

Two-Dimensional Report-Daily Update

Overview

When multiple daily readings of a process value are needed in a monthly report, an effective placement strategy is to arrange the data in a two-dimensions. In this document, such an arrangement is discussed where 6 daily readings are arranged in rows of a monthly report. The reports are collated into a yearly workbook. An up-to-date view of the report is made available by updating the report every day.

Objective

					G	enerated: 4/	18/2017 23:37	MONTH:	April 2017	
Data			Filte	ar 1			High	est	Calibration	
Date		Four (4)	Hours	Reading	gs(NTU))	Turbidity Level		Maintenance	
	0:00	4:00	8:00	12:00	16:00	20:00	24 Hrs	at	Remarks	
1	0.036	0.035	0.034	0.032	0.036	0.037	0.164	17:26		
2	0.034	0.043	0.033	0.032	0.040	0.039	0.156	14:56		
3	0.034	0.034	0.033	0.119	0.037	0.036	0.148	11:34		
4	0.035	0.033	0.034	0.036	0.035	0.035	0.135	08:47		
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Configuration

- Template layout of static information
- Template content using two history groups, one for the 4 hour values and one for the maximum value/time. The output of the first group is *Transposed* and both are placed on the report using the day of the month (*dM*).
- Report naming convention for the yearly workbook and monthly worksheets.
- A schedule to update the content of the report every day

Result

Generated On		1/1/20 0:0	10		Month	Dec-2019		
			Filt	er 1			Highest	
		Fou	r (4) Hours	NTU)		Turbidity	Level	
Date	0:00	4:00	8:00	12:00	16:00	20:00	Max	at
1	75	78	52	77	77	78	96	4:49
2	61	80	82	60	90	67	61	3:42
3	69	84	72	82	81	78	89	19:27
4	79	85	81	78	88	78	53	12:44
5	60	60	56	60	54	60	95	12:25
6	88	85	85	84	87	80	81	19:30
7	53	69	34	32	47	39	91	5:35
8	80	86	88	83	85	84	88	18:02
9	78	80	40	77	46	76	95	22:57
10	87	74	65	91	61	79	61	17:42
11	78	75	82	78	74	85	89	20:11
12	82	79	76	79	78	76	83	18:20
13	59	56	60	50	58	60	96	20:14
14	84	85	85	83	89	82	81	7:16
15	37	57	66	73	39	58	91	18:16
16	87	79	94	83	81	80	87	17:30
17	76	78	77	40	52	78	95	3:56
18	66	73	87	59	86	74	61	22:58
19	82	71	77	80	72	78	89	9:53
20	78	79	77	81	78	89	84	13:28
21	56	60	57	58	55	45	95	5:24
22	84	45	86	83	69	82	81	3:43
23	35	42	34	49	50	59	91	8:53
24	91	77	84	79	85	78	88	5:09
25	28	77	77	64	81	79	96	2:54
26	81	80	61	90	66	72	61	10:48
27	73	86	76	72	75	75	89	5:41
28	78	81	11	89	79	85	84	8:36
29	57	59	58	55	56	59	96	16:31
30	85	84	87	82	83	87	81	21:00
31	56	54	46	49	62	54	91	14:22

Template Layout

To create a new template, select **Template**, **New** (Excel) or **File**, **New** (XLReporter Design Studio).

• Enter a **Name** for the report template

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Using the design tools of either the XLReporter **Design Studio** or Excel to layout the template

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File	• •	Template	Worksheet										
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Template Content

Data connections provide content to the report.

From the ribbon select Data Connect

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Source		
Connector	XLR_History	~
Name	<add group=""></add>	~ 🗔

- Set the **Source Connector** to the historian connector defined previously in the project.
- Click the browse button [...] to create the two history groups that will retrieve the data for the report.
- For the Group Type select Summary Values

 Summary Values from Server Summary Values from XLReporter use raw values
Summary Values from XLReporter
use raw values

4hr History Group

Columns Time Period				Se	up Columns Time Period		
Name Filter 1 Reading	Calculation first sample	Scaling	Heading Filter 1 Readinglfirst sample	^	Period Type Relative V	Count	Bounds to include None
					Duration: Current ~	60	Endpoints to include
				_	day ~	⊖ AI	Start Time
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					Time 00:00:00	4	
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Column Tab

- Select the tag and set the calculation to *first sample*
- Set Output Option to None
- Check Transpose

Time Tab

• set Interval to 4 hour

Use the **Preview** to verify the group and save

Maximum Value/Time History Group

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Column Tab

- Select the tag and set the calculation Maximum
- Select the tag and set the calculation *Time of Maximum*.
- Set Output Options to None

Time Tab

• Set the Interval to 1

Use the Preview to verify the group and save

Define History Group Placement

Open the **Connections** display. This display is used to specify the relationship between the history group and its placement on the template.

Since the requirement is to update the report every day, the output if the group will be placed into the report using the *Day of the Month (dM)* as an offset.

4hr History Group

- Under Source, set the Name to the history group name
- Under Placement

Placement		
Cell \sim	\$C\$7	8
Туре	Offset	\sim
Direction	Down	\sim
Offset	dM	
Add	Modify Delete	

• Click Add

Maximum Value/Time History Group

- Under Source, set the Name to the history group name
- Under Placement

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]

• Click Add

Expressions connections are added to provide the date when the report is generated

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Connector	Expressions ~	▶*						
Name	{\$DATIM} 🗸							
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Placement	+C+2							
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Туре	Direct ~							
Add	Modify Delete							

- Under Source, select Expressions
- Set the **Placement**
- Click Add

Save the settings and close Connections display.

Report Names

From the Design Studio ribbon, select Report Names to open the Report Names dialog



Report Names			x						
Modify 🔀 D	🎲 Options								
Template	Over								
WORKBOOK									
MonthlyReport		MonthlyReport{YYYY}	No						
WORKSHEET									
×									
Template		{MMM}	No						

• Set the Workbook to include the Year and the Worksheet to Month

Schedule

From the **Design Studio** ribbon, select **Schedule** to open the **Schedule Designer**.

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From the Schedule Designer, select an empty row and click Add

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	Update Worksheet Groups			

- Set the Time to Daily 12:00:00
- Set the **Action Time Adjustment** to 1 day(s)
- Set Action to Update Worksheet
- Set the Worksheet

Click OK

To run a quick test, select **Test** and enter an appropriate time period where data has been recorded.

Schedule Designer									
File Tools Scheduler									
🖶 Add 🖉 Modify 🔀 Delete 🛛 🕍 Outline 🛛 🥥 Test									
Condition									

Close the **Schedule Designer**.

Open the **Workbook Reports** viewer from the **XLReporter Project Explorer** to view reports.

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				9	3	69	84	72	82	81	78	89	19:27
				10	4	79	85	81	78	88	78	53	12:44
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				23	17	76	78	77	40	52	78	95	3:56
				24	18	82	73	87	80	72	74	80	22:58
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				28	22	84	45	86	83	69	82	81	3:43
				29	23	35	42	34	49	50	59	91	8:53
				30	24	91	77	84	79	85	78	88	5:09
				31	25	28	77	77	64	81	79	96	2:54
				32	26	81	80	61	90	66	72	61	10:48
				33	27	73	86	76	72	75	75	89	5:41
				34	28	/8	81	11	89	79	85	84	8:36
				35	30	37	84	20 87	82	83	59 87	90	21:00
				37	31	56	54	46	49	62	54	91	14:22