Getting started with straton

straton user guide – Rev. 9

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CP_R31_006_H

straton

Content

1. Overview

This document has been created in order to introduce straton Editor to new users allowing them to create a new application from scratch, to test it and download it to a straton Runtime easily.

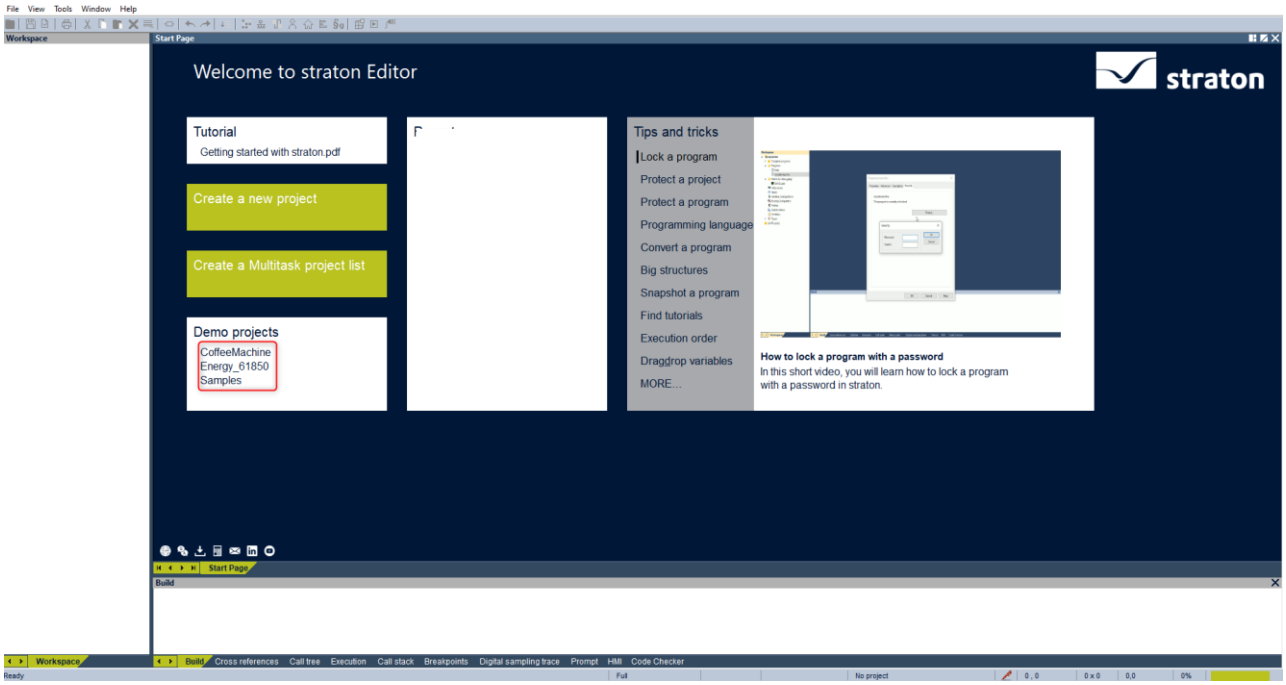
2. Requirement and setup

The straton Editor needs to be installed on a Windows PC. If the application needs to be downloaded to a Runtime, it needs to be running. The PC and the Runtime need to be on the same network.

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

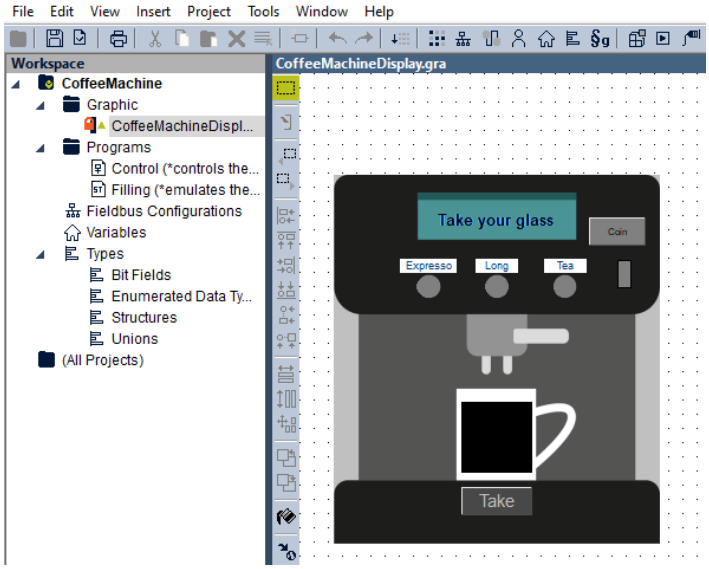
3. Demo Application

After finishing this tutorial, you could open Straton and play with the different demo application which you can open after starting Straton. In Demo Projects



You will find a:

- Coffee Machine
  - SFC Programming
  - Simple Graphic Interface
- Energy_61850
  - IEC61850 Protocol for energy with GOOSE message
- Samples
  - *Basic examples* of programs in FBD, SFC, ST, Ladder

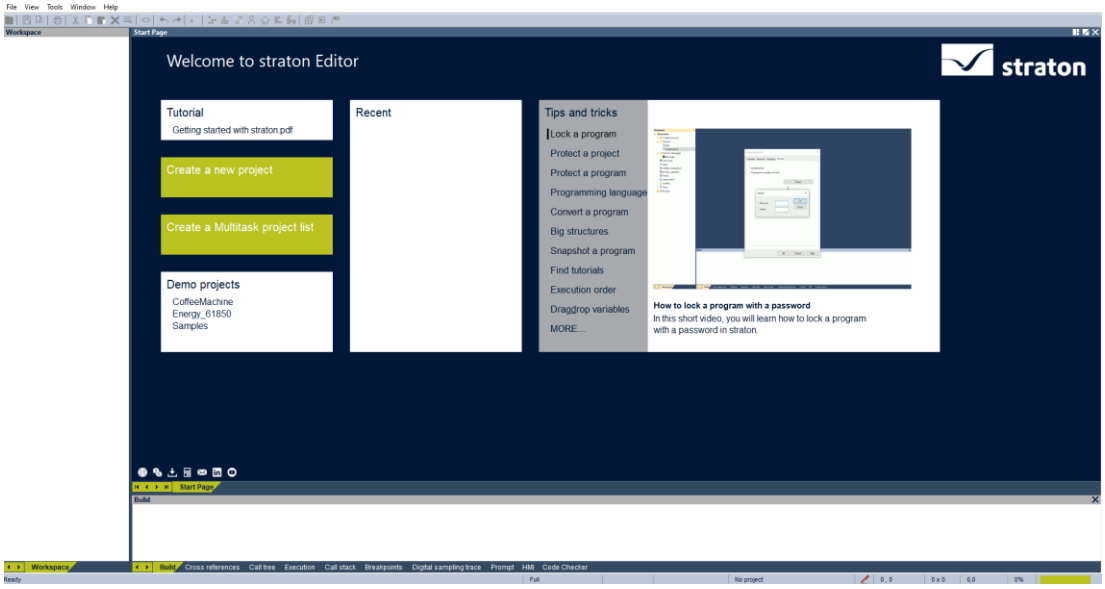


4. Create and configure an application

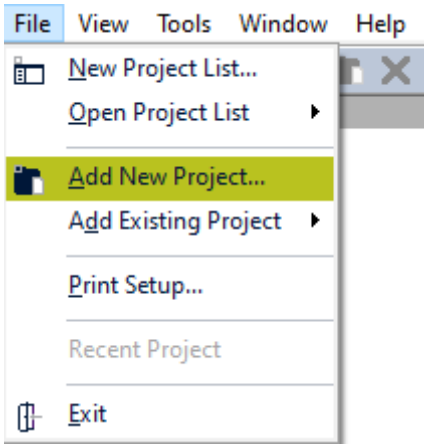
4.1. Creating a new application

When opening straton Editor, the Start Page is displayed.

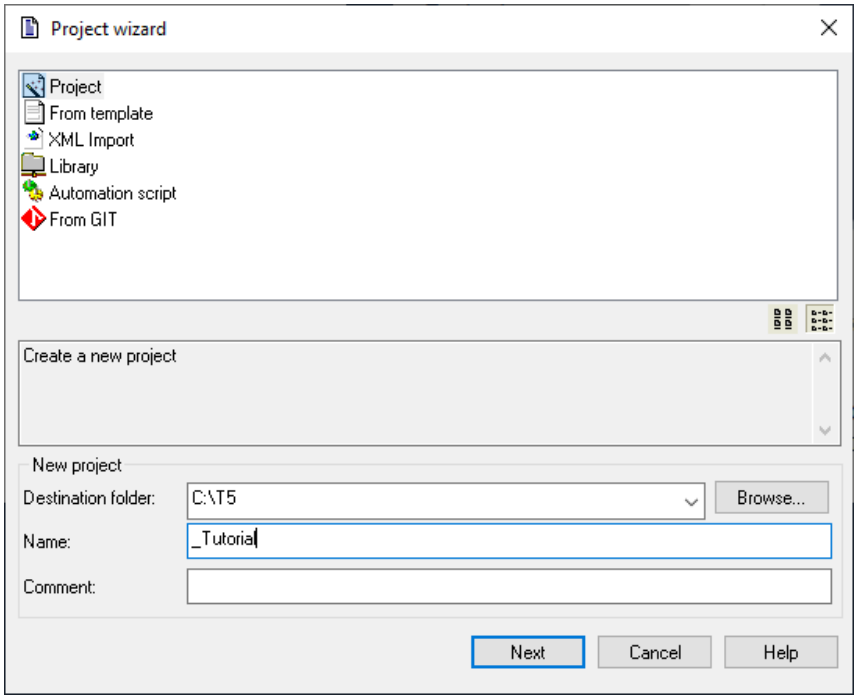
It contains the most useful shortcuts to create or open project.



To create a new project, click on File > Add New Project… or click directly on the “Create new project” shortcut.

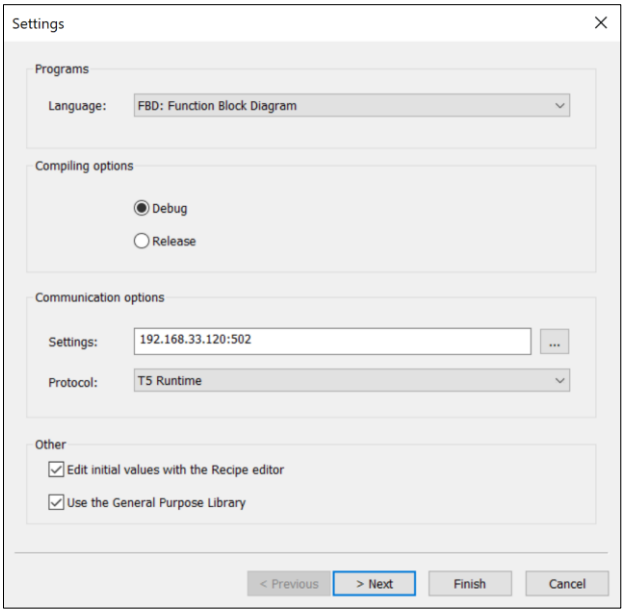


Choose a name for the project and click on Next.

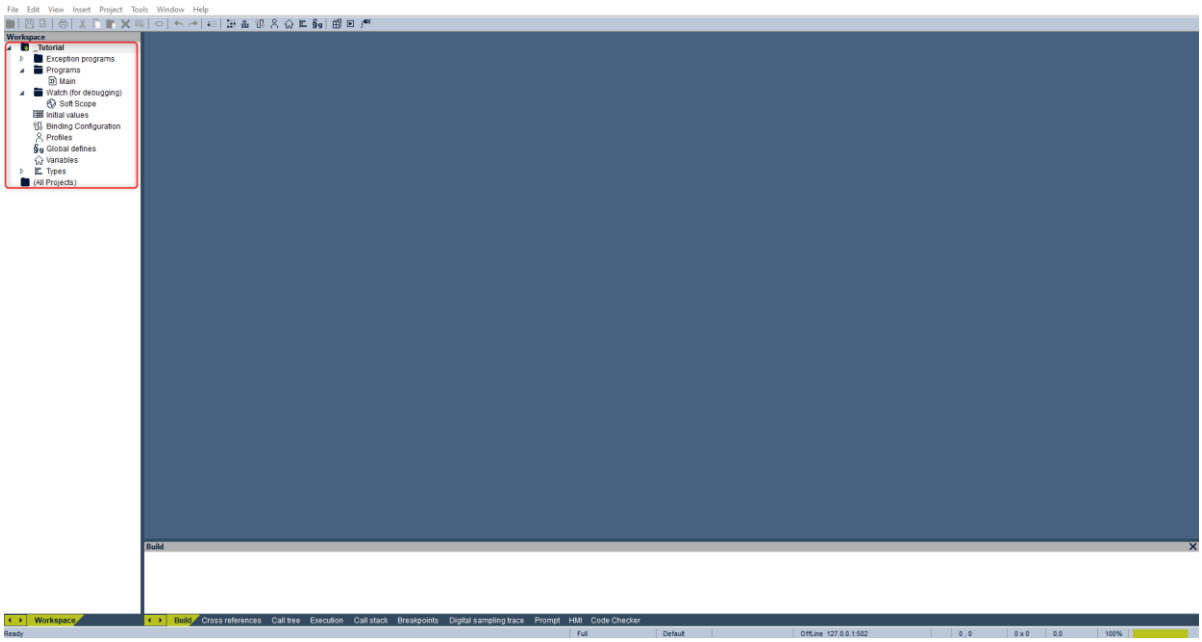


Note: No space neither special characters must be used, and maximum 15 characters are allowed.

Choose the programming language of the Main program (SFC, FBD, LD, ST, IL) then click on Next in order to select I/Os and fieldbuses. If none is required, then click on Finish.

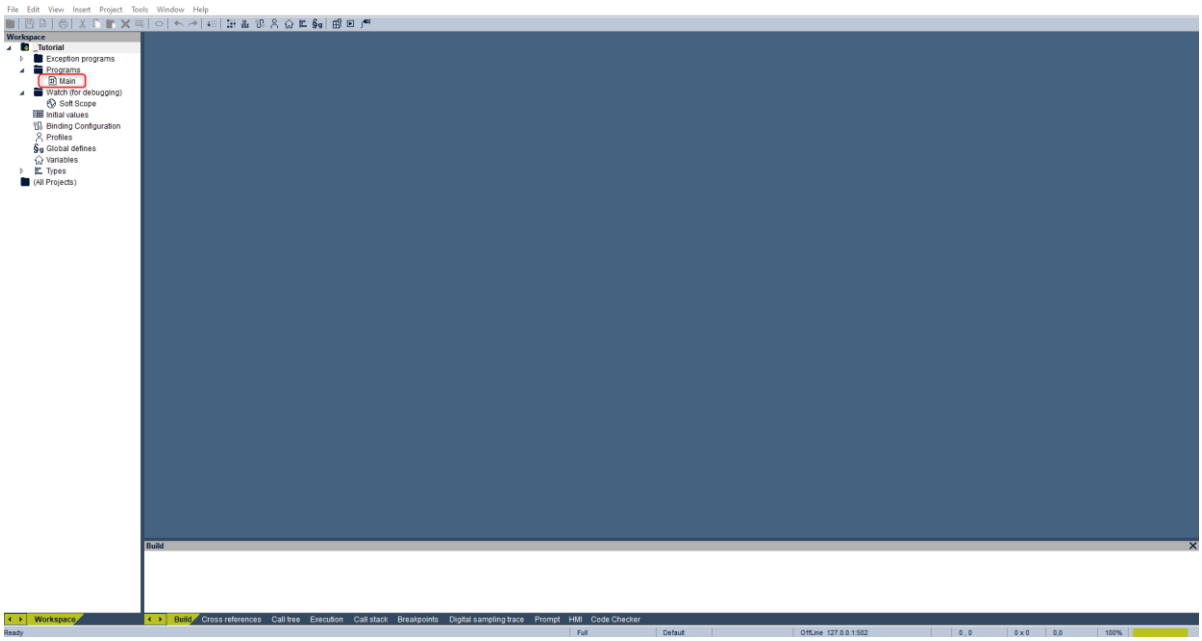


The project is now visible in the straton workspace.

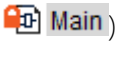


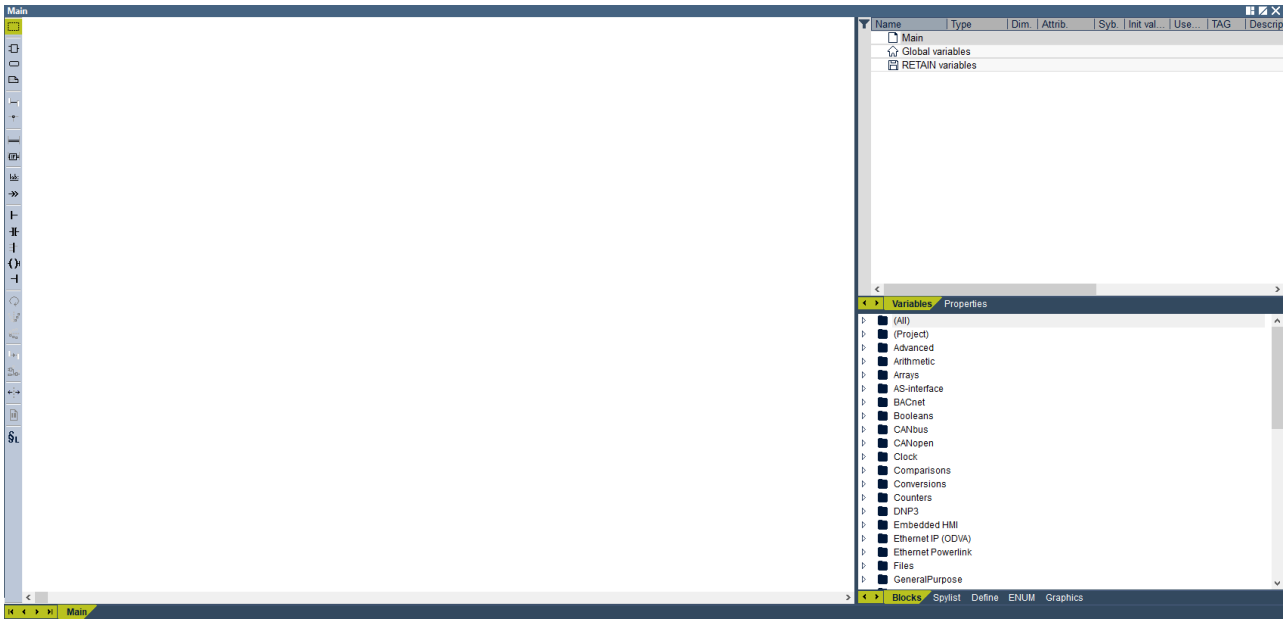
4.2. Editing a program

Double click on Programs > Main to open the Main program (here in FBD language).



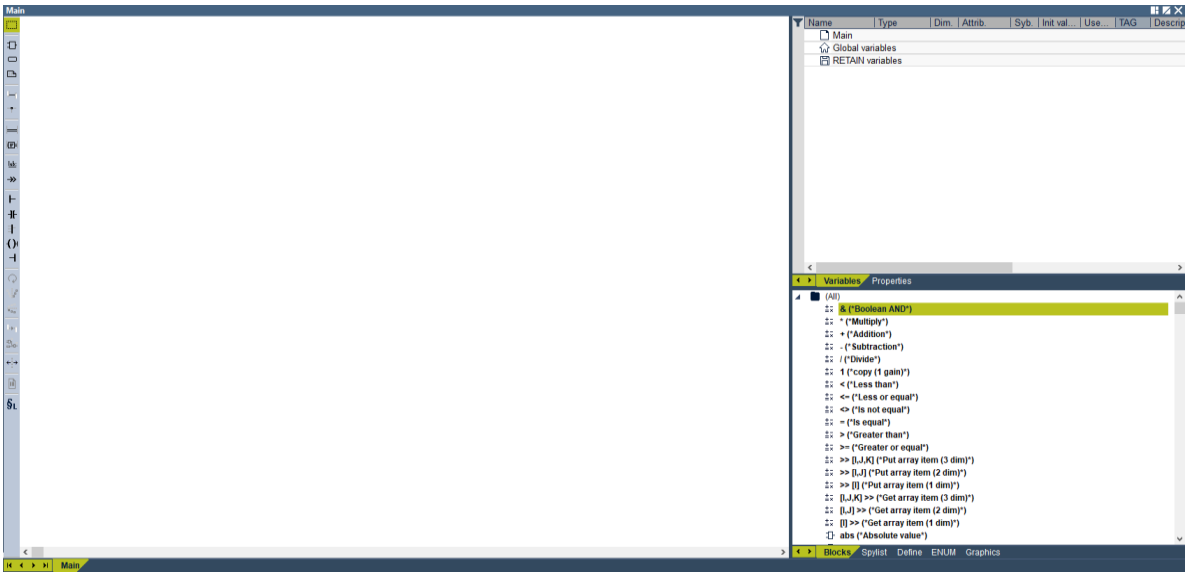
Note: Double click on the name “Main” and not on the icon.

A small padlock appears on the program’s icon. It means it is now in Edit mode so you cannot remove it from the workspace. ()



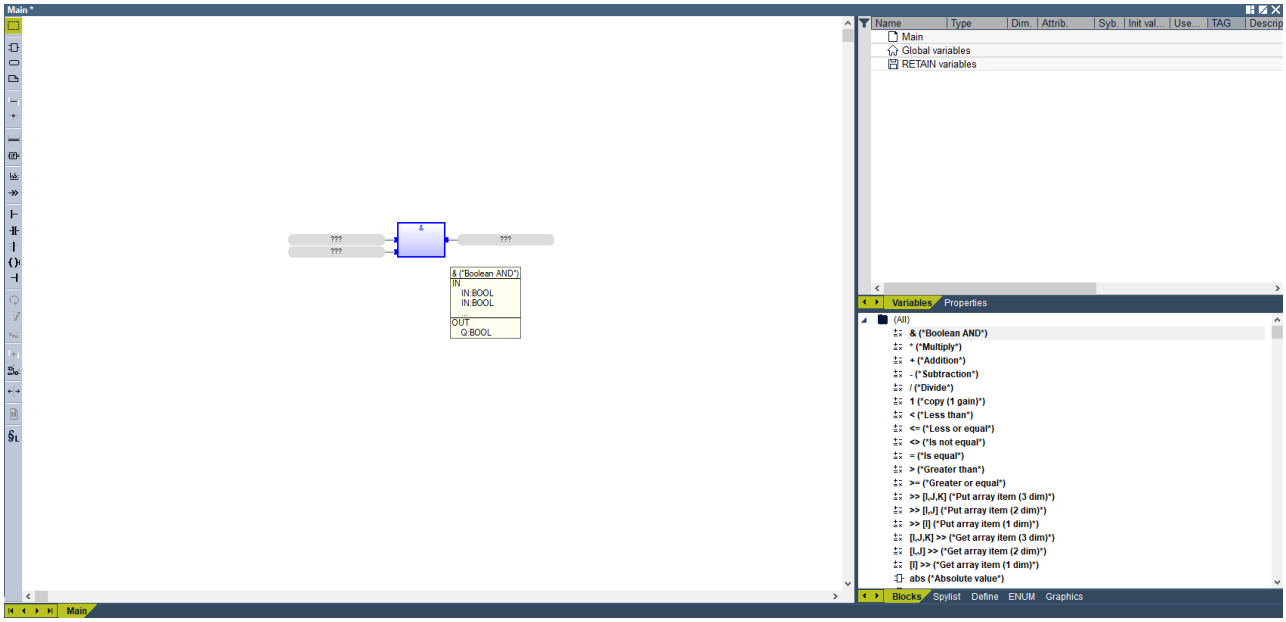
It is now possible to choose Function Blocks for the program.

For example: in Blocks > (All), select & (*Boolean AND*)



When drag and drop the block in the program, it automatically contains the variables.

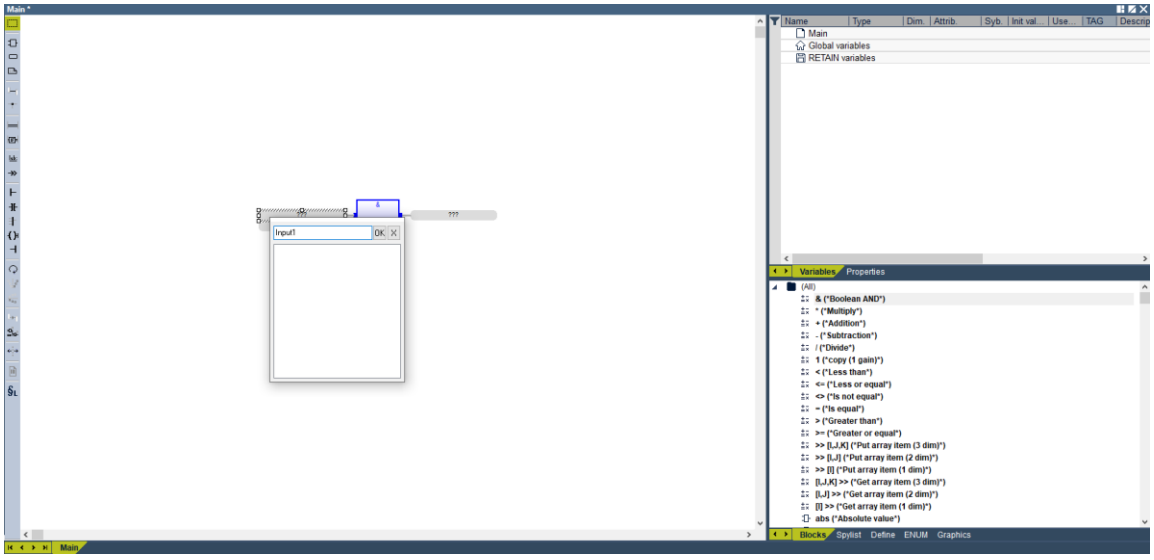
Trick : Click on CTRL button before dropping to remove variables.



Now, the Function block is in the program. As in the screen below, the (&) block needs three variables (2 Boolean inputs and 1 Boolean output).

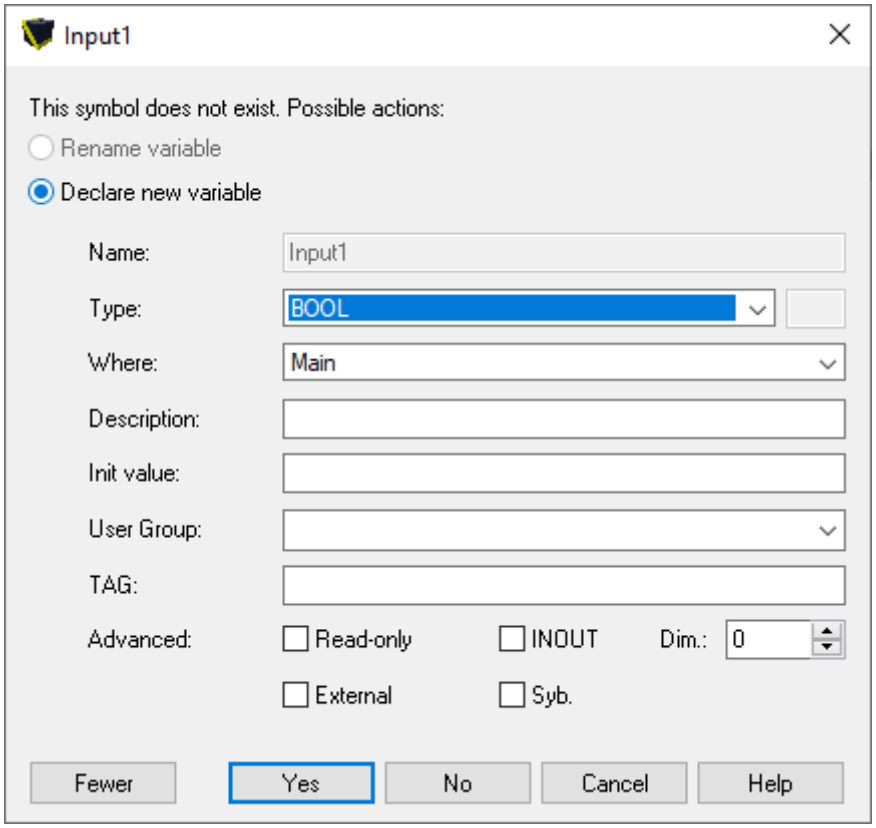
To add variables, double click on the « ??? » fields.

Enter a name for the variable. Here, « Input1 ».

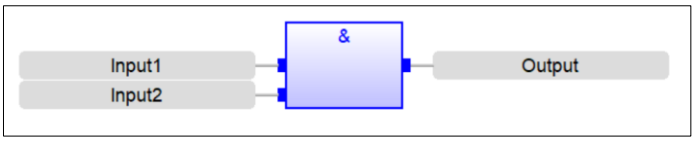


As the variable does not exist in the project's dictionnary, when clicking on "OK" a popup window appears. In this window it is possible to choose the type of the variable, where to declare the variable and an optional description. Note that in FBD, straton automatically recognizes the type of variable to declare when it is linked to a block.

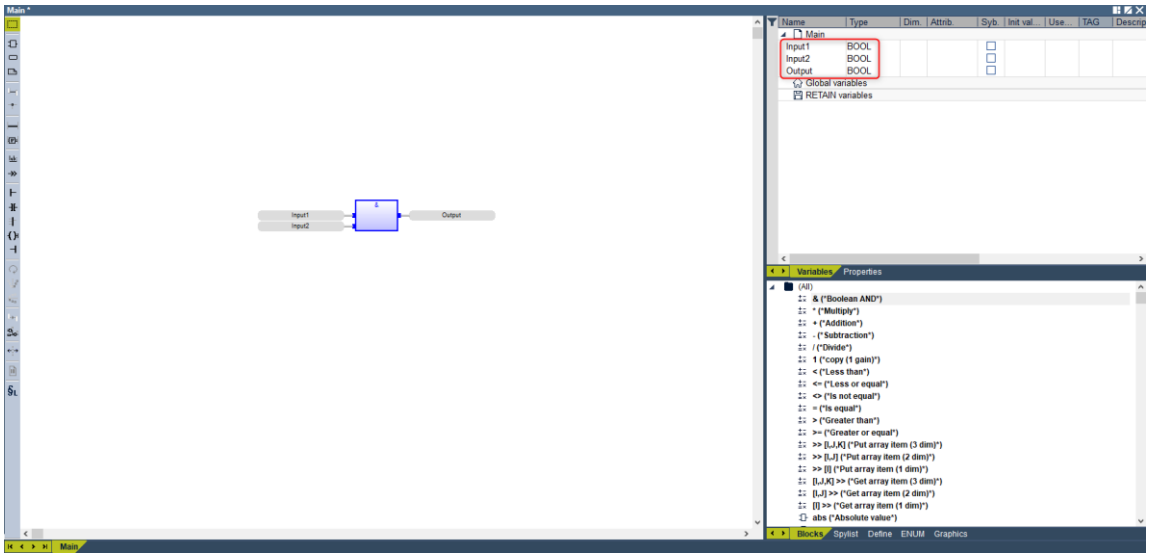
Click on Yes to finish.



Create the second variable. Here, « Input2 » type BOOL, in the Main program. Then the output variable. Here « Output », type BOOL, in the Main program.

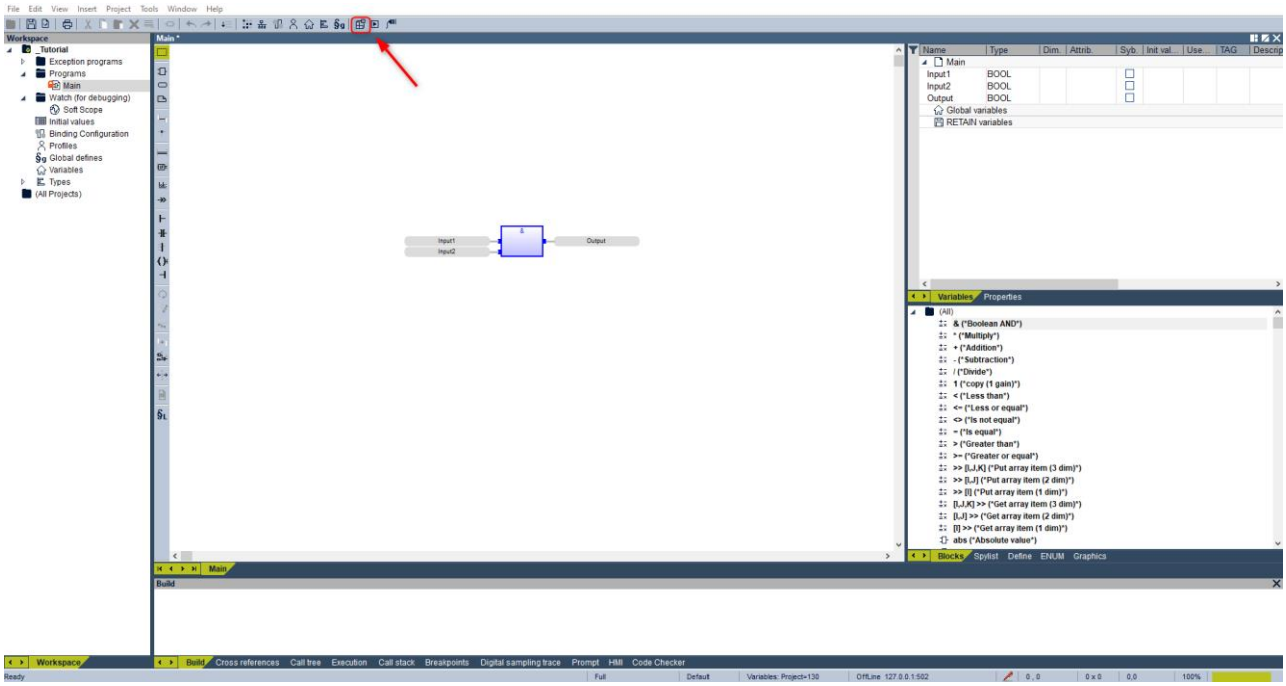


Variables are visible in the dictionary, on the top-right of the screen.



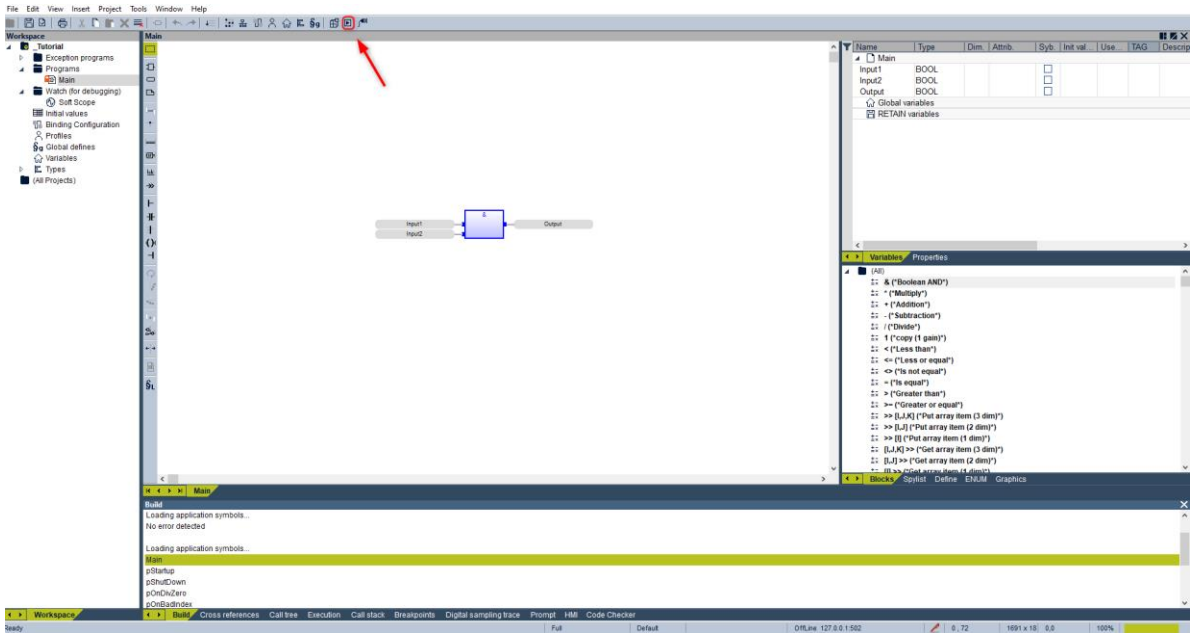
4.3. Building and compiling an application

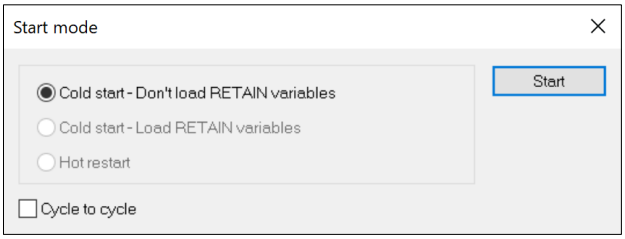
Now it is time to test the project. First, click on this icon ( ) in order to build the project:



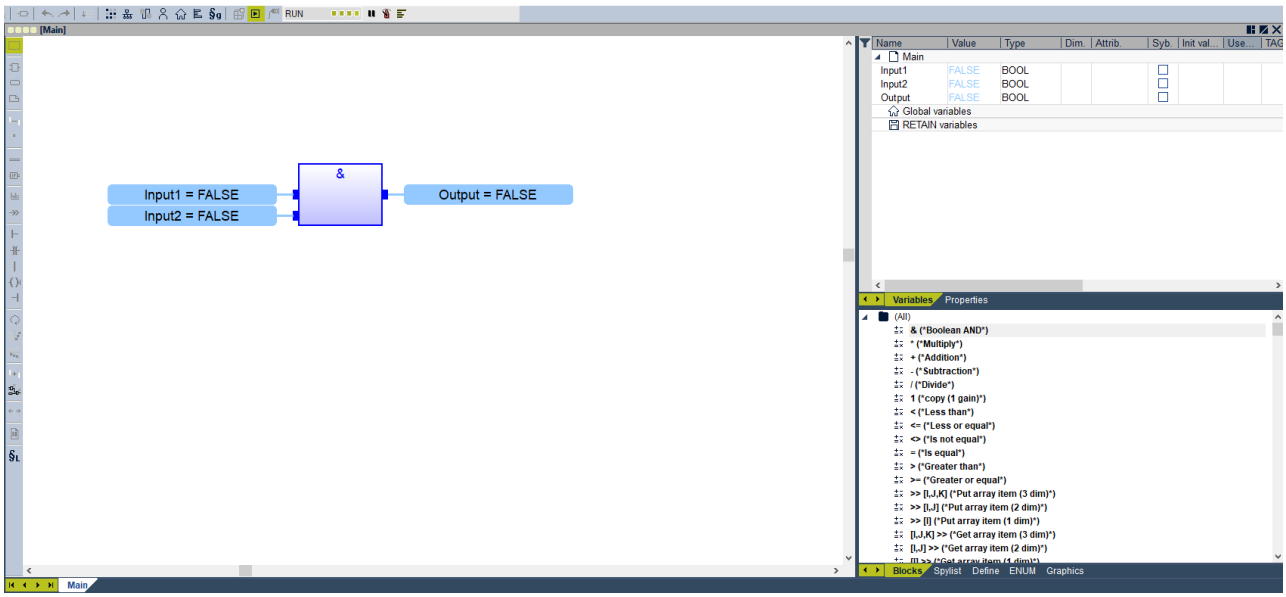
You can see the result of the compilation in the “Build” tab.

Then, to test the project, start the simulation mode:

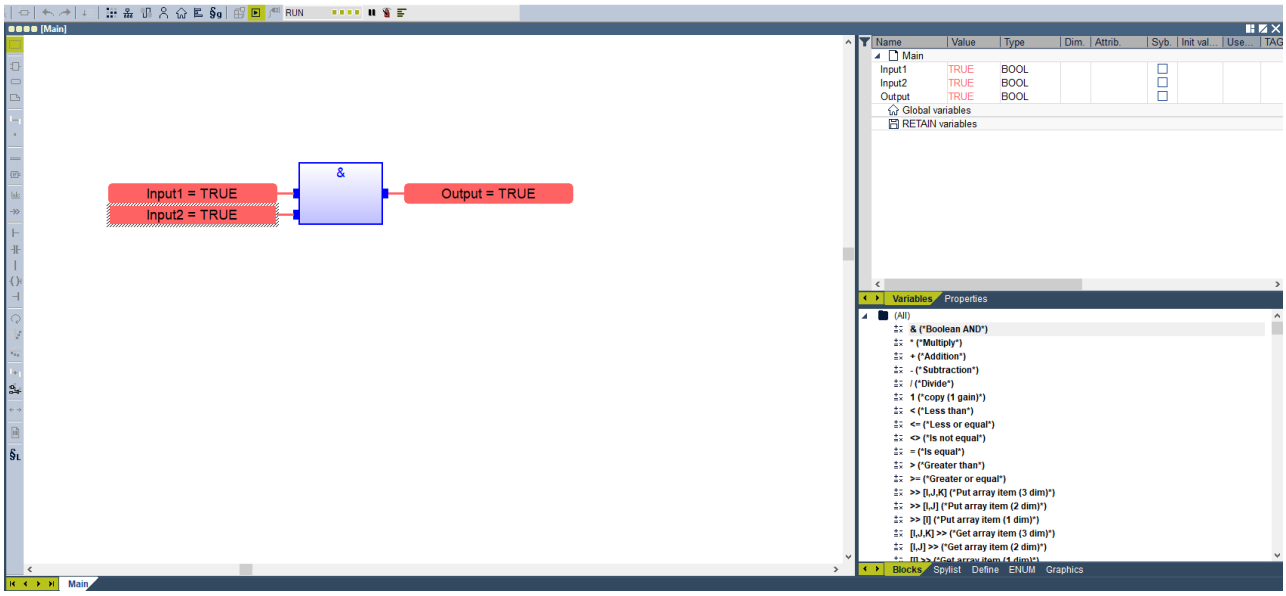




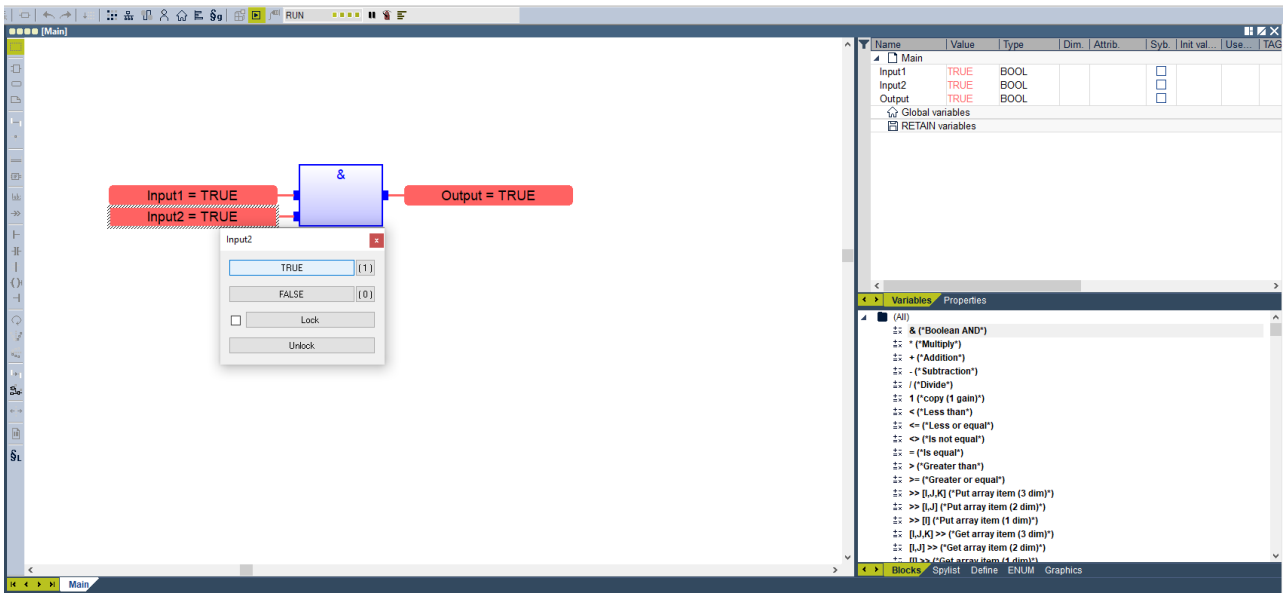
The project is now in simulation mode.



To change the variables state, click on it and press the spacebar. Here, the variable goes from blue to red when the variable goes from FALSE to TRUE.

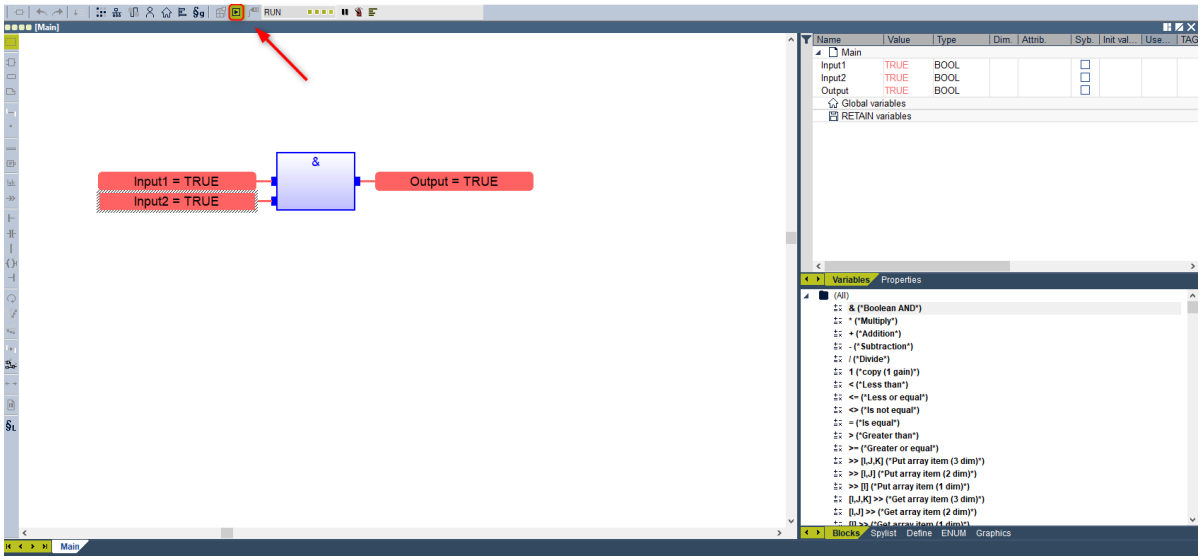


It is also possible to change a variable state by double clicking on it (in the program or in the dictionary)

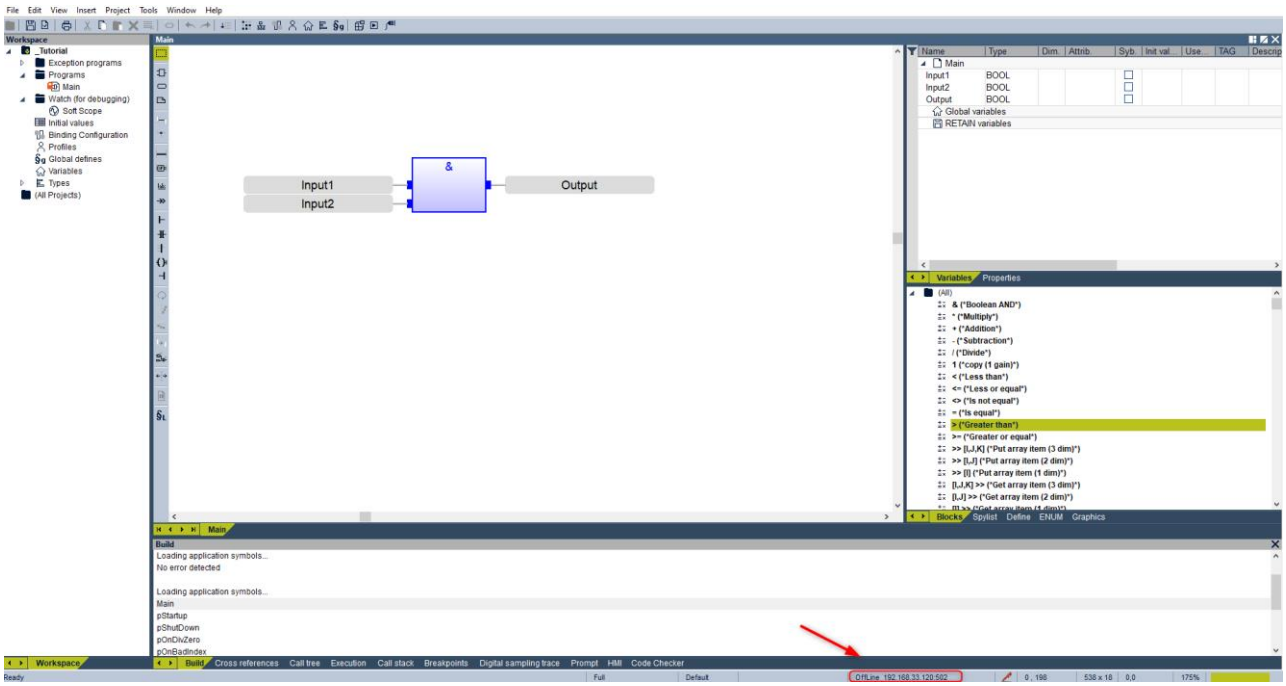


4.4. Downloading an application on a runtime

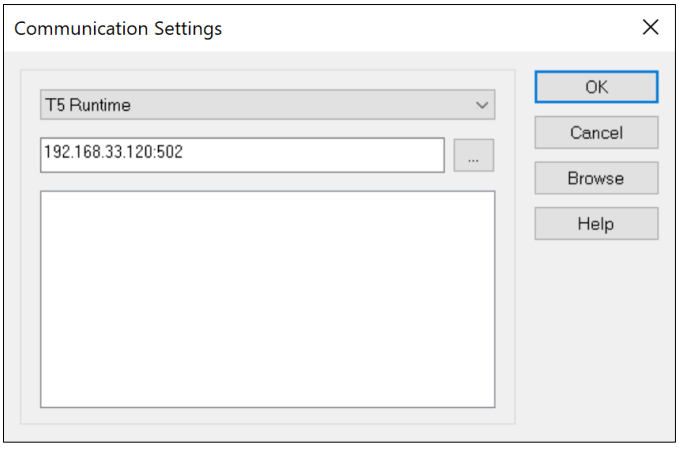
The project is now working correctly so it can be downloaded to a Runtime. First, exit the simulation mode clicking on the « simulation » button.



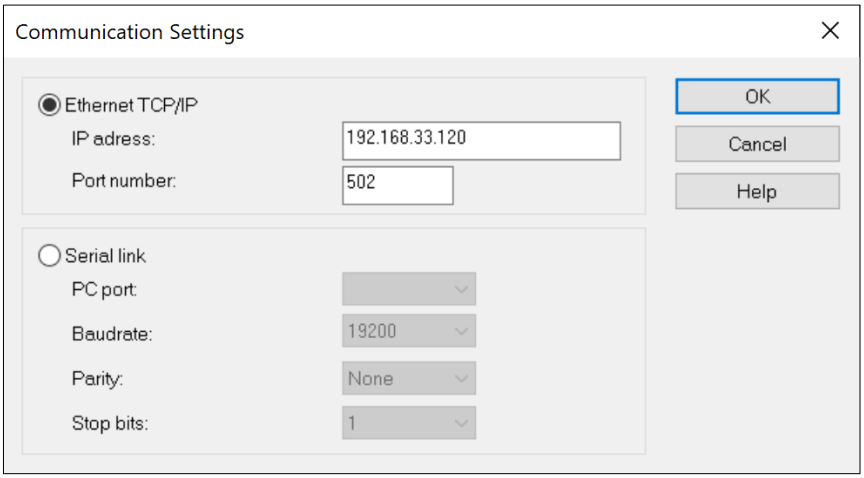
To set the communication parameters, double click on the bar at the bottom of the window.



Here it is possible to edit the communication settings. Fill the address and port of the runtime clicking on the [...] button.

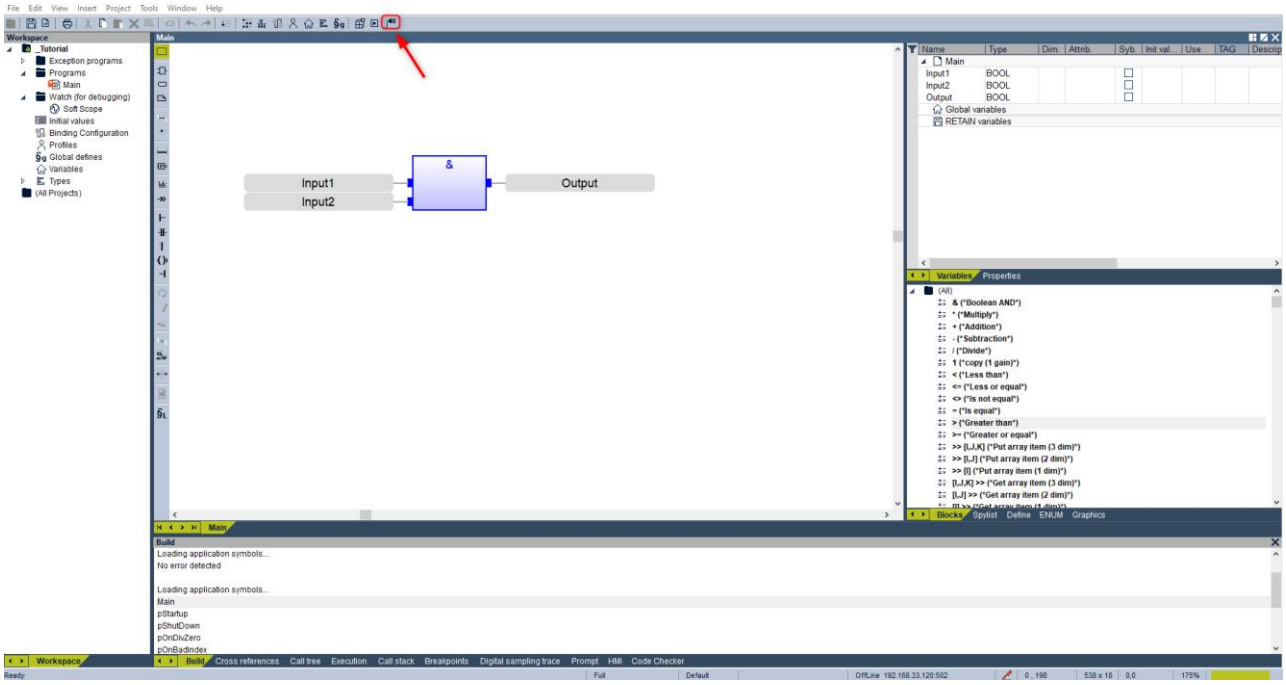


Set the communication settings. Then press OK.



Note: the default communication port on a Windows runtime is '502'. On specific runtimes (Linux, VxWorks, QNX…) it is '1100'.

Connect the Editor to the Runtime clicking on the « online » button.

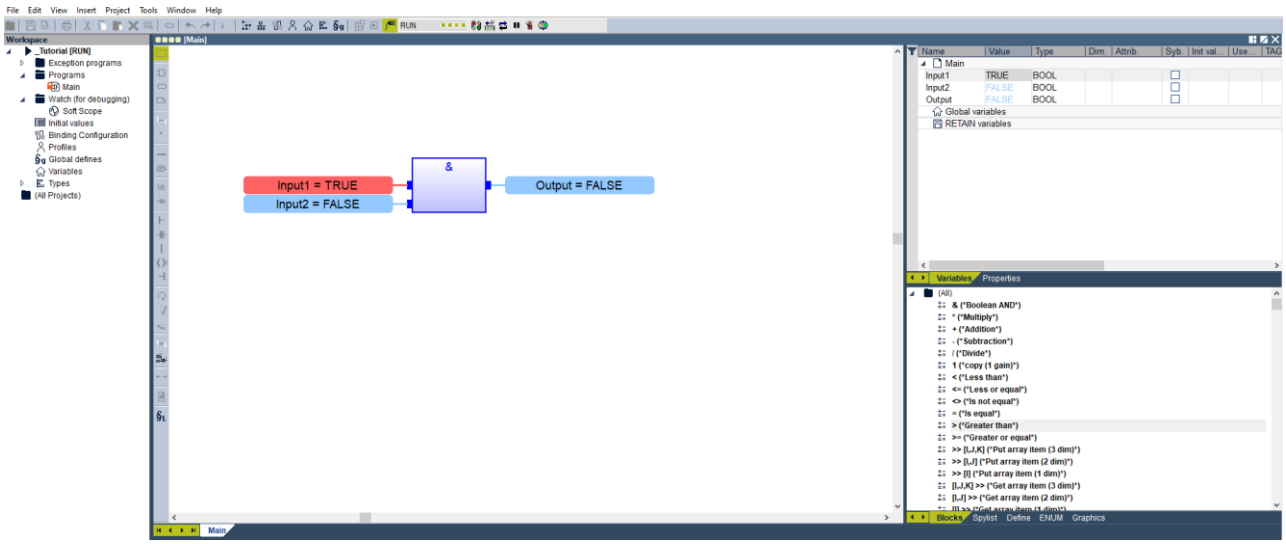


If no application is running on the Runtime, straton asks "do you want to download the application now?" click on "Yes".

Otherwise, the toolbar will show that you are connected to the runtime but it has no application.

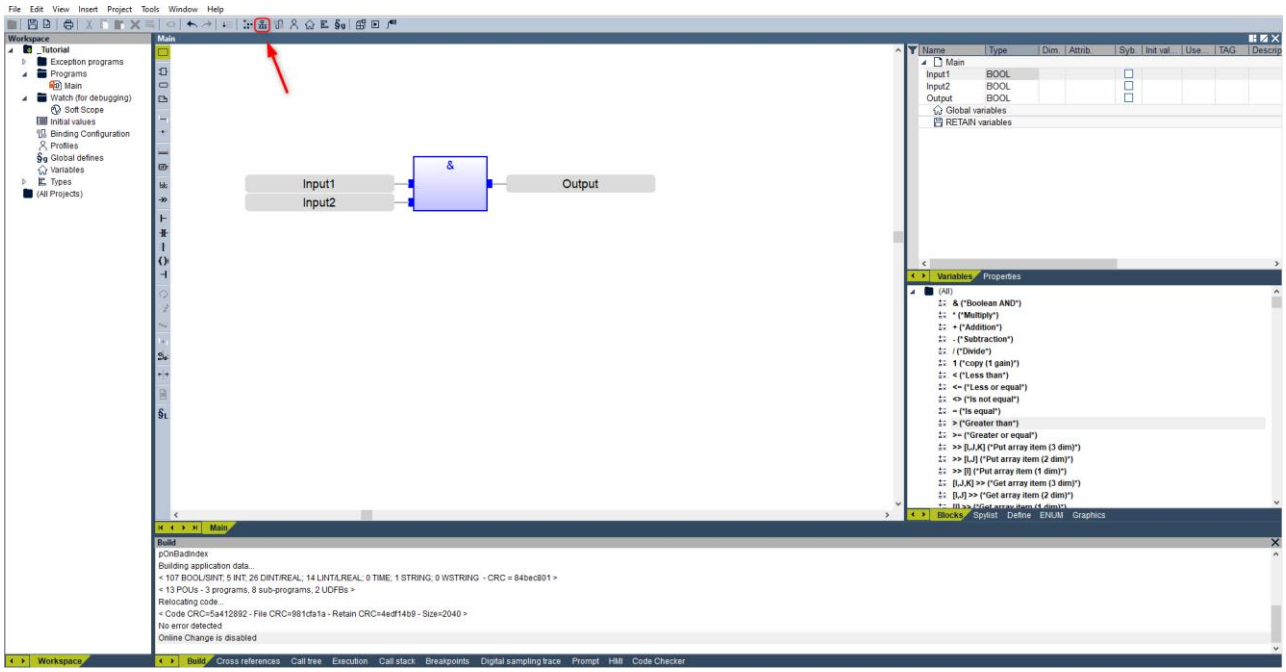
To start or stop an application which is loaded on the runtime, use the traffic light icon on the toolbar:

The application is now running on the Runtime. Variables values can now be modified as in simulation mode.

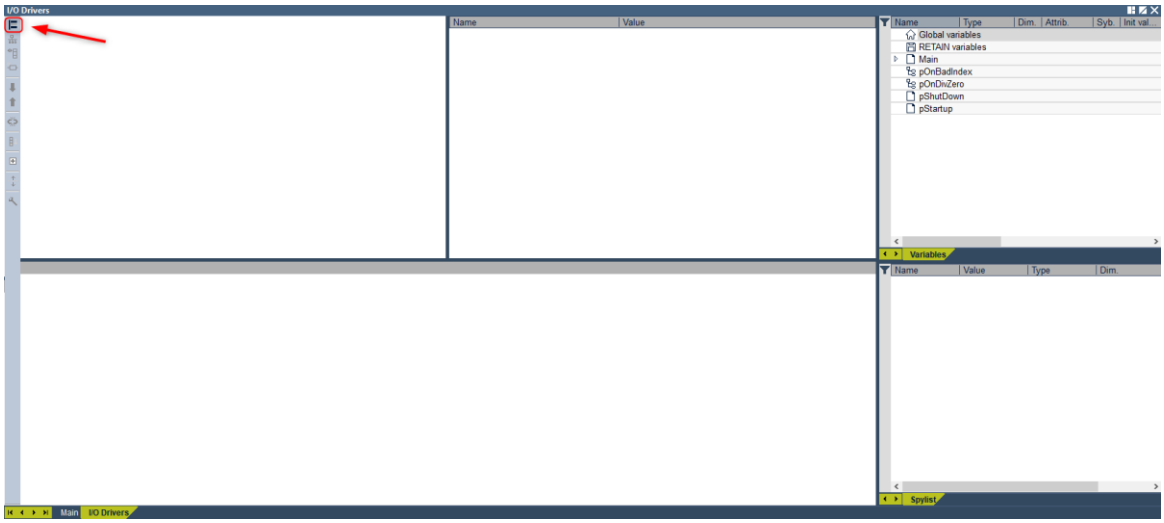


4.5. Fieldbus configurator

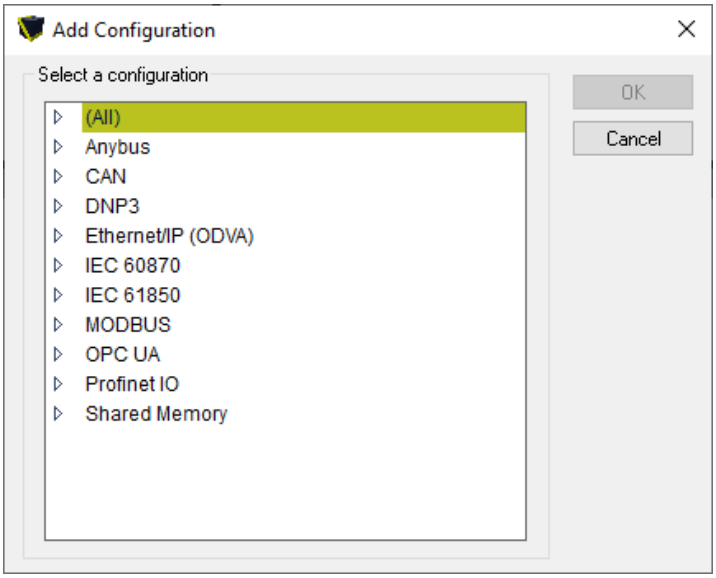
To configure the fieldbus parameters, start by opening the Fieldbus Configurations:



Click on “Insert Configuration” button:



From this window, choose the fieldbus to be used:

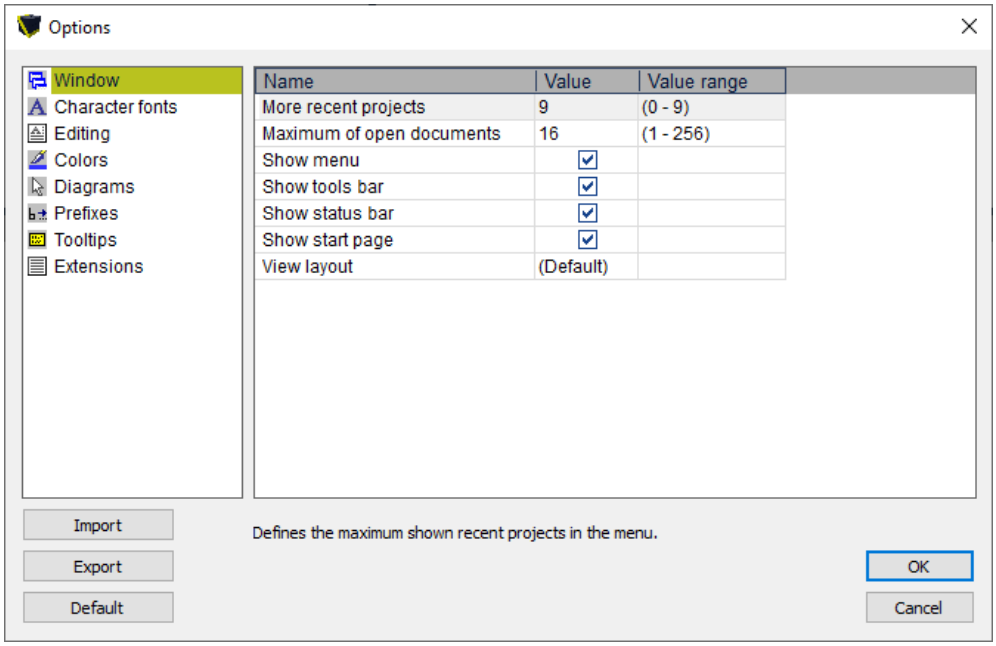


More help and detailed information about the fieldbus configuration is available in:
Help > Tutorials > Protocols.

5. Frequently Asked Questions

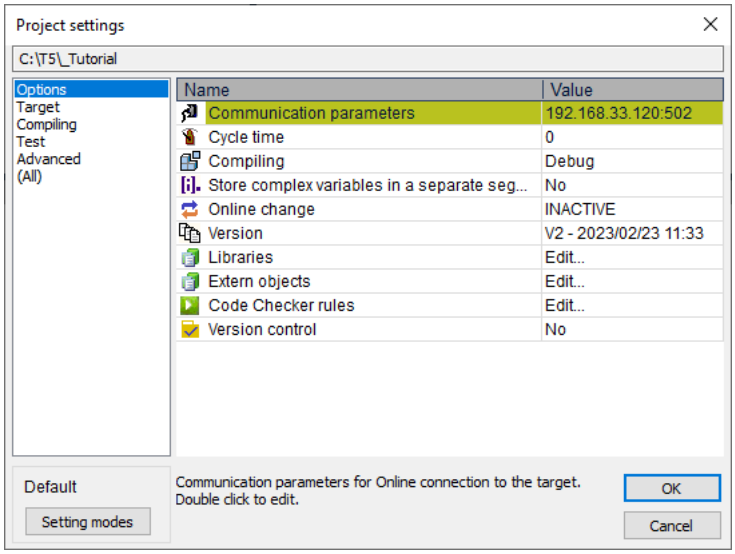
HOW TO MODIFY STRATON EDITOR OPTIONS?

Editor options can be changed clicking on Tools > Options



HOW TO MODIFY THE PROJECT'S SETTINGS?

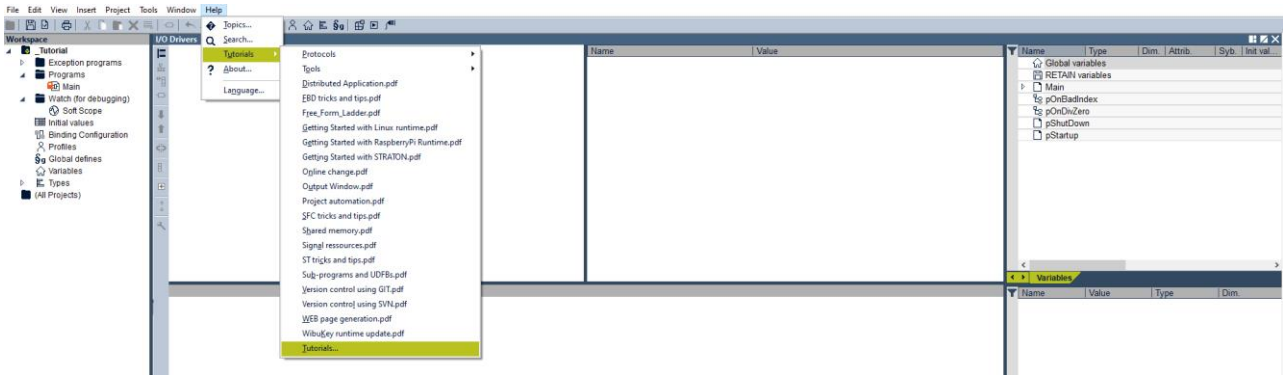
The project settings can be accessed doing a right click on the project and then clicking on Settings. The main settings can be found in the 'Options' tab.



WHERE TO FIND SOME ADDITIONAL HELP?

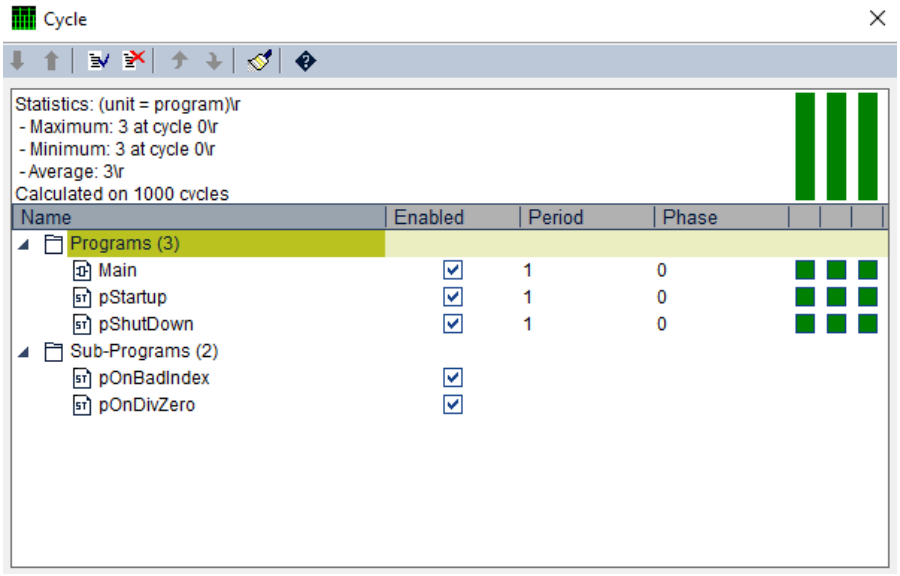
They are two ways to find advanced help:

- Access to the tutorials in: Help > Tutorials
- At any moment, select a specific element and press F1 to obtain more help



IS THE MAIN PROGRAM HAVING A SPECIAL ROLE?

In straton, the Main program does not act differently than the other ones. It is possible to change the programs execution order and cycle by right clicking on the project > Cycle.



HOW TO ACTIVATE/DEACTIVATE TRACK CHANGES?

If active, the track changes marks modifications in the main window with the defined color.

The track changes can be activate/deactivate using Tools -> Options -> Editing -> Track changes.