Hach WIMS Direct Server-Side Interface to Iconics TrendWorx Logger

Q12580 Documentation

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1 - Documentation : Introduction

1.1 Interface Introduction

The **Hach WIMS Direct Server-Side Interface to Iconics TrendWorx Logger** imports data from the Iconics TrendWorx Logger database into Hach WIMS Client.

The interface connects to the Logger database using a standard OLE DB driver to MS SQL or Oracle database. The interface must be able to connect to the Logger database and the Hach WIMS Client.

The interface looks up group names from the TWX_MASTER_GROUPS table and matches this with the first part of the SCADA Tag from Hach WIMS Client, up to the double ampersands - "@@". It then uses the group name to find the _INFO table and looks up TABLE_NAMES to process according to the start and end dates. The right side of the "@@" is the LOGGING_NAME found in the _TAGS table, where it finds the TAG_INDEX.

With the group name and tag index, the interface can look up all the values that fall within the date and time range. It then performs the statistical calculation specified in the Hach WIMS Client (AVERAGE, FIRST, MINIMUM, etc.).

NOTE: The **Iconics TrendWorx Logger** is an add-on and not the Iconics Historian. To connect to Iconics Historian, use **Hach WIMS Direct Server-Side Interface to OPC HDA (Q12260)**. Only use this interface if you must pull data from the **Iconics TrendWorx Logger** add-on. The reason is that the Iconics Logger is just a snapshot of data, not all data is available. After reviewing an example of live data from a customer, we found that there were data holes that cannot be filled in by the interface. The date range of the Iconics Logger changes, and can be anything from a couple days to a few months, from what we have seen. The data availability depends on how often the live data is transferred to the Iconics Logger database.

[Reference ID: 12592]

1.2 Software Requirements

The Interface and its components are supported and can be installed **only** on one of the following Microsoft Windows versions :

- Microsoft Windows 2000 Service Pack 4
- Microsoft Windows XP 32-bit Service Pack 2
- Microsoft Windows XP 32-bit Service Pack 3
- Microsoft Windows Vista 32-bit
- Microsoft Windows Vista 64-bit
- Microsoft Windows Vista 32-bit Service Pack 1
- Microsoft Windows Vista 64-bit Service Pack 1
- Microsoft Windows Vista 32-bit Service Pack 2
- Microsoft Windows Vista 64-bit Service Pack 2
- Microsoft Windows 7 32-bit

- Microsoft Windows 7 64-bit
- Microsoft Windows 7 64-bit Service Pack 1
- Microsoft Windows 2003 Server 32-bit Service Pack 1
- Microsoft Windows 2003 R2 Server 32-bit Service Pack 2
- Microsoft Windows 2003 Server 64-bit Service Pack 1
- Microsoft Windows 2003 R2 Server 64-bit Service Pack 2
- Microsoft Windows 2008 32-bit
- Microsoft Windows 2008 64-bit
- Microsoft Windows 2008 32-bit Service Pack 1
- Microsoft Windows 2008 64-bit Service Pack 1
- Microsoft Windows 2008 32-bit Service Pack 2
- Microsoft Windows 2008 64-bit Service Pack 2
- Microsoft Windows 2008 R2 64-bit
- Microsoft Windows 8 64-bit
- Microsoft Windows 2012 64-bit

[Reference ID: 12142]

1.3 Source versions tested

The **Hach WIMS Direct Server-Side Interface to Iconics TrendWorx Logger** was tested against a MS SQL 2005 TWXLOGGER database generated by TrendWorX32 Logger version 2.2

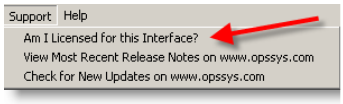
[Reference ID: 12593]

2 - Documentation : How To

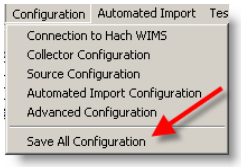
2.1 _ Step-by-Step Instructions on How to Configure Interface

You will need to follow these steps in order to configure your interface :

1. You must have **Hach WIMS Database Management System** installed and running. This can be running from anywhere on your network, but can also be running on the same computer as your interface.
2. You must have **Hach WIMS Client** installed. Make sure you can log into Hach WIMS Database Server using Hach WIMS Client.
3. Run your interface in Interactive mode by clicking on its entry in your windows Start Menu.
4. Configure a connection to your Hach WIMS Server. Use **Configuration - Connection to Hach WIMS**(See Section 3.11) to do this.
5. Make sure you are properly licensed to run this interface. In Main Menu, select **Support -> Am I licensed for this Interface.**

   If you pass this test, continue to step 6. If not, contact Hach Company Sales at 800-677-0067.
6. Upload interface definition file to Hach WIMS Server. **Use Utilities - Upload definition file to Hach WIMS**(See Section 3.18) to do this.
7. You will need to assign a collector record to your interface. First the record must be created. You will need to configure **Hach WIMS Client for a server side interface**(See Section 2.4) .
8. Now you are ready to assign the collector record created in *the previous step* to your interface. Use **Configuration - Collector Configuration**(See Section 3.10) to do this.
9. You need to link at least one Hach WIMS variable to the chosen collector record.
10. Configure the source so that interface can read from the source system.
    Locate the '**Configuration -> Source Configuration'** article in the '**Topics specific for operation of Interface'** chapter to gain instructions on how to do it.
11. Save all configuration Settings by clicking on **Configuration -> Save All Configuration.**

12. You are now ready to test the interface. Use **Test - Test Import All**(See Section 3.17) to do this

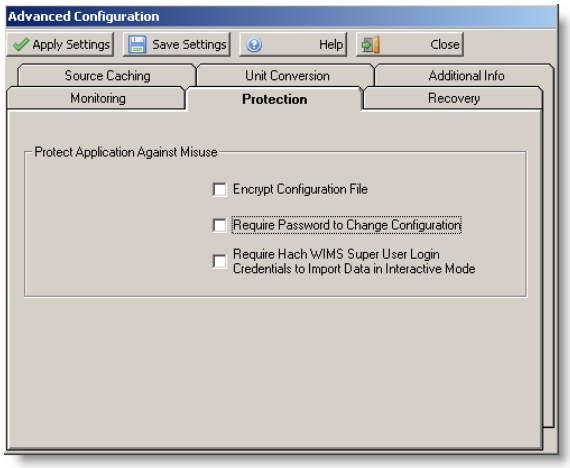
Furthermore, You may want to configure **Automated Import.** Use **Configuration - Automated Import Configuration**(See Section 3.9) to do this.

[Reference ID: 12069]

2.2 Change Configuration Protection Password

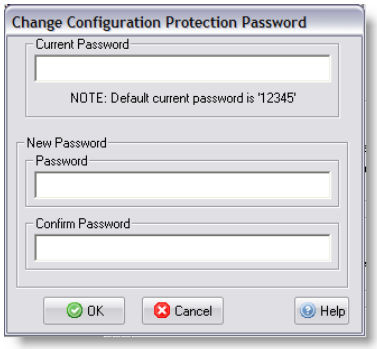
Requiring a password for configuration changes will prevent unauthorized or accidental tampering with your configuration from within the interactive mode.

From the interface, select **Configuration** and **Advanced Configuration**. Click on the **Protection** tab.



Click on the box next to **Require Password to Change Configuration** and **Save Settings** button.

Use this screen to set a new configuration protection password.



NOTE: The default password is '12345'. If you configure the interface to use a password and later remove the password check, it will reset to '12345' again.

[Reference ID: 12055]

2.3 Configuration is Password Protected

The configuration is password protected if you changed it in **Change Configuration Protection Password(See Section 2.2)** . You must enter the correct password in order to save any changes to the configuration of this interface.

See Advanced Configuration(See Section 3.4) if you want to disable the password protection.

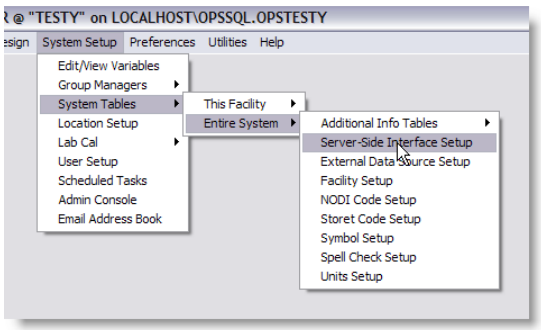
NOTE:
If your configuration is protected with a password, you must know the password before you can disable the password check.

[Reference ID: 12056]

2.4 Configure the Hach WIMS Client for a Server-Side Interface (SCADA2OPSSQL)

In order to use a **Hach WIMS Server-Side Interface**, you must do the following:

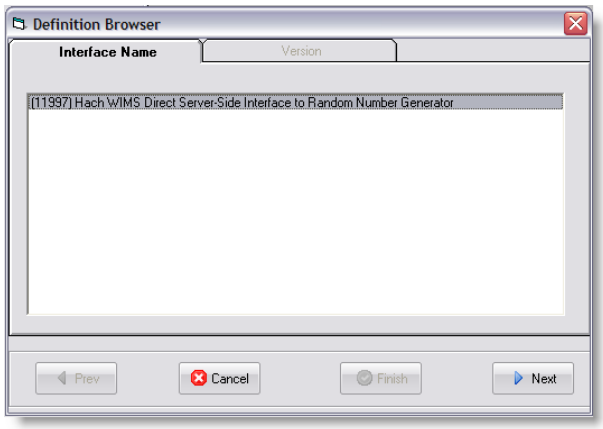
1. Start your **Hach WIMS Client** and navigate to the **System Setup -> System Tables -> Entire System -> Server-Side Interface Setup** menu selection:



2. If the "Server-Side Interface Setup" screen shows no interfaces, or the one you want to configure is not shown, you have to:
    - Is the interface definition file uploaded? Click the **New** button to determine if the definition file is uploaded, and see if it appears in the list of interfaces. If it is there, continue to step 3.
    - If the definition file is not uploaded, click the **New Definition** button and navigate to the g2_server_lu file located where the interface is installed. (Alternatively, you can select **Utilities - Upload Definition File to**

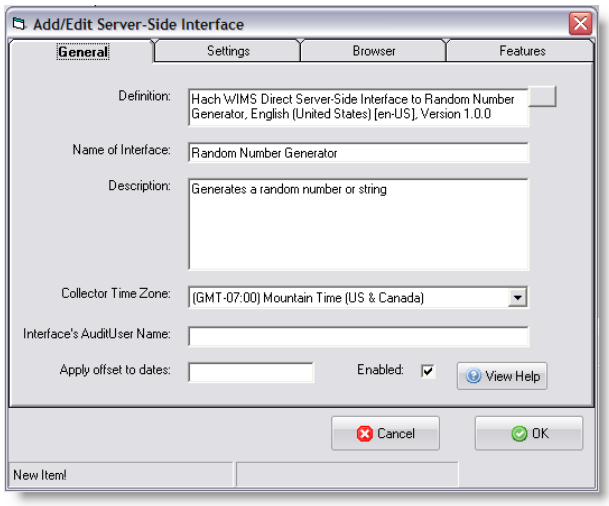
Hach WIMS(See Section 3.18))

3. With the definition uploaded (or present), click the **New** button and create an instance of the server side interface. You can have multiple interface sources for the same definition.



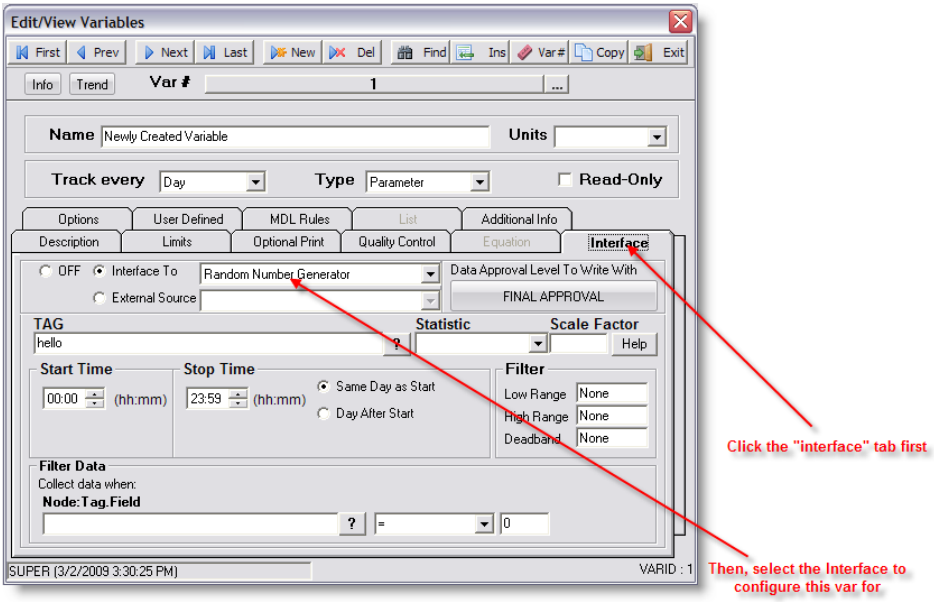
In this example, we are using the Random Number Generator interface. Select the name of your interface, click **Next**, and select the version.

4. Configure the interface:



Make note of the "Name of Interface" field - this is how your interface will be identified. In this case - it is "Random Number Generator". Fill in a "Description" and select the "Collector Time Zone", in this case, it is set to Mountain Time (US & Canada). Click **OK** to create the interface record.

5. Configure Browser - Click on the **Browser** tab and enter the requested information to allow the **Hach WIMS Client** the ability to browse tags from the source system. In some cases, you will need to install an OLE DB driver, on the Hach WIMS Client computer, that will allow communications to the source system. If it is impossible to configure this option, or you wish to do this later - uncheck the **Enable** button on the **Browser** tab.
6. Go to **System Setup -> Edit/View Variables**.
7. Go to the variable you wish to configure for storing interface data:



Click the **Interface** tab on the variable you are configuring, then click the **Interface To** radio button and select the interface needed for this variable. The area below will fill up with the settings needed to finish configuring this variable.

8. For detailed instructions on configuration of variables, look for the '**Supported Variable Configurations For Interface ...**' article in the '**Topics specific to the operation of this Interface**' chapter.

[Reference ID: 12041]

2.5 Hach WIMS Super User Credentials

To enable this feature, select **Configuration -> Advanced Configuration(See Section 3.4)** . Then check the "**Require Hach WIMS Super User Login Credentials to Import Data In Interactive Mode**" setting.

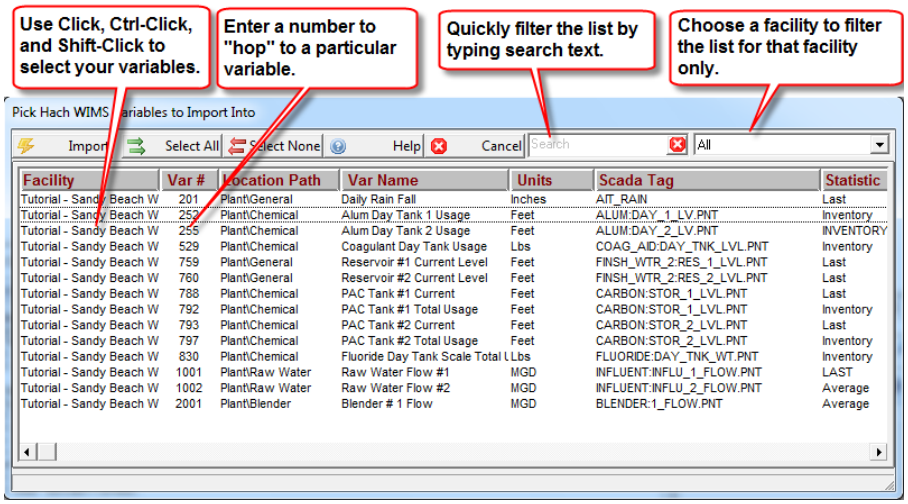
You must provide the correct user name and password in order to import data in interactive mode.

Contact your Hach WIMS Administrator for help if you do not know the username and/or password.

[Reference ID: 12057]

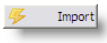
2.6 Pick Hach WIMS Variables to Import Into

Only variables assigned to this interface will be listed. Select the variables to import data into from the source.

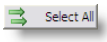


HINT: You can hold the CTRL or CTRL/SHIFT buttons down when clicking in order to select multiple entries

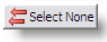
Buttons:



Import data for the selected variables.



Select all variables in the list.



Select no variables - deselects all variables from the list.

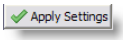
All other buttons are explained in Using Common Buttons(See Section 2.7) .

[Reference ID: 12059]

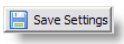
2.7 Using Common Buttons

Common Hach WIMS Interface Buttons:

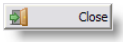
Displays help for the current interface screen.



Applies the current settings.



Attemps to apply the current changes and save them permanently. The save will fail if the settings cannot be applied first.



Closes the current window - no changes are saved.

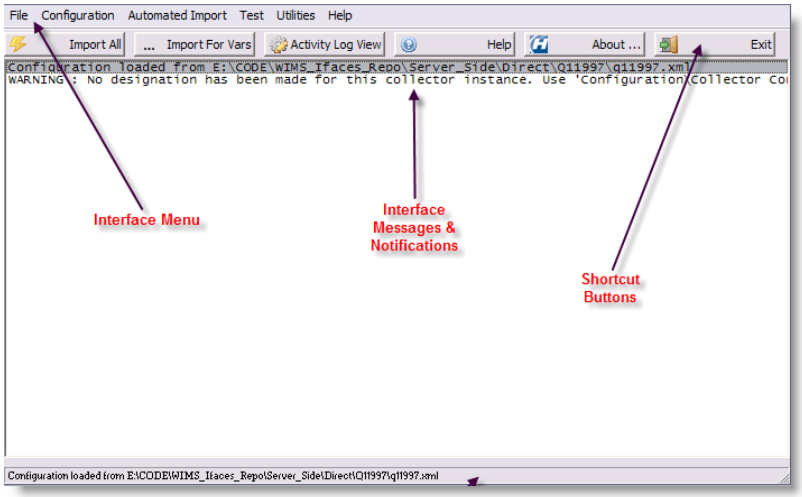
Cancel the current activity/operation.

[Reference ID: 12039]

2.8 Using Main Interface Screen

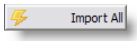
This is the main interface interactive screen.

When running in interactive mode, you can set the various interface configuration settings, monitor & control the interface service, as well as interactively collect data.

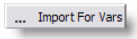


The main parts of the of the screen of interest are:

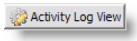
- **Main Menu**
- The **Shortcut Buttons**:



Import all data(See Section 3.13) .

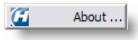


Import data for selected variables(See Section 3.14) .



Monitor service activity(See Section 3.1) .

Display help for the current window.



Display general interface information.

Exit the interactive interface session.

- The **Interface Messages & Notification** area - the white background area displays scrolling text regarding the interface's activity. All manner of data is logged here, including data collection status, errors, warnings and other general information regarding the interface's current activity.

  Depending on the **Verbosity**(See Section 3.4) level set, you may or may not see all information.

  If there is a directory called "Log" in the interface directory, the interface will also log to a text file of the form: *<mm_dd_yyyy__hh_mm_ss_interactive.log>*

  E.g., if the current date is 2/26/2009 and the current time is 3:02:13 PM, the file will be called:

02_26_2009__15_02_13_interactive.log.

- The status bar, at the bottom of the screen, displays miscellaneous information regarding the interface.

[Reference ID: 12036]

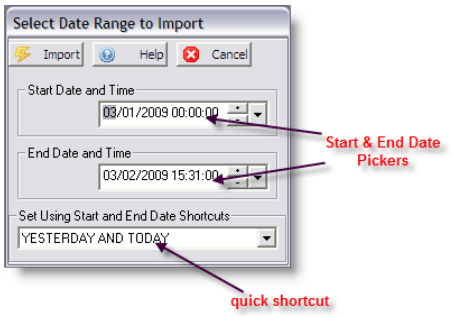
2.9 Using Select Date Range to Import

When importing data for one or more specified variables, you have to specify the date range of the source data you want to get.

You can do this in 2 ways:

1. Use both the **Start & End Date Pickers**

   - OR -
2. Use a start/end date **quick shortcut**:



Buttons:

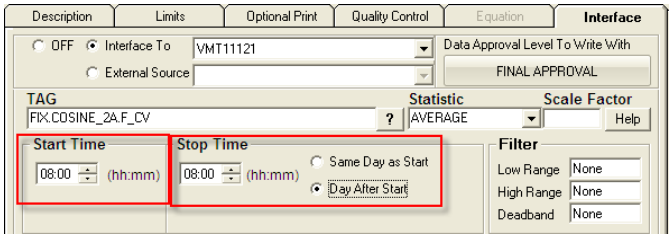
Import data for the selected dates

Other buttons are described in **Using Common Buttons**(See Section 2.7) .

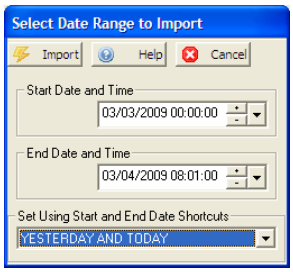
Principle 1: Data will be imported based on the **Start and End Date and Time** and how the variable's **Stop Time** is set up. The **Stop Time** must fall within the date range requested.

Principle 2: Data is stored on the date and time of the variable's **Start Time**.

For example: We set a variable with **Start Time** of 08:00 and a **Stop Time** of 08:00, and select **Day After Start** as shown below.



Then I run the interface to pull data for March 3, 2009 00:00:00 to March 4, 2009 08:01:00.



The interface will return a value for March 2 and March 3. Why? The stop time is our requested date range starting on March 3, 2009 with a stop time of 8 AM. The stop time is computed to March 3, 2009 08:00:00. Since we selected the stop as day after start, the start time is March 2, 2009 at 08:00:00. According to principle #2, the data point is stored on the start time.

So for our example:

Requested Date	Start Date and Time	Stop Date and Time
March 3, 2009	March 2, 2009 08:00:00	March 3, 2009 08:00:00
March 4, 2009	March 3, 2009 08:00:00	March 4, 2009 08:00:00

If we had set our date range from March 3, 2009 00:00:00 to March 4, 2009 07:59:59, then the interface would return only the first record, because stop time of March 4, 2009 08:00:00 in the second record, is past the end date and time of our range.

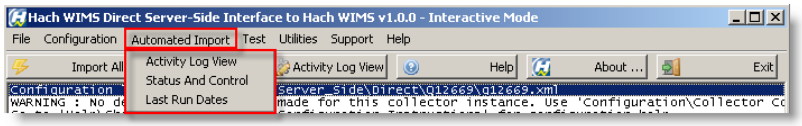
If we had set our date range from March 3, 2009 08:01:00 to March 4, 2009 08:01:00, then the interface would return only the second record, because the Stop Date and Time of the first record (March 3, 2009 08:00:00) does not fall within our start and end date range.

[Reference ID: 12058]

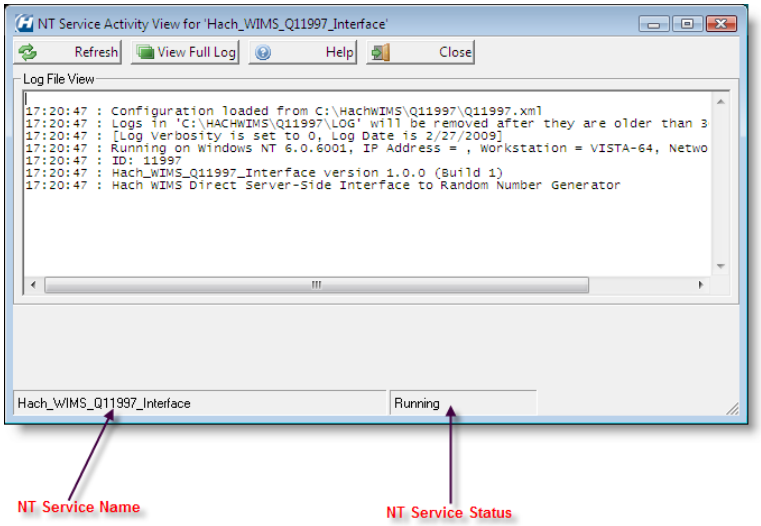
3 - Documentation : Main Menu

3.1 Automated Import - Activity Log View

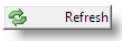
For Automated Import options, click the **Automated Import** button on the top menu bar of the interface.



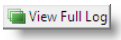
The **Activity Log View** lets you view the interface NT Service log.



Buttons:



Force refresh of the service log view. To shorten the refresh interval, see **Configuration - Advanced Configuration**(See Section 3.4) .



View the full service log.

The rest of the buttons are explained in **Using Common Buttons**(See Section 2.7) .

NOTE:

If the log cannot be read, make sure the service name is correct and that it's running. See Automated Import - Status and Control(See Section 3.3) **on how to start the service if it's not running (assuming the service name is correct) and see Configuration - Advanced Configuration**(See Section 3.4) **on how to view/change the service name.**

[Reference ID: 12049]

3.2 Automated Import - Modify Last Ran Dates

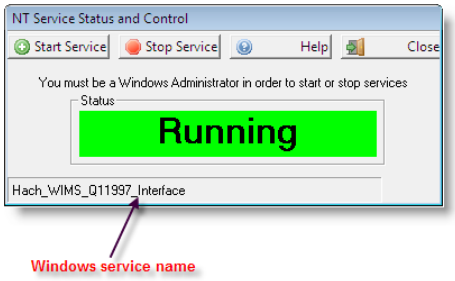
This screen lets you modify the per-facility Last-Ran Date of the interface.

NOTE:
This is different than the default Last-Ran Date described in Configuration - Automated Import Configuration(See Section 3.9) **, which is the default Last-Ran Date for ALL facilities that have not had any data imported.**

[Reference ID: 12051]

3.3 Automated Import - Status and Control

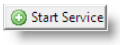
The **NT Service Status and Control** screen lets you monitor the state of interface service, and start or stop the service (Note: you must be logged in as a Windows Administrator):



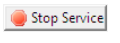
The name of the service is displayed in the bottom left (see screenshot) corner of the screen. This is the name of the service that the interactive program is configured to monitor.

If this is NOT the name of the service, you can change it from the **Configuration - Advanced Configuration**(See Section 3.4) screen.

Buttons:



Start the service, if it is not running.



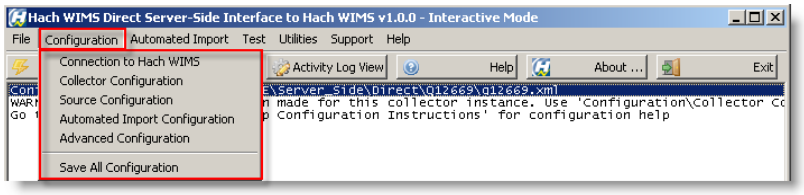
Stop the service, if it is running.

All other buttons are explained in **Using Common Buttons**(See Section 2.7) .

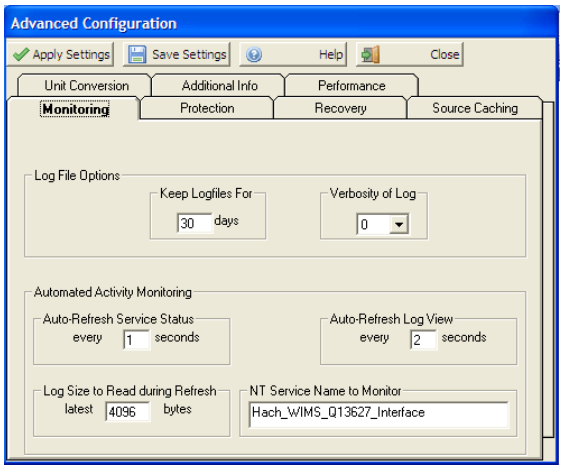
[Reference ID: 12047]

3.4 Configuration - Advanced Configuration

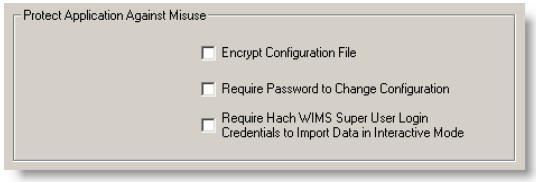
For Configuration options, click on the **Configuration** menu option at the top menu bar of the interface.



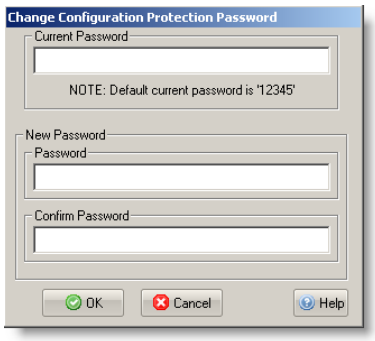
The **Advanced Configuration** screen can be used to configure various advanced interface settings:



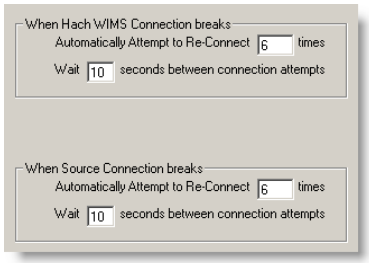
- **Log File Options**:
  - Keep Logfiles - the number of days to keep log files in the Log folder, delete log files older than the number of days specified.
  - Verbosity - the higher this number, the more messages will be logged in the log file and the log window. This is usually meant for trouble-shooting purpose.
- **Automated Activity Monitoring** - use this option to configure the Automated Activity (service mode of the interface) options:
  - Auto-Refresh Service Status - when displaying the **Automated Import - Status and Control**(See Section 3.3) screen - how long to wait between status refreshes.
  - Auto-Refresh Log View - when displaying the **Automated Import - Activity Log View**(See Section 3.1) - the interval of time to wait before refreshing the log view.
  - Log Size to Read during Refresh - the maximum number of characters to actually read in when refreshing the log view.
  - NT Service Name to Monitor - the name of the NT service under which the interface runs. The default is usually fine. **Do NOT change this unless instructed by a Hach Support Engineer, or unless you installed the service under a different name and know what you are doing.**



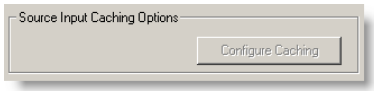
- **Protect Application Against Misuse** - On the **Protection** tab, if you want more security in your interface configuration, you can configure:
  - ♦ Encrypt Configuration File - encrypt the contents of the interface configuration file to prevent unauthorized tampering.
  - ♦ Required Password to Change Configuration - require a password every time the user requests a configuration change. If no password is yet set, you are prompted to supply one.



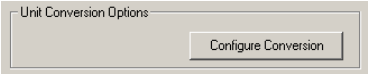
  - ♦ Require Hach Wims Super User Login ... - to prevent someone from accidentally overwriting data when running in interactive mode, you can set this option to require people to enter in a super-user ID and password before importing.



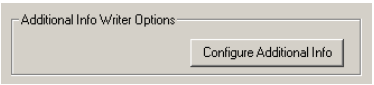
- **When Hach WIMS/Source Connection Break** - on the **Recovery** tab, establishes the number of times to attempt to restore the connection to Hach WIMS/Source and the amount of seconds to wait between attempts.



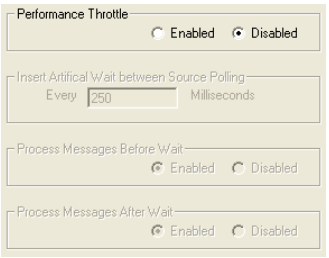
- **Source Input Caching -** button on the **Source Caching** tab, is enabled when interface supports source input caching. Lets one specify caching conditions. Go to Source Cache Input Configuration(See Section 3.5) for more information.



- **Unit Conversion Options** - On the **Unit Conversion** tab, is enabled when interface supports unit conversion. Lets one specify various units and conversion factor. Go to **Configuration - Advanced Configuration: Unit Conversion**(See Section 3.8) for more information.



- **Additional Info Writer Options** - On the **Additional Info** tab, is enabled when interface supports additional info. The additional info fields must be created in Hach WIMS Client first, then the fields can be mapped by pressing the **Configure Additional Info** button. Go to **Configuration - Advanced Configuration: Additional Info**(See Section 3.6) for more information.

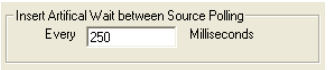


- **Performance Throttle** - on the **Performance** tab, there are several options related to throttling, or slowing down, the connection speed to the database. There are situations where an interface can run too many read/write operations against a database which causes the database to become overwhelmed and incapable of processing other tasks - effectively shutting down other database operations. Throttling the connection speed causes our system to pause between queries and allow the database to process other requests before and/or after we pause the interface.

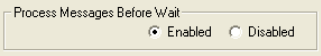
  WARNING! Using the Throttle will slow down interface performance significantly. Only use this option if you are running against database performance issues due to too many read/write operations from the WIMS interface.

The following are important things to note about the Throttle option:

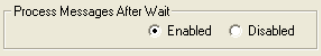
- This option is not intended to be used with normal interface setup. It should only be used if the source database is showing I/O processes being delayed explicity because of the WIMS interface connection.
- This option is not intended for LIMS interfaces. If a LIMS interface does appear to be causing an I/O problem, the root cause is probably something else and throttling will not resolve.
- When in doubt, leave the throttle disabled.



- **Insert Artificial Wait between Source Polling** - Allows the user to specify the pause time between queries. This field only accepts whole numbers (no decimals) from 1 to 9999 and is measured in milliseconds. Example 250 milliseconds = 0.25 seconds. Use as little a pause as possible to achieve desired database performance.



- **Process Messages Before Wait -** Allows the user to specify if the database should process other events before the interface pauses.
  Note: A user may opt to process other events before and after a pause; or neither if desired. The default is to enable both before and after.
- Example when enabled: The interface just completed a connection to the Source database - it will allow the database to process other events, then pause.



- **Process Messages After Wait -** Allows the user to specify if the database should process other events after the interface pauses.
  Note: A user may opt to process other events before and after a pause; or neither if desired. The default is to enable both before and after.
- Example when enabled: The interface just completed a connection to the Source database - it will pause, then allow the database to process other events.

Buttons:

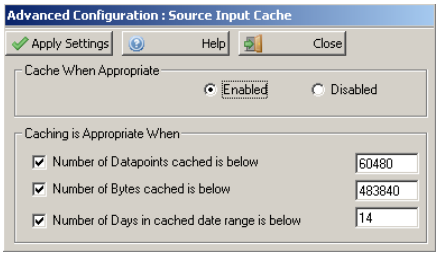
The buttons are explained in Using Common Buttons(See Section 2.7) .

[Reference ID: 12045]

3.5 Configuration - Advanced Configuration : Source Input Cache

Source Input Cache Configuration, is used to configure criteria for caching, if the interfaces supports caching and the option is **Enabled**. Caching is used to load more data into memory at one time, and retain it for processing variables instead of continuously rereading source data from disk. This will speed up processing, but uses more computer resources - such as memory. Set the parameters to set thresholds for processing chunks of data and so that the interface does not surpass the limitations of your computer.

(Note: Not all interfaces have this feature available)



Click **Apply Settings** to apply changes and return to parent form. Click **Close** to return without applying changes.

[Reference ID: 12132]

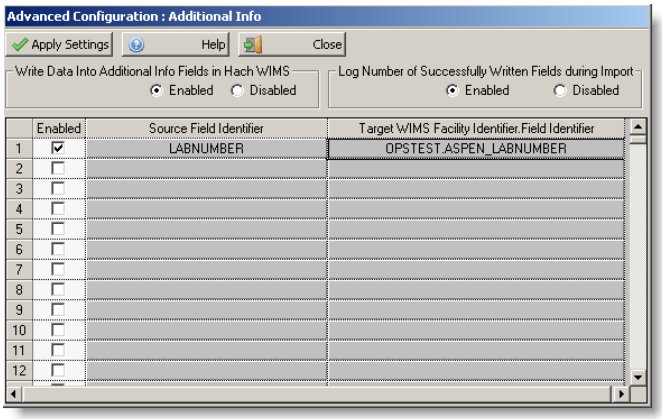
3.6 Configuration - Advanced Configuration: Additional Info

Additional Info, if enabled, is used to configure a cross reference map between fields in the source system and result additional info fields in Hach WIMS. This cross reference map will be then used by the interface during data import.

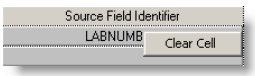
This feature can be turned off. Simply click the **Disable** radio button under **Write Data Into Additional Info Fields in Hach WIMS**.

The number of successful writes to additional information can be **Enabled** or **Disabled**. Click the appropriate radio button under **Log Number of Successfully Written Fields during Import**.

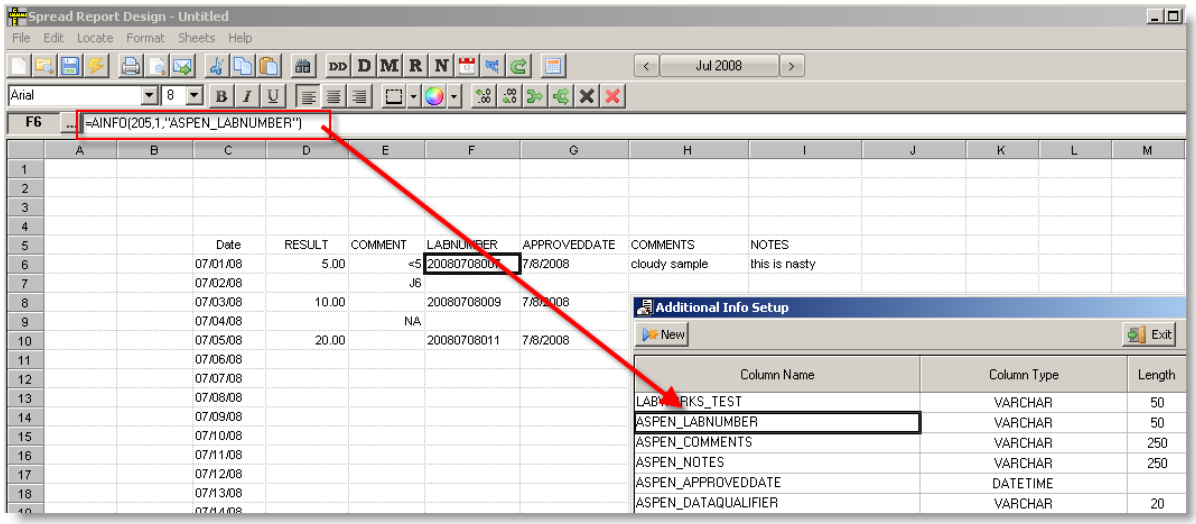
(Note: Not all interfaces have this feature available)



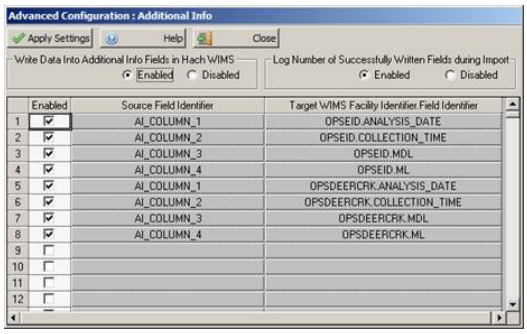
1. Click on any button in the **Source Field Identifier** column to pick a source field.
2. Click on any button in the **Target WIMS Facility Identifier.Field Identifier** column to pick a target field.
3. Right click on any button, and click on **Clear Cell** to erase contents of a cell.



Notice the example output below from Hach WIMS Client > Spread Report Design, additional info is only imported when there is a valid result imported. Also notice how we have the field set up in Additional Info and how we recall the data in Spread Reports.



NOTE: When interfacing to two (2) or more facilities you MUST map each facility. For example, I am importing data into the OPSEID facility database and the OPSDEERCRK facility. I would map AI_COLUMN_1 thru AI_COLUMN_4 for each facilty:

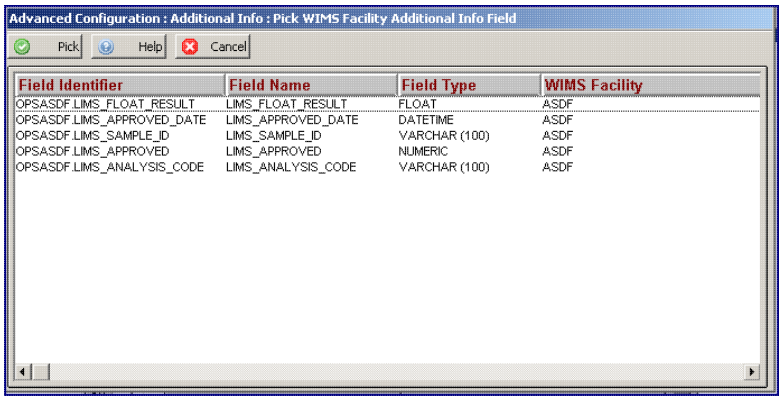


[Reference ID: 12598]

3.7 Configuration - Advanced Configuration: Additional Info : Pick WIMS Facility Additional Info Field

Pick WIMS Facility Additional Info Field window lists all available additional info fields for all facilities connected to your Hach WIMS server.

Select a row to highlight a field, and click the **Pick** button.



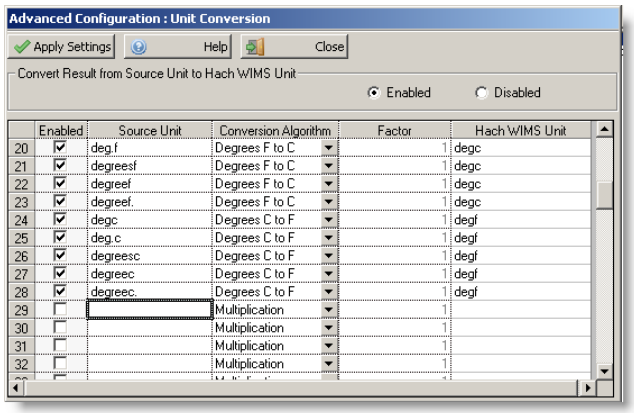
[Reference ID: 12599]

3.8 Configuration - Advanced Configuration: Unit Conversion

Unit Conversion, if enabled, is used to configure unit conversion when the "units" from the source are different than the "units" in Hach WIMS.

This feature can be turned off, simply click the **Disable** radio button under Convert Result from Source Unit to Hach WIMS Unit.

(Note: Not all interfaces have this feature available)



1. Under **Source Unit** enter the text value as it is in the source
2. Select the **Conversion Algorithm**

- **Multiplication** - Multiply the source result by the **Factor** before writing to Hach WIMS
- **Degrees F to C** - Convert degrees Fahrenheit to degrees Celsius
- **Degrees C to F** - Convert degrees Celsius to degrees Fahrenheit

1. Enter the **Factor** amount, how much to multiply the source result by before writing to Hach WIMS. When using the Degrees conversion, enter a 1 (one)
2. Enter the **Hach WIMS Unit** that the Hach WIMS variable will be using

For example, the source result is stored in parts per million ("ppm") and it needs to be converted in Hach WIMS as parts per billion ("ppb"). You could add the following conversion:

(Note: this is one of the default conversions included)

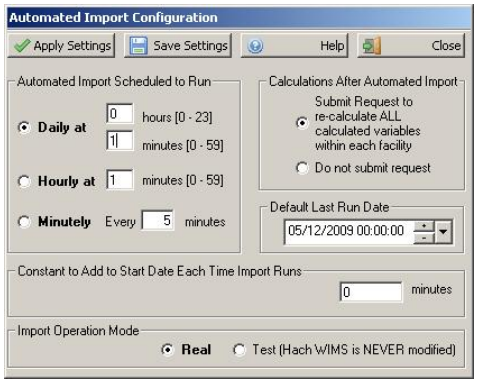
Click **Apply Settings** to apply changes and return to parent form. Click **Close** to return without applying changes.

[Reference ID: 12328]

3.9 Configuration - Automated Import Configuration

Each interface can be configured to run as a service. This is when you want to schedule an automatic retreival of data, without user intervention.

The **Automated Import Configuration** screen allows you to configure the schedule, whether to submit calculation requests, the Last-Ran Date, and the import operation mode:



- **Automated Import Schedule** - configure when the interface service is scheduled to run:

- ♦ **Daily** -the interface will run ONCE per day, at the specified schedule. E.g., to run it at 2:30 am, you would enter "2" into the hours box and "30" into the minutes box. Note that time is entered in "military" format. To enter 4:45 pm, you would enter "16" into the hours box, NOT 4.
- ♦ **Hourly** - the interface will run **every hour** at the specified minute after the hour
- ♦ **Minutely**- the interface will run **every X minutes** where X is a number between 1 and 1440. E.g., to run it every 5 minutes, you would enter "5".

- **Calculations After Automated Import** - select this option if you would like the Hach WIMS AdoCalc service to recalculate all variables within **every** facility after an import operation completes.
- **Default Last Run Date** - this is the point in time from which the interface service will try to retrieve data, up until the current point in time. After a successful run, the current time will become the last run time. By default, this is set to one day prior to the current day.

  E.g., assume today is February 25, 2009, if you have just installed the interface and have 3 months of historical data you want imported into Hach WIMS. You should enter November 25, 2008 as the Last-Run Date (3 months prior to February 25th). Once the interface completes its run, the Last-Run Date will be set to February 25, 2009 automatically. The next time it runs (assuming it runs Daily), February 26, 2009, it will only fetch **one** day's worth of data.
- **Constant to Add to Start Date Each Time Import Runs** - Enter the number of minutes to add to the Start Date when the interface runs in automatic mode. This allows the interface to capture data from previous runs that might not have been available at that time.
  - ♦ During automated import, interface queries source data for the following date range :
    from (Last Run Date/time(See Section) + *Constant to Add to Start Date Each Time Import Runs*) **to** (*current date / time)*

    If your source system does not yet contain the needed data at the time of automated import, use this setting to push back the **from** parameter. For instance, if you need the import to start 2 hours before Last Run Date/time(See Section) , you need to enter value of **-120** (negative 120) to *Constant to Add to Start Date Each Time Import Runs*

    NOTE: Situations when you would need to input a positive value in this field are very rare.
    Value of 0 (default) has no negative or positive effect on start date.
- **Import Operation Mode** -Real mode imports data into Hach WIMS where as Test does not actually import data, but tests the query capability and timing of the interface.

Buttons:

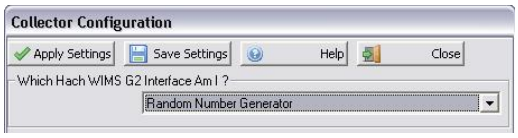
The buttons are explained in Using Common Buttons(See Section 2.7) .

[Reference ID: 12044]

3.10 Configuration - Collector Configuration

The **Collector Configuration** is the place where you configure the source of your data - the SCADA/LIMS system that holds

the data you want to import.



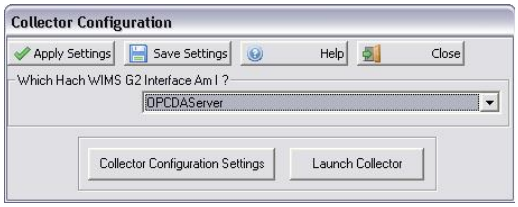
NOTE: Before you can configure the collector, you MUST configure the Connection to Hach WIMS(See Section 3.11) **and you must setup the Hach WIMS client(See Section 2.4) .**

Select **Which Hach WIMS G2 Interface Am I** for this interface. The names that appear in the drop-down box are the ones that were configured in the Hach WIMS Client. This name is then tied to this interface and is unique.

Buttons:

The buttons are explained in Using Common Buttons(See Section 2.7) .

If the Interface you are using has a separate Collector Utility that generates OPSDATAXML files that it reads from, you can configure and launch it from here.



Opens a screen that allows you to configure the Collector's settings

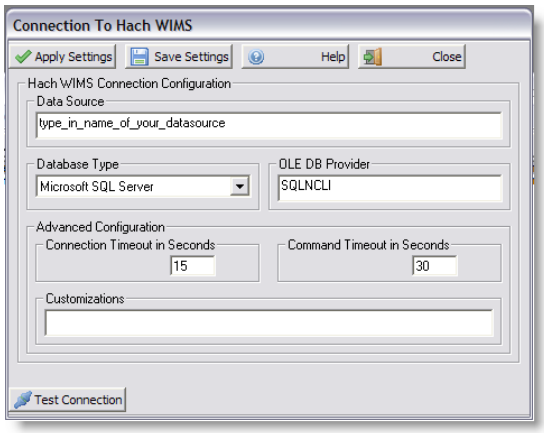
Starts the Collector utility

[Reference ID: 12042]

3.11 Configuration - Connection To Hach WIMS

The **Connection to Hach WIMS** screen lets you configure how the interface will connect to **Hach WIMS Database Server**.

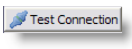
This is one of the first items you configure when setting up a new interface.



- **Data Source** - this field specifies, in loose terms, the "Database/Datasource server name" where your Hach WIMS system is configured to store data. "Database/Datasource server name" means different things depending on whether you are running against Oracle or MS SQL:
    - Oracle - you can type in either the Oracle TNS name or a string in the form of *host:port/SID*, if using the Oracle HOSTNAME adapter.
    - MS SQL - this is in the form of *host\sql_instance_name*
- **Database Type** -select the appropriate type of your Hach WIMS database
- **OLE DB Provider** - this specifies which "database driver" the interface will use when connecting to Hach WIMS and again depends on the database type:
    - Oracle - the default string should be fine
    - MS SQL - if connecting to MS SQL 2005 or later, use the native client to connect. Specify SQLNCLI as the provider. ***NOTE: You will need to have the Microsoft SQL Native Client installed for this to work.*** If connecting to MS SQL 2000, specify SQLOLEDB as the provider.
- **Connection Timeout in Seconds** - how many seconds the program should wait when establishing a connection to the Hach WIMS database before aborting.
- **Command Timeout in Seconds** - specifies how many seconds the program should wait for a query to complete before aborting the operation.

  WARNING: Large values for these two settings can cause the program to not respond for a long period of time! Do NOT use 0 unless you know what you are doing - it will cause the program to wait indefinitely, and if your database server is down, the only way to cancel the operation is to forcefully quit the program.
- **Customizations** - this should be left empty unless you were told otherwise by a Hach Support Engineer or you know what you are doing.

Buttons:

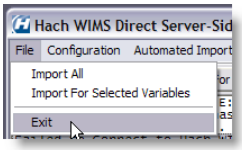


Test to see if the connection settings are valid and the interface is able to connect to Hach WIMS client. This will NOT **Apply** or **Save** the settings.

The other buttons are explained in Using Common Buttons(See Section 2.7) .

[Reference ID: 12037]

3.12 File - Exit

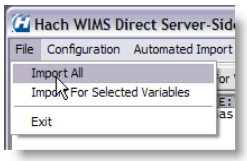


Terminates the interactive interface program.
NOTE:

Clicking "Exit" only closes the interactive interface session. Since the interface can be configured to run as a Windows Service, clicking "Exit" does NOT affect this service, it will continue collecting data. The service can be scheduled to collect data anytime, whether a user is logged on to the machine or not. The service for the interface will continue collecting data whether the interactive program is running or not.

[Reference ID: 12035]

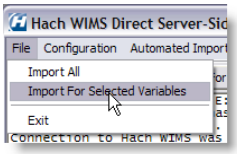
3.13 File - Import All



Imports all data for all variables.

[Reference ID: 12034]

3.14 File - Import For Selected Variables

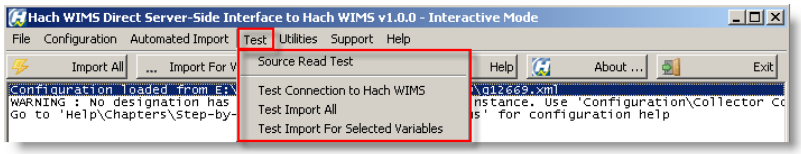


Imports data for the selected variables.

[Reference ID: 12038]

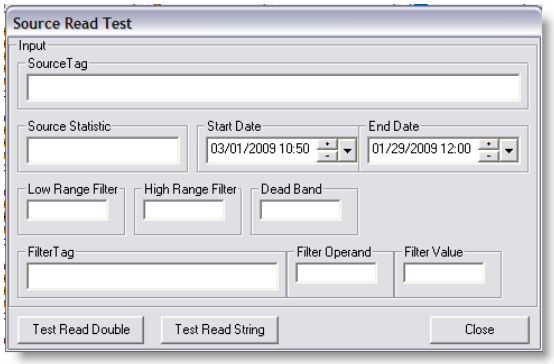
3.15 Test - Source Read Test SCADA to Hach WIMS

For testing options, click on the **Testing** menu option at the top menu bar of the interface.



The **Source Read Test** functionality is useful for source testing purposes.

Use this screen to look at source data for specific dates, using different statistics (MINIMUM, MAXIMUM, AVERAGE, etc).
This is useful when you want to look at source data on specific dates, WITHOUT doing an actual import. (No data will be overwritten on the Hach WIMS database.)



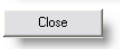
To do a test, you will need to specify a tag in the Source Tag field.
Then, for each tag, you can specify:

- The Source Statistic to apply (MINIMUM, MAXIMUM, AVERAGE, etc).
- The start and end dates you want data fetched.
- The high & low ranges, as well as the dead-band (optional).
- The filter tag - a second source tag that acts as a filter to the main selected tag (optional).

Buttons:

Interpret the tag as a double (floating-point) tag and return a floating-point number.

Interpret the tag as a string tag and return the result as a string.



Closes the window.

[Reference ID: 12054]

3.16 Test - Test Connection to Hach WIMS

Perform a test against the Hach WIMS connection to see if the connection is valid

[Reference ID: 12052]

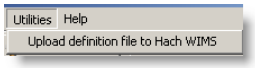
3.17 Test - Test Import All

This performs a **test** import for all interface-configured variables. Note that no actual data will be written to the Hach WIMS database.

[Reference ID: 12053]

3.18 Utilities - Upload Definition File to Hach WIMS

This feature allows you to upload the interface definition (g2_server_lu) file to the Hach WIMS database. This is needed in order to setup a collector record in Hach WIMS.



Once the definition file has been uploaded, proceed with creating a collector record in Hach WIMS Client.
The process to setup a collector record is outlined in How to configure the Hach WIMS Client for a server-side interface(See Section 2.4) .

[Reference ID: 12040]

4 - Documentation : Release notes

4.1 Release Notes for Hach WIMS Server-Side Interface Platform

Build 149 (9/16/2015)

- Menu item Support>Am I licensed for this interface now works with new licensing system.

Build 147 (8/21/2015)

- Added GetLocationPath to CommonGlobals (4660)

Build 146 (6/2/2015)

- Fixed error condition when LockDate is not set in the database (4605)

Build 145 (7/3/2014)

- Minor update of UI for Windows 7 (4431)
- Minor update of Automated Import Configuration for Windows 7 (4466)

Build 142 (10/1/2013)

- Improved Time/Date syncing issues experienced by some clients (4207)
- Added a database connection throttle (performance throttle) advanced configuration (See Section 3.4) option that pauses between source queries allowing other database process events to execute (4267)

Build 137

- Modified to handle the new licensing for SQL Server 2012.(4202)
- Handled out of memory error when the interfaces are ran with many variables and date ranges.(4158)
- A change was added to keep the database connection open during the import process.(4106)

Build 135

- Changed logging to user interface (LogToUI) to prevent an "Out of Memory" error when extensive amount of text lines are written to the interfaces list box. (4158)

Build 116

- Updated framework to handle time zone differences and how they affect direct and indirect interfaces

Build 100

- Compatible with Hach WIMS 1.3.8 Database version

Build 85

- Minor change to Advance Configuration to disable Additional Info button if the interface does not support additional info

Build 84

- Fixed a bug that caused interfaces to omit reading of Hach WIMS variables in rare cases when the natural order of records in the VARDESC table did not equal to 'order by varid' on Oracle platforms(3006)

Build 83

- Added support for importing of Additional Entry Fields. For interfaces that support this framework feature, go to Advanced Configuration / Additional Info in order to configure you conversion map (3075)
- Added support for User Interface to display Connection String when clicking on Source Configuration / View Applied Connection String (2821)
- Added support for User Interface to omit asking for Input Dates for interfaces where selecting dates does not make sense (2806)
- Fixed a bug that caused Floating Point rounding to overflow on very large numbers resulting in no rounding being performed on numbers (3016)
- Fixed a bug that caused help.chm to be improperly located by the user interface when interface executable was launched using Windows Shell command (2932)
- Fixed a bug that caused interfaces of common type SCADA2OPSSQL to halt importing in cases when users went around the program business rules and manually (in the backend) entered OPSROOT.FACILITY.FILENAME field in lowercase (2890)

Build 54

- Added support for Configuring and Launching a Collector Utility

Build 53

- Added support for LIMS2OPSSQL type of framework
- Added support for Unit Conversion

Build 48

- Fixed an interface crash if the selected OLEDB driver could not be found (2406)
- Added a MINUTELY mode of scheduling of automated service (2447)
- Displays a warning message when attempting to import into collector which is linked to incorrect version of g2_lu (2505)
- Added ability to view and edit Last Run Date for Facility UI (2626)

Build 36

- Fixed a loophole that may have allowed interface crash when UI log listbox was about to display more than 32000 lines of log (2495)

Build 34

- Fixed a bug that pulled up incorrect article or category when clicked on submenu Help / Chapters. Platform now requires setting of link constants for every interface custom configuration module (2488)
- Fixed a bug that took users to incorrect link upon clicking on menu item Support / Check for new Updates (2492)

Build 27

- Initial release to public

[Reference ID: 12033]

4.2 Release Notes for SCADA2OPSSQL Type of Hach WIMS Direct Server-Side Interface

Build 66(8/21/2015)

- Variable Browser relocated location path field next to variable name (4660)

Build 65(3/30/2015)

- Variable Browser Select All button no longer selects filtered variables (4582)
- Variable Browser now displays location path (4582)

Build 64 (7/3/2014)

- Additional logging added (4159)
- Added a database connection throttle allowing other processes (programs) to process events to run. (4267)
- Variable Browser improvements - added quick filter, filter by facility. (4385)
- Variable Browser UI improvement for Windows 7 (4466)

Build 60

- Added support for MAXTIME and MINTIME to the import process.(4185)
- Fixed problem importing text values.(4125)
- Added user option setting to keep the database connection open during the entire import process.(4106)

Build 57

- **Added a global variable to CommonGlobals to allow custom notes to the stats summary at the end of a run. I added the global variable to** CommonGlobals and it is used in CommonImport (4132)

Build 56

- Added a global variable to CommonGlobals and CommonImport to keep the CustomImport object alive so its connection would stay open. We were having a problem with a special database driver hanging when it was closed. (4106)

Build 55

- Fixed framework to properly handle Text Parameter type variables (4125)

Build 53

- Updated framework to handle time zone differences and how they affect direct and indirect interfaces

Build 47

- Added logging in CommTAGFilter routine CarryLastValue when verbosity is set to 9

Build 46

- Changed CommonImport to make sure start date is correct when using the Cache feature in Advanced Settings (only affects certain interfaces) (3261)
- Changed CommonTAGFilter to scrutinize data returned from CustomTAGFilter (only affects certain interfaces) (3313)
- Changed CommonTAGFilter to propogate execution error check down to lowest level, so that we can distinguish between an execution error and bad data (only affects certain interfaces) (3426)

Build 41

- Added to CommonTypeDateManager in Common_SCADA2OPSSQL; added code to compensate for daily var that have less than 1440 min/slot (i.e., 60 min from total day) so that it would get current day if the start and stop times have passed current time (Fortress 2673)

Build 40

- Added ability to view connection string in CustomConfig form

Build 37

- Added ability for SCADA2OPSSQL type of interfaces to define a global configuration tree

Build 36

- Fixed problem with statistics TIMELT, TIMEGT, and TIMEEQ not counting the very first record.

Build 34

- Added to caching function to support the following statistics for parameters using flat file databases: TOTAL, AVERAGE, MINIMUM, MAXIMUM, FIRST, LAST, DIFF, RANGE, COUNT, INVENTORY, TIMEGT, TIMELT, and TIMEEQ
- Added to caching function to support the following statistics for text parameters using flat file databases: MINTIME, MAXTIME, FIRST, LAST, COUNT
- Added to caching function to support the following filter operators on filter tags when using flat file databases: =, <, >, <=, >=, <>, and CYCLESTO

(Note: consult the "Topic specific to the operation of this interface" article "Supported Variable Configuration" to see whether your interface supports these available options or not)

Build 28

- Added ability to specify adjustment of start date in minutes when running in automated mode. This can be configured under Configuration / Automated Import Configuration (2445)
- Added support for caching of input to accelerate interface performance of interface that rely heavily on IO (2481)
- Added support for filtering for OLEDB types of SCADA2OPSSQL interfaces (2457)

Build 10

- Initial Release to Public

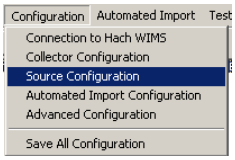
[Reference ID: 12068]

5 - Documentation : Topics specific to the operation of this interface

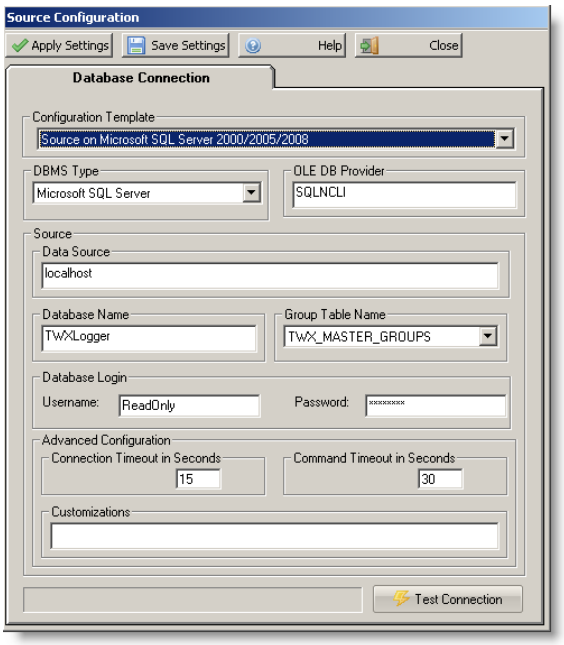
5.1 Configuration - Source Configuration Q12580

This is the source configuration screen for the **Hach WIMS Direct Server-Side Interface to Iconics TrendWorx Logger**.

In order to configure source connection from the interface, click **Configuration** and select **Source Configuration**.



The next screen will display parameters to configure the interface connection to source database:



- **Configuration Template** - this is a drop down with a template for a typical installation of **Iconics TrendWorx Logger** as best as we know. It will prefill most of the text boxes. You will need to fill in Data Source, Username, and Password at a minimum.

- **DBMS Type** - this is a drop down and can be either Oracle or Microsoft SQL Server, and fills in the OLE DB Provider field.

- **OLE DB Provider - t**his is the OLE DB provider used to connect to the **Iconics TrendWorx Logger.**

- **Data Source** - this field specifies, in loose terms, the *Data Source Name* to connect to the **Iconics TrendWorx Logger** database server.

- **Database Name -** this is the name of the database within the database server. By default it appears to be **TWXLOGGER**, but can be changed.

- **Group Table Name** - this option identifies specific information in order to find data for a given tag.

  - **TWX_MASTER_GROUP** - This option retrieves the prefix table name and appends "_tags", "_info", etc. in order to find tag data
  - **TWX_GLOBAL** - This option retrieves the tags table name, info table name, etc. in order to find tag dat

- **User ID** and **Password** - these are the user ID and password to gain access to the database server.

- **Advanced Configuration** - these permit adjustment of the command and connection timeout.
  - **Connection Timeout in Seconds** - how many seconds the program should wait when establishing a connection.

  - **Command Timeout in Seconds** - how many seconds the program should wait for a query to complete before aborting the operation.

- **Customization** - this is used if additional parameters are need in order to connect to the source database.

Buttons:

This button will allow you to test settings before applying or saving them.

The other buttons are explained in Using Common Buttons(See Section 2.7) .

[Reference ID: 12597]

5.2 Release notes for interface Q12580

Version 1.0.8 (Released on 12/4/2015)

- Fixed DIFF function (4623)
- Upgraded interface to Common Framework(See Section 4.1) Build 149

Version 1.0.7 (Build 104, Released on 7/03/2014)

- Updated to the latest SCADA common framework (build 64)
- Updated to the latest interface common framework (build 145)
- Browser updated

Version 1.0.6 (Build 96, Released on 1/28/2013)

- Updated to the latest common framework
- Fixed problem uploading the G2_Server_LU file

Version 1.0.5 (Build 93, Released on 12/6/12)

- Added ability to specify Group table name (4271)

Version 1.0.4 (Build 91, Released on 5/10/12)

- Added support for SQL Server 2012 licensing (4202)

Version 1.0.3 (Build 65, Released on 9/3/09)

- Upgraded to Common Framework build 116, SCADA Framework build 53, Updated framework to handle time zone differences and how they affect direct and indirect interfaces

Version 1.0.2 (Build 50, Released on 7/30/09)

- Upgraded interface to Common Framework Build 100

Version 1.0.1 (Build 31, Released on 10/23/09)

- Upgraded interface to Common Framework Build 85

Version 1.0.0 (Build 18, Release on 10/8/09)

- Initial release

[Reference ID: 12594]

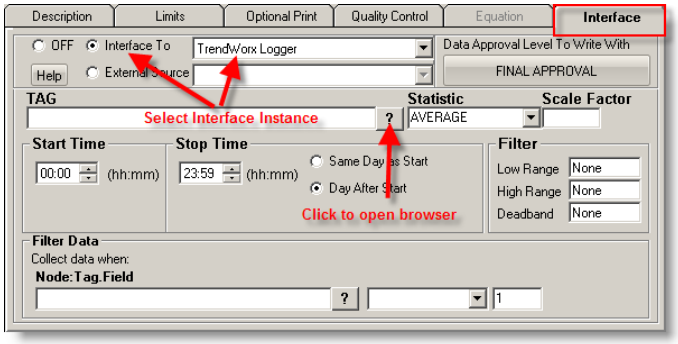
5.3 Supported variable configurations for interface Q12580

Supported variable configurations for the **Hach WIMS Direct Server-Side Interface to Iconics TrendWorx Logger.**

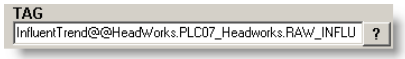
To configure a variable to hold values from **Iconics TrendWorx Logger**, select **System Setup > Edit/View Variables** in the

Hach WIMS Client and select the **Interface** tab.

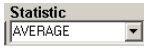
Then click **Interface To** radio button. The drop down box next to the option is now enabled, click the drop down arrow and choose the **Iconics TrendWorx Logger** interface name (name given when configuring the interface, in our example this is *TrendWorx Logger*).



Now you are ready to configure a signal tag from the **Iconics TrendWorx Logger** database. The Tag name and a statistic are all that are mandatory.

- 

The tag name includes the group name and the logging name seperated by "@@". The **?** symbol (question mark) will allow you to browse the Historian database for tag names. An explanation of the browser can be found in Using Interface Browser Q12582(See Section 5.4) .

- 

This is a listing of all the statistics supported by this interface. This includes the following statistics for a specified time period:

NOTE: All statistics return a BLANK(See Section) when no data is found.

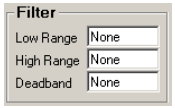
STATISTIC	DESCRIPTION
AVERAGE	Take the average of the data points
TOTAL	Take the sum total of all values
MINIMUM	Get the minimum value
MAXIMUM	Get the maximum value
FIRST	Get the first value
LAST	Get the last value
DIFF	

	Calculate the difference between the first and last values. If the first value is larger than the second then it will perform the following calculation: (10 ^ (Ceil(LOG(first_value) / LOG(10)))) - first_value + last_value Ceil will cause the value to round up
RANGE	Calculate the absolute value of the difference between the minimum and maximum values
INVENTORY	Return the total use based on a tank level signal. For example, the level is 10 feet at midnight and slowly goes down to 2 feet at 2:00 PM, then gets filled to 15 feet and slowly goes down to 8 feet at midnight. The inventory function would return ((10 - 2) + (15 - 8)) = 15.
COUNT	Counts the number of data points.
TIMEGT(x)	Counts the number of times a value is greater than a given number (x).
TIMELT(x)	Counts the number of times a value is less than a given number (x).
TIMEEQ(x)	Counts the number of times a value is equal to a given number (x).

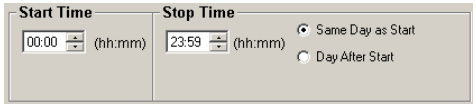
The records returned from the query are then calculated based on the statistic.

-

This is the value to multiply the result by when using parameter variable types. Commonly used to convert from one unit base to another. For example to convert gallons per minute (GPM) to gallons per day (GPD), set the scale factor to 1440 (1440 minutes per day).

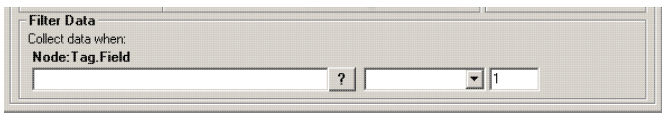
- 

All three fields must have numeric values or the word None (as shown). The Low Range and High Range will crop data from the source. For example to eliminate negative numbers from a particular tag, set the Low Range to 0 (zero) - this will get any values equal to or greater than 0 (zero). The Deadband is used for the statistic Inventory and will elliminate noise levels up to the value specified. For example, if you enter .5 next to Deadband, any value change of .5 or less, will be ignored.

- 

    - ♦ Start Time will set the beginning of the time slot for this variable.
    - ♦ Stop Time will set the ending time for the time slot.
    - ♦ Same Day as Start is only used by daily variables and it means the stop time is on the same day as the start time.
    - ♦ Day After Start is also only used by daily variables and it means the stop time is a day after the start time.

**PLEASE NOTE: As of Version 1.0.6 the Hach WIMS Direct Server-Side Interface to Iconics TrendWorx Logger does not support Filter Data. **



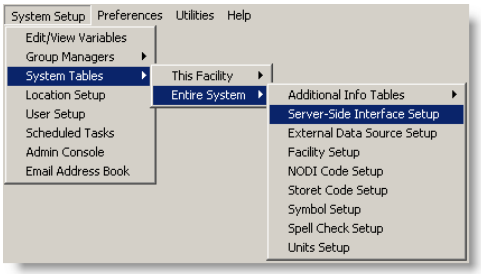
[Reference ID: 12596]

5.4 Using Inteface Browser Q12582

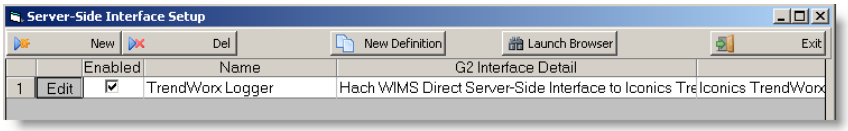
Using the interface browser for **Hach WIMS Direct Server-Side Interface to Iconics TrendWorx Logger.**

The browser connection must be properly configured in the Hach WIMS client:

- Select **System Tables -> Entire System -> Server-Side Interface Setup**.



- If you have not uploaded the definition file for this interface (need to do only once per version) click the **New Definition** button. Navigate to the **12580.g2_server_lu** file, it should be in the same location as where the interface was installed. Typically, the interface installs under the Hach WIMS folder, under the folder name **Q12580**.
- Next, is there an entry? You will have one entry per interface, so if you need three of these interfaces then you will have three entries in the table shown below. If you have an entry, click **Edit** button next to that entry and look at the **Browser** tab. There should be a connection string to the Iconics Logger database.

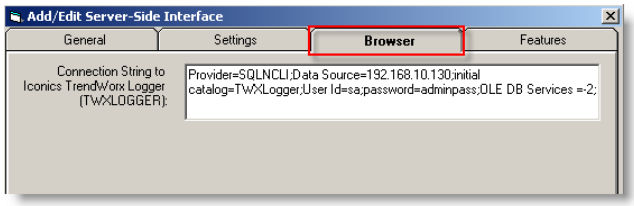


If you do not have an entry, create one:

1. Ensure the **Hach WIMS Direct Server-Side Interface to Iconics TrendWorx Logger** is installed.
2. Click on **New** to create a new instance of the interface. Fill in the General tab information.
3. Click on the **Browser** tab and enter the information necessary to connect to the **Iconics TrendWorx Logger**. Make sure **Browser Enabled** is checked and click **OK** button.

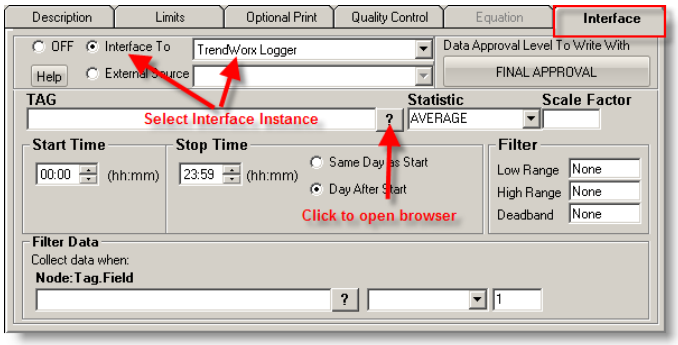
   An example of an MS SQL Server connection string:

   Provider=SQLNCLI;Data Source=MY_SERVER;initial catalog=TWXLogger;User Id=sa;password=password;OLE DB Services =-2;

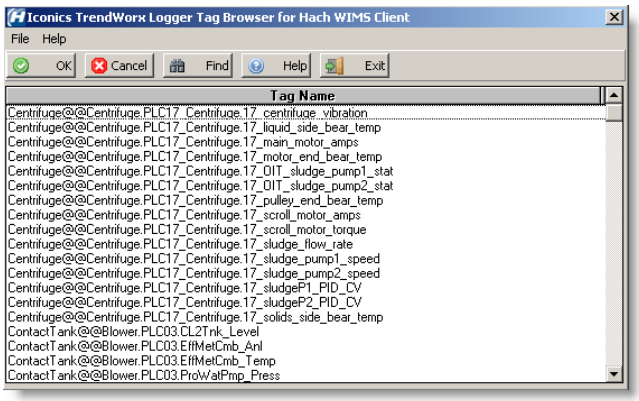


While in the Hach WIMS Client, click on **System Setup ->Edit/View Variables** and click the **Interface** tab.

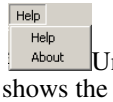
You are ready to view tags from the historian. Click the button with a **?** (question mark) on it as shown below:



The browser will load:



- **Interface** Menu
  -

Under **File** we have options: OK, Cancel, and Exit which work exactly the same as the shortcut buttons, explained next.
  - 

Under **Help** we have options: Help which displays the help for the interface, and About which shows the application information.
- Shortcut Buttons

- button will send the selected tag name back to the Hach WIMS client.
- button will cancel selecting a tag.
- button will allow user to find a specific tag or series of tags.
- button will bring up help information about the interface and specifically the browser.
- button will exit the browser without making a tag selection.

- Tag
  - This area will populate with tag names. To select a tag simply click on it and press OK button.

TECH NOTES:

The Browser run the following query to load the list of tags:

select table_name from twx_master_groups order by table_name

It will then run the following query for each table_name

select logging_name from ***tablename***_tags order by logging_name

where ***tablename*** is replaced by the table_name returned in the first query. For example, if the tablename is Headworks the query becomes:

select logging_name from Headworks_tags order by logging_name

NOTE: We have seen some databases with spaces in the Group Name. This may cause tags to not be listed for that group name as the table_name associated with that group name is not correct.

[Reference ID: 12595]