https://www.halvorsen.blog

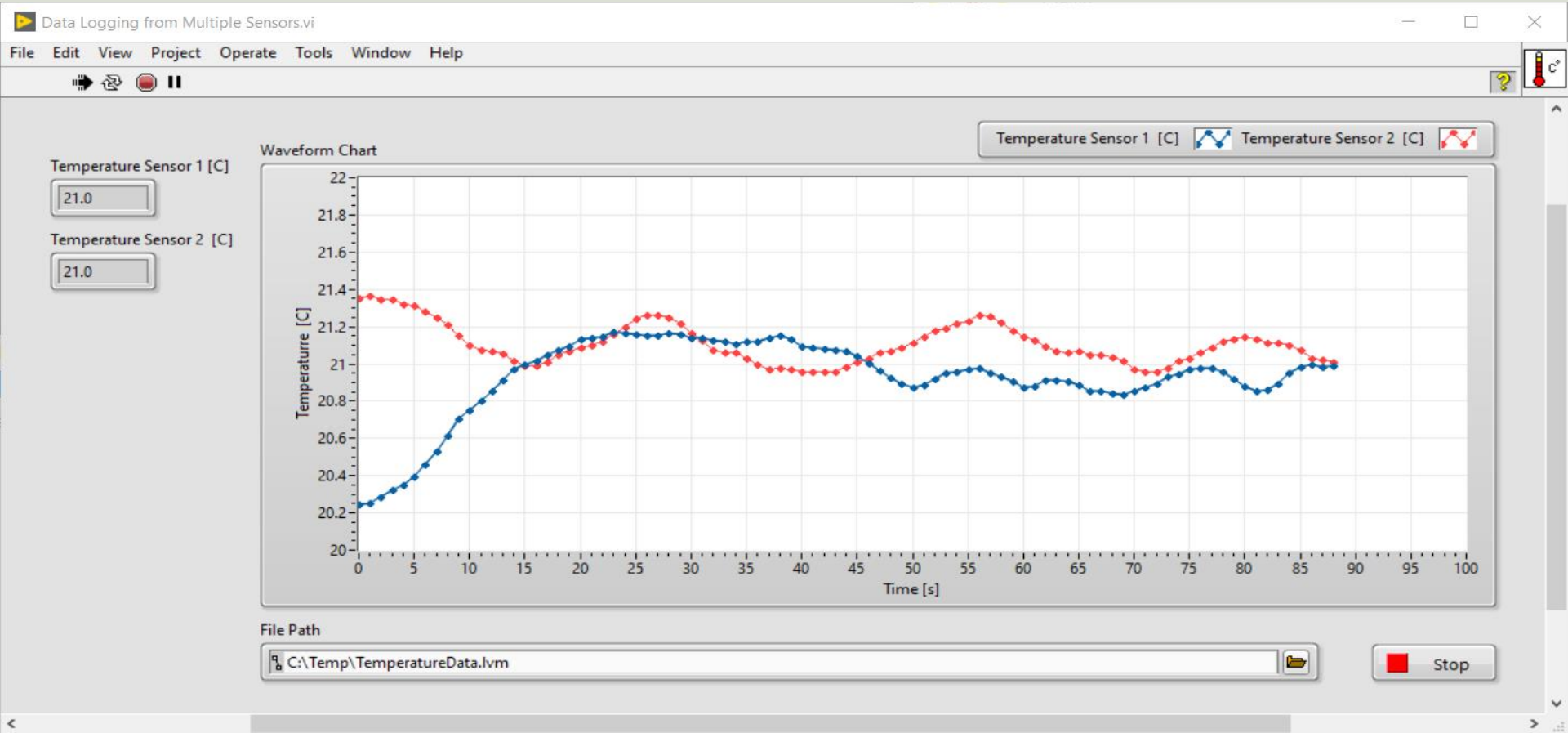
Logging Data from Multiple Sensors to Text File in LabVIEW

Hans-Petter Halvorsen

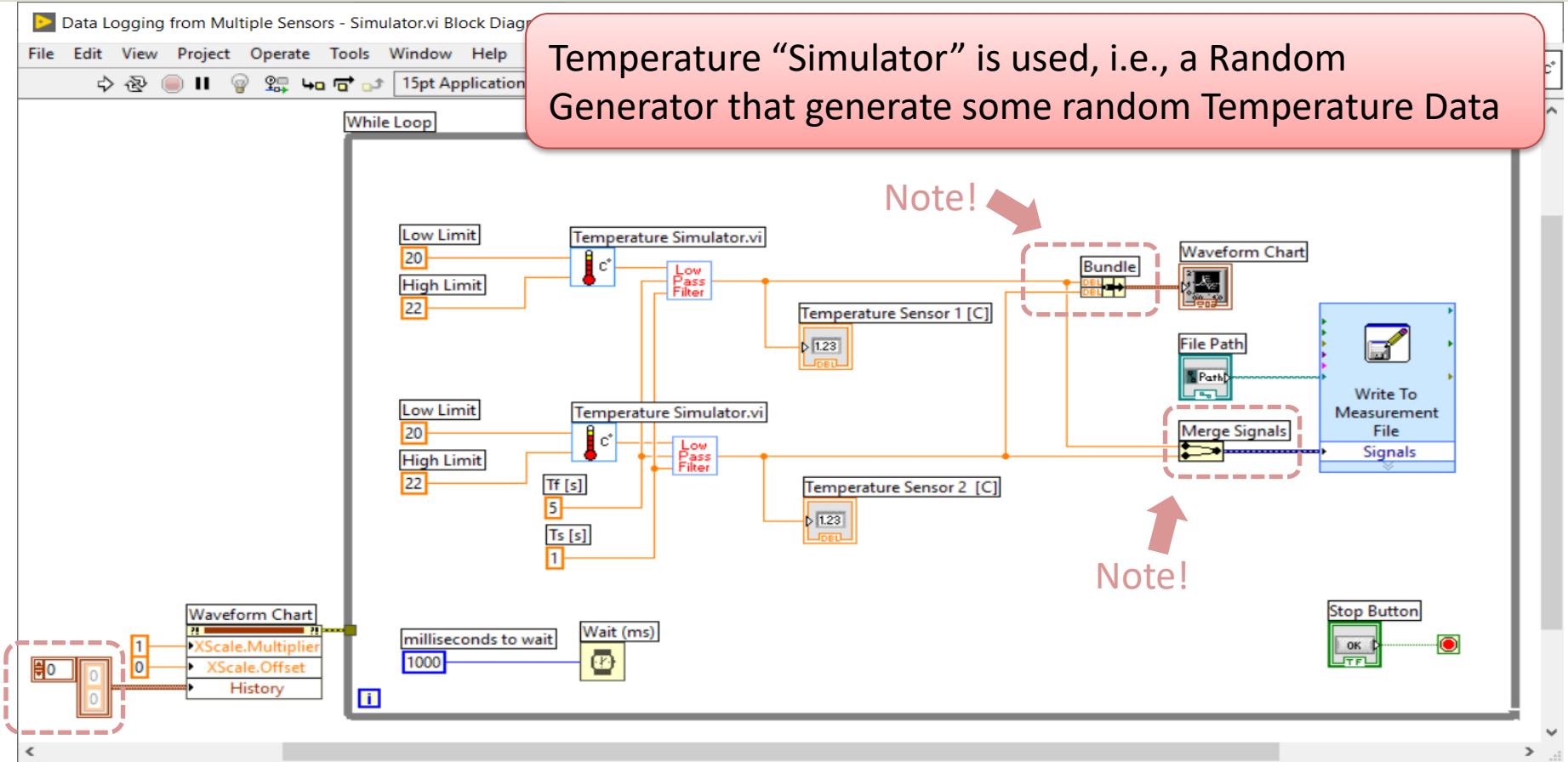
Contents

- Logging Temperature Data to Text File in LabVIEW: https://youtu.be/IxAsW2uVb9s
- In the tutorial above we used 1 Temperature Sensor – What if we have 2 Sensors? (or more than 2?)
- This tutorial shows how to read data from 2 sensors using a DAQ device and saving the data to a Text File in LabVIEW

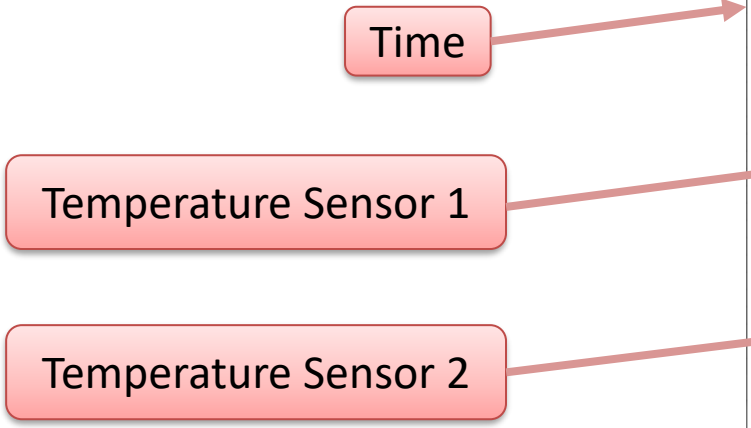
LabVIEW Application



LabVIEW Code



Logged Data



TemperatureData.lvm - Notepad

File Edit Format View Help

0.000000	20.967908	21.483000
1.001163	20.968071	21.452208
2.000908	20.990304	21.440139
3.000337	21.030603	21.437771
4.000916	21.032733	21.403616
5.001221	21.045383	21.367044
6.001272	21.041305	21.310924
7.001723	21.014337	21.237776
8.001851	21.012491	21.181544
9.001402	21.033078	21.158482
10.001266	21.069751	21.148573
11.003134	21.117899	21.111289
12.003939	21.121751	21.100976
13.005329	21.144116	21.111218
14.007066	21.181790	21.101876
15.008220	21.187309	21.071323
16.007552	21.175946	21.057514
17.009147	21.178308	21.026114
18.008528	21.156333	21.011413
19.009591	21.138625	20.991855
20.009260	21.117530	20.973851
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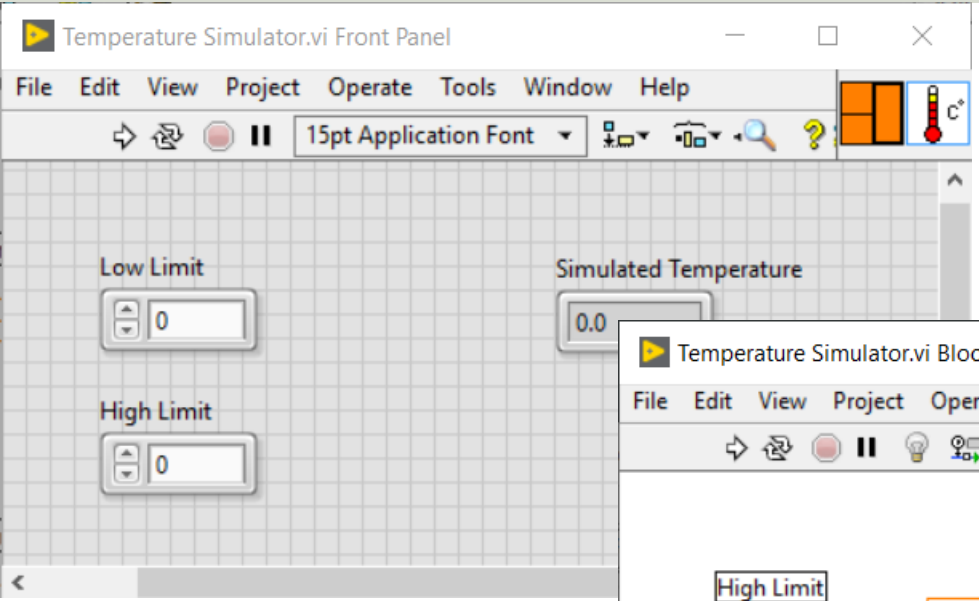
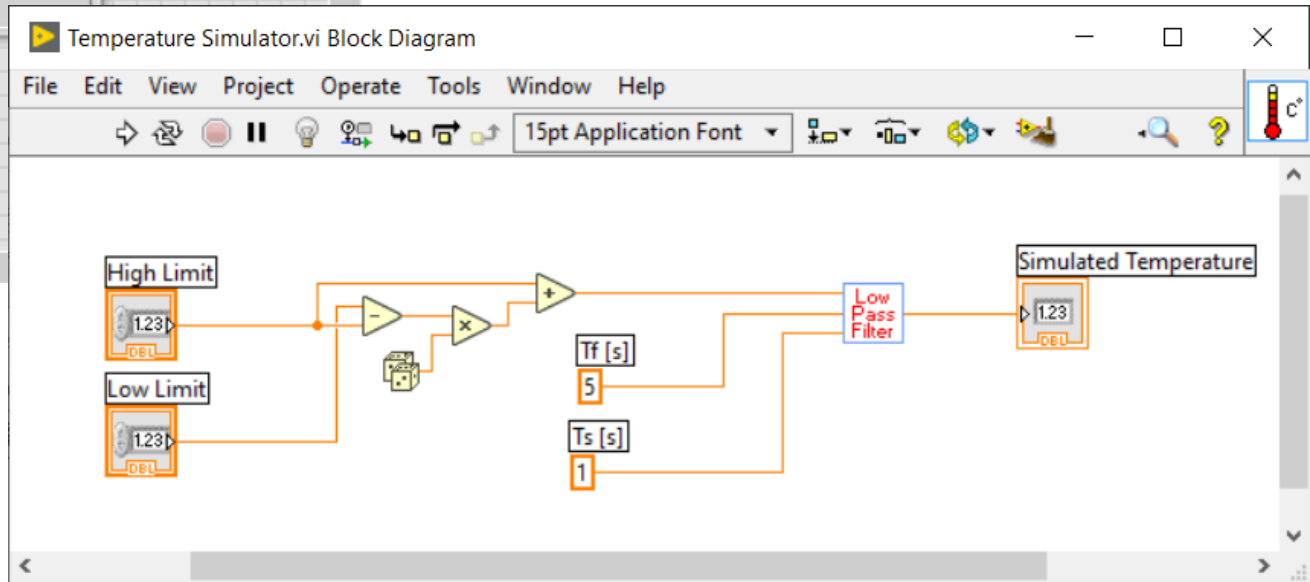
23.012124	21.065772	21.015741
24.011428	21.047252	21.041307
25.012150	21.046908	21.079747
26.012938	21.068329	21.121360
27.013172	21.096087	21.137585
28.014173	21.101500	21.165631
29.013848	21.129122	21.201625
30.015204	21.138425	21.211084
31.015820	21.157356	21.200788
32.015516	21.185103	21.169901
33.017083	21.219731	21.143720
34.016951	21.256801	21.130904
35.016758	21.261623	21.112903
36.018091	21.267781	21.105305
37.017422	21.228221	21.120609

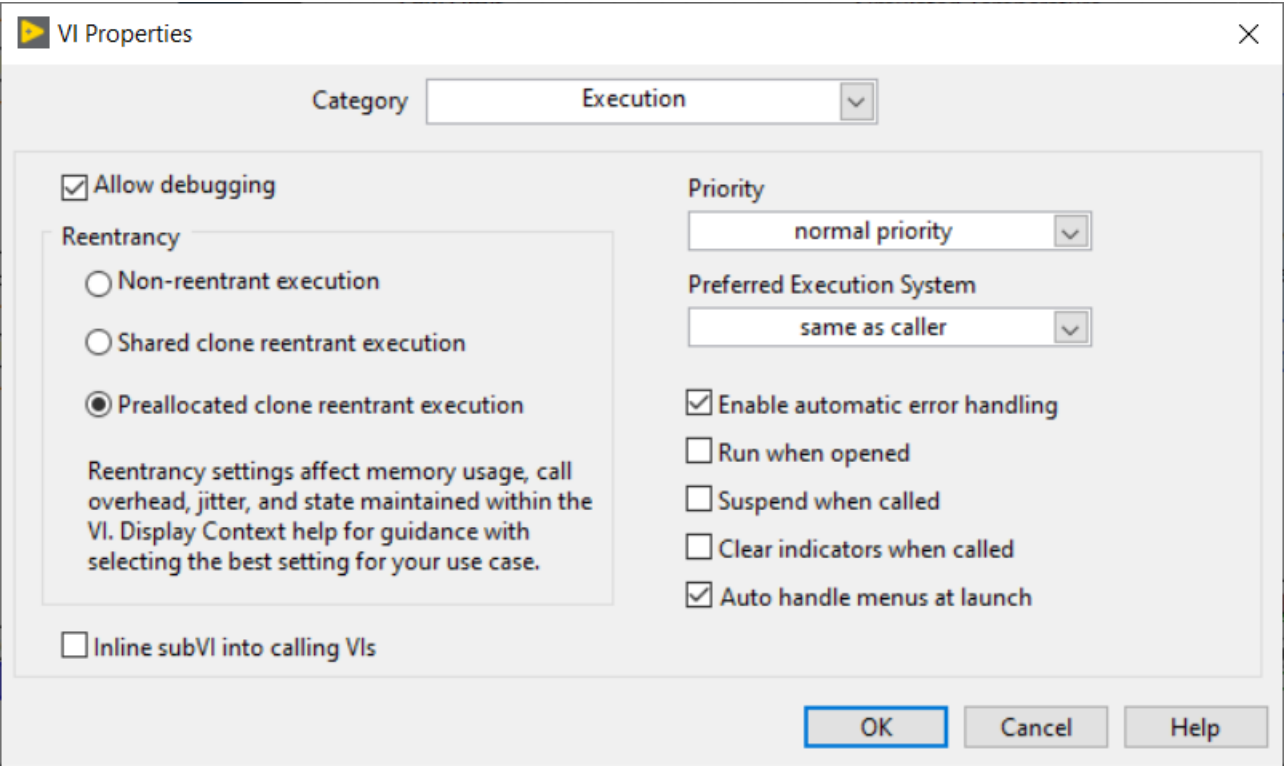
Ln 1, Col 1 100% Windows (CRLF) UTF-8

Temperature Simulator



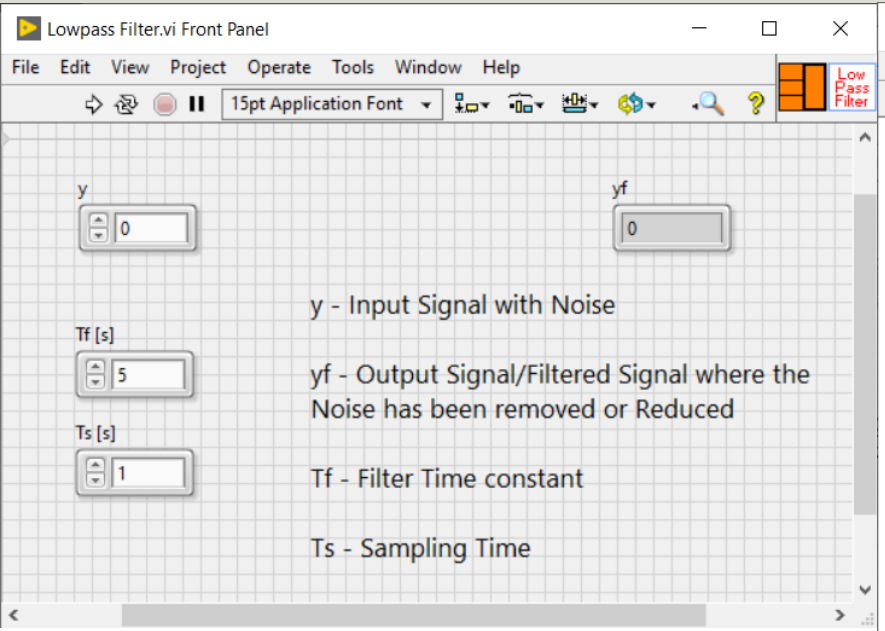


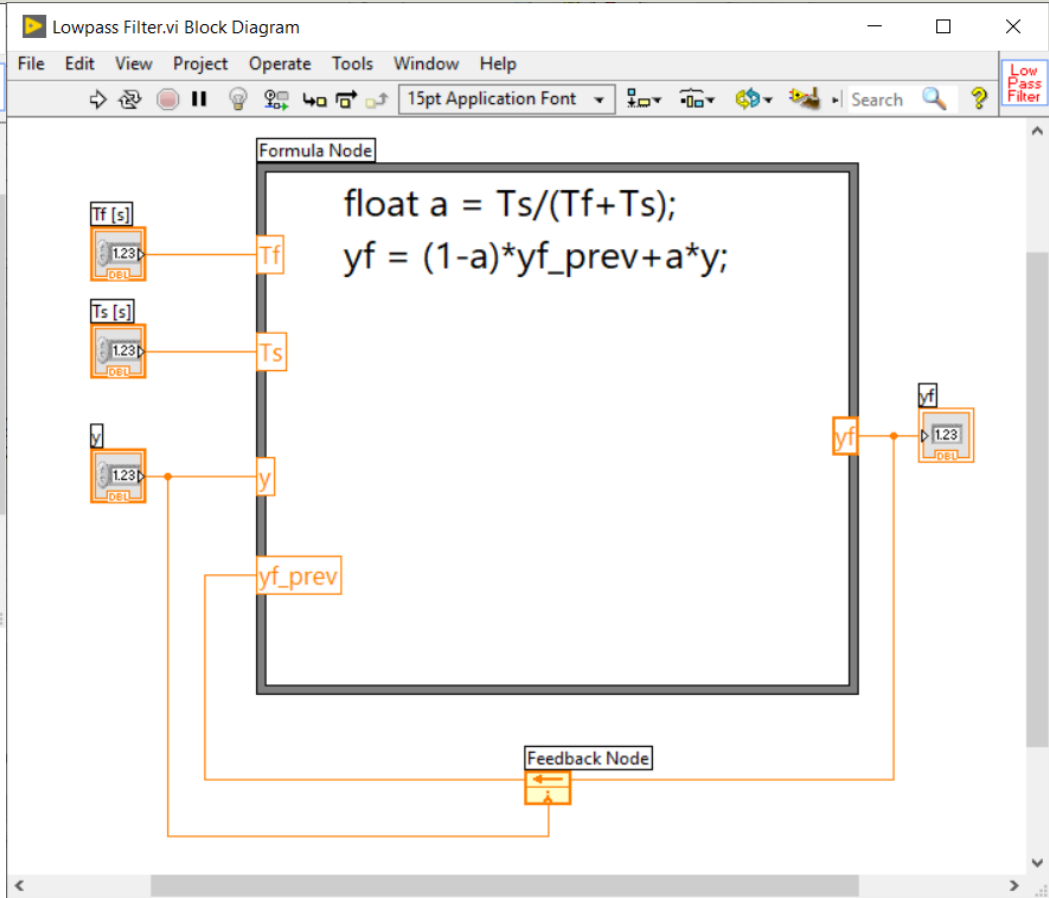
Reentrant Execution



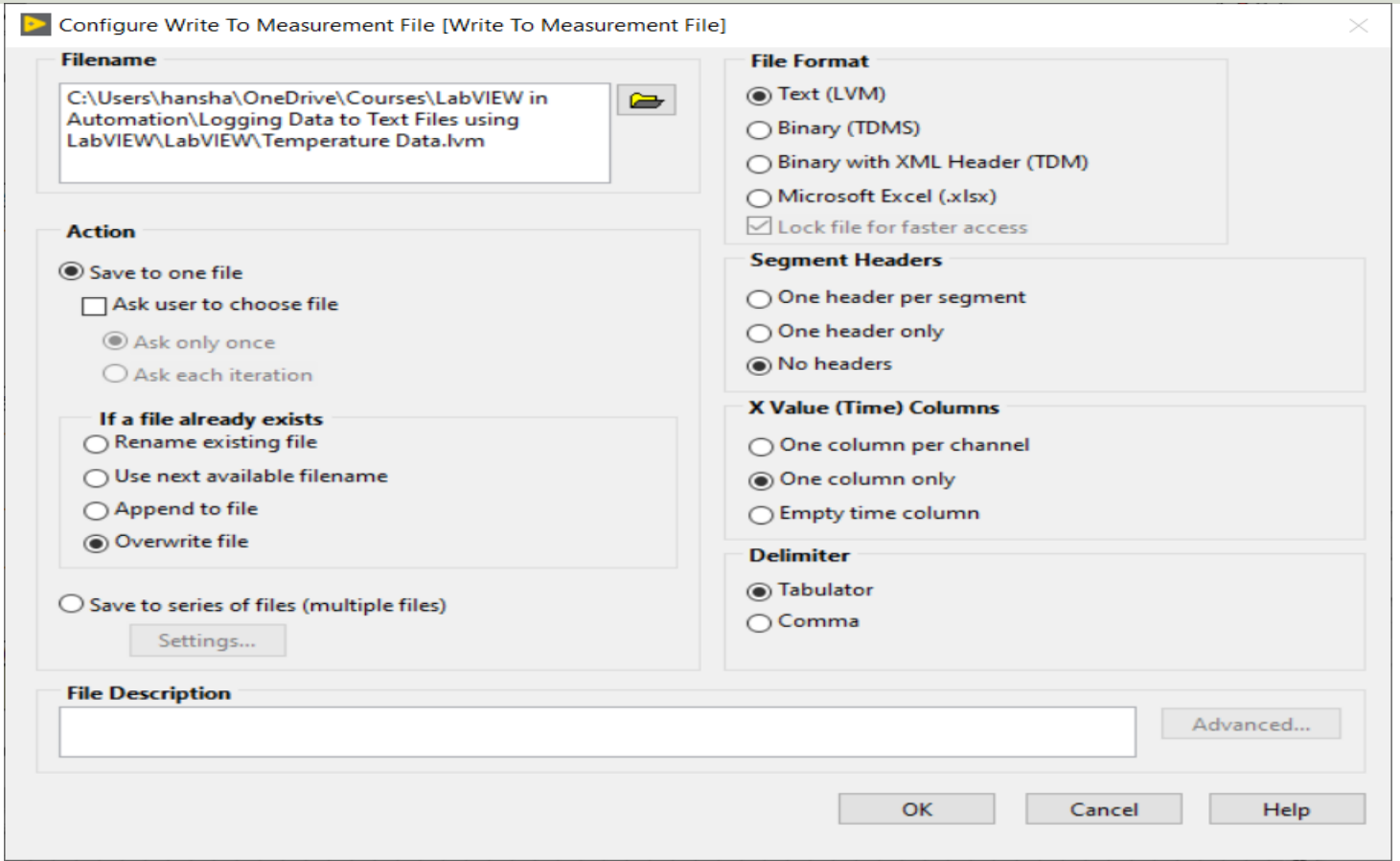
If you use a SubVI several places in your code, you typically need to use “Reentrant Execution”

Lowpass Filter



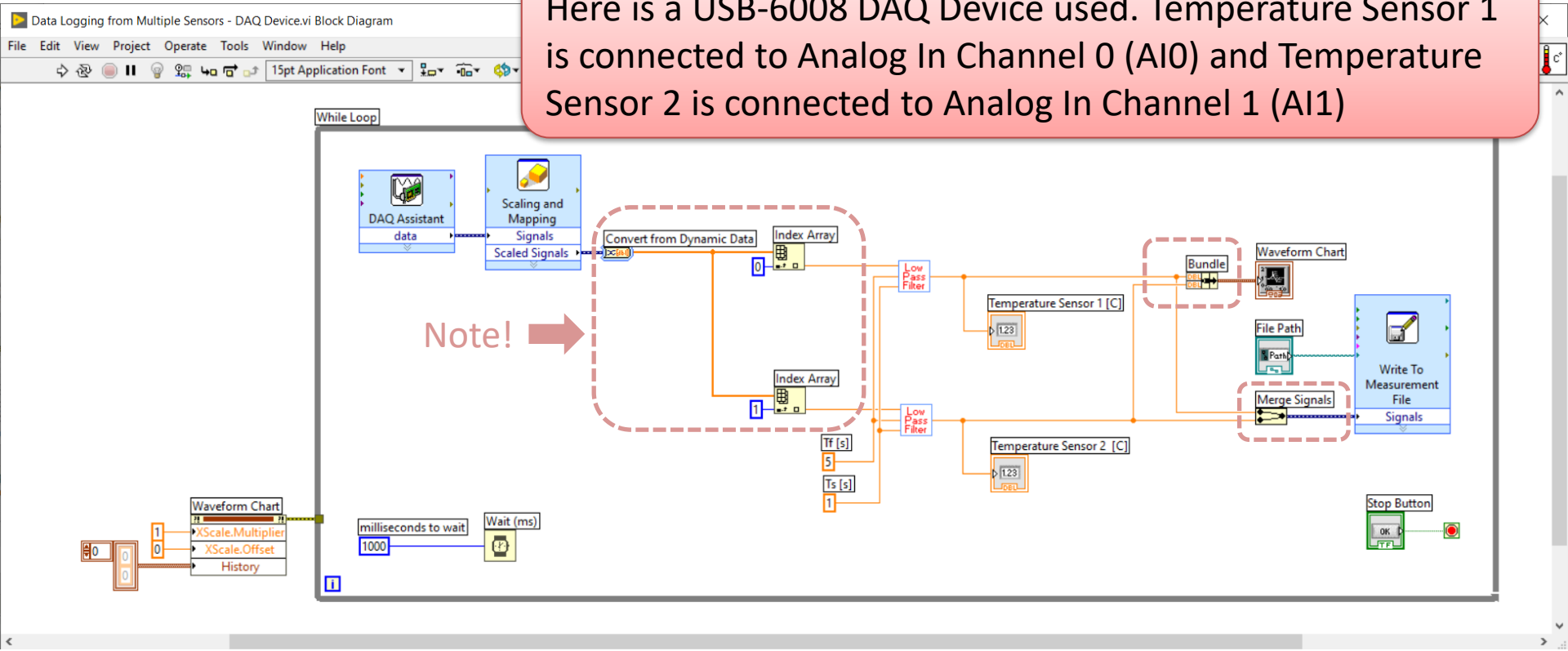


Write to Measurement File

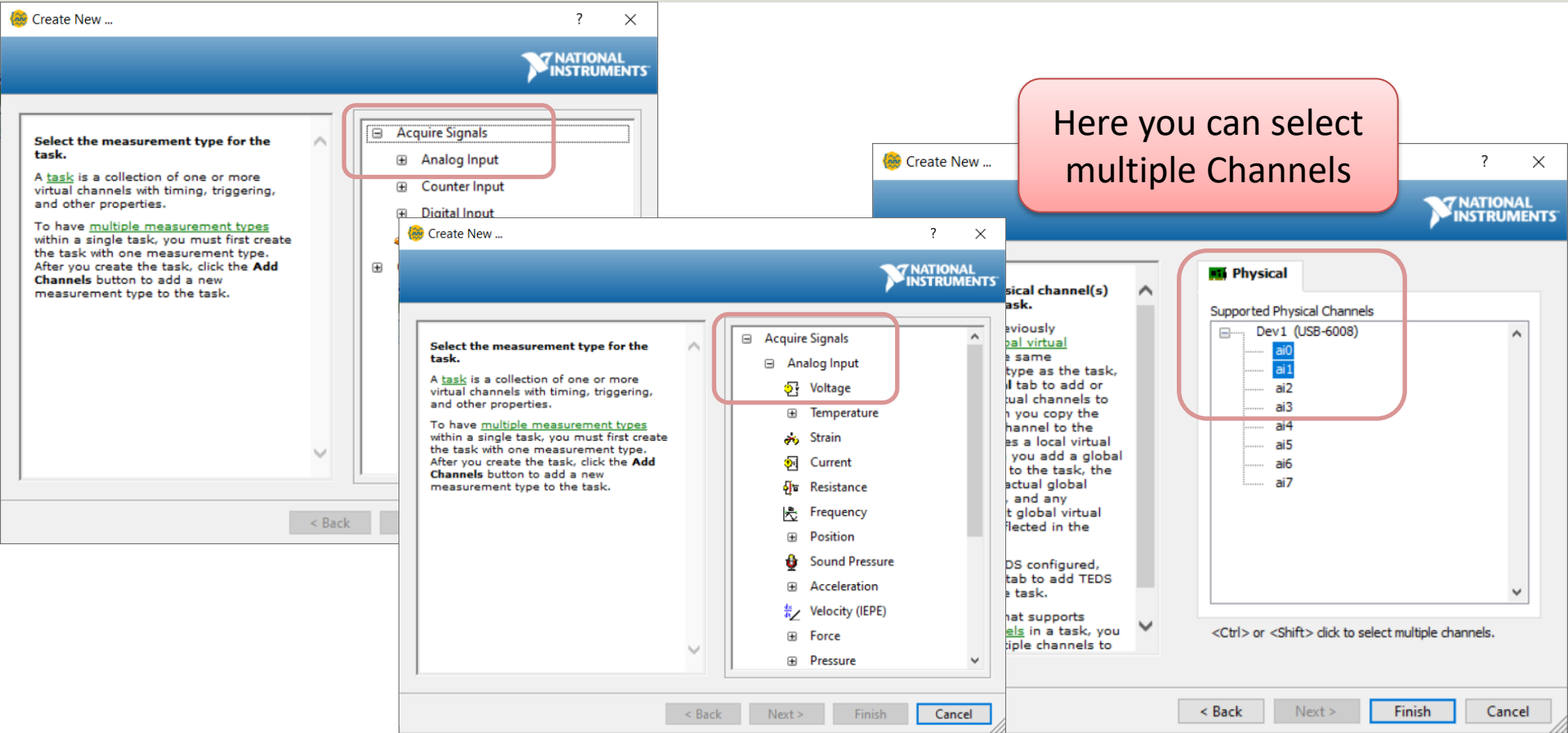


Using Real DAQ Device

Here is a USB-6008 DAQ Device used. Temperature Sensor 1 is connected to Analog In Channel 0 (AI0) and Temperature Sensor 2 is connected to Analog In Channel 1 (AI1)

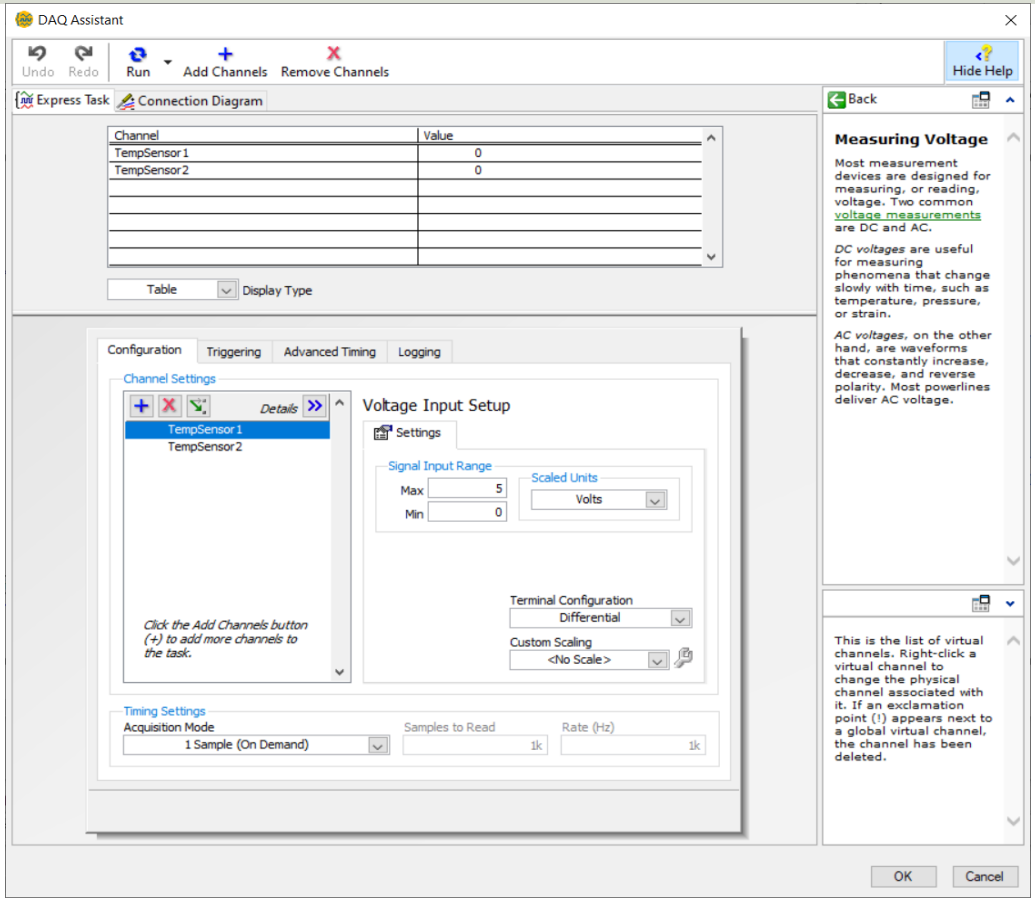


DAQ Assistant

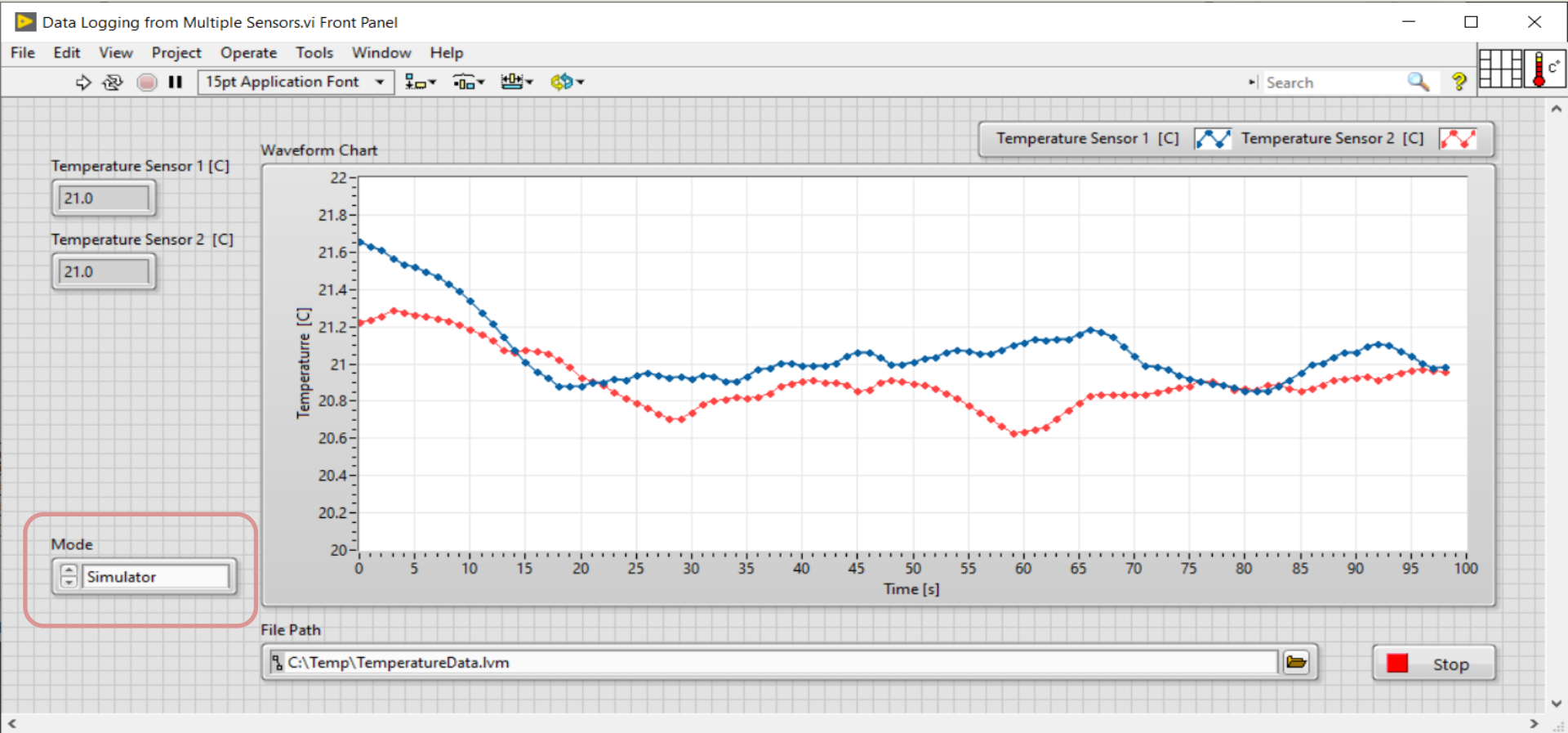


Here you can select multiple Channels

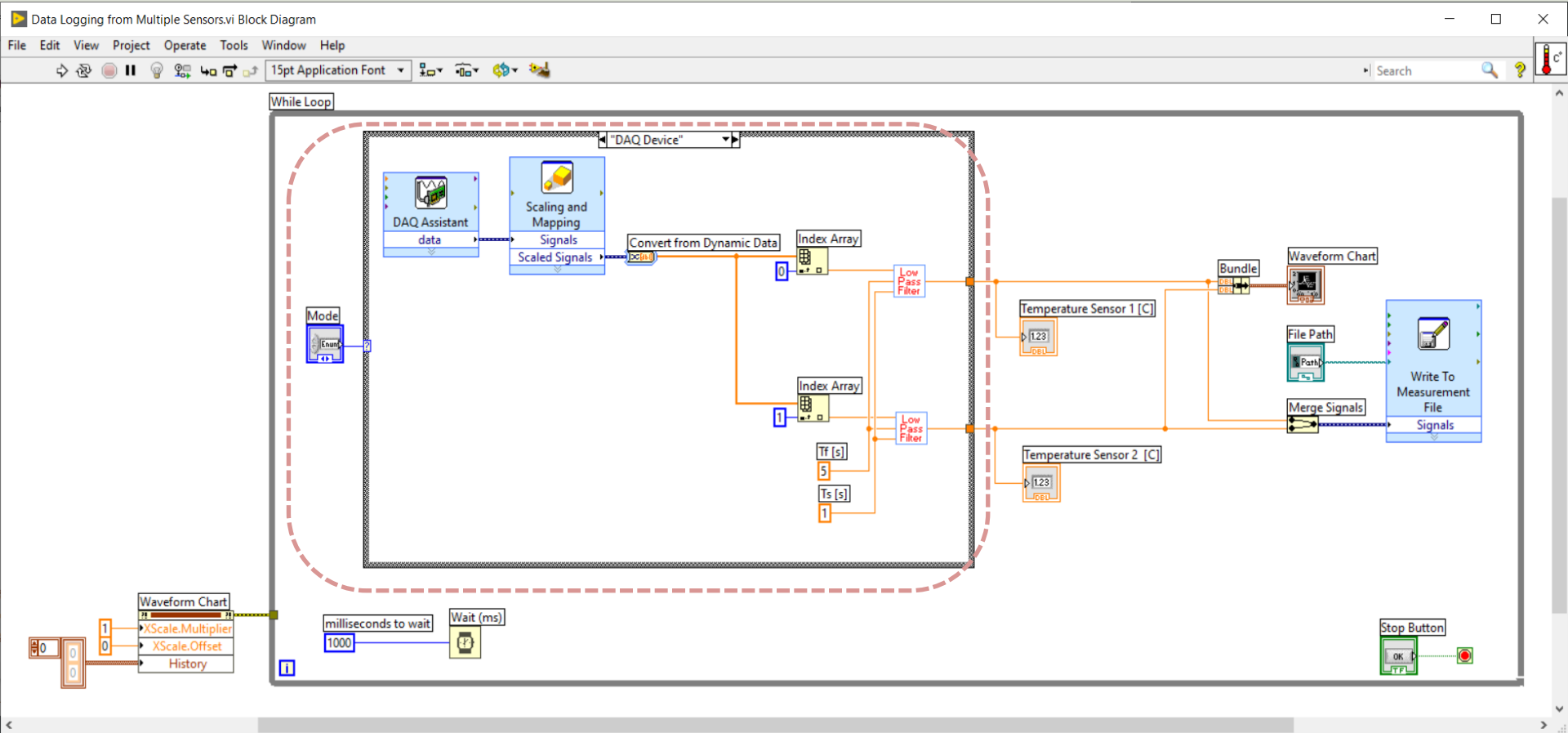
DAQ Assistant



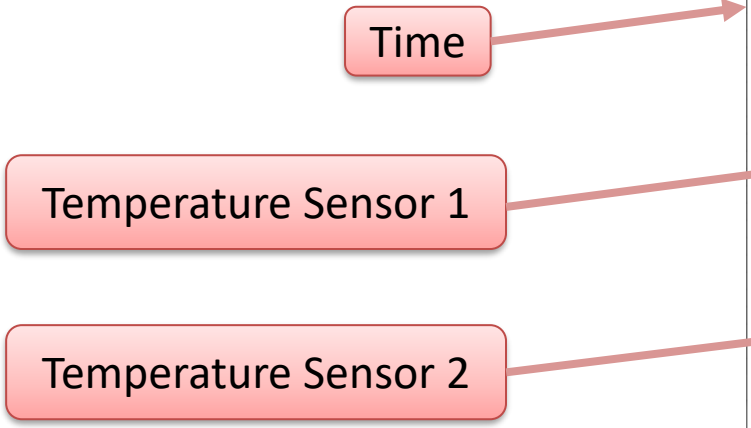
Final LabVIEW Application



Final LabVIEW Application



Logged Data



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5.001221	21.045383	21.367044
6.001272	21.041305	21.310924
7.001723	21.014337	21.237776
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11.003134	21.117899	21.111289
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35.016758	21.261623	21.112903
36.018091	21.267781	21.105305
37.017422	21.228221	21.120609

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Excel

AutoSave Off | Plotting Logged Data.xlsx | Search | Hans-Petter Halvorsen

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D11

	A	B	C
1	0	20.96791	21.483
2	1.001163	20.96807	21.45221
3	2.000908	20.9903	21.44014
4	3.000337	21.0306	21.43777
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7	6.001272	21.04131	21.31092
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20	19.00959	21.13863	20.99186
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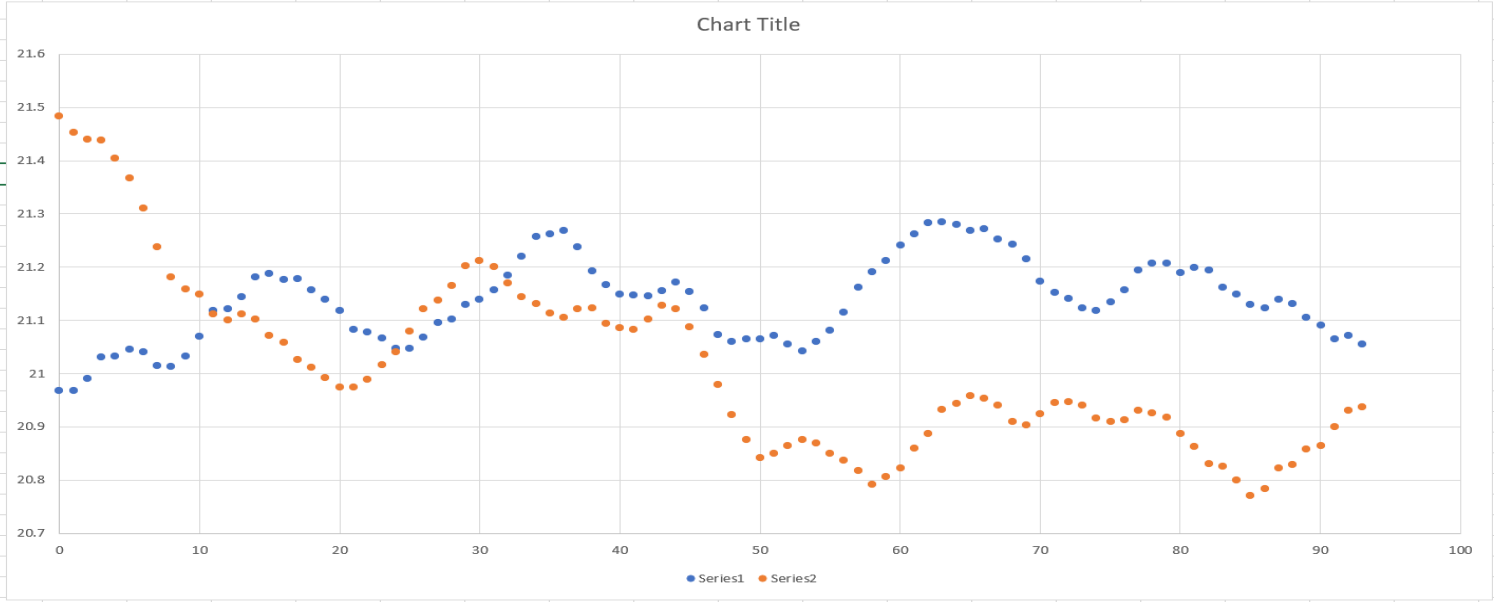

TemperatureData

100 %

Summary

- In this tutorial we showed how to read data from 2 sensors using a DAQ device and saving the data to a Text File in LabVIEW
- Have more than 2 Sensors?
- We can easily extend the application if we have more than 2 sensors
- See also this YouTube Video:
  - Data Logging and Monitoring LabVIEW Project: https://youtu.be/FFnvYu7jjeI

Hans-Petter Halvorsen

University of South-Eastern Norway

www.usn.no

E-mail: hans.p.halvorsen@usn.no

Web: https://www.halvorsen.blog