LGH File Inspector for AVEVA InTouch User Guide

Desktop Edition

Version 4

November 2024

Developed by WorkSmart Automation, Inc. and sold and supported exclusively by Software Toolbox and your local AVEVA (formerly Wonderware) Distributor.

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LGH File Inspector

What's new in Version 4

.NET Licensing Changes

New software licensing methods were added to this version for compatibility with AVEVA .NET client control requirements. The user interface is slightly different but will be familiar to existing users. The changes are described in detail later in the Licensing section of this document.

The following licensing for Version 4 is available:

LGH File Inspector Desktop V4 for AVEVA InTouch:

- 90-Day Subscription
- Single Location (perpetual)

LGH File Inspector Industrial Graphic V4 for AVEVA InTouch

- 90-Day Subscription
- Single Location (perpetual)

LGH File Inspector Industrial Control

A new AVEVA Industrial Control graphic is available for separate purchase. The Industrial Graphic can be placed in an InTouch Window allowing users to access the benefits and features of LGH File Inspector from within their SCADA application. This feature is licensed separately from the Desktop version.

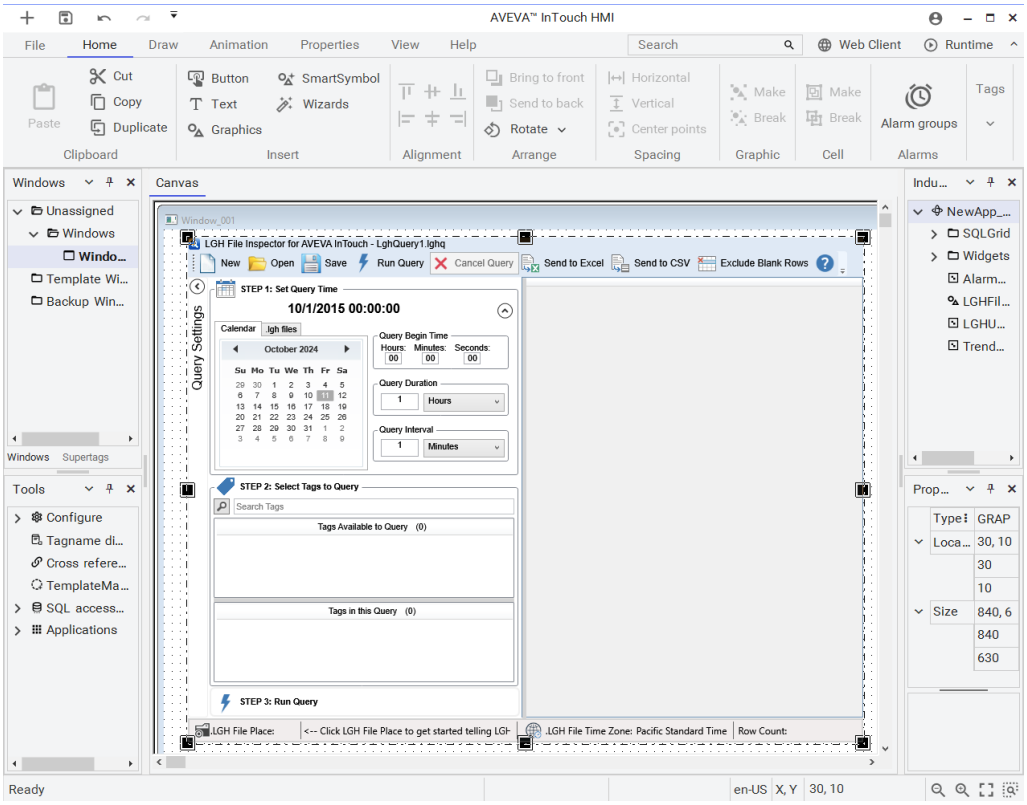


Figure 1, LGH File Inspector Industrial Graphic shown in AVEVA 2023 InTouch WindowMaker

Introducing LGH File Inspector

LGH File Inspector is the application you use to read AVEVA (formerly Wonderware) InTouch historical log files, analyze and export the results to Microsoft Excel, delimited files, or AVEVA Historian Fastload files. These historical log files are created daily by AVEVA InTouch SCADA applications and are commonly referred to as LGH files because they have a file extension of .lgh.

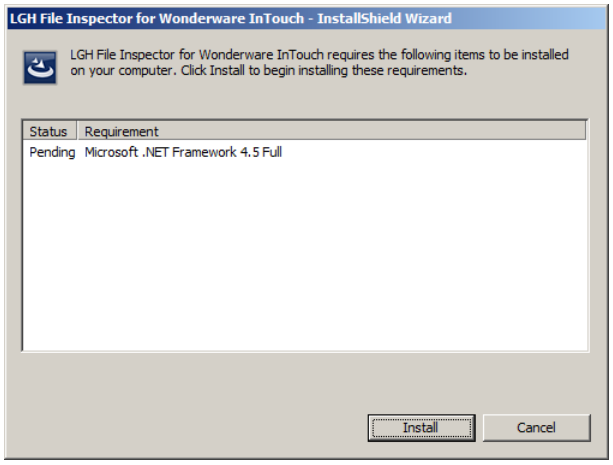
The LGH File Inspector application supports the following features:

- Automatic tag discovery
- Querying of data using a
    - Start Date and Time
    - Duration (length of query)
    - Interval (the amount of time between rows of data)
- Export of query results to a new or existing Microsoft Excel workbook.
- Export of query results to a new or existing comma separated values (CSV) file.
- Export of query results to a new AVEVA Historian Fastload CSV file.
- Saving configured queries to a file.
- Configuring automatic actions to execute when an LGH File Inspector Query file is opened directly by double-clicking the file from Windows or when executed from the Windows Task Scheduler program.

Installing LGH File Inspector

To install the application,

- Decide whether you will be installing for just you or for everyone on your machine.
    - If you choose to install for everyone, you will need to do so logged in under an account with Administrator privileges and you must ***right-click*** **Setup.exe** and choose the **Run as Administrator** menu option.
    - If you choose to install for just you, you may do so under a Standard Windows account by double-clicking **Setup.exe**. However, if .NET 4.5 needs to be installed, you will be prompted by Windows User Account Control to provide an administrator account and password to continue with the installation.
- Start **Setup.exe** from the installation folder containing the **Setup.exe** file using one of the methods previously described. The LGH File for AVEVA InTouch – InstallShield Wizard will appear.
- If the Microsoft .NET 4.5 Framework is not installed on your system, you will be asked to install it or cancel the installation altogether. Click the **Install** button to install the .NET 4.5 Framework and continue with the installation.

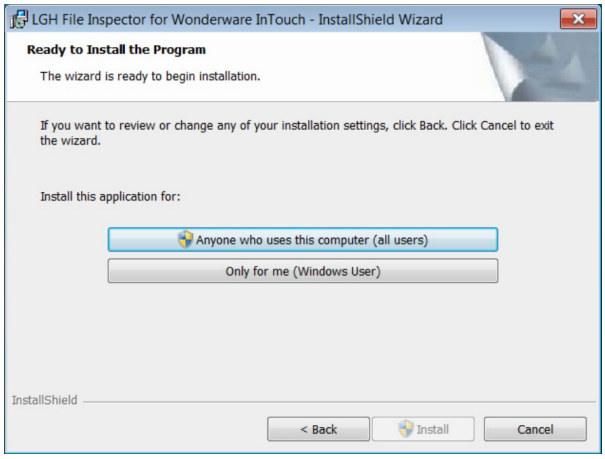


Note: You must be logged on under an account that has Administrator privileges or have an administrator provide their account credentials if prompted.

A system reboot may be required for some operating systems after .NET has been installed.

- Step through the Wizard to continue until the installation is complete.

- Choose to install for '**Anyone who uses this computer (all users)**' or '**Only for me (Windows user)**'. Remember – the (all users) install requires Administrative privileges and will require that you started **Setup.exe** by right-clicking and choosing the **Run as Administrator** option first.



- The application will be installed by default to either of the following folders:

When installing for Anyone who uses this computer (all users):
C:\Program Files\Software Toolbox\LGHFileInspector\ (32-bit OS)
C:\Program Files (x86)\Software Toolbox\LGHFileInspector\ (64-bit OS)

When installing Only for me (Windows User):
C:\Users*username*\AppData\Local\Programs\Software Toolbox\LGHFileInspector\

Where *username* is the current user account name.

- Shortcuts are automatically installed on the Windows Start menu in the program group:
    - Software Toolbox
        - LGH File Inspector User Guide
        - LGH File Inspector for AVEVA InTouch

Remarks:

LGH File Inspector requires .NET 4.5 and can be installed on the following operating systems:

- Windows Vista SP2 (x86 and x64)
- Windows 7 Service Pack 1 (x86 and x64)
- Windows 8 (x86 and x64)
- Windows 10 (x86 and x64)
- Windows 11
- Windows Server 2008 SP2 (x86 and x64)
- Windows Server 2008 R2 SP1 (x64)
- Windows Server 2012
- Windows Server 2016
- Windows Server 2019
- Windows Server 2022

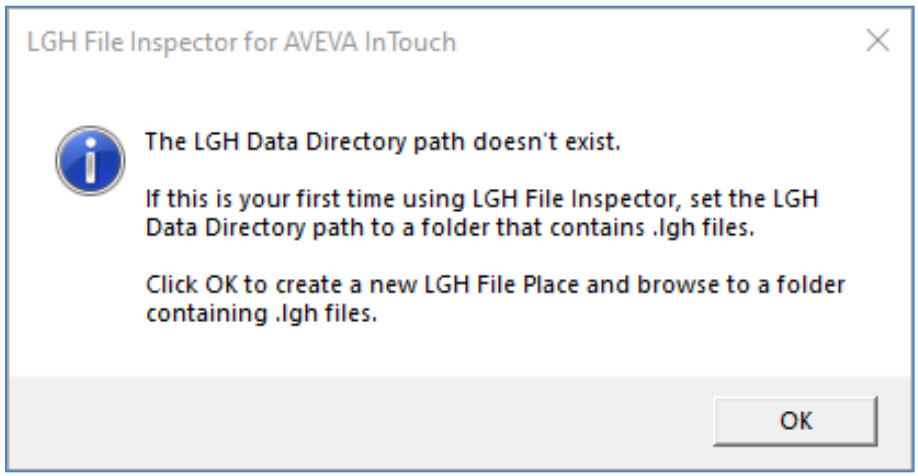
Note: Windows 8 and Windows Server 2012 and later include the .NET Framework 4.5.

For best results, install on a machine that has a multi-core processor and at least 2 GB of RAM.

Starting LGH File Inspector

To start the application, click its icon (***LGH File Inspector for AVEVA InTouch***) from the **Windows Start Menu**.

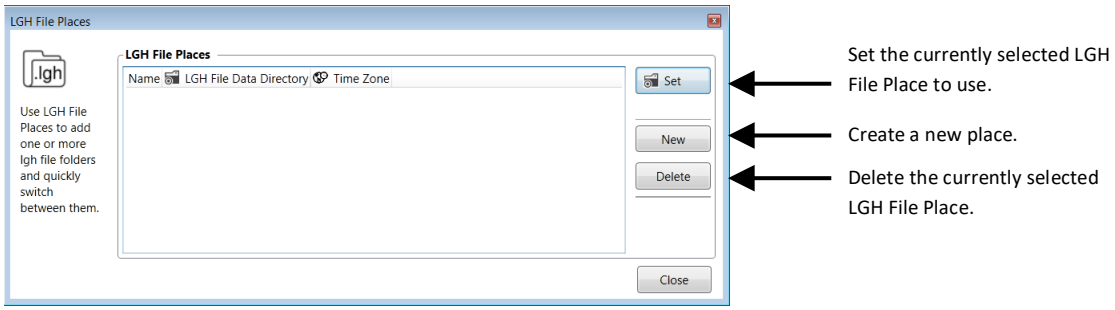
If the application is being run for the first time you will need to tell it where your .lgh files exist. The following message will appear informing you that it needs to know the location of the files. Click **OK** to define a new **LGH File Place** and browse to the folder on your computer where your .lgh files exist.



LGH File Places

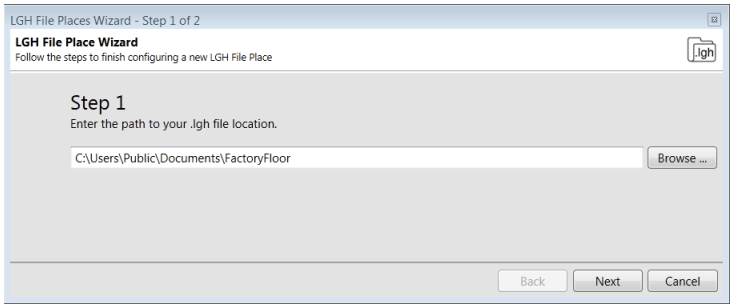
LGH File Places provides an easy way to manage multiple InTouch applications from the same machine. You can think of LGH File Places as a library or filing cabinet that contains shortcuts to one or more folders containing .lgh files. You can easily switch between LGH File Places without having to manually browse to each location or configure their LGH File Time zone settings every time.

The following graphic displays an empty LGH File Places window. From here, you may define one or more LGH File places to point your LGH File Inspector to.

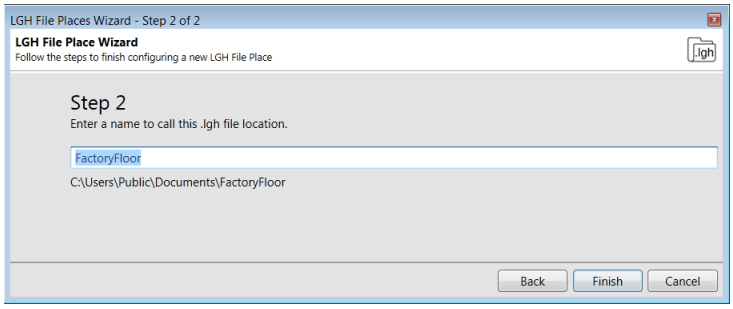


To configure an LGH File Place click **New** and follow the steps in the LGH File Place Wizard which will step you through the process required to define a new LGH File Place.

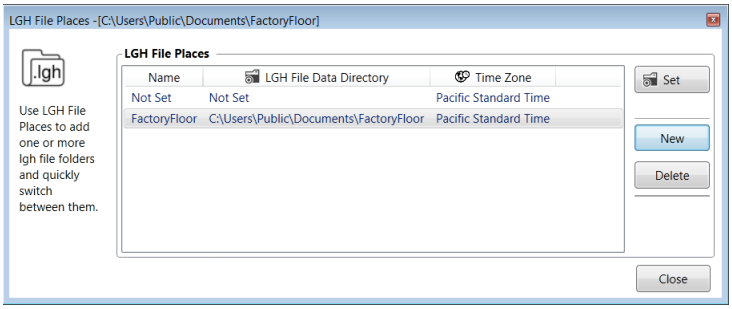
Step1: You will be asked to browse to a folder that contains the .lgh files you wish to query. Click **Browse…** to begin browsing to the folder of interest. Click **Next** when done.



Step 2: Enter a friendly name to call the LGH File Place. This can be anything you like.



Click **Finish** to create the new LGH File Place and return to the LGH File Places Window.



Select the LGH File Place you would like from the list and then click **Set.** This sets the LGH File Data directory and LGH File Inspector will automatically discover the tag names found in the most recent .lgh file and present them in the **Tags Available to Query** list. Once the list is populated, you can begin using LGH File Inspector.

Remarks:

You may define as many LGH File Places as you need. If you have multiple InTouch systems or if you are a service provider with multiple customers that log to InTouch .lgh files, you will find it helpful to configure each one so that you may quickly switch between them without having to browse to their respective folders manually each time.

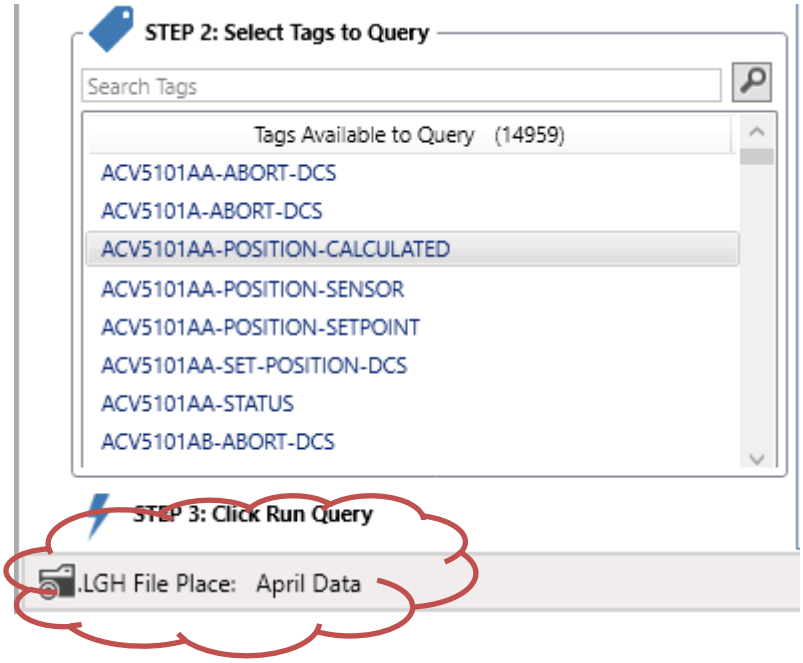
LGH File Inspector .LGH File Data Directory can be set to a local or network path. However, performance is improved when the .lgh files are on the same machine as LGH File Inspector.

The LGH File Data Directory path can be changed at any time by clicking the **LGH File Place** area in the lower left-hand corner of the application's status bar (see the following graphic in the next section).

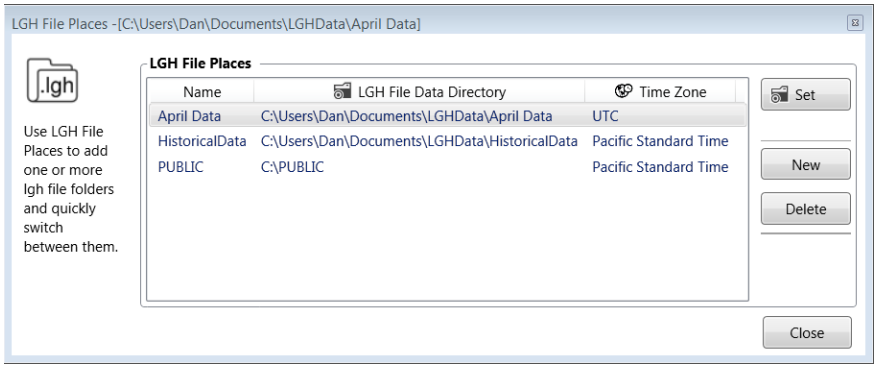
Changing the LGH Data Directory

To change the setting of the LGH File Place to a different location (folder), perform the following steps:

1. Click the **LGH File Place** area of the application's status bar.



The **LGH File Places** window will appear.



Select the LGH File Place from the list and click **Set**. Alternatively, you may define a new location to add to the list by clicking **New**. Refer to the previous section to learn more about defining a new LGH File Place.

Remarks:

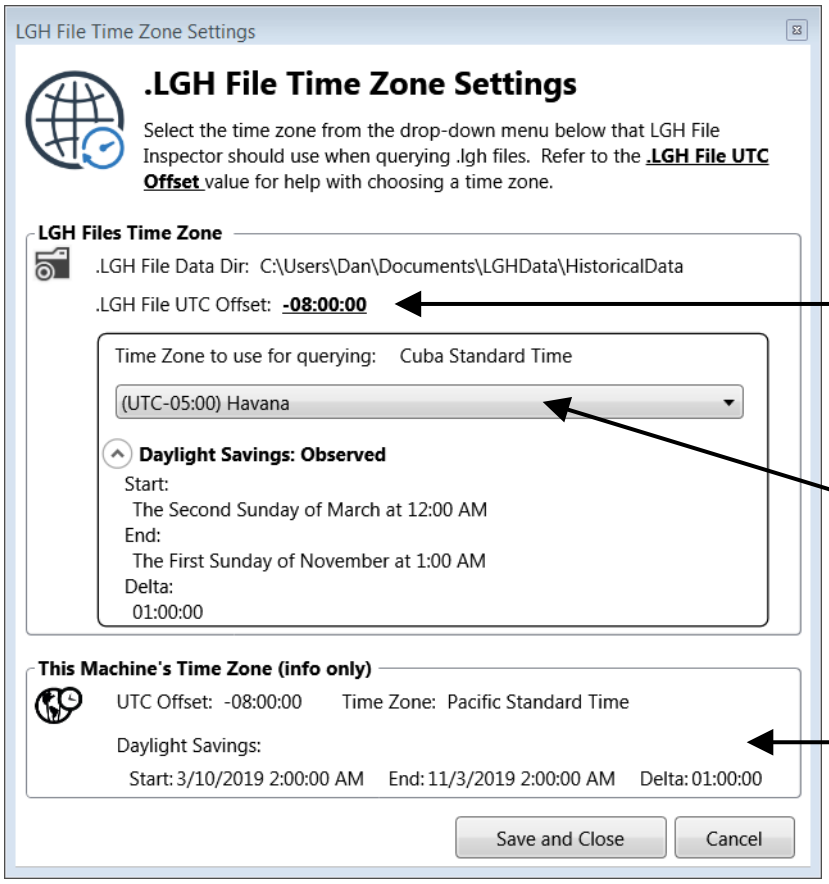
You may be prompted to configure the LGH File Time Zone if the application determines that the time zone on your machine is different from the time zone where the .lgh files were generated. Refer to the next section **'LGH File Time Zone'** to learn more.

LGH File Time Zone

LGH File Inspector can query .lgh files generated in different time zones than the machine it is running on. This is configured from the **LGH File Time Zone Settings** window displayed in the following graphic. This window is accessed by clicking the ***.LGH File Time Zone*** area of the application's status bar.

To set your application's .LGH Time Zone, select the appropriate time zone from the drop-down menu that corresponds to the time zone where your .lgh files were generated.

Most likely, this will be the ***local time zone*** where the .lgh files are being generated. However, if the .lgh files you want to query are generated in a different time zone than your machine, you'll need to change the LGH File Time Zone to match the .lgh files.



LGH File UTC Offset (Information only) - the difference in hours from midnight local and UTC found in the newest .lgh file.)

Time Zone to use for querying: (the time zone where the .lgh files were generated.)

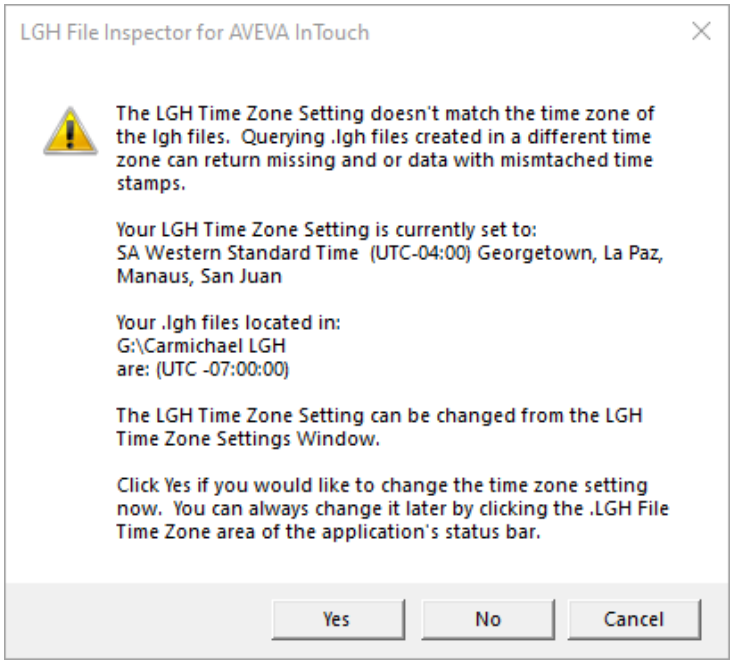
Your Machine's Time Zone Setting (Information only) – helpful information about your machine's Time Zone.

Remarks:

.LGH File UTC Check

Your .lgh files contain a UTC offset value that determines the difference between midnight local time and UTC (Universal Time Coordinated). The UTC offset can change depending upon whether the time zone observes Daylight Savings.

When a new .LGH File Data Directory is set by the user, LGH File Inspector checks the UTC offset value found in the newest .lgh file and compares that to the application's saved .LGH File Time Zone setting. If the difference between the two UTC offset values *(plus Daylight Savings Daylight Delta if it applies)* doesn't match, an error message is displayed about the problem. If you see this error message, you'll need to change your LGH File Time Zone setting to the proper time zone.

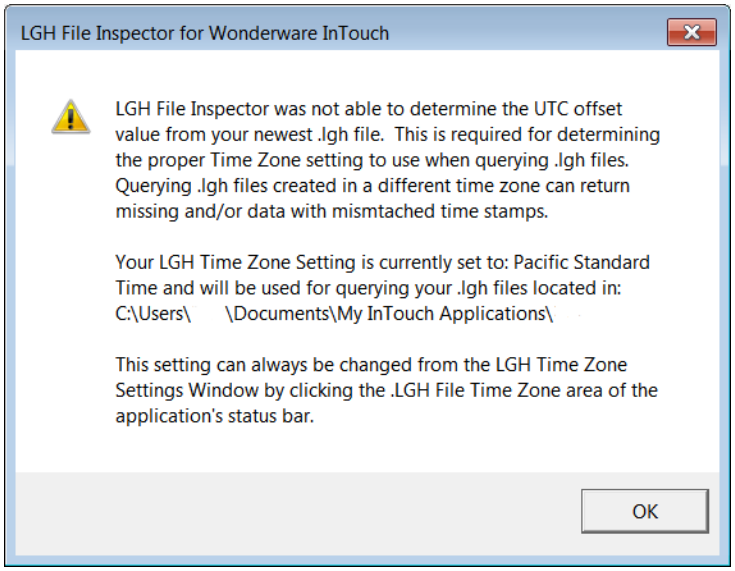


For example*, (UTC -08:00) Pacific Time* standard is *eight* hours behind UTC *(UTC -08:00)*, but only seven hours behind (-07:00:00) while daylight savings is observed. So while the LGH File UTC Offset may report *-07:00:00*, the time zone that needs to be applied in this case is ***(UTC -08:00) Pacific Time***.

LGH File Inspector Query Files and Time Zone

The LGH File Inspector query files include the LGH Time Zone setting when saved. When a saved query file is opened, its Time Zone setting will take effect until another query is opened or the application is restarted.

If LGH File Inspector is unable to determine the UTC offset of the newest .lgh file, the following error message is displayed:



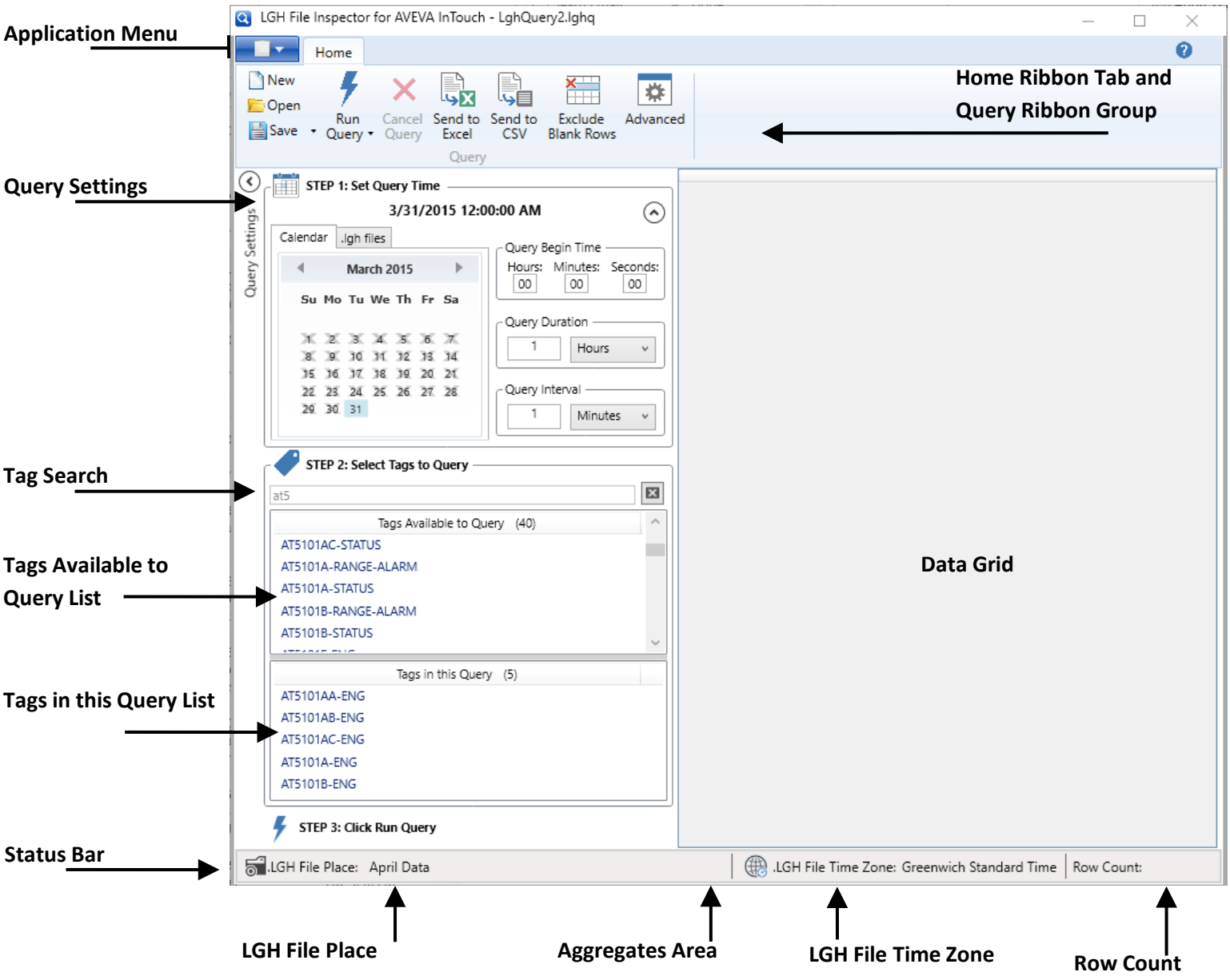
Note:

If you see this message, it is up to you to configure LGH File Inspector to use the proper time zone setting when querying .lgh files.

This is usually caused when the newest .lgh file was created at a time of day other than midnight. InTouch creates a new .lgh file every new day at midnight local time when it is running normally. However, if InTouch is started manually and no .lgh file has been created for that day, a new one is created with the current time stamp. If InTouch is allowed to run continuously, the next .lgh file created will be created at midnight local time and LGH File Inspector will then be able to determine the UTC offset and the message should stop displaying.

LGH File Inspector Application Window

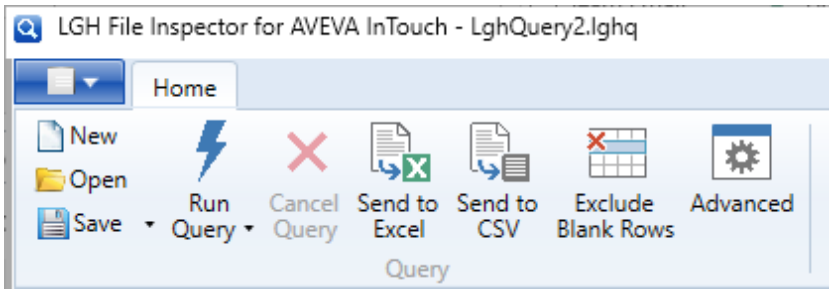
The following graphic displays the application workspace:



Aggregate values for selected cells display here if enabled for Average, Count, Min, Max, and Sum for non-blank selected cells. Blank and LogDate cells are ignored.

Query Ribbon Group

The following graphic displays the Query Ribbon Group located on the Home Ribbon Tab of the application.



New – Creates a new query with default settings.

Open – Opens an existing LGH File Inspector query file.

Save – Saves changes to the active query.

Save As – Saves a copy of the active query as new file.

Run Query – Executes the active query and sends results to the data grid.

To Data Grid – – Executes the active query and sends results to the data grid.

To Excel Workbook – Executes the active query and sends results to an Excel Workbook

To CSV File – Executes the active query and sends results to a CSV file.

Cancel Query – Cancels the currently executing query.

Send to Excel –Displays the **Send to Excel** window that provides options for exporting data in the Data Grid to an Excel workbook.

Send to CSV – Displays the **Send to CSV** window that provides options for exporting data in the Data Grid to a CSV file.

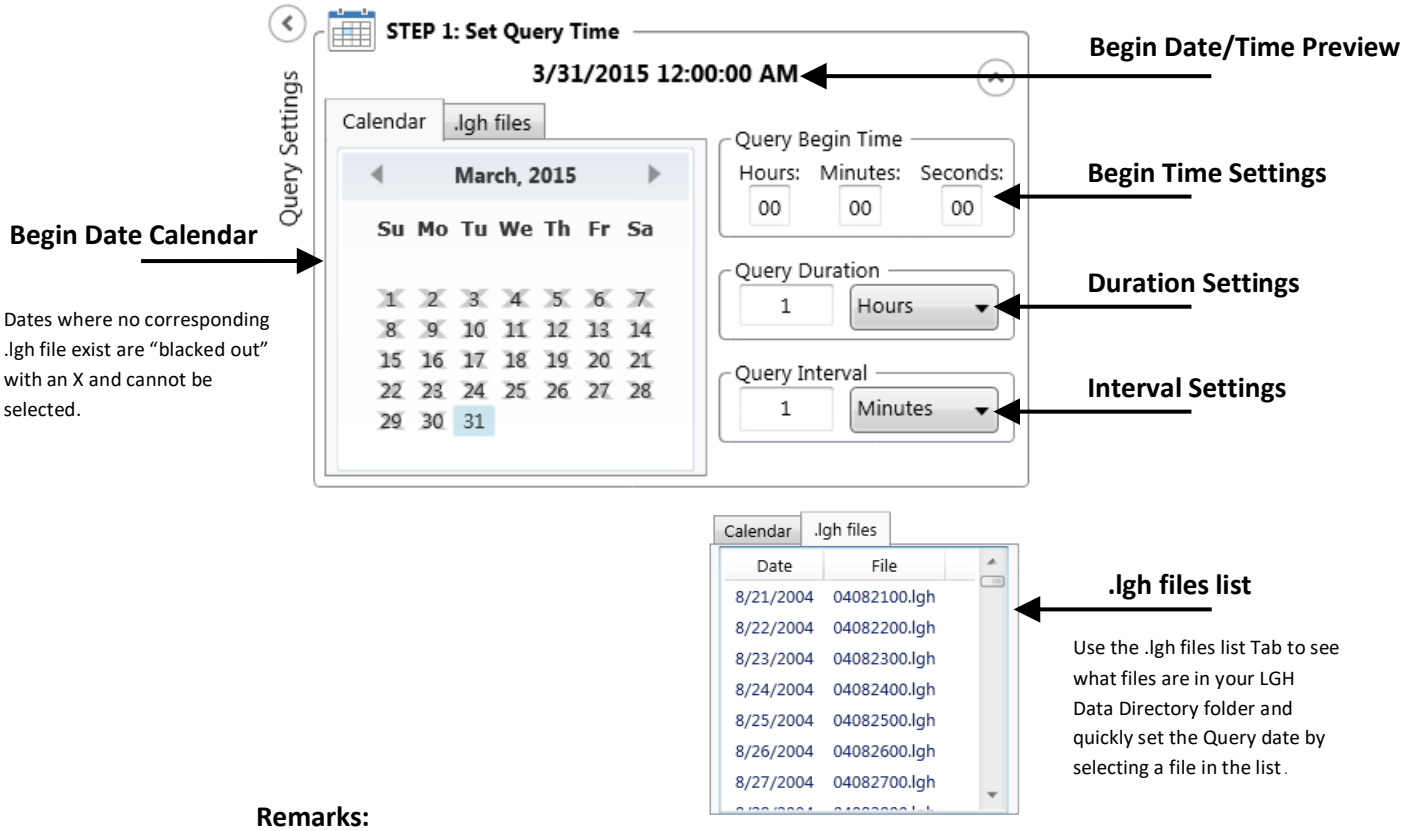
Exclude Blank Rows – Toggle to exclude or include blank rows when gaps in data exist.

Advanced – Displays the **Advanced Query Settings** window where you can configure actions the query will perform when it is opened outside of the LGH File Inspector Application.

Query Step 1: Set Query Time

The following graphic displays the **STEP 1: Set Query Time** area. This area is where ad-hoc query settings are configured and previewed including:

1. Begin Date Calendar / .lgh files Selection
   - Select query beginning date by Calendar or by .lgh file.
2. Begin Time hours, minutes, and seconds
   - Enter query beginning hours, minutes and seconds
     - Hours accepts whole numbers from 0-23
     - Minutes and seconds accept whole numbers from 0-59
3. Query Duration (the length of time to query for)
   - Enter number and unit of time
     - Accepts whole numbers from 0-999
4. Query Interval (how often to space data)
   - Enter number and unit of time
     - Accepts whole numbers from 0-999



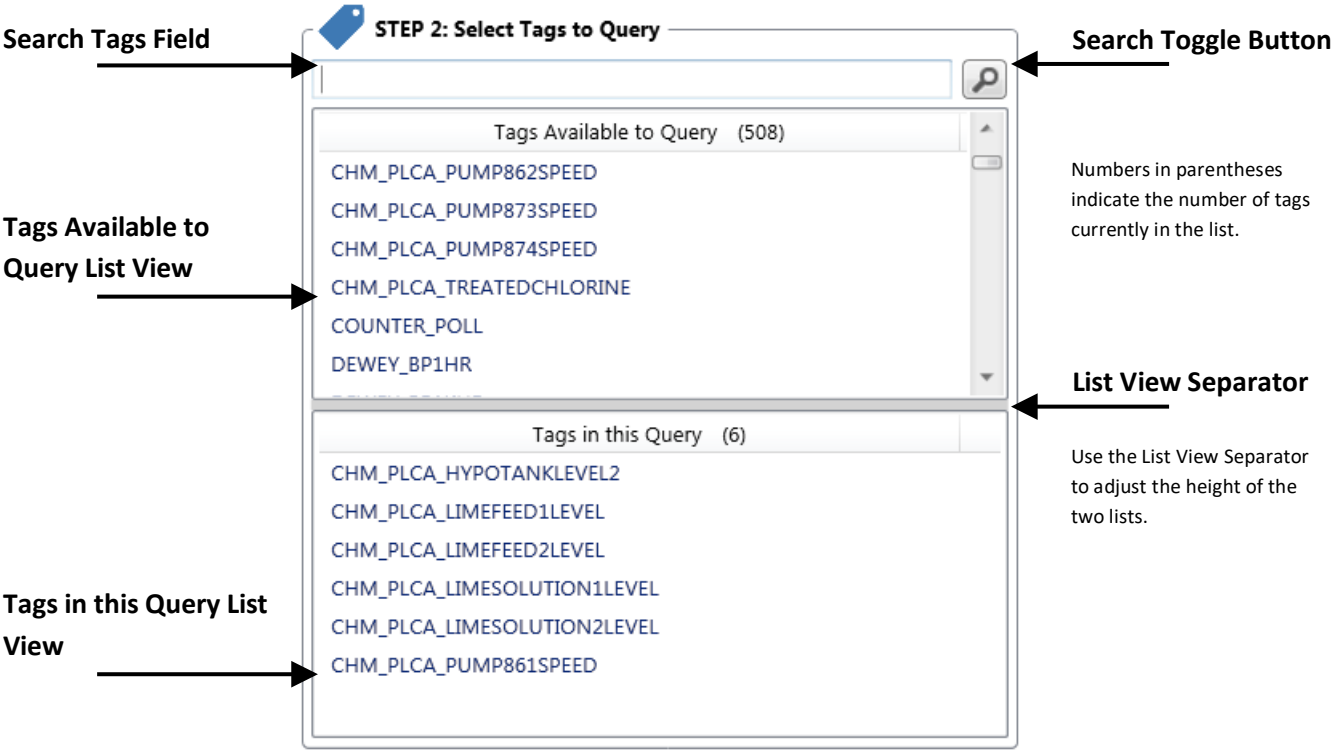
Remarks:

The result of the query settings can be previewed in the **Begin Date/Time Preview** display.

Query Step 2: Select Tags to Query

The following graphic displays the **STEP 2: Select Tags to Query** area. This area is where the tags to query are selected for querying.

1. Search for tags of interest in the tag search field by entering words to search for and then click the **Search Toggle** button. Any tags containing the text will be returned.
2. Select one or more tags from the **Tags Available to Query** list. Use **Shift + Click** or **Ctrl + Click** to select multiple tags.
3. Drag and drop selected tags on to the **Tags in this Query** list.



Remarks:

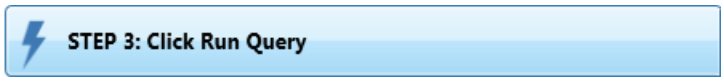
To add tags to the **Tags In this Query** list, select the tags to query and then drag and drop them on the **Tags in this Query** list or on the **Data Grid** – or right-click and choose **Add selected tags to query from the pop-up menu.**

To remove tags from the **Tags in this Query** list, select the tags to remove and press the keyboard **Delete** key or right-click and choose **Remove selected tags from query from the pop-up menu**.

LGH File Inspector limits the number of tags in a query to 1024.

Query Step 3: Click Run Query

The following graphic displays the **STEP 3: Run Query** area. This area is where the query can be executed.



1. After completing steps 1 and 2, click the **STEP 3: Click Run Query** button or click the **Run Query** button on the **Query Ribbon Group** to run the query.

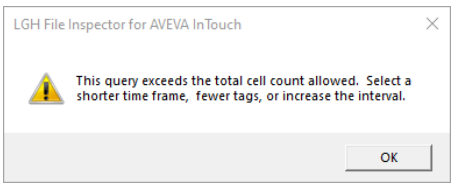
The default destination for the query results is the Data grid. To send the query results directly to an Excel Workbook or CSV file, click the drop-down menu arrow and choose either one of the destinations.

Remarks:

Menu items will be disabled and a busy spinner will be displayed while the query is executing.

Once the query is complete, the results will be displayed in the Data Grid. Click on a column header to toggle sorting on that column from highest to lowest and lowest to highest values. Rows of data can be copied into the Windows clipboard by right-clicking and choosing one of the copy menu items. The number of rows returned can be viewed from the application **Status Bar** in the lower right corner of the window.

If you configure a query that exceeds the maximum cell count allowed (`~15,000,000`), you will get the following error message:



You've exceeded the application's maximum cell count and the query will not be allowed. As the message says, you have a couple of choices:

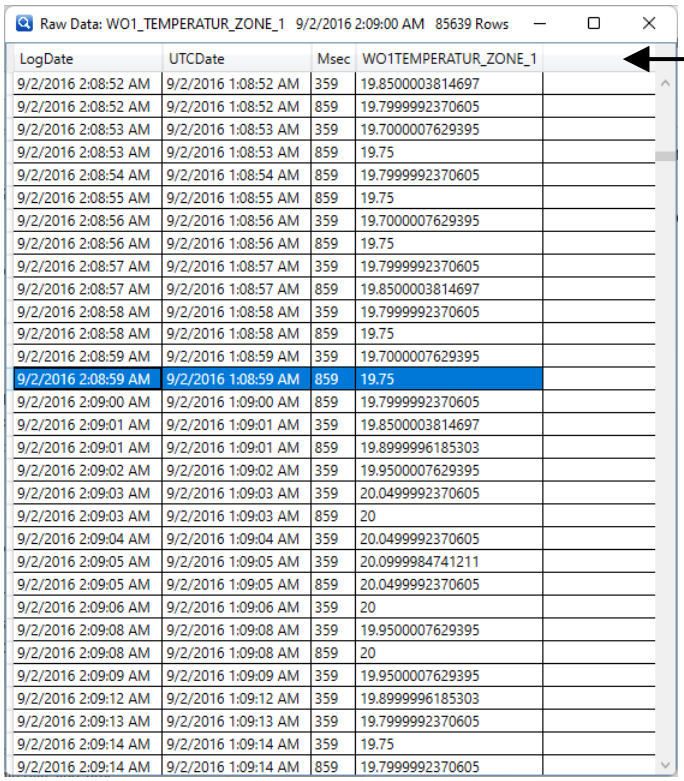
1. Configure a shorter time frame to query for by reducing the Query Duration time.
2. Reduce the number of tags for the query.
3. Increase the Query Interval time.

Raw Data Window

The following graphic displays the **Raw Data** window. This window is accessed by right-clicking any cell of a tag column from the **Data Grid** and choosing the **Show raw data** menu option.

The window displays all raw data for the tag as it was logged by the InTouch system. The record for the selected tag will be scrolled into view and selected by default. The Title bar of the Window displays the tag name and LogDate for the record used to obtain the raw data and the number of logged records found (rows). The columns include the local log date, UTC Date, milliseconds (Msec), and value.

Title Bar -- Displays the Data Grid selected record used to obtain the raw data and the number of logged records found for the date.



Columns:

LogDate – Local date and time.

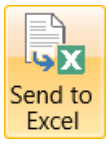
UTCDate – Universal Time Coordinated log date and time.

Msec – Milliseconds of log date and time.

Tag name – logged value for record.

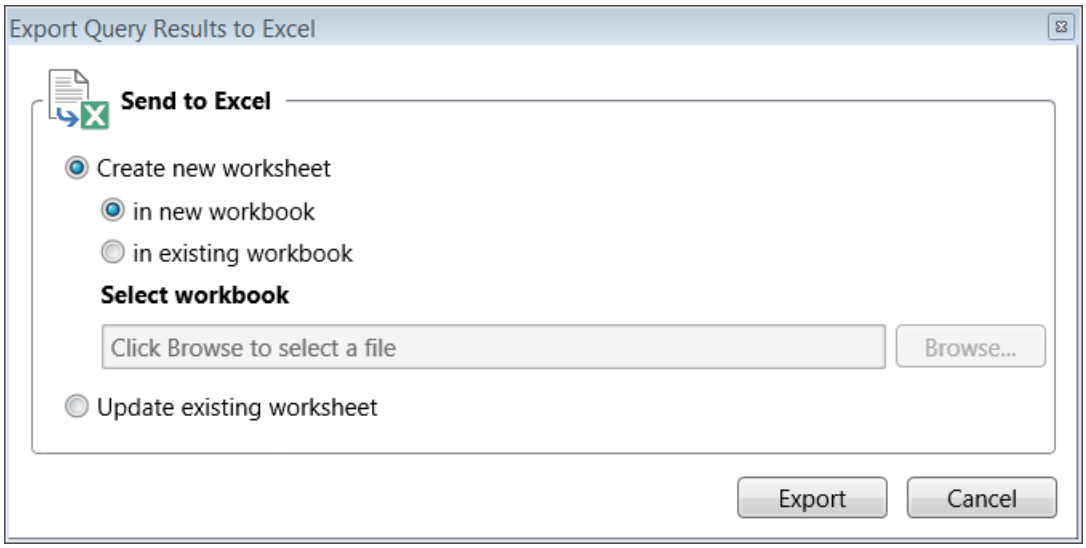
Send to Excel Window

The following graphic displays the **Send to Excel** window. This window is accessed by clicking the ***Send to Excel*** button from the **Query Ribbon Group**.



The window displays all options for exporting query results to:

- Create a new worksheet in a new workbook
- Create a new worksheet in an existing workbook
- Update a worksheet in an existing workbook



Remarks:

Excel will open automatically to display the results of the operation. The workbook must be saved from Excel in order to retain the query data.

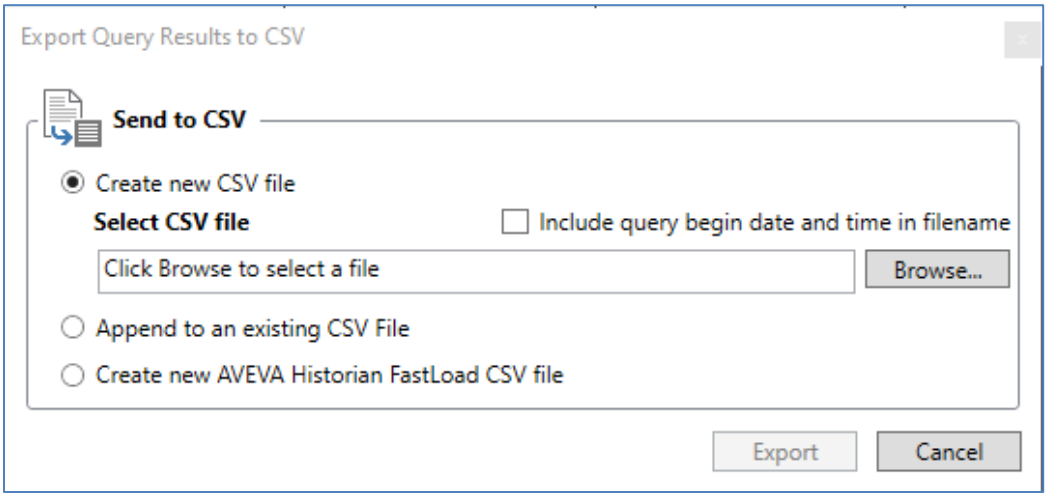
Use caution when exporting to an existing worksheet. When data is exported to an existing worksheet, that worksheet's entire contents are cleared before the query results are copied to the worksheet.

Send to CSV Window

The following graphic displays the **Send to CSV** window. This window is accessed by clicking the ***Send to CSV*** button from the **Query Ribbon Group**.

The window displays all options for exporting query results to:

- Create a new CSV file
- Include Query Begin Date and Time in filename
- Append to an existing CSV file
- Create a new AVEVA Historian FastLoad CSV file



Remarks:

The CSV file location will open automatically with the file selected.

If the CSV file already exists, it will be overwritten. Use the **Include query begin date and time in filename** option to generate a unique file for each query. The date is formatted as YYYY-MM-DD hh-mm-ss. For example, assume a filename of C:\MyCSVFile.csv and query begin date of August 9, 2016 11:15 AM. The file name would be C:\MyCSVFile *2016-08-09 11-15-00.csv*. The format of this date is configurable by changing the **QueryBeginDateTimeFileFormat** setting in the application's config file.

AVEVA FastLoad CSV files are formatted to be imported automatically when placed in a AVEVA Historian CSV File Import folder. The format options can be modified in the LGH File Inspector config file. See section titled *'***LGH File Inspector Config File'** later in this document for more information.

Advanced Query Settings

The LGH File Inspector query can be configured to perform different actions automatically when opened from outside of the LGH File Inspector application. For example, double-clicking the query filename or scheduling the LGH File Inspector in a scheduling utility like Windows Task Scheduler.

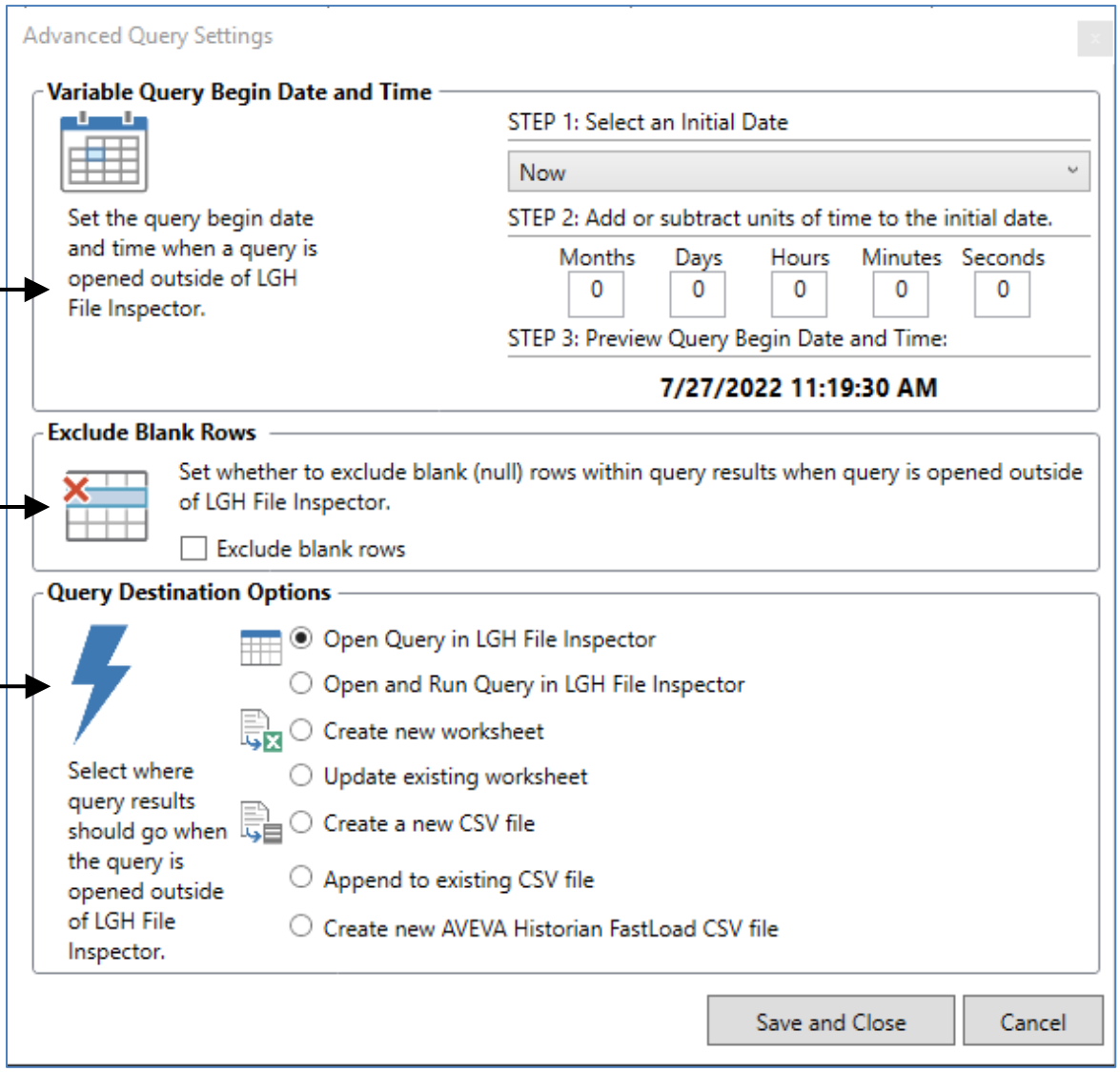
Advanced query settings are configured from the **Advanced Query Settings** window.

The following graphic displays the LGH File Inspector **Advanced Query Settings** window where you can configure a variable query beginning date and time the query will be set to when it executes automatically and the destination of the query's results: LGH File Inspector, Excel workbook, CSV file, or a AVEVA Historian FastLoad CSV file.

Variable Query Begin Date and Time area

Exclude Blank Rows in query results.

Query Destination options



Variable Query Begin Date and Time

When a query is executed automatically, its beginning date and time are first set according to the query's **Variable Query Begin Date and Time** configuration.

Perform the following steps to configure the **Variable Query Begin Date and Time** for your query:

1. Select an *Initial Date* from the **Initial Date** drop down menu in **STEP 1**. The following initial date settings are available:

Initial Date Selection	**Description**	**Example current date of: *March 4, 2016 10:47:38***
Now	The current time is set.	Mar 4, 2016 10:47:38
This Minute	The current minute is set. Seconds are rounded down to zero.	Mar 4, 2016 10:47:00
This Hour	The current hour is set. Minutes and seconds are rounded down to zero.	Mar 4, 2016 10:00:00
Today	The current date is set. Hours, minutes, and seconds are rounded down to zero.	Mar 4, 2016 00:00:00
First Day of Week	The first day of the week for the current date is set. Hours, minutes, and seconds are rounded down to zero. *Note: The First day of week is determined by the machine's First day of Week Region setting.*	Feb 28, 2016 00:00:00
First Day of Month	The first day of the month for the current date is set. Day of month is set to the 1st; hours, minutes, and seconds are rounded down to zero.	Mar 1, 2016 00:00:00
First Day of Year	The first day of the year for the current date is set. The date is set to January 1st; hours, minutes, and seconds are rounded down to zero.	Jan 1, 2016 00:00:00

Add or subtract units of time to the **Initial Date** in **STEP 2**. Enter negative numbers to subtract or positive numbers to add. The following units of time are available:

Time Unit	**Description**	**Example current date of: *March 4, 2016 10:47:38 with an Initial Date setting of Today***	
Months	Number of *months* to add or subtract to/from Initial date.	-1	2/4/2016 00:00:00
		0	3/4/2016 00:00:00
Days	Number of *days* to add or subtract to/from Initial date.	-1	3/3/2016 00:00:00
		-7	2/26/2016 00:00:00
Hours	Number of *hours* to add or subtract to/from Initial date.	-8	3/3/2016 16:00:00
		-12	3/3/2016 12:00:00
Minutes	Number of *minutes* to add or subtract to/from Initial date.	-30	3/3/2016 23:30:00
		15	3/4/2016 00:15:00
Seconds	Number of *seconds* to add or subtract to/from Initial date.	-90	3/3/2016 23:58:30
		90	3/4/2016 00:01:30

2. Preview the **Variable Query Begin Date and Time** result in **STEP 3**. This preview displays what the query beginning date and time will be set to if it were executed at the current date and time.

Remarks:

Any combination of **Months**, **Days**, **Hours**, **Minutes**, and **Seconds** can be added or subtracted to the **Initial Date** to come up with the desired query beginning date and time.

The minimum value that may be entered is -99. The maximum value that may be entered is 999.

Send Results to Excel, CSV File, or LGH File Inspector

When a query is executed automatically, the query's results will be sent to the destination configured in the **Send Results to Excel or LGH File Inspector** configuration.

Perform the following steps to configure the **Send Results to Excel , CSV File, or LGH File Inspector**:

1. Select a destination option. The following options are available:

Selection	Description
Open Query In LGH File Inspector	Launches LGH File Inspector and opens the query.
Open and Run Query in LGH File Inspector	Launches LGH File Inspector, opens and executes (runs) the query.
Create new worksheet	
in new workbook and Show	Launches Excel with a new worksheet in a new workbook.
In new workbook Save and Close	Creates new Excel workbook, saves the workbook and closes Excel.
in existing workbook and Show	Launches Excel with a new worksheet in an existing workbook.
in existing workbook Save and Close	Inserts a new worksheet in an existing workbook, saves the workbook and closes Excel.
Update existing worksheet	
in existing workbook and Show	Launches Excel, updates existing worksheet in an existing workbook.
in existing workbook Save and Close	Updates an existing worksheet in an existing workbook, saves the workbook and closes Excel.
In existing workbook and Save As another workbook	Updates a sheet in an existing workbook and then saves the changes as a new workbook.
Create new CSV file	
and Show in folder	Creates new CSV file and opens the file location. The file is selected by default.
and don't Show	Creates new CSV file.
Append to existing CSV file	
and Show in folder	Appends data to an existing CSV file, saves file and opens the file location. The file is selected by default.
and don't Show	Appends data to an existing CSV file, saves file.
Create new AVEVA Historian FastLoad CSV file	

and Show in folder	Creates new FastLoad CSV file and opens the file location. The file is selected by default.
and don't Show	Creates new FastLoad CSV file.

Remarks:

The options that send data to a new or existing Excel worksheet and then **Save and Close** the workbook or to a CSV file and then **Save And Close** are intended to be used in an automated environment through scheduling queries via Windows Task Scheduler or any other scheduling application.

The **Include query begin time in filename** checkbox will embed a date and time stamp within the filename when checked to ensure a unique file is created whenever the query is executed on a regular schedule. The format of the date and time can be configured via the **QueryBeginDateTimeFileFormat** setting within the application's config file. Please see the section '*LGH File Inspector Config File'* later in this document for more information.

To open an LGH File Inspector File without automatically executing the **Advanced Query Settings** for the query, hold the keyboard **Shift** Key down while double-clicking the query filename or start LGH File Inspector first then open the query via the **Open** button of the **Query Ribbon Group**.

LGH File Inspector Query Files

LGH File Inspector queries can be saved to a file and opened at a later time. The query files have an extension of *.lghq* and contain all of the details of the query including the LGH File Time Zone of the files it targets.

As described in **Advanced Query Settings** section, the LGH File Inspector query files can be opened automatically by double-clicking the file and will perform the automated actions (if any) that it is configured to perform.

If you have a particular set of tags you query often, configure the query and then save it as an .lghq file.

Remarks:

Saving LGH File Inspector query files (* .lghq) in the same folder as the LGH Data Directory containing .lgh files is not recommended.

See also the discussion about configuring Windows short-cuts in the next section: "Using LGH File Inspector and Excel as an InTouch Reporting Tool". You can automate multiple queries that update the same or other workbooks by passing the query filenames as arguments to the Windows shortcut.

Using LGH File Inspector and Excel as an InTouch Reporting Tool

The LGH File Inspector is much more than a query tool. You can accomplish automated reporting using one or more LGH File Inspector query files that update data in worksheets of an existing Excel workbook.

Consider an Excel workbook that has three worksheets. The worksheets are named from left to right: '**Report'**, '**Sheet2**, and '**Sheet3.**

1. The Report worksheet contains standard Excel formulas that refer to data on Sheet2 and Sheet3. It subtracts the data found in Sheet3 from the data found in Sheet2 to get the 24-hour difference in values. (e.g., cell A1's formula in the Report sheet is = *Sheet2!A1 – Sheet3!A1*.)
2. An LGH File Inspector query file is saved as Query1.lghq and queries several tags over a duration of 1-day at 15-minute intervals. It's also configured with a Variable Query Begin Date Time to always run for the previous 24-hours. This is accomplished by selecting an Initial Date of Today and subtracting one day from the Initial Date by entering -1 in the Days field. The query will update Sheet2 of the existing workbook then save and close the workbook.
3. An LGH File Inspector query file is saved as Query2.lghq and queries the same set of tags as Query1.lghq for the same duration of 1-day with 15-minute intervals. Its Variable Query Begin Date and Time setting is also set to Today but it has -2 in the Days field which causes it to query for the 24 hours before Query1.lghq's beginning time. The query will update Sheet3 of the existing workbook and show the workbook.
4. The workbook is saved with Report as the active worksheet.
5. A shortcut is configured on the Windows Desktop that when double-clicked will automatically execute Query1.lghq, then Query2.lghq, and then open the Excel workbook with the Report worksheet displayed by default.
6. Here's the details of the Desktop shortcut, note the double-quotes:
    a. Target: "C:\Program Files\Software Toolbox\LGHFileInspector\LGHFileInspector.exe" "C:\Users\User1\Documents\Query1.lghq" "C:\Users\User1\Documents\Query2.lghq"

Remarks:

The [Install Directory] portion of the Target value referenced in step 6 may be different based on how you installed the software. Refer to the section “Installing LGH File Inspector” for a list of possible [Install Directory] locations.

Automating LGH File Inspector Queries using Window Task Scheduler

You can automate the execution of any LGH File Inspector query by scheduling it using Windows Task Scheduler.

Using Windows Task Scheduler only makes sense on queries that are configured to send results to a new or existing file—be it an Excel workbook, CSV file or Fastload file.

Configure a Windows Task Scheduler Task by defining a ***Trigger*** that tells it when to run and an ***Action*** that is defined to start the LGH File Inspector program and pass in a string of query files separated by spaces. The **Edit Action** Window has the following configuration:

1. Action: Start a Program
2. Program/script: "C:\Program Files\Software Toolbox\LGHFileInspector\LGHFileInspector.exe"
3. Add Arguments (optional): C:\Users\User1\Documents\Query1.lghq C:\Users\User1\Documents\Query2.lghq C:\Users\User1\Documents\Query3.lghq
4. Start in (Optional): leave blank

When this task runs, it will start LGH File Inspector and pass it three query files. LGH File Inspector will process all three queries beginning with the first and working left to right and then shutdown.

Remarks:

The [Install Directory] portion of the Program/script value referenced in step 2 may be different based on how you installed the software. Refer to the section “Installing LGH File Inspector” for a list of possible [Install Directory] locations.

Troubleshooting Automated Queries

The LGH File Inspector writes debug data for each automated session to a text log file that can be opened using any text editor. The location of the log file is:

C:\Users\%user name%\AppData\Roaming\Software Toolbox\LGHFileInspector\LGHFileInspectorLog.txt

If you are having unexpected results when automating a query, refer to this file for help troubleshooting. The log file is overwritten during each LGH File Inspector session.

Common problems are:

1. The Excel workbook file doesn't exist or has been renamed.
2. The Excel worksheet no longer exists or has been renamed.
3. The Excel worksheet is protected.

LGH File Inspector Config File

The LGH File Inspector application has configurable settings that can be changed according to your needs. The file is located in the [Install Directory]\LGHFileInspector.exe.config

Only the following configurable parameters are supported.

Name	Type	Scope	Value	Remarks
ExportQueryDelimiter	String	Application		Delimiter used when exporting to an Excel workbook or standard CSV file. *Note: This setting is ignored when blank and is not necessary in Version 2 and later. Version 2 uses the machine's Regional list separator setting. Only configure a setting here if you would like to override your machine's regional setting.*
QueryDateTimeFormat	String	Application		Custom Date and Time Format string for Datagrid LogDate Column display and query export to an Excel workbook or standard CSV file. Normally blank. Supports standard and custom .NET format specifiers (e.g., *MM/dd/yyy HH:mm:ss*). See .NET documentation for *Custom Date and Time Format Strings* for more information. *Note: This setting is ignored when blank and is not necessary in Version 2 and later. Version 2 uses the machine's Regional Short Date and Long Time settings. Only configure a setting here if you would like to override your machine's regional setting.*
QueryBeginDateTimeFileFormat	String	Application	yyy-MM-dd HH-mm-ss	Date and time format string for embedding the query begin time into the destination filename. Supports standard and custom .NET format specifies (e.g., *MM/dd/yyy HH:mm:ss*). However, formats that include characters that can be confused a list separator like a comma will cause undesired results. Use care not to include formats that can introduce list separators.
FastLoad_HeaderLine1	String	Application	ASCII	1st line of a FastLoad file header.
FastLoad_HeaderLine2	String	Application	,	2nd line of FastLoad file header. Used as the delimiter.
FastLoad_HeaderLine3	String	Application	Default,1,Server Local,1,1	3rd line of FastLoad file header. See remarks #1 and #2 below.
FastLoad_OperationType	String	Application	3	2nd field value of a FastLoad data row.
FastLoad_ValueInRawEU	String	Application	0	5th field value of a FastLoad data row. See remark #3 below.

Name	Type	Scope	Value	Remarks
FastLoad_OPCQuality	String	Application	192	7th field value of a FastLoad data row. Used as OPC Quality for record.
FastLoad_DateFormat	String	Application	yyyy/MM/dd	FastLoad file date format
FastLoad_TimeFormat	String	Application	HH:mm:ss.fff	FastLoad file time format
LGHFileTimeZone	String	user		The application's current LGH File Time Zone

Remarks:

LGH File Inspector formats the FastLoad files according to the FastLoad specification listed in the AVEVA Historian Administration Guide. Please refer that guide to determine the FastLoad settings you will need for your specific application.

1. LGH File Inspector converts historical timestamp data in the .LGH files from UTC to Local Time. Therefore, the Time Format field of the 3rd line of the header should always be set to *1* and the Time Zone field also in the 3rd line of the header should always be set to *Server Local*.
2. LGH File Inspector does not have access to the wwTagKey for InTouch tag names, therefore the Missing Block Behavior field of the 3rd line of the header should never be set to *11*.
3. LGH File Inspector returns data in engineering units as logged in the .lgh file. Therefore the 5th field value of the FastLoad data row should always be set to *0* for *EU*.

If LGH File Inspector is installed under C:\Program Files (x86)\Software Toolbox\LGHFileInspector. First start Notepad with the *Run as Administrator* option then browse to the config file from Notepad. This will provide the required permissions to be able to modify the file.

Do not change any other parameters in the configuration file that are not listed in the table above.

Uninstalling LGH File Inspector

The LGH File Inspector application can be uninstalled from the **Uninstall or change a program** window from the **Windows Control Panel**.

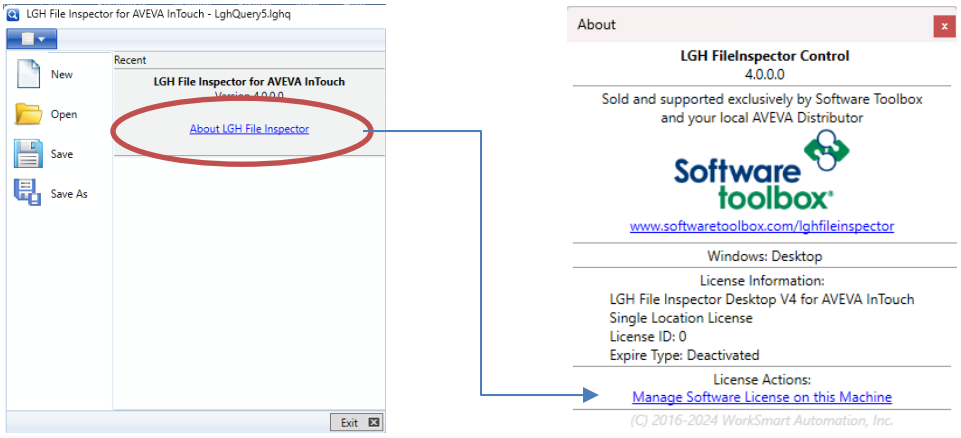
The application is listed as**: LGH File Inspector for AVEVA InTouch** with **Software Toolbox** as the Publisher.

Licensing

The following licenses are supported:

1. **Subscription** (90 days). The subscription edition will run for 90 days from the date of issue and may be installed on a Windows Desktop or Windows Server operating system. The license may be renewed at any time or upgraded to a non-expiring type license.
2. **Single Location License**. The Single Location License contains by default a single activation with no expiration date and can be run on any Windows operating system. Additional activations may be purchased to add to the Single Location License to run the software from multiple Windows users accounts on the same or different machine at the same location.

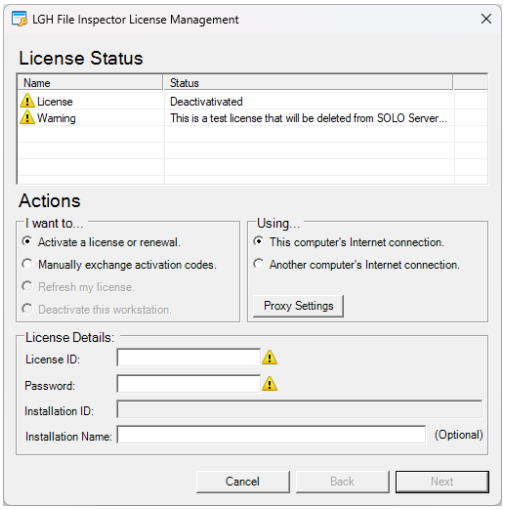
Access the **License Management** dialog from the blue **About LGH File Inspector** hyperlink of the **Application Menu** and then the blue **Manage Software License on this machine** hyperlink of the **About Window.**



Upon purchase, you will receive a License ID Number and Activation Password. These will be entered into the license dialog.

You may license your software online or from another device that has internet access.

Choose the activation option that fits your installation:



Activate Online (recommended)

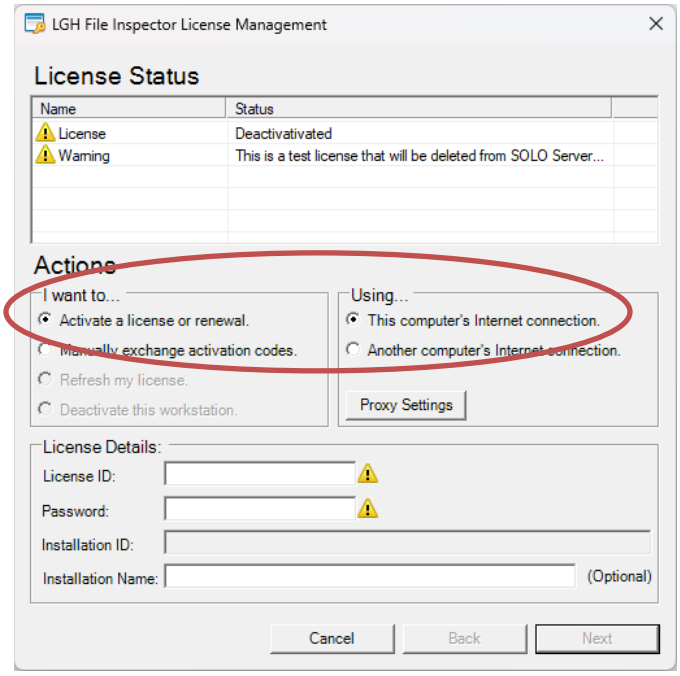
Activate Manually - For offline machine activation. Over a phone, email, or through your LICENSE PORTAL.

Activate From Another Computer – for offline machine activation.

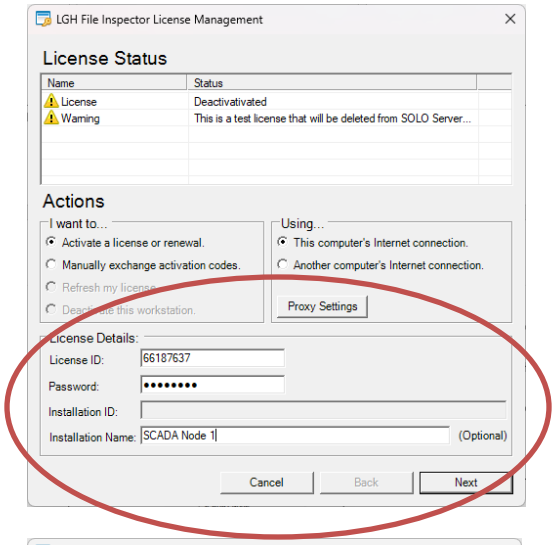
Activate Online (recommended)

Activating online is the easiest form of activation but requires your machine to have an internet connection.

Access the **License Management** dialog from the blue **About LGH File Inspector** hyperlink of the **Application Menu** and then the blue **Manage Software License on this machine** hyperlink of the **About Window.**



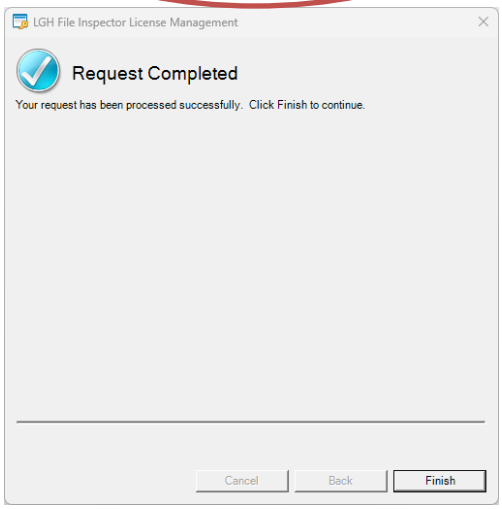
Choose the **Activate a license or renewal** option. Leave **Using This computer's Internet connection** checked.



Enter your **License ID** and **Activation Password** received upon purchase into their associated fields.

Optionally, enter an **Installation Name** to help you remember the machine you are licensing the software on.

Click the **Next** button.



If your activation was successful, you will see the **Request Completed** successful message.

Click the **Finish** button to begin using the fully licensed and activated software.

You will have an opportunity to register your software upon successful activation.

Remarks:

If LGH File Inspector is installed under C:\Program Files (x86)\Software Toolbox\LGHFileInspector\. First start LGH File Inspector with the *Run as Administrator* option. This will provide the required permissions to be able to write to the license file.

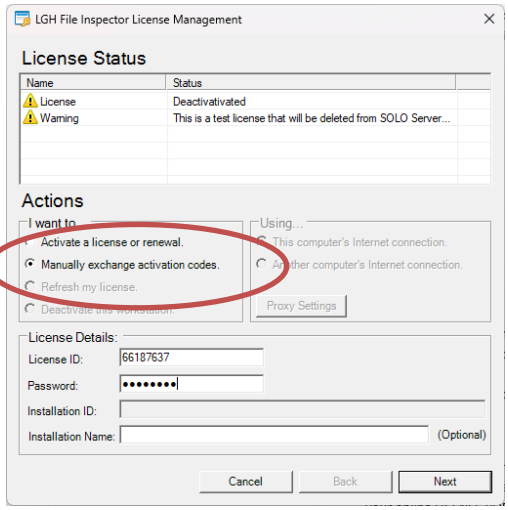
Please save your **License ID** and **Activation Password** in a safe place. You will need them should you ever have to reinstall the software.

If you need to move the software to a different machine, you must **Deactivate the Software Installation** first (described later). This will return the license to the license server and allow activating on another machine.

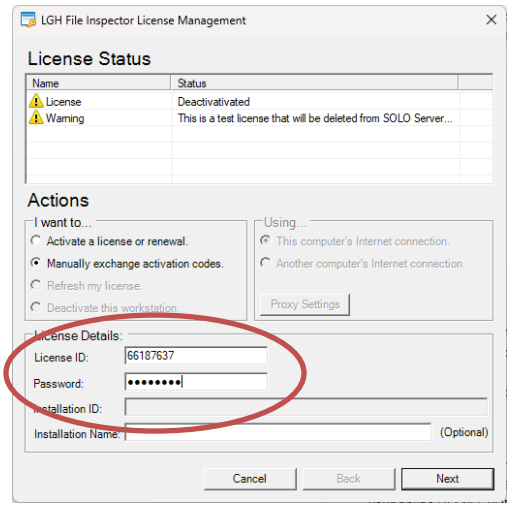
Activate Manually

Use this option when your machine does not have internet access and you don't have access to another machine nearby that has internet access.

Access the **License Management** dialog from the blue **About LGH File Inspector** hyperlink of the **Application Menu** and then the blue **Manage Software License on this machine** hyperlink of the **About Window.**



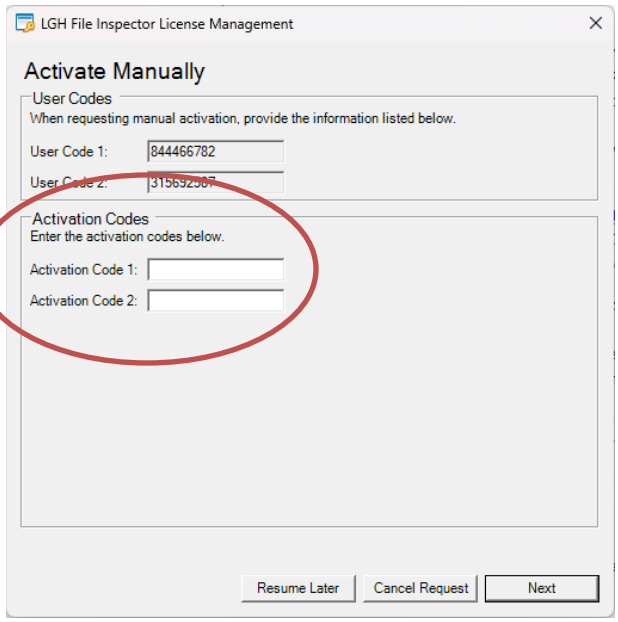
Choose the **Manually exchange activation codes** option**.**



Enter your **License ID** and **Activation Password** received upon purchase into their associated fields.

Click the **Next** button.

This will display User Codes you will provide to technical support via telephone, email, or your online **LICENSE PORTAL** from another computer.



Obtain the required Activation Codes by visiting your **LICENSE PORTAL** (recommended), contacting support via telephone or email with **User Code 1** & **User Code 2** values with your correspondence.

Email support@softwaretoolbox.com or call us (+1-704-849-2773) with your **User Codes** to activate the product.

Once you receive your **Activation Code 1** & **Activation Code 2** values, enter them into the corresponding fields.

Click the **Next** button.

If your activation was successful, you will see the **Request Completed** successful message.

Click the **Finish** button to begin using the fully licensed and activated software.

Remarks:

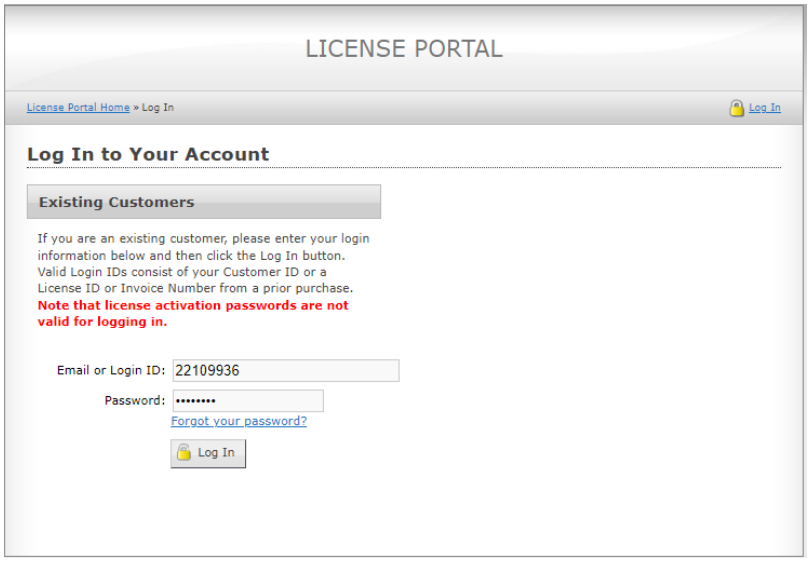
You may exit the software while waiting for activation codes. Click the **Resume Later** button while waiting to receive your **Activation Codes**. Once you receive the codes, simply start the software again and return to this step.

Obtaining Activation Codes from the LICENSE PORTAL

If you need to activate manually, you can obtain your activation codes without having to contact technical support by visiting your LICENESE PORTAL.

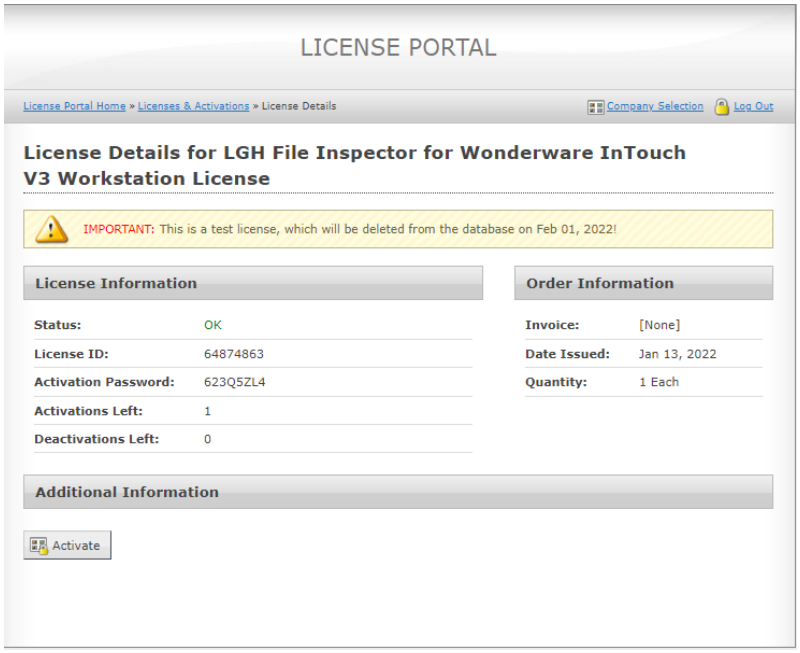
From another device with internet access, visit the following url:
https://secure.softwarekey.com/solo/customers/License.aspx?LicenseID=xxxxxxxx

Where *xxxxxxxx* is the License ID number you were provided at purchase (64874863 In this example).



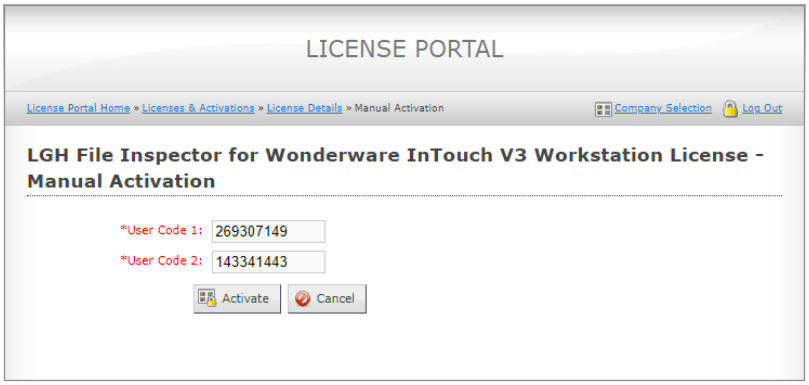
Enter the **Login ID** and **Customer Password** you were provided at purchase and then click the **Log In** button to access your license.

Note: Your **Login ID** and **Customer password** are ***different*** from your License ID and Activation password.



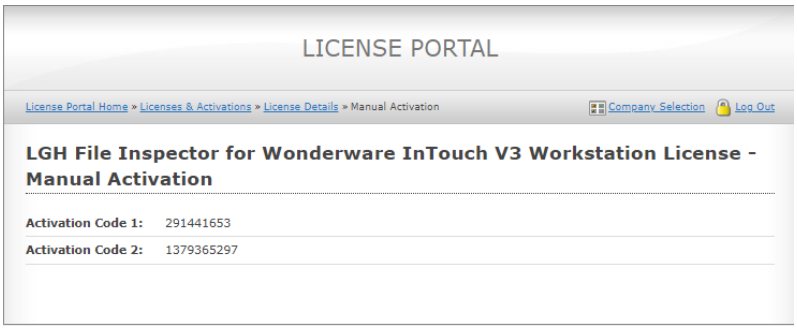
Upon successful log in, your license details will be displayed.

Click the **Activate** button to begin the manual activation process.



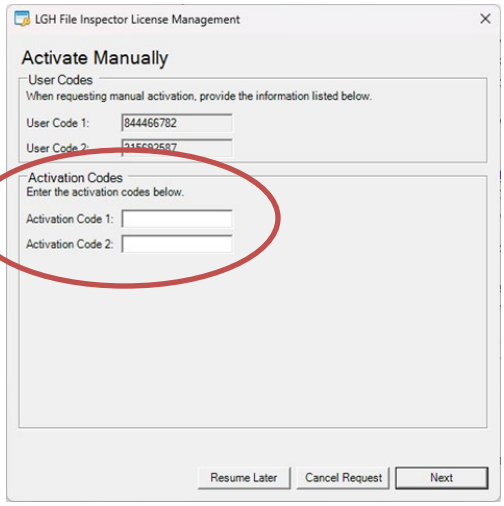
Enter the **User Code 1** and **User Code 2** values into their corresponding fields and click the **Activate** button.

The page will refresh with values for **Activation Code 1** and **Activation Code 2**.



Make note of these codes and then enter their values into **Activation Code 1** and **Activation Code 2** fields of the licensing dialog window.

From your computer with the software installed, return to this step in the license task.

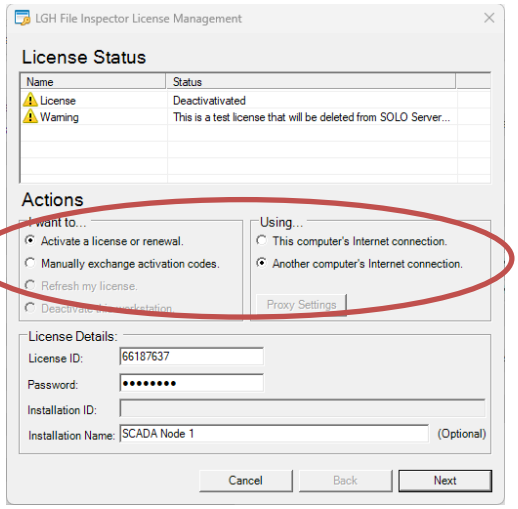


Enter the **Activation Code 1** and **Activation Code 2** values into their corresponding fields of the licensing dialog window and click the **Finish** button.

If your activation was successful, you will see the **Request Completed** successful message.

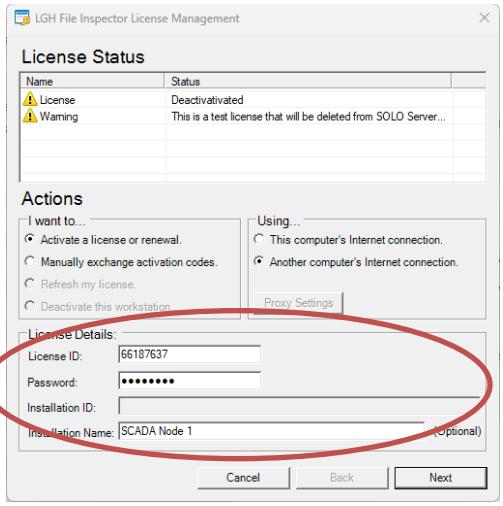
Activate From Another Computer (recommended over Manual Activation)

Use this option when your machine does not have internet access and you have a computer nearby with internet access available. This method is recommended over activating manually as it registers the activation with the license server.



Access the **License Management** dialog from the blue **About LGH File Inspector** hyperlink of the **Application Menu** and then the blue **Manage Software License on this machine** hyperlink of the **About Window.**

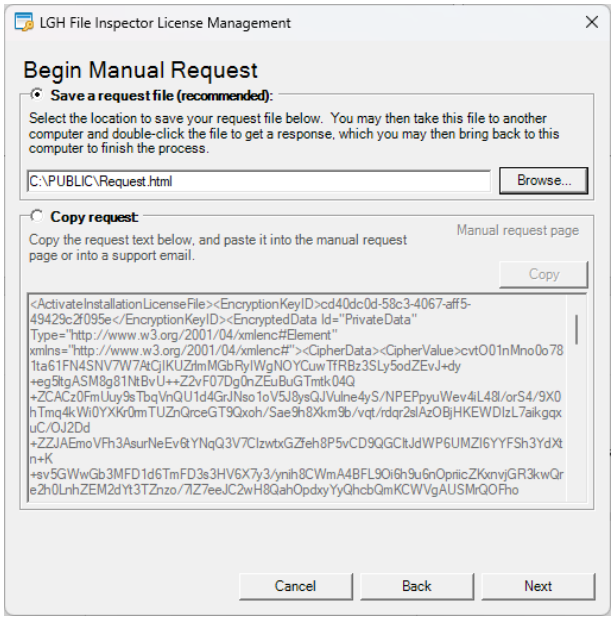
Choose the **Activate a license or renewal** and the **Another computer's Internet connection** options.



Enter your **License ID** and **Activation Password** received upon purchase into their associated fields.

Optionally, enter an **Installation Name** to help you remember the machine you are licensing the software on.

Click the **Next** button.

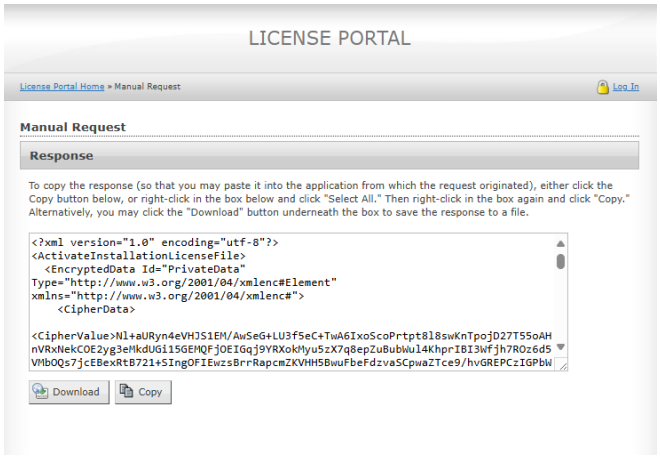


Choose the **Save a request file** option.

Click the **Browse** button to provide a filename and location for the request file to be created.

Click the **Next** button.

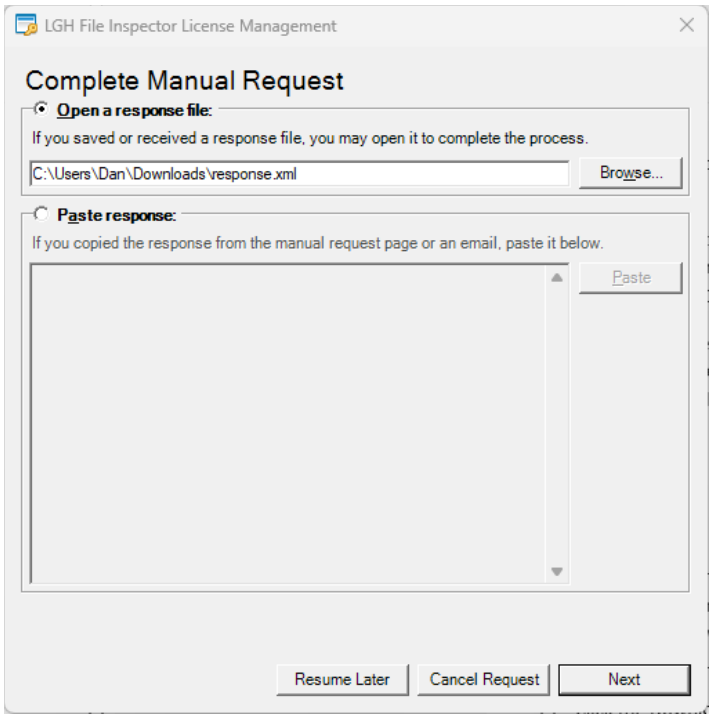
Transfer the request file to another computer with an Internet connection and double-click the file to open it.



Upon opening the activation file from the online computer, you will see the **LICENSE PORTAL** window.

Click the **Download** button to download the response file.

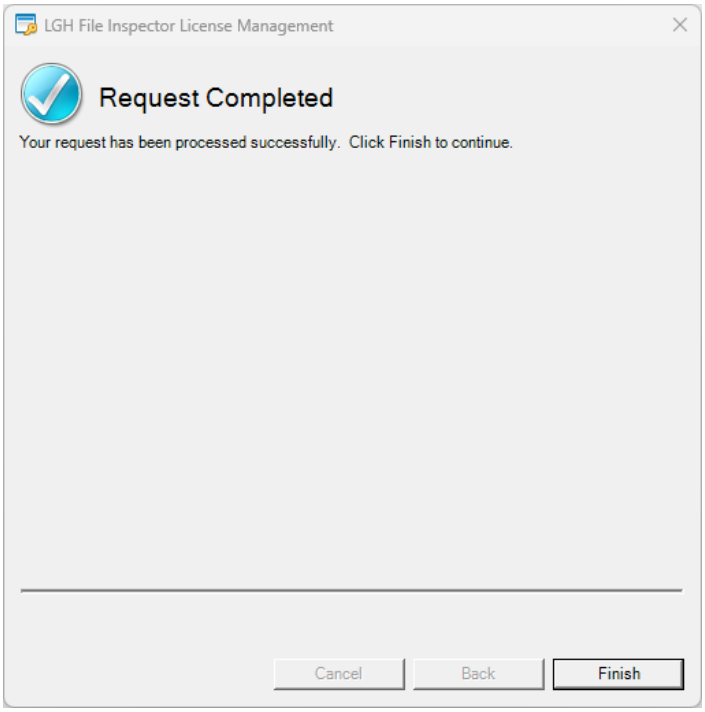
Transfer the response file to your offline computer.



From your offline computer, choose the **Open a response file** option.

Click the **Browse** button to select your response file.

Click the **Next** button.



If your activation was successful, you will see the **Request Completed** successful message.

Click the **Finish** button to begin using the fully licensed and activated software.

You will have an opportunity to register your software upon successful activation.

Deactivating a License:

You would typically deactivate a license if you were replacing an older machine and wanted to move the software to a new machine.

Depending upon how the licensing was initially activated, either online or manually, the steps to deactivating are different.

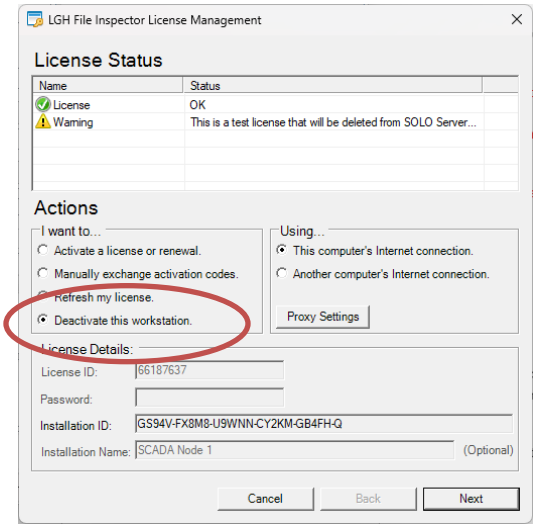
If a license was activated online, the activation process generates an **Installation ID** that the license server has assigned to it. Licenses that are activated online can be deactivated online as indicated by the ability to select the Deactivate this workstation option.

If a license was manually activated, there is no **Installation ID** displayed and the Deactivate this workstation option is disabled. The software must be deactivated manually by Manually exchanging activation codes with technical support.

Online Deactivation

To deactivate a license online, follow these steps:

Access the **License Management** dialog from the blue **About LGH File Inspector** hyperlink of the **Application Menu** and then the blue **Manage Software License on this machine** hyperlink of the **About Window.**



Choose **Deactivate this workstation** and **This computer's Internet connection** options.

Click the **Next** button.

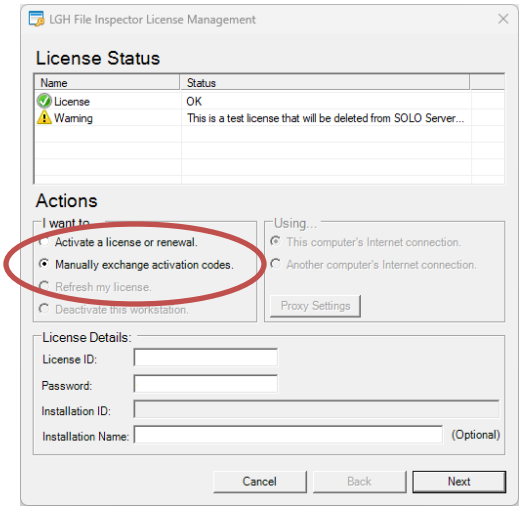
If your activation was successful, you will see the **Request Completed** successful message.

Click the **Finish** button. Your software will be deactivated.

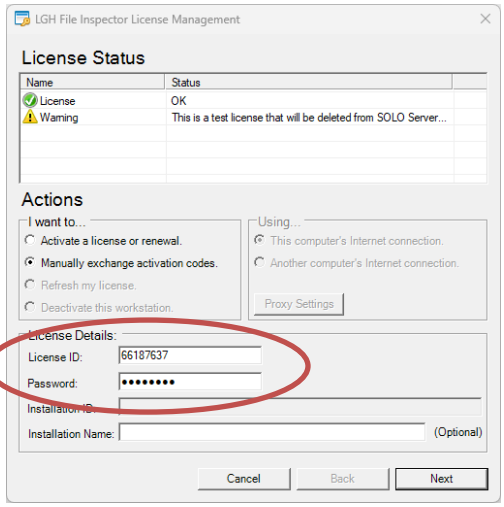
Manual (offline) Deactivation

To deactivate a license that was previously activated manually, follow these steps:

Access the **License Management** dialog from the blue **About LGH File Inspector** hyperlink of the **Application Menu** and then the blue **Manage Software License on this machine** hyperlink of the **About Window.**



Choose the **Manually exchange activation codes** option**.**

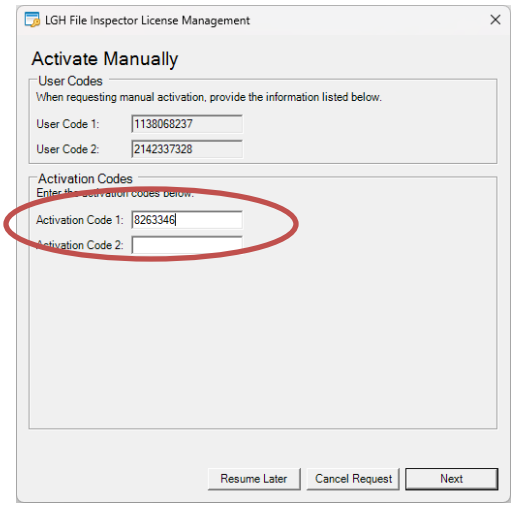


Enter your **License ID** and **Activation Password** received upon purchase into their associated fields.

Click the **Next** button.

This will display User Codes you will provide via telephone or email to technical support.

Email support@softwaretoolbox.com or call us (+1-704-849-2773) with your User Codes to activate the product.

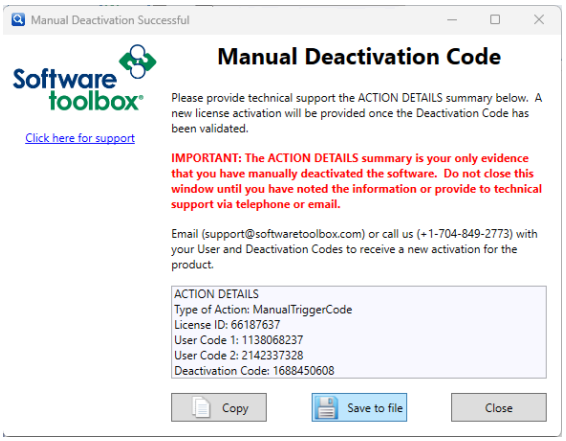


Once you receive **Activation Code 1** from technical support, enter its value into the **Activation Code 1** field of the licensing dialog window.

*Note: There is nothing to enter in **Activation Code 2** field.*

Click the **Next** button.

If your deactivation was successful, you will see the **Manual Deactivation Code** window.



You **MUST** then make note of the **Deactivation Code** value (**1688450608** in this example) displayed within the ACTION DETAILS as proof of deactivation.

Provide the **Deactivation Code** value to technical support via email or telephone. This will ensure that you will be able to activate the software on another machine in the future.

Click the **Close** button to return to the Request Completed message and then click the **Finish** button.

Remarks:

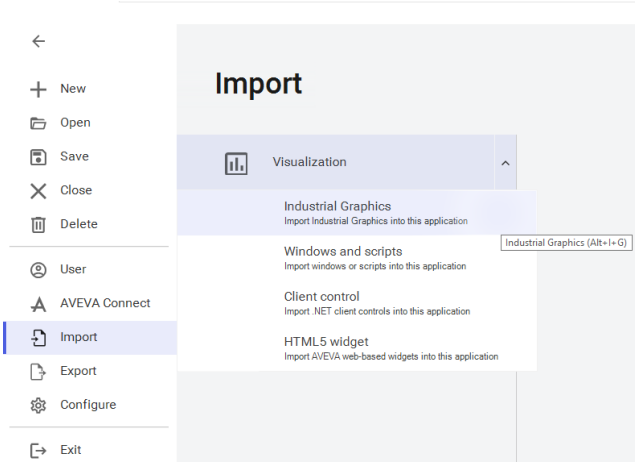
Use the **Copy** or **Save to file** options to save your deactivation code to another file or paste into an email.

Upon receiving your valid Deactivation Code, technical support will enable a new activation at the license server so that the software can be activated again in the future on the same or different machine.

Importing LGH File Inspector Industrial Graphic Control to InTouch

Copy the Industrial Graphics package file to your computer running InTouch WindowMaker.

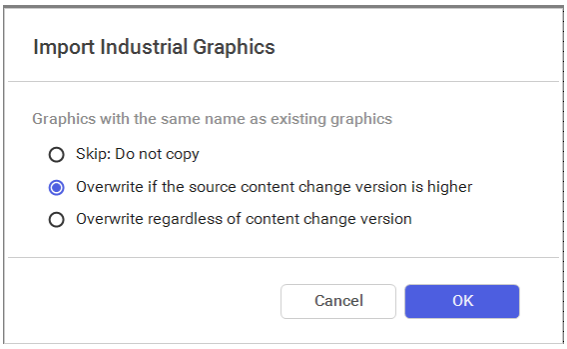
From AVEVA 2023 InTouch WindowMaker:



Click **Import** from the WindowMaker **File** menu**.**

Then click **Industrial Graphics** from the **Visualization** menu**.**

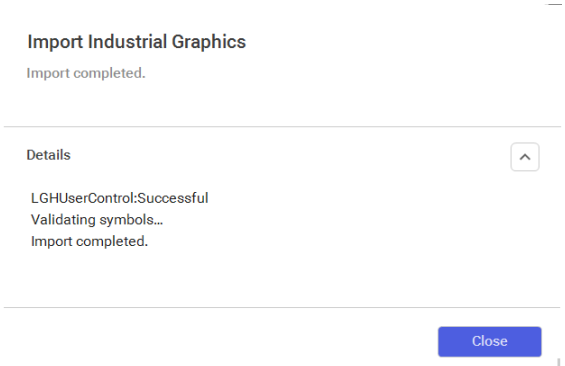
Browse to the **LGHUserControl.aaPKG** package file and choose **Open.**

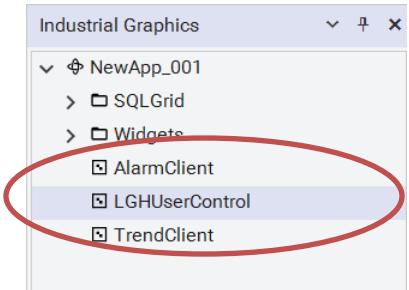


Choose either **Overwrite** option from the Import Industrial Graphics prompt and click the **OK** button**.**

Once the import is complete, a message will display and the **LGHUserControl** graphic will appear in the **Industrial Graphics** display**.**

The Industrial graphic is now ready to be placed into your custom symbol and onto an InTouch Window.

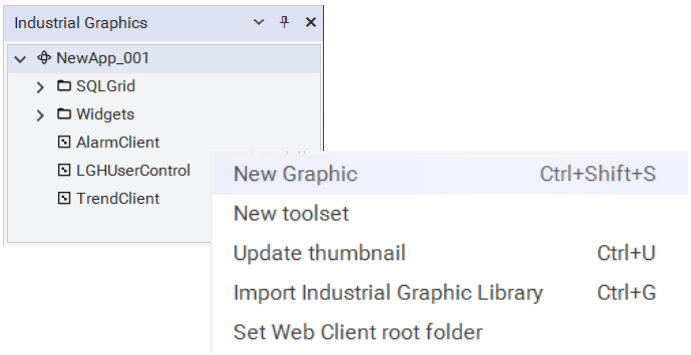




Creating an Industrial Graphic Symbol with LGH File Inspector Control

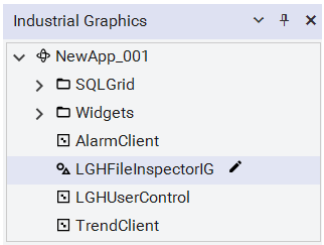
This step assumes you have already imported the LGH File Inspector Industrial Graphic into your InTouch Application.

From AVEVA 2023 InTouch WindowMaker:



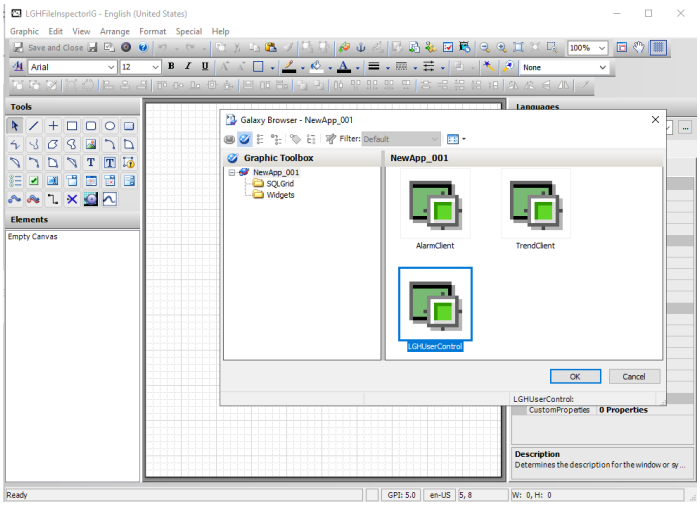
Create a new graphic by right-clicking a blank area within the **Industrial Graphics** window and choose **New Graphic** from the pop-up menu.

Name your symbol anything you like. In this example, we are naming it LGHFileInspectorIG.



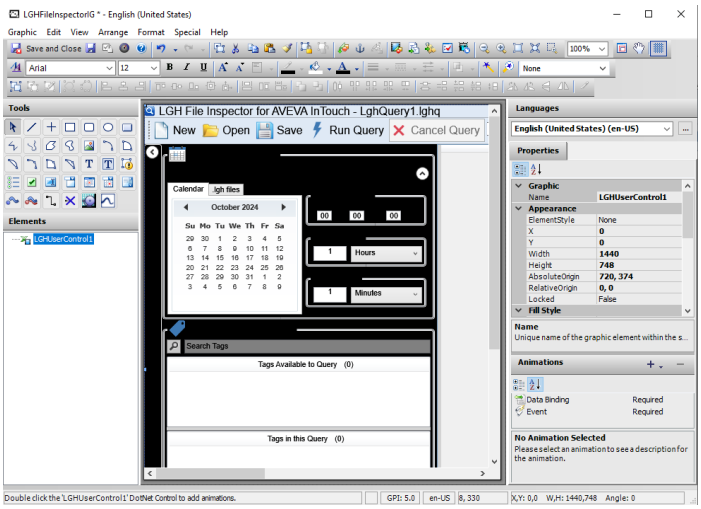
Double-click your new symbol to open it in the **Industrial Graphic Editor**.

The editor opens with a blank canvas ready to accept the LGHUserControl.



Choose **Embed Industrial Graphic** from the **Edit** menu and then select the **LGHUserControl** from the **Galaxy Browser** and place the control onto the canvas.

The LGH File Inspector graphic will appear and several messages will display about the LGH Data Directory path doesn't exist. Ignore these messages and prompts by choosing the appropriate button to exit out of the message. This step is handled later from InTouch WindowViewer.



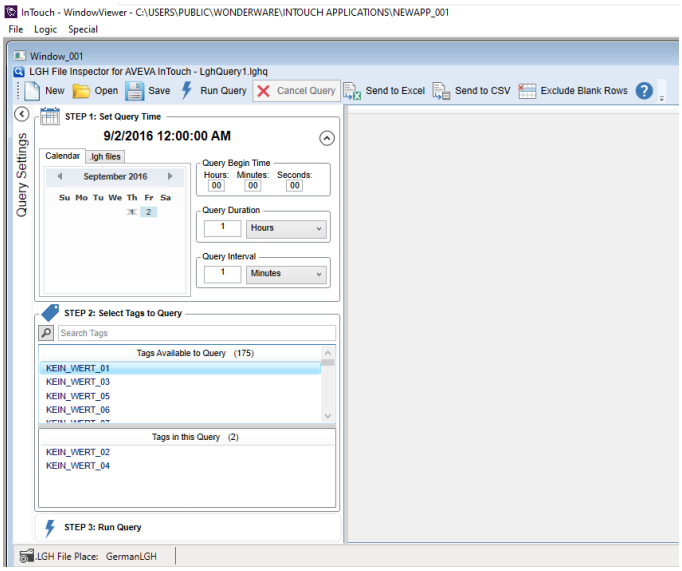
You can control the font and font size for the control while in **Graphic Editor** by selecting the control and changing its font and size settings. **Segoe UI** size **10** (recommended).

Click the **Save and Close** button from the **Graphic Editor** to save your new symbol.

The messages will display again as previously described. Follow the same steps as before.

The **Graphic Editor** will close at this time. Your new symbol is now ready to be placed on an InTouch window.

Place the symbol on an InTouch Window. Continue to ignore the messages about the LGH Data Directory.



Start **WindowViewer** to view the your new LGH File Inspector symbol on an InTouch window.

Now you may set the LGH Data Directory when the messages warn you that the directory has not been set yet.

Follow the steps outlined in the **LGH File Places** section of this document to set the directory so that you may begin using LGH File Inspector.

Support

For all support with this application please contact our exclusive master distributor Software Toolbox, or your local AVEVA Distributor if you purchased through them.

Software Toolbox can be reached on support@softwaretoolbox.com or through their online knowledgebase and support portal at http://support.softwaretoolbox.com.

The LGH File Inspector application is developed by WorkSmart Automation, Inc.
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