



Nucleus Connect

V2.0.0.0

Installation Manual

(NucleusConnect-2.0.0.0-InstallationManual)



1	Introduction.....	3
2	Minimum Requirements.....	3
3	Important Features and Changes.....	3
3.1	Version 2.0.0.0.....	3
4	Installation Guide	3
4.1	Installing Nucleus Connect.....	3
4.2	Installing Nucleus Connect with IIS	3
5	Troubleshooting Guide.....	8
5.1	HTTP Error 404.2 – Not Found.....	8
5.2	HTTP Error 404.3 – Not Found.....	8
5.3	General – Log Files	8
5.4	General – Event Viewer	8



1 Introduction

Nucleus Connect is the IIS application pool web service that enables other APIs and web services to run on a windows environment. It acts as a directory for our CO3 Technologies installations to be installed into. Previous iterations of this application were BPO Connect and BPO Web Connect.

2 Minimum Requirements

- Microsoft Windows 7 or later with IIS.
- Microsoft's IIS URL Rewrite, which can be downloaded from <https://www.iis.net/downloads/microsoft/url-rewrite>
- Nucleus backend is required.
- Released with v2025.5.0.7.

3 Important Features and Changes

3.1 Version 2.0.0.0

- Updated target .NET Framework to be v4.8, this should increase the stability on newer systems and removes the dependency from .NET v4.0.
- Removal of all references to prior BPO dependencies and naming conventions.
- Latest libraries and stable channel third-party packages utilised.
- Visual Studio 2022 used for targeting Windows 11 as a primary OS.
- New Functionality - Listing of All Sites, this will show a list of all sub directories that contain a .htm page (Primarily designed for NucleusRESTAPI architecture)
- New Functionality - Reset IIS Services, this will be useful in performing a single press deep reset on core IIS and related services. This functionality should be used after any fresh installation or upgrade to a site.
- New Functionality - Grant Logging Permissions, this will be useful in performing a single press Windows Security update for IIS_IUSRS user group to be able to log/generate session tokens as required by APIs.
- New Functionality - View Documentation, this document is visible from within the base page for Nucleus Connect.

4 Installation Guide

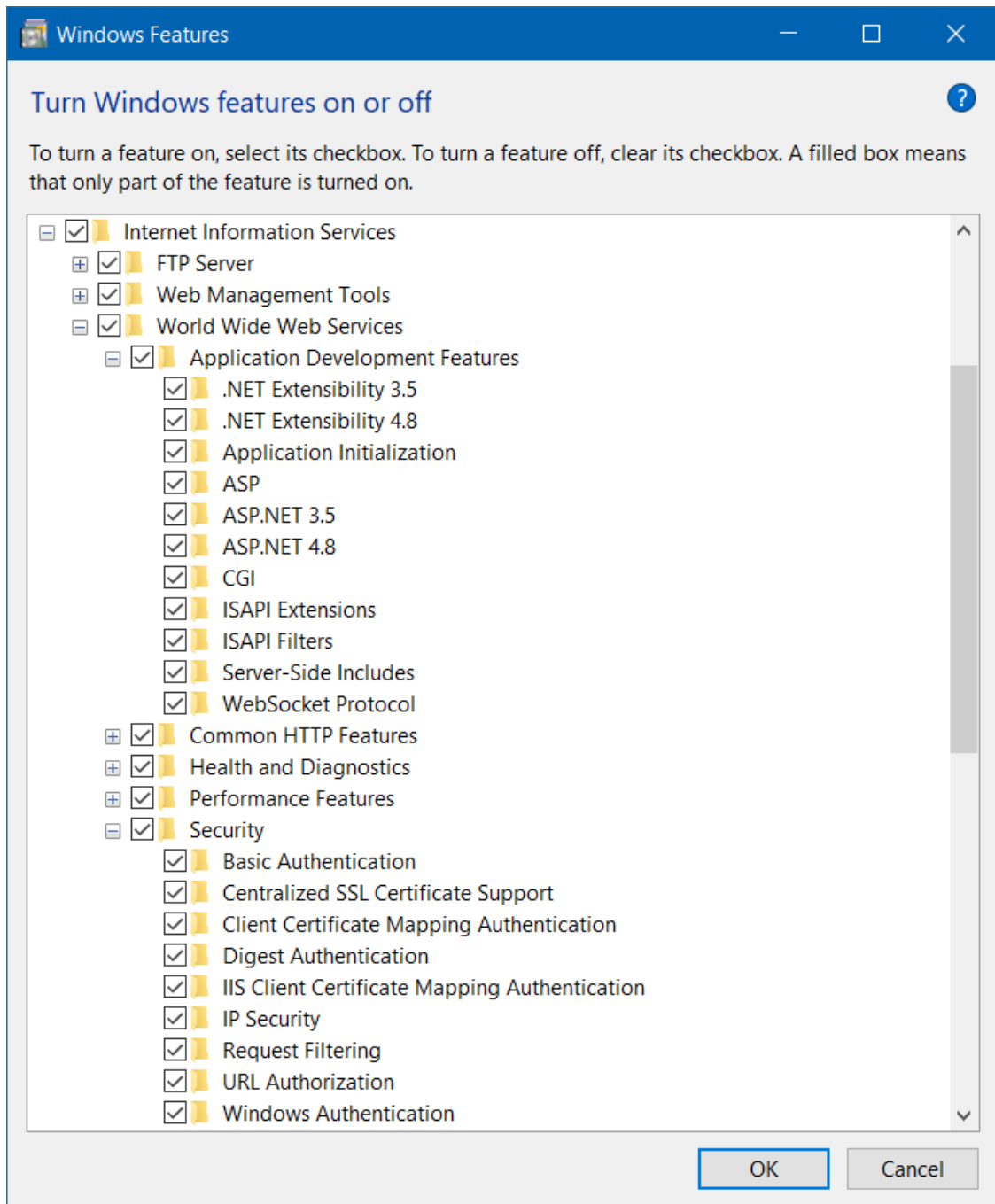
4.1 Installing Nucleus Connect

1. Run the setup file provided in the installation pack.
2. This will install the web service files by default into **C:\Program Files\CO3 Technologies\NucleusConnect**

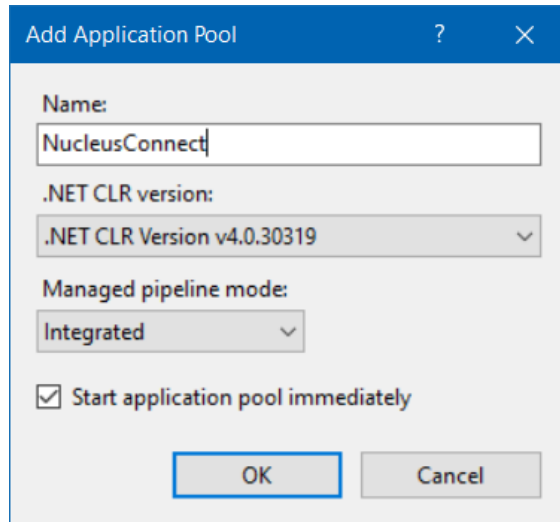
 NucleusConnect	2025-08-12 17:00	Windows Installer ...	621 KB
 setup	2025-08-12 17:00	Application	537 KB

4.2 Installing Nucleus Connect with IIS

1. Go to Start > Control Panel > Programs > Turn Windows features on or off.
2. Select **Internet Information Services**
3. Make sure the following items are checked in addition to the default selected items.
 - a. Internet Information Services > World Wide Web Services > Application Development Features > .NET Extensibility
 - b. Internet Information Services > World Wide Web Services > Application Development Features > ASP.NET
 - c. Internet Information Services > World Wide Web Services > Security > Windows Authentication
4. Click Ok



5. From the Start Menu open **Internet Information Services (IIS) Manager**
6. Click **Application Pools** in the left panel. Right click and **Add Application Pool**. Name it NucleusConnect and set the CLR version to the latest available with an integrated pipeline mode, starting it immediately.



Add Application Pool

Name: NucleusConnect

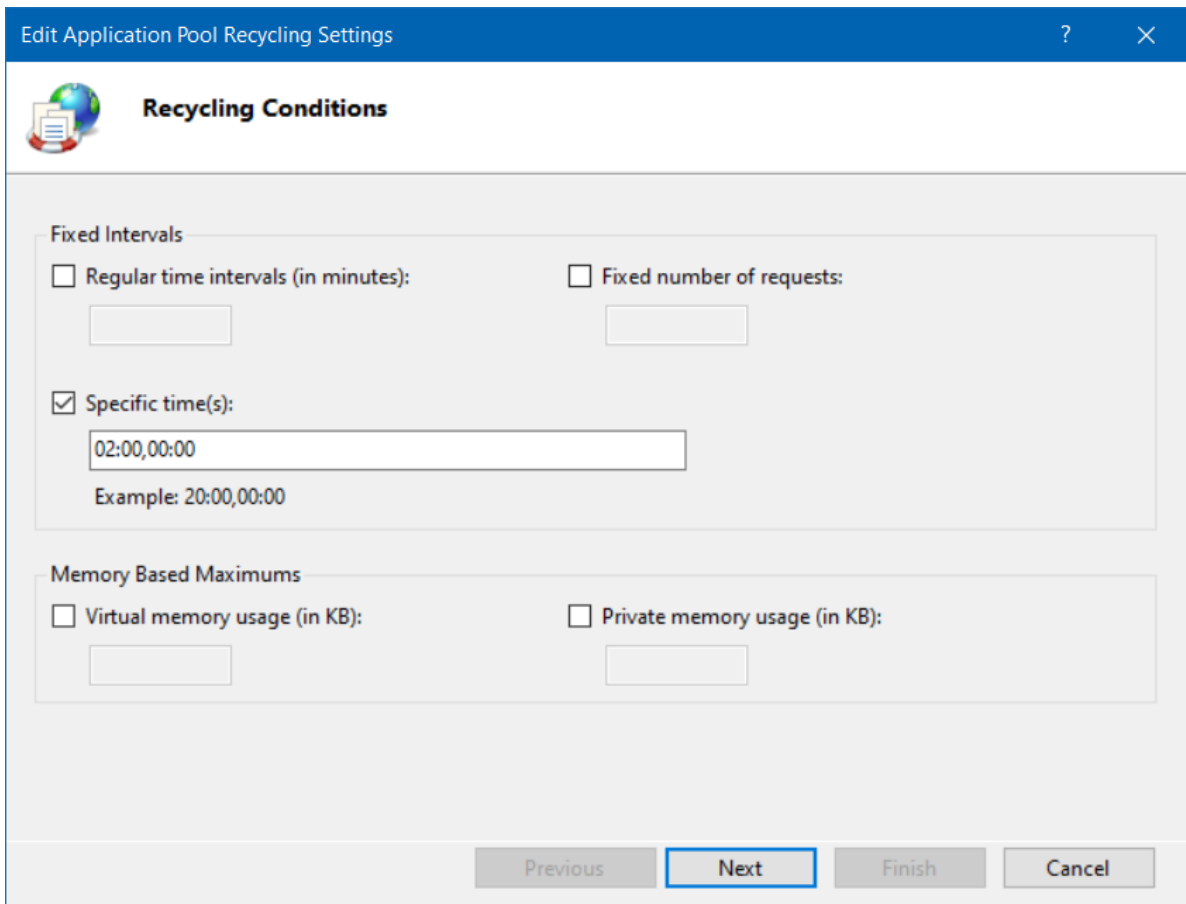
.NET CLR version: .NET CLR Version v4.0.30319

Managed pipeline mode: Integrated

☒ Start application pool immediately

OK Cancel

7. Click OK, on that Application Pool you can configure settings as required. For example the Recycling Settings in the far right can be set to a time where no regular requests should be coming in as seen below.



Edit Application Pool Recycling Settings

Recycling Conditions

Fixed Intervals

☐ Regular time intervals (in minutes):

☐ Fixed number of requests:

☒ Specific time(s):

Example: 20:00,00:00

Memory Based Maximums

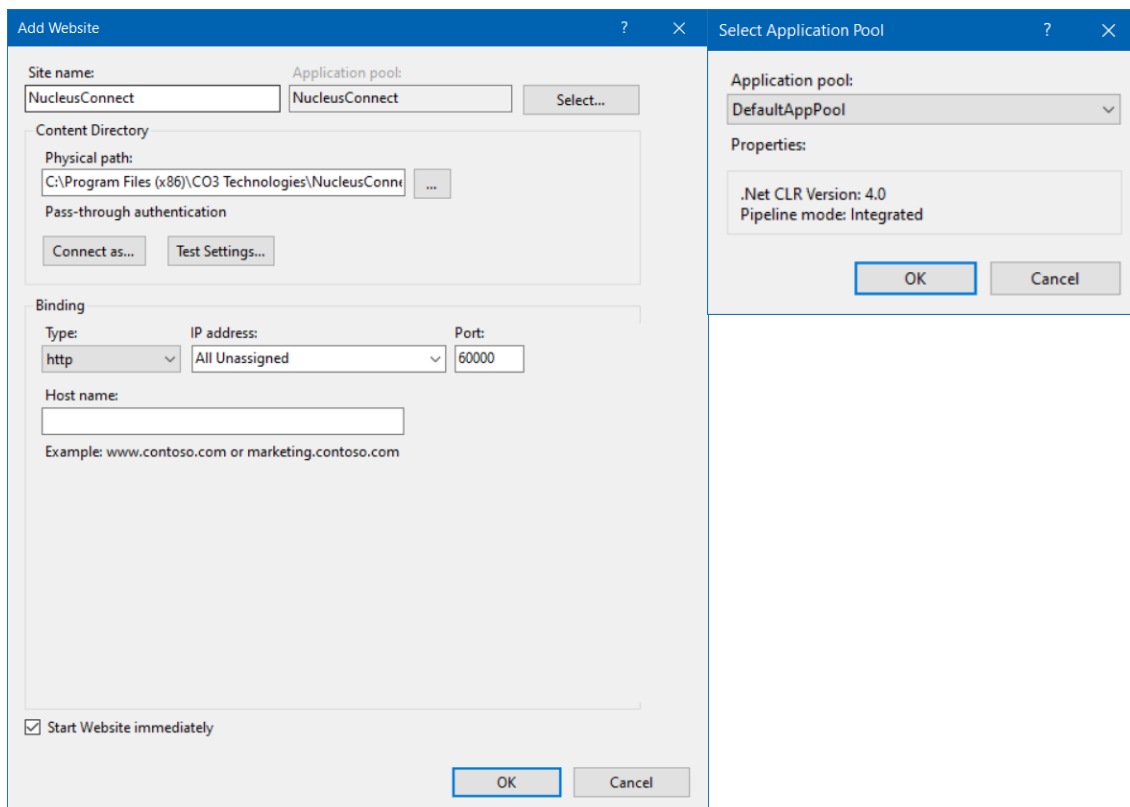
☐ Virtual memory usage (in KB):

☐ Private memory usage (in KB):

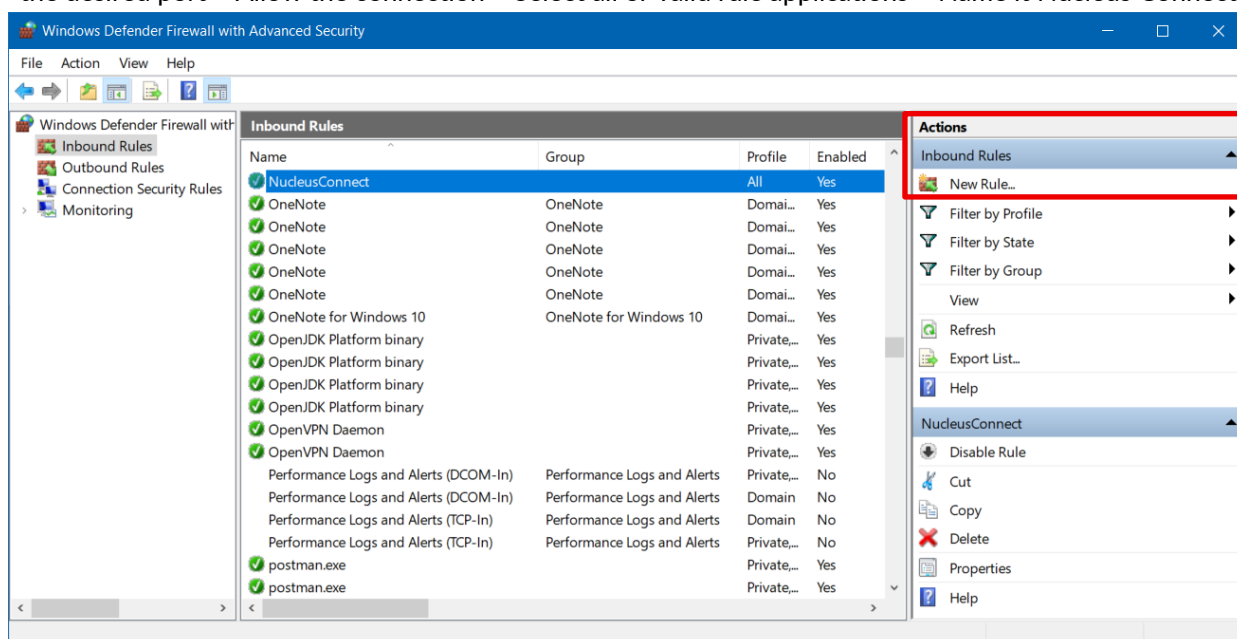
Previous **Next** Finish Cancel

8. Right click on **Sites** in the left tab, then **Add Website**. Naming this website NucleusConnect.
9. Select the Application Pool as NucleusConnect
10. Bind the Physical Path to the directory where NucleusConnect has been installed.

11. Configure the Port to be a Firewall open Port as given by the IT department or defaulted to 50000 or 60000.



12. If no Port has been given clearance by the IT department, make sure to create a new **Inbound Rule** for NucleusConnect to be available from outside of the localhost connection. Select New Rule > Port > Enter in the desired port > Allow the connection > Select all or valid rule applications > Name it Nucleus Connect



13. In a web browser or via IIS browse, navigate to the localhost port that has been setup e.g. <http://localhost:60000/> This will show the following page, from here the manual can be easily seen, setup guide for HTTPS, and a button that will show all nested sites that contain a .htm page.

Nucleus Connect

Welcome to Nucleus Connect

Nucleus Connect is an application pool used by the Nucleus suite. This provides connected, value added services to CO3 Technologies' Nucleus software.

Installed products will be sub directories of this url.

[View Manual](#)

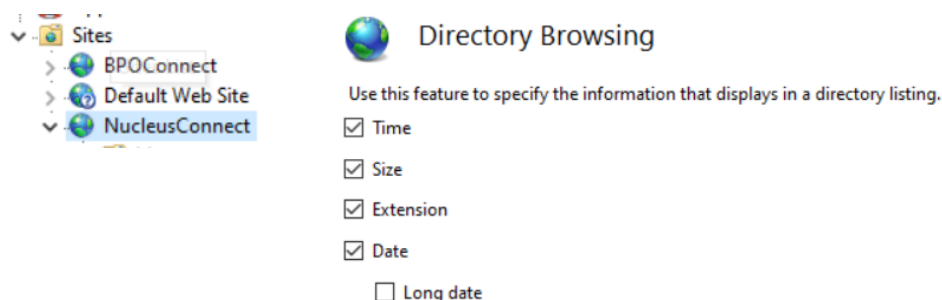
[Setup HTTPS](#)

Standard Functionality

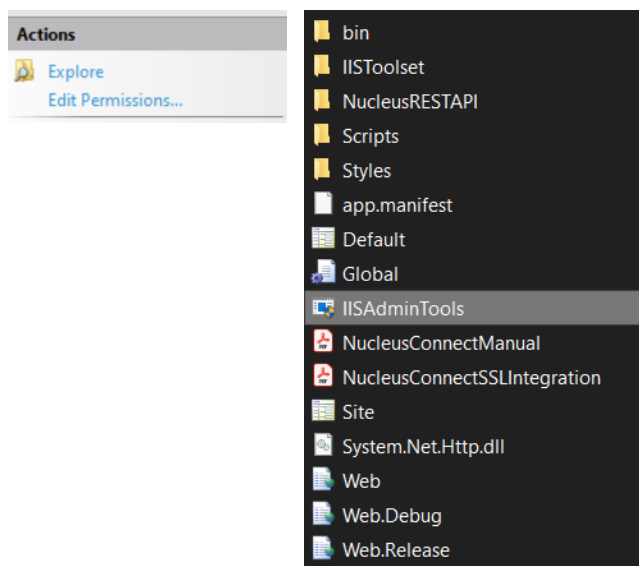
List All Sites

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14. In IIS navigate to the Site > NucleusConnect then **Directory Browsing**. Enable all fields apart from Long Date.



15. In IIS then go to **Actions > Explore** in the top right. Run the **IISAdminTools.exe** application. This will perform critically required scripting and can be ran again every time a new site is installed under NucleusConnect.

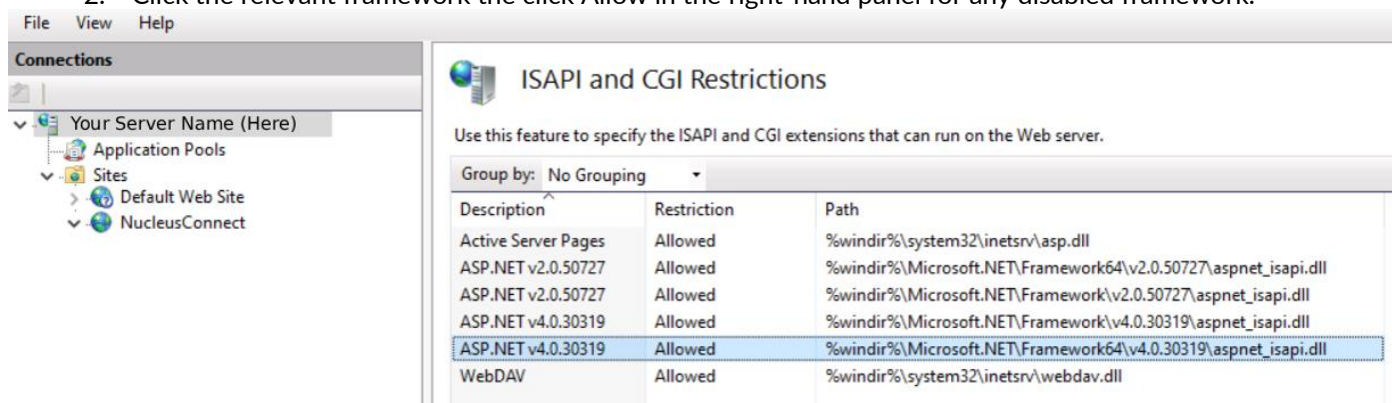


5 Troubleshooting Guide

5.1 HTTP Error 404.2 - Not Found

The page you are requesting cannot be served because of the ISAPI and CGI Restriction list settings on the Web server.

1. Click the Server Name "Your Server Name (Here)", then click **ISAPI and CGI Restrictions** in the menu.
2. Click the relevant framework the click Allow in the right-hand panel for any disabled framework.



5.2 HTTP Error 404.3 - Not Found

HTTP Error 404.3 - Not Found The page you are requesting cannot be served because of the extension configuration. If the page is a script, add a handler. If the file should be downloaded, add a MIME map.

1. Find the relevant framework on steps 5.1 and 4.6 (step 6)
2. Run one of the following from the command line, depending on the version of Windows installed. You may need to run as an administrator by opening cmd as administrator.

```
C:\Windows\Microsoft.NET\Framework\v4.0.30319\aspnet_regiis.exe -i
```

```
C:\Windows\Microsoft.NET\Framework64\v4.0.30319\aspnet_regiis.exe -i
```

5.3 General - Log Files

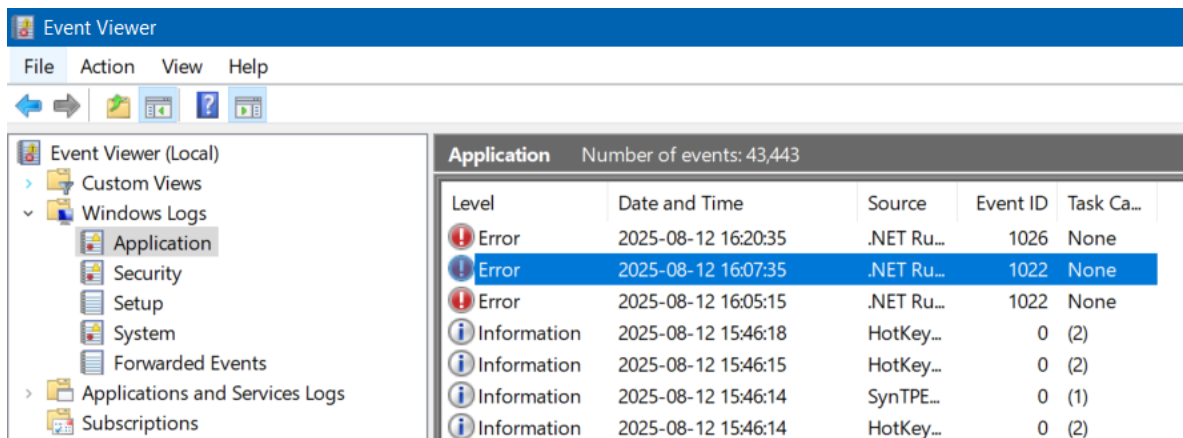
Unknown problems may require analysis of the application log files.

1. Log files are created in each applications directory e.g. **C:\Program Files\CO3 Technologies\NucleusConnect\NucleusRESTAPI\Log** and are named by date.
2. Log files can be accessed through Windows Explorer on the local machine or via a remote desktop connection.
3. Log files can also be accessed remotely through a web browser by typing in the web service URL and appending "/Log" to the URL. e.g. **http://localhost:60000/NucleusRESTAPI/Log**. This access requires Windows authentication with a Windows Username (including pc/domain eg. Mydomain\Myusername) and Password.
4. This will also require directory browsing explained on 4.2 (Step 16)

5.4 General - Event Viewer

Unknown problems may require analysis of the application log files.

1. Advanced errors on .NET Runtime or SQL will be viewable in Windows Event Viewer.
2. By searching for Event Viewer then navigating to Event Viewer > Windows Logs > Application you can find any Error Messages with greater detail below.



The screenshot shows the Windows Event Viewer application. The left pane displays the tree view with 'Event Viewer (Local)' expanded, showing 'Custom Views', 'Windows Logs', and 'Applications and Services Logs'. Under 'Windows Logs', 'Application' is selected. The right pane shows a list of events with the following columns: Level, Date and Time, Source, Event ID, and Task Category. The events are as follows:

Level	Date and Time	Source	Event ID	Task Ca...
Error	2025-08-12 16:20:35	.NET Ru...	1026	None
Error	2025-08-12 16:07:35	.NET Ru...	1022	None
Error	2025-08-12 16:05:15	.NET Ru...	1022	None
Information	2025-08-12 15:46:18	HotKey...	0 (2)	
Information	2025-08-12 15:46:15	HotKey...	0 (2)	
Information	2025-08-12 15:46:14	SynTPE...	0 (1)	
Information	2025-08-12 15:46:14	HotKey...	0 (2)	