



Pegasus CIS 5 – Installation Guide



**CONSTRUCTION INDUSTRY SOLUTIONS
FROM PEGASUS**

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Orion House, Orion Way, Kettering, Northamptonshire, NN15 6PE (Registered Office:
One Central Boulevard, Blythe Valley Park, Shirley, Solihull, England B90 8BG)
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www.pegasus.co.uk

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Introduction

About this Guide

This Installation Guide provides information concerning the installation and initial configuration of CIS 5.

The guide includes instructions for making sure the prerequisites are installed, installing the server software, configuring the server software, installing the client software and migrating data from earlier versions of CIS 5.

The guide assumes you are conversant with networking environments, and have prerequisite knowledge of the supported Microsoft Windows server and desktop editions as well as other software environment applications identified in this guide.

The guide does not cover the configuration of a network environment nor SQL Server.

Getting the Software

The software is available for Pegasus partners to download using Infor Extreme and for customers using the Infor Download Center.

Pegasus Help Centre

The Pegasus Help Centre (docs.pegasus.co.uk) is your main resource for latest news and help topics, PDF user guides and product information.

Help

CIS 5 Help provides details of key functions available in the application.

Guide iterations

A summary of changes per document iteration.

| Iteration | Date | Changes |
|-------------|-----------------------------------|---|
| R2.0 | April 2022 | Baselined initial release of CIS 5 |
| R2.1 | 26/5/2022 (released August 22) | Added a new Troubleshooting entry for Runtime Error 339 & Connection error, Note added about supported browsers. Note added for specifying CIS Admin User on Migration. Default configuration DB note added, update front page. |

Installation Fundamentals

The CIS 5 installation consists of two parts: server admin software and client software. To install the client software, the server must have already been installed. This is because the client installation program relies on the server files & folders that are created during the server installation. The installation of the client installs all the necessary files needed to run CIS 5 from the client computer.

The Server Installation unpacks the SQL Databases, Dictionaries, Reports, System, Demo Data and other files needed for Pegasus CIS 5 to the Server.

The Server installation routine also copies the Client Installation files to a Folder 'C:\CIS\Setup\Desktop Client'. It is from here that you would install each client by running Setup.exe. If the client is already installed on a PC, each time Pegasus CIS 5 is launched it checks for any upgrades.

The Client Installation only installs application program files including Crystal Reports, i.e., all data files are installed using the Server Installation.

Shortcuts to the main executable are created to both the Desktop and the Start Menu. Additional support files are installed to the Windows System and Common Files directories.

For Servers setup with strict client Installation access rights (i.e., non-admin rights), an Administrator can use Group Policies to authorise the Windows Installer package for the Client and therefore elevate the installation rights on the Client.

* **Marked sections**, Dashboard Designer and Advanced Document Management elements (such as the Email Monitoring functionality, Settings – Document Management menu and integrated Application Document Management e.g., integrate with Word, Excel, Outlook etc.) will be coming soon to CIS 5.

*Note: Supported browsers Google Chrome, Microsoft Edge (based on Chromium), Safari and Mozilla Firefox – Latest versions. **Internet Explorer is not supported.***

Stage 1 - Installation Pre-requisites & Considerations

In this stage, you need to check that the necessary prerequisites are installed & applied.

- Software Environment
- Microsoft .Net Framework
- SQL Server Settings
- SQL Server Users

Software Environment

The following are recommended versions;

| Software | Description |
|---|---|
| Windows Server 2016+ | The Windows Server environment. |
| Microsoft .NET Framework <ul style="list-style-type: none">• v6 Windows Server Hosting for CIS 5 Server• v4.8 for CIS 5 Client(s) | The software development framework used in the development of CIS 5. |
| Microsoft SQL Server 2014+ | The data store technology used for CIS 5. The Software Requirements guide lists the supported versions of Microsoft SQL Server. |

Microsoft .Net Framework Considerations

The relevant versions of the .Net Framework are installed with CIS 5 (Server & Client). These are as follows;

- Version 6 Windows Server Hosting for the CIS 5 Server (which is part of the Server installation and can be found in the default location of C:\CIS\Setup\Hosting Bundle)
- Version 4.8 for the CIS 5 Client(s) (part of the client installation)

SQL Server Settings

There are a number of settings that need to be applied in order for CIS 5 to install and work.

- Mixed Authentication Mode
- TCP/IP Protocols

Mixed Authentication Mode

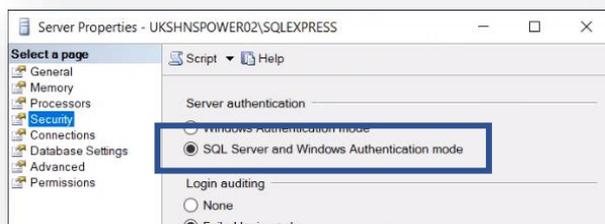
CIS 5 will use SQL Server Users in order to access and run the application and its communication with the SQL data. When installing CIS 5, the SQL User(s) must be used to complete the wizard. Mixed Authentication mode must be enabled for this process to complete successfully.

To ensure you have the correct setting, follow these steps;

1. On the server, click **Start** and type 'SQL Server'. Then click **SQL Server Management Studio** and connect to **Microsoft SQL Server**.
2. In the left pane, select the **Server**.



3. Open the **Properties** dialog for the SQL Server and open the **Server Security** page.
1. Under **Server authentication**, ensure **SQL Server and Windows Authentication mode** has been selected.



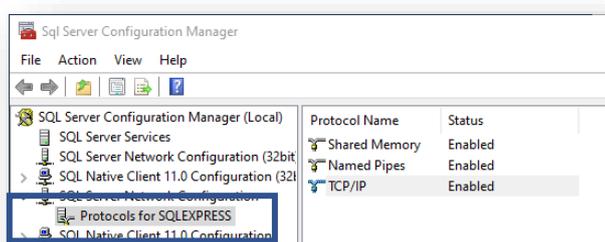
2. Close **SQL Server Management Studio**.

TCP/IP Protocols

In SQL Server 2014 +, the TCP/IP protocol must be enabled. In SQL Server Configuration Manager, make sure that the TCP/IP protocol is enabled for MSSQLSERVER (or the appropriate instance).

Follow these instructions;

1. On the server, click Start and type 'SQL Server'. Then click **SQL Server Configuration Manager**.
2. In the left pane, select **Client Protocols** under **SQL Server Network Configuration**.
3. Make sure that 'TCP/IP' is set to 'Enabled'.
4. Do the same for all 'TCP/IP' protocols in **SQL Server Configuration Manager** (i.e. Native Client Configuration).
5. Close **SQL Server Configuration Manager**.



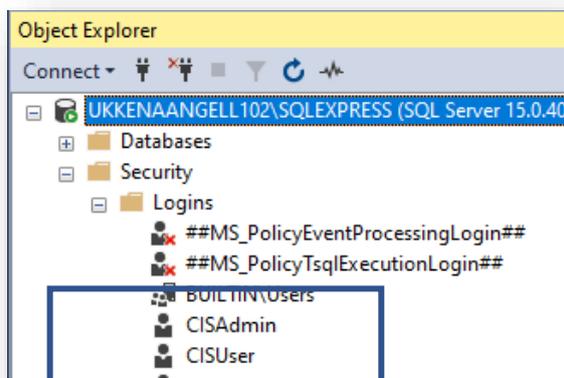
SQL User creation

CIS 5 will use SQL Server Users in order to access and run the application and its communication with the SQL data. When installing CIS 5, the SQL User(s) must be used to complete the wizard. Mixed Authentication mode must be enabled (see previous section) and the SQL Users created.

There is a requirement to create a SQL User for Admin purposes and a non-admin user for processing. The same SQL User may be used for each element, assuming the minimum permission requirements are applied.

Recommended set-up would include creating two users and applying the Roles respectively;

- CISAdmin
- CISUser



***NB:** When creating the Users ensure the option **User must change password at next login** is switched off*

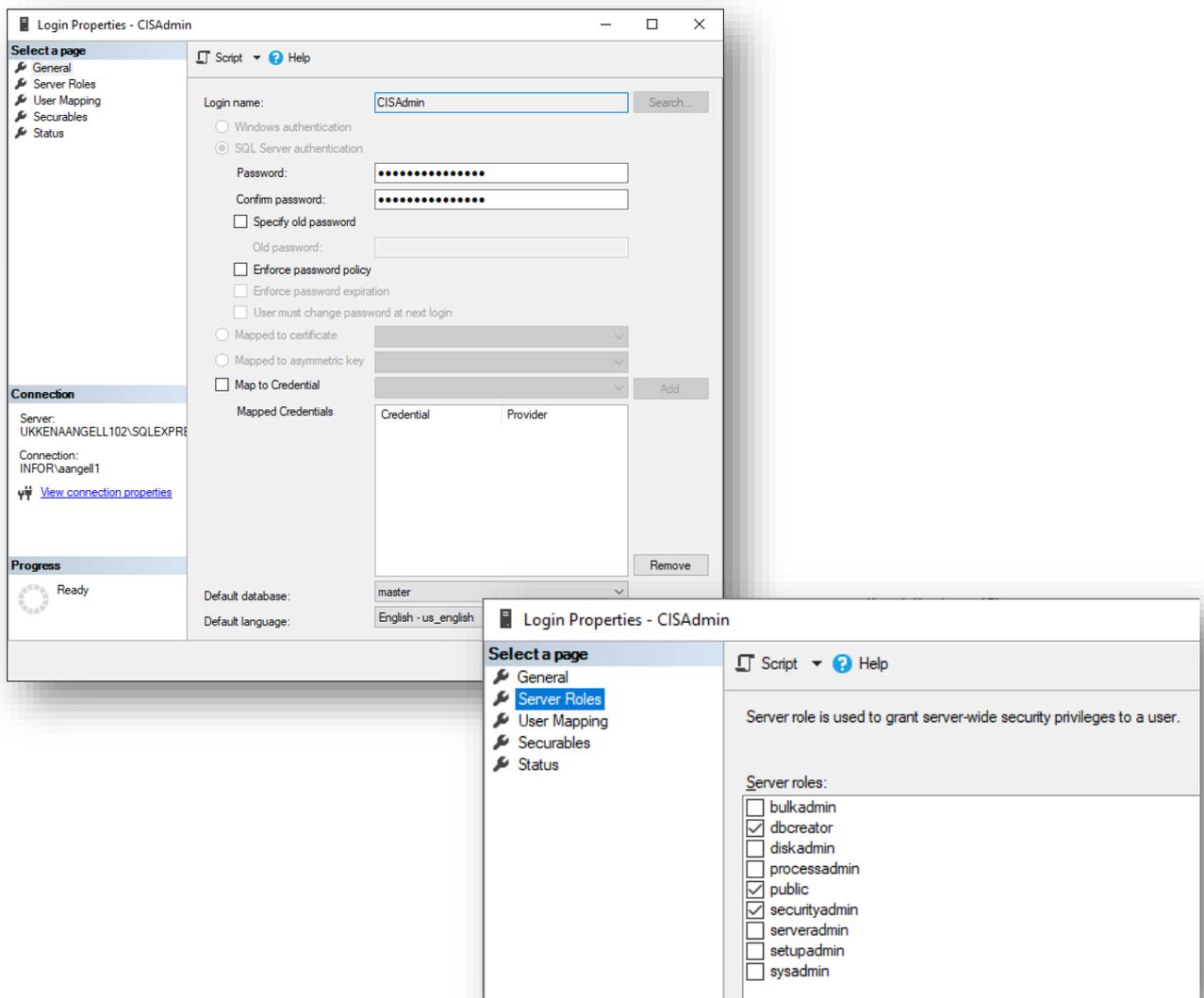
SQL Server Administrative User

For the Administrative role the CISAdmin user needs to be able to:

- Create/delete databases
- Change the recovery model on databases
- Assign user permissions on Company databases (specifically db_owner)
- Grant users the “View Server State” permission
- Set single user mode on a database

To create a new SQL User, use the following steps as a guide;

1. On the server, click **Start** and type 'SQL Server'. Then click **SQL Server Management Studio** and connect to **Microsoft SQL Server**.
2. In the left pane, select **Security** and then **Logins**.
3. Right-click on **Logins** and select **New Login**.
4. Type in the new login name i.e. 'CISAdmin', select **SQL Server authentication**, enter a secure password and complete the rest of the form (recommended to untick the password options).
5. Open the **Server Roles** page. Under **Server Roles**, make sure 'dbcreator' & 'securityadmin' are selected (as a minimum) and close the dialog.
6. Close **SQL Server Management Studio**.



SQL Server Non-Administrative User

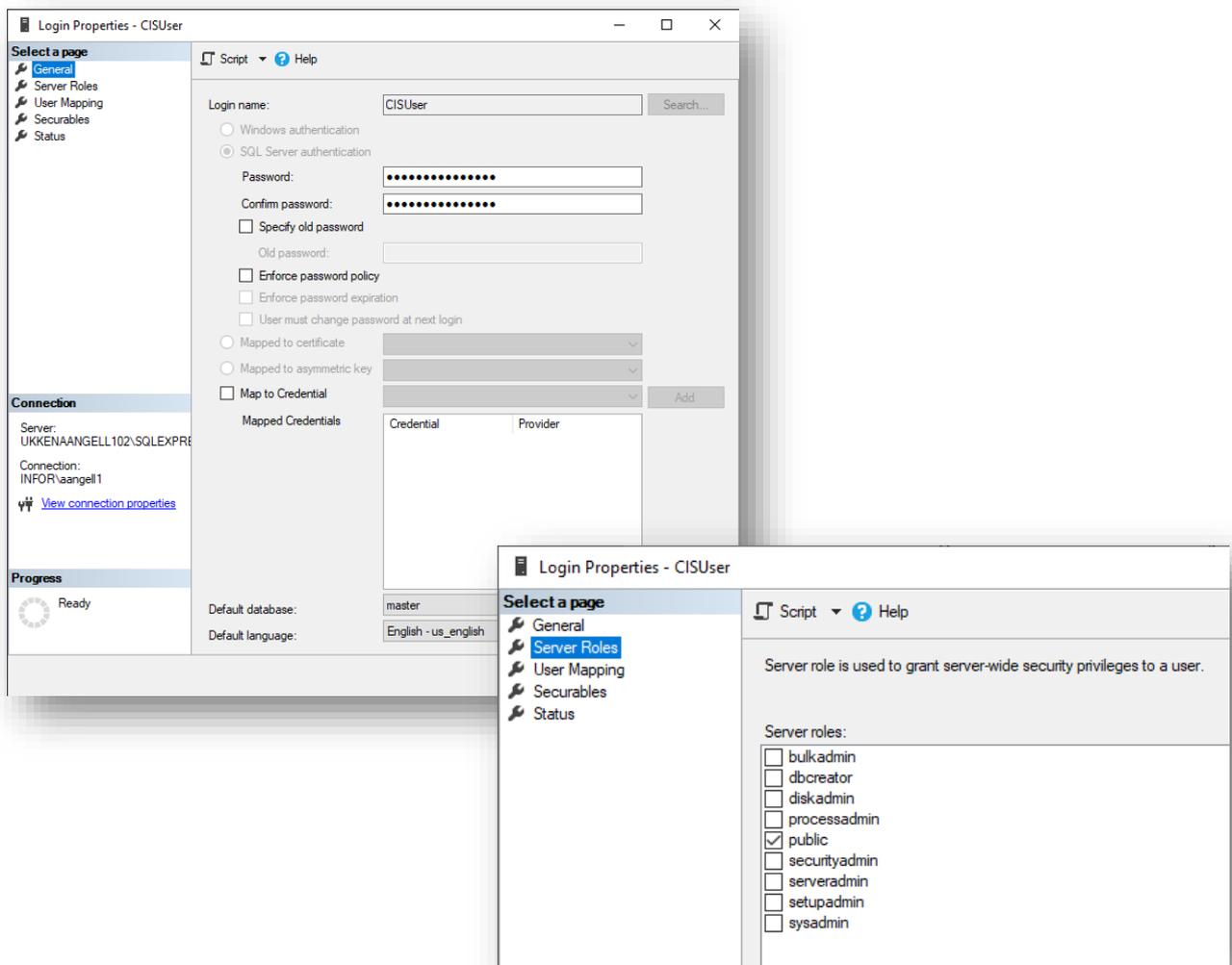
For the Non-Administrative role the CISUser requires:

- No specific access rights required.

Minimum recommended Role is the default Public Role.

To create a new SQL User, use the following steps as a guide;

1. On the server, click **Start** and type 'SQL Server'. Then click **SQL Server Management Studio** and connect to **Microsoft SQL Server**.
2. In the left pane, select **Security** and then **Logins**.
3. Right-click on **Logins** and select **New Login**.
4. Type in the new login name i.e. 'CISUser', select **SQL Server authentication**, enter a secure password and complete the rest of the form (recommended to untick the password options).
5. Open the **Server Roles** page. Under **Server Roles**, make sure 'public' is selected (as a minimum) and close the dialog.
6. Close **SQL Server Management Studio**.



Note: It is recommended to restart the SQL Service following any changes or record creation, prior to installing CIS 5.

Migration considerations

If you have an existing installation of CIS, prior to installing CIS 5, you will need to consider the migration of both the Microsoft Access Configuration database and any Microsoft Access Company databases to Microsoft SQL Server. To simplify and automate this process, there is a new [Access To SQL Server Migration Utility](#). This can be run before or after installing CIS 5 (with different considerations).

A key decision here is whether to migrate the existing Configuration database or start again with a clean setup. There is one Configuration database for each Pegasus CIS installation, and this holds all the users, companies, groups, permissions, reports, etc. All the settings in previous versions of the Configuration database (aka the “Core” database / PegasusCISCore.mdb) can be migrated to CIS 5 except for the module and menu permissions defined in Groups – these will all need to be recreated. The Groups themselves and the Members of those groups can all be migrated – just not the permissions themselves. This is because the entire permissions system has been completely redesigned, making the existing settings incompatible.

***NB:** It is recommended to keep the configuration database name to the default of PegasusCIS_Configuration.*

If the existing Configuration database is to be retained and for just the permissions to be recreated, the recommended approach is to migrate the Configuration database prior to installing CIS 5 as this is simpler. However, it is still possible to migrate the Configuration database after CIS 5 has been installed.

Migration of Company Databases to a “Clean” Installation

If the decision is made to take this opportunity to redesign groups, get rid of obsolete users, etc. and start from scratch, there is no need to migrate the Configuration database. Company databases can be migrated before or after installing CIS 5 – it is only the migration of the Configuration database that needs more consideration with this decision.

To migrate Company databases, run the Migration Utility and make sure to untick the Configuration database from the list of databases to migrate. Once all the databases have been migrated and the default “clean” Configuration database created after CIS 5 has been installed, the Companies can be created using the Administrator program and pointed to the SQL Server databases as normal.

Please refer to the [Migration Utility](#) section for further information.

Migration Prior to CIS 5 Installation

If you wish to retain the configuration details, it is recommended to run the Migration Utility prior to installing CIS 5. The migration utility will migrate the Configuration and Company databases at the same time, in parallel. Ensure the **Update Configuration Database with new company connection settings after migration** option is selected, as this ensures the Company databases that have been converted to SQL Server are automatically setup in the Configuration database without any manual intervention required. If this flag is not set, the settings in the migrated Configuration database will remain as they were and will therefore require manual configuration in the Administrator program after the migration is complete.

Please refer to the [Migration Utility](#) section for further information.

*Note: You can still run the migration utility just for the Company databases prior to installing CIS 5, however, these would then need to be added into the CIS system manually i.e. the **Update Configuration Database with new company connection settings after migration** setting would be unticked as the Configuration database would not be created or already exist.*

Migrating Post CIS 5 Installation

If you have already installed the CIS 5 Server and then want to migrate the Configuration database to SQL Server, there are some additional steps that need to be taken.

First, either the Configuration database will have to be given a different name to the original one entered as part of the CIS 5 Server installation (the Migration Utility will not overwrite an existing database); or the existing “clean” Configuration database created during the CIS 5 Server installation needs to be deleted.

NB: When testing the connection in the Migration Utility, it will warn and stop you from continuing if an existing database with the same name is found.

The Configuration database, optionally along with any Company databases, can now be migrated using the Migration Utility. When company databases are to be migrated, ensure you turn the **Update Configuration Database with new company connection settings after migration** option on (otherwise this will need to be setup and updated manually). This ensures the databases are converted to SQL and the company dataset(s) are “registered” in the configuration database so that they are listed automatically without any manual intervention required.

Once the migration of the Configuration database is complete, the CIS 5 Server setup needs to be updated from ‘Apps and Features’ / ‘Add/Remove Programs’. If you migrated the Configuration database to the same name as was entered when the CIS 5 Server setup was run initially, you need to run a ‘Repair’; if it is not the same name, you need to run a ‘Change’ then modify the Configuration database name to match.

Please refer to the [Migration Utility](#) section for further information.

NB: You will need to run the “Upgrade All” option in CIS Administrator – Companies following the installation of CIS 5

Split Migration

Company databases may be very large and could take a long time to migrate, so you may wish to split up the process, i.e., migrate just the Configuration database then complete the install of CIS 5 before migrating the Company databases.

Once the CIS 5 Server install is complete, the Migration Utility can be run again to migrate the Company databases, either one at a time or all at once. However, this time when selecting **Open server configuration file**, browse to the new **Pegasus.CIS.config** file instead. This will only display the company databases which can then be selected and ensure you select the option **Update Configuration Database with new company connection settings after migration** (otherwise this will need to be setup and updated manually). This ensures the databases have been converted to SQL and the company dataset(s) are “registered” in the configuration database so that they are listed automatically without any manual intervention required.

Please refer to the [Migration Utility](#) section for further information for migration, and the installation steps for [installing CIS 5](#).

The screenshot shows the 'Access to SQL Server Migration' utility window. The title bar reads 'Access to SQL Server Migration'. The main heading is 'Convert Microsoft Access databases to Microsoft SQL Server'. The window contains several input fields and a 'Test Connection' button. Below these is a checkbox for 'Update Configuration Database with new company connection settings after migration' which is checked. A section titled 'Select Companies to Migrate' lists two databases: 'Configuration Database' (PegasusCISCore.mdb) and '1 - Pegasus CIS Demo Data' (Demo\PegasusCIS.mdb). To the right of each database is a field for 'New SQL Server database name:'. At the bottom, a status bar shows 'To migrate: 2', 'Migrating: 0', 'Migrated: 0', and 'Errors: 0'. Several callout boxes provide additional information:

- Blue callout (top left):** Enter the SQL Server name where you wish to migrate the databases to.
- Green callout (middle left):** Enter the SQL database Prefix that will be used for any databases migrated.
- Yellow callout (middle left):** The list of databases found by the utility (Company & configuration databases).
- Orange callout (bottom left):** Key status information on migration.
- Black callout (top right):** The appropriate SQL Server Username to be used to perform the Migration. Please ensure relevant roles, permissions and security settings are applied. NB: Please specify the CIS Admin user here.
- Grey callout (middle right):** You will need to test the connection once all the relevant details have been entered.
- Blue callout (bottom right):** It is recommended to have the “Update Configuration Database with new company connection settings after migration” flag switched on, otherwise company datasets will have to be manually setup.

Stage 2 - Installing CIS 5

In this stage, you must install the CIS 5 server software using a setup wizard. The Server must then be used to configure the server software after it is installed.

Downloading the software

Download the latest version of CIS 5 software from the Infor ProductDownload Center or Infor Xtreme. The downloaded software includes a single server installation (msi) file. Save the downloaded software where it can be accessed from the server.

Installing server software

On the CIS 5 server, run Pegasus.CIS.Server.msi from the Server download folder and then complete the steps in the wizard setup.

1. Click **Next** on the **Welcome** screen



2. Select the required components and choose the installation location. It is recommended to use the default paths for all services and website components, however the Application Server path should be located on a suitable 'Data' drive (e.g. D:\CIS) if one exists). Then click **Next**.

NB: If an older version of CIS is already installed, it is recommended to adjust the existing installation by;

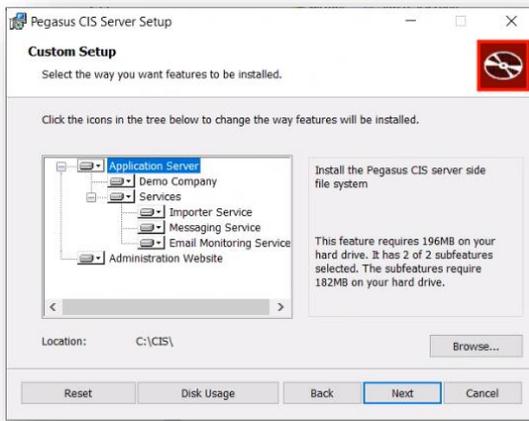
1. In the "CIS" folder on the server, create a new "v4" subfolder

2. Move all files and folders to the new v4 subfolder apart from the System directory and the PegasusCIS.e2k file.

3. Run the v4 Administrator program, go into "Set Application Paths and System Settings" and change the "Root Path" to the new corresponding "CIS\v4" path.

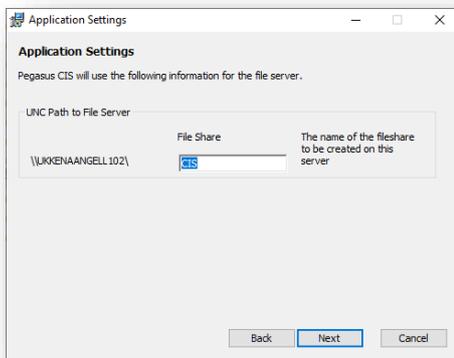
You could also try using a different & separate path when installing CIS 5 i.e. 'C:\CIS_5' but further manipulation may be required.

Please ensure no users are using the system when installing or upgrading, that sufficient space is available on the Server; and that the CIS services are restarted afterwards.



Note: If you do not require a Demo Company, then this component can be turned off, as the 'Executing SQL Strings' stage may take a lot longer to complete when the 'Demo Company' is included.

3. Enter the **File Share** name required (either use the default 'CIS' or specify your own). Then click **Next**.



4. Enter the **Server Name** in the **SQL Database Server** details. Then click **Next**.

Note: Enter the full instance name if in use. It is also recommended to leave the database names with the default assignments. An incorrect Server name will not allow the installation to proceed.

If a "migration" has been performed (utility or manual) prior to installing CIS 5 because you want the configuration details to be retained and used in the new version, please ensure you enter the correct name of the migrated configuration database if it is different to the default entry.

5. Enter the **User Name & Password** for the SQL Server Administrative and Non-Administrative Users. Refer to a previous step regarding the creation of the respective SQL Server Users. Then click **Next**.

***NB:** The User credentials will be checked before continuing the installation.*

Application Database Credentials

Pegasus CIS will use the following SQL Server credentials to access the configuration and company datasets

SQL Server Administrative User

User Name: CISAdmin
Password: [Masked]

An SQL user with read/write permission to the configuration and company databases and permission to create new databases

SQL Server Non-Administrative User

User Name: CISUser
Password: [Masked]

An SQL user with read/write permission to the configuration and company databases

Back Next Cancel

6. Enter the **Administration Website Settings**, recommended to use the default entries. Then click **Next**.

Administration Website Settings

Pegasus CIS uses IIS to host the system administration website. The simplest setup is to use the Server Name as the Web Address, in which case the Administration Website can be accessed at http://ServerName:31080 from within the local network only.

If desired, a fully qualified domain can be entered such as ccadmin.domainname.com along with http port 80. In which case the Administration Website can be accessed at http://ccadmin.domainname.com. It is recommended that the Administration Website is not made externally accessible.

After installation, SSL certificates can be used to secure communication with the web server and enable the use of https.

Administration Web Server Settings

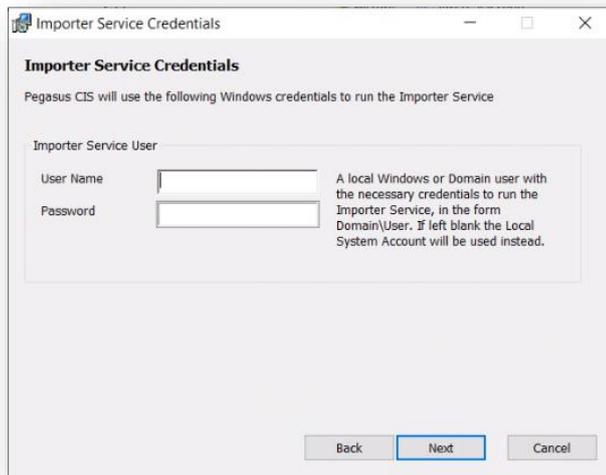
Web Address
http:// UKCISSEV01 : 31080

Back Next Cancel

***NB:** 31080 is the designated default port for the CIS administrator program but it can be changed in this step during the server setup. CIS can use any port as long as there are no conflicts with other applications. The CIS Server installation will add the incoming Firewall rule automatically without the user needing to do anything extra.*

7. Enter specific User credentials for the **Importer Service Credentials** details to be used. Leaving this blank will use the **Local System Account** instead. Then click **Next**.

Note: This service needs read & write access to the 'C:\CIS\Imports' folder on the server so it can monitor for files appearing and move processed files to appropriate sub-folders. Please ensure that either the local system account has the appropriate permissions on that folder or enter in a suitable username & password that does have the required permissions.



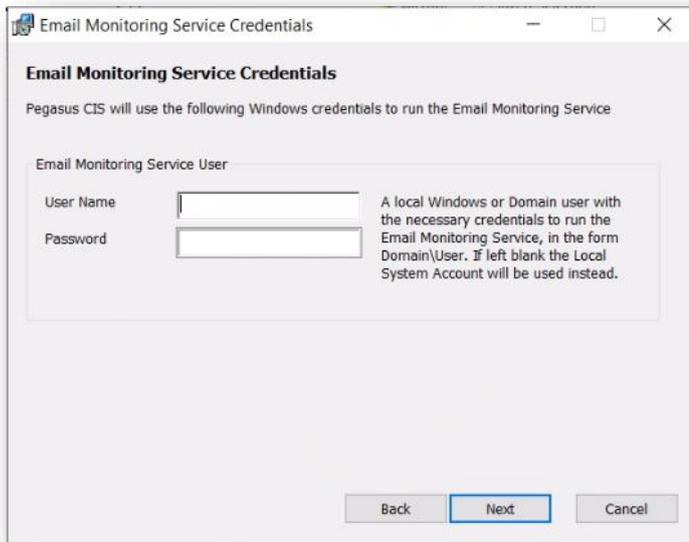
The screenshot shows a Windows dialog box titled "Importer Service Credentials". The main heading is "Importer Service Credentials". Below the heading, it states: "Pegasus CIS will use the following Windows credentials to run the Importer Service". Underneath, there is a section labeled "Importer Service User" containing two input fields: "User Name" and "Password". To the right of these fields is a note: "A local Windows or Domain user with the necessary credentials to run the Importer Service, in the form Domain\User. If left blank the Local System Account will be used instead." At the bottom of the dialog, there are three buttons: "Back", "Next" (which is highlighted with a blue border), and "Cancel".

8. Enter specific User credentials for the **Messaging Service Credentials** details to be used. Leaving this blank (Recommended) will use the **Local System Account** instead. Then click **Next**.

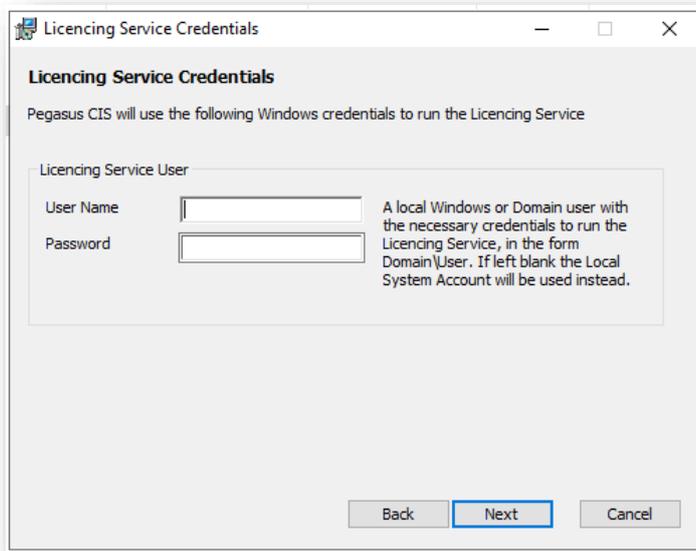


The screenshot shows a Windows dialog box titled "Messaging Service Credentials". The main heading is "Messaging Service Credentials". Below the heading, it states: "Pegasus CIS will use the following Windows credentials to run the Importer Service". Underneath, there is a section labeled "Messaging Service User" containing two input fields: "User Name" and "Password". To the right of these fields is a note: "A local Windows or Domain user with the necessary credentials to run the Messaging Service, in the form Domain\User. If left blank the Local System Account will be used instead." At the bottom of the dialog, there are three buttons: "Back", "Next" (which is highlighted with a blue border), and "Cancel".

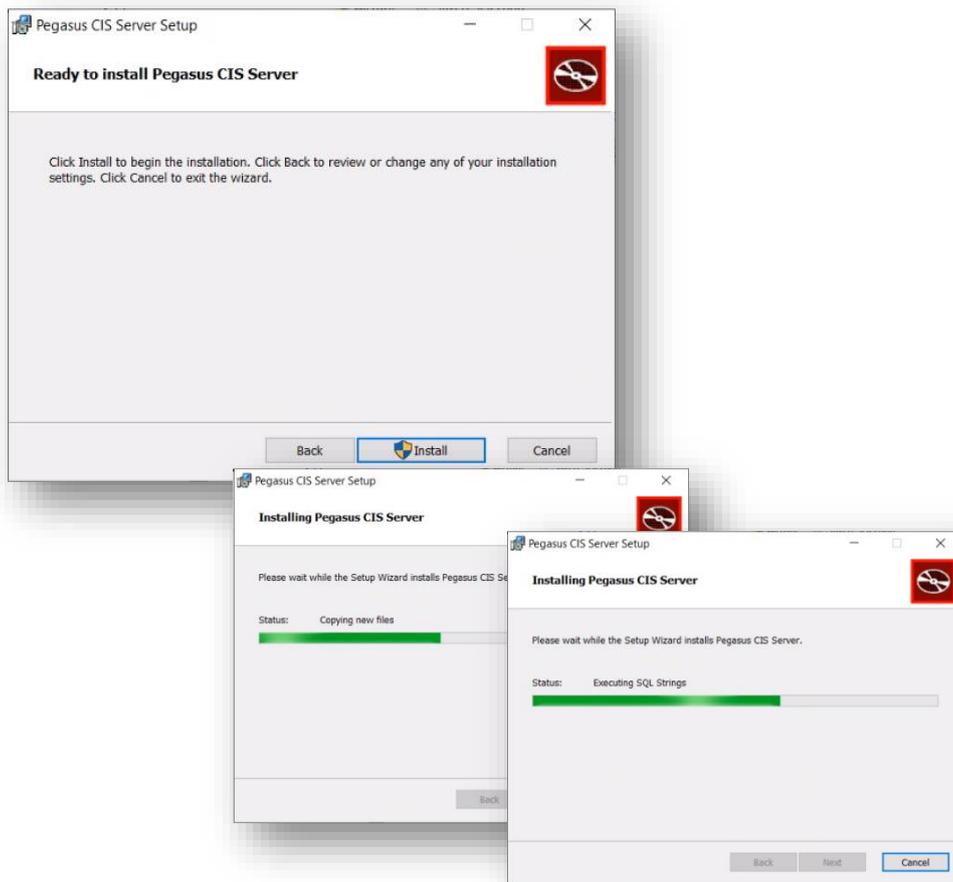
9. Enter specific User credentials for the **Email Monitoring Service Credentials** details to be used. Leaving this blank (Recommended) will use the **Local System Account** instead. Then click **Next**.



10. Enter specific User credentials for the **Licencing Service Credentials** details to be used. Leaving this blank (Recommended) will use the **Local System Account** instead. Then click **Next**.

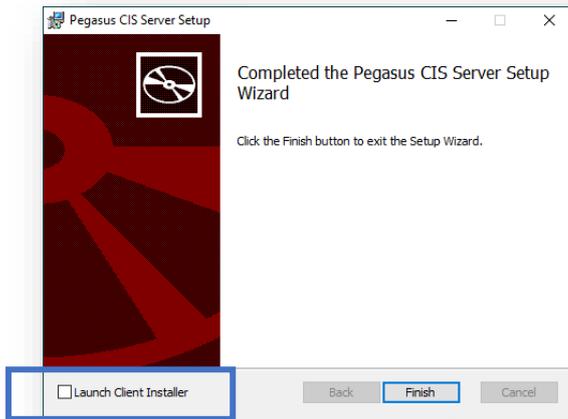


11. Click **Install** to complete to process.



NB: The 'Executing SQL Strings' stage may take a long time to complete when the 'Demo Company' is also being installed. This option could have been turned off when selecting which components to install (Step 2- Component selection).

12. When the installation has completed, a confirmation window will appear.



*Note: Before clicking **Finish**, it is recommended to launch the Client Installer as part of finalising the Sever installation by ticking the respective option.*

13. Click **Finish** to complete the Server installation.

*NB: Clicking **Finish** will first trigger the 'Microsoft .NET 6 Windows Server Hosting' bundle installation (see details below for further information) and once complete, will install the CIS 5 Client assuming the box was ticked.*

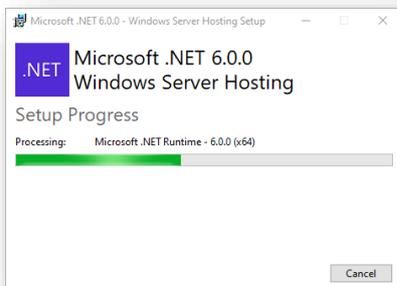
IIS

As part of the Server installation, IIS is enabled automatically (if not already enabled). The components applied as part of the installation are as follows;

- FeatureName:IIS-WebServerManagementTools
- FeatureName:IIS-WebServerRole
- FeatureName:IIS-ManagementConsole

Microsoft .Net v6 Windows Server Hosting

Following the Server installation, Microsoft .NET v6 will be installed if not already on the Server. If the installation is cancelled but is still required, you can manually install it from the default location of C:\CIS\Setup\Hosting Bundle'



Firewall Considerations

Firewall considerations are for SQL Server and File/Print Sharing

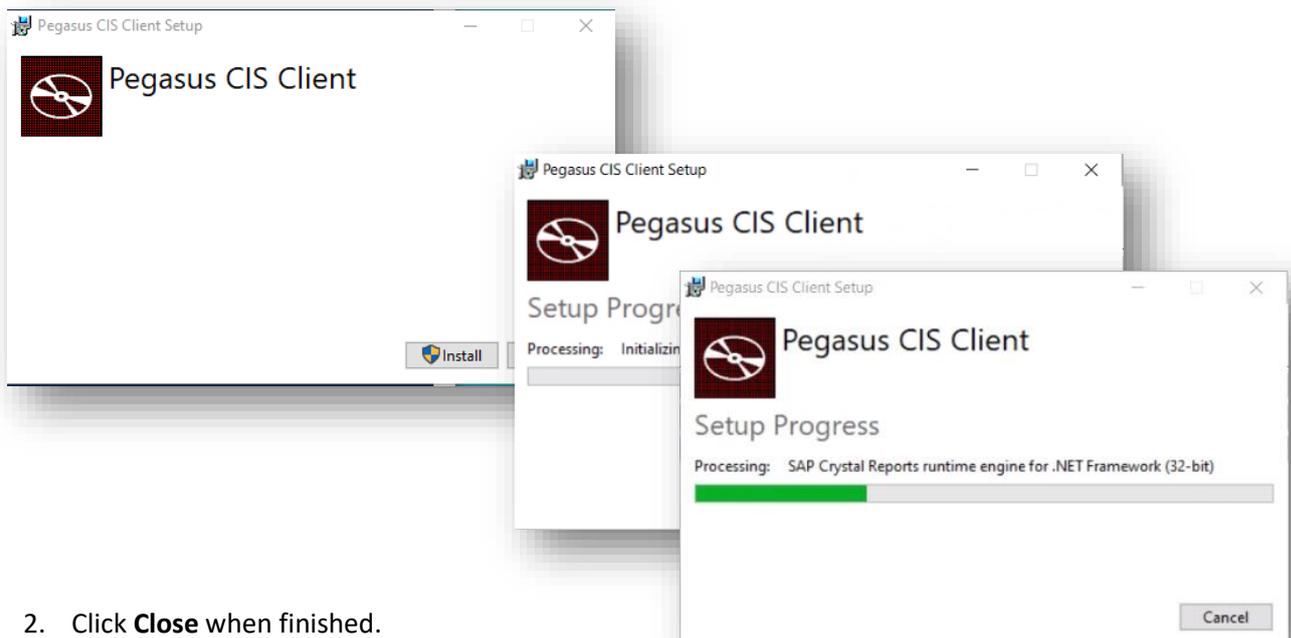
NB: CIS Server needs internet access

Ensure the firewall permissions for the designated SQL Server are appropriate. For a default instance of SQL Server (e.g. 'SERVERNAME'), TCP port 1433 should be open. For a SQL Server named instance (e.g. 'SERVERNAME\SQLEXPRESS') it is recommended that sqlserver.exe (installed to "Program Files\Microsoft SQL Server\MSSQL[Major Version].[Instance Name]\MSSQL\Binn" by default) is allowed in addition to opening UDP port 1434 for SQL Server Browser.

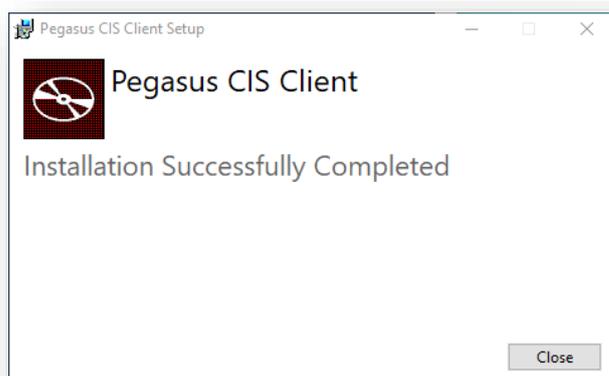
Client Installation

The Client installation can be launched from the Server installation completion step. If you did not tick the option to launch the Client installation, you can manually launch the set-up from the default location of C:\CIS\Setup\Desktop Client (On the CIS 5 client, run Pegasus.CIS.Client.exe from the folder and then complete the steps in the wizard setup);

1. Click **Install** on the **Client welcome** screen



2. Click **Close** when finished.



Upgrading CIS 5

This section explains the necessary steps to upgrade the CIS 5 software on the server and each client PC.

Follow these instructions;

1. Download the latest version of CIS 5 software from the Infor Product Download Center or Infor Xtreme. The downloaded software includes the server installation.
2. Save the downloaded software where it can be accessed from the server.
3. Make sure that no one is using CIS 5 and prevent users from logging on before installing the server and client software.

*Note: Make sure no one is using the system by using the Administrator program to look at the existing logins on the 'Licence – Sessions' screen. If there are any licences in use, click the **Close All Sessions** button to give the users a notification that the application will automatically log them out in the next few minutes. If a user has left their client in the middle of processing that prevents the automatic logout, you can force close the session by expanding out the session tree view and pressing the delete icon. This should only be done as a last resort as it will make the client session invalid and prevent it from working. You can also prevent anyone else from logging into the system by going to the 'Licence - Sessions' screen and selecting 'Prevent Logins'.*

NB: If the Administrator web app has been used just before the server upgrade is applied, IIS will still have a lock on relevant CIS files, it is therefore recommended to "Recycle" the "PegasusCISAdministratorAppPool" Application Pool in IIS to prevent the server installation requiring a reboot.

4. Install the server software by running the MSI file from the Server download folder.
5. Complete the steps in the wizard setup.
6. Install the client software on the server by ticking the Launch Client Installer option at the end of the Server upgrade (to manually update the client, browse to C:\CIS\Setup\Desktop Client and run the Pegasus.CIS.Client.exe file).
7. Complete the steps in the wizard setup.
8. After the server installation has completed, run the **CIS 5 Administrator** program to ensure the licencing service has already automatically fetched a new licence (if it has not, you will be automatically redirected to the licence screen where you can fetch one manually) and upgrade the companies if necessary.

Note: Assuming the 'Prevent Logins' has been applied before upgrading, remember to 'Allow Logins' following completion of the upgrade. To do this, click the button in the banner that appears along the top of the Administrator program on every screen

9. Complete on each client PC.

*NB: Clients that are already installed will prompt to upgrade the next time they are run. Furthermore, the CIS 5 Administrator program has the ability to automatically launch the client setup as an elevated administrator so that those users who are not local PC administrators can install the upgrade without the need for an actual administrator to login. This is setup in the CIS 5 Administrator using the 'Settings' screen and clicking the **Enter Client Upgrade Credentials** where they can enter the 'DOMAIN\UserName' and 'password' of the **Active Directory** account to use when launching the installer.*

Upgrading from CIS v4 or lower

CIS 5 can be installed alongside CIS v4 or lower. Install CIS 5 (Server & Client) as per the instructions in the earlier section.

A summary of what can be migrated is detailed below, however, please refer to the [Migration Utility](#) section for further information.

***NB:** Manually data can be migrated from any older version of CIS, but only from the CIS SQL variant (the migration from an Access CIS variant must be done via a separate utility).*

Migration

***NB:** Data can be migrated from any older version of CIS, including both the Access and SQL variants, however, it is recommended that the Migration Utility is used in all scenarios.*

Install CIS 5 (Server & Client) as per the instructions in this guide.

Common Migration Paths

There are various scenarios and paths for migrating CIS 4 to CIS 5. The method used will depend on what version the current system is on & what is required to be migrated. This includes considerations for;

- Existing System on CIS 4 Access
- Existing System on CIS 4 SQL
- Migrate Data only
- Migrate Data & Configuration (Users, companies, groups, custom Reports – everything bar permissions)
- Manual or using the utility

Company datasets

Company dataset upgrades are all done from within the Administrator program via the “Companies” option. They can either all be upgraded at the same time (via the toolbar option on that screen) or done individually by clicking on the company and selecting the upgrade option on the toolbar.

These upgrade routines work on all older versions of CIS application data but they need to be in SQL Server. The routine cannot convert from Access to SQL Server in the Administrator program. Customers can use the CIS v4 routines to convert to SQL Server and then point the CIS 5 Administrator program to those converted to SQL to then upgrade the schema from CIS v4 to CIS 5.

Configuration databases

Existing Configuration databases (i.e. “Core” / PegasusCISCore.mdb databases) can also be upgraded from CIS v4 to CIS 5 (again, only from CIS SQL variant) and this will allow CIS v4 companies to keep all the users, companies, groups, custom reports and custom captions.

However, permissions will be wiped and will need to be all manually recreated (due to the permissions system being totally redesigned where existing data is incompatible). Alternatively, you can start with a blank configuration database.

Reports

Custom Reports that are no longer compatible will need to be manually updated (this cannot be automated).

Migration Utility

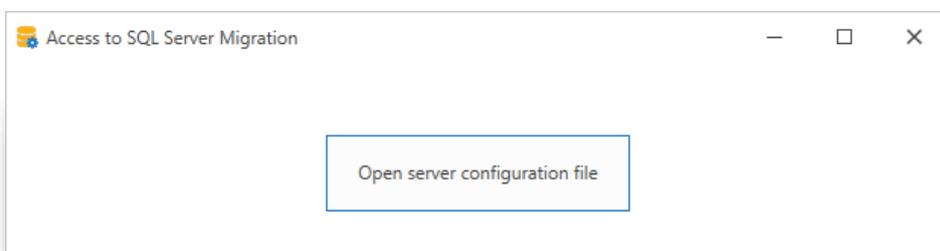
There is an Access To SQL Server Migration utility installed along with CIS 5. This utility allows for migration of any v4.x installation from Microsoft Access to Microsoft SQL Server. It can migrate company databases as well as the configuration database, by pointing the utility at the “PegasusCIS.E2K” file in the “CIS” folder. It will automatically detect all applicable databases as well as allowing them to be given unique names when migrated to a specified SQL Server in parallel. Any company dataset migrated to SQL Server also has it’s configuration updated in the SQL Server migrated version of the configuration database.

This is implemented in .NET 6.0 with a “Self Contained” install (i.e. it does not need .NET 6.0 installed to run) and is installed to “C:\CIS\Utilities\Access To SQL Server Migration” (by default) as part of the server install but can be copied off an installation and used elsewhere before CIS v5 is installed, if required. Run the AccessToSqlServerMigration.exe to launch the utility.

Access to SQL Server Migration Utility

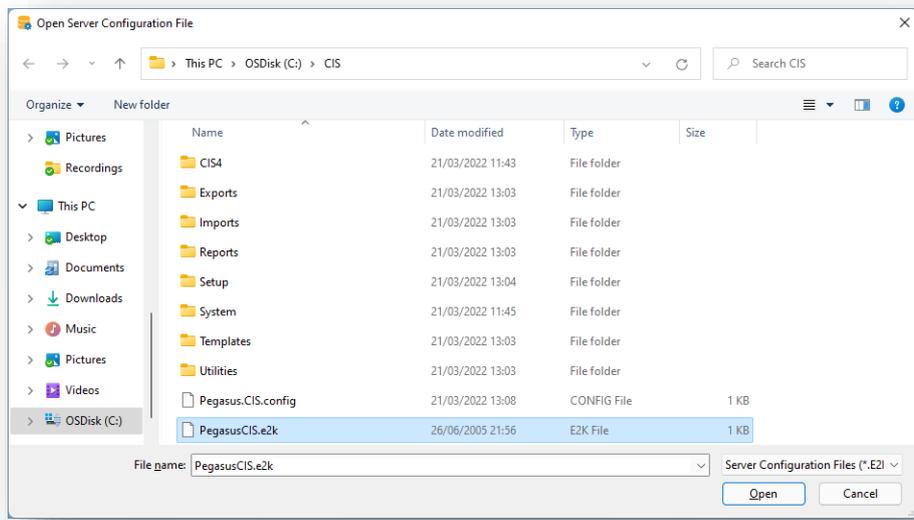
Please use the following steps as a guide to run the Access to SQL Server Migration Utility;

1. Launch File Explorer and browse to C:\CIS\Utilities\Access To SQL Server Migration (default location). Locate and double click the AccessToSqlServerMigration.exe to launch the utility.



2. Click on the ***Open server configuration file*** button to start the process.

- You will be prompted to locate the **PegasusCIS.e2k** configuration file. Select the file and click **Open**.



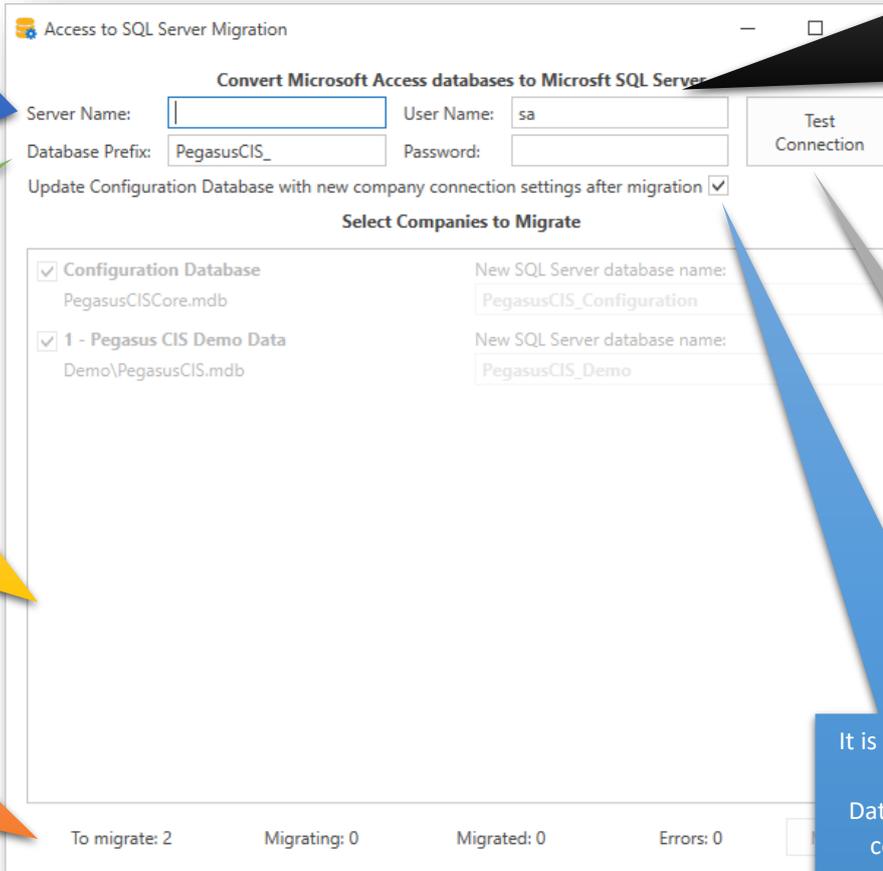
- On the Access to SQL Server Migration wizard form, enter the appropriate details and select the relevant options;

Enter the SQL Server name where you wish to migrate the databases to.

Enter the SQL database Prefix that will be used for any databases migrated

The list of databases found by the utility (Company & configuration databases).

Key status information on migration

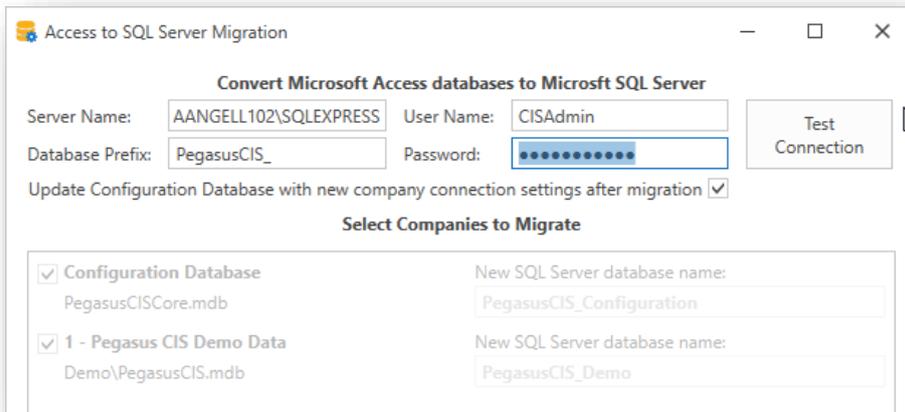


The appropriate SQL Server Username to be used to perform the Migration. Please ensure relevant roles, permissions and security settings are applied.
NB: Please specify the CIS Admin user here.

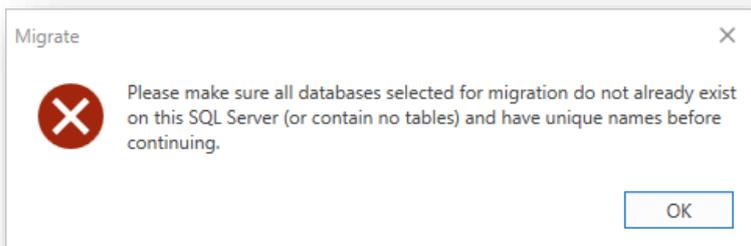
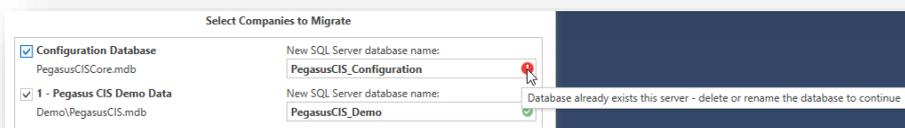
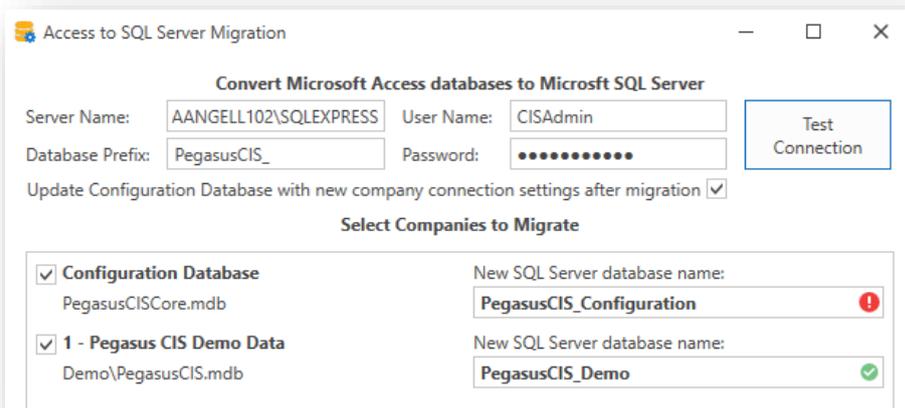
You will need to test the connection once all the relevant details have been entered

It is recommended to have the "Update Configuration Database with new company connection settings after migration" flag switched on, otherwise company datasets will have to be manually setup.

For example;



Testing the connection will verify the details entered (SQL Server Name, User credentials etc) and also check the database name i.e. if they already exist

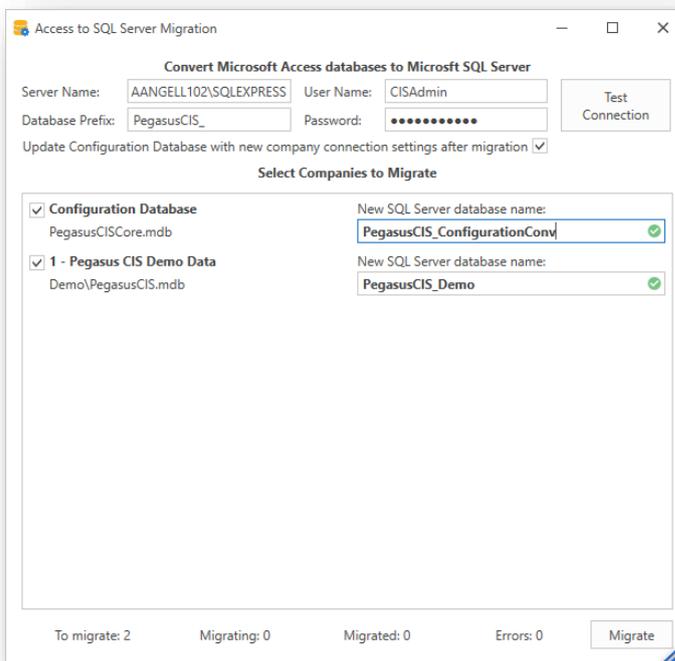


NB: If you run the utility prior to installing CIS 5, it is recommended to leave the default configuration Database Name as *PegasusCIS_Configuration* as this will then be picked up by the installation wizard automatically assuming the default names are used. Alternatively note down the name assigned which can then be manually entered during the installation wizard.

If CIS 5 is already installed, then you can either choose to;

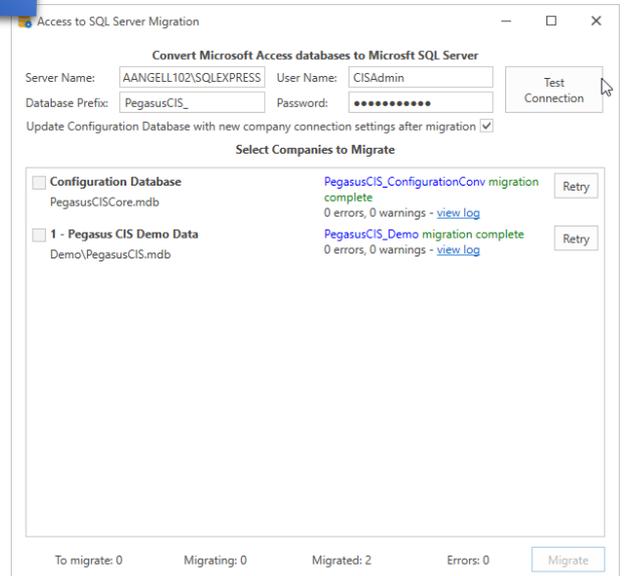
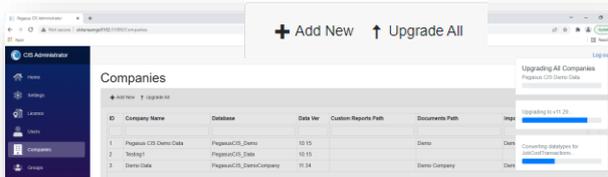
- 1 Untick the configuration database so it does not get migrated. You would do this if you had already migrated the configuration database prior to installing CIS 5 and you wish to keep that migration; or you plan to configure the system from new.
- 2 Rename or delete the existing **PegasusCIS_Configuration** database what was automatically created in SQL Server as part of the CIS 5 Server installation (which would become redundant).
- 3 Use a different name i.e. **PegasusCIS_ConfigurationConv** and re-run the CIS 5 installation using the “change” option and then entering the new configuration database name.

1. Once all the relevant details are confirmed, click the **Migrate** button to start the process.



Note: Remember that following the migrations & installation of CIS 5, you will need to access CIS 5 Administrator and “upgrade” the databases to the latest version (recommended to use the “Upgrade All” option).

Companies



Manually Migrating

The following section details the method of manually migrating CIS 4 to CIS 5

Migrating CIS 4 Access to CIS 5

Currently the main method to migrate data from CIS 4 Access to CIS 5 is to convert CIS 4 Access to CIS 4 SQL in the first instance. Then migrate CIS 4 SQL to CIS 5. This includes Data and if required, the Configuration database. Please refer to the "[Converting CIS 4 Access to CIS 4 SQL](#)" section to upgrade from Access to SQL.

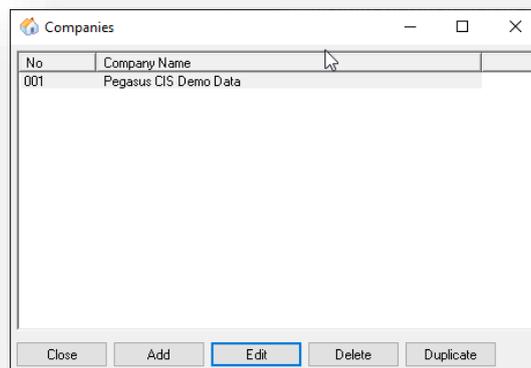
NB: The Access to SQL functionality can be found in CIS Administrator and may be used for any Access database to SQL conversion i.e. this can be used on the CIS Company or CIS Configuration databases.

Converting CIS 4 Access to CIS 4 SQL Database format

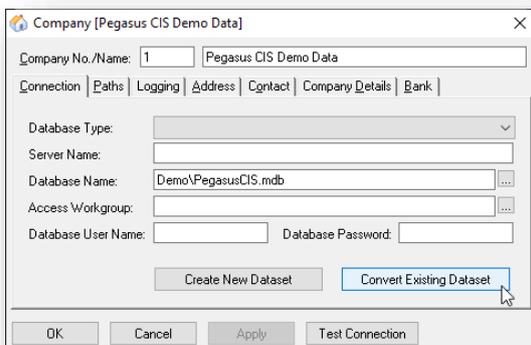
The following steps are a guide to converting a CIS Access database to a SQL Database.

Note: Some basic information was detailed in the original 12 - Pegasus CIS SQL.pdf training guide

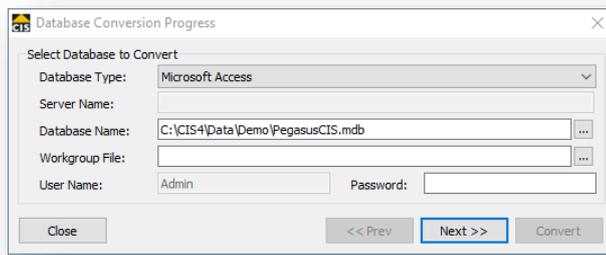
1. Open CIS Administrator and select **Maintain Application Datasets/Companies**



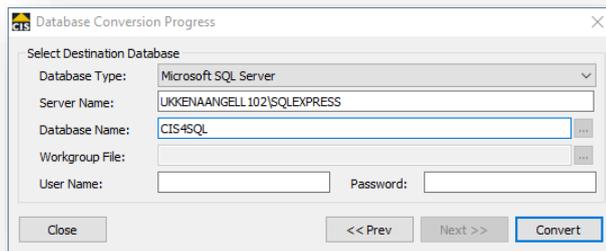
2. Select the Company to be converted and click Edit



3. Select the **Convert Existing Dataset** button



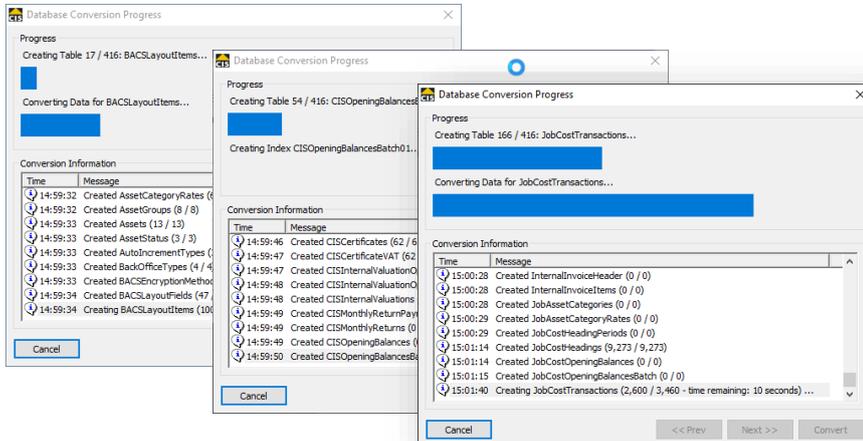
4. Check the details of the database to be converted are correct and click **Next**.



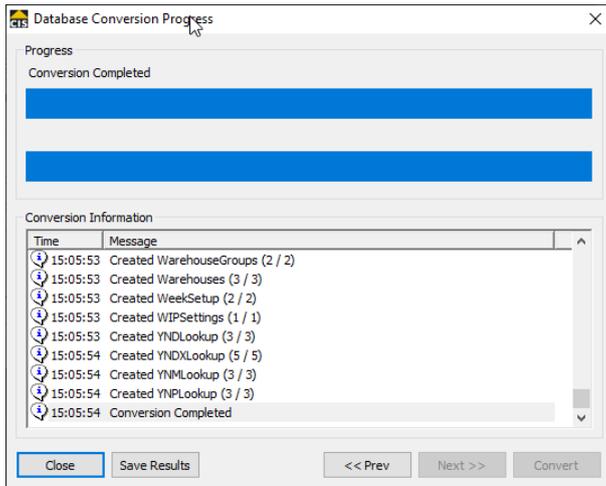
5. Enter the Server Name, Database name (and any other relevant details if required) and click **Convert**.

NB: This utility can be used to convert from Access to SQL or SQL to Access

6. The database selected will now be converted



- When the conversion process has completed, the results can be saved before the window is closed.



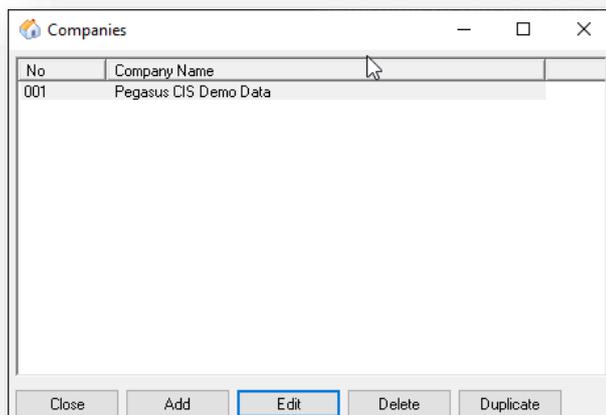
NB: The conversion is now complete. Please note, the database is now converted to CIS v4 SQL, however the data is not attached to a new company record i.e. It is currently a “free standing” database. This must be done manually where the database can now be linked with a new Company record in CIS 4 SQL or CIS 5.

Adding converted CIS SQL database to CIS 4 SQL

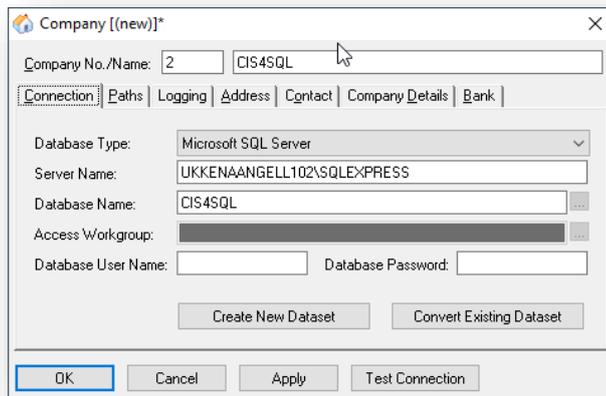
Once a database has been converted, it needs to be added into the application and linked with a new Company record. Use the following steps as a guide to complete this process;

Note: If adding a SQL CIS Database, please ensure CIS is activated as a SQL solution

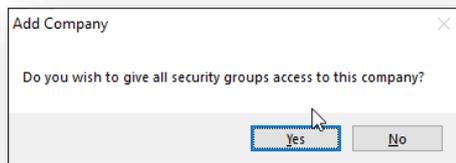
- Open CIS Administrator and select **Maintain Application Datasets/Companies**



2. Select the **Add** button. Enter the **Company Name, DB Type (SQL), Server Name, Database Name** (as in the SQL db name used earlier) and then select **Apply**.



3. You will be prompted to apply all security groups access to this Company, select Yes to continue.



4. Now complete the rest of the forms to complete the Company set-up.

NB: If you are upgrading from CIS 4 to CIS 5, once you have converted the database from Access to SQL, you do not have to add the database into CIS 4 SQL, you can go straight to CIS 5. However, it will need to be done at some point. Instead of having to reconfigure all the companies in CIS 5, an option would be to update the configuration database in v4 then when the configuration database is migrated to CIS 5 it is already correct.

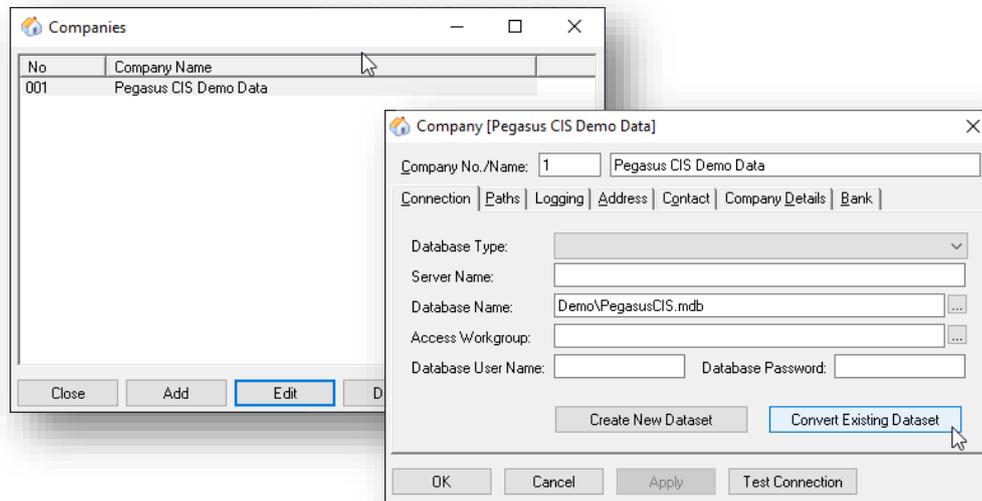
Migrating Configuration (Core) database

Most CIS 4 installations (Access or SQL) will have the core configuration database as an Access .MDB rather than SQL (bar 1 or 2 customers which may have a core in SQL). The configuration database is found in the Root CIS – System folder, generally called **PegasusCISCore.mdb**– this contains all the field db types, configurations, Users and so on.

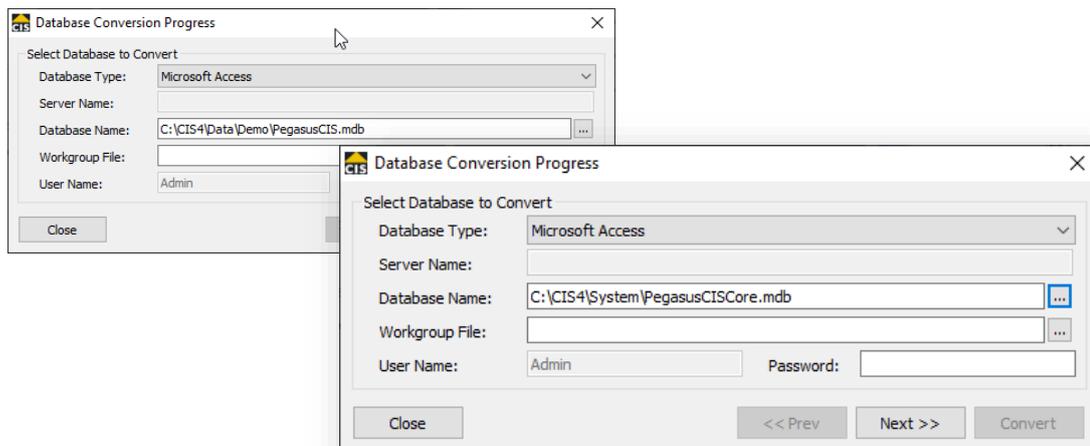
Note: There is also an associated config file named **PegasusCIS.e2k** for v4 and **Pegasus.CIS.config** for v5 associated with the Core database, you can open this file in Notepad and look at the 'Database Type' setting to see whether the Core database is in Access (Database Type = 0) or SQL (Database Type = 1)..

To convert this into a SQL database, use the following steps as a guide;

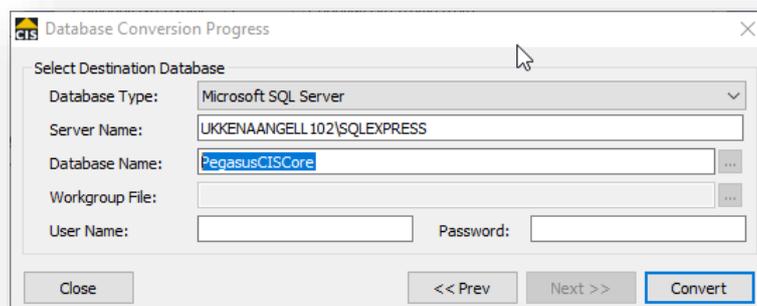
1. Open CIS Administrator and select **Maintain Application Datasets/Companies**, Click **Edit**



2. Select the **Convert Existing Dataset** button. The Database Conversion Progress wizard will default to the details of the Company selected. This can be changed to select the Core database to be converted.

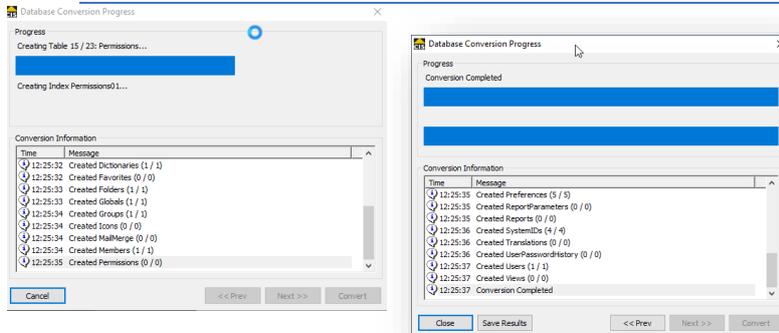


3. Once the **PegasusCISCore.mdb** file has been selected, click **Next**

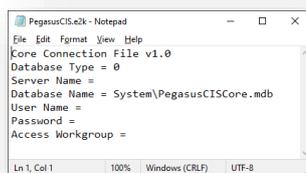


4. Enter the Server & Database Names e.g. SERVERNAME\SQLEXPRESS & PegasusCISCore respectively. Click **Convert**.

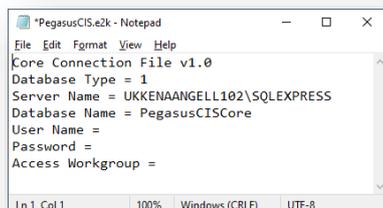
***NB:** If the plan is to move to CIS 5 in the future, the application is not yet installed and you wish to retain & migrate most of the configuration details (Users, Groups etc.) , it is strongly recommended to name the SQL database **PegasusCIS_Configuration** in readiness for the upgrade and migration.*



5. When the database has been converted from Access to SQL, you need to edit the configuration file to ensure the system points to and uses the SQL database instead. To do this, open the **PegasusCIS.e2k** file found in the CIS root directory with an editor such as Notepad



6. Edit the file by changing;
 - a. Database Type = 1
 - b. Server Name = <SQLSERVERNAME>
 - c. Database Name = <SQL DATABASE NAME> (created in the earlier step)
 - d. And either
 - i. specify the SQL Server User Name and (clear text) Password or
 - ii. leave both the User Name and Password fields empty (in which case Windows Integrated Security will be used and each Active Directory user account needs to have access to the appropriate SQL Server databases (or be in a group that has this access)).



7. Save the file and close the application

***NB:** This file has been enhanced into a partially encrypted file named **Pegasus.CIS.config** for CIS 5*

Migrating a 'CIS 4 SQL database' to CIS 5

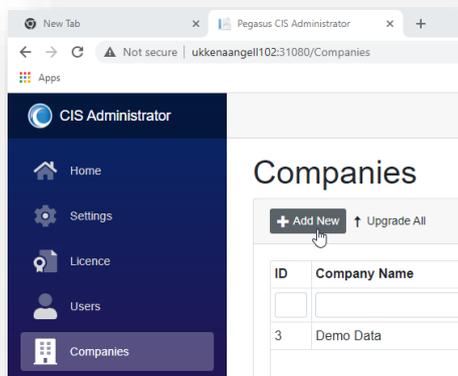
There are two types of database that can be migrated for CIS 5 (as detailed in the summary);

- Company Data
- Configuration Data

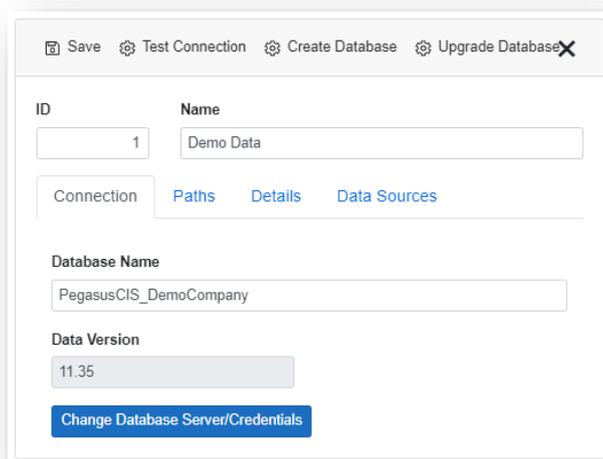
Migrating a Company Database from CIS 4 SQL to CIS 5

Regardless if the SQL Company database has been added into CIS 4 Administrator, the database can be added into the CIS 5 solution. Please use the following steps as a guide;

1. Log into CIS 5 Administrator
2. Go to **Companies** and click **Add New**



3. In the new company screen, enter the Database Name.

A screenshot of the 'Add New Company' form in the CIS Administrator. At the top, there are four buttons: 'Save', 'Test Connection', 'Create Database', and 'Upgrade Database' (with a close icon). Below these buttons, the form has two input fields: 'ID' with the value '1' and 'Name' with the value 'Demo Data'. Underneath, there are three tabs: 'Connection' (selected), 'Paths', and 'Data Sources'. The 'Database Name' field is filled with 'PegasusCIS_DemoCompany'. Below that, the 'Data Version' field is filled with '11.35'. At the bottom of the form, there is a blue button labeled 'Change Database Server/Credentials'.

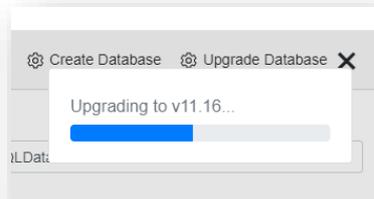
Note: If the Company database is located on a different SQL Server to the one the Configuration database is on, then click on the **Change Database Server/Credentials** button, and enter the Server Name, User Name and Password.

Enter the SQL Server Name (where the data resides), the Database Name (the name assigned when the Access to SQL conversion was run e.g. CIS4SQL), the SQL User created as part of the pre-requisites (further details found in the Training Installation guide, e.g. CISUser) and the password assigned to the SQL CIS User (further details found in the Training Installation guide). Then click Save

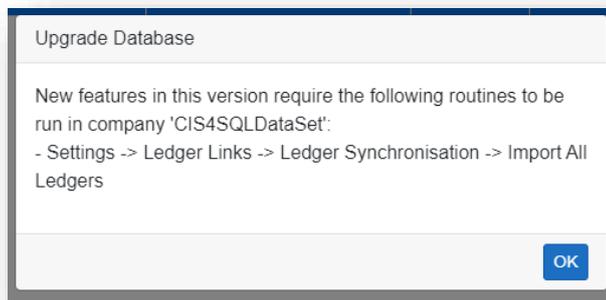
4. Once saved, the company record should be created and linked to the specified database.

| ID | Company Name | Database | Data Ver | Custom Reports Path | Documents Path | Import Path |
|----|--------------|------------------------|----------|---------------------|----------------|--------------|
| 1 | Demo Data | PegasusCIS_DemoCompany | 11.35 | | Demo Company | Demo Company |

5. Upgrade the Company's Database be either;
 - a. Clicking on Upgrade All or
 - b. Clicking on the Company, and clicking on Upgrade Database



- Once completed, the database should be on the latest Data Version. There may be a few routines required to be run due to the updated version and the system will prompt which routines are needed to be run.



The data version can be checked on the Companies List view.

Companies

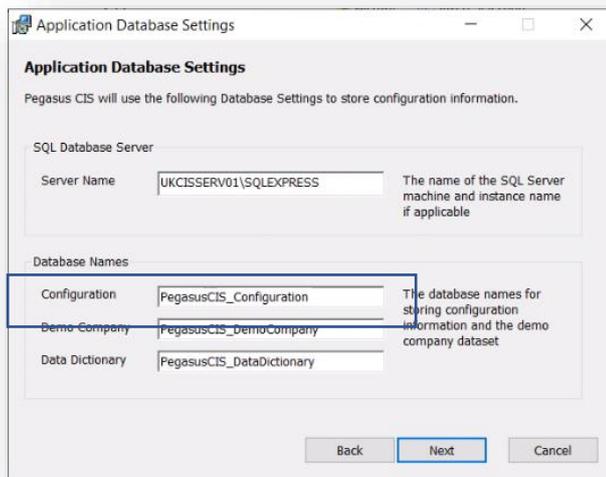
+ Add New ↑ Upgrade All

| ID | Company Name | Database | Data Ver | C |
|----|--------------|------------------------|----------|---|
| 1 | Demo Data | PegasusCIS_DemoCompany | 11.35 | |

Migrating the Configuration Database from CIS 4 SQL to CIS 5 with CIS 5 yet to be installed

The steps to perform the migration of the Core database to CIS 5 will depend on what name was assigned to the Configuration database when converting the data.

- If the name used was **PegasusCIS_Configuration**, then no additional steps are required. The installation routine will pick up the existing configuration database as part of the installation and use the information in the file.
- If the configuration database was called anything else, then to migrate the configuration (Core) CIS 4 SQL Database to CIS 5, one simple step is required during the CIS 5 **installation** routine. On step 4 as seen in the training installation guide when it requests confirmation of the SQL database names, enter the relevant database name in the **Configuration** database field.



The screenshot shows a window titled "Application Database Settings". It contains the following information:

- SQL Database Server:** Server Name: UKCISSEV01\SQLEXPRESS. Description: The name of the SQL Server machine and instance name if applicable.
- Database Names:**
 - Configuration: PegasusCIS_Configuration. Description: The database names for storing configuration information and the demo company dataset.
 - Demo Company: PegasusCIS_DemoCompany
 - Data Dictionary: PegasusCIS_DataDictionary

At the bottom, there are three buttons: "Back", "Next" (which is highlighted with a blue border), and "Cancel".

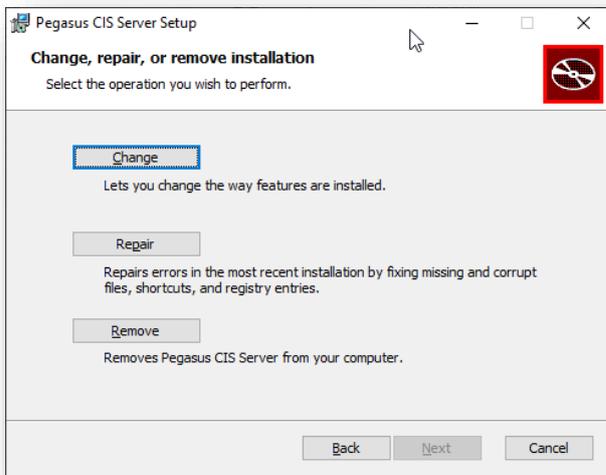
Then continue the installation as normal. The configuration file should be updated automatically as required (using the CISAdmin credentials as entered during the wizard)

Note: Please refer to the installation guide for further details.

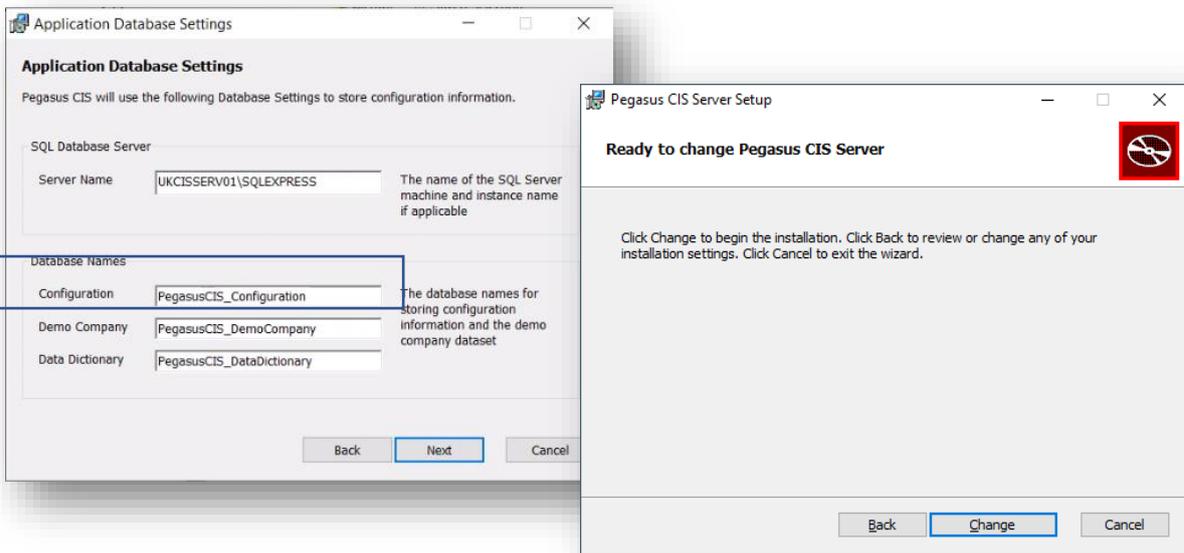
Migrating the Configuration Database from CIS 4 SQL to CIS 5 with both applications installed

The steps to perform the migration of the Core database to CIS 5 with both applications installed, will depend on what name was assigned to the Configuration database when converting the data, though the likelihood is that the name used was not **PegasusCIS_Configuration** as this may have failed due to an existing database with that name already.

To migrate the configuration (Core) CIS 4 SQL Database to CIS 5, re-run the **installation** routine for CIS 5 (not the **Repair** option). Click next on the wizard and then select the Change option. Then click Next



On the step where it requests confirmation of the SQL database names, enter the relevant database name in the **Configuration** database field. Then continue as normal. Click **Change** on the last step of the wizard to process the re-installation. The configuration file should be updated automatically as required (using the CISAdmin credentials as entered during the wizard)



Note: Please refer to the installation guide for further details.

Removing CIS 5

The following are the steps and considerations when uninstalling CIS 5.

NB: *It is always advisable to back-up data, system and report etc. files and folders before removing the application.*

Removing via Apps and Features (Add/Remove Programs)

The recommend method to un-install CIS 5 is to use the uninstall option via Apps & Features (Add/Remove Programs). Uninstall the Client(s) before the Server.

Considerations

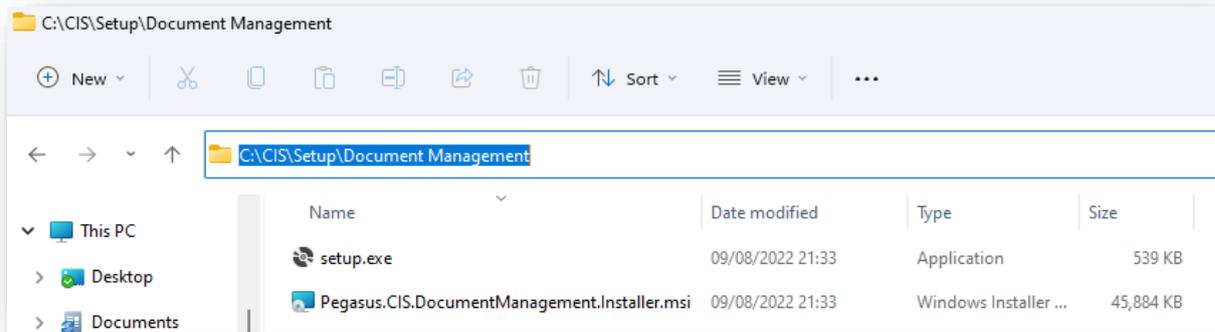
Once the Client and Server installations have been removed, it is recommended to check the following;

- SQL: Ensure all relevant SQL databases relating to CIS 5 have been removed (recommended to use SQL Management Studio to perform this check and process).
- Files & Folders: Ensure all relevant CIS 5 folders have been removed (recommended to use File Explorer to perform this check and process. The default path is C:\CIS).
- IIS: Ensure all relevant Website(s) relating to CIS 5 have been removed (recommended to use IIS to perform this check and process. Check the Application Pool list as well).
- Registry: Ensure the main references to the CIS 5 installation have been removed.

Installing Document Management for CIS 5

Application Document Management (DM) for CIS 5 is a separate installation to the CIS 5 Server install. The install files are created by the CIS 5 Server installation and must be run separately once the Server has been installed and set-up.

After CIS 5 Server has been installed, the DM installation files can be found in C:\CIS\Setup\Document Management.



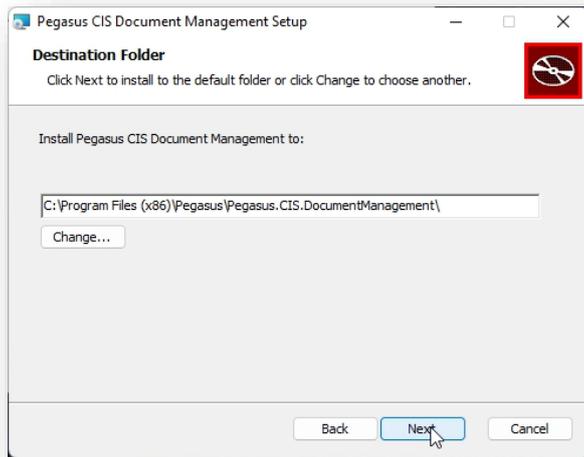
***NB:** The install files can be used on any machine, independent from CIS 5 e.g. a user who does not have CIS 5 installed, may still require DM functionality so can install DM on their machine and utilise the features.*

To install DM for CIS 5 please use the following steps;

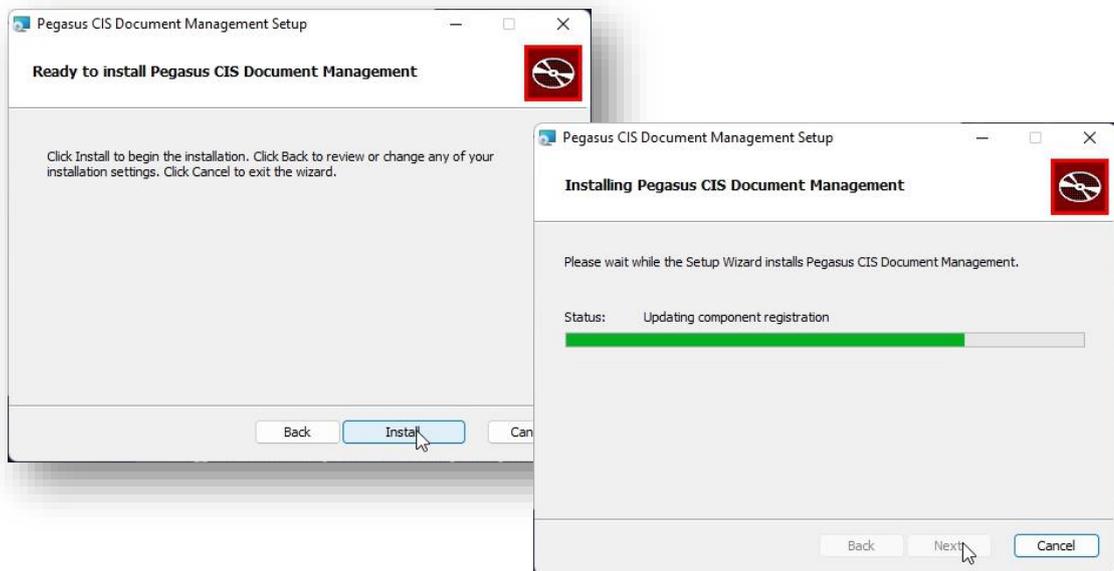
1. Run the setup.exe
2. Click **Next** at the welcome screen



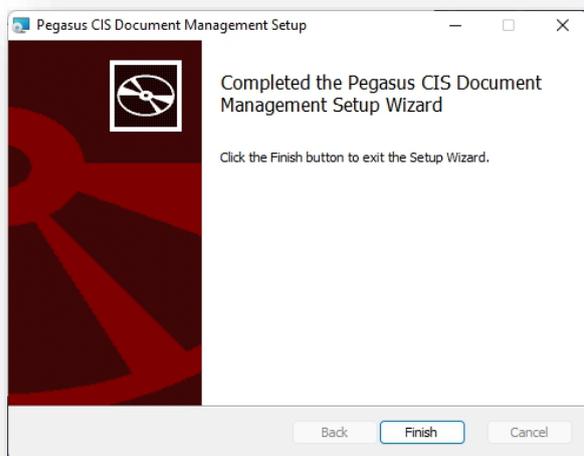
3. Select the installation **Destination Folder** and select **Next**.



4. Click the **Install** button to install DM.



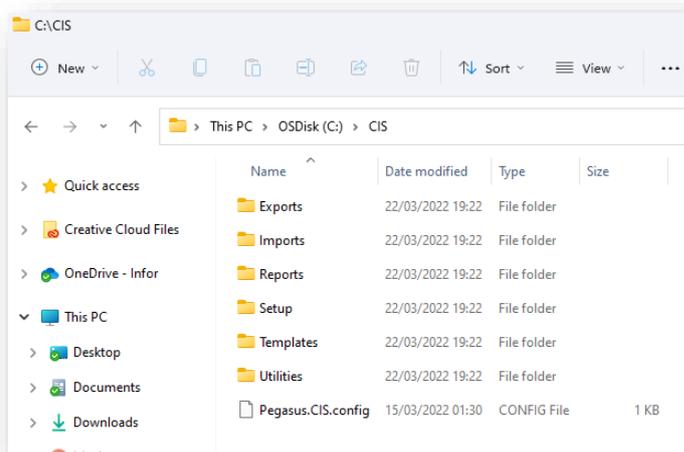
5. Click **Finish** to close the completed installation confirmation screen.



Appendix A – CIS 5 Server Files, Folders & Other Components

Main Folder & Files on the server

The default location for the share CIS 5 folder & files on the server is 'C:\CIS' (though this can be changed during installation). These are installed by the Server installation.

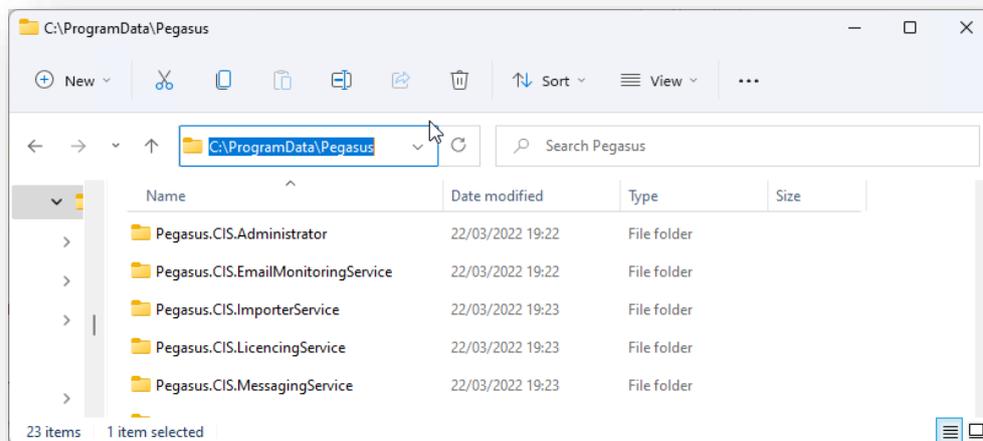


Only the shared server files that all clients need to access to e.g. for reports, templates, imports, exports, etc. are installed to the 'C:\CIS' folder.

| Folder | Purpose |
|--------------------------------|---|
| Exports | This folder contains any exports from CIS 5 and are stored in the respective Company's sub-folder. |
| Imports | This folder contains any imports for CIS 5 and are stored in the respective Company's sub-folder. In each Company's folder, there are sub folders for various records in relation to the import i.e. Analysis Codes, Contracts, Job Journals and so on. |
| Reports | This is where all the standard and custom report designs are maintained. Reports are in Crystal Report formats. |
| Setup | This folder contains the set-up files for the CIS 5 Client and the v6 Hosting bundle (.Net v6) respectively. |
| Templates | This folder contains any relevant templates such as a Remote Timesheet Template. |
| Utilities | There is an Access To SQL Server Migration utility installed along with CIS 5. This utility allows for migration of any v4.x installation from Microsoft Access to Microsoft SQL Server. It can migrate company databases as well as the configuration database, by pointing the utility at the "PegasusCIS.E2K" file in the "CIS" folder it will automatically detect all applicable databases as well as allowing them to be given unique names when migrated to a specified SQL Server in parallel. Any company dataset migrated to SQL Server also has it's configuration updated in the SQL Server migrated version of the configuration database. |
| Pegasus.CIS.config file | This is the config file (PegasusCIS.e2k for v4) for v5 associated with the Core database. This contains the database type, server name, configuration db name, username & encrypted password. This is created during the installation process. |

ProgramData Folder & Files on the server

The Windows data folders used by CIS 5 are located in 5 locations within the ProgramData location. These are primarily where configuration files are located.



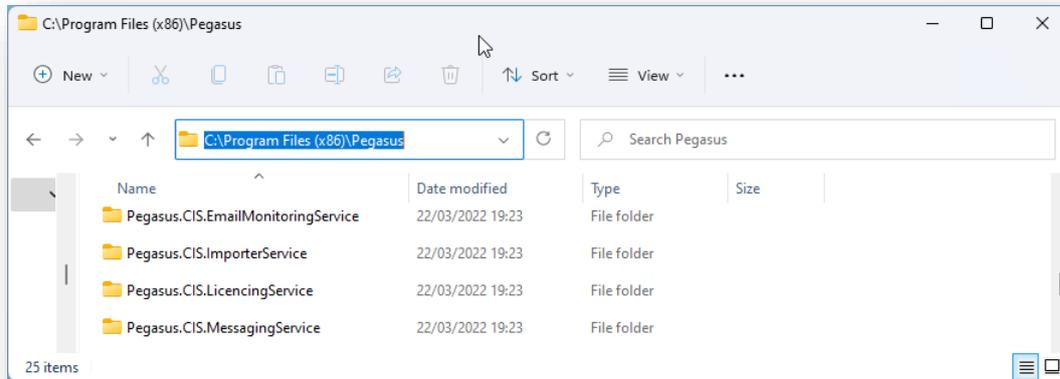
| Folder | Description |
|--|---|
| Pegasus.CIS.Administrator (Pegasus.CIS.Administrator.Admin.config & Pegasus.CIS.Administrator.Client.config) | This location contains the config files (.config, but XML format) for the CIS Administration Admin & Client elements. Admin file containing data associated with the Core database. This contains the database type, server name, configuration db name, CISAdmin username & encrypted password. This is created during the installation process. Client file containing data associated with the Core database. This contains the database type, server name, configuration db name, CISUser username & encrypted password. This is created during the installation process. |
| Pegasus.CIS.EmailMonitoringService (Configuration.xml)* | This location contains a config file (xml) for the Email Monitoring Service i.e. settings for Polling (10). Developed in .NET 6.0 with a “Self Contained” install (i.e. it does not need .NET 6.0 installed to run) and uses SQL Server Query Notifications to automatically send emails as soon as they are received without the need for polling. <i>Note: All service event logs are written out to “Applications and Service Logs” (as opposed to “Windows Logs”) in a “Pegasus” subfolder.</i> |
| Pegasus.CIS.ImporterService (Configuration.xml) | This location contains a config file (xml) for the Importer Service. This contains time interval settings for the various Importing functions with CIS i.e. checking for new import files every 30 minutes. Developed in .NET 6.0 with a “Self Contained” install (i.e. it does not need .NET 6.0 installed to run) and uses SQL Server Query Notifications to automatically detect changes in company configuration (companies added/modified/removed in the administrator program) without the need to restart the service. It also monitors for changes in the defined import folders for each company without needing to restart the service. |

| | |
|--|---|
| | <p>Error reports are added to the company pending emails list and sent via the messaging service (which will handle retrying and so on, when the email server is unavailable/unresponsive etc.).</p> <p>The communications are formatted as HTML for enhanced aesthetics and formatting.</p> <p>Company Log files are no longer used (and the field has been removed from the Company screen in the administrator program) and all log messages are now published to the Event Viewer.</p> <hr/> <p><i>Note: All service event logs are written out to "Applications and Service Logs" (as opposed to "Windows Logs") in a "Pegasus" subfolder.</i></p> |
| <p>Pegasus.CIS.LicencingService (Configuration.xml)</p> | <p>This location contains a config file (xml) for the Licencing Service. This contains time interval settings for the various Licencing checks for CIS i.e. checking for new licence details every 24 hours (though this can be forced via the Fetch Licence function in CIS Administrator if required).</p> |
| <p>Pegasus.CIS.MessagingService (Configuration.xml)</p> | <p>This location contains a config file (xml) for the Messaging Service. This contains time interval settings for the various Messaging functions with CIS i.e. checking for new messages every 5 minutes. Developed in .NET 6.0 with a "Self Contained" install (i.e. it does not need .NET 6.0 installed to run) and uses SQL Server Query Notifications to automatically send emails as soon as they are received without the need for polling.</p> <p>It also uses SQL Server Query Notifications to automatically detect changes in company configuration (companies added/modified/removed in the administrator program) without the need to restart the service as well as automatically detecting changes in the config file and re-loading as appropriate.</p> <p>Failed email messages will be retried on a separate schedule and further failures will not result in error reports being emailed unless the email is edited or the "Resend" operation is run from within the application.</p> <hr/> <p><i>Note: All service event logs are written out to "Applications and Service Logs" (as opposed to "Windows Logs") in a "Pegasus" subfolder.</i></p> |

Note: The credentials used by the administrator program are written out to the "C:\ProgramData\Pegasus\Pegasus.CIS.Administrator" folder on the server into two files: "Pegasus.CIS.Administrator.Admin.config" & "Pegasus.CIS.Administrator.Client.config", for the admin and non-admin (or Client) credentials respectively. The Administrator program uses the Admin config for everything it processes with the exception of the company dataset operations (like "Test Connection" and "Upgrade Database") where it uses the Client config details in combination with the Database Name for each company (in the scenario where the company has not had it's Server Name, User Name and Password details overridden). This also allows the system to use the Admin credentials (with higher permissions than the Client in SQL Server) to make sure that the Client credentials are setup with the correct permissions for each company database.

Program Files (x86) Folder & Files on the server

The **Windows Services** required for the CIS 5 server to work are located in 4 subfolders of the 'C:\Program Files (x86)\Pegasus' Windows file system folder.



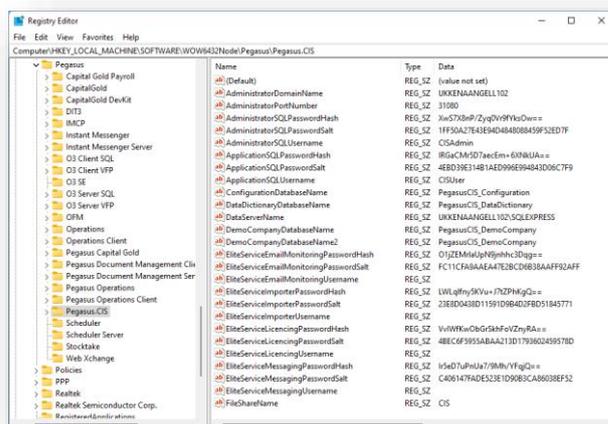
| Folder | Purpose |
|--|--|
| Pegasus.CIS.EmailMonitoringService* | This folder contains the various CIS 5 'DLL' programs for the Email Monitoring function. |
| Pegasus.CIS.ImporterService | This folder contains the various CIS 5 'DLL' programs for the Importer function. |
| Pegasus.CIS.LicencingService | This folder contains the various CIS 5 'DLL' programs for the Licencing function. |
| Pegasus.CIS.MessagingService | This folder contains the various CIS 5 'DLL' programs for the Messaging function. |

Other Components

There are various other components of note that are present in the CIS 5 infrastructure. Please see the following sections on Registry, IIS, Services, SQL and Misc for further information.

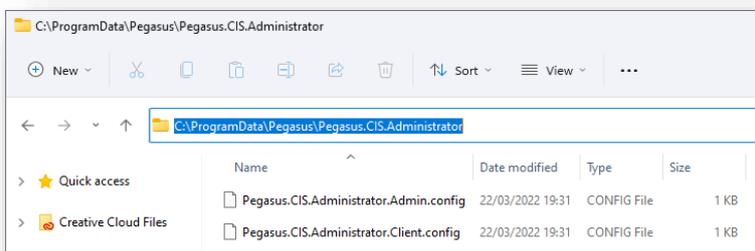
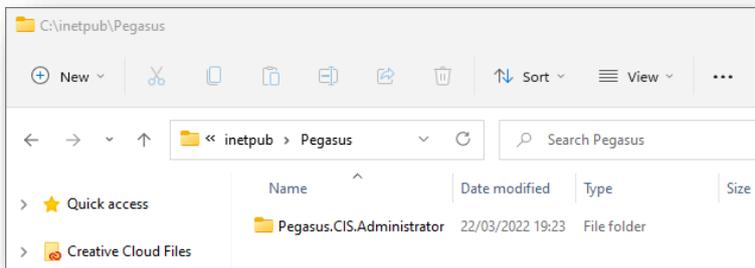
Registry

The main entry in the registry associated with the server installation are the configuration settings (i.e. to allow a repair to work properly). This is found @ Computer\HKEY_LOCAL_MACHINE\SOFTWARE\WOW6432Node\Pegasus\Pegasus.CIS. This is installed by the Server installation.

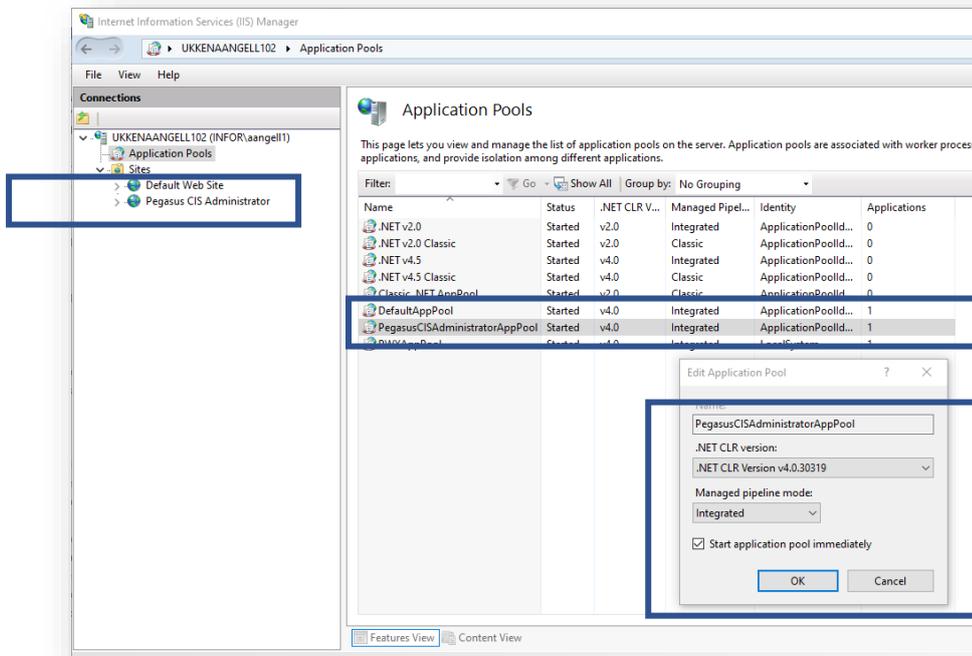


IIS

The Administrator program is installed to 'C:\inetpub\Pegasus\Pegasus.CIS.Administrator' with config files created in 'C:\ProgramData\Pegasus\Pegasus.CIS.Administrator'.



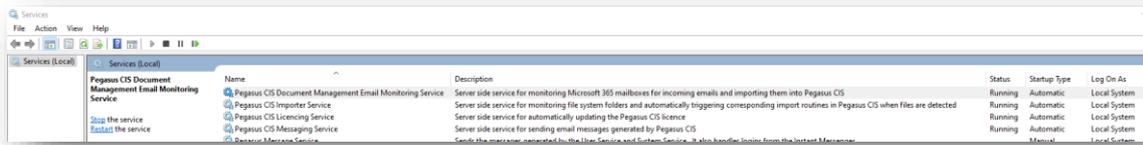
A PegasusCISAdministratorAppPool is automatically created & configured as required and assigned to the Pegasus CIS Administrator Website.



These elements are installed by the Server installation.

Services

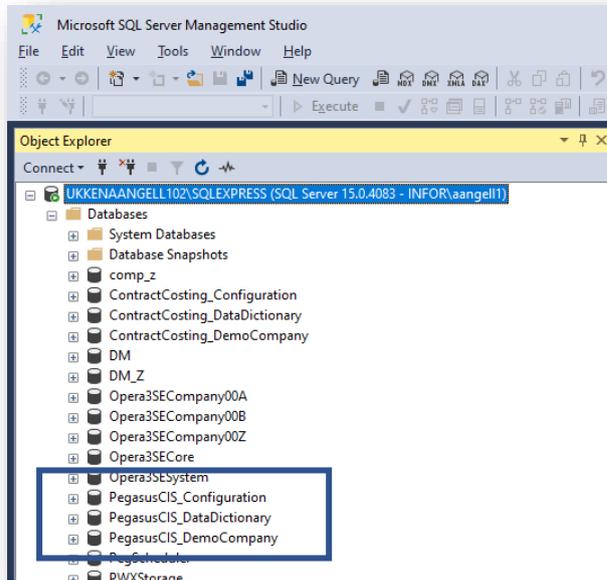
Four main services are installed as part of the server. Use 'services' at the Windows start menu to open the Services list.



| Service | Description |
|--|---|
| Pegasus CIS Document Management Email Monitoring Service* | Server side service for monitoring Microsoft 365 mailboxes for incoming emails and importing them into Pegasus CIS |
| Pegasus CIS Importer Service | Server side service for monitoring file system folders and automatically triggering corresponding import routines in Pegasus CIS when files are detected |
| Pegasus CIS Licencing Service | <p>Server side service for automatically updating the Pegasus CIS licence. The “Pegasus CIS Licencing Service” is responsible for automatically fetching new licences (once a day) from the licencing server. This is primarily for handling customers on monthly subscriptions so they can renew automatically where valid, but it will also keep refreshing perpetual licences, so within 1 day of something changing (e.g. increasing the number of licenced users) the licence will be up to date. Administrators can still manually go into the Administrator application and fetch an updated licence whenever required, i.e. if applying a new licence is urgent.</p> <p><i>Note: A new licence is required for every release, due to being linked with a specific version number. This will occur automatically when the licencing service starts up (assuming it already has a valid licence).</i></p> |
| Pegasus CIS Messaging Service | Server side service for sending email messages and text messages generated by Pegasus CIS |

SQL

Three main databases are created during the Server installation routine.



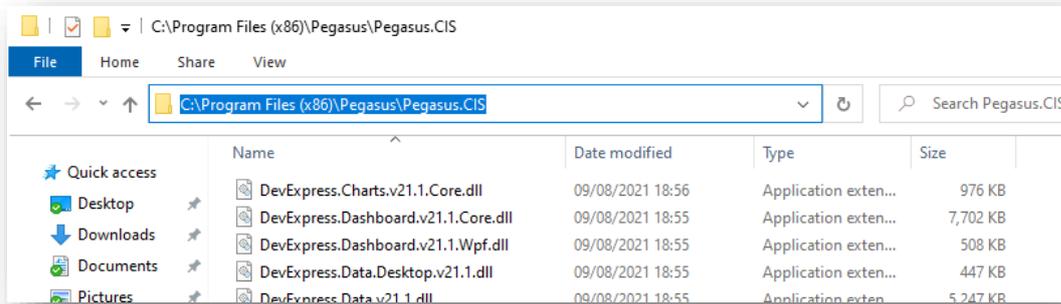
| Database | Purpose |
|----------------------------------|---|
| PegasusCIS_Configuration | This important database holds key information and settings including configuration settings for companies, users, groups, permissions, custom reports etc. |
| PegasusCIS_DataDictionary | Contains the live data dictionary definitions currently in use by CIS 5. <i>Hint: Contains the full details of the database structure, ideal for generating a Database Schema.</i> |
| PegasusCIS_DemoCompany | The demonstration data available to use when experimenting with the features in CIS 5. This data will get overwritten each time CIS 5 is upgraded to a new version or when the 'Repair' routine is run on the server setup. |

Misc

'Config' files created as part of the installation routine should be automatically removed when the corresponding application is uninstalled, however 'Log' files will always be left behind.

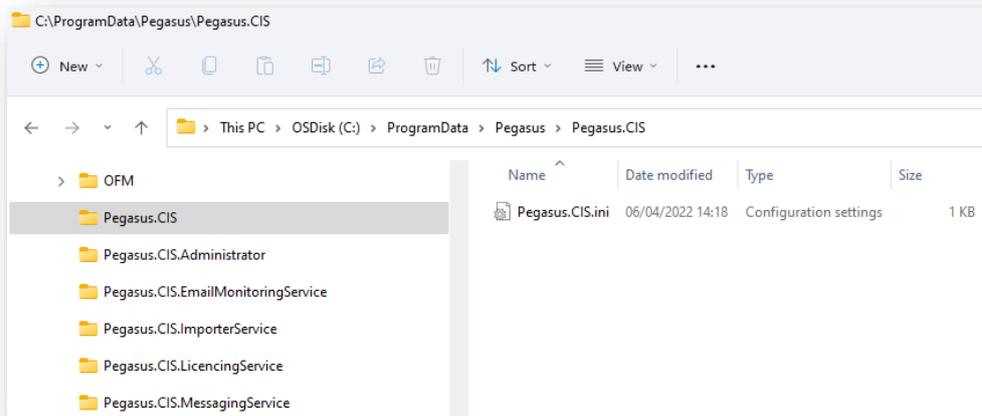
Appendix B – CIS 5 Client Files, Folders & Registry

All client files are installed to 'C:\Program Files (x86)\Pegasus\Pegasus.CIS'.



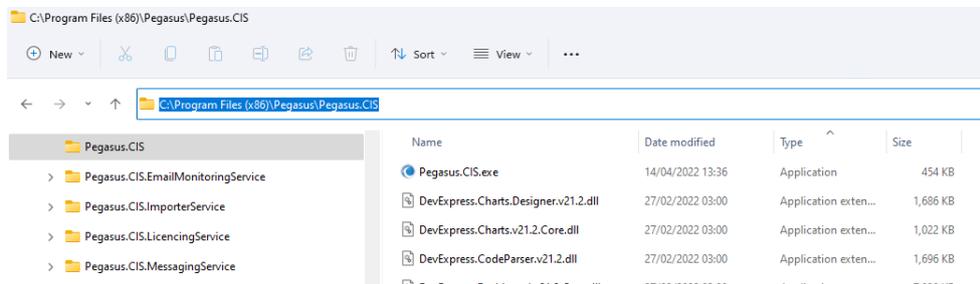
ProgramData Folder & Files on the client

The client looks to the "C:\ProgramData\Pegasus\Pegasus.CIS\Pegasus.CIS.ini" file to pick up the path to the CIS\Pegasus.CIS.config file on the server.



Program Folder (x86) Folder & Files on the client

The client program and dll files are located in the CIS Client Program Folder (x86) Folder. This folder also includes the help file (Pegasus.CIS.chm) and the Pegasus.CIS.exe.config file.



Registry

The main entry in the registry associated with the client is the last logged on username. This is found @ Computer\HKEY_CURRENT_USER\Software\Pegasus\Pegasus.CIS. This is created by the desktop client the first time a user logs in.

Appendix C – Moving Servers

When you need to move the CIS 5 System to a new Server, please use the following information as a guide to carry out this process.

Moving CIS installation & SQL databases to new server

In this scenario you are moving the complete CIS solution (Install and SQL elements) to a new server, please use the following steps as a guide;

1. Back-up the configuration & company dbs in SQL (*please refer to the [3TRNCISv5BackupTrainingGuide](#) for further details*)
2. Restore them in the new SQL Server
3. Copy all the server files & folders from the “CIS” share on the old server to the new server in the location the CIS server will be installed (“C:\CIS” is the default location)
4. Install CIS 5 on the new server (*please refer to the [installation](#) section for further details*)

Appendix D - How to Register a Microsoft Graph API Application for CIS Email Integration

How to Register a Microsoft Graph API Application for CIS Email Integration

1. Login to [Azure Portal](#)
2. Select [Azure Active Directory](#)
3. Select [App registrations](#) from the Manage menu on the left
4. Select New registration from the toolbar at the top
 - a. Enter in application name, e.g. “Pegasus CIS Email Monitoring”
 - b. Make sure the “Accounts in this organizational directory only ([Company Name] - Single tenant)” option is selected
 - c. Leave the “Redirect URI” blank
 - d. Click “Register”

Microsoft Azure Search resources, services, and docs (G+)

Home > Thom Micro Systems >

Register an application

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

Elite Contract Costing Email Monitoring ✓

Supported account types

Who can use this application or access this API?

Accounts in this organizational directory only (Thom Micro Systems only - Single tenant)

Accounts in any organizational directory (Any Azure AD directory - Multitenant)

Accounts in any organizational directory (Any Azure AD directory - Multitenant) and personal Microsoft accounts (e.g. Skype, Xbox)

Personal Microsoft accounts only

Help me choose...

Redirect URI (optional)

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

Web e.g. https://myapp.com/auth

By proceeding, you agree to the Microsoft Platform Policies

Register

5. Take a note of the “Application (client) ID” – you will need to enter this into the “Mailbox Monitoring Settings” screen in CIS.

Microsoft Azure Search resources, services, and docs (G+)

Home >

Elite Contract Costing Email Monitoring

Search (Ctrl+J)

Delete Endpoints

Got a second? We would love your feedback on Microsoft Identity platform (previously Azure AD for developer).

Essentials

Display name : Elite Contract Costing Email Monitoring Supported account types : My organization only

Application (client) ID : 11e5d510-0100-4000-8000-000000000000 Redirect URIs : Add a Redirect URI

Directory (tenant) ID : 11e5d510-0100-4000-8000-000000000000 Application ID URI : Add an Application ID URI

Object ID : 11e5d510-0100-4000-8000-000000000000 Managed application in L : Elite Contract Costing Email Monitoring

Starting June 30th, 2020 we will no longer add any new features to Azure Active Directory Authentication Library (ADAL) and Azure AD Graph. We will continue to provide technical support and security updates but we will no longer provide feature updates. Applications will need to be upgraded to Microsoft Authentication Library (MSAL) and Microsoft Graph. Learn more

Call APIs

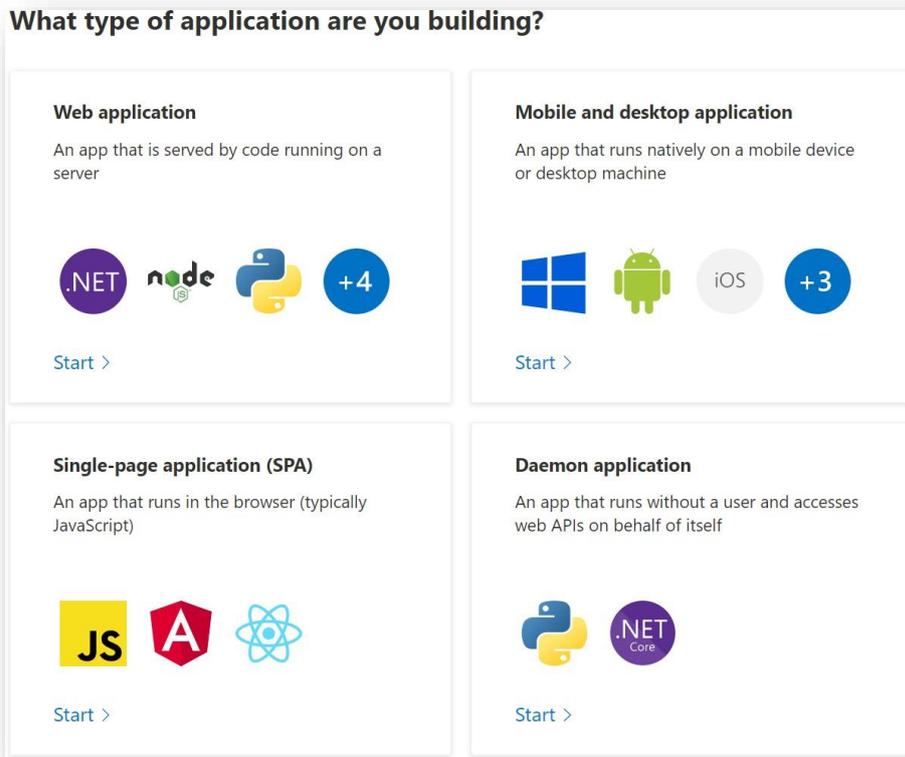
Build more powerful apps with rich user and business data from Microsoft services and your own company's data sources.

View API permissions

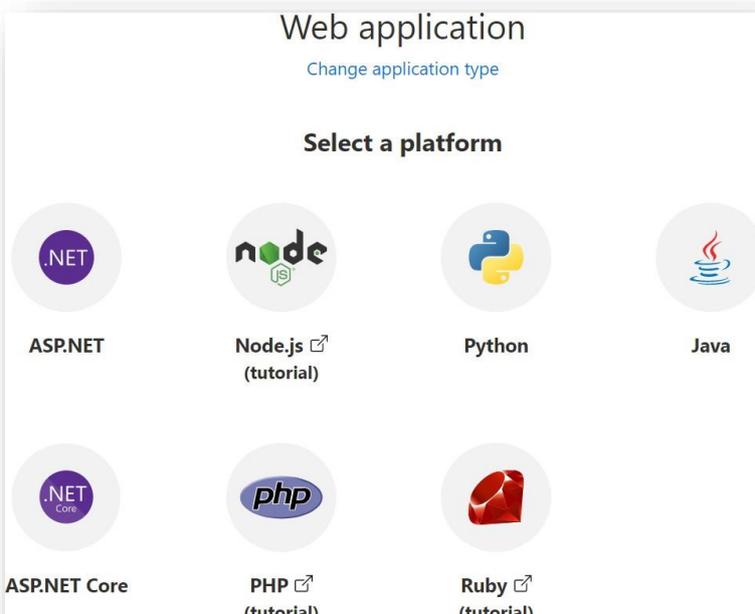
Documentation

Microsoft identity platform
Authentication scenarios
Authentication libraries
Code samples
Microsoft Graph
Glossary
Help and Support

6. Configuration Application Authentication
 - a. Select “Quickstart” from the Manage menu on the left



- b. Select “Web application”



c. Select “ASP.NET Core”

Quickstart: Add sign-in with Microsoft to an ASP.NET Core web app

In this quickstart, you use a code sample to learn how an ASP.NET Core web app can sign in personal accounts (hotmail.com, outlook.com, others) and work and school accounts from any Azure Active Directory (Azure AD) instance. (See [How the sample works](#) for an illustration.)

Step 1: Configure your application in the Azure portal

For the code sample for this quickstart to work, you need to add reply URLs as `https://localhost:44321/` and `https://localhost:44321/signin-oidc`, add the Logout URL as `https://localhost:44321/signout-oidc`, and request ID tokens to be issued by the authorization endpoint.

[Make this change for me](#)

Step 2: Download your ASP.NET Core project

Run the project.

[Download the code sample](#)

Step 3: Your app is configured and ready to run

We have configured your project with values of your app's properties and it's ready to run.

d. Click “Make this change for me”

Configuring your application registration ✕

Certain attributes are required in order to run the code sample for this Quickstart - below is a list of what is going to be modified in your application - you can always revert these changes later.

Values to be added

| | |
|---------------|---|
| Redirect URIs | <code>https://localhost:44321/</code> |
| Redirect URIs | <code>https://localhost:44321/signin-oidc</code> |
| Logout URL | <code>https://localhost:44321/signout-callback-oi...</code> |

Values to be modified

| | |
|---------------------------|------|
| Implicit grant: ID tokens | True |
|---------------------------|------|

[Make updates](#) [Cancel](#)

- e. Click “Make updates” – to view or adjust the automatic configuration select “Authentication” from the Manage menu on the left

Platform configurations

Depending on the platform or device this application is targeting, additional configuration may be required such as redirect URIs, specific authentication settings, or fields specific to the platform.

+ Add a platform

Web Quickstart Docs

Redirect URIs

The URIs we will accept as destinations when returning authentication responses (tokens) after successfully authenticating users. Also referred to as reply URLs. [Learn more about Redirect URIs and their restrictions](#)

| | |
|-------------------------------------|----|
| https://localhost:44321/ | 🗑️ |
| https://localhost:44321/signin-oidc | 🗑️ |

[Add URI](#)

Logout URL

This is where we send a request to have the application clear the user's session data. This is required for single sign-out to work correctly.

https://localhost:44321/signout-callback-oidc ✓

Implicit grant

Allows an application to request a token directly from the authorization endpoint. Checking Access tokens and ID tokens is recommended only if the application has a single-page architecture (SPA), has no back-end components, does not use the latest version of MSAL.js with auth code flow, or it invokes a web API via JavaScript. ID Token is needed for ASP.NET Core Web Apps. [Learn more about the implicit grant flow](#)

To enable the implicit grant flow, select the tokens you would like to be issued by the authorization endpoint:

Access tokens

ID tokens

7. Setup Application Secret

- a. Select “Certificates & secrets” from the Manage menu on the left

The screenshot shows the Microsoft Azure portal interface. The top navigation bar includes the Microsoft Azure logo and a search bar. The main content area is titled 'Elite Contract Costing Email Monitoring | Certificates & secrets'. On the left, a 'Manage' menu is visible with options like Branding, Authentication, Certificates & secrets (highlighted), Token configuration, API permissions, Expose an API, Owners, Roles and administrators, Manifest, and Support. The main content area is divided into two sections: 'Certificates' and 'Client secrets'. The 'Certificates' section has a sub-header 'Certificates' and a description: 'Credentials enable confidential applications to identify themselves to the authentication service when receiving tokens at a web addressable location (using an HTTPS scheme). For a higher level of assurance, we recommend using a certificate (instead of a client secret) as a credential.' Below this is an 'Upload certificate' button and a table with columns 'Thumbprint', 'Start date', and 'Expires'. A message states 'No certificates have been added for this application.' The 'Client secrets' section has a sub-header 'Client secrets' and a description: 'A secret string that the application uses to prove its identity when requesting a token. Also can be referred to as application password.' Below this is a '+ New client secret' button and a table with columns 'Description', 'Expires', and 'Value'. A message states 'No client secrets have been created for this application.'

- b. Click “New client secret” from the “Client Secrets”

Add a client secret

Description

Contract Costing

Expires

In 1 year

In 2 years

Never

Add Cancel

- c. Enter a suitable description for the client secret, e.g. “Contract Costing”
- d. Set the Expires to “Never”
- e. Click “Add” – this will return you to the Certificates & secrets screen and show the newly generated Client Secret

Client secrets

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

+ New client secret

| Description | Expires | Value |
|------------------|------------|----------|
| Contract Costing | 12/31/2299 | GV0***** |

- f. Take a note of the “Client Secret” – you will need to enter this into the “Mailbox Monitoring Settings” screen in CIS.

IMPORTANT: the Client Secret will become hidden by Microsoft so you only have a limited time to see this value – make sure you copy it before moving off this page:

Client secrets

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

+ New client secret

| Description | Expires | Value |
|------------------|------------|----------|
| Contract Costing | 12/31/2299 | GV0***** |

8. Setup API Permissions

- a. Select API Permissions from the Manage menu on the left

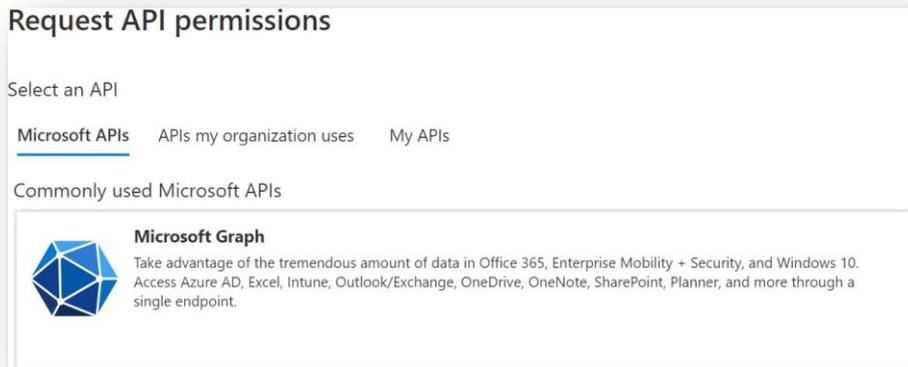
Configured permissions

Applications are authorized to call APIs when they are granted permissions by users/admins as part of the consent process. The list of configured permissions should include all the permissions the application needs. [Learn more about permissions and consent](#)

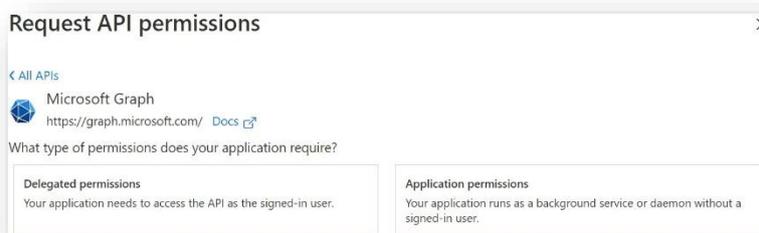
+ Add a permission Grant admin consent for [Application Name]

| API / Permissions name | Type | Description | Admin consent req... | Status |
|------------------------|-----------|-------------------------------|----------------------|--------|
| Microsoft Graph (1) | | | | |
| User.Read | Delegated | Sign in and read user profile | - | ... |

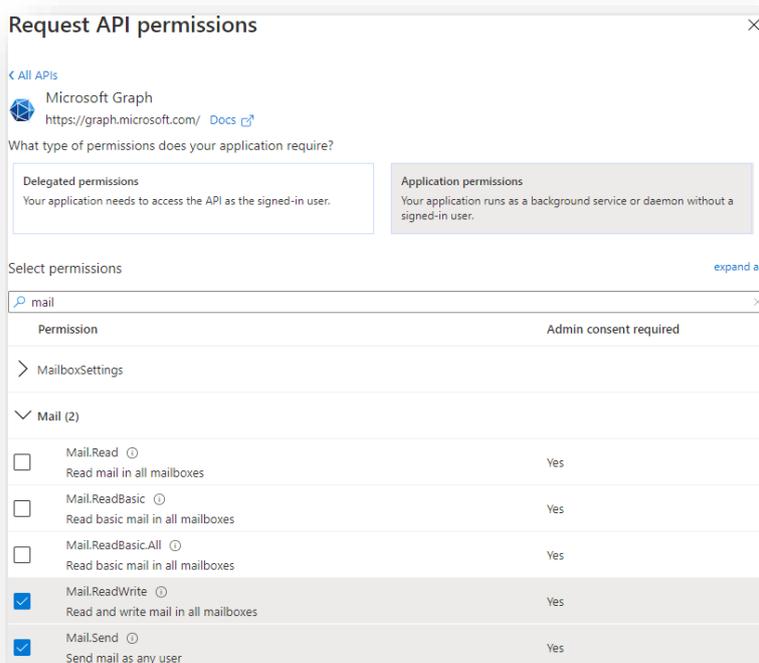
- b. Click “Add a permission”



- c. Select “Microsoft Graph”



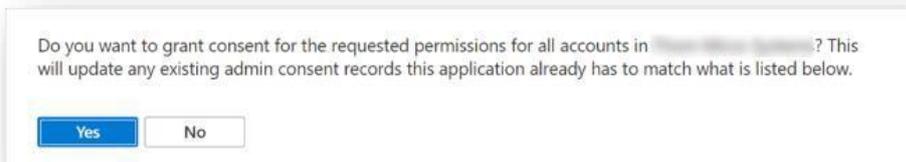
- d. Select “Application permissions” and enter in “Mail” into the “Select permissions” search box.



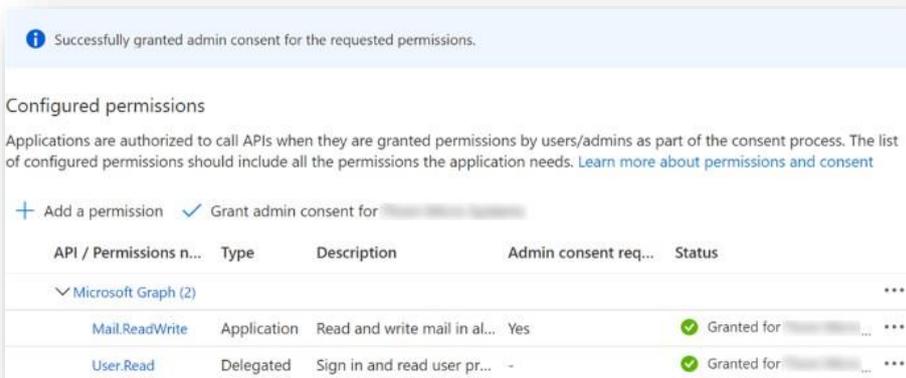
- e. Expand the “Mail” section and tick “Mail.ReadWrite” and “Mail.Send”
- f. Click “Add permissions”



- g. Admin consent is required for this (Status is set to “Not granted”) – click “Grant admin consent for [Company Name]” to grant the required permissions



- h. Click “Yes” – the Status should now be changed to “Granted”



You can now enter your “Microsoft 365 Domain Name”, “Application (client) ID” and “ClientSecret” into the “Settings -> Document Management Setup -> Mailbox Monitoring Settings” screen within CIS.

Appendix E – Troubleshooting

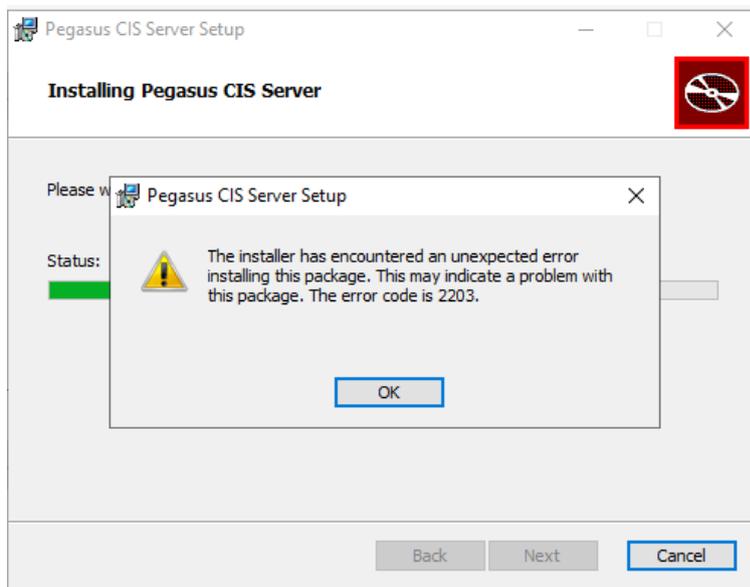
The following are some of the potential issues that could be encountered during installation and how to resolve them.

Issue: The Pegasus CIS Server Setup Wizard ended prematurely error when installing CIS 5 Server



Potential Resolution: A recent windows update may have been running in the background. Try a reboot of the machine, then the installation should complete successfully.

Issue: The installer has encountered an unexpected error installing this package. This may indicate a problem with the package. The error code is 2203.



Potential Resolution: Ensure all pre-requisites have been installed correctly. If this has been confirmed then a recent windows update may have been running in the background. Try a reboot of the machine, then the installation should complete successfully.