AVEVA Connectors

InTouch Historical values (classic)

This connector is used to get historical values from InTouch lgh files via the HistData interface.

In order for this connector to function, **XLReporter** must be installed on an InTouch node and InTouch must be running.

InTouch Configuration

To set up data logging, from the **AVEVA InTouch HMI** program group, open **InTouch Window Maker**. From the top ribbon menu in **WindowViewer** select **Special, Tagname Dictionary**.

Tagname Dictionary	×
🔘 Main 💿 Detail	Alarms O Details & Alarms O Members
New Restore	Delete Save << Select >> Cancel Close
Tagname: Analog0	14 Type: Memory Real
Group: \$Syste	m O Read only Read Write
Comment: AccessLe	/el
🗹 Log Data 🗌 L	g Events Retentive Value Retentive Parameters
Initial Value: 50	Min Value: 0 Deadband: 0
Eng Units:	Max Value: 100 Log Deadband: 0

For each tag that requires historical logging, check the Log Data option.

In the InTouch **Window Maker** menu, select **Special, Configure, Historical Logging** to open the **Historical Logging Properties** window.

Enable Historical Logging			OK
Historical Log File Keep Log Files for: 1 days			Cance
Store Log Files in Application Directory	y		
O Store Log Files in Specific Directory:			
Name of Logging Node:			
Printing Control			
Default % of page to print on:	50	%	
Max consecutive time to spend printing:	500	msec	
Time to wait between printing:	2000	msec	

Check Enable Historical Logging. Historical log files have the file extension *.lgh.

InTouch WindowViewer

In order for historical data to log, **WindowViewer** must be in a running state. If it is not already running, from the **AVEVA InTouch HMI** program group, open **WindowViewer**.

Connector

To configure the connector to **InTouch Historical values** (classic), from the **Project Explorer** select **Data**, **Connectors**.

- Click Add
- Select AVEVA, InTouch Historical values (classic)

Click OK

InTouch Historical val	ues (classic) ×
Connector Name	InTouch_HistoryClassic_1
Description	
In Touch Paths	
Installation	C:\Program Files (x86)\Wonderware\InTouch
Application	C:\ProgramData\InTouchDemos\demoapp1_1280
History Data	C:\ProgramData\InTouchDemos\demoapp1_1280
	Settings
	OK Cancel

This connector requires the following InTouch Paths:

Installation

The path where InTouch is installed on the local system.

Application

The path where the running InTouch project is located on the local system. This can be found at the top of the **WindowViewer** window.

History Data

The path where the InTouch historical data files (.lgh) are located.

Settings

The **Settings** button is used to update tuning parameters if there are issues retrieving data from this connector.

Settings —		×
Wait Times DDE Server (sec)	20	÷
Disconnect (sec)	1	
ок	С	ancel

The following Wait Times can be configured:

DDE Server

The number of seconds the reporting engine will wait for the InTouch HisData DDE server to return the historical data requested.

This setting only needs to be changed if time out errors are triggered when a data group is updated.

Disconnect

The number of seconds the reporting engine will wait after disconnecting from the InTouch HisData DDE server. This is useful when a report contains multiple data groups retrieving data historical data from InTouch because it ensures the DDE server is closed between each request.

This setting only needs to be changed if reports with multiple data groups are triggering errors that the DDE server failed to start or connect.

Data Group

The following describes the historical data group settings specific to the **InTouch Historical Values** connector.

Group Types

🚞 Select Group Type	Х
O Summary Values from Server	
 Summary Values from XLReporter use raw values 	
◯ Raw Values	
◯ Raw Text	
◯ Sampled Values	
◯ Live Values	
◯ Custom Values	
Base on	1
 dolank> ~	
OK Cancel	

For InTouch Historical Values the following group types are available:

Summary Values from XLReporter

This group type retrieves sampled values from InTouch and performs calculations on those samples for reporting.

By default, summary values are calculated time weighted and values are propagated based on the last known value. However, to change this so that summary values are calculated strictly on the data returned check **use raw values**.

Group Settings

Setup Tab

ile E	dit Previ	ew					
Setup	Columns	Time Period	Filters				
			Descriptio	on			
			Retrieva	1			
			Retrieva	Retrieval Mode	Sampled Values	~	

The **Retrieval** settings define how data is retrieved for the calculations selected for the group. The following settings are available:

Retrieval Mode

This setting defines how data is retrieved from the historian. For InTouch Historical Values only *Sampled Values* are available.

• Rate

The interval (in seconds) that sampled values are retrieved from the historian.

• Lead Time

The amount of time (in seconds) to retrieve data before the start time.

Columns Tab

Tag Browsing

When browsing for tags from **InTouch Historical Values** every tag in the InTouch tag name dictionary is provided to select from regardless of whether or not the tag is being logged historically.

Scheduler Startup

The **XLReporter Scheduler** is used to process reports automatically in the background. The scheduler can be configured to start from an InTouch Script so it starts when the HMI is started.

To configure an InTouch script, open **InTouch WindowMaker** from the **AVEVA InTouch HMI** program group in the Start menu. Scripts configured in **WindowMaker** run when the HMI application is started in **WindowViewer**.

• From **WindowMaker**, the most straightforward approach is to use a **QuickFunctions** script with an On Startup condition.

+ 🖬 🖨	5	⊐ ▼	
File Home	Draw	Animation	Properties
Paste Cut Cipboard	y licate	Button T Text S Graphics	O₄ SmartSymbol ở [*] Wizards
Windows & Scri ~	Ψ×	Canvas	
Durassigned Dramplate Window Backup Window	ows s		
Scripts ~	÷ х		
Search E: Application E: Condition E: Condition E: Data change E: QuickFunctions E: ActiveX event Model- Tagname Tools	Q New Open Scripts		
Ready			

- Right click QuickFunctions in the lower left corner of the Window Maker and select New...
- The script syntax to start the **Scheduler** is:

Stc	artApp "C:\XLReporter\xlrschedule.exe";
🔯 QuickFun	ctions
Script Edit	Insert Options Help
y 🗈 🖻 📏	□ � ④ ● ● Q 只
Function:	<newfunctionname></newfunctionname>
Arguments	
1 8	StartApp "C:\XLReporter\xlrschedule.exe";

Limitations and Restrictions

Data Retrieval

The InTouch HisData DDE server can only return six weeks of data in any one request.

Scheduler

If this connector is configured the Scheduler cannot be configured to run as a Windows service.

InTouch ME Historical values

This connector is used to get historical values from InTouch ME when it is configured to log data to a relational database rather than to AVEVA (formerly Wonderware) Historian.

Connector

To configure the connector to **InTouch ME Historical values**, from the **Project Explorer** select **Data**, **Connectors**.

- Click Add
- Select AVEVA, InTouch ME Historical values

Click OK

Primary Database

This setting defines the database server when the InTouch ME is configured to log data. Use the browse button [...] to define the database connection.

Table/Column

Once the database is established, the following settings are available:

Table

The **Table** containing the historically logged data.

Date and Time Columns

The column in the selected Table containing the timestamp for the records. For InTouch ME Historical values the Date Column should be set to **Time_Stamp** with **Date includes Time** checked as both the date and time are logged to this column.

Settings

The **Settings** button opens the **Settings** dialog that defines characteristics of the database that are used to retrieve data.

Typically, these settings are defaulted correctly based on the database connected to.

If queries timeout, increase the **Client Wait Time**.

The delimiter and timestamp settings are typically filled in automatically for the database and can be modified for other databases.

The **Date/Time Storage** settings define how timestamps are stored in the database. Using this setting the timestamps are manipulated when data is retrieved so that local timestamps are submitted in and returned.

Many databases require the Date format to be **YYYY-MM-DD** so that no interpretation needs to occur based on the Region settings of the Windows Operating System. It is recommended to always have this option checked.

Data Group

The following describes the historical data group settings specific to the **InTouch ME Historical Values** connector.

Group Types

For InTouch ME Historical Values the following group types are available:

Summary Values from XLReporter

This group type retrieves sampled values from InTouch and performs calculations on those samples for reporting.

By default, summary values are calculated time weighted and values are propagated based on the last known value. However, to change this so that summary values are calculated strictly on the data returned check **use raw values**.

Raw Values

This group retrieves every value logged to the historian between the start and end time specified.

Custom Values

This option opens the Database Group builder where a query can be configured to retrieve data from any table available in the database connected to by the connector.

Group Settings

Setup Tab

Database

These settings display the current database definition. Since this connector is explicitly defined for InTouch ME Historical Values and this information is already defined in the connector, these settings cannot be changed.

Retrieval (Summary Values for XLReporter Group)

The **Retrieval** settings define how data is retrieved for the calculations selected for the group. The following settings are available:

• Retrieval Mode

This setting defines how data is retrieved from the historian. For InTouch ME Historical Values only *Raw Values* are available.

• Lead Time

The amount of time (in seconds) to retrieve data before the start time.

Filters Tab

If the **Perform by Server** option is checked, any filter configured in this tab is put into the *WHERE* clause of the query sent to the database to retrieve data for the group. Otherwise, the configured filtering is performed by the reporting engine after the values are returned. It is recommended to leave this setting checked as the performance is much better.

InTouch Alarms

This connector is used to get alarms from InTouch when they are logged to Microsoft SQL Server.

InTouch Alarm Configuration

To configure alarm conditions for InTouch tags, from the **AVEVA InTouch HMI** program group, open **InTouch WindowMaker**.

Tagname Dictionary X
O Main O Details O Alarms O Details & Alarms O Members
New Restore Delete Save K Select >> Cancel Close
Tagname: Analog001 Type: Memory Real
Group: \$System Read only Read Write
Comment: AccessLevel
Log Data Vog Events Priority: 999 Retentive Value Retentive Parameters
Initial Value: 50 Min Value: 0 Deadband: 0
Eng Units: Max Value: 100 Log Deadband: 0
ACK Model: Condition Event Oriented Expanded Summary Alarm Comment:
Alarm Value Priority Alarm Inhibitor Alarm Value Priority Alarm Inhibitor Value Deadband
✓ LoLo 5 4
☑ Low 20 3 ☑ HiHi 95 1
% Deviation Target Priority Alarm Inhibitor Deviation Deadband %
Minor Deviation 0 1 0 Major Deviation 0 1 0
Rate of Change 0 % per: Sec Min Hr Priority: 1 Alarm Inhibitor

Select Special, Tagname Dictionary to open the Tagname Dictionary and select a tag.

- Click the **Details & Alarms** option at the top.
- Click **Group** to select the group for this tag.
- Check Log Events and set the Priority.
- Configure the alarm details at the bottom.

Database Configuration

To set up InTouch alarm logging to a database, from the AVEVA InTouch HMI program group, open the Alarm DB Logger Manager

🗬 Alarm DB Logger Manager	-		×
Smart Cache Status		Setti	ings
Number of alarm records in Smart Cache : 0			
		Sta	art
		Sti	op

Click Settings to configure alarm logging.

SQL Server/MSDE	
Authentication	SQL Server Authentication V
Server Name	localhost ~
Database	WW-1ALMDB
User Info User Name sa	Logging Mode
Password ••	○ Consolidated
Test Connection	Create Delete Data

In **Configuration**, specify the **SQL Server** database to log alarms to.

Query Details	3		
Alarm State	All	From Priority	1
Query Type	Historical	To Priority	999 🔹
Alarm Query			
\InTouch!\$Sy	stem		
<			>

In Query Selection, specify the Group(s) and Priority Range according to the Tagname Dictionary configuration.

-			
Normal application	OW	indows Service	
Log on as			
Local System acc	ount		
O This account:	WW-1\Eng		
Password:			
Performance Tuning		Miscellaneous	
Log Alams Every 100	m sec	✓ Log Events	

In Advanced Settings, specify the Log Alarms rate.

🥐 Alarm DB Logger Manager 🦳 —	
Personal statements and statement	Settings
Smart Cache Status	
Number of alarm records in Smart Cache : 0 Smart Cache is Empty.	
Security Notice: The connection to the Alarm Database is configured with SQL Server Authentication. We strongly	Start
recommend the use of the more secure Windows Authentication rather than SQL Server Authentication.	Stop

Click Start to start the configuration.

Connector

To configure the connector to InTouch Alarms, from the Project Explorer select Data, Connectors.

- Click Add
- Select AVEVA, InTouch Alarms
- Click **OK**

InTouch Alarms			X
Connector Name	InTouch_Alarms_1		
Description	WW-2020		
Primary Database			
Туре	Microsoft SQL Server		
Data Source	WW-2020		
		[Settings
		OK	Cancel

Primary Database

This setting defines the SQL Server connection where the InTouch Alarms are configured to \log to. Use the browse button [...] to define the database connection.

Settings

The **Settings** button opens the **Settings** dialog that defines characteristics of the database that are used to retrieve data.

Settings ×	I
Client Wait Time (sec) 60	
Table/Column Delimiter Start [End]	
Date/Time Delimiter End ['	
Date/Time Storage	
Local Date and Time \sim	
☑ Date format is YYYY-MM-DD	
OK Cancel	

Typically, these settings are defaulted correctly for SQL Server.

If queries timeout, increase the **Client Wait Time**.

The delimiter and timestamp settings are typically filled in automatically for the database and can be modified for other databases.

The **Date/Time Storage** settings define how timestamps are stored in the database. Using this setting the timestamps are manipulated when data is retrieved so that local timestamps are submitted in and returned.

Many databases require the Date format to be **YYYY-MM-DD** so that no interpretation needs to occur based on the Region settings of the Windows Operating System. It is recommended to always have this option checked.

Data Group

The following describes the historical data group settings specific to the **InTouch Alarms** connector. **Group Types**

📄 Select Group Type	×
O Summary Values from Server	
 Summary Values from XLReporter use raw values 	
Raw Values	
◯ Raw Text	
◯ Sampled Values	
◯ Live Values	
O Custom Values	
Base on	
 dlank> 	
OK Cance	el

For InTouch Alarms the following group types are available:

Raw Values

This group retrieves every value logged to the alarms database between the start and end time specified.

Custom Values

This option opens the Database Group builder where a query can be configured to retrieve data from any table available in the database connected to by the connector.

Group Settings

Setup Tab

Edit Draviaw				
e cuit Preview				
stup Columns Time Period	Filters			
	Description			
	Database			
	Definition	Specific	\sim	
	Table/View	Tables Views		
	Table/View	Tables Views	~	
	Table/View	Tables Views v_AlamHistory	~	
	Table/View Date Column	Tables Views v_AlamHistory EventStamp	~	
	Table/View Date Column	☐ Tables	~	
	Table/View Date Column Time Column	☐ Tables	>	
	Table/New Date Column Time Column - Retrieval	Tables Views v_AlarmHistory EventStamp Date includes Time	>	
	Table/View Date Column Time Column - Retrieval Retrieval Mode	Tables Views V_AlamHistory Event Stamp Date includes Time Raw Values	v v v	
	Table/New Date Column Time Column Retrieval Retrieval Mode Rate (secs)	Tables Views V_AlamHatory EventStamp Date includes Time Raw Values 30	> >	

Database

These settings define where the alarm data for group is retrieved. Typically, **Table/View** should be set to $v_AlarmHistory$ with **Date Column** set to *EventStamp* and **Date includes Time** checked.

Filters Tab

If the **Perform by Server** option is checked, any filter configured in this tab is put into the *WHERE* clause of the query sent to the database to retrieve data for the group. Otherwise, the configured filtering is performed by the reporting engine after the values are returned. It is recommended to leave this setting checked as the performance is much better.

Scheduler Startup

The **XLReporter Scheduler** is used to process reports automatically in the background. The scheduler can be configured to start from an InTouch Script so it starts when the HMI is started. To configure an InTouch script, open **InTouch WindowMaker** from the **AVEVA InTouch HMI** program group in the Start menu. Scripts configured in **WindowMaker** run when the HMI application is started in **WindowViewer**.

• From **WindowMaker**, the most straightforward approach is to use a **QuickFunctions** script with an On Startup condition.



- Right click QuickFunctions in the lower left corner of the Window Maker and select New...
- The script syntax to start the **Scheduler** is:

Sta	irtApp "C:\XLReporter\xlrschedule.exe";	
🔯 QuickFun	ictions	
Script Edit	Insert Options Help	
🔏 🗈 🏝 ≽ I	□ <u><u>6</u> </u>	
Function:	<newfunctionname></newfunctionname>	
Arguments		
1 5	<pre>3tartApp "C:\XLReporter\xlrschedule.exe";</pre>	

OI Gateway Real-time values

This connector is used to get real time values via the OI (Operations Integration) Gateway OPC server. This can be used to retrieve data from a number of sources including InTouch. The server is accessible both locally and remotely.

InTouch Configuration

Operations Integration Supervisory OPC Server

The OPC DA server in InTouch is defined in the **System Platform Management Console.** To open, from the **AVEVA** program group, select **System Platform Management Console**.

• 🔿 🙍 📰 🛛 🖬						
ArchestrA System Management Console	(WW-1)	Node Type: \$800	TE De	limiter'		
🛃 Historian		Node Type. Show				
Galaxy Database Manager		Clobal Baramotore				
Operations Integration Server Manage	r	Global Parameters				
V I Default Group						
V 🔜 Local	an is an i Cansar	Device Group Update	e Interval (msec):	1000	Enable/Disable	
 Operations integration sup Wonderware - Gateway 	ervisory servers				Case Sensitive	
V DIGATEWAY.2		Slow Poll Interval (ms	ecț	60000		
 Configuration 			tion Batio	2		
> 🔏 IntouchTag	Add REDUNDAI	NT_DEVICE Connection	Joon Thomas	14	Device Group Cache	
> 🔣 Diagnostics	Add SuiteLink C	onnection	imeout (msec)	60000		
> 🕸 Wonderware - SIM	Add DDE Conne	ection			Simulation Mode	
🖭 Log Viewer	Add ArchestrA	Connection	nsec);	50		
Platform Manager	Add OPC Conn	ection				
	Add of C conn	cedon	e:	Į0	System Items	
L	Add in Iouch Co	onnection	sactions	75		
	Add OPCUA Co	nnection		10	Unique Device Groups	
	Add MQTT_BRC	KER Connection	ick (msec):	50		
	Expand All				Read Only	
				Optimization Mode 💌		
	Archive Config	uration Set	autor I baun	10		
	View	>	eueu opuaiesj	lin		
			-			>

- Expand Operations Integration Server Manager, Default Group, Local, Operations Integration Supervisory Servers, Wonderware Gateway.
- By default, an *OI.GATEWAY* server is listed and can be used (this may be *OI.GATEWAY.2* or *OI.GATEWAY.3* depending on the version installed). Otherwise, right-click on *Wonderware Gateway* to create a new server instance.
- Expand the server created, right-click Configuration, and select Add InTouch Connection.

*The OI servers in AVEVA support connectivity to a variety of data sources beyond the InTouch Tagname Dictionary. The OI interface allows any of these sources to be exposed as an OPC DA server.

SMC - [ArchestrA System Management Console (WW-1)\Oper Sile Action View Help	ations Integration Server Manager\Default Group\Local\Operations Inte	grati — 🗆 🗙
🔫 🛹 📶 💊 🖬 🖻		
ArchestrA System Management Console (WW-1) S Historian	💞 Node Type: InTouch Delimiter: .	
 Galaxy Database Manager Operations Integration Server Manager 	IntouchTags Parameters Device Items	
✓ 4 → Default Group ✓ 4 → Correct C		^
 Øperations Integration Supervisory Servers Wonderware - Gateway 	Device Group Name: Intouch Lags	
✓ 30.GATEWAY.2 ✓ 2 Configuration	🗖 Read Only	
> 🔏 IntouchTags > 🔛 Diagnostics	InTouch Runtime Node: localhost	
> 療 Wonderware - SIM	Item Browse Path: C:\Users\Public\Wonderware\Into	ch Applications'
> 🖳 Platform Manager		
	Reconnect Attempts: 3	Protocol
	Reconnect Period: 30000 ms C DDI	© SuiteLink
		Tag Browney
		- ag browsel
	JP	

- Set the **Item Browse Path** to that of the active InTouch application. This path is displayed at the top of **WindowViewer**.
- Open the **Tag Browser** and add any InTouch tags to be exposed to the OPC server.
- When configuration is complete, click the Save icon in the upper right corner.

SuperTags

If the InTouch application contains SuperTags, in order to expose the individual members of the SuperTag through the OPC server each member must be added manually to the list under the **Device Items** tab of the configuration.

Name		Item Reference
Acce:	ssLevel	\$AccessLevel
\$Day		\$Day
BatchN	Number	BatchNumber
ConcP	ump	ConcPump
ConcV	alve	ConcValve
ProdLe	evel	ProdLevel
Reactl	Level	ReactLevel
React	Temp	ReactTemp
Speed		Speed
Super [®]	Tag1_TestReal	SuperTag1\testreal
TestW	/rite1	TestWrite1
Transf	ferPump	TransferPump
Transf	ferValve	TransferValve
Vitesse	2	Vitesse
Water	Valve	WaterValve
	Add	
	Aug.	
	Clear All	
	Modify	
	Delete	
	Export	
	Import	

To add, right-click the list and select **Add**.

For example, if the application has a SuperTag configured as *MyST1* and there are 4 members: *val1*, *val2*, *val3* and *val4*, the following will need to be added to expose all four values:

Touch1Parameters Device Items	
Name	Item Reference
\$AccessLevel	\$AccessLevel
\$Day	\$Day
BatchNumber	BatchNumber
ConcPump	ConcPump
ConcValve	ConcValve
ProdLevel	ProdLevel
ReactLevel	ReactLevel
ReactTemp	ReactTemp
Speed	Speed
SuperTag1_TestReal	SuperTag1\testreal
TestWrite1	TestWrite1
TransferPump	TransferPump
TransferValve	TransferValve
Vitesse	Vitesse
WaterValve	WaterValve
MyST1_val1	MyST1\val1
MyST1_val2	MyST1\val2
MyST1_val3	MyST1\val3
MyST1 val4	MyST1\val4

Note that the **Item Reference** must be in the format *SuperTag Name\member*. The **Name** can be customized but must adhere to the restrictions of tag names for the server (e.g., no spaces, "\" or "-").

Be sure to save the configuration before closing the SMC.

InTouch Window Viewer

For **XLReporter** to collect data from InTouch tags through the OI gateway, **WindowViewer** must be in a running state. If it is not already running, from the **AVEVA InTouch HMI** program group, open **InTouch WindowViewer**.

Remote Communication

If XLReporter is not installed on the same machine as the OI Gateway then the workstation must have the OPC core components installed. To determine if the core components are installed verify the following file exists:

- C:\Windows\SysWow64\OPCEnum.exe (64-bit OS)
- C:\Windows\system32\OPCEnum.exe (32-bit OS)

If the components are not installed then they are provided in the XLReporter installation folder under *_repairtools\OPC*. Alternatively, these can be downloaded from <u>www.opcfoundation.org</u>.

Server Settings

To connect to InTouch remotely both the machine where the server is running and the machine where the client is running must have matching Windows user accounts and the client must be logged in with a matching account.

In addition, on the machine with InTouch, certain DCOM settings must be enabled. For details on what DCOM settings to enable, see <u>OPC and DCOM: 5 Things You Need to Know</u>.

Windows Firewall

If the Windows Firewall is enabled on the machine where InTouch is running **TCP Port** 135 must be opened for remote clients to connect.

Connector

To configure the connector to **OI Gateway Real-time values**, from the **Project Explorer** select **Data**, **Connectors**.

- Click Add
- Select AVEVA, OI Gateway Real-time values
- Click OK

	e values	
Connector Name	OI_DA_1	
Description	local	
Primary Server		
Name	OI.GATEWAY.2	
Node		✓ local
		Test Connection
Secondary Serve	OI.GATEWAY.2	
Secondary Serve Name Node	ol.gateway.2	V local
Secondary Server Name Node	ol.gateway.2	☐ local Test Connection
Secondary Serve Name Node	0I.GATEWAY.2	I local Test Connection Settings

Primary Server

These settings define the **Name** and **Node** of the OPC DA server. Typically, the **Name** is defaulted correctly. If the OI Gateway server is on the local machine, leave **local** checked. Otherwise, uncheck and specify either the name or IP address of the machine where the OI Gateway server is running.

Use the **Test Connection** button to verify a connection to the server.

Secondary Server

These settings define the (optional) secondary OI Gateway server to connect to if a connection to the **Primary Server** fails.

Settings

For information on the specific settings, see the DATA CONNECTIVITY, OPC document.

Scheduler Startup

The **XLReporter Scheduler** is used to process reports automatically in the background. The scheduler can be configured to start from an InTouch Script so it starts when the HMI is started.

To configure an InTouch script, open **InTouch WindowMaker** from the **AVEVA InTouch HMI** program group in the Start menu. Scripts configured in **WindowMaker** run when the HMI application is started in **WindowViewer**.

• From **WindowMaker**, the most straightforward approach is to use a **QuickFunctions** script with an On Startup condition.

File Home Draw Animation Properties % Cut Paste Button % SmartSymt Paste Ouplicate % Graphics
Cut Image: Button O_t * SmartSymbol Image: Dop T Text Image: Wizards Paste Image: Duplicate O_t Graphics
()uppoard Insert
Windows & Scri V & Y Canvas
Search Q Unassigned D Template Windows Backup Windows Windows & Scr User defined ty
Scripts v 4 x
Search Q E: Application D: Key E: Condition E: Data change E: QuickFunctions E: ActiveX event New Open
Model - Tagname Tools Scripts

- Right click QuickFunctions in the lower left corner of the Window Maker and select New...
- The script syntax to start the **Scheduler** is:

StartApp "C:\XLReporter\xlrschedule.exe";

🔯 QuickFun	ctions
Script Edit	Insert Options Help
🏅 🗈 🛍 🔖 I	□ 9 4 0,0 1
Function:	<newfunctionname></newfunctionname>
Arguments	
1 8	<pre>StartApp "C:\XLReporter\xlrschedule.exe";</pre>

AVEVA Historian

This connector is used to get historical data from the AVEVA (formerly Wonderware) Historian. This can be configured both locally on the historian machine and from a remote machine.

Set up Historian

AVEVA Historian stores data in a Microsoft SQL Server database. Tag data collection into the historian is configured in the AVEVA System Platform Management Console.

This is opened from the **AVEVA** program group by selecting **AVEVA**, **System Platform Management Console.**

Any tag in the InTouch Tag Dictionary can be logged by the AVEVA Historian by importing the tag. To import:



- Expand Historian, Historian Group, the Historian machine name, Configuration Editor.
- Select System Configuration right-click and select Import Tags.
- Follow the Tag Import Wizard.

SQL Server Prerequisites

Verify Database

To verify, open **Microsoft SQL Server Management Studio** and connect to the SQL Server instance where the AVEVA Historian database is configured.

Once connected,

- Expand the **Runtime** database.
- Expand Views.
- Select the **Tag** view.



Right click the **Tag** view and choose *SELECT TOP 1000 Rows*. This should display data from the view representing the tags configured in the historian.

If the database or table does not exist or no data is displayed, contact AVEVA technical support to troubleshoot and correct these issues.

SQL Server Considerations

When using SQL Server there are some things to take into consideration including remote connectivity and user authentication. For information on what to consider, see the setup document for **Microsoft SQL Server**.

Connector

To configure the connector to **AVEVA Historian**, from the **Project Explorer** select **Data**, **Connectors**.

- Click Add
- Select AVEVA, AVEVA Historian
- Click **OK**

Connector Name	AVEVA_Historian_1		
Description			
Primary Server			
Name	WW-2020] [.
User	sa		1
Secondary Serve	r		
User			
		C-W-	-

Primary Server

These settings define the connection to the Microsoft SQL Server database where the AVEVA Historian is configured.

- Select the Server Name as the machine name for the Historian.
- For Log on to the server, specify the proper authentication.
- Leave **Database** as *Runtime*.
- Click Test Connection to verify connectivity and return to the connector setup.

Secondary Server

These settings define the (optional) secondary AVEVA Historian server to connect to if a connection to the **Primary Server** fails.

Settings

The **Settings** button opens the **Settings** dialog that defines characteristics of the database that are used to retrieve data.

Settings	x
Client Wait Time (sec) 60	
Table/Column Delimiter	End]
Date/Time Delimiter Start [*]	End [
Date/Time Storage	· · · · · · · · · · · · · · · · · · ·
Local Date and Time	\sim
Date format is YYYY	-MM-DD
	OK Cancel

Typically, these settings are defaulted correctly based on SQL Server.

If queries timeout, increase the Client Wait Time.

The delimiter and timestamp settings are typically filled in automatically for the database and can be modified for other databases.

The **Date/Time Storage** settings define how timestamps are stored in the database. Using this setting the timestamps are manipulated when data is retrieved so that local timestamps are submitted in and returned.

Many databases require the Date format to be **YYYY-MM-DD** so that no interpretation needs to occur based on the Region settings of the Windows Operating System. It is recommended to always have this option checked.

Data Group

The following describes the historical data group settings specific to the **AVEVA Historian** connector. **Group Types**

📄 Select Group Type	×
Summary Values from Server	
O Summary Values from XLReporter	
◯ Raw Values	
◯ Raw Text	
◯ Sampled Values	
O Live Values	
O Custom Values	
Base on	
 dlank>	
OK Car	ncel

For AVEVA Historian the following group types are available:

Summary Values from Server

This group type retrieves summary calculations directly from the historian. For AVEVA Historian, the following calculations are available:

- Sample
- Average
- Maximum
- Time of Maximum
- Minimum
- Time of Minimum
- Integral
- Counter

Summary Values from XLReporter

This group type retrieves sampled values from the historian and performs calculations on those samples for reporting.

By default, summary values are calculated time weighted and values are propagated based on the last known value. However, to change this so that summary values are calculated strictly on the data returned check **use raw values**.

Raw Values

This group retrieves values logged to the historian between the start and end time specified and the retrieval options configured (see below).

Live Values

This group retrieves the last recorded values in the historian for every selected tag.

Custom Values

This option opens the Database Group builder where a query can be configured to retrieve data from any table available in the database connected to by the connector.

Group Settings

Setup Tab (Summary Values for XLReporter)

Columns	Time Period	Filters					
Columno	Time Foliou	Theore					
		De	escription				
		R	etrieval				
		R	etrieval	Mode	Sampled Values	~	
		R	etrieval Retrieval	Mode	Sampled Values	~	
		R	etrieval Retrieval I Rate (sec	Mode s)	Sampled Values	~	

The **Retrieval** settings define how data is retrieved for the calculations selected for the group. The following settings are available:

• Retrieval Mode

This setting defines how data is retrieved from the historian. For AVEVA Historian *Sampled Values* and *Raw Values* are available.

Sampled Values use the Cyclic retrieval mode.

Raw Values use the *Full* retrieval mode. The *Full* retrieval mode returns an extra value at the start time that is the last recorded value before the start time. If the group is set up with use raw values checked, this extra value is disregarded for the calculations. However, if this is unchecked, this extra value is factored into the calculations.

• Rate

The interval (in seconds) that sampled values are retrieved from the historian.

• Lead Time

The amount of time (in seconds) to retrieve data before the start time.

Retrieval Tab (Raw Values)

Kaw values (AVEVA_HIS	torian_1)		
File Edit Preview			
Setup Columns Time Pe	riod Retrieval Filters		
	AND wwResolution=60000	^	
		~	
	Retrieval mor	te Cyclic V	
	rieuleval mot		
	Interpolation tupe	Staireten	
	Values especial evens	1 minute se	
	values spaced every		
	O Number of values	80	
	Time deadhand (ms)	1000	
		1	
	Value deadband (%)	1	
	State calculation	~	
	State Value		

The **Retrieval** tab is provided to determine how raw data is returned. The most common **Retrieval modes** are *Cyclic* and *Delta*.

Cyclic retrieval mode returns equally spaced values based on either the **Values spaced every** or **Number of values** setting.

Delta retrieval mode returns values for every selected column every time the value in that column changes. The **Time deadband** and **Value deadband** settings can restrict the total amount of data returned.

For more information on these retrieval modes as well as the other available retrieval modes, see the AVEVA Historian documentation.

Filters Tab (Summary values from Server)

Setup Columns Tir	me Period Filters				
	Quality=0			^	
				~	
	Value Filter				
	Condition 1	> ~	0	AND \checkmark	
	Condition 2	< ~	100		
	Exclude NULL v	alues			
	Quality	= ~	Good	~	
	Quality Rule		GOOD	\sim	
	Data Version		ORIGINAL	\sim	
	Time Zone		US Eastern Standard Time	\sim	
	Return data whe	n conditions are	First True	\sim	

The configured filtering on this tab applies to the calculated values themselves and not to the underlying values that contribute to the calculation. For more information on the available settings, see the AVEVA Historian documentation.

AVEVA Historian – Summary Tables

This connector is used to get historical data from the summary tables of AVEVA (formerly Wonderware) Historian. This can be configured both locally on the historian machine and from a remote machine. The summary tables can be used to perform specific calculations from historian tags over specific time intervals.

Historian Configuration

AVEVA Historian Event Tags are used to trigger actions in the historian application based on a timed schedule (among other conditions). Event Tag configuration is performed in the **AVEVA System Platform Management Console**.

This is opened from the **AVEVA** program group by selecting **System Platform Management Console.**

💋 SMC - [ArchestrA System Management	t Console (WW-1)\Historian\Histo	rian Group\WW-1\	Configuration Editor\System Con	figuration\Tag Config —	□ ×
File Action View Help					
🗢 🔿 🙇 📅 📋 🙆 😼 🖬 🖬	: 👯 🕷 🐃 🛍				
Archetta System Management Console Archetta System Configuration & Replication Archetta System Configuration Editor Archetta System Configuration Archetta System Configuration Archetta System Configuration Archetta System Archetta System Configuration Archetta System Archett	e (WW-1) e (WW-	· · ·	Tig Name ∮ HiSummay ∮ Alarm01 ∮ Cycle ∮ Mue I. Imp ∮ SysStatusEvent	Source Server	,
1	caport Lister		<		>
	Help				

- Expand Historian, Historian Group, the Historian machine name, Configuration Editor, System Configuration, Tag Configuration.
- Select Event Tags, right-click, and select New.
- In New Event Tag assign a Unique Tag Name.
- On the General wizard page assign a Description and Priority.

[
New Event Tag - Detec	tor			×
Detector Type:	Schedule	•		
Frequency	Specify the starting tir frequency period.	ne within the fixed-le	ngth	
C Daily	Day:	Hour:	Minute:	
C Weekly	Sunday 💌	00 🔻	00 💌	
C Monthly				
C Periodic	Start Date/Time:	1/22/2020 🔻	12:00:00 AM	
< Back	Next >	Cancel	Help	

- On the **Detector** page, set **Detector Type** to *Schedule*.
- On the Action page, set Action Type to Summary.

The Action wizard is used to select the tags to summarize.

New Event Tag - Action Action Type: Summary Post Detector Delay: ms Type Duration (s) Resolution (ms) Timestamp Description MAX 3600 1000 Beginning	ent Tag - Action
Action Type: Summary Post Detector Delay: 0 ms Type Duration (s) Resolution (ms) Timestamp Description MAX 3600 1000 Beginning	
Type Duration (s) Resolution (ms) Timestamp Description MAX 3600 1000 Beginning	n Type: Summary Post Detector Delay: 0 ms
MAX 3600 1000 Beginning	e Duration (s) Resolution (ms) Timestamp Description
< >	K 3600 1000 Beginning
< >>	
< >>	
< >>	
< >	
< >>	
< >>	
Add Proportion Delete Close All Tone	>
Adu Flopelites Delete Clear Ali Tags	Add Proportion Doloto Close All Tage
	Add Properties Delete Clear All Tags
< Back Finish Cancel Help	Add Properties Delete Clear All Tags

- Click Add configure summary calculations.
- Click **Tags** to assign the tags to be summarized.

SQL Server Prerequisites

To verify, open **Microsoft SQL Server Management Studio** and connect to the SQL Server instance where the AVEVA Historian database is configured.

Once connected,

- Expand the **Runtime** database.
- Expand Views.
- Select the **v_SummaryData** view.



Right click the **v_SummaryData** view and choose *SELECT TOP 1000 Rows*. This should display data from the table representing the summary calculations generated by the Historian.

If the database or table does not exist or no data is displayed contact AVEVA technical support to troubleshoot and correct these issues.

SQL Server Considerations

When using SQL Server there are some things to take into consideration including remote connectivity and user authentication. For information on what to consider, see the setup document for **Microsoft SQL Server**.

Connector

To configure the connector to **AVEVA Historian – Summary Tables**, from the **Project Explorer** select **Data**, **Connectors**.

- Click Add
- Select AVEVA, AVEVA Historian Summary Tables
- Click **OK**

Connector Name	AVEVA_HistorianSummary_1	
Description	WW-2020	
Primary Server		
Name	WW-2020	
User	sa	
Secondary Server Name User		
	S	ettings

Primary Server

These settings define the connection to the Microsoft SQL Server database where the AVEVA Historian is configured.

- Select the Server Name as the machine name for the Historian.
- For **Log on to the server**, specify the proper authentication.
- Leave **Database** as *Runtime*.
- Click **Test Connection** to verify connectivity and return to the connector setup.

Secondary Server

These settings define the (optional) secondary AVEVA Historian server to connect to if a connection to the **Primary Server** fails.

Settings

The **Settings** button opens the **Settings** dialog that defines characteristics of the database that are used to retrieve data.

Settings ×
Client Wait Time (sec) 60
Table/Column Delimiter Start [End]
Date/Time Delimiter End [*
Date/Time Storage
Local Date and Time $$
Date format is YYYY-MM-DD
OK Cancel

Typically, these settings are defaulted correctly based SQL Server.

If queries timeout, increase the Client Wait Time.

The delimiter and timestamp settings are typically filled in automatically for the database and can be modified for other databases.

The **Date/Time Storage** settings define how timestamps are stored in the database. Using this setting the timestamps are manipulated when data is retrieved so that local timestamps are submitted in and returned.

Many databases require the Date format to be **YYYY-MM-DD** so that no interpretation needs to occur based on the Region settings of the Windows Operating System. It is recommended to always have this option checked.

Data Group

The following describes the historical data group settings specific to the **AVEVA Historian** connector. **Group Types**

📄 Select Group Type	Х
Summary Values from Server	
Summary Values from XLReporter use raw values	
O Raw Values	
O Raw Text	
 Sampled Values 	
◯ Live Values	
O Custom Values	
Base on	
 dank> ~	
OK Car	cel

For AVEVA Historian the following group types are available:

Summary Values from Server

This group type retrieves summary calculations directly from the historian summary values. For AVEVA Historian Summary Values, the following calculations are available:

- Average
- Maximum
- Minimum
- Total

Please note that while all of these calculations are available to select from if the calculation has not been configured or the tag selected is not configured for the calculation no data is returned.

Custom Values

This option opens the Database Group builder where a query can be configured to retrieve data from any table available in the database connected to by the connector.

Group Settings Retrieval Tab

File Edit Preview		
Setup Columns Time Pe	ariod Retrieval Filters	
	Duration=3600	
	×	
	Duration 1 hour V	
	Interpolation type	
	Values spaced every	
	O Number of values	
	Time deadband (ms)	
	Value deadband (%)	
	State calculation V	
	State Value	

The **Duration** provides a list of all the configured durations for the summary calculations configured in the historian. The selected duration is applied to all the configured **Columns**.

For example, if in the historian the tags *Flow*, *Pressure* and *Speed* are configured for hourly calculations and daily calculations, in Duration, *1 hour* and *1 day* are available. If *1 hour* is selected, the hourly values for each selected **Column** are retrieved.

Filters Tab

Quality=0			
Quality=0			
			^
			\vee
Value Filter	~ 0	AND	
Condition 2	× 100	7000	
	100		
Exclude NULL values			
Quality =	∽ Good	~	
Quality Rule	GOOD	\sim	
Data Version	ORIGINAL	~	
Time Zone	Russia TZ 6 S	itandard Time 🗸 🗸 🗸	
	Det Terre		

The configured filtering on this tab applies to the calculated values themselves and not to the underlying values that contribute to the calculation. For more information on the available settings, see the AVEVA Historian documentation.

AVEVA Historian Alarms

This connector is used to get alarms from AVEVA (formerly Wonderware) Historian Classic Event subsystem. This can be configured both locally on the historian machine and from a remote machine.

Connector

To configure the connector to **AVEVA Historian Alarms**, from the **Project Explorer** select **Data**, **Connectors**.

- Click Add
- Select AVEVA, AVEVA Historian Alarms
- Click **OK**

AVEVA Historian Alarms		x
Connector Name Description	AVEVA_HistorianAlarms_1	
Doonpation	VV VV-2020	
Primary Database		
Туре	Microsoft SQL Server	
Data Source	WW-2020	
		Settings
	OK	Cancel

Primary Database

This setting defines the SQL Server connection where the AVEVA Historian Alarms are configured to log to. Use the browse button [...] to define the database connection.

Since AVEVA Historian 2014 R2, the AVEVA Historian has stored its alarms in the *Runtime* database by default so that is the default **Database** available when defining the SQL Server connection. If the version of AVEVA Historian is before 2014 R2 or if the Classic Event subsystem has been configured to use the *A2ALMDB* database, change the **Database** setting accordingly.

Settings

The **Settings** button opens the **Settings** dialog that defines characteristics of the database that are used to retrieve data.

Settings ×
Client Wait Time (sec) 60
Table/Column Delimiter Start [[End]]
Date/Time Delimiter Start * End *
Date/Time Storage
OK Cancel

Typically, these settings are defaulted correctly for SQL Server.

Data Group

The following describes the historical data group settings specific to the **AVEVA Historian Alarms** connector.

Group Types

Select Group Type
O Summary Values from Server
Summary Values from XLReporter
Raw Values
◯ Raw Text
O Sampled Values
◯ Live Values
◯ Custom Values
Base on
<pre></pre>
OK Cancel

For AVEVA Historian Alarms the following group types are available:

Raw Values

This group retrieves every value logged to the historian between the start and end time specified.

Custom Values

This option opens the Database Group builder where a query can be configured to retrieve data from any table available in the database connected to by the connector.

Group Settings

Setup Tab

etup Columns Time Period Filters				
D	escription			
-1	atabase			
	Definition	Specific	~	
	lable/View	_ Tables ⊻ Vie	ws	
		v_Administory	•	
	Date Column	EventStamp	~	
		Date includes Time		
	Time Column		~	
	ictric val			
	Retrieval Mode	Raw Values	~	
	Rate (secs)	30		

Database

These settings define where the alarm data for group is retrieved. Typically, **Table/View** should be set to *v_AlarmHistory* with **Date Column** set to *EventStamp* and **Date includes Time** checked.

Filters Tab

If the **Perform by Server** option is checked, any filter configured in this tab is put into the *WHERE* clause of the query sent to the database to retrieve data for the group. Otherwise, the configured filtering is performed by the reporting engine after the values are returned. It is recommended to leave this setting checked as the performance is much better.

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