

How to Swap

Use Stargate to transfer an asset across blockchains. You will need the Stargate [router interface](#) .

To perform a cross chainswap() in solidity, here is an example:

For the native gas fee required for swap() you need to call quoteLayerZero() on the Router.sol contract to get the amount you should send as msg.value. Here is the swap() interface:

...

```
Copy function swap( uint16 _dstChainId, uint256 _srcPoolId, uint256 _dstPoolId, address payable _refundAddress, uint256
_amountLD, uint256 _minAmountLD, IztObj memory _lzTxParams, bytes calldata _to, bytes calldata _payload ) external
payable override nonReentrant {
```

...

First determine the swap fee, then call swap() to transfer the asset to the destination chain.

...

```
Copy // perform a Stargate swap() in a solidity smart contract function // the msg.value is the "fee" that Stargate needs to pay
for the cross chain message IStargateRouter(routerAddress).swap{value:msg.value}( 10006, // send to Fuji (use LayerZero
chainId) 1, // source pool id 1, // dest pool id msg.sender, // refund address. extra gas (if any) is returned to this address
_amountLD, // quantity to swap in LD, (local decimals) _minAmountLD, // the min qty you would accept in LD (local decimals)
IStargateRouter.IztObj(0,0,"0x") // 0 additional gasLimit increase, 0 airdrop, at 0x address abi.encodePacked(msg.sender), //
the address to send the tokens to on the destination bytes("") // bytes param, if you wish to send additional payload you can
abi.encode() them here );
```

...

To perform aswap() using ethers via a frontend, use the abi and callswap() on the Router contract instance:

...

```
Copy let tx=await router.swap( 2, // destination chainId 1, // source poolId 1, // destination poolId yourAddress, // refund address.
extra gas (if any) is returned to this address _amountLD, // quantity to swap in LD (local decimals) _minAmountLD, // the min
qty you would accept in LD (local decimals) { dstGasForCall:0,dstNativeAmount:0,dstNativeAddr:"0x"}, yourAddress, // the
address to send the tokens to on the destination "", // payload {value:fee} // "fee" is the native gas to pay for the cross chain
message fee. see );
```

...

TESTNET ONLY: For the fee parameter, if you wish to simply guess the fee, you can do something like this, as Stargate will refund the caller the additional gas amount if they send too much.

...

```
Copy let messageFee=ethers.utils.parseEther('0.025');// send 0.02 eth converter to wei await stargateRouter.swap(...,
{value:messageFee});// swap asset across chains
```

...

See how to [get the cross chain message fee](#) to pay enough native gas when calling swap()

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