

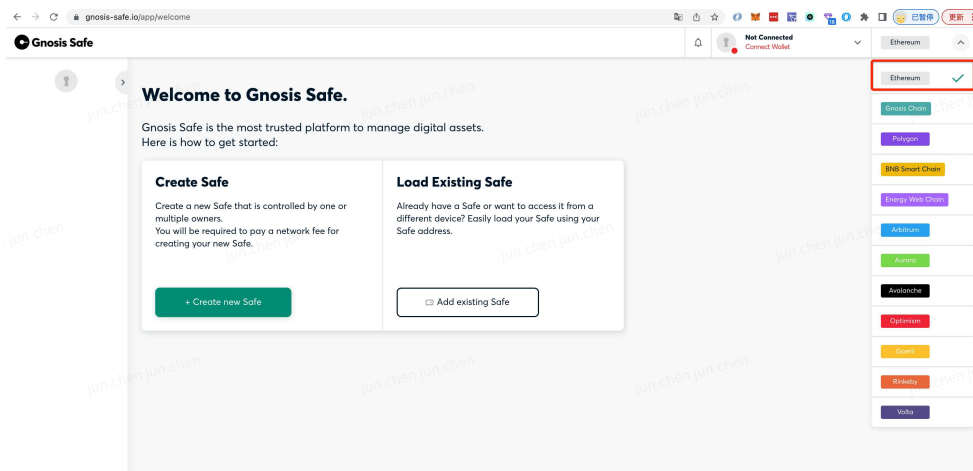
Gnosis Step-by-Step Guide

1, Creating a Gnosis Safe Multi-Sig Wallet

Click on <https://gnosis-safe.io/app/> to access the application on desktop.

(1) Select Network

Ensure that you have selected the Ethereum network.



(2) Connect Wallet

You will need to connect an existing wallet to Gnosis Safe to create an account.

Gnosis supports a variety of digital wallets. Users can select their preferred wallets to be connected to your Gnosis Safe account. Please ensure that you have some ETH in the wallet to pay for transaction fees that may be incurred during the setup.



Select a Wallet



Please select a wallet to connect to Gnosis Safe



MetaMask



WalletConnect



Trezor



Ledger

Show More

[What is a wallet?](#)

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(3) Creating Gnosis Safe Wallet

Select "Create new Safe" to begin.

Welcome to Gnosis Safe.

Gnosis Safe is the most trusted platform to manage digital assets.
Here is how to get started:

Create Safe

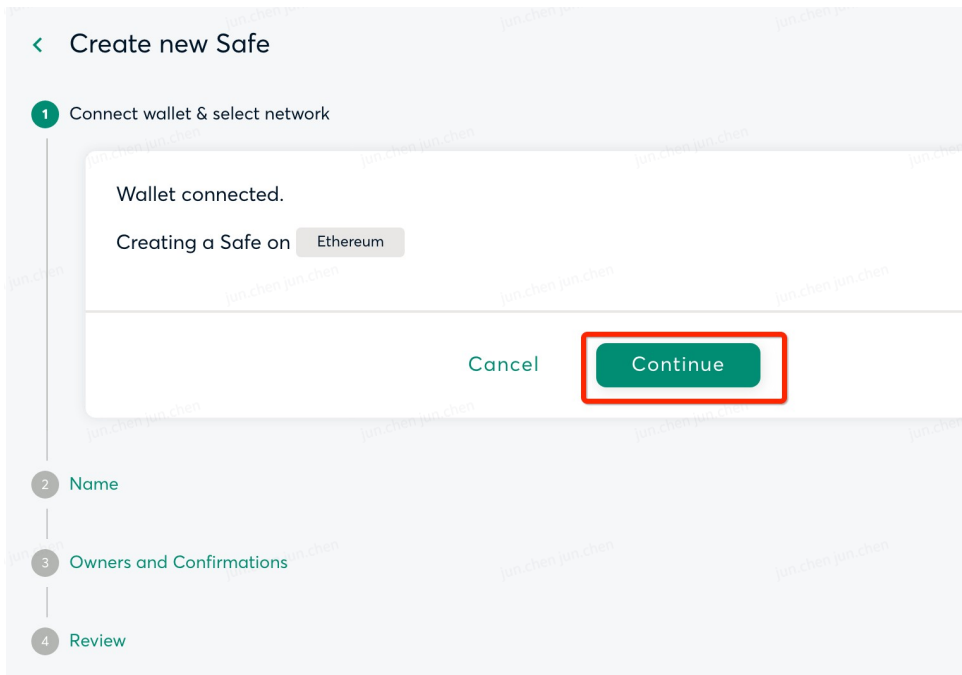
Create a new Safe that is controlled by one or multiple owners.
You will be required to pay a network fee for creating your new Safe.

+ Create new Safe

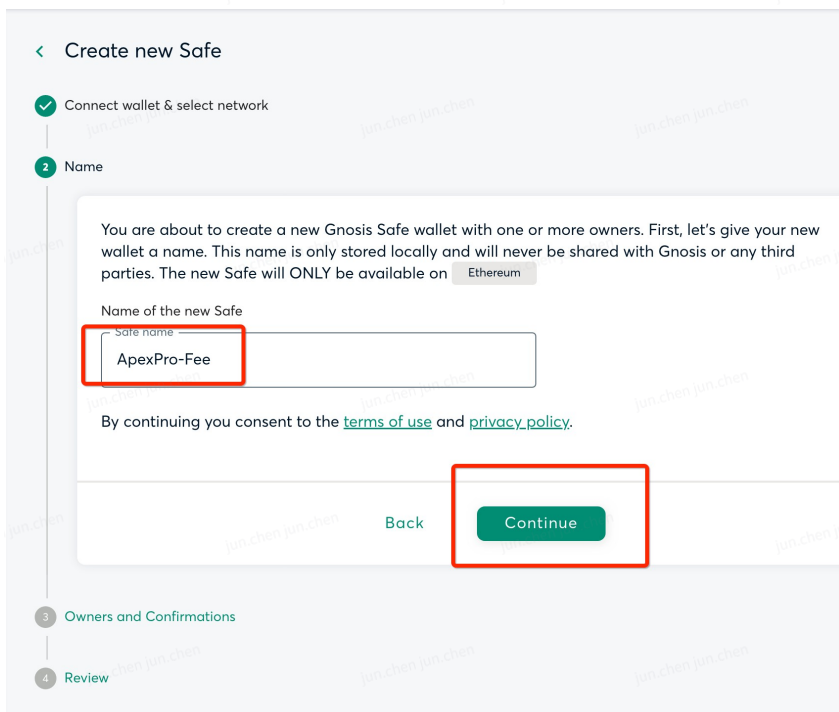
Load Existing Safe

Already have a Safe or want to access it from a different device? Easily load your Safe using your Safe address.

Add existing Safe



Name your Safe and click on "Continue".



Enter the names of the other account owners and their respective wallet addresses to Safe. You can pre-set the number of owners who are required to authorize any transactions (e.g. withdrawals) at the bottom of the page.

3 Owners and Confirmations

Your Safe will have one or more owners. We have prefilled the first owner with your connected wallet details, but you are free to change this to a different owner.

Add additional owners (e.g. wallets of your teammates) and specify how many of them have to confirm a transaction before it gets executed. In general, the more confirmations required, the more secure your Safe is. [Learn about which Safe setup to use](#). The new Safe will ONLY be available on **Ethereum**

NAME	ADDRESS
Owner Name: <input type="text" value="alice"/>	Owner Address: <input type="text" value="0x4626eb76a7c2896645B0117614Ec0555e6E3a180"/>
Owner Name: <input type="text" value="bob"/>	Owner Address: <input type="text" value="0xAACA5883cf16D1f574a7EeAC34F45BE882714983"/>
Owner Name: <input type="text" value="lucy"/>	Owner Address: <input type="text" value="0x46a91740FeA63231dd891a31E32b2a60e60395De"/>

+ Add another owner

Any transaction requires the confirmation of:

out of 3 owner(s)

2

3

Back

Continue

Once all fields have been filled in accurately, click "Create" to proceed with the creation of your Safe wallet.

< Create new Safe

✓ Connect wallet & select network

✓ Name

✓ Owners and Confirmations

4 Review

Details


Name of new Safe
magnificent-ethereum-safe

Any transaction requires the confirmation of:
2 out of 3 owners

3 Safe owners

 **alice**
eth:0x4626eb76a7c2896645B0117614Ec0555e6E3a180

 **bob**
eth:0xAACA5883cf16D1f574a7EeAC34F45BE882714983

 **lucy**
eth:0x46a91740FeA63231dd891a31E32b2a60e60395De

You're about to create a new Safe on **Ethereum** and will have to confirm a transaction with your currently connected wallet. The creation will cost approximately 0.01488 ETH. The exact amount will be determined by your wallet.

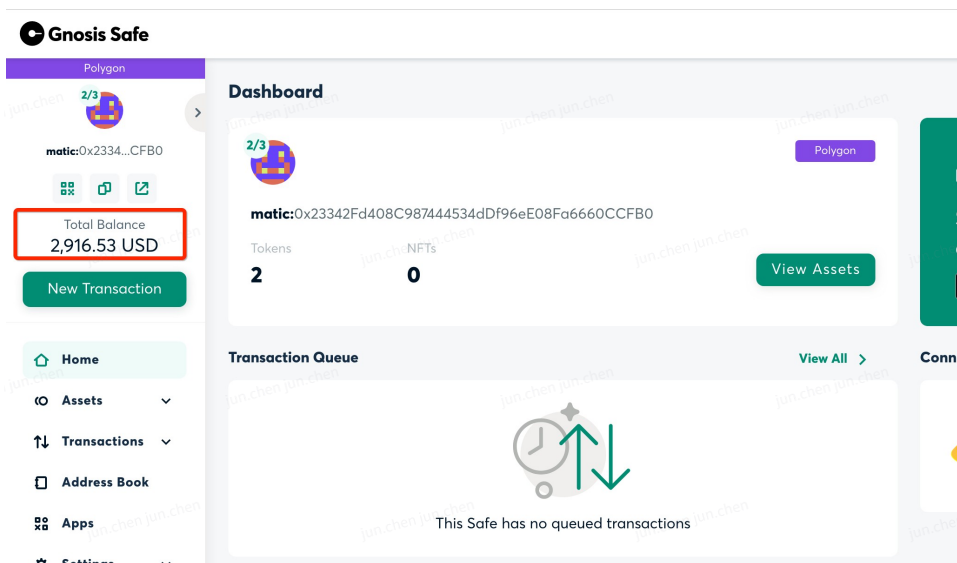
Back

Create

Once the wallet creation process is complete, download and access your Safe wallet.

2, Transferring USDC to Your Gnosis Safe Wallet

We recommend that you test the wallet out first with a small transaction amount, e.g. 100 USDC. Once the transfer is complete, your balance will be updated on the Gnosis Safe wallet dashboard to reflect the new transaction.



3, Generating ApexPro L2key Account

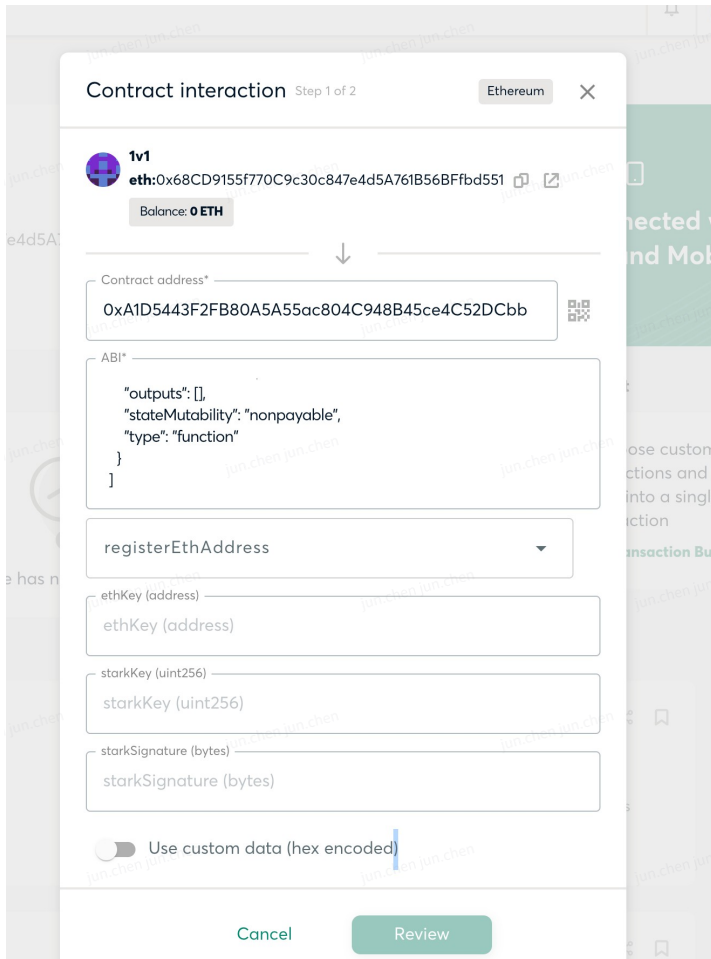
(1) Use SDK to generate an Ethereum address and private key

(2) With reference to ApeX SDK:

- Authorize the Ethereum private key to generate Stark Pri and Stark Key (pubX)
- Use the RegisterAccount method to generate the account ID (enter your Gnosis Safe wallet address in the address field during registration)

(3) Proceed with the Contract Interaction step from the Gnosis Safe multi-sig wallet [refer to section (4)] and use the contract registerEthAddress method to pair the Gnosis Safe wallet with L2 data

(4) After the link is established, deposits or withdrawals of funds on L2 can only be processed successfully via the Gnosis Safe wallet



ethKey: Corresponding Gnosis Safe multi-sig wallet address

starkKey: L2 account stark_key_pair public_key

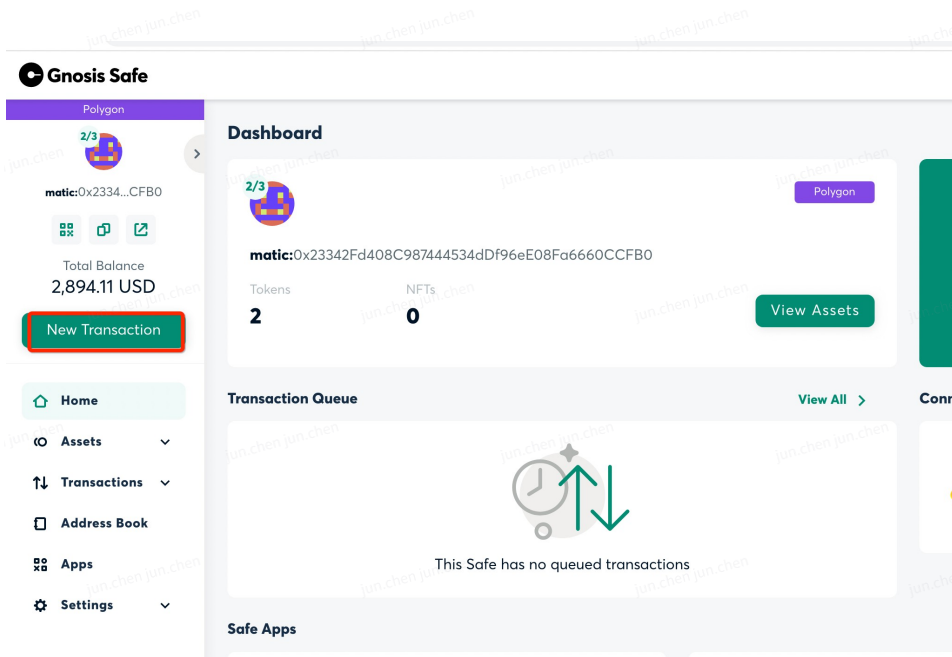
```
stark_key_pair_with_y_coordinate['public_key']
```

starkSignature: Authentication signature needs to be generated, refer to python codes

4, Authorize USDC Transfers

As deposits will be processed through StarkWare, you will need to authorize the StarkWare contract to transfer your USDC assets.

(1) Proceed with a new transaction via Gnosis Safe



(2) Select "Contract interaction"

(3) Enter deposit transaction details:

- Enter the USDC contract address: 0xA0b86991c6218b36c1d19D4a2e9Eb0cE3606eB48
- Enter the USDC contract ABI

```
[[  
"inputs": [{"internalType": "address",  
"name": "spender",  
"type": "address"}], {  
"internalType": "uint256", "name": "value", "type": "uint256"  
}], "name": "approve", "outputs": [{  
"internalType": "bool", "name": "", "type": "bool"  
}], "stateMutability": "nonpayable", "type": "function"  
}]
```

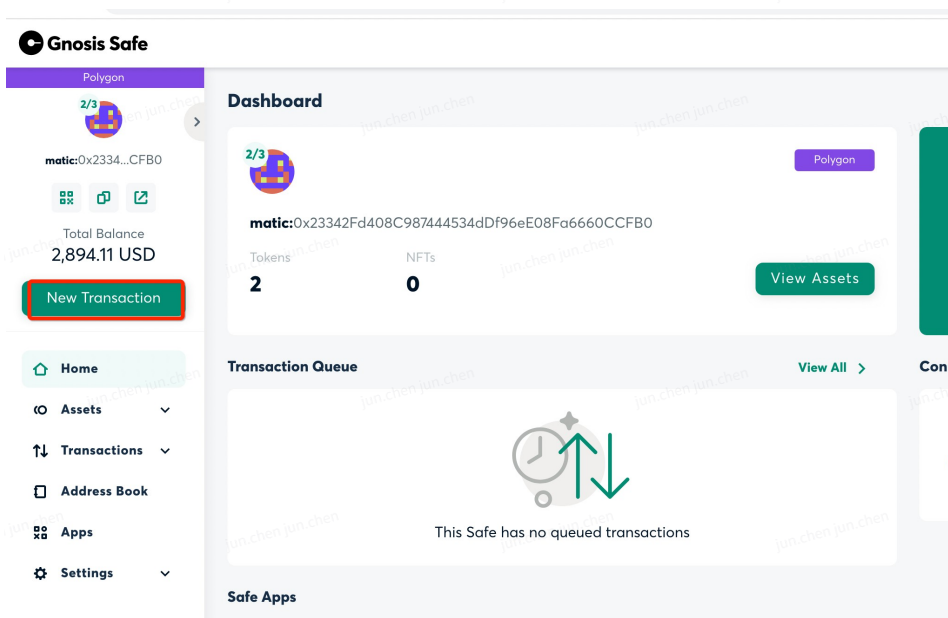
(4) Select the approved method

(5) Enter parameters as follows:

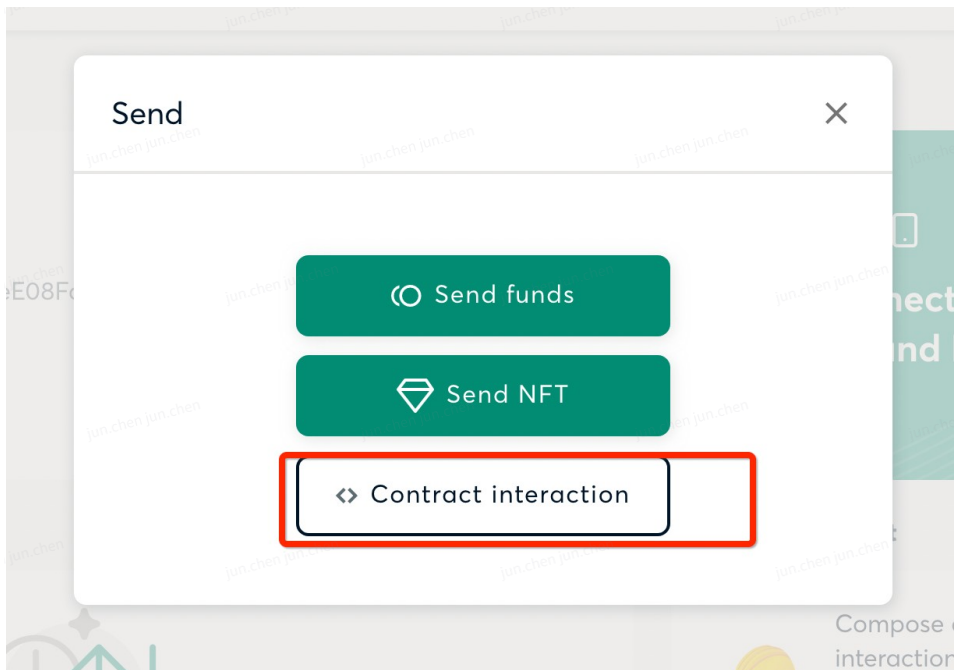
- Enter the Spender address (StarkWare contract address) as:
0xA1D5443F2FB80A5A55ac804C948B45ce4C52DCbb
- Value: For accuracy, we recommend that you enter the correct deposit amount (to 6 decimal places), e.g. 100 USDC should be entered as 100,000,000

5, Making a Deposit via Gnosis Safe

(1) Trigger a new transaction on Gnosis Safe



(2) Select "Contract interaction"



(3) Enter deposit transaction details:

- Enter the StarkWare contract address: 0xA1D5443F2FB80A5A55ac804C948B45ce4C52DCbb
- StarkWare Contract ABI:

```
[
  {
    "inputs": [
      {
        "internalType": "uint256",
        "name": "starkKey",
        "type": "uint256"
      },
      {
        "internalType": "uint256", "name": "assetType",
        "type": "uint256"
      },
      {
        "internalType": "uint256", "name": "vaultId",
        "type": "uint256"
      },
      {
        "internalType": "uint256", "name": "quantizedAmount", "type": "uint256"
      }
    ],
    "name": "depositERC20",
```

```
"outputs": [], "stateMutability": "nonpayable", "type": "function"
},
{
  "inputs": [
    {
      "internalType": "uint256",
      "name": "starkKey",
      "type": "uint256"
    }
  ],
  "name": "getEthKey",
  "outputs": [
    {
      "internalType": "address",
      "name": "",
      "type": "address"
    }
  ],
  "stateMutability": "view",
  "type": "function"
},
{
  "inputs": [
    {
      "internalType": "uint256",
      "name": "starkKey",
      "type": "uint256"
    },
    {
      "internalType": "uint256", "name": "assetId",
      "type": "uint256"
    }
  ],
  "name": "getWithdrawalBalance",
  "outputs": [
    {
      "internalType": "uint256", "name": "balance",
      "type": "uint256"
    }
  ],
}
```

```
"stateMutability": "view",
"type": "function"
},
{
  "inputs": [
    {
      "internalType": "address",
      "name": "ethKey",
      "type": "address"
    },
    {
      "internalType": "uint256", "name": "starkKey",
      "type": "uint256"
    },
    {
      "internalType": "bytes", "name": "starkSignature", "type": "bytes"
    }
  ],
  "name": "registerEthAddress",
  "outputs": [], "stateMutability": "nonpayable", "type": "function"
},
{
  "inputs": [
    {
      "internalType": "uint256",
      "name": "starkKey",
      "type": "uint256"
    },
    {
      "internalType": "uint256", "name": "assetId",
      "type": "uint256"
    }
  ],
  "name": "withdraw",
  "outputs": [], "stateMutability": "nonpayable", "type": "function"
}
]
```

(4) Select the depositErc20 method and fill in the corresponding parameters:

Contract interaction Step 1 of 2 Ethereum

1v1
eth:0x68CD9155f770C9c30c847e4d5A761B56BFbd551
Balance: 0 ETH

Contract address*
0xA1D5443F2FB80A5A55ac804C948B45ce4C52DCbb

ABI*
"outputs": [],
"stateMutability": "nonpayable",
"type": "function"
}
]

depositERC20

starkKey (uint256)
starkKey (uint256)

assetType (uint256)
assetType (uint256)

vaultId (uint256)
vaultId (uint256)

quantizedAmount (uint256)
quantizedAmount (uint256)

Use custom data (hex encoded)

Cancel Review

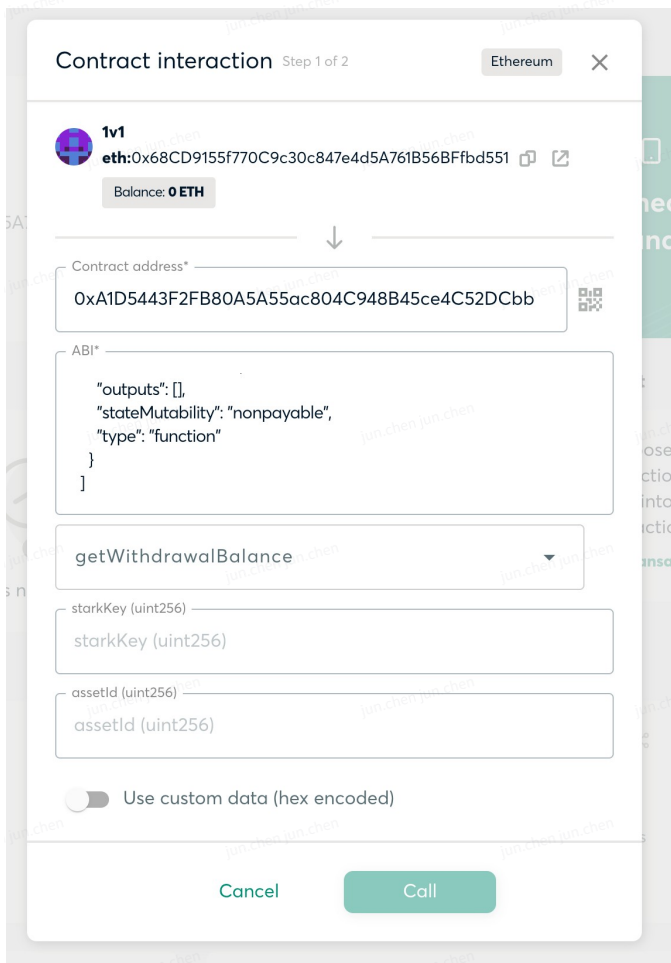
- starkKey: L2 account stark_key_pair public_key
`stark_key_pair_with_y_coordinate['public_key']`
- assetType: Corresponding asset type
`0x02893294412a4c8f915f75892b395ebb f6859ec246ec365c3b1f56f47c3a0a5d`
- vaultId: L2 account to asset pool, account_id: `351667704786059600`
- quantizeAmount: USDC deposit amount, to 6 decimal places e.g. 100 USDC should be entered as 100,000,000

After reviewing the parameters and ensuring that they are correct, confirm the deposit transaction, For other stakeholders involved in the Gnosis Safe wallet, use your personal wallet to authorize the transaction and complete the deposit process.

6, Check for Withdrawal Balance

Similar to the steps in section (4), all you need to do is to trigger a new transaction on Gnosis Safe, enter the StarkWare contract address and ABI details.

(1) Select the `getWithdrawalBalance` method and enter the corresponding parameters; you can check the available withdrawal balance (you will need to remove 6 zeros from the amount):



- `starkKey`: Enter the gnosis-safe multi-sig wallet address, please ensure that this is not the L2 account `stark_key_pair public_key`
- `assetType`: Corresponding asset type

```
0x02893294412a4c8f915f75892b395ebb6859ec246ec365c3b1f56f47c3a0a5d
```

7, Initiating Withdrawals

Similar to the steps in section (4) and (5), all you need to do is to trigger a new transaction on Gnosis Safe, enter the StarkWare contract address and ABI details.

(1) Select the withdraw method and fill up the corresponding parameters; this will withdraw all of your assets from L2 into your gnosis-safe wallet:

Contract interaction Step 1 of 2 Ethereum

1v1
eth:0x68CD9155f770C9c30c847e4d5A761B56BFbd551
Balance: 0 ETH

Contract address*
0xA1D5443F2FB80A5A55ac804C948B45ce4C52DCbb

ABI*
"outputs": [],
"stateMutability": "nonpayable",
"type": "function"
}
]

withdraw

starkKey (uint256)
starkKey (uint256)

assetId (uint256)
assetId (uint256)

Use custom data (hex encoded)

Cancel Review

- starkKey: Enter the gnosis-safe multi-sig wallet address, please ensure that this is not the L2 account stark_key_pair public_key
- assetType: Corresponding asset type

0x02893294412a4c8f915f75892b395ebbf6859ec246ec365c3b1f56f47c3a0a5d

Attach:

starkWare contract address: 0xA1D5443F2FB80A5A55ac804C948B45ce4C52DCbb

usdc contract address: 0xA0b86991c6218b36c1d19D4a2e9Eb0cE3606eB48

assetType value: 0x02893294412a4c8f915f75892b395ebbf6859ec246ec365c3b1f56f47c3a0a5d

valutId L2 account to asset pool:

account_id: 351667704786059600

stark_key: 0x0270884a62b952837f1ad48bf28559c86060990af3e63019da59dad9cdd76ed0

Fee L2 account to asset pool:

account_id: 10240000

stark_key: 0x02382ceace17a59ec674b5ca7109eabc66e4107c7f473492cf192c60f4e17600