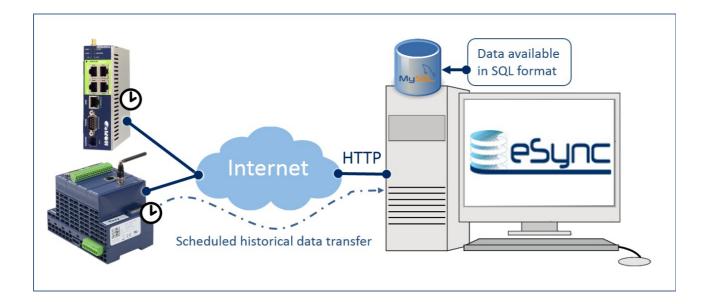
**eWON Application User Guide** AUG 029 / Rev 2.1



# Data Transfer Management with eSync 1.5





This document explains how to configure the eSync 1.5 Server and your eWONs in order to use the Data Transfer Management feature of the eSync 1.5 Server.

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# **1. Hardware and Software Requirements**

### **1.1 Hardware Requirements**

In order to follow this guide you'll need:

- One server or PC on which the eSync server will be installed.
  - eSync Server will run on:
    - Windows 7 or higher
    - Windows 2008 or higher.
- At least 1 eWON with historical capabilities (4001, 4005, Flexy 10x and 20x).

### **1.2 Software Requirements**

#### eWON Configuration Software:

The eWON is configured through its web server. All you need is a standard Web Browser software like Internet Explorer<sup>i</sup>, Firefox<sup>ii</sup> or Chrome<sup>iii</sup>.

Additionally we suggest you download the eBuddy utility from our website : <u>http://support.ewon.biz.</u> This utility allows you to list all the eWONs on your network and to change the default IP address of an eWON to match your LAN IP address range. With eBuddy you can also easily upgrade the firmware of your eWON (if required).

#### Other Programming Software:

• The eSync Server installation software.

### **1.3 eWON Firmware Version**

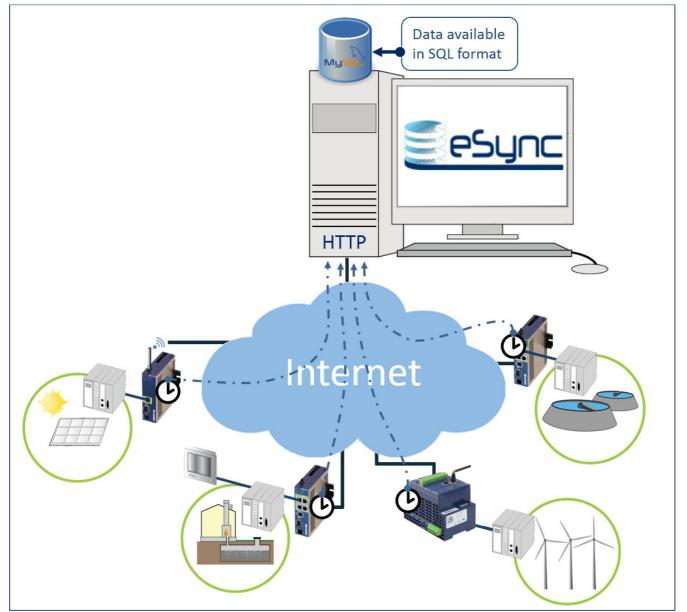
To be able to follow this guide your eWON needs firmware version 5.6s3 or higher. A simple way to perform the eWON firmware upgrade is to use eBuddy, the eWON software companion.



# 2. How Does the Data Transfer Management Work?

# 2.1 Basic Principle

The eSync Data Transfer Management feature has been developed to collect the *Historical Data* of the different eWONs in the field.



*Historical Data* include: historical values of tags, alarm history. The *real time values* are also sent during synchronization (tag value and alarm summary).

The eWON historical data may come from the devices (PLC, etc) which are polled by eWON using its serial or Ethernet link.

eWON will be configured to send its historical data periodically to the eSync server.

eSync will store all the received data into a relational database (MySQL).



The eSync Server Website allows you to manage the transfer of the historical data and to store this data in the eSync SQL database in order to make it available for third party reporting systems.

The eSync database is meant to be a transit database, the data being generally transferred to an external database.

## 2.2 Data Synchronization

Every time the eWON establishes a connection to the eSync Server in order to synchronize its data, the eSync server informs the eWON about the timestamps of the last received data (historical tag data, historical alarm data and tag information). eWON will then take these timestamps into account and upload only the new recorded data using Put HTTP requests to the eSync Server.



# **3.eSync Server Installation**

### 3.1 Installation Scope

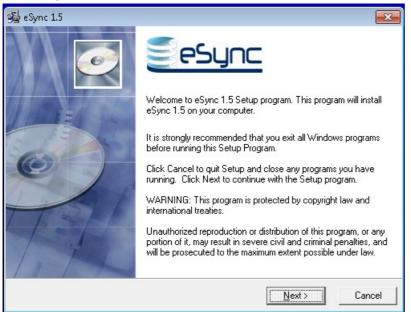
The following software will be installed on the PC:

- An *Apache* WebServer (listening on the default port 80)
- If you have already a Webserver running on your computer, then eSync will use the port 81.
- A MySQL Database listening on port 3306
- If you have already another one running on your computer, then MySQL will use the port 3307.

## 3.2 Installation Process

To install the eSync Server just launch the "eSyncSetup.exe" setup program.

During installation you will also need to define the Port on which the Web Server will listen. By default port 80 is used. This is also the port on which the Data Transfer Management feature will listen for incoming data.





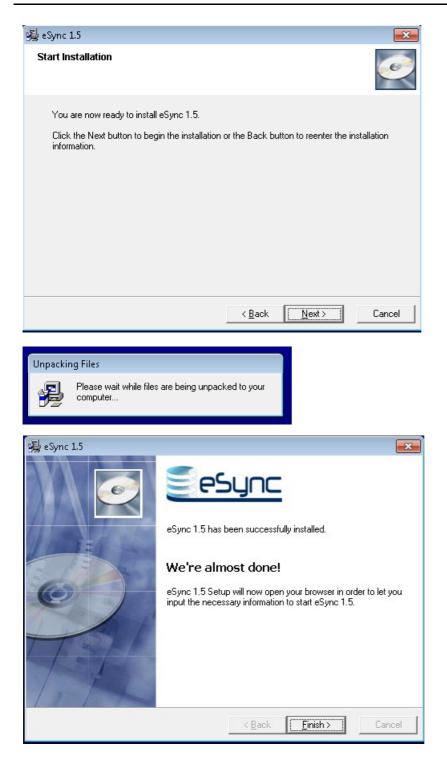
#### 3. eSync Server Installation

😼 eSync 1.5	<b>—</b>
Destination Location	
Setup will install eSync 1.5 in the following fo	lder.
To install into a different folder, click Browse,	and select another folder.
You can choose not to install eSync 1.5 by c	licking Cancel to exit Setup.
Destination Folder	
c:\eSync	B <u>r</u> owse
Wise Installation Wizard®	< <u>B</u> ack <u>Next</u> > Cancel

缦 eSync 1.5	<b>—</b>
Advanced Settings	
<ul> <li>eSync Services should start <u>a</u>utomatical If you prefer to start them manually, use</li> </ul>	lly when Windows starts. 'StartServices.bat' in the eSync directory.
Web Server Port: 80	
	< <u>B</u> ack <u>Next&gt;</u> Cancel



#### 3. eSync Server Installation



At the end of the installation, the setup program will open the browser on your PC in order to let you encode the necessary information to start eSync.



#### 3. eSync Server Installation

🔶 🕘 🏉 http://localhost/syst	temsetup.php?initialsetup=1		X S Z - Q	🖉 System Setup 🛛 🗙 👘	ሰ ታ
	System Setup	eWONs Setup	Tree Setup	Users Setup	Main Menu
					17/04/2014 10:58:16
Server Synchro					
Default Password:	(Default password	used by the eWON to connect to th	e server)		
Confirm password:					
		Sta	rt eSvnc		

In the "Server Synchro" section enter a password which by default should be used on the eWON for the Data Synchronization. You can also leave this field empty.

Click on the "Start eSync" button to startup the eSync Server. You will receive following confirmation message:

🖉 System Setup - Microsoft Int	ernet Explorer				_	. 🗆 🗙
<u>File E</u> dit <u>V</u> iew F <u>a</u> vorites <u>T</u> o	ools <u>H</u> elp					-
🔇 Back 🝷 🕘 👻 😰 🐔 🛛	🔎 Search 🛛 🔶 Favorite:	s 🙆 😥 🍡 🛃				
Address 🙆 http://localhost/ready.j	php				🔽 🄁 Go 🛛 L	.inks »
	System Setup	eWONs Setup	Tree Setup	Users Setup	Main Menu	
					11/06/2009 18:46:39	9
	The es	Sync Server is nov	w up and running.			
Here are the next steps you • Declare eWONs and • Update the eWONs • Let users install eCA • Click the Main Menu	l users in the eSync D VPN setup to let them ATCHER on their comp	n connect to the serve puter to easily connec	r. at to the VPN.		tion.	



# 4. eSync Server Configuration

#### 4.1 eSync Server Web Pages

To access the eSync server configuration web pages, type the IP address of the server in the web browser of your PC or "localhost" in case you use the local eSync Server's browser (http://Server IP address or http://localhost).

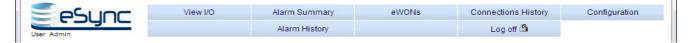
The following login page will be displayed:

	PSYNC
User Name:	adm
Password:	
Please enter your user name and password, then	Enter
Your Eye Watch	ing Over Net, by <u>eWON s.a.</u>

Login using the default user name and password (adm / adm)

On the top of the eSync server Web Interface you will find two different types of menus: the "Main Menu" and the "Configuration Menu".

The Main menu will allow you to access the different visualization pages:



To display the Configuration menu click on the "Configuration" button.



The configuration menu will allow you to configure the different eWONs and users which will be able to connect to the eSync server.

To display again the visualization menu click on the "Main menu" button.



# 4.2 eWON Definition

Every eWON for which data has to be collected must be defined in eSync.

For this, go to the configuration menu and click on the "eWON Setup" menu.

	System Setup	eWONs Setup 1	Tree Setup	Users Setup	Main Menu
• eSync	> <u>eSync</u>				Records per page: 20 OK
eWON_Factory1 Factory_2	Add an eWON	2 Delete selected	eWONs Synchron	ize selected eWONs	06/05/2014 15:20:27
flexy_sdr swr 40	Name	S/N	Description		
en click on the "/	Add eWON" link t	to open following	g page:		
	System Setup	eWONs Setup	Tree Setup	Users Setup	Main Menu
eSyncid:	My New eWON				
Description:	This is a new eWON				
Serial Number:	1142-0032-41				
Additional Information:	Optional				
Server Synchro					
Password:	(This is t	the password used by the eWON	to connect to the server)		
Confirm password:	()	hase fields empty to use the def			

Enter an **eSyncId** which will identify the eWON on the eSync server. This ID will also have to be set in the eWON (See "Data Management" section in Configuration  $\rightarrow$  System Setup  $\rightarrow$  General). The serial number of the eWON must also be encoded. The serial number will be checked during connection, so be sure to encode the correct serial number. However, if you do not know the eWON serial number, leave the field empty. eSync will then read and update the eWON serial number at the first connection.

Cancel

Add/Updat

The *Server Synchro* section allows you to encode the password that eWON has to use when synchronizing its Data. You can also leave the password field empty if you don't want to specify a password for the connection.

When all required fields are correctly filled, Click Add/update button.



		System Setup	eWONs Setup	Tree	Setup	Users Setu	p	Main Menu
▼ е Sync	> <u>eSyr</u>	<u>10</u>					R	ecords per page: 20 <u>OK</u>
eWON_Factory1 Factory_2		Add an eWON	Delete selected	eWONs	Synchronize	e selected eWONs		06/05/2014 15:29:07
flexy_sdr My New eWON		Name	S/N	Descr	iption			
swr_40		eWON Factory1	0727-0008-73					
		Factory 2						
		flexy sdr	1409-0008-21					
		My New eWON	1142-0032-41	This is	a new eWON			
		<u>swr 40</u>						

The web page now displays the newly created eWON.

## 4.3 Tree Setup

If you have many eWONs to manage, it would probably be better to define a tree structure for the eWON list. For this go to the configuration menu and click on the *Tree Setup* menu.

esync	System Setup	eWONs Setup	Tree Setup	Users Setup	Main Menu
User: Admin	> <u>eSync</u>		<u> </u>		06/05/2014 15:34:24
eWON_Factory1 Factory_2 flexy_sdr	Create a new folder (in the curre	int folder):	Create Folder		00/00/2014 10.34.24
flexy_sdr My New eWON swr_40	Create a new folder (in the curre	nt folder):	Create Folder		

Create Folder

Enter a name for the new folder to create. (Tree structure).

We will for example create a structure reflecting the countries where eWONs are located:

Create a new folder (in the current folder): Belgium

Let's create the Folder called "Belgium". Click on the "Create Folder" button to create the folder. Following structure will be displayed:

	System Setup	eWONs Setup	Tree Setup	Users Setup	Main Menu
	> <u>eSync</u> > <u>Belgium</u>				
▼ eSync Belgium eWON_Factory1					06/05/2014 15:44:15
Factory_2 flexy_sdr My New eWON	Create a new folder (in the currer	nt folder):	Create Folder		
swr_40	Rename the current folder:		Rename		
	Delete the current folder.				
	Move the current folder into anot	her folder.			

You can now either create a new folder in the selected folder or rename a selected folder, etc.



To move the eWON we have just created (called "My New eWON") into the "Belgium" folder, select first the eWON. Following window will appear:

	System Setup	eWONs Setup	Tree Setup	Users Setup	Main Menu
▼ eSync Belgium eWON_Factory1	> <u>eSync</u> > My New eWON				06/05/2014 15:47:19
Factory_2 flexy_sdr My New eWON swr_40	Move the current station into and	ther folder.			

Click "Move" to move the eWON into an other folder.

Select the "Belgium" folder.

		Main Menu
/fy New eWON		06/05/2014 15:47:19
estination folder:		
		·

As you can see the eWON called "My New eWON" is now located under "Belgium" in the tree representation.

		System Setup	6	eWONs Setup 1		Tree Se	etup	Users Setu	D	Main Menu
▼ eSync ▼ Belgium My New eWON	> <u>eSyr</u>	<u>c&gt; Belgium</u> > My New e Add an eWON	won	Delete selected e	WONs		Synchronize	selected eWONs	Re	ecords per page: 20 <u>OK</u> 06/05/2014 15:54:20
eWON_Factory1 Factory_2 flexy_sdr		Name My New eWON		S/N 1142-0032-41		Descriptio				
swr_40	]	<u>,</u>								

To define supplementary eWONs for the Data Transfer Management, proceed as explained above using the "eWON Setup" menu and the "Add an eWON" button. To create the eWON directly under the desired tree item, select first the folder in which you want to define the eWON.

Proceeding like this you can for example create following eWON structure:

esync	System Setup	eWONs Setup	Tree Setup	Users Setup	Main Menu
User: Admin	> <u>eSync</u> > <u>Belgium</u>				
▼ eSync ▼ Belgium					06/05/2014 15:59:02
▼ Bergium flexy_sdr My New eWON ▼ France eWON_Factory1	Create a new folder (in the curren	nt folder):	Create Folder	]	
Factory_2	Rename the current folder:	1	Rename		
swr_40	Delete the current folder.	her folder.			



# **5.eWON Configuration**

We assume that you already created tags inside your eWON and that you activated the historical logging for the tags you want to store.

#### 5.1 Data Management Parameters

On the eWON, open the Data Management configuration page using the following menu:

```
Configuration \rightarrow System Setup \rightarrow General \rightarrow Net services \rightarrow Data Management
     ewon
                                            Tag Setup
                                                                          System Setup
                                                                                                        IO Server Config
                                                                                                                                           Main Menu
                                          Script Setup
                                                                          Users Setup
                                                                                                           Pages List
                                                                                                                                                                Wizards
                                                                                                      Storage
Main settings
                                   Data Management
🗄 ... 💿 General
Net services
                                     eWON Data Management ID
                                                                   eWON Factory1
                                                                                            This is the eWON ID specified on the acquisition server
     . 🗊 VCOM
                                     Password
                                                                   .....
                                                                                            (if specified on the acquisition server)
     😭 SMTP (mails)
                                                                   www.mysite.com
                                                                                                               ex: http://your_server.com:8080 or your_set
      🚯 NTP (time)
                                     Server LIRI
                                                                     your_server.com
     🐴 FTP
                                     Upload interval
                                                                   10
                                                                                            Minutes (leave 0 if you use the "Advanced data transfert schedule bellow)
     💂 SNMP
     🧧 Data Management
                                     Advanced data transfert schedule
  🐻 Diagnosis
                                                                   A 🔲 B 🔲 C 🔲 D 🔲 Select which data will be transfered.
                                     Select tag group(s)
                                     Upload on alarm
```

Update Cancel

In the **eWON Data Management ID** field, enter the **eSyncID** that you specified for this eWON on the eSync Server.

In the *Password* field encode the Password you declared for this eWON on the eSync server.

In the **Server URL** field enter the address on which the eSync server can be reached. This can for example be the local IP address of the server or the public IP address on which the server can be reached.

If you specified an other port than port 80 for the Web server during eSync installation, then you will need to specify here also the port which must be use. For example: <u>www.mysite.com</u>:8080, or 10.0.10.254:88

In the *Upload Interval* field specify the synchronization interval. For example "60", to synchronize every 60 minutes.

Click the Update button to valid your entries.

eWON will now automatically trigger the synchronization as specified.



#### **Optional configuration parameters:**

**Advanced data transfer schedule:** This field allows to encode a more complex synchronization schedule than using the upload interval. To use the advanced scheduler set the "Upload interval" field to 0, and use the same syntax as the one used for the eWON Planner.

For example **0** \*/**6** \* \* \* will trigger the upload every 6 hours (at 0, 6, 12 and 18 o'clock). Refer to the eWON General Reference Guide for detailed syntax information (RG-001-0-EN)

**Select tag group(s)**: this option allows to synchronize the historical data only of a few tags instead of all eWON tags. When a Tag group is selected, then eWON will only export the historical data values for the tags belonging to the selected group.

Note: This filter only applies to the historical stored values of the eWON. The filter is not applied on the realtime and alarm values. So the realtime values and alarm info of all tags will still be synchronized.

**Upload on alarm**: When selected, the data synchronization will also be triggered when one of the tags of the selected groups rises an alarm.

#### 5.2 Synchronization Using Scripting

Next to the automatically synchronization configured here above, it is also possible to trigger the data synchronization using basic scripting.

The basic function "DMSync" will trigger the eWON to synchronize its data.

For example to trigger one single synchronization, you can proceed as follows:

Open the eWON Script Control section.

Configuration –	→ Script Setup –	→ Script Contro		
ewon	Tag Setup	System Setup	IO Server Config	Main Menu
eWON_SiteB	Script Setup	Users Setup	Pages List	
Edit Scripts	Script Control	STC	P (currently running)	11/06/200
		<i>V</i>		
Update Output	Script starts at eWON Boot 🛛 🗹	Update Autorun	mode	

Enter "DMSync" into the field on the bottom of the Script control window and click on the "Execute Command" button. A Data synchronization is then immediately started.

### **5.3 Synchronization status**

To check if the synchronization succeeded, open the eWON diagnostic window using following link



Main Menu →	Diagnosti	c→ E	vent Log						
ewon_siteb	View I/	0	Alarm Summary Alarm History	F	Diagnostic iles Trojets	Configuration			
Event Log	<u>Status</u>	Scheduled Actions		Real Time Log		11/06/2009 19:13:			
Event log Event Class: << Previous Page Next	All Events	💌 Rep	orting Level: Trace 💌 Per l	Page: 20	Update (3)				
Time	Event		Descripti	ion	<b>S</b>	Originator	Help		
11/06/2009 19:13:41	1073773732	esync-End	esync-End of Data management export (0 min.) esyncitf						
11/06/2009 19:13:32	1073773731	esync-Starting Data management export esyncitf							

In the Green menu select "Trace" for the Reporting Level and click on the "Update" button.

The event Log should contain 2 messages:

- one for the synchronization start.
- one for the synchronization end.

As this means that eWON transferred the data to the eSync Server, you can now have a look at the Server side to visualize the received data.



# 6. eSync Data Transfer Management Pages

Once the eWON has synchronized its data with the eSync server, you can use the visualization menu of the eSync Server to display the received data.

					Registered to: ewon support
Sunc	View I/O	Alarm Summary	eWONs	Connections History	Configuration
User: Jean-Paul		Alarm History			Log off 角

## 6.1 View IO

פרע וחר		View I/O		View I/O Alarm Summary		y	eWONs	Connections History	Configuration
Jser: Admin				Alarm History			Log off 🕮		
eSync	> <u>eS</u> )	<u>ync</u>					Re	ecords per page: 20 <u>OK</u>	
▶ Belgium ▶ France		<< Previous Page		<u>Next Page &gt;&gt;</u>	Select	ed Tags History	Delete Selected Tags	06/05/2014 16:31:36	
swr_40		$\bigtriangleup$	Station	Tag Name	Value	Description			
			eWON_Factory1	Bool_040	1	Bool_040			
		Ö	eWON_Factory1	Tag_001	12	Tag_001			
		Ŏ	eWON_Factory1	Tag_002	17	Tag_002			
			eWON_Factory1	Tag_003	22	Tag_003			
			eWON_Factory1	Tag_004	27	Tag_004			
			eWON_Factory1	Tag_005	32	Tag_005			
			eWON_Factory1	Tag_006	37	Tag_006			
			eWON_Factory1	Tag_007	42	Tag_007			
			eWON_Factory1	Tag_008	47	Tag_008			
			eWON_Factory1	Tag_009	52	Tag_009			
			eWON_Factory1	Tag_010	57	Tag_010			
			eWON_Factory1	Tag_011	62	Tag_011			

The View IO window displays the different tags of the eWONs which have successfully synchronized their data.

In the tree structure on the left side of the window select the eWON for which you want to display the tags.

Following info is displayed for each tag:

- Station: the eSyncID of the eWON which transferred the data
- **Tag Name**: the name of the Tag as defined inside the eWON
- Value: the value of the tag at the time of the last synchronization
- **Description**: the description of the tag as defined inside the eWON
- **Bell icon**: the bell icon indicates that an alarm condition was present for this tag at the time of the last synchronization.

This window also allows you to verify the imported historical data of each tag. Select the tag you want to verify using the the check box in front of the tag and click on the "Selected Tags History" menu on the top of the table.



#### 6. eSync Data Transfer Management Pages

פרו וחר	١	View I/O	Alarm Summary			eWONs	Connections Histo	ry	Configuration	
User: Admin			Alarm History				Log off 🕮			
▼ е Sync							Reo	ords per page: 20 <u>OK</u>		
Belgium France	<u>&lt;&lt; Pr</u>	evious Page	<u>Next Page &gt;&gt;</u>	Sel	lecte	d Tags History	Delete Selected Tags		06/05/2014 16:33:17	
swr_40	$\bigtriangleup$	Station	Tag Name	Value		Description	(2)			
		eWON_Factory1	Bool_040		1	Bool_040	-			
(1)	Ö	eWON_Factory1	Tag_001		12	Tag_001				
$\cup$	Ö	eWON_Factory1	Tag_002		17	Tag_002				
		eWON_Factory1	Tag_003		22	Tag_003				
		eWON_Factory1	Tag_004		27	Tag_004				
		eWON_Factory1	Tag_005		32	Tag_005				

#### A table displaying the last 20 received records for the selected tags will be displayed.

	<u>Next f</u>	Page >>	01/09/2014 09:09:47
Station	Tag	Date	Value
Rockwell	Tank1_Level	2014-09-01 08:21:40	1200
Rockwell	Tank1_Level	2014-09-01 08:21:37	1100
Rockwell	Counter1	2014-09-01 08:21:37	683
Rockwell	Tank1_Level	2014-09-01 08:21:36	1000
Rockwell	Tank1_Level	2014-09-01 08:21:35	900
Rockwell	Counter1	2014-09-01 08:21:35	3665
Rockwell	Tank1_Level	2014-09-01 08:21:34	800
Rockwell	Tank1_Level	2014-09-01 08:21:33	700
Rockwell	Counter1	2014-09-01 08:21:33	1637
Rockwell	Tank1_Level	2014-09-01 08:21:32	600
Rockwell	Tank1_Level	2014-09-01 08:21:31	500
Rockwell	Counter1	2014-09-01 08:21:31	4627
Rockwell	Tank1_Level	2014-09-01 08:21:30	600
Rockwell	Tank1_Level	2014-09-01 08:21:29	700
Rockwell	Counter1	2014-09-01 08:21:29	2606
Rockwell	Tank1_Level	2014-09-01 08:21:28	800
Rockwell	Tank1_Level	2014-09-01 08:21:27	900
Rockwell	Counter1	2014-09-01 08:21:27	576
Rockwell	Tank1_Level	2014-09-01 08:21:26	1000
Rockwell	Tank1_Level	2014-09-01 08:21:25	1100



## 6.2 Alarm Summary

During data synchronization the alarm data is also transferred from the eWON to the eSync server.

Using the Alarm summary menu you can display the Alarm Summary status of the eWON at the time of the last synchronization.

Sync	View I/O	Alarm Summa	ny eWON	Is Connections Histo	Configuration	n
User: Admin		Alarm History		Log off 🕮		
▼ eSync	> <u>eSync</u> > <u>France</u> > eWON	_Factory1			Records per page: 20	<u>ок</u>
France					06/05/2014 16	5:52:45
eWON_Factory 2	Date	Station	Tag	Action/Date	User Ack Descr	ription
swr_40	2014-04-27 18:18:21	eWON_Factory1	Bool 021	ALM (Level) 2014-04-27 16:16:21	Bool_0	021
	2014-04-27 18:18:08	eWON_Factory1	<u>Tag 018</u>	ALM (Low) 2014-04-27 18:18:08	Tag_0	16
	2014-04-27 18:18:05	eWON_Factory1	Bool 022	RTN () 2014-04-27 18:18:38	Bool_0	)22
	2014-04-27 18:18:05	eWON_Factory1	Tag 001	ALM (LoLo) 2014-04-27 18:18:05	Tag_0	01
	2014-04-27 18:18:05	eWON_Factory1	Tag 002	ALM (Low) 2014-04-27 18:18:05	Tag_0	02
			Click on Tag Name f	for alarm hint		

In the tree structure on the left side of the window select the eWON for which you want to display the alarms.

# 6.3 Alarm History

During data synchronization the alarm data is also transferred from the eWON to the eSync server. Click "Alarm History" menu to display the Alarm History received from the eWONs.

esync	View I/O	Alarm	Summary	eWONs		Connections H	
Jser: Admin		Alarn	n History			Log off 🖞	
<pre>eSync</pre>	> <u>eSync</u> > <u>Belgium</u> > fle	xy_sdr	<b>(</b> )				Records per page: 20 <u>OK</u>
Belgium		<u>Next Page &gt;&gt;</u>	:				06/05/2014 16:56:05
My New eWON	Date	Station	Tag	Status	Туре	User Ack	Description
France swr_40	2014-05-05 10:07:43	flexy_sdr	Bool 022	RTN			Bool_022
	2014-05-05 10:07:42	flexy_sdr	Bool 021	RTN			Bool_021
	2014-05-05 10:07:40	flexy_sdr	Bool 022	ALM	Level		Bool_022
	2014-05-05 10:07:39	flexy_sdr	Bool 021	ALM	Level		Bool_021
	2014-05-05 10:07:37	flexy_sdr	Bool 022	RTN			Bool_022
	2014-05-05 10:07:35	flexy_sdr	Bool 021	RTN			Bool_021

By default the historical data of all the declared eWONs are displayed. Using the tree structure on the left side you can filter the alarm history list to display only the data of the selected eWON.



# **6.4 Connections History**

The Connection History menu allows to display the connections which occurred on the eSync Server.

esync	View I/O	Alarm Sum	mary	eWONs	Connections History	Configuration	I
User: Admin		Alarm Hist	tory		Log off 🕮 🗹		
Filter:	ок				Reco	rds per page: 20 <u>OK</u>	
	<u>Next Page &gt;&gt;</u>					06/05/2014 16:59:29	
Time	Name	Туре	Event				
06/05/2014 16:55:29	eWON_Factory1	eWON	Data Synchron	nization			
06/05/2014 16:50:15	eWON_Factory1	eWON	Data Synchror	nization			
06/05/2014 16:44:58	eWON_Factory1	eWON	Data Synchron	nization			

For each data synchronization the date and time and the name of the eWON (eSyncID) is displayed.

## 6.5 eWONs

This page will display the different eWONs which are currently defined on the eSync Server.

esync	View I/O	Alarm Sum	imary (1)	eWONs	Connections History	Configuration
User: Admin		Alarm His	tory		Log off 角	
▼ eSync	> <u>eSync</u>				R	ecords per page: 20 <u>OK</u>
Belgium France						06/05/2014 17:01:55
swr_40	Name	S/N	Last synchro	IP Address	Description	
	eWON Factory1	0727-0008-73	06/05/2014 17:00:4	9 WAN: <u>10.0.120.47</u>		
	Factory_2					
	flexy sdr	1409-0008-21	05/05/2014 10:04:4	9 WAN: <u>10.0.5.94</u>		
	My New eWON	1142-0032-41		<u> </u>	This is a new eWON	details
	swr_40			2		

Displayed columns are:

- Name: The eSync ID of the eWON
- S/N: the serial number of the eWON which transferred the data
- · Last synchro: date and time of the last synchronization
- IP Address: The IP address used by the eWON during the last synchronize.
   Note: If your eWON is connected to the eSync server using a local or a VPN network, then a click on the IP address link will open directly the eWON web page.
- Description: The description of the eWON as encoded inside eSync



# 7. Data suppression and maintenance

As the following actions will have a direct impact on the eSync database itself, only perform these actions if required and if you know what you are doing.

## 7.1 Database maintenance

Important: eSync does not handle the maintenance of the database. You are responsible for managing the data backup and handling any necessary data suppression to avoid that the database tables become too big.

Check our support web site for specific documentation concerning eSync data base backup and maintenance.

# 7.2 Suppress tag data

Probably during the project life it will happen that a tag which was synchronized before is not anymore required to be displayed inside eSync.

Deleting the tag out of the eWON will not suppress automatically the tag inside the eSync database, as the historical data of the tag may still be required.

If you want to delete the tag and its historical value out of the eSync database, you can perform this using the "Delete Selected Tags" option inside the ViewIO menu.

esync		View I/O	Alarm Sum	imary		eWONs	Connections History	Configuration
User: Jean-Paul		<u> </u>	Alarm His	story				Log off 🖨
-0	> <u>eSync</u>	≥ eWON_Factory1	Pa	ige: All	•		R	ecords per page: 2000 <u>OK</u>
<ul> <li>eSync</li> <li>Demo_Panel</li> </ul>		Selected Tags Hi	<u>story</u>		Delet	e Selected Tags		01/09/2014 13:12:01
eWON_Factory1	Ĺ.	Station	Tag Name	Value		Description		
		eWON_Factory1	Tag_001		11	tag 1 help help		
	🗹 🕺	É eWON_Factory1	Tag_0022		22			
		é eWON_Factory1	Tag_003 🤇	3)	33			
	<b>v</b>	eWON_Factory1	Tag_0044	-	44	tag 44 help		

A confirmation message box will be displayed:

Are you sure you want to delete these tags and their history ?



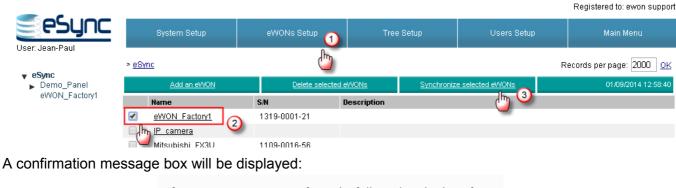
If you confirm then the Tag will be entirely removed out of the eSync Database.



# 7.3 Force eWON config synchronization

The data management system has been designed to exchange the minimum of data between the eWON and the eSync server. The complete Tag information and other general information are only sent to the eSync Server if a tag has been added or deleted on the eWON itself. Otherwise only the historical data is send to the server.

Whenever you need/want to force a complete synchronization of the eWON, you can do this by checking the "Synchronize selected eWON" option inside the eWON configuration page of eSync.



Are you sure you want to force the full synchronization of these stations upon next connection ? OK Cancel

During next eWON synchronization, the entire configuration data will be transferred.

### 7.4 Suppress eWON data

Deleting an eWON and all its tag information and history out of the eSync database is possible.

You can perform this using the "Delete Selected eWONs" option inside the eWON configuration page of eSync.

	System Setup	eWONs Setup	Tree Setup	Users Setup	Main Menu
user: Jean-Paul ▼ eSync ▶ Demo_Panel eWON_Factory1	≻ <u>eSvnc</u> Add an eWON	Delete selected e	WONs Synchronize	F selected eWONs	Records per page: 2000 <u>OK</u> 01/09/2014 13:05:45
	Name <u>eWON_Factory1</u>	<b>5лн Ц</b> 1319-0001-21			
	IP camera Mitsubishi FX3U	1109-0016-56			

A confirmation message box will be displayed:

Are you sure you want to delete	these stations	?
	ОК	Cancel



# 8. MySQL Data Base

All the historical data is stored on the MySQL database of the server.

The database used by eSync is called: esync

It contains the historical data and the configuration data of the eSync Server.

To access the database, use the following user name and password: eSyncExport / eSyncPwd. It is strongly recommended to modify the password.

# 8.1 Table esync\_stations: List of eWONs

Field name	Data Type	Description
ld	Integer(11)	Primary Key.
Name	Varchar(50)	Name of eWON station
Description	Varchar(100)	Empty if not specified
SN	Varchar(12)	eWON Serial Number

#### 8.2 Table esync\_tags: List of Tags

Field name	Data Type	Description
ld	Integer(11)	Primary Key. Internal tag id.
Name	Varchar(50)	Tag name
Description	Varchar(100)	Empty if not specified
StationId	Integer(11)	FK to esync_stations.Id. The station to which the tag belongs
Val	Double	Last instant value received from eWON. For information only.

Relation esync\_stations.Id / esync\_tags.StationId = one to many

# 8.3 Table esync\_tagshistory: Tags History



One record per tag	historical sample.
--------------------	--------------------

Field name	Data Type	Description
Tagld	Integer(11)	FK. Id of tag
_date	Datetime	Sample Timestamp
Msec	Smallint(6)	Additional timestamp info (millisecond). Rarely used (default=0).
Val	Double	Sample value
Quality	Tinyint(3)	Sample Quality. Cf. esync_quality: 0 = Bad 1 = Good 2 = Initial value (at power up)

(TagId, \_date, msec) = unique key.

Relation esync\_tags.ld / esync\_tagshistory.TagId = one to many



## 8.4 Table esync\_livealarms: Alarm Summary

One record per existing alarm. The record is updated during the life cycle of the alarm. It is deleted whenever the alarm ends.

Field name	Data Type	Description
Tagld	Integer(11)	FK. Id of tag which is responsible for the alarm.
StationId	Integer(11)	FK. Redundant.
AlarmTime	Datetime	When the alarm was created
AlarmStatus	Integer(11)	Sample value. Cf esync_alarmstatus table: 1 = PreTrigger 2 = ALM 3 = ACK 4 =RTN 5 =END (alarm history only)
AlarmType	Integer(11)	Sample Quality. Cf. esync_alarmtypes table: 1 = High 2 = Low 3 = Level 4 = HiHi 5 = LoLo
StatusTime	Datetime Timestamp of last status change	
Description	Varchar(50)	Optional.

NB: Tagld is unique since there can be only one live alarm per tag at any moment in time.



### 8.5 Table esync\_alarmshistory: Alarm History

One record per status change of each alarm. This implies that there are at least two records for the complete life cycle of each alarm (start and end). There may be more.

Field name	Data Type	Description
Tagld	Integer(11)	FK. Id of tag which is responsible for the alarm.
StationId	Integer(11)	FK. Redundant.
_date	Datetime	Time stamp of current event (alarm creation, end or status change)
Status	Integer(11)	Sample value. Cf esync_alarmstatus table: 1 = PreTrigger 2 = ALM 3 = ACK 4 =RTN 5 =END (alarm history only)
Туре	Integer(11)	Sample Quality. Cf. esync_alarmtypes table: 1 = High 2 = Low 3 = Level 4 = HiHi 5 = LoLo
Description	Varchar(50)	Optional.

(TagId, StationId, \_date) is unique

### 8.6 SQL Queries Example

Here is an example of queries you can use from third party SQL client software :

Get historical data of all the Tags of one station

SELECT ESYNC\_TAGS.NAME , \_date, msec, ESYNC\_TAGSHISTORY.Val, ESYNC\_TAGSHISTORY.Quality FROM ESYNC\_TAGSHISTORY INNER JOIN ESYNC\_TAGS ON ESYNC\_TAGSHISTORY.TAGID=ESYNC\_TAGS.ID WHERE ESYNC\_TAGS.STATIONID=1;

Get historical data of one particular Tag of one station

**SELECT** ESYNC\_TAGS.NAME , \_date, msec, ESYNC\_TAGSHISTORY.Val, ESYNC\_TAGSHISTORY.Quality **FROM** ESYNC\_TAGSHISTORY



**INNER JOIN** ESYNC\_TAGS **ON** ESYNC\_TAGSHISTORY.TAGID=ESYNC\_TAGS.ID **WHERE** ESYNC\_TAGS.ID=2 AND ESYNC\_TAGS.STATIONID=1;

OR

SELECT ESYNC\_TAGS.NAME , \_date, msec, ESYNC\_TAGSHISTORY.Val, ESYNC\_TAGSHISTORY.Quality FROM ESYNC\_TAGSHISTORY INNER JOIN ESYNC\_TAGS ON ESYNC\_TAGSHISTORY.TAGID=ESYNC\_TAGS.ID WHERE ESYNC\_TAGS.NAME="MyTagName" AND ESYNC\_TAGS.STATIONID=1;

Get Alarm History of all stations

**SELECT**\_date **AS** DATE, esync\_stations.Name **AS** STATION,esync\_tags.Name **AS** TAG, esync\_alarmstatus.Name **AS** STATUS, esync\_alarmtypes.Name **AS** TYPE, UserAck, esync\_alarmshistory.Description

FROM esync\_alarmshistory

**INNER JOIN** esync\_stations **ON** esync\_alarmshistory.StationId = esync\_stations.Id

INNER JOIN esync\_tags ON esync\_alarmshistory.TagId = esync\_tags.Id

**INNER JOIN** esync\_alarmstatus **ON** esync\_alarmstatus.Val = esync\_alarmshistory.Status

**INNER JOIN** esync\_alarmtypes **ON** esync\_alarmtypes.Val = esync\_alarmshistory.Type;



Revisions <i>Revision Level</i>	Date	Description
1.0	06/12/09	First release.
1.1	06/22/09	Chapter 5. Add of table explication for the data management data base.
2	01/08/14	Update to version 1.5
2.1	01/09/14	Info added concerning Tag and eWON suppression

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