

X-Trade Brokers Dom Maklerski S.A.

XTB Expert Builder

Tutorial

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2010-08-05

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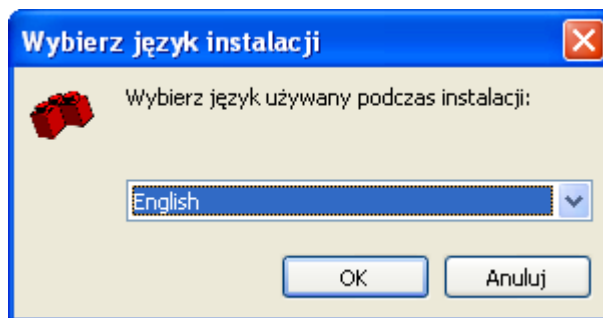
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Installation

The installation of XTB Expert Builder is very simple process. Just double-click on installer and follow the instructions:

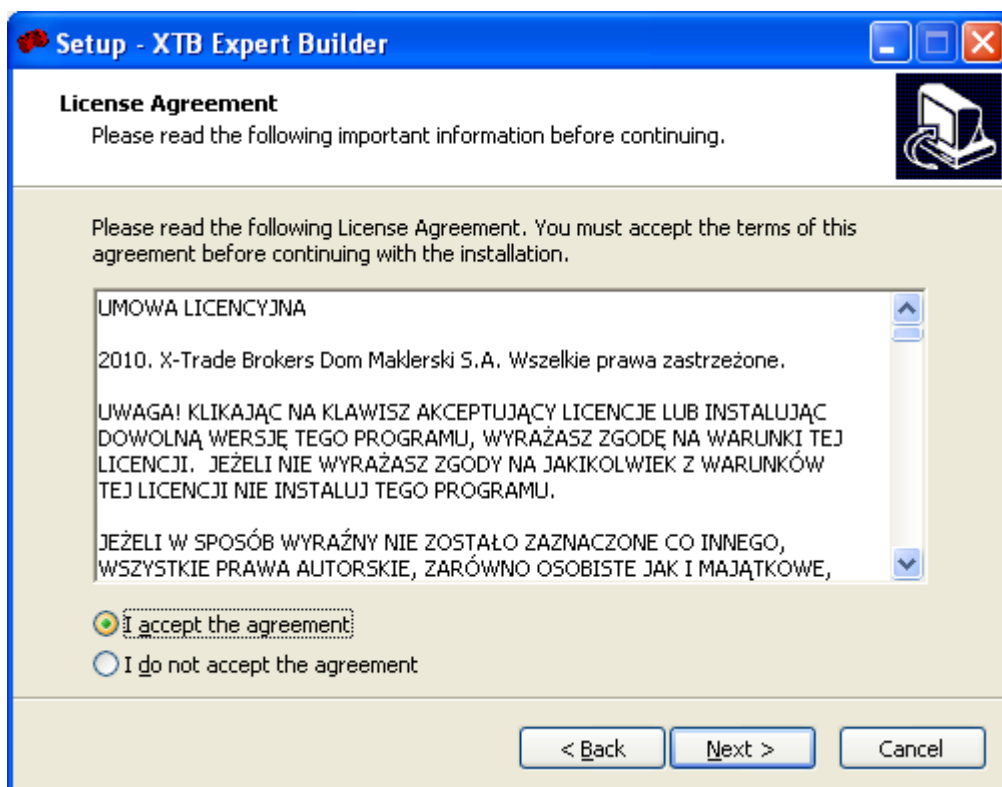
- 1) Choose the language of installer.

The installer has many language versions. Choosing the language of installer will help you with using installer in most comfortable way.



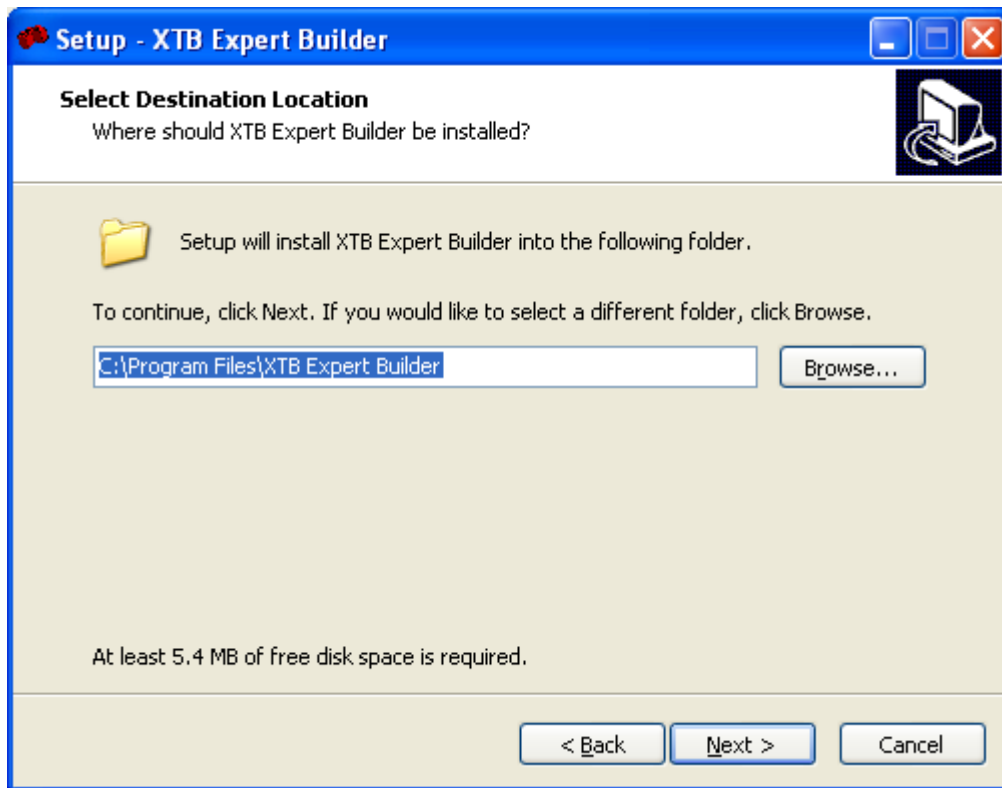
- 2) Read the license agreement.

If all regulations contained in license agreement are acceptable for you, then accept the license agreement by clicking appropriate option. Please remember that the program cannot be installed if the license agreement was not accepted.



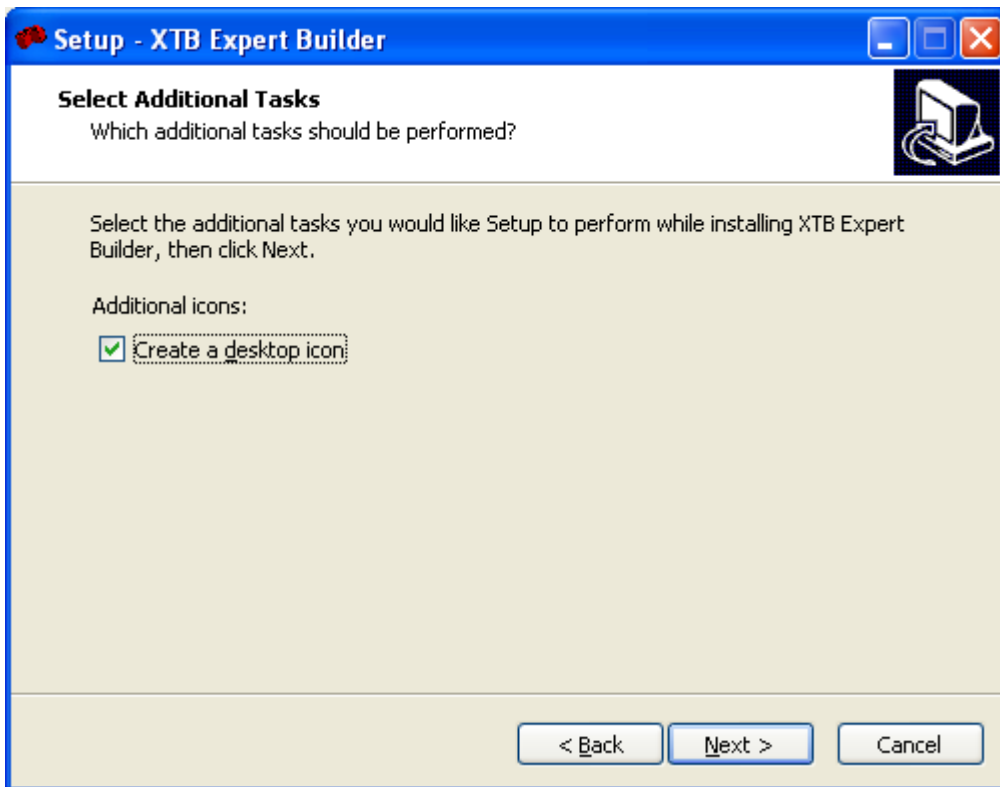
- 3) Choose the installation folder.

You can choose where the XTB Expert Builder will be installed. Every location will work good, but it is advised to use default location suggested by installer.



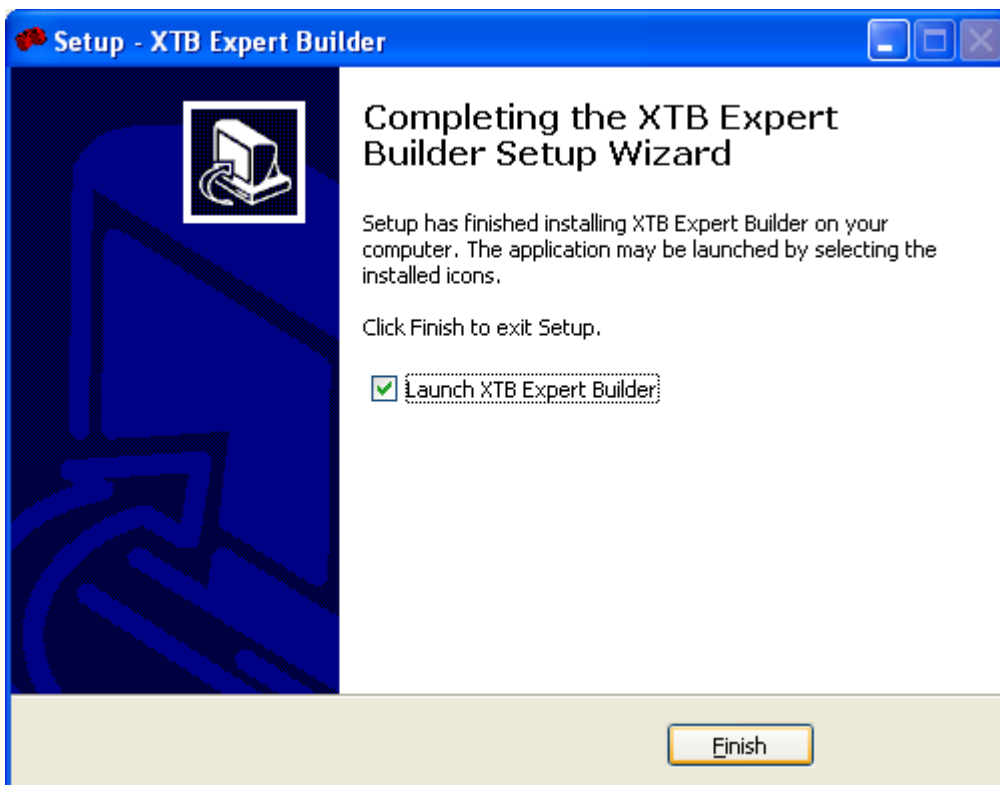
4) Create a desktop icon

For easier access to the XTB Expert Builder you can choose to put icon of program on your desktop. This will make starting the program even easier and faster.



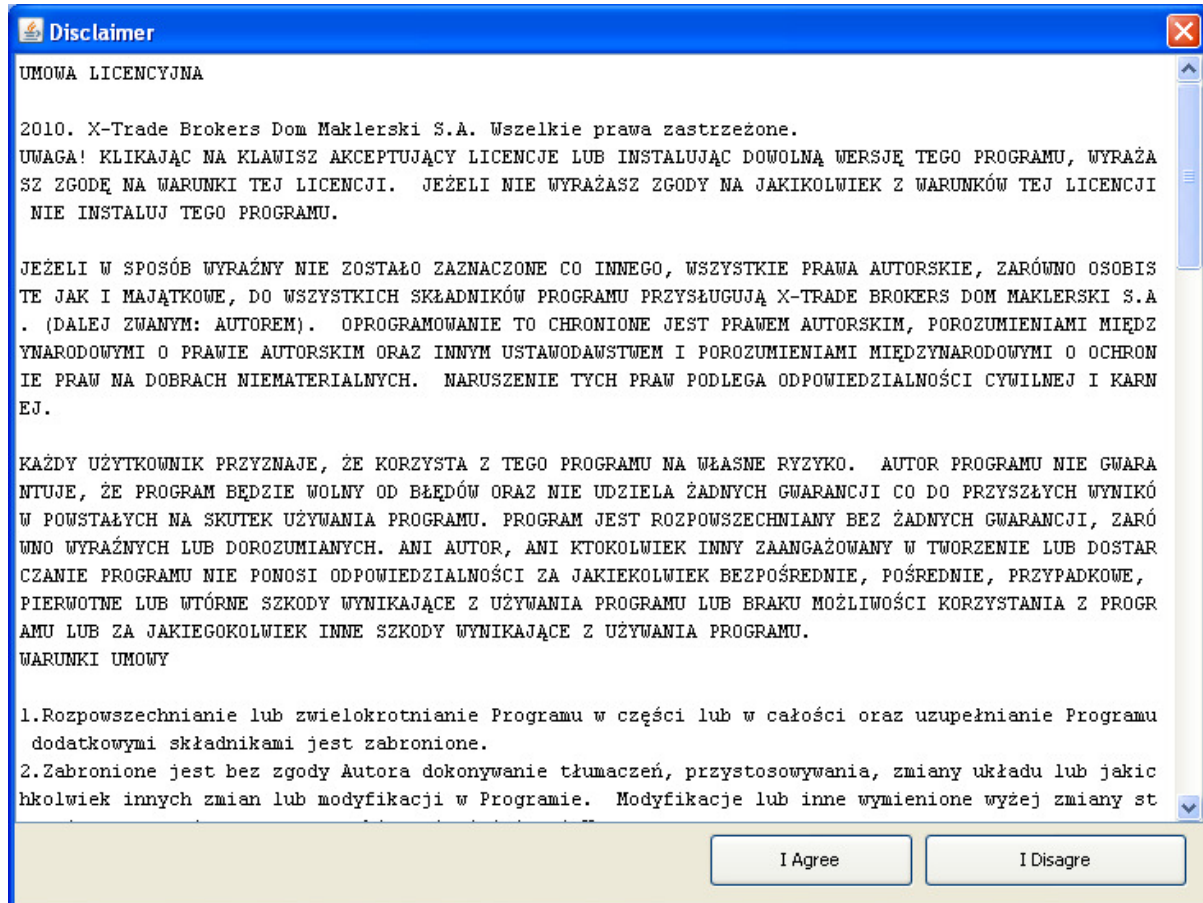
5) End the installation and run the program.

The program has been successfully installed and is ready to use. You can choose to Launch XTB Expert Builder right after the installation. Of course you can also use the Start Menu or desktop icon to start the program.



Congratulations! You are ready to discover how easy making own Expert Advisors is.

Legal notification

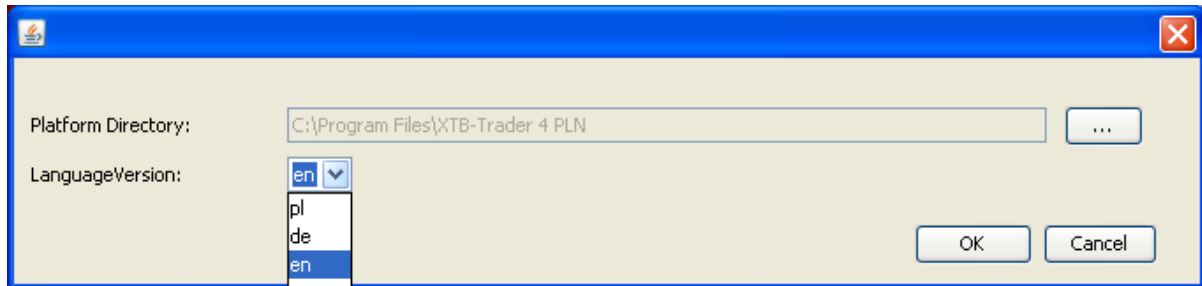


It's very important to understand how powerful tool is the XTB Expert Builder. Because of this we made license agreement appear each time you run the program or compile your strategy.

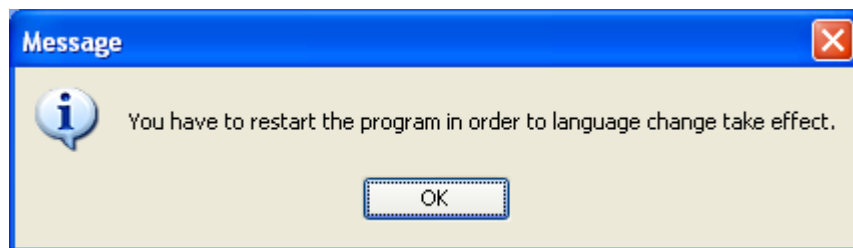
Initial adjustments / Preferences

When you run the XTB Expert Builder for the first time two preferences have to be set. Both are available from Options -> Preferences menu. These two preferences are: Language and XTB-Trader platform folder.

Language

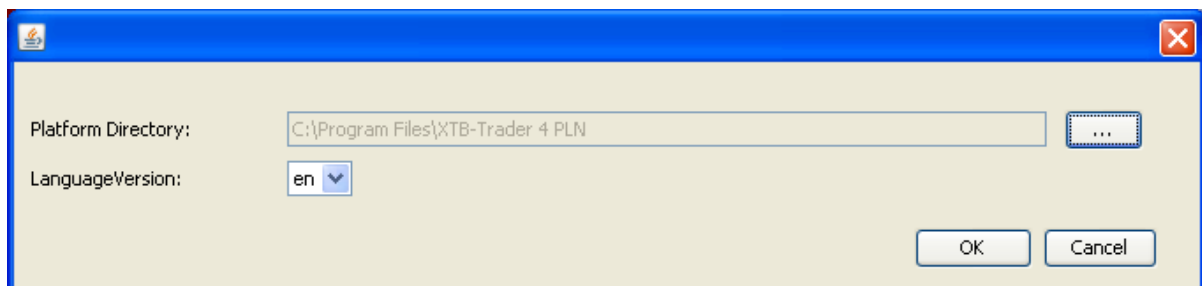


You can choose the language which will fit you best from the drop-down menu. When you change the language and press OK button, then the following message should appear:



It means that you have to close and then start once more the program in order to make language change persistent. Please note that if you not change the language, then the message above will not appear, and therefore there will be no need to restart the application.

Platform folder



It's the most vital thing to choose your XTB-Trader platform folder. Without this you cannot build your blocks into working Expert Advisor. By default XTB-Trader is installed in: C:\Program Files\XTB-Trader 4\ folder. Just click in "..." button, choose the XTB-Trader platform folder, and press OK button.

Vista/Windows 7 Permission Problem

Sometimes during choosing platform folder operation the error occurs. It happens when the other applications are not permitted to input Expert Advisors into XTB-Trader platform folder. The solution is the changing the permissions for XTB-Trader platform folder. You can change it by:

- right-clicking on the XTB-Trader Platform folder, choosing Preferences.
- Click on the Securities tab
- Click on Edit button
- Choose Users group from the list.
- Click on the Full Control checkbox in the Allow column.
- Click OK.
- Re-try choosing the folder.

If this solution not works from some reason, then you should ask your System Administrator to change permission for this folder.

If this cannot be done (or still not solves the problem), then there is the last solution which should work on every computer. Install the XTB-Trader platform in your Documents folder. Then choose new platform folder (installed in Documents folder) from your XTB Expert Builder Preferences Window.

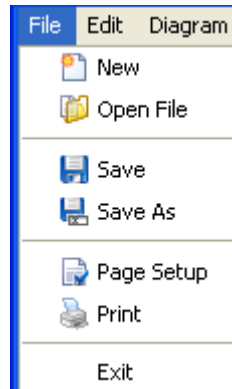
Main screen

Main Menu

File Edit Diagram Options Help

The main menu contains 5 sub-menus: File, Edit, Diagram, Options and Help.

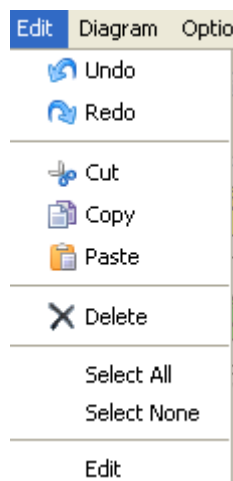
File



The File sub-menu contains default file operations like:

- New – opening new Strategy Builder Diagram.
- Open File – opening strategy diagram file. These are the files with .xtb extension.
- Save and Save As – for saving the strategy diagram file.
- Page Setup and Print - for Printing the diagram.
- Exit - for exiting the XTB Expert Builder.

Edit

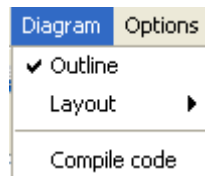


The Edit sub-menu contains default operations which could be done on the blocks:

- Undo – undo the operations made on the blocks.
- Redo – redo the operations done on the blocks.

- Cut - cuts the selection from the diagram and transfers it to clipboard.
- Copy – copies the selection to the clipboard.
- Paste- pastes the content from the clipboard to the chart.
- Delete- deletes the selection.
- Select All – selects all blocks and edges on the chart.
- Select None – un-select all selected items.
- Edit – edits currently clicked block.

Diagram



The Diagram sub-menu contains three possible diagram operations:

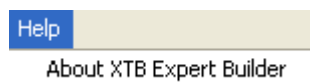
- Outline – opens or closes the preview of the diagram.
- Layout – allows the order the blocks on the chart
- Compile code – compiles the blocks into Expert Advisor. Remember that valid XTB-Trader platform folder have to be set in order to do this step.

Options

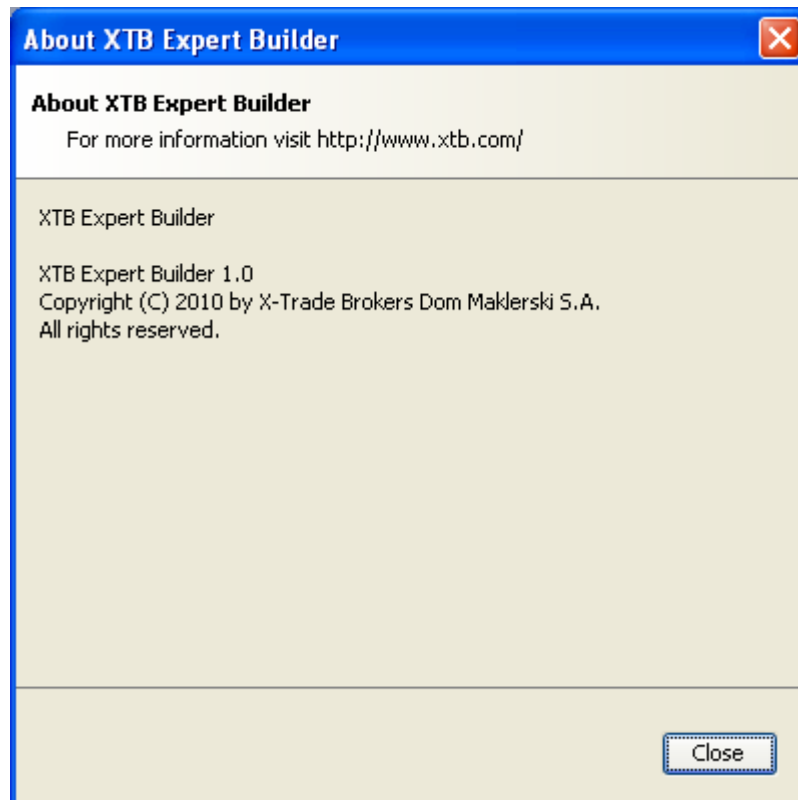


The Options sub-menu contains only one operation – the Properties window which were described in previous chapter.

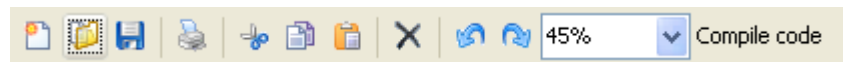
Help



Help sub-menu contains the About window with information about XTB Expert Builder.



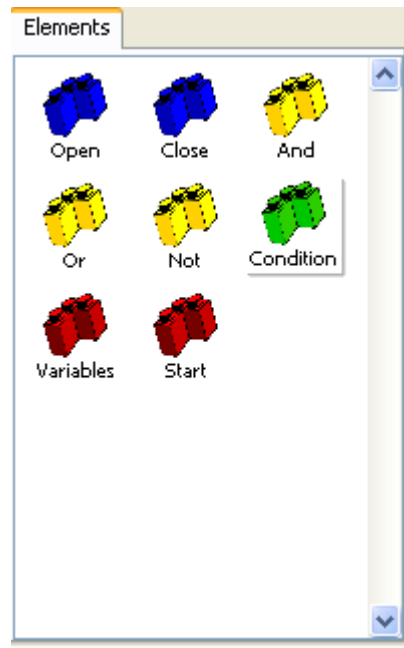
Toolbar



The toolbar is a shortcut for operations available from main menu. The available from Toollbar are in order:

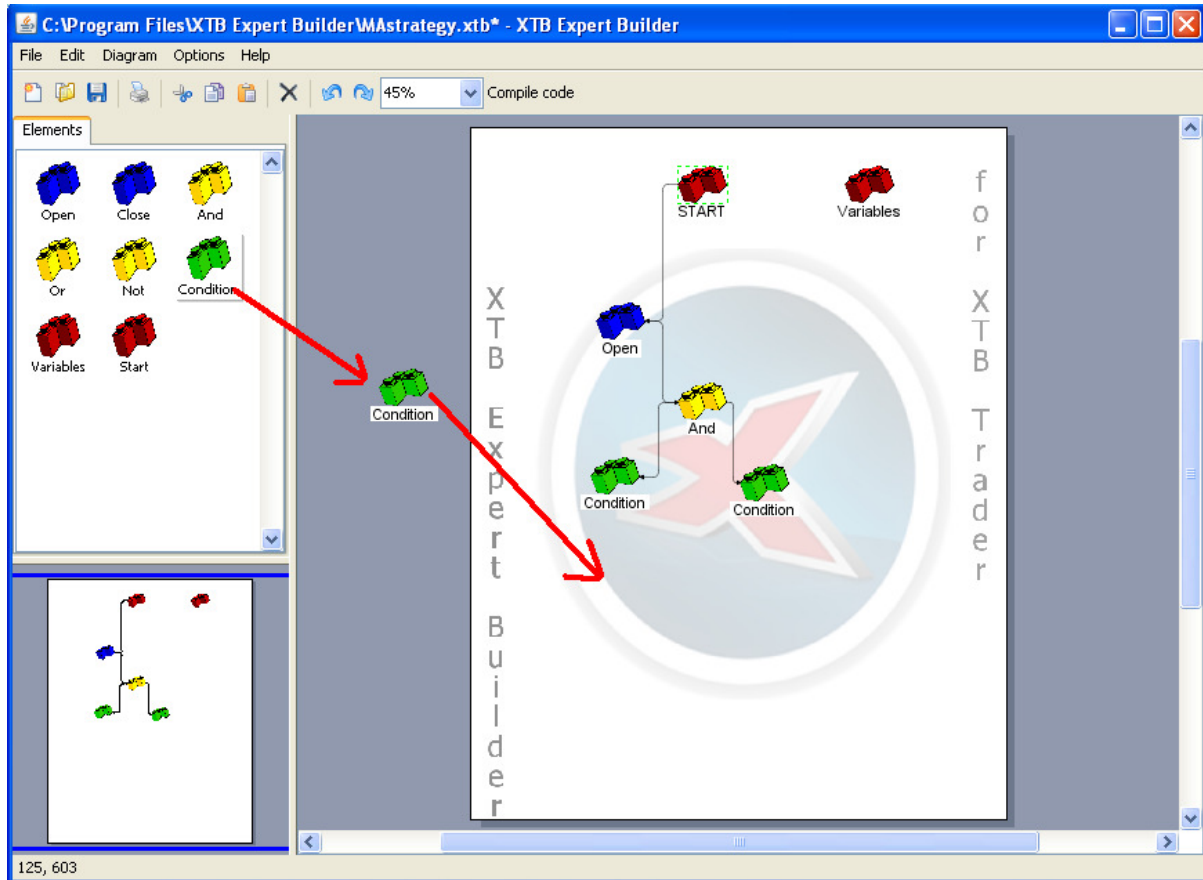
- New – opening new Strategy Builder Diagram.
- Open File – opening strategy diagram file. These are the files with .xtb extension.
- Save – for saving the strategy diagram file.
- Print - for Printing the diagram.
- Cut - cuts the selection from the diagram and transfers it to clipboard.
- Copy – copies the selection to the clipboard.
- Paste- pastes the content from the clipboard to the chart.
- Delete- deletes the selection.
- Undo – undo the operations made on the blocks.
- Redo – redo the operations done on the blocks.
- Zoom – changing the size of the diagram
- Compile code – compiles the blocks into Expert Advisor. Remember that valid XTB-Trader platform folder have to be set in order to do this step.

Elements Panel



Elements panel provides every kind of blocks necessary to build successful strategy. In order to choose element just click on it and drag to their destination on the diagram. The elements will be described later in this tutorial.

Moving the blocks



The blocks can be moved by simply clicking on it and dragging. Please note that the same gesture (click and move) works for moving the blocks and connecting them. If you click on the **border** of the block on workspace and move the cursor, then the block will be moved. In the other hand, if you click in the **center** of the block and move the cursor the special line will appear and the blocks can be connected. The process of connection of the blocks is described in the next chapter.

Connecting the blocks

The blocks have to be connected each other in order to describe the logic of the Expert Advisor. There is some rules regarding connection of the blocks. Some connection configurations are simply forbidden (mostly because it will be meaningless for logic of the program).

The rules of connections are described below:

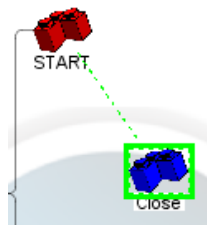
- Variables Block cannot be connected to any other block.
- Edges can begin from START block, but cannot come other way (to START block)
- Edges from START block can connect only to Open and Close blocks
- The Open and Close can be connected to START block, and can be connect to logic blocks (Condition, And, Or, Not)
- And, Or and Not can be connected to Open, Close and any of logic block
- Condition can be only the destination for the edge. It can't be the source of an edge. It simply means that Conditions are in the "bottom" of the Diagram

In order to connect the blocks you have to do following operations:

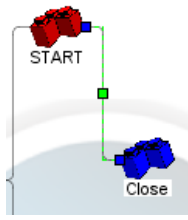
- Drag on the **center** of the block which will be the source block for the edge. The green rectangle should appear like on image below.



- Click on the center of the source block and drag mouse to the block which will be destination of the edge. The green rectangle should appear around target block(like on image below).
CAUTION: if the connection between blocks is forbidden, then the rectangle will be red. If you release the mouse button, then the appropriate message suggesting solution will appear.



- Release the mouse button. New connection should appear.



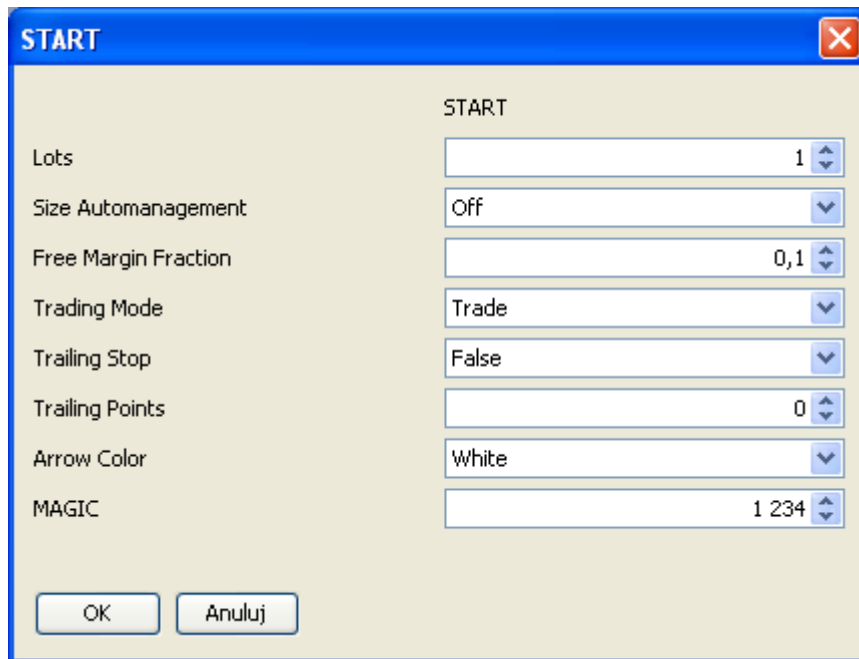
Main options of Expert Advisor

START Block



The START block is responsible for main settings of the strategy. The settings are:

- Lots – the size of each trade made by the strategy
- Size Automanagement – option which when turned On disregards previous Lots settings during calculation of order size. This option calculates size of each opened order that it will take Fraction of Free Margin (next value) as deposit.
- Free Margin Fraction – described above
- Trading mode- chooses mode of the Expert Advisor. Available modes are:
 - o Trade – the Expert Advisor will trade.
 - o Alert – the Expert Advisor will not trade, but only send mail (on the address set in XTB-Trader Platform preferences) to the user .
 - o Both – the Expert Advisor will do both: trade and alert the user.
- Trailing Stop – if set to True, then trailing stop mode is enabled, and all orders made by strategy will have applied trailing stop with number of Points defined in Trailing Points field.
- Trailing Points – described above
- Arrow color – color of the arrow which will appear on the
- MAGIC – special number which identifies orders made by this strategy. If the number is different than zero, then the strategy will close only the strategies with their number. (of course if there are two strategies ran simultaneously with the same MAGIC number, then they could close their order each other). It is advised to change this setting for each strategy which has been made.



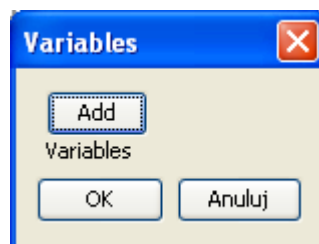
Variables



Variables

The Variables block contains variables which could be then changed and optimized in the XTB-Trader platform. It could be stoploss values or Moving Average Period. The process called Optimization can be made thanks to Variables. This process can change losing strategy into one making profits. It's all about changing variables values.

In order to Add new variable just click Add button:



Then fill the name of the variable on the left and their initial value on the right (this value can be changed and optimized in XTB-Trader platform). The name of the variable can contain only letters (lowercase and uppercase). No numbers or spaces are allowed. Also, the name of variable is limited to 30 characters. The program will prevent to enter wrong variable name.



Then you can choose each variable in the field with decimal values in Condition block or Open/Close blocks.

Control of the position

In order to open or close trade you need the appropriate blocks. These two blocks are blue Open and Close blocks. After setting the values inside them, you have to add logic which tell the strategy when the order should be opened, and when closed. It is done by connecting the open and close blocks with logic blocks.

Opening the trade

The Open block serves for Opening the trade. You can choose the type of trade (Long or Short position), Stoploss value for opened Order in points and Takeprofit value in points. You can also write the comment which will appear in the order list. It's important to know that each strategy made in XTB Expert Builder can have only one order opened in each time. This means that to open next order, the previous one must be closed. (the strategy can open order, close, and open another).



Open

Trade Type: Buy

Stoploss in Points: 0.0

Takeprofit in Points: 0.0

Comment:

OK Anuluj

Closing the trade

In Close block all it is needed to choose is what kind of order (Long or Short) you want to close with the connected logic.



Close

Trade Type: Buy

OK Anuluj

Logic Blocks

The Logic Blocks are the core of every strategy. The main logic is in Condition Block, but to compose the logic which will send signals there is a need of other logic blocks. Every block sends true or false signal up by the edges to which are connected. The signal comes from Condition on the bottom of the structure of the diagram, and comes by other logic blocks to Open or Close block. If true signal came to the Open or Close block, the Expert Advisor will Open or Close order, according to which block the information came.

And Block



This block connected to two other logic blocks makes conjunction. It means that all logic parts under the And must be true to make true signal from And block.

Or Block



This block connected to two other logic blocks makes alternative. It means the it is sufficient that one logic part under the Or block have to be true to send true signal from Or block.

Not Block

This block can be connected to one logic block. It reverses their signal. It means that if block under sent true signal, then Not block will send false signal. If block under sent false signal, then Not block will send true signal.

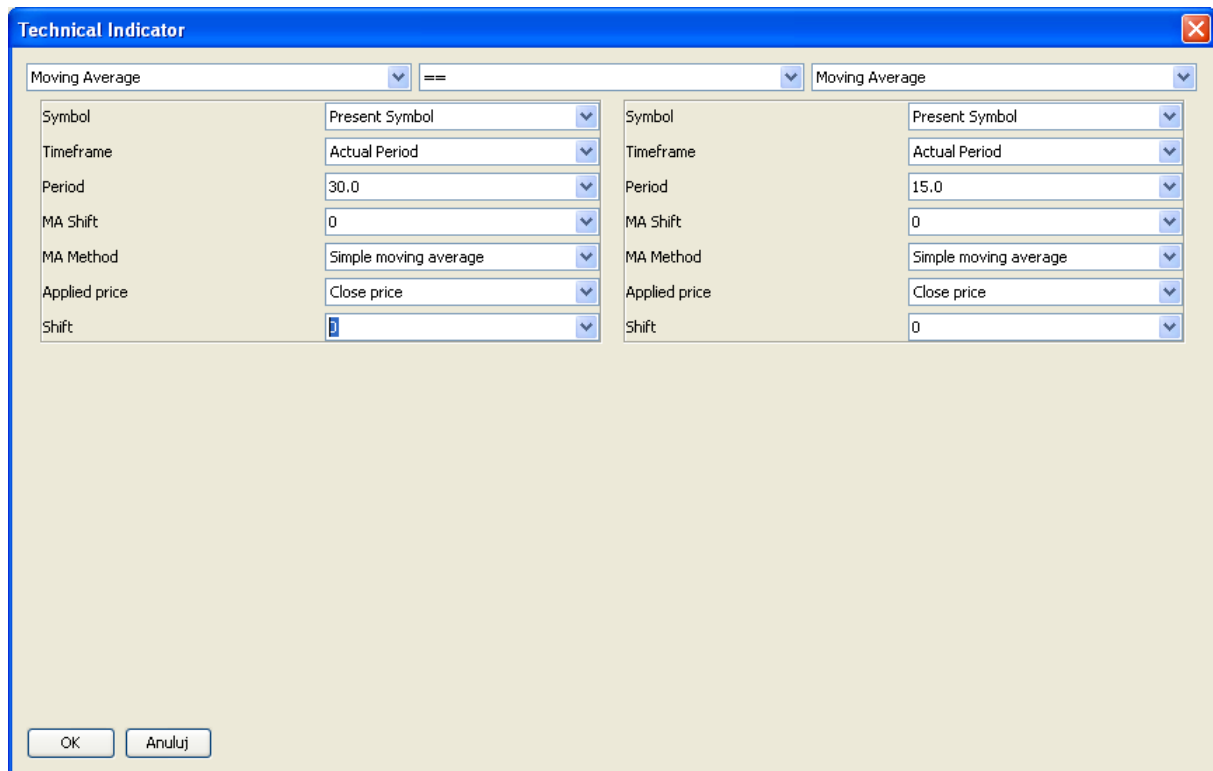


Condition Block

Condition is the most important from logic blocks. It comes on the bottom of the block structure. It their fundament, when the START block is the top of the structure. These fundaments are making the heart of the strategy.



Each Condition block contain information regarding two technical analysis indicators which gives some numeric value in return. Then both this indicators can be compared. For example on the image below we compare two Moving Averages. In this example the signal **true** is sent, when this two Moving Averages are perfectly equal (it could be a crossed moving averages on the chart).



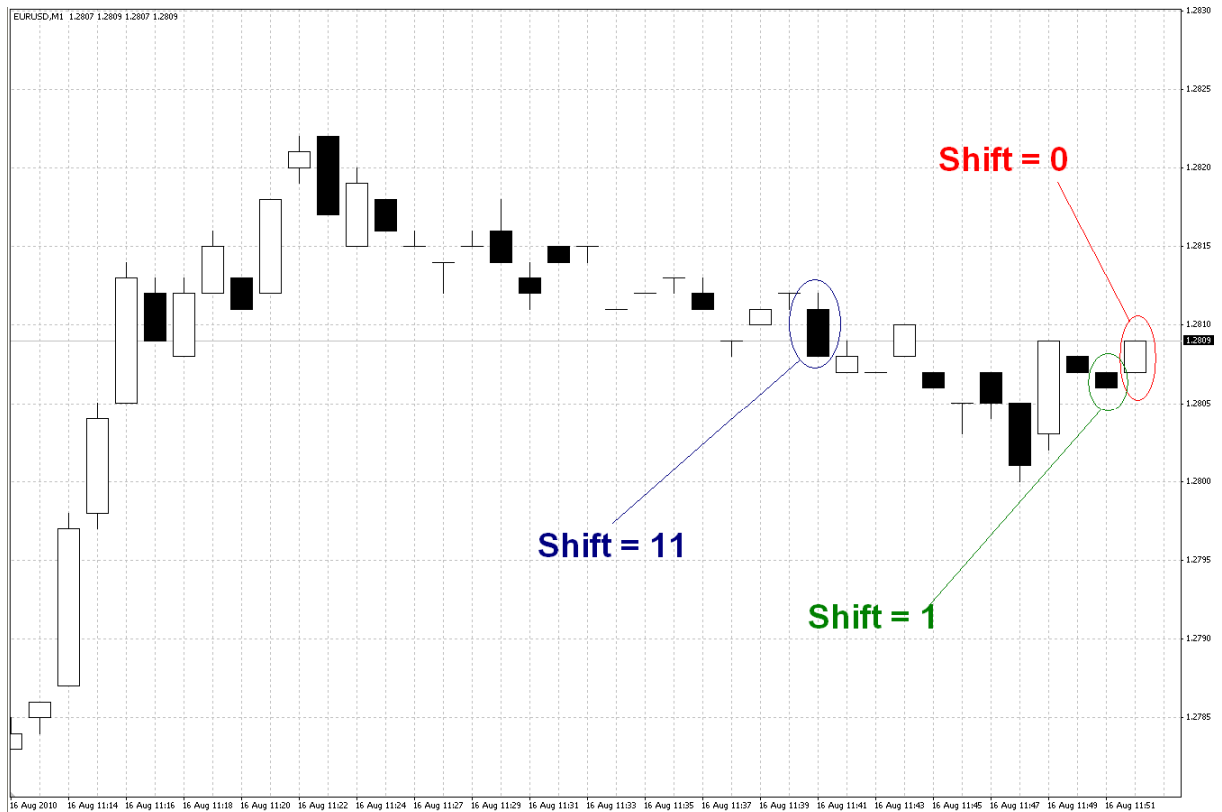
You could check whether:

- == - the left and right indicator are equal
- != - the left and right indicator are not equal
- > - the left indicator value is higher than the value of the right indicator
- < - the right indicator value is higher than the value of the left indicator
- >= - the left indicator value is higher or equal to the value of the right indicator
- <= - the right indicator value is higher or equal to the value of the left indicator

There are many Technical Indicators included in XTB-Trader platform. To check properties of each one please look into the site: <http://docs.mql4.com/indicators>

The importance of Shift parameter

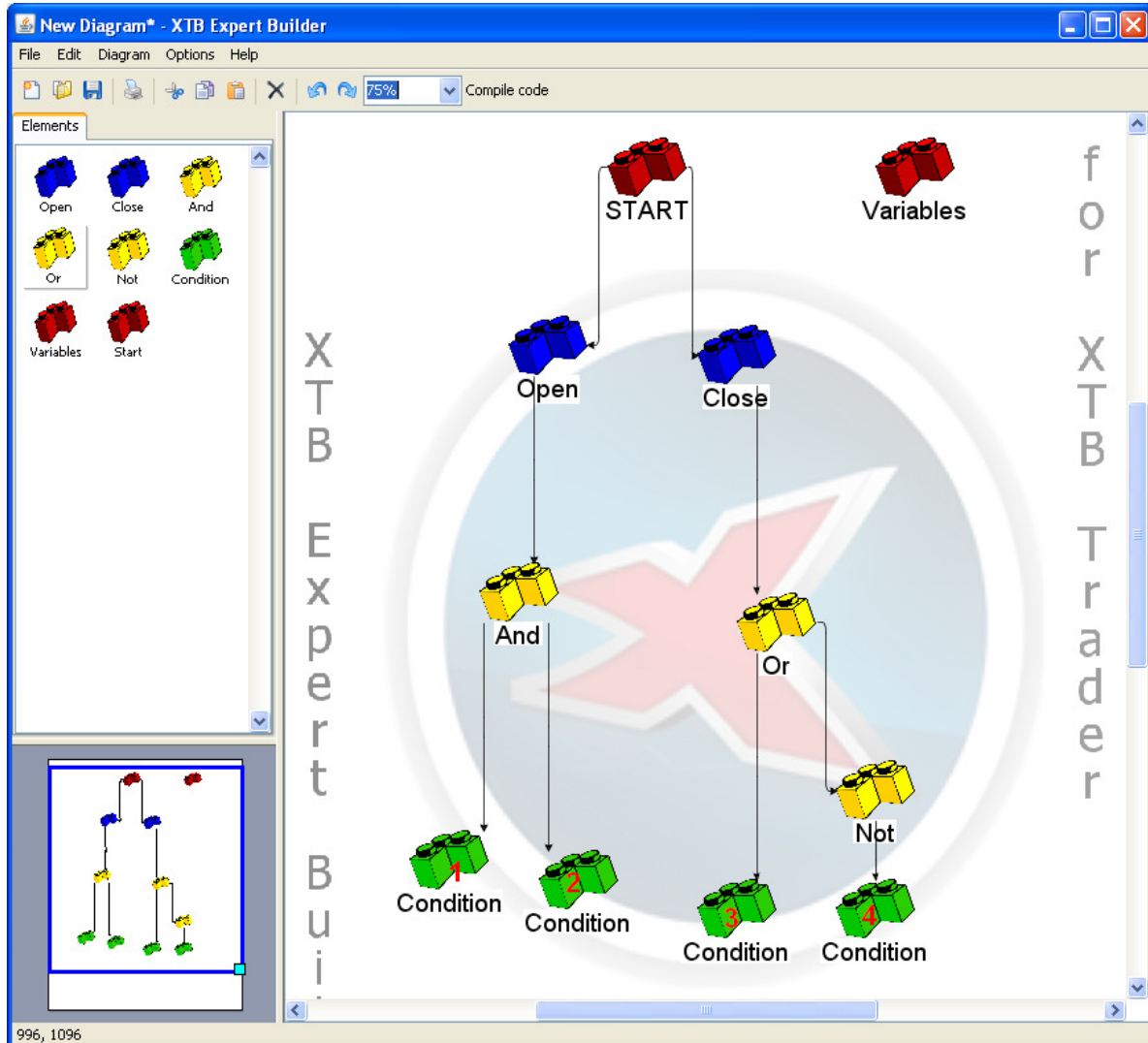
The Shift parameter can be described as last but not least parameter of every Technical Analysis Indicator. The meaning of the Shift parameter is very simple. It's the number of Bar on the chart for which the indicator will be calculated. It implies that there is some way of counting Bars. And this exactly happens. The present Bar (the one which is currently drawn by change of the prices, the one which is still not closed) has number 0. If the indicator should be calculated for this Bar then shift should be equal to 0. However, most of the strategies relies on the already closed Bars (which will not be changed). The last Bar, which not be changed is in position 1. It means the if the indicator should be calculated for this bar, then the Shift parameter should be equal 1.



The image above shows how the shift parameter works. Of course each Bar will change the number when the completely new Bar will appear on chart.

Examples

How to write simple strategy?



This example shows how to connect the blocks. Please pay attention where there is the front of the each arrow (edge).

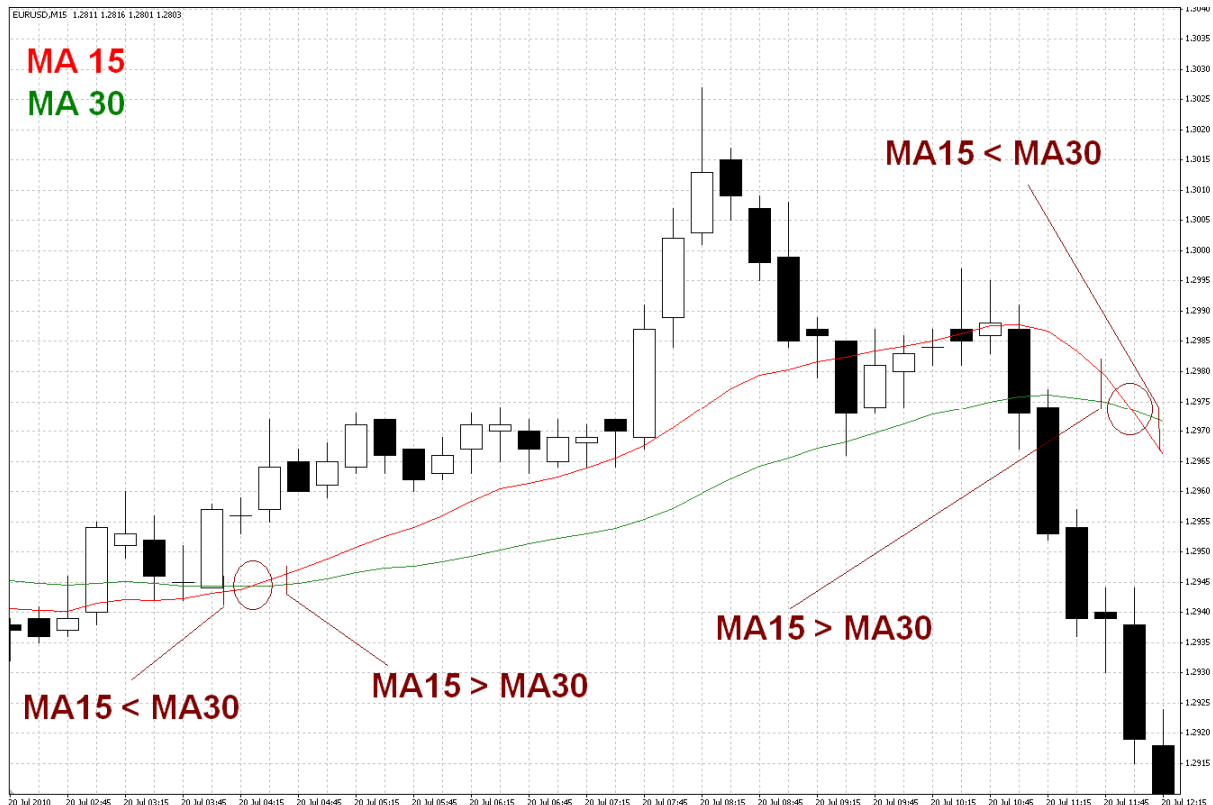
This strategy tells nothing more than:

- 1) Open the Order described in Open Block when Condition (1) **AND** Condition(2) are TRUE.
- 2) Close the Order described in Close Block when the Condition(3) is TRUE **OR** Condition(4) is **NOT** TRUE.

Of course the Conditions have to be set by user (Moving Averages are the best for the first try).

How to use the Shift parameter?

Imagine that you want to write a strategy for crossing Moving Averages. Of course the important question is what is the direction of the crossing. The strategy should be able to discover if the faster Moving Average crosses the slower from up-to-down, or from down-to-up.



There are two Moving Average crossings on the image above. The crossing is itself changing the relation between two indicators. Before crossing one value of indicator was higher than the second one, and after the crossing value of the second indicator is higher than the first one. Of course it's important which indicator has the higher value and which the lower value after the crossing. In the example image of two Moving Averages one crossing can be responsible for opening the position, and the second one (opposite) for closing the opened position.

But how to translate such crossing into the XTB Expert Builder logic? Very simple. There is a need to compare two indicators in two different points of time. If in one point of time (bar) the value of one indicator will be higher than the second one, and in the next point of time (bar) the relation between indicators will be opposite, then clearly we have spotted the crossing of lines.

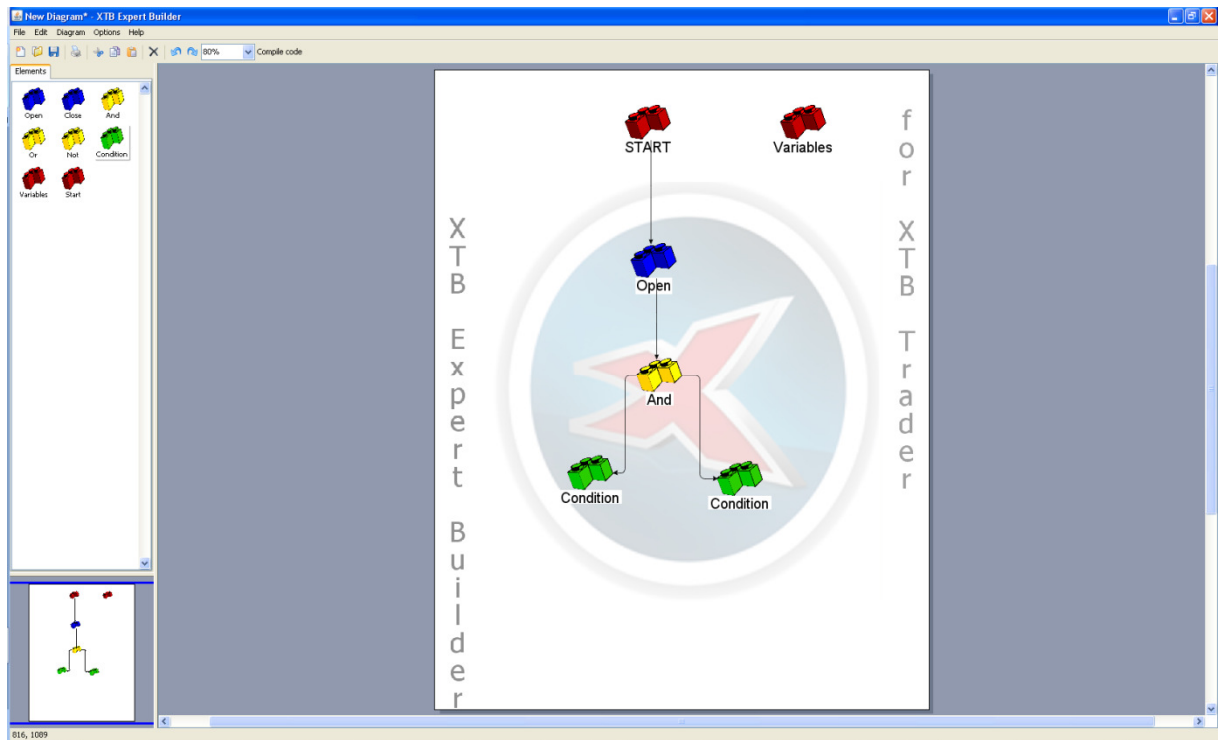
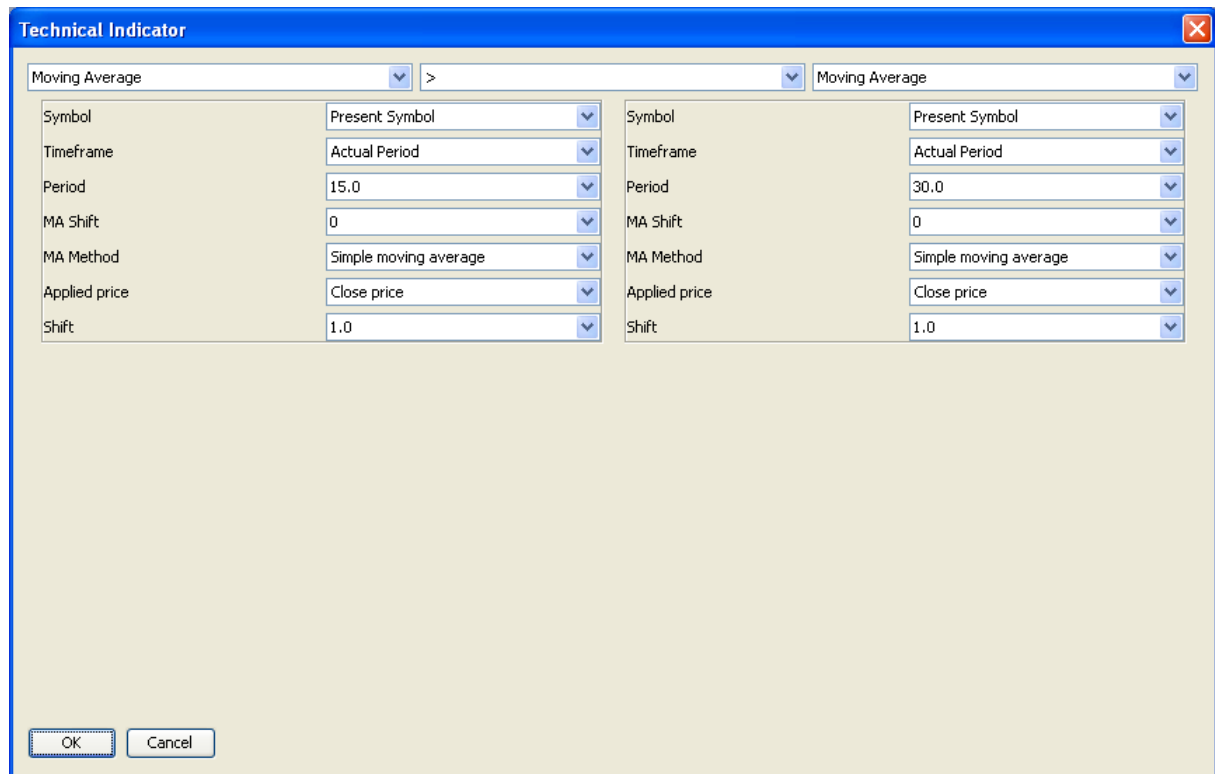


Image above shows how to add logic for crossing. For Closing position do the same logic, but differ what is bigger and lower before and after the crossing.

The screenshot shows the 'Technical Indicator' dialog box. It contains two 'Moving Average' indicators. The first indicator has the following settings: Symbol: Present Symbol, Timeframe: Actual Period, Period: 15.0, MA Shift: 0, MA Method: Simple moving average, Applied price: Close price, Shift: 2.0. The second indicator has the following settings: Symbol: Present Symbol, Timeframe: Actual Period, Period: 30.0, MA Shift: 0, MA Method: Simple moving average, Applied price: Close price, Shift: 2.0. At the bottom, there are 'OK' and 'Cancel' buttons.

Parameter	Value	Parameter	Value
Symbol	Present Symbol	Symbol	Present Symbol
Timeframe	Actual Period	Timeframe	Actual Period
Period	15.0	Period	30.0
MA Shift	0	MA Shift	0
MA Method	Simple moving average	MA Method	Simple moving average
Applied price	Close price	Applied price	Close price
Shift	2.0	Shift	2.0

First Condition is activated when on second closed bar (shift parameter) faster Moving Average is lower than slower Moving Average.



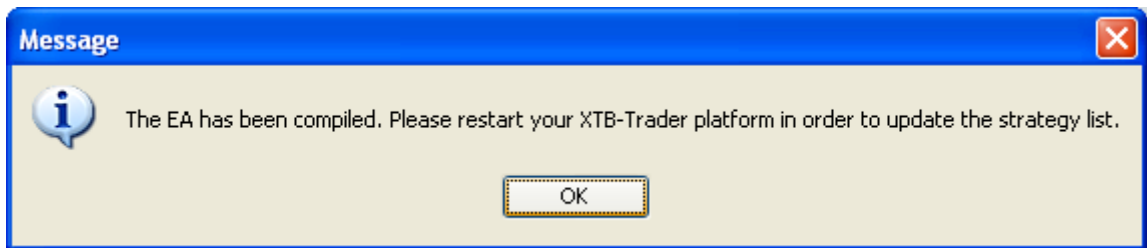
Second Condition is activated when on first closed bar (shift parameter) faster Moving Average is higher than slower Moving Average.

When we combine these two Conditions with And Block (as in the first image), then we have successfully accomplished the task of making logic for crossing in one way. When we change the "<" and ">" symbols, then we will have logic for opposite crossing.

Of course it's possible to cross many other Indicators.

Running Strategy

- 1) Click "Compile Code" button on Toolbar.
- 2) If everything is OK, then the message like below appear:



- 3) Restart the XTB-Trader, check for Experts Advisors in Navigator window (if you not saved your strategy, then it could be named "Untitled")
- 4) Run your Expert Advisor.

For more information regarding running Expert Advisors please check our MQL Beginner Book on <http://www.xtb.com>