



MetaTrader 4

User Guide

Table of Contents

1.	Download and Installation.....	5
1.1.	Download	5
1.2.	Installation	5
2.	Account Login	8
2.1.	Server	9
2.1.1.	Login Details.....	9
2.1.2.	Changing Login Password	9
3.	MT4 Interface Overview.....	10
3.1.	Menu	10
3.2.	Toolbars	10
3.2.1.	Standard	11
3.2.2.	Charts	12
3.2.3.	Line Studies.....	12
3.2.4.	Periodicity	13
3.3.	Market Watch	13
3.4.	Data Window	15
3.5.	Navigator Window	16
3.6.	Terminal Window	17
3.6.1.	Viewing Open Positions.....	18
3.6.2.	Viewing Pending Orders.....	19
3.6.3.	Viewing Trade History.....	19
3.6.4.	Setting Alerts for Events	21
3.7.	Chart Window	23
3.8.	Strategy Tester Window.....	25
3.9.	Status Bar.....	26
3.10.	File.....	27
3.11.	View	28
3.12.	Insert	29
3.13.	Charts.....	30
3.14.	Tools	31
3.15.	Window	31
3.16.	Help	32
4.	Trading	34
4.1.	Market Orders.....	35
4.1.1.	Market Execution	36
4.2.	Pending Orders	36

4.2.1.	Placing New Buy/Sell – Limit/Stop Orders.....	37
4.2.2.	Placing New Buy/Sell – Limit/Stop Orders Directly From Chart.....	38
4.3.	Modifying Orders.....	38
4.3.1.	Modifying Buy/Sell – Limit/Stop Orders	39
4.3.2.	Modifying Stop Loss and Take Profit Orders.....	40
4.3.3.	Modifying Buy/Sell – Limit/Stop, Stop Loss and Take Profit Orders Directly From Chart	41
4.4.	Trade Options	43
5.	Closing Positions	44
5.1.	Market Orders.....	44
5.1.1.	Closing Positions from Order Window.....	44
5.1.2.	Simple Closing of Positions.....	45
5.2.	Pending Orders	46
5.3.	Auto-Closeout	46
6.	One-Click Trading.....	48
6.1.	Enabling One-Click Trading	48
6.2.	Opening Position Using One-Click Trading	49
7.	Charts.....	50
7.1.	Open Chart Windows.....	50
7.1.1.	New Chart	50
7.1.2.	Offline Chart.....	52
7.1.3.	Rearranging Multiple Chart Windows.....	53
7.1.4.	Tick Chart.....	54
7.2.	Chart Properties	56
7.2.1.	Colours	57
7.2.2.	Settings.....	57
7.3.	Chart Controls.....	59
7.3.1.	Chart Types	59
7.3.2.	Timeframes	62
7.3.3.	Zoom In & Out.....	63
7.3.4.	Auto Scroll.....	65
7.3.5.	Chart Shift.....	66
7.3.6.	Cursor - Crosshair	66
7.4.	Chart Options.....	68
7.4.1.	Showing Trade Levels on Charts	68
7.4.2.	Preventing Unintended Control of Order Levels on Charts	68
7.5.	Objects Options.....	69
7.6.	Technical Indicators.....	70
7.6.1.	Applying Technical Indicators	70
7.6.2.	Changing Indicator Settings after the Initial Set-up	72

7.6.3. Deleting Indicators / Indicators Window.....	72
7.7. Line Studies	73
7.7.1. Line Studies from the Toolbar	74
7.7.2. Line Studies from the Insert Menu.....	75
7.8. Templates	77
7.8.1. Loading Templates	77
7.8.2. Saving Templates.....	79
7.9. Profiles.....	80
7.9.1. Loading Profiles	80
7.9.2. Saving New Profiles.....	81
7.9.3. Saving Existing Profiles	81
8. Expert Advisors	82
8.1. Creating Expert Advisors	82
8.2. Modifying Expert Advisors	85
8.3. Installing External Expert Advisors	86
8.4. Enabling Expert Advisors.....	88
8.4.1. Allowing Live Trading	88
8.5. Strategy Tester	90
8.5.1. Strategy Tester Terminal	90
8.5.2. Conducting Tests	91
8.5.3. Test Results.....	91
8.5.4. Optimisation	92
9. Custom Indicators	96
9.1. Creating Custom Indicators	96
9.2. Custom Indicators Settings.....	99
9.3. Modifying Custom Indicators	99
9.4. Applying Custom Indicators.....	101
9.5. Removing Custom Indicators	103
10. Scripts	104
10.1. Creating Scripts	104
10.2. Script Settings	108
10.3. Modifying Scripts	108
10.4. Executing Scripts	111
10.5. Removing Scripts	112
11. Risk Disclosure	113
11.1. Risk of Trading in Over-The-Counter Gold Bullion/Silver Contracts.....	113
11.2. Risk of Electronic Trading	113

1. Download and Installation

All Z.com Bullion MT4 Demo and Live platforms can be downloaded for free. If you need any assistance, please do not hesitate to [contact us](#). Our Client Services Officers are available to guide you every step of the way.

Before you get started, please check that your computer meets the [system requirements](#) in order for the platform to operate smoothly.

1.1. Download

[Click here](#) to download Z.com Bullion MT4 from our website.

1.2. Installation

To start using MT4 it has to be installed on your device first. Upon downloading the MT4 software package, double click on the installer and follow the instructions on the screen below:

Choose your installation language and click **Next**.



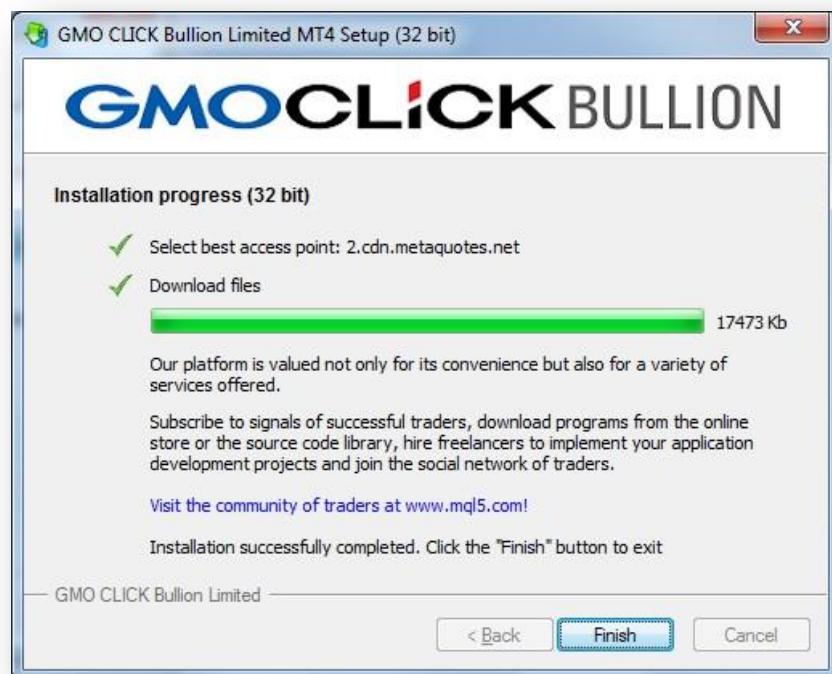
The following window will be shown. Please read the End User License Agreement carefully and click **Next** to proceed.



Specify the destination folder and program group. If you intend to install more than one MT4 platform in your computer, please ensure that they are installed in separate folders to prevent overwriting the original copy.

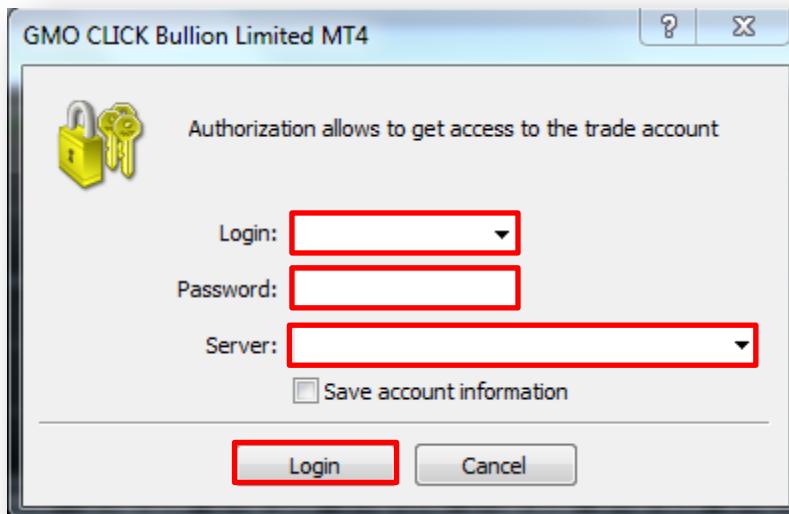


Tick 'Create a desktop shortcut' and 'Launch program after successful installation' if you would like to create a shortcut onto your desktop and run MT4 after the installation is complete. Click **Next** to proceed.



The MT4 program will start the installation process. Once completed, click **Finish** to launch the platform.

2. Account Login



Upon completing installation, you will be prompted to login as shown below:

Login: This is the Login ID which will be provided by Z.com Bullion after the application is completed.

Password: This is the Password which will be provided by Z.com Bullion after the application is completed.

Server: Depending on your account type, simply select the server **GMOBullion-Live Server** for Live Accounts (and **GMOBullion-Demo Server** for Demo Accounts) as shown below.



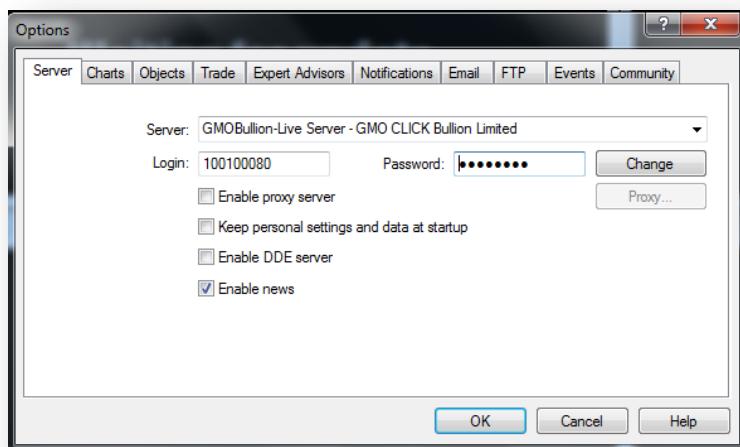
Save account information: Tick the box to save the above account information for next login.

Input relevant information in those fields and click **Login** to continue.

MT4 terminal should start up and any opened chart will automatically be updated to the latest information.

2.1. Server

The Server settings allow users to configure parameters for connecting to the server:



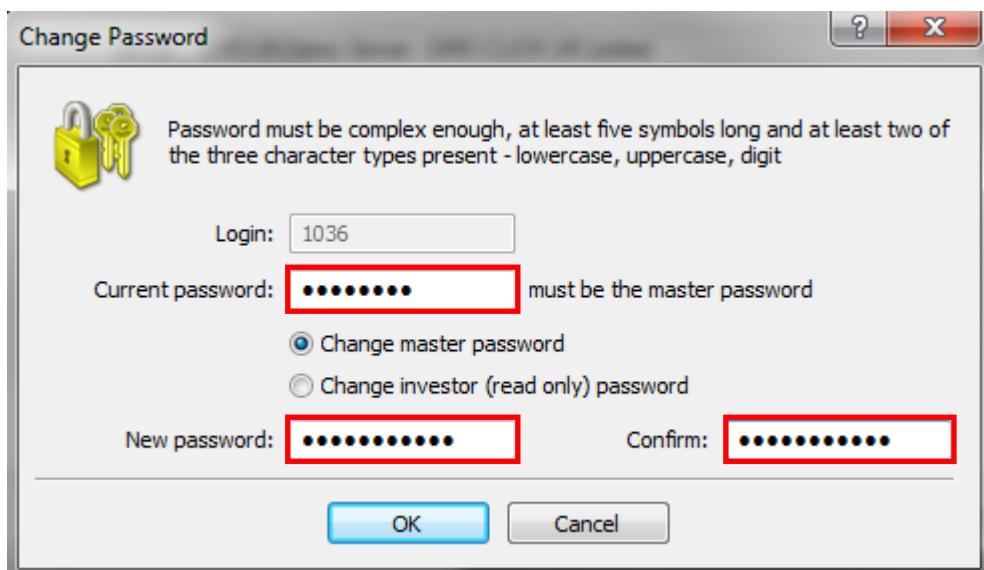
2.1.1. Login Details

The **Server** is the server IP address and the port number or the domain name. This field is automatically entered upon installation of the MT4.

Also, the **Login** and the **Password** are the login credentials provided by Z.com Bullion by email upon opening an MT4 account.

2.1.2. Changing Login Password

By selecting the **Change** button it redirects the user to a new window where the existing password can be changed:



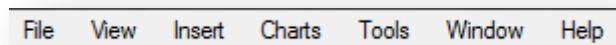
Enter the current password followed by a new password and repeat the new password for confirmation to complete. Users can also choose to change 'investor (read only)' password instead.

3. MT4 Interface Overview

MT4 is intended primarily for sophisticated analysis of markets and therefore it has more complex interface system compared to our WebTrader. While it is designed to be as simple as possible and easy to understand it is still difficult to fully understand the interface from the first sight only. This chapter is dedicated to explaining how the MT4 interface works as well as the basics needed for basic trade operations and more advanced material.

3.1. Menu

At the very top of the MT4 interface there is a menu bar just like any other Windows applications as shown below:



File: For chart opening, using profiles, saving data, data folder, account settings and printing options.

View: For setting the terminal languages, and displaying toolbars and windows.

Insert: For inserting technical indicators, line studies and objects to a chart.

Charts: For controlling objects on charts, chart types, timeframes, templates and other properties related to charts.

Tools: For opening new order window, opening the history centre, setting global variables, opening MetaEditor and options.

Window: For rearranging multiple chart windows.

Help: For general help for MT4 and external links related to MT4.

For further information on the menu bar please refer to its dedicated chapter [Menu](#).

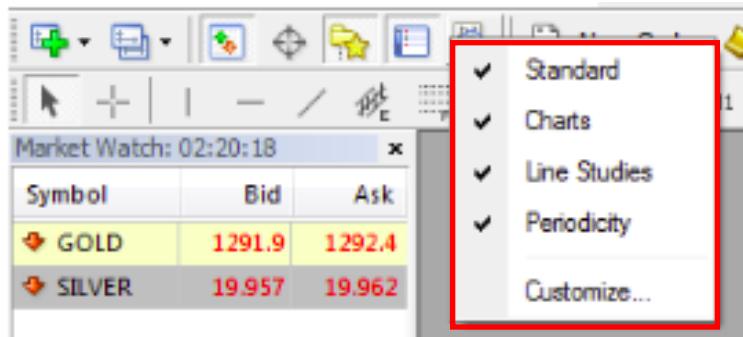
3.2. Toolbars

The Toolbars are simple and easy-access tools interface on MT4 and they are located around at the top of the MT4 interface:

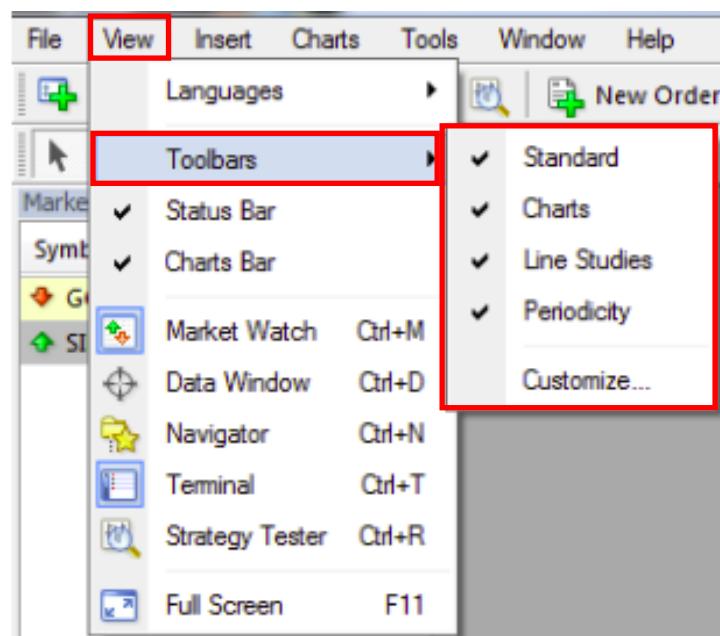


There are 4 types of Toolbars: **Standard**, **Charts**, **Line Studies** and **Periodicity** available on the Toolbars window.

Each Toolbar can be opened simply by right-clicking on any of the toolbars above and select the options:



Alternatively, this can be accomplished from the **View** menu by selecting the sub-menu **Toolbars**, and then select the options from the side dropdown-list:



3.2.1. Standard

The Standard Toolbar includes tools which are related to the control of the MT4 interface:



From the left of the screenshot above:

- **New Chart**
- **Profiles**
- **Market Watch**
- **Data Window**
- **Navigator**
- **Terminal**
- **Strategy Tester**

- **New Order**
- **MetaEditor**
- **Expert Advisors**

Further information on the functions above is described within the relevant sections of this user manual.

3.2.2. Charts

The Charts toolbar includes those functions which are core to the control of the chart:



From the left of the screenshot above:

- **Bar Chart**
- **Candlesticks**
- **Line Chart**
- **Zoom In**
- **Zoom Out**
- **Auto Scroll**
- **Chart Shift**
- **Indicators**
- **Periods**
- **Templates**

Further information on the functions above is described within the relevant sections of this user manual.

3.2.3. Line Studies

The Line Studies toolbar includes functions which are necessary for the chart pattern analysis through drawing on charts:



From the left of the screenshot above:

- **Cursor**
- **Crosshair**
- **Vertical Line**
- **Horizontal Line**
- **Trendline**
- **Equidistant Channel**
- **Fibonacci Retracement**
- **Text**
- **Text Label**
- **Arrows**

For further information please refer to the section [Line Studies](#).

3.2.4. Periodicity

The Periodicity toolbar provides 'one-click' switch to various timeframe chart of the active chart:



From the left of the screenshot above:

- **1 Minute**
- **5 Minutes**
- **15 Minutes**
- **30 Minutes**
- **1 Hour**
- **4 Hours**
- **1 Day**
- **1 Week**
- **1 Month**

For further information please refer to the section [Timeframes](#).

3.3. Market Watch

Market Watch window is primarily used for displaying market bid and ask prices for each symbol. It is intended for simple and easy quick overview of the market where a user can refer to for the current market prices. The fields are automatically updated upon receiving new tick data where if the bid price of an incoming tick is higher than the last quoted bid price the price figures in that row is shown in blue, whereas if it was the other way around the price figures will be shown in red. On top of that there will be an arrow on the left to the each symbol indicating whether the bid price has gone up or down since the last tick data.

A typical Market Watch window will look like as shown below:



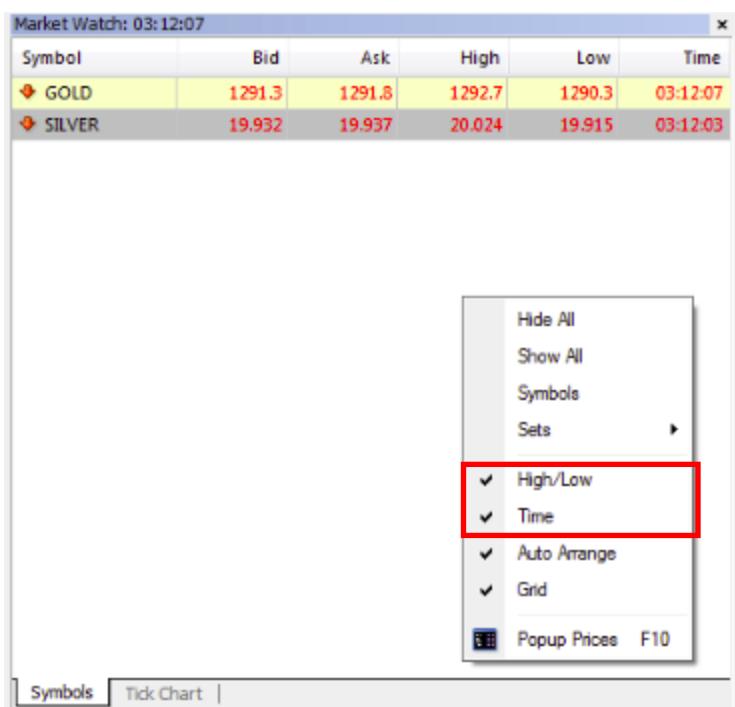
Symbol: Identifier used to describe certain tradable products.

Bid: Price at which the market is willing to buy the product. A trader is able to sell at this price.

Ask: Price at which the market is willing to sell the product. A trader is able to buy at this price.

As mentioned previously, a user is able to switch the market watch view to the **Tick Chart** mode simply by selecting the instrument and click on the **Tick Chart** tab button at the bottom of the market watch window.

Moreover, the window can be configured to show **High/Low** and **Time** on top of the Bid and Ask prices already in there by right-click on any of the instruments in the window and select relevant options as shown below:

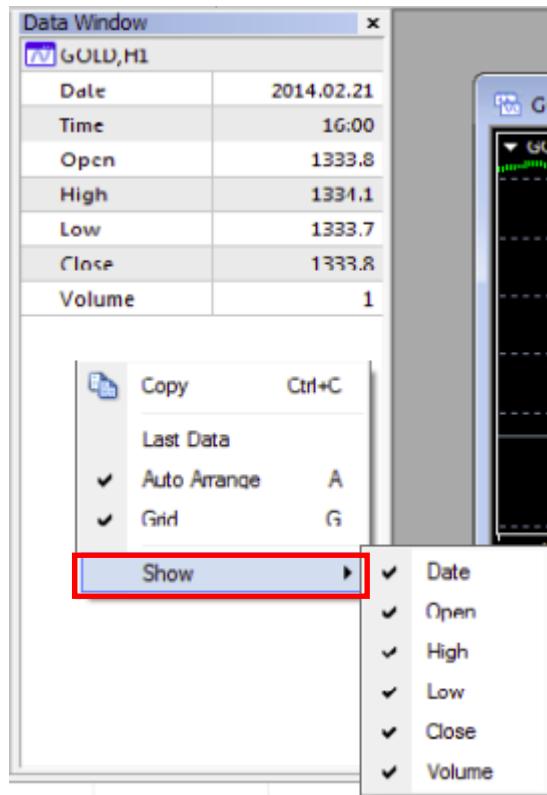


As shown from the screenshot above the new columns have been added to the window.

3.4. Data Window

Data Window is supplemental information to a chart showing figures related to the prices and other indicator values.

By default data window will show information such as Symbol, Timeframe, Date, Time, Open, High, Low, Close of a target chart, however, this can be configured to display other information by right-click on the window and select from **Show** dropdown menu:



In this example above all the instrument data such as the Date, Open, High, Low, Close and Volume are configured to be displayed for the instrument shown in the screenshot.

In a situation where multiple chart windows are opened and displayed in the interface, it is **NOT** the active chart which the Data Window shows the information on, but it is the chart where the cursor was last pointing to.

Also notice that there are technical indicator values displayed in the Data Window below the usual instrument data. This can be configured from the Technical Indicator Properties by selecting **Show in the Data Window** which will be explained in later chapter for Technical Indicators.

3.5. Navigator Window

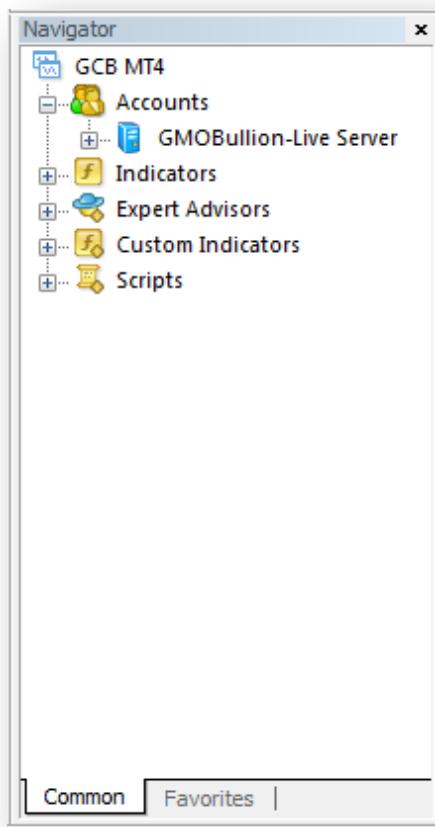
Navigator window allows users to browse and navigate through user-specific information of the MT4 terminal which consists of the following hierarchy of objects:

Z.com Bullion MT4 Terminal

- **Accounts**
- **Indicators**
- **Expert Advisors**
- **Custom Indicators**
- **Scripts**

Within the **Accounts** object, there is a **Server** object and for each server there is an individual user accounts.

A typical Navigator window will look as shown below:

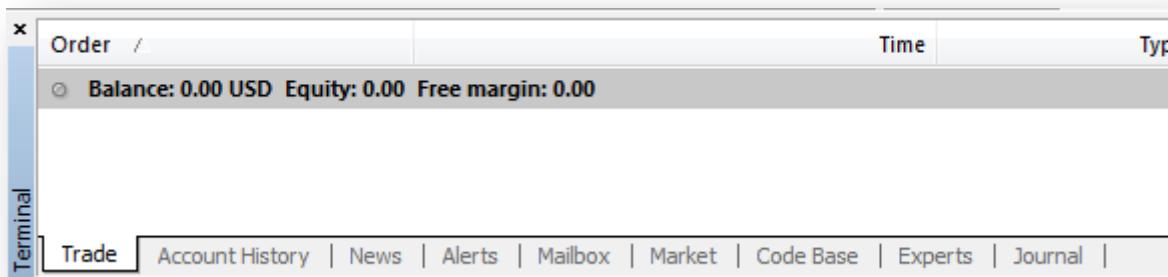


A user can expand the menu by clicking the plus-sign next to the item and navigate through them.

Detailed explanation for the use of the Indicators, Expert Advisors, Custom Indicators, and Scripts can be found at later chapters.

3.6. Terminal Window

Terminal window can be found at the bottom of the interface as shown below:



Trade: Trade-related information.

Account History: Historical activity on the account.

News: Historical news items.

Alerts: Historical alerts issued on the terminal.

Mailbox: Mailbox containing messages sent from the server.

Market: Buying or downloading applications from the market of MQL4 applications at MQL5.community website.

Code Base: Download applications published in the 'Code Base' section of the MQL5.community website.

Experts: Information for the status of Expert Advisor attached to a chart such as its activities.

Journal: Information regarding events and activities of the terminal.

Under the **Trade** tab, there is a row displaying the following information:

Order	/	Time	Type	Size	Sym...	Price	S / L	T / P	Price	Com...	Swap	Profit
183		2014.04.03 03:...	buy	1.00	gold	1292.0	0.0	0.0	1291.6	0.00	0.00	-0.40
Balance: 106.62 USD Equity: 106.22 Margin: 6.46 Free margin: 99.76 Margin level: 1644.27%												

Balance: The amount of balance in the account. This does not take into account the Floating P/L of any positions held, and it is only reflected to the Balance once the positions are closed and the P/L's are realised.

Equity: The total amount of cash in the account and the equity which takes into account the current floating value of those positions held. In other words, this would be calculated as: **Balance – Net Floating P/L**

Margin: The amount of cash used to open current open positions.

Free Margin: The amount of cash available to open new position. This is calculated as: **Equity - Margin**

Margin Level: Proportion of Equity against Margin. This is calculated as: **Equity / Margin**

3.6.1. Viewing Open Positions

Open positions will be listed above the row containing the account information as shown below:

The screenshot shows a trading terminal interface. On the left, there's a vertical toolbar labeled "Terminal". The main area displays a table of open positions with the following columns: Order /, Time, Type, Size, Sym..., Price, S / L, T / P, Price, Com..., Swap, and Profit. A single row is highlighted in red, showing Order 183, Time 2014.04.03 03:..., Type buy, Size 1.00, Symbol gold, Price 1292.0, Stop Loss 0.0, Take Profit 0.0, Current Price 1291.6, Commission 0.00, Swap 0.00, and Profit -0.40. Below this row, a message bar displays account information: Balance: 106.62 USD, Equity: 106.22, Margin: 6.46, Free margin: 99.76, Margin level: 1644.27%. At the bottom of the screen, a navigation bar includes links for Trade, Account History, News, Alerts, Mailbox, Market, Code Base, Experts, Journal, and a dropdown menu.

Order /	Time	Type	Size	Sym...	Price	S / L	T / P	Price	Com...	Swap	Profit
183	2014.04.03 03:...	buy	1.00	gold	1292.0	0.0	0.0	1291.6	0.00	0.00	-0.40 X
Balance: 106.62 USD Equity: 106.22 Margin: 6.46 Free margin: 99.76 Margin level: 1644.27%											

The followings are the description for each column from the left:

Order: Order reference number

Time: Time at which the position has been opened.

Type: Order Type (i.e. Buy or Sell)

Size: The size of the position in lot.

Symbol: Symbol of the instrument in which the position has been opened for.

Price: Price at which the position is opened for.

S/L: Price level for the Stop Loss if any specified.

T/P: Price level for the Take Profit if any specified.

Price: Current closing price for the position.

Commission: Any commission imposed on the order if any.

Swap: No values shall be shown here as the swap/rollover earned overnight for the open positions will only be credited or debited from the account after the positions are closed.

Profit: Current Floating P/L calculated for the position.

3.6.2. Viewing Pending Orders

Pending orders will listed below the row containing the account information as shown below:

Order /	Time	Type	Size	Symbol	Price	S / L	T / P	Price	Com...	Swap	Profit
183	2014.04.03 03:...	buy	1.00	gold	1292.0	0.0	0.0	1291.0	0.00	0.00	-1.00
Balance: 106.62 USD Equity: 105.62 Margin: 6.46 Free margin: 99.16 Margin level: 1634.98%											
184	2014.04.03 03:...	sell li...	1.00	gold	1300.0	0.0	0.0	1291.0			

Terminal [Trade](#) [Account History](#) | [News](#) | [Alerts](#) | [Mailbox](#) | [Market](#) | [Code Base](#) | [Experts](#) | [Journal](#) |

The followings are the description for each column from the left:

Order: Order reference number

Time: Time at which the order has been placed.

Type: Order Type (i.e. Buy Limit, Buy Stop, Sell Limit, Sell Stop)

Size: The size of the order in lot.

Symbol: Symbol of the instrument in which the order has been placed on.

Price: Price at which the order is placed for.

S/L: Price level for the Stop Loss if any specified.

T/P: Price level for the Take Profit if any specified.

Price: Current price for the instrument for which the Pending Order is placed on. In the cases of Buy Limit or Buy Stop Order Types this will be the Ask price, and likewise if the Order Type is of Sell Limit or Sell Stop this will be the Bid price.

3.6.3. Viewing Trade History

All the trades that have been executed in the past can be checked at the **Terminal** window under the **Account History** tab which would look like as shown below:

Order /	Time	Type	Size	Symbol	Price	S / L	T / P	Time	Price	Swap	Profit
183	2014.04.03 03:33:36	buy	1.00	gold	1292.0	0.0	0.0	2014.04.03 03:43:32	1291.7	0.00	-0.30
Profit/Loss: -0.30 Credit: 0.00 Deposit: 0.00 Withdrawal: 0.00											

Terminal [Trade](#) [Account History](#) | [News](#) | [Alerts](#) | [Mailbox](#) | [Market](#) | [Code Base](#) | [Experts](#) | [Journal](#) |

The followings are the description for each column from the left:

Order: Order reference number

Time: Time at which the position had been opened.

Type: Order Type (i.e. Buy or Sell)

Size: The size of the position in lot.

Symbol: Symbol of the instrument in which the position has been opened for.

Price: Price at which the position is opened for.

S/L: Price level for the Stop Loss if any specified.

T/P: Price level for the Take Profit if any specified.

Time: Time at which the position has been closed.

Price: The price for which the position has been closed for.

Swap: Swap/Rollover earned overnight for all the positions.

Profit: Realised P/L calculated for the position.

In situations where positions have been closed due to either Stop Loss or Take Profit set for the positions, the corresponding column for the closed positions will appear in pink or green respectively to indicate that those positions have been closed by the systems:

Order /	Time	Type	Size	Symbol	Price	S / L	T / P	Time	Price	Swap	Profit
183	2014.04.03 03:33:36	buy	1.00	gold	1292.0	0.0	0.0	2014.04.03 03:43:32	1291.7	0.00	-0.30
184	2014.04.03 03:39:07	sell li...	1.00	gold	1300.0	0.0	0.0	2014.04.03 04:04:56	1291.4		
185	2014.04.03 04:05:06	buy	1.00	gold	1291.8	0.0	1291.7	2014.04.03 04:45:07	1291.7	0.00	-0.10
186	2014.04.03 04:06:16	sell	1.00	silver	19.928	19.938	0.000	2014.04.03 04:19:21	19.938	0.00	-0.10
<input checked="" type="radio"/> Profit/Loss: -0.50 Credit: 0.00 Deposit: 0.00 Withdrawal: 0.00											-0.50
Trade	Account History	News	Alerts	Mailbox	Market	Code Base	Experts	Journal			

3.6.4. Setting Alerts for Events

The Alerts function on MT4 terminal enables users to set the Terminal so that it would activate alerts should certain conditions set by the user is met. This is particularly useful since it is not easy for every user to be in front of the screen monitoring the price action, but this function lets them sit back and notify them when it requires the attention of the users.

The Alerts can be set in the following two ways:

3.6.4.1. Alerts through the Terminal Window

Alerts can be set simply under the **Alerts** tab from the **Terminal** window as shown below:

Symbol	Condition	Counter	Limit	Timeout	Expiration	Event
🔔 GOLD	Bid>1330.0	0	5	10 sec	2014.04.05 13:27	alert
🔔 SILVER	Ask <19.500	0	5	10 sec		alert

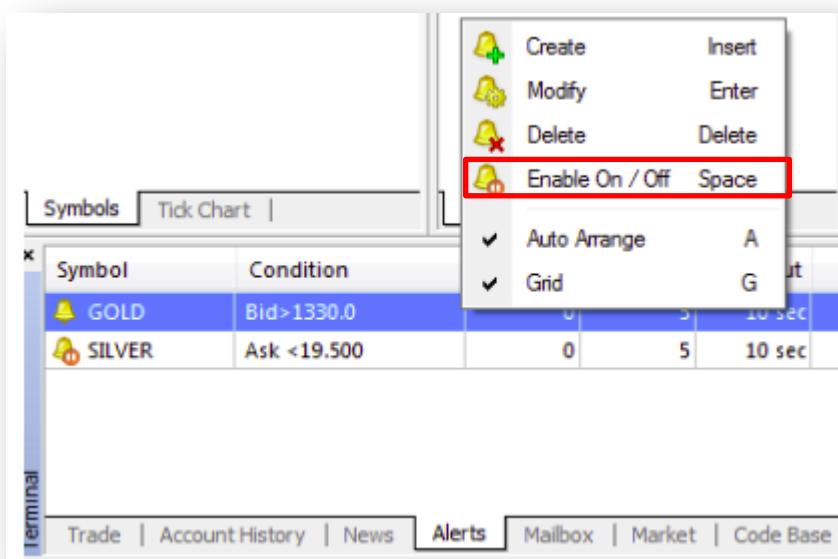
Terminal

Trade | Account History | News | **Alerts** | Mailbox | Market | Code Base | Experts | Journal |

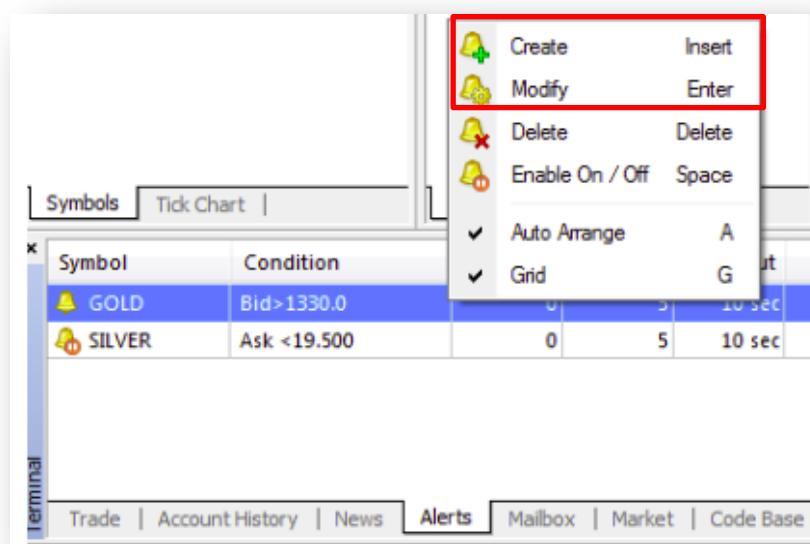
The first list of the Alerts is enabled and it will trigger each time when the Bid price for the symbol 'GOLD' goes above 1330.0 level. The alert at this moment has not been activated a single instance, and it is set to be activated for only further 5 times with timeout of 10 seconds, expiring at 13:27 05/04/2014 and the event set as an alert.

On the other hand, the second alert item of the list is for the symbol 'SILVER', however, this alert has been disabled as it is shown by the icon left of the symbol in the first column.

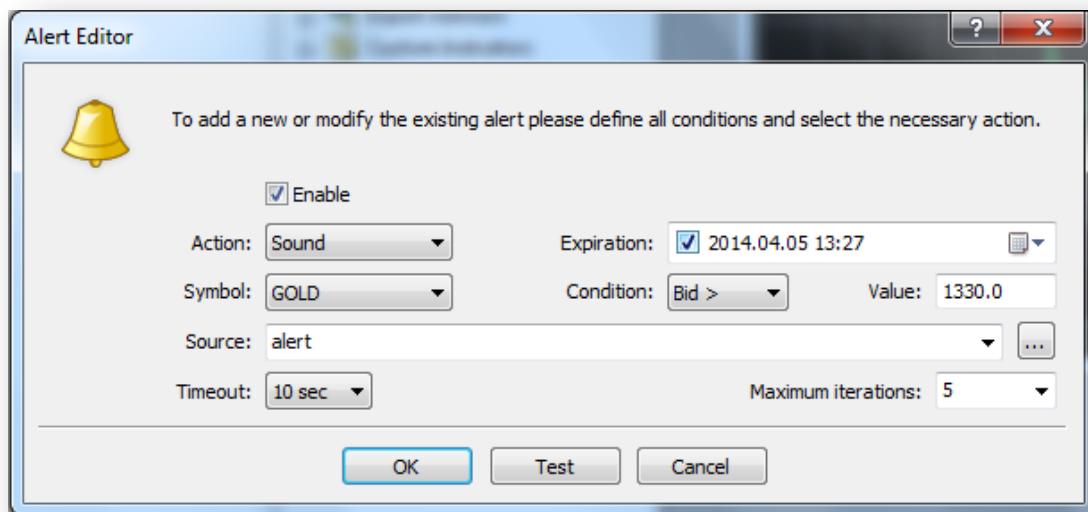
The Alerts can be enabled / disabled simply by right-clicking on the alert item and select **Enable On / Off**:



The Alerts can be created or modified by right-clicking anywhere on the **Alerts** tab or the alert item, and select



Create or **Modify** respectively:



The following window appears in front where the parameters for the alert can be set or modified:

Enable: Selecting this option will enable the alert function.

Action: Specifies the action to be taken to notify the user. The options are: **Sound**, **File**, **Mail** and **Notification**.

Expiration: Date and Time at which the alert function expires. Select the box in the field to activate expiration.

Symbol: This is the symbol for the instrument for which the alert function will be set on.

Condition: This is the condition type in which the alert function will be triggered. The options are: '**Bid <**', '**Bid >**', '**Ask <**', '**Ask >**' and '**Time =**'.

Value: This will be the value in which combined with the condition the alert function will be triggered.

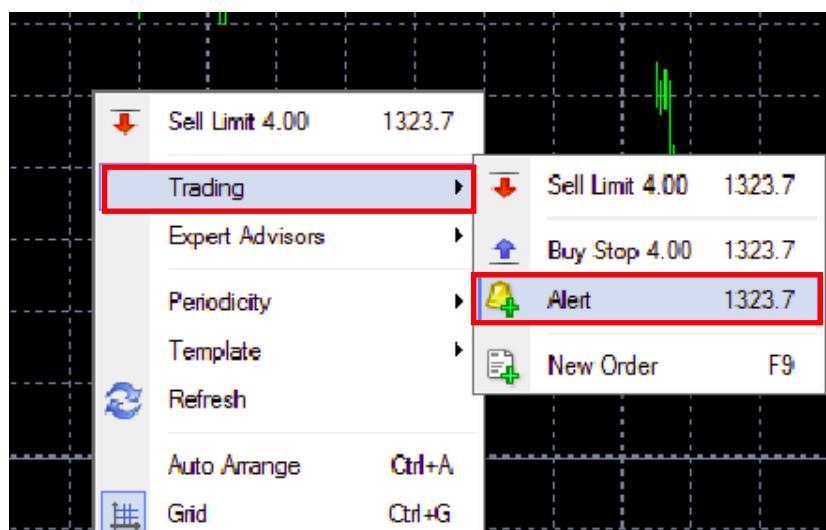
Source: This will be the alert sound source for Sound Action.

Timeout: This is the period of time between each alert triggering.

Maximum iterations: This is the maximum amount of time the alert will be triggered repeatedly.

Selecting **Test** button will test the alert sound to see if it is working, and by selecting **OK** the alert function will be set.

Alternatively, the alert function can be set directly from the chart which many users may find useful since it allows them to see where they are setting the alert price at. This can be done by right-clicking on the price level on the chart and place the cursor at **Trading** and select **Alert** from the sub-dropdown list as shown below:



Finally, enable the alert by double-clicking on the alert level on the chart or selecting from the **Alerts** tab from the **Terminal** window and enter its parameters following the steps described previously.

3.6.4.2. Alerts through the Expert Advisors

In MQL4 there is a function which triggers an alert 'Alert ("arg")' where 'arg' would be the argument for the alert which will be set to trigger. In this way, there is more flexibility in setting the conditions in which the alert will trigger as it can be programmed uniquely through MetaEditor.

3.7. Chart Window

The Chart Windows are core to the MT4 where charts for the instruments are displayed. They will be positioned around the centre of the MT4 interface and users are able to minimise, maximise or close the window just like other windows.

The way the Chart Windows are displayed differs depending on whether there is only a single chart on the interface or there are multiple charts displayed.

If there is a single chart on display, it would be shown as below:



Whereas if there are multiple charts on display:



Where on the top left of the window it shows the symbol for the instrument and other various market information such as Open, High, Low and Close prices.

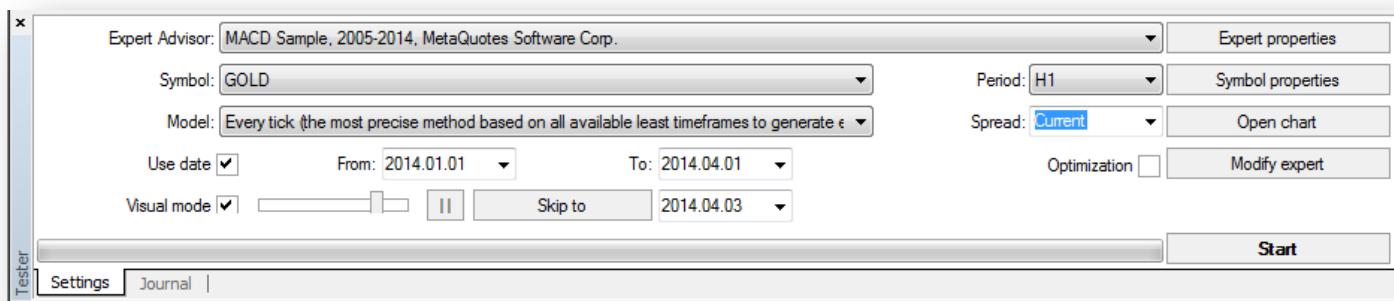
For more information regarding charts and the configurations please refer to its dedicated chapter [Charts](#).

3.8. Strategy Tester Window

Strategy Tester is a function on MT4 which allows its users to test Expert Advisors and even to optimise the parameters for the most profitable outcome. This is a useful function for those who would like to back-test EAs which they have created themselves or obtained from third-party and want to test its performance using historical data.

It is important to understand that the outcome obtained from the tester does not always reflect the actual performance of a live environment. This is down to several factors such as the spread is not fixed during live trading whereas the tester only uses pre-set fixed value for the spread throughout the testing, also the execution and order price may not be the same since there are some deviations in live trading environment as well as the time lags from when the order is placed to when the order is executed, and finally, the test may not account for every tick of data received in live trading environment if the close price for each price bar is used for the test, however, this problem can be overcome by selecting the most accurate testing method although availability of such tick data is not always guaranteed and depends on the timeframe in which the test is being carried out on.

A typical strategy tester window looks as shown below:



Expert Advisor: Expert Advisor to be tested for.

Symbol: Instrument used for the test.

Model: Method for testing the Expert Advisor on historical data. This option allows users to choose the compromise between the accuracy and the speed for the test.

Use date: Sets the time period for the historical data for which the Expert Advisor will be back-tested against.

Visual mode: Allows the user to visually see the progress of the test by simulating the market on the chart window with buy/sell, order modify actions by selecting this option. This also allows the user to skip to certain point of the data and also select the speed in which the simulation is conducted.

Period: Timeframe in which the back-testing is conducted.

Spread: Spread used for the test which can be selected from options containing 'Current' and various other values.

Optimization: Enables the optimisation of the Expert Advisor to maximise the profit by selecting this option.

Expert properties: Properties for the Expert Advisor where the configuration and parameters can be set.

Symbol properties: Properties for the symbol used for the test which allows users to set trading-related parameters.

Open chart: Opens the chart for which the test has been carried out on.

Modify expert: Opens the Expert Advisor with Meta Editor to be edited by the user.

Start: Initiates the testing process. The progress of the test will be shown in the horizontal bar next to this button.

For more information on how to use the Strategy Tester window, please refer to the section [Strategy Tester](#).

3.9. Status Bar

The Status Bar is the horizontal information bar at the very bottom of the MT4 terminal which looks like the below:



From the left column of the status bar:

Information: Shows the information on item being pointed by the cursor.

Profile: The name of the Profile being loaded. The Profiles can be switched by clicking this column and selecting from the list.

Time: The Time of the price bar pointed by the cursor.

Open: The Open price of the price bar pointed by the cursor.

High: The Highest price of the price bar pointed by the cursor.

Low: The Lowest price of the price bar pointed by the cursor.

Close: The Close price of the price bar pointed by the cursor.

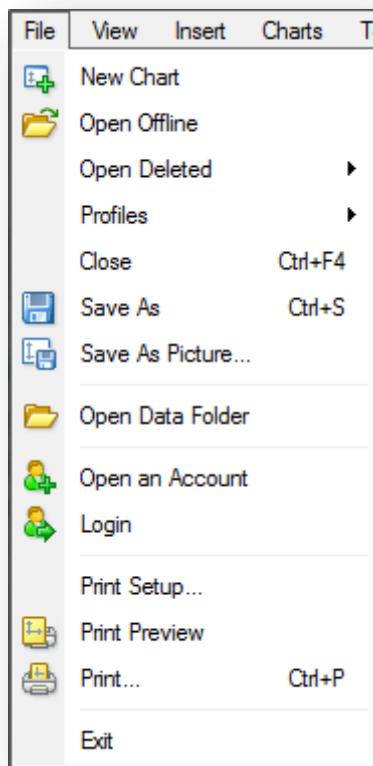
Volume: The Volume for the period on the chart pointed by the cursor.

Connection Status: Shows 'Invalid Account' if wrong account information is supplied or the account has expired. Shows 'No Connection' if there is a problem with the network.

Menus in MT4 provide core functionality to control MT4. Although using the menu to navigate through MT4 may not be the best option when it comes to usability, however, this gives the users an option to look for anything that cannot be found anywhere else.

3.10. File

The File menu is the most basic type of the menu which contains general controls of MT4 terminal:



New Chart: Opens a new chart.

Open Offline: Opens an offline chart.

Open Deleted: Opens a chart which has been deleted.

Profiles: Controls profiles.

Close: Closes the active chart.

Save As: Saves the market data of the active chart in ASCII (.txt) format.

Save As Picture: Saves pictures of the current MT4 active workspace, active chart.

Open Data Folder: Opens the folder which contains application data.

Open an Account: Please note that this function does not work. Please go to our [website](#) to submit your application online.

Login: Opens a new window for the [login](#).

Print Setup: Opens a new window for setting up a printer.

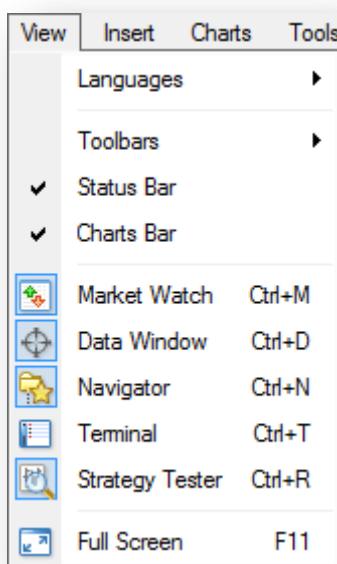
Print Preview: Opens a print preview on the chart window.

Print: Prints the active chart.

Exit: Quits the application.

3.11. View

The View menu contains functions for controlling the MT4 interface:



Languages: Changes the language on MT4.

Toolbars: Display options for the [Toolbars](#).

Status Bar: Displays the [Status Bar](#).

Charts Bar: Displays the Charts Bar.

Market Watch: Displays the [Market Watch](#).

Data Window: Displays the [Data Window](#).

Navigator: Displays the [Navigator Window](#).

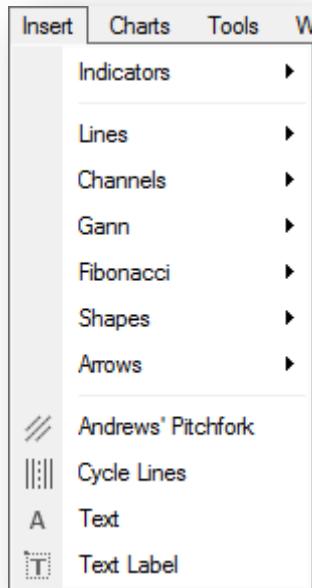
Terminal: Displays the [Terminal Window](#).

Strategy Tester: Displays the [Strategy Tester](#).

Full Screen: Displays the [Chart Window](#) in full-screen.

3.12. Insert

The Insert menu contains controls on elements which can be inserted to the chart windows:



Indicators: Inserts Technical Indicators.

Lines: Inserts [Lines](#).

Channels: Inserts [Channels](#).

Gann: Inserts Gann elements.

Fibonacci: Inserts Fibonacci elements.

Shapes: Inserts various Shapes.

Arrows: Inserts [Arrows](#).

Andrew's Pitchfork: Inserts Andrew's Pitchfork.

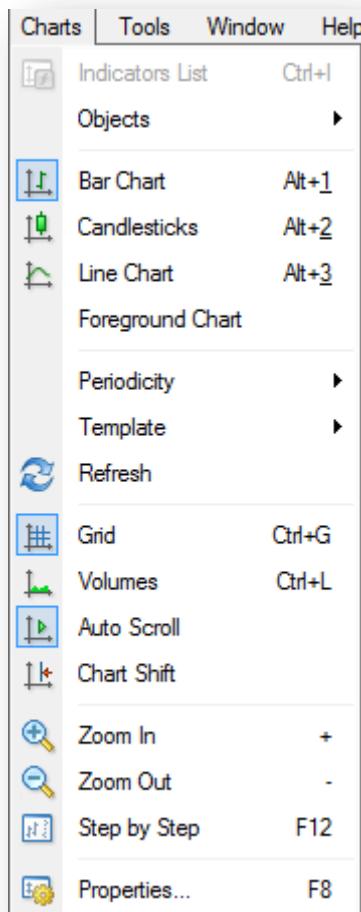
Cycle Lines: Inserts Cycle Lines.

Text: Inserts [Texts](#).

Text Label: Inserts [Text Labels](#).

3.13. Charts

The Charts menu contains controls on the charts:



Indicators List: Displays the currently used [Technical Indicators](#) for the active chart in a new window.

Objects: Control for all the objects on the active chart.

Bar Chart: Switches the chart type to the [Bar Chart](#).

Candlesticks: Switches the chart type to the [Candlesticks](#).

Line Chart: Switches the chart type to the [Line Chart](#).

Foreground Chart: The chart would appear in front of all the objects.

Periodicity: Switches the [Timeframes](#) for the active chart.

Template: Controls the [Template](#) for the active chart.

Refresh: Refreshes the active chart.

Grid: Displays the Grid Lines on the active chart.

Volumes: Displays the Volumes on the active chart.

Auto Scroll: Enables [Auto Scroll](#) for the active chart.

Chart Shift: Enables [Chart Shift](#) for the active chart.

Zoom In: [Zooms In](#) on the active chart.

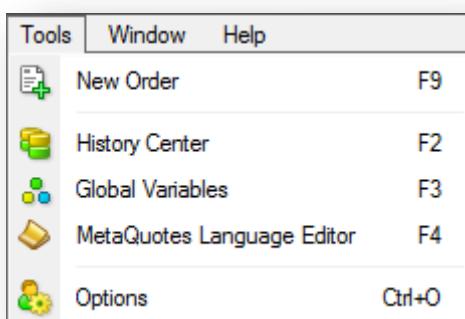
Zoom Out: [Zooms Out](#) on the active chart.

Step by Step: Shift the chart by one bar to the left or hit F12 to perform the same action.

Properties: [Properties](#) for the active chart.

3.14. Tools

The Tools window contains more trade-related controls on the MT4:



New Order: Opens a new window for placing a [New Order](#).

History Center: Opens a new window showing all historical data available.

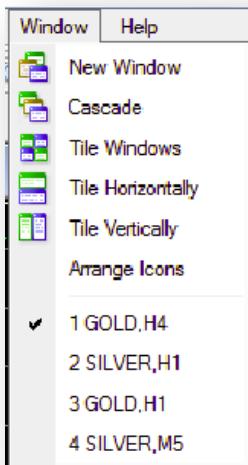
Global Variables: Opens a new window for setting Global Variables for MT4.

MetaQuotes Language Editor: Opens [MetaEditor](#).

Options: Opens the Options for MT4.

3.15. Window

The Window menu contains controls over the chart windows on MT4:



New Window: Opens New Chart Window.

Cascade: Cascades the chart windows.

Tile Windows: Tiles chart windows in square areas.

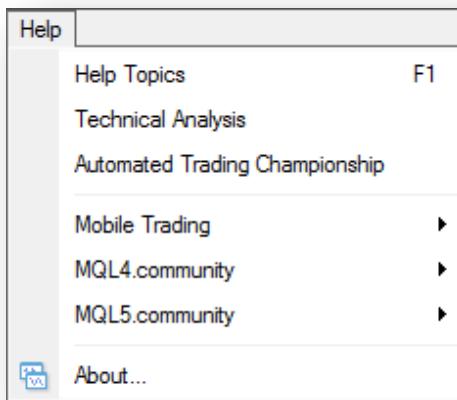
Tile Horizontally: Tiles chart windows horizontally.

Tile Vertically: Tiles chart windows vertically.

Arrange Icons: Arrange icons at the bottom of the window.

3.16. Help

The Help menu contains general useful information about MT4.



Help Topics: Opens MT4 Manual produced by [MetaQuotes Software Corp.](#)

Technical Analysis: Opens [MQL4 Technical Analysis Documentation](#).

Automated Trading Championship: Opens the official website for the [Automated Trading Championship](#).

Mobile Trading: Opens the official MT4 Mobile App websites.

MQL4.community: Opens various [MQL4 websites](#).

MQL5.community: Opens various [MQL5 websites](#).

About: Opens a new **About** window on MT4.

4. Trading

MT4 platform offered by Z.com Bullion is capable of handling order types of *Market Execution* and *Pending Order*. Market Execution order can be placed for instant opening of positions, whereas Pending Order is for placing Buy/Sell – Limits/Stop, Stop Loss, and Take Profits orders.

*It is important to note that under the Market Execution order type even an order is placed at particular price it is not guaranteed to be executed at that price due to market fluctuations and time lags. In some cases the execution price may deviate from the order price more than other occasions.

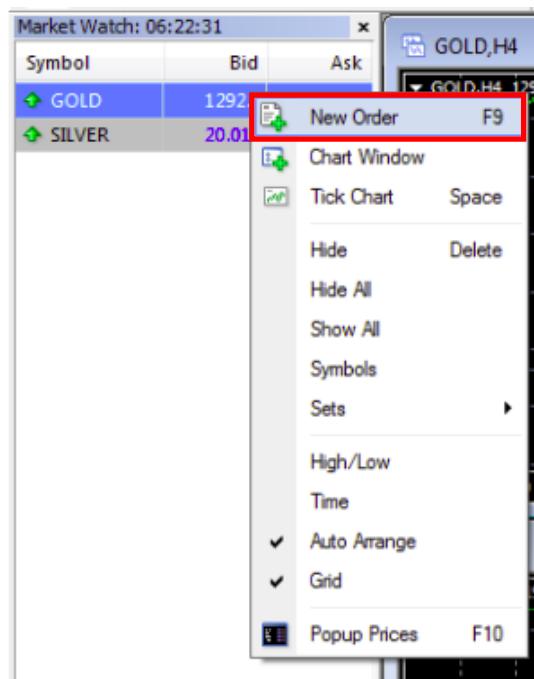
*At the moment Market Execution order type does not support placing either Stop Loss or Take Profit order at the same time when the order is placed. If a user wishes to add Stop Loss or Take Profit orders to a position it has to be done through 'Modify Order' which will be explained later in this chapter.

*With Z.com Bullion MT4 it is possible to hedge positions, meaning that if you attempt to close a position by placing an order with opposite direction you will end up with two opposite positions instead of closing the original position.

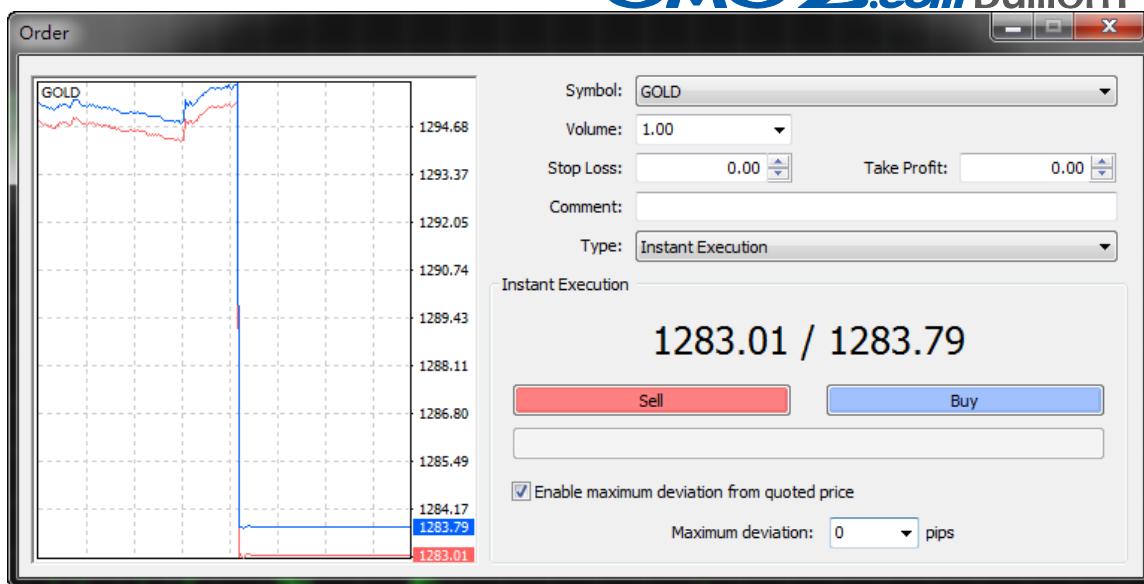
Most of the orders in MT4 can be placed from **Order** window which can be opened by clicking on the **New Order** button from the **Standard Toolbar** as shown below:



Alternatively, the Order window can be opened by double-clicking on one of the **Symbols** from the **Market Watch Window**, or right-click and select **New Order**:

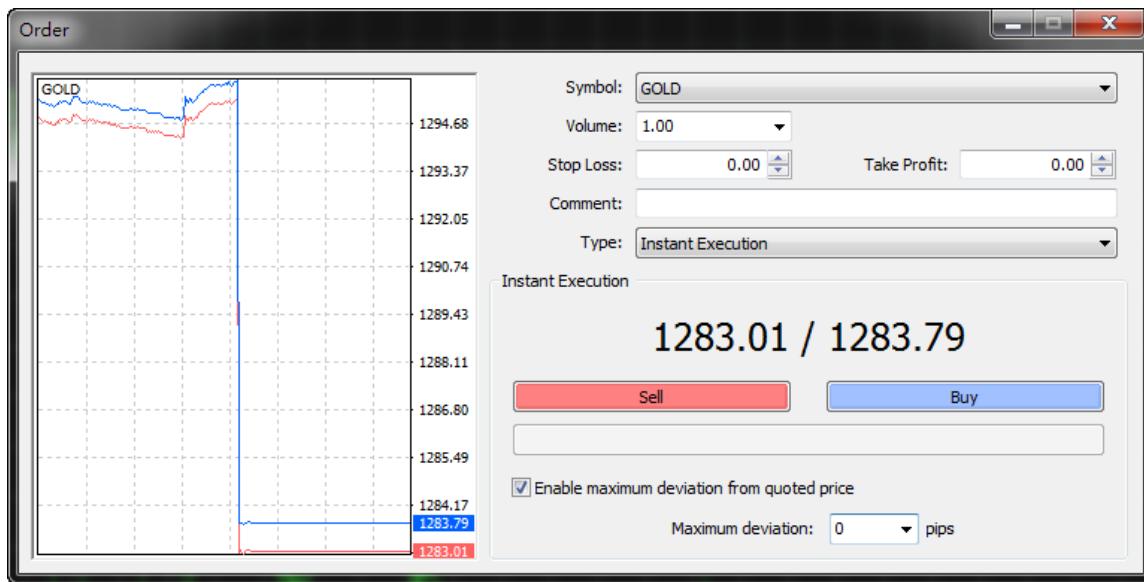


A new window appears as shown below:



4.1. Market Orders

A new position can be opened for an instrument from **Order** window with 'Market Execution' type. This section explains how to open a position using the Order window.



Symbol: Select the symbol for the instrument in which the order is intended to be placed. By default this will be the active chart or the instrument of the chart where the new order is selected from.

Volume: Order size in lots. For more information on contract specifications, please refer to [our website](#).

Stop Loss: Set the level for stop loss for pending orders.

Take Profit: Set the level for take profit for pending orders.

Comment: Set the comment which will be linked to the order.

Type: Set the order type either 'Market Execution' or 'Pending Order'.

Market Execution: Market price quoted for placing Market Execution orders.

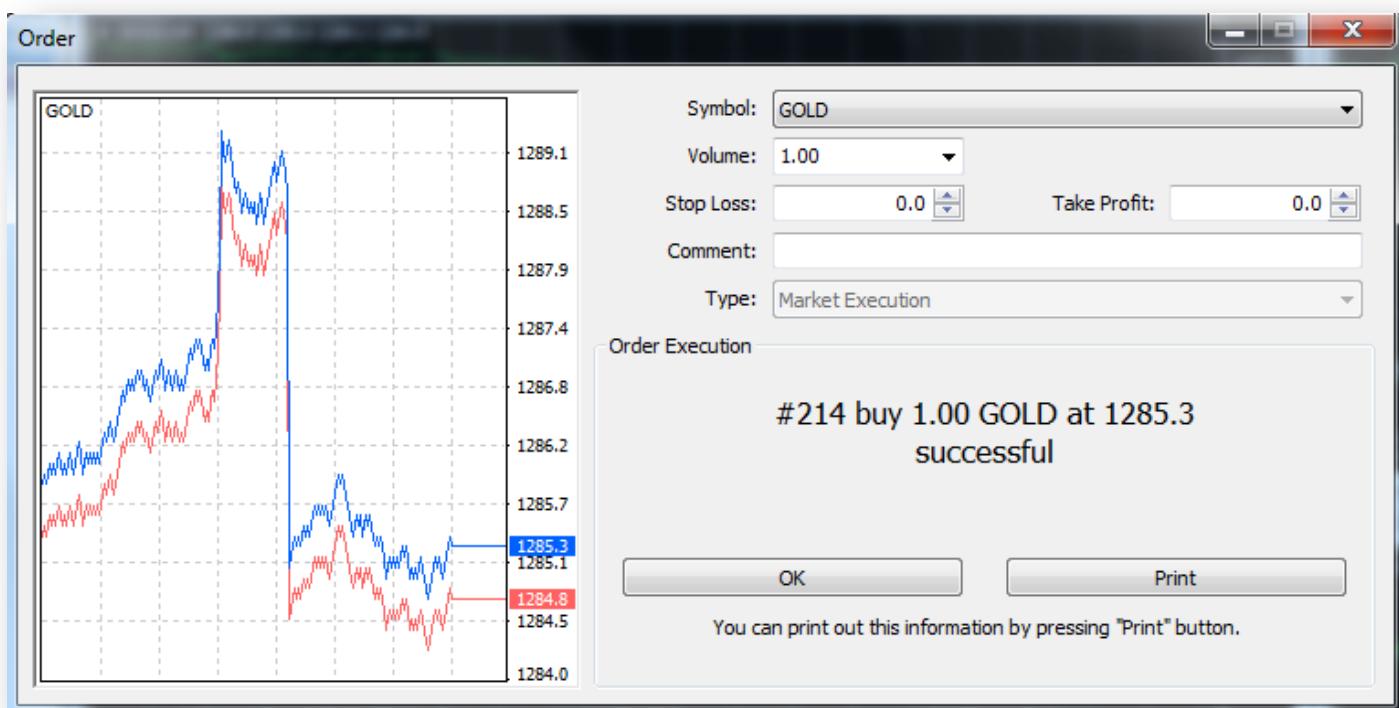
4.1.1. Market Execution

Market Execution order type is for opening a position instantly at the market price quoted at the time of the ordering, although it has to be noted that the order is not guaranteed to be executed at the quoted price and subject to slippage.

Market execution is the simplest of all order types and it is placed simply by following the steps below:

1. Select the order type as 'Market Execution'
2. Select the Symbol for the instrument to be placed the order on.
3. Specify the Volume in lots.
4. (Optional) Add comment to be linked with the order and the position once opened.
5. Enable/Disable slippage, up to a maximum of 99 pips.
6. Select either 'Sell by Market' or 'Buy by Market' to place the order.

Once the order is placed there will be a confirmation or outcome message displayed on the order window as shown below:



4.2. Pending Orders

Placing **Buy Limit**, **Buy Stop**, **Sell Limit** and **Sell Stop** order can be accomplished by the use of **Pending Order**. On the other hand, modifying those orders already been placed but yet to be executed must be done through **Modify Order**.

Summary of terms:

Buy Limit: Price level below the market price. Once the market falls below the buy limit order price level, the order is executed.

Buy Stop: Price level above the market price. Once the market hits the buy stop order price level, the order is executed.

Sell Limit: Price level above the market price. Once the market hits the sell limit order price level, the order is executed. .

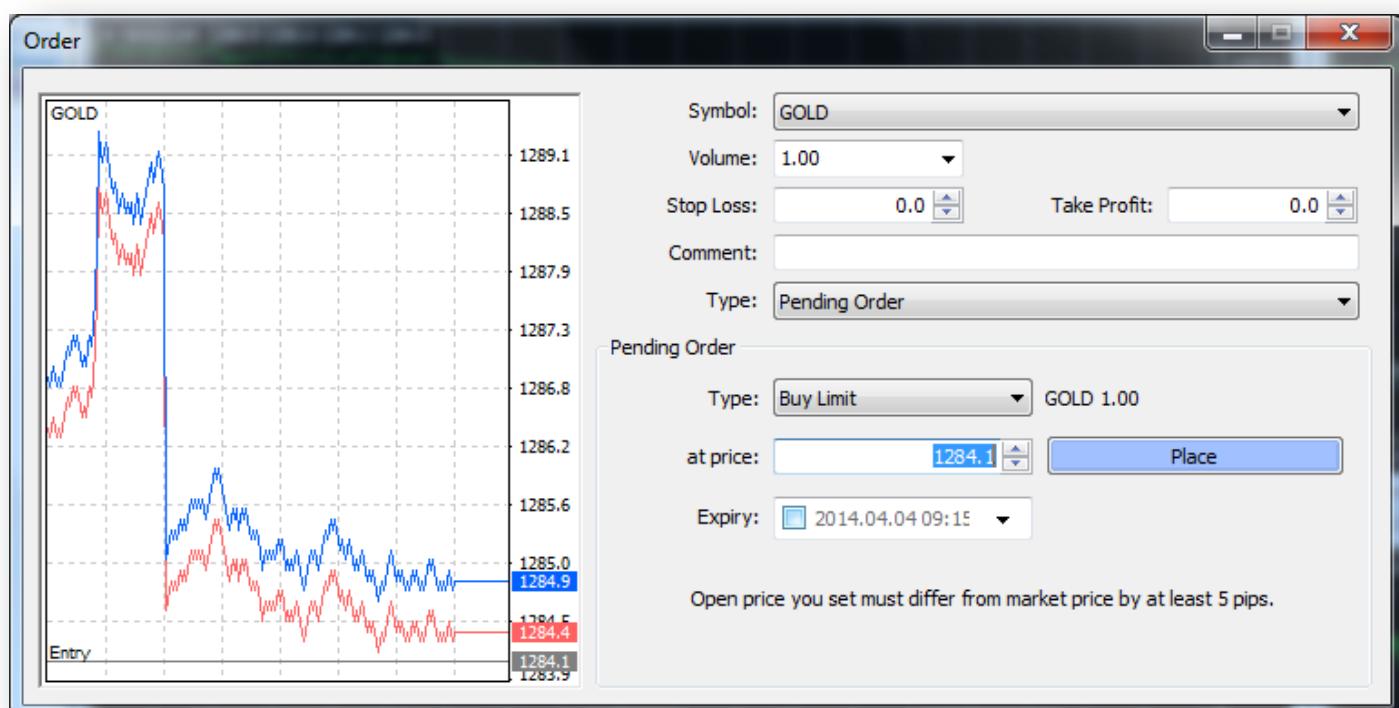
Sell Stop: Price level below the market price. Once the market falls below the sell stop price level, the order is executed.

4.2.1. Placing New Buy/Sell – Limit/Stop Orders

Pending orders are those trade orders which do not become executed instantly upon placing an order, in other words these are any orders which do not involve Market Execution order types.

Normally the pending orders are placed for **Buy Limit**, **Buy Stop**, **Sell Limit** and **Sell Stop** with option of **Stop Loss**, **Take Profit**, and **Expiry**.

The order window for pending orders looks like shown below:



Pending order can be placed simply by following the steps below:

1. **Select the order type as 'Pending Order'**
2. **Select the Symbol for the instrument to be placed the order on.**
3. **Specify the Volume in lots.**
4. **(Optional) Specify Stop Loss and Take Profit Values.**
5. **(Optional) Add comment to be linked with the order and the position once opened.**
6. **Select whether the order is for 'Buy Limit', 'Sell Limit', 'Buy Stop' or 'Sell Stop'.**
7. **Specify the price for such order.**

Please note that the price level must differ from market price by at least the minimum distance shown in the order window (in pips). Otherwise, the pending order will not be accepted. This is applicable to all entry pending orders, Stop Loss and Take profit orders.

8. **(Optional) Specify Expiry date.**
9. **Select 'Place' button to place the order.**

4.2.2. Placing New Buy/Sell – Limit/Stop Orders Directly From Chart

Alternatively, MT4 has a functionality to place Buy/Sell – Limit/Stop orders directly on the chart. This is a very useful tool for traders since it allows for easy actions and also gives the ability to interact trade actions with chart patterns.

For example a trader might spot an opportunity on a chart by analysing its price patterns which may have been as a result of indicators drawn on the chart. Based on such information the trader knows exactly at which price the order should be placed for, so hence rather than placing an order from the Order window by manually entering the price level it can be accomplished simply by pointing the cursor to the intended price level on the chart and right-click to place the order.

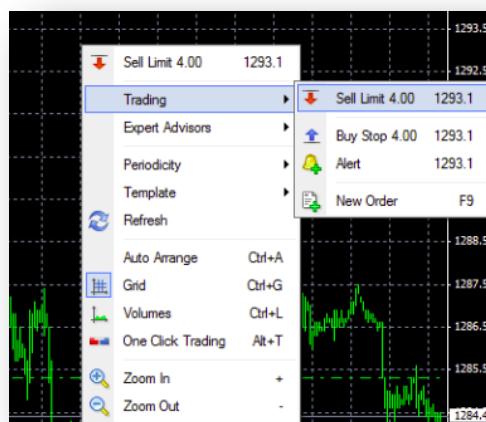
Moreover, this tool automatically recognises which order types are appropriate for the corresponding price level selected. For example if the price level is chosen above the current market price, it will only give you choices of Sell Limit and Buy Stop, whereas if it was the other way around it would only give you choices of Buy Limit and Sell Stop.

On top of these, Users are also able to enable **Alert** function for a particular price level directly on the chart through the same method.

For placing such new orders, follow the instructions below:

1. **Identify which type of order needs to be placed on which instrument.**
2. **Identify the price level at which the order needs to be placed on.**
3. **Right-click on the chart at that price level.**
4. **From the "Trading" menu select the order type to complete.**

The above instructions are illustrated within the screenshot below:



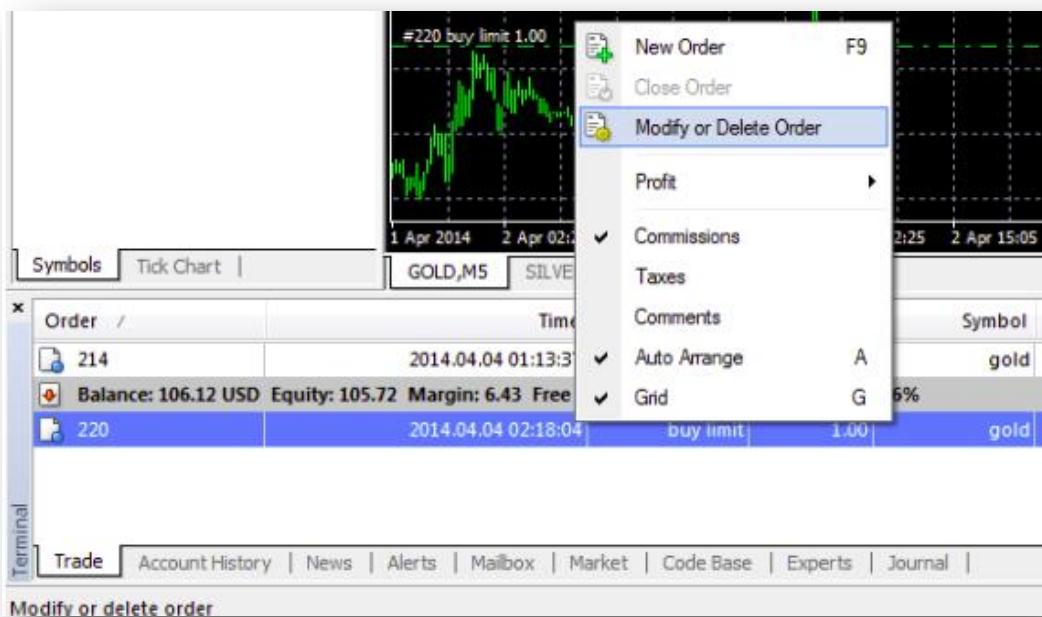
4.3. Modifying Orders

All the orders apart from those with Market Execution types (i.e. Buy/Sell – Limit/Stop, Stop Loss and Take Profit orders) can be modified as long as they are yet to be executed. Normally those orders would appear on the chart as dotted horizontal lines to indicate which type and at what price the orders are placed for.

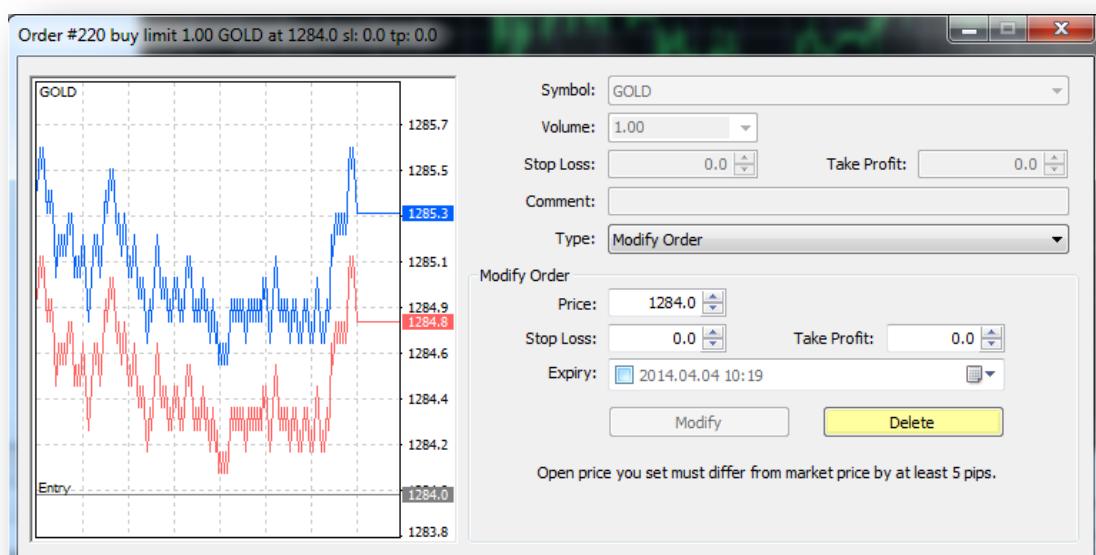
4.3.1. Modifying Buy/Sell – Limit/Stop Orders

Pending orders can be modified to have their parameters changed or even delete the order itself.

Any pending orders will be displayed in the **Terminal** window under the **Trade** tab below the account balance information (i.e. open positions will be displayed above the account balance information), right-click on the pending order listed and select **Modify or Delete Order** from the menu:



A new window appears before the chart windows where all the relevant parameters can be modified accordingly:



The parameters which can be changed for pending orders are:

- **Buy/Sell - Limit/Stop Price**
- **Stop Loss**
- **Take Profit**
- **Expiry**

Once any of the parameters above is modified user will be able to select **Modify** to complete the order.

Alternatively the user may select **Delete** to void the order.

4.3.2. Modifying Stop Loss and Take Profit Orders

As mentioned previously at the beginning of this chapter, in Z.com Bullion's MT4 system both Stop Loss and Take Profit orders can only be placed on a position by modifying the position following execution of its Market Execution order.

Stop Loss and Take Profit are very useful order types which allow positions to automatically close for the purposes of limiting losses and securing profit respectively. These two mechanisms are similar in a sense that they both force the position to be closed once the pre-set levels are reached by Bid or Ask prices respectively.

Stop Loss: Price level set once the position is opened so that once the market plunges to this level the position is automatically closed in order to prevent further loss.

Take Profit: Price level set once the position is opened so that once the market reaches this level the position is automatically closed in order to secure the profit.

Parameters for open positions can be modified to set Stop Loss or Take Profit orders for the positions.

Open positions will be displayed in the **Terminal** window under the **Trade** tab, right-click on the open position to be modified and select **Modify or Delete Order** from the menu:



A new window appears before the chart window where all the relevant parameters can be modified accordingly:



The parameters which can be changed for pending orders are:

- **Stop Loss**
- **Take Profit**

For modifying either Stop Loss or Take Profit, it can be done either by directly entering the value in the corresponding field or select the **Level** (i.e. deviation from the current price in pips) and click **Copy as** button with relevant value inside to paste the automatically generated value into the corresponding field.

Finally click **Modify** button to complete modifying the open position.

4.3.3. Modifying Buy/Sell – Limit/Stop, Stop Loss and Take Profit Orders Directly From Chart

All the order types apart from the Market Execution can be modified directly from the chart by dragging the lines along the price levels. This is a useful tool as it allows instant modification of orders and also the user is able to choose the new price directly on the chart.

To modifying orders:

1. **Click on the order line and drag it to the new price level**

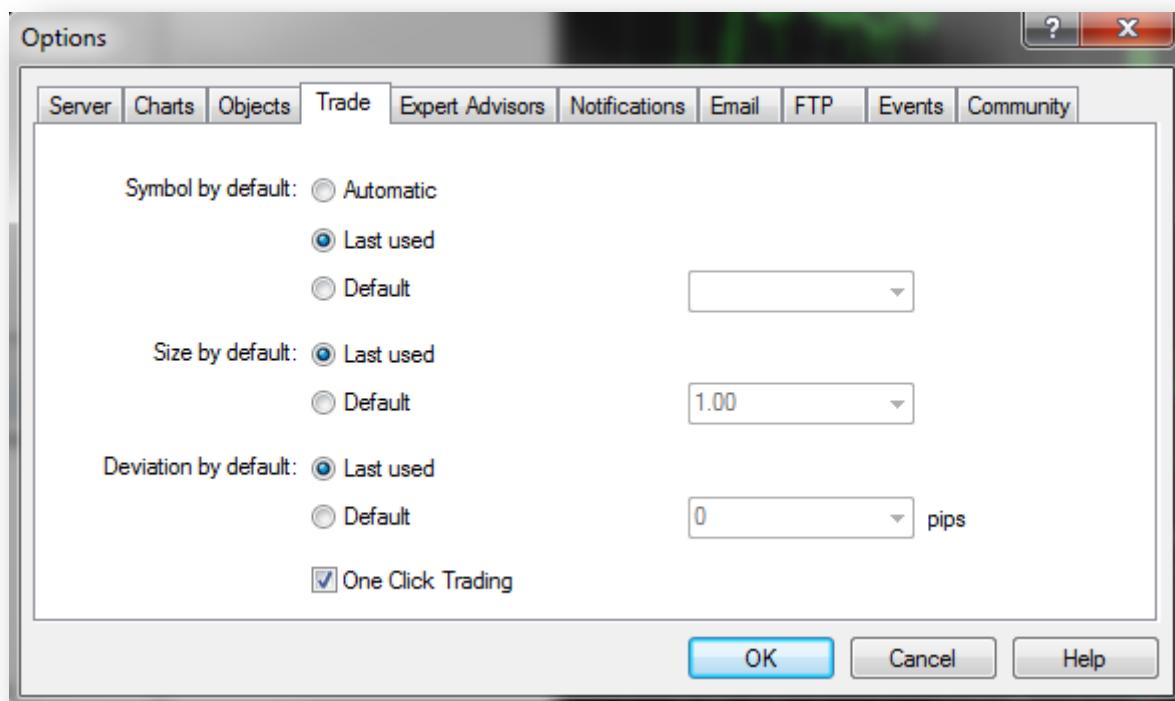
The screenshot below shows the order line on a chart:



Upon completion check that the order line has been updated to the new price level. This might take a few seconds for the order to be accepted by the server. If the new price level is invalid (e.g. trying to modify Buy Limit order above the current market price), nothing would happen on the chart and the original order line remains in the same price level.

4.4. Trade Options

The Trade options allow users to set the parameters for opening new orders:



Symbol by default:

This option allows the Order window to set the symbol which appears when opened. Setting this parameter to **Automatic** will allow the symbol for the active chart to appear. **Last used** will show the last used symbol. **Default** will allow the user to pre-set the symbol which will appear each time the window is opened.

Size by default:

This option allows the default lot size which appears on a new Order window when opened like for the symbol above. Setting this parameter to **Last used** will show the last used lot size to appear in the field, whereas selecting **Default** will allow the user to pre-set the lot size which will appear in the field each time it is opened.

5. Closing Positions

With Z.com Bullion MT4, positions can only be closed using dedicated position closing function as it allows for 'Hedging' when two positions are opened in the opposite directions.

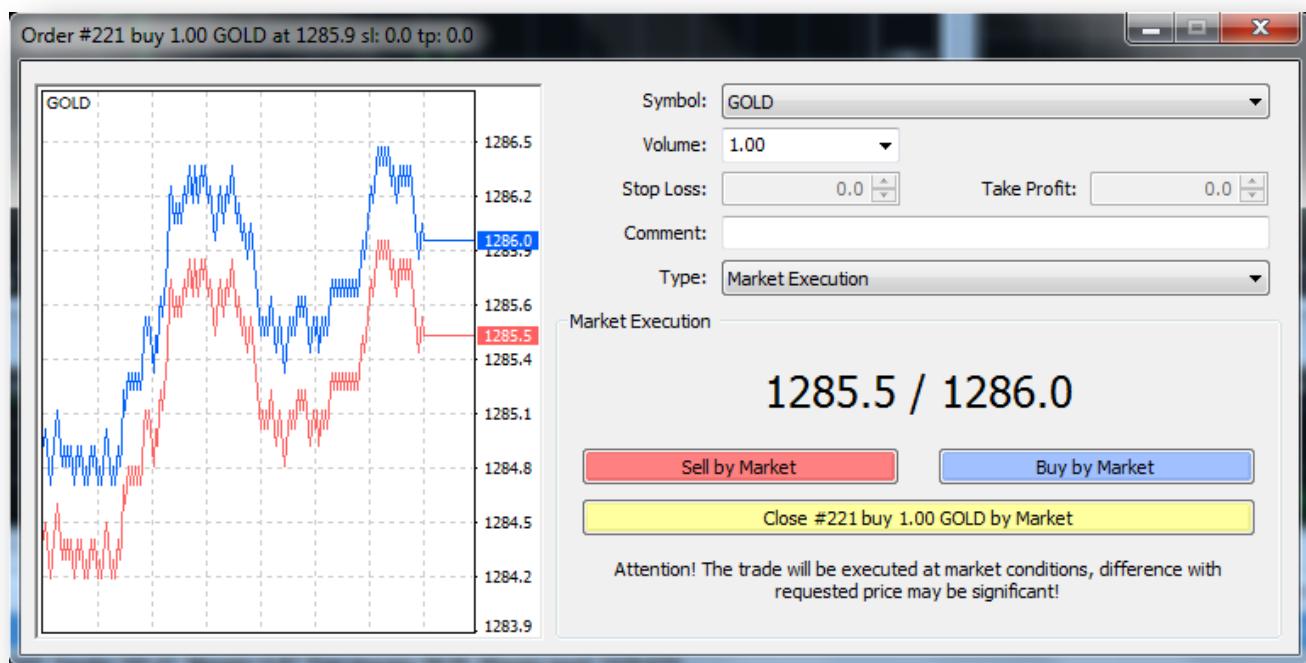
5.1. Market Orders

Closing a position through Market Order is done by 'Market Execution' order type where the user places a close order given the market quote, although it must be noted that the order is not guaranteed to be executed at the quoted price.

Normally, positions can be closed from an **Order Window** where the closing lot size can be specified which is useful for partial closing of a position. On the other hand, there are other methods exist which allow for simple closing of the entire position which can be used if it is known that the entire position needs to be closed rather than a part of it.

5.1.1. Closing Positions from Order Window

Open positions on MT4 Terminal can be closed through **Order** window which can be opened by double-clicking on the open position which is to be closed in the **Terminal** window, or alternatively by right-clicking on the position, select **Modify or Delete Order** and then change the **Type** to **Market Execution**. The following should be shown on the screen:



For closing the entire position:

Leave the **Volume** field as it is, it already shows the total volume for the position.

For Partial Close (closing only a part of the position):

Enter the lot size on the **Volume** field in which is to be closed. This must be equal to or less than the size of the position and incremental of the minimum order size.

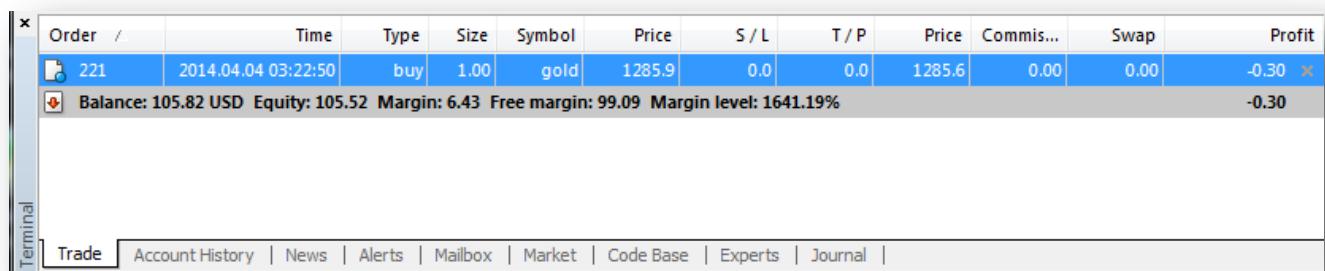
And then finally select **Close** button to complete the closing of the position.

If the close order is succeeded the closed position should be available to view in the **Terminal** window under the **Account History** tab.

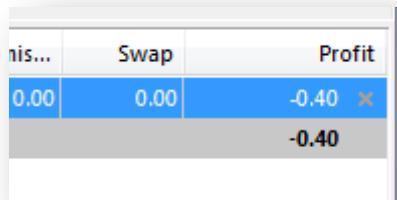
5.1.2. Simple Closing of Positions

If it is known that the position needs to be closed fully as opposed to partially, this can be accomplished by the following simple steps rather than from the Order window explained above.

Once a position is opened it will be displayed under the **Trade** tab in the **Terminal** window as shown below:



The open position can be closed simply by selecting the cross-sign ('X') on the very right of the position (provided that One-Click Trading function is disabled):



Alternatively, the position can be closed by right-clicking on the open position like above and select **Close**:



The position will be closed with Market Execution upon selecting the option. Closed positions can be checked in **Terminal** window under the **Account History** tab:

Order /	Time	Type	Size	Symbol	Price	S / L	T / P	Time	Price	Swap	Profit
214	2014.04.04 01:13:37	buy	1.00	gold	1285.3	0.0	1286.7	2014.04.04 02:44:09	1285.0	0.00	-0.30
220	2014.04.04 02:18:04	buy li...	1.00	gold	1284.0	0.0	0.0	2014.04.04 03:31:40	1286.1		
221	2014.04.04 03:22:50	buy	1.00	gold	1285.9	0.0	0.0	2014.04.04 03:39:38	1285.5	0.00	-0.40
Profit/Loss: -1.20 Credit: 0.00 Deposit: 0.00 Withdrawal: 0.00											-1.20
Trade	Account History	Alerts	Mailbox	Market	Code Base	Experts	Journal				

5.2. Pending Orders

Positions can be closed through a Pending Order as well as a Market Order. Pending Orders for closing position are **Stop Loss** and **Take Profit** orders.

Stop Loss: A system which prevents further losses for a position by setting a price level at which the position will be automatically closed if the market moves in an unfavourable direction to the trader.

Take Profit: A system which secures certain amount of profit for a position by setting a price level at which the position will be automatically closed if the market moves in favourable direction to the trader.

The procedures for setting these orders are described in the previous sections [Pending Orders](#) and [Modifying Stop Loss and Take Profit Orders](#).

Once the positions are closed due to either Stop Loss or Take Profit, they can be viewed under the **Account History** tab from the **Terminal** window.

If the position is closed due to the **Stop Loss** being triggered, the cell under the column **S/L** will be shown with **pink** background colour:

Order /	Time	Type	Size	Symbol	Price	S / L	T / P	Time	Price	Swap	Profit
184	2014.04.03 03:39:07	sell limit	1.00	gold	1300.0	0.0	0.0	2014.04.03 04:04:56	1291.4		
185	2014.04.03 04:05:06	buy	1.00	gold	1291.8	0.0	1291.7	2014.04.03 04:45:07	1291.7	0.00	-0.10
186	2014.04.03 04:06:16	sell	1.00	silver	19.928	19.938	0.000	2014.04.03 04:19:21	19.938	0.00	-0.10
214	2014.04.04 01:13:37	buy	1.00	gold	1285.3	0.0	1286.7	2014.04.04 02:44:09	1285.0	0.00	-0.30
Trade	Account History	Alerts	Mailbox	Market	Code Base	Experts	Journal				

If the position is closed due to the **Take Profit** being triggered, the cell under the column **T/P** will be shown with **Green** background colour:

Order /	Time	Type	Size	Symbol	Price	S / L	T / P	Time	Price	Swap	Profit
184	2014.04.03 03:39:07	sell limit	1.00	gold	1300.0	0.0	0.0	2014.04.03 04:04:56	1291.4		
185	2014.04.03 04:05:06	buy	1.00	gold	1291.8	0.0	1291.7	2014.04.03 04:45:07	1291.7	0.00	-0.10
186	2014.04.03 04:06:16	sell	1.00	silver	19.928	19.938	0.000	2014.04.03 04:19:21	19.938	0.00	-0.10
214	2014.04.04 01:13:37	buy	1.00	gold	1285.3	0.0	1286.7	2014.04.04 02:44:09	1285.0	0.00	-0.30
Trade	Account History	Alerts	Mailbox	Market	Code Base	Experts	Journal				

5.3. Auto-Closeout

The Auto-Closeout is an in-built feature on our MT4 system that helps users to minimise trading risk exposure. An Auto-Closeout is triggered when the account net equity falls below the pre-set percentage of the required margin. When this happens, all open positions in the account will be automatically closed by the system.

 Balance: 99 999.88 USD Equity: 99 970.38 Margin: 33.43 Free margin: 99 936.95 Margin level: 299075.22%

Margin level (shown in percentage) can be monitored easily under the **Trade** tab from the **Terminal** window.

Please be noted that in a fast moving market or market gaps, your position may be closed at a less favourable price.

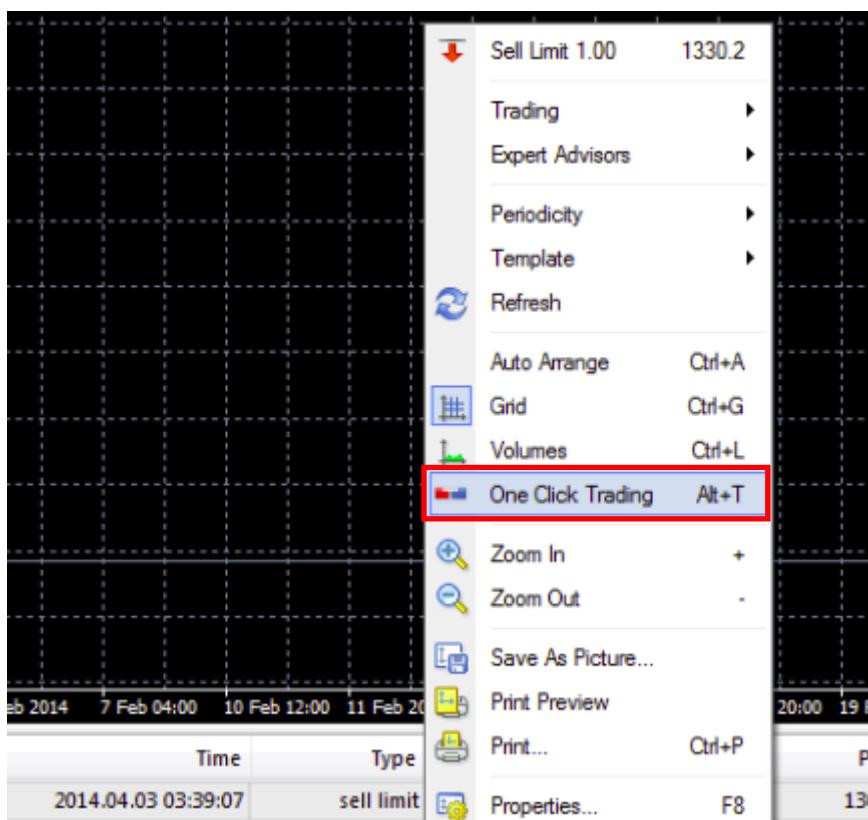
6. One-Click Trading

One Click Trading is a very simple tool which allows users to open a position by placing Market Execution order with a single click of a button on a chart.

*Please be noted that placing an order in the opposite direction to the existing position will not result in closing of the existing position, instead the 'Hedging' will be enabled where the terminal will have two positions with opposite directions to each other.

6.1. Enabling One-Click Trading

To open One-Click Trading tool, right-click on the chart of choice and select **One-Click Trading** as shown below:



Alternatively hit **Alt + T** on the keyboard or click on the white downward-pointing arrow at the top left of the chart:



As a result One Click Trading tool will appear like shown below:



6.2. Opening Position Using One-Click Trading

One of the features of One-Click Trading is the ease of trading as it literally takes one click to place an order for an instrument.

The procedure for placing an order using One-Click Trading is:

1. **Specify the lot size for the trade.**
2. **Select either 'SELL' or 'BUY'.**

Once the order is executed the open position will be displayed in the **terminal** window under the **Trade** tab.

7. Charts

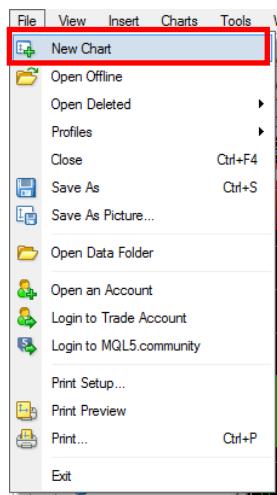
Chart Windows are where the charts for various instruments are shown. In most cases chart windows will be the main component for the MT4 interface.

7.1. Open Chart Windows

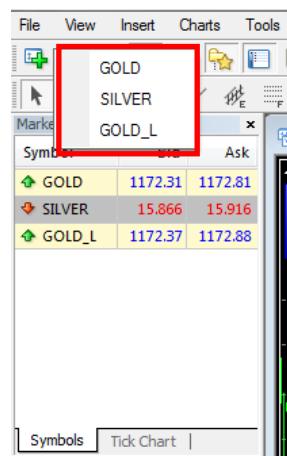
Instrument charts can be opened in various ways in MT4. There are two types of charts one being online (normal) chart and the other one being **offline chart**. Normally when the chart is opened it receives constant price feed and updated accordingly, however, in the case of offline chart there are no price feed received and updated on the chart, and therefore the offline chart is useful for tasks which do not require constant price update such as analysis of historical price.

7.1.1. New Chart

To open a normal (online) chart, go to the menu and select **File**, and then select **New Chart**:



A dropdown list appears allowing users to select the chart to be opened:



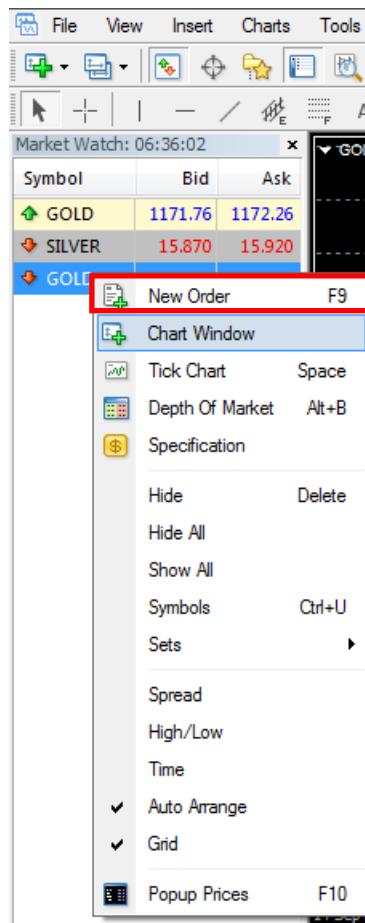
In this example above a new chart with above selected symbol will open on the interface as shown below:



Alternatively the chart can be opened from the **Standard Toolbar** by selecting **New Chart**, and then select the instrument of choice from the dropdown list to open the chart:

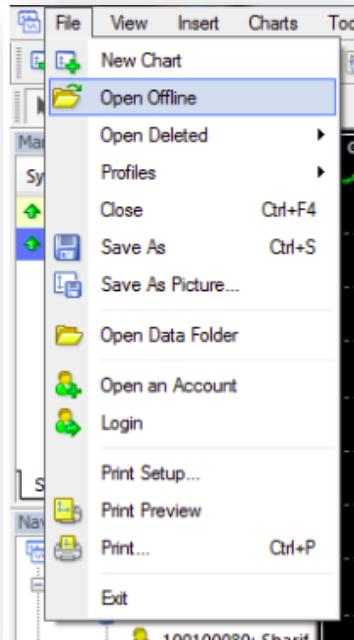


Another way of opening a new chart is through the **Market Watch** window by right-click on the symbol of choice and select **Chart Window** from the dropdown list:



7.1.2. Offline Chart

As for opening an **offline** chart, there is only one way of doing so which is through the **menu** by selecting **File**, and then select **Open Offline**:



Select an instrument of choice and select **Open** to open its chart offline.

7.1.3. Rearranging Multiple Chart Windows

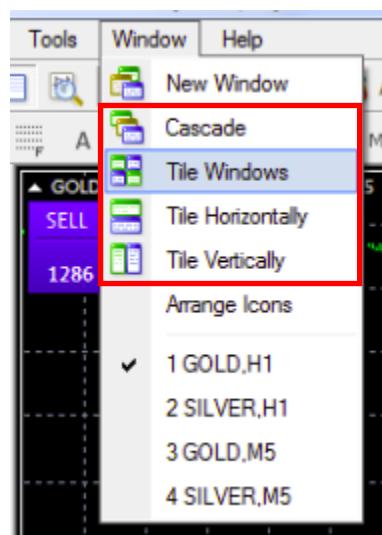
Occasionally there may be some situations where multiple windows need to be opened at given one time, many users trade on multiple markets and prefer to have the pictures of those markets open and visible to them in a single view. In order to respond to such demand MT4 has a functionality to arrange multiple charts on its interface.

In order to have multiple charts opened, firstly open new charts either online or offline according to the instructions from the previous topic. To see which instrument charts are open refer to the **Charts Bar** at the bottom of the chart as shown below:



The highlighted chart tab on the very left of the tabs shown above is the active chart which means whatever action taken without selecting a specific chart will automatically apply to this chart.

It may be that all these charts are open in a single window all together, however, in many cases only a single chart may be displayed and a user has to flick through the tabs above to view each different chart. In order to arrange these charts so to display them all together in a single view, go to the **menu** and select **Windows**, and from the dropdown menu choose an appropriate window type and select:



In this example the window type of **Tile Windows** has been selected which rearranged the chart windows as shown below:



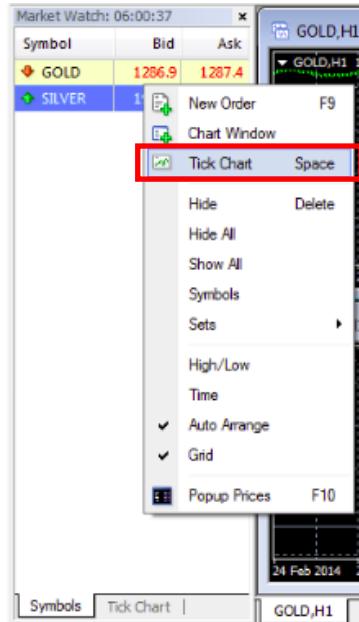
An active chart can be selected from these charts by either simply selecting one of them or by selecting the chart tab from the **Charts Bar**.

7.1.4. Tick Chart

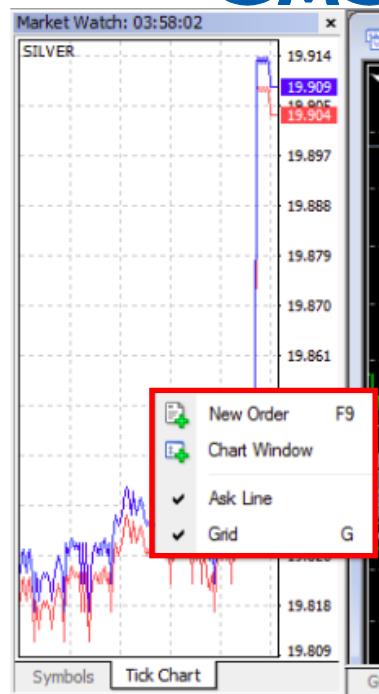
Tick Charts are special type of chart which only shows the tick price data on a simple graph which is updated every time a new tick data comes in. Tick chart is useful in situations for example where the market is moving rapidly or a user is trading on a news event.

7.1.4.1. Opening Tick Chart

Tick Chart can be opened from the **Market Watch** window by right-click on the symbol of choice and select **Tick Chart**, or simply by hitting **Space** button on the keyboard:



And then the Market Watch window switches to a Tick Chart view as shown below:

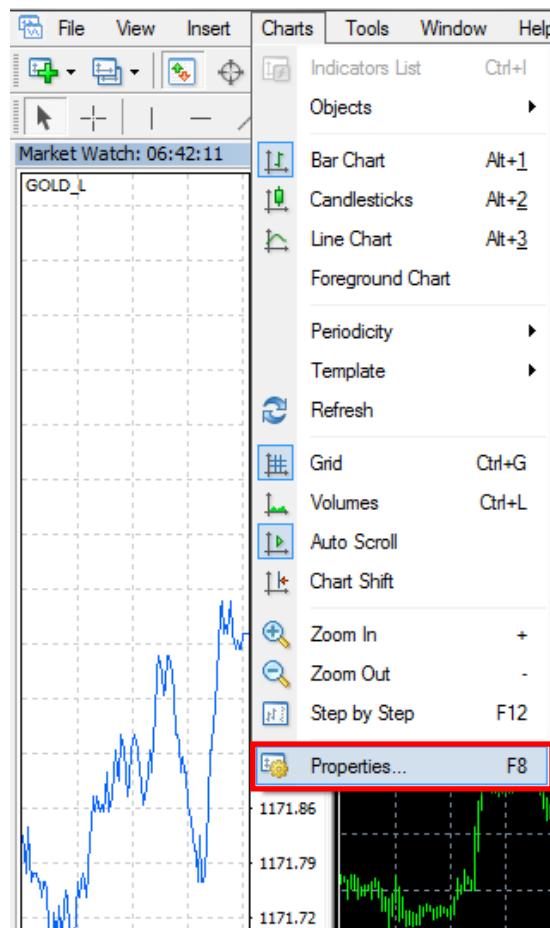


The graph can be configured to show both the **Grid** lines and **Ask Line** by right-click on the graph and selecting appropriate items as shown above.

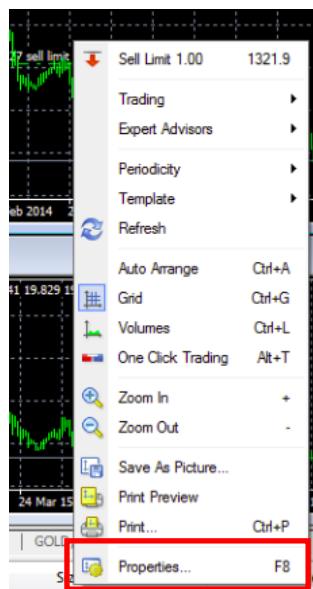
The view can also be switched between the **Symbols** and **Tick Chart** view by selecting the tab at the bottom of the window as can be seen in the above screenshot.

7.2. Chart Properties

Properties for the chart can be configured from the **menu** by selecting **Chart**, and then select **Properties** from the dropdown menu:



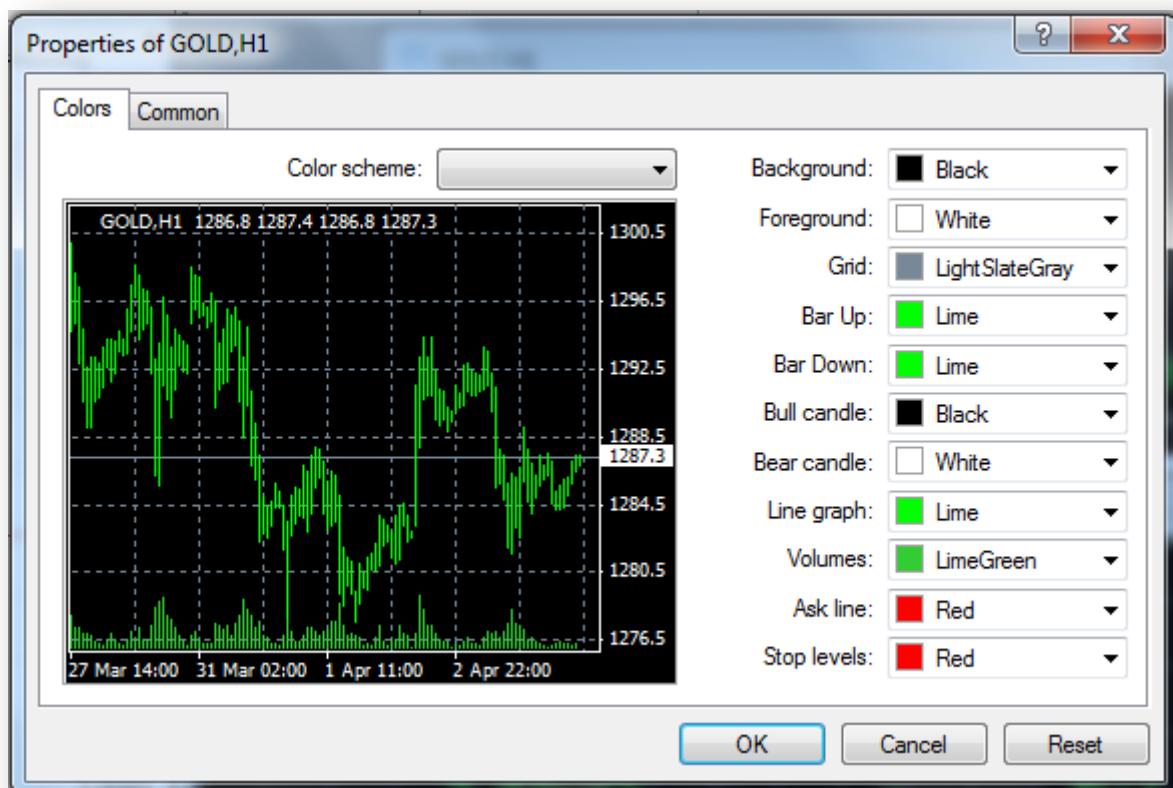
Alternatively, hit **F8** on the keyboard or right-click on the chart and select **Properties**:



A new window appears before the chart where the colours and settings for the chart can be configured.

7.2.1. Colours

From the chart properties window specific chart colours can be set as shown below:



Background: Colour for the background of the chart. By default it is black as shown above.

Foreground: Colour for the foreground axis and corresponding values on the chart.

Grid: Colour for the dotted grid lines on the chart.

Bar Up: Colour for the price bar which is ending higher than its open. Applies only to **Bar Chart** and **Candlestick**.

Bar Down: Colour for the price bar which is ending lower than its open. Applies only to **Bar Chart** and **Candlestick**.

Bull candle: Colour for the inner candle bar which is ending higher than its open. Applies only to **Candlestick**.

Bear candle: Colour for the inner candle bar which is ending lower than its open. Applies only to **Candlestick**.

Line graph: Colour for the line graph. Applies only to **Line Chart**.

Volumes: Colour for the volumes line at the bottom of the chart.

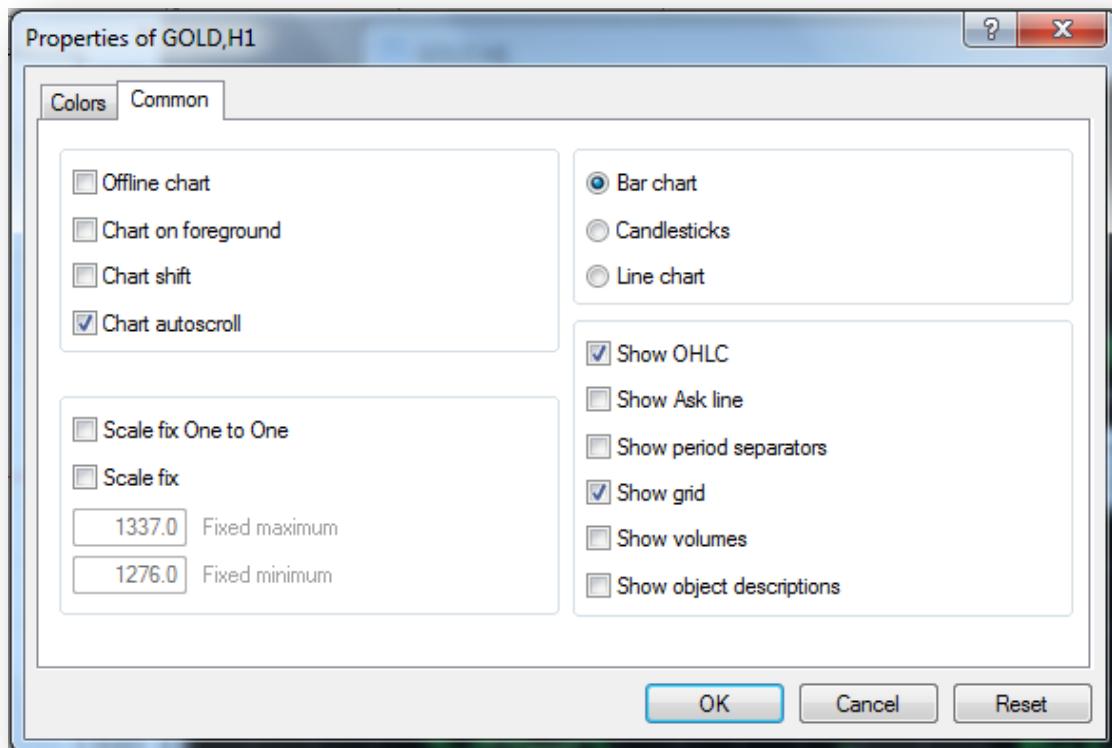
Ask line: Colour for the ask line whose horizontal line is shown above the normal bid line on a chart.

Stop levels: Colour for the line indicating the price level for a stop loss order on the chart.

Colour scheme allows users to choose from pre-set configurations of a chart.

7.2.2. Settings

The **Common** tab menu of the chart properties allows users to configure other general settings for the chart:



Offline chart: Opens the chart in offline mode.

Chart on foreground: Enables the chart to appear before all others such as indicators.

Chart shift: Shifts the chart so that the latest bar would be positioned at the chart shift mark on the chart.

Chart autoscroll: Allows the chart to automatically shift to the latest bar whenever a new tick data is received.

Scale fix One to One: fix the chart scale as "one to one" (the size of one pip of the vertical axis in pixels is equal to the distance between the bars axes in pixels). The **Scale fix** option will be automatically enabled.

Scale fix: Fixes the current vertical chart scale.

Bar chart: Switches the chart to bar chart.

Candlesticks: Switches the chart to candlesticks.

Line chart: Switches the chart to line chart.

Show OHLC: The latest Open, High, Low and Close price will appear at the top left corner of the chart.

Show Ask line: Ask line which is a horizontal line above the normal (bid) price level line will appear in the chart.

Show period separators: Shows dotted vertical lines separating certain time period for example daily for timeframes smaller than H4.

Show grid: Enables the dotted grid lines to appear on the chart.

Show volumes: Enables the volume histogram to appear at the bottom of the chart for each bar.

Show object descriptions: Enables the object descriptions to appear on the chart.

7.3. Chart Controls

7.3.1. Chart Types

Chart on MT4 can be customised to different types according to the needs of a user. Chart types supported by MT4 are **Bar Chart**, **Candlesticks** and **Line Chart**. Line chart is the simplest of all showing only a single line of price data, whereas both the bar chart and the candlesticks show **Open**, **High**, **Low** and **Close** prices.

Open: Price at the beginning of the current chart bar.

High: The highest price of the current chart bar.

Low: The lowest price of the current chart bar.

Close: Price at the end of the current chart bar.

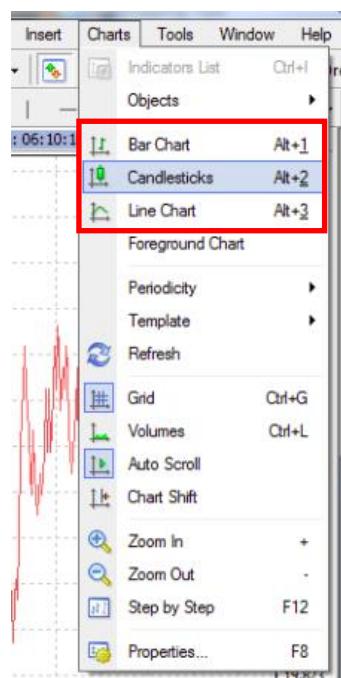
The chart type can be configured at **Charts Toolbar** by selecting appropriate options:



From the left: **Bar Chart**, **Candlestick** and **Line Chart**.

In this above case the line chart is shown as being applied to the active chart.

Alternatively the chart type can be changed from the **menu** by selecting **Charts**, and then select the appropriate chart type from the dropdown menu:



7.3.1.1. Bar Chart

A typical bar chart would look like the below:



The price level indicated to the left of the bar: Open Price

The price level indicated to the right of the bar: Close Price

The price level at the top of the bar: Highest Price

The price level at the bottom of the bar: Lowest Price

7.3.1.2. Candlesticks

A typical Candlesticks chart would look like the below:



For Filled Candlesticks (Bearish Pressure):

- **The price level at the top of the candle box:** Close Price
- **The price level at the bottom of the candle box:** Open Price
- **The price level at the top of the candle line:** Highest Price
- **The price level at the bottom of the candle line:** Lowest Price

For Empty Candlesticks (Bullish Pressure):

- **The price level at the top of the candle box:** Open Price
- **The price level at the bottom of the candle box:** Close Price
- **The price level at the top of the candle line:** Highest Price
- **The price level at the bottom of the candle line:** Lowest Price

7.3.1.3. Line Chart

A typical Line chart would look like the below:



Where each point of the line represents the bid price at given time.

7.3.2. Timeframes

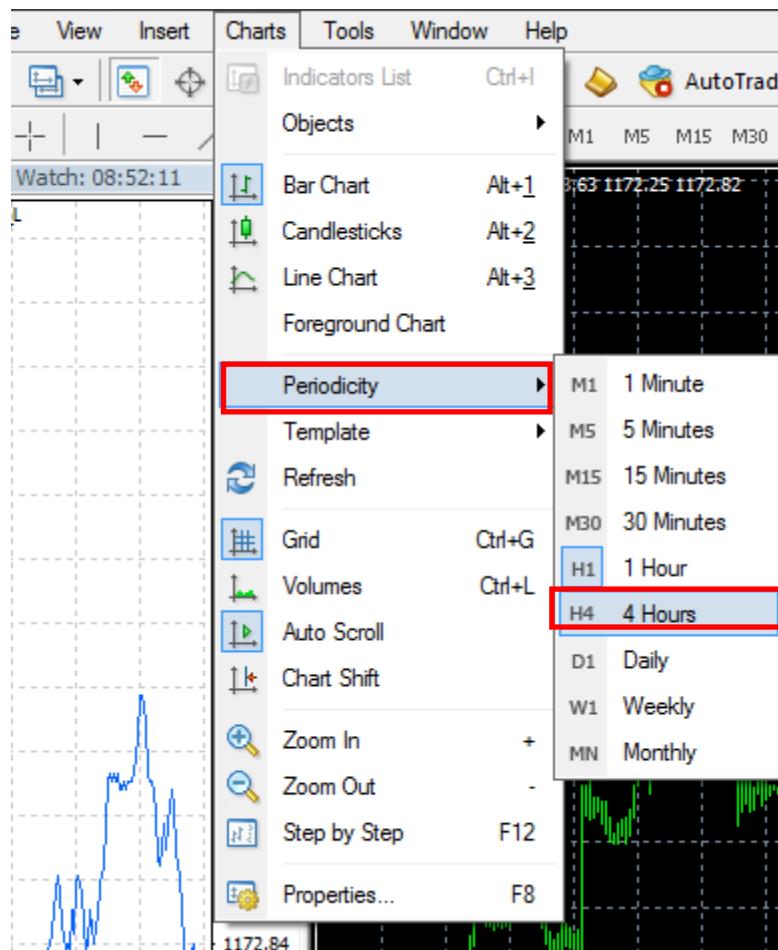
The markets often show different behaviour depending on the timeframe in which they are looked at, and in many cases using multiple timeframes helps trades make more informed decisions than looking at a single timeframe data alone. For this reason MT4 allows its users to switch between the timeframes of a given instrument.

The easiest and simplest way of changing the timeframe for an active chart is from the **Periodicity Toolbar** by selecting the timeframe accordingly:



The screenshot above shows the current timeframe is set at 'M30', that is 30 minutes chart (i.e. each bar contains 30 minutes of information).

Alternatively the timeframe can be changed from the **menu** by selecting **Charts**, and then select **Periodicity** from the dropdown menu and select the timeframe from the sub-dropdown menu accordingly:



In the example above 'M30' timeframe is currently selected and it is to be changed to timeframe of 'H4'.

7.3.3. Zoom In & Out

Each chart can be zoomed in and out according to the preference of the user. While zooming in a chart will allow for more detailed display of price data it compromises in more wider view of the market, whereas zooming out will give the user broader view but making it difficult or impossible to grasp the detail for each bar.

In MT4 a chart can be zoomed in and out through **Charts Toolbar** by selecting **Zoom In** and **Zoom Out** button respectively:



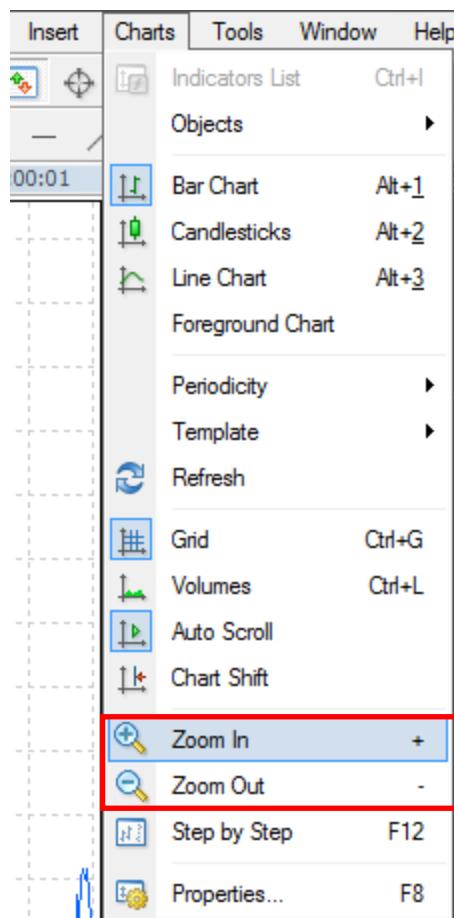
Zooming in will allow detailed view up to the level shown below:



Whereas zooming out will allow broader view of the market up to the level shown below:



Alternatively the chart can be zoomed in and out from the **menu** by selecting **Charts**, and select either **Zoom In** or **Zoom Out** from the dropdown menu:



7.3.4. Auto Scroll

Chart can be configured to automatically scroll to the latest bar whenever a new tick data is received by the terminal. This option should be disabled when studying historical chart patterns which are outside the visible scope from the latest chart position.

Auto Scroll option can be enabled/disabled simply from the **Chart Toolbar** by selecting **Auto Scroll** button which is the button enclosed by the red box below:



Alternatively Auto Scroll can be set up from the chart properties window as described in the previous section.

7.3.5. Chart Shift

Chart can be configured to set minimum empty margin to the right of the latest position so to allow for extrapolation of technical indicator lines or chart pattern lines. This is a useful tool for traders since planning ahead in the future is one of the critical elements of trading.

The minimum margin can be set by shifting the grey downward pointing arrow at the top of the chart horizontally. The area to the right of the arrow is the minimum empty margin.

Chart Shift option can be enabled/disabled simply from the **Chart Toolbar** by selecting **Auto Scroll** button which the button is enclosed by the red box below:



Alternatively Chart Shift can be set up from the chart properties window as described in the previous section.

7.3.6. Cursor - Crosshair

In MT4 a user is able to navigate through the chart by means of either **Cursor** or **Crosshair**. Cursor allows the user to have familiar arrow style icon at where it is pointed at, whereas Crosshair will give both vertical and horizontal lines to where it is pointed at.

7.3.6.1. Cursor

Cursor is the usual arrow icon which we are used to see on PCs. In MT4 this cursor can be placed on any locations on the chart window as shown below:



For example suppose that a cursor is placed at the position shown by the arrow in the screenshot above, within the **Status Bar** there will be information on the market data shown in the red box. This market data displayed is relevant

to the horizontal position of the cursor placed on the chart and its vertical position does not have any effect on the displayed information as long as the horizontal position remains the same.

7.3.6.2. Crosshair

Crosshair is a special type of pointer on a chart for MT4. It is unique in a sense that it has vertical and horizontal lines crossing at the pointer and it provides the user with exact price and time figures on the position pointed by it.

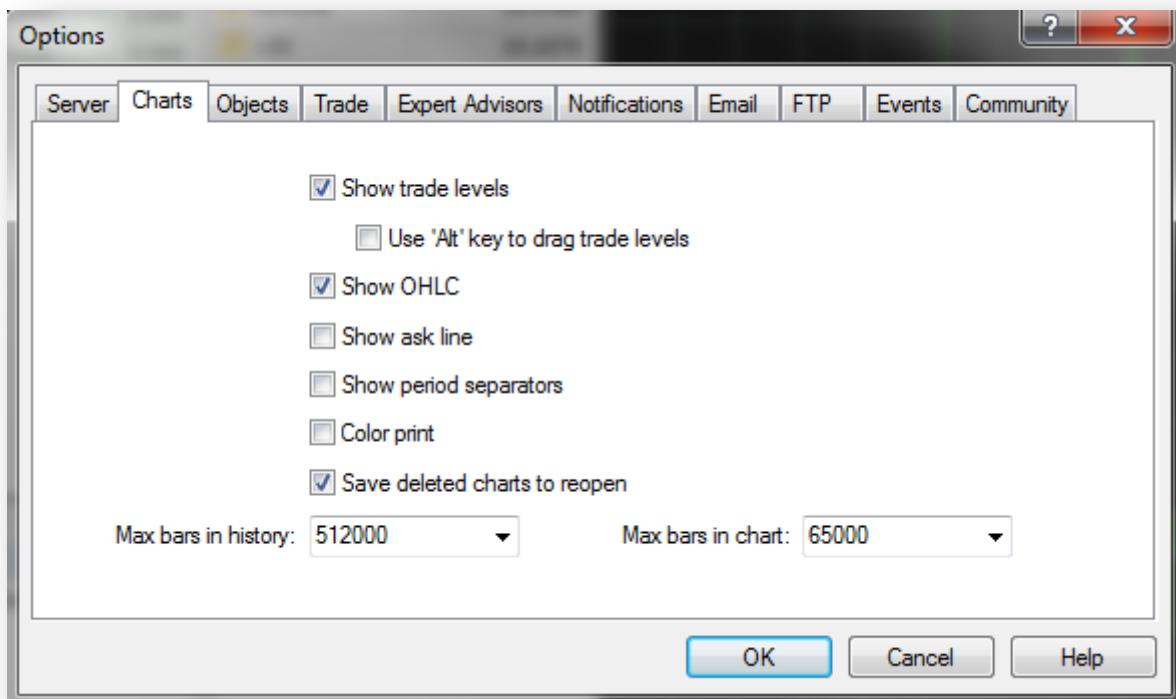
Typically a crosshair pointer will look like as shown below:



There are figures displayed by both vertical and horizontal axis for Price and Time respectively for the position of the chart pointed by the crosshair pointer. Notice that as opposed to the cursor these figures are independent of the market data at the horizontal position of the pointer.

7.4. Chart Options

The Charts options allow users to set parameters on the charts:



7.4.1. Showing Trade Levels on Charts

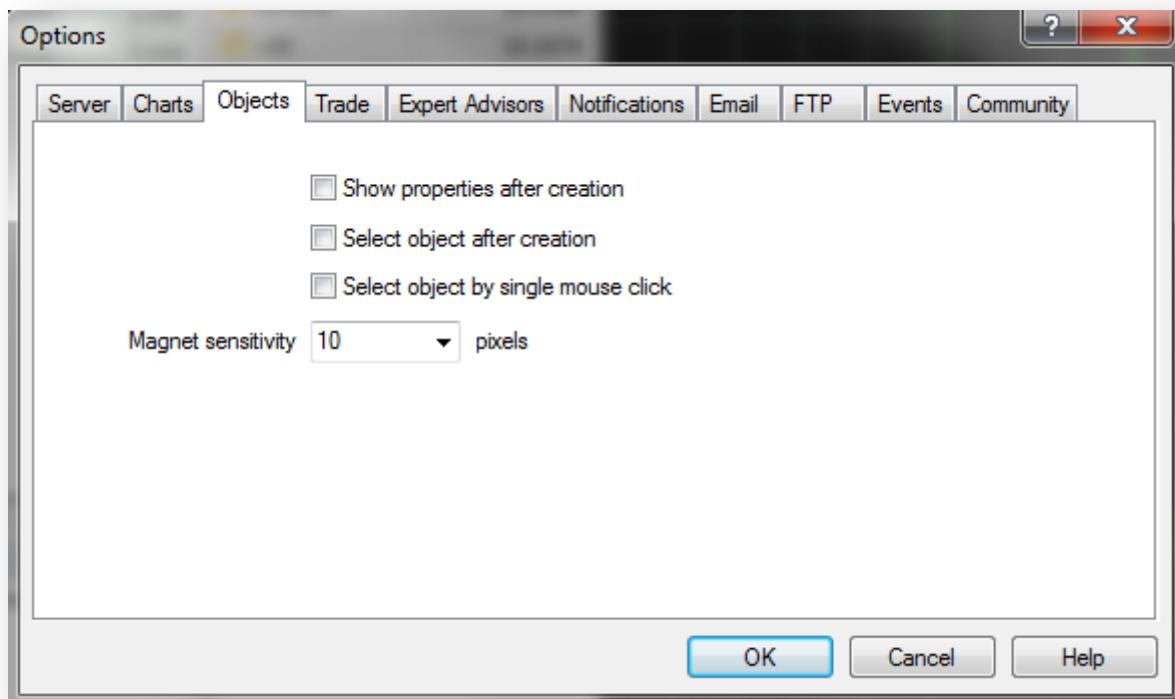
Trade Levels such as the level at which the Buy/Sell orders were executed, Buy/Sell – Limit/Stop orders are placed, and Stop Loss or Take Profit levels can be selected to appear directly on charts by selecting **Show trade levels**.

7.4.2. Preventing Unintended Control of Order Levels on Charts

Since the Trade Levels are visible on the chart and they can be moved along the price level just by simply dragging them using a mouse, it would be useful to have a safety system which prevents those Trade Levels from being mistakenly manipulated. Such system exists in MT4 and it can be set by selecting **Use 'Alt' key to drag trade levels** which allows those Trade Levels to be changed only if the Alt key on the keyboard is pressed while dragging them.

7.5. Objects Options

The Objects options allow users to set some settings over objects which can be applied to charts:



Show properties after creation:

Enables users to set up properties for the objects applied to a chart by displaying properties window upon application to the chart.

Select object after creation:

Automatically selects the object upon application so that the user can move it around without having to select it manually.

Select object by single mouse click:

Enables users to select the objects by a single-click instead of double-click.

Magnet Sensitivity:

A function which sets the checkpoints of objects automatically to difference price bars if it is within the pixel value set for this parameter. To disable this function set the value as 0.

7.6. Technical Indicators

Technical Indicators are the tools which help traders make informed decisions on their trading. MT4 platform has by default many of the popular technical indicators integrated and can be applied on to a chart with quick actions.

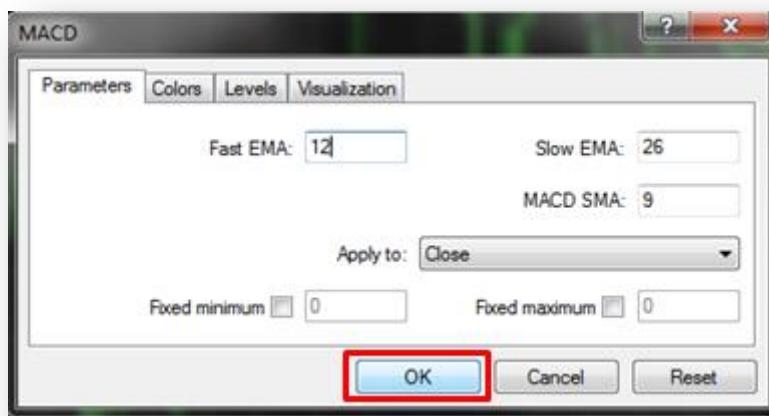
7.6.1. Applying Technical Indicators

One thing to be noted about applying Technical Indicators to a chart is that where they would be applied to. Some indicators such as Moving Averages and Bollinger Bands can be applied directly onto the main chart whereas others such as MACD and RSI can only be applied to a separate window below the main chart window.

The technical indicators can be applied to a chart through **Navigator Window** where you have to expand **the Indicator** sub-menu by clicking on the 'plus' sign next to it, and double-click on the indicator which you wish to apply to the chart, or alternatively right-click and select **Attach to a chart** as shown below:



And then a new window appears before the chart where you can specify the settings and parameters for the indicator. Finally, click **OK** to apply the indicator:



In this case the technical indicator MACD is being applied to the chart and the parameters for the indicator can be set at the window shown above.

Apply to: Refers to the price at which the indicator bases its calculations on.

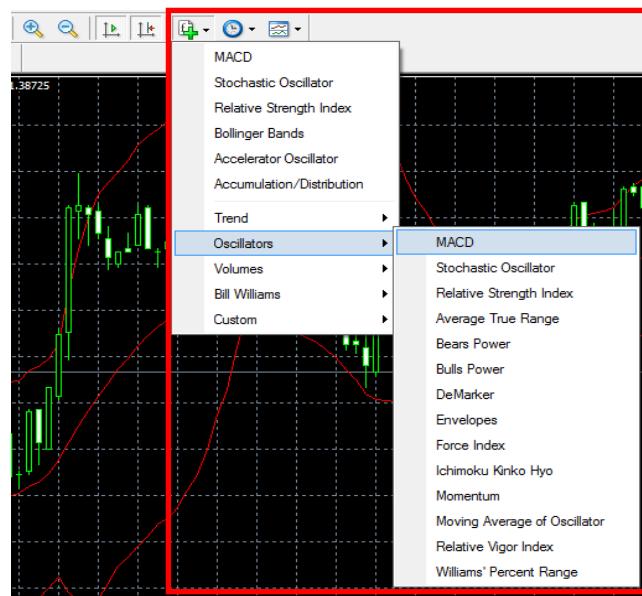
Fixed minimum/maximum: Means the minimum and the maximum value of the vertical axis of the technical window which is visible. This is applicable only to those indicators with their own indicator window.

Colors: Enables users to choose which colours to be used for each particular lines of the technical indicator.

Levels: Allows users to pre-set a level at which a distinct horizontal line appears in the indicator window.

Visualization: Allows users to set which timeframe the indicator should be displayed. Selecting **All timeframes** will allow the indicator to appear in all timeframes, and **Show in the Data Window** will allow the value of the indicator to appear in the data window.

Technical Indicators can alternatively be applied to a chart by selecting the **Indicators** tool from the **Charts Toolbar**:

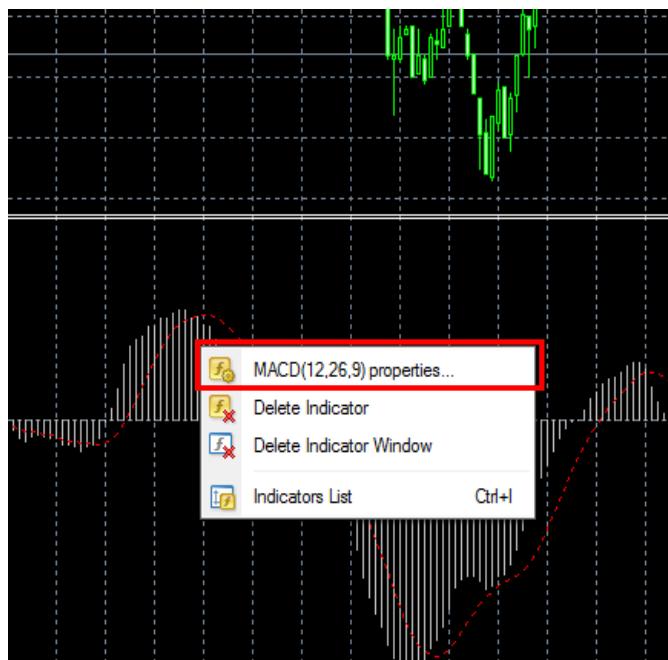


The indicators are categorised into sub-dropdown lists according to their types. In this case the technical indicator of MACD which belongs to the indicator type of 'Oscillators' is being applied to a chart as an example. Upon selecting the

indicator from the list the new window as previously shown appears where a user can enter settings and parameters for the indicator.

7.6.2. Changing Indicator Settings after the Initial Set-up

After applying a technical indicator you may change the settings or the parameters for the indicator by double-click on the indicator lines on the chart or right-click over the indicator window:



A user may have to look for a particular spot on the indicator line where it can be 'double-clicked' and for some indicators there are only limited positions on the line where this can be done. When the right-click menu appears as shown above select the **properties** option and change the settings accordingly.

7.6.3. Deleting Indicators / Indicators Window

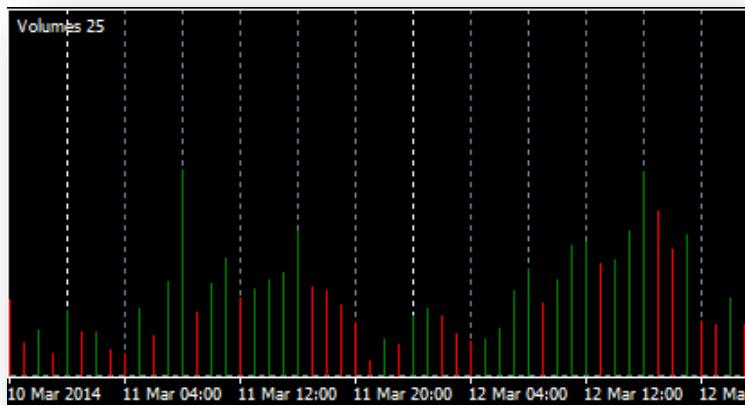
Technical Indicators can be deleted as necessary through simple steps. There are two ways in which the indicators can be deleted from the chart window.

One is by deleting only the indicator from the window, meaning deleting only the selected indicator from the window and leaving the rest unchanged on the window. This is for when there are multiple indicators set up in a single window.

For example a window below shows both RSI and Volume within a single window:

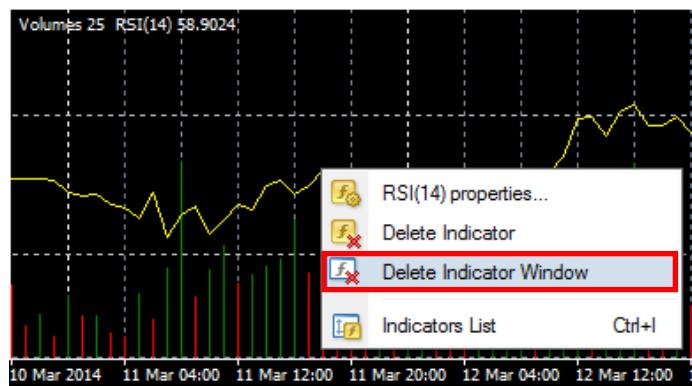


To delete a single indicator from a window containing multiple indicators, simply right-click on the line of the indicator and select **Delete Indicator** from the options as shown above. The window will appear without the RSI indicator as shown below:



Notice that only the RSI indicator has been deleted from the indicator window.

On the other hand, if it is the case that all the indicators within an indicator window need to be deleted, this can be accomplished simply by selecting **Delete Indicator Window** in the previous step. This will delete the indicator window thereby deleting whatever original indicator was in that window:



Selecting above option will delete the whole indicator window.

7.7. Line Studies

Line Studies in MT4 refers to its functionality to place various items on a chart which help to analyse chart patterns. The available items include those popular mainstream tools such as Trend lines, channels and Fibonacci's.

There are two ways to apply such items onto a chart. A user can either find an appropriate tool from the **Insert** menu, or simply find it from **Line Studies** Toolbar.

7.7.1. Line Studies from the Toolbar

MT4 has functionalities to assist a user to analyse chart patterns in **Line Studies** Toolbar as shown below:



From the left of the toolbar, the line types are:

Vertical Line: Draws a vertical line on a chart.

Horizontal Line: Draws a horizontal line on a chart. The line can still be seen even if the chart is scrolled.

Trendline: Draws a trendline which usually is slanted and attached to the chart prices.

Equidistant Channel: Draws a set of trendlines in parallel one at the top of the chart trend and the other at the bottom of the chart trend.

Fibonacci Retracement: Draws a Fibonacci Retracement line on a chart.

Text: Writes a text on a chart.

Text Label: Inserts a text label on a chart.

Arrows: Inserts an object such as **Thumbs Up/Down**, **Arrows Up/Down**, **Stop Sign**, **Check Sign**, and **Left/Right Price Label**.

The lines can be applied to a chart by first selecting a line type from the toolbar above, and then click on a location on the chart where you would like the line to be inserted. The method in which these lines can be inserted to the chart varies according to the line types. For example, while it is straight forward to pick where to place the vertical and horizontal lines, the Equidistant Line have to be placed at the bottom left of the chart trend, then drag the line while clicking the chart to the bottom right of the chart trend, and finally adjust the top line of the Equidistant Line by click and drag.

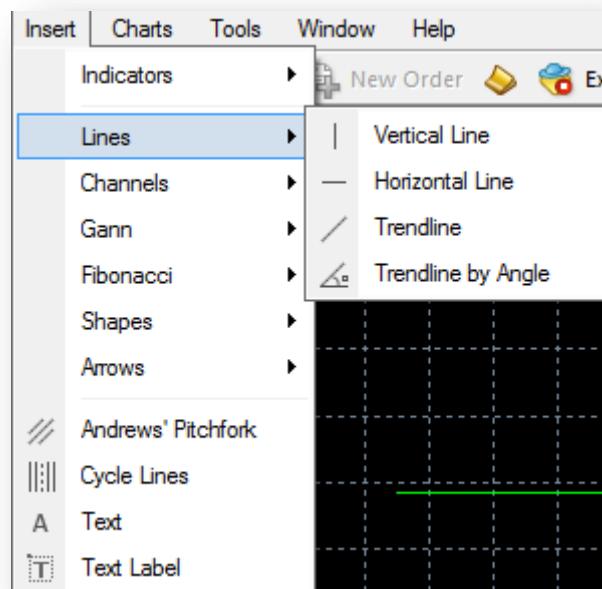
As an example, the screen below shows the Fibonacci Retracement Line applied to a chart:



7.7.2. Line Studies from the Insert Menu

One of the main reasons to use the Line Studies function from the **Insert** menu rather than from the Toolbar is that this provides more available tools and options for the user.

The screenshot below shows the typical Line Studies tool from the **Insert** menu for the **Lines** category.



The available tools are:

- 1. Lines**
 - 1.1. Vertical Line**
 - 1.2. Horizontal Line**
 - 1.3. Trendline**
 - 1.4. Trendline by Angle**
- 2. Channels**
 - 2.1. Fibonacci**
 - 2.2. Linear Regression**
 - 2.3. Equidistant**
 - 2.4. Standard Deviation**
- 3. Gann**
 - 3.1. Gann Line**
 - 3.2. Gann Fan**
 - 3.3. Gann Grid**
- 4. Fibonacci**
 - 4.1. Retracement**
 - 4.2. Time Zones**
 - 4.3. Fan**
 - 4.4. Arcs**
 - 4.5. Expansion**
- 5. Shapes**
 - 5.1. Rectangle**
 - 5.2. Triangle**
 - 5.3. Ellipse**
- 6. Arrows**
 - 6.1. Thumbs Up**
 - 6.2. Thumbs Down**
 - 6.3. Arrow Up**
 - 6.4. Arrow Down**
 - 6.5. Stop Sign**
 - 6.6. Check Sign**
 - 6.7. Left Price Label**
 - 6.8. Right Price Label**
- 7. Andrew's Pitchfork**
- 8. Cycle Lines**
- 9. Text**
- 10. Text Label**

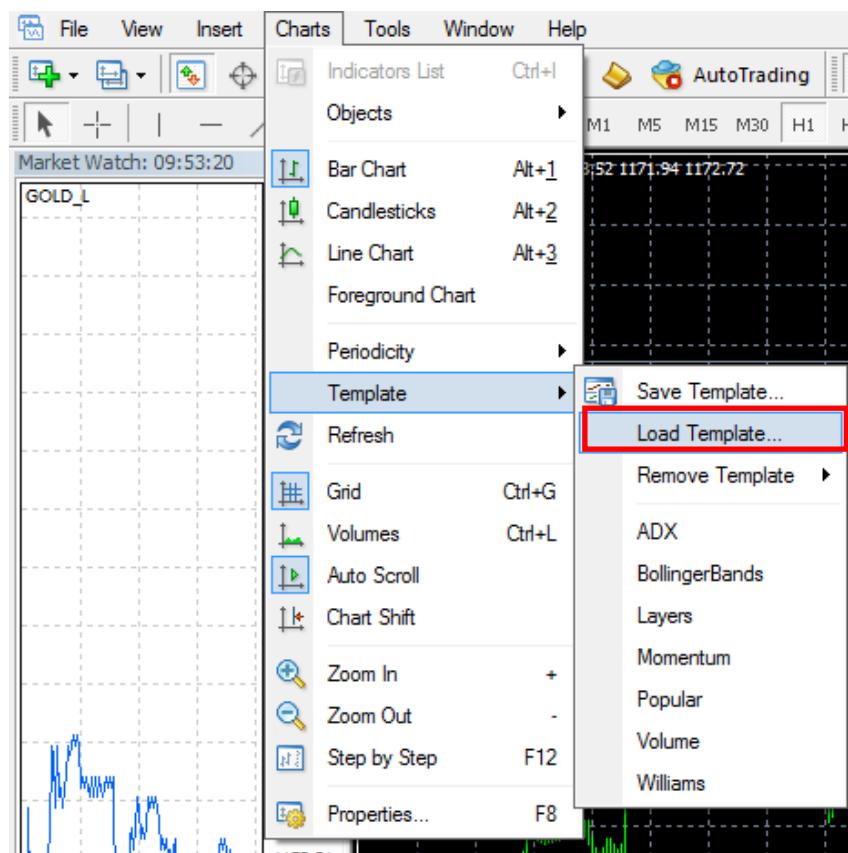
Once the tool is selected from the Insert menu, it can be applied to a chart and modified the same way as those which have been applied from the Line Studies Toolbar.

7.8. Templates

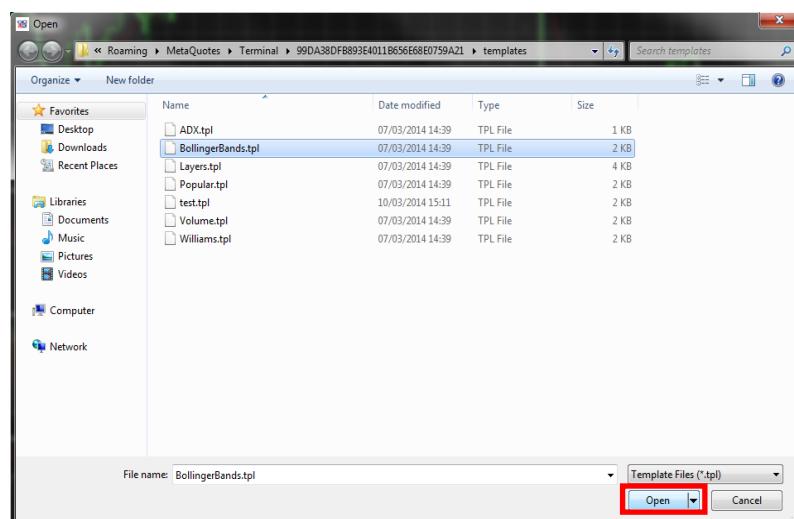
Templates are personalised configurations of a chart window which contain information such as the technical indicators applied, chart parameters and Expert Advisors parameters etc. MT4 has built-in templates which a user may load upon installation.

7.8.1. Loading Templates

The templates can be loaded by clicking **Chart** from the main menu tabs, select **Template** from the dropdown list and then select **Load Template**:



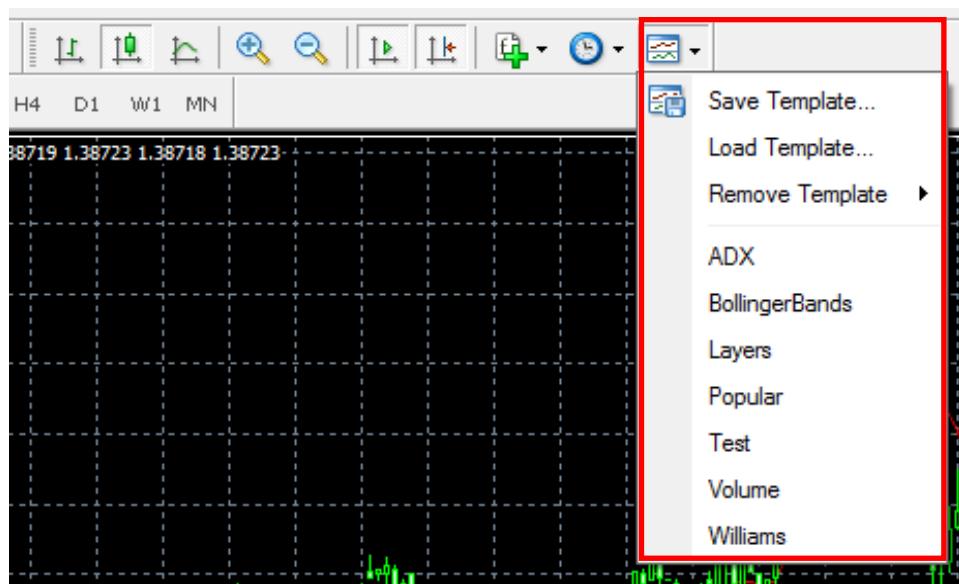
A new chart window appears as shown below where a user may select the template in which is to be applied to the chart and select **Open** to complete:



The template should be applied to the chart upon completion. For example a default template named *BollingerBands* selected in the previous step will look like the one shown below on the chart:



Alternatively templates can be applied to a chart with ease through **Templates** tool from the **Charts Toolbar**:



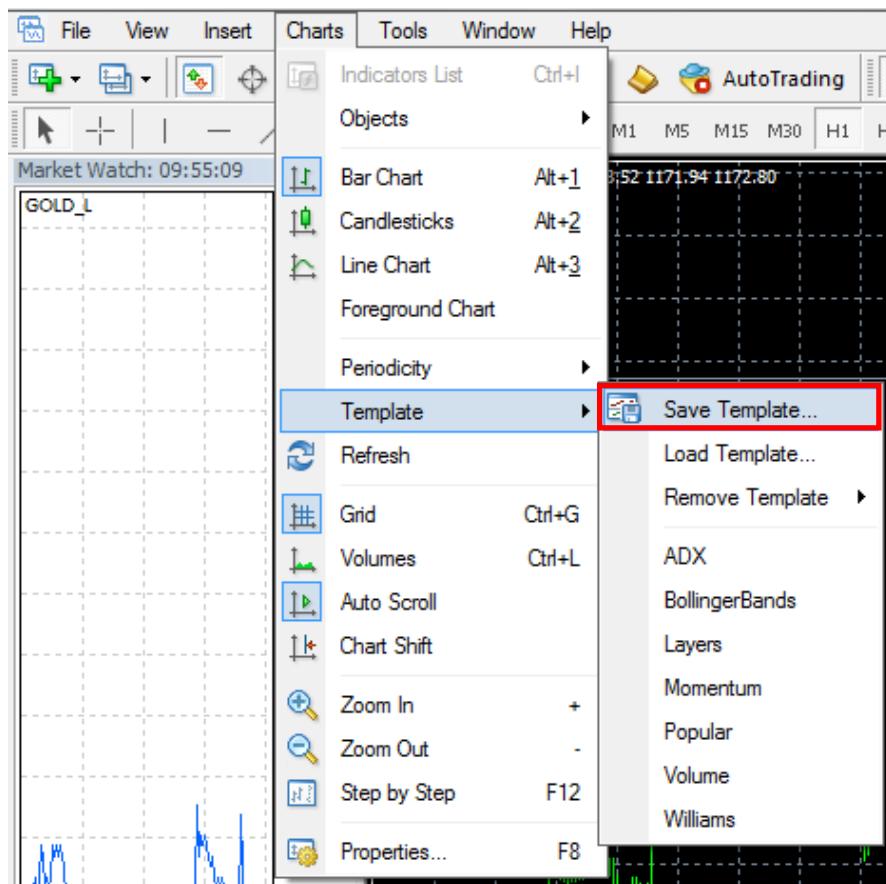
A user can remove any unwanted templates from this option, as well as quickly applying the templates by selecting from the dropdown list.

Templates can only be applied to a chart through these methods in MT4. A user can apply the same template to the other charts by manually loading the template upon opening a new chart.

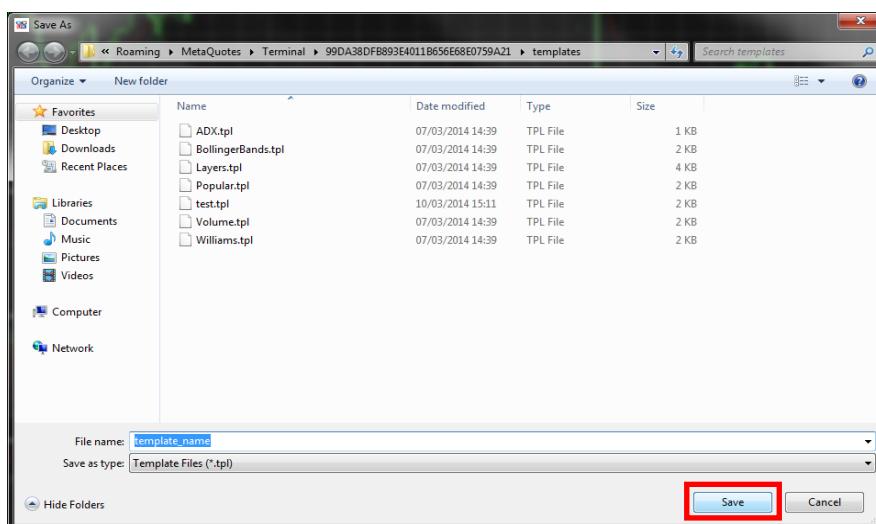
7.8.2. Saving Templates

Templates can be saved on MT4 for later uses or applications to different charts. The process is essentially the reverse of loading the templates.

The templates can be saved by selecting **Charts** from the main menu tabs, select **Template** from the dropdown list, and then select **Save Template**:



A new window appears as shown below before the chart where the user can enter the name for the template and then select **Save** in order to save the template on MT4:



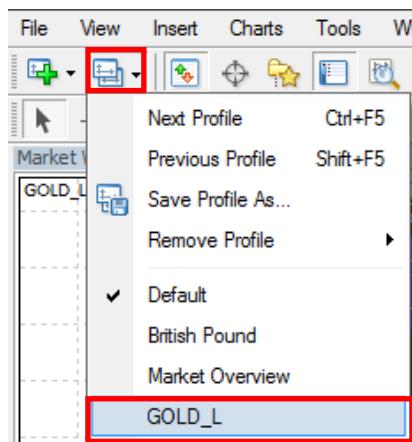
The template should be saved and become available to be loaded.

7.9. Profiles

Profiles are personalised configurations on a group of chart windows which contain information such as displayed charts, chart parameters, chart positions etc.

7.9.1. Loading Profiles

Profiles can be loaded through **Standard Toolbars** where a user has to select **Profiles** dropdown menu and from there select on the name of the profile which the user would like to load:



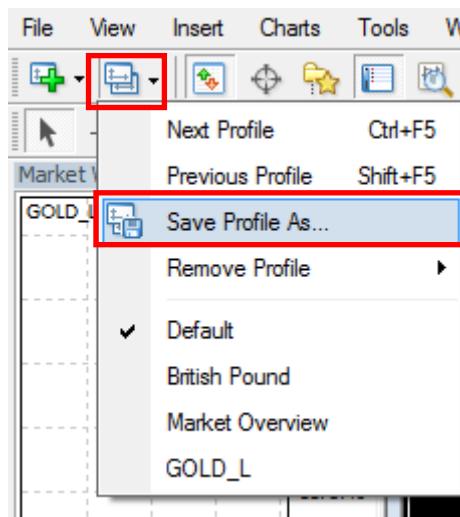
In this case for example, a profile named SILVER will be loaded as shown below:



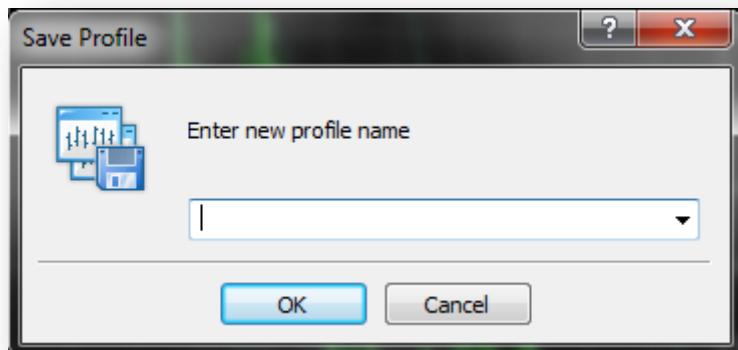
The profile in this case above has three chart windows configured each with identical technical indicator set-up.

7.9.2. Saving New Profiles

Profiles can be saved as well as loaded like they can be done with the templates. Upon creation of a new profile, a user can save the profile through **Standard Toolbars** where a user has to select **Profiles** dropdown menu and from there select **Save Profile As:**



Once selected, a new window appears before the chart which prompts you to enter new profile name:



The user can either save the profile under new name by entering it into the field shown above, or overwrite to the existing profiles by selecting the profile name from the dropdown list of the field. Finally select **OK** to complete the process.

7.9.3. Saving Existing Profiles

The existing profiles can be automatically saved and updated just by changing the configuration of the profile while it is loaded onto the interface. This feature is what distinguishes the profiles from the templates, where changes made to templates need to be saved manually in order to reflect the change to its parameter.

8. Expert Advisors

Expert Advisors are the core to the automated trading of MT4. It allows users to program their trading algorithms and place orders automatically. The Expert Advisors has numerous advantages notably the fact that it allows users to make informed trading decisions and it also prevents them from placing irrational trades as a result of psychological factors affecting decisions.

Expert Advisors can be either obtained externally or programmed using MQL4 programming language in MetaEditor development environment.

For further information on Expert Advisors please refer to the MQL4 documentation on <http://docs.mql4.com/>.

8.1. Creating Expert Advisors

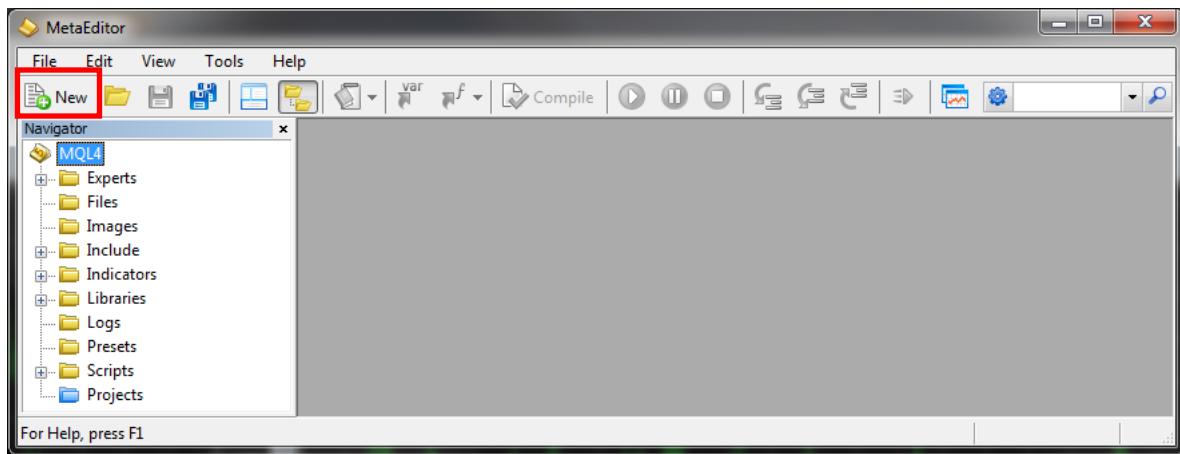
As well as downloading third-party Expert Advisors, users of MT4 can create the program by themselves should they wish to do so. Although this requires some knowledge of programming it is intended to be simple and easy to learn or program. The latest version of MQL4 (programming language used for Expert Advisors) is designed to mimic C++ which means it is more capable as a program.

An Expert Advisor can be created on **MetaEditor** development environment which comes with the whole MT4 package. The **MetaEditor** can be opened from MT4 terminal by selecting the MetaEditor icon on the **Standard Toolbar**:

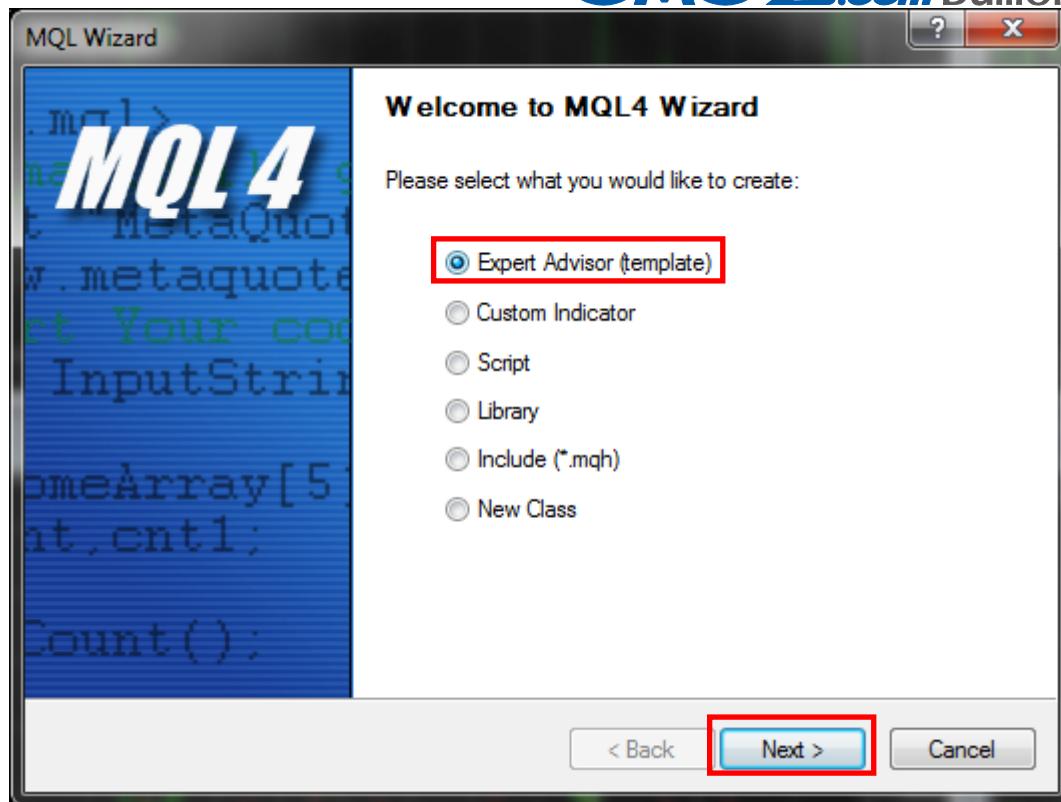


Alternatively, the Editor can be opened from **Tools** in the menu by selecting **MetaQuotes Language Editor**.

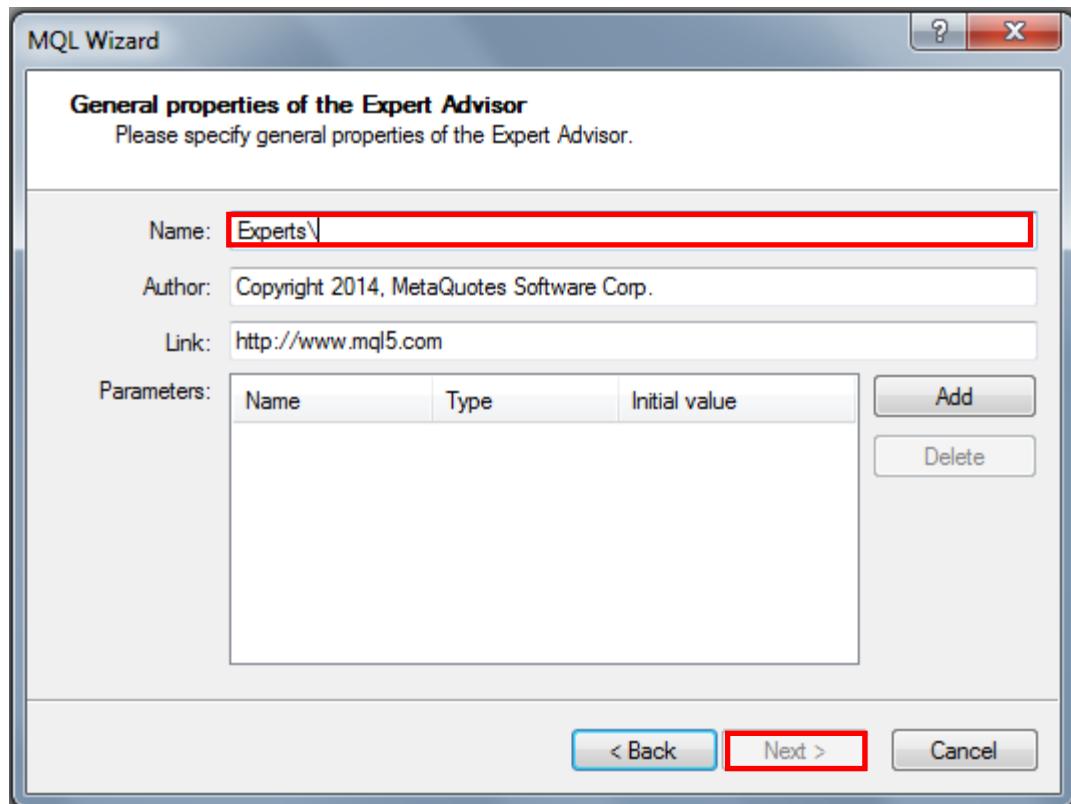
A new window appears for the MetaEditor as shown below:



In order to create a new Expert Advisor, select **New** on the top left of the window as indicated above. A set-up window appears in front as below:



Make sure the item **Expert Advisor (template)** is selected. Select **Next** to proceed to the next step:



Name: Name for the Expert Advisor as it appears on MT4. Leave 'Experts\' to specify the folder in which the Expert Advisor is stored in.

Author: Name of the author of this Expert Advisor.

Link: http link which the author wishes to link the Expert Advisor to.

Parameters: The list of Expert inputs.

Enter each field above and select **Next** to proceed to the next step.

In the next stages the set-up wizard allows the user to select **Event Handlers** and **Test Event Handlers** of the Expert Advisor which are not within the scope of this user manual. Please refer to the MQL4 documentation on <http://docs.mql4.com/> for further information.

Finally select **Finish** to complete the initial set up of the Expert Advisor. The newly created Expert Advisor open in MetaEditor as shown below:

```

MetaEditor - [TestExpertAdvisor.mq4]
File Edit View Debug Tools Window Help
New Folder Save Open Save As var F Compile Stop Minimize Maximize Close
Navigator x MACD Sample.mq4 TestExpertAdvisor.mq4
MQL4
+ Experts
+ Files
+ Images
+ Include
+ Indicators
+ Libraries
+ Logs
+ Presets
+ Scripts
Projects

1 //+-----+
2 //| Copyright 2014, MetaQuotes Software Corp. |
3 //| http://www.mql5.com |
4 //|-----+
5 //+-----+
6 #property copyright "Copyright 2014, MetaQuotes Software Corp."
7 #property link "http://www.mql5.com"
8 #property version "1.00"
9 #property strict
10 //+-----+
11 //| Expert initialization function
12 //+-----+
13 int OnInit()
14 {
15 //---
16
17 //---
18     return(INIT_SUCCEEDED);
19 }
20 //+-----+
21 //| Expert deinitialization function
22 //+-----+
23 void OnDeinit(const int reason)
24 {
25 //---
26
27 }
28 //+-----+

```

For Help, press F1 | Ln 1, Col 1 | INS

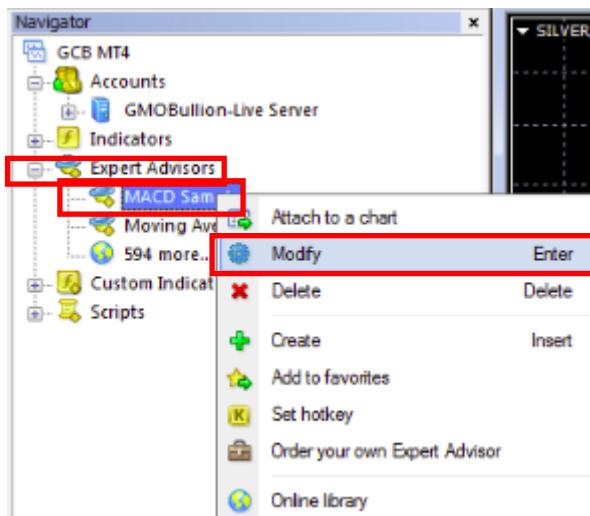
For programming of the Expert Advisor which is outside the scope of this user manual, please refer to the MQL4 documentation on <http://docs.mql4.com/> for further information.

Upon completing programming of the Expert Advisor, the source code can be compiled into executable file which will be visible and usable by MT4 terminal by selecting **Compile** from the top toolbar of the MetaEditor.

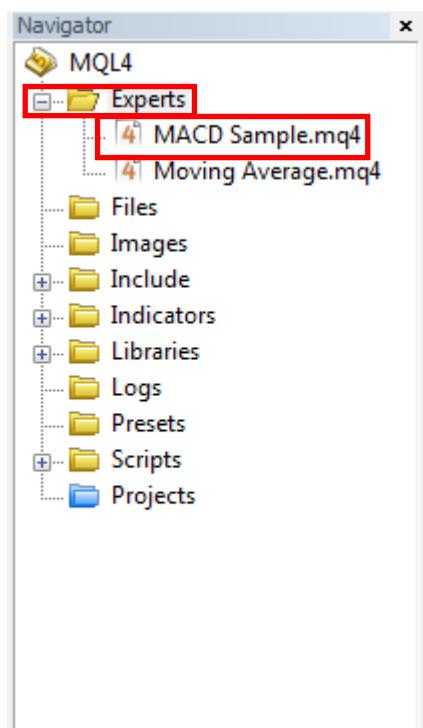
8.2. Modifying Expert Advisors

The already existing Expert Advisors can be modified by opening the MQL4 Source File in **MetaEditor** by right-clicking the Expert Advisor from the **Navigator** window and select **Modify**, or opening the **MetaEditor** and directly open the Expert Advisor by double-clicking the source file from the **Navigator** window of the editor.

From the **MT4 Terminal Navigator Window**:



From the **MetaEditor Navigator Window**:



Then the source file opens in the **MetaEditor** in the window as shown below:

The screenshot shows the MetaEditor interface with the file 'MACD Sample.mq4' open. The left pane displays a tree view of the project structure under 'Navigator', including 'MQL4', 'Experts' (with 'MACD Sample.mq4' selected), 'Files', 'Images', 'Include', 'Indicators', 'Libraries', 'Logs', 'Presets', 'Scripts', and 'Projects'. The right pane contains the MQL4 source code for the Expert Advisor:

```

1 //+
2 /**
3 /**
4 /**
5 /**
6 #property copyright "2005-2014, MetaQuotes Software Corp."
7 #property link "http://www.mql4.com"
8
9 input double TakeProfit    =50;
10 input double Lots         =0.1;
11 input double TrailingStop =30;
12 input double MACDOpenLevel =3;
13 input double MACDCloseLevel=2;
14 input int   MATrendPeriod =26;
15 /**
16 /**
17 /**
18 void OnTick(void)
19 {
20     double MacdCurrent,MacdPrevious;
21     double SignalCurrent,SignalPrevious;
22     double MaCurrent,MaPrevious;
23     int   cnt,ticket,total;
24 /**
25 // initial data checks
26 // it is important to make sure that the expert works with a normal
27 // chart and the user did not make any mistakes setting external
28 // variables (Lots, StopLoss, TakeProfit,
29 // TrailingStop) in our case, we check TakeProfit
30 // on a chart of less than 100 bars

```

For programming of the Expert Advisor which is outside the scope of this user manual, please refer to the MQL4 documentation on <http://docs.mql4.com/> for further information.

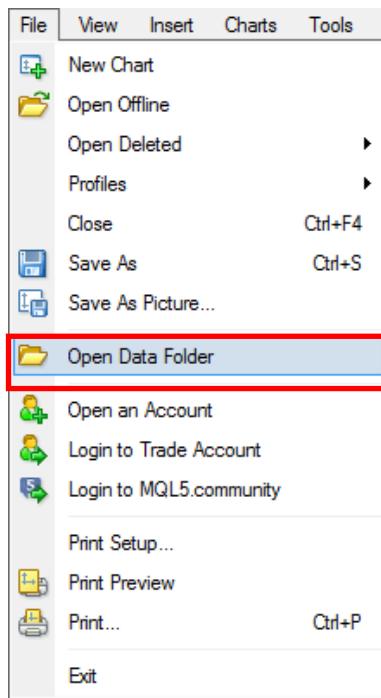
Upon completing programming of the Expert Advisor, the source code can be compiled into executable file which will be visible and usable by MT4 terminal by selecting **Compile** from the top toolbar of the MetaEditor.

8.3. Installing External Expert Advisors

Any Expert Advisors which are not developed locally can be installed onto MT4 terminal through following 2 methods below depending on whether the EX4 File (Executable File .ex4) or only the MQL4 Source File is available:

If the EX4 File is available:

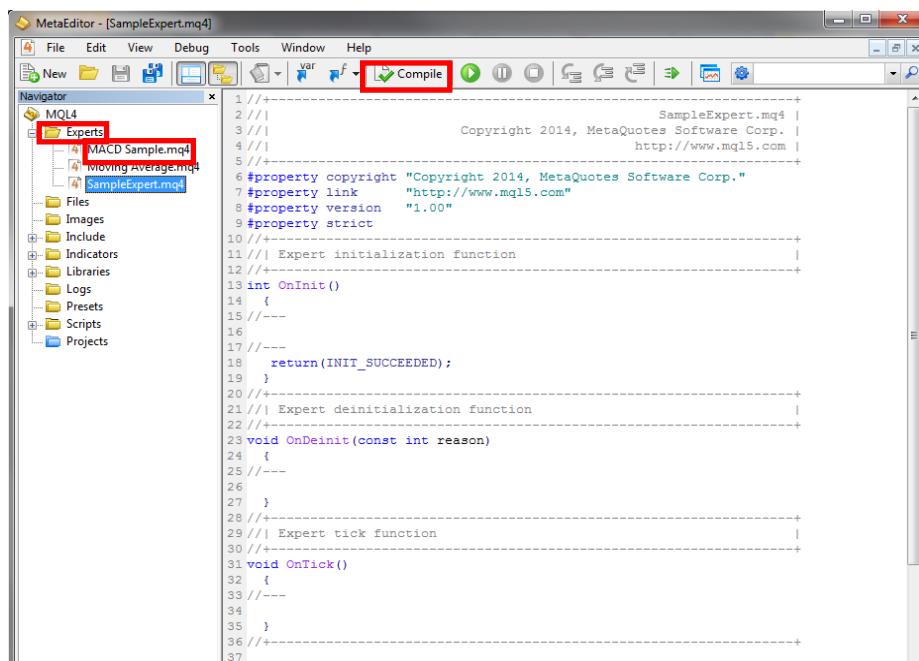
Copy and paste or save the EX4 Executable File with file extension '.ex4' in the program Data Folder (e.g. 'C:\Program Files\GMO CLICK Bullion MT4 Terminal\MQL4\Experts'). Sometimes the Data Folder is within **AppData** folder on computer and this can be located from the **File** menu by selecting **Open Data Folder** on MT4 Terminal:



Only if the MQL4 Source File is available:

There might be cases where only a source file is available without the executable file. In such cases the user has to import the source file to the **Data Folder** as explained above first and then compile the source code using **MetaEditor** in order to produce the executable file.

Upon importing the source file to the **Data Folder**, open the file by double-clicking on it, or if the file type is not specified open the file by either right-clicking to select **Open with -> MetaEditor** or open **MetaEditor** and select and open the source file directly from there:



Finally, once the file is opened select **Compile** to produce EX4 executable file. If the compiler shows any errors it means that there is an error on the source code which needs to be fixed before being compiled. For further information on programming Expert Advisors please refer to MQL4 documentation at <http://docs.mql4.com/>.

Once the compile is succeeded, the Expert Advisor should be available for use on the MT4 terminal.

8.4. Enabling Expert Advisors

Expert Advisors can be enabled by simply selecting the **Expert Advisors** button on the **Standard Toolbar**.

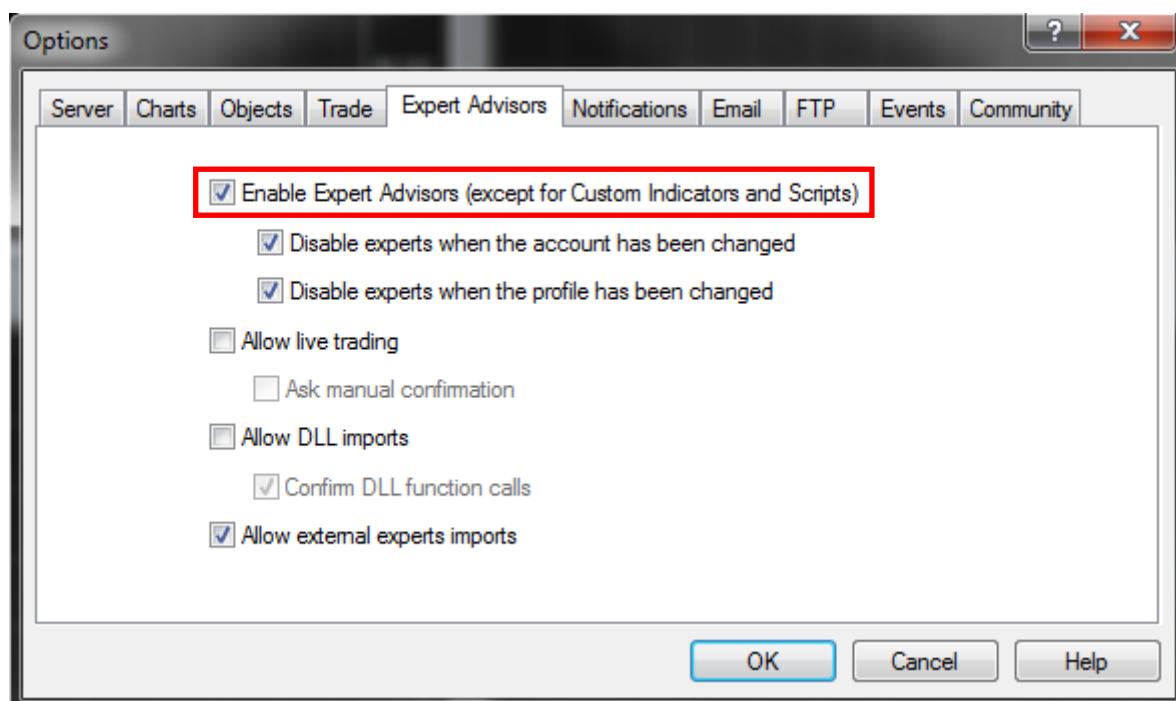
The screenshot below shows the Expert Advisor in disabled mode:



Once the Expert Advisor is enabled, the button will appear as shown below:



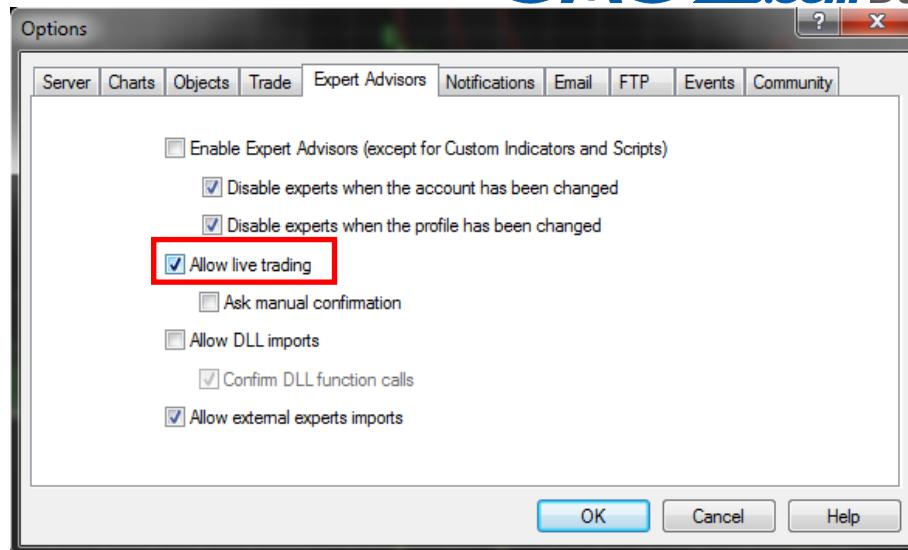
Alternatively, the Expert Advisor can be enabled from the **Tools** menu by selecting **Options** and then from the **Expert Advisors** tab tick the box where it says **Enable Expert Advisors (except for Custom Indicators and Scripts)**:



And once the Expert Advisor is enabled it should start its actions when the next signal is received. However, at this stage the Expert Advisor is set up so that it cannot automatically place trades. The following section explains the steps required to allow the EA to trade.

8.4.1. Allowing Live Trading

In order to allow Expert Advisor to make live trades, settings must be changed on the Expert Advisor. This can be accomplished through **Tools** from the menu, select **Options**, select **Expert Advisors** tab and tick the box where it states **Allow live trading**:



Enable Expert Advisors: Enables the Expert Advisor

Allow live trading: Allowing the Expert Advisor to make live trades

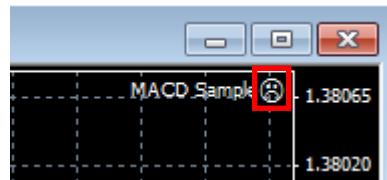
Ask manual confirmation: Asks a user for confirmation when the Expert Advisor makes trades.

Allow DLL imports: Allowing the imports of DLL files. DLL files are used to extend the functionality of Expert Advisor beyond the ability of MQL4.

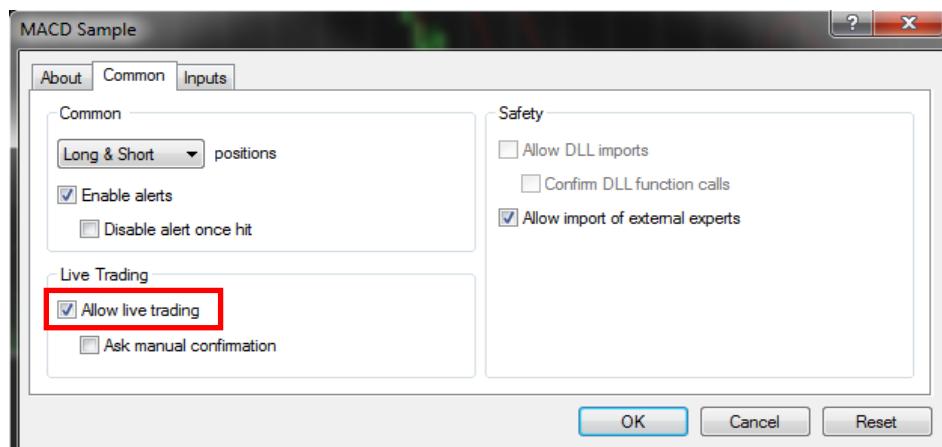
Confirm DLL function calls: Asks a user for confirmation whenever a call is made to a DLL file.

Allow external experts imports: Allowing the imports of external experts from the active expert advisor. This option should only be ticked if the expert you are using can be trusted.

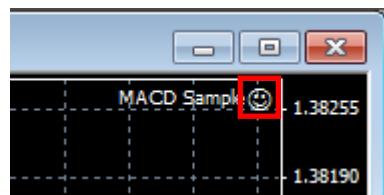
Alternatively click on the symbol at the top right corner of the chart as shown below:



And then tick the box for **Allow live trading**:



The face icon at the top right corner of the chart window will then appear as shown below:



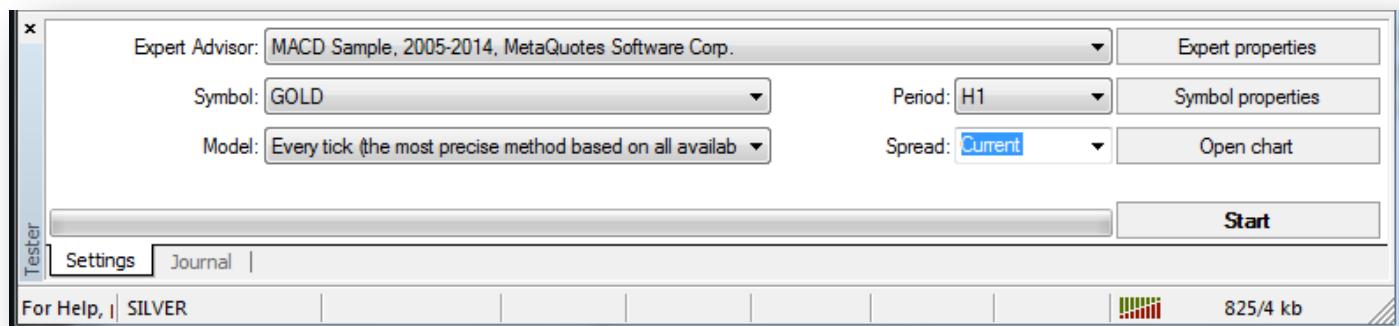
The Expert Advisor should start trading automatically if it is programmed to do so.

8.5. Strategy Tester

Strategy Tester is a powerful tool on MT4 which allows its users to test or simulate their Expert Advisors using the historical data. At the end of the test the users would have the knowledge of how well the Expert Advisors have performed in terms of the profit and loss. However, despite such attractive features, it must be noted that the result indicated by such tests cannot be completely relied upon as an indicator for future performance of the Expert Advisor. The market is a constantly changing environment and therefore something that has worked in the past is not guaranteed to work in the future. Although there are some ways in which to improve the correlation between the test results and the actual result, for example by accounting for longer period of historical data for the test, but this may result in slower test implementation and lower quality of the test depending on the availability of historical data.

8.5.1. Strategy Tester Terminal

In order to carry out tests on an Expert Advisor, use the **Strategy Tester** window on MT4 at the bottom of the terminal:



Expert Advisor: Expert Advisor to be tested for.

Symbol: Instrument used for the test.

Model: Method for testing the Expert Advisor on historical data. This option allows users to choose the compromise between the accuracy and the speed for the test.

Use date: Sets the time period for the historical data for which the Expert Advisor will be back-tested against.

Visual mode: Allows the user to visually see the progress of the test by simulating the market on the chart window with buy/sell, order modify actions by selecting this option. This also allows the user to skip to certain point of the data and also select the speed in which the simulation is conducted.

Period: Timeframe in which the back-testing is conducted.

Spread: Spread used for the test which can be selected from options containing 'Current' and various other values.

Optimization: Enables the optimisation of the Expert Advisor so to maximise the profit by selecting this option.

Expert properties: Properties for the Expert Advisor where the configuration and parameters can be set.

Symbol properties: Properties for the symbol used for the test which allows users to set trading-related parameters.

Open chart: Opens a new chart for which the test has been carried out on. The chart will clearly indicate where the position entry and exit are.

Modify expert: Opens the Expert Advisor with Meta Editor to be edited by the user.

Start: Initiates the testing process. The progress of the test will be shown in the horizontal bar next to this button.

8.5.2. Conducting Tests

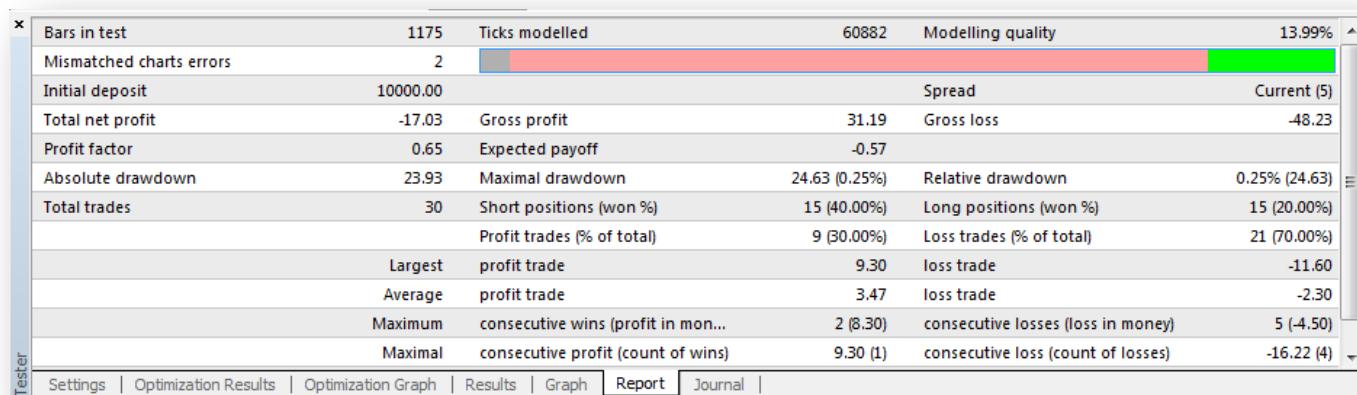
To start using the Strategy Tester, follow the steps below:

1. **Select which Expert Advisors to be tested.**
2. **Select the symbol for the instrument which the test will be carried out for.**
3. **Select the timeframe in which the test will be carried out for.**
4. **Select the testing model (test quality).**
5. **Specify the Spread used for the test.**
6. **Specify the time period for the test.**
7. **Specify whether Optimisation needs to be done.**
8. **Specify whether the test needs to be visualised and at which speed.**
9. **Modify Expert and Symbol properties accordingly.**
10. **Modify the expert if there is anything to be amended before the test.**
11. **Select 'Start' to begin the test.**

8.5.3. Test Results

As soon as the test begins the green bar at the bottom of the tester window moves to indicate the progress of the test.

Upon completion of the test, the user would be able to see the report for the test which can be selected from the tab at the bottom of the strategy tester window:



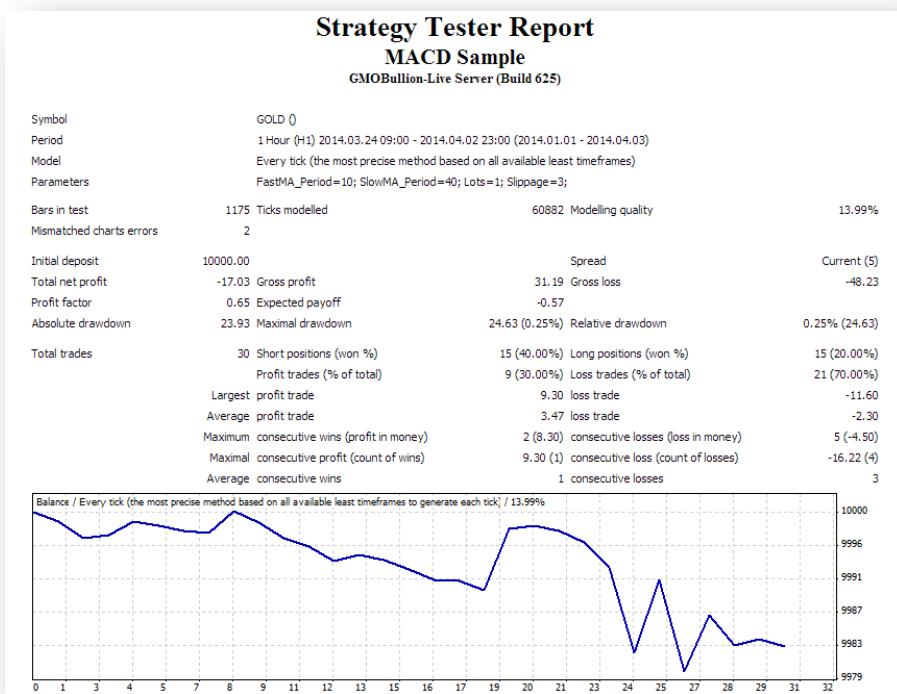
The screenshot shows the MetaTrader 4 Strategy Tester interface with a completed back-test report. The report includes the following key statistics:

Statistic	Value	Details			
Bars in test	1175	Ticks modelled			
Mismatched charts errors	2	Modelling quality	13.99%		
Initial deposit	10000.00	Spread	Current (5)		
Total net profit	-17.03	Gross profit	31.19	Gross loss	-48.23
Profit factor	0.65	Expected payoff	-0.57		
Absolute drawdown	23.93	Maximal drawdown	24.63 (0.25%)	Relative drawdown	0.25% (24.63)
Total trades	30	Short positions (won %)	15 (40.00%)	Long positions (won %)	15 (20.00%)
		Profit trades (% of total)	9 (30.00%)	Loss trades (% of total)	21 (70.00%)
		Largest profit trade	9.30	Loss trade	-11.60
		Average profit trade	3.47	Loss trade	-2.30
		Maximum consecutive wins (profit in mon...)	2 (8.30)	consecutive losses (loss in money)	5 (-4.50)
		Maximal consecutive profit (count of wins)	9.30 (1)	consecutive loss (count of losses)	-16.22 (4)

At the bottom of the window, the tabs are: Settings | Optimization Results | Optimization Graph | Results | Graph | Report | Journal |.

This result can be saved in HTML by right-clicking on the report shown above and select **Save as Report**.

Upon saving the report it will open in a default-browser like below:

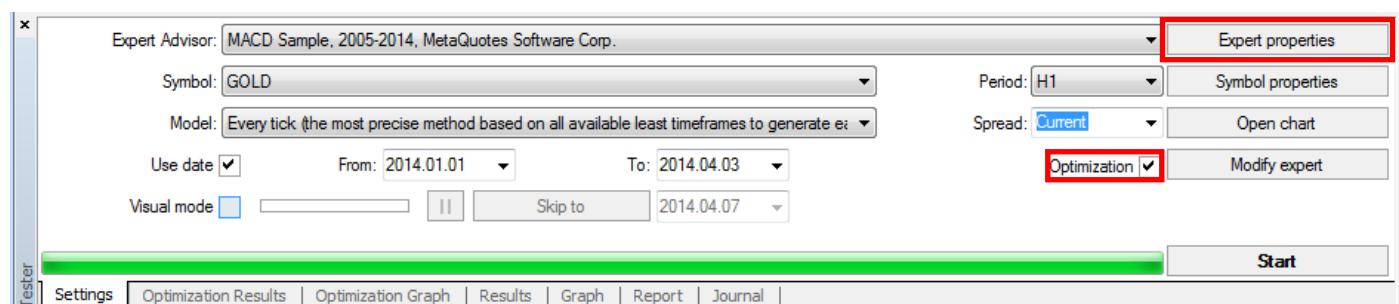


The report can be used as a resource for analysing the performance of the Expert Advisor and possibly to improve it.

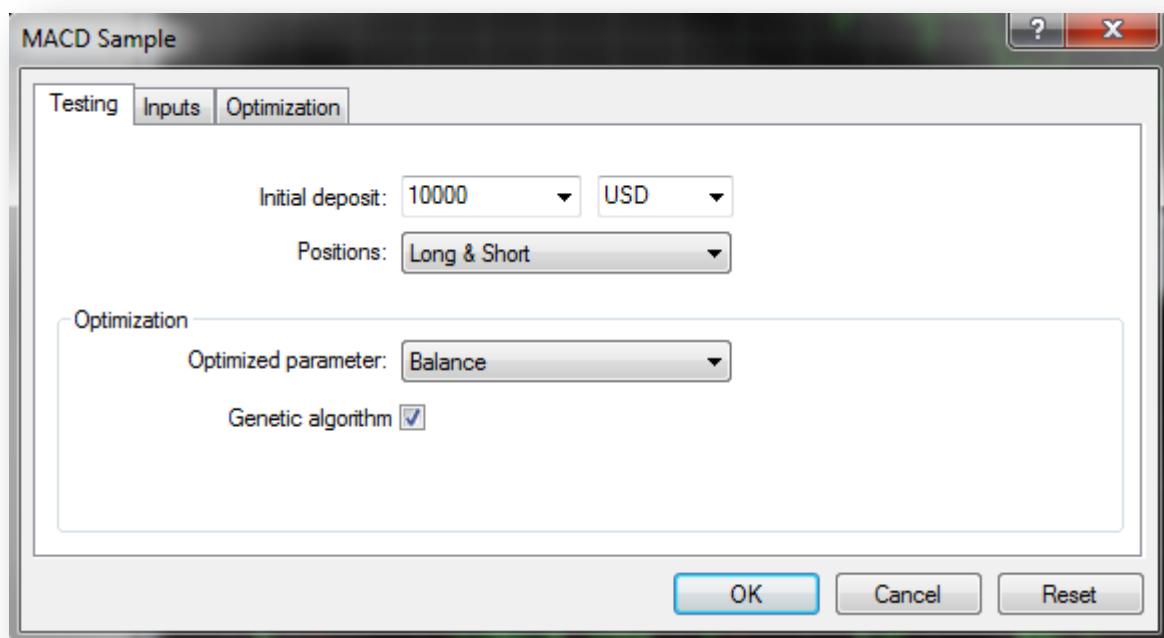
8.5.4. Optimisation

Optimisation function on MT4 Strategy Tester allows the users to test Expert Advisors to find the most optimal value for the input parameters by running many iterations of back-testing:

Optimisation is an extra feature of the Strategy Tester hence it is conducted the same way as the normal back-testing explained earlier in this section. In order to begin optimisation, follow the procedures below:



1. Set up the 'Settings' in the Strategy Tester window according to the previously explained procedures.
2. Select the 'Optimization' option on the Strategy Tester window.
3. Select and open 'Expert properties' window.
 - 3.1. Set optimisation parameters in the 'Testing' tab.



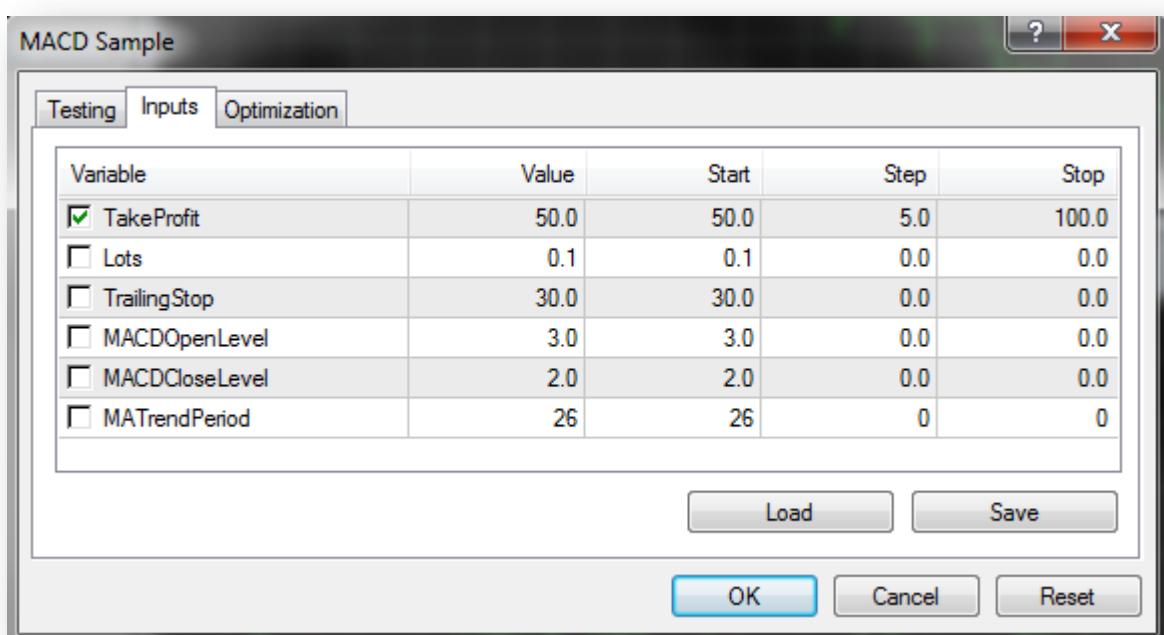
Initial deposit: Account balance and its currency which will be used for the optimisation.

Positions: Specify whether to allow trading for either **Long Only**, **Short Only** or **Long & Short**.

Optimized parameter: This will be the target objective variable for the optimisation.

Genetic algorithm: This option enables genetic algorithm for optimising the input variables.

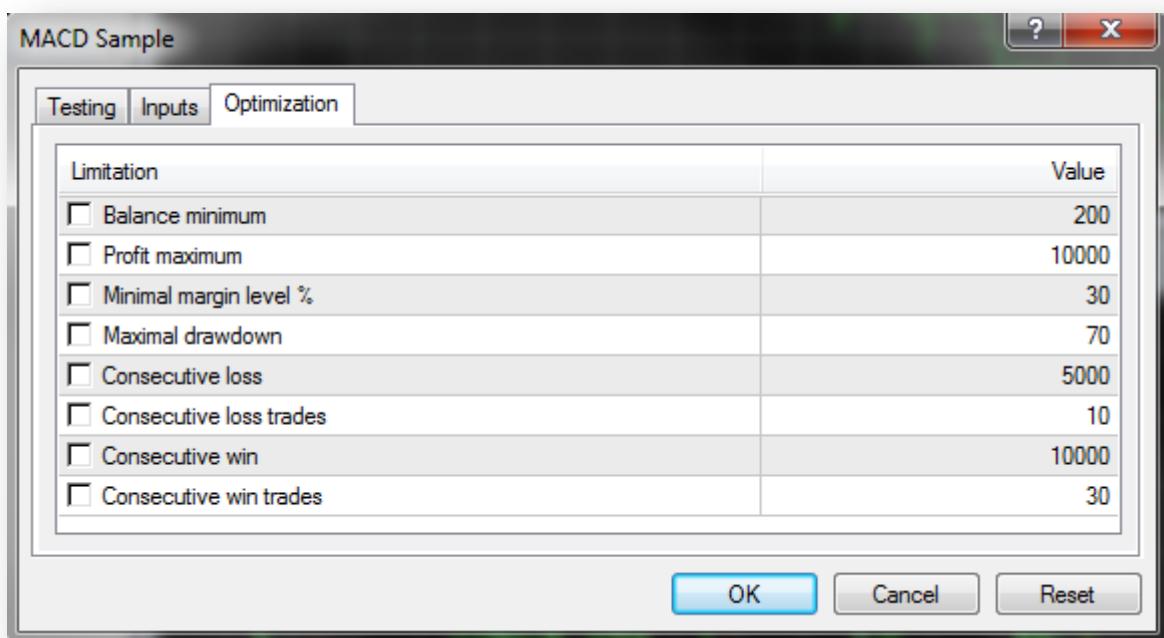
3.2. Set target input variables and their parameters.



3.2.1. Select the tick box for the variables which is to be optimised.

3.2.2. Set the values 'Start' (initial value), 'Step' (increment) and 'Stop' (final value).

3.3. Set optimisation constraint conditions.



The limitation variables terminates optimisation process should any of their conditions are met during the optimisation.

3.3.1. Select the tick box for the 'Limitation' variable which is to be applied to the optimisation.

3.3.2. Set the value for those enabled Limitation variables.

3.4. Select 'OK' to complete the configurations.

4. Select 'Start' on the Strategy Tester window to begin the optimisation

Depending on the Testing model and other parameters, the optimisation may take several minutes or more.

When the optimisation completes, the results can be viewed from the **Optimization Results** tab as shown below:

Pass	Profit	Total trades	Profit factor	Expected Payoff	Drawdown \$	Drawdown %	Inputs
11	118.56	69	1.67	1.72	193.36	1.92	TakeProfit=100; Lots=0.1; TrailingSt...
10	110.81	69	1.62	1.61	193.36	1.92	TakeProfit=95; Lots=0.1; TrailingSt...
9	105.88	69	1.60	1.53	193.36	1.92	TakeProfit=90; Lots=0.1; TrailingSt...
8	104.63	69	1.59	1.52	193.36	1.92	TakeProfit=85; Lots=0.1; TrailingSt...
7	84.71	69	1.43	1.23	193.36	1.92	TakeProfit=80; Lots=0.1; TrailingSt...
5	83.14	69	1.47	1.20	193.36	1.92	TakeProfit=70; Lots=0.1; TrailingSt...
4	81.73	68	1.45	1.20	190.45	1.89	TakeProfit=65; Lots=0.1; TrailingSt...
3	77.18	66	1.42	1.17	190.45	1.89	TakeProfit=60; Lots=0.1; TrailingSt...

Pass: This is the iteration number.

Profit: This is the Net profit.

Total trades: Total number of trades executed during a particular iteration.

Profit factor: Proportion of the total profit against the total loss.

Expected payoff: This is the expected profit for each trade.

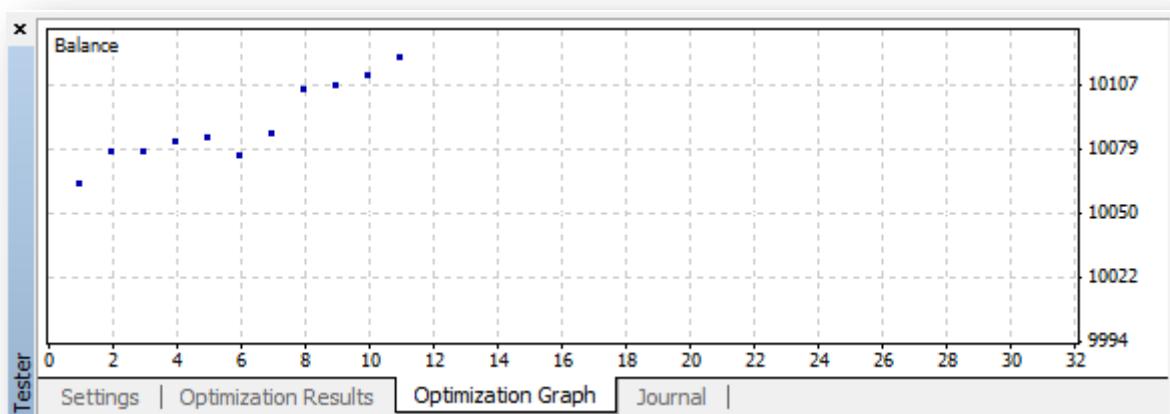
Drawdown \$: Maximum drawdown in absolute figures.

Drawdown %: Maximum drawdown in percentage figures.

Inputs: Input parameters for each iteration.

The report can be saved by right-clicking anywhere on the results window and select **Save as Report**.

The optimisation results is also visualised on a graph under the tab **Optimization Graph**:



Where the horizontal axis represents the input parameter and the vertical axis represents the target objective variable.

9. Custom Indicators

Custom Indicators are those technical indicators that can be built in addition to those built-in technical indicators on MT4 platform. Custom Indicators can be programmed using Meta Editor. Like with built-in indicators, custom indicators cannot trade for themselves. For further information on programming custom indicators using Meta Editor please refer to the MQL4 documentation on <http://docs.mql4.com/en>.

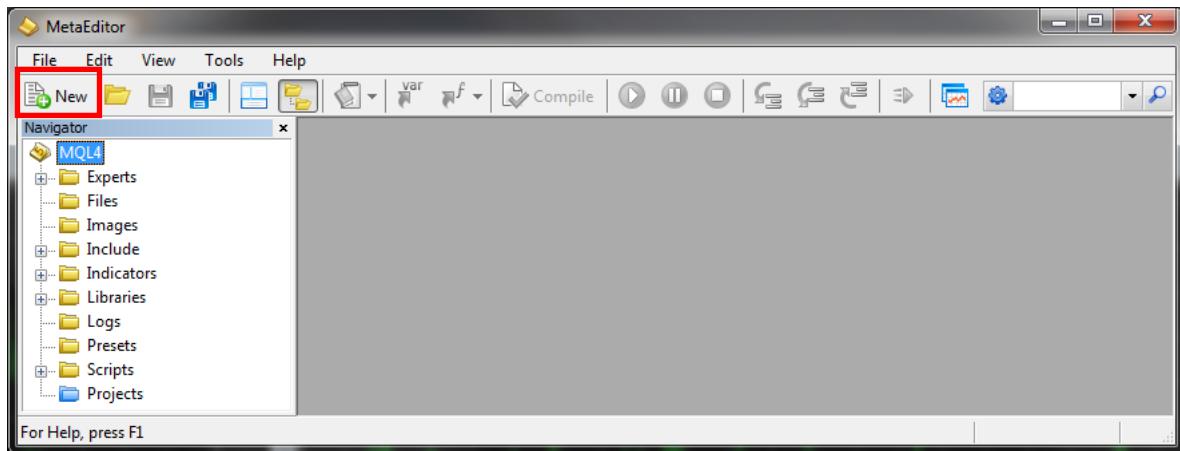
9.1. Creating Custom Indicators

A Custom Indicator can be created on **MetaEditor** development environment which comes with the whole MT4 package. The **MetaEditor** can be opened from MT4 terminal by selecting the MetaEditor icon on the **Standard Toolbar**:

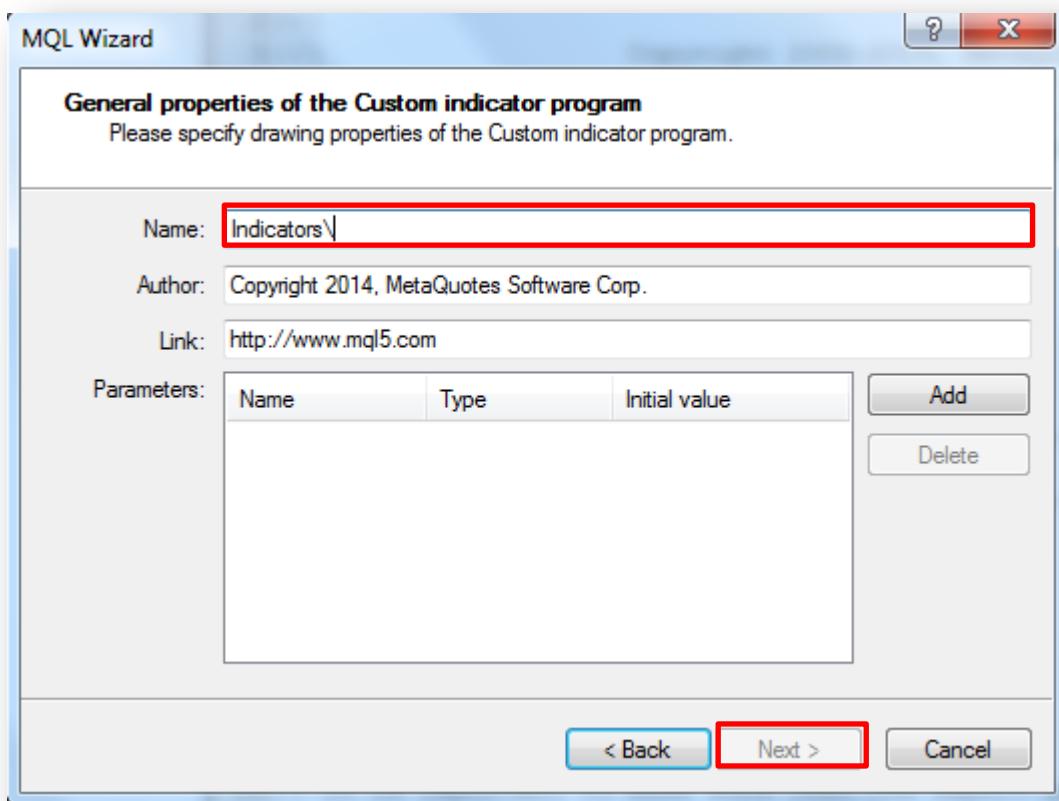
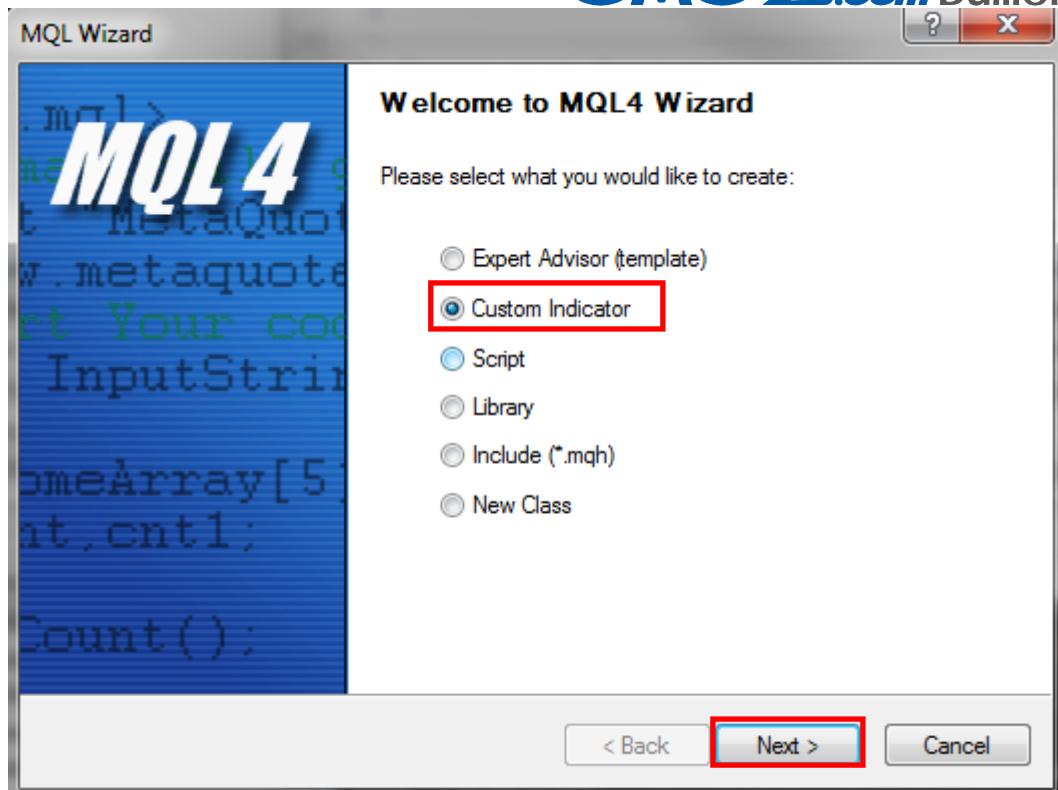


Alternatively, the Editor can be opened from **Tools** in the menu by selecting **MetaQuotes Language Editor**.

A new window appears for the MetaEditor as shown below:



In order to create a new Custom Indicator, select **New** on the top left of the window as indicated above. A set-up window appears in front as below:



Make sure the item **Custom Indicator** is selected. Select **Next** to proceed to the next step:

Name: Name for the Custom Indicator as it appears on MT4. Leave 'Indicators\' to specify the folder in which the Custom Indicator is stored in.

Author: Name of the author of this Custom Indicator.

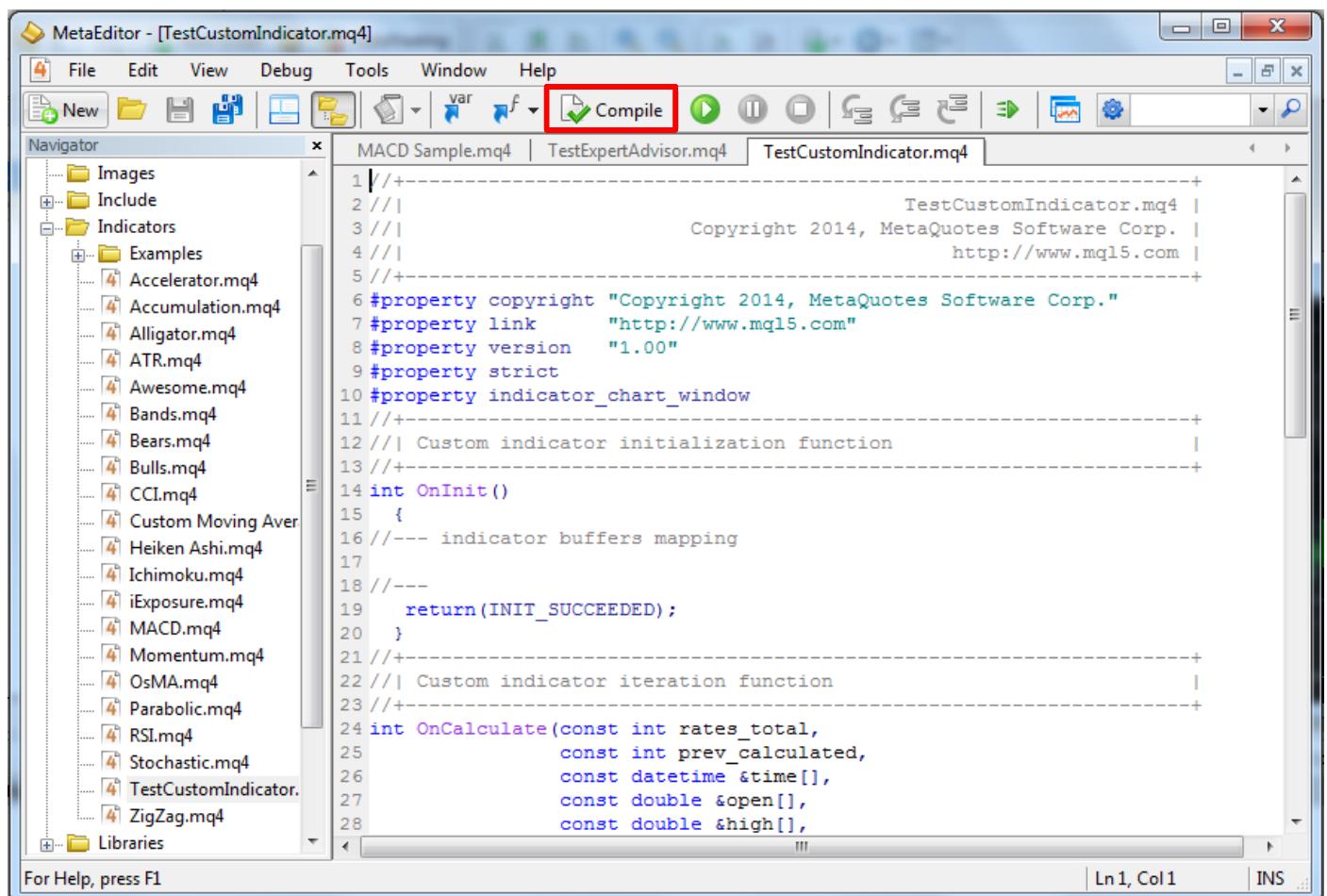
Link: http link which the author wishes to link the Custom Indicator to.

Parameters: The list of Custom Indicator inputs.

Enter each field above and select **Next** to proceed to the next step.

In the next stages the set-up wizard allows the user to select **Event Handlers** and **Drawing Properties** of the Custom Indicator. Please refer to the MQL4 documentation on <http://docs.mql4.com/> for further information regarding those parameters.

Finally select **Finish** to complete the initial set up for the Custom Indicator. The newly created Custom Indicator opens in MetaEditor as shown below:

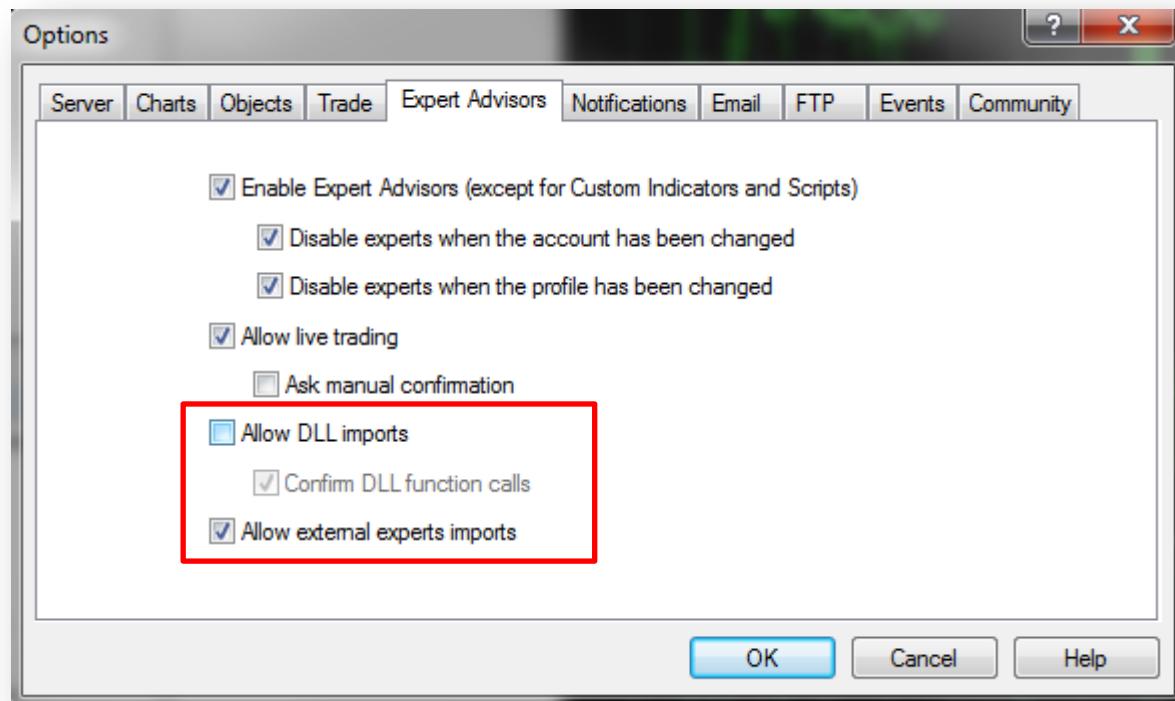


```

MetaEditor - [TestCustomIndicator.mq4]
File Edit View Debug Tools Window Help
New Folder Save Run var f Compile Stop Minimize Maximize Close
Navigator MACD Sample.mq4 TestExpertAdvisor.mq4 TestCustomIndicator.mq4
Images Include Indicators Examples Accelerator.mq4 Accumulation.mq4 Alligator.mq4 ATR.mq4 Awesome.mq4 Bands.mq4 Bears.mq4 Bulls.mq4 CCI.mq4 Custom Moving Average Heiken Ashi.mq4 Ichimoku.mq4 iExposure.mq4 MACD.mq4 Momentum.mq4 OsMA.mq4 Parabolic.mq4 RSI.mq4 Stochastic.mq4 TestCustomIndicator.mq4 ZigZag.mq4 Libraries
Copyright 2014, MetaQuotes Software Corp.
http://www.mql5.com
TestCustomIndicator.mq4
//+----+
//| Copyright 2014, MetaQuotes Software Corp.
//| http://www.mql5.com
//+----+
#property copyright "Copyright 2014, MetaQuotes Software Corp."
#property link      "http://www.mql5.com"
#property version   "1.00"
#property strict
#property indicator_chart_window
//+----+
//| Custom indicator initialization function
//+----+
int OnInit()
{
//--- indicator buffers mapping
//
//---
return(INIT_SUCCEEDED);
}
//+----+
//| Custom indicator iteration function
//+----+
int OnCalculate(const int rates_total,
                const int prev_calculated,
                const datetime &time[],
                const double &open[],
                const double &high[],
```

For Help, press F1 | Ln 1, Col 1 | INS

9.2. Custom Indicators Settings



The Expert Advisors options allow users to set general parameters for Custom Indicators:

Allow DLL imports: Allowing the imports of DLL files. DLL files are used to extend the functionality of Expert Advisor beyond the ability of MQL4.

Confirm DLL function calls: Asks a user for confirmation whenever a call is made to a DLL file.

Allow external experts imports: Allowing the imports of external experts from the active expert advisor. This option should only be ticked if the expert you are using can be trusted.

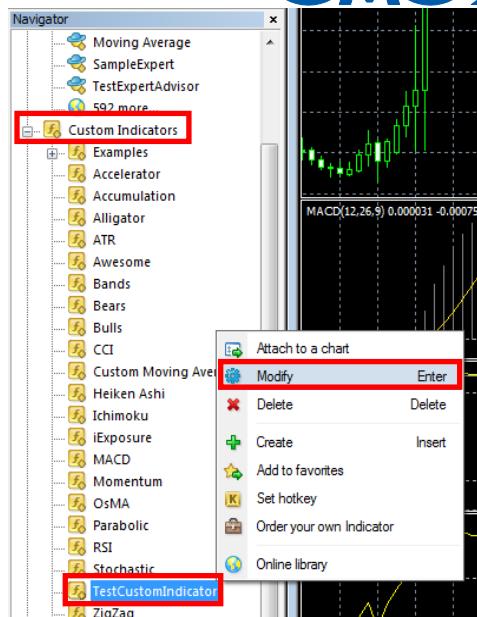
For programming of the Custom Indicator which is outside the scope of this user manual, please refer to the MQL4 documentation on <http://docs.mql4.com/> for further information.

Upon completing programming of the Custom Indicator, the source code can be compiled into executable file which will be visible and usable by MT4 terminal by selecting **Compile** from the top toolbar of the MetaEditor.

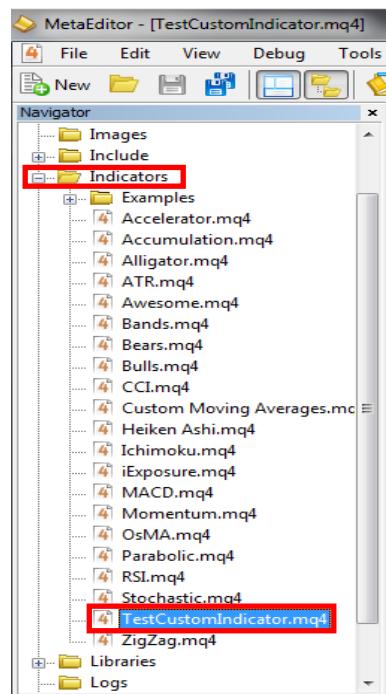
9.3. Modifying Custom Indicators

The already existing Custom Indicators can be modified by opening the MQL4 Source File in **MetaEditor** by right-clicking the Custom Indicator from the **Navigator** window and select **Modify**, or by opening the **MetaEditor** and directly open the Custom Indicator by double-clicking the source file from the **Navigator** window of the editor.

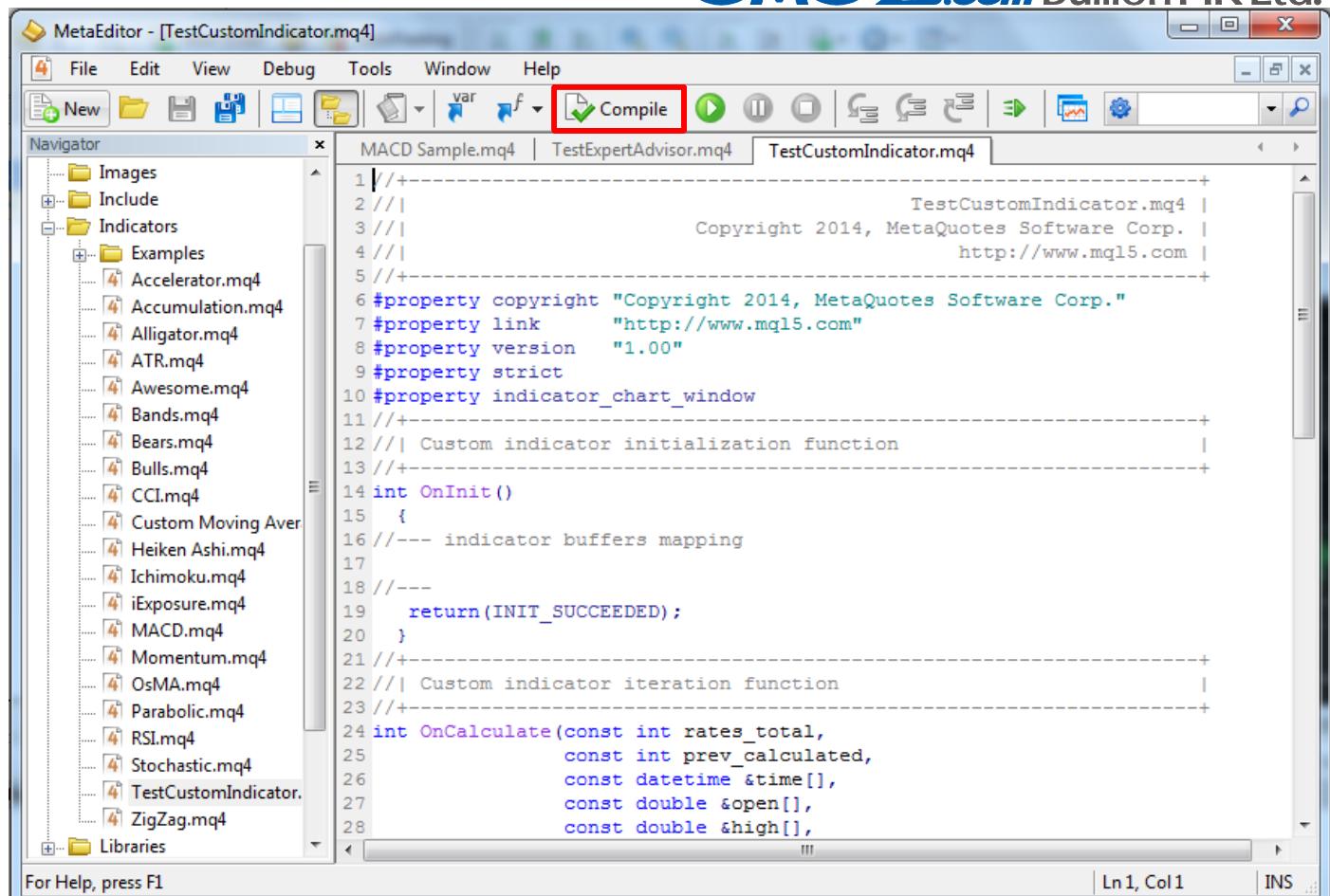
From the **MT4 Terminal Navigator Window**:



From the **MetaEditor Navigator Window**:



Then the source file opens in the MetaEditor in the window as shown below:



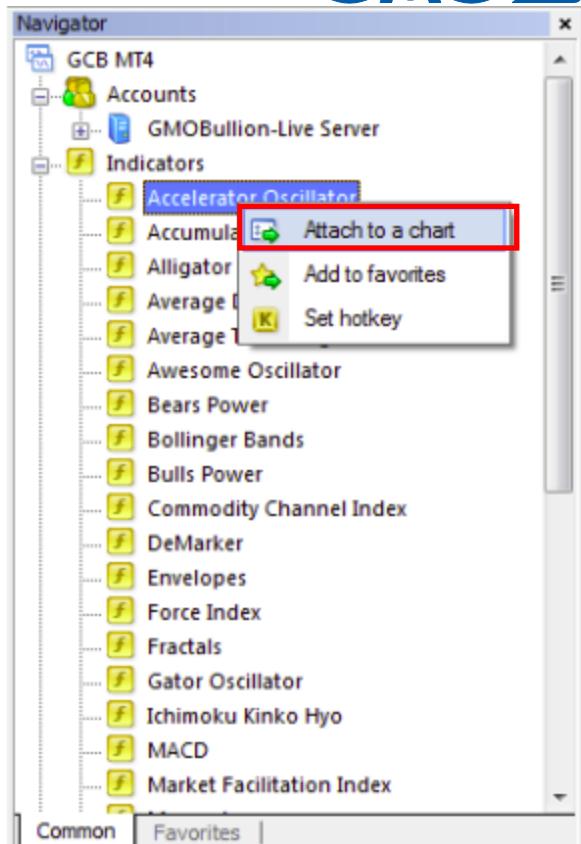
For programming of the Customer Indicator which is outside the scope of this user manual, please refer to the MQL4 documentation on <http://docs.mql4.com/> for further information.

Upon completing programming of the Custom Indicator, the source code can be compiled into executable file which will be visible and usable by MT4 terminal by selecting **Compile** from the top toolbar of the MetaEditor.

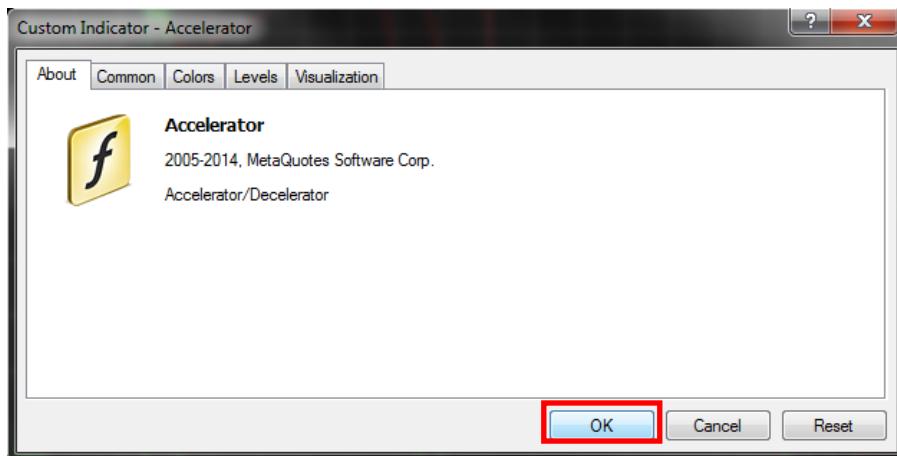
9.4. Applying Custom Indicators

Custom Indicators can be applied to a chart by more or less the same way for the built-in technical indicators.

Firstly go to the **Navigator** window and click on the plus sign next to the **Custom Indicators** to expand the menu, and right-click on the custom indicator to be applied and select **Attach to a chart** or simply just double-click on the custom indicator.



A new window as shown below appears before the chart where the configurations and parameters for the custom indicator can be set. Select **OK** to complete the application of the custom indicator:



Upon completion of the above steps you will be able to see the indicator applied to the chart such as shown below for example for *Accelerator* Custom Indicator built-in on MT4:



9.5. Removing Custom Indicators

Custom Indicators can be deleted from the chart window by right-clicking on the indicator and either selecting **Delete Indicator** or **Delete Indicator Window** from the options. The procedure for this is exactly the same as that of Technical Indicators described in [Deleting Indicators / Indicators Window](#).

10. Scripts

Scripts are programs intended for a single instant execution of some actions. For example a script may contain actions to place trades on an active chart. Scripts can be created or modified using Meta Editor. For further information regarding the use of the Meta Editor please refer to MQL4 documentation on <http://docs.mql4.com/>.

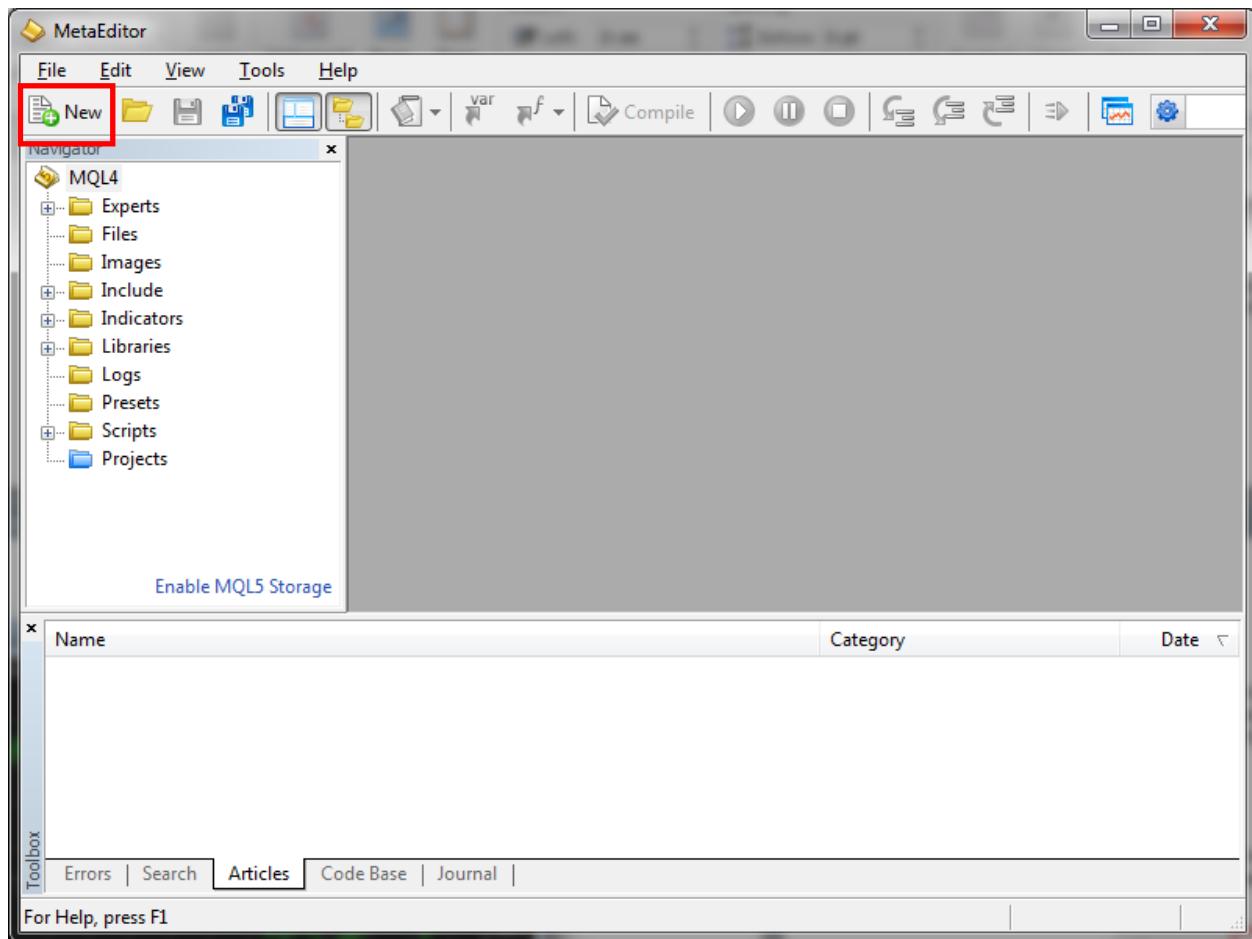
10.1. Creating Scripts

A Script can be created on **MetaEditor** development environment which comes with the whole MT4 package. The **MetaEditor** can be opened from MT4 terminal by selecting the MetaEditor icon on the **Standard Toolbar**:

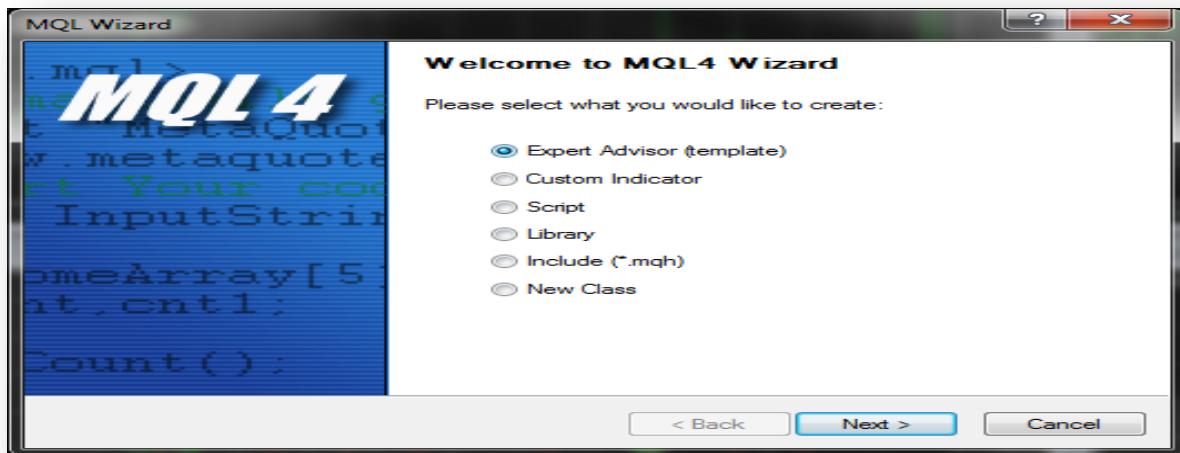


Alternatively, the Editor can be opened from **Tools** in the menu by selecting **MetaQuotes Language Editor**.

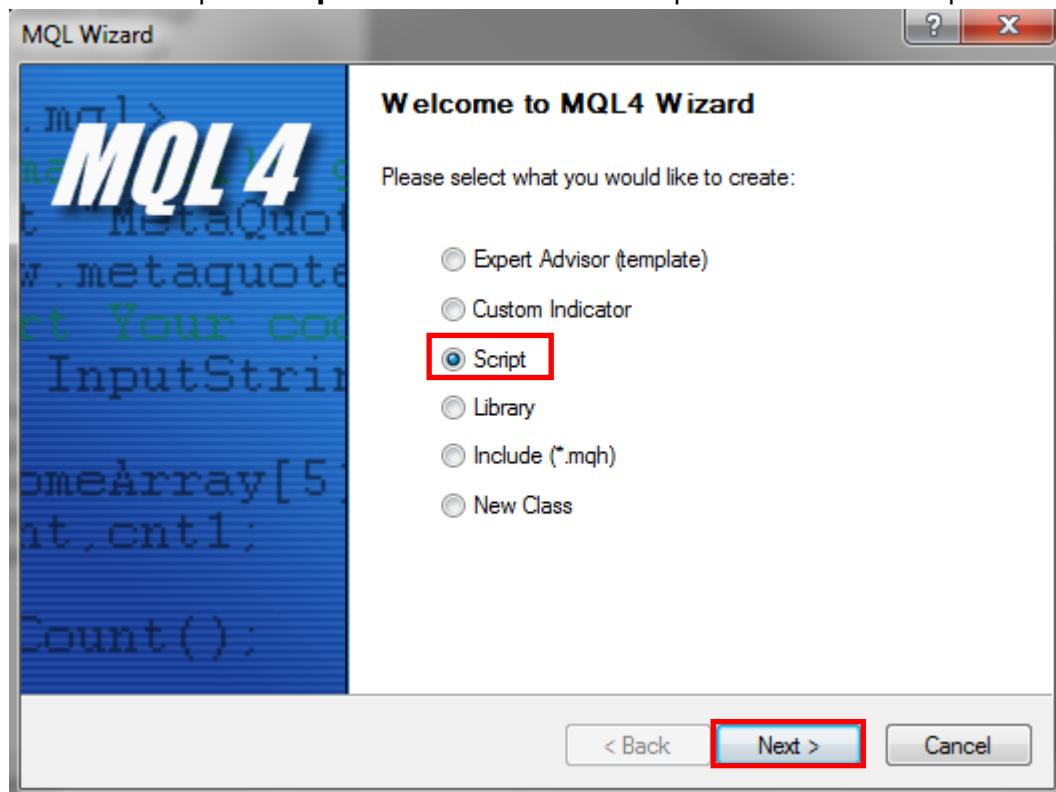
A new window appears for the MetaEditor as shown below:

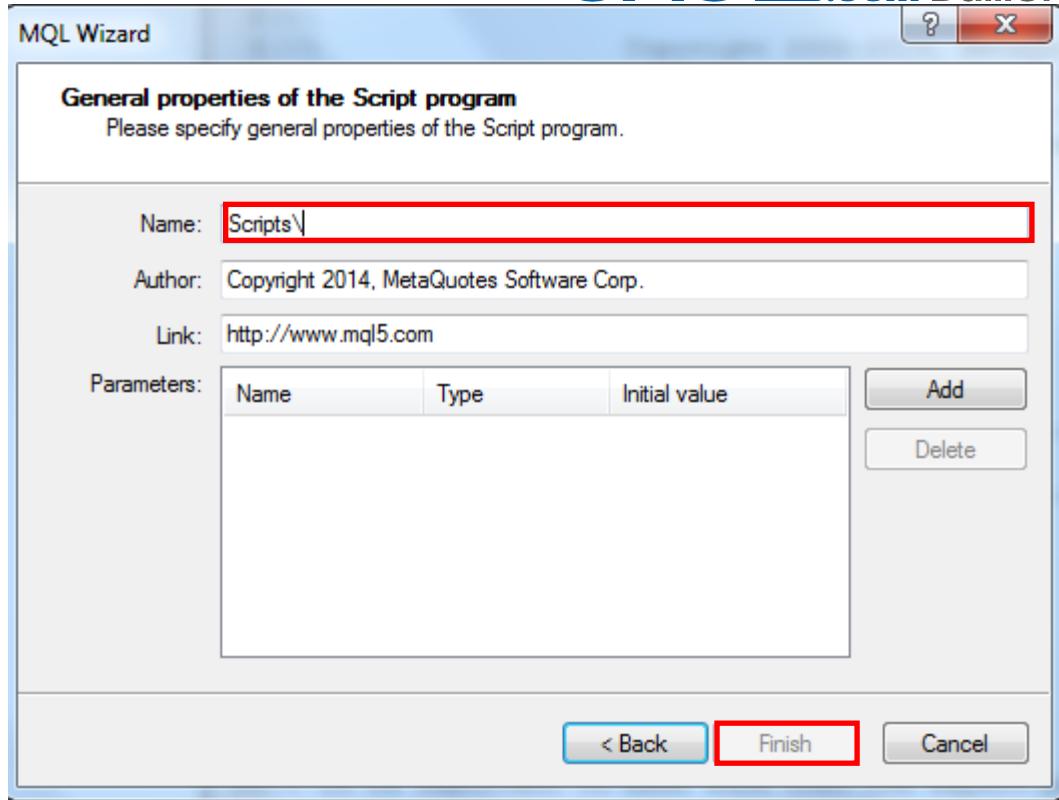


In order to create a new Script, select **New** on the top left of the window as indicated above. A set-up window appears in front as below:



Make sure the option **Script** is selected. Select **Next** to proceed to the next step:





Name: Name for the Script as it appears on MT4. Leave 'Scripts\' to specify the folder in which the Script will be stored in.

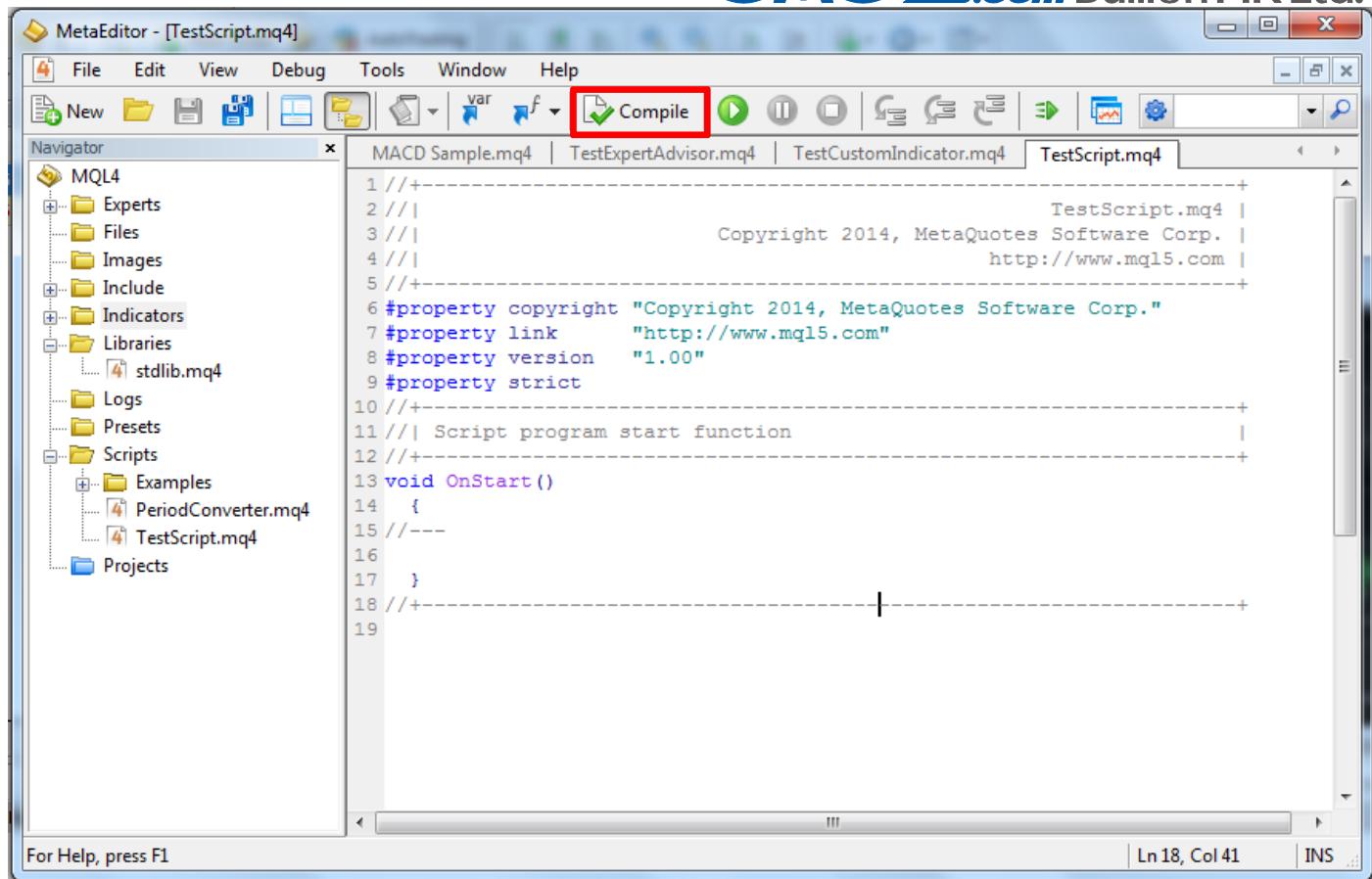
Author: Name of the author of this Script.

Link: http link which the author wishes to link the Script to.

Parameters: The list of Script inputs.

Enter each field above and select **Finish** to complete the initial set up for the Script.

The newly created Script opens in MetaEditor as shown below:

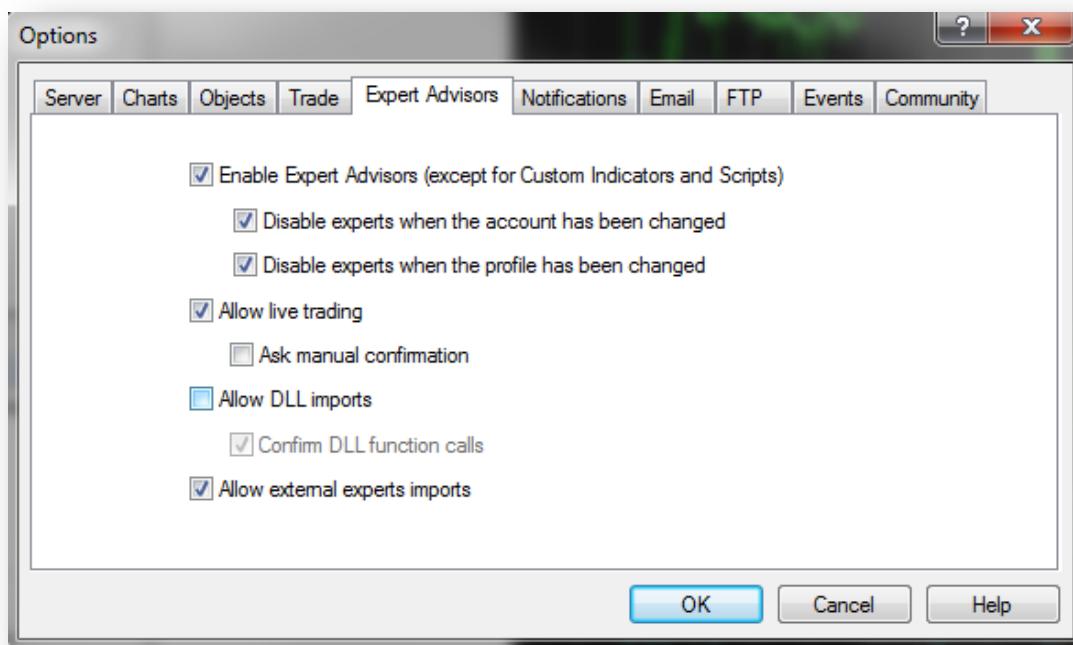


For programming of the Script which is outside the scope of this user manual, please refer to the MQL4 documentation on <http://docs.mql4.com/> for further information.

Upon completing programming of the Script, the source code can be compiled into executable file which will be visible and usable by MT4 terminal by selecting **Compile** from the top toolbar of the MetaEditor.

10.2. Script Settings

The Expert Advisors options allow users to set general parameters for Script:



Enable Expert Advisors: Enables the Expert Advisor

Allow live trading: Allowing the Expert Advisor to make live trades

Ask manual confirmation: Asks user for confirmation when the Expert Advisor makes trades.

Allow DLL imports: Allowing the imports of DLL files. DLL files are used to extend the functionality of Expert Advisor beyond the ability of MQL4.

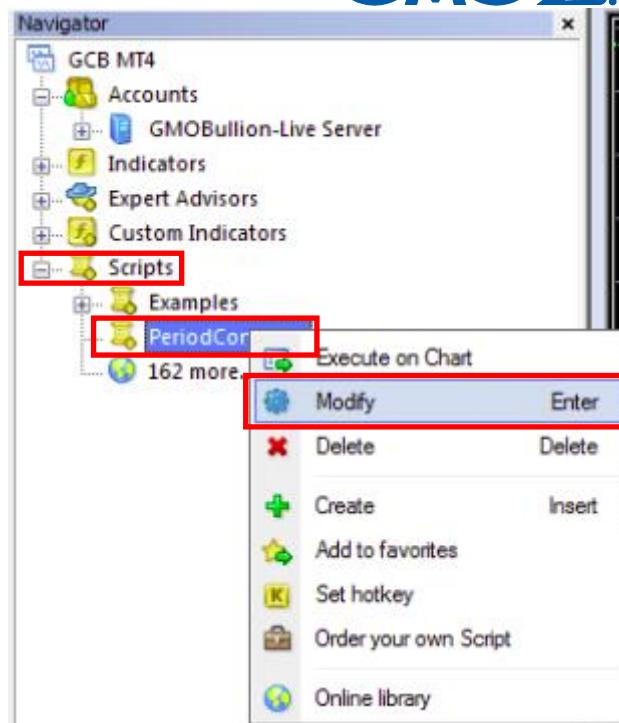
Confirm DLL function calls: Asks a user for confirmation whenever a call is made to a DLL file.

Allow external experts imports: Allowing the imports of external experts from the active expert advisor. This option should only be ticked if the expert you are using can be trusted.

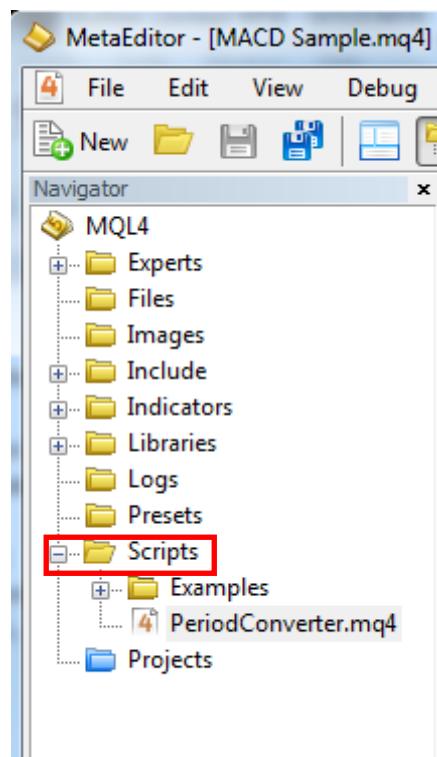
10.3. Modifying Scripts

The existing Scripts can be modified by opening the MQL4 Source File in **MetaEditor** by right-clicking the Script from the **Navigator** window and select **Modify**, or by opening the **MetaEditor** and directly open the Script by double-clicking the source file from the **Navigator** window of the editor.

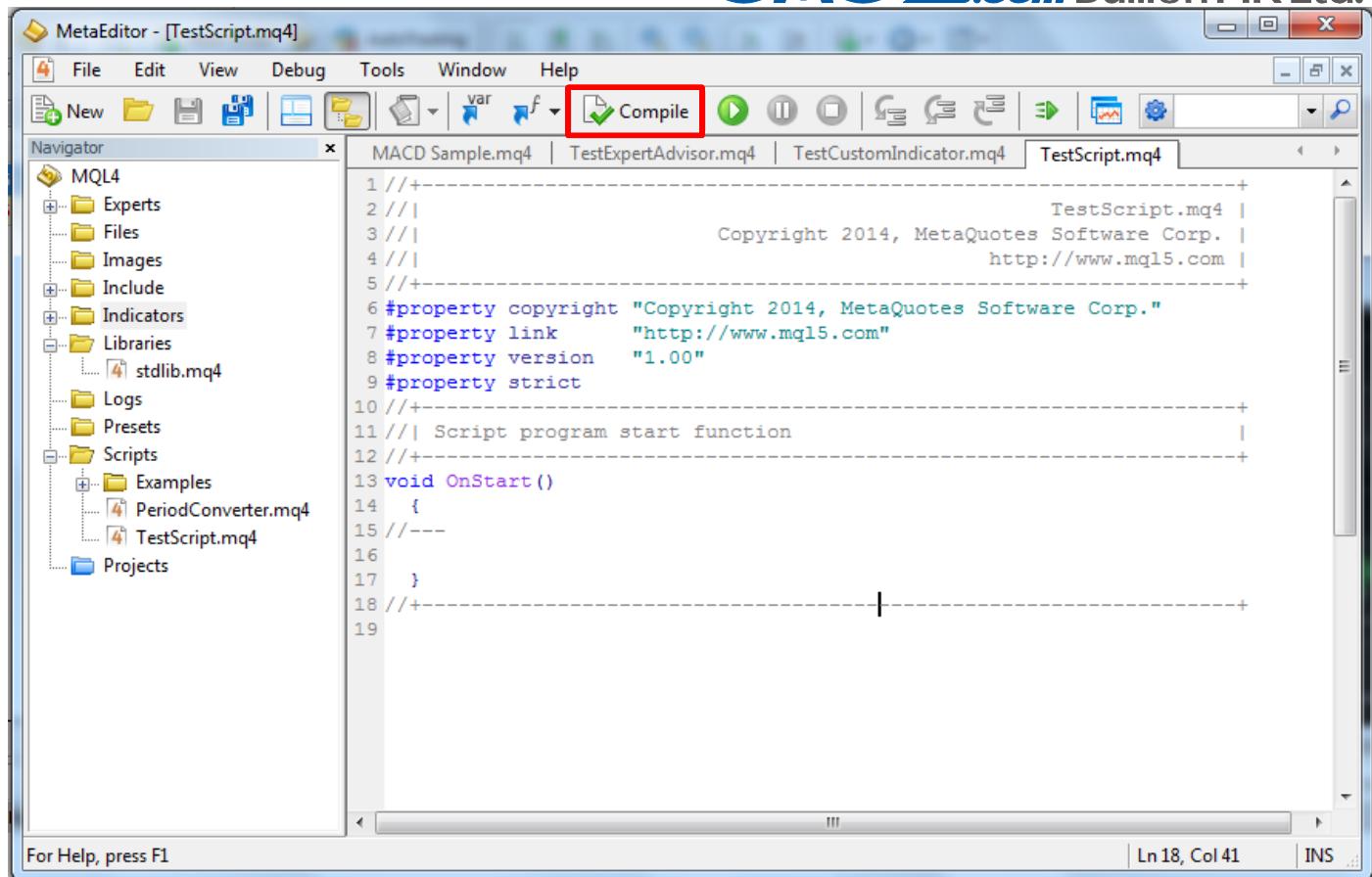
From the **MT4 Terminal Navigator Window**:



From the **MetaEditor Navigator Window**:



Then the source file opens in the MetaEditor in the window as shown below:

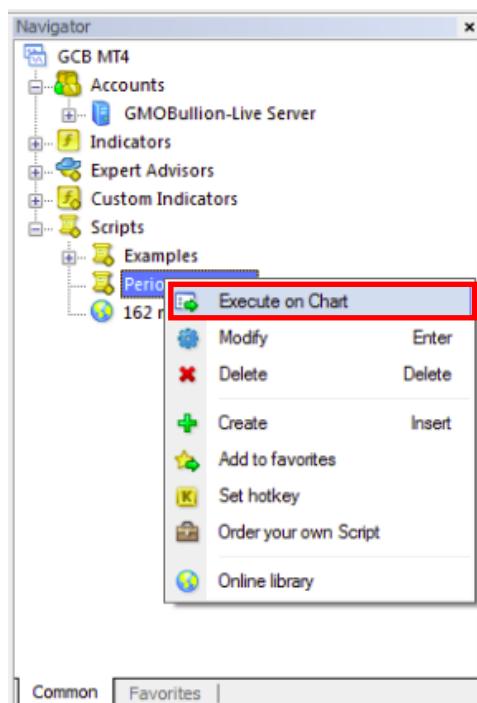


For programming of the Customer Indicator which is outside the scope of this user manual, please refer to the MQL4 documentation on <http://docs.mql4.com/> for further information.

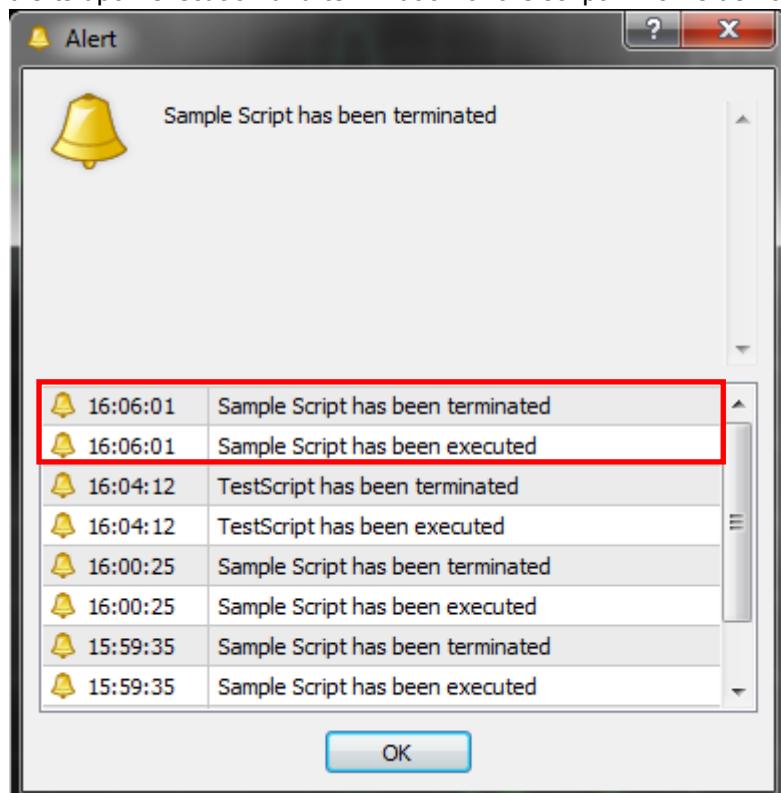
Upon completing programming of the Custom Indicator, the source code can be compiled into executable file which will be visible and usable by MT4 terminal by selecting **Compile** from the top toolbar of the MetaEditor.

10.4. Executing Scripts

Scripts can be executed through the **Navigator** window by right-clicking on the script to be executed and select **Execute on Chart**, or by double-click on the script:



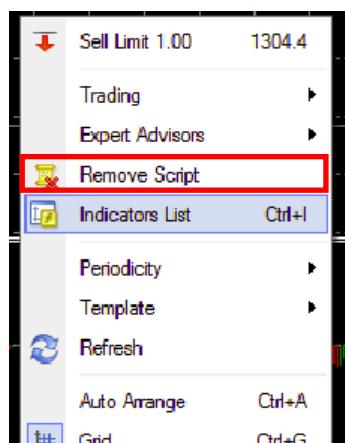
For example in this case *SampleScript* is executed on the active chart. The script has a simple function which posts alerts upon execution and termination of the script which is demonstrated in the screenshot below:



Since there is no action programmed to be executed between the start and the end of the script, it is terminated immediately after the execution.

10.5. Removing Scripts

Usually the Scripts are short-term simple execution code which terminates after relatively short period of time. However, in some circumstances there are long-lived scripts which need to be terminated in the midst of the operation. These Scripts can be terminated by right-clicking on the chart to which the script has been executed on, and select **Remove Script** from the options as shown below:



Likewise, the Script can be terminated by simply applying different Scripts on the chart.

11. Risk Disclosure

11.1. Risk of Trading in Over-The-Counter Gold Bullion/Silver Contracts

Over-the-counter Gold Bullion/Silver ("Bullion") trading carries a high degree of risk, and may not be suitable for all investors. The high degree of leverage can work against you as well as for you. Bullion is not regulated by the Securities and Futures Commission ("SFC") and therefore trading Bullion will not be subject to rules or regulations promulgated by the SFC which includes but is not limited to Client Money rules. Before deciding to trade Bullion you should carefully consider your investment objectives, level of experience, and risk appetite. The possibility exists that you could sustain a loss of some or all of your initial investment or even more in extreme circumstances (such as Gapping underlying markets) and therefore, you should not invest money that you cannot afford to lose. You should be aware of all the risks associated with trading Bullion, and seek advice from an independent financial advisor if you require.

11.2. Risk of Electronic Trading

Trading on an electronic trading system may differ from trading on other electronic trading systems. If you undertake transactions on an electronic trading system, you will be exposed to risks associated with the system including the failure of hardware and software. The result of any system failure may be that your order is either not executed according to your instructions or is not executed at all.

For more details, please visit our corporate website.