

GET /v1/shortcuts/route

Use this endpoint to calculate an optimal route for entering or exiting any DeFi position or swapping any ERC20 tokens. The API takes into account various DeFi protocols and Exchanges to determine the best path.

The route comes with a transaction object (tx), ready for submission to an Ethereum node. This transaction is a valid, unsigned Ethereum transaction that can be used to execute the recommended route. If tokenIn is not ETH, remember to set your allowances.

Alongside the route and transaction, the API also returns a simulation of the transaction. This simulation gives you a comprehensive quote, detailing expected gas costs, returns, and potential price impact.

Request

Query Param Description Example fromAddress Ethereum address of the wallet to send the transaction from (It could be an EoA, or a Smart Wallet) fromAddress=0xd8da6bf2... spender Ethereum address of the receiver of the tokenOut spender=0xd8da6bf2... receiver Ethereum address of the spender of the tokenIn receiver=0xd8da6bf2... tokenIn Ethereum address of the token to swap or enter into a position from tokenIn=0xb6175474e8909... amountIn Amount of tokenIn to swap in wei amountIn=100000000000 tokenOut Ethereum address of the token to swap or enter into a position to tokenOut= 0x182b723a587... routingStrategy Routing strategy either router, delegate or swap routerStrategy=router toEOA (Deprecated) Flag that indicates if gained tokenOut should be sent to EOA, deprecated in favor of receiver toEOA=true priceImpact Flag that indicates whether to calculate and return the price impact of the transaction priceImpact=true chainId (Optional) The chainId of the network. Default value is 1 for Mainnet chainId=1 slippage (Optional) Slippage in basis points. Default value is 300 for 3% slippage=100 (1%) tokenInAmountToApprove (Optional) If entering with EOA, Amount of tokenIn (ERC20) that needs to be approved to the wallet before the transaction in wei tokenInAmountToApprove= 100000000000 tokenInAmountToTransfer (Optional) If entering with EOA, Amount of tokenIn (Ether) that needs to be transfer to the wallet before the transaction in wei tokenInAmountToTransfer= 100000000000

Response

It returns an array of objects. The tx objects gives you the transaction to use in ethers. The other fields are a result of a transaction simulation.

Field	Description
route	An Array of objects containig: tokenIn

positionInId

tokenOut

positionOutId

protocol

action gas Estimated gas used by the transaction amountOut Estimated amount out received priceImpact Price impact in basis points, null if USD price not found createdAt Block number the transaction was created on tx The tx object to use in ethers. Contains sub-parameters: -data

-to

-from

-value

Examples

Simple ETH to stETH

Spend Ether from the EOA and get stETH in return.

Specify a tokenIn (ETH), tokenOut (stETH) and either a sellAmount to get a route of 1 ETH for WETH. The route endpoint will calculate the best route for you, choosing between all the available AMM's and protocols (E.g. depositing directly to Lido).

If depositing directly to LIDO is the best route the tx object will contain the data to call the deposit function on the LIDO contract, otherwise it will contain the data to call the best AMM.

Request:

```
https://api.enso.finance/api/v1/shortcuts/route?chainId=1&fromAddress=0xd8da6bf26964af9d7eed9e03e53415d37aa96045&receiver=0xd8da6bf26964af9d7eed9e03e53415d37aa96045&spender=0xd8da6bf26964af9d7eed9e03e53415d37aa96045
```

Response:

(Response route may differ)

```
{ "gas" :
```

"399170" , "amountOut" :

```
"1000071289649193663", "createdAt" :
```

```
18684432 , "tx" : { "data" :
```

[illegible]

"0x80EbA3855878739F4710233A8a19d89Bdd2ffB8E" , "from" :

"0xd8dA6BF26964aF9D7eEd9e03E53415D37aA96045" , "value" :

```
"10000000000000000000" } , "route" : [ { "action" :
```

```
"apiswap" , "protocol" :
```

```
"enso", "tokenIn": ["0xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx"], "tokenOut": ["0xae7ab96520de3a18e5111b5eab095312d7fe84"], "positionInId": ["1:0xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx"], "positionOutId": ["1:0xae7ab96520de3a18e5111b5eab095312d7fe84:0xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx"] ] }
```

[Overview GET /v1/shortcuts/quote](#)