Here is the fully translated English version of both the Expert Advisor (EA) code and the step-by-step instructions for using the MT5 Strategy Tester.

1. Translated Code: `EA_Sema_Optimizer.mq5`

2. Instructions: How to Optimize Depth in MT5 Strategy Tester

To find the most profitable `Depth` settings based on historical data, follow these steps in MetaTrader 5:

Step 1: Open the Strategy Tester

1. Press **Ctrl + R** on your keyboard (or go to *View -> Strategy Tester* in the top menu).
2. The Strategy Tester panel will open at the bottom of your screen.

Step 2: Configure the Test Conditions (Settings Tab)

Fill in the fields in the main "Settings" tab:

* **Expert:** Select our new file, `EA_Sema_Optimizer.ex5`.
* **Symbol:** Choose the market you want to trade (e.g., EURUSD, DAX, US30).
* **Timeframe:** Select your preferred timeframe (e.g., M15).
* **Date range:** Select "Last year" (or any specific custom period).
* **Optimization:** Change this from "Disabled" to **Fast (genetic based algorithm)**. This tells MT5 to intelligently test thousands of combinations in just a few minutes.
* **Optimization criterion:** Select **Maximum Profit** (or "Profit Factor").

Step 3: Set Your Optimization Ranges (Inputs Tab)

Switch to the **Inputs** tab in the Strategy Tester. Here, you will see our variables like `InpSema2Depth` and `InpSema3Depth`. You need to check the boxes next to the variables you want the algorithm to test:

1. **InpSema2Depth (Small Semaphore):**
* Check the empty box on the far left: **☑**
* **Start:** `20` (The lowest Depth to test)
* **Step:** `2` (It will test 20, 22, 24, etc.)
* **Stop:** `80` (The highest Depth to test)

2. **InpSema3Depth (Large Semaphore - Remember the x3/x4 proportion):**
* Check the empty box on the far left: **☑**
* **Start:** `60`
* **Step:** `10`
* **Stop:** `300`

> **What if a checkbox is unticked? (e.g., `InpSLBufferPoints`)**
> If you **do not** check the box next to `InpSLBufferPoints`, the Strategy Tester will ignore the Start/Step/Stop columns. Instead, it will use the static number listed in the **"Value"** column (which defaults to 50 points, or 5

pips). This means for every single test it runs, the Stop Loss will be placed exactly 5 pips away from the SEMA 2 dot. If you want a wider Stop Loss (like 15 pips), just change the "Value" to 150.

Step 4: Run the Engine and Read the Results

1. Click the large **Start** button in the bottom right corner.
2. The platform will run hundreds of virtual trades in the background for every possible combination.
3. Once it's done, navigate to the **Optimization Results** tab.

How to read the results:
You will see a large table. Click the column header named **Profit** or **Profit Factor** to sort the table so the best results are at the top.

Look at the top row. In the parameter columns, you will see the winning combination, for example:

* `InpSema2Depth` = **38**
* `InpSema3Depth` = **150**

Conclusion:
This tells you: *"Based on historical data for this symbol and timeframe, your specific entry logic (Sema 3 + Sema 2 + VWAP candle) is most profitable when you set your SEMA 2 Depth to 38 and your SEMA 3 Depth to 150."* You can then take those exact numbers, plug them into your real `XU SEMAPHORE` indicator on your live chart, and trade with mathematical confidence! Let me know if you need any help running the test.

The entry logic programmed into the Expert Advisor (EA) is based exactly on the triple-confirmation rule you provided earlier. It is a highly strict, trend-following setup that waits for three specific market conditions to align before risking any money.

Here is the step-by-step breakdown of how the robot decides to enter a trade:

1. The Pre-Conditions (When does it look for a trade?)

Before looking at any indicators, the robot ensures two things:

* **Closed Candles Only:** It evaluates the market only at the exact moment a candle closes. It never enters a trade in the middle of a moving, unclosed candle. This prevents "repainting" issues where an indicator flashes a signal and then disappears.
* **One Trade at a Time:** It will only look for a new entry if you currently have zero open positions (`PositionsTotal() == 0`).

2. The Three Pillars of Entry (The Triggers)

To open a trade, the EA scans the recent history (up to 1,000 candles back) to find the most recently formed signals. All three of the following must point in the **exact same direction**:

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Pillar 1: SEMA 3 (The Macro Direction) The robot checks the last major peak or trough calculated by the larger ZigZag algorithm (SEMA 3) . This acts as the "big picture" trend filter.

* **Pillar 2: SEMA 2 (The Micro Trigger)**
The robot then checks the last peak or trough from the smaller ZigZag algorithm (SEMA 2). This confirms that a smaller pullback has finished and the market is ready to resume the big trend.
* **Pillar 3: The VWAP Candle (Volume Confirmation)**
Finally, the EA calculates the Daily Volume Weighted Average Price (VWAP) . It checks if the most recently closed candle finished above the VWAP (Blue/Bullish) or below the VWAP (Crimson/Bearish) . This proves that real trading volume supports the move.

🟢 The EXACT "LONG" (Buy) Logic

The EA will execute a **Buy** order only when:

1. The last SEMA 3 signal was a **Bottom/Trough** (Value = `1`).
2. The last SEMA 2 signal was also a **Bottom/Trough** (Value = `1`).
3. The last closed candle closed **above** the daily VWAP line (Candle Color = `1` / Blue) .

* **Execution:** Once those three align, it buys immediately. It then places the Stop Loss exactly at the price level of the SEMA 2 dot, minus the safety buffer (`InpSLBufferPoints`) to prevent early stop-outs.

🔴 The EXACT "SHORT" (Sell) Logic

The EA will execute a **Sell** order only when:

1. The last SEMA 3 signal was a **Top/Peak** (Value = `-1`) .

2. The last SEMA 2 signal was also a **Top/Peak** (Value = `-1`) .

3. The last closed candle closed **below** the daily VWAP line (Candle Color = `-1` / Crimson) .

* **Execution:** Once those three align, it sells immediately. It places the Stop Loss exactly at the price level of the SEMA 2 dot, plus the safety buffer (`InpSLBufferPoints`).

By waiting for SEMA 3, SEMA 2, and the VWAP Candle to all scream the same direction at the same time, the EA skips over all the choppy, directionless market noise.

Would you like me to explain the exit logic (how it decides to close the trade) in the same level of detail?