SCADA software LAquis first resume

LAquis SCADA is a supervisory control and data acquisition software. From data acquisition to applications development This is a small introduction on how to start using this software.

LAquis - C:\PROGRAM FILES\LAQUIS\APLS\SAMPLE.LQS

Menu | Play | Drawing | Import...

0 | Ventilador0 | Ventilador1 | Ventilador2 | Nível | ObjAlarme0 | ObjAlarme1 | ObjAlarme2 | ObjAlarme3 | ObjAlarme4 | ObjAlarme5 | ObjMotorDir1 | ObjMotorDir2 | ObjMoto

Sample

No alarm

Report

Report 2 graphs

Individual report

Digital 1

Value 1

40
35
30
25
20
15
10

Value 1

Value 2

Value 3

Object | Script

Apply | List

Main

Name: bar1 Object: Bar

Tag (formula): Value1 ... Visibility: 1

Title: Value 1

Color: Back Color: Update: 33 ms

Property	Value
Maximum	50
Minimum	0
Divisions	10
FontSize	8
ScaleColor	&H000000
FontTitle	Arial
TitleLabelSize	8
TitleLabelColor	&H000000
LowLimit	§.LI -15
HighLimit	§.LS 25
LimitColor	&H020080FF
OutLimitColor	&H020000FF
LimitWidth	3

Tags + (I/O points and variables)

<All>

Groups...

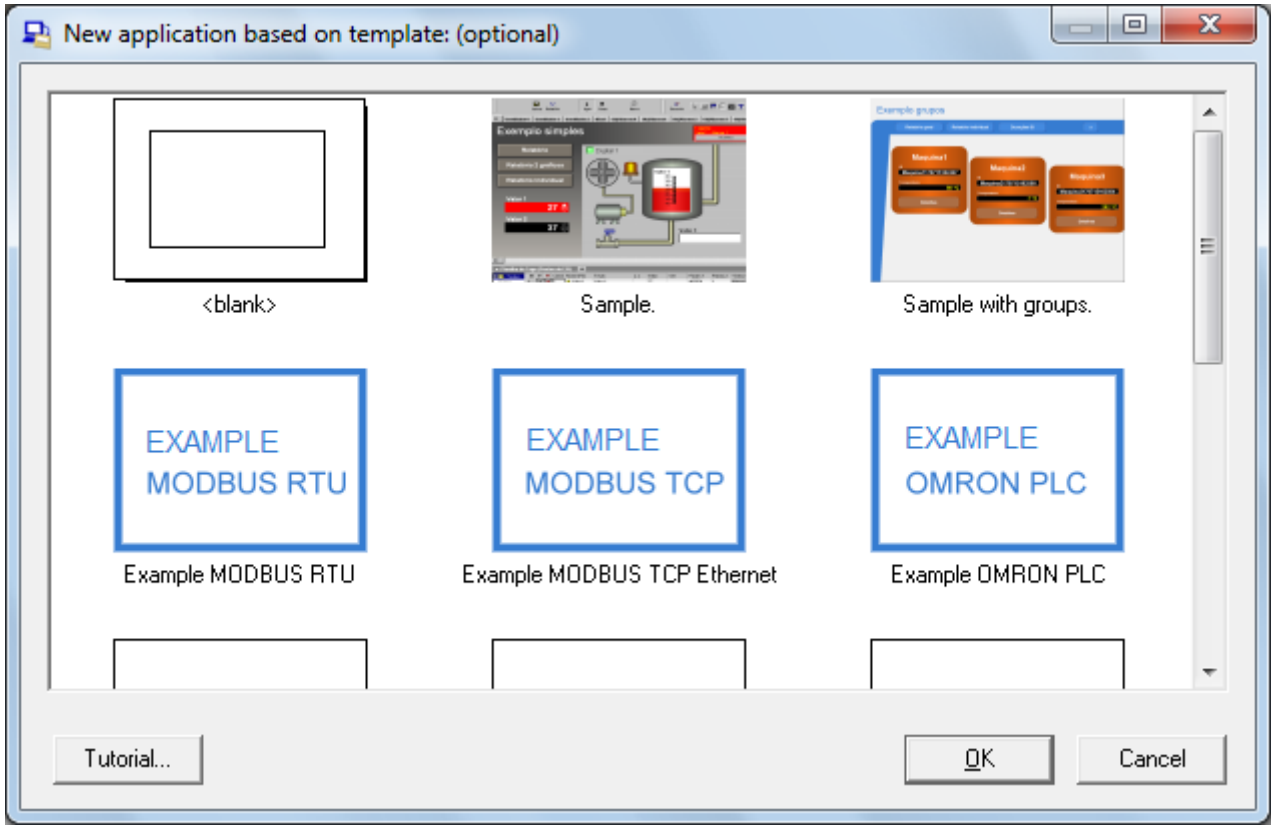
	Name	Title	[..]	Value	Param 1	Param 2	Status/Alarm	Database	Driver / PLC	Sampling	Re
1	Value1	Value 1		1	400001	1		SAMPLE.LB	DEMOTESTE 1:9600,N,8,1	0	3s
2	Value2	Value 2		7	400002	1		SAMPLE.LB	DEMOTESTE 1:9600,N,8,1	0	3s
3	Value3	Value 3			400003	1		SAMPLE.LB	VAR	0	3s
4	Digital1	Digital 1		1	1	1		SAMPLE.LB	VAR	0	3s
5	Valve	Valve		1	2	1		SAMPLE.LB	VAR	0	3s

The SCADA software main screen for development, is divided into two parts: the bottom where there is a spreadsheet with the SCADA system tags and the top panel where the HMI visual objects are placed. In spreadsheet PLC tags SCADA software system IN and OUT points are defined. Equipment, variables, files, formulas, scales or other properties and user defined properties for each case.

On the panel, visual HMI objects can be used both for the development of specific HMI SCADA software systems via script and also for simple accompaniment of a data acquisition. Each HMI object can be related to a defined PLC SCADA tag in tag sheet.

When setting a database at the software in spreadsheet tags, you can generate SCADA system reports, analysis, and charts with system data stored through the "Reports" menu.

To start a development of a new application at the SCADA software click "New". A window appears with several models that generate predefined applications that can be changed as needed.



SCADA software

SCADA software step by step

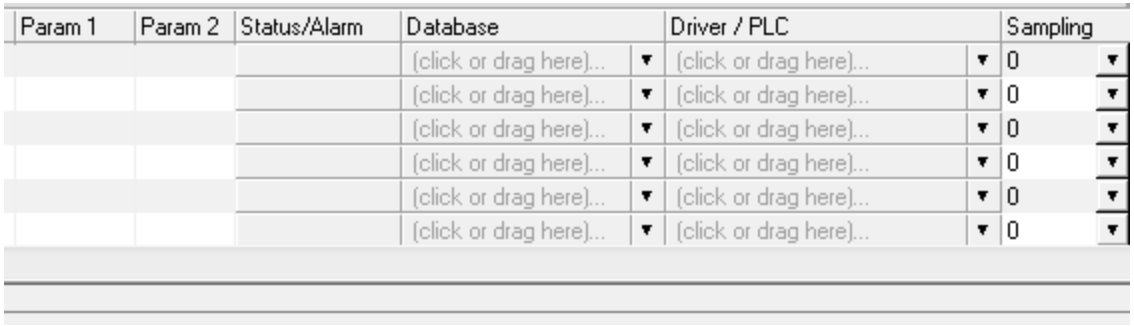
Follow the steps below to use the software, clicking “New”, select <blank>, click OK, type a name and save.

SCADA software LAquis 5 first basic steps:

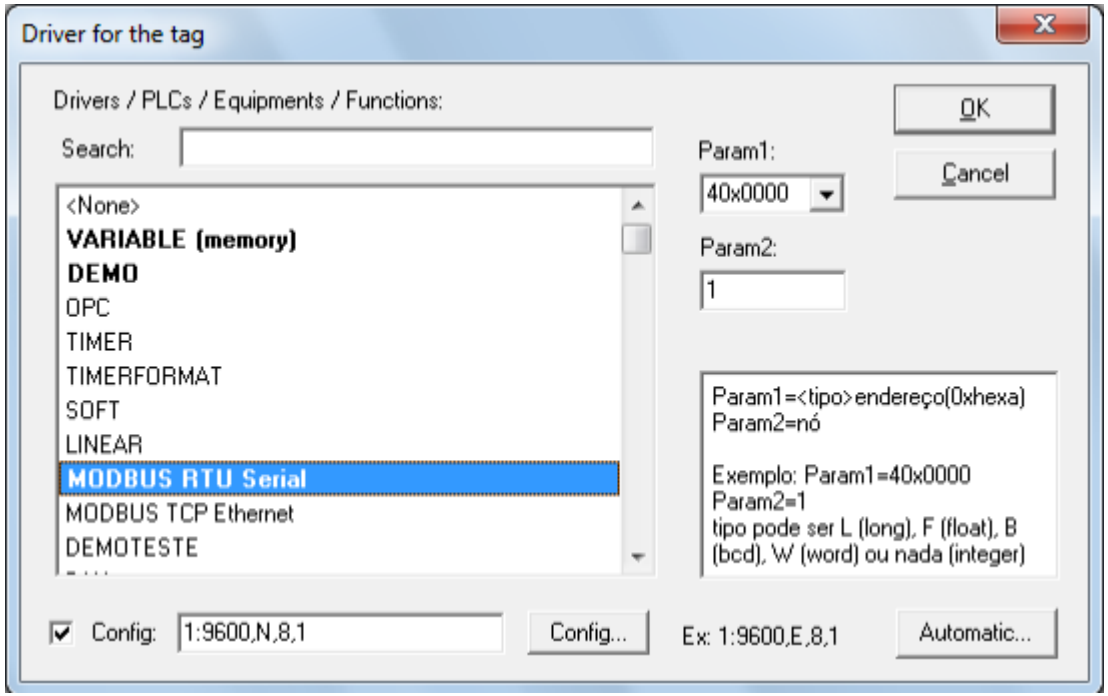
1. – Definition of the SCADA system PLC tags (I/O points and variables).
2. – File / Report
3. – Visual Objects
4. – Scripts
5. – Groups of tags

Definition of the SCADA software PLC tags (I/O points and variables).

Set I/O points in SCADA system tags spreadsheet at the bottom of the main screen. These SCADA PLC tags can be generic or physical equipment variables. The tags spreadsheet contains properties to define what will be read or written in the equipment. Some of the main properties are: Name, Title, Value, Unit, Driver / PLC, Database, Param1, Param2, etc .... Each property can be a column in this PLC tags spreadsheet. Choose the equipment driver to be used in the Driver / PLC column. The driver can be set by dragging the mouse pointer with the left button on the Driver / PLC column, or by clicking on the Driver / PLC column title to select all PLC tags desired at the system group.



When you release the mouse button, the window for selecting the driver will be shown:

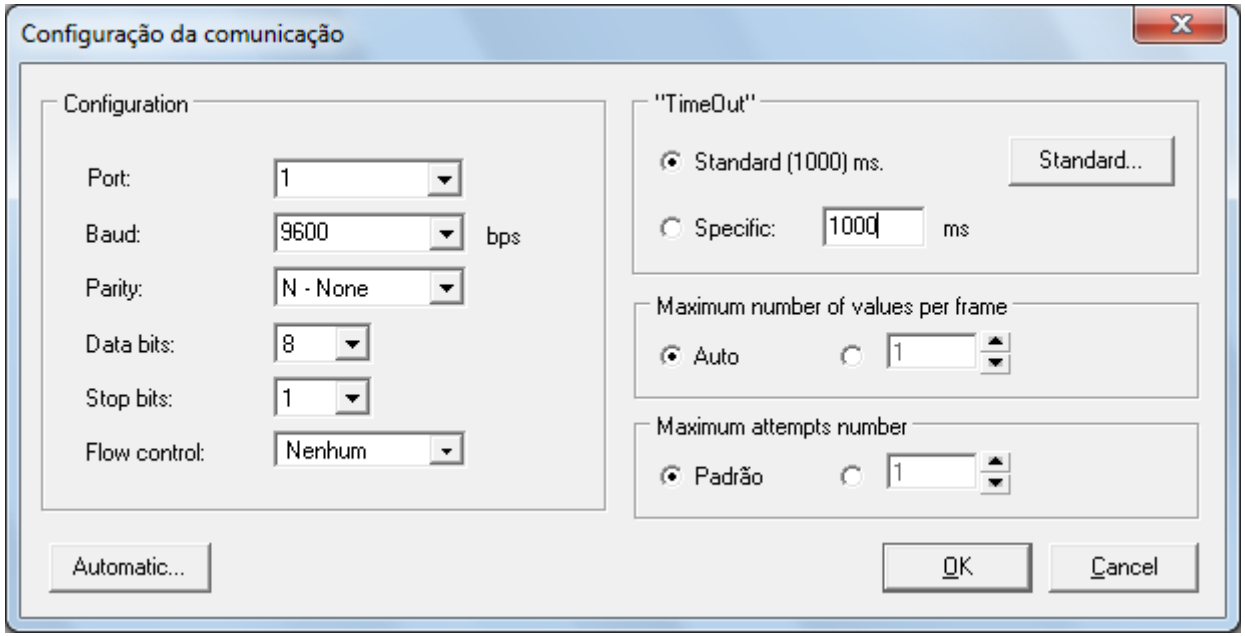


The driver to be chosen depends on the equipment (hardware / PLC) used with the SCADA software.

To simulate a device via software use, for example, the driver DEMO. To communicate with a device that uses the protocol "MODBUS RTU" then choose the driver MODBUS RTU. The Param1 will be the register address and Param2 will be the equipment node number (Example: Param1 = 400001 Param2 = 1.). See the MODBUS parameters description.

Set up communication (port, speed, timing, etc ....) on Config at the driver's window.

The following window will appear for serial port settings:



Set the communication parameters. Example for serial port COM1: 1:9600,N,8,1. (serial port 1, 9600 baud, no parity, 8 data bits, stop bits 1).

To use OPC in SCADA software, the select OPC driver, click on "Config". A window will appear to define the ProgID and Item ID. Optionally, for remote connections, type the IP of the server in the Server field:

- Set the tag's properties.

In this case, name (Tag1), title (Value 1), unit (° C), Param1 (40x0000) and Param2 (1):

Tags + (I/O points and variables)

	Name	Title	[..]	Value	Param 1	Param 2	Status/Alarm	Database	Driver / PLC	Sampling	Recording	Formul
1	Tag1				40x0000	1		(click or drag here)...	MODBUS RTU Serial 1:9600,N	0	5s	
2								(click or drag here)...	(click or drag here)...	0	5s	
3								(click or drag here)...	(click or drag here)...	0	5s	
4								(click or drag here)...	(click or drag here)...	0	5s	
5								(click or drag here)...	(click or drag here)...	0	5s	
6								(click or drag here)...	(click or drag here)...	0	5s	

Example with four SCADA tags: (four first Holding registers will be read of equipment node 1 through Modbus protocol)

Tags + (I/O points and variables)

	Name	Title	[..]	Value	Param 1	Param 2	Status/Alarm	Database	Driver / PLC	Sampling	Recording	F
1	Tag1	Value 1	°C		40x0000	1		(click or drag here)...	MODBUS RTU Serial 1:9600,N,8,1	0	5s	
2	Tag2	Value 2	°C		40x0001	1		(click or drag here)...	MODBUS RTU Serial 1:9600,N,8,1	0	5s	
3	Tag3	Value 3	°C		40x0002	1		(click or drag here)...	MODBUS RTU Serial 1:9600,N,8,1	0	5s	
4	Tag4	Value 4	°C		40x0003	1		(click or drag here)...	MODBUS RTU Serial 1:9600,N,8,1	0	5s	
5								(click or drag here)...	(click or drag here)...	0	5s	

For simulation, it can be used DEMOTESTE or DEMO driver:

Tags + (I/O points and variables)

	Name	Title	[..]	Value	Param 1	Param 2	Status/Alarm	Database	Driver / PLC	Sampling	Recording	F
1	Tag1	Value 1	°C		40x0000	1		(click or drag here)...	DEMOTESTE 1:9600,N,8,1	0	5s	
2	Tag2	Value 2	°C		40x0001	1		(click or drag here)...	DEMOTESTE 1:9600,N,8,1	0	5s	
3	Tag3	Value 3	°C		40x0002	1		(click or drag here)...	DEMOTESTE 1:9600,N,8,1	0	5s	
4	Tag4	Value 4	°C		40x0003	1		(click or drag here)...	DEMOTESTE 1:9600,N,8,1	0	5s	
5								(click or drag here)...	(click or drag here)...	0	5s	

To start reading the values and test communication click on "Play" - Start application. Values in SCADA software will be shown in Value column. If there is a communication error, an "ERROR" message will appear in this column, and at the "Status" column.

To disconnect the communication, press the button "Stop" - Stop application.

The tag may be also a variable for generic purposes. Use, for example, the VAR driver.

Tags + (I/O points and variables)

	Name	Title	[..]	Value	Param 1	Param 2	Status/Alarm	Database	Driver / PLC	Sampling	Recording
1	Tag1	Value 1	°C		40x0000	1		(click or drag here)...	DEMOTESTE 1:9600,N,8,1	0	5s
2	Tag2	Value 2	°C		40x0001	1		(click or drag here)...	DEMOTESTE 1:9600,N,8,1	0	5s
3	Tag3	Value 3	°C		40x0002	1		(click or drag here)...	DEMOTESTE 1:9600,N,8,1	0	5s
4	Tag4	Value 4	°C		40x0003	1		(click or drag here)...	DEMOTESTE 1:9600,N,8,1	0	5s
5	Tag5	Variable						(click or drag here)...	VAR	0	5s
6								(click or drag here)...	(click or drag here)...	0	5s

Each tag in SCADA software has properties that can be customized: alarms, formulas, limits, etc ...

+ (I/O points and variables)

Driver / PLC	Sampling	Recording	Formula	Config.	LI	LS	Alarm
DEMOTESTE 1:9600,N,8,1	0	5s		1:9600,N,8,1	-100	100	
DEMOTESTE 1:9600,N,8,1	0	5s		1:9600,N,8,1	-100	100	
DEMOTESTE 1:9600,N,8,1	0	5s		1:9600,N,8,1	-100	100	
DEMOTESTE 1:9600,N,8,1	0	5s		1:9600,N,8,1	-100	100	
VAR	0	5s					
(click or drag here)...	0	5s					

Formula:

Ex:

Tag1*Tag2 ' Multiplying two tags.

Tag3/7 ' Divide by 7

*0.1 'Multiply by 0.1 at reading (IN) and divide by 0.1 on write (OUT).

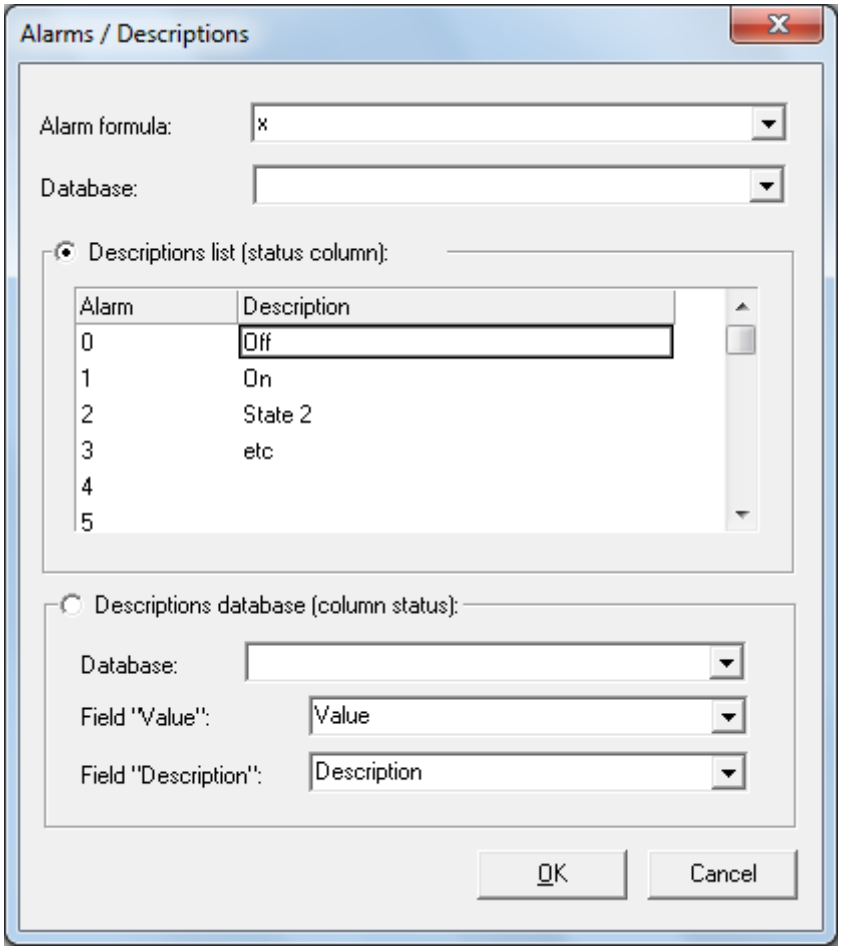
*Bit(0) ' Returns bit 0

To access formula options click on the button at the side of the formula column.

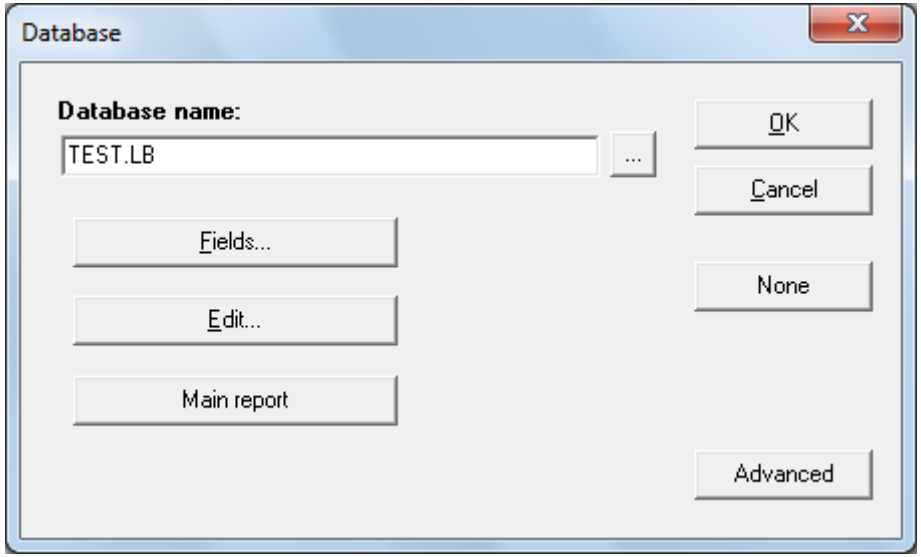
Alarm:

Click on the button at the right side to set alarm functions for a tag.

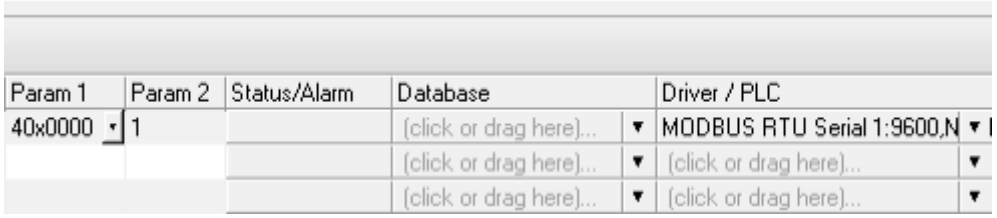
It can also be used to create descriptions for each PLC SCADA tag value. Example:



SCADA software database / History / Report



Data acquisition in SCADA software tags can be recorded to a file (database). Click on the database column. The database can be set by dragging the mouse pointer with the left mouse button on the database column (like it was done with the driver), or by clicking on the title of database column to select all SCADA software tags at the system group.



In this example, the values of the four SCADA tags will be stored in TEST.LB database:

Tags + (I/O points and variables)

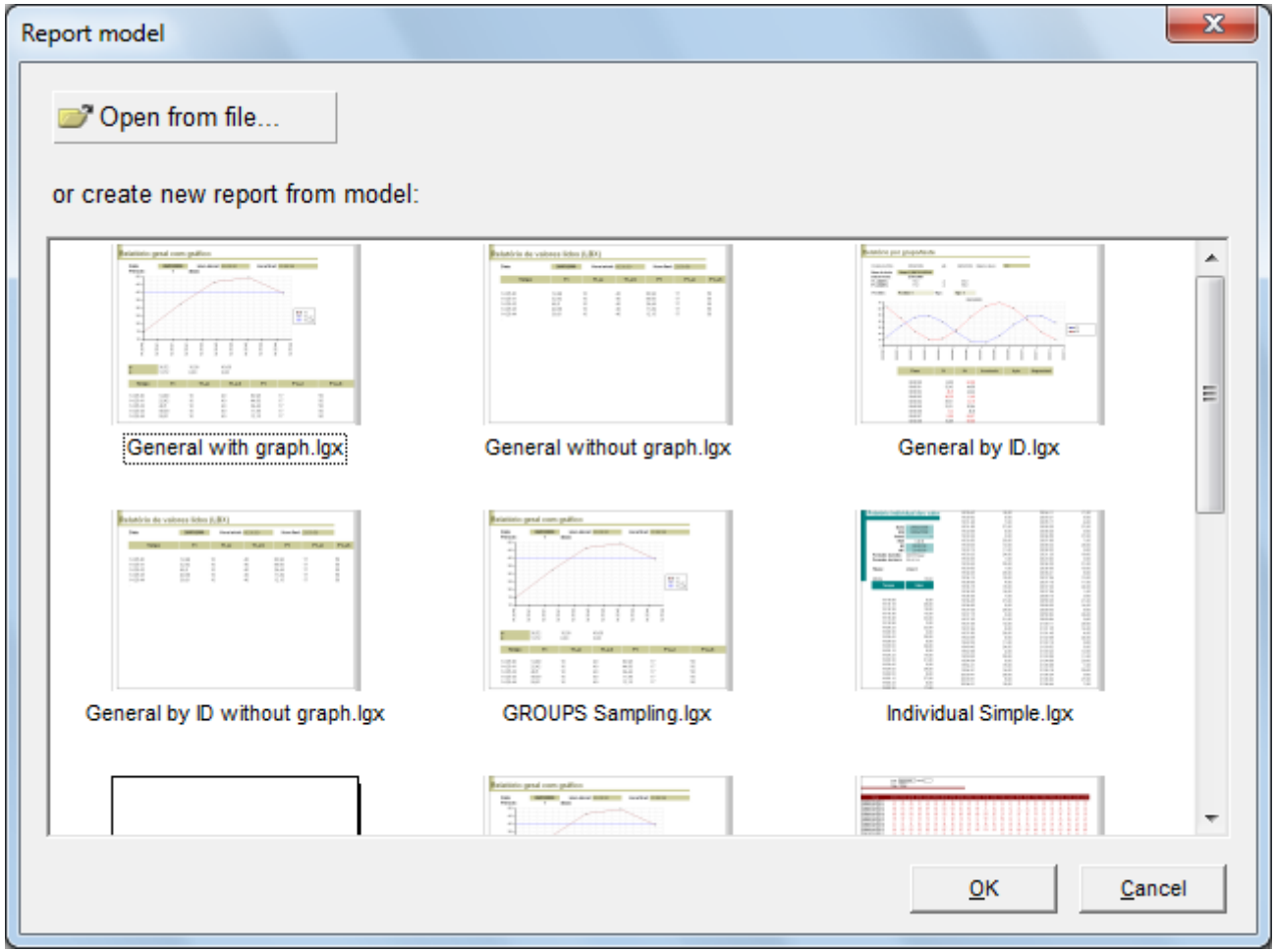
	Name	Title	[..]	Value	Param 1	Param 2	Status/Alarm	Database	Driver / PLC	Sampling	Recording	Formul
1	Tag1				40x0000			TEST.LB	MODBUS RTU Serial 1:9600,N	0	5s	
2	Tag2				40x0000			TEST.LB	MODBUS RTU Serial 1:9600,N	0	5s	
3	Tag3				40x0001			TEST.LB	MODBUS RTU Serial 1:9600,N	0	5s	
4	Tag4				40x0002			TEST.LB	MODBUS RTU Serial 1:9600,N	0	5s	
5								(click or drag here)...	(click or drag here)...	0	5s	

The time interval in which the values are stored is set in the Recording column.

Note: by default, the system data are recorded in sub-folder "dados" inside the main application folder. To change the database settings using the menu item "Reports" - "Edit Database".

With some data already recorded in database it is possible to create SCADA software system reports.

To generate a system report with the SCADA software recorded data, click at the menu Data and Reports - Open (or insert a button HMI object in the panel and click "Show this button's report" - as explained in step 3). At the first time, in this stage of development, a window will be shown for choosing a system report template (that can be customized later):



Set a name for the system report. It will be a file with a LGX extension that will contain a layout, formats, formulas, scripts and other reporting features.

(If you want to create or join a system report to the button, just click the right mouse over the button and select "Show this button's report"- see in step 3.)

It is possible to customize system reports in the SCADA software and also to create new templates.

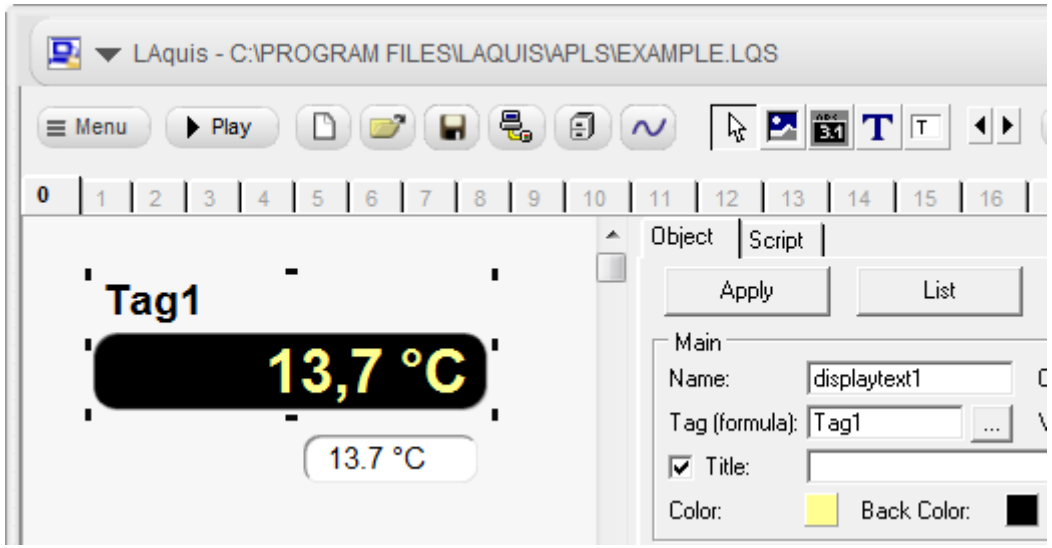
Data and Reports - Edit.

See more details on system reports at the “Data and Report” or “Database” topic.

SCADA software HMI Visual Objects

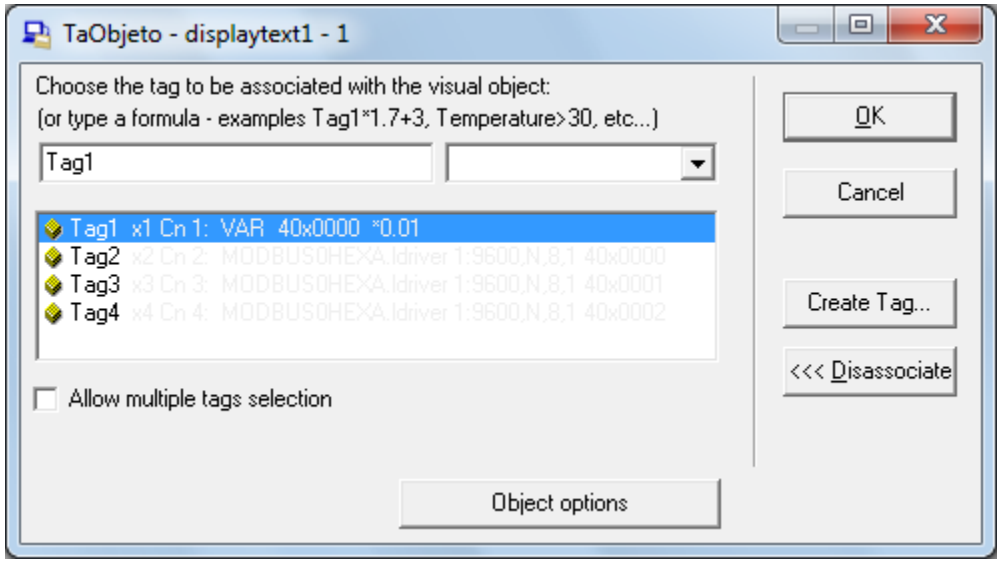
On top of the main SCADA software screen is located the HMI visual objects panel. On this panel the objects and HMI visual controls are designed and can be used as the interface for the user. These HMI objects can be displays, pictures, animations, controls, etc...

Select the desired object and place in the panel. Click on the object icon at the toolbar or choose the object in the right window (the “object tab” when no objects are being selected). Click on the HMI panel or drag the mouse pointer with the left button to draw the object.



At the examples above, it was added an HMI object "displaytext", and a "Edit" object used to change values.

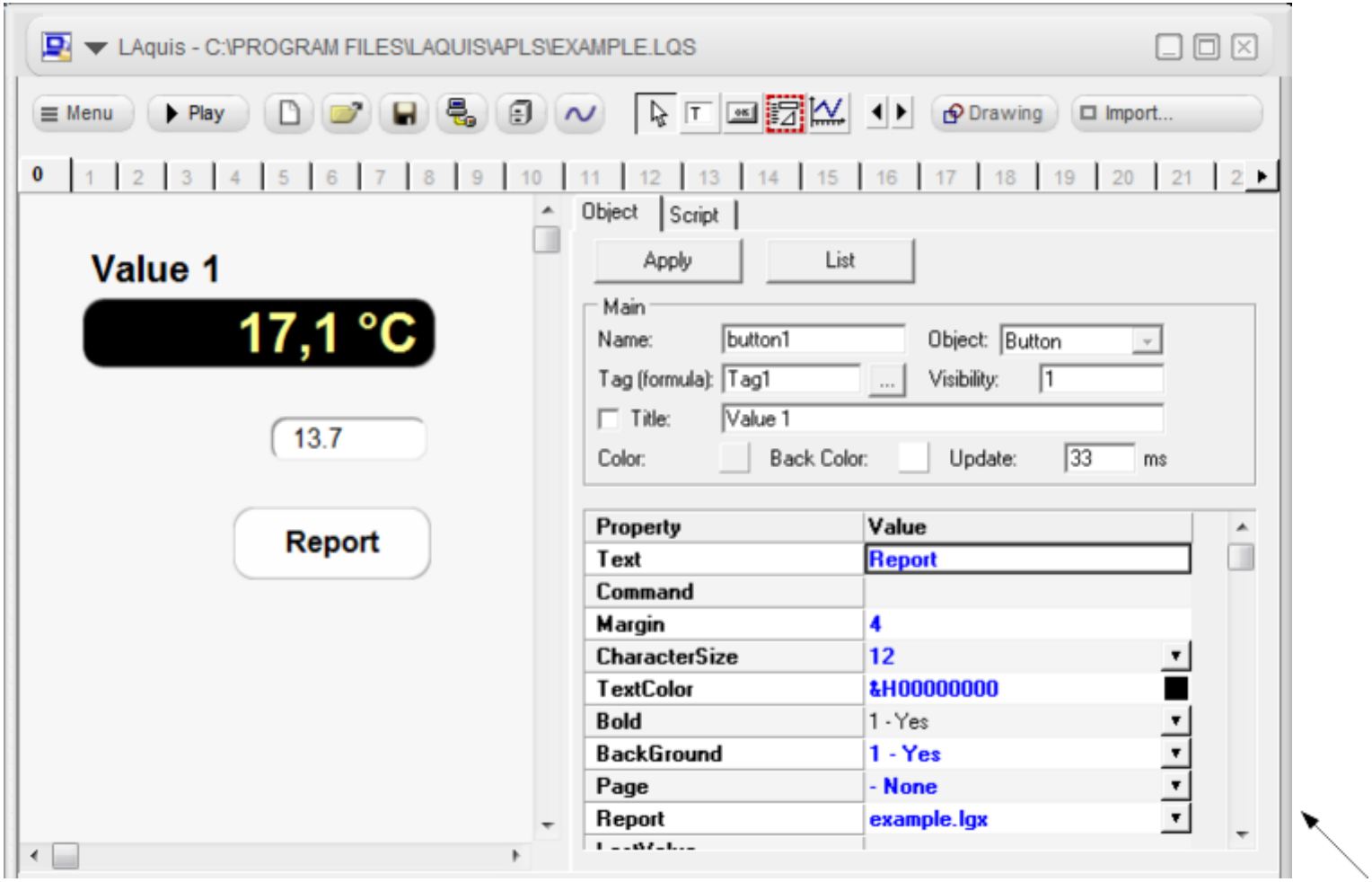
Each visual object may be associated with a SCADA tag. For that, click twice on the visual object at the panel, or select the "Formula" property of the object.



Select the SCADA tag to be associated with the visual object. In example above, the Tag1.

The title property at tag's spreadsheet can be used as the description and passed automatically to the visual object. (Tag's names also can be freely set, but must have no spaces and cannot be repeated in the same system group).

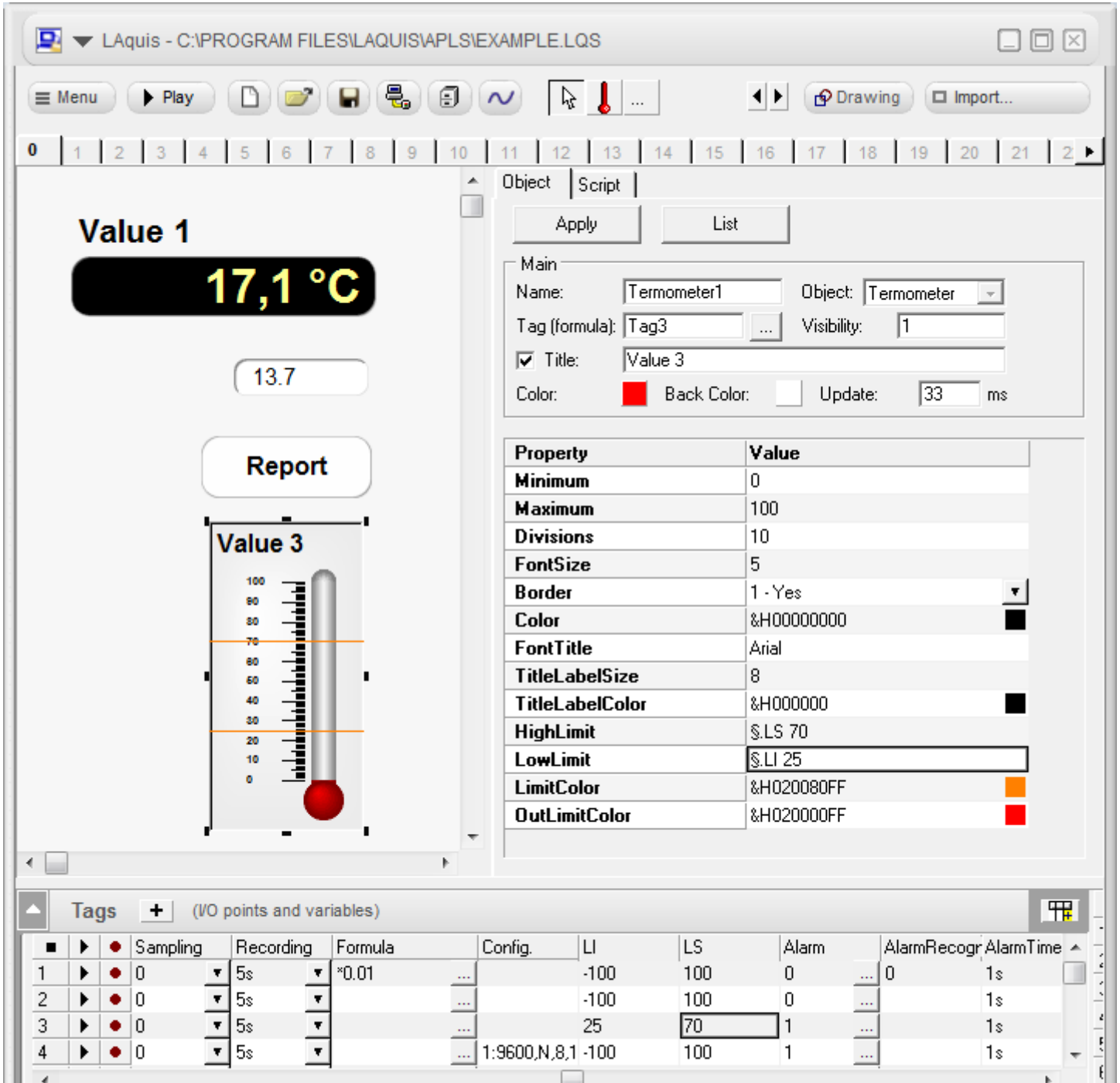
The visual objects has different properties in SCADA software. In the following case was included a button . By clicking once on it, a window at the right shows its properties.



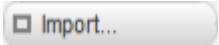
In the above example, these properties was changed: Text (with the value "Report") and system Report (set to the report lgx name). The Text property in this case is the title. If you want to create or associate a report to the button, just click the right mouse over the button and select "Show this button's report".

Another important property is Command. When the button is pressed the value of the associated SCADA tag will be the value of Command property. Also check Page properties, PopupPage and ChangeTag. See the button properties in topic “Visual Objects Examples”.

Example thermometer visual object. The upper and lower limits can be associated to the worksheet.

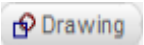

LAquis - C:\PROGRAM FILES\LAQUIS\APLS\EXAMPLE.LQS
Menu
Play
Drawing
Import...
Value 1
17,1 °C
13.7
Report
Value 3
Object
Script
Apply
List
Main
Name: Termometer1
Object: Termometer
Tag (formula): Tag3
Visibility: 1
Title: Value 3
Color:
Back Color:
Update: 33 ms
Property | Value
Minimum | 0
Maximum | 100
Divisions | 10
FontSize | 5
Border | 1 - Yes
Color | &H00000000
FontTitle | Arial
TitleLabelSize | 8
TitleLabelColor | &H000000
HighLimit | §.LS 70
LowLimit | §.LI 25
LimitColor | &H020080FF
OutLimitColor | &H020000FF
Tags
(I/O points and variables)
Sampling | Recording | Formula | Config. | LI | LS | Alarm | AlarmRecogr | AlarmTime
1 | 0 | 5s | *0.01 | | -100 | 100 | 0 | 0 | 1s
2 | 0 | 5s | | | -100 | 100 | 0 | | 1s
3 | 0 | 5s | | | 25 | 70 | 1 | | 1s
4 | 0 | 5s | | 1:9600,N,8,1 | -100 | 100 | 1 | | 1s

Creating / Drawing vector objects

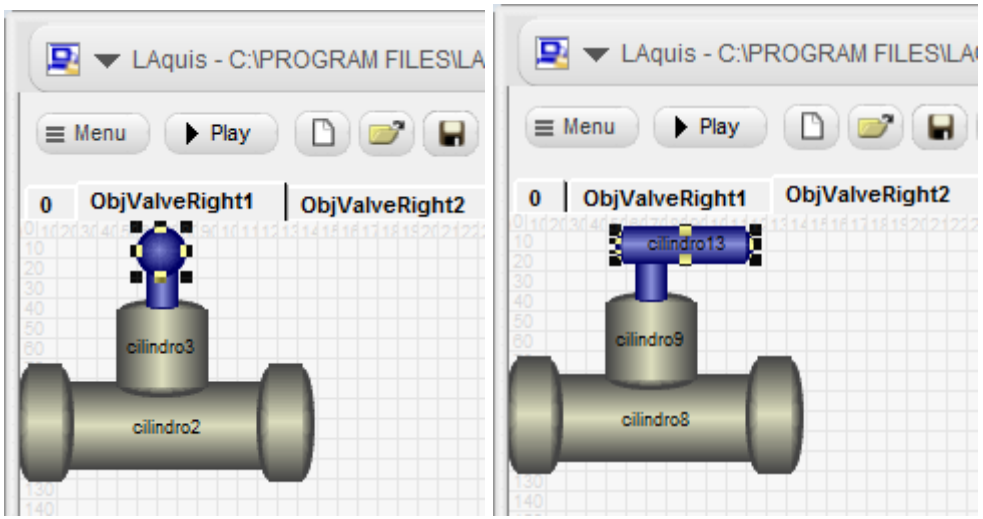


To import ready examples through the Import button ...

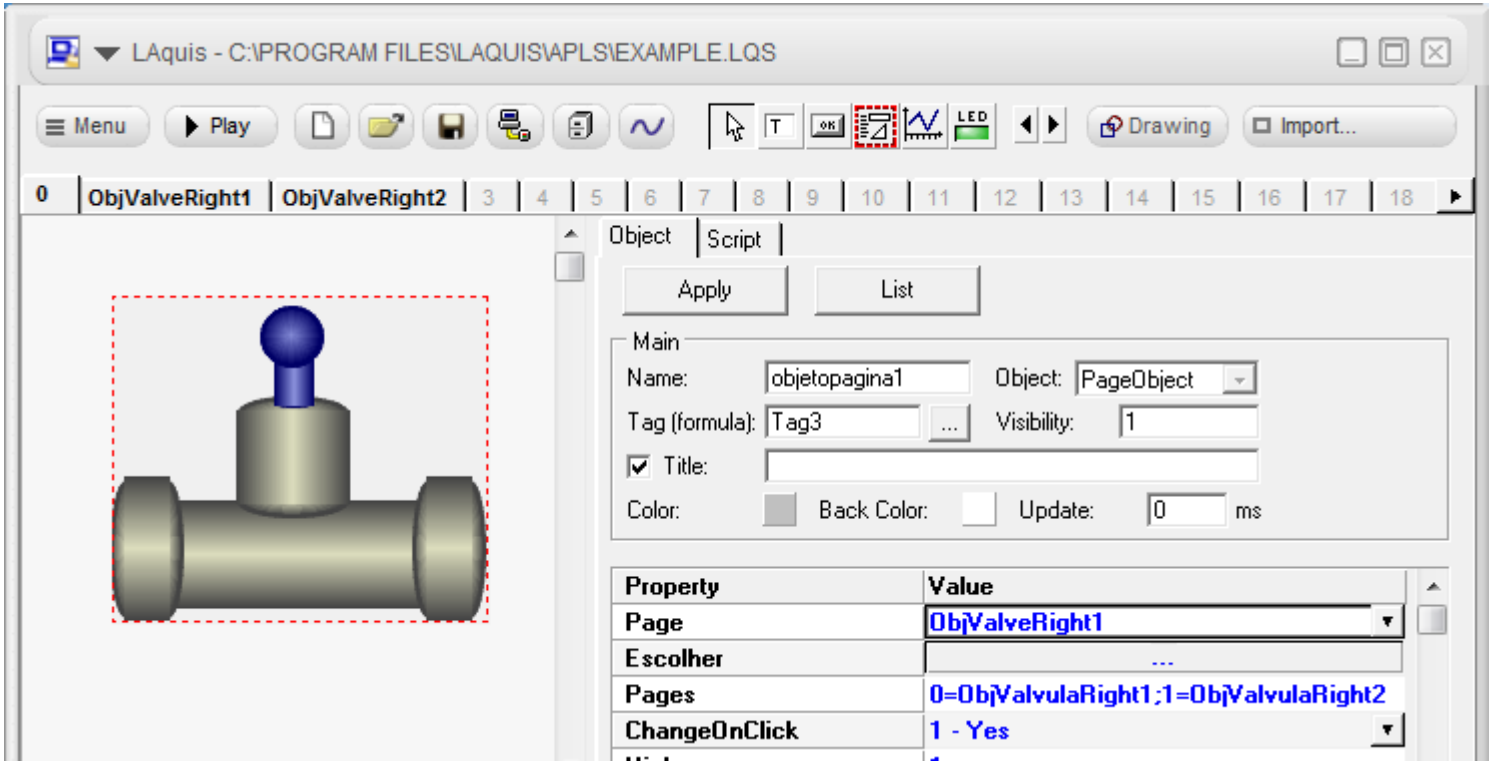
To create new vector objects in SCADA:



Draw at the panel pages using vector objects by "drawing" button



Uncheck "Drawing" button.
At another page, add an "ObjectPage" object, indicating the property "Page" the drawing location.

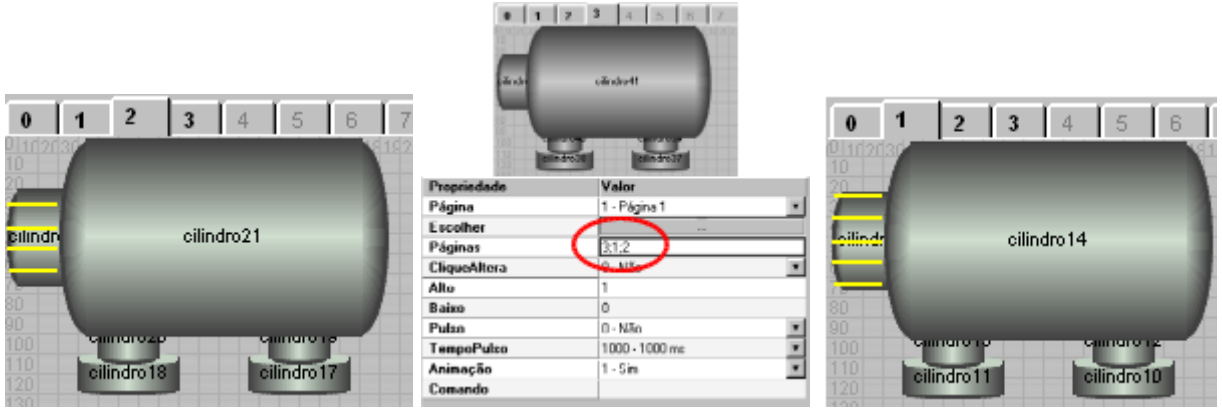


If you want to make it sensitive to the value of a tag, assign the tag to the “PageObject” and set the corresponding values in the property "Pages".
Tag value = page number.
Example: Pagename1=1, Pagename2=2
When the SCADA tag value is 0 then the drawing on page 1 will be displayed.
If the tag value is 1 then the drawing at the second page will be displayed.

If you want to turn it into a button activates the property "ChangeOnClick";

SCADA Animation:

If you want to set up an animation in SCADA software, put the page numbers related to the animation frames in "Pages" property (each number must be separated by; - semicolon) and enable the "Animation" property. The first page (at the "Page" property) will be activated when the SCADA tag associated with HMI the object is 0. When the "tag" is 1 then there the animation will be the switching between the remaining pages. Example: 3; 1: 2



Property	Value
Page	1 - Page 1
Escolher	...
Pages	3;1;2
ChangeOnClick	0 - No
High	1
Low	0
Pulse	0 - No
PulseTime	1000 - 1000 ms
Animation	1 - Yes

To make the object sensitive to mouse turn on the "ChangeOnClick" property. By clicking on the HMI object it switches the value of the SCADA tag from 1 to 0.

Property	Value
Page	1 - Page 1
Escolher	...
Pages	3;1;2
ChangeOnClick	1 - Yes
High	1
Low	0
Pulse	0 - No
PulseTime	1000 - 1000 ms
Animation	1 - Yes

Instead of the page numbers may be used page names.

Example:

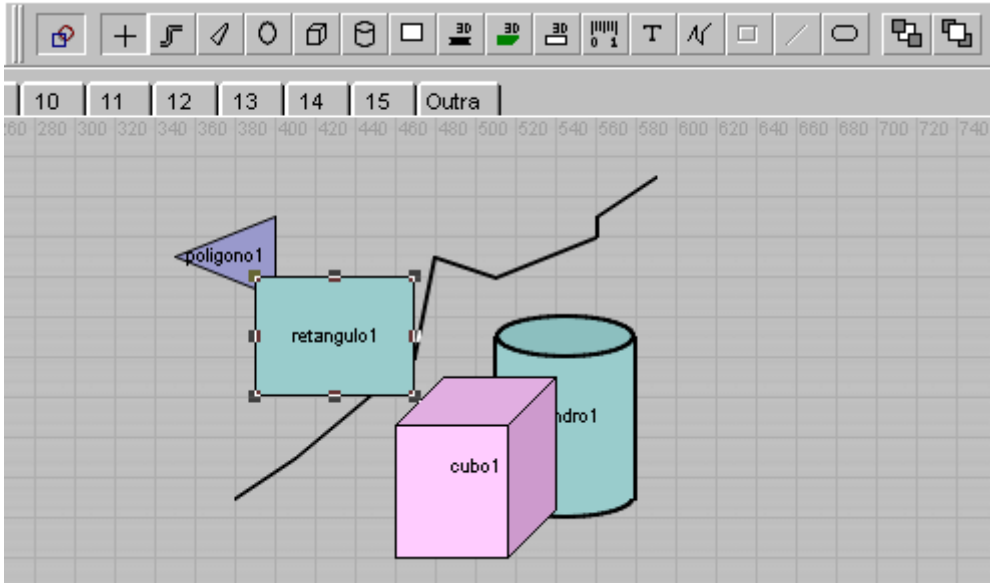
Pagename1;Pagename2;Pagename3 0=Pagename1;1=Pagename2

etc...

Before learning how to create new objects in SCADA software, it is needed to understand two concepts: Drawing vector objects and PageObject.

SCADA Drawing objects:

To draw in the panel using vector objects click on the button. .

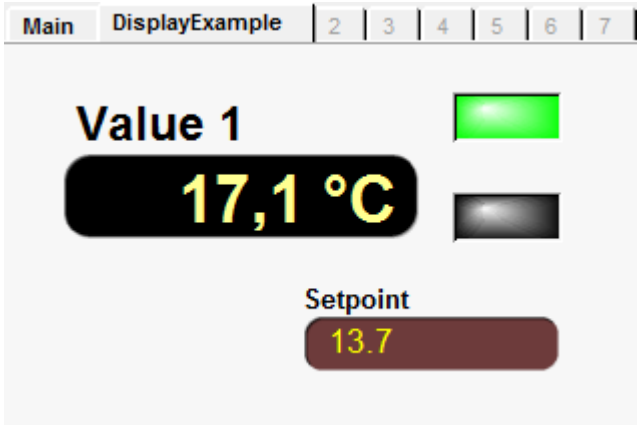


More details of vector objects see the topic Drawing objects .

PageObject:

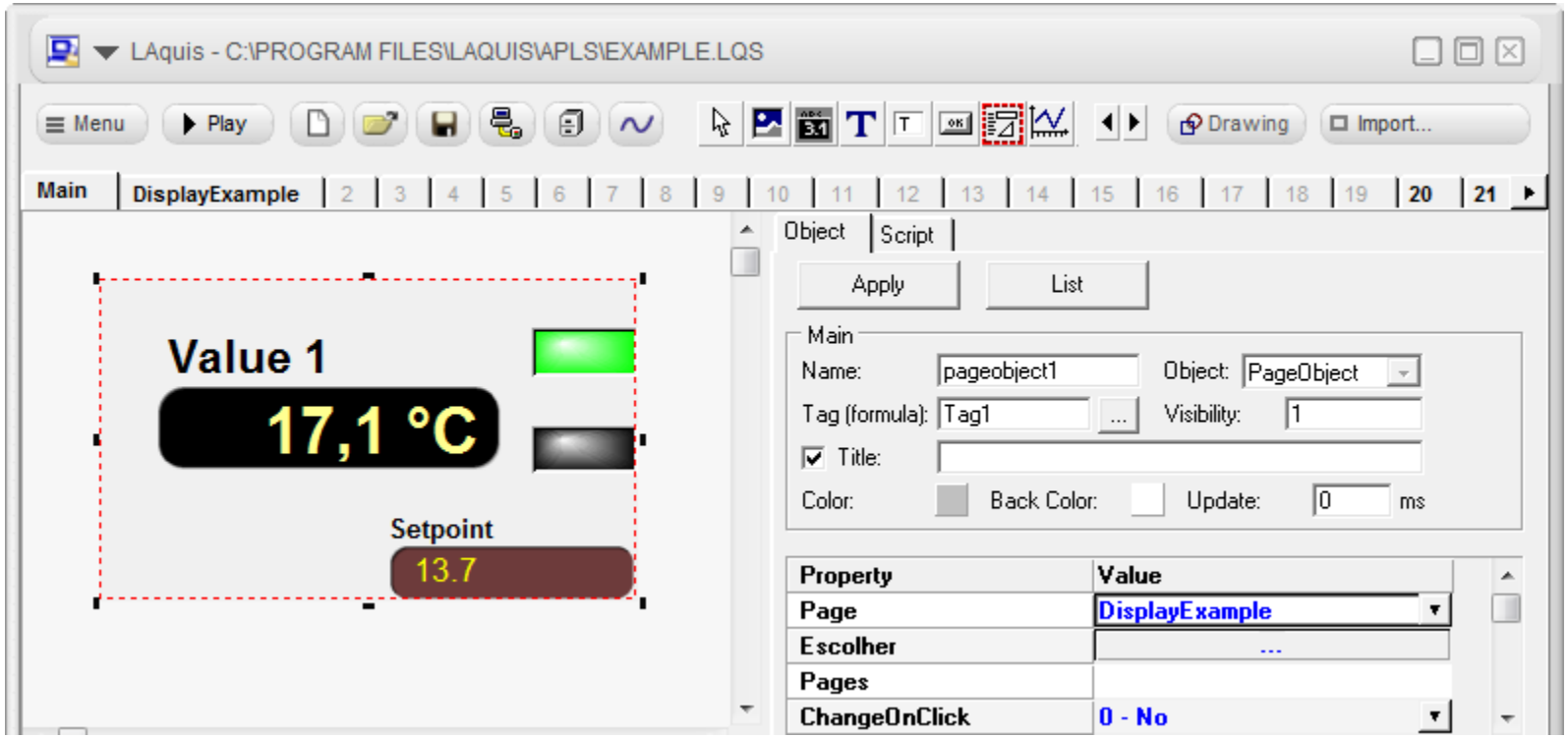
Defines groups of HMI objects based on a standard SCADA software panel. One way to do this is using the PageObject object. It is possible to create an object with a group of objects based on a standard panel. One way to do this is using the PageObject .

Set the objects on panel page (from page 1)

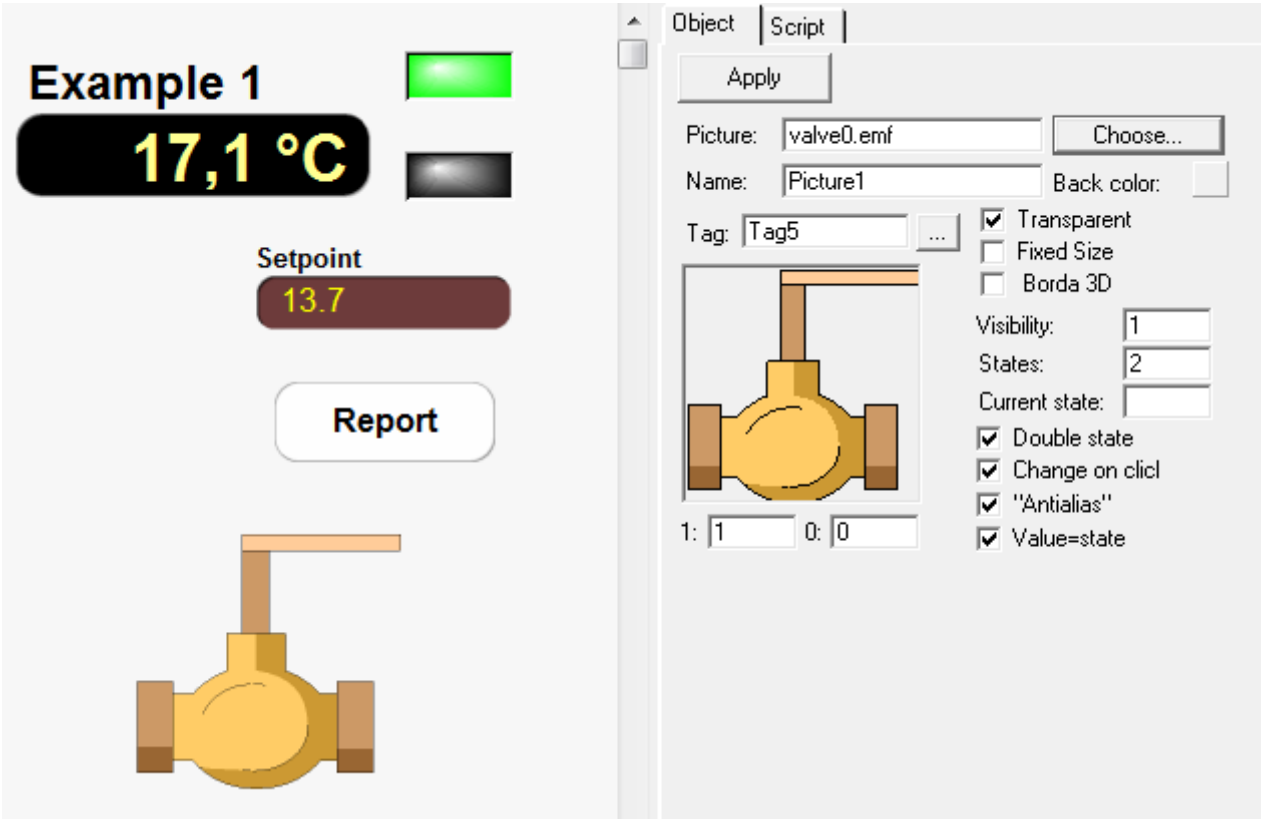


Associate the objects with SCADA tags. May be tags inside a group. Place (on page 0) the PageObject object.

Associate the object PageObject to a tag or group.

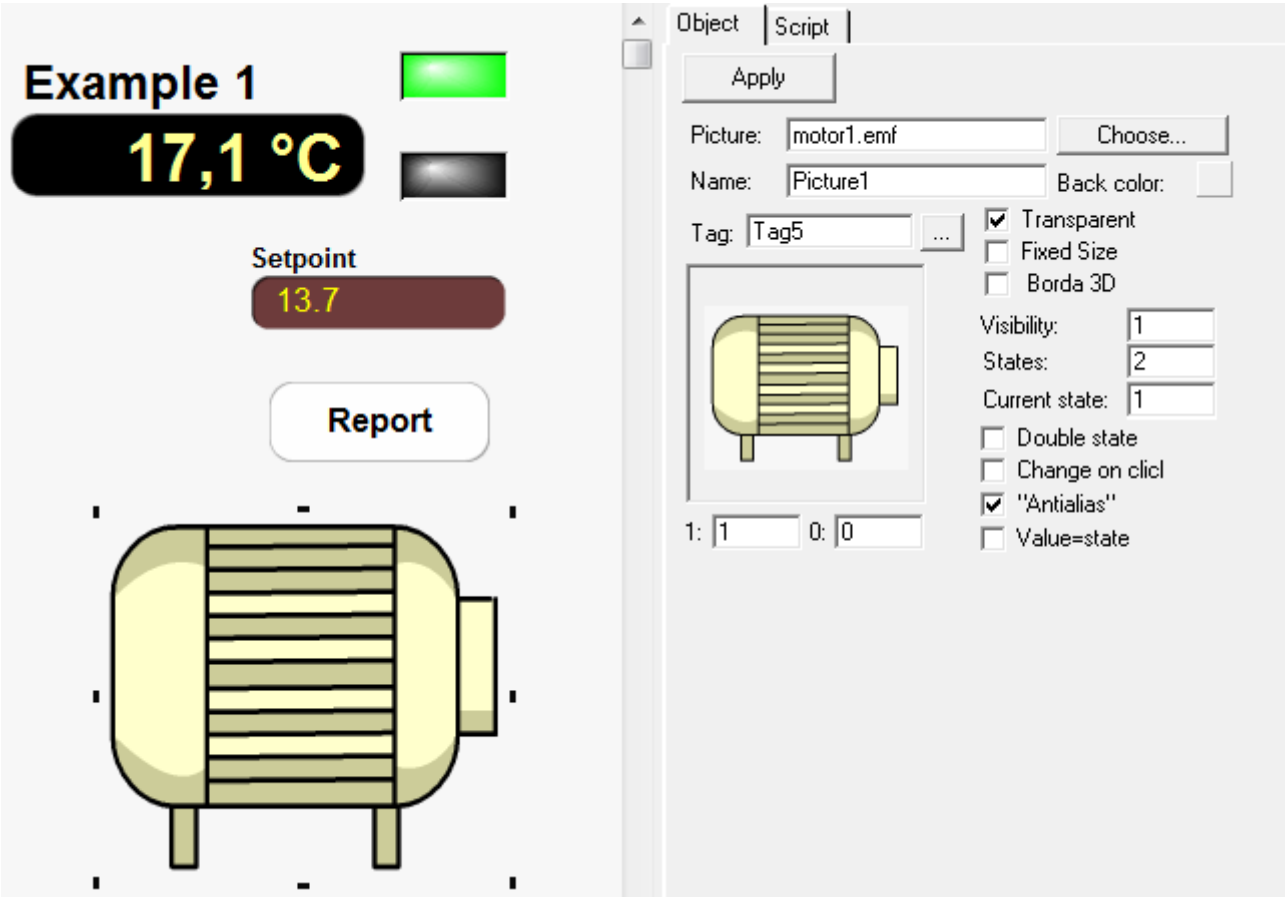


Example of visual object Picture file. This visual HMI object can be used to many purposes. Buttons of two states, status information, simple illustration, etc .... Pictures files can be bmp, jpeg, gif or emf (vector). At the example below Picture is set to double status button (Double state property):



When an SCADA software application is executed, this visual object will become like a button (property ChangeOnClick). By clicking on this object, the state of the SCADA tag associated changes to values alternating between 0 and 1. Its display changes as the property "Current status". The name of the figure should have the format: <name><state or value>.emf or .bmp. In this case, valve0.emf and valve1.emf. It can also be used an animated gif file. Even then set the maximum number of states.

In the example below object Picture is configured as a button with animation. (Property Double State unchecked):



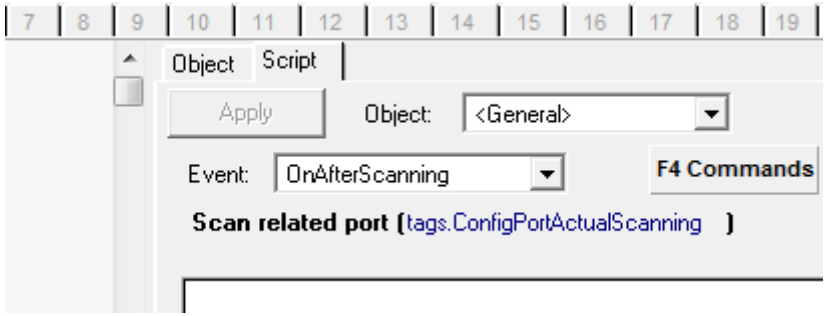
When the SCADA software is executed this visual object also will act like a button (property ChangeOnClick). Clicking on this object, the SCADA tag state associated with it will be changed to values switching between 0 and 1. But when the property Current State became 1 then the object enter in a animation state switching states from 1 to the maximum number of states. Picture name also must have the format <name><state>.emf or .bmp. In this case, motor1.emf e motor2.emf. It can be used used too a gif animated file. Nevertheless set the maximum number of states.

If its desired user intervention to change SCADA tag state set property ChangeOnClick.

More details about visual objects see the topic Visual Objects.

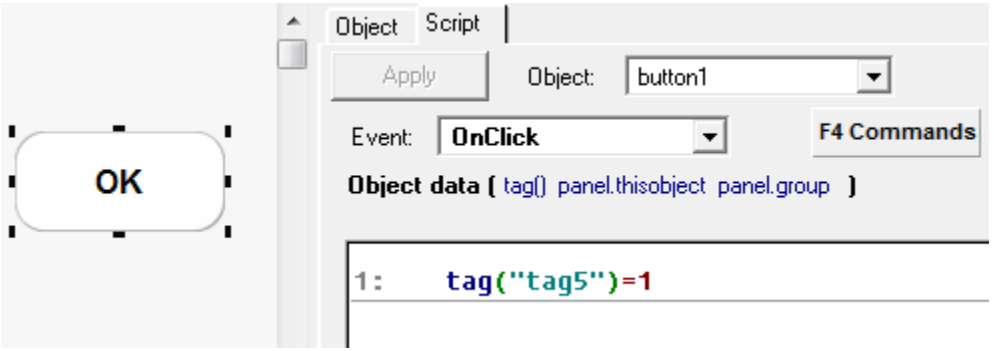
Script

Scripts are sequences of instructions or programs used to customize the SCADA software application's actions to meet the process. They are executed within the available events in the system.



Example:

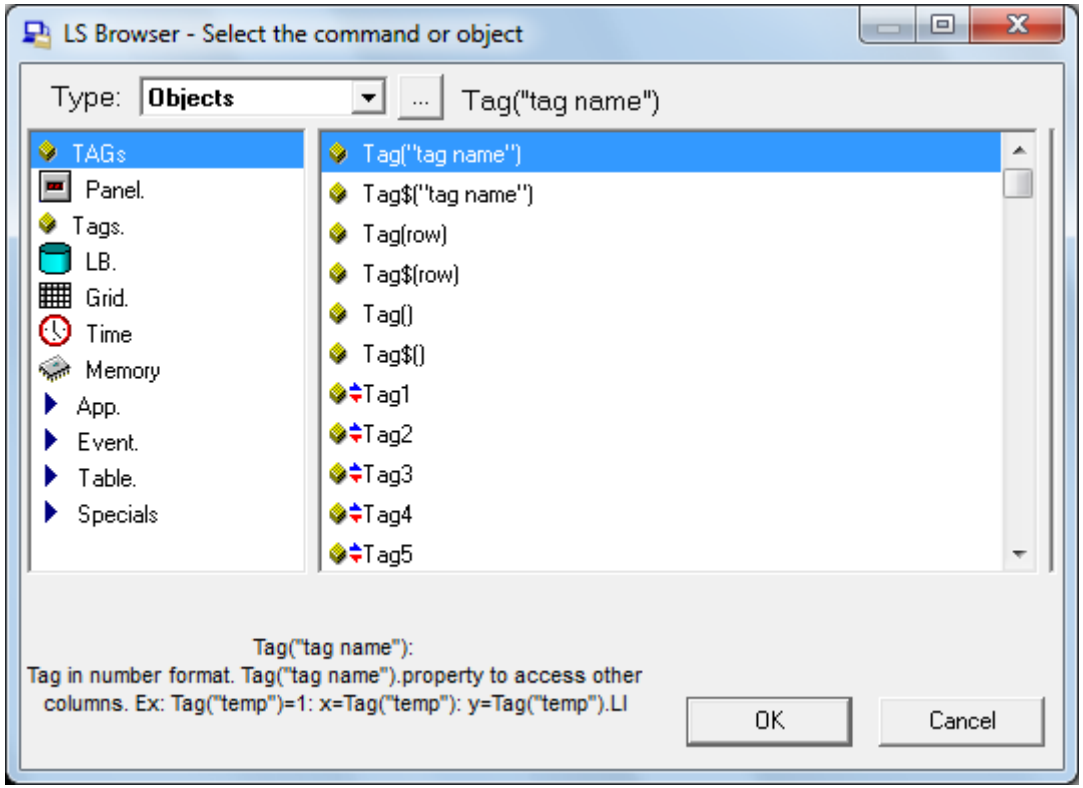
Select an object, click on the Script tab text. Enter, for example, Tag(“tag5”) = 1.



Tag motor will receive the value 1.

Note that a simple operation like this, used in these examples do not necessarily require a script - this sample is just for understanding purposes. Same operation could be done, just setting in the button object, Command property to 1.

To access some of the script functions press F4.



Tag groups

Tags can be divided into groups. These groups may be stations, equipment, modules, machines, units, plants, etc ... SCADA tags names can be equal to each other, just by changing the groups and addresses.

PANELS:

Generally, in the SCADA software, there is no need to develop a panel for each group if the SCADA software tags are equal or similar. If the panel is the same, and changes only addresses / tags groups, just create one panel. Once set the panel it may be associated in real time for any of the groups. This also applies to database and system reports.

DATABASE:

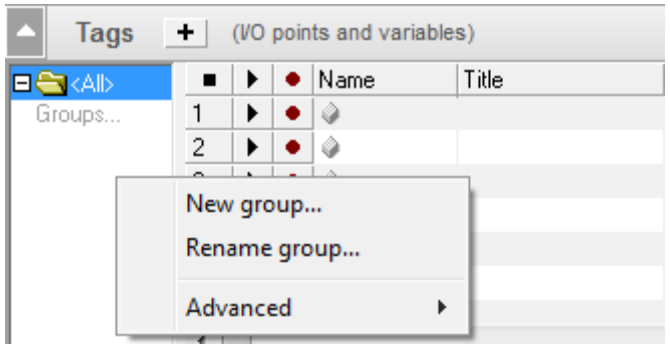
The database in the SCADA software is recorded by group. It is not necessary to create a different database for each group. The existence of several groups with the same bank, these groups will automatically be stored in parallel as follows: each record will have a field for each tag name and the group name is recorded in GROUPNAME field. At the system report, they can be displayed individually or in groups. See the examples below.

Example 1: Click the menu New - Example with groups. If you want to use this example to start the development of your application. Just select the example with groups, save and reset the SCADA tags, panels and system reports as required.

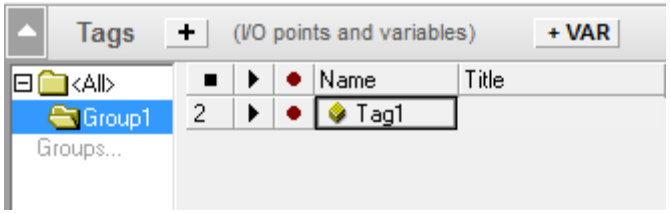
Example 2: Step by step manual (10 steps):

1 - Create a new blank application. (Menu New - <blank>)

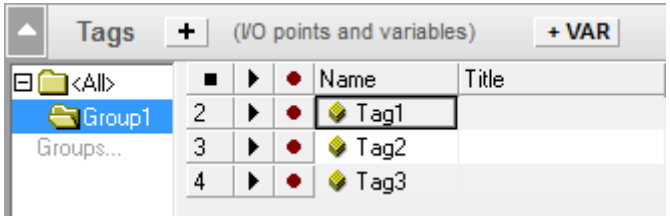
2 - Click with the right mouse button on the groups list, left side of the SCADA tags spreadsheet.



3 – Select option “New group...” Create a group “Group1”.



4 - Click item "+ VAR" to add SCADA tags in this group.



5 - Set for this group, the equipment, the SCADA tags names, databases, parameters, etc ... Example:

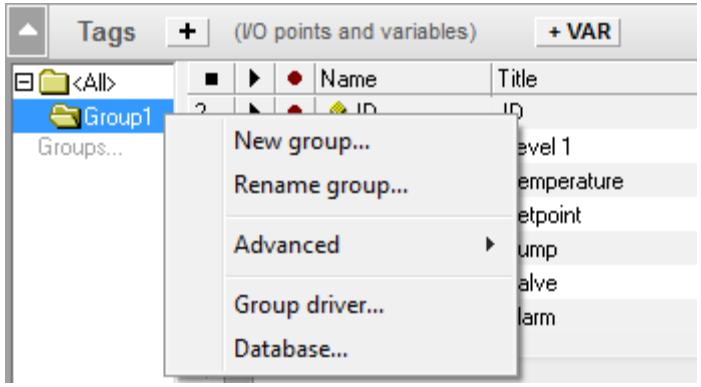
Tags + (I/O points and variables) + VAR

<All>
Group1
Groups...

	Name	Title	[..]	Value	Param 1	Param 2	Status/Alarm	Database	Driver / PLC	Sampling	Rec
2	ID	ID		E01				EXAMPLE1.LB	VAR	0	5s
3	Level	Level 1	m	1095	40x0000	1		EXAMPLE1.LB	MODBUS RTU Serial 1:9600,N	0	5s
4	Temperature	Temperature	°C	135	40x0001	1		EXAMPLE1.LB	MODBUS RTU Serial 1:9600,N	0	5s
5	Set1	Setpoint		415	40x0002	1		EXAMPLE1.LB	MODBUS RTU Serial 1:9600,N	0	5s
6	Pump1	Pump		0	00x0000	1		EXAMPLE1.LB	MODBUS RTU Serial 1:9600,N	0	5s
7	Valve1	Valve		0	00x0001	1		EXAMPLE1.LB	MODBUS RTU Serial 1:9600,N	0	5s
8	Alarm	Alarm		0	00x0002	1		EXAMPLE1.LB	MODBUS RTU Serial 1:9600,N	0	5s

Optionally create tags VAR in SCADA to represent the group, equipment, unit, central, module, product, etc ... (In the example above ID)

Rename the group if needed. Click the with the mouse right button on the group's tab, and select the "Rename group ..." option.



6 - To repeat or duplicate the groups, click with the mouse right button on the group's tab, select the "Advanced " option - "Duplicate groups ...".

Type the number of groups to be added based on the current group and click OK.

Set the correct SCADA tags parameters for each group. Addresses, names, etc ... In general keep the same database name, for all groups. In the database, the internal GROUPNAME field will automatically differentiate the database's records.

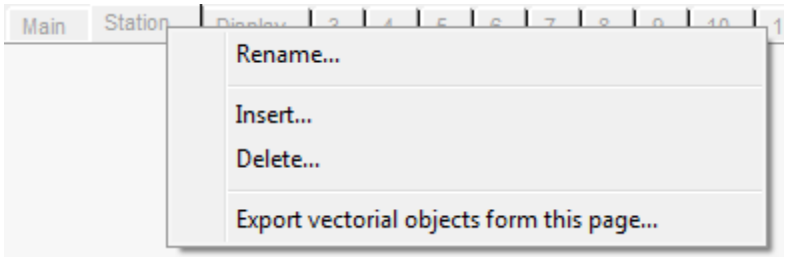
Example:

Tags + (I/O points and variables) + VAR

<All>
Station1
Station2
Station3
Station4
Station5
Groups...

	Name	Title	[..]	Value	Param 1	Param 2	Status/Alarm	Database	Driver / PLC	Sampling
34	ID	ID		E05				EXAMPLE1.LB	VAR	0
35	Level	Level 1	m	1095	40x0000	1		EXAMPLE1.LB	MODBUS RTU Serial 1:9600,N	0
36	Temperature	Temperature	°C	135	40x0001	1		EXAMPLE1.LB	MODBUS RTU Serial 1:9600,N	0
37	Set1	Setpoint		415	40x0002	1		EXAMPLE1.LB	MODBUS RTU Serial 1:9600,N	0
38	Pump1	Pump		0	00x0000	1		EXAMPLE1.LB	MODBUS RTU Serial 1:9600,N	0
39	Valve1	Valve		0	00x0001	1		EXAMPLE1.LB	MODBUS RTU Serial 1:9600,N	0
40	Alarm	Alarm		0	00x0002	1		EXAMPLE1.LB	MODBUS RTU Serial 1:9600,N	0

7 - Now set a default panel in the SCADA software for one group. Set names for the panel pages. Click with the mouse right button on the page's tab, and select the Rename option. Example:



In this example it will be used the "Station" as a page name related to a group. Set the visual objects on this page, and associate SCADA PLC tags with the first group.

Example:

LAquis - C:\PROGRAM FILES\LAQUIS\APLS\EXAMPLE7.LQS

Menu | Play | Drawing | Import...

Main | Screen | Display | ObjValveDir1 | ObjValveDir2 | ObjPump0 | ObjPump1 | ObjPump2 | ObjPump3 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 2

Sample groups

ID
Machine1271015002645

Station 1

Individual report

Dura

Level

62 m

Level

80
70
60
50
40
30
20

Object | Script

Apply | List

Main

Name: bar1 Object: Bar

Tag (formula): Station1_level ... Visibility: 1

Title: Level

Color: Back Color: Update: 33 ms

Property	Value
Maximum	100
Minimum	0
Divisions	10
FontSize	5
ScaleColor	&H000000
FontTitle	Arial
TitleLabelSize	8
TitleLabelColor	&H000000
LowLimit	§.LI 30
HighLimit	§.LS 70
LimitColor	&H020080FF
OutLimitColor	&H020000FF
LimitWidth	1
Border	1 - Yes

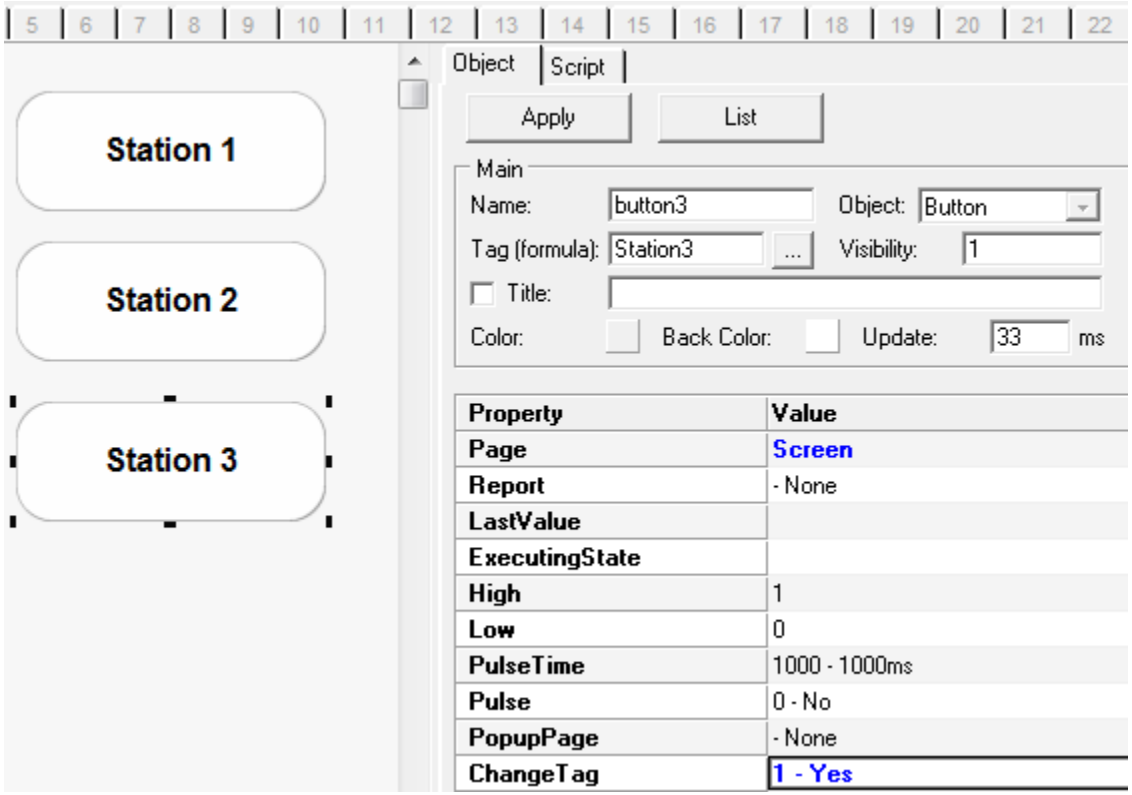
Tags + (I/O points and variables)

<All>
Station1
Station2
Station3
Groups...

	Name	Title	[..]	Value	Param 1	Param 2	Status/Alarm	Database	Driver / PLC	Sampling
2	ID	ID		Machine1:				TEST1.LB	VAR	0
3	Voltage	Voltage	V	67	40x0000	1		TEST1.LB	DEMOTESTE 1:9600,N,8,1	0
4	Temperatu	Temperature	°C	33	40x0001	1		TEST1.LB	DEMOTESTE 1:9600,N,8,1	0
5	Level	Level	m	63	40x0002	1		TEST1.LB	DEMOTESTE 1:9600,N,8,1	0

In the main page of the SCADA software, in this example named "Main", place buttons with the properties. Page with the value "Station" and ChangeTag with the property "1 - Yes". Associate each button with the desired group.

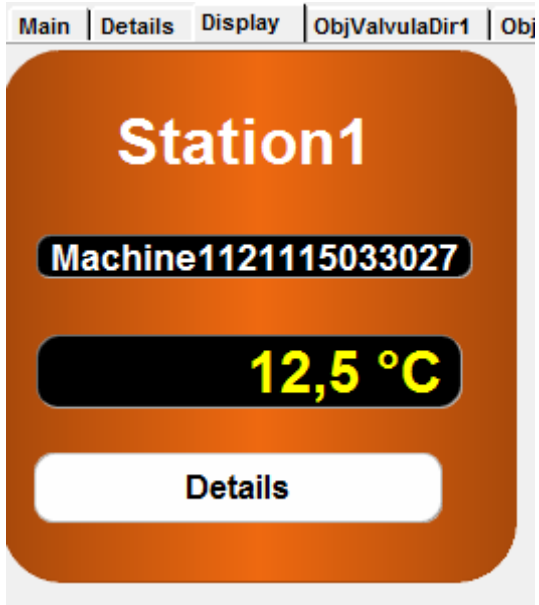
Example:

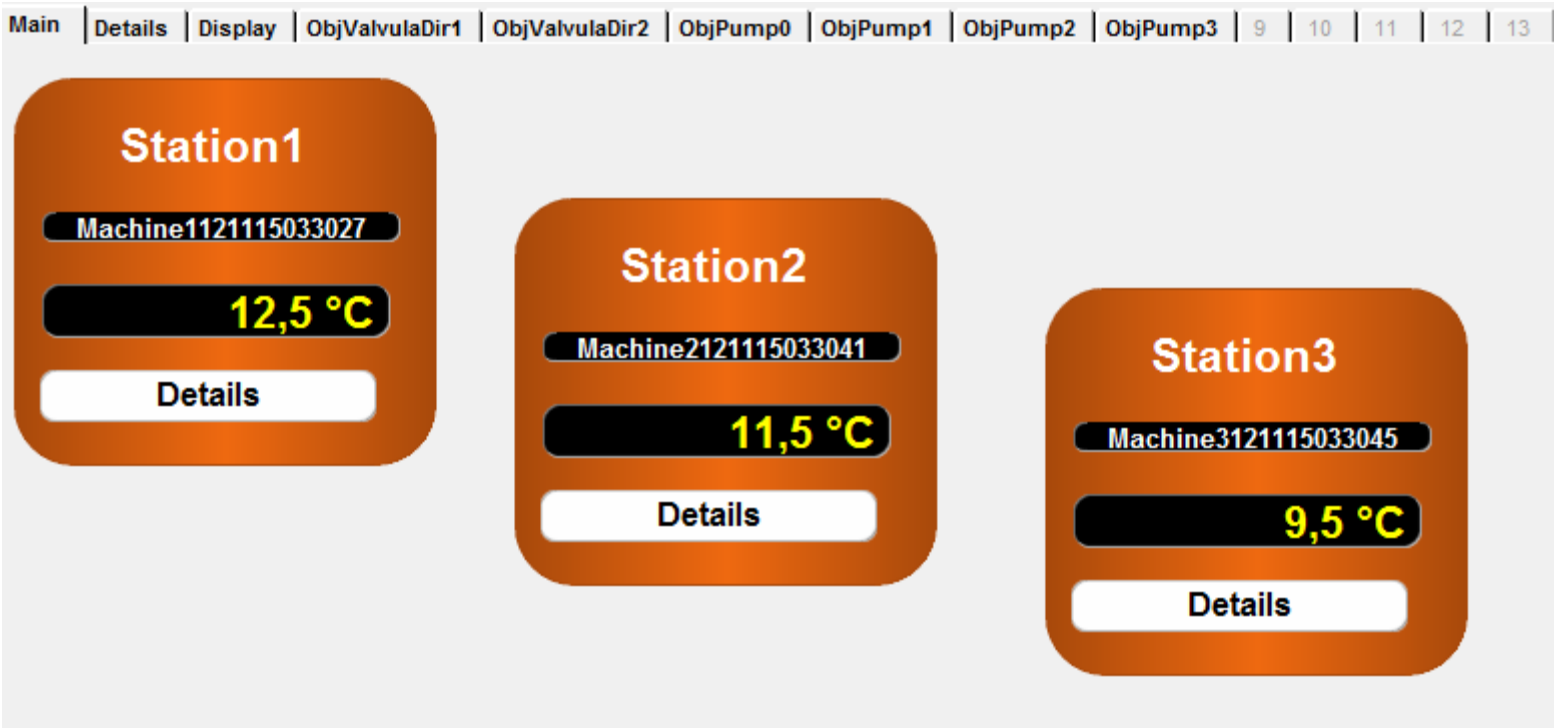


In execution mode, when the user clicks on one of these buttons, the page "Station" will be shown, and its objects automatically associated with the group.

Instead of creating buttons, you can create custom objects with information from each group. Use in this case PageObject.

Example:


Main
Details
Display
ObjValvulaDir1
Obj
Station1
Machine1121115033027
12,5 °C
Details



This example was made with 3 display texts, a button and a rounded rectangle.

It has Page and ChangeTag properties set.

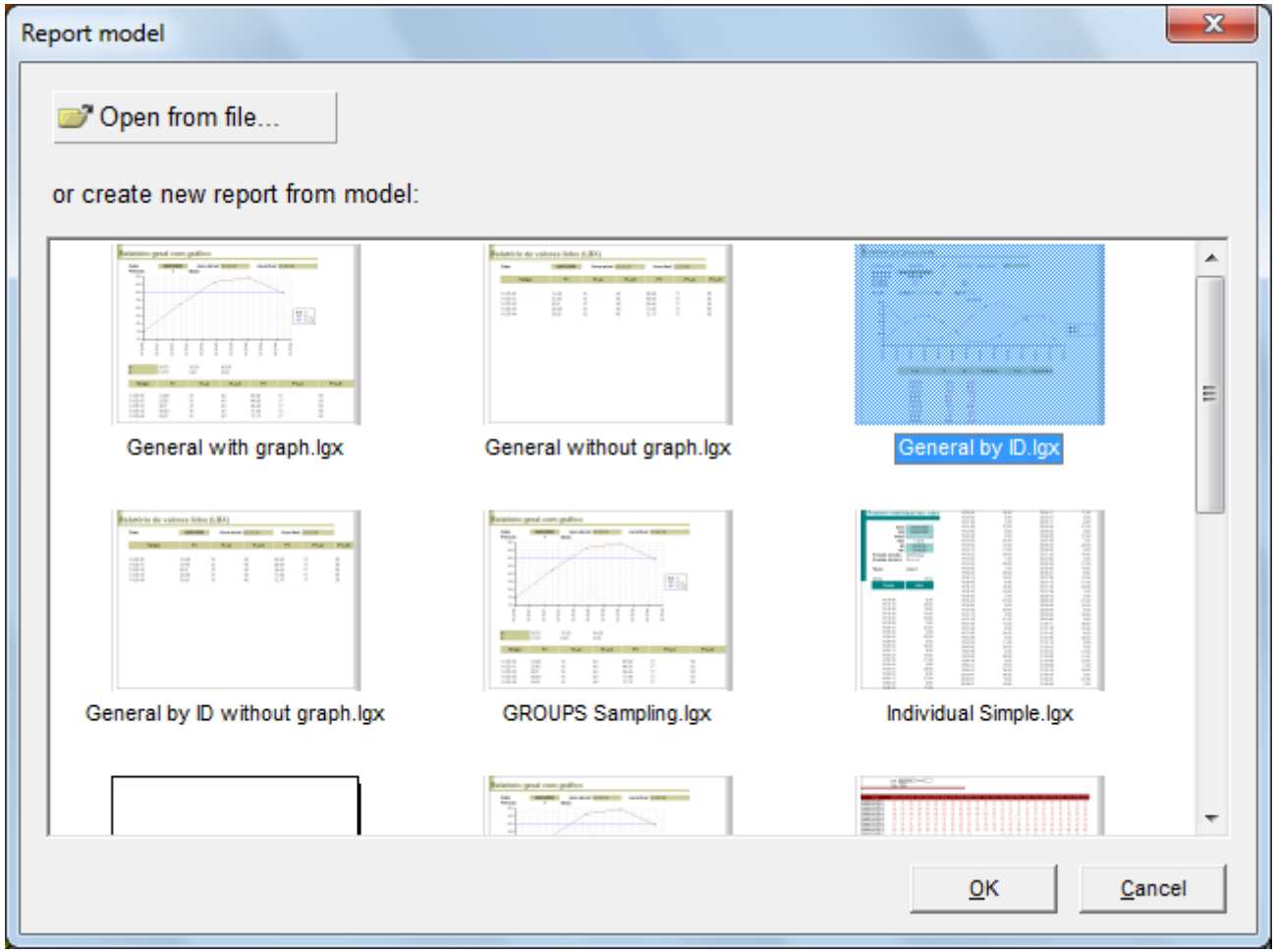
9 - Database: Use the same database name in the SCADA software, for all groups. Automatically the internal GROUPNAME field will differentiate the records in database.

Plays this application at least once. The system will create the database. Then stop the application.

In this example, to ensure that the field (tag) ID is a text, click on the menu "Data and Reporting" - "Edit Database". Click on the “Fields”. ID field type set to 1 - Text.

10 - Report: After stored some data in SCADA software database, create a Button, click with mouse right button over it, select "Show this button's report" option.

Select in this case, for example, "General by ID" template, etc ....



Set in the report which fields should appear in the listing (button fields). Or change report's layout as needed. Example :

individualbyid

File Edit Format

Save Print Edit Run Graph Fields

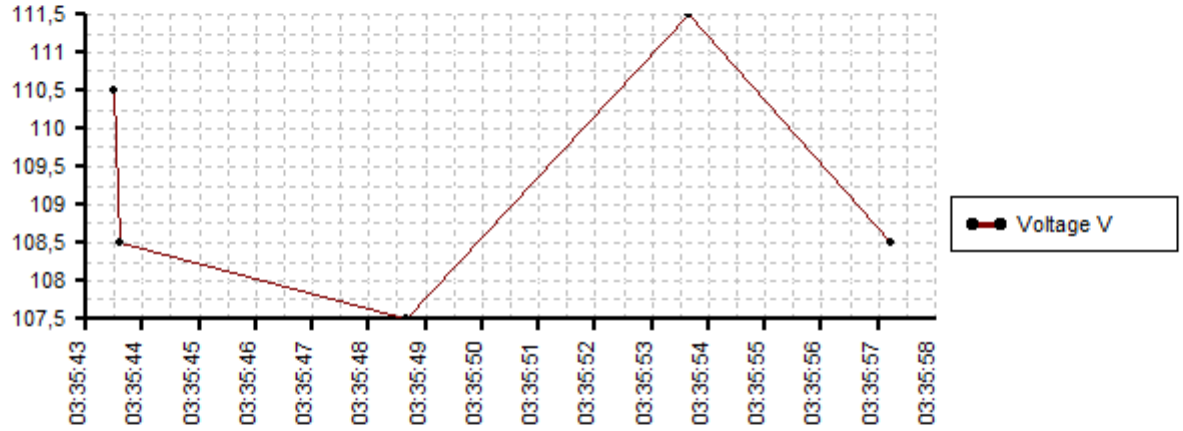
Run mode

Report by ID

ID: Machine3121115033543 ...

Date: 12/11/2015 Initial time: 00:00:00 Final time: 23:59:59

Period: 1 day(s) Sampling:



Time	Voltage V	Temperature °C	Level m	Pump	Valve
03:35:43	110,5	9,5	37,5	On	Off
03:35:43	108,5	9,5	38,5	On	Off
03:35:48	107,5	11,5	37,5	On	Off

Graph OK Cancel