KREO HMI TUTORIAL
Replace Text Widget

Tutorial dedicated to project widgets and the use of the ReplaceText technique

Connect
Ideas.
Shape
solutions.

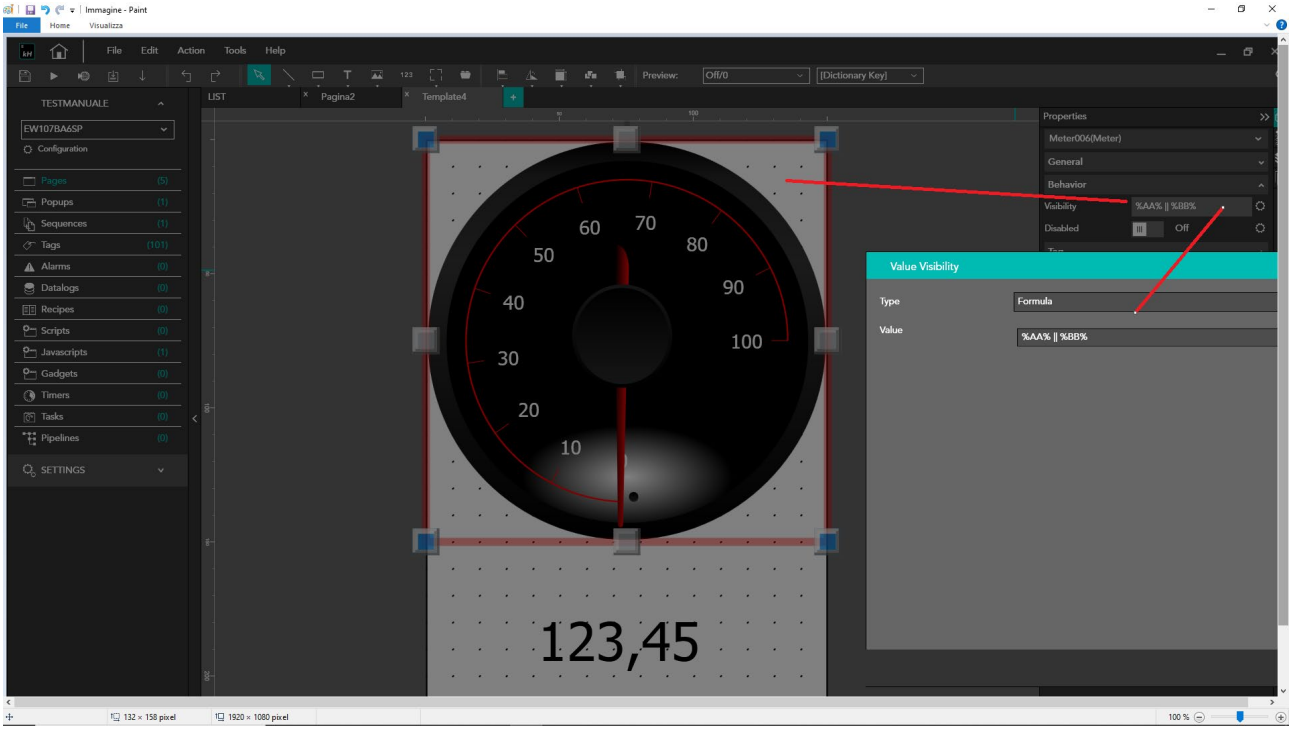
Introduction

Project Widgets is the functionality that let the programmer save part of the project as an external component in order to simplify and speed up the application development.
The ReplaceText technique allow the programmer to replace parts of the project widget from the application firing it increasing the flexibility and the possibilities of be reused of the object itself.

How to do:

1. Suppose we have a widget property calculated as a result of an OR formula:

Visibility = **Visib1** OR **Visib2** **(**where **Visib1** and **Visib2** are 2 boolean tags**)**

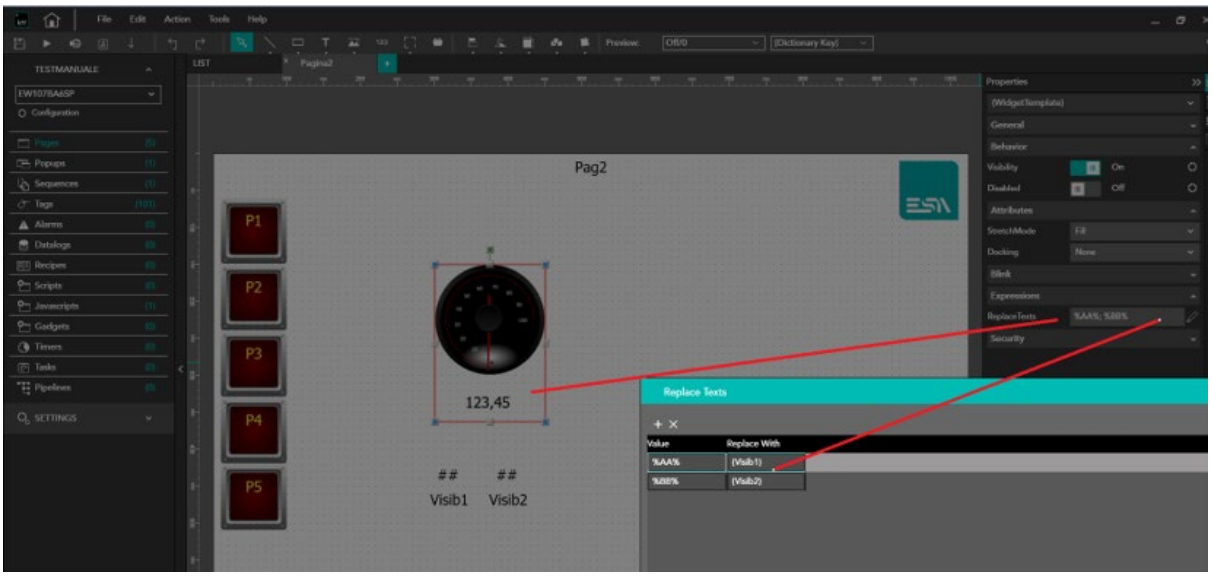


FORMULAS support javascript notation syntax (*)... see **Note1**:
The result that has to be invoked via parameters is: %**AA**% || %**BB**%

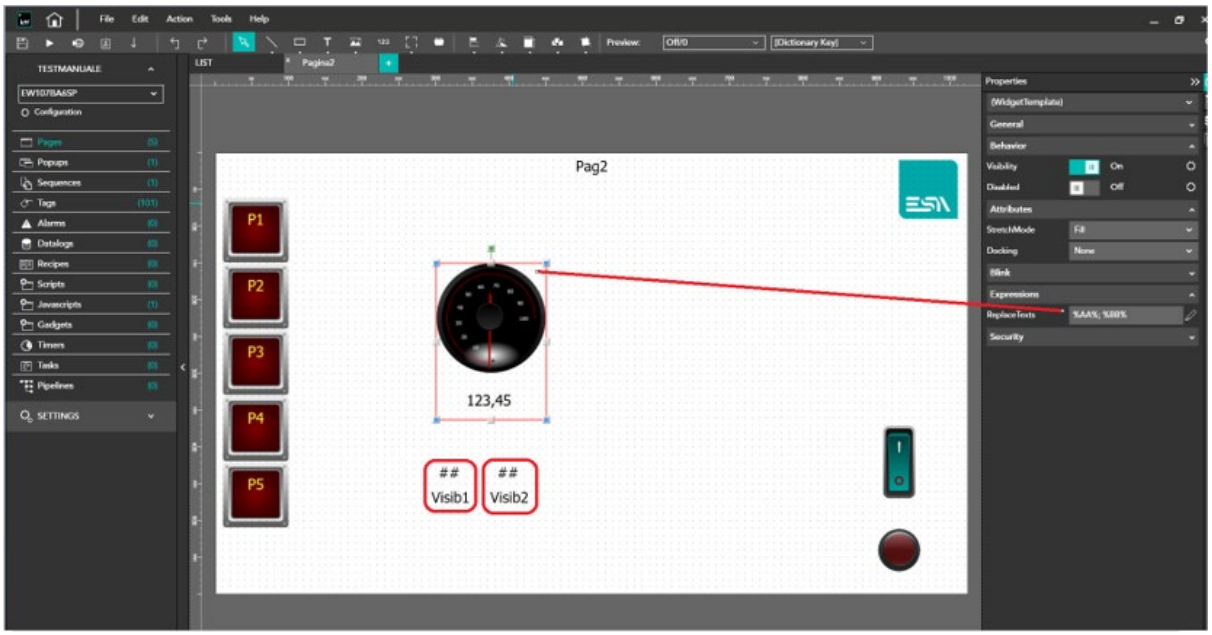
The use of % is not mandatory.
In a formula you can replace the text you want.
The use of the special character avoids not clear replace.

2) In the REPLACE-TEXT property of the WIDGET the user can replace the parameters of FORMULA %AA% and %BB% with the tags {Visib1}, {Visib2},

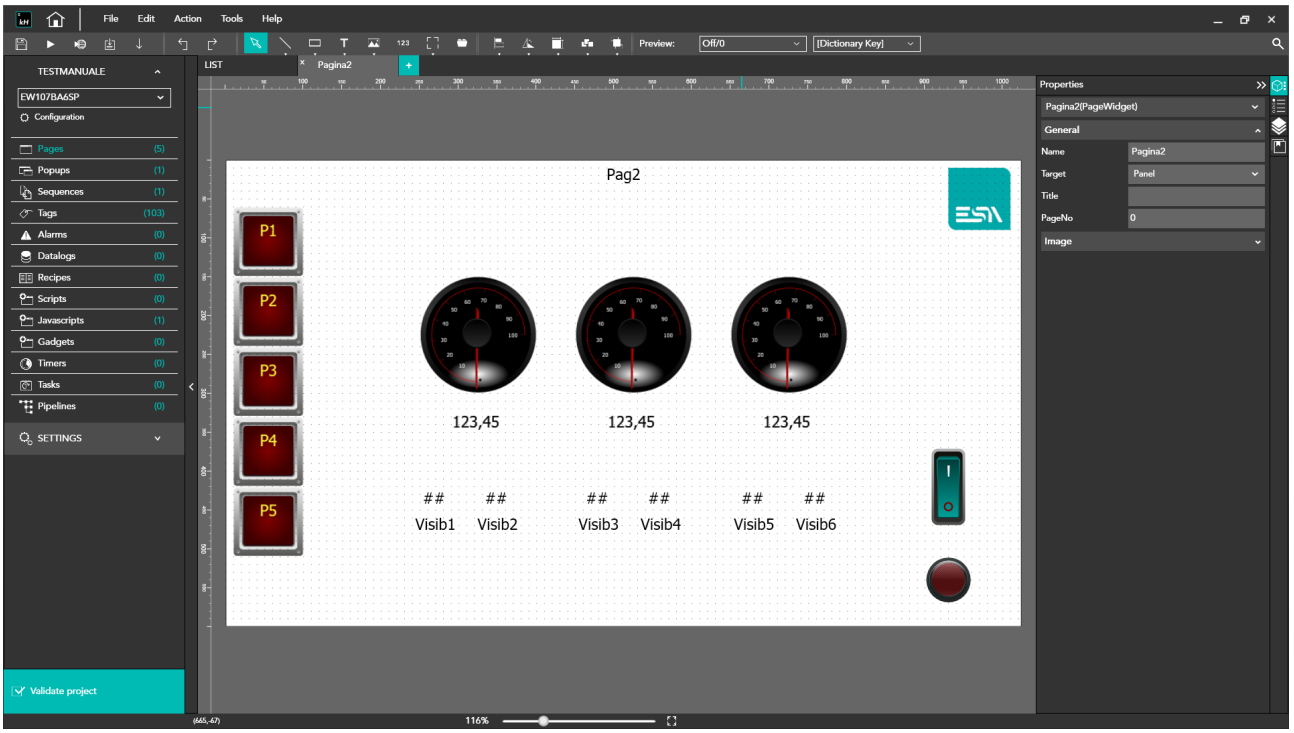
In formula concatenation the {} characters account the value of the tag and not the simple name-string (as it could be in another example).



3) The speedometer object will now be visible only if one of the 2 tags Visib1 or Visib2 = TRUE



4) It is enough to copy-paste other instances of the WIDGET and then give as parameter different tags (Visib3/4, Visib5/6).



Nota1:
the formula syntax, as mentioned, is written with JAVASCRIPT annotation.

- || (logic OR)
- | (bit OR)
- && (logic AND)
- & (bit AND)
- != (DIFFERENT FROM)
- == (EQUAL)
- >, < , >= <= (GT,LT,....)

In addition, all MATH methods and properties supported in JAVA SCRIPT are supported:

Math Object Properties

PropertyDescription

- E — Returns Euler's number (approx. 2.718)
- LN2 — Returns the natural logarithm of 2 (approx. 0.693)
- LN10 — Returns the natural logarithm of 10 (approx. 2.302)
- LOG2E — Returns the base-2 logarithm of E (approx. 1.442)
- LOG10E — Returns the base-10 logarithm of E (approx. 0.434)
- PI — Returns PI (approx. 3.14)
- SQRT1_2 — Returns the square root of 1/2 (approx. 0.707)
- SQRT2 — Returns the square root of 2 (approx. 1.414)

Math Object Methods

MethodDescription

- abs(x) — Returns the absolute value of x
- acos(x) — Returns the arccosine of x, in radians
- acosh(x) — Returns the hyperbolic arccosine of x
- asin(x) — Returns the arcsine of x, in radians
- asinh(x) — Returns the hyperbolic arcsine of x
- atan(x) — Returns the arctangent of x as a numeric value between -PI/2 and PI/2 radians
- atan2(y, x) — Returns the arctangent of the quotient of its arguments

- atanh(x) Returns the hyperbolic arctangent of x
- cbrt(x) Returns the cubic root of x
- ceil(x) Returns x, rounded upwards to the nearest integer
- clz32(x) Returns the number of leading zeros in a 32-bit binary representation of x
- cos(x) Returns the cosine of x (x is in radians)
- cosh(x) Returns the hyperbolic cosine of x
- exp(x) Returns the value of E^x
- expm1(x) Returns the value of E^x minus 1
- floor(x) Returns x, rounded downwards to the nearest integer
- fround(x) Returns the nearest (32-bit single precision) float representation of a number
- log(x) Returns the natural logarithmof x
- log10(x) Returns the base-10 logarithm of x
- log1p(x) Returns the natural logarithm of 1 + x
- log2(x) Returns the base-2 logarithm of x
- max(x, y, z, ..., n) Returns the number with the highest value
- min(x, y, z, ..., n) Returns the number with the lowest value
- pow(x, y) Returns the value of x to the power of y
- random() Returns a random number between 0 and 1
- round(x) Rounds x to the nearest integer
- sign(x) Returns the sign of a number (checks whether it is positive, negative or zero)
- sin(x) Returns the sine of x (x is in radians)
- sinh(x) Returns the hyperbolic sine of x
- sqrt(x) Returns the square root of x
- tan(x) Returns the tangent of an angle
- tanh(x) Returns the hyperbolic tangent of a number
- trunc(x) Returns the integer part of a number (x)

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