Data Connect



Using XLReporter with FactoryTalk® SE Data Logs - ODBC

Overview

XLReporter takes historical values from the FactoryTalk Data Logs to populate workbooks, periodically or on event, without needing Excel. The award-winning reporting software turns raw data into industrial metrics which are used for compliance, regulatory, improvements and operations.

Complete reports are distributed automatically by email, FTP, file server and printers. With the Web Portal, reports are viewed or produced on-demand from any device supporting a web browser such as a mobile phone, tablet, desktop or FactoryTalk ViewPoint.

Setup FactoryTalk View SE Data Log Models

Defining Data Log Models

Open the FactoryTalk View SE Studio from the Rockwell Software or FactoryTalk View program group then open the current application.

Under the Data Log folder in the Explorer, select the Data Log Models icon.

Under the Setup tab,

<u>S</u> etup P	aths File <u>M</u> anager	nent Log <u>T</u> riggers	Tags in Model
Model Name:	Untitled		
Description:	Power Station ODBC		ОК
Log File	D		Cancel
Identifier String:	PowerStationUDBL		
Charles Franch			нер
Storage Format	ODBC database		
ODBC Data Source:		. Login Re	quired
Tag Table:	TagTable .	Userld:	
Float Table:	FloatTable .		
String Table:	StringTable .	. Confirm Password:	
	Create Table	es	
	Create Table	is	

- Add a **Description** and *Log File Identifier String*.
- Set the Storage Format to ODBC database.
- For **ODBC Data Source** click the browse pushbutton [...]

Select the System Data Source tab. Use an existing DSN or select New to create a new one. For a new DSN,



- Select System Data Source.
- Click Next.



• Select the driver to make the connection the data source.

SQL Server\SQL Express Configuration

It is highly recommended to use SQL Server or SQL Server Express as the data source for the Data Log Model. SQL Server Express is a free and downloadable from Microsoft's website. For SQL Server or SQL Server Express,

Create a New Data Sou	rce to SQL Server X
	This wizard will help you create an ODBC data source that you can use to connect to SQL Server.
	What name do you want to use to refer to the data source?
	How do you want to describe the data source?
	Description: Data Log Model Database
	Which SQL Server do you want to connect to?
	Server: RA-1\SQLEXPRESS

- Enter a Name, Description and select Server. If the Server is not listed, enter it manually.
- Click Next.

Create a New Data Source to SQL Server		×
	How should SQL Server verify the authenticity of the login ID? With Windows NT authentication using the network login ID. With SQL Server authentication using a login ID and password entered by the user.	
	To change the network library used to communicate with SQL Server, click Client Configuration.	

- Select the authentication type
- Click Next.



- Select the default database.
- Click Finish.

The DSN configured should now be set as the **ODBC Data Source**.

<u>S</u> etup <u>P</u> a	aths File <u>M</u> ana	agement 🎽	Log <u>T</u> riggers	Tags in Model
fodel Name:	Untitled			
Description:	Power Station ODB	2		
.og File	PowerStation0DPC			Cancel
dentifier String:	1 owerstationoppe			Help
O File Set	ODBC databas FTSE_DL_ODBC	:e	🗌 Login Re	quired
Tag Table:	TagTable		User Id:	
Float Table:	FloatTable		Password:	
String Table:	StringTable		Confirm Password:	
	Create T	ables		

• Click Create Tables.

Under the **Paths** tab the **ODBC Backup Path** can be enabled so that if the database is unavailable, data is not lost.

The total number of characters and spaces allowed for the path and name is 255.

Under the **File Management** tab the **Purge Oldest Records in ODBC Database** option is available to periodically remove old historical data from the database.

🕤 Untitled - /InstantFizz_SE/ (Data Log Models)	X
Setup Paths File Management Log Triggers	Tags in Model
	ОК
	Cancel
	Help
Purge Oldest Records in ODBC Database	
Records older than the maximum time are purged in the ODBC database at midnight.	

Under the Log Triggers tab,

🔓 Untitled - /lr	stantFizz_SE/ (Dat	a Log Models)		×
Setup	Paths File	Management L	og <u>T</u> riggers	Tags in Model
Periodic	🔿 On Change	e 🔿 On Deman	d [OK
Log Periodi	cally			Cancel
Interval:	1	Minutes	~	Help

 Specify how the logging of tag values will be triggered i.e. periodically, on change or on demand. The **On Demand** option will log data when the **DataLogSnapshot** command is issued. This command can be issued from anywhere that commands and macros are supported. For example, it could be typed in the command line or specified as the action for an event. If **Periodic** or **On Change** is selected, on demand logging can still be used whenever it is appropriate.

Under the Tags in Model tab,

Untitled - /InstantFizz_SE/ (Data Log Models)		
<u>S</u> etup <u>P</u> aths	File <u>M</u> anagement Log <u>T</u> riggers	T <u>ag</u> s in Model
Enter tag names, separated by a space if more than one, in the "Tag(s) to Add" box, then choose the "Add" button to add them to the list of tags in the model.		
Tag(s) to Add:	{Dashboard_Trending\Current_OEE_F	Hale
Add Remove Remove All	system/BlinkFast system/BlinkSlow system/Date system/DateAndTimeInteger system/DayOfMonth system/DayOfMonth system/DayOfYear system/Hour system/Month system/Month system/MonthString	пец
	svstem∖Second ✓ 16 Tag(s) in the Model	

- Specify the tags to be logged. The maximum number of tags that can be logged by one data log model is 10,000.
- Close the dialog.

On close the **Save** dialog is opened.

Save	\times
Component name: Power Station	
OK Cano	el

Add a *Component* name. This is the name of the Data Log Model.

Start Data Log

To start the data log when FactoryTalk View SE starts, access the HMI Properties dialog.

Explorer - InstantFizz_SE		x
⊡ 🔲 Local (RA-1)		
🖶 🔯 InstantFizz_SE		
Runtime Sec	urity	
⊖ <mark>[□ InstantFire S</mark> ⊖ — Syste	Add Controller Instruction Faceplates	
	Server Status	
	Properties	
📄 🚄 Graphics		

• Right click on the application and select *Properties*.

Under the Components tab,

InstantFizz_SE Properties	×
General Components	
On startup components	
	Power Station
Data logging:	
Derived tags:	
Events:	~
Macro:	startup
🗌 On shutdown macro:	loginMacro \vee
Run Startup Components	s Stop All Running Components
ОК	Cancel Apply Help

• Check **Data Logging** and select the data log model.

If more than one data log model needs to be started, they can be started using the command:

DataLogOn "Component name"

Where "*Component name*" is the data log model name. If the model name has a space in it, enclose the name in quotes. The command can be issued from the command line or from a startup or login macro. For example:

DataLogOn"Power Station"

Note that in FactoryTalk View SE, a HMI server can have up to 20 data log models running at one time.

Prerequisites

Verify Database

Open **Microsoft SQL Server Management Studio** and connect to the SQL Server or SQL Server Express instance set up for the Data Log Model.



Expand **Database** and then the database configured for the Data Log Model and expand **Tables**. Right-click the *tag* and *float tables* and choose **Select Top 1000 Rows**.

If no data is returned contact Rockwell Automation technical support and correct these issues.

Create a Project

From the **XLReporter Project Explorer** select **File, New** to start the **Project Wizard**. This will give step-by-step instructions on creating a project

Step 1

• Enter a **Project Name** and **Description** (optional).

New Project	
Step 1 : Specify the Project N	Name and its Location.
Project Name:	XLR_Project Project Off Line
Description:	Customer or Site name
Project Location:	c:\XLRprojects
< Bai	ck Next > Finish Cancel

Step 2

• Configure the data connector, click Add

Nev	w Proje	t									
s	Step 2 : Configure the Connectors (data sources) of the Project.										
R	Add	🖉 Modify 🔀 Delet	e 🌼 Catalog								
	Name		Provider	Description							
*											

Select Rockwell Automation, FactoryTalk View SE Historical Values

actoryTalk View SE Hist	orical values	×
Connector Name	FactoryTalkViewSE_History	
Description	RA-1\SQLEXPRESS	
Primary Database		
Туре	Microsoft SQL Server	
Data Source	RA-1\SQLEXPRESS	
Tables		
Tag Table	TagTable	~
Float Table	FloatTable	~
String Table	StringTable	~
		Settings
		OK Cancel

• Set **Primary Database** to the database where the data log model is configured.

Verify the Data Connector

XLReporter retrieves data from the Data Connector using a History Group.

From the XLReporter Project Explorer select, Tools, Connector Groups

Select the FactoryTalk historical connector and then select Add.

• Set the **Type** *Raw Values* and click **OK**.

On the **Columns** tab of the group, select the tag **Name**(s).

elected Columns			
Name	Scaling	Heading	
SYSTEM\BLINKFAST		SYSTEM\BLINKFAST	
SYSTEM\BLINKSLOW		SYSTEM\BLINKSLOW	
SYSTEM\DATE		SYSTEM\DATE	
SYSTEM\DATEANDTIMEINTEGER		SYSTEM\DATEANDTIMEINTEGER	
SYSTEM\DATEANDTIMESTRING		SYSTEM\DATEANDTIMESTRING	
SYSTEM\DAYOFMONTH		SYSTEM\DAYOFMONTH	
SYSTEM\DAYOFWEEK		SYSTEM\DAYOFWEEK	
SYSTEM\DAYOFYEAR		SYSTEM\DAYOFYEAR	
SYSTEM\HOUR		SYSTEM\HOUR	
SYSTEM\MINUTE		SYSTEM\MINUTE	
SYSTEM\MONTH		SYSTEM\MONTH	
SYSTEM\MONTHSTRING		SYSTEM\MONTHSTRING	
SYSTEM\SECOND		SYSTEM\SECOND	
SYSTEM\TIME		SYSTEM\TIME	
SYSTEM\USER		SYSTEM\USER	
SYSTEM\YEAR		SYSTEM\YEAR	

Select Preview, pick a Start date and click Refresh.

FIEVIEW				×
🔁 Refresh 💿 Stop 🛛 🔍	Date	SYSTEM\BLINKFAST	SYSTEM\BLINKSLOW	1
A Date	1/8/2020 1:45:09 PM	0	0	
Start 08 Jan 2020	1/8/2020 1:46:09 PM	1	1	
End 09 Jan 2020	1/8/2020 1:47:09 PM	1	0	
0 0 🔺 🕨 - 🕨	1/8/2020 1:48:09 PM	1	1	
	1/8/2020 1:49:09 PM	0	1	
	1/8/2020 1:50:09 PM	1	1	
	1/8/2020 1:51:09 PM	1	0	
	1/8/2020 1:52:09 PM	1	0	
	1/8/2020 1:53:09 PM	0	1	
	1/8/2020 1:54:09 PM	1	1	
	1/8/2020 1:55:09 PM	1	0	
	1/8/2020 1:56:09 PM	0	0	Ξ,
	<		2	