

Reporting on the “Previous Day”- Historian

Overview

There are times when data is logged to the historian that the value collected does not accurately reflect the time on which it is logged. A typical example of this is a totalizer value that, at beginning of the day pushes yesterday’s total to a “yesterday total” tag and resets. The “yesterday total” tag is logged then logged by the historian.

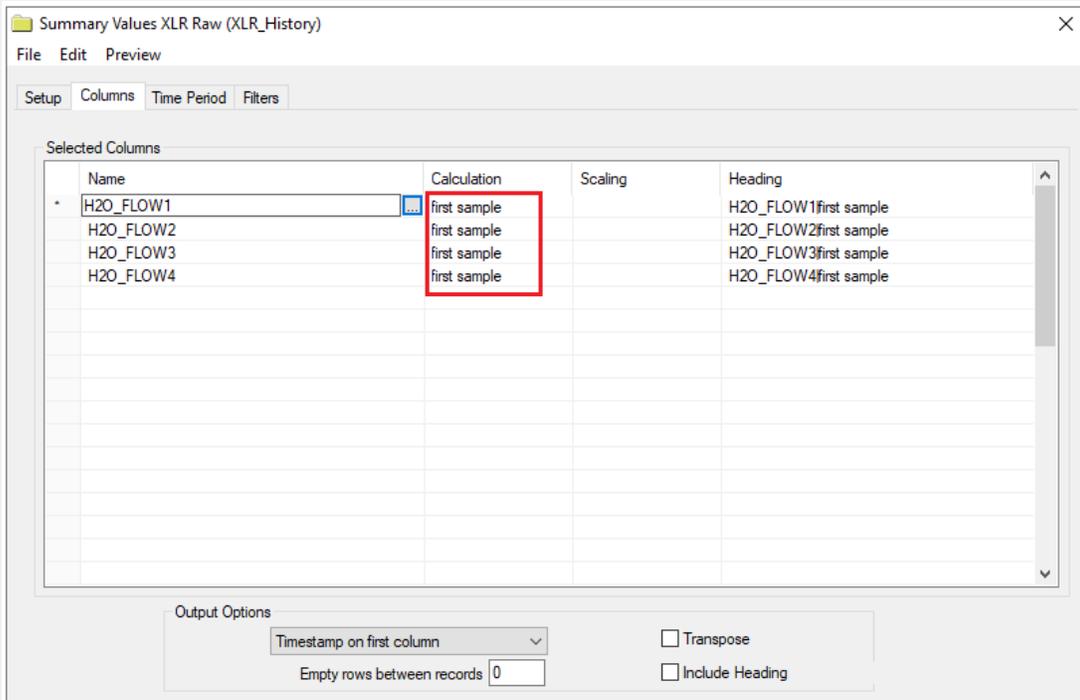
This presents a reporting challenge because the information in a report for a particular date would need the information queried from the historian for the previous day since this is when the sample is actually logged to the historian.

This document explains how to overcome the challenge. By example, it shows how to produce a monthly report containing daily flow totals where the totals have been recorded the “day after”.

Data Group

Calculation

For a monthly report of daily “totalizer” values, the **History Data Group** configuration starts with selecting the appropriate summary calculation.



Name	Calculation	Scaling	Heading
H2O_FLOW1	first sample		H2O_FLOW1first sample
H2O_FLOW2	first sample		H2O_FLOW2first sample
H2O_FLOW3	first sample		H2O_FLOW3first sample
H2O_FLOW4	first sample		H2O_FLOW4first sample

Output Options

Timestamp on first column:

Empty rows between records:

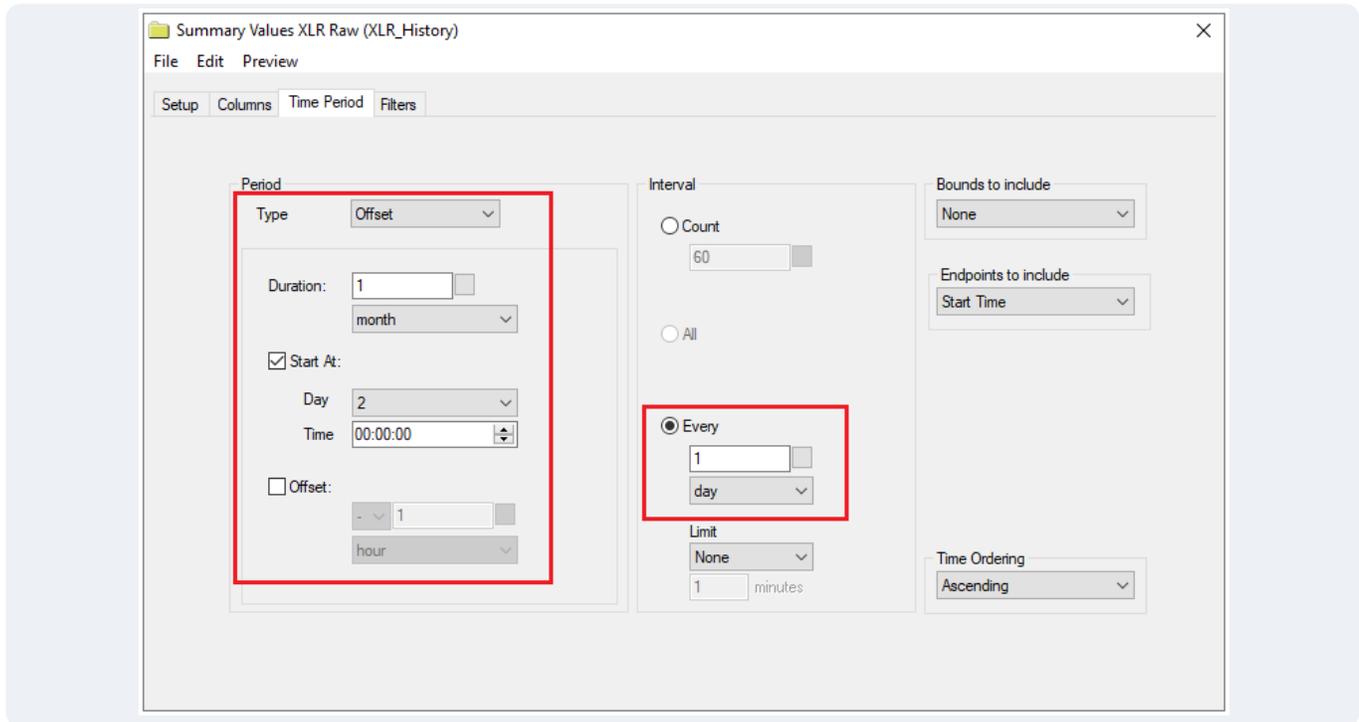
Transpose

Include Heading

Since the totalizer values are logged at the beginning of each day, the **Calculation** is *first sample*.

Time Period

The first value required for this monthly report is logged on the 2nd of the *current* month and represents the total for the 1st. The last value required for the report is logged on the 1st of the *following* month and represents the last day of the *current* month.



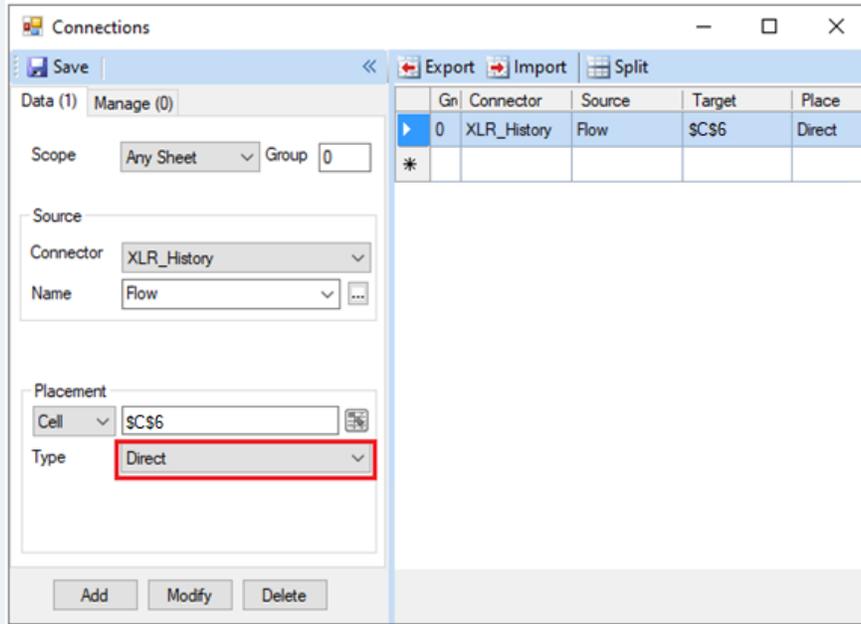
Therefore, the simplest approach for the **Time Period** of the group is:

- **Type** as *Offset*.
- **Duration** as *1 month*.
- **Start At** *Day 2*.
- **Interval** *Every 1 day*.

This configuration compensates for the fact that the definition of the month in the data set is *Offset 1 day* from the calendar month.

Template Design

Data Connection

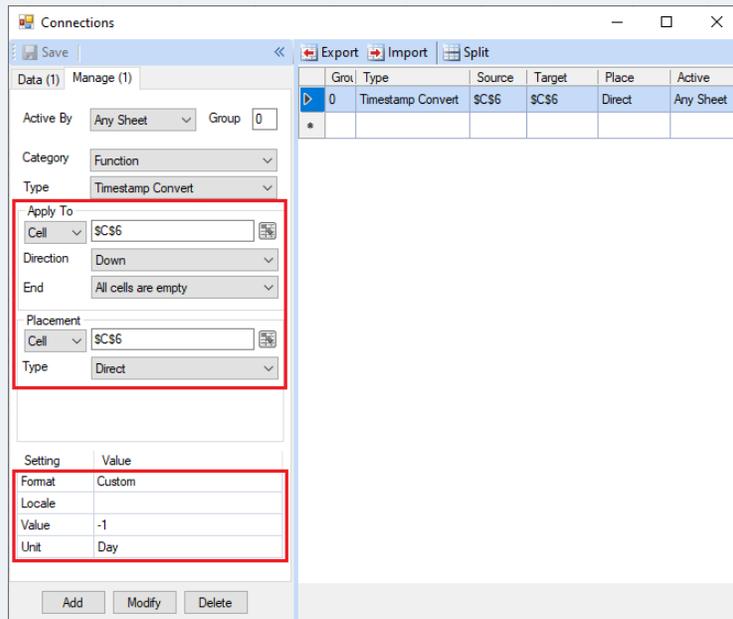


Because the **Data Group** is configured to return a table representing the entire **Time Period** of the report, the connection does not need to move down or across the worksheet as the report is updated so the connection is set with the **Placement Type** *Direct*.

Timestamp Convert

The timestamps returned from the history data group reflect the time when the data is logged in the historian. All these timestamps must be adjusted by 1 day prior to reflect the totalizer values displayed.

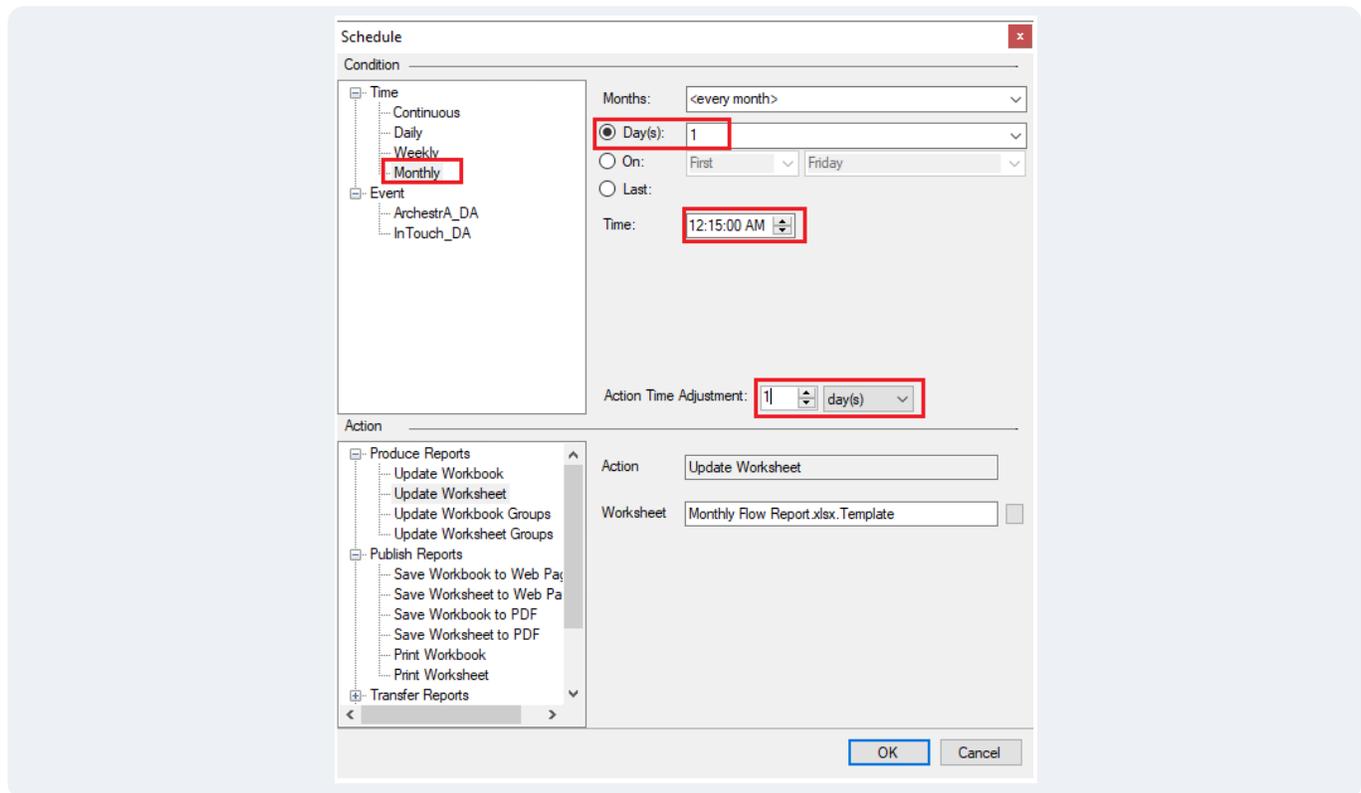
This is accomplished by using the **Data Management Timestamp Convert** function.



This function is configured to convert all the timestamps in the C column starting in row 6. Because the **Placement Cell** is also set to \$C\$6, the timestamps from the history data group are overwritten with the converted timestamp values.

Schedule

A report should be scheduled at a point in time when all of the data required is available in the historian. In this case, that is the 1st day of the “next” month. The schedule is configured as:



- **Condition** as *Time, Monthly*.
- **Day** as *1*.
- **Time** as *12:15:00 AM*.
- **Action Time Adjustment** as *1 Day*.

This configuration generates the report for the previous month on the first of the month because it is scheduled on the 1st **Day** of the month with an **Action Time Adjustment** of 1 day (1/1/2020 minus 1 day is 12/31/2019).