

myDESIGNER

GETTING STARTED

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INTRODUCTION

myDESIGNER is a powerful software tool used for development and setting of mySCADA projects on supported devices – **myPANEL**, **myBOX**, **myPRO**.

mySCADA project is a collection of graphic visualizations – views, trends, alarms, data-logs and scripts.

Purpose of this manual

The aim of this tutorial is to give a quick guide to the basic myDESIGNER function. You will learn the most essential techniques for developing your own projects.

Getting help

For more information you can visit full online detailed myDESIGNER user manual from our website:
<https://www.myscada.org/mydesigner-manual/>

For technical support, please visit the **RESOURCES** section on our website, where you can find most of the necessary information – product information, video tutorials, other manuals.

If you do not find information you need, go to <https://www.myscada.org/submit-ticket> and submit a ticket. Our qualified personnel is ready to help you. For quick and effective communication, please send detailed information about the project.

myDESIGNER vs myDESIGNER Enterprise

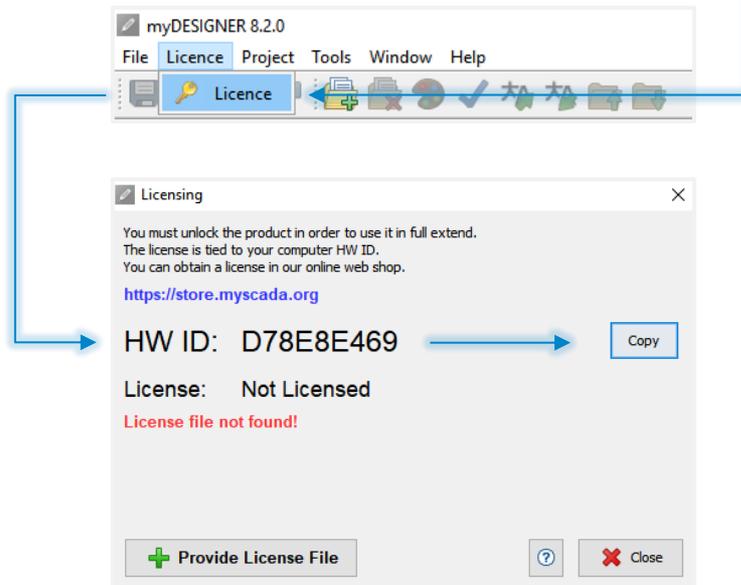
mySCADA offers 2 different types of myDESIGNER tool for project creation:

- The first one is usually used for small projects. It has a large scale of features and it is completely free to use. It is called **myDESIGNER**.
- The second option is used for middle to large projects that need more advanced features and functions. The complete list of differences between myDESIGNER and **myDESIGNER Enterprise** see in table here: www.myscada.org/mydesigner

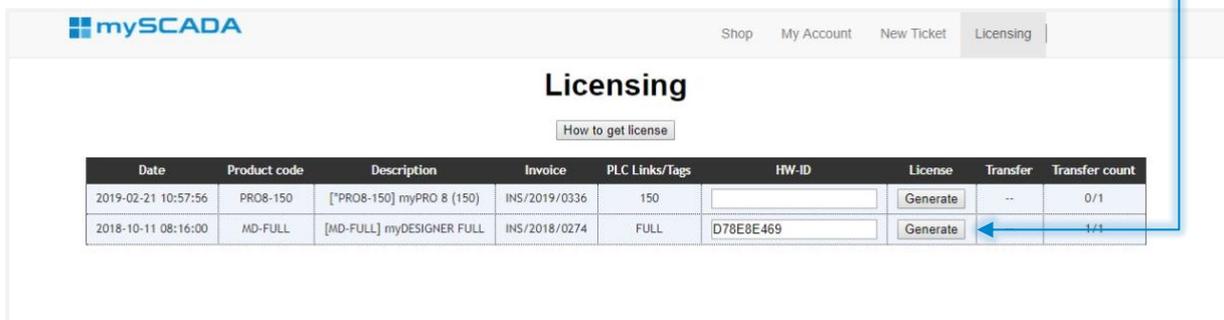
* The examples and diagrams in this manual are included solely for illustrative purposes. In no event will mySCADA Technologies s. r. o. be responsible or liable for indirect or consequential damages resulting from the use or application of this equipment. Reproduction of the contents in this manual, in whole or in part, without written permission of mySCADA Technologies s. r. o., is prohibited. mySCADA Technologies s. r. o. reserves the right to change this manual at any time without any notification.

HOW TO LICENSE MYDESIGNER ENTERPRISE

Once you purchase myDESIGNER Enterprise you will be able to see inside e-shop in your licensing tab free column, there you will put **myDESIGNER HW-ID** which you can find here:



Now you just simply **copy HW-ID of myDESIGNER** and put it into free column inside e-shop.



Then once you copy HW-ID into you press **“Generate”** which will head you into confirmation window.



If you are sure with the HW-ID you put into, then you press **“Generate”** which will generate you license then, you press **“download”** and it will download you license key file.

mySCADA Shop My Account New Ticket Licensing

Licensing

[How to get license](#)

Date	Product code	Description	Invoice	PLC Links/Tags	HW-ID	License	Transfer	Transfer count
2019-02-21 10:57:56	PRO8-150	[*PRO8-150] myPRO 8 (150)	INS/2019/0336	150		Generate	--	0/1
2018-10-11 08:16:00	MD-FULL	[MD-FULL] myDESIGNER FULL	INS/2018/0274	FULL	D78E8E469	Download	Transfer	1/1

D78E8E469.lic

Then we will head back to myDESIGNER and click **provide license file**.

myDESIGNER 8.2.0

File Licence Project Tools Window Help

Project

Select License File

Look in: Downloads

Skype
D3F178077.lic
D5C853CDB.lic
D78E8E469.lic

File name: D78E8E469.lic

Files of type: License

Licensing

You must unlock the product in order to use it in full extend
The license is tied to your computer HW ID.
You can obtain a license in our online web shop.
<https://store.myscada.org>

HW ID: D78E8E469

License: Not Licensed

License file not found!

Provide License File

Then once we add license we will **need to close and open back again myDESIGNER to get our license applied**. Then we can check out again license tab if the license is applied correctly.

Licensing

HW ID: D78E8E469

License: Licensed

Version: 8

Issued: 11/10/2018

Expires: Never

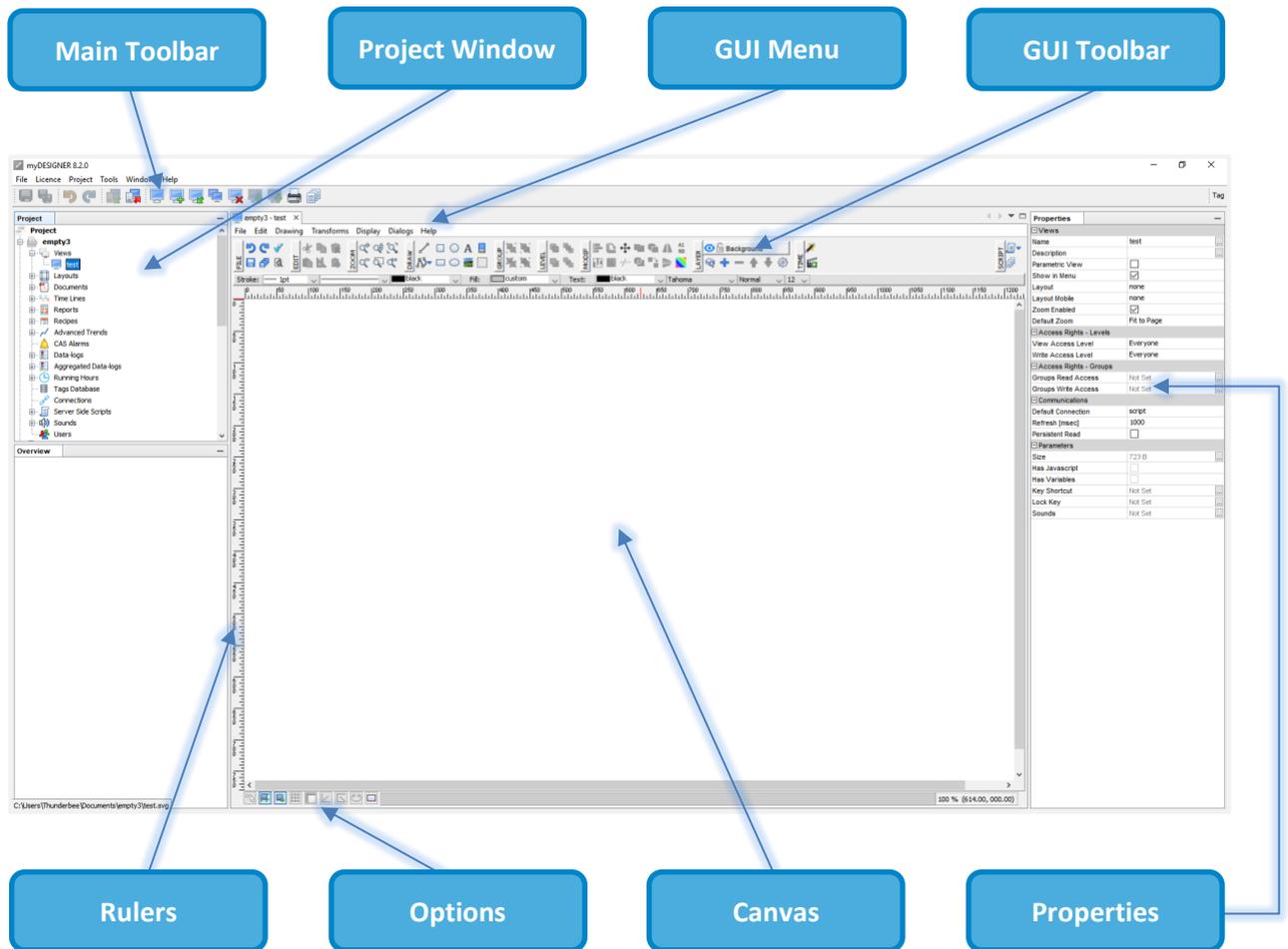
Provide License File

Close

Now we have access to key features of myDESIGNER Enterprise.

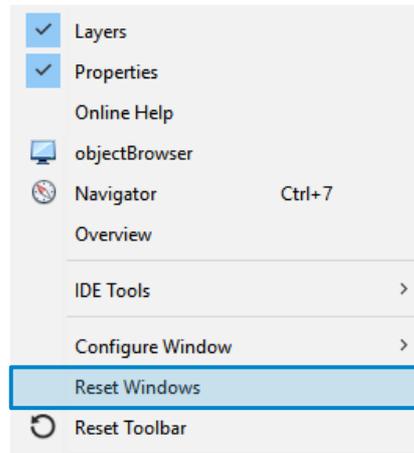
GETTING TO KNOW YOUR WORKSPACE

Workspace

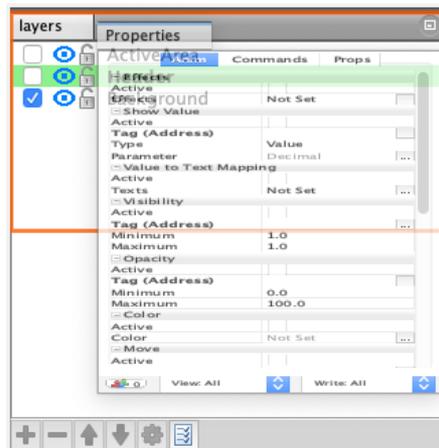


Managing Your Workspace – Windows

All windows in myDESIGNER are organized into panes. You can move the windows arbitrarily as the designer remembers positions of both automatically and manually closed windows until the next time opening. You can undock the windows out of your workspace by dragging out, and dock them back with the **Alt+Shift+D** key combination. If you wish to put all the windows into their default state, use the Reset Windows command from the menu Window > Reset Windows.



Moving windows: Click on the window header and drag the window into the desired position, the orange preview box indicates where the window will appear once you drop it.



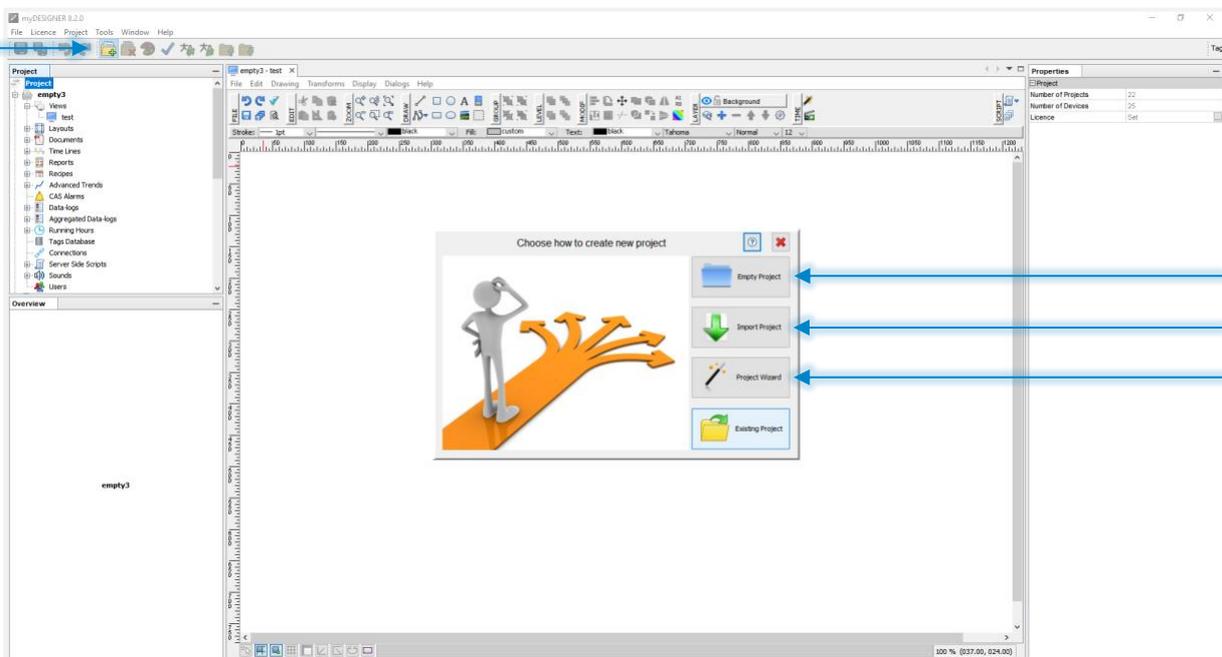
Shortcuts:

- **SHIFT+ESCAPE** - Maximizes currently used windows
- **CTRL (CMD)+SHIFT+W** - Closes all open documents in the source editor
- **ALT+SHIFT+D** - Pins all detached window to the main window

Creating a new project

Start using myDESIGNER with importing or creating a new project:

- Click on the **New Project** icon in the main toolbar or use the Project > Projects > New Project command.
- Select **Empty Project** or **Project Wizard** - this feature helps you create a functional base of your new project step-by-step. It will create PLC connections, set up a simple screen with animations and pre-configure alarms and data logging for you.
- With **Import Project** you can import projects from the MEP file - all exported projects from myDESIGNER use this suffix, select the directory where data from of an imported project should be located and press **next**.

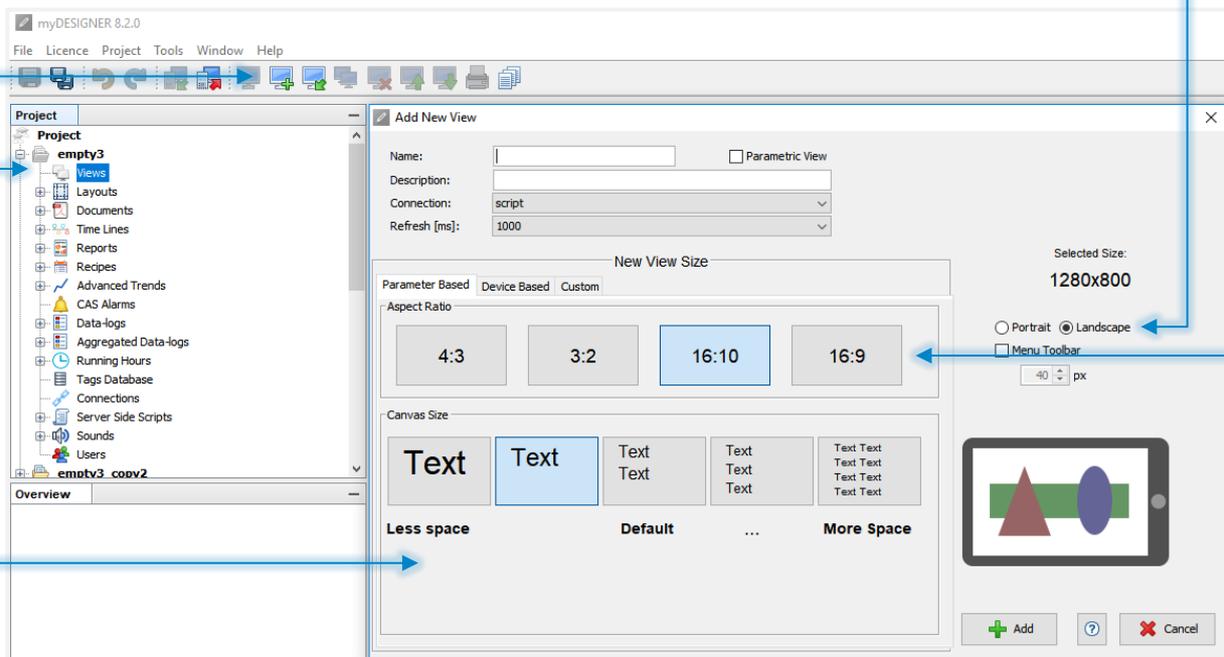


Watch video describing this functionality: <https://www.youtube.com/watch?v=IpxeE13Hyzi>

Views

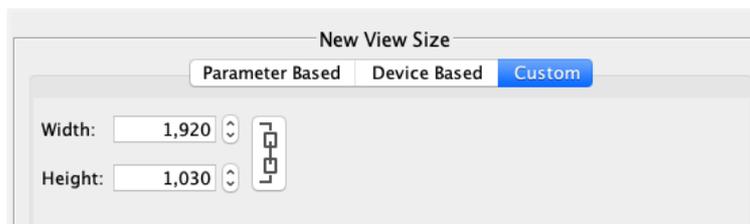
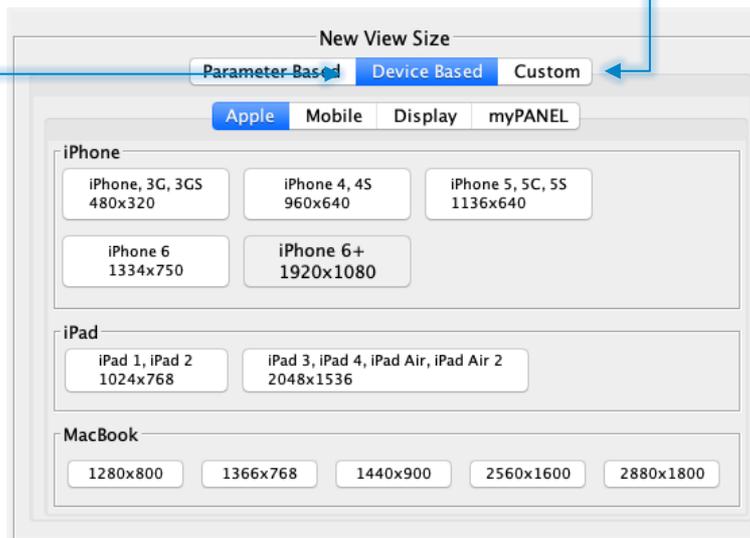
You can design own rich graphic visualizations with an integrated graphic editor.

- Select Views from the Project Window tree structure.
- Click on the **Add View** icon in the main toolbar and enter the view name and description.
- myDESIGNER uses vector graphics so you do not have to care about the final graphic resolution, however, the views should be designed with respect to the aspect ratio of your device.
- Select the size of the drawing canvas, depending on the final amount of the graphic elements you wish to display.
- Set the screen layout - Portrait (vertical) or Landscape (horizontal).



myDESIGNER contains a built-in database of default screen sizes of the most frequently used devices from Apple and other manufacturers.

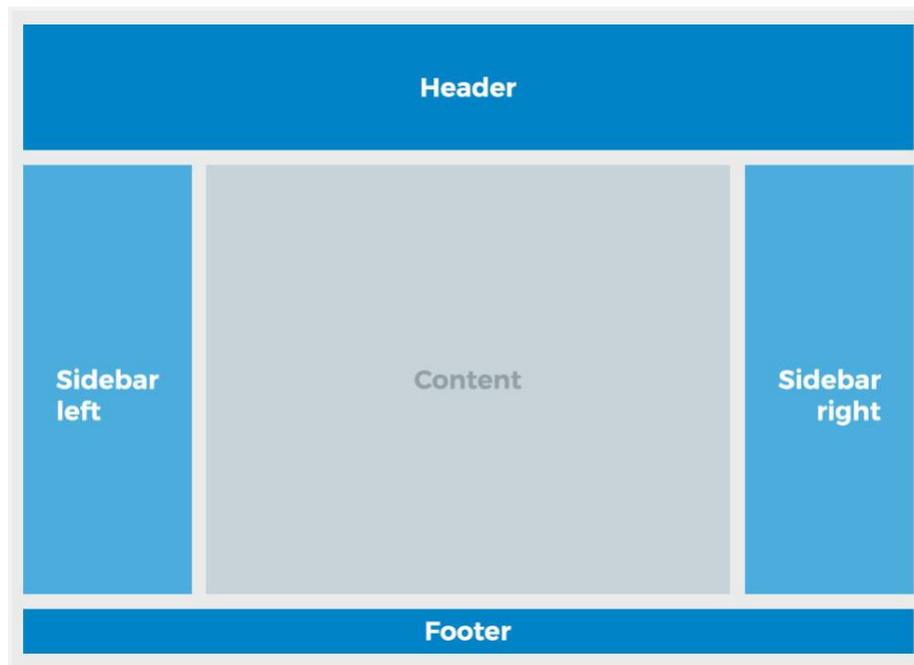
- Click on the Device Base tab and select the type and version of your device.
- You can also choose your own resolution in the tab Custom.



Watch video describing this functionality: <https://www.youtube.com/watch?v=HtLLUt3O5dc>

Layout & Layout views

The page layout defines the content arrangement and style on the page. With myDESIGNER you can create multiple user-defined layouts. Each view you create can use a different layout.



Header

Top section used for displaying a logo, name, logged user, main menu etc..

Main Content

Section displaying your views, it sits prominently in the middle of the page.

Sidebar Left / Right

Columns on both sides of the main content section used for displaying additional menus, pictures, etc., or they can be used for control buttons or gauges.

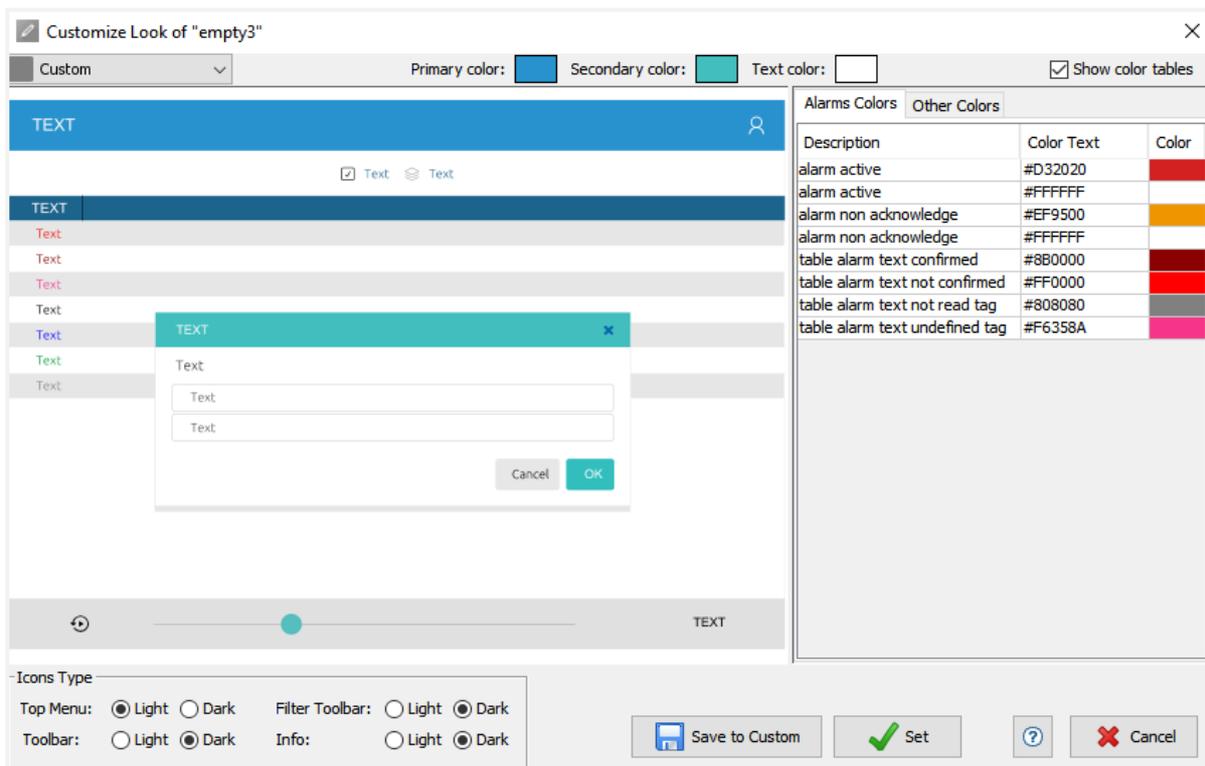
Footer

Bar spanning across the page bottom.

Watch video describing this functionality: <https://www.youtube.com/watch?v=sVvFPCMYUZ8&t>

Project Visual Appearance

mySCADA is a very flexible tool that allows you to freely modify visual appearance of your project in runtime environment. You can freely change the **fonts, colors, and icons** to fit your company visual guidelines. For visual appearance set up, click on your project and then click on Color palette icon in Main Toolbar.



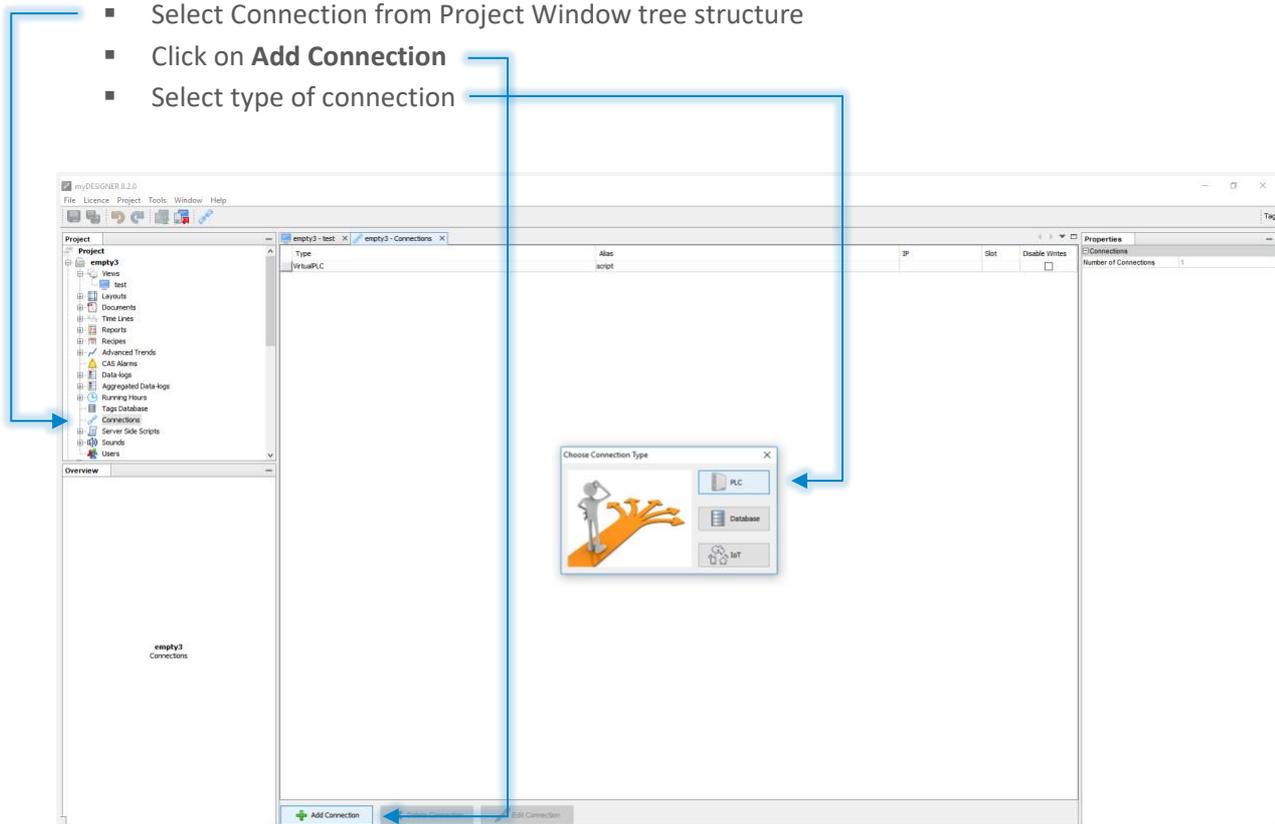
Watch video describing this functionality: <https://www.youtube.com/watch?v=So78T1730KY>

CONNECTING TO YOUR TECHNOLOGY

Creating PLC / Database / IoT connections

mySCADA system has all necessary built-in communication drivers to access **PLCs**, **Databases** and **IoT**. It is therefore very easy to add and communicate with a new PLC, Database or IoT - you do not have to configure all parameters for communication with drivers.

- Select Connection from Project Window tree structure
- Click on **Add Connection**
- Select type of connection



Watch videos describing this functionality:

Siemens connection: <https://www.youtube.com/watch?v=x6yYEtGGewe&t>

Modbus connection: <https://www.youtube.com/watch?v=t6yNtWprJBg>

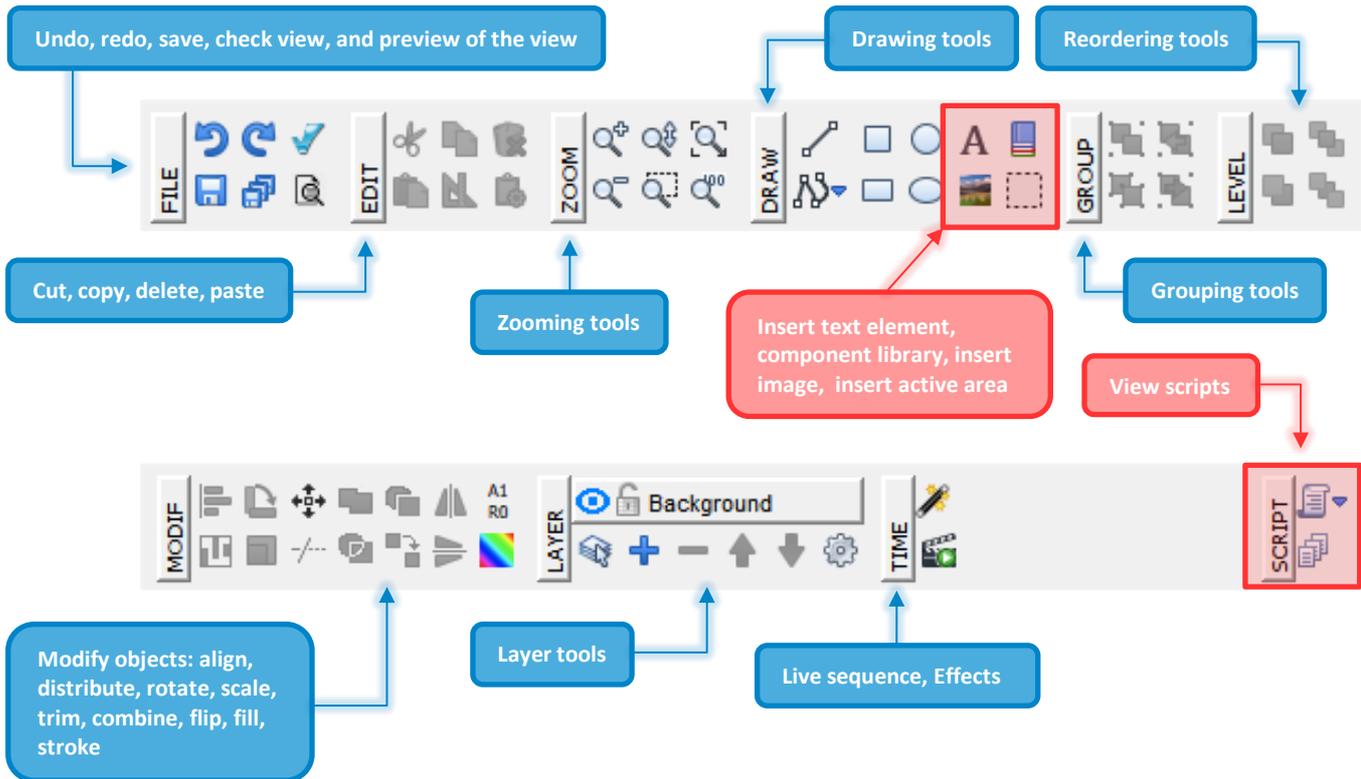
Ethernet IP connection: <https://www.youtube.com/watch?v=DOO4PUc1l9g>

OPC UA connection: <https://www.youtube.com/watch?v=fAc2utmVXtA>

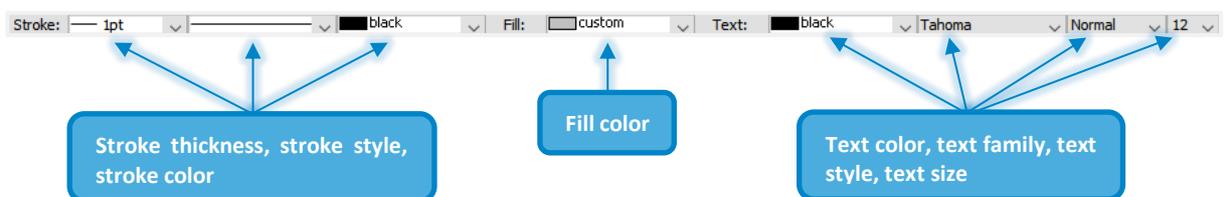
CREATING GRAPHICS

GUI Toolbar

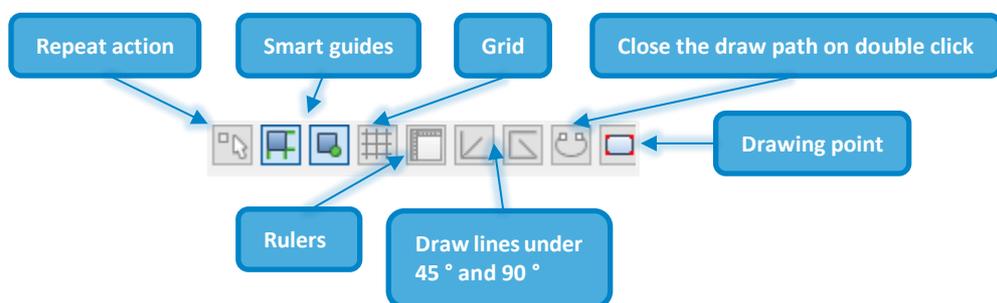
The GUI Toolbar is the secondary bar located in the upper part of your window, where you can find all necessary functions for designing and animating the views.



The properties bar is located rough below the GUI toolbar. If there is no object selected you can specify the default properties for new objects to be created. If you click on an existing object you will see its current properties that you can modify.

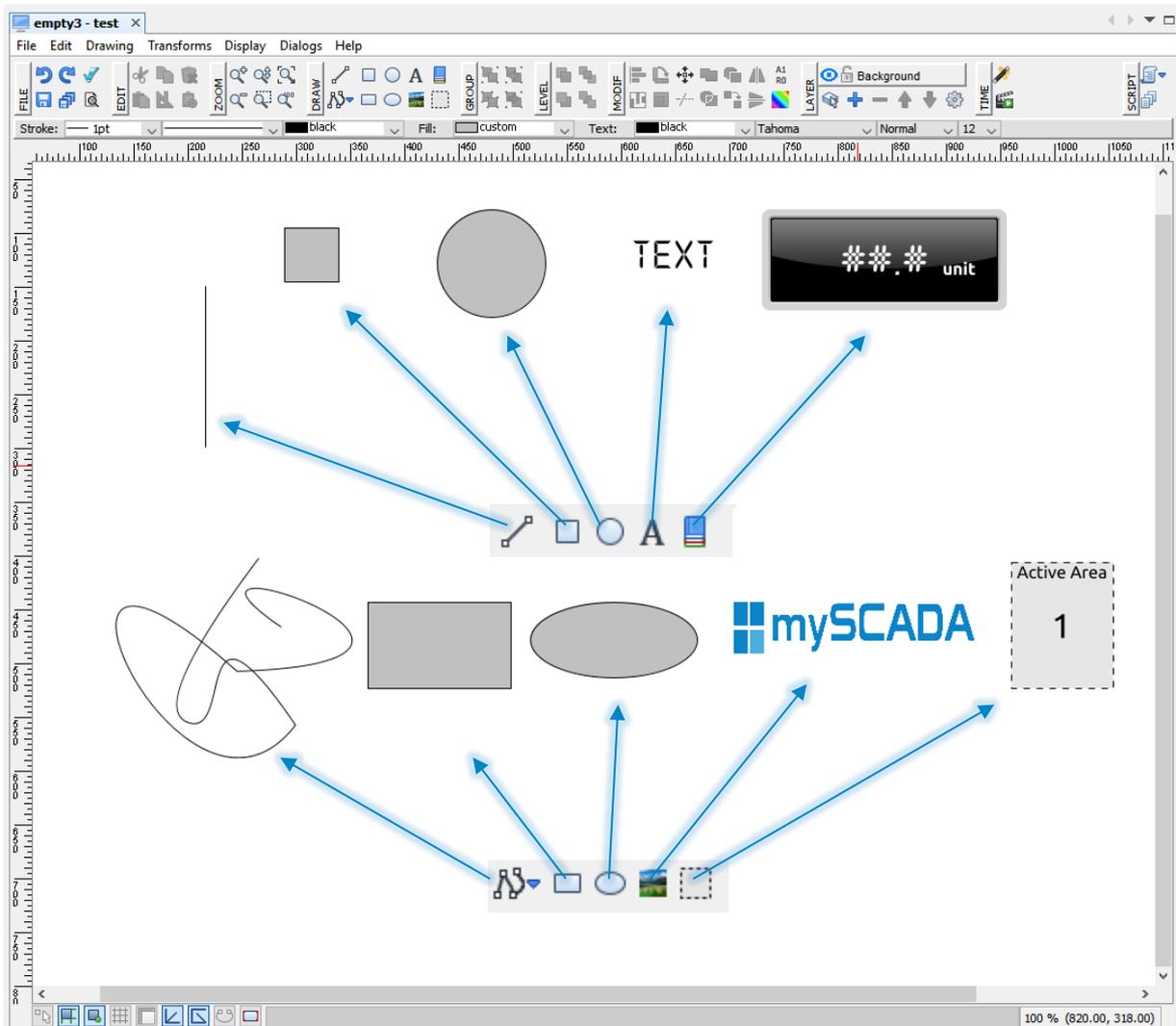


The options bar is located in the lower left part of your window.



Drawing Primitives

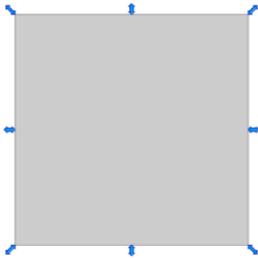
In the DRAW section of the GUI Toolbar select the object type you want to draw - line, poly-line, square, rectangle, circle, ellipse, text field, or you can insert a picture.



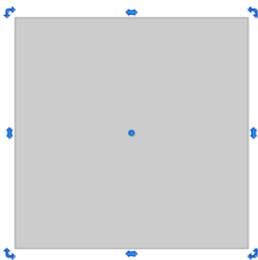
Watch video describing this functionality: <https://www.youtube.com/watch?v=ryduKCgzFr0>

Working with objects

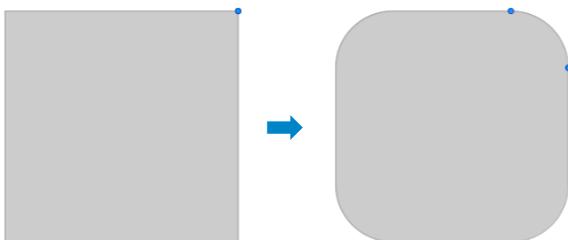
- Select an object by a single mouse click
- Your selection is indicated by blue arrows around the selected object.
- You can change the size of this object by dragging the arrows



- Double-clicking on an object activates the rotation option, indicated by rotational arrows around the boundary of the selected object
- Drag the arrows to rotate the object around its blue rotation center point
- You can move the rotation center point to customize rotation to your preferences

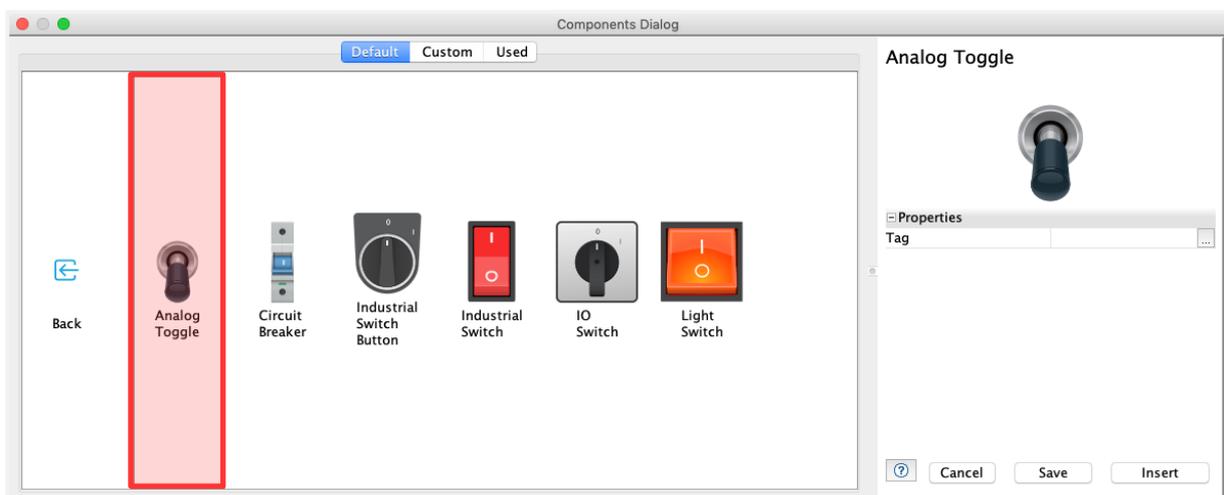
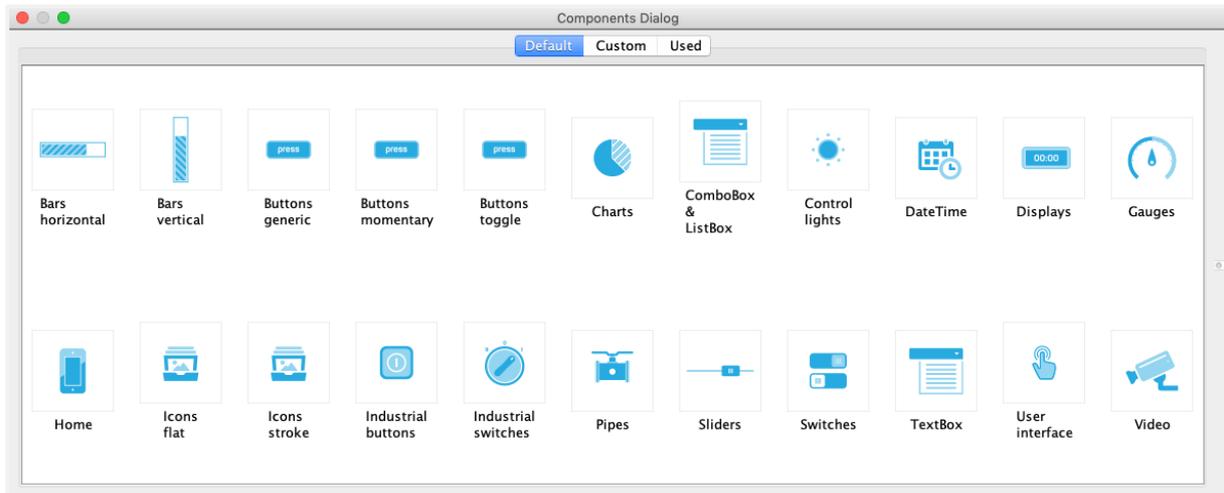


- Triple-clicking on an object activates the edges shape adjust
- Drag the dot and decrease shape of the edges
- You can move the edge point to customize shape of object to your preferences



Components library

The Components library contains a collection of ready-made graphic symbols that you can simply integrate into your view. It consists of two main sections - Default and Custom. The components section is a vector, high quality artwork source you can freely use for your design.



Each component or icon can be inserted into your screen and resized as desired by dragging out the corners. It can also be configured in the properties, just like any other graphic symbol using the "Properties" window.

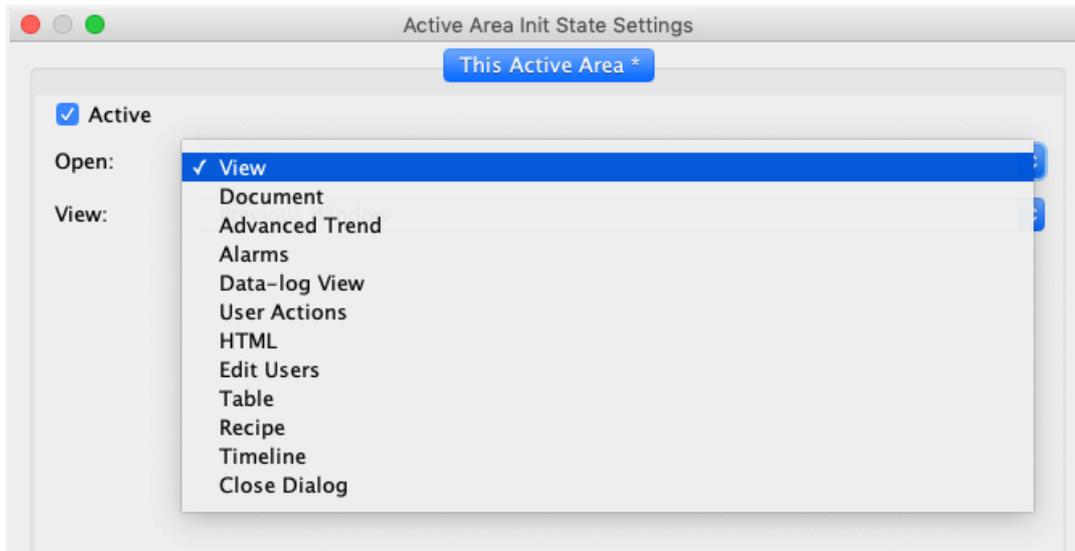
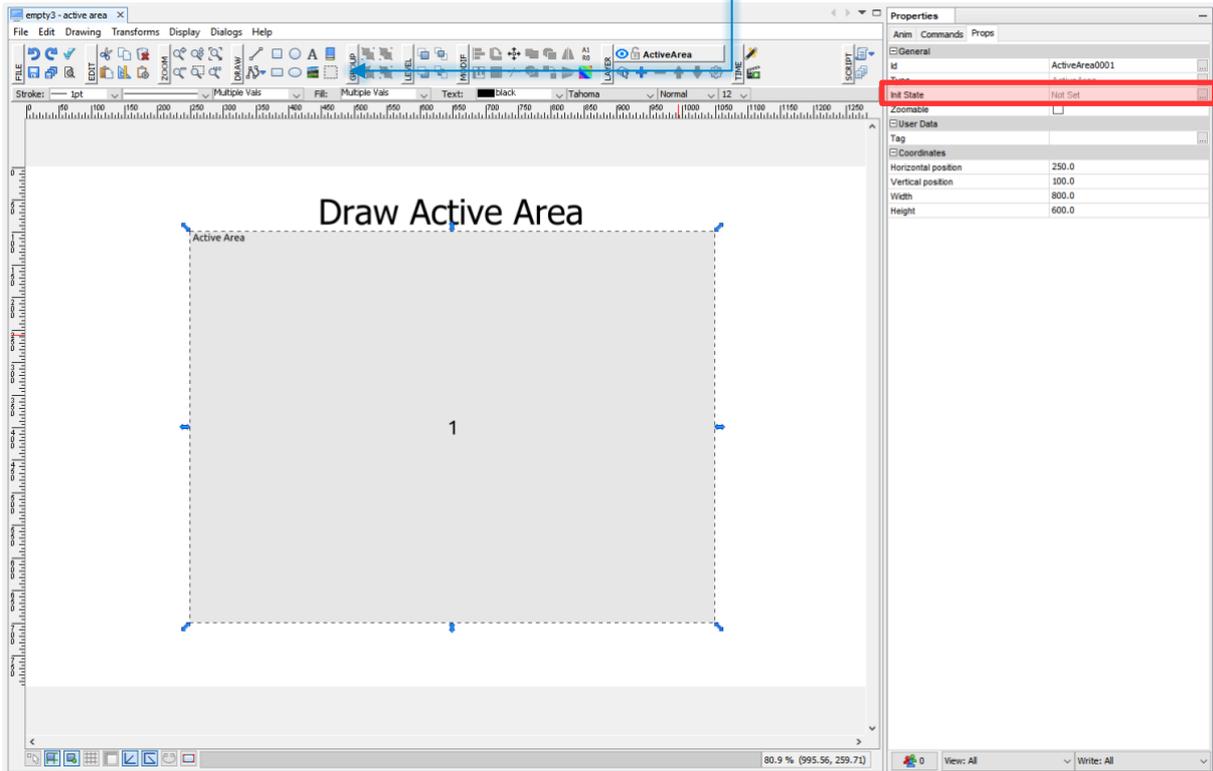
Watch videos describing this functionality:

Master components: <https://www.youtube.com/watch?v=jeJNHUKfWEk>

Custom components : <https://www.youtube.com/watch?v=tYh4JD-2f2M&t=>

Active areas

Active areas are the regions in views where you can show dynamic content. It can be **another view**, **trend**, **alarm window**, **data-log**, or even external **HTML page** or a live video stream etc.. Active area acts as an active container for all those multiple options.



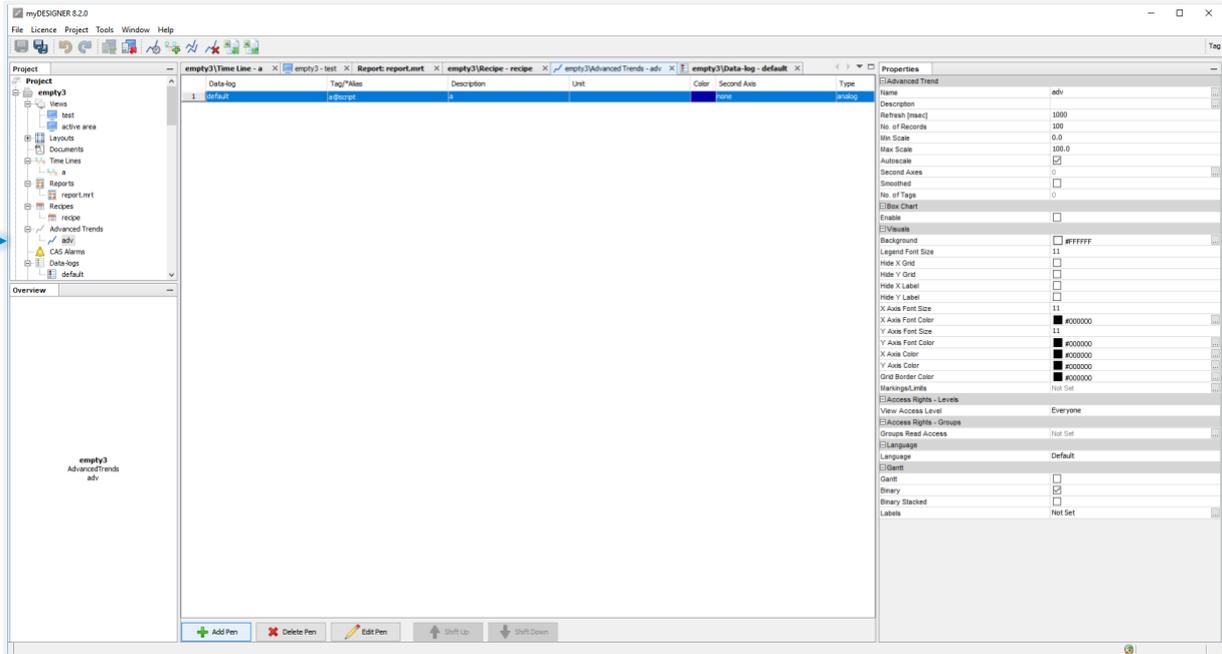
Watch videos describing this functionality:

Part 1: https://www.youtube.com/watch?v=q_V91pm8C1c

Part 2 : <https://www.youtube.com/watch?v=uq-hHTbrws&t>

Advanced Trends

Advanced trends creates trend out of data-which are provided out of Data-Logs you can visualize then trend inside active area, by default trend shows latest 10 000 logs by adjusting time you can show up to 200 000 logs at one trend.



LINKING WITH PLCS

Entering tags

Tags can be created directly inside views or inside tags database, in case of more tags you can import them simply from **MS Excel** or export your tags database and use it in different project.

Alias	Tag@Conn	Unit	Read Scale	Write Scale	Type	Usage	Tag
script							10
RunningHours_TPM							1
TPM1W							
RunningHours_TPM.TPM1W.expectedTimeE	RunningHours_TPM.TPM1W.expectedTimeE@script		Unavailable	Unavailable	Date	2	
RunningHours_TPM.TPM1W.expectedTimeW	RunningHours_TPM.TPM1W.expectedTimeW@script		Unavailable	Unavailable	Date	1	
RunningHours_TPM.TPM1W.Count	RunningHours_TPM.TPM1W.Count@script		Unavailable	Unavailable	Date	5	
RunningHours_TPM.TPM1W.LimitE	RunningHours_TPM.TPM1W.LimitE@script		Unavailable	Unavailable	Date	1	
RunningHours_TPM.TPM1W.LimitW	RunningHours_TPM.TPM1W.LimitW@script		Unavailable	Unavailable	Date	1	
TPM4W							
TPMyear							

If you want to link your visualization with the PLC you have to enter the tag name or address you wish to read/ write data from. The tag syntax depends on the PLC type/brand you want to access.



You do not have to enter full tag syntaxes all the time. Instead, you may use a simplified symbolic tag link, called Alias. You can define Aliases in the tag database or you can create new ones, if desired.

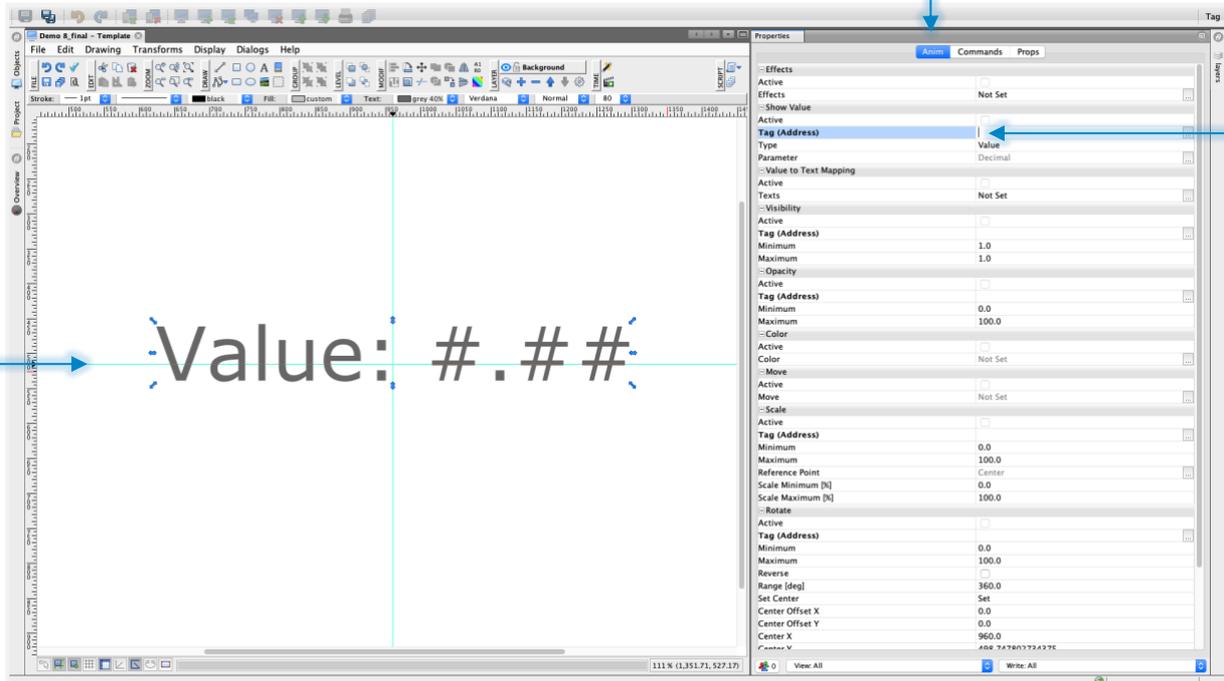
You can write the tags directly in the tag editing field in the Properties window or use the tag editor by clicking on the ... button on the right side -> the Tag Dialog window will show-up.

Tag Dialog guides you through the tag entering and checks if the syntax is correct.

Animations

Animations match the visual appearance of graphic objects with real values read from the PLC - the visual change is reflected immediately. You can for example display PLC tag / variables values in the text objects or change the object's fill color, depending on the PLC values.

- Create a new text object
- Select the Anim tab in the Properties window
- Fill in the **Tag (Address)** field



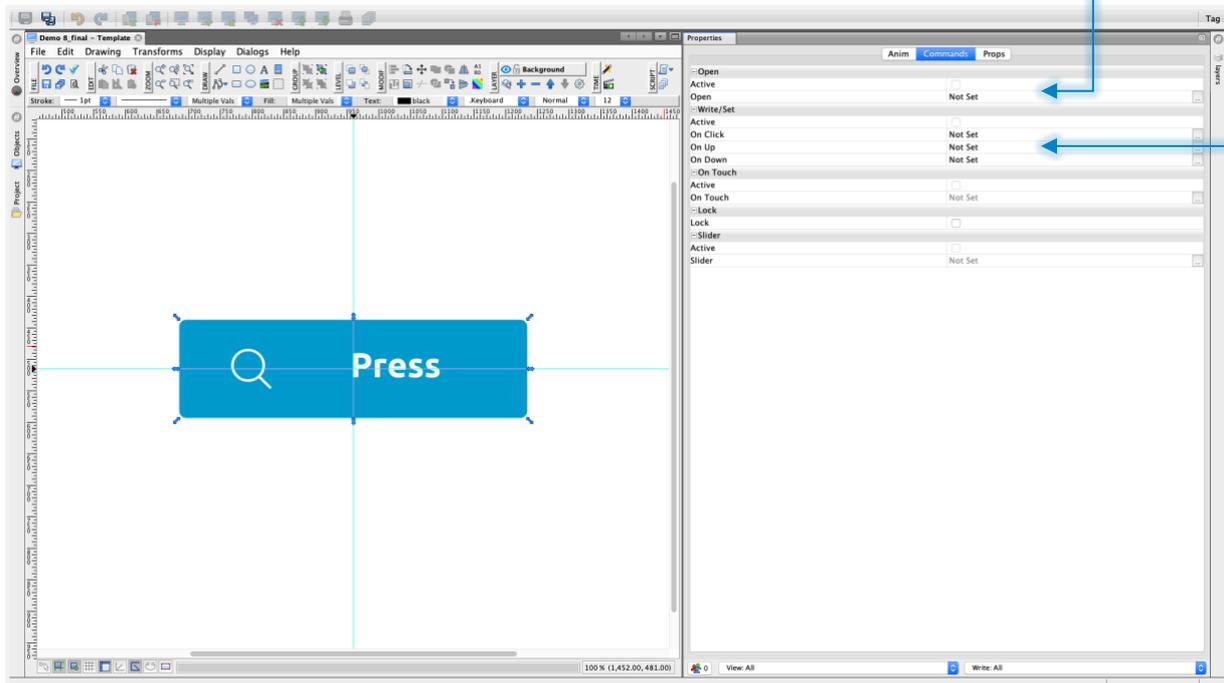
Animations types:

- **Show Value** - Shows real values from the PLC in the text objects.
- **Value to Text Mapping** - Converts numerical values from the PLC to into the text objects.
- **Rotate** - Rotates an object.
- **Visibility** - Controls visibility of objects.
- **Opacity** - Controls opacity e.g. alpha channel of objects.
- **Color** - Changes the fill and stroke color. You can chain multiple conditions.
- **Size** - Changes size of objects, useful for bar animations, it can be set to change the width, height or both.
- **Scale** - Scale any object.
- **Move** - Moves objects along a specified curve (path), x and y axis.
- **Sound** - Plays a sound.
- **Circular section** - Create circular section.

Creating commands – Open, Write / set

Objects or Text fields have option to perform commands on several actions.

- **Open** – Will open new window by a pop-up or in the view or in active area.
- **Write / Set** – Will set tags value or execute script.



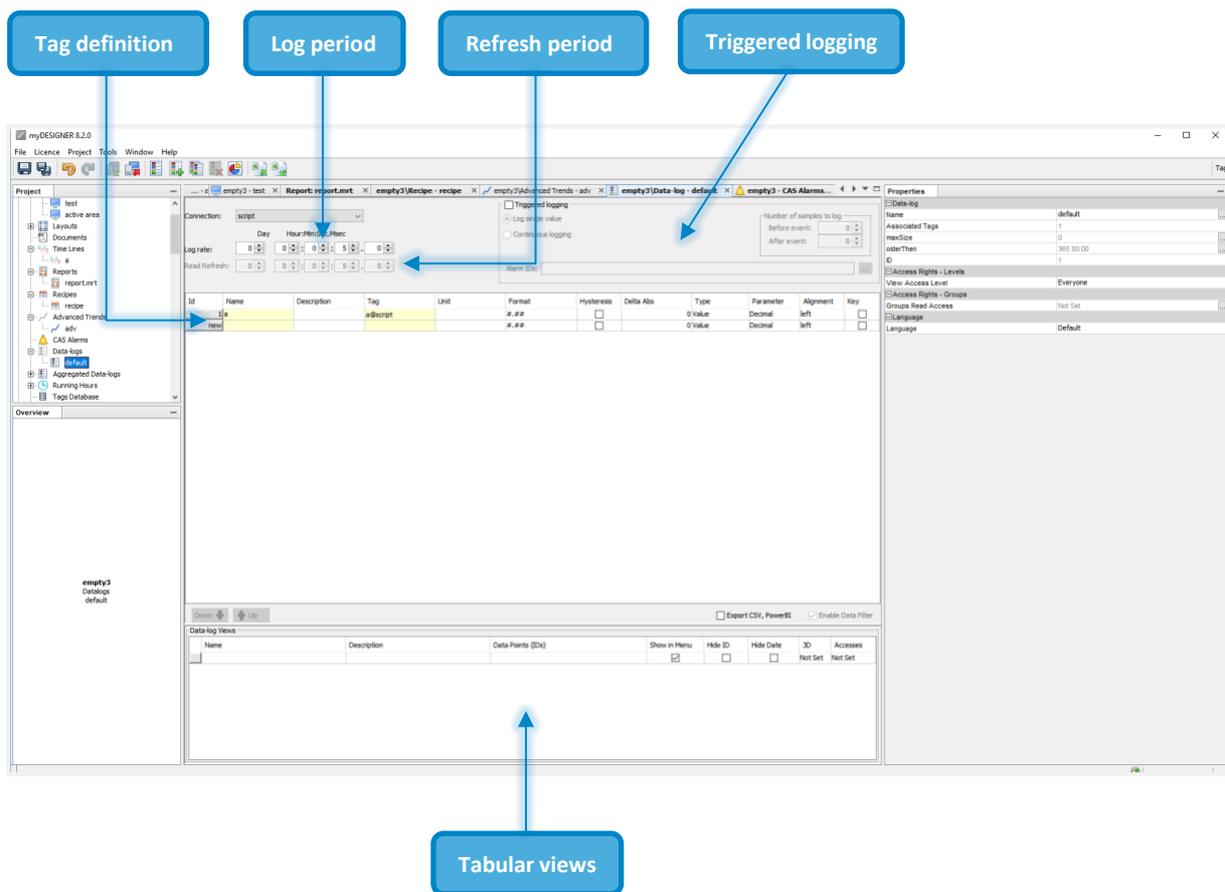
Tip: One Write/Set command can consist out of one or more batches each batch can do a different action (As example you can use this to set several tags value by one click).

Watch video describing this functionality: https://www.youtube.com/watch?v=7z_0_DcmvSQ

GATHERING DATA

Data-Logs

Practically, you can log any mySCADA data or information available. The data is grouped into data logs for an easy access and user's convenience. You can think of data logs as of similar data collections e.g.: set of temperatures read from the PLC every second, motor start-up voltage and current logged each 100 milliseconds, running hours of machinery process, operator actions, computed production statistics etc. You can also log any user defined variables from Server-Side-Scripts via a virtual PLC.



Continuous Data-Logs - data logged periodically without interruption, this data type is useful mainly for persistent processes.

Triggered Data-Logs - data logging data is dependent on some event - condition. The condition is specified by alarm ID. This type of data log is useful for repetitive or random processes where you can specify the start condition.

Aggregated Data-Log

Aggregated Data-Log gives you option to aggregated data by a time, either a fixed period or a dynamic time interval.

Using aggregate data-log you can show aggregated data by hours, shifts, or present an operator data grouped by contracts and batches.

The screenshot shows the myDESIGNER 8.2.0 interface. The main window displays the configuration for an aggregated data-log named "egg". The interface includes a project tree on the left, a main configuration area, and a bottom control panel.

Configuration Summary:

- Name (Data-log name):** egg
- Aggregate by Time:** (0 Months, 0 Days, 0 Hours, 1 Minutes)
- Aggregate by Value Change:** (Value change will set new time interval)
- Aggregate by Alarm (trigger):** (Time intervals for aggregations are defined by alarm activations)
- Autorun every:** (Cron: * * * * *)
- Delay execution by [min]:** 0

Data Items Table:

Data-log/Alarms	Tag	Name	description	Unit	Format	Function	Type	Parameter	Alignment	Key
Interval	End	Interval End			#	sum	Date	Date+Time	left	<input type="checkbox"/>
Default	a@script				#,##	sum	value	Decimal	left	<input type="checkbox"/>

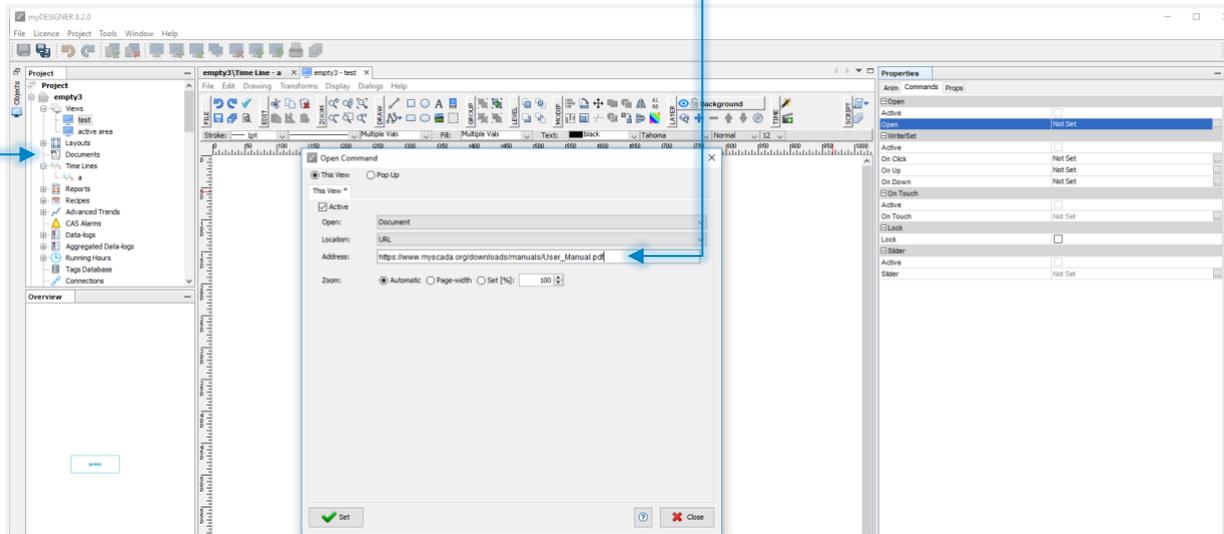
The table shows two data items. The first item is for the "Interval" tag, with a function of "sum" and a type of "Date". The second item is for the "Default" tag, with a function of "sum" and a type of "value". A dropdown menu is open over the "Function" column, showing options: sum, avg, min, max, cnt, val.

GIVING YOUR PROJECT DOCUMENTATION

Documents

Each project can contain documentation. Documentation can be embedded in your project or loaded remotely from generated resources or from an URL. Then you can display this documentation inside active area or inside view.

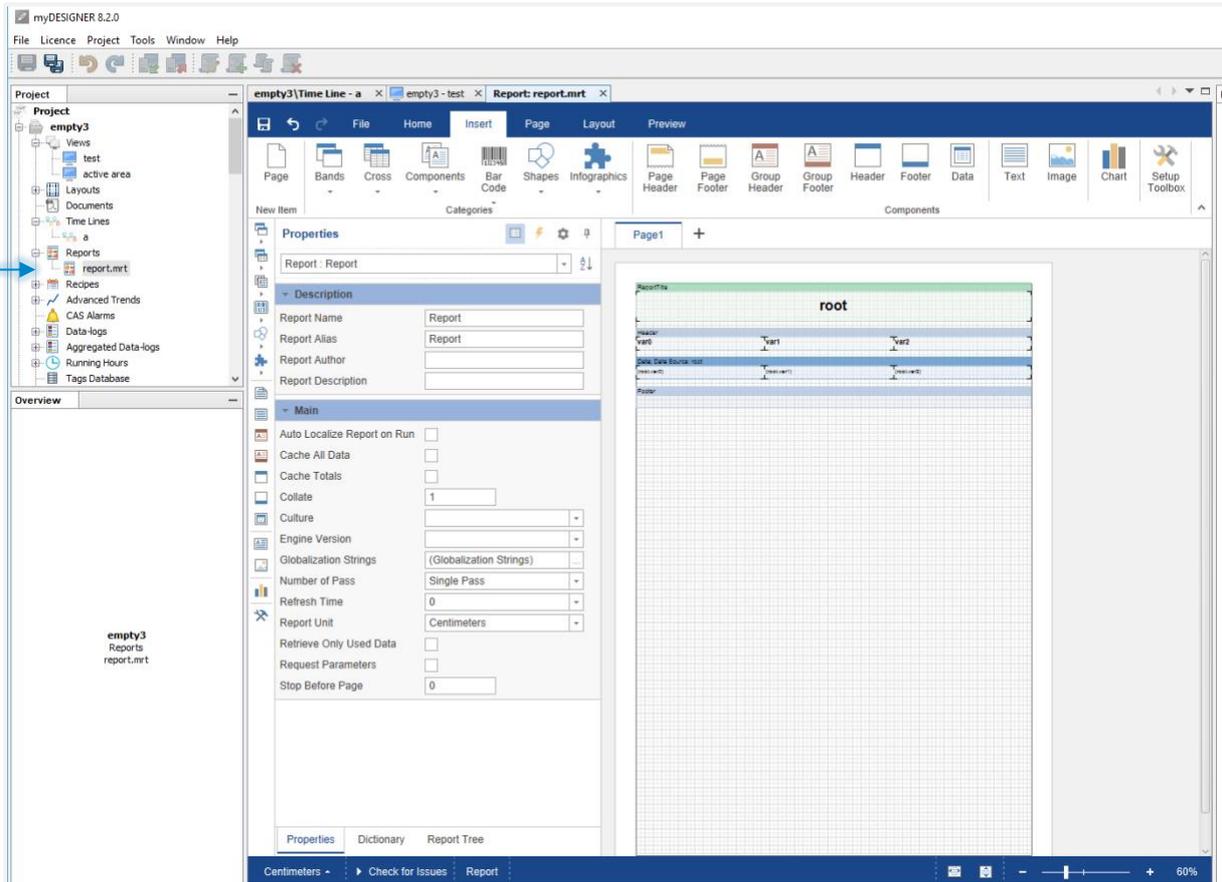
Every time you need to use full direction to file.



Reports

Reports is a tool which can create a modern looking .pdf files which you can periodically export or print them to give the monthly statistics using many variations of graphs.

mySCADA uses implemented **Stimulsoft reports library**. [Here you can find the online documentation.](#)



COMPLEX ALARM SYSTEM

CAS Alarms

CAS Alarms provides you option to keep track of tags values and make you or your users getting noticed by email/SMS or inside HMI.

You can select groups which needs to be noticed when CAS alarm is triggered. Each alarm can have its own refresh rate which is rate for checking tags value, for important tags you can select lower refresh rate for less important less refresh rate.

Alarms are divided into **Analog** and **Digital** groups.

The screenshot displays the 'CAS Alarms' configuration window. It features a table with columns for ID, Tag@Conn/Alias, Sev, Area, Message, Device, liv, Refresh, Delay (ms), ACK Text, Hide, Format, E-mail, and SMSAct. The 'Refresh' column is highlighted with a blue callout box that says 'Refresh times of Alarm groups'. The properties panel on the right shows various settings for the alarm groups, including 'Number of Alarms', 'Default Connection', 'Refresh Fast [msec]', 'Refresh Default [msec]', 'Refresh Slow [msec]', 'Alarm Sound', 'Alarm Sound Repeat', 'Alarm Sound Volume', 'Alarm Sound Severity', 'maxSize', 'olderThen', 'Access Rights - Levels', 'View Access Level', 'Access Rights - Groups', 'Groups Read Access', 'Language', and 'Language'.

ID	Tag@Conn/Alias	Sev	Area	Message	Device	liv	Refresh	Delay (ms)	ACK Text	Hide	Format	E-mail	SMSAct
1	alarm1@script	0	Filling	Filling Guard Switch		<input checked="" type="checkbox"/>	default		0 none	<input checked="" type="checkbox"/>	#		
2	alarm2@script	0	Filling	Filling Guard Switch		<input type="checkbox"/>	default		0 none	<input type="checkbox"/>	#		
3	alarm3@script	0	Packing	Packing Guard Switch		<input type="checkbox"/>	default		0 none	<input type="checkbox"/>	#		
4	alarm4@script	0	Capping	Capping conveyor jam	Conveyor 1	<input type="checkbox"/>	default		0 none	<input type="checkbox"/>	#		
	new	0		on		<input type="checkbox"/>	default		0 none	<input type="checkbox"/>	#		

Each alarm can have its own translation in case of creating multi-language project.

PROTECTING YOUR SYSTEM

User Access

User Access protection is integrated at all levels of access to guarantee a high level of transparency and traceability of all users' actions. You can define up to 10 user groups to grant the access rights for different users of your system. The number of system users is unlimited.

You can also use RFID reader for your users.

Users can be also edited in HMI so you don't need to re-upload project every time you add / remove user.

The screenshot displays the mySCADA Designer 6.2.0 interface. A central table lists user details with columns for ID, Name, Password, RFID, Language, Access Level, Part of Groups, E-mail, Tel., Set system, Set network, and SMS Control. A dialog box titled 'Edit Users Access Right Setting' is open, showing options for 'Access Level for Edit' and 'Group Access for Edit'. A 'Check Device Users' table at the bottom lists various user groups like 'No Access', 'Viewer', 'Junior Operator', etc., with associated reporting and severity settings. Blue callout boxes point to specific features: 'User name' points to the Name column; 'Password, RFID' points to the Password and RFID columns; 'Ser system, network, etc.' points to the Set system and Set network checkboxes; 'Edit users in runtime' points to the Properties panel on the right; and 'Access level' points to the Access Level column in the Groups table.

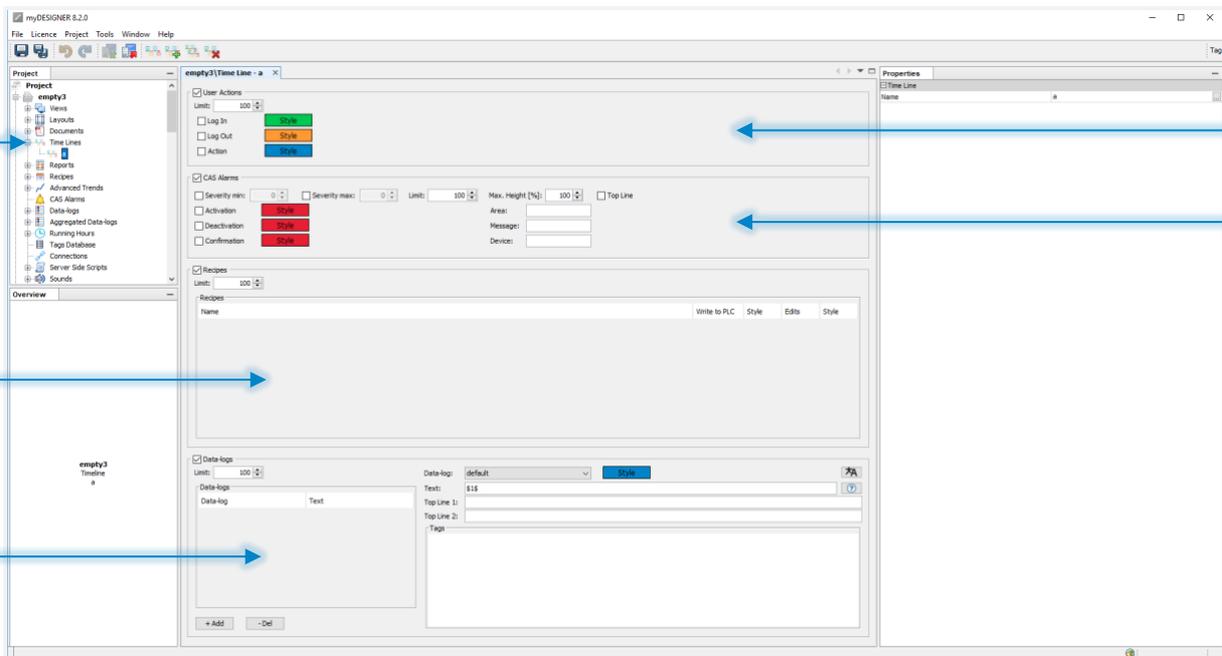
Each view, object, data-log can be limited to be viewed only by some users or groups if needed.

MYDESIGNER ENTERPRISE FUNCTIONS

Timeline

Timeline is a tool displaying several actions on the time axis.

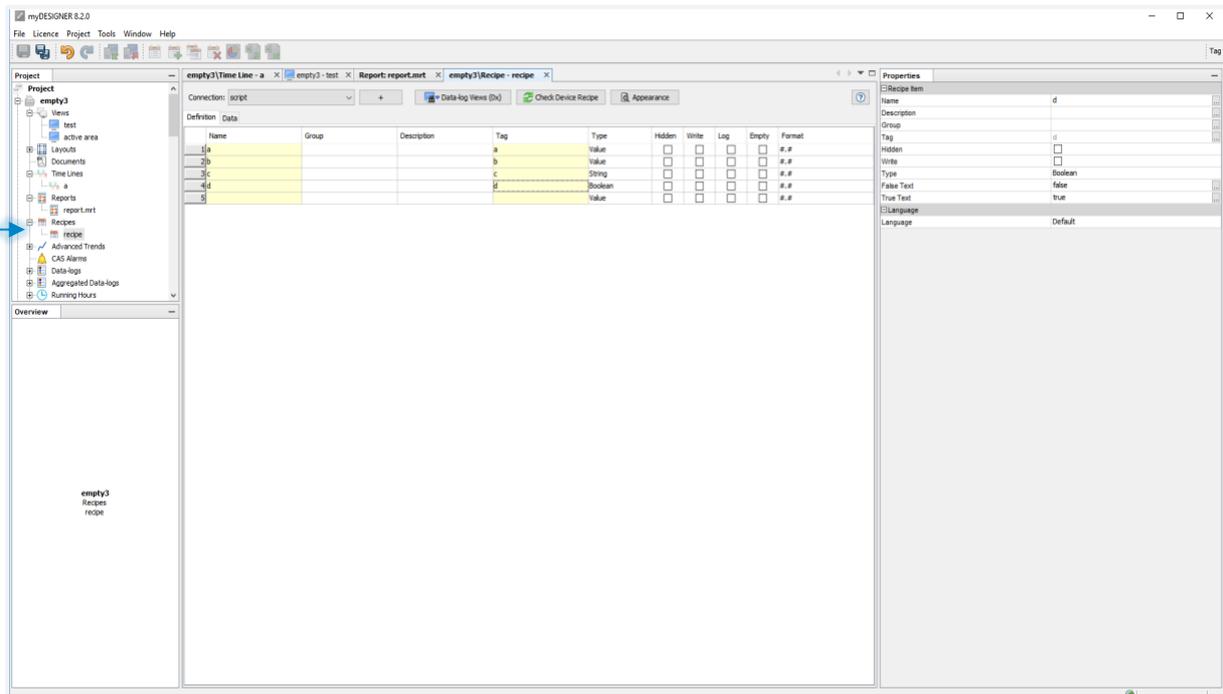
- **User Actions:** displaying when the user logs in and logs out or when the user makes any action – keeping a track of users and their actions.
- **CAS Alarms:** showing on time axes when they are deactivated/activated/confirmed as well as by whom the change was made.
- **Recipes:** tracking what recipe has been used and when it's been changed or activated.
- **Data-Logs:** tracking all important values on timeline \$1\$ will be replaced with first tag value.



Recipes

Recipes provide the option to create recipe with several parameters and then write them into a single PLC or more PLCs of the same type.

Recipe consists out of definition and data, in definition you specify each tag and in data you specify recipe values.



Running hours

Having any machine parts which need to be replaced sometimes or having a periodical necessity to replace machine parts, you can use feature called running hours, which is triggered by a tag and counts down or up hours/pulses and gives you warning or throw up error when the limit is reached.

The screenshot displays the myDESIGNER 8.2.0 software interface. The main window shows the configuration for a 'Running Hours' tag. The 'Project' tree on the left indicates the tag is located under 'empty3' > 'Running Hours'. The 'Properties' panel on the right shows the tag name 'running' and a language set to 'Default'. The central area contains a table with the following data:

Name	Count	Warning	Limit	Message	CAS Alarm	Error	Limit	Message	CAS Alarm
	01:00:00	<input type="checkbox"/>	00:30:00	warning		<input type="checkbox"/>	00:00:00	error	

The 'Overview' panel at the bottom left shows the tag name 'empty3 Runninghours running'.