LOYAL BANK LTD

EXPERT ADVISOR

USER GUIDE

LOYEX TEAM

5/30/2011
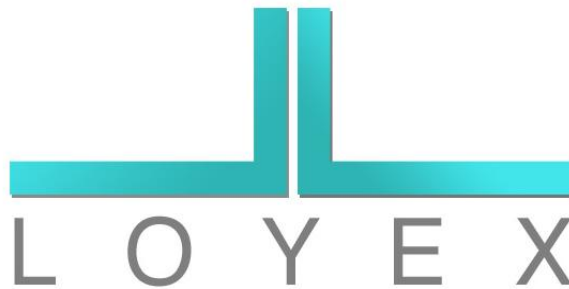
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1. Introduction to types of programs

There are three types of executable files you can program to facilitate and automate your trading, they are:

- Scripts
- Indicators
- Expert advisors

A **Script** is an executable module that can be launched from the Navigator window in the LOYEX Trading Station. Once executed, the script will become inactive. All scripts to be imported should be saved under the following folder: C:\Program Files\LOYEX Trading Station\experts\scripts

An **Indicator** is a series of data points used to predict movements. All custom indicators to be imported should be saved to the following folder: C:\Program Files\LOYEX Trading Station\experts\indicators

Expert advisor is a program that can register information or be set up to trade for you. All Expert Advisors to be imported should be saved to the following folder: C:\Program Files\LOYEX Trading Station\experts

2. Expert Advisor Activation

There is one step required to activate the Expert Advisor:

2.1 Platform Activation

To activate Expert Advisors in the trading platform, go to the Tools menu select Options, then select the tab Expert Advisors. Click the boxes to: Enable the Expert Advisors and Allow Live Trading.
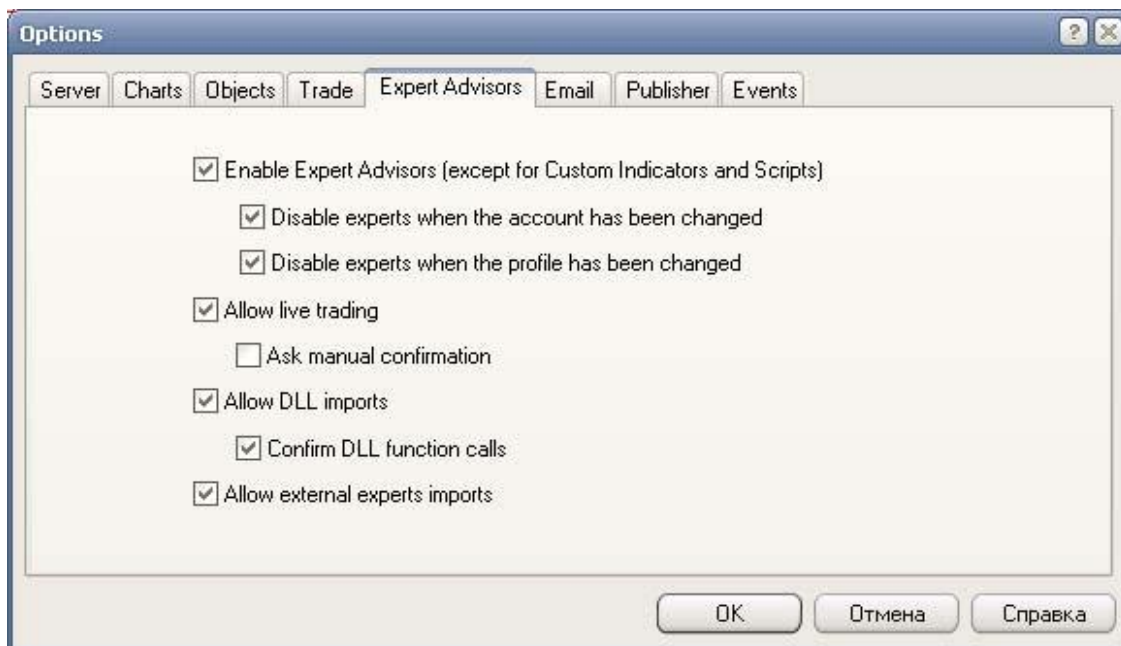

3. Attaching Scripts to Charts

In order to use a Script, an Indicator or an Expert Advisor, first select the desired script, then right mouse click on its name in the corresponding folder. Even if your program works on several currency pairs, it still need to be attached to one of the charts.

In the Navigator, select the script you require from the Scripts folder:
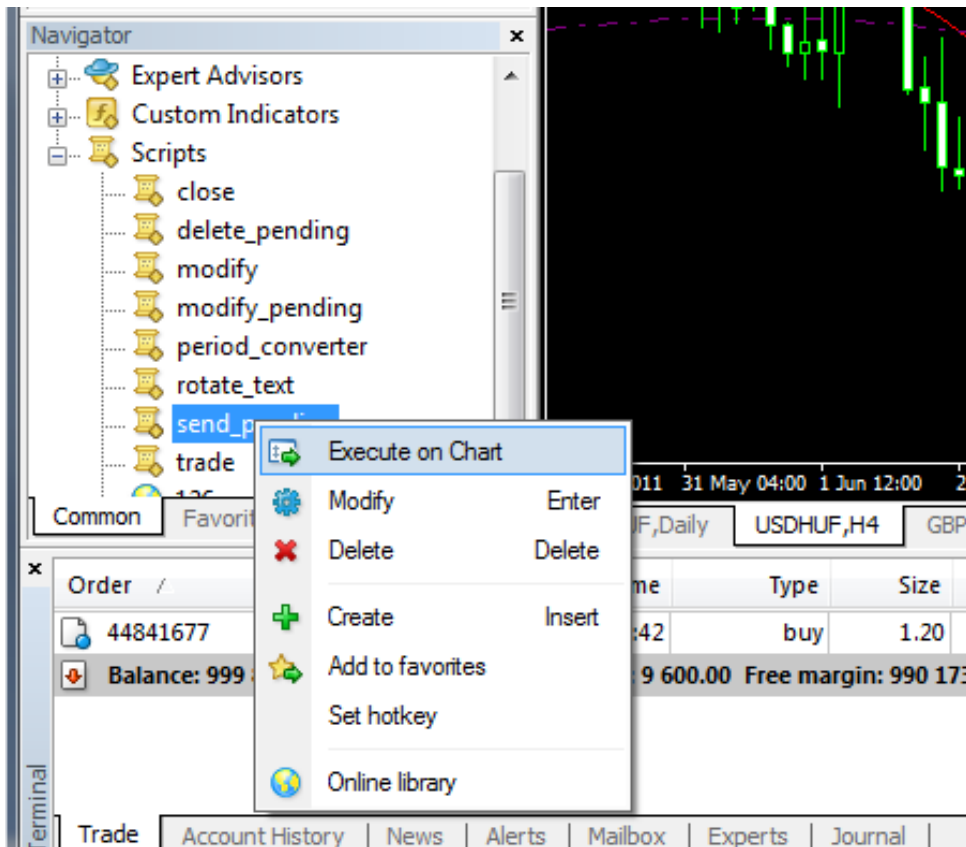
Then, right click your mouse and select **Execute on Chart**, as seen in the illustration above. By selecting the **Experts** Tab, you can view the results of all actions executed, as seen in the illustration below:
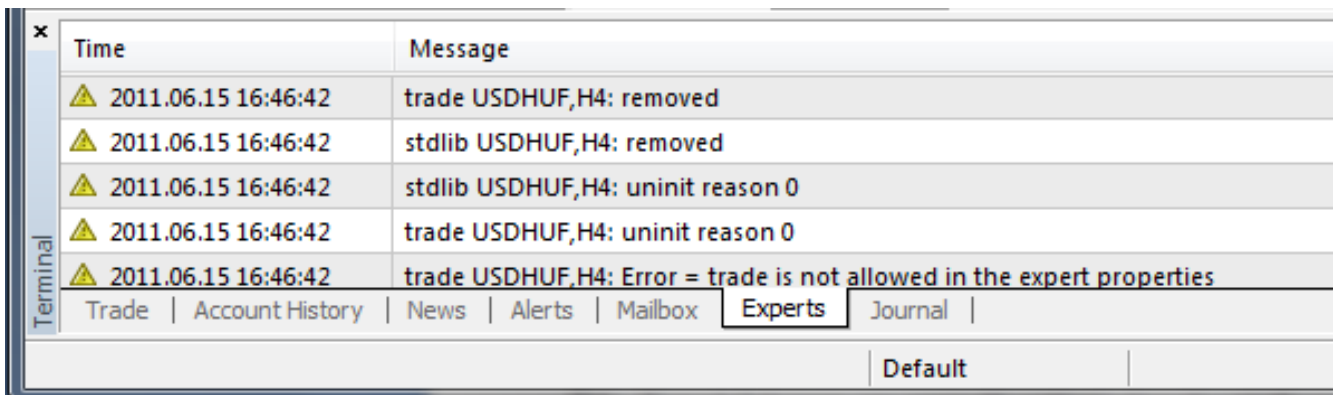
Activating Expert Advisor

Select the desired Expert Advisor, right click on it and choose **Execute on Chart** just as you did in the case of scripts. If the Expert Advisors are correctly activated on the platform, you should see the name of the Expert Advisor and a smiley face at the top right hand corner of the chart you attached your Expert Advisor script to, as seen in the illustration below:

You can preset the testing period through "Use Date". If no period is specified, the Strategy tester takes all the available data

4. Using the Strategy Tester

The Strategy Tester is a function in the Expert Advisor that allows you to back test your strategy according preset conditions.

In order to test your strategy, first select Menu View Strategy Tester. Then select:

1.   The Expert Advisor you would like to test (drop list Expert Advisor)

2.   Parameters of the EA (Button Expert Properties)

3.   The currency pair on which it will be tested (drop list Symbol)

4.   The timeframe of the data to be used (drop list Period)

5.   The Model, knowing the "Every tick" usually gives the best modelling quality, but the "Control points" is the fastest (drop list Model)

6.   "Optimization" is used to select an optimal set of parameters for EA (tick)

7.   "Visualization" is used to follow the positions taken by the Expert Advisor

8.   You can preset the testing period through "Use Date". If no period is specified, the

Strategy tester takes all the available data

If we run the Strategy Tester on the EURUSD currency pair on the 1 hour timeframe:
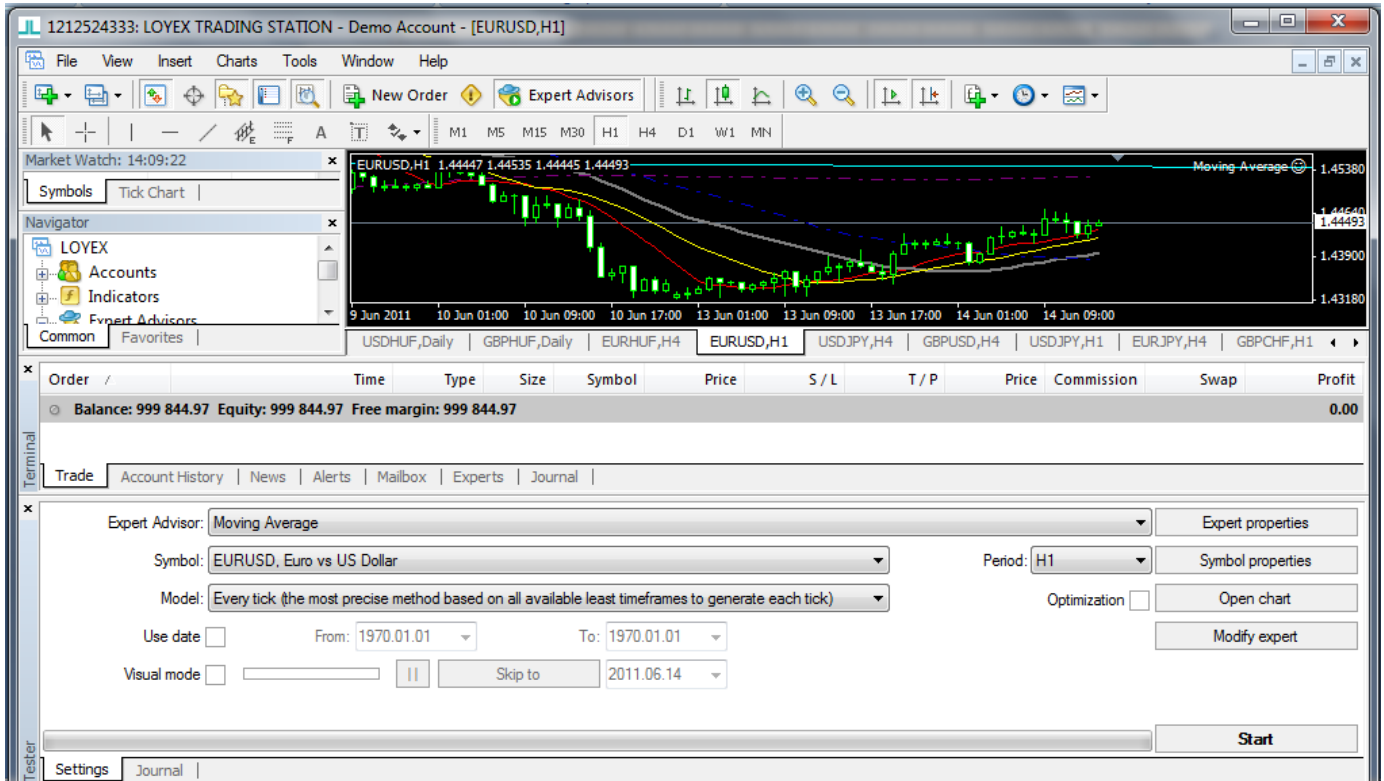
The results of the test can be seen in the worksheet Results, Graph or Report, each presenting the information in a different way:

#	Time	Type	Order	Size	Price	S / L	T / P	Profit	Balance
1	2010.12.31 21:00	buy	1	0.20	1.33744				
2	2011.01.04 06:00	close	1	0.20	1.33507			-47.20	9952.80
3	2011.01.04 11:00	buy	2	0.20	1.33989				
4	2011.01.04 17:00	close	2	0.20	1.33168			-164.20	9788.60
5	2011.01.10 12:00	sell	3	0.10	1.29107				
6	2011.01.10 15:00	close	3	0.10	1.29198			-9.10	9779.50
7	2011.01.11 13:00	buy	4	0.10	1.29604				
8	2011.01.11 16:00	close	4	0.10	1.29143			-46.10	9733.40
9	2011.01.11 18:00	buy	5	0.10	1.29781				
10	2011.01.13 07:00	close	5	0.10	1.30977			119.80	9853.20
11	2011.01.13 09:00	buy	6	0.20	1.31315				
12	2011.01.14 07:00	close	6	0.20	1.33423			421.70	10274.90
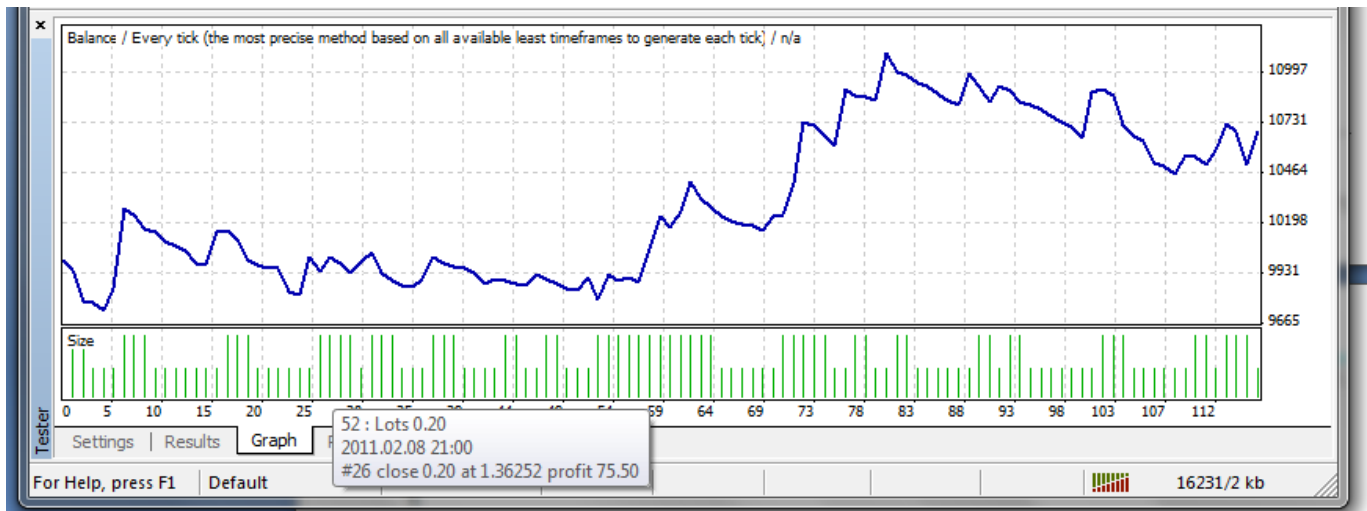
OR

Bars in test	2962	Ticks modelled	9371558	Modelling quality	n/a
Mismatched charts errors	148				
Initial deposit	10000.00				
Total net profit	687.45	Gross profit	4259.65	Gross loss	-3572.20
Profit factor	1.19	Expected payoff	5.93		
Absolute drawdown	301.00	Maximal drawdown	772.70 (6.88%)	Relative drawdown	6.88% (772.70)
Total trades	116	Short positions (won %)	51 (23.53%)	Long positions (won %)	65 (32.31%)
		Profit trades (% of total)	33 (28.45%)	Loss trades (% of total)	83 (71.55%)
Largest		profit trade	421.70	loss trade	-174.00
Average		profit trade	129.08	loss trade	-43.04
Maximum		consecutive wins (profit in m...	4 (572.05)	consecutive losses (loss in m...	8 (-295.10)
Maximal		consecutive profit (count of ...	572.05 (4)	consecutive loss (count of lo...	-448.70 (7)
Average		consecutive wins	2	consecutive losses	4

Settings | Results | Graph | Report | Journal |

For Help, press F1 | Default | 16300/2 kb

5. Troubleshooting

If you encounter any execution errors with your Expert Advisor script, please check the Tab Experts for details:

For any EA modifications, the log files of the EA will be required. You can find these files in C:/Program Files/LOYEX Trading Station/experts/logs.

If you receive any of these errors, please consult your programmer to know how to remove it

Error codes returned from trade server.

Constant	Value	Description
ERR_NO_ERROR	0	No error returned.
ERR_NO_RESULT	1	No error returned, but the result is unknown.
ERR_COMMON_ERROR	2	Common error.
ERR_INVALID_TRADE_PARAMETERS	3	Invalid trade parameters.
ERR_SERVER_BUSY	4	Trade server is busy.
ERR_OLD_VERSION	5	Old version of the client terminal.
ERR_NO_CONNECTION	6	No connection with trade server.
ERR_NOT_ENOUGH_RIGHTS	7	Not enough rights.
ERR_TOO_FREQUENT_REQUESTS	8	Too frequent requests.
ERR_MALFUNCTIONAL_TRADE	9	Malfunctional trade operation.
ERR_ACCOUNT_DISABLED	64	Account disabled.
ERR_INVALID_ACCOUNT	65	Invalid account.
ERR_TRADE_TIMEOUT	128	Trade timeout.
ERR_INVALID_PRICE	129	Invalid price.
ERR_INVALID_STOPS	130	Invalid stops.
ERR_INVALID_TRADE_VOLUME	131	Invalid trade volume.
ERR_MARKET_CLOSED	132	Market is closed.
ERR_TRADE_DISABLED	133	Trade is disabled.
ERR_NOT_ENOUGH_MONEY	134	Not enough money.
ERR_PRICE_CHANGED	135	Price changed.
ERR_OFF_QUOTES	136	Off quotes.
ERR_BROKER_BUSY	137	Broker is busy.
ERR_REQUOTE	138	Requote.
ERR_ORDER_LOCKED	139	Order is locked.
ERR_LONG_POSITIONS_ONLY_ALLOWED	140	Long positions only allowed.
ERR_TOO_MANY_REQUESTS	141	Too many requests.
ERR_TRADE_MODIFY_DENIED	145	Modification denied because order too close to market.

ERR_TRADE_CONTEXT_BUSY	146	Trade context is busy.
ERR_TRADE_EXPIRATION_DENIED	147	Expirations are denied by broker.
ERR_TRADE_TOO_MANY_ORDERS	148	The amount of open and pending orders has reached the limit set by the broker.

MQL4 run time error codes

Constant	Value	Description
ERR_NO_MQLERROR	4000	No error.
ERR_WRONG_FUNCTION_POINTER	4001	Wrong function pointer.
ERR_ARRAY_INDEX_OUT_OF_RANGE	4002	Array index is out of range.
ERR_NO_MEMORY_FOR_CALL_STACK	4003	No memory for function call stack.
ERR_RECURSIVE_STACK_OVERFLOW	4004	Recursive stack overflow.
ERR_NOT_ENOUGH_STACK_FOR_PARAM	4005	Not enough stack for parameter.
ERR_NO_MEMORY_FOR_PARAM_STRING	4006	No memory for parameter string.
ERR_NO_MEMORY_FOR_TEMP_STRING	4007	No memory for temp string.
ERR_NOT_INITIALIZED_STRING	4008	Not initialized string.
ERR_NOT_INITIALIZED_ARRAYSTRING	4009	Not initialized string in array.
ERR_NO_MEMORY_FOR_ARRAYSTRING	4010	No memory for array string.
ERR_TOO_LONG_STRING	4011	Too long string.
ERR_REMAINDER_FROM_ZERO_DIVIDE	4012	Remainder from zero divide.
ERR_ZERO_DIVIDE	4013	Zero divide.
ERR_UNKNOWN_COMMAND	4014	Unknown command.
ERR_WRONG_JUMP	4015	Wrong jump (never generated error).
ERR_NOT_INITIALIZED_ARRAY	4016	Not initialized array.
ERR_DLL_CALLS_NOT_ALLOWED	4017	DLL calls are not allowed.
ERR_CANNOT_LOAD_LIBRARY	4018	Cannot load library.
ERR_CANNOT_CALL_FUNCTION	4019	Cannot call function.
ERR_EXTERNAL_CALLS_NOT_ALLOWED	4020	Expert function calls are not allowed.
ERR_NO_MEMORY_FOR_RETURNED_STR	4021	Not enough memory for temp string returned from function.
ERR_SYSTEM_BUSY	4022	System is busy (never generated error).
ERR_INVALID_FUNCTION_PARAMSCNT	4050	Invalid function parameters count.
ERR_INVALID_FUNCTION_PARAMVALUE	4051	Invalid function parameter value.
ERR_STRING_FUNCTION_INTERNAL	4052	String function internal error.
ERR_SOME_ARRAY_ERROR	4053	Some array error.
ERR_INCORRECT_SERIESARRAY_USING	4054	Incorrect series array using.