

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.

Se	lected Columns				
	Name	Calculation	Scaling	Heading	^
	H2O_FLOW1	first sample		H2O_FLOW1 first sample	
	H2O_FLOW2	first sample		H2O_FLOW2 first sample	
	H2O_FLOW3	first sample		H2O_FLOW3 first sample	
	H2O_FLOW4	first sample		H2O_FLOW4first sample	

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.

Period	Interval	Bounds to include
Type Offset 🗸	O Count	None ~
	60	
Duration: 1		Endpoints to include Start Time
month ~]AI	Start Time V
Start At:		
Day 2 V	1	
Time 00:00:00	0-	
	1	
Offset:	day 🗸	
- ~ 1	Limit	
hour	None 🗸	Time Ordering
L	1 minutes	Ascending ~

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

Connections					-	×
🚽 Save 🔇	< 😸	Expo	ort 📑 Import	🖶 Split		
Data (1) Manage (0)		Gn	Connector	Source	Target	Place
		0	XLR_History	Flow	\$C\$6	Direct
Scope Any Sheet ~ Group 0	*					
Source						
Connector XLR_History ~						
Name Flow ~						
Placement Cell V SC\$6						
Type Direct ~						
	1					

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.

📕 Save		11	1441	Expor	t 💓 Import 📔 🧐	Solit				
							. =	1 =:		
Data (1) Ma	anage (1)				Туре	Source	Target	Place		tive
Active By	Any Sheet \lor Gro	up 0	► *	0	Timestamp Convert	\$C\$6	\$C\$6	Direct	Any	Shee
Category	Function	~								
Туре	Timestamp Convert	\sim								
Apply To										
Cell ~	\$C\$6	5								
Direction	Down	~								
End	All cells are empty	\sim								
Placement										
Cell 🗸	\$C\$6									
Туре	Direct	~								
Setting	Value									
Setting	0.1									
-	Custom									
Format Locale	Custom									
Format	-1									

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, 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:

Schedule			×
Condition			
⊡ Time Continuous	Months:	<every month=""></every>	~
··· Daily ··· Weekly	Day(s):	1	~
- Monthly	On: Last:	First 🗸 Friday	~
⊡. Event ArchestrA_DA	Time:	12:15:00 AM 😫	
In Touch_DA	nme.	12:15:00 AM	
	Action Time	Adjustment: 1 🚖 day(s) 🗸	
Action			
Produce Reports Vight American	Action	Update Worksheet	
···· Update Worksheet			
Update Workbook Groups Update Worksheet Groups	Worksheet	Monthly Flow Report xlsx.Template	
- Publish Reports - Save Workbook to Web Pac			
- Save Worksheet to Web Pa			
Save Workbook to PDF Save Worksheet to PDF			
Print Workbook Print Worksheet			
< >			
		OK	Cancel

- 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).