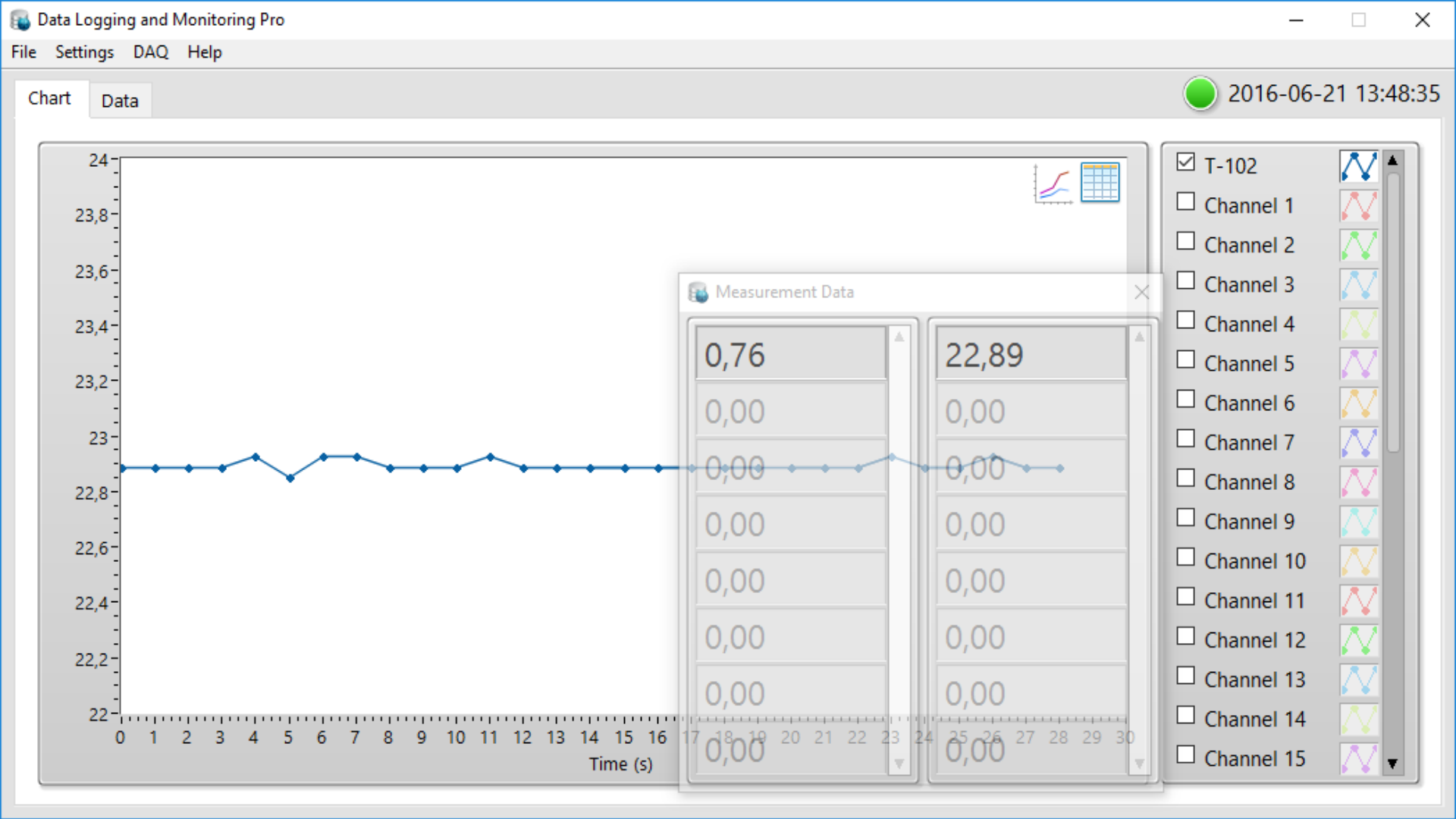
Data Logging and Monitoring Pro

Hans-Petter Halvorsen, M.Sc.


Data Logging and Monitoring Pro
File
Settings
DAQ
Help
Chart
Data
2016-06-21 13:48:35
24
23,8
23,6
23,4
23,2
23
22,8
22,6
22,4
22,2
22
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
Time (s)
Measurement Data
0,76
22,89
0,00
T-102
Channel 1
Channel 2
Channel 3
Channel 4
Channel 5
Channel 6
Channel 7
Channel 8
Channel 9
Channel 10
Channel 11
Channel 12
Channel 13
Channel 14
Channel 15

Data Logging and Monitoring

With this Data Logging and Monitoring App you can Log and Monitoring Data from a DAQmx DAQ Device from National Instruments. Examples of Such DAQ Devices are USB-6001, USB-6008, USB-6009, myDAQ, etc.

You can log up till 32 Channels simultaneously (depending on the DAQ device you are using).

Logging Options:

- Log Data to File (*lvm Files)
- Log Data to Microsoft SQL Server Database, either Locally or Remote. With this option you need to have access to the Database from this Computer.
- Log Data to a remote Data Cloud Service

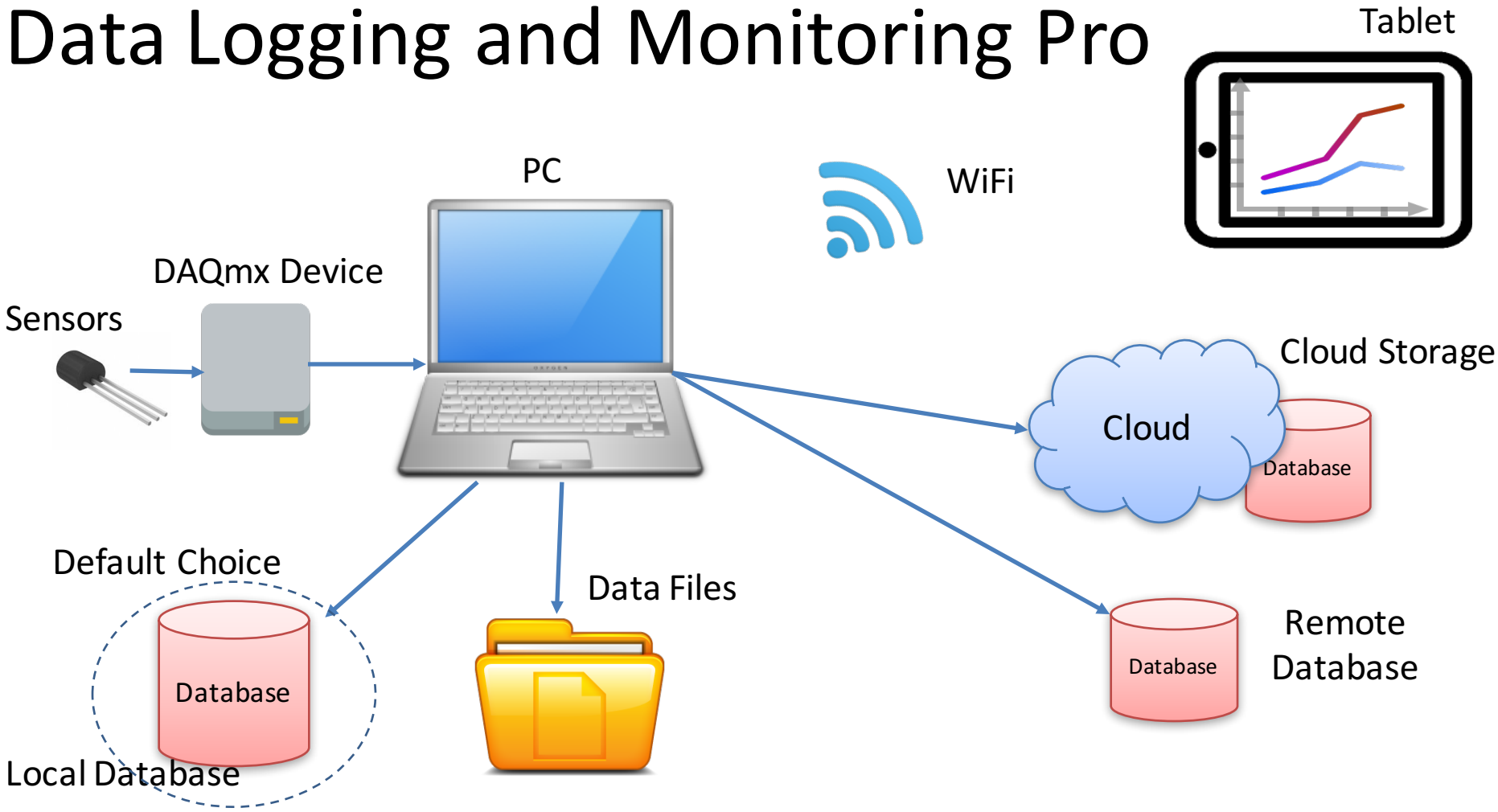
You can use an existing SQL Server or install a new SQL Server either on this computer or in a network or Internet.

Microsoft SQL Server Express can be downloaded for free on Internet.

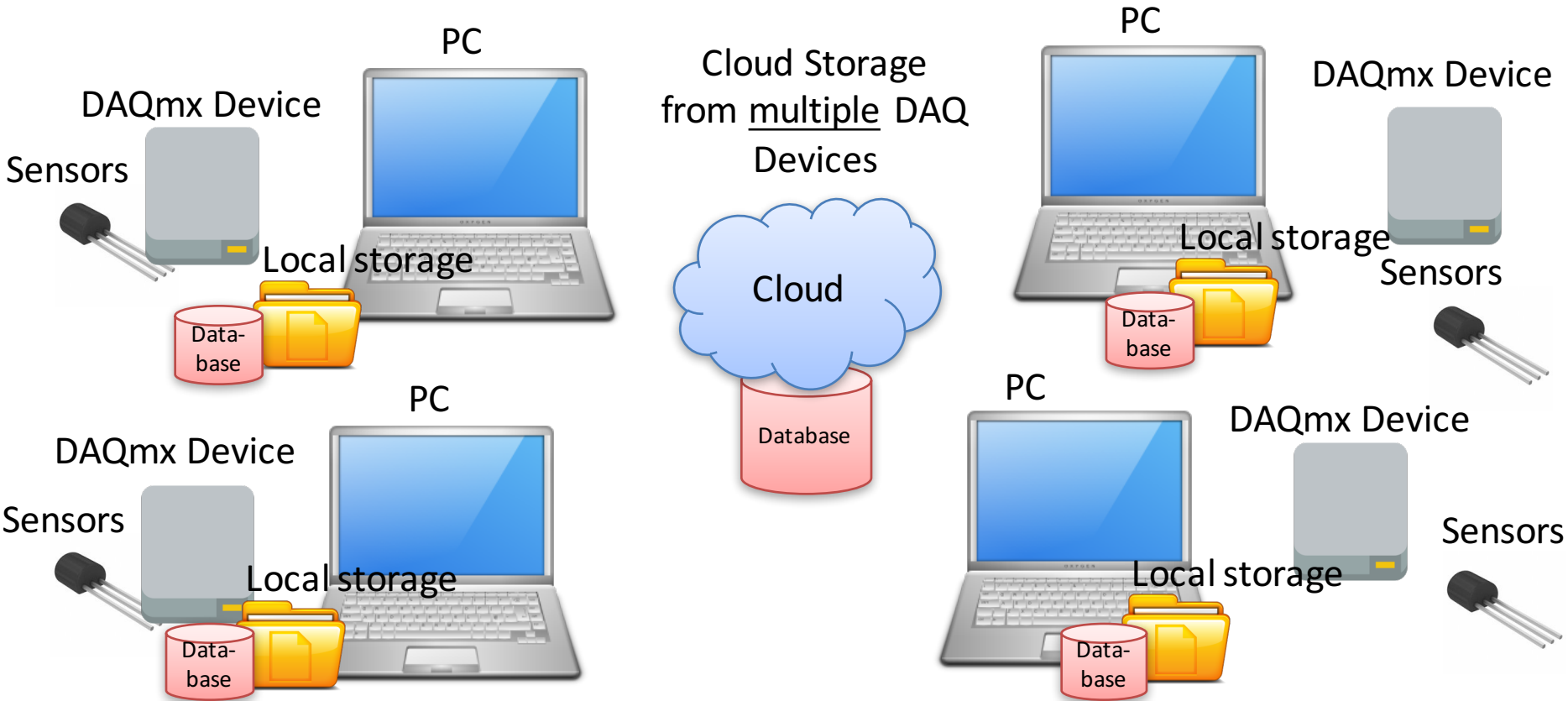
Data Monitoring:

You can also use the "Data Dashboard for LabVIEW App" on iPad or Android devices in order to Monitor the Data you are Logging – either locally or via the Data Cloud Service

Data Logging and Monitoring Pro

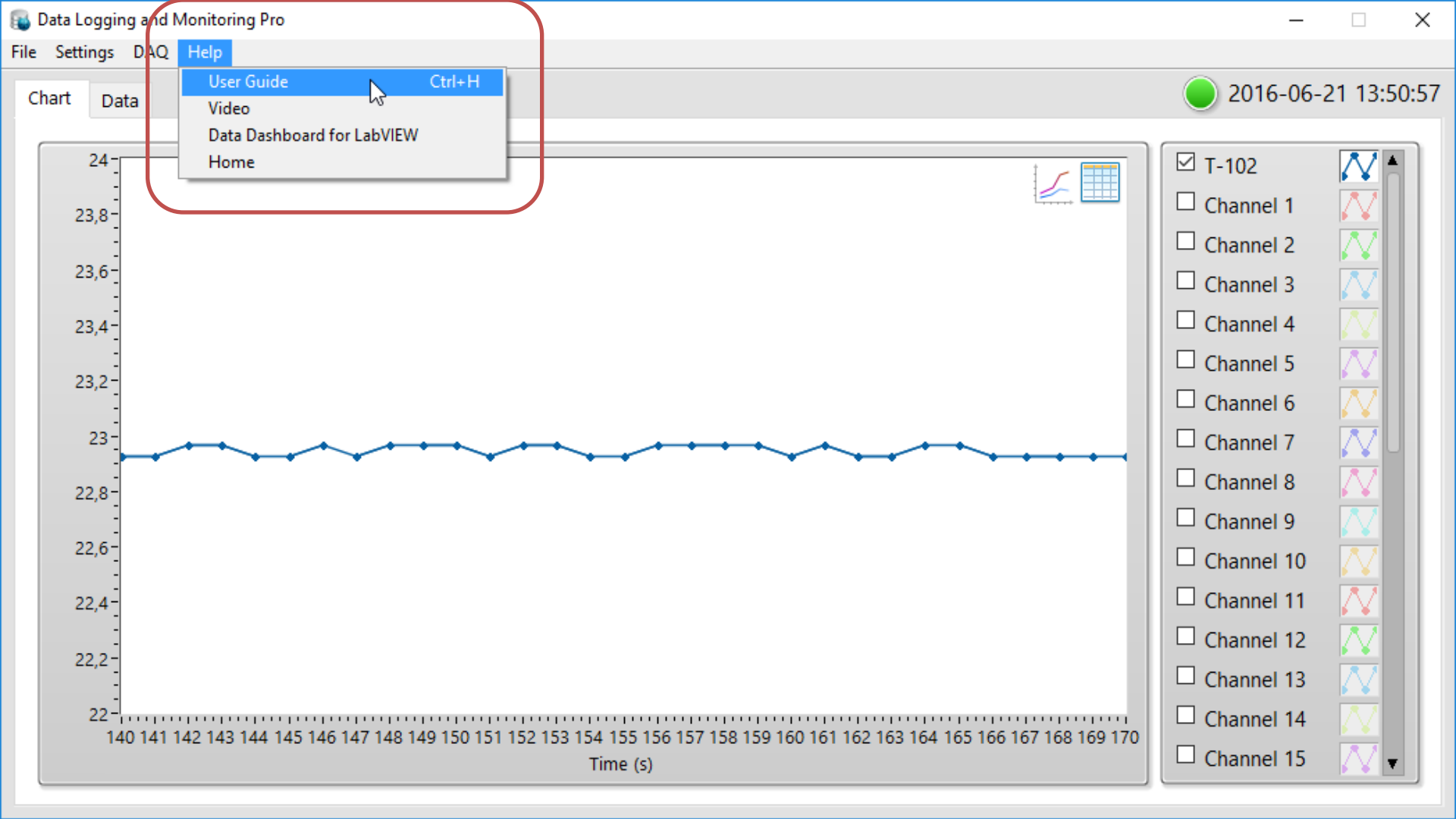


Data Logging and Monitoring Pro



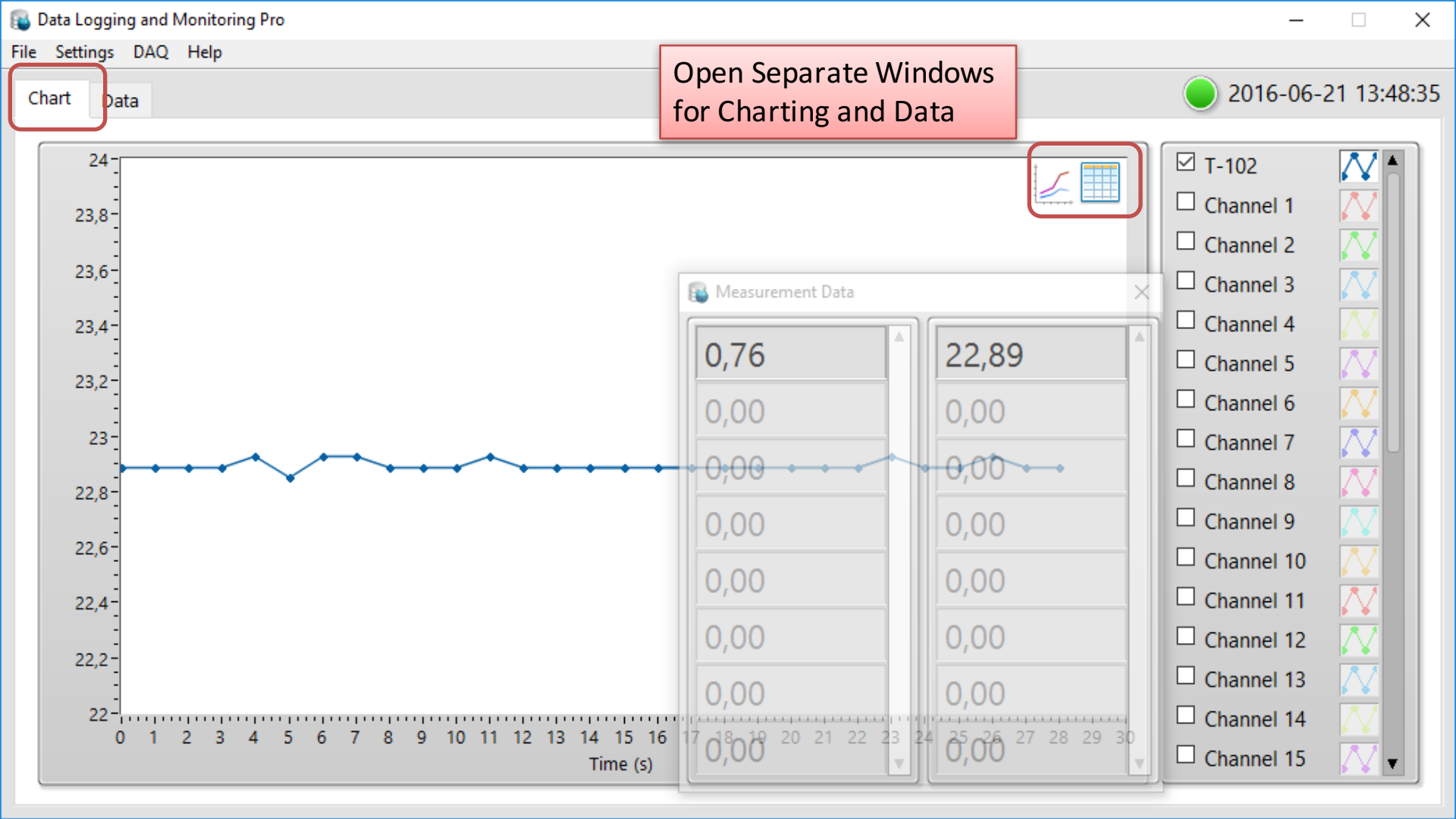
Get Help

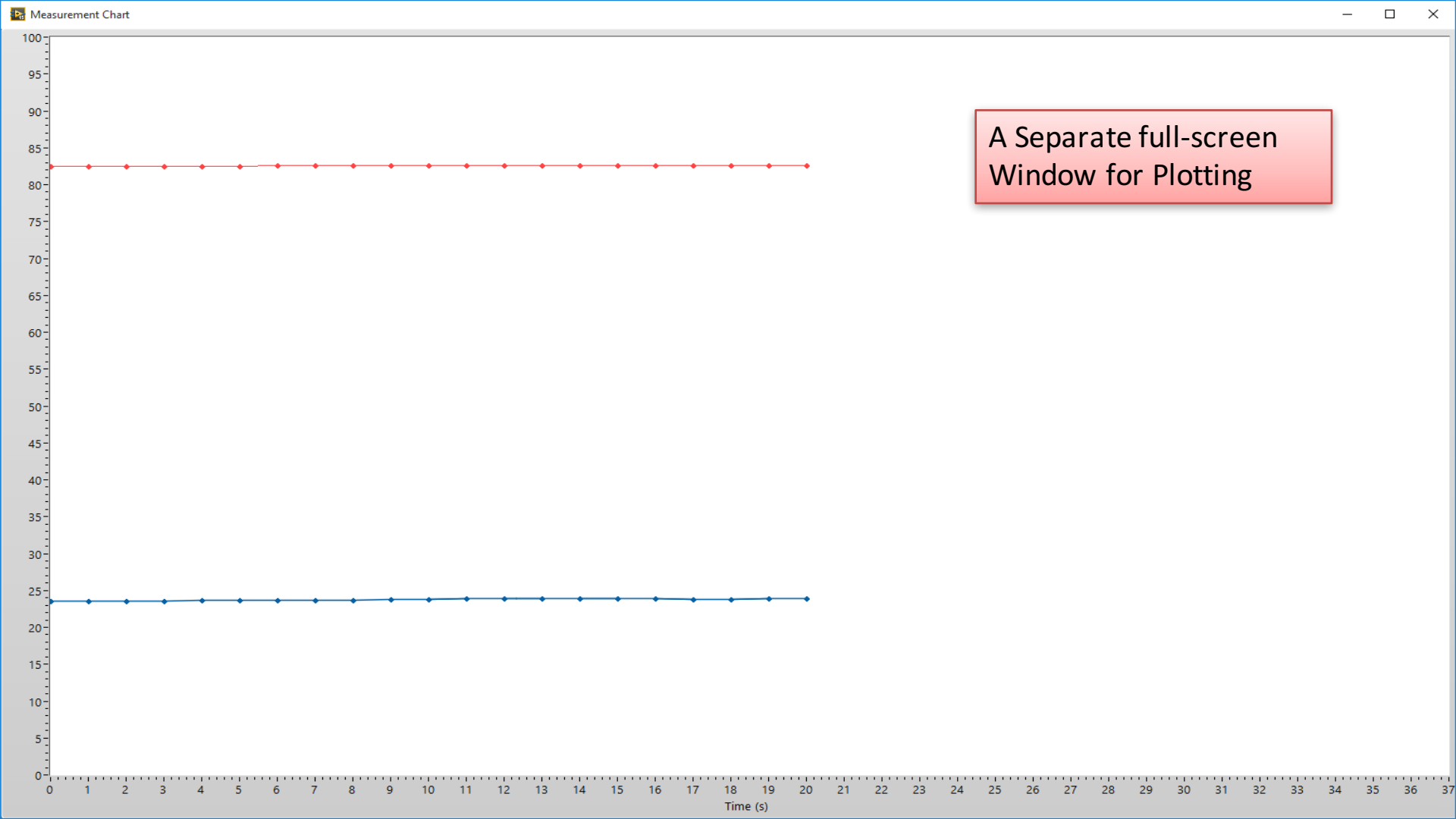
Hans-Petter Halvorsen, M.Sc.

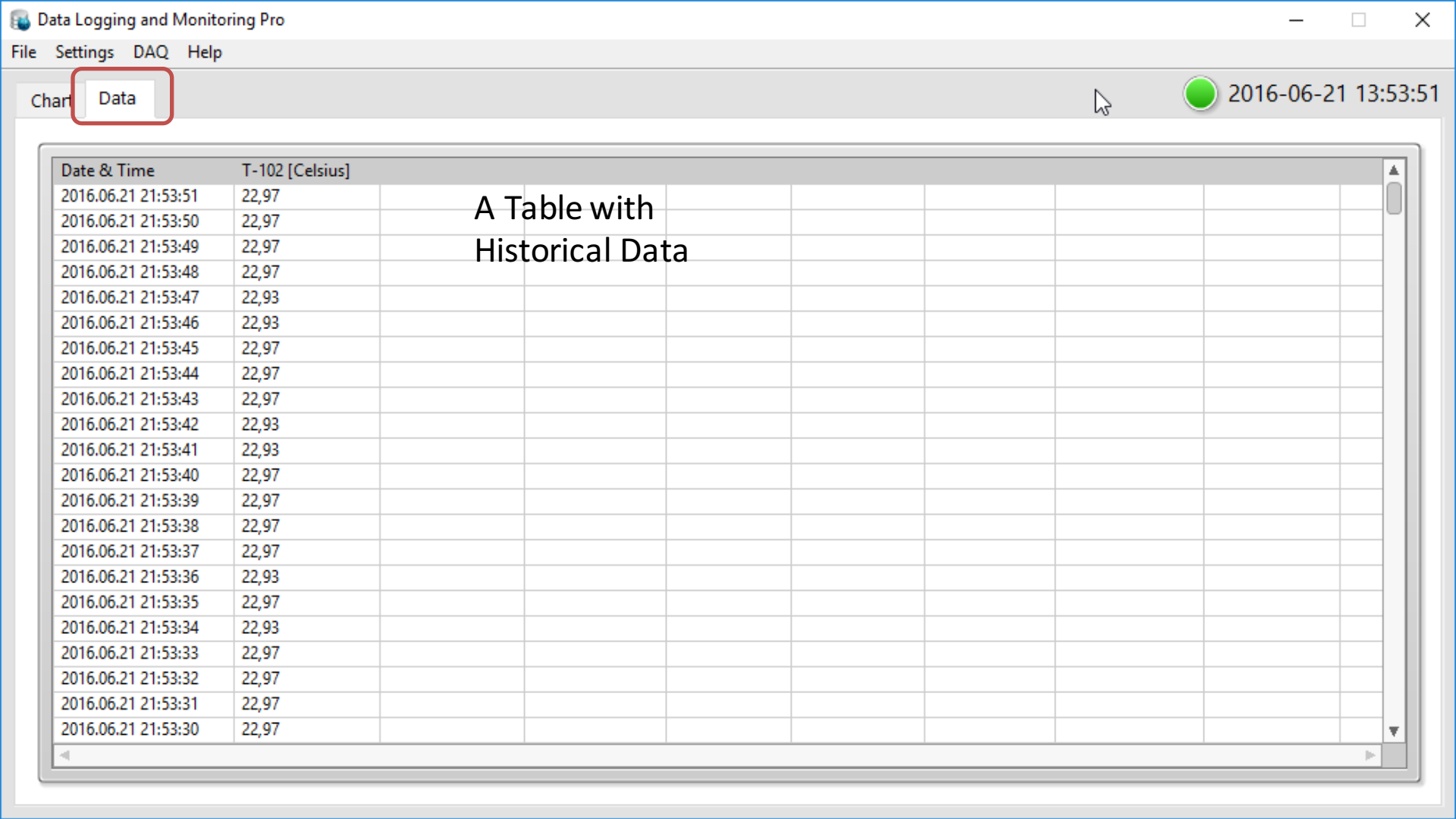

Data Logging and Monitoring Pro
File
Settings
DAQ
Help
User Guide Ctrl+H
Video
Data Dashboard for LabVIEW
Home
Chart
Data
2016-06-21 13:50:57
24
23,8
23,6
23,4
23,2
23
22,8
22,6
22,4
22,2
22
140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170
Time (s)
T-102
Channel 1
Channel 2
Channel 3
Channel 4
Channel 5
Channel 6
Channel 7
Channel 8
Channel 9
Channel 10
Channel 11
Channel 12
Channel 13
Channel 14
Channel 15

Monitoring

Hans-Petter Halvorsen, M.Sc.


Data Logging and Monitoring Pro
File
Settings
DAQ
Help
Chart
Data
Open Separate Windows for Charting and Data
2016-06-21 13:48:35
24
23,8
23,6
23,4
23,2
23
22,8
22,6
22,4
22,2
22
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
Time (s)
Measurement Data
0,76
22,89
0,00
T-102
Channel 1
Channel 2
Channel 3
Channel 4
Channel 5
Channel 6
Channel 7
Channel 8
Channel 9
Channel 10
Channel 11
Channel 12
Channel 13
Channel 14
Channel 15


Measurement Chart
A Separate full-screen Window for Plotting
Time (s)



Date & Time	T-102 [Celsius]
2016.06.21 21:53:51	22,97
2016.06.21 21:53:50	22,97
2016.06.21 21:53:49	22,97
2016.06.21 21:53:48	22,97
2016.06.21 21:53:47	22,93
2016.06.21 21:53:46	22,93
2016.06.21 21:53:45	22,97
2016.06.21 21:53:44	22,97
2016.06.21 21:53:43	22,97
2016.06.21 21:53:42	22,93
2016.06.21 21:53:41	22,93
2016.06.21 21:53:40	22,97
2016.06.21 21:53:39	22,97
2016.06.21 21:53:38	22,97
2016.06.21 21:53:37	22,97
2016.06.21 21:53:36	22,93
2016.06.21 21:53:35	22,97
2016.06.21 21:53:34	22,93
2016.06.21 21:53:33	22,97
2016.06.21 21:53:32	22,97
2016.06.21 21:53:31	22,97
2016.06.21 21:53:30	22,97

Database

Hans-Petter Halvorsen, M.Sc.

SQL Server

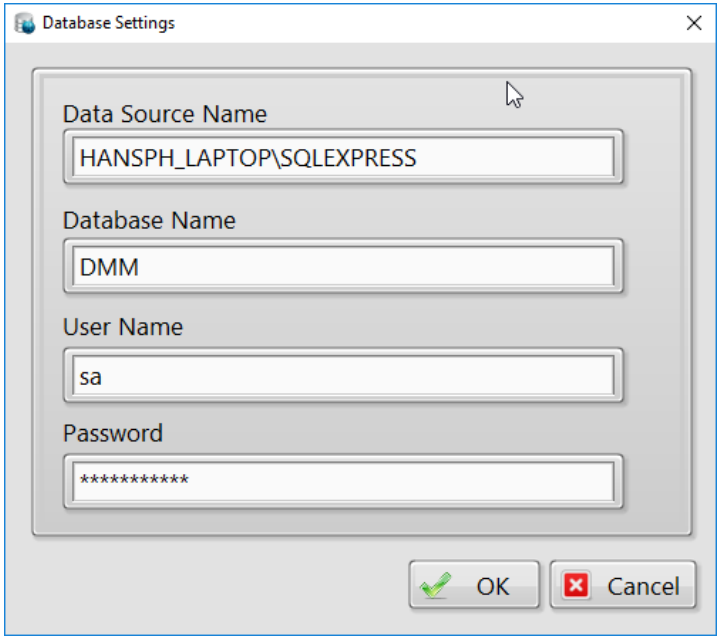
- You can Log Data to Microsoft SQL Server Database, either Locally or Remote.
- With this option you need to have access to the Database from this Computer.
- If you want to log data to a SQL Server, you can use an existing SQL Server or Download SQL Server Express for free

SQL Script

Database.sql

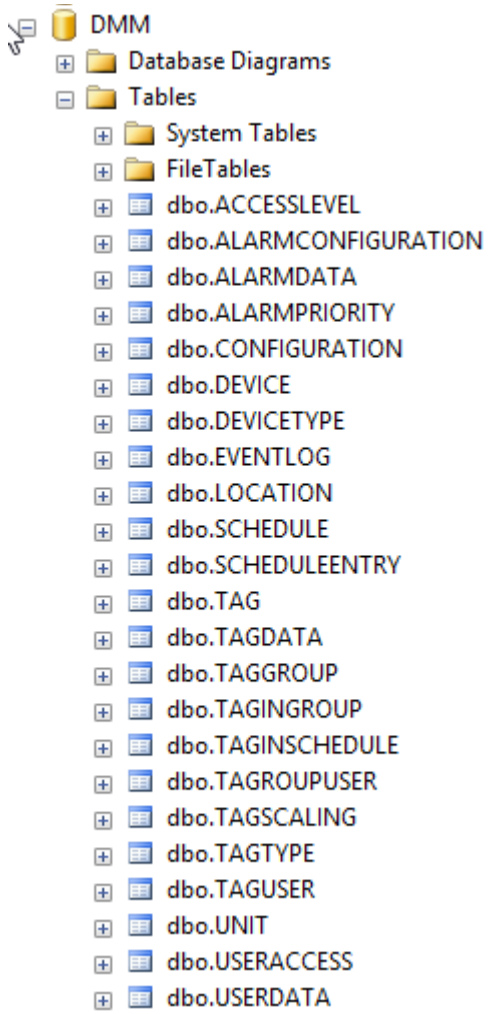
When you have installed SQL Server, you need to run the “Database.sql” Script in order to create necessary Tables, etc.

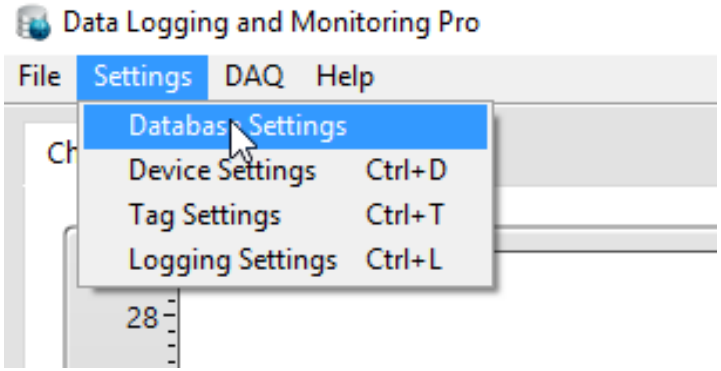
Then Connect to the Database and you are ready:

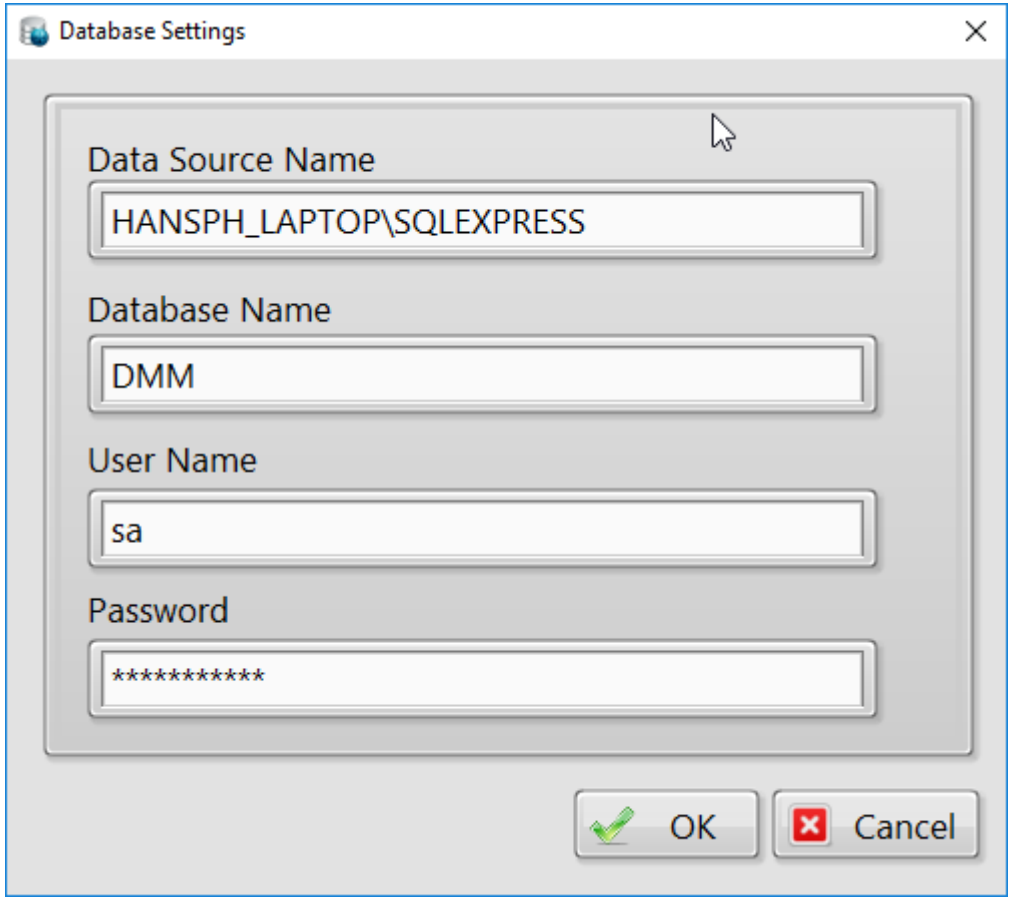


SQL Server

The «Database.sql» script contains Tables, Stored Pocedures, Views, etc. used by the Client.

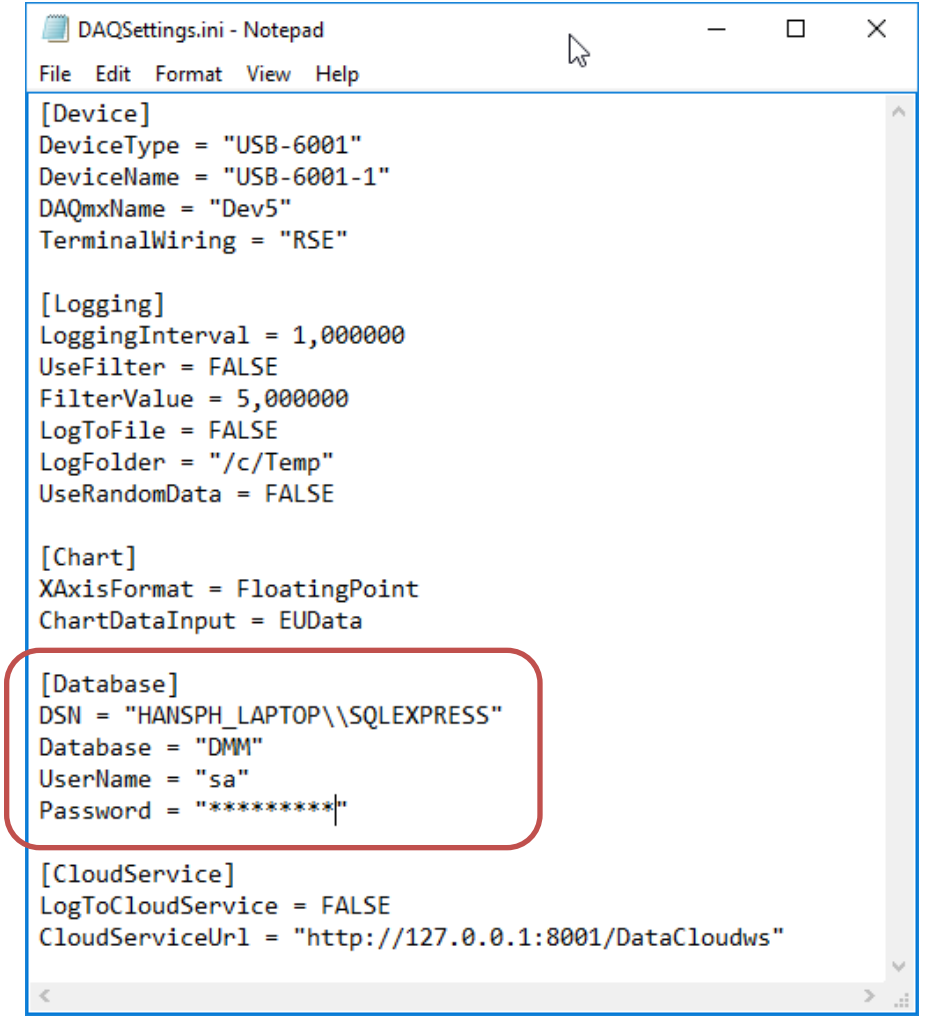



Data Logging and Monitoring Pro
File
Settings
DAQ
Help
Database Settings
Device Settings Ctrl+D
Tag Settings Ctrl+T
Logging Settings Ctrl+L
28


Database Settings
Data Source Name
HANSPH_LAPTOP\SQLEXPRESS
Database Name
DMM
User Name
sa
Password
****
OK
Cancel

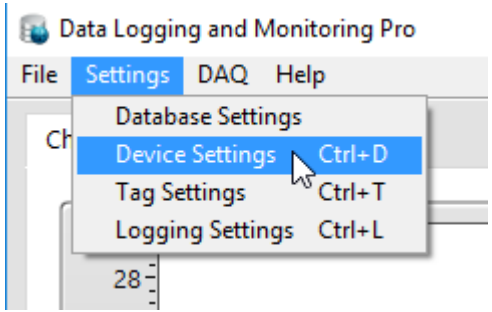
The Database Settings are stored in a Configuration File

You can change the Setting from the GUI or directly in the Configuration File

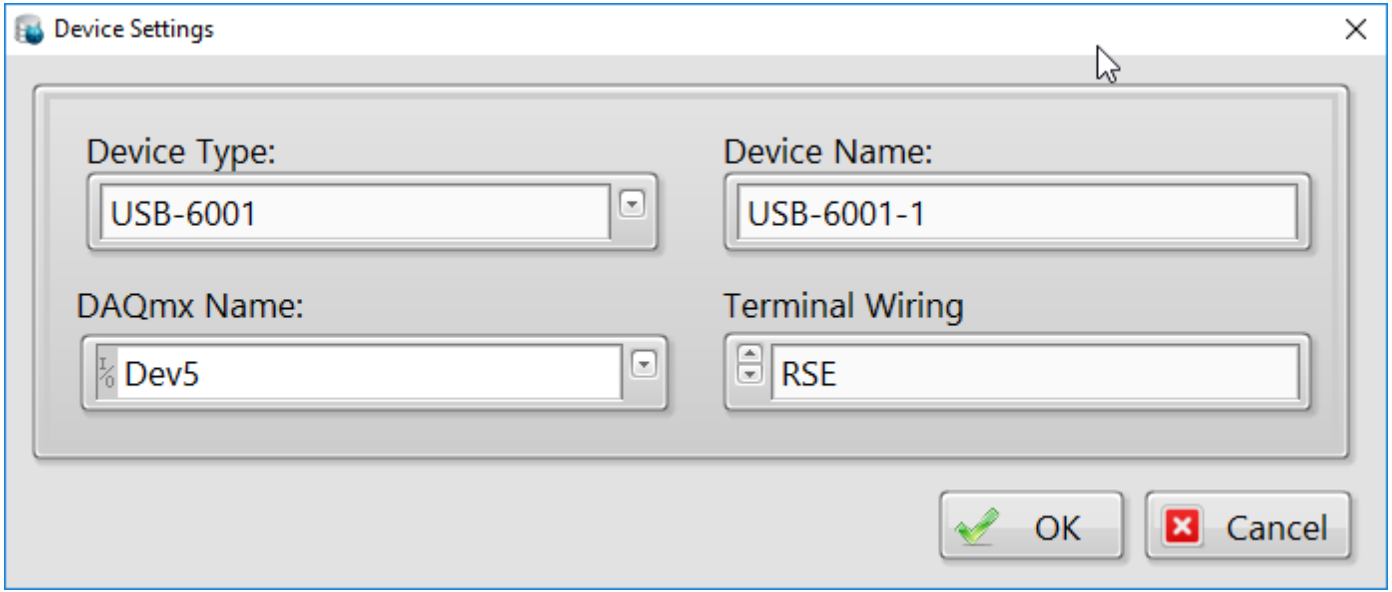


Configuration

Hans-Petter Halvorsen, M.Sc.

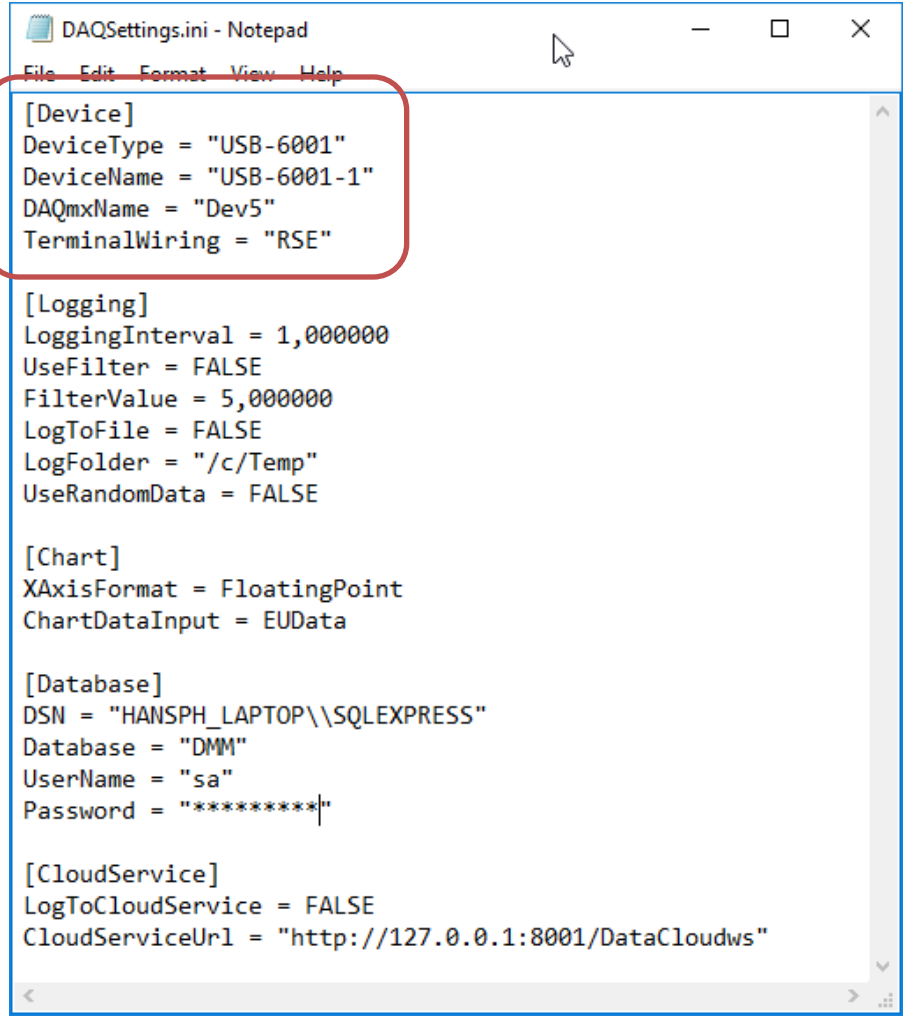


Device Settings

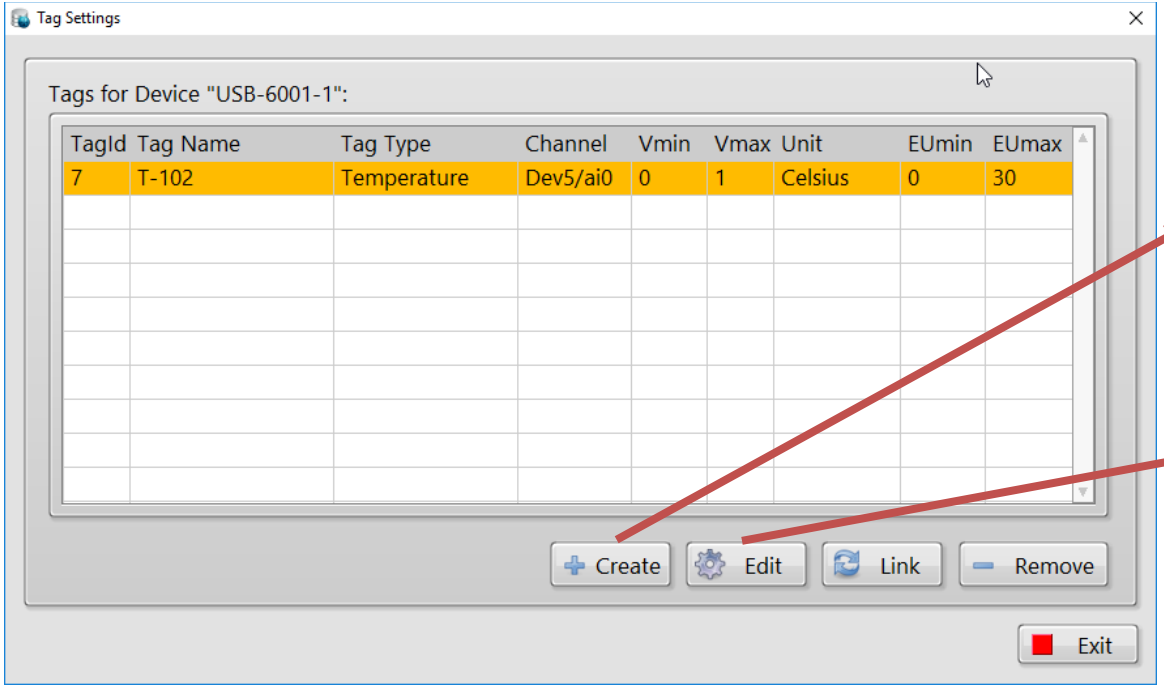


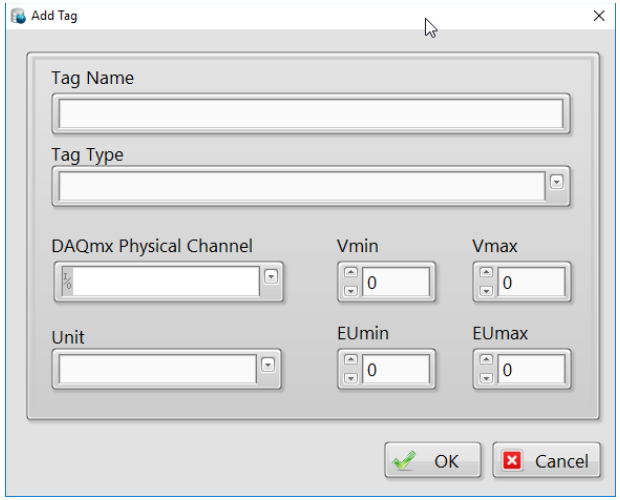
The Devce Settings are stored in a Configuration File

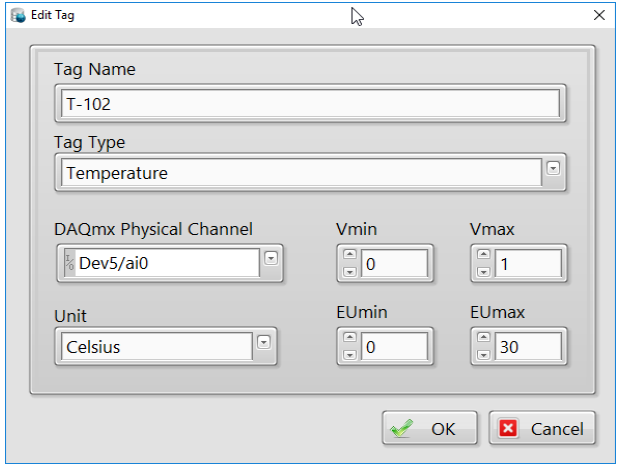
You can change the Setting from the GUI or directly in the Configuration File



Tag Settings

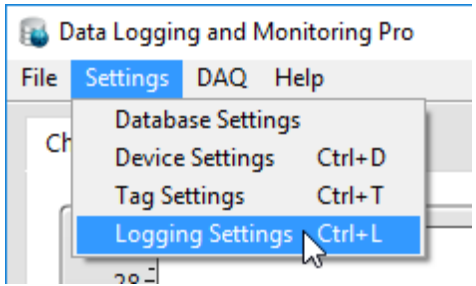


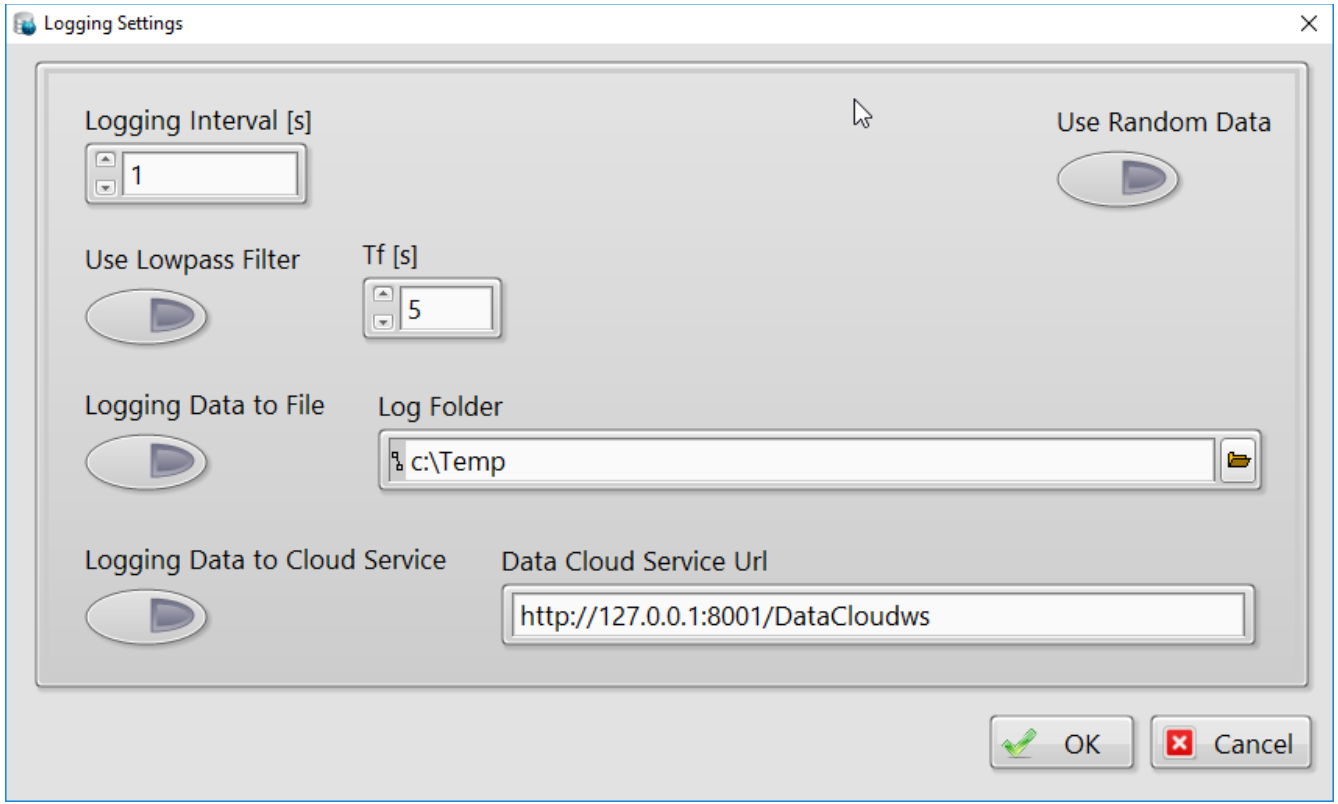




The Tag Settings are stored in the Database

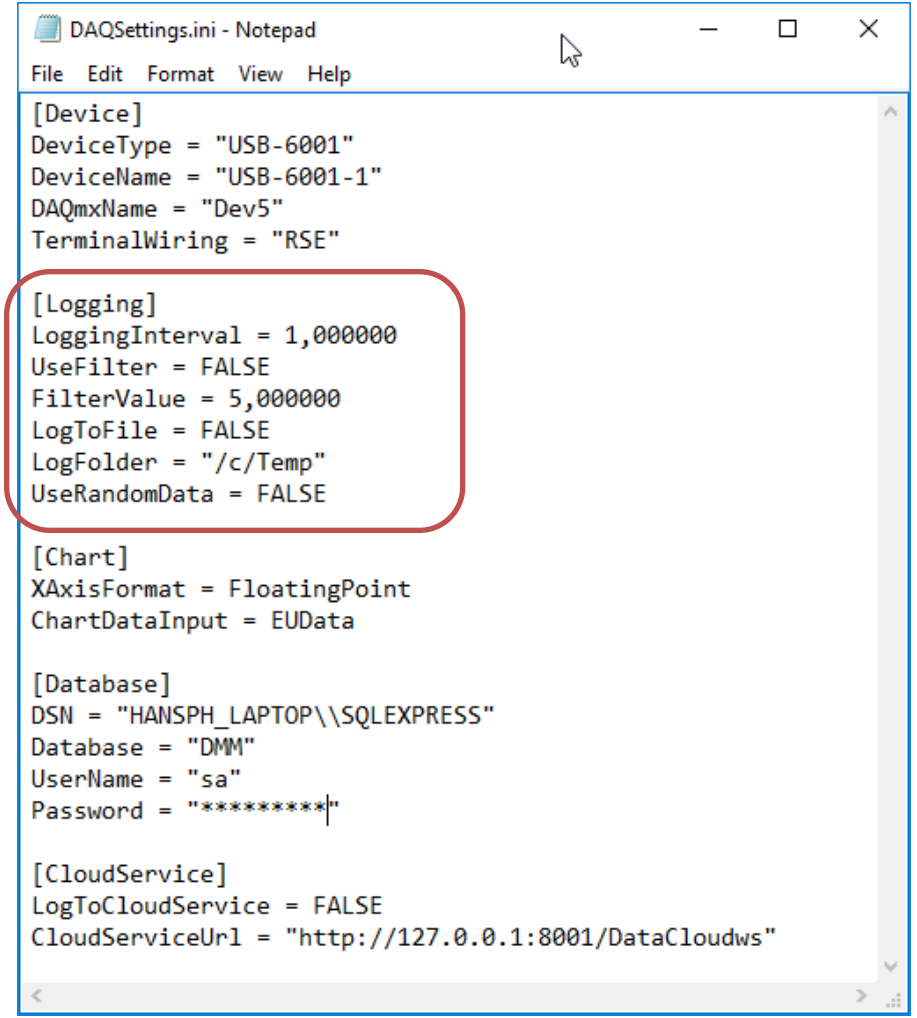
Logging Settings





The Logging Settings are stored in a Configuration File

You can change the Setting from the GUI or directly in the Configuration File



Web Service

Hans-Petter Halvorsen, M.Sc.

Data Web Service

The Port is default “8002”, but can be changed in a Configuration File

<IP Address>:<Port>/DataWS/<Web Service Method>

“DataWS” is the Name of the existing Web Service

AvailableWeb Service Methods

- GetChannel?Channel={value}
  - Gets the Current Value for the spesific Channel
- GetData
  - Get the Current Values for All Channels

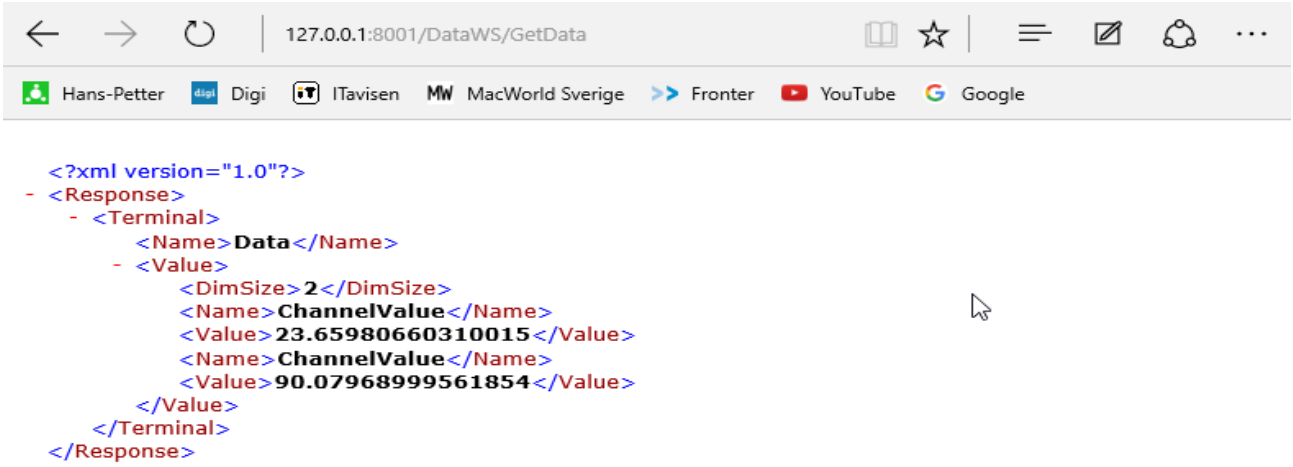
Web Service Example

<IP Address>:<Port>/GetChannel?Channel=1

Web Service Example

<IP Address>:<Port>/GetChannel?Channel=2

Web Service Example



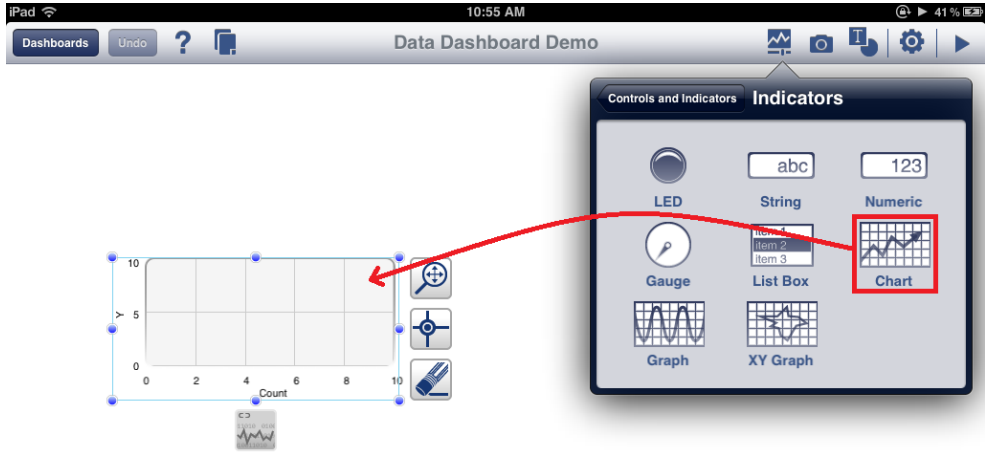
<IP Address>:<Port>/GetData

Data Dashboard for LabVIEW

Hans-Petter Halvorsen, M.Sc.

iPad
6:11 PM
64%
Dashboards
New Dashboard
Production Monitor
System State
abc
Process Variables
Timer
Test Name
UUT
0
Start
Stop
Reset
Fan On/Off
Fan Speed
Back
Indicators
LED
String
abc
Numeric
123
Gauge
List Box
Item 1
Item 2
Item 3
Chart
Graph
XY Graph

Data Dashboard for LabVIEW



- You can also use the "Data Dashboard for LabVIEW App" on iPad or Android devices in order to Monitor the Data you are Logging.
- https://www.ni.com/mobile/

AvailableWeb Service Methods

- GetChannel?Channel={value}
  - Gets the Current Value for the spesific Channel
- GetData
  - Get the Current Values for All Channels

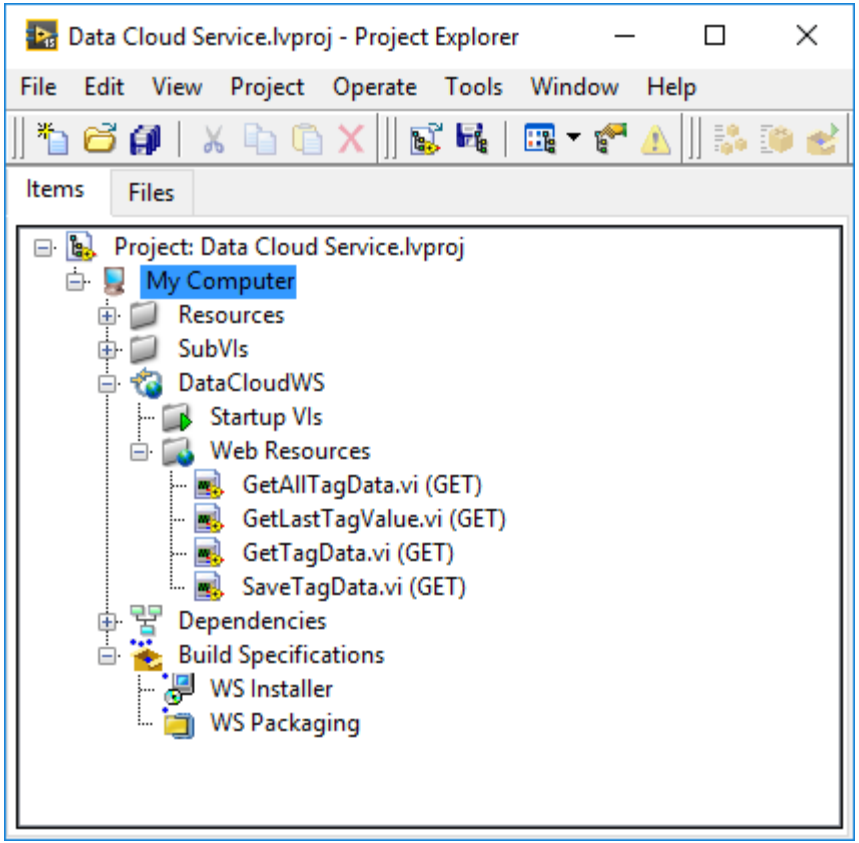
Data Cloud Service

Hans-Petter Halvorsen, M.Sc.

Data Cloud Service

- In addition to Log Data to a File or a Database, you can also Log Data to a remote “Data Cloud Service”.
- You can download the “Data Cloud Service” from my Web Site.
- Then you can install it on a computer/server in your Local Network or in the Cloud
- The Communication between the client and the Data Cloud is done by a Web Service API

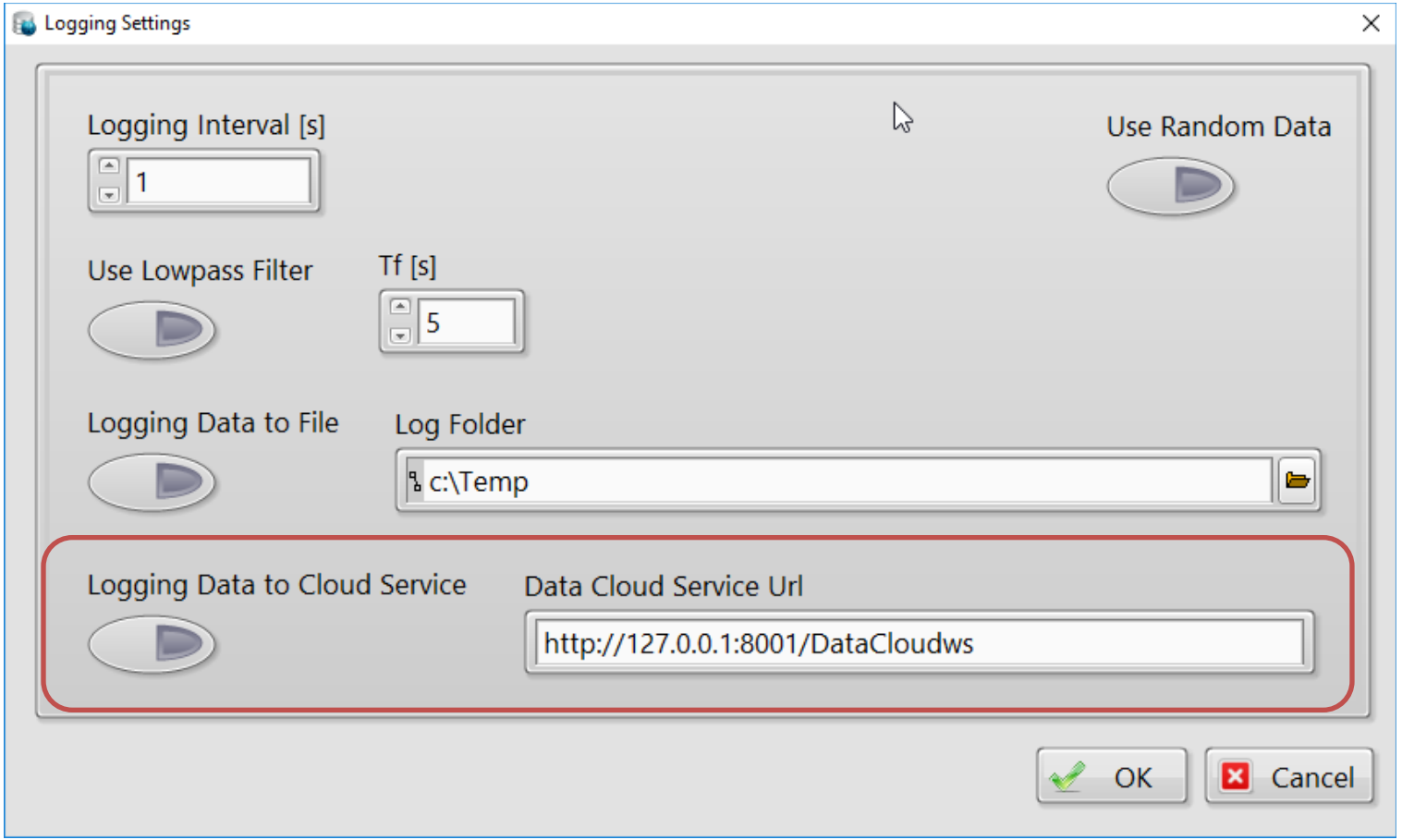
Data Cloud Service



In addition to installing the Data Cloud Service, the Data Cloud Storage, which is just a SQL Server Database with Tables, Stored Procedures, Views, etc.

When you have installed SQL Server, you need to run the “Database.sql” Script in order to create necessary Tables, etc.

Finally, you can start the Data Cloud Service, which is actually a LabVIEW Web Service.


Logging Settings
Logging Interval [s]
1
Use Random Data
Use Lowpass Filter
Tf [s]
5
Logging Data to File
Log Folder
c:\Temp
Logging Data to Cloud Service
Data Cloud Service Url
http://127.0.0.1:8001/DataCloudws
OK
Cancel

Hans-Petter Halvorsen, M.Sc.

University College of Southeast Norway

www.usn.no

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

Blog: http://home.hit.no/~hansha/