

Hooks

The [CoW Hooks feature](#) allows users to request the solvers to execute user-defined Ethereum calls (also known as an "inner/internal transaction") before and after the execution of an order in a settlement.

Specification

There are two type of hooks available:pre andpost .Pre hooks are executed before any order signature is checked (in particular, before any funds are taken from the order owner).Post hooks are executed after all orders in a batch are settled (that is, the proceeds of the orders have already been credited to the receiver).

Bothpre andpost hooks are specified as an array of hooks.

Each hook is described by three parameters:

- target
- : the target address of the Ethereum call.
- Using implementing EIP-2612 approvals as an example, this would be the token contract.
- callData
- : the data of the Ethereum call.
- In the example above, the ABI-encoded function call topermit
- .
- gasLimit
- : a hard limit on the amount of gas needed by the call.
- An order quote uses this value to estimate the total fee needed to execute an order.
- The more gas needed, the higher fee will be needed for the order to be settled.
- If the call requires more gas than specified here, the Ethereum call in the hook will be internally revertingbut the order will be executed regardless
- .

note When placingpartially fillable orders with hooks,pre-hooks will only be executed on the first fill . Therefore, your hook should ensure that the liquidity is sufficient for the entire order to be filled. On the other hand,post-hooks are executed on every fill .

Creating orders with hooks

Orders are linked to hooks through the [app data](#) .

As long as the full appdata with hook information is included when posting the order to the [orderbook API](#) , the order will be stored with hook information included and settlements using this order will include its pre and post hooks.

Call context

Hooks are executed through the [HooksTrampoline](#) .

Anyone can execute calls using the trampoline, so you must not expect a call to the trampoline to be trusted.

Security

caution Hook execution is not guaranteed, meaning that your order may still get matched even if the hook reverted. To ensure the execution of pre-hooks, make sure the trade is only possible if the hook is executed successfully (e.g. by setting the required allowance as part of it) caution Hook execution is not enforced by the CoW Protocol smart contracts. Solvers must include them as part of the [social consensus rules](#) . The parameters of a hook are signed by the user along with the order as part of the app data. [Edit this page Previous Application specific data Next Signing schemes](#)