SUM3API: Using Rust, ZeroMQ, and MetaQuotes Language (MQL5) API Combination to Extract, Communicate, and Externally Project Financial Data from MetaTrader 5 (MT5)
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A GUIDE

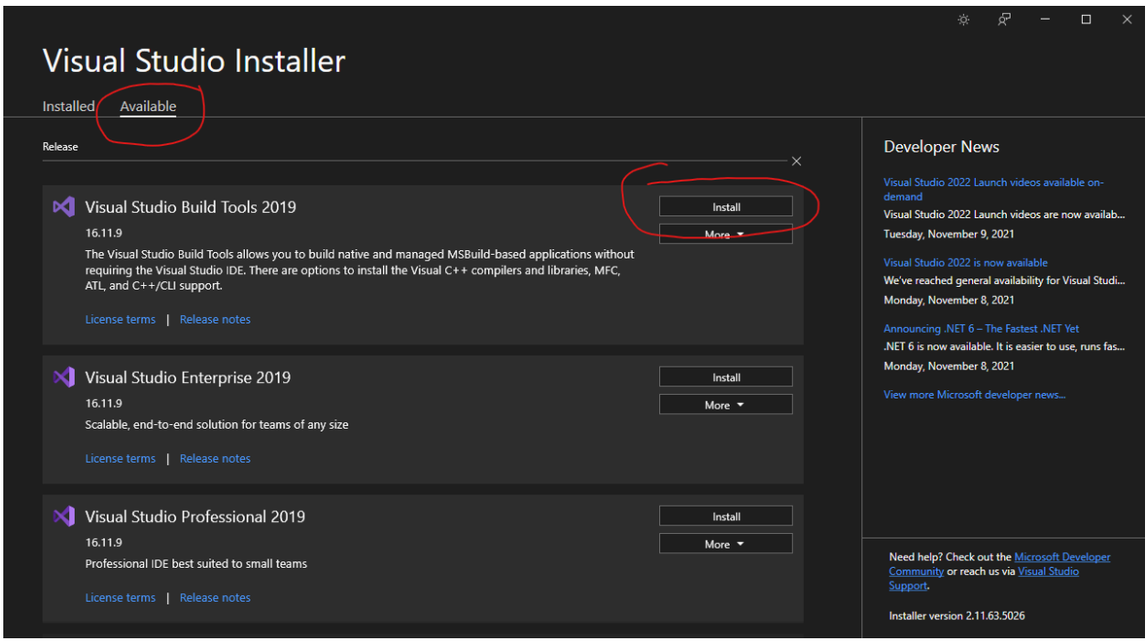
Note: *hyperlinks indicate underlined blue colored text; you have to press it*
Note: *read it one by one, do it (the numbered phases)* ***one by one****, no rush, take your time*

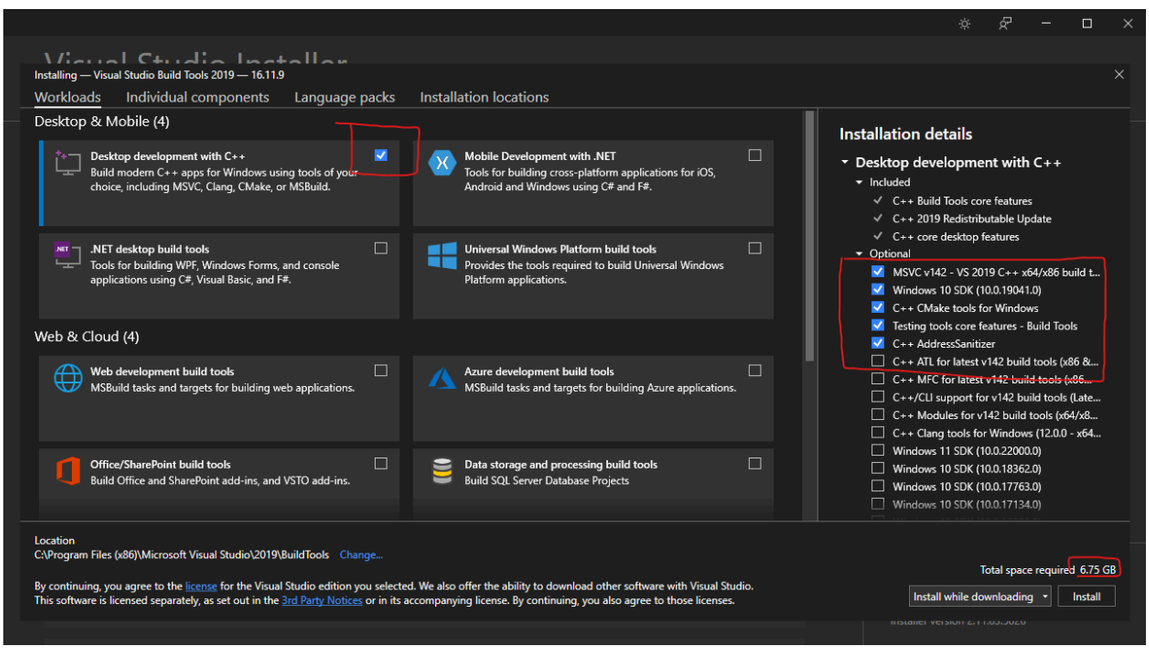
We needed to set up all applications first

1. In my case, I've already installed applications such as Git, Rust (with cargo), VisualStudio C++ Build tools, MetaTrader5 (MT5), and MetaEditor5 (auto downloaded if you installed-&-run MT5). Overall, I'm working on Google Antigravity (you may use any code editor) as long as we have a terminal. Any version would do.

1.1 Watch & follow this YT for setting up *Rust with cargo location* to do the cargo commands later on the last part of this PDF guide document. There is *editing of environment variables* for this.

1.2 Read & follow this for setting up *VisualStudio C++ Build tools* location to do the cargo commands later on the last part of this PDF guide document. There is no *editing of environment variables* (for *VisualStudio C++ Build tools*) done on this project. Or just simply follow…





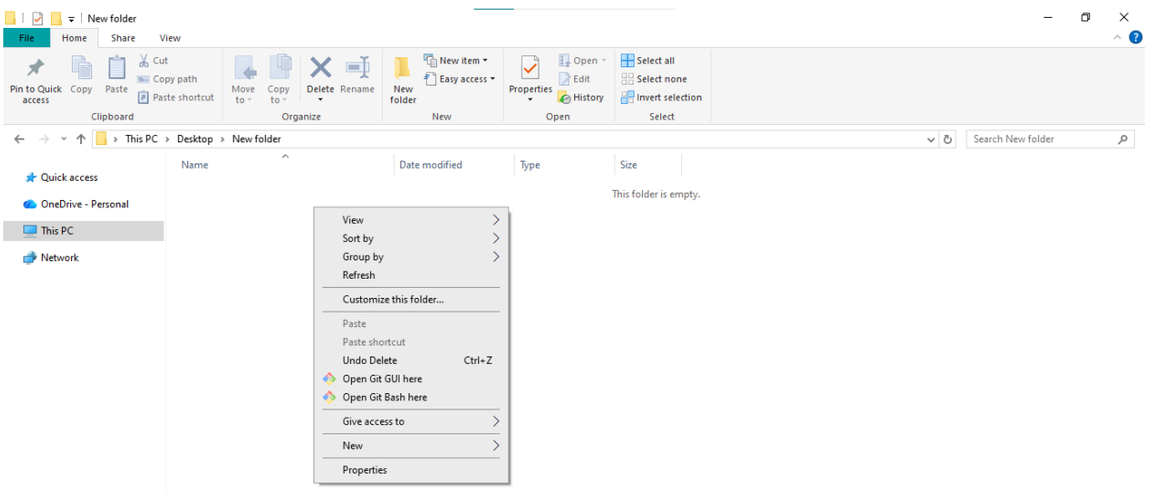
Then install

2. In my case, the implementation is done inside a 7-year old Windows 10 Pro 64-bit laptop with 8GB RAM and Intel Core i5-7200U CPU @ 2.50GHz 2.71 GHz, NVIDIA GeForce 940MX, and 256GB SSD

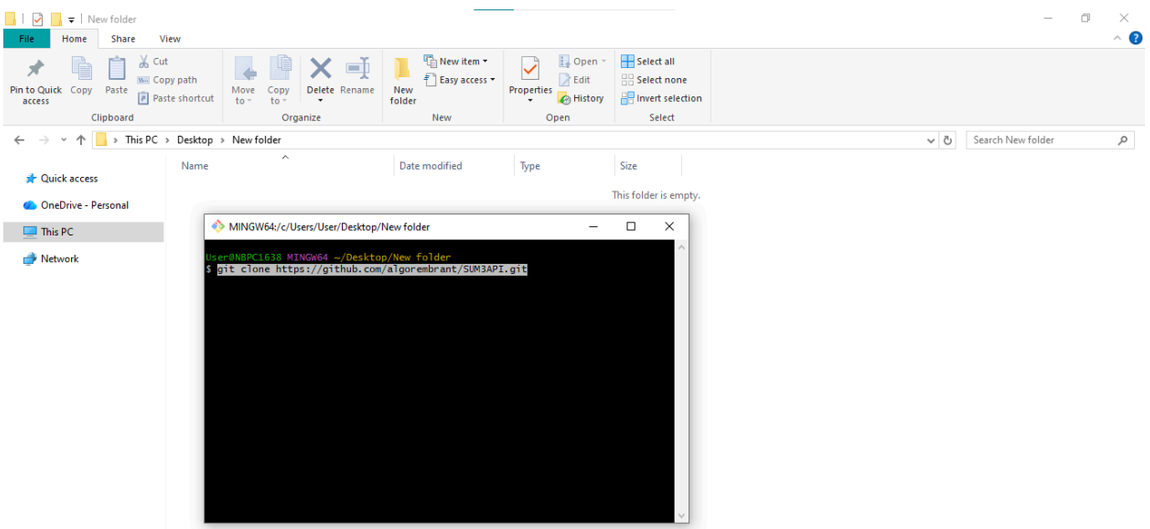
So you wanted to open the SUM3API software (trading terminal)? Thank you for being here. I will guide you as simply as possible.

Follow as we go,

3. Select your preferred directory from your local computer. → Right-click → press '*Open Git Bash here*' (it will show you the terminal with the designated path, where we can run *git* commands).

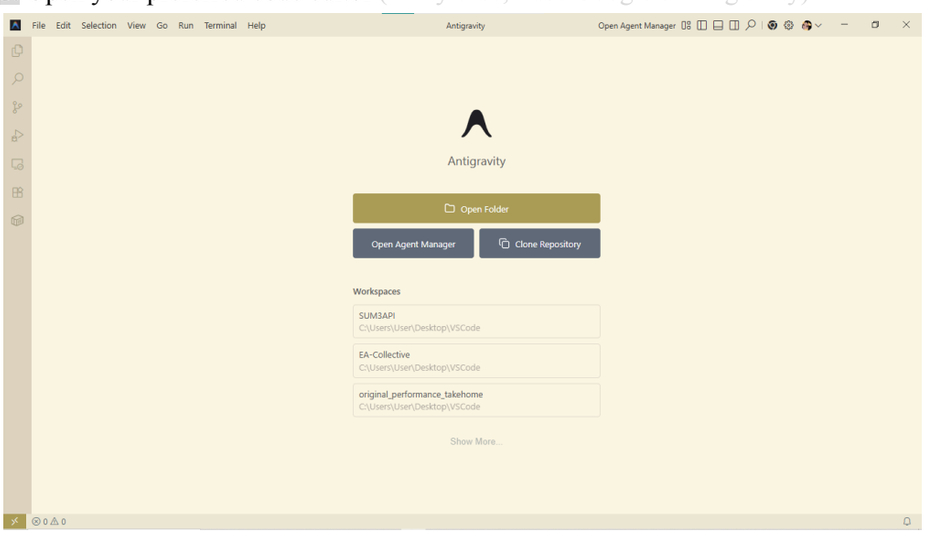


4. To clone my GitHub repository, bash: `git clone https://github.com/algorembrant/SUM3API.git` (copy-n-paste that to the terminal)



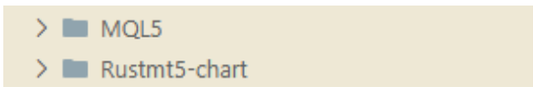
Upon cloning, just wait for it to finish

5. Open your preferred code editor (in my case, I use Google's Antigravity)



6. Press Open Folder → Select the 'SUM3API' Folder to edit (it's the cloned repo)

7. You will notice these 2 main folders for the **SUM3API:** Using Rust, ZeroMQ, and MetaQuotes Language (MQL5) API Combination to Extract, Communicate, and Externally Project Financial Data from MetaTrader 5 (MT5) project. Yes, you only need those two for codes and software (trading terminal).



7.1 If you open it, it will look like this (btw, I use 'Material Icon Theme' Extension for folder/file icons)
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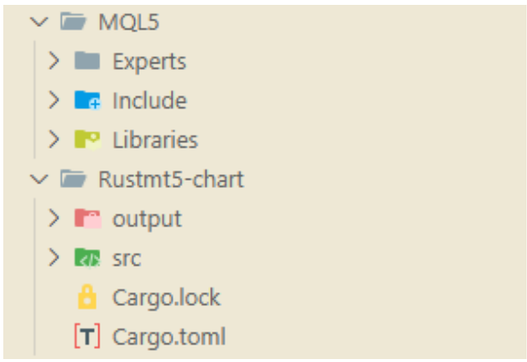
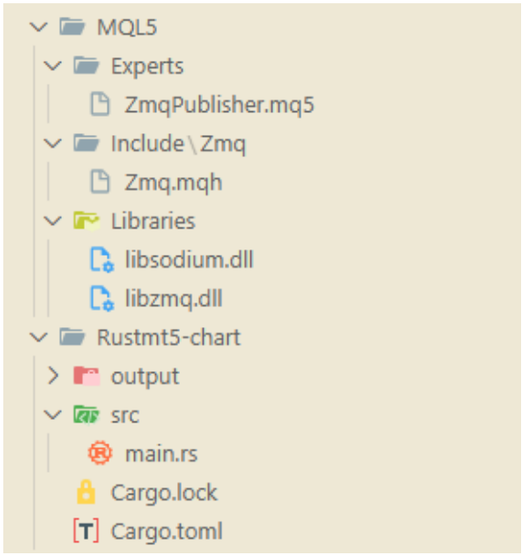


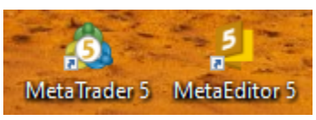
7.2 And to look for all necessary files, just open those folders.



8. We need to relocate the MQL5 Folder's files directory. Currently, we have it inside our repository. Imagine how the file path would look because it's really crucial for the proceeding steps. (eg., MQL5\Experts\ZmqPublisher.mq5) (btw, Both *libsodium.dll* file and *libzmq.dll* file are downloadable on the internet)

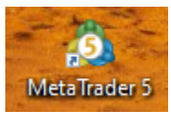
8.1 For now, we will relocate these files

8.2 We need these 2 apps, MetaTrader5 and MetaEditor5. To find the real corresponding path to those files (as shown above, because those files above were currently inside our repository, hence we need to transfer them.



Brace yourself, I will try my best to be as simple and comprehensible as possible.

9. Open MetaTrader5 and log in to your *trading account* on your preferred Exchange/Broker. In my case, I'm using Exness and a Standard-cent live trading account. Since I'm using a cent-based account, all tradable assets will now have a 'c' suffix (eg., XAUUSDc for gold, and BTCUSDc for Bitcoin, etc.)



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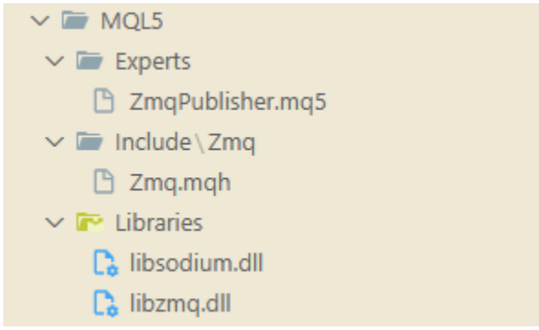
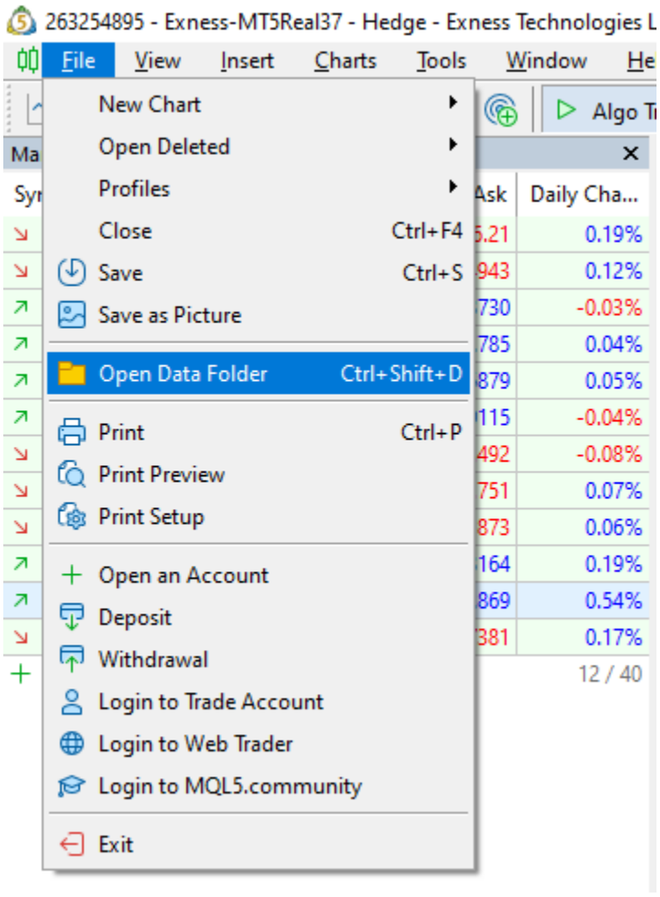
10. Inside MetaTrader5 or MT5, open 'Market Watch' or press (ctrl+m) → press *click to add symbol* → type *XAUUSDc* → Right-click 'XAUUSDc' (I'm using gold-forex for this implementation demonstration) and select 'Chart Window'. It will look like this (don't mind my open test-order, I turned off my grid, you could change the chart background, not black too)

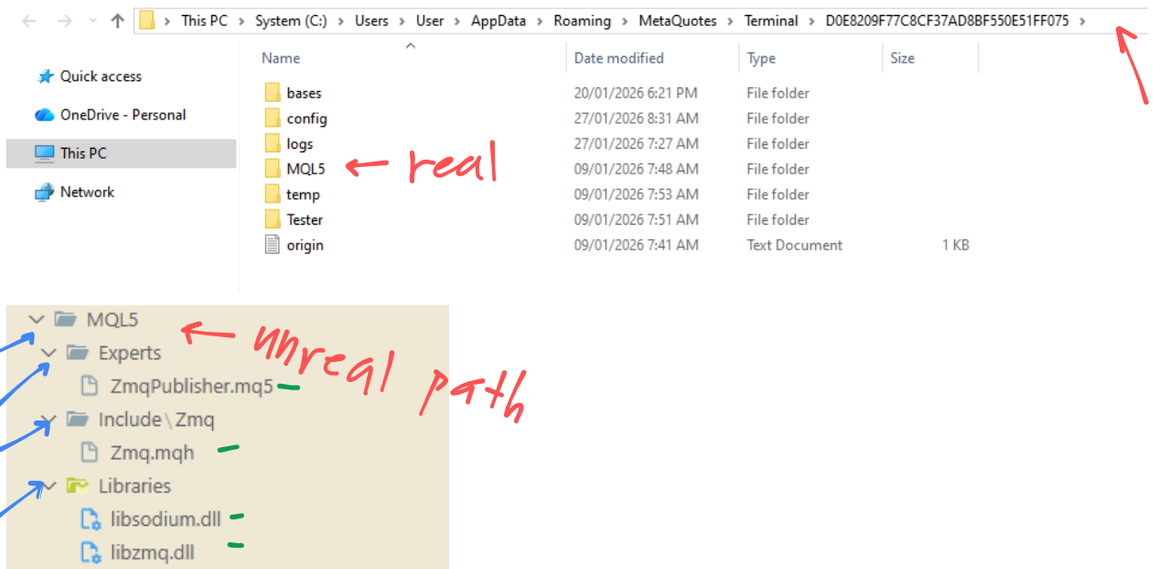
11. Now, remember these files from our repository? We need to relocate that to the legitimate MT5 folder.



12. Inside MetaTrader 5. Open 'Open Data Folder' by simply (ctrl+shift+d).



12.1 In my case, I will see these. Notice we also have an MQL5 Folder (That is the legitimate path, unlike what was inside our repository).



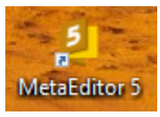
13. Relocate every single file from our repository's folders to a similar path inside the MT5's MQL5 legit path directory. (go back to inside MetaTrader 5. Open *'Open Data Folder'* by simply (ctrl+shift+d).
)

For;

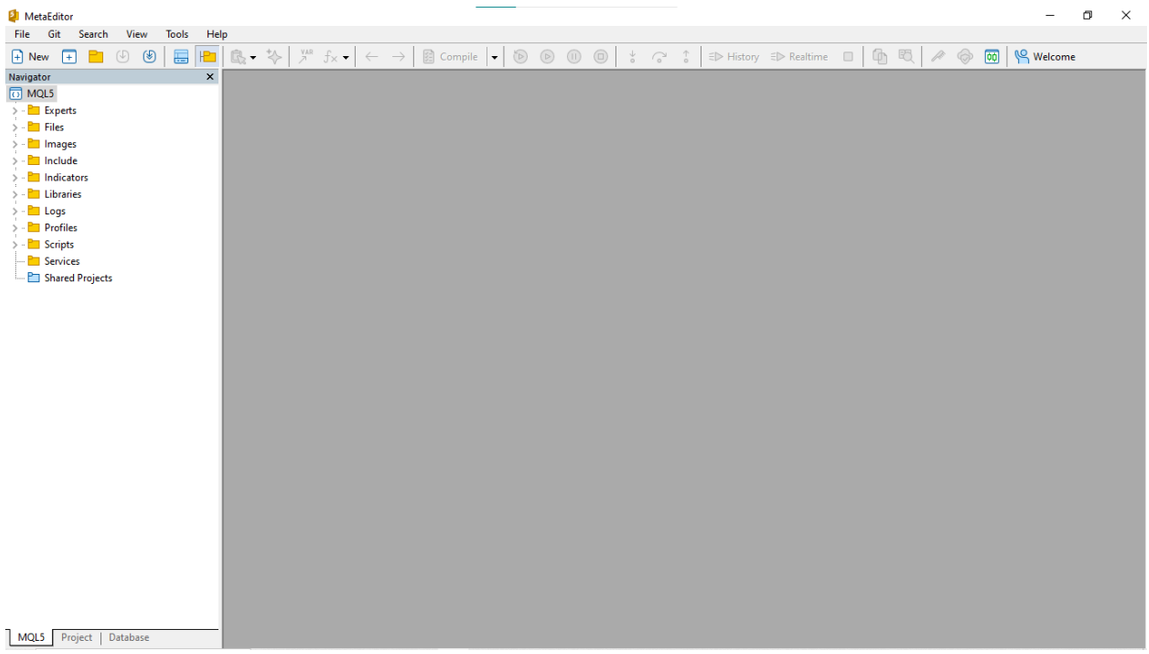
ZmqPublisher.mq5 file: make sure its at **\MQL5\Experts**\ZmqPublisher.mq5 path
Zmq.mqh file: make sure its at **\MQL5\Include**\Zmq\Zmq.mqh path
libsodium.dll file: make sure its at **\MQL5\Libraries**\libsodium.dll path
libzmq.dll file: make sure its at **\MQL5\Libraries**\libzmq.dll path

Make sure you've relocated the files into the corresponding paths

14. Open MetaEditor5

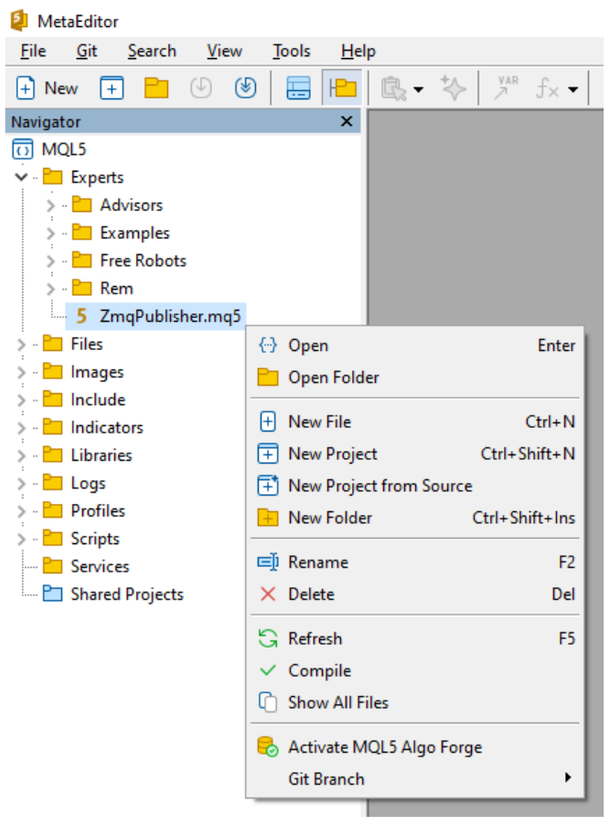


It will look like this (at least)



15. Go to Experts Folder → right-click ZmqPublisher.mq5 → press Open (if you wanna see the source code) → press Compile on the top, (press F7). Or simply…

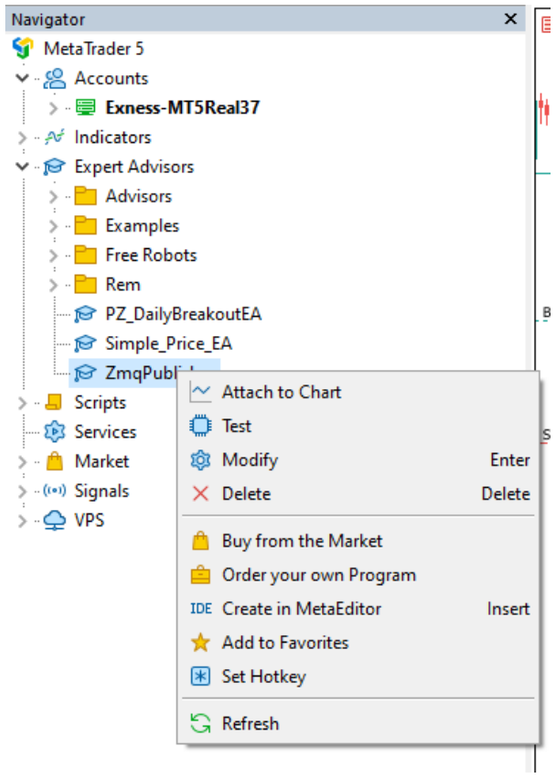
Go to Experts → right-click ZmqPublisher.mq5 → press Compile



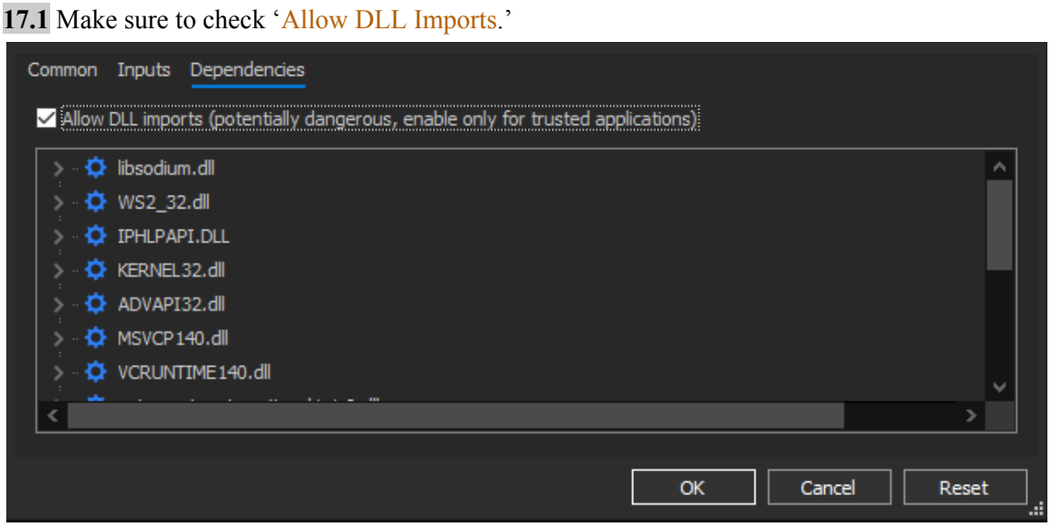
Press compile and make sure it compiled perfectly without error

16. Go back to MetaTrader5 (MT5). Don't mind my test-open position

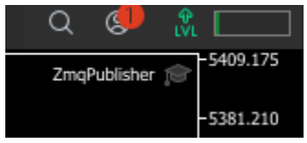
17. Go to 'Navigator' or press (ctrl+n) → select Expert Advisors → right-click ZmqPublisher.mq5
Press 'Attach to Chart' to open (*or simply drag ZmqPublisher.mq5 to the main-content area.*) The EA will work whatever timeframe the chart has. In my case, I run it on XAUUSDc 3-minute timeframe (M3).



17.1 Make sure to check 'Allow DLL Imports.'

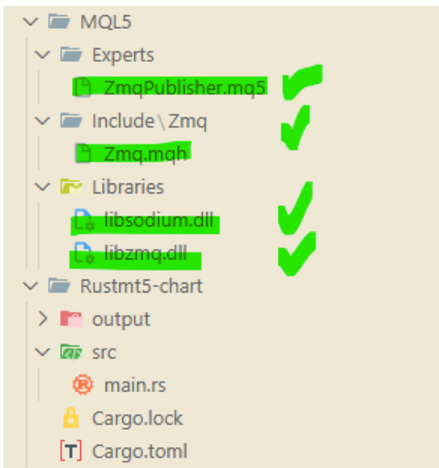


17.2 Check if the ZmqPublisher.mq5 is running by simply looking at the top-right corner of the screen. If there's **ZmqPublisher**. Then you are good to go



18 Summary:

1. With that, we are finished with relocating the contents (ZmqPublisher.mq5, Zmq.mqh, libsodium.dll, libzmq.dll files) inside the MQL5 Folder **from our repository into the legitimate MetaTrader5 or MT5 path.**
2. We successfully compiled ZmqPublisher.mq5 inside MetaEditor5
3. We successfully 'Allow DLL Imports.'
4. We successfully attached ZmqPublisher.mq5 inside MetaTrader5 *(In my case, I attached it on XAUUSDc 3-minute timeframe (M3).*
5. We do not close the MetaTrader5



19. We need to run the Rust application inside the Rustmt5-chart Folder

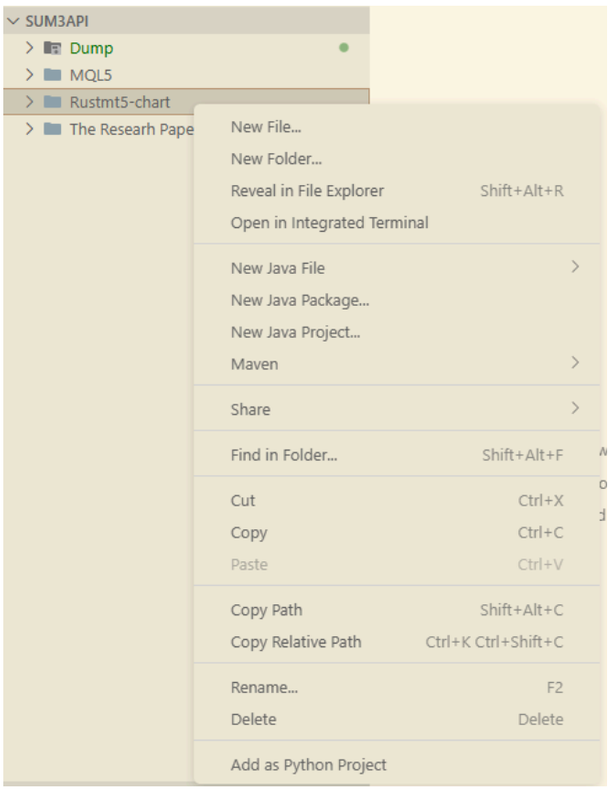
Read the next page…

19.1 We don't have to do anything for the Rustmt5-chart Folder, no relocation. We simply need to run commands inside a terminal.

19.2 For this, I recommend using your *raw-terminal*. In my case, I can't run Rust commands on the Antigravity-terminal because it won't bypass my Windows PC security/antivirus system protection.

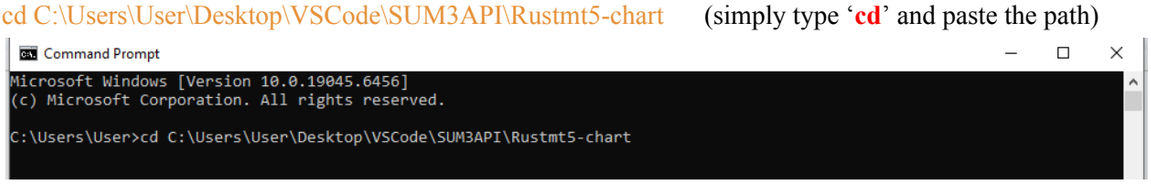
19.3 Open a raw-terminal (search/type 'cmd' on Windows start/settings)

20. We need to input a bash 'cd' command on that raw-terminal. Go back to Aintigravity. → Find the path of our Rustmt5-chart Folder by simply right-clicking Rustmt5-chart Folder → select 'Copy Path' (shift+alt+c)



In my case, I will get:
C:\Users\User\Desktop\VSCode\SUM3API\Rustmt5-chart

20.1 Go back to the raw-terminal and bash:
cd C:\Users\User\Desktop\VSCode\SUM3API\Rustmt5-chart (simply type '**cd**' and paste the path)



21. bash command in the raw-terminal
cargo clean (cleaning first if there are rust files before mine, you will get zero '0' value if it's your first time)

In my case, I have to close my Antigravity if i will run *cargo build –release*

22. then bash command in the raw-terminal
cargo build –release

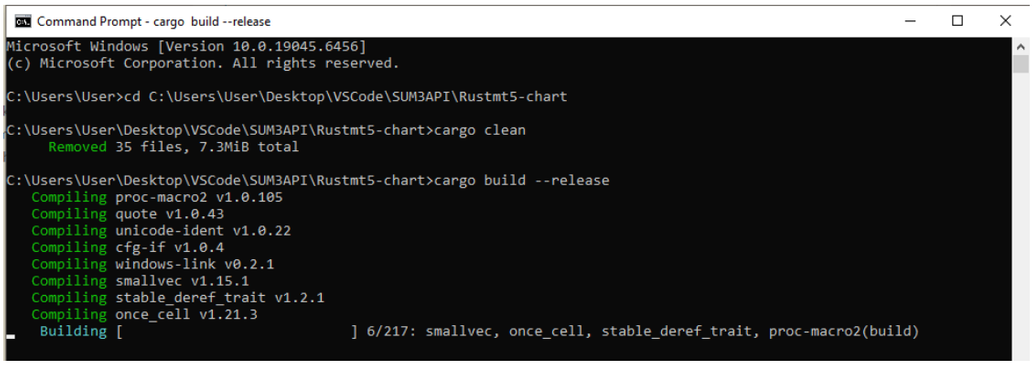
(that's a double dash '-' btw. Like - -). It will automatically create a target folder for file storage after downloading/compiling what is written on out 'Cargo.toml' file

22.1 Summary of bash commands

[1] cd C:\Users\User\Desktop\VSCode\SUM3API\Rustmt5-chart (path directory)

[2] cargo clean (for cleaning previous rust files)

[3] cargo build –release (download all Rust dependencies)

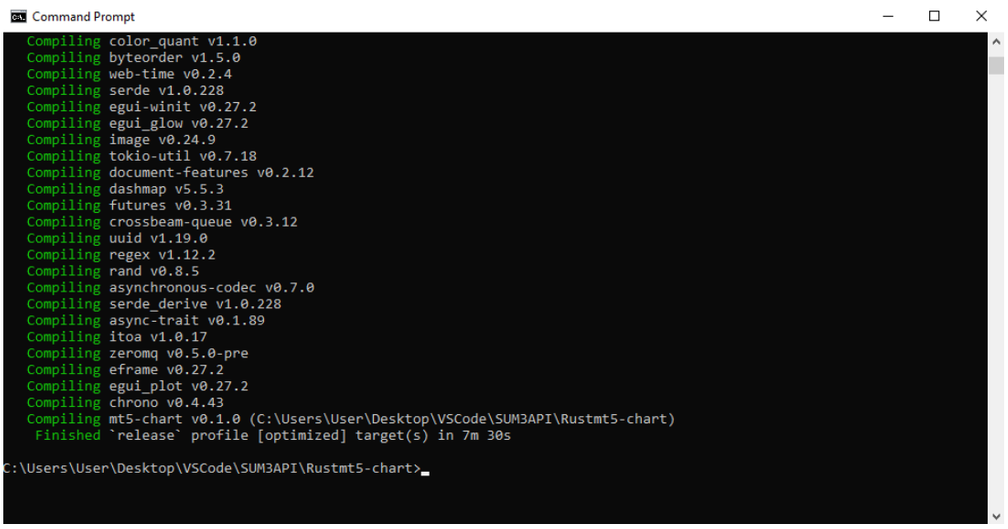


22.2. After the bash cargo build –release. Wait for it to fully download; it will take time. **And make sure your Code editor platform, like Antigravity, is closed upon running this to not get any errors.**

22.3. **Got ERRORS?** You either..

1. Your Antigravity was opened upon running bash cargo build –release. It will say something like *'the path is busy' or 'the path is used by another system,'* or any synonymous to that.
2. You haven't installed Visual Studio C++ Build Tools upon running bash cargo build –release. It will say something *'terminal.exe'* related or any synonymous to that.

23. Upon **Finished** You will see something like this:



We are one bash away from opening the SUM3API software (trading terminal)

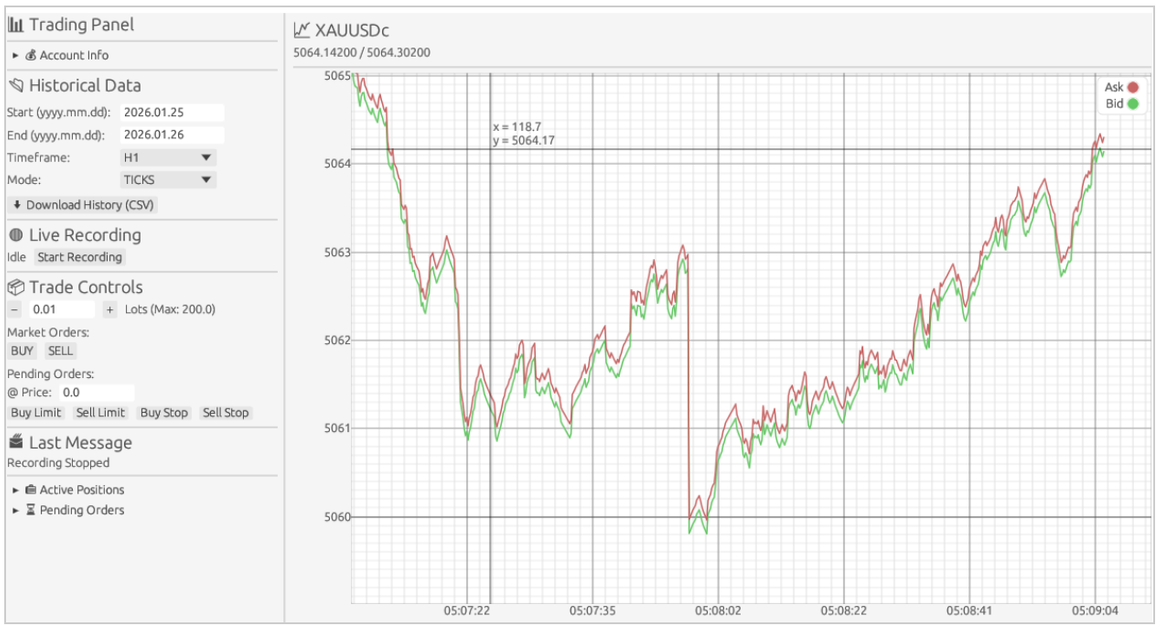
24. Final bash

cargo run –release (to open)

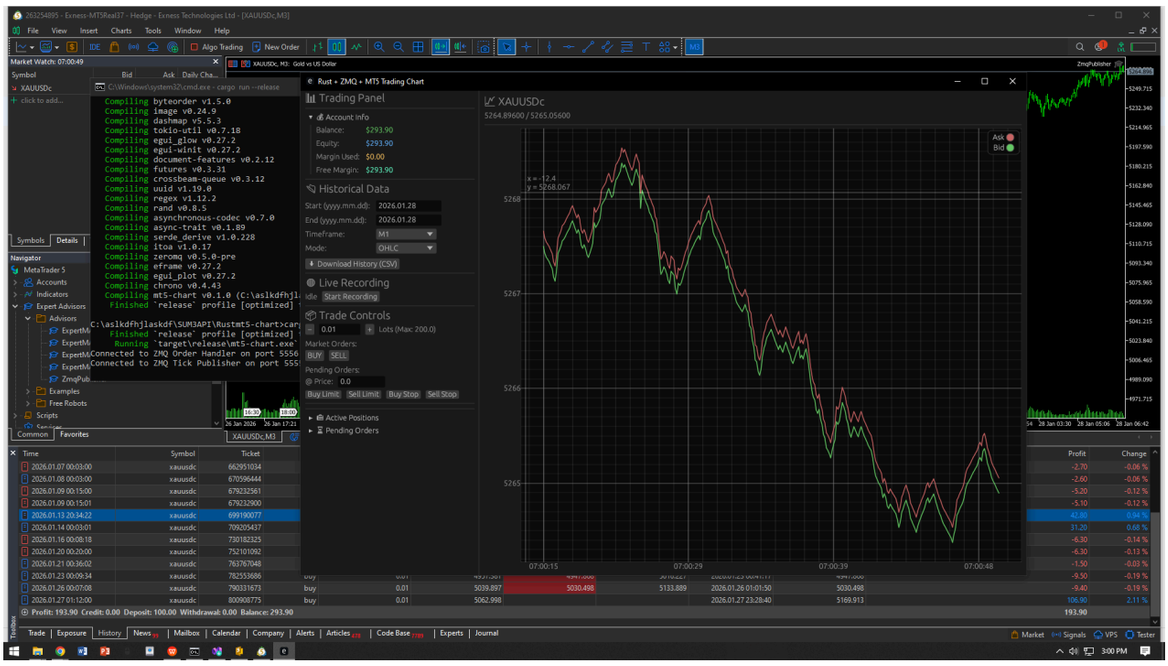
Before running, make sure you've already done this

1. MT5 platform is running
2. The MQL5 EA is running, you've attached the ZmqPublisher.mq5 on the chart. (in my case, I've attached in on XAUUSDc M3 chart). You may use any symbol chart; it doesn't matter, you don't need to change any code.
3. All of that before the bash: cargo run –release

And you'll see something like this. ENJOY!



TRIVIA: This is what it looked like from the perspective of a '*stress-Following-this-GUIDE-tester.*' Following this GUIDE from the very start to the finish.



End of the GUIDE for **SUM3API:** Using Rust, ZeroMQ, and MetaQuotes Language (MQL5) API Combination to Extract, Communicate, and Externally Project Financial Data from MetaTrader 5 (MT5)

Thank you for trying,