# XLReporter Connectors

Analytic Database

This connector is used to define the database where **XLReporter** Analytics are logged and is used to get analytic data for reporting.

Connector

For details on the Analytics connector, see **CONNECT, Analytic Data Logging and Analysis**.

To configure the connector, from the **Project Explorer** select **Data, Connectors**.
- Click **Add**
- Select **XLReporter**, **Analytic values**
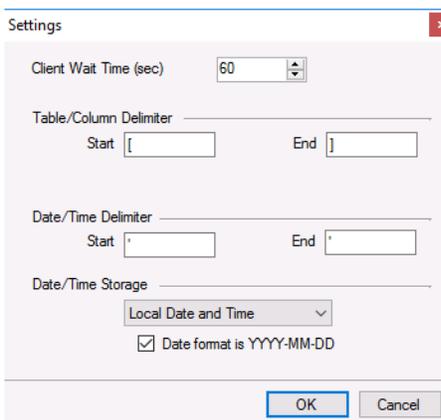- Click **OK**
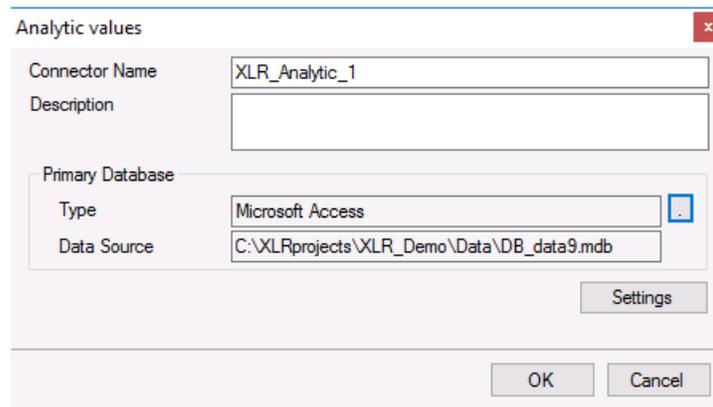
Primary Database

This defines a connection to the database where the Analytic data is stored. A browse button […] is provided to define.

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 **Primary 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.

Tables

When this connector is saved the first time, a set of tables and views is created in the Primary Database.

If the connector is modified, but the **Primary Database** remains the same, when saved the user is prompted to overwrite the tables. If this is done, all the analytic data logged previously is deleted.

Analytic Editor

After the Analytic connector is defined, to configure the Analytics to store to the database, open the Analytic Designer (**Project Explorer, Data, Analytics**).
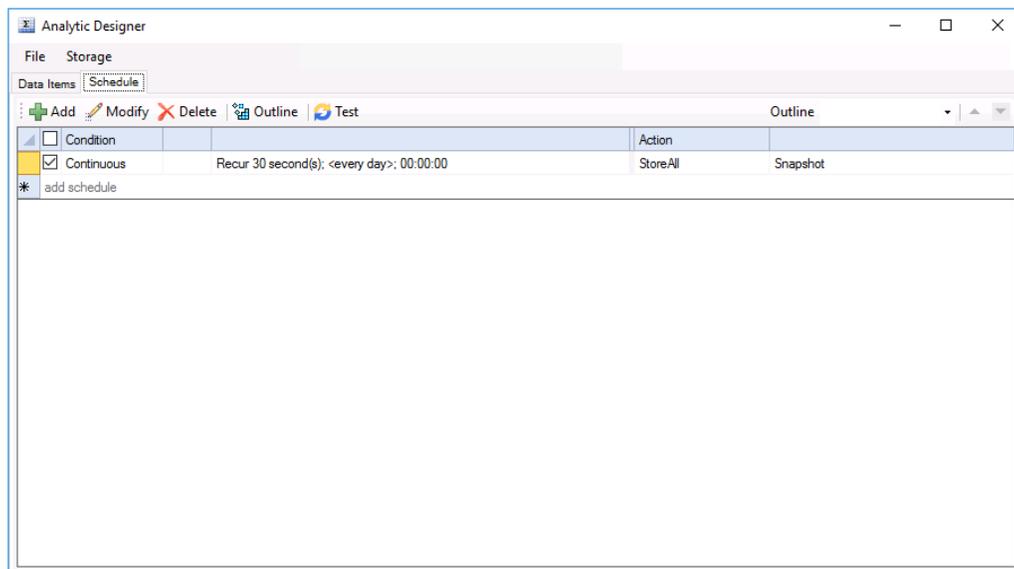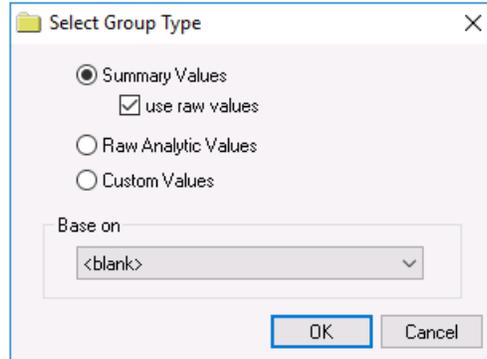

In the **Analytic Designer** select **Storage**.
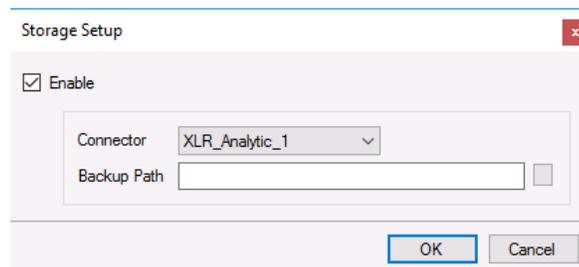
By default, **Enable** is checked, the **Connector** is set, and the **Backup Path** is configured to a folder in the **Data** subfolder of the project.

Data Group

The following describes the historical data group settings specific to the **Analytics** connector.

Group Types

The following group types are available:

Summary Values

This group type retrieves stored values from the analytics and performs calculations on those 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**.
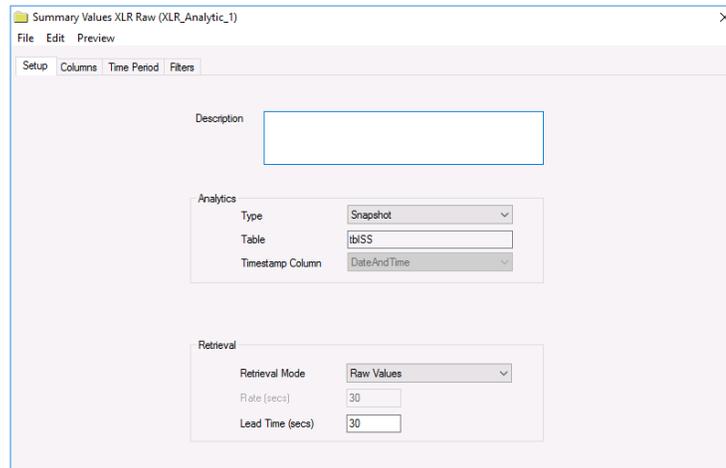
Raw Analytic Values

This group retrieves every value logged to the 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 in the database.

Group Settings

Setup Tab

Analytics

This section defines which Analytic **Type** is used for the selected **Columns**. Every **Type** is listed regardless of whether or not any have been configured.

Retrieval (Summary Values 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 Analytics only *Raw Values* are available.
- **Lead Time**
  The amount of time (in seconds) to retrieve data before the start time.

Verify the Data Connector

From the **XLReporter Project Explorer** select**, Tools, Connector Groups**

Select the *Analytic* connector and then select **Add.**
- Set the **Type** *Raw Analytic Values* and click **OK**.

On the **Setup** tab, select an **Analytic Type** that has been configured with at least 1 row.

On the **Columns** tab of the group, select the analytic values to read.

Select **Preview,** pick a *Start* date and click **Refresh.**

Data Entry Form Database

This connector is used to define the database where Data Entry Forms are logged and is used to get form data for reporting.

Connector

For details on Data Entry Form Connectors see **DESIGN, Design Manual Data Entry Forms**.

Data Group

The following describes the historical data group settings specific to the connector.

Group Types
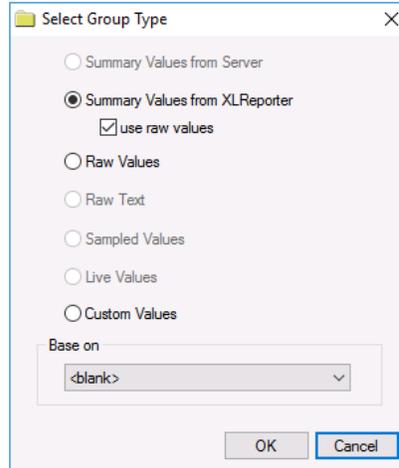
The following group types are available:

Summary Values from XLReporter

This group type retrieves sampled values logged from the form and performs calculations on those values 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**.
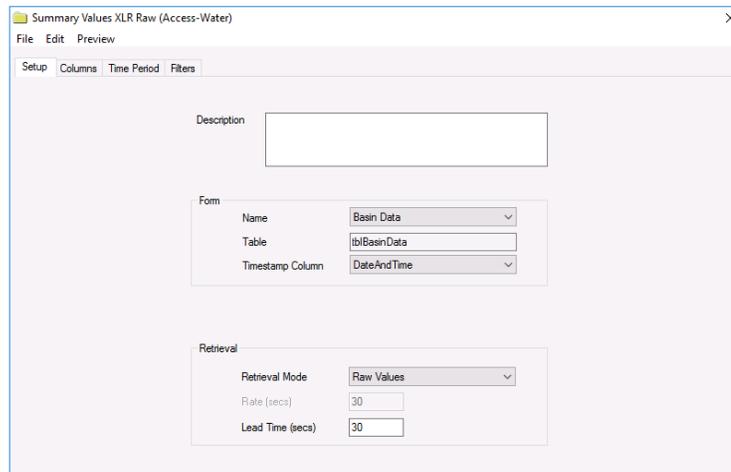
Raw Values

This group retrieves every value logged to the form 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 in the database.

Group Settings
Setup Tab

Form

This section defines which Form **Name** is used for the selected **Columns**. Every form template configured in the project is listed.

Retrieval (Summary Values from 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. Only *Raw Values* are available.
- **Lead Time**
  The amount of time (in seconds) to retrieve data before the start time.

Verify the Data Connector

From the **XLReporter Project Explorer** select**, Tools, Connector Groups**

Select the *Data Entry Form* connector and then select **Add.**

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

On the **Setup** tab, select a **Form Name** that has data entered for it.

On the **Columns** tab of the group, select the columns to read.

Select **Preview,** pick a *Start* date and click **Refresh.**

Simulator Real-time values

This connector is used to get real time data from the **XLReporter** Simulator.

Simulator Historical values

This connector is used to get historical data from the **XLReporter** Simulator.

Simulator Alarms

This connector is used to get alarms from the **XLReporter** Simulator.

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