

Supervision and control XML-based from Windows Vista to Windows CE

Tutorial: Getting Started with Movicon 11

Version 11.3 - Ed. Feb. 2012 cod. DOCS 11 TUT-E Build 1101

Table Of Contents

1. GETTING STARTED WITH MOVICON	3
1.1. INTRODUCTION TO THE MOVICON TUTORIAL	3
2. PROJECTS	5
2.1. How to create and structure a project	
2.2. Creating a New Project	
2.3. WORKSPACE 2.4. PROJECT PROPERTIES	
2.5. Project Structure	
3. TAGS	13
3.1. How to create Tags	13
3.2. How to Communicate with Drivers	
3.3. Configuring the Driver	
3.4. Assigning Physical Addresses to Tags	
3.5. IMPORTING TAGS DIRECTLY FROM PLC	21
4. SCREENS	23
4.1. How to create a Screen	23
4.2. SCREEN AT THE PROJECT STARTUP	
4.3. GRAPHIC EDITING	
4.4. Object Libraries 4.5. Symbols Library	
4.5. SYMBOLS LIBRARY	
4.0. CREATING A COMPOSED SYMBOL	
5. DYNAMIC ANIMATION	33
5.1. How to create Dynamic Animations	
5.2. How To create Dynamic Colors	
5.3. Other examples of Dynamic Animations	
5.4. How to execute commands from Objects	
5.6. Assigning facts value from Objects	
5.7. START RUNTIME	
6. ALARMS MANAGEMENT	45
6.1. How to Manage Alarms	
6. 1. HOW TO MANAGE ALARMS	
6.3. DISPLAYING ALARMS	
6.4. DISPLAYING ALARM HISTORY	
6.5. Create a Simulation	54

1. Getting Started with Movicon

1.1. Introduction to the Movicon Tutorial

Welcome to the Movicon tutorial. This tutorial is aimed at giving you a quick guided demonstration of the main Movicon Scada/HMI platform techniques used. At the end of this tutorial you will have learnt the most essential techniques for using Movicon base functionalities.

Before going ahead with this tutorial you should first install the software by using the setup procedures.

All the information in this document is based on the assumption that:

- 1. Windows is the operating system being used
- The user knows how to use the Windows' techniques
 The user has sufficient knowledge on automation systems, on variable and PLC concepts

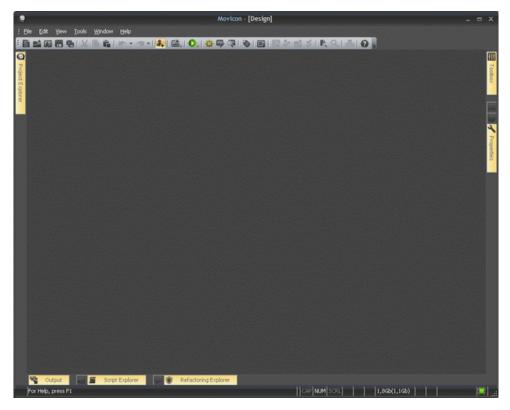
For further information on each argument, please consult the Online Guide or the User's Manual

2.1. How to create and structure a project

Starting up Movicon with the option command line, the program will start in Programming mode (Developer). The last project being used is usually opened. The workspace will display empty upon the first execution. The workspace uses the modern disappearing window techniques and therefore just simply point the mouse on the Tab you require to make it appear in the workspace. To keep the window displayed in the workspace use the relevant commands as indicated below:



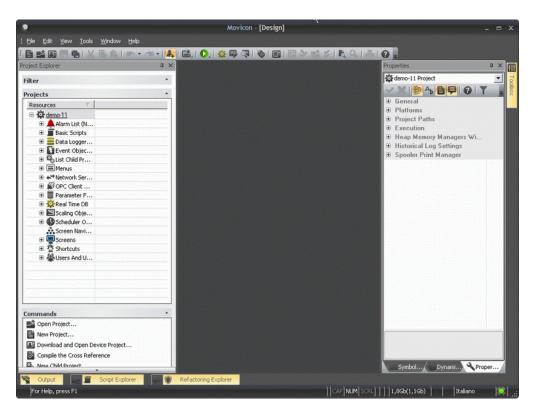
Note: to display your working windows just point them with the mouse and use the dock command to keep them visible.



Movicon Workspace with hidden windows



Dock command



Movicon workspace with window kept displayed



Tip: you can close the property window and double click on it to make it re-appear.

2.2. Creating a New Project

To create a new project, use the 'New' command from the File menu (Ctrl+N).

<u>F</u> ile	<u>E</u> dit <u>V</u> iew <u>T</u> ools <u>W</u> indow <u>H</u> elp	
E	New Ctrl+N	🔄 🔹 🖊 🖄
-Ŷ	Open Strl+O	
	Close	ate a new document ate a new document
	Save Ctrl+S	
	Source Control	
	Print	
	<u>1</u> demo-11.movprj	
	2 C:\Temp\\Prova\prova.movprj	
	<u>3</u> C:\Temp\Prova\Prova.movprj	
	4 Progetto1.movprj	
	5 E:\Progetti\\gf_0016.movprj	
	<u>6</u> E:\Progetti\\demo-11.movprj	
	<u>7</u> E:\Progetti\\demo-11.movprj	
	8 E:\TMP\C\demo-11.movprj	
	E <u>x</u> it	
	3	
	Shortcuts Multisers As due	

A Wizard will appear to guide you in creating the new project:

						? 🗙
New Existing Recen	ıt					
	Win32 platform Template project	Web Browsers (j2se)	WinCE platform	Mobile Phones (j2me)	Empty Project	
					[Open Cancel

First of all you need to select the type of platform on which the project must be run. In this way the functions which are not supported by the selected platform will not be available in programming mode (the selection can be changed later). Confirming this operation will display the configuration window:

Project Name		3
	Please, enter the name and the path where your project will be saved	
	Name Test	
	Folder C:\Temp\Test\Test	
	Crypt Core Project file Crypt all Project Resource files Crypt all Project Resource files Compress all the files Encode using Unicode UTF-16	
	< Back Next > Cancel Help	

In the window (as shown above), you will need to enter the desired name of the project in editing phase.

The other settings are not to be used for the time being but can be checked out in the manual if wished.

Click on the Next button to open the 'Users' settings.

Password Protected Project Developer Name CEnter project developer name here>
Developer Password
re-type Developer Password
Enable Password Mng
🔽 Create Default User Groups
Create Users from Windows Name
Enable Runtime Users changes
🧮 Enable Windows User Login
Enable CFR21-Part 11 Settings
< Back Next > Cancel Help

The security settings can be defined in this window. We will skip this part for the time being and go on with Next button to access the Driver settings.

List Available Comm.Drivers	~	Comm.Driver Prop Property	Value	
Bacnet Beckhoff				
B&R CAN Open				
CEI-ABI				
Duemmegi ELAP				
Elkron EL.MO				
				~
				<u>^</u>
<				>

The drivers you wish to include in the project can be selected from this window. We will also skip this part and leave it for later. We will not set anything at this stage. Now click on Next button to reach the Screens Settings.

Screens
► Nr. Screens to create 10
Add Screen Caption
Add Screen Navigation Bar
Default Screen Width 1280
Default Color
< Back Next > Cancel Help

Here you can indicate whether or not to create screens in the project. You can also indicate whether to create each one with a Title, and a contents navigation bar with scroll page buttons on the bottom border.

The default setting can be left alone or adapted to your requirements which can always be changed later.

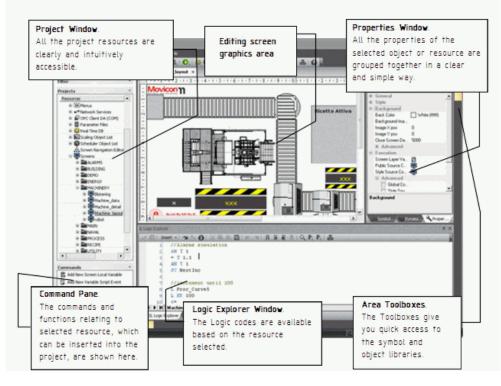
Going still ahead with the wizard other windows will be shown for the configuration of the possible historical, alarms etc..

On the last window, Alarm Settings, when confirming these operations with Finish button, the wizard will proceed creating the project according to the settings carried out.



The Wizard will create the project's structure by pre-setting all the basic configurations in automatic.

2.3. Workspace



By default, the Movicon workspace appear as shown below:

1

The Movicon Workspace, windows, toolbars, properties can be full customized.

2.4. Project Properties

Each Movicon project has properties, which are used to set all the project's configuration functions.

To display the project's properties, click on the project name, at the beginning of its tree structure, or select the name and activate the Properties Window with the right mouse key.

ojects			
Resources V	Properties		д
🗆 🙀 Test	🔯 Test Project		-
🕀 💻 Alarm List (Nr. Alarms '3', N			
🕀 📕 Basic Scripts	< X 🗄 🐴 🛢 🖵 🧿		
🖃 🚟 Data Loggers And Recipes	🗄 General		
E Log10min	Platforms		
E Log10sec	Project Paths		
📻 Log1min	Execution		
E Log30sec	Startup Screen		
Log5sec	Startup Script		
	Shutdown Script		
	Startup Commands		
	Shutdown Commands	۶	
	Pre-Load Screens		
	Start Friedeen		
	🔽 Shew St. us Bar		
	Show Output Window		
	Advanced		
	Heap Memory Manager		
	Set Values from the last Run		
	Memory Used with the curre	0	
	Recalculate memory Used		
	Enable Heap Values		
	Heap Rectangles	0	
	Heap Alarm Wnds	0	
	Heap HisLog Wnds	0	
	Heap DataLogger-Recipes	0	
	Heap Trace Wnds	0	
	Advanced		

The Project's properties permit you to setup the general characteristics of the project itself, among which are:

- 1. Eventual encrypted file protection
- 2. Selecting project's destination Operating System
- 3. Working Folder paths
- 4. Setting Startup behaviour (runtime execution- includes the 'Enable Renaming Manger' for automatically renaming variables linked to objects)
- 5. Operating system access security
- 6. Heap Memory settings for CE
- 7. Historical Log settings
- 8. Spooler print settings



For further details on all the properties please refer to the Programmer's Manual.

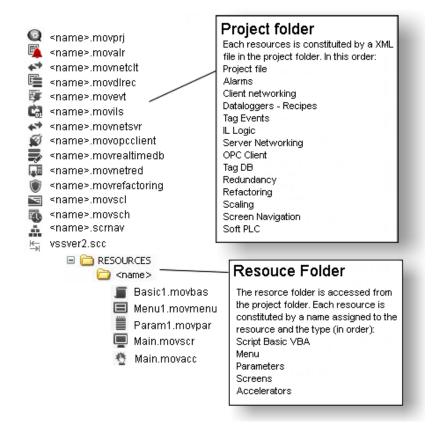
2.5. Project Structure

The Movicon projects are built from a set of files XML format. Each project resource is saved in a XML file in the relating project's folder and in the subfolder of the relating resource.

Unless specified otherwise, the projects are saved in the "Documents\Movicon Projects" default folder.

The files, being 'open' thanks to the XML, can be encrypted and compressed in the project by means of using the project's properties. The structure of the files respects the structure the resources provided in the Movicon project window.

Let's go over the structure of the project files in detail, using the Windows Resource Explorer.



3.1. How to create Tags

To introduce a new variable (Tag) into the project you need to:

1. Select the Real-Time Database resource from the project window

Project Explorer		д ×
Filter		•
Projects		•
Resources	∇	
🖃 🔯 Test		
🗉 🔔 Alarm List (Nr. Alar	ms '	
🕀 🔳 Basic Scripts		
🕀 🚍 Data Loggers And	Reci	
🕀 💽 Event Object List		
🗉 🍓 List Child Projects		
🕀 🚍 Menus		
🕀 🛹 Network Services		
🕀 🛒 OPC Client DA (CO	M)	
🕀 🗒 Parameter Files		
🖃 🙀 Real Time DB		
🛒 List Comm.Driv	ers	
📲 List Structure F	Prot	
🖹 <u>List Variables (</u>	Tags	
🕀 🔄 Scaling Object List	·@	New Variable (Tag)
🗉 🕔 Scheduler Object L		
👬 Screen Navigation		
🕀 🛄 Screens		Add a new Variable (Tag)
🕀 🥂 Shortcute	3	Add NL Add of new variable (rag)

2. Select the "Add a new Variable" command from the Command Pane found at the bottom of the project window. You can also use the analog command by using the right mouse key.

Resources 🗸 🗸	Туре	Area Type
∃ 🙀 Test [≖]		
🕀 🔔 Alarm List (Nr. Alarms '		
표 📠 Basic Scripts		
🕀 🗮 Data Loggers And Reci		
표 🛐 Event Object List		
표 🍓 List Child Projects		
🗄 🔳 Menus		
🗄 🖚 Network Services		
🗉 🛒 OPC Client DA (COM)		
🗉 📕 Parameter Files		
🖃 🙀 Real Time DB		
🛒 List Comm.Drivers		
🖺 List Structure Prot		
🖃 🛃 List Variables (Tag		
🗉 🐷 <u>VAR00001</u>	Word (1	Not Shared
🗉 🔄 Scaling Object List 🗼		

A new variable will be created in the project with default name and properties. The Properties Window, if hidden, is displayed by double-clicking on the new variable (if can be further displayed by using the relevant command from the 'View' menu).

You now need to assign the properties deemed necessary, especially the General properties, through the 'Properties Window'.

In our case we shall keep the default settings, with the PLC address to be assigned later. However we shall briefly go over the main properties for you:

Name VAR00001 Description Type Word (16 Bit without sign) Wariable Property Parable Property The crucial Tag properties are in the general properties group. Initial Quality Good Advanced Initial Quality Area Not Shared Address 0 OPC Group Name Image: Address and link to the device's physical address. Engineering Data Access Levels Options ODBC Real Time I/O Network Client Network Client	VAR00001 Variable (Tag)		•
Name VAR00001 Description Type Image: Type Word (16 Bit without sinn) Parent Shared Property Dynamic Image: The crucial Tag properties are in the general, properties group. Area Not Shared Address 0 OPC Group Name 0 Enable Statistic D area/address and link to the device's physical address. Options Options Trace Options 0 ODBC Real Time I/O Network Client	イ 🗶 🎥 🛧 皆 🗭 /	0 T	-
Description Type Word (16 Bit without sign) Property Area Not Shared Initial Quality Good Area Not Shared Address O OPC Group Name Enable Statistic D Engineering Data Access Levels Options Trace Options ODBC Real Time I/O	🗉 General		
Type Word (16 Bit without sign) Presentive not Shared Property Dynamic Initial Quality Initial Quality Good Address Initial Quality OPC Group Name Initial Enable Statistic D Enable Statistic D Enable Statistic D Image: Access Levels Image: Address ODI Options Image: Access Levels ODBC Real Time I/O Network Client	Name	VAR00001	
☐ Retentive not Shared Dynamic ☐ Advanced Initial Quality Area Address 0 OPC Group Name ☐ Enable Statistic D Enable Statistic D Engineering Data ④ Options ⑦ Trace Options ⑧ OBC Real Time I/O ● Network Client	Description		
Dynamic Imitial Quality Good Area Not Shared Initial Quality Good Address 0 Imitial Quality Good OPC Group Name 0 Imitial Quality Good Enable Statistic D Imitial Quality Imitial Quality Good Enable Statistic D Imitial Quality Imitial Quality Imitial Quality Imitial Quality Imitial Quality Imitial Quality Imitial Quality Imitial Quality OPC Group Name Imitial Quality Im	Туре	Word (16 Bit witho	ut sian)
Dynamic Imitial Quality Good Initial Quality Good Area Address 0 Decrete group. DPC Group Name 0 Decrete group. Enable Statistic D Enable Statistic D area/address and link to the device's physical address. Access Levels 0 Decrete group. Down on the statistic D Access Levels address. Options 0 DBC Real Time I/O Network Client Image: Address on the statistic D Address on the statistic D	📃 Retentive not Shared		Variable Property
 Advanced Initial Quality Area Address OPC Group Name Enable Statistic D Engineering Data Access Levels Options Trace Options ODBC Real Time I/O Network Client 	Dynamic		The crucial Tag properties
Area Not Shared Area Not Shared Address 0 OPC Group Name Enable Statistic D Engineering Data Access Levels Options Trace Options OBC Real Time I/O Network Client	Advanced		
Address 0 OPC Group Name Enable Statistic D Engineering Data Access Levels Options Trace Options OBC Real Time I/O Network Client	Initial Quality	Good	properties group.
OPC Group Name ☐ Enable Statistic D Engineering Data Access Levels Options Trace Options ODBC Real Time I/O Network Client	Area	Not Shared	Here you can set the
Enable Statistic D the device's physical address. ddress. ddress. ddress. ddress. ddress. ddress. ddress. ddress. ddress.	Address	0	name, data type, any
Engineering Data Access Levels Options Trace Options ODBC Real Time I/O Network Client	OPC Group Name		area/address and link to
Access Levels Options Trace Options ODBC Real Time I/O Network Client	Enable Statistic D		the device's physical
Đoptions Trace Options Jobe Real Time I/O Network Client	∃ Engineering Data		address.
 Trace Options DDBC Real Time I/O Network Client 	E Access Levels		
 DDBC Real Time I/O Network Client 	Dptions		
Network Client	Trace Options		
	€ ODBC Real Time I/O		
Ad	Network Client		
A.J			

Let's go over which are the fundamental properties of each Tag:

Name: permits you to assign the name desired for the variable.

Type: permits you to specify the data type (bit, byte, word, etc.)

Area: permits you to indicate whether an explicit memory area is to be used for the supervisor. When leaving the area as 'Not Shared', the supervisor will decide if the tag must be considered for the licence. The tag will be counted for the licence only if it's exchanged with the field through the driver, OPC, etc..

Dynamic Address: permits you to set the physical address to connect to the Tag to. The Tags Explorer can be used to specify the connection by means of an I/O Driver, OPC or Networking.

• All the other properties allow you to go and specify the Tag's behaviour, in the project, in detail. We, therefore, advise you to refer to the Programmer's Manual for further details.

We will leave the Tag with its default settings for the time being.

3.2. How to Communicate with Drivers

New communication drivers (I/O Drivers) can be inserted into the project at any time. In order to do this you need to:

1. Select the Real-Time Database Resource from the project window

Resources	∇
🖃 🔯 Test*	
🕀 🔔 Alarm List (Nr. Alarm	s '3', Nr. Runtim
🕀 🔚 Basic Scripts	
💷 🕀 🚍 Data Loggers And Re	ecipes
🕀 💽 Event Object List	
🕀 🎭 List Child Projects	
🕀 🔲 Menus	
🕀 🖛 Network Services	
💷 🗄 🛒 OPC Client DA (COM))
🕀 📕 Parameter Files	
🗆 👯 <u>Real Time DB</u>	
🖉 List Comm.[🕮	New Variable (Tag)
📱 List Structu 🏙	New Variable Group
🕀 🛃 List Variable 📷	New Structure Definition
🗉 🖭 Scaling Object l	Add New Comm.Driver
👬 Screen Navigat 😼	Add SysVar Strücture Definition
	Cut Add a new Comm. I/O Driver
🗉 🖉 Shortcuts	Had a non commity o birror
🔛 Soft Logic 🛛 🛄	Сору

2. Select the 'Add a new Comm.Driver' command from the Command Pane found at the bottom of the project window. You can also use the analog command by using the right mouse key.

3. A window will appear through which you must choose the driver you need from the list of drivers available.

4. Each driver is subdivided into product categories. By clicking on one product will get you the drivers and the relative communication protocols available.

Ethernet S7-200-300-400 TCP	Property	Value
Ethernet S7-300/400 TCP	🗵 General	
S5-AS511 Cpu Port	Name	PC Adapter
S5-DK3964	FileName	MpiPcAdapter.dll
S7-200 PPI	Version	
S7-MPI Hilscher NetLink Ethernet S7-MPI PC Adapter	Last Error	-
Simatic Net SAPI S7		
Vipa 🗸		
_ ·		
Supported protocol:S7-MPI protocol Supported devices: Siemens PLCs S7 300 ani		· · · · · · · ·

Check the communication driver relating to the product and the protocol desired.

We will check the Siemens S7 MPI "PC Adapter" protocol for our example. •

When confirming the operation the driver will be inserted into the project and added to the list of drivers in the project window.

We can now proceed with necessary configurations through the properties window:

Pro	perties		ŢХ
3	PC Adapter Driver		•
~	X 🔡 🐴 🖹 📮	017	
Θ	General		
	Name	PC Adapter	
	FileName	MpiPcAdapter.dll	
	Version		
	Last Error		
	Settings		
	Check for Updates	····	
Ð	Features		
T	Symbol Libraries	Dynamic Help 🔧 Properti	es /

First of all you must proceed with the driver settings configurations from the General

properties group. Go to the 'Settings' item where you will find an activation button for accessing the communication settings window.

3.3. Configuring the Driver

In this example we have chosen to use the Siemens S7-MPI PC Adapter driver as an example. The techniques used are the same for all the other drivers accept a few protocol specifications. The first thing to do is sort out the configurations of the driver's General Characteristics.

	operty MPINetwork Settings	Name
	Network Bitrate	187.5 KBit/sec
	MPI Address	1
	Highest Address	31
	Only Master	1
Ξ	General	
	Wait Time	0
	Timeout	2000
	Minimun Threshold	5
	Aggregation limit	0
	e teri	

1. Usually the default settings are left as they are accept for certain specifications required by the device being used. As an example lets suppose we have a standard PLC with a standard MPI connection for which we will keep the General default settings.

2. After the general settings, select the 'Stations' window needed for the communication station settings which we will create for the driver.

piPcAdapter		2
General Stations	Tasks About	
Add Edit Remove	Name	
Edit the list of Stations. This feature allows to enter and define the Station list		
	OK Cancel Apply Help	

3. Use the "Add" button to add the necessary communication station to the driver in order for it to communicate.

4. When entering the new Station, its relating settings window will display through which we will configure the communication details of our station for which we will only concentrate on the fundamental properties.

	operty Device Station Settings	Name
-	Station ID	2
⊡	General	
	Station Name	Default Station
	Error Threshold	1
	State/Command Variable	
	Keep Opened	True
Ξ	Serial Port Settings	
	Port	1
	Baudrate	38400
	D 4 01	n

Station Name: Assign a name to the station. In our case we will put PLC1 (but any other name is acceptable).

Port: Assign the serial port number being used. In our case we will use the COM1 serial port, for which we will leave the value left at 1.

Baudrate, Byte Size, Parity, Stop Bit: Assign the parameters of the communication port. In our case we will keep the Default settings. Station ID: this is the last property on the list whose setting is based on the ID address set in the PLC.



All the other station properties permit you to further configure the communication modalities. For instance, the TAPI functions can be used for communicating via modem or the Bridging functions used for communicating via the modem on the PC, to use the same communication port for the PLC's remote maintenance (eg. Teleservice). To get further information on these features please consult the Programmer's Manual.

However, we will limit ourselves in using just the base functions relating to device communication for the time being.

When confirming the settings, the communication station will be inserted in the communication driver.

Other stations for communicating with other devices on different COM ports can also be inserted with the same MPI $\,$ protocol.

MpiPcAdapter	
General Stations	Tasks About
 ♣ Add ⊯ Edit ■ Remove ▶ Test Cable/Comm. Edit the list of Stations. This feature allows to enter and define the Station list 	PLC1
	OK Cancel Apply Help

When arriving at this point the driver should have been inserted and the device already connected and ready for communicating. To verify whether all is in order and working correctly we shall run a test by using the "Test Cable/Comm." button. In this way Movicon will be able to verify whether communication with PLC device has been set up correctly and the cables are correct. Any errors found should then be resolved to ensure that communication works correctly.

3.4. Assigning Physical Addresses to Tags

After having inserted at least one station, we will look at how physical addresses are assigned to Tags.

1. Select the Tag previously inserted into the project (or create a new one)

🗉 🛒 OPC Client DA (COM)		
🗉 📕 Parameter Files		
🖃 🙀 Real Time DB		
🗉 鮾 List Comm.Drivers		
🖺 List Structure Prototypes		
🖃 🛃 List Variables (Tags) (Tags 1, La		
	Word (1	
🕀 🔄 Scaling Object List		
🕀 🚯 Scheduler Object List		
· · · · · · · ·		

2. Double-click on it to open the Properties Window.

Properties	μ×					
💹 VAR00001 Variable (Tag)	•					
× X 🎛 🗛 🖹 부	0 T .					
🖯 General	<u> </u>					
Name	VAR00001					
Description						
Туре	Word (16 Bit without sign)					
📃 Retentive not Shared						
Dynamic						
Advanced						
Initial Quality	Good					
Area	Not Shared					
Address	0					
OPC Group Name						
🔲 Enable Statistic D	· ·					
Dynamic Allows you to enter the dynamic settings for this variable [ID12069]						
Symbol Libraries	Symbol Libraries Dynamic Help 🔧 Properties					

3. Select the 'Dynamic' property from the 'General' group to open the Tag Browser window.

• Tag Browser			
4 🛹 Network 🕷 OPC 🕯	Comm. I/O Drivers		Þ
List Comm.Drivers in the Project	Comm.Driver Proper	ties	
Add/Edit	Remove	Property	Value
🗄 🔊 PC Adapter			
		[OK Cancel

4. Select the Tab relating to the communication driver from the Browser window.

	evice Task Settings		
D	evice Address	DB1.DBW0	
E G	eneral		
-	tation	PLC1	
C	onditional Variable		
	уре	Input/Output	
	Elements	0	
W	/rite outputs at startup	False	

5. Double-click on the PC Adapter previously inserted to open a window to assign the physical address.

6. Select the driver station with which you wish communicate with (in our example we have only entered the station named PLC1), then specify the device's physical address in the "Device Address" to which the variable is to be connected.

7. In our example, we shall connect the Word type variable called VAR00001 to the PLC's DB1 data block's word DW0.



Note: You can also enter the syntax of the physical address In the Tag's `Dynamic' property directly: [DRV]PC Adapter.Sta=PLC1|Addr=DB1.DBW0

With the Tag property set, Movicon will establish communication with the device for reading-writing data from the PLC on the corresponding variable during project runtime.

3.5. Importing Tags directly from PLC

The Movicon drivers offer an extremely useful feature when the database of ready-made PLC variables is being used:

The 'Import-Update device database' command, from the Command Pane, is made available when selecting the driver from the Movicon project window. This same command can be obtained and used by clicking the right mouse key.

When activating this command you will be request to select the file (keeping the CTRL key or SHIFT key pressed down) corresponding to the PLC database. As we are using Siemens S7 we need to select the .SDF or AWL file by means of the file selection window:

Open					? 🗙
Look in:	Cimatic S7		•	← 🗈 💣 📰+	
CO Recent	🗟 S7-Exp-examp	ole.sdf			
Desktop					
My Documents					
My Computer					
S	File name:			•	Open
My Network Places	Files of type:	System Data Files (*.sdf)		-	Cancel

When selecting the file with the PLC database, the Movicon Import Device variables window will open to allow you to select all or part of the variables contained in the PLC database.

Import Device Variables - C:\Samples\Simatic S7\S7-Exp-example.sdf		
Please select the Device Variables to Import		
009_M1_EnableForBefDCC - M165.7 - BOOL 2_Tobacco - M315.5 - BOOL	^	Select All
AATR3 - MD706 - REAL ABypassSafetyBwd070M1 - A0.6 - BOOL ABypassSafetyBwd080M2 - A1.0 - BOOL		Select None
ABypassSafetyBwd090M2 - A1.2 - BOOL ABypassSafetyFwd070M1 - A0.7 - BOOL		Browse File
ABypassSafetyFwd080M2 - A1.1 - BOOL ABypassSafetyFwd090M2 - A1.3 - BOOL Active_Check_Cicle - M303.0 - BOOL	41	?
Acustic Alarm - A2.5 - BOOL AMTC4 - MD822 - REAL AMTC5 - MD826 - REAL	41	
AMTR4 - MD710 - REAL AP5R3 - MD702 - REAL	41	
ATTR4 - M0714 - REAL auxFNMotor020Run - M159.5 - BOOL auxFNMotor130Run - M159.4 - BOOL		
auxOneShotStartBatchOB35 - M335.0 - BOOL Avg(1) - MD874 - DWORD		Import
(Avg(2) - M0878 - DWORD Avg(6) - M0882 - DWORD Ava(7) - M0866 - DWORD	~	Cancel
Station: PLC1	•	

When confirming the operation the 'Import' button, Movicon will go ahead with:

1. Creating the Tags in the Movicon project keeping the same name and type taken from the PLC database

2. Assigning the relative physical address to each Tag

By using this useful function you can get the Movicon project's Variables DB created and completed with the device's physical addresses assigned automatically in just a few seconds.

Each Tag's 'Dynamic' property will be shown associated with the following syntax (which can be changed as pleased):

[DRV]PC Adapter.Sta=Default Station|Addr=M265.0|Typ=0

.....

4.1. How to create a Screen

To create a graphic interface you need to used the project's Screen resource.

1. Select the Resources Folder from the Project window's tree structure.

Resources	∇	
🖃 🙀 Test*		
🕀 🔔 Alarm List (Nr	. Alarms '3', Nr. Runtim	
🕀 🔳 Basic Scripts		
🕀 🧮 Data Loggers	And Recipes	
💷 🗄 🔛 Event Object	List	
List Child Pro	iects	
🕀 🚍 Menus		
🕀 🖶 🗲 Network Serv		
🗄 🛒 OPC Client D.		
🕀 🧮 Parameter Fil		
🗄 🕵 Real Time DB		
🕀 🔄 Scaling Objec		
🗄 🚯 Scheduler Ob		
Screen Navig	ation Editor	
⊕ <u>Screens</u> ⊕ <u> </u>	Open	
Soft Logic		
E &Users And	🖞 Add a new Menu	
	Add a new Shortcut	
	Add a new Script	and the second sec
	Add a new Screen	Script Explorer
	Add a new Folder	
Commands	Add a new Parameter F	
🕍 Add a new Menu 👢		Insert a new Screen in the Project

2. Select the 'Add new screen in the project' command from the Command Pane at the bottom of the project window. You can also use the analog command by using the right mouse key.

Q			Movicon - [Design) - Screent				- = x
Elle Edit View Layout Symbols Tools	Window Help							
	- 4 6.	0. 0		SIR 9. 410				
Project Explorer	a ×	Screen1			-	Properties		9 × 🕅
Filter	-			1 • 6 • 1 • 7 • 1 • 8 • 1 • 9 •	1 . 0 . 1 . 1	Screen1* Screen		
Projects		·			^	× × I 🕾 🌭 🖻 9	I O T	
	Objects	1.				General		
B Stast	Objects					Name	Screen1	
Ser Test Alarm List (Nr. Alarms '3', Nr. Runtim		1.				ID	0	
Basic Scripts		2				Width	1280	
Data Loggers And Recipes						Height	1024	
Event Object List		m				Advanced		
Clist Child Projects		-			1	Style		
* EMenus		4				Background		
		1				Execution		
OPC Client DA (COM)								
🛞 🧱 Parameter Files								
Real Time D6		1.						
Scaling Object List		<u>v</u>			13			
Scheduler Object List		1.						
Screen Navigation Editor		C						
Screens		-						
Screen1"	0 (0)							
⊕ ∯ Shortouts		11-1						
Soft Logic		i.						
	1	i i i						
		1.						
		P.						
					10011010			
		-						
		-						
		in in its second						
•	•	11-1						
		1. K	Manager and Street Street		>	Symbol Libraries	Dynamic Help AProper	ties
Commands	1000	Script Explorer		a x	Refactoring Ex	minerer		a ×
Add New Screen Local Variable		Contract of the local division of the local						* ^
Add New Variable Script Event		V 🔘 Insert ·		OIR RIMINE	1000			10000
Create a WebClentX html page based on this	Screen	Object (General)	 Proc: 	(declarations)				
📑 Add a new Menu				,				
쟝 Add a new Shortout			and the second se	>				
				1				
Insert a new Basic Script in the Project		H 4 P H Scr			HAPH			
E Insert a new Screen in the Project		Legit Logic Explore	Script Explorer	And the second se	- XML Cod	e Explorer Refactoring	Explorer	
Cutput	Sector Sector				aladera a			Section of the
For Help, press F1					Colinear and	10, 11,836		101 -
For hep, press F1				wow seer 1		1,860	1,100)	- I

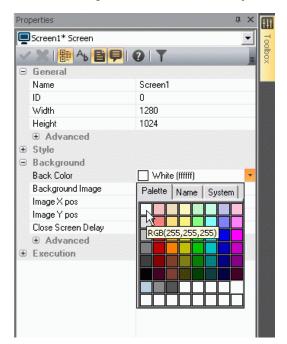
3. The new screen will be created in the project and displayed with its default settings in the workspace.

4. You can change the screens default properties through the **Properties Window**. This window is accessed by double-clicking on the screen itself or by using the same command from the View menu.

5. We will only deal with the screen's background color properties. Please refer to the Programmer's Manual for details on the other properties.

6. Select the 'Back Color' property from the 'Background' property group and assign white as the screen's background color.

This property takes effect when being confirmed with the Key.



7. Repeat this operation to introduce another screen into the project. By doing this we can setup an example to be used in the 'change page' lesson up ahead.

4.2. Screen at the project startup

To get the screen to open automatically at the start of a project Runtime you need to specify the screen in the **project's Execution properties**.

Project Explorer		ųΧ
Filter		-
Projects		
Resources	∇	
🗆 🐼 Test* 📐		
🗉 🔔 Alan List (Nr. Alarms '3', N	r. Runtim	
🕀 🔚 Basic Scripts		
🗉 🕀 📴 Data Loggers And Recipes		
🕀 🗈 🚺 Event Object List		
Science Child Projects		
⊞ Menus		
🕀 🛃 Network Services		
🕀 🕀 OPC Client DA (COM)		
🕀 🧱 Parameter Files		
🕀 🙅 Real Time DB		
S S S A S A S A S A S A S A S A S A S A		

1. Double-click on the project name at the beginning of the project's tree structure to display the its properties, or select the name and activate the Properties Window with the right mouse key.

Properties	μ×
🔯 Test* Project	•
🗸 🗙 🎥 🗛 🖺 📮 (0 7
🕀 General	
Platforms	
Project Paths	
Execution	
Startup Screen	Screen1
Startup Script	
Shutdown Script	
Startup Commands	۲ ۲
Shutdown Commands	7
Pre-Load Screens	
📃 Start Full Screen	
🔽 Show Status Bar	
📃 Show Output Window	
Advanced	
🕀 Heap Memory Manag	
Historical Log Settings	
Spooler Print Manager	
Startup Screen Allows you to enter the Screen t	to be loaded at startup [ID12144]
Symbol Libraries 🖉 Dyna	amic Help AProperties

2. Select the **Execution Property**, then the '**Startup Synoptic**' property. By using the activation button, activate the window for selecting the screen desired. Then press the '**Refresh'** button to add it to the list.

Resource Browser		>
4 Screen		⊳
Filter		Refresh
Screen1		7
•		Þ
	OK	Cancel

3. We will select 'Screen 1' to use in our example (or you can select another one if you prefer). Then confirm with OK.

The specified screen will be the one to open and display automatically at the project startup.

4.3. Graphic Editing

We will now re-open 'Screen1' to examine the basic graphic editing concepts.

1. Double-click on the 'Screen1' resource, found in the Screens folder in the project window, to open the screen.

2. Use the drawings tools by taking them from the $\ensuremath{\text{Toolbox}}$ positioned on the workspace's right border.

3. Select the 'Basic Shapes' from the Toolbox and then select the drawing to be used graphically on the screen.

•	Mov	icon - [Design] - Screen1		- 0
Ele Edit View Layout Symbols Iools Window				
	■, 0, 0 = 0 = 0		Properties	Toolbox 4 X
filter.	the second	+4+1+5+1+6+1+7+1+8+1 9+1+0+1+1+	Test* Project	E Basic Shapes
Filter Projects Persources → Alam List (Nr. Alarme '3', Nr. Runtin → Exat: Scripts → Exat:	 1 + 1 + 1 + 2 + 1 + 3 + 1 1 + 1 + 1 + 2 + 1 + 3 + 1 1 + 1 + 2 + 1 + 3 + 1 1 + 1 + 2 + 1 + 3 + 1 1 + 1 + 2 + 1 + 3 + 1 1 + 1 + 2 + 1 + 3 + 1 1 + 1 + 2 + 1 + 3 + 1 1 + 1 + 2 + 1 + 3 + 1 1 + 1 + 2 + 1 + 3 + 1 1 + 1 + 2 + 1 + 3 + 1 1 + 1 + 2 + 1 + 3 + 1 1 + 1 + 2 + 1 + 3 + 1 1 + 1 + 2 + 1 + 3 + 1 1 + 1 + 2 + 1 + 3 + 1 1 + 1 + 2 + 1 + 3 + 1 1 + 1 + 2 + 1 + 3 + 1 1 + 1 + 2 + 1 + 3 + 1 1 + 1 + 2 + 1 + 3 + 1 1 + 1 + 2 + 1 + 3 + 1 1 + 1 + 2 + 1 + 3 + 1 1 + 1 + 2 + 1 + 3 + 1 1 + 1 + 2 + 1 + 3 + 1 1 + 1 + 2 + 1 + 3 + 1 1 + 1 + 2 + 1 + 3 + 1 1 + 1 + 2 + 1 + 3 + 1 1 + 1 + 2 + 1 + 3 + 1 1 + 1 + 2 + 1 + 3 + 1 1 + 1 + 2 + 1 + 3 + 1 1 + 1 + 2 + 1 + 3 + 1 1 + 1 + 2 + 1 + 3 + 1 1 + 1 + 2 + 1 + 3 + 1 1 + 1 + 2 + 1 + 3 + 1 1 + 1 + 2 + 1 + 3 + 1 1 + 1 + 2 + 1 + 3 + 1 1 + 1 + 2 + 1 + 3 + 1 1 + 1 + 2 + 1 + 3 + 1 1 + 1 + 2 + 1 + 3 + 1 1 + 1 + 2 + 1 + 3 + 1 1 + 1 + 2 + 1 + 3 + 1 1 + 1 + 2 + 1 + 3 + 1 1 + 1 + 2 + 1 + 3 + 1 1 + 1 + 2 + 1 + 3 + 1 1 + 1 + 2 + 1 + 3 + 1 1 + 1 + 2 + 1 + 3 + 1 1 + 1 + 2 + 1 + 2 + 1 + 3 + 1 1 + 1 + 2 + 1 + 3 + 1 1 + 1 + 2 + 1 + 3 + 1 1 + 1 + 2 + 1 + 2 + 1 + 3 + 1 1 + 1 + 2 + 1 + 2 + 1 + 2 + 1 + 3 + 1 1 + 1 + 2 + 1 + 2 + 1 + 2 + 1 + 3 + 1 1 + 1 + 2 + 1 + 2 + 1 + 2 + 1 + 2 + 1 + 2 + 1 + 2 + 1 1 + 1 + 2 + 1 + 2 + 1 + 2 + 1 + 2 + 1 + 2 + 1 + 2 + 1 + 2 + 1 1 + 1 + 2 + 1 + 2 + 1 + 2 + 1 + 2 + 1 + 2 + 1 + 2 + 1 + 2 + 1 + 2 + 1 + 2 + 1 + 2 + 1		I File: Fright: Constant Section Constant Section Starting Screen Starting Screen Shart Screen S	Pointer Line Rectangle Rounded Rect Ellose
		a x Refactory	Contraction of the second	
Commands Spen Project Butwe Project Completion and Open Device Project Completible Cross Reference New Child Project Upload Project to Device/FTP	Sorpt Explorer		M	
Cutput For Help, press F1		CAP NUM SCRU](% 1,868(1,168)	1 1

4. After having selected the chosen drawing, double-click on the insertion point on the screen and drag the drawing until you reach the size desired.

5. Repeat these operations to create the drawing you want on screen.

6. These graphic elements, once on the screen, can be given general, style and animation properties by using the **Properties Window** as described below.

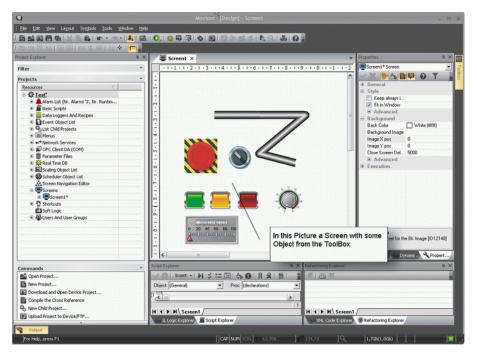
Q	Movicon - [Design] - Screent 📃 🗖
: Elle Edit Yew Layout Symbols Icols Window Help	
Project Explorer 4 ×	Screent X Properties a X
Filter *	• 1 • 1 • 1 • 2 • 1 • 3 • 1 • 4 • 1 • 5 • 1 • 6 • 1 • 7 • 1 • 8 • 1 • 9 • 1 • 0 • 1 • 1 • 1 • 2
Projects *	
Resources 💎	Dynamics
⊕ ∯ Iest	€ General
Alarm List (Nr. Alarms '3', Nr. Runtim	Visibility Position
Basic Scripts	w rounds
Data Loggers And Recipes	Stroke Attribu
Event Object List	m Background
GList Child Projects	C Access Levels
* EMenus	* Fonts * Dragging
	Execution
Image:	2 Execution • Variables
🛞 🧱 Parameter Files	· · · · · · · · · · · · · · · · · · ·
Real Time DB	
Scaling Object List	
Scheduler Object List	
Screen Navigation Editor	
B Screens	
B Screen1* Shortouts	00
Soft Logic	
Sort Logic Sort Logic Sort Logic	
Set Users And User Groups	In this picture a Screen with
	the object Pipe (Basic Shapes Object)
	C K Symbol Dynami & Propert/
Commands *	Script Explorer 9 X Refactoring Explorer 9 X
Dpen Project	✓◎ Inset · N ジ 二回 小 ● 月 名 自 単 / 三四 ※
New Project	
Download and Open Device Project	Object (General) Proc. (declarations)
Compile the Cross Reference	
B. New Child Project	
Upload Project to Device/FTP	H I I H Polygon1
A.u. a.u.a.s	L. Logic Explorer Script Explorer
Cutput	
-	CAP NUM SCPL 136.106 F 226.120 Ca. 1.932(1.136) M
For Help, press F1	CAP NUM SCRL 126,106 1226,120 🍕 1,868(1,166)

4.4. Object Libraries

In addition to the Basic shapes provided in the Toolbox you can also access other graphic object categories. These categories contain vectorial drawings with style and animation properties similar to those of the basic shapes but already predisposed with execution functions for which they have been designed for.

Toolbox	Toolbox X	Toolbox	× Toolbox
Basic Shapes Buttons-Lights-Switches	+ Basic Shapes + Buttons-Lights-Switches	Basic Shapes Buttons-Lights-Switches	Basic Shapes Buttons-Lights-Switches
Pointer	Sliders-Gauges-Meters-Displays Pointer	Sliders-Gauges-Meters-Displays Trend-Charts-Data Analysis	Sliders-Gauges-Meters-Displays Trend-Charts-Data Analysis
Creation Former Form	Hered Side Hore and Side Gauge Gauge Too sharp Detton issue Britt Gauge Hore Right Gauge Hore Right Gauge Hore H	Hore Reter Hore Reter	Advanced Shapes Advanced Shapes Advanced Shapes Advance

To use the **ToolBox's Objects**, simply select the object desired then double-click the mouse to insert the object on the point of the screen where you want it to be and drag it until you reach the size desired.



After having inserted the your chose objects, you can then proceed with assigning their properties by using the **Properties Window**. Each object will have, apart from the general properties, also style and animation properties, which are common to all objects, and the execution properties specified for each single object.



Please refer to the Programmer's Manual for further details.

4.5. Symbols Library

Movicon provides a vast variety of graphic symbols in libraries which have been pre-built purposely to meet all the graphical representation requirements in automation.

These symbol libraries can either be accessed through the **'Symbol Libraries**' window, displayed on the border on the right hand side of the workspace, or by using the analog command from the 'View' menu.

oject Explorer 4	X Screent Screen2 X V	Symbol Libraries 4
Filter	· · · · · · · · · · · · · · · · · · ·	Library View
Projects		
Resources C Objects		
⊜ ∰ Test*		Choose a library, then select the Template
Alarm List (Nr. Alarms '3', Nr. Runtim		Symbologies Symbols Intril Synapsis Tank
Basic Scripts		Symbologies Symbols Intra Sympolis Tark
Data Loggers And Recipes		
Event Object List	m	
Quist Child Projects		
EMenus	4	
+** Network Services		
Image: Second		
🛞 📕 Parameter Files		
Real Time DB		
Scaling Object List	- v	
Scheduler Object List		
Screen Navigation Editor	m	
B Screens		
* Screen2" 0(0)	* 00	
Screen1*		
⊕		
🖆 Soft Logic		
Users And User Groups		
		Brokse Folders
	This figure shows an example of the symbol	Animation
ne ne constante nove presente constante en la c		🖉 🔚 Animazioni
•	libraries in the workspace. You can	/ 🕑 🔤 Building Automation
ommands	scroll the various categories by using the	🕖 🛞 🚟 Finestre Utente
Add New Screen Local Variable		HotelAutomation Libreria Simboli
	Tabs or scroll arrows on the window	Corera Smool
Add New Variable Script Event	borders	+ Pads
Create a WebClientX html page based on this Screen	Doruers.	PID
📸 Add a new Menu		🔹 🏧 Schedulatori
登 Add a new Shortcut		🗭 🏧 Schedulers 🛛 🗡
Insert a new Basic Script in the Project	M	and the second

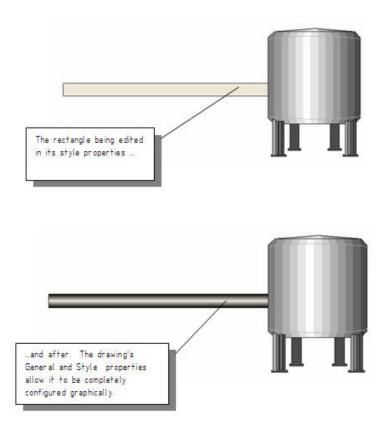
Each symbol from each category can be inserted on screen by simply using the Drag&Drop techniques and re-sizing it as desired by dragging its borders just like any other graphic object.



The symbols can be configured in their properties just like any other drawing object, by using the Properties Window.

Graphic editing example:

Insert a 'Rectangle' object into the screen from the 'Basic Shapes' ToolBox and a 'Tank' symbol from the Symbol Library.

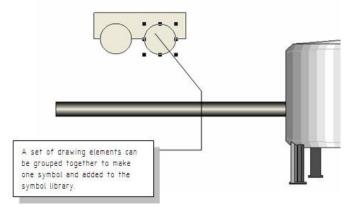


4.6. Creating a Composed Symbol

All the drawing elements (Drawings, Symbols, Objects) can be grouped together in Symbols and then added to the Symbol Library.

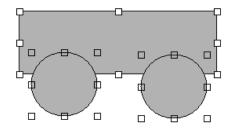
Now let's proceed with inserting a few drawing elements which we will then associate to a graphic symbol.

By following the procedure described above, insert a Rectangle and two Ellipses from the Basic Shapes ToolBox to form the shape shown below:



Select all three elements with the mouse by clicking in the area and dragging the selection.

The figure below shows how the drawing should look like with the **reference object** highlighted for any eventual align commands.



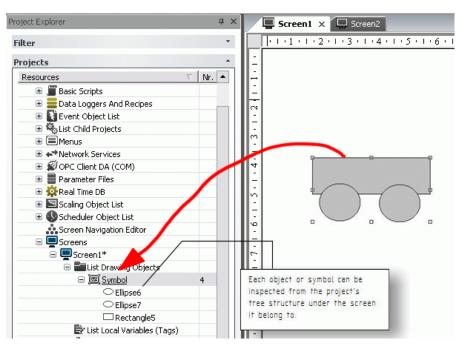
With the right mouse key, in the workspace, select the **Symbol – Group** command to group all three drawings together to make one symbol.

[2] 22 25 25 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2		Movicon - [Design] - Scree	in2		
Ret of Ret is a log	Elle Edit Yew Layout Symbols Tools Window Help				
Ret of Ret is a log			EQIL O		
Protects Protects Protects					
Filter Image: Control of the Project of the Projec					
The second of t	Project Explorer 4 X	een1 Screen2 ×			
Protects Objects Protects Single Protects Single <td< td=""><td>Filter * 11</td><td>1 • 1 • 2 • 1 • 3 • 1 • 4 • 1 • 5 • 1 • 6</td><td>• 1 • 7 • 1 • 8 • 1 • 9 • 1 • (</td><td>Rectangle1 Multiple Selecti</td><td>on 💌</td></td<>	Filter * 11	1 • 1 • 2 • 1 • 3 • 1 • 4 • 1 • 5 • 1 • 6	• 1 • 7 • 1 • 8 • 1 • 9 • 1 • (Rectangle1 Multiple Selecti	on 💌
Boder Style Boder Boder Boder Style Boder Boder Boder Style Boder Style Boder Style Boder Style Boder Style Bo	Designity .		^	× XI 8 4 6 9	0 7
Boder Disk Start Lit (br. Almers 7, br. Authin				Style	
Advance life (le. Alern 37, le. Rutzim Advance life (le. Alern 37, le. Rutzim)					Simple
Add non-X - Control Management Parks Add New Yorked Sorge Field Add New Yorked S				30 Look	
Detail logers And Redee Detail of the constraints Det				30 Look Pressed	h she had been a state of the
Deren Coler Lut Deren Local Variable Sorten Local Variabl		12	100		
Examples			9		
Concernands Concernan					
Store Code 2 Advanced Code Store Code Store					
Add tere Soren Local Variable Soren Synchol Contrants Soren Synchol Contrants Soren Synchol Contrants Soren Synchol Contrants Soren Local Variable Soren Local Variable Soren Synchol Contrants Soren Synchol Soren Local Variable Sore	Real Time DB	• • •	ф.		center
a Good Color List Compared Revealed Compared Rev			C.4		
Composed Structure Composed Structure Structure Composed Structure Structure Composed Structure Structure Composed Structure Structure Sold Sold sums Vision Sore Event Sold sums Vision Sore Event Sold sums Vision Sore Event Sold sums Vision Sore Event Sold sums Vision Sore Event Sold sums Vision Sore Event Sold sums Vision Sore Event Sold sums Vision Sore Event Sold sums Vision Sore Event Sold sums Vision Sore Event Sold sums Vision Sore Event Sold sums Vision Sore Event <td>Scheduler Object List</td> <td></td> <td></td> <td></td> <td></td>	Scheduler Object List				
Commands State Visite Shot Shot Shot Shot Shot Shot Shot Shot	Screen Navigation Editor	•			
Contracts Contract Contr Contrat Contract Contract Contrac		li.	Paste		
		×	Delete		
A de Sontados A de acem Manu A de acem					
Pip		*	Properties		
Butters And User Groups Depicate dr. Spie Sold	Soft Logic		Flo		
Commands Commands Commands Commands Commands Commands Compass Abum Special Compass Abum Abum Abum Abum Abum Abum Abum Abum			and the second state of the second second		
Edd: Singlester	°		e-spectro	ck Color	Silver (c0c0c0)
Commands op Company Set Undard Structure Company Set Undard Structure Opmanic Property Pr			Edt Synapses		
Set Default Structure op Cole WHDOW SynCole (III) Commands Drawisch Property Propertier op Cole WHDOW SynCole (III) Add Hew Screen Local Wankles Drawisch Property Propertier op Transparency Level 255 Add Hew Screen Local Wankles Default Structure op Transparency Level 255 Add anew Shortout East Default Structure Color Color Add anew Shortout East Default Structure Problet Exception Properties Combre a Symbol Structure Structure Properties Combre a Symbol Tele Add to Contery Structure Structure Combre a Symbol Tele Add to Contery Structure Structure Combre a Symbol Structure			Edit Composed Movement Path	adient Color	(1999)
Commands Commands Setech Image Bit All here Screen Local Variable Comple & Logic Default Bit Anew Menu Color Color Bit Anew Menu Color Color Bit Anew Menu Color Color Bit Anew Menu Color Extra Folyon Color Color Color Bit Anew Menu Sorget Departs Properties Color Sorget Departs Sorget Departs Conduce a Symbol Color Sorget Departs Sorget Conduce a Symbol Combre a Symbol Complex Sorget Departs Sorget Conduce a Symbol			Cal Data & Onetices	ing Color	WINDOW SysColor (fff
Constants Constants				atic Image	
Add tene visual Sorte Event Add anew Share Sorte Event Sorte Sorte Sorte	Commands •	La			
Retate Pelygion. Conset with solution that apply the retain the region of the Screen Retate Pelygion. Conset with solution that apply the retain the region of the solution of the retain the retain the region of the retain the region of the retain the reta	🛱 Add New Screen Local Variable		Compile IL Logic		
Color Color Add a new Menu Color Add a new Menu Color Add a new Menu Color Image Color Image Stable Color Stable Image Color Color Stable Image Color Color Color Color Stable Image Color Color Color Color Stable Color Stable Color Stable Color Stable Color Color Stable Stable Color Color Color Color Color Stable Color Color	Add New Variable Script Event		Rotate Polycon		
Image Color Image Color Image Image For this sector (International Color on the sector (Internation Color on the sec	Greate a WebClientX html page based on this Screen			NUMBER OF STREET, STRE	<u>-</u>
Add a new Shortout Image Image Image Image Image Image Image Image Image Image Image Combre a Symbol Symbol Image Image Image Combre a Symbol Image Image Image Image Output Combre a Symbol Image Image Image Output Combre a Symbol Image Image Image Output Image Image Image Image Image Image Image Image Image Image Image Image Image Image Image Image Image <td< td=""><td></td><td></td><td></td><td></td><td></td></td<>					
Insert a new Back Sogk in the Project Image For Exagement Image				e static background col	or for this object [ID12369]
Codput Sorpt Explorer We Refactoring Explorer Symbol Image Combree & Symbol C Properties Combree & Symbol					
Contine a Symbol C Image C Contine a Symbol C CE Properties 22 Rage C Contine a Symbol Contine a Symbol Add to CERAY	In insert a new basic script in the Project	and a second sec	Font Escapement	ymbol Libraries Dy	namic Help * Properties
Contine a Symbol C Image C Contine a Symbol C CE Properties 22 Rage C Contine a Symbol Contine a Symbol Add to CERAY	😪 Output 📰 🖬 Script Explorer 📰 🐨 Refactoring Explore	ar l	Sumbal	A Tat Group	
Sporto		11-			1 1 1001
Sporto	Louione a syncor	114		Com	bine a Symbol
			OLE Properties	Tea Comb	ine a Symbol
			Qogetto	Add to Library	

The symbol can now be added to the Movicon Templates library by using the right mouse key on **Symbol -> Add** to Library.

Any animations or codes associated to the symbol will also be kept in the library.

The composed symbols can be inspected in the project's tree structure. The objects and the composed symbols are displayed in structures under the screen they belong to. Therefore each components of each symbol can be selected singularly and configured in its properties.





When using this technique we suggest you assign a name to each symbol or drawing so that they can be identified straight away.

5. Dynamic Animation

5.1. How to create Dynamic Animations

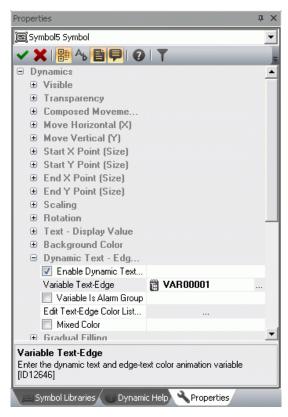
We will now look at the editing techniques used, which entail the association of Tags, for creating dynamic animations.

5.2. How To create Dynamic Colors

In our example we have chosen to assign the animation properties to color the drawing's background in function with the VAR00001 tag previously introduced.

- 1. Activate the screen where the graphic symbols were inserted as described above.
- 2. Select the **rectangle** shape representing a tube.
- 3. Double-click or use the other techniques to display the **Properties Window**.

4. Select the $\mbox{Animation}$ group from the Properties Window and then the \mbox{Back} \mbox{Color} item.



Check the 'Enable' box to enable the pre-selected animation function, then select the tag among those inserted in the project's RealTime DB.

Then select the 'Edit back color list' to set the activation thresholds of the tag and the relating colors to be displayed.

Ellipse3 - Bac	kground Color		
Color Threshold	4		
Color	Value Vari		Add
	1,000 0,000		Edit
			Remove
			Default
			Сору
			Paste
	OK	Cancel	?

A window for setting how the Thresholds should appear.

The window contains a series of standard default thresholds. Use the relative commands on the side to delete, add of edit them.

Use the relative settings window, shown below, to add or edit the animation characteristics:

Edit Threshold Color		
Property	Value	
Value for Threshold Color	1	
Variable for Threshold Color	Te	
Visualization Mode	normal	
Blink Time	500	
Color	Lime (00ff00)	
Blink Color	White (fffff)	
OK Cancel ?		

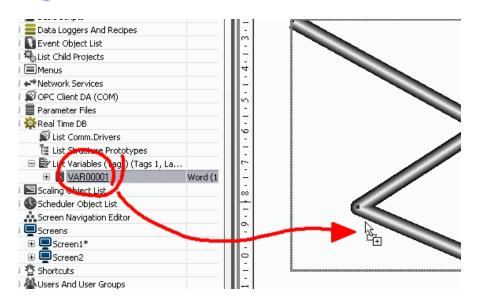
By using this window you can set the threshold values and the animation colors, as well as other properties which are explained in the Programmer's Manual. Confirm the settings with OK.



When you **Run the project**, changing the real-time value of Tag VAR00001, you will see the rectangle shape change color. Attention: the "Variable for Threshold Color" in this threshold settings window consents to making the activation threshold dynamic. This variable, however, MUST NOT be used in the 'Background color' property, otherwise the color animation will not work correctly by showing only the same color without changing.



TIP: Variables can be associated to objects by directly dragging them from the RealTimeDB resource and dropping them on the objects on screen.



When you select a variable from the variable list and drag and drop it on an object in the screen, a window will display allowing you to select which animations to associate to that variable.

Assign to Dynamic for Polygon2 - VAR00002 👘 🔀	
 Visible Background Color Text - Edge Color Move Horizontal (X) Move Vertical (Y) Composed Movement (XY) Scaling Gradual Filling Color Gradual Filling Rotation 	OK Cancel

However, the threshold color settings remain at the user's discretion.

5.3. Other examples of Dynamic Animations

We will now insert some animations requiring Word type tags, which can be inserted into the project as described above in chapter 4.

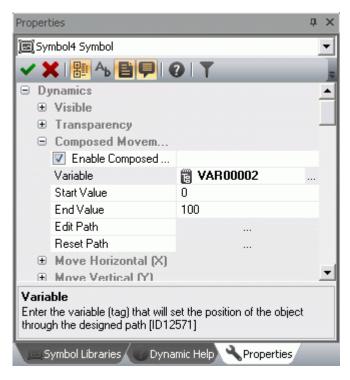
Let's assume that two tags, VAR0001 and VAR00002, both in Word are available in our example project.

We will demonstrate another example of dynamic animation for on screen symbol movement: **Composed Movement**.

1. Open the screen and select the Symbol, created previously with the **Rectangle** and **Ellipse** drawings grouped together, then activate the **Properties Window**.

2. Select the 'Animations' group and then Composed Movement. This animation sets the graphic symbol to move on the screen along a trajectory line graphically drawn out with the mouse in proportion to the tag values associated.

- 3. Check the 'Enable' box.
- 4. Associate the VAR00002 tag previously inserted



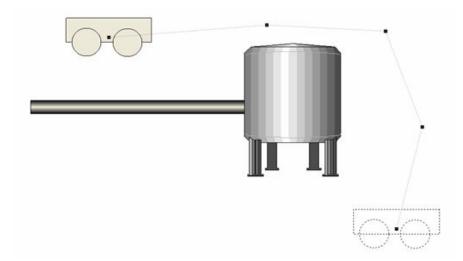
5. Confirm with

6. Close the property window and activate the mouse's right key commands from the selected symbol. Select the 'Edit Composed Movement' item.

7. Drag the symbol's shape to the end point, i.e. to the right hand side of the tank.

8. To insert the intermediate points of the path, double-click with the mouse on the line and drag it to the intermediate point desired and continue like this **until the trajectory line is complete**.

9. Press the **ESC** key when finished. You should get this result as shown below:

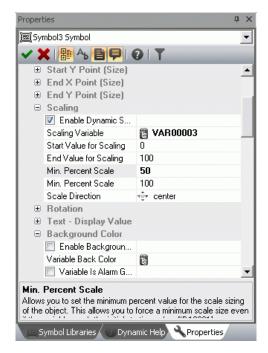


10. Select the **Scaling** box from the Animations properties group to activate the relating settings window.

11. Associate the VAR00002 tag previously inserted.

12. Enter the 50-100 values as scale Percentage, so that the symbol remains visible at 50% of its scale as minimum value.

13. Select the direction of the scaled re-sizing (leave the default selection).



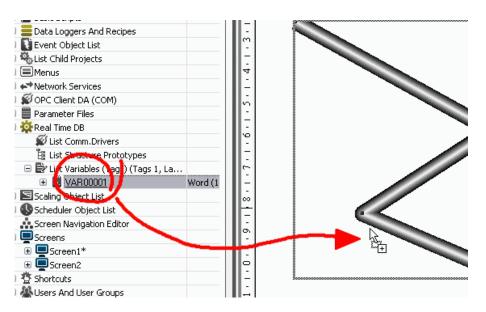
Confirm with



When you **Run the project**, changing the real-time value of Tag VAR0002, you will see the movement through the path of the symbol. The size (scaling) of the object will change consequently.

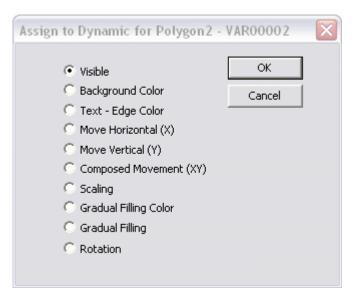


TIP: Variables can be associated to objects by directly dragging them from the RealTimeDB resource and dropping them on the objects on screen.



When you select a variable from the variable list and drag and drop it on an object in the screen, a window will display

allowing you to select which animations to associate to that variable.



However, the threshold color settings remain at the user's discretion.

5.4. How to execute commands from Objects

Execution commands can be assigned to objects in the screen's user interface, in function with their characteristics.

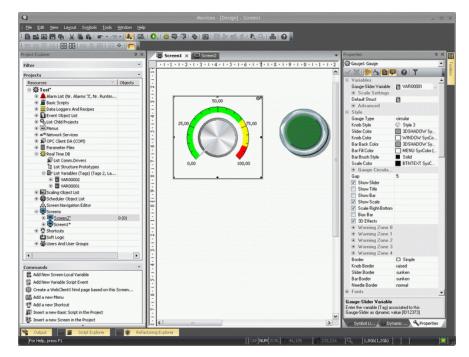
We will follow up the chapter reported above regarding graphic animation to complete the argument by explaining the techniques used for assigning execution commands to object.

In our case we shall use a 'Button' object and a 'Gauge' object, which are needed to produce the animation which we configured previously.

1. Activate the screen where the graphic symbols, described above, are inserted.

2. Take a 'Gauge' from the ToolBox's "Sliders-Gauges-Meters" category and insert it in the screen.

3. Take a 'Green Button' from the ToolBox's 'Buttons-Lights-Switches' category and insert it in the screen.



5.5. Assigning Tag's value from Objects

Example Using Button Objects

Let's proceed with configuring the **button** which we will use for acting on the variable used for managing the rectangle's (tube) color animation.

1. Double-click or use the other technique to display the inserted Green Button's Properties.

2. Select the **Execution** group from the properties window and then the **'ON-OFF' Mechanic Style**. Select the VAR00001 tag previously inserted. By using this characteristic the button will toggle the Tag, by setting it with the '0' and '1' values. The tag can also be interacted on by using the command selection as we will show you up ahead.

Properties	ų ×
ab Button2 Button	•
X X B A E P Q	
Execution	-
Variable ON-OFF.	🙀 VAR00001
Command Type	ON-OFF
Commands On Release	4
Commands On Pressed	4
Advanced	
🗉 Style	
🔽 Clickable	
Border	Simple
Style	💿 green light button
Background Attributes	
Image Button Released	
Image Button Pressed	
Image Button Checked	
Brush Style	🗆 Null
Back Color	3DFACE SysColor (e0df
Gradient Type	None
Gradient Color	(ffffff)
Filling Color	WINDOW SysColor (ffffff)
Static Image	
📄 🔲 Stretch Image	•
Variable ON-OFF. Enter the cheking variable if ON-C pushbutton. You can also drag the)FF style is selected for the e variable on this control. [ID12457]
Symbol Libraries Oynam	ic Help 🔧 Properties

3. Confirm with *.

Example Using Gauge Objects

Now we shall configure the gauge which we use to interact on the tag to manage the created symbol's animated movement.

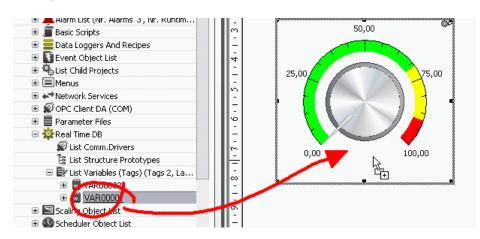
1. Double click or use the other technique to display the inserted gauge's Properties Window.

2. Select the Variable group from the properties window and then select the **Gauge-Slider Variable** item. Select the VAR0002 tag previously inserted. In this way the gauge will interact directly on the VAR00002 tag. The gauge object is totally configurable, by using the numerous properties provided. It is only necessary to do the configuration as indicated for our example. The other properties can be referred to in the Programmer's manual.

Properties				д	×
Gauge1 Gauge					•
× 🗶 📳 🗛	690	1	T		-
Variables					
Gauge-Slider∨ ⊕ Scale Set		E	VAR00001		
Default Struct		E			
Advanced	1				
🗉 Style					
Gauge Type		cire	cular		
Knob Style		Ø	Style 3		
Slider Color			3DSHADOW SysColor (
Knob Color			WINDOW SysColor (ffffff	<u> </u>	
Bar Back Color			3DSHADOW SysColor (
Bar Fill Color			MENU SysColor (ffffff)		
Bar Brush Style			Solid		
Scale Color			BTNTEXT SysColor (00		
🕀 Gauge Cir	rcular Setti				
Gap		5			
🔽 Show Slider	r				
Show Title					
Show Bar					
Show Scale	-				
🔽 Scale Right	t-Bottom			_	•
Gauge-Slider Va Enter the variable value [ID12373]		to	this Gauge-Slider as dynai	nic	
Symbol Librari	ies	: He	p		

3. Confirm with

TIP: you can also drag the Tag from the project RealTimeDB resource directly to the object on the screen, to simply assign the variable.



If you select a variable from the variable list and drag it on top of an object on screen, it will automatically be inserted in the command object's Tag property.

5.6. Assigning executing commands to Objects

Different types of commands can be assigned to any command object (Buttons, Menu, Accelerators) and command lists can also be created. The commands can be activated by selecting the "Command Type" on the Execution Properties as "Execute Command", then defining the command type by selection the "Command on Release" or Command on Pressed.

The button's execution properties are:

Pro	perties	Ф Х
ab	Button2 Button	•
~	X 🔡 🐴 🖹 📮 🛛 🖓	T
	Execution	
	Variable ON-OFF.	🙀 VAR00001
	Command Type	Execute Commands 🔹
	Commands On Release	7
	Commands On Pressed	4
	Advanced	
3	Style	
	🔽 Clickable	
	Border	🗆 Simple
	Style	🔍 green light button
3	Background Attributes	
	Image Button Released	
	Image Button Pressed	
	Image Button Checked	
	Brush Style	🗆 Null
	Back Color	3DFACE SysColor (e0df
	Gradient Type	None
	Gradient Color	(ffffff)
	Filling Color	WINDOW SysColor (ffffff)
	Static Image	
	Stretch Image	-
C٢	ommand Type loose the Command type that the echanic style) [[D13204]	e button have to execute
1	= Symbol Libraries	ic Help 🔧 Properties

When activating the '**Commands'** selection from the Execution properties you can edit the command list to be associated to the object by using the '**Add New Command**' button in the **Command List** window.

Command List	
	New Command
	Edit
	Remove
	Tip : Commands are executed in the list order.
	Drag and drop items in the list to change the execution order
	ОК
	Cancel
	?

The 'Add New Command' button opens the settings window of the operating commands to be assigned to the object. Each configured command will be added to the Command List which the object will execute.

Property	Value
Variable	🔋 VAR00001
Action	Set
Move To Variable	
Value	1
Strobe Time (ms)	0
Max.Value	100.0
Min.Value	0.0
Max.Chars	0

There are commands in Tags (Set, Reset, Toggle, Strobe, Increase, Decrease, Virtual Keyboard...) or on Screen windows (with the various opening modalities).



Please refer the manual for further details on all the command operations which can be assigned to objects.

5.7. Start Runtime

At this point, with the objects configured we can run the project to verify its Runtime behaviour.

1. Press the **D** button or use the Start Project command from the File menu (or ALT+F12).

2. Movicon will ask you to save the project. Save the project using the classic Windows techniques.

3. After having saved the project on file, it will be executed in run mode where you can operate the objects to see if they work.

4. To return to Programming mode, use the ALT+F12 keys or the **D** button from the bar.

Note: (you can customize system menus by inserting all the commands desired as well as for the Movicon or Windows shutdown from the project in Runtime mode).

6.1. How to Manage Alarms

In this brief lesson we will quickly see how to activate, display and record alarms in Movicon projects.

We shall continue with our example from where we left off with a few Tags and a pair of screens already predisposed in our project.



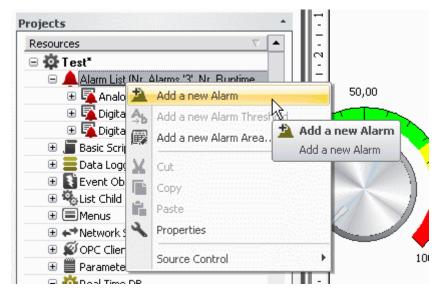
Note: The alarms are objects from the project. Each alarm has their own General properties where they are assigned names and associated to tags in cases when not used as templates. Alarms used as templates will be dealt with further on.

Each alarm is built with at least one threshold, whose value and condition determine the activation of the alarm with an associated text.

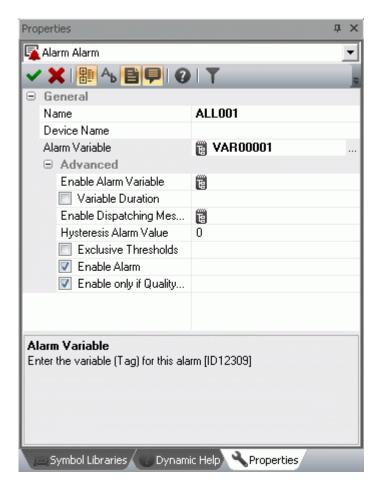
6.2. Inserting Alarm Objects

1. Select the 'Alarm List' Resource from the project window which in turn will show the relative commands in the command Pane at the bottom.

2. Use the "Add a new Alarm" command from the Command Pane or with the right mouse key. A new alarm object will be created in the project and can be renamed as pleased.



Activate the alarm object's properties window to assign the desired name, i.e. ALL001, then the Tag from the project by selecting it from those inserted in the project's Real-Time DB. In our example, the object's properties are those indicated in the figure below:



Important: if the 'Quality Good Only' is left checked the alarm will be activated only when the RealTime DB assigns the tag with a certain value. For instance, in cases where a Tag connected to a driver or in network, becomes disconnected the value turns to 'uncertain' and therefore the alarm will not appear. If in doubt, uncheck this option for a test run.

3. After having entered the Alarm object, you can enter at least one **activation threshold**. Therefore, select the alarm from the project Window and use the '**Add a new Alarm Threshold**' from the Commands Pane or use the right mouse key.

Project Explorer	д	×					
Filter	•						
Projects	-						
Resources	*						
🖃 🔯 Test*							
📃 🖃 🔔 Alarm List (Nr. Alarms '4', Nr. Runtim							
🖃 🕎 ALLOO1							
Threshold							
🕀 💁 Analog Alarm							
🕀 🔁 Digital Alarm							
🕀 🖼 Digital Message							
	🕀 📠 Basic Scripts						
🕀 🜉 Data Loggers And Recipes							
Event Object List							
🕀 🎭 List Child Projects							
Menus							
E 🖉 OPC Client DA (COM)							
Parameter Files	•						
Commands							
🔔 Add a new Alarm Threshold		1					
🐴 Add a new Alarm							
↓		-					

4. By doing this the alarm will show one intervention threshold which we will configure through its properties.

5. We will configure the alarm's activation on the value desired in the threshold properties Window.

6. Go to the 'General' properties group to assign the **'Title'** being the text which will be associated to the alarm. The title can be typed directly in the property box or, as a good rule, can reside in the project's **'String Table'** and there may be subject to language change.



Note: when using the string table, you need to select the project name from the project resource window and use the 'Edit String Table' command from the Command Pane (or using the command made available for use with a right mouse click). Then insert the columns (each column is a text language) and then proceed with inserting the texts which will then be made available all over the project

7. We then have to assign the threshold value in the 'Value' box in the 'Execution' property group. You can also use a 'dynamic' threshold value, where the alarm activation value derives from the contents of another tag. Leave the default activation >= (more than or equal to).

8. The Style and Notification Event properties are of no interest to us for the time being and therefore we will leave those for default.

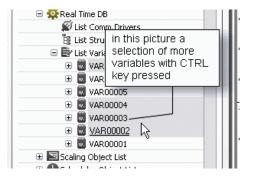
• The alarm is historically logged in the file for default and can be traced or reset as well as other characteristics to be referred to in the Programmer's Manual.

Properties	ф ×				
🌠 Threshold Threshold 🔹 🔻					
X X 🔡 A 皆 🗭 0	T				
🗉 General	•				
Threshold Name	Threshold				
Alarm Area					
Alarm Text					
Alarm Help					
Advanced					
Duration Message Format					
Read Access Area Level	FFFF				
Write Access Area Level	FFFF				
Execution					
Activation Value	0				
Activation Condition	major-equal				
Severity	1				
Delay (sec.)	0				
Advanced					
Alarm Threshold Variable	E .				
Commands on CTRL+ d	7 7 7 7				
Commands when Alarm	7				
Commands when Alarm	7				
Commands when Alarm	7				
Commands when Alarm	7				
⊡ Style					
🔽 Support ACK					
Support RESET					
Allow RESET with Condi					
🔽 Blink					
🔽 Print	_				
🔽 Record on Historical Log					
🔽 Beep					
TextColor	Automatic				
Advanced	•				
Advanced					

The alarm and its activation threshold are now configured. You need to consider that each alarm may have different activation thresholds and if the associated variable is not bit type, but Word type for instance, the alarm is consider to be analog type.

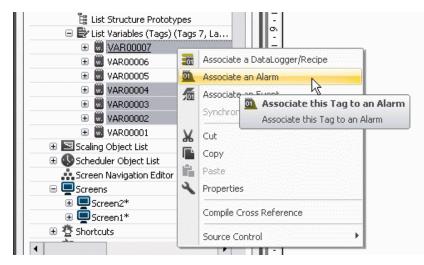
This procedure permits one alarm to be created, with different threshold if need be, for each variable. However, there is another way that allows you to set alarms as "Templates". In order to do this you need to set the alarm as described above, but without specifying the name of the associated variable.

This will make the alarm generic and associated to more than one variable at the same time. If you set more than one variable the List Variables, they can be selected at the same time by pressing the SHIFT or CTRL key.



48

Once you have selected the variables, you can associate an alarm using the "Associate an alarm" command from the command pane at the bottom or using the right mouse key to get to it.



This command allows user to select the alarm from the previously defined alarm list.

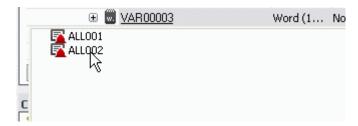


Note: It is always best to differentiate the type of alarm you intend to use, therefore when that alarm is used as template with multiple variable associations, you should make sure that the alarm has not been set with a variable in its "Alarm Variable" property.

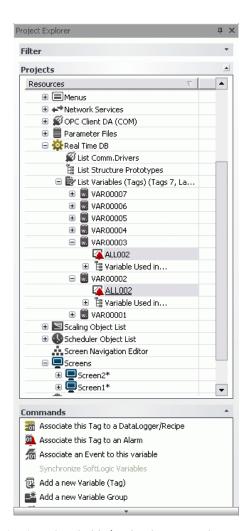
We will now define a new alarm called ALL002 without associated it with a variable (Tag).

Resources 🗸 🗸	Device	Variable	Enable Variable	Exclusive	-
∃ 🛱 Test*					
😑 🔔 Alarm List (Nr. Alarms '2', Nr. Runtim					
🕀 🏹 ALLOO1	-	VAR00001	-	No	
□ <u>ALL002</u>	-	-	-	No	
Threshold					
🕀 🚛 Basic Scripts					
🕀 💳 Data Longers And Peripes					

We shall then add one variable named VAR0003 to the list of variables as described previously. Now we can select both the VAR0002 and VAR00003 variables from the list using the CTRL key technique and call the "Associate an Alarm" command with the right mouse key.



We shall go ahead and choose the ALL002 alarm. We will then see listed the single alarms associated to the two variables. In this case the alarms will behave exactly in the same way as the ALL001 alarm does, simply knowing that the VAR00002 and VAR00003 variables have identical alarm thresholds, even though logged individually for each variable.



The alarm and its activation threshold (each alarm can have a number of activation thresholds) have now been configured.

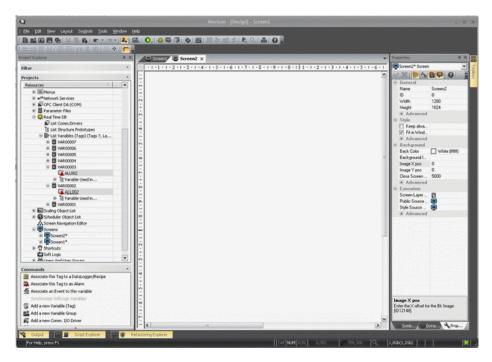
We can now move on to how to view active alarms and those historically recorded on file.

6.3. Displaying Alarms

The active alarms, setup in the project's Alarm List resource, can be displayed in purposemade object viewers which can be inserted on the screen.

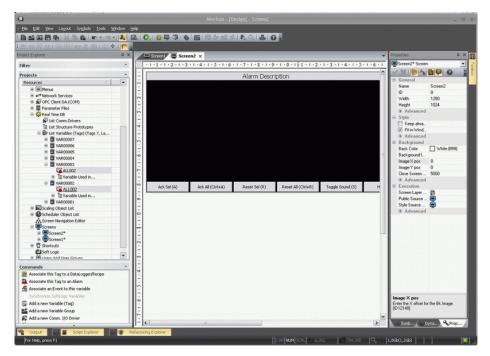
We need the use of a screen. In our example project we have setup two screens, 'Screen1' and 'Screen2' where Screen1 has already been used for the graphic examples. Therefore we are left with Screen2 for this example.

1. Double-click on 'Screen2', in the Screens folder from the project Window, to open it in edit mode.



2. Activate the Toolbox and take out an 'Alarm Window' object from the 'Advanced Shapes' category.

3. Click on a point on the screen's top left, then drag the selection to insert the 'Alarms Window' object in the size desired.



4. Double-click to activate the 'Alarm Window' object property. The **Style** property permits you to fully configure the Alarm Viewer object. The **Background** property permits you to assign the background colour desired for the alarm's window. The **Font** property permits you to choose its characteristics as desired. The numerous properties, described in the Programmer's Manual, permit you to manage the viewing of alarms according to any applied necessities. In our case, for simplicity, we will leave all the default settings as they.

Alarm Window1 Alarm Window	
E Style	
Border	🗖 sunken
Auto Column Layout	
Show Control Window	
Ack Sel Button	
Ack All Button	
Reset Sel Button	
Reset All Button	
V Toggle Sound Button	
Help Button	
Get History Button	
Advanced	
Clickable	
View Expanded List	
Button Size	small
Align Buttons	bottom
Ack Sel Button Text	
Ack All Button Text	
Reset Sel Button Text	
Reset All Button Text	
Toggle Sound Button Text	
Help Button Text	
Get History Button Text	
Description Column Name	
Alarm On Column Name	
Alarm Ack Column Name	
Alarm Off Column Name	
Alarm Reset Column Name	
Alarm Duration Column N	
Alarm Total Time ON Col	
Alarm Severity Column N	
Alarm Status Column Name	
Alarm Condition Column	
Alarm Image Column Name	
Time Format	-
Advanced	



You can modify, add or take away the columns describing the alarms in the Alarms Viewer by using the appropriate tools, which are displayed with the "Shift + Double-click' in the same window.

		······································		20000
 Alarm Description 	ר	Time ON	Duration	
	Field	Choice 🔽		
	Tin	ne ACK		
	Tin	ne OFF		
	Tin	ne RESET		
	Sta	atus		
	Ima	age		
	То	tal Time ON		
Ack All (Ctrl+A)	Reset Sel I		Toggle Sound (S)	
***************************************		π		>>>>>

6.4. Displaying Alarm History

All the alarms are historically logged for default. The recording modalities and the Historical Log archives management can be customized through the Historical Log properties which is accessed by selecting the project name from the tree structure and then using the properties Window.

To display the historical data of the alarms, you need to proceed as described above for the Alarms Viewers.

Apart from the Alarm Viewers you will also find the Historical Log Viewer in the ToolBox. Carry out the same procedures for inserting the Historical Log as described above for the Alarms Viewer.

Keep in mind that the Historical Log window displays system messages for default only and not alarm messages. In order to display alarm messages in our project we will have to set the Log Window's 'Filter Event Type' property to the "All" or "Alarm Messages" value.

								the state of the s		
je Edit View Layout Symbols Iools Wir	dow	Help								
	2.1			3 54 m2 x	IEQ BI					
	_									
ject Explorer	0 X		Screen2 ×						· Properties	0
		-								and the second second second
lter			1 • 1 • 2 • 1 • 3 • 1 • 4 • 1	1 - 5 - 1 - 6 -	1 . 7 . 1 . 8 . 1 . 9		2 • 1 • 3 • 1 • 4	4 - 1 - 5 - 1 - 6 -	the second secon	
ojects		1 -	20 CH BARRESSEE		Alarm Descr	intion				BPIO
Resources 🗸		i i			r ndr m b cool	ipoor i			General	
	1.5								Name	Screen2
		à							ID	0
OPC Client DA (COM)									Width	1280
🛞 📕 Parameter Files									Height	1024
Real Time DB		~ ~							Advance	b
List Comm.Drivers									B Style	
List Structure Prototypes	m	4							Keep alwa	
Er List Variables (Tags) (Tags 7, La		2 - 1 -							☑ Fit in Wind	
WAR00007									Advance	
									Background	
		.1.6.1.							Back Color Background I.	White (IIIIII)
		·•								0
😑 🗒 VAR00003									Image X pos Image Y pos	0
ALL002		c.							Close Screen	
Te Variable Used in									Advance	
R VAR00002		00	11010	(244)	D	Down all (controls)	Tool Co.	-1(0)	Execution	10
ALL002		1 ÷	Ack Sel (A) Ack Al	I (Ctrl+A)	Reset Sel (R)	Reset All (Ctrl+R)	Toggle Sou	nd (S) F	Screen Layer	-
W Tariable Used in		à	and the first second			a kana tana hara tana ta			Public Source	
WAR00001		i.		Event Text	t	Event	Time I	User De	Style Source .	
Scaling Object List		0							Advance	
Scheduler Object List		0							& Auvance	
Screen Navigation Editor										
Screens						N				
Screen2*						R			-	
Screen1*		5.1								
⊕									100000000	
C Soft Logic	-									
· Milvare And Ilvar Groune		r.								
nmands	-	4								
Associate this Tag to a DataLogger/Recipe										
Associate this Tag to an Alarm										
Associate an Event to this variable										
Synchronize SoftLogic Variables									1	
Add a new Variable (Tag)		0	Refresh (F5)	interneting (Filter	(F2)		Print (P)	Image X pos Enter the X offset	for the Rk Image
		1-1	(Martenard, 5)		1.000				[ID12148]	TO USE OK IMAGE
Add a new Variable Group									v	
Add a new Comm. I/O Driver								>		Dyna Prop.
		P		Contraction of the local division of the loc	Contraction of the local division of the loc				Canal - Street of the	Prop.

All we have to now is verify what we have done. For this we need the following function in the project, considering all that has been realized up to this point:

- 1. A command for alarm simulation on the alarms page.
- 2. The change page commands.

6.5. Create a Simulation

We shall find room in the Alarms screen window to insert a command object which will interact on the VAR00001 tag associated to the alarms.

1. Open 'Screen2' from the project window. Arrange the viewer objects so that the is enough space left for inserting the other objects (i.e. on the bottom border).

2. Insert a **'selector'** object from the Toolbox and position it on the bottom border. Activate its properties and assigned the VAR00001 tag in the Execution properties.

Y	※ 鄙 * 日 早 (9 T
	Execution	•
	Variable ON-OFF.	🔞 VAR00003
	Command Type	ON-OFF
	Commands On Release	#
	Commands On Pressed	7
	Advanced	
	Style	
	📝 Clickable	
	Border	Simple
	Style	🧶 selector B
Ξ	Background Attributes	

The selector object will interact on the VAR00001 tag, which we have already assigned to the Alarm object.

The same can be done with the remaining VAR00002 and VAR00003. Therefore we shall insert another two selectors and assign one with the VAR00002 variable and the other with the VAR00003 variable.

3. Insert another new **'button'** object, again from the Toolbox, as before. Position it on the bottom border at the side of the selector. Activate its properties and assign the opening of 'Screen1' in the Execution properties. This button will then permit us to execute a page change to return back to the first page.

Property	Value
Screen	🔲 🛄 Screen1 👘 🗸 🔺
Action	Open normal (screen change)
Monitor	0
Parameter file	
X Position	100
Y Position	100
Width	0
Height	0
🔽 Caption	
🔽 Border	
Resize border	
🔲 System Menu	_
Maximized Box	
Minimized Box	
Border Resize border System Menu Maximized Box	

4. Now we can insert the same object into 'Screen1', the startup screen, so that we can dispose the open Alarms page command. The button object's 'Cut & Paste' can also be used to dispose it on another screen after which its properties can be modified.

Executing Runtime

We now have the necessary items arranged in our example project to test run it:

- Screen1: graphic simulation screen, with command and graphic animation objects. The appropriate button is used for accessing Screen2.
- Screen2: Alarms simulation screen, with the alarms activation and viewer objects.

At this point, we are all set for executing a test run of the project to verify its behaviour during Runtime.

1. press the \swarrow button or use the Start Project command from the File menu (or ALT+F12).

2. Movicon will ask you to execute a project save. Execute the save according to the usual Windows' techniques.

3. After having saved the project file, it will be put into run mode letting you try out the objects to see if they work.

4. To return to Programming mode use the ALT+F12 keys or the \blacksquare button from the bar.



Note: (you can customize a system menu by inserting all the commands desired, including the ones for shutting down Movicon or Windows from the project in Runtime mode). Please refer to the Programming manual for further details.

Alarm Description	Status	Time ON	Duration	Severity	Condition
Air Vacuum	ON	12/03/20		1000	ON
VAR00002 - Threshold		12/03/20		2010 C 1000 C 1000	ON
VAR00003 - Threshold	ON	12/03/20		1	ON
(() Ack All (Ctrl+A)	13 Decessor (D) Reset All (CL	trl+R) Toggle Sound	(5)	PC2(P)	Git Hatary (6)
Event Text	Event Time	User		Descr	ription
VAR00003 - Threshold	2008-03-12 15:20:48	- 20			eshold : VAR00
VAR00002 - Threshold	2008-03-12 15:20:48				eshold : VAR00
VAR00003 - Threshold	2008-03-12 15:20:42				eshold : VAROD
Air Vacuum	2008-03-12 15:20:45				hold : VAR00001
VAR00002 - Threshold	2008-03-12 15:20:41				eshold : VAR00
Air Vacuum	2008-03-12 15:20:42				hold : VAR00001
/AR00003 - Threshold	2008-03-12 15:17:15				eshold : VAR00
Threshold	2008-03-12 15:17:13				hold : VAR00001
VAR00002 - Threshold	2008-03-12 15:17:13				eshold : VAROD
Refresh (F5)	Filter (F	2)		Print (P)	
0001 VAR00002	VARODOO3				

The picture shows an example of our simulation.

In order to generate and delete alarms using the three selectors switches, you can get the alarm's history from Alarm Window as well. You can also analyse the alarm's history displayed in the Alarm Window from when it occurred using the "Get History (G)" command.

If we select an alarm occurrence and click on the "Get Hisotry (G)" command, a '+' symbol will appear at the side of the alarm in the window. This symbol is used for expanding the occurred alarm's history.

Movicon - [Run] - screen2 - [screen2]

	Alarm Description	Status	
Δ	Air Vacuum	ON	12
A	VAR00002 - Threshold	ON	12
🗆 🔺	VAR00003 - Threshold	ON	12
	N ALARM ON		20
•	ALARM ON		20
+	ALARM ON		20

You can also check alarm occurrences in the Historical Log window and any other following operations carried out to them.

Event Text	Event Time	User	Description	^
AR00003 - Threshold	2008-03-12 15:20:48		VAR00003 - Threshold : VAR0	
A VAR00002 - Threshold	2008-03-12 15:20:48		VAR00002 - Threshold : VAR0	
🛾 🛕 🛛 VAR00003 - Threshold	2008-03-12 15:20:42		VAR00003 - Threshold : VAR0	
VAR00003 - Threshold	2008-03-12 15:20:45		VAR00003 - Threshold : VAR0	
VAR00003 - Threshold	2008-03-12 15:20:44		VAR00003 - Threshold : VAR0	1
VAR00003 - Threshold	2008-03-12 15:20:43		VAR00003 - Threshold : VAR0	
🛕 🛛 Air Vacuum	2008-03-12 15:20:45		ALLOO1 - Threshold : VAROOOO1	
VAR00002 - Threshold	2008-03-12 15:20:41		VAR00002 - Threshold : VAR0	
🗋 🛕 🛛 Air Vacuum	2008-03-12 15:20:42		ALLOO1 - Threshold : VAR00001	
VAR00003 - Threshold	2008-03-12 15:17:15		VAR00003 - Threshold : VAR0	
Refresh (F5)	Filter (F		Print (P)	





MoviconTM is a trademark of Progea, related to the HMI/SCADA platform entirely developed and produced by Progea. © 2012 All Rights reserved.

No part of this document or of the program may be reproduced or transmitted in any form without the express written permission of Progea.

Information in this document is subject to change without notice and is not binding in any way for the company producing it.



Via S.Anna, 88/E 41100 Modena - Italy Tel. +39 059 451060 Fax +39 059 451061 Email:info@progea.com Http://www.progea.com



Progea International Ltd via Penate 16 6850 Mendrisio - Switzerland tel +41 (91) 9676610 fax +41 (91) 9676611 international@progea.com



Tecnocity Alto Milanese 20025 Legnano (MI) Italy Tel. +39 0331 486653 Fax +39 0331 455179 Email: willems@progea.com



Progea USA LLC 2800 East Enterprise Avenue Appleton, WI 54914 Tel. +1 (888) 305 2999 Fax. +1 (920) 257 4213 info@progea.us

progea

Progea Deutschland GmbH Marie-Curie-Str. 12 D-78048 VS-Villingen Tel: +49 (0) 7721 / 99 25 992 Fax: +49 (0) 7721 / 99 25 993 info@progea.de