Option Strategy Builder

**Brief**

Option strategy builder is a utility developed by Motilal Oswal Financial services limited for better option strategy trade execution for its clients. It enables the user better price discovery and execution of option strategy. The user will be able to reduce the opportunity cost of constantly monitoring the markets by pre defining the trading parameters on basis of predefined strategies to trade.

**Utility**

The utility will be provided through Motilal Oswal Financial Services Ltd Orion Lite EXE trading platform. The utility will have designated trade window enabled for building predefined option strategies to trade for client.

**Below is the screen shot of Option strategy builder**

![Option Strategy Builder Screenshot](image1.png)

After clicking on Option strategy the below window will get activated.

![Option Strategy Builder Window](image2.png)
Strategies currently available to clients through utility:

1. Bear put spread
2. Bull call spread
3. Straddle
4. Strangle
5. Butterfly spread
6. Iron butterfly
7. Iron condor
8. Long condor
9. Custom strategy

Strategies explained:

1. **Bear put spread**

Buy 1 In The Money Put
Sell 1 Out The Money Put

By shorting the out-of-the-money put, the options trader reduces the cost of establishing the bearish position but forgoes the chance of making a large profit in the event that the underlying asset price plummets. The bear put spread options strategy is also known as the bear put debit spread as a debit is taken upon entering the trade.

2. **Bull Call Spread**

Buy 1 In The Money Call
Sell 1 Out The Money Call

By shorting the out-of-the-money call, the options trader reduces the cost of establishing the bullish position but forgoes the chance of making a large profit in the event that the underlying asset price skyrockets. The bull call spread option strategy is also known as the bull call debit spread as a debit is taken upon entering the trade.

3. **Long Straddle Strategy**

Buy 1 At The Money Call
Buy 1 At The Money Put

Long straddle options are unlimited profit, limited risk options trading strategies that are used when the options trader thinks that the underlying securities will experience significant volatility in the near term.

4. **Option Strangle (Long Strangle)**

Buy 1 Out The Money Call
Buy 1 Out The Money Put

The long options strangle is an unlimited profit, limited risk strategy that is taken when the options trader thinks that the underlying stock will experience significant volatility in the near term. Long strangles are debit spreads as a net debit is taken to enter the trade.
5. **Butterfly spread**

Buy 1 In The Money Call  
Sell 2 At The Money Calls  
Buy 1 Out The Money Call

Long butterfly spreads are entered when the investor thinks that the underlying stock will not rise or fall much by expiration. Using calls, the long butterfly can be constructed by buying one lower striking in-the-money call, writing two at-the-money calls and buying another higher striking out-of-the-money call. A resulting net debit is taken to enter the trade.

6. **Iron Butterfly**

1) **Butterfly Call**

Buy 1 In The Money Call  
Sell 2 At The Money Calls  
Buy 1 Out The Money Call

Long butterfly spreads are entered when the investor thinks that the underlying stock will not rise or fall much by expiration. Using calls, the long butterfly can be constructed by buying one lower striking in-the-money call, writing two at-the-money calls and buying another higher striking out-of-the-money call. A resulting net debit is taken to enter the trade.

2) **Butterfly Put**

Buy 1 Out The Money Put  
Sell 2 At The Money Puts  
Buy 1 In The Money Put

The long put butterfly spread is a limited profit, limited risk options trading strategy that is taken when the options trader thinks that the underlying security will not rise or fall much by expiration.

7. **Iron condor**

Sell 1 Out The Money Put  
Buy 1 Out The Money Put (Lower Strike)  
Sell 1 Out The Money Call  
Buy 1 Out The Money Call (Higher Strike)

The iron condor is a limited risk, non-directional option trading strategy that is designed to have a large probability of earning a small limited profit when the underlying security is perceived to have low volatility. The iron condor strategy can also be visualized as a combination of a bull put spread and a bear call spread.
8. **Long condor**

Sell 1 In The Money Call  
Buy 1 In The Money Call (Lower Strike)  
Sell 1 Out The Money Call  
Buy 1 Out The Money Call (Higher Strike)  

The condor option strategy is a limited risk, non-directional option trading strategy that is structured to earn a limited profit when the underlying security is perceived to have little volatility.

9. **Custom strategy**

The custom strategy builder helps user to define strategies as per his wish in any combination. Under custom strategy builder user can create 2/3/4 legged strategies with combination of Futures and Options.

User has to select Instrument and scrip from the “Instrument” and “Symbol code bar”. Post selecting the scrip the user have to select the number of legs for trade. Post selecting the scrip and number of legs the Order form would be activated.

The user can now create strategies based on his preference with combination of Futures and Option contracts. Post defining the contracts to trade, user needs to define the ratio in which he wants to trade the strategy legs through “Lot Multiplier (Ratio)” field. On defining the ratio in which the user wants to trade the legs, the strategy builder would accordingly compute the order lots to be traded and execute the same on spread match.

It is to be noted that user cannot add same scrip in different legs for execution. For example if user have selected “Nifty future August Expiry” in first leg for trade he won’t be able to select the same in next legs for execution.
Strategy creation and execution

The user would be directed to the designated option strategy builder window through ‘Start’ menu. The strategy builder enables the user to trade into predefined option strategy, where he can create the strategy by filling the set of information which would be specific to that Option strategy only.

The Option strategy builder have the following parameters for client to build and trade-

<table>
<thead>
<tr>
<th>Instrument type</th>
<th>Order Qty to be traded</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symbol Code</td>
<td>Target Entry</td>
</tr>
<tr>
<td>Expiry</td>
<td>Target Exit</td>
</tr>
<tr>
<td>Option type Call/Put</td>
<td>SL Spread</td>
</tr>
<tr>
<td>Strike Price</td>
<td>Add Strategy</td>
</tr>
<tr>
<td>Buy/Sell</td>
<td>MPP(Market Price Protection) %</td>
</tr>
<tr>
<td>Total Qty to be traded</td>
<td>Lot Multiplier (Ratio)</td>
</tr>
</tbody>
</table>

**Instrument Type**

The instrument defines in which Option segment the client wants to trade. Currently 2 segments are available to client which are NSEFO & NSECD

NSEFO segment contains list of option contracts containing NSE INDEX and Stocks option contracts.

NSECD segment contains list of NSE currency Options contract.

**Symbol Code**

The ‘Symbol Code’ selection enables user to select from list of scrip as available in selected Instrument type. The list contains the available option contracts available under instrument type from which the client can choose to trade.

**Expiry**

The client can choose from different expiry contracts for options available to trade. Option contracts expiry will specific to the instrument type and scrip selected to trade.

**Option type Call/Put**

After selecting the above parameters the client can now choose to either trade into Call or Put option type.

**Strike Price**

The client will be provided the list of strike prices from which he can choose to trade based on instrument type and scrip selected to trade.

**Buy/Sell**

From the selected option contract, client can choose to either buy/sell the contract.

**Total Qty to be traded**

Total Qty to trade defines the total number of contracts to be traded for option strategy by the client.
**Order Qty to be Traded**

Order Qty defines number of qty to be traded in each trade order till the Total qty to be traded qty is achieved.

**Target Entry Spread**

Target Entry spread defines the spread at which user wants to enter into trade.

**Target Exit Spread**

Target Exit spread defines the spread at which the user wants to exit the entered trade.

**SL Spread**

SL Spread defines the spread at which the user wants to exit in case of loss.

**Add Strategy**

In Add strategy the client defines the net spread which he wants to trade. The spread to be mentioned is combination of prices of both the option contracts. Eg.-

<table>
<thead>
<tr>
<th>Legs</th>
<th>Option</th>
<th>Buy/sell</th>
<th>Bid</th>
<th>Ask</th>
<th>Premium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leg1</td>
<td>NIFTY 10000 CE</td>
<td>Buy</td>
<td>100</td>
<td>101</td>
<td>-101</td>
</tr>
<tr>
<td>Leg2</td>
<td>NIFTY 11000 CE</td>
<td>Sell</td>
<td>90</td>
<td>92</td>
<td>+90</td>
</tr>
</tbody>
</table>

In above example the first leg is Buy trade for Call option with BID/ASK premium spread as 100/101

The second leg is sell trade for Call Option with BID/ASK premium spread as 90/92.

The buying of option premium will create a negative cash flow at ASK rate and selling of option will create a positive cash flow at BID rate.

The Total in above example will be-  *Leg1 (-101) + Leg 2 (+90) = -11*

As the Leg 1 buy trade premium is greater than Leg 2 Sell trade there will be net negative cash flow of -11 created in strategy.

The client will have to input the desired spread with above logics in mind to achieve its desired spread and add strategy for execution.

**MPP (Market Price Protection) %**

Market Price Protection(MPP) feature enables user to place Buy order at a higher price than the current ask price and lower than the current Bid price for sell orders by the percentage specified in MPP field.

Eg- If current ask price is 100 and MPP% specified is 1% the buy order will be placed at 100+1%*(100)= 101 for better order execution in volatile markets.

**Lot Multiplier (Ratio)**

In custom strategy builder, Lot Multiplier (Ratio) enables user to input the ratio in which he wants to trade the strategy. The ratio defined in first leg forms the base ratio for the strategy and the
subsequent legs ratio forms the multiplier for the strategy with respect to first leg ratio. The ratio multiplier would auto calculate the total lots to be traded with respect to Ratio defined.

**Strategy Creation and Execution**

The strategy creation and execution depends upon the type of option strategy the client decides to enter into. The client needs to fill in the predefined parameter to execute the option strategy which are as per the strategy selected for execution as discussed above.

**Strategy Eg-Bear Put Spread**

The strategy execution flow is as follows:

1. **Select Instrument**

After deciding which strategy a client wants to enter into, he starts with defining the parameters for trade. Client will have to select which instrument type he has to trade in currently four Instruments are available for selection- NSEFO, NSECD, MCX and NCDEX.

2. **Select Scrip**

Once the Instrument type is selected the client will now have to enter the scrip he wants to trade from the list of scrips available in drop of LEG1 pertaining to that instrument type. Eg. If instrument type is selected as NSEFO the leg 1 selection would contain list of securities available to trade in NSEFO segment. The scrip selected in LEG1 will auto-fill the scrip info in LEG2.

3. **Select Expiry**

After deciding the instrument type and scrip to be traded the client will now have to select the expiry contracts to trade from. Currently NEAR month, NEXT month and FAR month contracts are available to trade to the clients. The expiry contract selected in LEG1 auto-fills the expiry info in LEG2.
4- **Select Strike Prices**

User will have to select strike prices depending upon the strategy specification discussed above. In Bear Put Spread the strike prices are different for both legs are to be selected as per the strategy specifications explained above.

For Bear Put Spread the below validations are applicable while selecting the strike prices:

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Leg 1</th>
<th>Buy/sell</th>
<th>Leg 2</th>
<th>Buy/sell</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bear Put Spread</td>
<td>Put strike</td>
<td>BUY</td>
<td>Put Strike &lt; Leg1 Strike price</td>
<td>SELL</td>
</tr>
</tbody>
</table>

If client tries to add strike in Leg2 greater than strike price in Leg1 he will get an error pop up as-“Leg 2 strike shall always be less than Leg 1 strike”.

5- **Define Total Lots**

After selecting the above list of parameters the client will have to choose the total number of lots he wants to trade. In leg1 the client has to mention the Total number of lots to be traded. Based on the lot size the total Qty field will auto populated with logics as Total QTY x LOT SIZE. *The Total qty selected in Leg1 will auto-fill the Total qty field in Leg 2.*

6- **Define Order Lots**

User can select the number of lots to be traded each time the spread value is matched from the total qty. By mentioning the order qty, total lots to be traded would be traded in tranches of mentioned order qty. Each time the parameters are matched order qty would be triggered and traded until the Total number of desired trade are achieved. *The Order Qty selected in Leg1 will auto-fill the Order qty field in Leg 2.*

7- **Define Entry spread**

After selecting all the required fields for strategy, the client now has to mention the desired entry spread he wants to trade. The spreads will be calculated by adding the premiums for both the Legs. The basis of spread values for computing the total spreads is as explained above. After the desired spread is identified by client he clicks on Add Strategy to start the strategy execution.

8- **Define Exit Spread**

After defining entry spread, user needs to define the Exit spread for the trade. The Exit spread would help the strategy builder to exit the entered trade whenever the target Exit spread is met.

9- **Define SL Spread**

With entry and exit user needs to define Stop loss spread for the trade.

After defining the Entry, Exit and Stop Loss spread the user can identify the possible Profit/Loss on the trade through expected P&L tab.

10- **Define MPP%**

By defining MPP% the user would define the maximum slippage points to be allowed for trade during execution. MPP% ensures order gets filled during volatile markets where price discovery is difficult. Currently Maximum MPP% is set as 2%. 
Strategy monitoring-

Once strategy is created and added it can be monitored through smart grid situated at bottom of the window for order monitoring, modification and reporting.

The smart grid has following features and contents-

- **Parent-Child Grid format** -
  The order form has Parent-child format wherein the user can view his positions in detailed format. The parent grid the information of the strategy details with respect to scrip name, Entry spread, Exit spread, current entry and exit spread etc.

  The child grid display information regarding order qty, order lot, Entry qty placed, Entry qty traded, Exit qty placed, Exit qty traded for each leg of strategy.

- **Start All function** -
  The Start all function enables user to start all the active strategies added at once.

- **Stop All function** -
  The stop all function enables user to stop all the active strategies added at one go.

- **Save & Load file** -
  User can save the added active strategies and load file at future date to trade.

  The save file function can performed in following conditions for the strategy-
  - Status is “Active”
  - Entry Placed=Entry Traded
  - Exit Placed=Exit Traded
  - The strategies will be auto saved after every 30 mins

- **Avg Entry & Avg Exit price** -
  User can check his average entry and average exit price on the executed trades through Avg Entry and Avg Exit prices field.

- **Realised Profit** -
  User can check the Realised profit on the strategy through ‘Realised P&L’ tab in Strategy Grid.
Option Strategy Builder Grid functionality

Strategy grid would have following behaviours depending upon the status of the strategy.

**Case 1 - Strategy ENTRY executed and Exit Pending**

<table>
<thead>
<tr>
<th>Legs</th>
<th>Entry Placed</th>
<th>Entry Traded</th>
<th>Exit Placed</th>
<th>Exit Traded</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leg1</td>
<td>10</td>
<td>10</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Leg2</td>
<td>10</td>
<td>10</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

In above example Entry Placed Qty is equal to Entry Executed whereas the EXIT Qty are not placed due to spread not matching.

**Behaviour**-

- The strategy would continue to exist in the Strategy Bar and will not be removed from the same until and unless strategy is fully Executed/cleared whichever happens earlier.
- The status would display as “Partial” for the strategy.
- In case user wants to pre-exit from the trade he would have to do so by modifying the trade in strategy bar parameters/Pending order book and exit. If user clicks on clear button the strategy would be moved to History tab and user would be notified about the same.

**Case 2 - Strategy Partially executed**

<table>
<thead>
<tr>
<th>Legs</th>
<th>Entry Placed</th>
<th>Entry Traded</th>
<th>Exit Placed</th>
<th>Exit Traded</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leg1</td>
<td>10</td>
<td>10</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Leg2</td>
<td>10</td>
<td>5</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

In the above example the strategy’s entry spread is matched and orders are placed, however first leg is fully traded whereas second leg is partially traded and some pending quantities.

**Behaviour**-

- The strategy will be Auto saved for any uncertain events or for future references for the day every 30 mins.
- In case user modifies the trade from order book and executes it, the strategy would follow Case-1.
- In case of any pending orders to be executed in the strategy, the user would be notified for the same with below notification Pop-up at 3.15 P.M.
On clicking ‘Clear’ tab the user would be notified that the strategy would be deleted and will not be available for further trades. The user will have to manually square off open position and will be available in net position on subsequent day if not squared off.

Case 3- Strategy not executed/Initiated-

<table>
<thead>
<tr>
<th>Legs</th>
<th>Entry Placed</th>
<th>Entry Traded</th>
<th>Exit Placed</th>
<th>Exit Traded</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leg1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Leg2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

In the above example the strategy's entry spread is not matched and orders are not placed, either for Entry/Exit

Behaviour-

- The strategy would exist in the Strategy Bar till EOD and would be deleted. User would not be able to access the strategy on the next day.
- If user stops the strategy and clicks on ‘Clear’ button, the strategy would be deemed as exited and would be moved to ‘Day trade summary’ tab for reference.
- Once cleared and moved to ‘Day trade summary’ Tab the strategy won’t be loaded on subsequent days for trading.

Case 4- Strategy Fully executed –

<table>
<thead>
<tr>
<th>Legs</th>
<th>Entry Placed</th>
<th>Entry Traded</th>
<th>Exit Placed</th>
<th>Exit Traded</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leg1</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Leg2</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
</tbody>
</table>

In the above example the strategy's entry spread is matched and orders are placed and executed, and also Exit spread is Placed and matched.
Behaviour-

- As soon as the strategy is completed, by either Stop Loss/Target spread match, the status would be updated in the strategy bar as ‘Fully Executed’
- The user can clear the strategy bar by clicking on ‘clear’ tab. Once cleared and moved to ‘Day Trade Summary’ Tab the strategy won’t be loaded on subsequent days for trading.
- The above behaviour would be applicable in case of completion of strategy due to rejection/error also. The status would be updated as ‘Rejected’ in strategy bar.

Notable Features-

- All cleared strategies would be accessible through ‘Day Trade Summary’ Tab
- In strategy Grid following fields can be modified by clicking “Stop” Button-
  - Total Lots
  - Order Lots
  - Target Entry
  - Target Exit
  - MPP%
- In case of Strategy is added and Not started the status would be shown as “Inactive” status
- ‘Status’ to show in detail status to user for quick view of strategy detail. Below status to be shown for reference.
  1. Pending - For spread match pending on Target Entry
  2. Partially Executed - For Entry/Exit order placed but Partially/Not-Traded
  3. Executed - For Strategy Entry and Exit Fully Placed.
  4. Rejected - For Entry/Exit orders rejected and stopped due to any reason

- All notification for pending and non-executed trades will send at around 3.15p.m
- Red Colour differentiator in case of Rejected trades/strategies and non-executable post rejection.

The strategies would be auto saved every 30 mins for future use.