

Hach WIMS Direct Server-Side Interface to Excel Data Forms

Q14216 Documentation



Be Right™

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1 - Documentation : Introduction

1.1 Interface Introduction

The **Hach WIMS Direct Server-Side Interface to Excel Data Forms** reads results from Excel (.XLS) files and imports the values into Hach WIMS variables. The files must be .xls (Microsoft Excel 97-2003 Worksheet file) files. The cell comment in Excel is used to link the cell to a variable in WIMS and specifies the associated date cell. This interface will attempt to process all files in the folder specified in the configuration. The input file is copied to a local 'cache' folder and processed. Once finished it moves the file to an 'archive' folder with a date and time stamp added to the file name.

Record of Chemical Feed 3 Big Creek Filtration Plant									
1st Shift (8AM - 4 PM) 288070									
2nd Shift (4PM - 12M) 288072									
3rd Shift (12M - 8AM) 288074									
Date 05/05/14									
Time	Liquid Alum Feed	Day Tank	Total Gal Used	Pre-Lime	Post-Lime				
% Speed	MG/L	% Speed	MG/L	% Speed	MG/L	% Speed	MG/L		
12 M	50	49	4	50.0	4.20	42.0	8.7	05/05/14	
2 AM	49	49	4	49.0	4.30	41.0	8.7	5/5/2014 12:00 AM	
4	49	49	20	49	4.7	44.4	8.8	5/5/2014 02:00 AM	
6	49	8.7	268053	27	49.0	5.20	49.0	5/5/2014 04:00 AM	
8	49	8.7	288022	11	49.0	3.30	49.0	5/5/2014 06:00 AM	
10	49	8.9	288000	22	49.0	5.50	49.0	5/5/2014 08:00 AM	
12 N	49	8.7	287980	20	49.0	6.20	49.0	5/5/2014 10:00 AM	
2 PM	49	8.7	287980	0	49.0	7.80	47.0	5/5/2014 12:00 PM	
4	49	8.7	287932	48	49.0	6.90	0.0	5/5/2014 02:00 PM	
6	49	8.7	287905	27	49.0	5.40	2.0	5/5/2014 04:00 PM	
8	49	8.7	287880	25	49.0	5.30	49.0	5/5/2014 06:00 PM	
10	49	9.1	287844	36	49.0	5.20	49.0	5/5/2014 08:00 PM	
Total									
Remarks Recvd Lime Truck today									

[Reference ID: 14212]

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

6/13/2014 - Tested with Microsoft Excel 97-2003 Worksheet files (.xls). **NOTE: .xlsx files are NOT supported.**

- Imported Daily Data
- Imported Hourly Data
- Imported result comment from invalid entry to Hourly Parameter
- Imported String to Daily Text Parameter
- Imported %Cell data correctly - i.e. 50% in Excel is imported as 50 to WIMS
- Imported a 2 sheet file

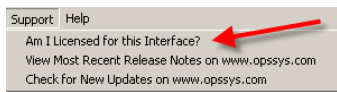
[Reference ID: 14213]

2 - Documentation : How To

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

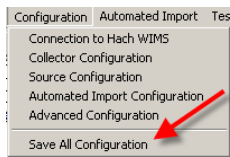
You will need to follow these steps in order to configure your interface :

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 3.9) 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 3.16) 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) .
8. Now you are ready to assign the collector record created in *the previous step* to your interface. Use **Configuration - Collector Configuration**(See Section 3.8) 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**.



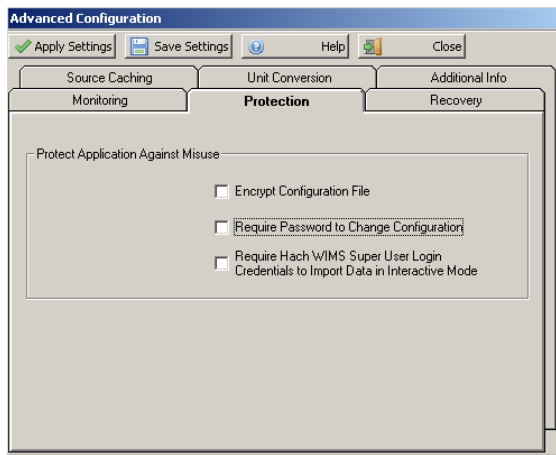
12. You are now ready to test the interface. Use **Test - Test Import All**(See Section 3.15) to do this

Furthermore, You may want to configure **Automated Import**. Use **Configuration - Automated Import Configuration**(See Section 3.7) to do this.

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.

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:

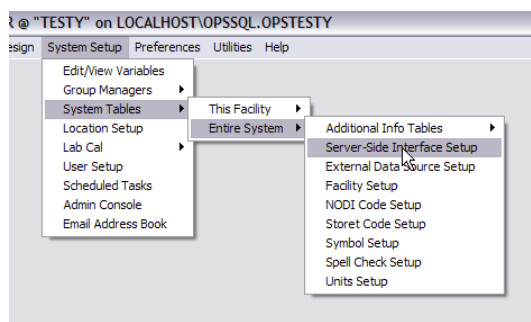
If your configuration is protected with a password, you must know the password before you can disable the password check.

[Reference ID: 12056]

2.4 Configure the Hach WIMS Client for a Server-Side Interface (LIMS2OPSSQL)

In order to use a direct server-side interface, you must do the following:

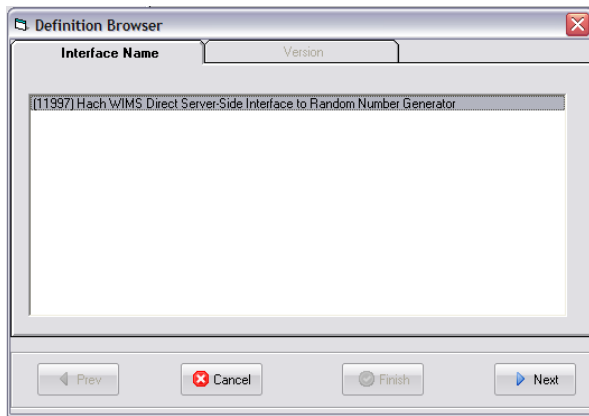
1. Start your Hach WIMS Client and navigate to the **System Setup -> System Tables -> Entire System -> Server-Side Interface Setup** menu selection:



2. If the "Server-Side Interface Setup" screen shows no interfaces, or the one you want to configure is not shown, you have to:
 1. If you have the G2 definition uploaded, click the **New** button. To determine if you have the definition uploaded, click **New** and see if it appears in the list of interfaces.
 2. If you do not have the definition uploaded, uploaded the definition first. Click the **New Definition** button and navigate to the g2_server_lu file. (Alternatively, you can select **Utilities - Upload Definition File to**

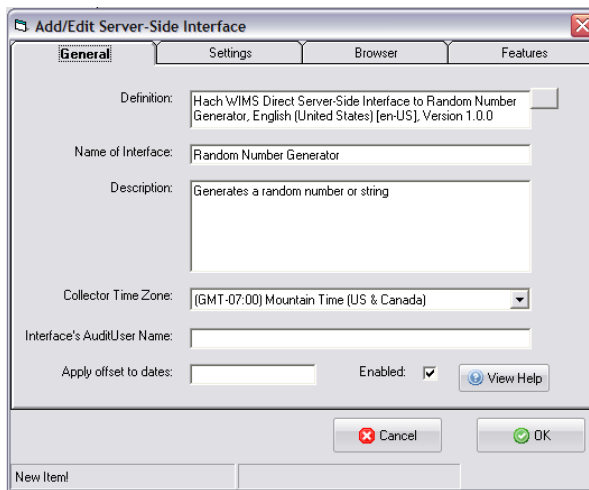
Hach WIMS(See Section 3.16))

- 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.



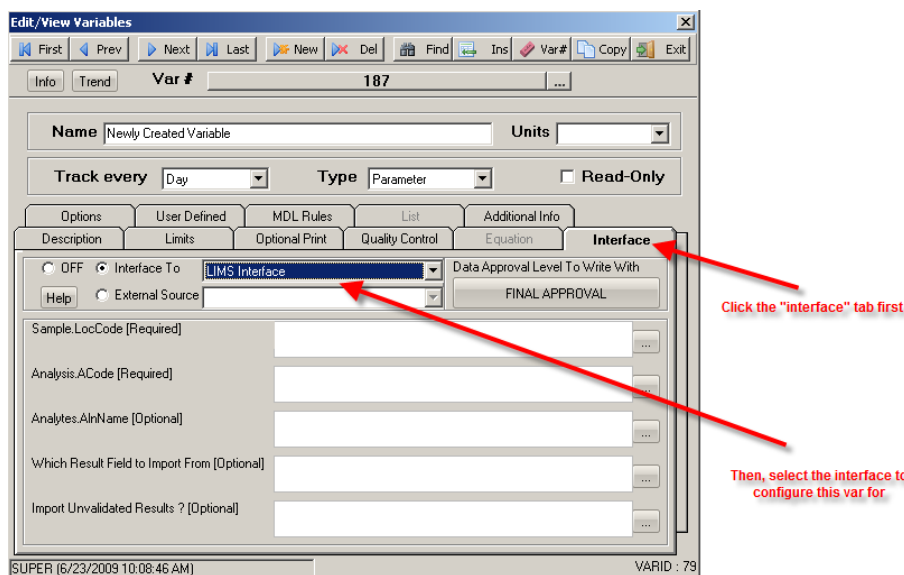
In this example, we want a new instance of the Random Number Generator interface. Select the name, click **Next**, and select the version.

- 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.

- 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, simply uncheck the Enable button on the **Browser** tab.
- Go to **System Setup -> Edit/View Variables**.
- Go to the variable you wish to configure for storing interface data:



(Note: The number of fields and their nomenclature are dependent on the specific interface)

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.

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

[Reference ID: 12323]

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.

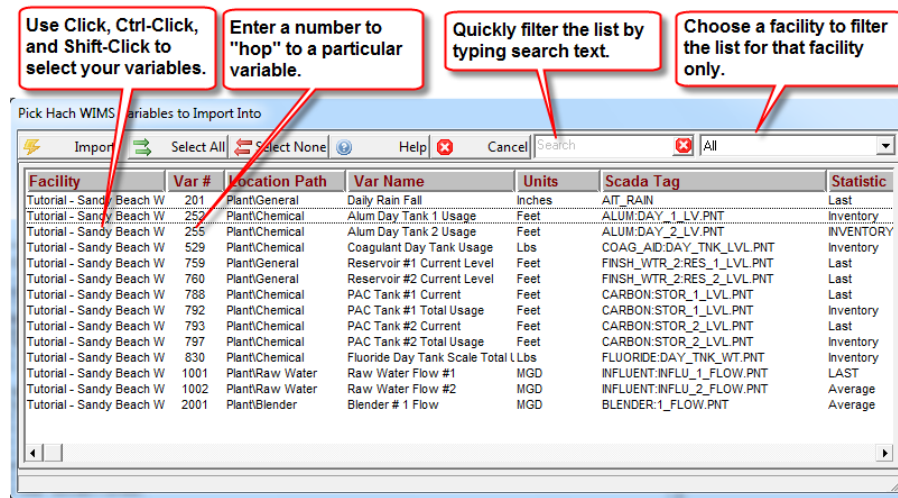
You must provide the correct user name and password in order to import data in interactive mode.

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

[Reference ID: 12057]

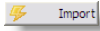
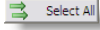
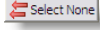
2.6 Pick Hach WIMS Variables to Import Into

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:


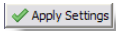
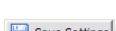


-  **Import** Import data for the selected variables.
-  **Select All** Select all variables in the list.
-  **Select None** Select no variables - deselects all variables from the list.

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:

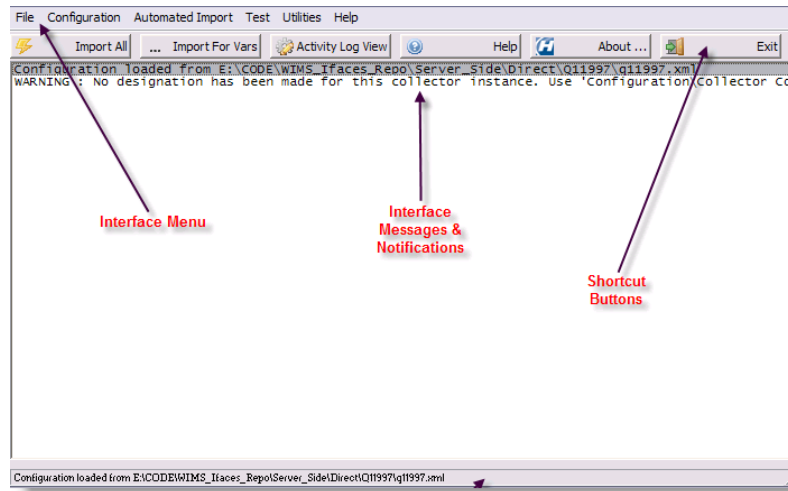
-  **Help** Displays help for the current interface screen.
-  **Apply Settings** Applies the current settings.
-  **Save Settings** Attempts to apply the current changes and save them permanently. The save will fail if the settings cannot be applied first.
-  **Close** Closes the current window - no changes are saved.
-  **Cancel** Cancel the current activity/operation.

[Reference ID: 12039]

2.8 Using Main Interface Screen

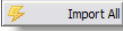
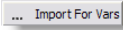
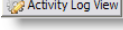

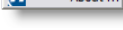

This is the main interface interactive screen.

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 3.11) .
	Import data for selected variables(See Section 3.12) .
	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

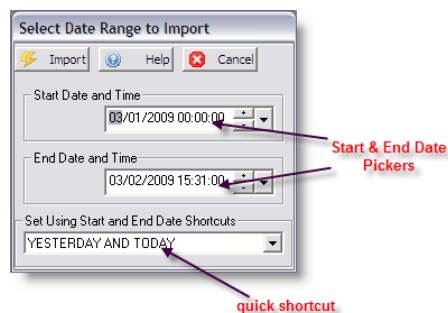
When importing data for one or more specified variables, you have to specify the date range of the source data you want to get.

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.

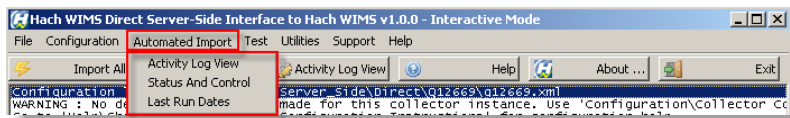
If we had set our date range from March 3, 2009 08:01:00 to March 4, 2009 08:01:00, then the interface would return only the second record, because the Stop Date and Time of the first record (March 3, 2009 08:00:00) does not fall within our start and end date range.

[Reference ID: 12058]

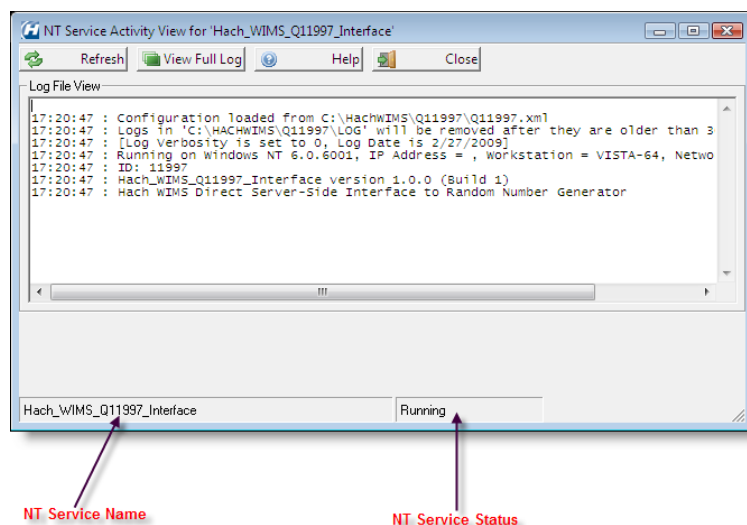
3 - Documentation : Main Menu

3.1 Automated Import - Activity Log View

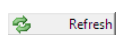
For Automated Import options, click the **Automated Import** button on the top menu bar of the interface.



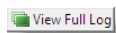
The **Activity Log View** lets you view the interface NT Service log.



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.

3.2 Automated Import - Modify Last Ran Dates

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

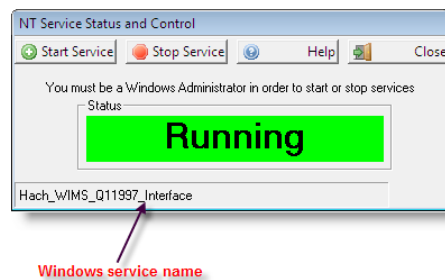
NOTE:

This is different than the default Last-Ran Date described in Configuration - Automated Import Configuration(See Section 3.7) , 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

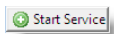
The **NT Service Status and Control** screen lets you monitor the state of interface service, and start or stop the service (Note: you must be logged in as a Windows Administrator):



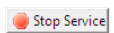
The name of the service is displayed in the bottom left (see screenshot) corner of the screen. This is the name of the service that the interactive program is configured to monitor.

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.



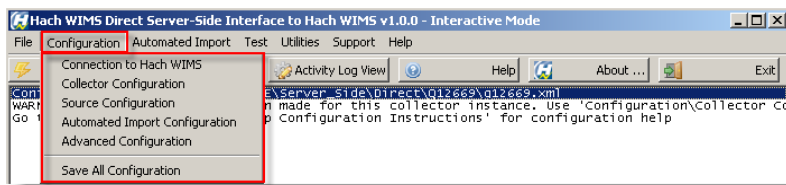
Stop the service, if it is running.

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

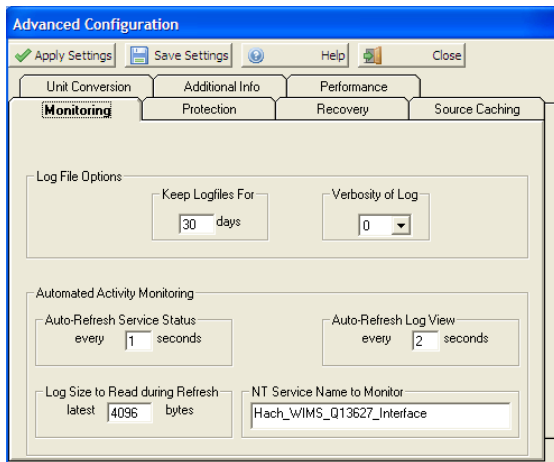
[Reference ID: 12047]

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:

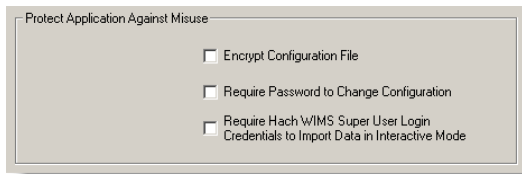


- **Log File Options:**

- ◆ 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.**

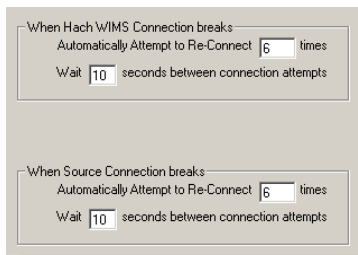


- **Protect Application Against Misuse** - On the **Protection** tab, if you want more security in your interface configuration, you can configure:

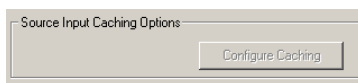
- ◆ **Encrypt Configuration File** - encrypt the contents of the interface configuration file to prevent unauthorized tampering.
- ◆ **Required Password to Change Configuration** - require a password every time the user requests a configuration change. If no password is yet set, you are prompted to supply one.



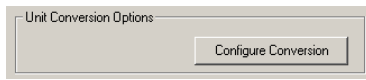
- ◆ **Require Hach Wims Super User Login ...** - to prevent someone from accidentally overwriting data when running in interactive mode, you can set this option to require people to enter in a super-user ID and password before importing.



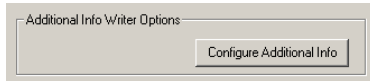
- **When Hach WIMS/Source Connection Break** - on the **Recovery** tab, establishes the number of times to attempt to restore the connection to Hach WIMS/Source and the amount of seconds to wait between attempts.



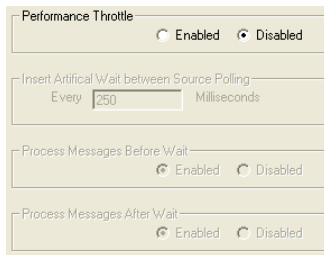
- **Source Input Caching** - button on the **Source Caching** tab, is enabled when interface supports source input caching. Lets one specify caching conditions. Go to Source Cache Input Configuration(See Section 3.5) for more information.



- **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 3.6) 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) for more information.

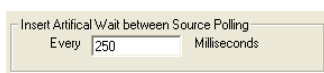


- **Performance Throttle** - on the **Performance** tab, there are several options related to throttling, or slowing down, the connection speed to the database. There are situations where an interface can run too many read/write operations against a database which causes the database to become overwhelmed 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.

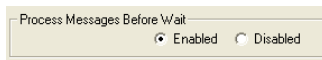
WARNING! Using the Throttle will slow down interface performance significantly. Only use this option if you are running against database performance issues due to too many read/write operations from the WIMS interface.

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 explicitly 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.



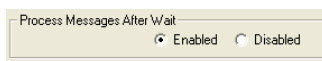
- **Insert Artificial Wait between Source Polling** - Allows the user to specify the pause time between queries. This field only accepts whole numbers (no decimals) from 1 to 9999 and is measured in milliseconds. Example 250 milliseconds = 0.25 seconds. Use as little a pause as possible to achieve desired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

Advanced Configuration : Source Input Cache

Apply Settings Help Close

Cache When Appropriate ☒ Enabled ☐ Disabled

Caching is Appropriate When

☒ Number of Datapoints cached is below 60480

☒ Number of Bytes cached is below 483840

☒ Number of Days in cached date range is below 14

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: 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)

Advanced Configuration : Unit Conversion

Apply Settings Help Close

Convert Result from Source Unit to Hach WIMS Unit ☒ Enabled ☐ Disabled

	Enabled	Source Unit	Conversion Algorithm	Factor	Hach WIMS Unit
20	<input checked="" type="checkbox"/>	deg.f	Degrees F to C	1	degc
21	<input checked="" type="checkbox"/>	degreesf	Degrees F to C	1	degc
22	<input checked="" type="checkbox"/>	degreef	Degrees F to C	1	degc
23	<input checked="" type="checkbox"/>	degreef	Degrees F to C	1	degc
24	<input checked="" type="checkbox"/>	degc	Degrees C to F	1	degf
25	<input checked="" type="checkbox"/>	deg.c	Degrees C to F	1	degf
26	<input checked="" type="checkbox"/>	degreesc	Degrees C to F	1	degf
27	<input checked="" type="checkbox"/>	degreec	Degrees C to F	1	degf
28	<input checked="" type="checkbox"/>	degreec	Degrees C to F	1	degf
29	<input type="checkbox"/>		Multiplication	1	
30	<input type="checkbox"/>		Multiplication	1	
31	<input type="checkbox"/>		Multiplication	1	
32	<input type="checkbox"/>		Multiplication	1	

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

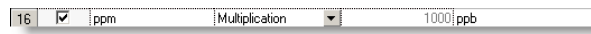
Multiplication
Degrees F to C
Degrees C to F

- ◆ **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)

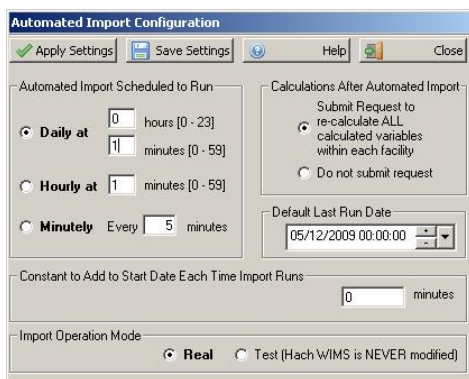
Click **Apply Settings** to apply changes and return to parent form. Click **Close** to return without applying changes.

[Reference ID: 12328]

3.7 Configuration - Automated Import Configuration

Each interface can be configured to run as a service. This is when you want to schedule an automatic retrieval 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]

3.8 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.



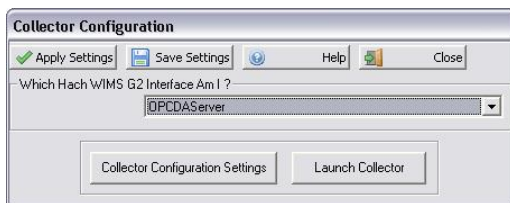
NOTE: Before you can configure the collector, you **MUST** configure the **Connection to Hach WIMS**(See Section 3.9) and you must setup the **Hach WIMS client**(See Section).

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.



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

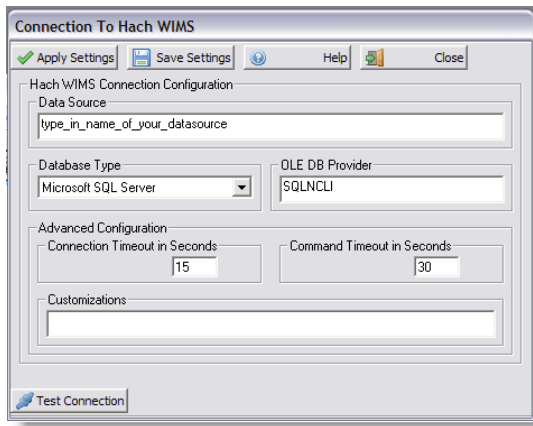
Launch Collector Starts the Collector utility

[Reference ID: 12042]

3.9 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.

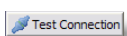


- **Data Source** - this field specifies, in loose terms, the "Database/Datasource server name" where your Hach WIMS system is configured to store data. "Database/Datasource server name" means different things depending on whether you are running against Oracle or MS SQL:
 - ◆ Oracle - you can type in 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:

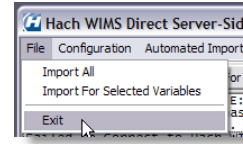


Test to see if the connection settings are valid and the interface is able to connect to Hach WIMS client. This will NOT **Apply** or **Save** the settings.

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

[Reference ID: 12037]

3.10 File - Exit



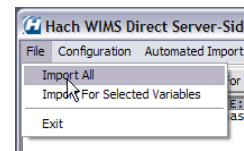
Terminates the interactive interface program.

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]

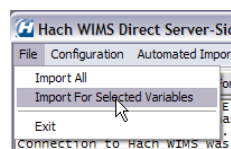
3.11 File - Import All



Imports all data for all variables.

[Reference ID: 12034]

3.12 File - Import For Selected Variables



Imports data for the selected variables.

[Reference ID: 12038]

3.13 Test - Source Read Test LIMS to Hach WIMS

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

Use this screen to look at source data for specific dates, **WITHOUT** doing an actual import. (No data will be written to Hach WIMS database.)

Once a start and end date have been selected, press **Query Source** button to retrieve data for that date range.

The screenshot shows a window titled "Source Read Test" with an "Input" section. It contains two date pickers: "Start Date" set to 01/01/2007 00:00:00 and "End Date" set to 01/31/2007 00:00:00. A "Query Source" button is located to the right of the date pickers.

The Source Read Test will retrieve all data points within the date range selected and return the values of selected fields.

Example screenshot of how values look when interface is not reading additional info fields from the source :

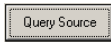

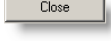
The screenshot shows a window titled "Showing Record 1 out of 1211". It displays a grid of fields with their values: LimsCollectedDate (12/4/2006 9:39:00 PM), LimsResultSECONDARY (empty), LimsUD3 (empty), LimsLocation (FE-COMP), LimsSampleIdentifier (AA61409), LimsUnits (empty), LimsResult (Disposal), LimsTest (@TEFLON), LimsValidatedBY (AW), LimsResultFLAG (empty), LimsUD1 (Teflon Bottle), LimsValidation (empty), LimsResultRAW (NULL), and LimsUD2 (empty). A "Next Record" button is at the bottom right.

Example screenshot of how values look when interface is reading additional info fields from the source :

The screenshot shows the same window as the previous one, but with an additional section at the bottom titled "INFO Field" and "Value". This section contains the following data:

INFO Field	Value
SAMPLE.COLDATE	12/4/2006 9:39:00 PM
RESULT.AC CODE	@BEAKER
SAMPLE.SAMPNO	AA61409

Buttons:

	Query the source for the date range entered
	Get the next record from the source data
	Close this window

[Reference ID: 12321]

3.14 Test - Test Connection to Hach WIMS

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

[Reference ID: 12052]

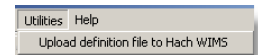
3.15 Test - Test Import All

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]

3.16 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) .

[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 LIMS2OPSSQL Type of Hach WIMS Direct Server-Side Interface

Build 65 (10/29/2015)

- Fixed bug in Source Read Test (4706)

Build 64 (8/21/2015)

- Add Location Path to the Variable Browser (4660)

Build 58 (1/20/2015)

- Interface properly formats results with no decimal places when importing to a variable with Decimal Places set to Not Fixed (9999). (4553)
- Common Framework now handles writing the proper Data Approval Level even when LimsResultStatus is not set by custom source (4552)

Build 55 (10/2/2013)

- Symbols with no numeric part (i.e. ND, TNTC) and an MDL setting of constant now works correctly (4379)
- Symbols with no numeric part (i.e. ND, TNTC) no longer get 0 added to the display value (ND would become ND0 or ND0.0 depending on Decimal place setting) (4379)
- Now creates a result comment for entries with symbols that require a numeric portion but are missing it (An entry of "<" or ">" with no number after are now imported as result comments (4379)

Build 49

- Added the ability to recognize SQL Server 2012 licensing.(4202)
- Added the ability to import data based on AVALDATE.(4148)
- Modified to maintain the significant digits when no value is set for the number of significant digits.(4111)
- Added more logging.(4104)

Build 48

- Fixed problem with trying to perform exact matching in CommonTypeVar class, which causes problem with LIMS interfaces that use LIMS_UD fields for information other than matching (4148)

Build 45

- Corrected how results from source are calculated following the same rules in Monthly Data Entry form:
 1. Determine significant digits
 2. Perform Unit Conversion if need
 3. Apply significant digits, using scientific rounding
 4. Apply MDL rule to calculate numeric value
- The rules are applied similarly if Decimal Places is fix or set to Not Fixed in Hach WIMS client, the only difference is how the significant digits are determined. (4111)
- Ensure trailing zeroes are included in the text value imported as applicable according to MDE significant digit rule. (4111)

Build 44

- Fixed problem of sporaticly not matching when LIMS interfaces use UD1 or UD2 for cross referencing. (4142)

Build 38

- Updated matching variable setup for LIMS to be more distinct.

Build 37

- Updated framework to set the WIMS TextValue field to the raw value (not changed to a numeric type) when importing, thus preserving the data entered. For instance, if the source data is 0.400 the last two zeros are not removed when it is inserted into the TextValue field.

Build 34

- Updated framework to handle time zone differences and how they affect direct and indirect interfaces. Note: LIMS do not have Indirect type interfaces, but are affected by the Common Framework changes.

Build 30

- Added ability for Hach WIMS LIMS interfaces to match variables to source data up to five fields (LIMS_LOC, LIMS_TEST, LIMS_UD1, LIMS_UD2, and LIMS_UD3). Number of fields depends on Hach WIMS LIMS interface specifications.

Build 28

- Changed Common Import to allow Custom Source routine to populate the Result Comment in Hach WIMS with notes or comments from the LIM lab source data.

Build 27

- Changed Common Import to call Custom Source routine to allow for custom code to execute procedures after all facilities are completed (item 3557)

Build 26

- Added to framework ability to configure LIMS Interface for a LIMS_LOC and several LIMS_TEST with LIMS_UD1 blank (3478)
- Corrected issue with Limit-To-List, when checked, so that if the text value is not in the list, the value is written to comments (3482)

Build 20

- Added internal structures needed to ignore case when evaluating the cross reference map from the source system to Hach WIMS (2990)
- Added internal structures needed to show results of "View Applied Connection String" from interface's Source Configuration form (2821)
- Text Parameter Variables with *Limit To List* are now properly written based on the current list configuration of each variable (2805)
- Hach WIMS Comment writer implemented (2983)
- Fixed a bug that caused interface import session to break when a result with an unexpected number of spaces was returned by the source system (3083)
- Fixed a bug that caused interfaces to write data according to MDL rules when if *Allow Symbol* was false (3086)
- Fixed a bug that caused overflow during reporting of statistics for import sessions that lasted less than 1 second (3024)

Build 7

- Initial Release to Public

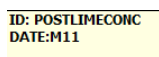
5 - Documentation : Topics specific to the operation of this interface

5.1 Configuration - Source Configuration Q14211

This is the source configuration screen for the Hach WIMS Direct Server-Side Interface to Excel Data Form Files. First of all, we need to ensure the data files can be read by this interface.

Assumptions and Constraints:

- The source data files must be Microsoft Excel 97-2003 Worksheet file (.xls) files. **NOTE: .xlsx files are NOT Support, Excel 5.0/95 files NOT support.**
- The Excel cell comments must be in the form of ID: XXXXX [return]DATE: Cell Reference:

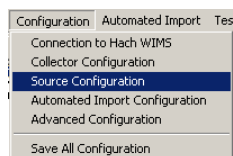


ID: POSTLIMECONC
DATE:M11

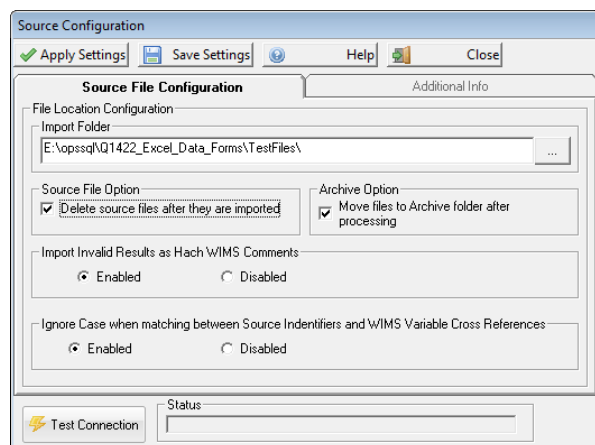
- All files located in the Import Folder will be processed.
- Date/Times in the Excel file **MUST** be Text. See Setting up your Excel forms for more information.
- This tool will only process a total of 32,000 lines of data included in all files of the **Import Folder**.

NOTE: The interface will only process up to 32,000 lines per session. It will process files until it reaches 32,000 lines and stop. It will not process the file it stops on. A file containing more than 32,000 lines will need to be broken down into multiple files with less than 32,000 lines in each file.

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



Source File Configuration:




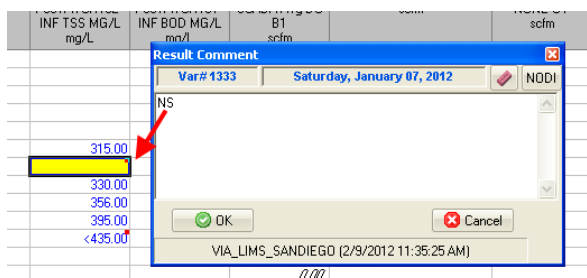
Control buttons for both tabs are:



- **Apply Settings** - this will apply the settings to the program temporarily
- **Save Settings** - this will save the settings for subsequent runs
- **Help** - brings up the help documentation
- **Close** - closes the source configuration screen

Parameters for Source File Configuration:

- **IMPORT FOLDER** - specifies the folder (location) of the Lab XLS files to be imported. The interface will attempt to import all xls files contained in this folder when you run it. Click the ellipse button  to bring up the file browser.
- **Source File Option** - this option determines what to do with source files after they have been imported. If checked, the interface will delete the source file after the data has been imported. If there are many files that total more than 32,000 lines all together, checking this box will enable the ability to process what the interface allows (maximum of 32,000 lines) and remove from source folder. Then rerun the interface to get the next batch of files. A single file with more than 32,000 lines will not be processed, break the file out into several smaller files.
- **Archive Option** - This option determines if the source files are archived after they have been imported. If checked, source files will be copied to the Archive Folder which is located under the interface exe folder. For example, if the interface is installed in C:\HachWIMS\Q13940 the files will copied to C:\HachWIMS\Q13940\archive.
- **Import Invalid Results as Hach WIMS Result Comments** - When importing a result if the result is not a valid value for WIMS, import the result as a result comment. For example, the cell in Excel ="NS" which is not a value that can be entered into WIMS parameter (i.e. NS is not a WIMS symbol(See Section)) the NS is imported as a Result Comment and the value in WIMS is left blank. NOTE: Will overwrite any existing result comment.



- **Ignore Case when matching between Source Identifiers and WIMS Variable Cross References** - enable this setting when you need to ignore case during matching to Source records to WIMS variable cross reference fields. For example, if the ID in the Excel cell comment is set to InfBod, the id setting in the variable cross reference could be INFBOD, infbod, iNfBoD, etc... if this setting is enabled.
- **TEST CONNECTION** - checks to make sure the folder selected exists.

NOTE: To save some time, once you have the form created, save a new copy for each day or continue to use the form everyday. Otherwise you will have to create the form from scratch each time you need to use it.

Additional Info

Additional Info is not supported in this interface, therefore the tab is disabled.

[Reference ID: 14217]

5.2 Release notes for interface Q14211

Version 1.0.1 (Released on 11/4/2015)

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

Version 1.0.0 (Build 9, Released on 10/03/2014)

- Initial release

[Reference ID: 14214]

5.3 Setting up your Excel forms

In order for your Excel files to be imported into WIMS via the **Hach WIMS Direct Server-Side Interface to Excel Data Forms** the Excel files must be setup as follows.

1. Files must be Microsoft Excel 97-2003 Worksheet file (.xls) files. **NOTE: .xlsx files are NOT Support, Excel 5.0/95 files NOT support.**
2. The Excel cell comments must be in the form of ID: XXXXX [return]DATE: Cell Reference:

ID: POSTLIMECONC DATE:M11

To enter a cell comment for cross referencing.

a. Right click on cell and choose Insert Comment.

b. Enter text "ID:xyz", press [Enter], enter "Date:X#" where xyz is the ID you want to cross reference to and X# is a cell reference to a cell containing a datetime.

See Tips below for how to copy just Cell Comments.

3. Your datetime cells MUST be text. Cells that contain only a date portion (no time of day) are not effected. The interface CANNOT import from date cells in Excel that contain a date and a time. You must use the Text formula to convert your datetimes to text. Example:

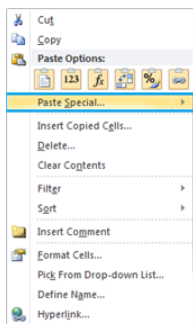
=TEXT(M11 +0.08339,"m/d/yyyy hh:mm am/pm")

Time	Liquid Alum Feed	Day Tank GAL	Total Gal Used	Pre-Lime	Post-Lime
% Speed	MG/L			% Speed	MG/L
12 M	50%	0.0	288084	50.0	4.20
2 AM	49%	2.0	288080	49.0	4.30
4	47%	4.0	288060	49	4.7
6	50%	6.0	288033	49.0	5.20
8	49%	8.0	288022	49.0	3.30

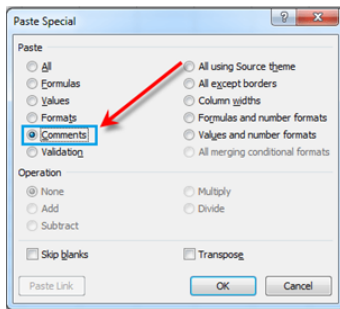
NOTE: You can hide column M in the above form if you do not want your users to see the calculated datetime.

Tip: Copy only Cell Comments in Excel

1. Select the cells you want to copy the comments;
2. Right click and select Copy
3. Select a cell of the paste range, and right click to select Paste Special



4. In the Paste Special dialog box, check Comments, and click OK. See screenshot:



And then only the comments in the selected range have been pasted into the cells.

Tip 2. Hide Cell notes

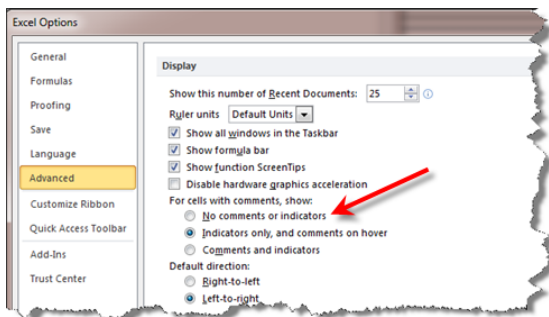
1. Open Excel Options.

- Excel 2007 Go to the Office button and click on Excel Options in the bottom right corner of the menu.
- Excel 2010 Click on the File tab and in the left panel, click Options.

2. Click on Advanced in the left column.

3. Scroll down to the Display section.

4. Select No comments or indicators.



5. Click OK.

[Reference ID: 14218]

5.4 Supported variable configurations for interface Q14211

Supported variable configurations for **Hach WIMS Direct Server-Side Interface to Excel Data Entry Form Files**.

This section explains how to set up a variable in Hach WIMS Client to receive data from an Excel xls file. A definition file will need to be upload from the interface, and a new instance of the interface will need to be added to the Server-Side Interface Setup (See Section) in Hach WIMS Client.

1. From the Hach WIMS client select the **System Setup** menu option and click on **Edit/View Variables**.
2. Click on the **Interface** tab.
3. Select the **Interface To** radio button and click the drop down box just to the right and select the Excel Data Entry Form interface.
4. Finally, enter the **ID** from Excel cell comment in the first box and select **Yes** to **Enable Import**.

Example: Import data from the following cell (C11) into variable 11001:

	A	B	C	D	E
1					
2					
3					
4		1st Shift (8AM - 4 PM)	288070		
5		2nd Shift (4PM - 12M)	288072		
6		3rd Shift (12M - 8AM)	288074		
7					
8					
9		Time	% Speed	MG/L	Day Tank
10					
11		12 M	50%		
12		2 AM	49%		
13		4	47%		
14		6	50%		

Var # 11001

Name F3 Alum Feed % Speed Units %

Track every Hour Type Parameter ☐ Data Read Only ☐ Definition Read Only

Options User Defined MDL Rules List Additional Info

Description Limits Optional Print Quality Control Equation Interface

☐ OFF ☒ Interface To Excel Forms Data Approval Level To Write With FINAL APPROVAL

Help ☐ External Source

ID (Required) 22793

Enable Import Yes

[Reference ID: 14216]

5.5 Using Interface Browser

NOT IMPLEMENTED. There is no browser for Q14211 - **Hach WIMS Direct Server-Side Interface to Excel Data Forms**.

[Reference ID: 14215]