Hach WIMS Direct Server-Side Interface to GE Fanuc FIX HMI

Q12109 Documentation

Be Right™

Table of Contents

Table of Contents

1 - Documentation : Introduction

1.1 Interface Introduction

The **Hach WIMS Direct Server-Side Interface to GE Fanuc FIX / iFIX HMI** imports summarized values into Hach WIMS. The Hach **FIX2XML** (See Section 5.6) utility queries historical H files (.h04,.h08, or .h24 classic historian files) generated from FIX / FIX32 / iFIX (by Intellution / GE Fanuc) and generates XML files, then the interface summarizes this data and imports it into Hach WIMS.

Assumptions/Constraints:

The GE Fanuc FIX / iFIX HMI is case sensitive and so is the interface. When a variable is defined with a tag name, it must be in the same case as the source system. For example, in my iFix HMI I have a tag name IFIX1_H20_BW1_FIT0301. This happens to be on my node SCADA1. In Hach WIMS I need to have the tag name exactly as it is shown: **SCADA1:IFIX1_H20_BW1_FIT0301.F_CV** - all in upper case letters.
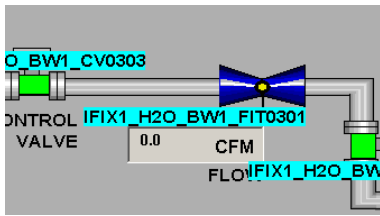
[Reference ID: 12135]

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]

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 3.12) 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.**
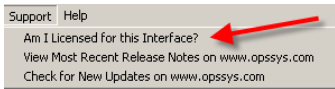
    If you pass this test, continue to step 6. If not, contact Hach Company Sales at 800-677-0067.
6. Upload interface definition file to Hach WIMS Server. **Use Utilities - Upload definition file to Hach WIMS**(See Section 3.19) to do this.
7. You will need to assign a collector record to your interface. 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 3.11) 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.**
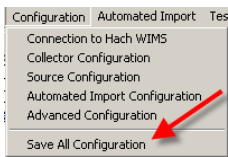
12. You are now ready to test the interface. Use **Test - Test Import All**(See Section 3.18) to do this

Furthermore, You may want to configure **Automated Import.** Use **Configuration - Automated Import Configuration**(See Section 3.10) 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.
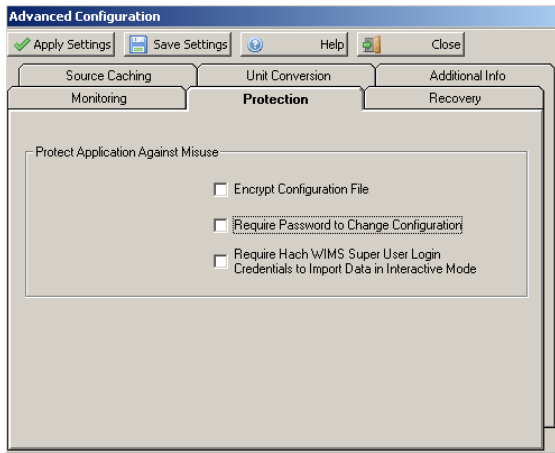
Click on the box next to **Require Password to Change Configuration** and **Save Settings** button.

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 3.5) 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:
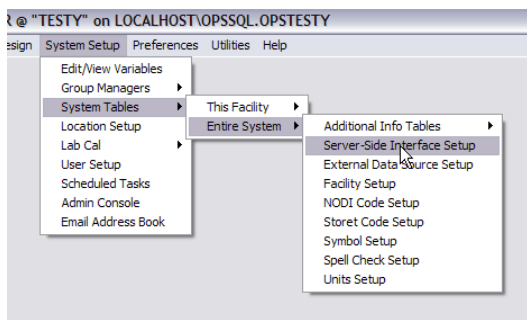
2. If the "Server-Side Interface Setup" screen shows no interfaces, or the one you want to configure is not shown, you have to:

   ♦ 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 3.19))

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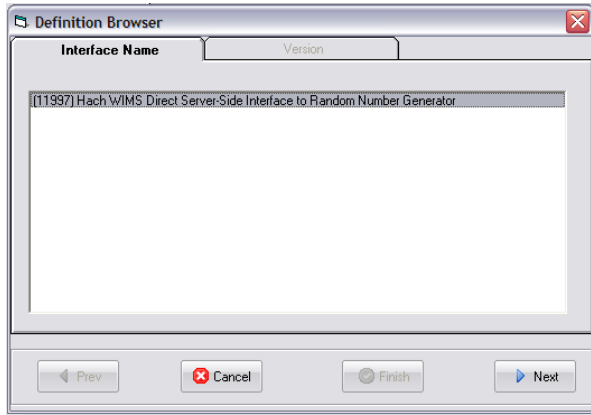
In this example, we are using the Random Number Generator interface. Select the name of your interface, click **Next**, and select the version.

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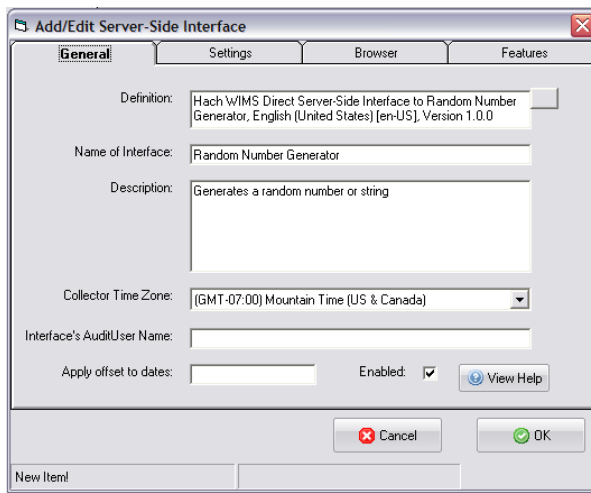
Make note of the "Name of Interface" field - this is how your interface will be identified. In this case - it is "Random Number Generator". Fill in a "Description" and select the "Collector Time Zone", in this case, it is set to Mountain Time (US & Canada). Click **OK** to create the interface record.

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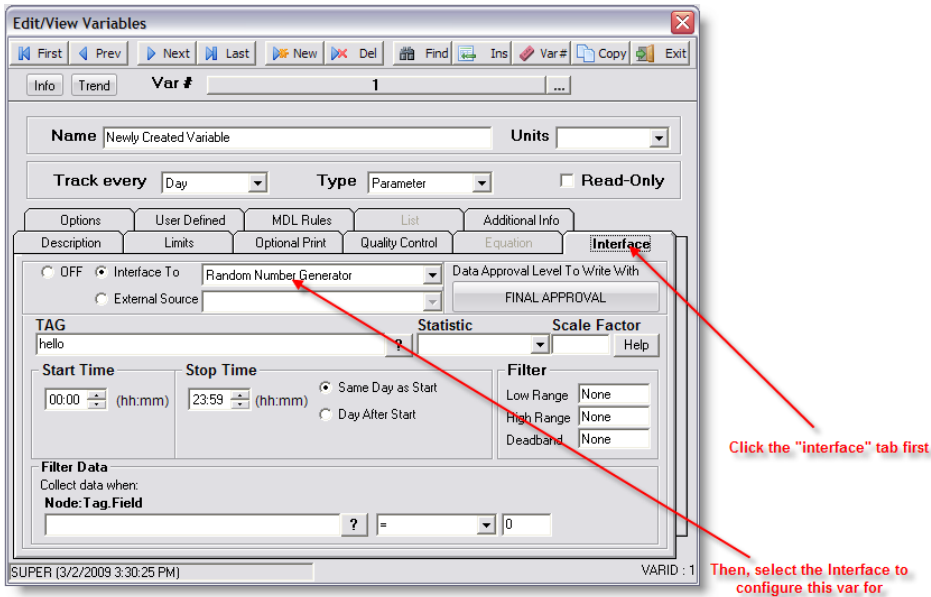
Click the **Interface** tab on the variable you are configuring, then click the **Interface To** radio button and select the interface needed for this variable. The area below will fill up with the settings needed to finish configuring this variable.

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 3.5)** . 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.
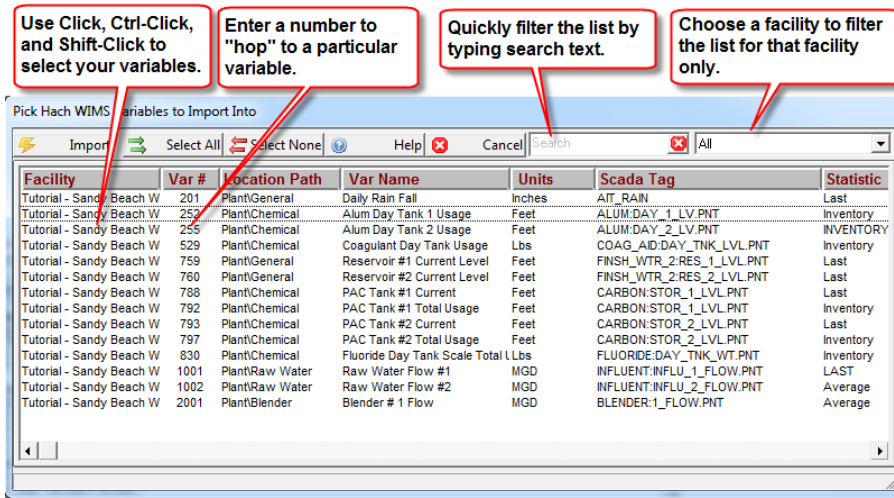
[Reference ID: 12057]

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.

Use Click, Ctrl-Click, and Shift-Click to select your variables.

Enter a number to "hop" to a particular variable.

Quickly filter the list by typing search text.

Choose a facility to filter the list for that facility only.

Pick Hach WIMS Variables to Import Into

Import   Select All   Select None   Help   Cancel   Search   All

Facility	Var #	Location Path	Var Name	Units	Scada Tag	Statistic
Tutorial - Sandy Beach W	201	Plant\General	Daily Rain Fall	Inches	AIT_RAIN	Last
Tutorial - Sandy Beach W	252	Plant\Chemical	Alum Day Tank 1 Usage	Feet	ALUM:DAY_1_LV.PNT	Inventory
Tutorial - Sandy Beach W	255	Plant\Chemical	Alum Day Tank 2 Usage	Feet	ALUM:DAY_2_LV.PNT	INVENTORY
Tutorial - Sandy Beach W	529	Plant\Chemical	Coagulant Day Tank Usage	Lbs	COAG_AID:DAY_TNK_LVL.PNT	Inventory
Tutorial - Sandy Beach W	759	Plant\General	Reservoir #1 Current Level	Feet	FINSH_WTR_2:RES_1_LVL.PNT	Last
Tutorial - Sandy Beach W	760	Plant\General	Reservoir #2 Current Level	Feet	FINSH_WTR_2:RES_2_LVL.PNT	Last
Tutorial - Sandy Beach W	788	Plant\Chemical	PAC Tank #1 Current	Feet	CARBON:STOR_1_LVL.PNT	Last
Tutorial - Sandy Beach W	792	Plant\Chemical	PAC Tank #1 Total Usage	Feet	CARBON:STOR_1_LVL.PNT	Inventory
Tutorial - Sandy Beach W	793	Plant\Chemical	PAC Tank #2 Current	Feet	CARBON:STOR_2_LVL.PNT	Last
Tutorial - Sandy Beach W	797	Plant\Chemical	PAC Tank #2 Total Usage	Feet	CARBON:STOR_2_LVL.PNT	Inventory
Tutorial - Sandy Beach W	830	Plant\Chemical	Fluoride Day Tank Scale Total L Lbs		FLUORIDE:DAY_TNK_WT.PNT	Inventory
Tutorial - Sandy Beach W	1001	Plant\Raw Water	Raw Water Flow #1	MGD	INFLUENT:INFLU_1_FLOW.PNT	LAST
Tutorial - Sandy Beach W	1002	Plant\Raw Water	Raw Water Flow #2	MGD	INFLUENT:INFLU_2_FLOW.PNT	Average
Tutorial - Sandy Beach W	2001	Plant\Blender	Blender # 1 Flow	MGD	BLENDER:1_FLOW.PNT	Average

HINT: You can hold the CTRL or CTRL/SHIFT buttons down when clicking in order to select multiple entries
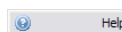
Buttons:
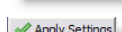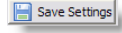
Import   Import data for the selected variables.

Select All   Select all variables in the list.

Select None   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:

Help   Displays help for the current interface screen.

Apply Settings   Applies the current settings.

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

Close   Closes the current window - no changes are saved.

Cancel   Cancel the current activity/operation.
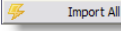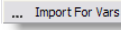
[Reference ID: 12039]
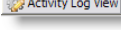
2.8 Using Main Interface Screen

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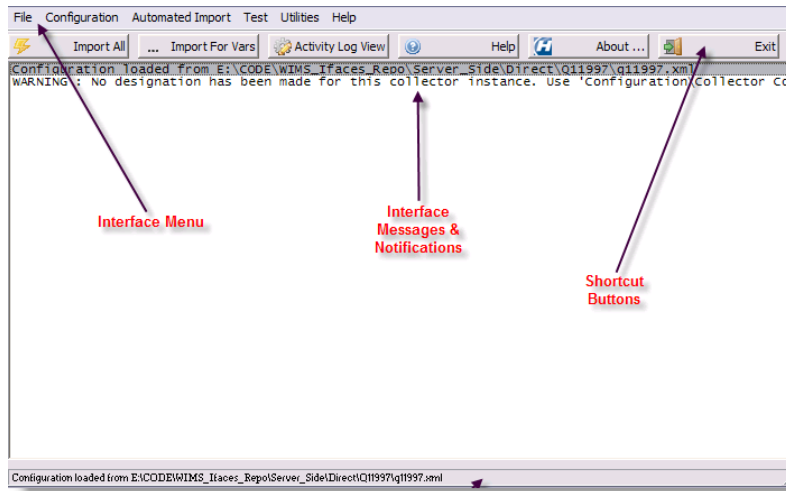
The main parts of the of the screen of interest are:

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

 Import all data(See Section 3.14) .

 Import data for selected variables(See Section 3.15) .

 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 3.5) 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]

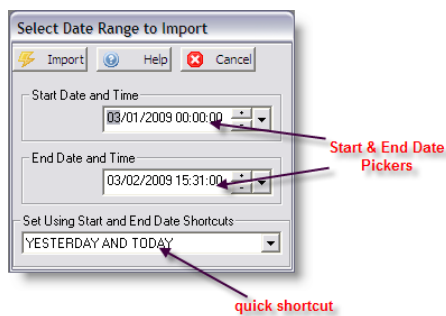# 2.9 Using Select Date Range to Import

When importing data for one or more specified variables, you have to specify the date range of the source data you want to get.
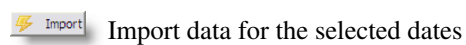
You can do this in 2 ways:

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.
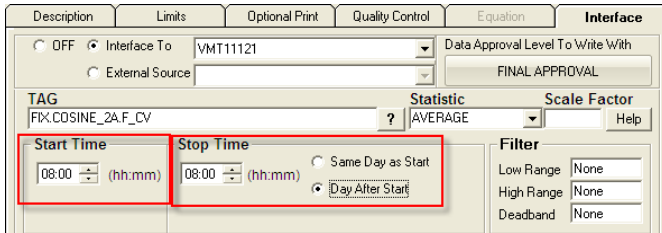
Then I run the interface to pull data for March 3, 2009 00:00:00 to March 4, 2009 08:01:00.
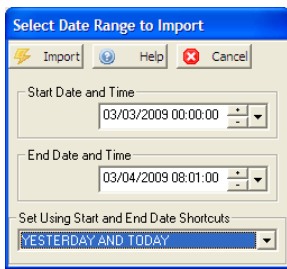
The interface will return a value for March 2 and March 3. Why? The stop time is our requested date range starting on March 3, 2009 with a stop time of 8 AM. The stop time is computed to March 3, 2009 08:00:00. Since we selected the stop as day after start, the start time is March 2, 2009 at 08:00:00. 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]

2.10 WARNING : Version Validation Failed

The version of the interface that you are using should match the version of the interface that the collector links to.
If they **do not match**, you will be presented with the following warning message:
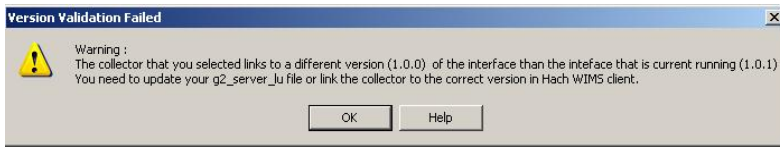
Click OK to continue.

To find out which version of the interface is running, click on the About box:

If you have already defined a Collector within Hach WIMS client that links to the appropriate version, you can select it from the Configuration / Collector Configuration screen:
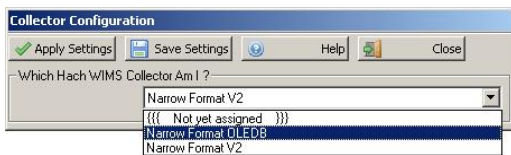
If there is not a collector in the list that links to the appropriate version, you will need to create a new collector or modify an existing one in Hach WIMS Client.

To modify an existing collector or add a new one, go to your Hach WIMS Client and click on System Setup / System Tables / Enter System / Server-Side Interface Setup from the main menu:
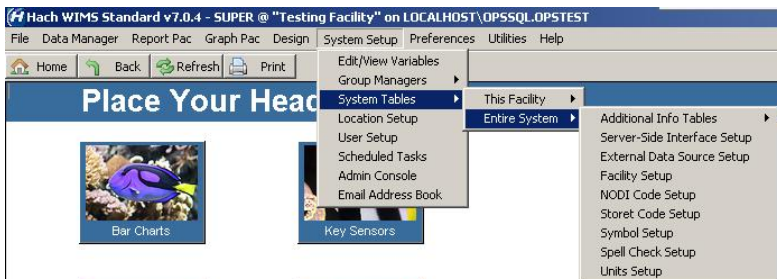
To add a new collector, click on New. To modify an existing one, click on Edit next to the appropriate collector:
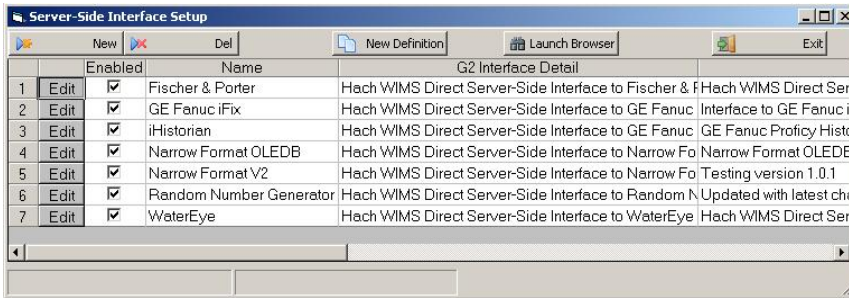
If you are editing an existing collector, click on the blank button near the top right hand corner to open up the Definition Browser Screen:
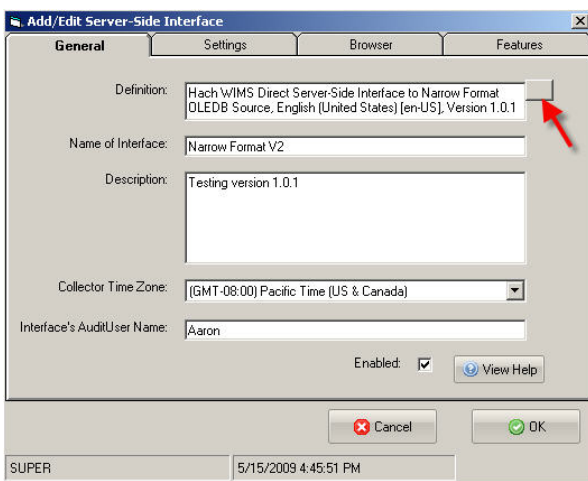
In the Definition Browser screen, click on the appropriate version and click 'Finish':
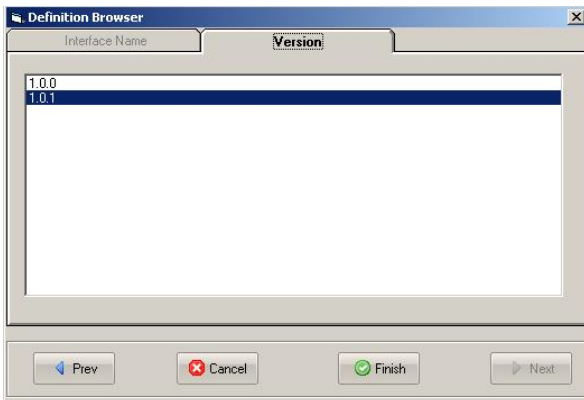
If you don't see the appropriate version listed, then you need to update your g2_server_lu file. You can do that within the interface by clicking Utilities / Upload definition file to Hach WIMS from the main menu:
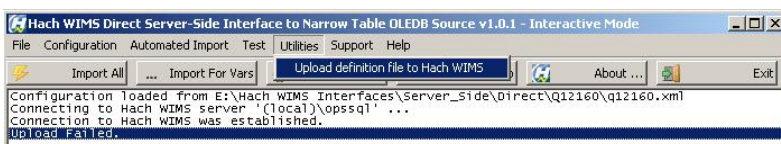
[Reference ID: 12230]

3 - Documentation : Main Menu

3.1 Automated Import - Activity Log View
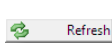
For Automated Import options, click the **Automated Import** button on the top menu bar of the interface.
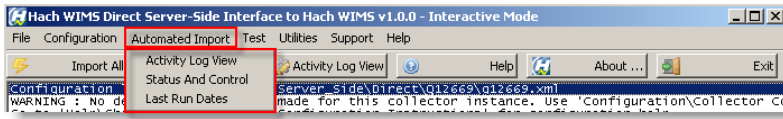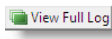
The **Activity Log View** lets you view the interface NT Service log.
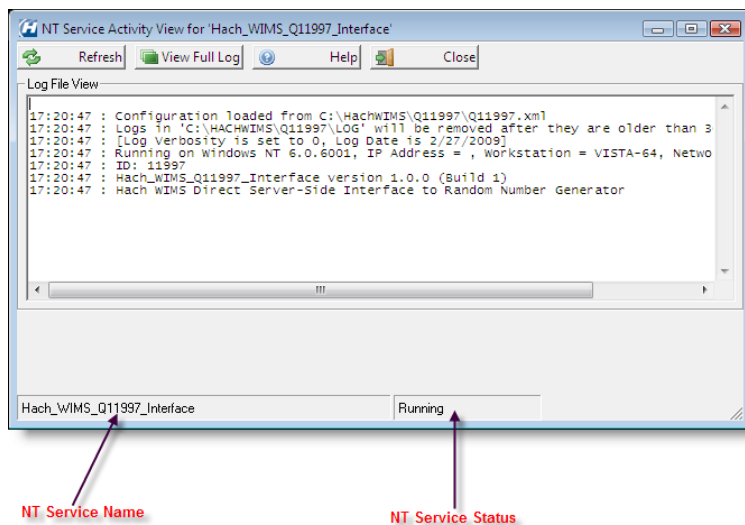
Buttons:

 Force refresh of the service log view. To shorten the refresh interval, see **Configuration - Advanced Configuration**(See Section 3.5) .

 View the full service log.

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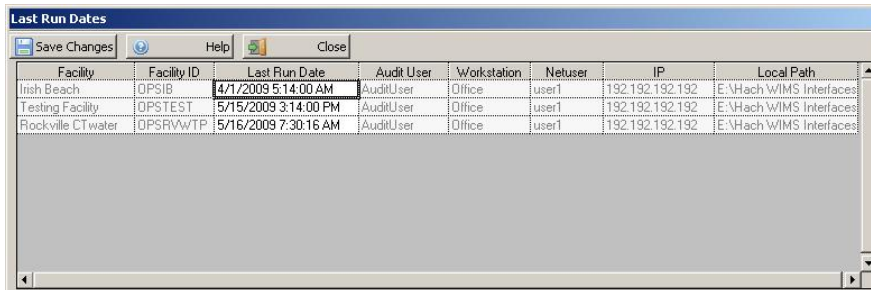
NOTE:

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 3.4) **on how to start the service if it's not running (assuming the service name is correct) and see Configuration - Advanced Configuration**(See Section 3.5) **on how to view/change the service name.**

[Reference ID: 12049]

3.2 Automated Import - Last Run Dates

The **Last Run Dates** screen lets you view the date and time when the interface successfully imported data for each facility that uses the interface. The screen also lets you change the last run date if need be. The only column that is editable is the Last Run Date. The other columns are there for informational purposes only.

[Reference ID: 12213]

3.3 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 3.10) **, which is the default Last-Ran Date for ALL facilities that have not had any data imported.**

[Reference ID: 12051]

3.4 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):
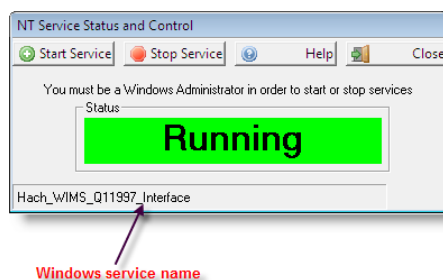
The name of the service is displayed in the bottom left (see screenshot) corner of the screen. This is the name of the service

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 3.5) screen.

Buttons:
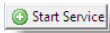
Start the service, if it is not running.
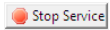
Stop the service, if it is running.

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

[Reference ID: 12047]

3.5 Configuration - Advanced Configuration

For Configuration options, click on the **Configuration** menu option at the top menu bar of the interface.
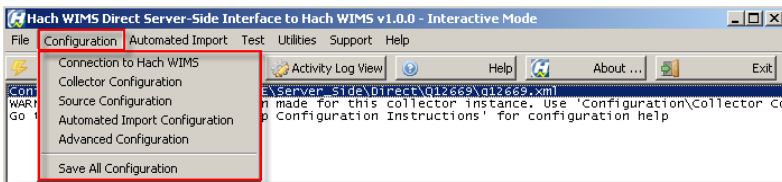
The **Advanced Configuration** screen can be used to configure various advanced interface settings:
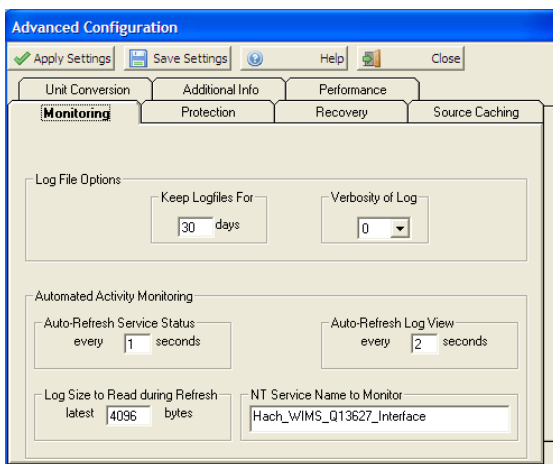
- **Log File Options**:
    - ♦ Keep Logfiles - the number of days to keep log files in the Log folder, delete log files older than the number of days specified.

♦ 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 3.4) 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.**
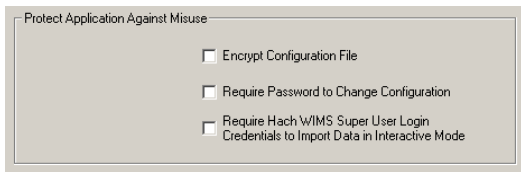
• **Protect Application Against Misuse** - On the **Protection** tab, if you want more security in your interface configuration, you can configure:

♦ 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.
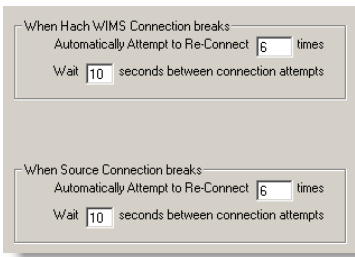
- **When Hach WIMS/Source Connection Break** - on the **Recovery** tab, establishes the number of times to attempt to restore the connection to Hach WIMS/Source and the amount of seconds to wait between attempts.
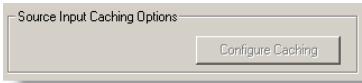
- **Source Input Caching -** button on the **Source Caching** tab, is enabled when interface supports source input caching. Lets one specify caching conditions. Go to Source Cache Input Configuration(See Section 3.6) for more information.
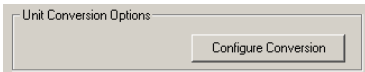
- **Unit Conversion Options** - On the **Unit Conversion** tab, is enabled when interface supports unit conversion. Lets one specify various units and conversion factor. Go to **Configuration - Advanced Configuration: Unit Conversion**(See Section 3.9) for more information.
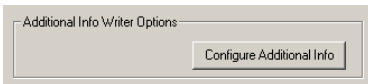
- **Additional Info Writer Options** - On the **Additional Info** tab, is enabled when interface supports additional info. The additional info fields must be created in Hach WIMS Client first, then the fields can be mapped by pressing the **Configure Additional Info** button. Go to **Configuration - Advanced Configuration: Additional Info**(See Section 3.7) for more information.
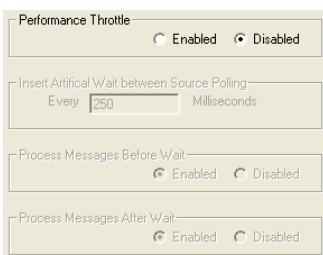
- **Performance Throttle** - on the **Performance** tab, there are several options related to throttling, or slowing down, the connection speed to the database. There are situations where an interface can run too many read/write operations

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]

3.6 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)
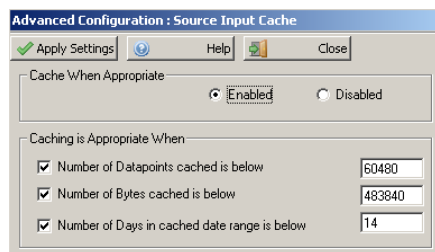
Click **Apply Settings** to apply changes and return to parent form. Click **Close** to return without applying changes.

[Reference ID: 12132]

3.7 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)
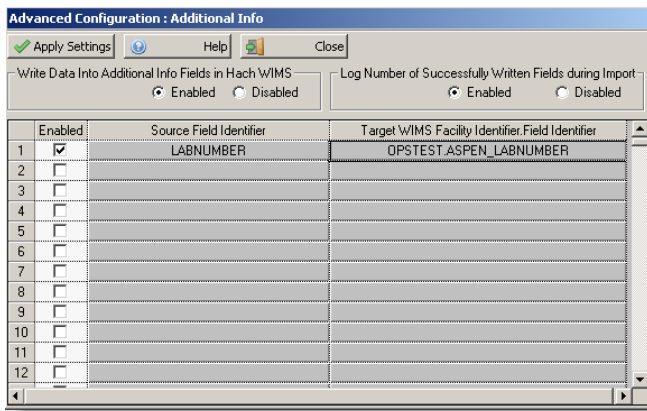
1. Click on any button in the **Source Field Identifier** column to pick a source field.
2. Click on any button in the **Target WIMS Facility Identifier.Field Identifier** column to pick a target field.
3. Right click on any button, and click on **Clear Cell** to erase contents of a cell.
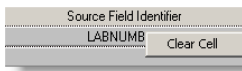
Notice the example output below from Hach WIMS Client > Spread Report Design, additional info is only imported when there is a valid result imported. Also notice how we have the field set up in Additional Info and how we recall the data in Spread Reports.
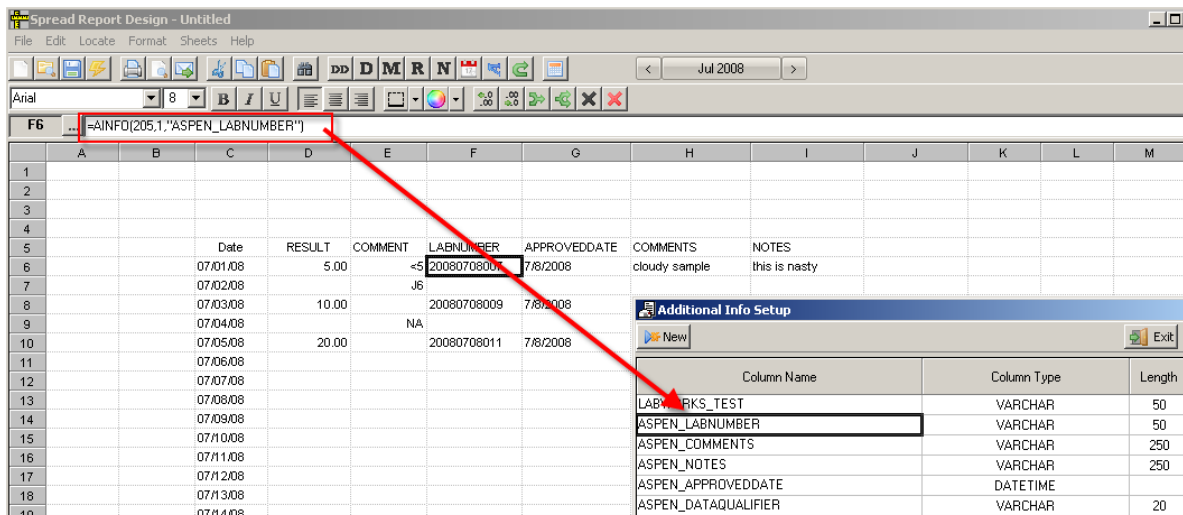
NOTE: When interfacing to two (2) or more facilities you MUST map each facility. For example, I am importing data into the OPSEID facility database and the OPSDEERCRK facility. I would map AI_COLUMN_1 thru AI_COLUMN_4 for each facilty:
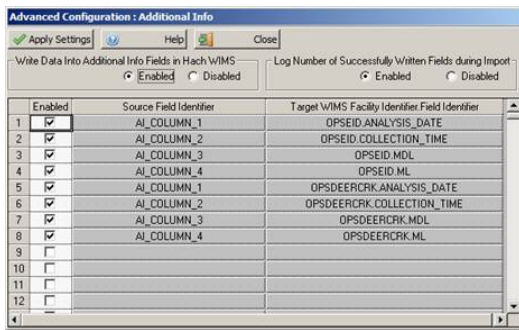
[Reference ID: 12598]

3.8 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.
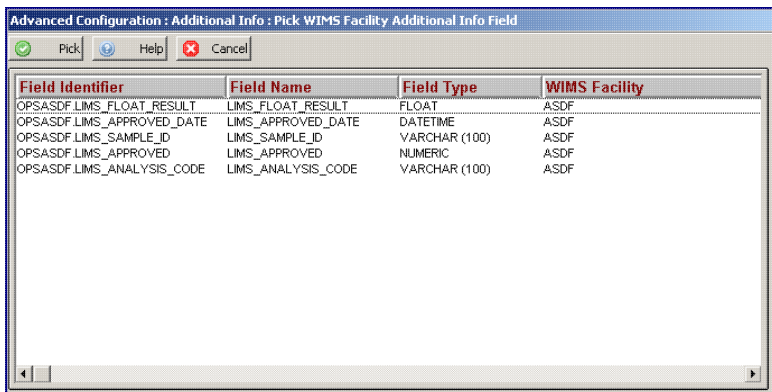
[Reference ID: 12599]

3.9 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)
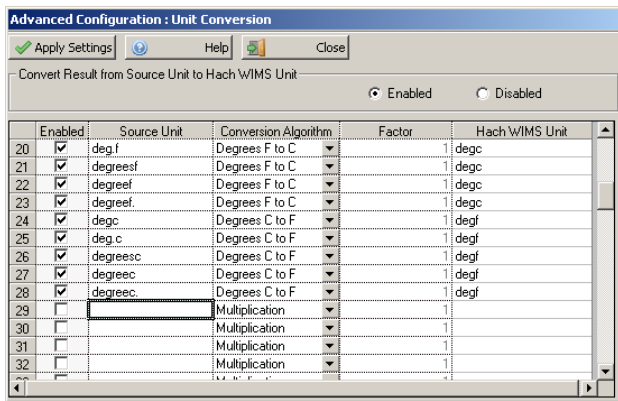
1. Under **Source Unit** enter the text value as it is in the source
2. Select the **Conversion Algorithm**
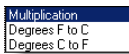
- ♦ **Multiplication** - Multiply the source result by the **Factor** before writing to Hach WIMS
- ♦ **Degrees F to C** - Convert degrees Fahrenheit to degrees Celsius
- ♦ **Degrees C to F** - Convert degrees Celsius to degrees Fahrenheit

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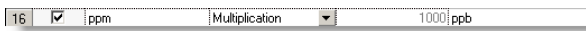
(Note: this is one of the default conversions included)

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

[Reference ID: 12328]

# 3.10 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:
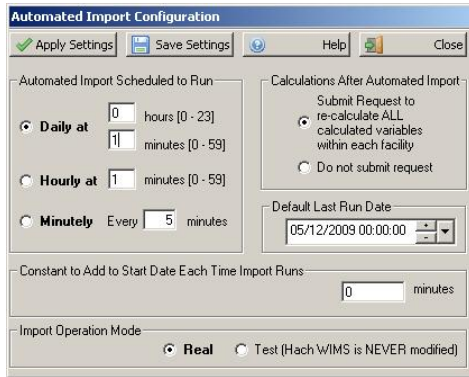
- **Automated Import Schedule** - configure when the interface service is scheduled to run:
  - ♦ **Daily** -the interface will run ONCE per day, at the specified schedule. E.g., to run it at 2:30 am, you would enter "2" into the hours box and "30" into the minutes box. Note that time is entered in "military" 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 3.2)   + *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 3.2) , 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]

3.11 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.
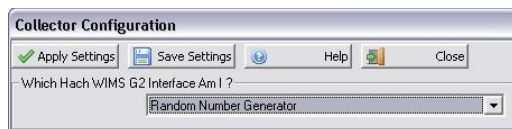
NOTE: Before you can configure the collector, you MUST configure the Connection to Hach WIMS(See Section 3.12) **and you must setup the Hach WIMS client(See Section 2.4) .**

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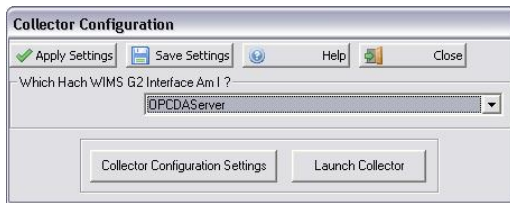
   Opens a screen that allows you to configure the Collector's settings

   Starts the Collector utility

[Reference ID: 12042]

3.12 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.
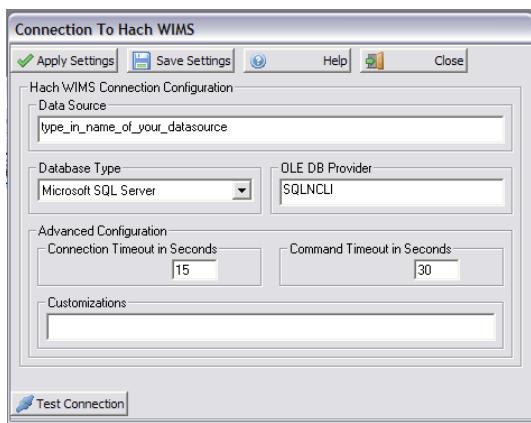
- **Data Source** - this field specifies, in loose terms, the "Database/Datasource server name" where your Hach WIMS system is configured to store data. "Database/Datasource server name" means different things depending on whether you are running against Oracle or MS SQL:
    - ♦ Oracle - you can type 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:
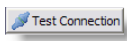
Test to see if the connection settings are valid and the interface is able to connect to Hach WIMS client. This will NOT **Apply** or **Save** the settings.

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

[Reference ID: 12037]

3.13 File - Exit
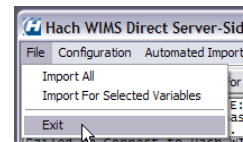
Terminates the interactive interface program.
NOTE:

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]

3.14 File - Import All
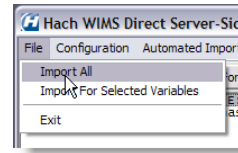
Imports all data for all variables.

[Reference ID: 12034]

3.15 File - Import For Selected Variables
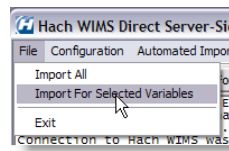
Imports data for the selected variables.

[Reference ID: 12038]

3.16 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.
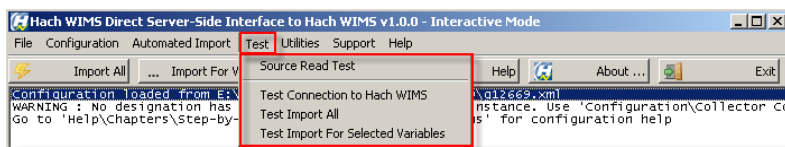
The **Source Read Test** functionality is useful for source testing purposes.

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.)
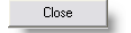
To do a test, you will need to specify a tag in the Source Tag field.

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]

3.17 Test - Test Connection to Hach WIMS

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

[Reference ID: 12052]

3.18 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]

3.19 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.
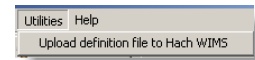
Once the definition file has been uploaded, proceed with creating a collector record in Hach WIMS Client.
The process to setup a collector record is outlined in How to configure the Hach WIMS Client for a server-side interface(See Section 2.4) .

[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 3.5) 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 Q12109

This is the source configuration screen for the Hach WIMS Direct Server-Side Interface to GE Fanuc FIX/iFIX HMI.

In order to configure source connection from the interface, click **Configuration** and select **Source Configuration**.
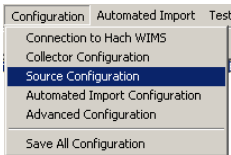
In order to collect data you must have installed the Hach iFix2XML utility to convert GE Fanuc FIX data files into OPSDATAXML files. The Source Configuration screen needs to know the folder where the OPSDATAXML files are being stored.

If the iFix2XML utility is installed on the same computer as the interface, you may start it by clicking on the 'Start iFix2XML' button. This will launch the utility and allow you to configure the location of the OPSDATAXML file folder. For documentation on using the iFix2XML utility refer to article Using the FIX2XML Utility - Q12141(See Section 5.6) .
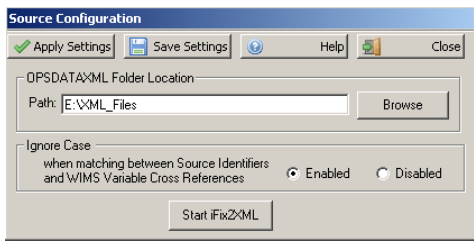
The Ignore Case option allows enabling and disabling case sensitivity. If **Enabled**, no matter what case is in Hach WIMS client, everything is upper cased. If **Disabled**, then matches are case-sensitive.

[Reference ID: 12139]

5.2 Release notes for interface Q12109

 Version 1.2.1 (**Released on 12/1/2015**)

- Fixed DIFF function (4623)

• Upgraded interface to Common Framework(See Section 4.1) Build 149

Version 1.2.0 (Build 195, Released on 1/23/2013)

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

Version 1.1.9 (Build 165, Released on 5/11/12)

• Added ability to collected minutely data once per hour

Version 1.1.8 (Build 164, Released on 9/2/10)

• 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 1.1.7 (Build 149, Released on 7/30/10)

• Upgraded interface to Common Framework Build 100

Version 1.1.6 (Build 135, Released on 2/8/10)

• Repackaging required to include distribution files

Version 1.1.5 (Build 134, Released on 2/8/10)

• Upgraded interface to SCADA2OPSSQL Framework Build 47

Version 1.1.4 (Build 127, Released on 12/18/09)

• Repackaged to ensure extra files are included

Version 1.1.3 (Build 126, Release on 12/11/09)

• Added feature to Source Configuration to allow enable and disable case sensitivity

Version 1.1.2 (Build 123, Release on 10/21/09)

• Upgraded interface to Common Framework Build 85

Version 1.1.1 (Build 86, Release on 8/13/09)

• Fixed problem with g2_server_lu file

Version 1.1.0 (Build 84, Release on 7/27/09)

- Interface converts tag names from Hach WIMS client to upper case
- Interface interprets : (colon) and . (dot) as delimiters in tag name, expects a dot between tag name and field name

Version 1.0.10 (Build 80, Release on 6/12/09)

- Updated framework because changes were needed in order to accomplish LIMS2OPSSQL common type (2693)

Version 1.0.9 (Build 74, Release on 6/2/09)

- Added search ability to the Source Tag Browser used by the Hach WIMS Client

Version 1.0.8 (Build 73, Release on 5/28/09)

- Updated fix2xml utility and documentation

Version 1.0.7 (Build 72, Release on 5/21/09)

- Fixed some crashes in the fix2xml utility and updated the documentation

Version 1.0.6 (Build 71, Release on 5/20/09)

- Updated fix2xml utility and documentation

Version 1.0.5 (Build 61, Release on 5/14/09)

- Added statistics INVENTORY, TIMEGT, TIMELT, TIMEEQ
- Added support for text parameter source tags with statistics FIRST, LAST, COUNT, MINTIME, and MAXTIME
- Added filtering by tag with the following operators: =, <, >, <=, >=, <>, anc CYCLESTO

Version 1.0.4 (Build 57, Release on 4/29/09)

- Updated the documentation for the fix2xml utility
- Fixed last ran date bug in the fix2xml utility when INI file didn't exist

Version 1.0.3 (Build 56, Release on 4/29/09)

- Implemented the HoldLastRunDate ability now supported by the framework
- Eased up a bit on the validation of the sourcetag to make sure it would work with CSQL2XML tags
- Now supports the ability to handle data that is collected more than once a minute
- Tested with OPSXMLDATA generated by utility CSQL2XML

Version 1.0.2 (Build 50, Release on 4/20/09)

- Fixed bug that didn't allow the same tag definition to exist in more than one FIX Server/Node (2524)
- Sped up the searching of the OPSDATAXML files (2526)

- UPDATEDE fix2xml to version 1.0.2

Version 1.0.0 (Build 40, Release on 4/14/09)

- Initial release

[Reference ID: 12136]

5.3 Release notes for utility Q12108

Hach WIMS FIX2XML Utility

Version 1.0.9 (Build 56, Release on 5/28/09)

- Fixed random program crashes that we were able to duplicate on an iFIX 2.5 test system (2634)
- Implemented new interface to FIXTOOLS.DLL based on HDR example in iFIX Toolkit 4.0
- Fixed crash that occurred (on some systems) when trying to obtain the IP address

Version 1.0.8 (Build 51, Release on 5/21/09)

- Modified the Manual Run form to make it more clear that you can enter a time as well as a date
- Modified the Manual Run form to prevent the user from attempting to process data files into the future
- Changed how we handle error conditions when trying to set the start date in FIXTOOLS DLL

Version 1.0.7 (Build 50, Release on 5/21/09)

- Applied the memory fixes that appeared to have worked for the processing of data files to the Settings dialog which was also experiencing random crashes when using Proficy iFIX 4.0.

Version 1.0.6 (Build 49, Relase on 5/20/09)

- Made some changes to the size of the memory buffer for strings passed to the FIXTOOLS.DLL. This cleared up many of the program crashes when using Proficy iFIX 4.0 (2634).

Version 1.0.5 (Build 47, Release on 5/20/09)

- Made some changes to how the program was using the FIXTOOLS.DLL (now creating a new group for each tag being processed) in an attempt to fix program crashes when using Proficy iFIX 4.0

Version 1.0.4 (Build 47, Release on 5/20/09)

- Fixed a memory leak related to the FIXTOOLS DLL (2634)
- Fixed a bug where one part of the program could have been using lower case tags while other parts were

using capitalized tags. This resulted in the interface not being able to import data in some cases.
- Added a search feature to the 'Select Tags to Collect Data For' screen

Version 1.0.3 (Build 46, Release on 4/29/09)

- Fixed bug that occurred in LastRanDate when INI File did not exist
- Updated the Help file to be more descriptive in places

Version 1.0.2 (Build 45, Release on 4/20/09)

- Fixed bug that was creating multiple <data> nodes for multiple FIX Servers/Nodes (2528)
- Added the ability to filter the tags collecting data (2529)
- Added the ability to generate an example OPSDATAXML file to be used by the Browser in the Hach WIMS Client (2530)

**Version 1.0.0 (Build 31, Release on 4/14/09)**

- Initial release

[Reference ID: 12157]

5.4 Supported variable configurations for interface Q12109

Supported variable configurations for the **Hach WIMS Direct Server-Side Interface to GE Fanuc FIX/iFIX HMI.**

To configure a variable to hold values from GE Fanuc FIX/iFIX HMI, select **Edit/View Variables** in the 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 GE Fanuc interface name (name given when configuring the interface).
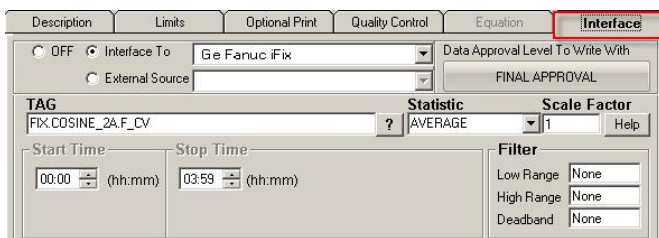
Now you are ready to configure a signal tag from the GE Fanuc FIX/iFIX HMI. The Tag name and a statistic are all that are mandatory.

- This is the tag name in the GE Fanuc FIX/iFIX HMI. The **?** symbol (question mark) will allow you to browse for tag names. An explanation of the browser can be found in Using Interface

Browser Q12131(See Section 5.5) .

NOTE: As of version 1.1.0 of the FIX/iFIX interface, you can use either a period '**.**' or a colon "**:**" between the "node" and the "tag". Also, the interface is no longer case sensitive. The entire tag field is converted to upper case to match the XML source data files.

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

|	
AVERAGE	Take the average of the data poins
TOTAL	Take the sum total of all values
MINIMUM	Get the minimum value
MINTIME	Get the date and time of the minimum value (text parameter only)
MAXIMUM	Get the maximum value
MAXTIME	Get the date and time of the maximum value (text parameter only)
FIRST	Get the first value (parameter or text parameter)
LAST	Get the last value (parameter or text parameter)
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: $(10 \wedge (Ceil(LOG(first\_value) / LOG(10)))) - first\_value + last\_value$ Ceil will cause the value to round up
RANGE	Calculate the absolute value of the difference between the minimum and maximum values
COUNT	Counts the number of data points
TIMEGT(x)	Counts the number of data points greater then 'x'.
TIMELT(x)	Counts the number of data points less than 'x'.
TIMEEQ(x)	Counts the number of data points equal to 'x'.
INVENTORY	Running total of used volume. Only decreases in value are counted. Use the DEADBAND option in Hach WIMS variable setup to eliminate erroneous readings due to noise or vibrations.

 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).
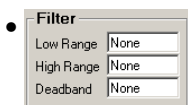
- All three fields must have numeric values or the word None (as shown). The Low Range and High Range will crop data from the source. For example to eliminate negative numbers from a particular tag, set the Low Range to 0 (zero) - this will get any values equal to or greater than 0 (zero). The Deadband 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.

-
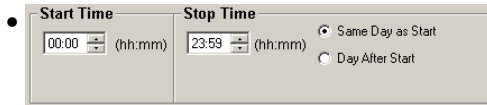
  ♦ Start Time will set the beginning of the time slot for this variable.

  ♦ 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.
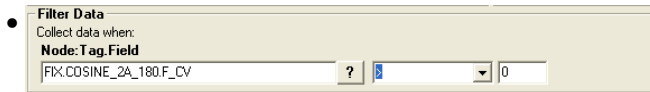
- Allows you to filter data based on another tag. For example, flow rate while not in backwash, but during backwash we don't want flow rates uploaded to Hach WIMS.

  ♦ Node:Tag.Field is the node, tag, and field associated with what you want to filter by, in our example it would be the backwash state.

  ♦ Middle field is the filter operator. This can be <, >, =, <=, >=, <>, or CYCLESTO.

  ♦ Last fiedl is the filter value. So when the 'backwash state' is greater than 0 (not backwashing) then our system will get values. When the value drops to zero or negative, do not get values.

[Reference ID: 12138]

5.5 Using Inteface Browser Q12131

Using the interface browser for **Hach WIMS Direct Server-Side Interface to GE Fanuc FIX/iFIX HMI.**

Step 1: It is important to note that in order for this browser to work, the utility iFix2XML must be installed on the same computer as the GE Fanuc FIX/iFIX HMI. See the article **Install GE Fanuc iFix2XML** for more details. While in the Hach WIMS client, select **Edit/View Variables** and click the **Interface** tab.

Step 2: The browser connection must be properly configured. In the Hach WIMS client:

- Select **System Tables -> Entire System -> Server-Side Interface Setup**.
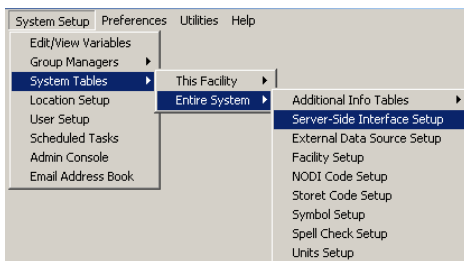
- Select the **Edit** button for the GE Fanuc FIX/iFIX HMI entry that you want to enable the browser for.
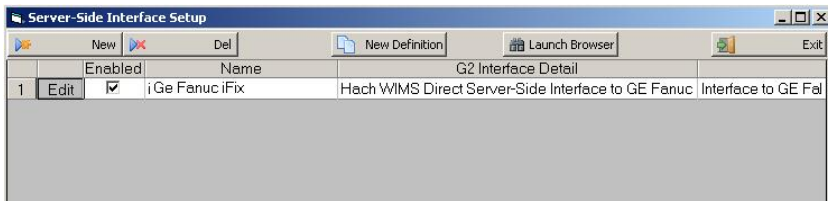
- • Click on the **Browser** tab and enter the location of an OPSDATAXML file generated by the iFix2XML utility. The browser will search this file for the available Tag Names. Make sure **Browser Enabled** is checked and click **OK** button.
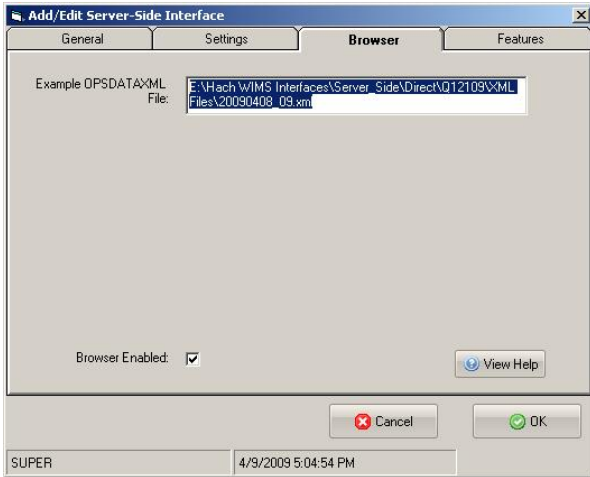
You are ready to view tags from the HMI. Click on **System Setup -> View/Edit Variables** and click on the **Interface** tab.

Click the button with a **?** (question mark) on it as shown below:
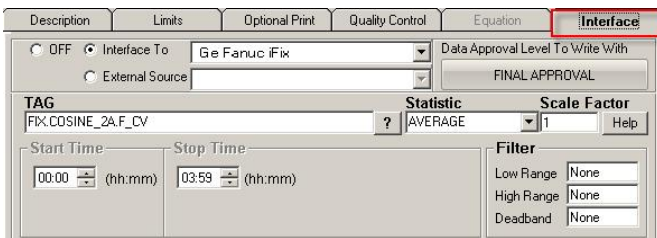
The browser will load:

Select the appropriate Source Tag and click OK.

[Reference ID: 12137]

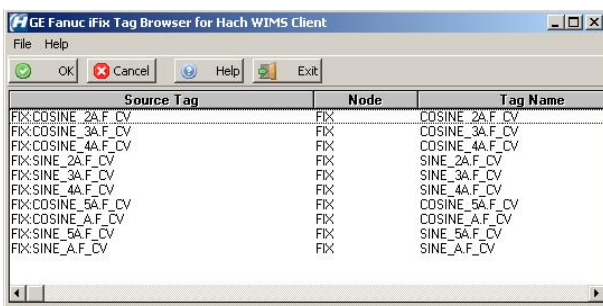# 5.6 Using the FIX2XML Utility

Using the **FIX2XML** utility to convert GE Fanuc FIX/iFIX HMI data files into OPSDATAXML files.

Tested with **Proficy iFIX 4.5**. The iFIX2XML utility may experience crashes and program instability with older versions of Proficy iFIX.

This program must be installed on a machine that has access to the GE Fanuc FIX/iFIX HMI data files. This utility will process the data files and convert them into a format (OPSDATAXML) that can be used by HACH WIMS. The Hach WIMS Direct Server-Side Interface to GE Fanuc FIX / iFIX HMI will then import data in these files into WIMS.
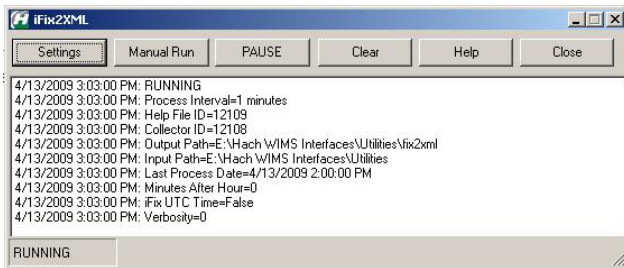
SETTINGS - Configure the utility settings
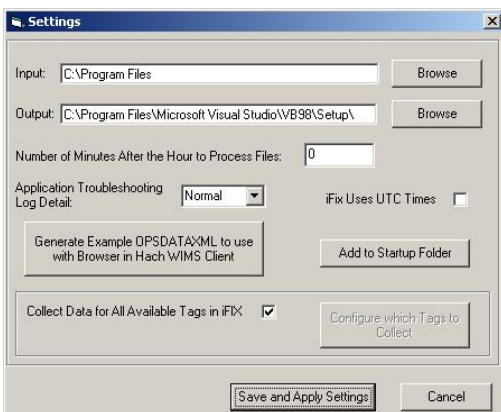
> **INPUT:** The location of the GE Fanuc FIX/iFIX HMI Classic Historian files. These will be files that end in the extension .h24, .h04, etc (i.e. 08050200.H24). These files are typically in your HTRDATA folder. If the data folder contains sub folders, you want to select the root folder that contains the data files (i.e. select C:\Program Files\GE Fanuc\HTRDATA and not C:\Program Files\GE Fanuc\HTRDATA\BRIDGE).

> **OUTUT:** The location where you want the converted OPSDATAXML files to be stored. These files will need to be saved to a folder that the Hach WIMS Direct Server-Side Interface to GE Fanuc FIX / iFIX HMI has access to.

Minutes After the Hour: The FIX2XML utility will process the FIX data files every hour. This field tells the program how many minutes after the hour to process the files.

Application Troubleshooting Log Detail: Used to specifiy how much aplication runtime information to log. The higher the log level the more detail that will be logged. This information will let you know how the program is performing and alert to issues that may need to be addressed.

iFix Uses UTC Times: The FIX2XML utility will convert the data to UTC Times unless the data already uses UTC Times. Only check this if you are sure that your GE Fanuc FIX Classic Historian is using UTC Times. UTC stands for Universal Time Coordinated. It is a coordinated time scale, maintained by the Bureau International des Poids et Mesures (BIPM). It is also known a "Z time" or "Zulu Time".

Generate Example OPSDATAXML to use with Browser in Hach WIMS Client: This button launches a form that lets you save an example OPSDATAXML file to be used by the Browser in the Hach WIMS Client. This file is needed so the browser knows what tags are available. If you are collecting data on all available tags then all tags will be saved to the file. If you are filtering the tags to collect data on, then only the filtered tags will be saved to the file. If changes were made to the list of tags to collect, those changes should be saved first before attempting to create this file.

Add to Startup Folder: Click this button to copy a shortcut to the Windows Startup folder so that the FIX2XML utility will automatically start when Windows starts.
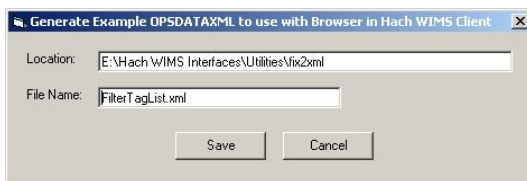
Collect Data for All Available Tags in iFIX: When this is checked, data for all available tags wil be collected. When it is unchecked, the **Configure which Tags to Collect** button will be enabled.

Configure which Tags to Collect: This button launches a form that allows you to pick and choose which tags you want to collect data for.

Save and Apply Settings: Saves and applies all the settings.

Cancel: No changes to the settings will be saved or applied.
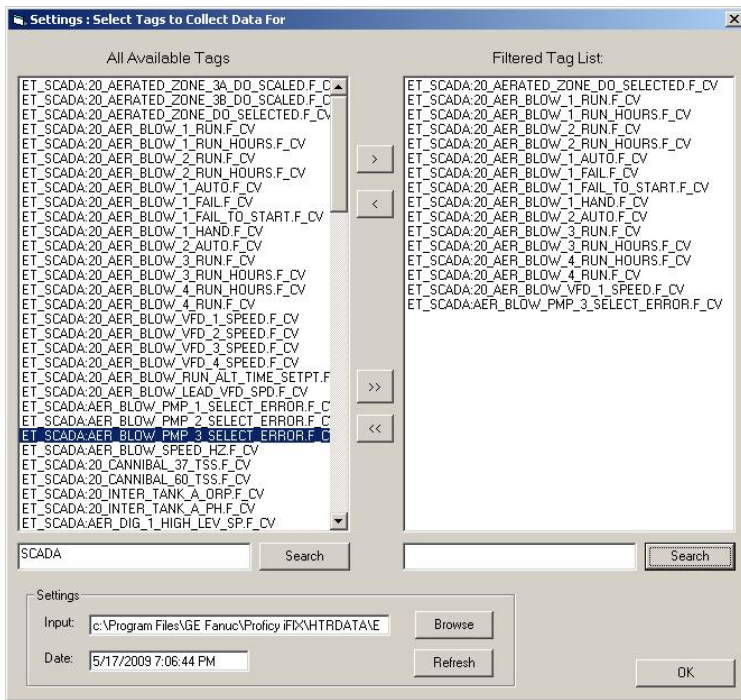
GENERATE EXAMPLE OPSDATAXML TO USE WTH BROWSER IN HACH WIMS CLIENT - Use this form to save an example OPSDATAXML file to be used by the Browser in Hach WIMS Client.

Location: The folder path to save the file to.

File Name: The name you want to give the file.

SELECT TAGS TO COLLECT DATA FOR: - Use this form to select the tags that you want to collect data for.

> **All Available Tags**: This is a list of all the tags that are available in the system that we can collect data for.

> **Filtered Tag List**: This is the list of tags that we will collect data for.

> **Search Boxes:** The search boxes allow you to search the list of tags for a particular string. The search will start from the currently selected tag (or the top if nothing is selected) so you can continue to press the search button to find the next match.

> **Input:** This is the folder location of the GE Fanuc FIX data files. This is usually the GE Fanuc\Proficy iFIX\HTRDATA folder.

> **Date**: To access the GE Fanuc FIX tags the program needs to know a date when data exists in the GE Fanuc FIX data files.

> **OK**: Closes the Window. Changes will not be saved or applied until the **Save and Apply Settings** button is clicked on in the **Settings** form.

MANUAL RUN - Use this form to process data between the date/time range specified.

> **Start Date:** The date and time you want to start processing data for. If no time is entered the program will process data starting at midnight.

End Date: The date and time you want to stop processing data for. If no time is entered the program will process data up to the date. For example if, the end date is 4/13/2009 the last data process will be 4/12/2009 11:59:59 PM. The end date can not come before the start date. The end date can not go beyond the current date and time. Valid entries include: 4/12/2009, 4/12/2009 3:15:02 PM, 4/12/2009 15:24. It should be noted that the last hour processed will be the last complete hour. For example, if you set the end time to 3:15 PM the last hour processed will be the 2:00 hour because the program only process whole hours.

RUN MODE - The utility can be in 1 of 3 states.

1) Running - This is the default state and indicates that the utility is running and will process files

2) Manual Mode - This is the state of the utility if you specified the dates to process data

3) Paused Mode - This state indicates that the utility is paused and will not process files

CLEAR - Clears the log screen

CLOSE - Sends the program to the task tray. The program will remain running. To exit out of the program completely you will have to right click the icon in the task tray and choose exit.

[Reference ID: 12141]