

Mastering MQL5 For Multi Currency Hedging - Notebook

Ver 5/19/2024

There are hundreds of resources out there. This is only designed to get you started.

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Why MQL5?

MQL5 enables you to create automated trading strategies across multiple currencies, all managed from a single Expert Advisor. This capability is essential for trading without stop losses and implementing hedging instead of stop losses as a risk mitigation technique.

In the US, direct forex hedging within the same account is not possible. As a result, traders must either use a separate account for direct hedging or rely on highly correlated pairs to offset their positions. MQL5 makes it easier to trade multi currencies from the same expert advisor.

References:

1. MetaQuotes Ltd. "MQL5 Documentation."
2. Investopedia. "Forex Hedging."

▶ [MQL5 Course - Should I learn MQL4 or MQL5?](#)

Absolutely No Previous Programming Experience?

▶ [Self Taught Programmers... Listen Up.](#)

Starting With MQL5 - I Want To Be An Autotrading Algo Programmer

Step 1

[Step-By-Step Guide to writing an Expert Advisor in MQL5 for Beginners](#)

Step 2

[Writing an Expert Advisor Using the MQL5 Object-Oriented Programming Approach](#)

Step 3

This is a great cheat sheet for most of the classes you will need to use in an MQL5 Expert Advisor.

[The Use of the MQL5 Standard Trade Class libraries in writing an Expert Advisor](#)

Learn MQL5 Programming - YouTube Tutorials

Search MQL5 Programming Tutorials and watch a few. Continue with someone you like.

FOREX Orchard

A great place to start if you have some programming background.

https://www.youtube.com/playlist?list=PL0iqkWGt8zzIDVF_iz_Sgl1Ru1jaLzLa7

Rene Balke

Brand New Programmers.

▶ [Master MQL5 Programming \(Complete All In One Guide\)](#)

▶ [MT5 Zone Recovery Hedging Expert Advisor \(100% Free Programming Tutor...](#)

Indicator Programming Videos

Older MQL4 Tutorial on Event functions, which is worth a review. Especially if you do not know how the OnCalculate Function works in an indicator.

▶ [Saturday Session #1 Event Handling Functions. OnInit, OnCalculate, OnTic...](#)

Lots of cool coding tips in this video:

▣ [Writing a Metatrader 5 Indicator Step by Step](#)

Coming From MQL4 to MQL5?

In MQL4 we used procedural functions to get the program to work. Functions are used over and over again all over the program. You have to pass variables back and forth, and it was easy to end up with a big ball of spaghetti code.

Switching to Object Oriented Programming (OOP) gets rid of a lot of lengthy code. The challenge coming from MQL4 to MQL5 is to learn OOP, and how it works to get the same job done in MQL5.

Here is a basic video on OOP: <https://www.youtube.com/watch?v=pTB0EiLXUC8>

Figuring out what to use in MQL5 to get the same job done in MQL4 is where the learning curve comes in. As you study, you will have several Aha moments, until you get the gist of what you have to do.

The little period, known as the reference operator, in the command line will make your life a lot easier: `trade.buy`, `trade.sell`.

[Migrating From MQL4 To MQL5](#)

[Moving from MQL4 to MQL5](#)

[Transferring Indicators from MQL4 to MQL5](#)

Forex Factory Forum Link

<https://www.forexfactory.com/thread/1283501-mastering-mql5-for-multi-currency-hedging>

MQL5 Helpful Resources!

Quick Start Guide For Beginners: <https://www.mql5.com/en/articles/496>

Step-By-Step Guide to writing an Expert Advisor in MQL5 for Beginners
<https://www.mql5.com/en/articles/100>

Code Debugging

<https://www.metatrader5.com/en/metaeditor/help/development/debug>
Debugging MQL5 Programs <https://www.mql5.com/en/articles/654>

Introduction to MQL5: How to write simple Expert Advisor and Custom Indicator
<https://www.mql5.com/en/articles/35>

Error Handling and Logging in MQL5 <https://www.mql5.com/en/articles/2041>

Tracing, Debugging and Structural Analysis of Source Code
<https://www.mql5.com/en/articles/272>

Where Do I Start From? Forum Post: <https://www.mql5.com/en/forum/212020>

MQL5 Trading Platform User Manual:
<https://www.metatrader5.com/en/terminal/help>

MQL5 Reference Manual: <https://www.mql5.com/en/docs>

MQL5 Programming For Traders: <https://www.mql5.com/en/forum/459094>

Who Is WHO In The MQL5 Community: <https://www.mql5.com/en/articles/386>

Excellent Forex Hedging Videos

Tom of Simply FOREX

- ▶ HEDGING TUTORIAL | GOOD HEDGE VS. BAD HEDGE
- ▶ Profitable "Step-by-Step" Hedging Strategy (Used by a 15 Year Forex Pro)

Nick Shawn

- ▶ I Made \$180,000 In 6 Weeks Trading Forex. Here's EVERY Trade.
- ▶ Forex Hedging VS Stop Losses - What's Best?
- ▶ Forex Hedging - Criticisms Finally DEBUNKED.

Forex Hedging

- ▶ How to Hedge trading Forex | Forex Hedging Strategy

Forex Hedging has a very clear cut methodology of how he likes to trade. Very

mechanical and consistent. He deploys a technique where he rolls off loss over time by buying off losing positions with winnings. He calls it hedge trim.

MQL5 Forum Discussions On Hedging

Is it possible to place buy and sell trade on same chart ie like straddle trading
https://www.mql5.com/en/forum/88365#comment_2572835

Suggested Preferred Terms

Terms that will allow common understanding in discussions and reduce ambiguity.

Base Symbol: Base instead of Primary, First.

Hedge Symbol: instead of protective hedge, second pair.

Symbol: Instead of Asset, instrument, security.

MQL5 Articles Specifically About Hedging

The Basic of Coding A Hedge Expert Advisor

<https://www.mql5.com/en/articles/1479>

MetaTrader 5 features hedging position accounting system:

<https://www.mql5.com/en/articles/2299>

MQL5 Wizard Techniques you should know (Part 17): Multi Currency Trading:

<https://www.mql5.com/en/forum/466413>

What About Hedging Daily?

<https://www.mql5.com/en/articles/1532>

Discussion of article "MQL5 Cookbook: Getting properties of an open hedge position"

<https://www.mql5.com/en/articles/4830>

Break Through The Strategy Tester Limit On Testing Hedge EA

<https://www.mql5.com/en/articles/1493>

Universal Expert Advisor: Pending Orders and Hedging Support (Part 5)

<https://www.mql5.com/en/articles/2404>

Bi-Directional Trading and Hedging of Positions in MetaTrader 5 Using the HedgeTerminal Panel, Part 1 <https://www.mql5.com/en/articles/1297>

Bi-Directional Trading and Hedging of Positions in MetaTrader 5 Using the HedgeTerminal API, Part 2 <https://www.mql5.com/en/articles/1316>

Cross-Platform Expert Advisor: Stops

<https://www.mql5.com/en/articles/3620>

Modified Grid-Hedge EA in MQL5 (Part I): Making a Simple Hedge EA

<https://www.mql5.com/en/articles/13845>

Multi Currency Pair Correlation

<https://www.myfxbook.com/forex-market/correlation>

Weekly Correlations as of 5/15/2024. You must recheck periodically.

Positive Pair Correlation

Forex Correlation											☰
Currency	AUDCAD	AUDJPY	AUDNZD	EURAUD	EURJPY ▼	EURUSD	GBPJPY	GBPUSD	USDCAD	USDJPY	
EURJPY	6.6%	85.8%	5.7%	25.9%	100.0%	-18.6%	96.3%	-12.9%	52.7%	89.3%	
GBPJPY	9.9%	85.3%	0.7%	19.6%	96.3%	-13.0%	100.0%	3.0%	41.9%	83.7%	
CADJPY	-9.0%	83.9%	6.4%	18.3%	92.3%	-42.7%	90.3%	-30.9%	52.4%	94.2%	

Forex Correlation											☰
Currency	AUDCAD	AUDJPY	AUDNZD	EURAUD	EURJPY	EURUSD ▼	GBPJPY	GBPUSD	USDCAD	USDJPY	
EURUSD	50.6%	-11.2%	-9.9%	-21.0%	-18.6%	100.0%	-13.0%	90.5%	-71.5%	-60.8%	
GBPUSD	50.4%	-2.2%	-15.8%	-27.3%	-12.9%	90.5%	3.0%	100.0%	-71.5%	-52.0%	

Forex Correlation										
Currency	AUDCAD	AUDJPY	AUDNZD	EURAUD	EURJPY	EURUSD	GBPJPY	GBPUSD	USDCAD	USDJPY
USDJPY	-17.9%	74.4%	9.3%	30.6%	89.3%	-60.8%	83.7%	-52.0%	75.4%	100.0%
CADJPY	-9.0%	83.9%	6.4%	18.3%	92.3%	-42.7%	90.3%	-30.9%	52.4%	94.2%
SGDJPY	-11.9%	71.7%	5.9%	25.3%	85.3%	-50.3%	84.3%	-36.1%	65.4%	91.9%
EURJPY	6.6%	85.8%	5.7%	25.9%	100.0%	-18.6%	96.3%	-12.9%	52.7%	89.3%

Negative Pair Correlation

It is difficult to find negative correlations less than -80%.

Forex Correlation										
Currency	AUDCAD	AUDJPY	AUDNZD	EURAUD	EURJPY	EURUSD	GBPJPY	GBPUSD	USDCAD	USDJPY
AUDSGD	74.9%	14.3%	29.5%	-79.0%	-30.4%	56.8%	-23.2%	57.0%	-68.6%	-50.5%
AUDCAD	100.0%	45.2%	22.7%	-74.1%	6.6%	50.6%	9.9%	50.4%	-28.3%	-17.9%
AUDUSD	81.7%	9.0%	13.1%	-70.6%	-28.6%	78.1%	-21.0%	76.0%	-72.3%	-58.9%

Forex Correlation										
Currency	AUDCAD	AUDJPY	AUDNZD	EURAUD	EURJPY	EURUSD	GBPJPY	GBPUSD	USDCAD	USDJPY
USDSGD	-67.0%	2.2%	29.1%	49.6%	20.7%	-84.5%	12.8%	-82.6%	68.3%	55.5%
USDHUF	-43.2%	37.3%	-3.0%	36.0%	54.9%	-74.2%	53.6%	-59.9%	68.3%	78.6%
USDNOK	-25.8%	22.8%	43.2%	23.8%	27.7%	-73.3%	19.1%	-72.2%	71.9%	55.8%
USDCHF	-26.8%	26.9%	51.8%	17.3%	26.0%	-71.6%	21.0%	-66.3%	59.8%	53.9%
USDCAD	-28.3%	31.7%	22.2%	49.5%	52.7%	-71.5%	41.9%	-71.5%	100.0%	75.4%

Global Interest Rates

<https://www.myfxbook.com/forex-economic-calendar/interest-rates>

Broker Swap Rates

Looking For A Positive Swap Rate?

<https://www.myfxbook.com/forex-broker-swaps>

Miscellaneous

Timesaving YouTube Hacks / Keyboard Shortcuts

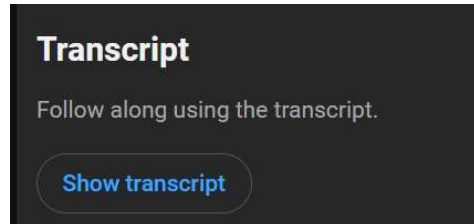
J - back 10 seconds.

L - forward 10 seconds.

Comma (,) back one frame at a time.
Period (.) forward one frame at a time.

Increase playback speed to 1.25, 1.5 etc... Gear Icon > Playback Speed.

Open the Transcript to follow along with the video. You will find it in the video description area, after you select "...more". You can also cut and paste this to pull out points you like.



[Link To All YouTube Keyboard Shortcuts](https://support.google.com/youtube/answer/7631406?hl=en)

<https://support.google.com/youtube/answer/7631406?hl=en>

Key Resources And Tips

Features of the mql5 language, subtleties and tricks

<https://www.mql5.com/en/forum/393227>

Features Every Expert Advisor Should Have

Magic Number - The Magic Number Generator

The magic number is a number transmitted with an order to help distinguish it from all the other orders in the order history. It is especially useful when running Expert Advisors. It allows each expert advisor to distinguish trades that it has made, so they need to be unique.

It is a ulong type variable.

Common MQL5 Problems

MQL5 Invalid Stops error

Metatrader will throw an Invalid Stop error if either the stop loss is wrong **OR the Take Profit** value is wrong. Don't get confused and try to chase down a stop loss problem when it is really a take profit issue.

Margin Cost Problems, Determining Tick Value, Determining Lot Value

<This section is in Draft mode>

Finding out what your actual margin cost, leverage rate, and time to fill your order is an ongoing problem most programmers have to deal with in their code.

Margin is calculated in your account currency. Leverage is controlled by your broker.

Tick value.

[Leverage For Each Symbol](#)

[Is there a Universal Solution For Tick Value?](#)

[Lot Value Off By A Factor Of 100](#)

This thread from 2023 - Checking to see what is new with this issue.

[How To Find Leverage and Minimum Lot Size For Each Symbol](#)

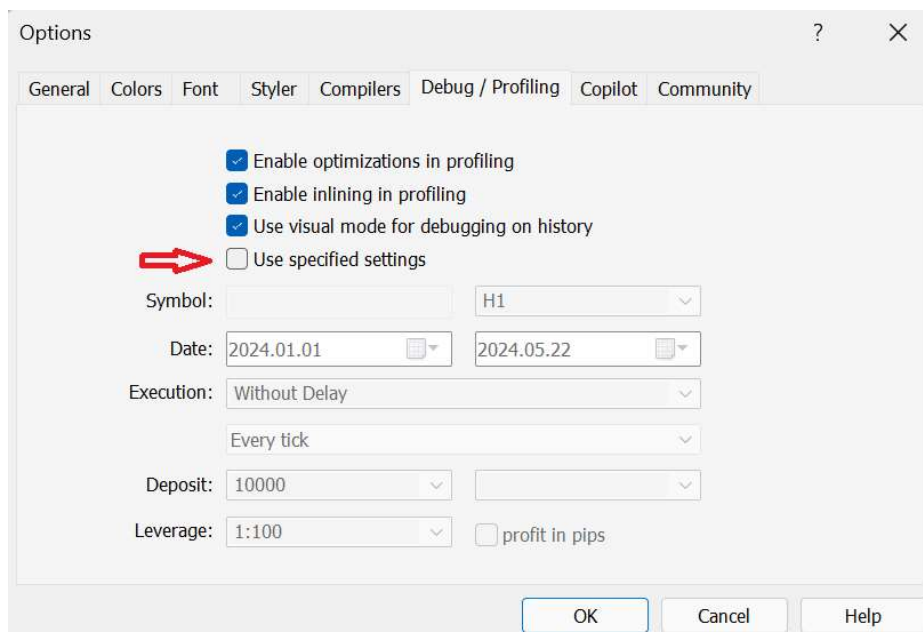
Debug

The debugger will not run on historical data in MT4. It is only available in MT5.

The chart template displayed while debugging can be set by saving the chart you like as a template named debug.tpl.

Use Specified Settings

If checked, will use the symbol, time period, dates, etc.. below. If you want to run the debugger on the chart you are on, uncheck this. If you want to run on the options below the check box, then check it.



Videos On MQL5 Debugging

[▶ Use the MT5 editor for debugging](#) by Forex Orchard

FAQ

In MQL5, Can you trade two separate accounts using the same Expert Advisor (EA)?

This can be achieved by either running multiple instances of the EA on different charts within the same MetaTrader 5 (MT5) terminal or by using a method called copying trades between accounts.

Running Multiple Instances of the EA:

You can run multiple instances of the same EA on different charts within the same MT5 terminal. Each instance can be configured to trade on a specific account by setting the appropriate parameters in the EA inputs. This way, you can effectively trade two separate accounts using the same EA.

Here's a basic example of how you can set up multiple instances of an EA on different charts:

```
```mql
// EA settings for Account 1
input double LotSize_Account1 = 0.1; // Lot size for Account 1

// EA settings for Account 2
input double LotSize_Account2 = 0.2; // Lot size for Account 2

// Place your trading logic here
```
```

References:

1. ****Running Multiple Instances of an EA:****

- MQL5 Documentation: [Running Multiple Expert Advisors on One Chart]

<https://www.mql5.com/en/articles/527>

- MQL5 Community: [How to run multiple EAs on MT5]

<https://www.mql5.com/en/forum/180648>