active server

- `service_status`: To keep track of which server is providing which service.

Field Name	Data Type	Description
ID	BIGINT	ID is primary key of server_status
service_registry_id	BIGINT	Service_registry_id is the foreign key to server_registry table
service_type	VARCHAR(255)	Service_type is the type of service provided by the server

A heartbeat service will be running on all the servers at different time intervals which will serve following purpose:

- It will ping the servers listed in `server_registry` table on regular basis and update their status by updating the is_active field of table.
- It will update the `service_status` table and persist which service is being executed on which server.

Following are the cases which will ensure a high-availability support for folder monitor service:

When the server starts initially:

Heart beat service at each server will check the `service_status` table synchronously and folder monitor service will be registered to the server on first come first serve basis. For example, if there are three servers say A, B, C and if server A starts first, then server A will provide the folder monitor service .It will make an entry in `service_status` table and all other servers will wait until server A is down.

Ephesoft Transact database will look like this:

`server_registry`

ID	IP_ADDRESS	PORT	IS_ACTIVE	APP_CONTEXT
1	A	8080	1	/dcma
2	B	8080	1	/dcma
3	C	8080	1	/dcma

`service_status`

ID	SERVER_REGISTRY_ID	SERVICE_TYPE
1	1 (for A)	FOLDER_MONITOR

When all the servers are running:

Heartbeat service will keep checking the status of other servers in multi-server environment and if it detects the one of server server is down then it will query the `service_status` table synchronously to check whether there was any service being provided by that server. If any such service is found then the server which detected other server's status will take the responsibility of providing the service which the in-active server was providing. It will also update the `service_status` table and `server_registry` table to synchronize the state and communicate other servers that responsibility is now being handled by it. For example, server A goes down and server C detects first that server A is down, then server C will take the responsibility of providing (folder monitor) service.

`server_registry`

ID	IP_ADDRESS	PORT	IS_ACTIVE	APP_CONTEXT
1	A	8080	0	/dcma
2	B	8080	1	/dcma
3	C	8080	1	/dcma

`service_status`

ID	SERVER_REGISTRY_ID	SERVICE_TYPE
1	3 (for C)	FOLDER_MONITOR

When other servers detect that one of the servers has become in-active, they will also query the `service_status` table to check whether any service was being handled by the in-active server.

But if they found that there was no service for which in-active server was responsible then they will continue to keep track for further failures. If the server that went down starts again then it will also wait for other servers to go down and this process will continue.

Failover mechanism will work the same way for all the other services under it.

OpenLDAP: Separate installation

This section applies to a fresh installation of Ephesoft Transact using LDAP and includes instructions for installing OpenLDAP separately from Ephesoft Transact.

Several Microsoft Visual C++ Redistributables were removed from the installer, as they were either at end of life (EOL) or posed security risks. This includes:

- Microsoft Visual C++ 2008
- Microsoft Visual C++ 2010
- Microsoft Visual C++ 2013

The OpenLDAP setup previously supplied with Ephesoft Transact had a dependency on Microsoft Visual C++ Runtime 2010 (VCRT). Separate installation is required for this scenario if you are not able to install VCRT 2010.

VCRT 2012 may still be required to run LDAP, however, we have observed no issues with a fresh installation on Windows 2016 with only VCRT 2015 installed.

- Ephesoft Transact is installed with LDAP selected as the connection type.
- The existing LDAP service deployed with Ephesoft Transact is stopped and set to not auto-start.

To install the OpenLDAP service:

1. Download the `OpenLDAPforWindows_x64.zip` file from MaxCRC.
2. Extract the contents from the `OpenLDAPforWindows_x64.zip` file to a temporary folder.
3. Execute the `OpenLDAPforWindows_x64.exe` file from the temporary folder.
4. If you are presented with the following security warning, click **Run**.
5. The Installation wizard will launch, and the following screen will display. Click **Next**.
6. Read the End User License Agreement (EULA). Select the checkbox labeled "I accept terms of the License Agreement".
7. Click **Next**.
8. Select the destination folder where OpenLDAP will be installed.
9. Click **Next** (》).
   The **Customize Setup** screen will display.

   By default, all options will be selected. We recommend using this default setup.

10. Click Next.
11. On the Additional Settings screen, provide the Server name / IP Address.

    If you are installing OpenLDAP on a single-server test environment, set this to localhost. Otherwise, provide your server name or IP address.

12. Leave the remaining settings with the default options (recommended) and click **Next**.
13. On the Database backend screen, select **BDB**.
14. Click **Next**.
15. On the BDB backend settings screen, leave the default options as is (recommended).
16. Click **Next**.
17. Click **Install** to begin the installation.
18. Click **Close** to close the installation wizard.

Prepare for import

After successfully completing the installation, the following steps must be performed before OpenLDAP can be used with Ephesoft Transact. This will set up default Ephesoft Transact users and groups.

1. From the Windows Start menu, open Services.
2. Locate the OpenLDAP service.
3. If the service displays as Running in the Status column, right-click OpenLDAP and select **Stop**.
   Wait while the Service Control stops the service. Leave the Services window open, we will return to it to restart the service.
4. Open the installation folder specified above.
5. Create a new folder within the installation folder named `BACKUP`.
6. Move the following from the installation folder to the `BACKUP` folder.
   - `secure` folder
   - `slapd.conf` file
7. Copy the following from the `OpenLDAP2.4` folder (located at `[Ephesoft_Directory]\Dependencies`) to the new installation folder:
   - `secure` folder
   - `slapd.conf` file
8. Return to the Services window.
9. Locate the OpenLDAP service.
10. Right-click OpenLDAP and select **Start**.
    Wait while the Service Control starts the service.
11. Close the Services window.

Import Ephesoft Configuration

1. Download the Ephesoft-OpenLDAP.ldif file and place it in a temporary folder.
2. Open the `jxplorer-3.2.1` folder, located at `[Ephesoft_Directory]\Dependencies \OpenLDAP2.4\ldap-client.`
3. Execute the `jxplorer.bat` file.
   The JXplorer application will start.
4. Go to **File** > **Connect**.
   The **Open LDAP/DSML Connection** menu will open.
5. In the bottom section labeled **Use a Template**, select **ephesoft** from the drop-down menu.
   This will populate all fields required to connect except the **Password**.
6. Provide the password from the installation and click **OK**.

   The default password is "secret".

7. You may encounter the following error messages (in no particular order):
   - "unable to list dc=ephesoft,dc=com"
   - "unable to list dc=com"
   - "unable to perform Read entry operation"

   This is because the client tool did not expect the top-level domains to be empty placeholders. It's fine to ignore these, click **OK** to dismiss any errors.
8. The directory tree in the left panel will now show the empty ephesoft domain name:
9. From the menu, select **LDIF** > **Import File**.
   You will be prompted to select your import file.

   You may see a few error messages similar to those listed before. Click **OK** to dismiss any errors.

10. From the menu, select **File** > **Disconnect**. This will disconnect the client application from the server.
11. Go to **File** > **Connect**. The **Open LDAP/DSML Connection** window will display, however now the fields should be automatically populated.
12. Click **OK**. This will establish a connection with the LDAP server and update the directory tree.

PKI authentication for Windows

This section describes how to configure PKI (Public Key Infrastructure) authentication as the authentication type when installing Ephesoft Transact for Windows. You can select the PKI

authentication type and import your PIV/CAC certificates during installation. All provided data is saved, updated, and mapped automatically in the following files:

- `server.xml` located in `< Ephesoft_Directory >\JavaAppServer\conf`
- `web.xml` located in `< Ephesoft_Directory >\JavaAppServer\conf`
- `dcma-user.connectivity.properties` located in `< Ephesoft_Directory >\Application\WEB-INF\classes\META-INF\dcma-user-connectivity`
- `dcma-batch.properties` located in `< Ephesoft_Directory >\Application\WEB-INF\classes\META-INF\dcma-batch`
- `config.properties` (included in Ephesoft Transact installation package)

The imported certificates are stored in the `Certs` folder of the Ephesoft Transact installation directory.

The Ephesoft Transact installer also provides an option to select a `PKI-config.properties` file to automatically fill in the required fields for PIV/CAC configuration. You can provide PIV/CAC details in the properties file and then specify the file location during the Ephesoft Transact installation.

The Ephesoft Transact Installer is shipped as a .zip file. To install the application, extract the content and run the installer.

Configure the PKI authentication using one of the methods:

1. Use Windows Install Wizard (Normal installation)
2. Use the config.properties file (Silent installation)

Use Windows Install Wizard

Follow these steps to configure PKI authentication when using the Windows Install Wizard to install Ephesoft Transact.

Follow these instructions when running a normal installation of Ephesoft Transact.

1. Start the installation process by running the Ephesoft Transact Install Wizard.
2. Follow the installation process up to the Authentication Mode step.
3. Select **PKI Authentication** to import your PIV/CAC certificates.
   The following PKI authentication options are available:
   - Provide the path to the file with PIV/CAC configurations. Refer to configuring PKI authentication to continue with this option (Use the config.properties file).
   - Enter all required PIV/CAC authentication details using the Setup Wizard. Click **Next** without attaching any files.
4. Provide the certificate details and click **Next** to continue.
   Refer to the following table for more information on configurable properties.

Configurable property	Description
Server Cert	The certificate that will be used to recognize your server.

Configurable property	Description
Password	Password for Server Certificate.
CA Cert	The certificate that will be used to recognize the certification authority.
Password	Password for CA Certificate.
Alias Name	The name of your server certificate as specified in the Trusted Root Certification Authorities folder of the Windows Certificate Manager.

5. In the **Realm Settings for PKI** section, provide the details about the realm you have configured for using PKI authentication. Hover over the text field to get more information on each parameter.
6. Click **Next** to continue.

Configurable property	Description
Connection URL	A valid URL to connect to LDAP /Active Directory server. The connection URL should be in the following format: ldap://<server_address>:<port_number>.
Connection Name	A valid user name to connect and access the LDAP/ Active Directory server (the username of the user responsible for interacting with the server).
Connection Password	A valid password to connect and access the LDAP/ Active Directory server (the password of the user responsible for interacting with the server).
User Base	The relative path under which all the users' information will be located. This attribute defines where to look for a user.
User Search	A search string for searching users.
Role Base	The relative path under which all the roles information will be located. This attribute defines where to look for a role corresponding to a user.
Role Name	Role name defines which attribute is used for a role.
Role Search	A search string for searching users.
User Subtree	This attribute defines the search scope. Set to true to search the entire subtree rooted at the user base entry. Set to false to request a single-level search including only the top level.
Role Subtree	This attribute defines the search scope. Set to true to search the entire subtree rooted at the Role base entry. Set to false to request a single-level search including only the top level.

Configurable property	Description
X509 Auth Parameter	One of the username retriever parameters from the certificate. The available options are: • CN • PRINCIPALNAME • REGISTEREDID • RFC822NAME

7. Fill in the **Connector Settings** for PKI.

Configurable property	Description
Port	The number of the PKI Connector Port.
SSL protocol	The protocol that will be used to secure a connection between the client and the server.
SSL Enable Protocol	The supported versions of the selected protocol.
Ciphers text	The algorithm of encryption that will be used between the client and the server.

8. Click **Next** to continue.

User Connectivity settings (LDAP)

For LDAP, configure the following details. You can hover over the text field on the UI to view a tooltip for each parameter.

Configurable property	Description
Connectivity URL	A valid URL to connect to the LDAP server. The connection URL should be in the following format: `ldap://<server_address>:<port_number>`.
Domain Name	The domain component name for the LDAP configuration.
Domain Organization	The domain component organization name for the LDAP configuration
User Name	A valid user name to connect and access the LDAP server (the username of the user responsible for interacting with the server.
Password	A valid password to connect and access the LDAP server (the password of the user responsible for interacting with the server).
Group Search Filter	A search string for searching groups.
User Search Filter	A search string for searching users.
LDAP User Base	The relative path under which all the users' information will be located. This attribute defines where to look for a user.

Configurable property	Description
LDAP Group Base	The relative path under which all the groups/roles information will be located. This path will be relative to the domain components specified by the user.

User Connectivity settings (MSAD)

For Microsoft Active Directory (MSAD), configure the following details. You can hover over the text field on the UI to view a tooltip for each parameter.

Configurable property	Description
Connectivity URL	A valid URL to connect to the LDAP server. The connection URL should be in the following format: `ldap://<server_address>:<port_number>`.
Domain Name	The domain component name for the LDAP configuration.
Domain Organization	The domain component organization name for the LDAP configuration
User Name	A valid user name to connect and access the LDAP server (the username of the user responsible for interacting with the server.
Password	A valid password to connect and access the LDAP server (the password of the user responsible for interacting with the server).
Group Search Filter	A search string for searching groups.
User Search Filter	A search string for searching users.
AD Context Path	The directory where the intended user resides. This parameter is optional and can be left empty.
AD Group Search Filter	This attribute helps to filter search results and can have the following operators: |(OR), &(AND) and !(NOT). For example, ((!(cn=a*))(|cn=a*))(|(cn=ephesoft*)(&(cn=b*))) This parameter is optional and can be left empty.

You have successfully configured PKI authentication using the Windows Install Wizard.

Use the config.properties file

Follow these steps to configure PKI authentication using the `config.properties` when running a silent installation of Ephesoft Transact.

1. Open the `config.properties` file included in the Ephesoft Transact installer.
   You can either provide the details in the `config.properties` file or copy the PIV/CAC configuration section and save it in a separate configurations file. For example, create a `PKI-config.properties` file.
2. Refer to the following tables to configure the details required to import PIV/CAC certificates during installation.

Connectivity details are only needed for LDAP or MSAD. Apache Tomcat does not require connection configuration.

Authentication mode configuration

Configurable property	Description
pivcac_selected_mode	The type of authentication mode you want to use. • 0 for Form Authentication • 1 for PKI Authentication

PIV/CAC certificates details

Configurable property	Description
pivcac_server_cert_path	The certificate that will be used to recognize your server.
pivcac_server_cert_password	Password for the server certificate.
pivcac_ca_cert_path	The certificate that will be used to recognize the certification authority.
pivcac_ca_cert_password	Password for the CA certificate.

PIV/CAC Realm configuration

Configurable property	Description
pivcac_realm_connection_url	A valid URL to connect to LDAP/Active Directory server. The connection URL should be in the following format: `ldap://<server_address>:<port_number>`
pivcac_realm_connection_name	A valid username to connect and access the LDAP/ Active Directory server (the username of the user responsible for interacting with the server).
pivcac_realm_connection_password	A valid password to connect and access the LDAP/ Active Directory server (the password of the user responsible for interacting with the server).
pivcac_realm_user_base	The relative path under which all the users' information will be located. This attribute defines where to look for a user.
pivcac_realm_user_search	A search string for searching users.
pivcac_realm_role_base	The relative path under which all the roles information will be located. This attribute defines where to look for a role corresponding to a user.
pivcac_realm_role_name	Role name defines which attribute is used for a role.
pivcac_realm_role_search	A search string for searching roles.

Configurable property	Description
pivcac_realm_userSubtree	This attribute defines the search scope. Set to true to search the entire subtree rooted at the user base entry. Set to false to request a single-level search including only the top level.
pivcac_realm_roleSubtree	This attribute defines the search scope. Set to true to search the entire subtree rooted at the Role base entry. Set to false to request a single-level search including only the top level.
X509UsernameRetrieverParameter	One of the username retriever parameters from the certificate. The available options are: • CN • PRINCIPALNAME • REGISTEREDID • RFC822NAME

Connector settings for PIV/CAC configuration

Configurable property	Description
pivcac_Connector_port	The number of the PKI Connector port.
pivcac_Connector_client_auth	True if the client certificate is used for authentication, otherwise false. If a server is enabled with client certificate authentication, only users who attempt to connect from clients loaded with the right client certificates will succeed. Even if a legitimate user attempts to connect with the right username and password but is not using a client application loaded with the right client certificate, that user will not be granted access.
pivcac_Connector_compression	True if the compression algorithm is used to compress the data, otherwise false.
pivcac_Connector_ssl_enabled	True if the SSL protocol is used to encrypt the connection between the client and the server. False if the connection is not encrypted.
pivcac_Connector_secure	True if communication between the client and the server is secure, otherwise false.
pivcac_Connector_ssl_protocol	The protocol that will be used to secure a connection between the client and the server.
pivcac_Connector_trust_store_file_path	Location of the truststore file (`cacert.jks`).
pivcac_Connector_trust_store_password	Password for the truststore file (`cacert.jks`).
pivcac_Connector_key_store_file_path	Location of the keystore file (`servercert.jks`).
pivcac_Connector_key_store_password	Password for the keystore file (`servercert.jks`).
pivcac_Connector_ssl_enabled_protocol	The supported versions of the selected protocol.

Configurable property	Description
pivcac_Connector_ciphers_text	The algorithm of encryption that will be used between the client and the server.

Connectivity user configuration

Configurable property	Description
connectivity_user_connection	The type of connection you want to use for the application. • 0 for LDAP • 1 for MSAD • 2 for Tomcat
connectivity_url	A valid URL to connect to LDAP /Active Directory server. The connection URL should be in the following format: `ldap://<server_address>:<port_number>`
connectivity_domain_name	The domain component name for the LDAP/AD configuration.
connectivity_domain_org	The domain component organization name for the LDAP/AD configuration.
connectivity_user_name	A valid username to connect and access the LDAP/ Active Directory server (the username of the user responsible for interacting with the server).
connectivity_user_password	A valid password to connect and access the LDAP/ Active Directory server (the password of the user responsible for interacting with the server).
connectivity_group_search_attribute_filter	A search string for searching groups.
connectivity_user_search_attribute_filter	A search string for searching users.
connectivity_ldap_user_base	The relative path under which all the users' information will be located. This attribute defines where to look for a user.
connectivity_ldap_group_base	The relative path under which all the groups/roles information will be located. This path will be relative to the domain components specified by the user.
Microsoft Active Directory only	
connectivity_msad_context_path	The directory path where the intended user resides. This parameter is optional and can be left empty.
connectivity_msad_group_search_filter	This attribute helps to filter search results and can have the following operators: |(OR), &(AND) and ! (NOT). For example, `((!(cn=a*))(|(cn=ephesoft*)(&(cn=b*)))` This parameter is optional and can be left empty.

1. Start the Ephesoft Transact installer.

2. In the **Authentication Mode** screen, select **PKI Authentication**.
3. Click **Browse** and select the file where you configured the PIV/CAC settings.
4. Click **Next**.
   The installer picks up information from the file and all fields relating to PIV/CAC configuration are automatically populated.

UAC and environment variable checks in the Transact Windows installer

The Ephesoft Transact Windows installer for versions 4.5.0.0 through 2020.1.02 checks the UAC, Environment Variable, and IPv6 settings to ensure successful installation of Ephesoft Transact and its license. During installation, the Ephesoft Transact Prerequisites Check screen will appear. It will contain the results for the following three checks:

1. UAC (User Account Control) Check
   is performed to ensure that UAC is turned off, which is required for Ephesoft Transact installation. If UAC is on, the error message will be displayed. The user will need to finish the installation and then restart it after changing the UAC settings. This check applies to both fresh and upgrade installations. When completing a silent Ephesoft Transact installation, if the check fails, the details will be registered in the logs and installation will stop.
2. Environment Variable Check
   is done to confirm whether JAVA_HOME environment variable has been defined. If it has already been set by the user, the warning will be displayed informing the user that the installer will update/overwrite this environment variable. Since it is just a warning, the installation process will continue. When completing a silent Ephesoft Transact installation, the warning message will be saved in the logs and installation will continue.

If all prerequisite checks completed successfully, the Ephesoft Transact Prerequisites Check message will have the Pass message for all checks.

If any of the three prerequisite checks fail, then the Ephesoft Transact Prerequisites Check message will appear indicating which prerequisite or prerequisite failed.

Resolve Ephesoft Transact prerequisite check issues

Follow the steps in this section to resolve any prerequisite check issues.

Disable UAC

If the UAC Check fails, the **Next** button in the Ephesoft Transact Prerequisites Check will be disabled until UAC is turned off. You click the **Details** button for more information.

1. Click **Finish** to stop the installation process and then disable UAC.
2. To disable UAC, go to the **Control Panel System and Security Security and Maintenance** and select **Change User Account Control Settings**. Move the slider to **Never notify** and click **OK**.

3. Once the changes are saved, restart the Ephesoft Transact installer. The **Next** button in the Ephesoft Transact Prerequisites Check is now enabled.
4. Click **Next** to finish the installation.

Environment variable

If the environment variable check fails, you receive a warning message. However, the **Next** button of the Ephesoft Transact prerequisites check is not disabled, and the installation process can be continued without making any changes. Moreover, the Ephesoft Transact installer deletes the existing JAVA_HOME environment variable. You can click the **Details** button for more information.

You can also cancel the installation if you do not want your JAVA_HOME environment variable to be modified. You can check your variables settings by navigating to **Control Panel All Control Panel Items System** and selecting **Advanced system settings**. In the **System Properties** window, click **Environment Variables**.

If the existing JAVA_HOME environment variable is deleted, the prerequisite check will pass.

During installation, the required environment variable in the system is set according to the Ephesoft Transact installation folder. The Ephesoft Transact installer includes the `setEnv.vbs` file, which contains various paths and placeholder `@@INSTALL_DIR@@`. `@@INSTALL_DIR@@` the Ephesoft Transact installer will replace `@@INSTALL_DIR@@` with Ephesoft Transact installation folder path (for example, `d:ephesoft)`.

In rare cases, an internal error may cause the installer to not update these placeholders. If this happens, then the installer will not set the environment variable, stop the installation, or initiate rollback during an upgrade. You will need to identify and remove the root cause of the internal error before you can continue with the installation.

View upgrade or installation logs

If logs are available, they are located in the following directory to assist you in the troubleshooting process:

```
C:\Users\{Installation User Account}\AppData\Local\Ephesoftlogs
```

Windows uninstallation instructions

Prerequisites

- Ephesoft Transact is installed on the system.

  If desired, follow the steps described in Perform routine Ephesoft Transact backups to perform a backup of the Ephesoft Transact system database.
- In a multi-server installation scenario, unmount `SharedFolders` before proceeding with uninstallation.

Uninstallation steps

Perform the following steps to uninstall Ephesoft Transact

1. Open the **Windows Control Panel**.
2. Go to **Programs** > **Programs and Features**.
3. Select Ephesoft Transact and click **Uninstall**

   If you receive an error message regarding permissions, go to `C:\ProgramData\Microsoft\Windows\Start Menu\Programs\Ephesoft`, and select **Uninstall Ephesoft** and **Run as administrator**

4. Delete the license information from the Windows registry: `HKEY_LOCAL_MACHINE\SOFTWARE\JavaSoft\Prefs`
5. Delete the Ephesoft Transact temp install information from the Windows registry (if it exists): `HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Temp\Ephesoft`
6. Delete the `ephesoft`, `report`, and `report_archive` databases (if they exist).
7. Delete the remaining backups folders:
   - `[drive]\Ephesoft`
   - `[drive]\SharedFolders`

   These folders are installed on the C:\ drive by default.