

IEC61850 Client tools

straton user guide – Rev. 5

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straton



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Content

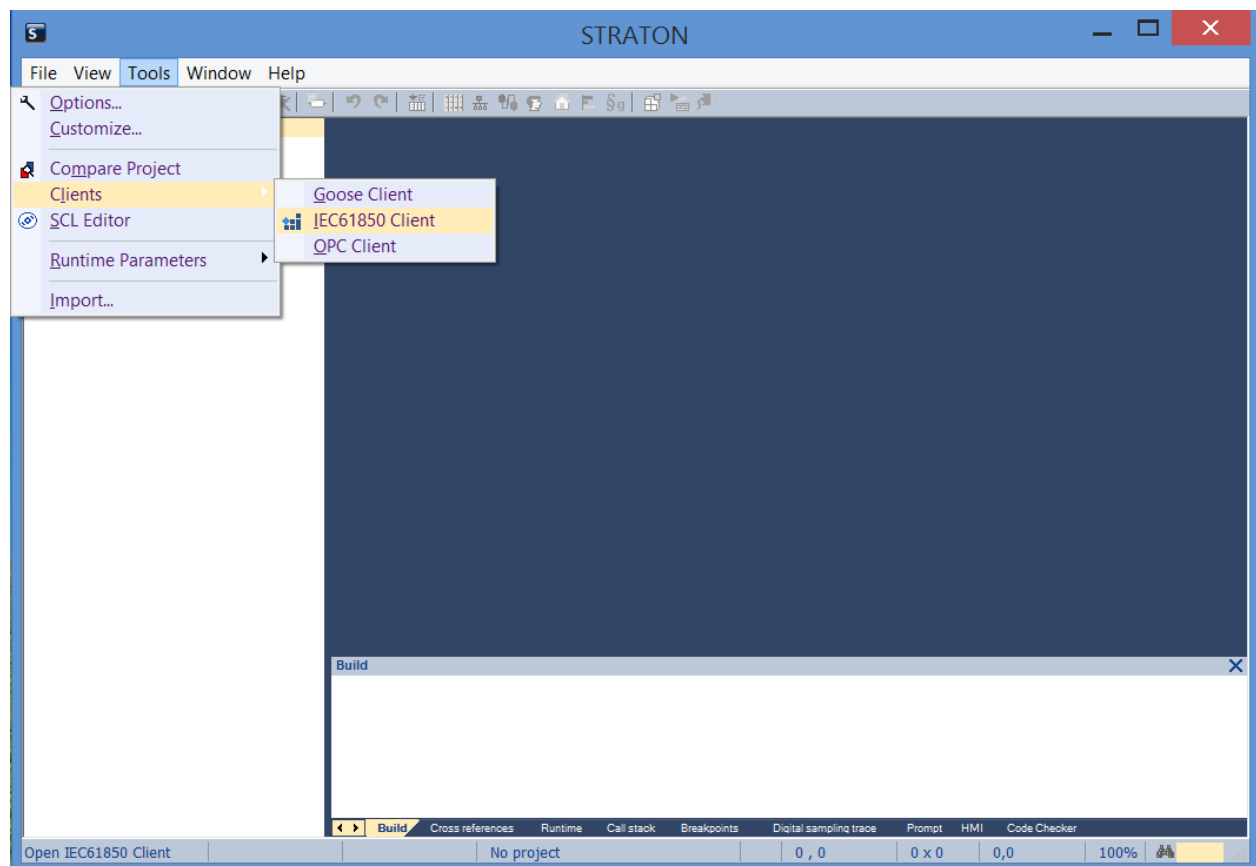
- 1. INSTALL EDITOR AND RUNTIME.....4
- 2. OPEN THE IEC 61850 CLIENT4
- 3. IEC 61850 CLIENT VIEWER.....5
 - 3.1. Main View..... 5
 - 3.2. Server 6
 - 3.3. Display values..... 7
 - 3.4. Updating and forcing values 8

1. Install Editor and Runtime

Download and install from <https://straton-plc.com/telechargements/>

2. Open the IEC 61850 Client

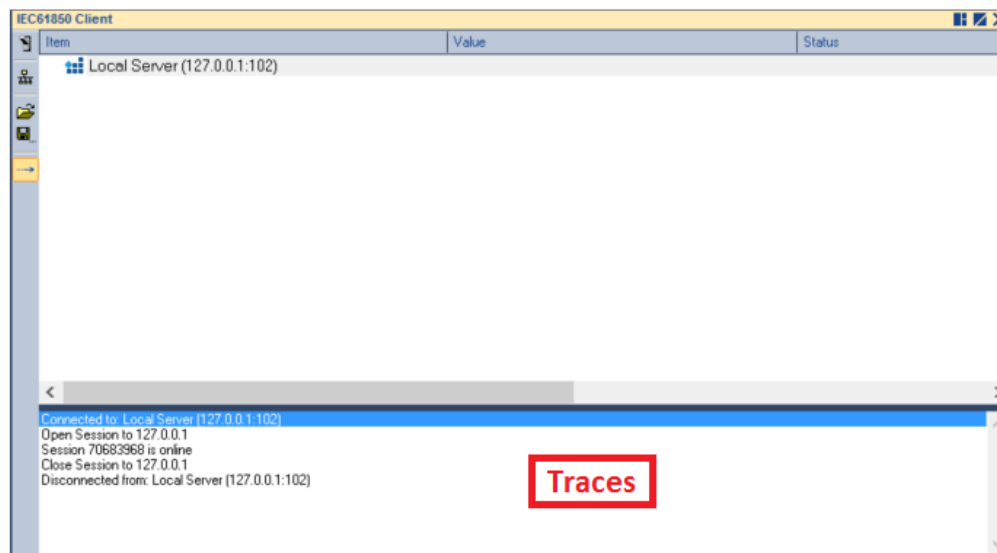
The IEC 61850 Client is a tool. Select "IEC 61850 Client" in the tools menu.



3. IEC 61850 Client Viewer






3.1. Main View

The IEC61850 client looks like this:



By default, one local server is added.

The viewer allows the user to:

- | | |
|---|--|
|  | 1. Add a new server -> button 2 |
|  | 2. Connect to server -> button 1 |
|  | 3. Load/Save the current configuration -> button 3 & 4 |
|  | 4. Change the server connection properties (double click on server) |
|  | 5. Enable auto scroll in the traces (see previous screenshot) -> button 5 |

3.2. Server

When adding a new server or when double click on an existing server, the server properties dialog is displayed.

The screenshot shows the 'Server' properties dialog box. It contains the following fields and options:

- Name:** Local Server
- Address:** 127.0.0.1
- Port:** 102
- Polling rate (ms):** 1 000
- Connection time out (ms):** 40000
- Displaying:** Split DO & DA
- Calling AE qualifier:** 12
- Called AE qualifier:** 12
- Calling AP title:** 1.1.1.999
- Called AP title:** 1.1.999.1.1
- Maximum URCBs for reporting:** 0
- Authentication:** (empty field)
- Traces:**
 - ☒ Errors
 - ☒ Warnings
 - ☒ General information
 - ☒ Standard debug messages
 - ☐ Extended debug messages
- Trg Ops:**
 - ☐ Use preconfigured TrgOps
 - ☒ Data-change
 - ☒ Quality-change
 - ☒ Data-update
 - ☒ Integrity
 - ☒ General-interrogation
- Buttons:** Reset, OK, Cancel

The displayed name of the server can be changed.

The address and port can be changed.

The polling rate (refresh time) of the spied values can be changed.

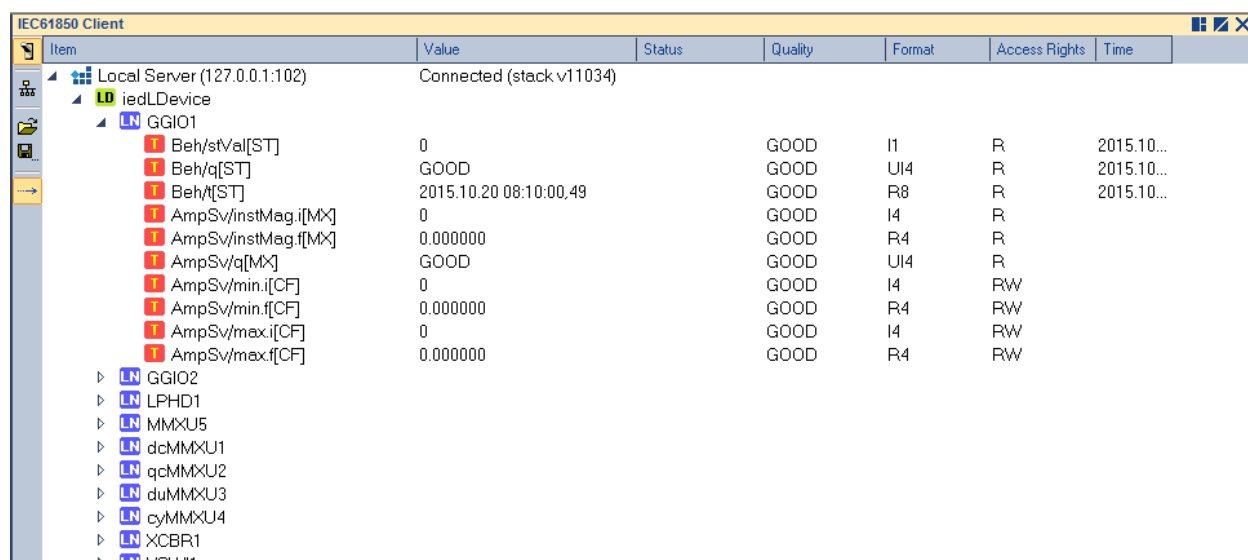
The connection time out can be changed. For distant server with lot of spied symbols, increase the time out.

It is also possible to choose what traces to be displayed and what trigger options to use.

3.3. Display values

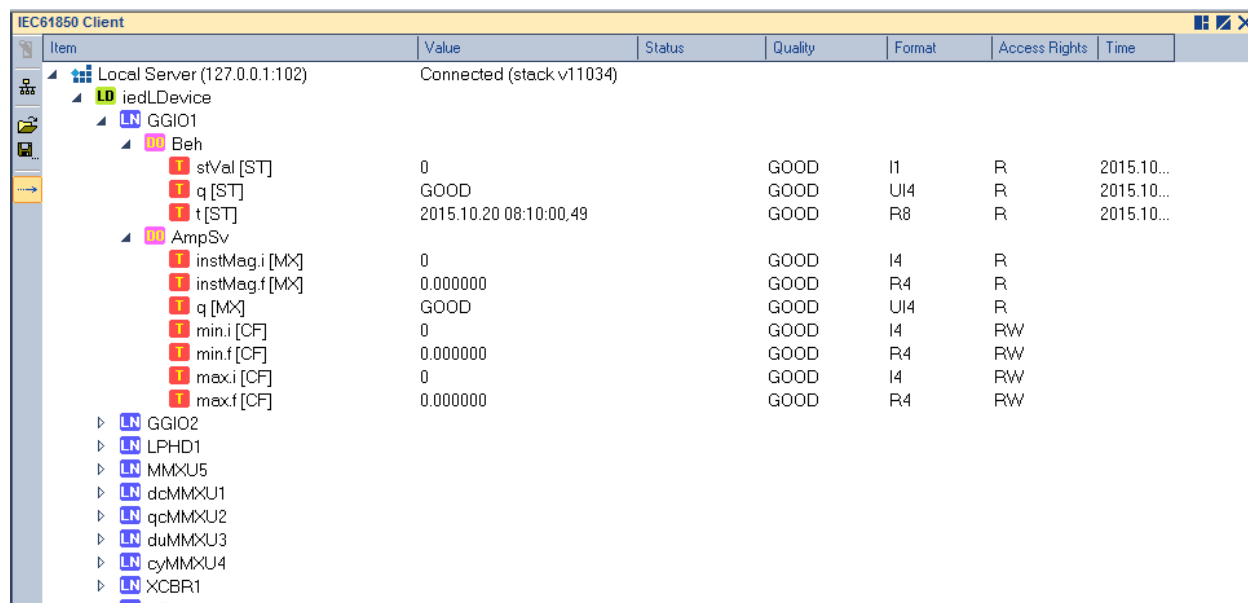
The displaying has three modes: "Flat", "Split DO" and "Split DO & DA".

Flat: in this mode all DA in a logical node are on the same level:



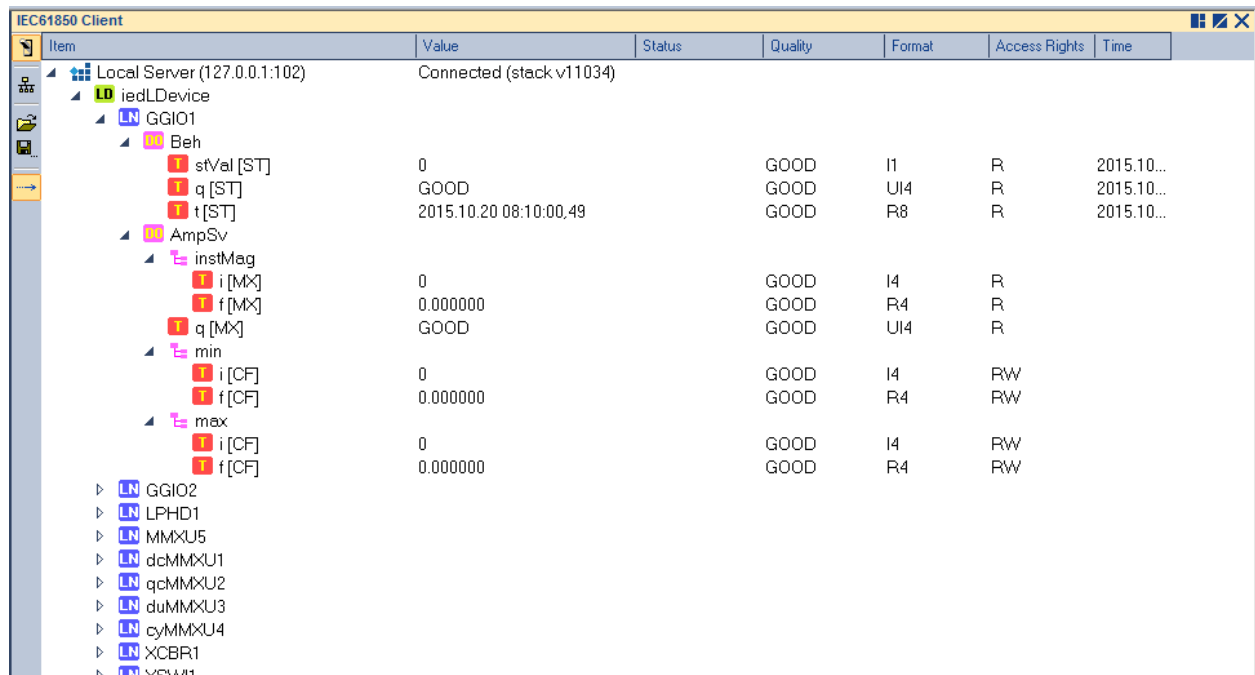
Item	Value	Status	Quality	Format	Access Rights	Time
Local Server (127.0.0.1:102)	Connected (stack v11034)					
iedLDevice						
GGIO1						
Beh/stVal[ST]	0		GOOD	I1	R	2015.10...
Beh/q[ST]	GOOD		GOOD	UI4	R	2015.10...
Beh/t[ST]	2015.10.20 08:10:00,49		GOOD	R8	R	2015.10...
AmpSv/instMag.i[MX]	0		GOOD	I4	R	
AmpSv/instMag.f[MX]	0.000000		GOOD	R4	R	
AmpSv/q[MX]	GOOD		GOOD	UI4	R	
AmpSv/min.i[CF]	0		GOOD	I4	RW	
AmpSv/min.f[CF]	0.000000		GOOD	R4	RW	
AmpSv/max.i[CF]	0		GOOD	I4	RW	
AmpSv/max.f[CF]	0.000000		GOOD	R4	RW	
GGIO2						
LPHD1						
MMXU5						
dcMMXU1						
qcMMXU2						
duMMXU3						
cyMMXU4						
XCBR1						
VSU11						

Split DO: in this mode, DO level is added



Item	Value	Status	Quality	Format	Access Rights	Time
Local Server (127.0.0.1:102)	Connected (stack v11034)					
iedLDevice						
GGIO1						
Beh						
stVal [ST]	0		GOOD	I1	R	2015.10...
q [ST]	GOOD		GOOD	UI4	R	2015.10...
t [ST]	2015.10.20 08:10:00,49		GOOD	R8	R	2015.10...
AmpSv						
instMag.i [MX]	0		GOOD	I4	R	
instMag.f [MX]	0.000000		GOOD	R4	R	
q [MX]	GOOD		GOOD	UI4	R	
min.i [CF]	0		GOOD	I4	RW	
min.f [CF]	0.000000		GOOD	R4	RW	
max.i [CF]	0		GOOD	I4	RW	
max.f [CF]	0.000000		GOOD	R4	RW	
GGIO2						
LPHD1						
MMXU5						
dcMMXU1						
qcMMXU2						
duMMXU3						
cyMMXU4						
XCBR1						
VSU11						

Split DO & DA: in this mode DA is also added



Item	Value	Status	Quality	Format	Access Rights	Time
Local Server (127.0.0.1:102) Connected (stack v11034)						
iedLDevice						
GGIO1						
Beh						
stVal [ST]	0		GOOD	I1	R	2015.10...
q [ST]	GOOD		GOOD	UI4	R	2015.10...
t [ST]	2015.10.20 08:10:00,49		GOOD	R8	R	2015.10...
AmpSv						
instMag						
i [MX]	0		GOOD	I4	R	
f [MX]	0.000000		GOOD	R4	R	
q [MX]	GOOD		GOOD	UI4	R	
min						
i [CF]	0		GOOD	I4	RW	
f [CF]	0.000000		GOOD	R4	RW	
max						
i [CF]	0		GOOD	I4	RW	
f [CF]	0.000000		GOOD	R4	RW	
GGIO2						
LPHD1						
MMXU5						
dcMMXU1						
qcMMXU2						
duMMXU3						
cyMMXU4						
XCBR1						
VCB1						

3.4. Updating and forcing values

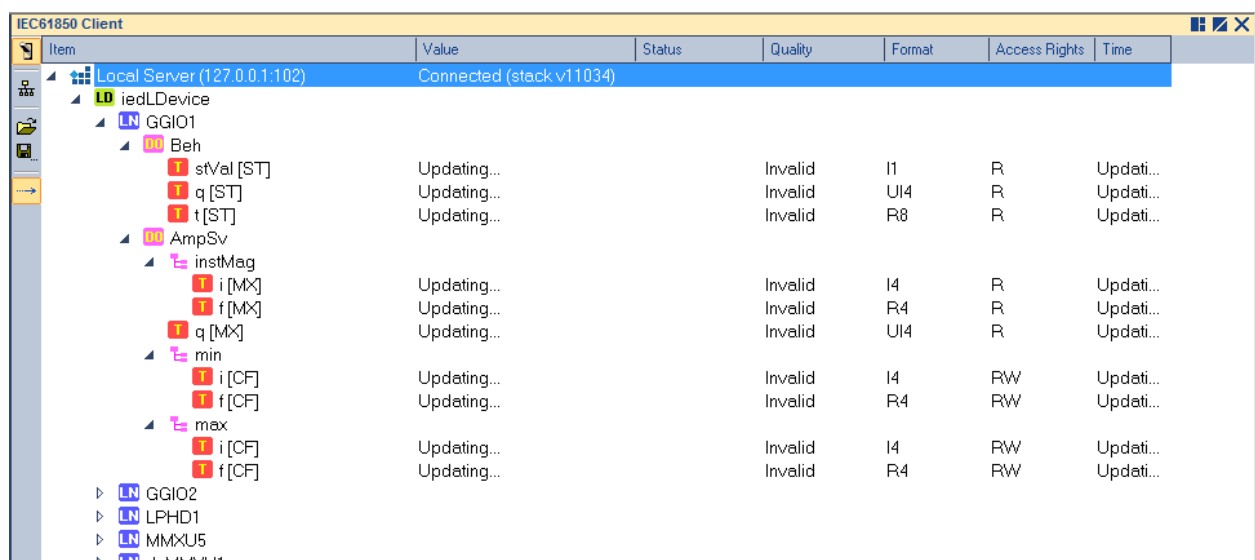
When wanting to spy values, connect to the server using the Activate/Deactivate button ().

Only one server can be connected at a time.

A dialog box "connecting" is displayed -> user can cancel connection.

Once the server is connected, the values are automatically updated:

Updating:



Item	Value	Status	Quality	Format	Access Rights	Time
Local Server (127.0.0.1:102) Connected (stack v11034)						
iedLDevice						
GGIO1						
Beh						
stVal [ST]	Updating...		Invalid	I1	R	Updati...
q [ST]	Updating...		Invalid	UI4	R	Updati...
t [ST]	Updating...		Invalid	R8	R	Updati...
AmpSv						
instMag						
i [MX]	Updating...		Invalid	I4	R	Updati...
f [MX]	Updating...		Invalid	R4	R	Updati...
q [MX]	Updating...		Invalid	UI4	R	Updati...
min						
i [CF]	Updating...		Invalid	I4	RW	Updati...
f [CF]	Updating...		Invalid	R4	RW	Updati...
max						
i [CF]	Updating...		Invalid	I4	RW	Updati...
f [CF]	Updating...		Invalid	R4	RW	Updati...
GGIO2						
LPHD1						
MMXU5						
dcMMXU1						

Updated:

IEC61850 Client							
Item	Value	Status	Quality	Format	Access Rights	Time	
Local Server (127.0.0.1:102)	Connected (stack v11034)						
iedLDevice							
GGIO1							
Beh							
stVal [ST]	0		GOOD	I1	R	2015.10...	
q [ST]	GOOD		GOOD	UI4	R	2015.10...	
t [ST]	2015.10.20 08:10:00,49		GOOD	R8	R	2015.10...	
AmpSv							
instMag							
i [MX]	0		GOOD	I4	R		
f [MX]	0.000000		GOOD	R4	R		
q [MX]	GOOD		GOOD	UI4	R		
min							
i [CF]	0		GOOD	I4	RW		
f [CF]	0.000000		GOOD	R4	RW		
max							
i [CF]	0		GOOD	I4	RW		
f [CF]	0.000000		GOOD	R4	RW		
GGIO2							
LPHD1							
MMXU5							
...							

How to force data:

By double click on the value, the writable data can be written.

Operate:

An Operate can be send, the Control model need to be set to 1, 2, 3 or 4 then double click on the Oper.CtlVal to force the value.