

Reporting from eSync

XLReporter generates Excel based reports from historical logs and alarm archives stored in the MySQL database provided by eWON's eSync application.

The purpose of this document is to describe how to set up **XLReporter** to connect to the eSync database.

Before You Begin

eWON devices can be configured to log historical data by defining a logging schedule from the configuration web page of the eWON. The eWON must then be configured to upload this historical data to the Talk2M cloud storage service. Finally, the eSync software must be installed and configured to download the Talk2M data to its local MySQL database.

Before **XLReporter** can connect to the eSync database, both the 32-bit and 64-bit ODBC Connector drivers for MySQL must be installed on the machine where **XLReporter** is running. These drivers can be downloaded from the official MySQL web site.

Historical Data

In addition to raw values, informative metrics such as run times and statistics are obtained by simply selecting the tags and time frame of interest. e.g. hourly average, maximum and minimum for each hour of the day.

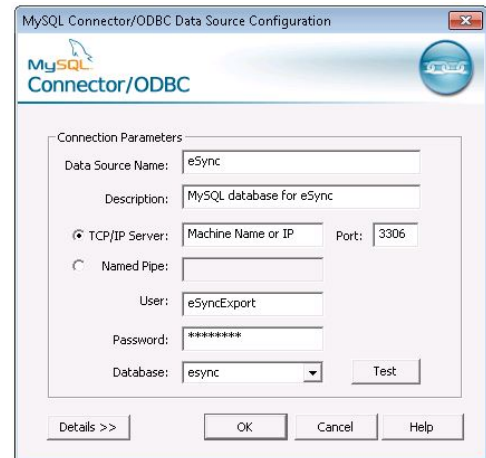
XLReporter performs raw calculations and time weighted calculations. The time weighted calculations would be used when the data is not logged periodically e.g. logging on change.

Creating a Historical Data Connector

From **XLReporter's Project Explorer**, open the **Data** tab, select **Connectors** and then **Add**.

From the **eWON** folder, select *eWON Historical Values*. Click **OK**.

In **Database Connect**, select *MySQL*. **XLReporter** uses a data source name (DSN) to reference the database eSync is using to store its information. Click **New** to create a DSN.



MySQL DSN Configuration

Assign a name to the DSN, and enter the server where eSync is running. Enter login credentials. The default credentials provided for data collection from the eSync database are *eSyncExport/eSyncPwd*. For the database, select *esync*. Click **Test Connection** to verify the connection parameters.

Verifying the Historical Data Connector

Create a **Connector Group** to verify that data can be retrieved from the connector. **Connector Groups** are designed in **Project Explorer, Tools, Connector Groups**. Select your eWON historical connector and then select **Add**. Select the **Type** and click **OK**.

On the **Columns** tab of the group, select the tag **Name** and **Calculation** for each tag in the group. The tag browser should display a list of all eWON stations detected in the eSync database that can be expanded/collapsed to reveal the tags logged in that station. Data from multiple stations can be collected in a single group.

On the **Time Period** tab, select the **Start Time**, **End Time** and **Interval** for the group. By default this is set to one hour intervals over the current day.

On the **Filters** tab, select tags by which to filter the results returned by the group. The **Criteria** conditions specified are combined with an OR relationship horizontally, and an AND relationship vertically.

With eSync, **Server Filtering** is also available. This can be done as a single filter condition that applies to all tags in the group. If the group type is **Raw Values**, then server filtering can also be performed using the **Quality** column. This means that values that have been marked with the qualities **Good**, **Bad**, or **Initial Value** can be discretely included or excluded from the data returned by the connector group.

The **Preview** pushbutton at the upper-left of the history group display can be pressed to preview the result of the current configuration.

Date	StationName	TagName	AlarmStatus	Severity	Unit	Description
5/6/2019 1:00:00 AM	station 2	esync_livealms	OK	Normal	1	Tag 52 Station 2
5/6/2019 2:00:00 AM	station 2	esync_livealms	OK	Normal	1	Tag 52 Station 2
5/6/2019 3:00:00 AM	station 2	esync_livealms	OK	Normal	1	Tag 52 Station 2
5/6/2019 4:00:00 AM	station 2	esync_livealms	OK	Normal	1	Tag 52 Station 2
5/6/2019 5:00:00 AM	station 2	esync_livealms	OK	Normal	1	Tag 52 Station 2
5/6/2019 6:00:00 AM	station 2	esync_livealms	OK	Normal	1	Tag 52 Station 2
5/6/2019 7:00:00 AM	station 2	esync_livealms	OK	Normal	1	Tag 52 Station 2
5/6/2019 8:00:00 AM	station 2	esync_livealms	OK	Normal	1	Tag 52 Station 2
5/6/2019 9:00:00 AM	station 2	esync_livealms	OK	Normal	1	Tag 52 Station 2
5/6/2019 10:00:00 AM	station 2	esync_livealms	OK	Normal	1	Tag 52 Station 2
5/6/2019 11:00:00 AM	station 2	esync_livealms	OK	Normal	1	Tag 52 Station 2
5/6/2019 12:00:00 PM	station 2	esync_livealms	OK	Normal	1	Tag 52 Station 2
5/6/2019 1:00:00 PM	station 2	esync_livealms	OK	Normal	1	Tag 52 Station 2
5/6/2019 2:00:00 PM	station 2	esync_livealms	OK	Normal	1	Tag 52 Station 2
5/6/2019 3:00:00 PM	station 2	esync_livealms	OK	Normal	1	Tag 52 Station 2
5/6/2019 4:00:00 PM	station 2	esync_livealms	OK	Normal	1	Tag 52 Station 2
5/6/2019 5:00:00 PM	station 2	esync_livealms	OK	Normal	1	Tag 52 Station 2
5/6/2019 6:00:00 PM	station 2	esync_livealms	OK	Normal	1	Tag 52 Station 2
5/6/2019 7:00:00 PM	station 2	esync_livealms	OK	Normal	1	Tag 52 Station 2
5/6/2019 8:00:00 PM	station 2	esync_livealms	OK	Normal	1	Tag 52 Station 2
5/6/2019 9:00:00 PM	station 2	esync_livealms	OK	Normal	1	Tag 52 Station 2
5/6/2019 10:00:00 PM	station 2	esync_livealms	OK	Normal	1	Tag 52 Station 2
5/6/2019 11:00:00 PM	station 2	esync_livealms	OK	Normal	1	Tag 52 Station 2
5/6/2019 12:00:00 AM	station 2	esync_livealms	OK	Normal	1	Tag 52 Station 2

Historical Data Preview

Preview displays the data exactly the same way it will be written into the report. Notice that the data is displayed in a wide format despite it being logged in a narrow format in the database.

Alarm Data

Any tag in a compatible eWON device can be configured to generate an alarm whenever it exceeds specified limits. The resulting alarms can be logged to the Talk2M interface so they are available in the eSync database.

Creating an Alarms Connector

In **Project Explorer, Data, Connectors**, create a new connector by selecting **Add, eWON, eWON Alarms**. Create or select a DSN that represents the esync database. Note, this can be the same DSN used for the eWON Historical connector.

Connector Name: eWON_Alarms
 Description: esync
 Primary Database:
 Type: MySQL
 Data Source: esync

Buttons: Settings, OK, Cancel

Verifying the Alarms Connector

In **Project Explorer, Tools, Connector Groups**, select your FactoryTalk alarms connector and then select **Add** to add a new connector group.

Alarms in the eSync database are presented in two different formats. On the setup tab of the group, select either the *esync_livealarms* table, or the *esync_alarmshistory* table. The live alarms table contains the active alarms in the system at the time it was last synchronized to the Talk2M servers. The alarms history table contains archived alarms.

On the **Columns** tab of the group dialog, select alarm data from the columns available in the table.

On the **Time Period** tab, select the Start Time and End Time for the group as well as restricting the total number of alarms returned. By default this is set to the first 60 alarms over the current day.

Under the **Filters** tab, specify additional filtering to limit the type or amount of alarms returned.

To retrieve data using your configured settings, select **Preview**. In the **Preview** window, use the data picker to select a date/time, and use **Refresh** to retrieve data.

Date	StationName	TagName	AlarmStatus	Severity	Unit	Description
5/6/2019 12:00:00 AM	station 2	esync_alarmsg02	FFM	High	1	Tag 52 Station 2
5/6/2019 12:01:00 AM	station 2	esync_alarmsg02	ALM	Low	1	Tag 52 Station 2
5/6/2019 12:02:00 AM	station 2	esync_alarmsg02	ACK	Level	1	Tag 52 Station 2
5/6/2019 12:03:00 AM	station 2	esync_alarmsg02	ETN	Info	1	Tag 52 Station 2
5/6/2019 12:04:00 AM	station 2	esync_alarmsg02	END	Info	1	Tag 52 Station 2
5/6/2019 12:05:00 AM	station 2	esync_alarmsg02	FFM	High	1	Tag 52 Station 2
5/6/2019 12:06:00 AM	station 2	esync_alarmsg02	ALM	Low	1	Tag 52 Station 2
5/6/2019 12:07:00 AM	station 2	esync_alarmsg02	ACK	Level	1	Tag 52 Station 2
5/6/2019 12:08:00 AM	station 2	esync_alarmsg02	ETN	Info	1	Tag 52 Station 2
5/6/2019 12:09:00 AM	station 2	esync_alarmsg02	END	Info	1	Tag 52 Station 2
5/6/2019 12:10:00 AM	station 2	esync_alarmsg02	FFM	High	1	Tag 52 Station 2
5/6/2019 12:11:00 AM	station 2	esync_alarmsg02	ALM	Low	1	Tag 52 Station 2
5/6/2019 12:12:00 AM	station 2	esync_alarmsg02	ACK	Level	1	Tag 52 Station 2
5/6/2019 12:13:00 AM	station 2	esync_alarmsg02	ETN	Info	1	Tag 52 Station 2
5/6/2019 12:14:00 AM	station 2	esync_alarmsg02	END	Info	1	Tag 52 Station 2
5/6/2019 12:15:00 AM	station 2	esync_alarmsg02	FFM	High	1	Tag 52 Station 2
5/6/2019 12:16:00 AM	station 2	esync_alarmsg02	ALM	Low	1	Tag 52 Station 2
5/6/2019 12:17:00 AM	station 2	esync_alarmsg02	ACK	Level	1	Tag 52 Station 2
5/6/2019 12:18:00 AM	station 2	esync_alarmsg02	ETN	Info	1	Tag 52 Station 2
5/6/2019 12:19:00 AM	station 2	esync_alarmsg02	END	Info	1	Tag 52 Station 2

Alarms Preview