

MiniPay Code Library

Snippets of code that can be used to implement flows inside MiniPay

To use the code snippets below, install the following packages:

- yarn
- npm
- viem
- ethers

yarn

```
add @celo/abis @celo/identity viem@1 yarn
```

```
add @celo/abis @celo/identity ethers@5 * viem * ethers
```

npm

```
install @celo/abis @celo/identity viem@1 npm
```

```
install @celo/abis @celo/identity ethers@5
```

Check cUSD Balance of an address

- viem
- ethers

```
const
```

```
{ getContract , formatEther , createPublicClient , http }
```

```
=
```

```
require ( "viem" ) ; const
```

```
{ celo }
```

```
=
```

```
require ( "viem/chains" ) ; const
```

```
{ stableTokenABI }
```

```
=
```

```
require ( "@celo/abis" ) ;
```

```
const
```

```
STABLE_TOKEN_ADDRESS
```

```
=
```

```
"0x765DE816845861e75A25fCA122bb6898B8B1282a" ;
```

```
async
```

```
function
```

```
checkCUSDBalance ( publicClient , address )
```

```
{ let
```

```
StableTokenContract
```

```
=
```

```
getContract ( { abi : stableTokenABI , address :
```

```

    STABLE_TOKEN_ADDRESS , publicClient , } ) ;

    let balanceInBigNumber =

    await

    StableTokenContract . read . balanceOf ( [ address , ] ) ;

    let balanceInWei = balanceInBigNumber . toString ( ) ;

    let balanceInEthers =

    formatEther ( balanceInWei ) ;

    return balanceInEthers ; }

    const publicClient =

    createPublicClient ( { chain : celo , transport :

    http ( ) , } ) ;

    // Mainnet

    let balance =

    await

    checkCUSDBalance ( publicClient , address ) ;

    // In Ether unit const ethers =

    require ( "ethers" ) ; const

    { stableTokenABI }

    =

    require ( "@celo/abis" ) ;

    const

    STABLE_TOKEN_ADDRESS

    =

    "0x765DE816845861e75A25fCA122bb6898B8B1282a" ;

    const

    {

    Contract , utils , providers }

    = ethers ; const

    { formatEther }

    = utils ;

    async

    function

    checkCUSDBalance ( provider , address )

    { const

    StableTokenContract

    =

    new

```

```

Contract ( STABLE_TOKEN_ADDRESS , StableToken . abi , provider ) ;

let balanceInBigNumber =

await

StableTokenContract . balanceOf ( address ) ;

let balanceInWei = balanceInBigNumber . toString ( ) ;

let balanceInEthers =

formatEther ( balanceInWei ) ;

// Ether is a unit = 10 ** 18 wei

return balanceInEthers ; }

const provider =

new

providers . JsonRpcProvider ( "https://forno.celo.org" ) ;

// Mainnet

let balance =

await

checkCUSDBalance ( provider , address ) ;

// In Ether unit

```

Check If a transaction succeeded

- viem
- ethers

```

const

{ createPublicClient , http }

=

require ( "viem" ) ; const

{ celo }

=

require ( "viem/chains" ) ;

async

function

checkIfTransactionSucceeded ( publicClient , transactionHash )

{ let receipt =

await publicClient . getTransactionReceipt ( { hash : transactionHash , } ) ;

return receipt . status

===

"success" ; }

const publicClient =

createPublicClient ( { chain : celo , transport :

http ( ) , } ) ;

```

```
// Mainnet

let transactionStatus =

await

checkIfTransactionSucceeded ( publicClient , transactionHash ) ; async

function

checkIfTransactionSucceeded ( provider , transactionHash )

{ let receipt =

await provider . send ( "eth_getTransactionReceipt" ,

[ transactionHash , ] ) ;

return receipt . status

===

"0x1" ; }

const provider =

new

providers . JsonRpcProvider ( "https://forno.celo.org" ) ;
```

```
// Mainnet

let transactionStatus =

await

checkIfTransactionSucceeded ( provider , transactionHash ) ;
```

Estimate Gas for a transaction (in Celo)

- viem
- ethers

```
const

{ createPublicClient , http }

=

require ( "viem" ) ; const

{ celo }

=

require ( "viem/chains" ) ;

async

function

estimateGas ( publicClient , transaction , feeCurrency =

"" )

{ return

await publicClient . estimateGas ( { ... transaction , feeCurrency : feeCurrency ? feeCurrency :

"" , } ) ; }

const publicClient =

createPublicClient ( { chain : celo , transport :
```

```

http ( ) , } ) ;
let gasLimit =
await
estimateGas ( publicClient ,
{ account :
"0x8eb02597d85abc268bc4769e06a0d4cc603ab05f" , to :
"0x4f93fa058b03953c851efaa2e4fc5c34afdfab84" , value :
"0x1" , data :
"0x" , } ) ; const ethers =
require ( "ethers" ) ; const
{ providers }
= ethers ;
async
function
estimateGas ( provider , transaction , feeCurrency =
"" )
{ return
await provider . send ( "eth_estimateGas" ,
[ feeCurrency ?
{
... transaction , feeCurrency }
: transaction , ] ) ; }
const provider =
new
providers . JsonRpcProvider ( "https://forno.celo.org" ) ;
// Mainnet
// Estimate gas for an example transaction
let gasLimit =
await
estimateGas ( provider ,
{ from :
"0x8eb02597d85abc268bc4769e06a0d4cc603ab05f" , to :
"0x4f93fa058b03953c851efaa2e4fc5c34afdfab84" , value :
"0x1" , data :
"0x" , } ) ;

```

Estimate Gas for a transaction (in cUSD)

- viem
- ethers

```
const
```

```

{ createPublicClient , http }

=

require ( "viem" ) ; const

{ celo }

=

require ( "viem/chains" ) ;

async

function

estimateGas ( publicClient , transaction , feeCurrency =

"" )

{ return

await publicClient . estimateGas ( { ... transaction , feeCurrency : feeCurrency ? feeCurrency :

"" , } ) ; }

const publicClient =

createPublicClient ( { chain : celo , transport :

http ( ) , } ) ;

const

STABLE_TOKEN_ADDRESS

=

"0x765DE816845861e75A25fCA122bb6898B8B1282a" ;

let gasLimit =

await

estimateGas ( publicClient , { account :

"0x8eb02597d85abc268bc4769e06a0d4cc603ab05f" , to :

"0x4f93fa058b03953c851efaa2e4fc5c34afdfab84" , value :

"0x1" , data :

"0x" , } , STABLE_TOKEN_ADDRESS ) ; const ethers =

require ( "ethers" ) ; const

{ providers }

= ethers ;

async

function

estimateGas ( provider , transaction , feeCurrency =

"" )

{ return

await provider . send ( "eth_estimateGas" ,

[ feeCurrency ?

```

```

{
... transaction , feeCurrency }

: transaction , ] ) ; }

const provider =

new

providers . JsonRpcProvider ( "https://forno.celo.org" ) ;

// Mainnet

const

STABLE_TOKEN_ADDRESS

=

"0x765DE816845861e75A25fCA122bb6898B8B1282a" ;

// Estimate gas for an example transaction let gasLimit =

await

estimateGas ( provider , { from :

"0x8eb02597d85abc268bc4769e06a0d4cc603ab05f" , to :

"0x4f93fa058b03953c851efaa2e4fc5c34afdfab84" , value :

"0x1" , data :

"0x" , } , STABLE_TOKEN_ADDRESS ) ;

```

Estimate Gas Price for a transaction (in Celo)

- viem
- ethers

```

const

{ createPublicClient , http }

=

require ( "viem" ) ; const

{ celo }

=

require ( "viem/chains" ) ;

async

function

estimateGasPrice ( publicClient , feeCurrency =

"" )

{ return

await publicClient . request ( { method :

"eth_gasPrice" , params : feeCurrency ?

[ feeCurrency ]

:

[ ] , } ) ; }

```

```

const publicClient =
createPublicClient ( { chain : celo , transport :
http ( ) , } ) ;

let gasPrice =
await
estimateGasPrice ( publicClient ) ; const ethers =
require ( "ethers" ) ; const
{ providers }
= ethers ;
async
function
estimateGasPrice ( provider , feeCurrency =
"" )
{ let gasPriceinHex =
await provider . send ( "eth_gasPrice" , feeCurrency ?
[ feeCurrency ]
:
[ ] ) ;
return gasPriceinHex ; }

const provider =
new
providers . JsonRpcProvider ( "https://forno.celo.org" ) ;
// Mainnet

let gasPrice =
await
estimateGasPrice ( provider ) ;

```

Estimate Gas Price for a transaction (in cUSD)

- viem
- ethers

```

const
{ createPublicClient , http }
=
require ( "viem" ) ; const
{ celo }
=
require ( "viem/chains" ) ;
async
function

```



```

estimateGasPrice ( publicClient , feeCurrency =
"" )
{ return
await publicClient . request ( { method :
"eth_gasPrice" , params : feeCurrency ?
[ feeCurrency ]
:
[] , } ) ; }
const publicClient =
createPublicClient ( { chain : celo , transport :
http ( ) , } ) ;
const
STABLE_TOKEN_ADDRESS
=
"0x765DE816845861e75A25fCA122bb6898B8B1282a" ;
let gasPrice =
await
estimateGasPrice ( publicClient ,
STABLE_TOKEN_ADDRESS ) ; const ethers =
require ( "ethers" ) ; const
{ providers }
= ethers ;
async
function
estimateGasPrice ( provider , feeCurrency =
"" )
{ let gasPriceinHex =
await provider . send ( "eth_gasPrice" , feeCurrency ?
[ feeCurrency ]
:
[] ) ;
return gasPriceinHex ; }
const provider =
new
providers . JsonRpcProvider ( "https://forno.celo.org" ) ;
// Mainnet
const

```

```
STABLE_TOKEN_ADDRESS
```

```
=
```

```
"0x765DE816845861e75A25fCA122bb6898B8B1282a" ;
```

```
let gasPrice =
```

```
await
```

```
estimateGasPrice ( provider ,
```

```
STABLE_TOKEN_ADDRESS ) ;
```

Calculate cUSD to be spent for transaction fees

- viem
- ethers

```
const
```

```
{ createPublicClient , http , formatEther }
```

```
=
```

```
require ( "viem" ) ; const
```

```
{ celo }
```

```
=
```

```
require ( "viem/chains" ) ;
```

```
const publicClient =
```

```
createPublicClient ( { chain : celo , transport :
```

```
http ( ) , } ) ;
```

```
const
```

```
STABLE_TOKEN_ADDRESS
```

```
=
```

```
"0x765DE816845861e75A25fCA122bb6898B8B1282a" ;
```

```
// estimateGas implemented above let gasLimit =
```

```
await
```

```
estimateGas ( publicClient , { account :
```

```
"0x8eb02597d85abc268bc4769e06a0d4cc603ab05f" , to :
```

```
"0x4f93fa058b03953c851efaa2e4fc5c34afdfab84" , value :
```

```
"0x1" , data :
```

```
"0x" , } , STABLE_TOKEN_ADDRESS ) ;
```

```
// estimateGasPrice implemented above let gasPrice =
```

```
await
```

```
estimateGasPrice ( publicClient ,
```

```
STABLE_TOKEN_ADDRESS ) ;
```

```
let transactionFeesInCUSD =
```

```
formatEther ( gasLimit *
```

```
hexToBigInt ( gasPrice ) ) ; const ethers =
```

```

require ( "ethers" ) ; const
{ providers , utils }
= ethers ; const
{ formatEther }
= utils ;
const provider =
new
providers . JsonRpcProvider ( "https://forno.celo.org" ) ;
const
STABLE_TOKEN_ADDRESS
=
"0x765DE816845861e75A25fCA122bb6898B8B1282a" ;
// estimateGas implemented above let gasLimit =
await
estimateGas ( provider , { from :
"0x8eb02597d85abc268bc4769e06a0d4cc603ab05f" , to :
"0x4f93fa058b03953c851efaa2e4fc5c34afdfab84" , value :
"0x1" , data :
"0x" , } , STABLE_TOKEN_ADDRESS ) ;
// estimateGasPrice implemented above let gasPrice =
await
estimateGasPrice ( provider ,
STABLE_TOKEN_ADDRESS ) ;
let transactionFeesInCUSD =
formatEther ( BigNumber . from ( gasLimit ) . mul ( BigNumber . from ( gasPrice ) ) . toString ( ) ) ;

```

Resolve Minipay phone numbers to Addresses

- viem
- ethers
- index.js
- SocialConnect.js

```

const
{ createPublicClient , http }
=
require ( "viem" ) ; const
{ celo }
=
require ( "viem/chains" ) ; const

```

```

{ privateKeyToAccount }

=

require ( "viem/accounts" ) ; const

{

SocialConnectIssuer

}

=

require ( "../SocialConnect.js" ) ;

let account =

privateKeyToAccount ( process . env . ISSUER_PRIVATE_KEY ) ;

let walletClient =

createWalletClient ( { account , transport :

http ( ) , chain , } ) ;

const issuer =

new

SocialConnectIssuer ( walletClient ,

{ authenticationMethod :

AuthenticationMethod . ENCRYPTION_KEY , rawKey : process . env . DEK_PRIVATE_KEY , } ) ;

await issuer . initialize ( ) ;

const identifierType =

IdentifierPrefix . PHONE_NUMBER ;

/* * Any phone number you want to lookup * * The below phone number is registered on the testnet issuer mentioned below.

/ const identifier =

"+911234567890" ;

/* * You can lookup under multiple issuers in one request. * * Below is the MiniPay issuer address on Mainnet. * * Note:

Remember to make your environment variable ENVIRONMENT=MAINNET / let issuerAddresses =

[ "0x7888612486844Bb9BE598668081c59A9f7367FBc" ] ;

// A testnet issuer we setup for you to lookup on testnet. // let issuerAddresses =

["0xDF7d8B197EB130cF68809730b0D41999A830c4d7"];

let results =

await issuer . lookup ( identifier , identifierType , issuerAddresses ) ; const

{ federatedAttestationsABI , odisPaymentsABI , stableTokenABI , }

=

require ( "@celo/abis" ) ;

const

{ getContract }

=

require ( "viem" ) ; const

```

```

{
  OdisUtils
}

=

require ( "@celo/identity" ); const
{
  OdisContextName
}

=

require ( "@celo/identity/lib/odis/query" );

const
ONE_CENT_CUSD

=

parseEther ( "0.01" );

const
SERVICE_CONTEXT

= process . env . ENVIRONMENT

===

"TESTNET" ?

OdisContextName . ALFAJORES :
OdisContextName . MAINNET ;

class
SocialConnectIssuer
{ walletClient ; authSigner ;

federatedAttestationsContractAddress ; federatedAttestationsContract ;

odisPaymentsContractAddress ; odisPaymentsContract ;

stableTokenContractAddress ; stableTokenContract ;

serviceContext ; initialized =

false ;

constructor ( walletClient , authSigner )

{ this . walletClient

= walletClient ; this . authSigner

= authSigner ; this . serviceContext

= OdisUtils . Query . getServiceContext ( SERVICE_CONTEXT ) ; }

async

initialize ( )

{ this . federatedAttestationsContractAddress

```

```

= await

getCoreContractAddress ( "FederatedAttestations" ) ;

this . federatedAttestationsContract

=

getContract ( { address :

this . federatedAttestationsContractAddress , abi : federatedAttestationsABI ,

// Needed for lookup publicClient ,

// Needed for registration and de-registration walletClient :

this . walletClient , } ) ;

this . odisPaymentsContractAddress

=

await

getCoreContractAddress ( "OdisPayments" ) ; this . odisPaymentsContract

=

getContract ( { address :

this . odisPaymentsContractAddress , abi : odisPaymentsABI , walletClient :

this . walletClient , } ) ;

this . stableTokenContractAddress

=

await

getCoreContractAddress ( "StableToken" ) ; this . stableTokenContract

=

getContract ( { address :

this . stableTokenContractAddress , abi : stableTokenABI , walletClient :

this . walletClient , } ) ;

this . initialized

=

true ; }

async

```

getObfuscatedId

```

( plaintextId , identifierType )

{ // TODO look into client side blinding const

{ obfuscatedIdentifier }

= await

OdisUtils . Identifier . getObfuscatedIdentifier ( plaintextId , identifierType , this . walletClient . account . address , this .
authSigner , this . serviceContext ) ; return obfuscatedIdentifier ; }

async

```

checkAndTopUpODISQuota

```
( )  
  
{ const remainingQuota =  
  await  
  this . checkODISQuota ( ) ;  
  if  
  ( remainingQuota <  
    1 )  
  { // TODO make threshold a constant let approvalTxHash = await  
    this . stableTokenContract . write . increaseAllowance ( [ this . odisPaymentsContractAddress , ONE_CENT_CUSD ,  
    // TODO we should increase by more ] ) ;  
    let approvalTxReceipt = await publicClient . waitForTransactionReceipt ( { hash : approvalTxHash , } ) ;  
    let odisPaymentTxHash = await  
    this . odisPaymentsContract . write . payInCUSD ( [ this . walletClient . account , ONE_CENT_CUSD ,  
    // TODO we should increase by more ] ) ;  
    let odisPaymentReceipt = await publicClient . waitForTransactionReceipt ( { hash : odisPaymentTxHash , } ) ; }  
  async  
  getObfuscatedIdWithQuotaRetry ( plaintextId , identifierType )  
  { if  
    ( this . initialized )  
    { try  
    { return  
      await  
      this .
```

getObfuscatedId

```
( plaintextId , identifierType ) ; }  
catch  
{ await  
  this .
```

checkAndTopUpODISQuota

```
( ) ; return  
this .
```

getObfuscatedId

```
( plaintextId , identifierType ) ; } } throw
```

```

new
Error ( "SocialConnect instance not initialized" ); }

async
registerOnChainIdentifier ( plaintextId , identifierType , address )
{ if
( this . initialized )
{ const obfuscatedId =
await
this . getObfuscatedIdWithQuotaRetry ( plaintextId , identifierType ) ;
const hash = await
this . federatedAttestationsContract . write . registerAttestationAsIssuer ( [ // TODO check if there are better code patterns for
sending txs obfuscatedId , address , NOW_TIMESTAMP , ] ) ;
const receipt =
await publicClient . waitForTransactionReceipt ( { hash , } ) ;
return receipt ; } throw

new
Error ( "SocialConnect instance not initialized" ); }

async
deregisterOnChainIdentifier ( plaintextId , identifierType , address )
{ if
( this . initialized )
{ const obfuscatedId =
await
this . getObfuscatedIdWithQuotaRetry ( plaintextId , identifierType ) ; const hash = await
this . federatedAttestationsContract . write . revokeAttestation ( [ obfuscatedId ,
this . walletClient . account . address , address ] ) ;
const receipt =
await publicClient . waitForTransactionReceipt ( { hash , } ) ;
return receipt ; } throw

new
Error ( "SocialConnect instance not initialized" ); }

async
checkODISQuota ( )
{ if
( this . initialized )
{ const
{ remainingQuota }
=

```



```

await

OdisUtils . Quota . getPnpQuotaStatus ( this . walletClient . account . address , this . authSigner , this . serviceContext ) ;
console . log ( "Remaining Quota" , remainingQuota ) ; return remainingQuota ; } throw

new

Error ( "SocialConnect instance not initialized" ) ; }

async

lookup ( plaintextId , identifierType , issuerAddresses )

{ if

( this . initialized )

{ const obfuscatedId =

await

this . getObfuscatedIdWithQuotaRetry ( plaintextId , identifierType ) ;

const attestations = await

this . federatedAttestationsContract . read . lookupAttestations ( [ obfuscatedId , issuerAddresses ] ) ;

return

{ accounts : attestations [ 1 ] ,

// Viem returns data as is from contract not in JSON obfuscatedId , } ; } throw

new

Error ( "SocialConnect instance not initialized" ) ; } } * index.js * SocialConnect.js

const ethers =

require ( "ethers" ) ; const

{ providers , utils ,

Wallet

}

= ethers ; const

{ formatEther }

= utils ;

let wallet =

new

Wallet ( process . env . ISSUER_PRIVATE_KEY , provider ) ;

const issuer =

new

SocialConnectIssuer ( wallet ,

{ authenticationMethod :

AuthenticationMethod . ENCRYPTION_KEY , rawKey : process . env . DEK_PRIVATE_KEY , } ) ;

await issuer . initialize ( ) ;

const identifierType =

IdentifierPrefix . PHONE_NUMBER ;

```

```

/* * Any phone number you want to lookup * * The below phone number is registered on the testnet issuer mentioned below.
/ const identifier =

"+911234567890" ;

/* * You can lookup under multiple issuers in one request. * * Below is the MiniPay issuer address on Mainnet. * * Note:
Remember to make your environment variable ENVIRONMENT=MAINNET / let issuerAddresses =

[ "0x7888612486844Bb9BE598668081c59A9f7367FBc" ] ;

// A testnet issuer we setup for you to lookup on testnet. // let issuerAddresses =
["0xDF7d8B197EB130cF68809730b0D41999A830c4d7"];

let results =

await issuer . lookup ( identifier , identifierType , issuerAddresses ) ; const

{ federatedAttestationsABI , odisPaymentsABI , stableTokenABI , }

=

require ( "@celo/abis" ) ;

const ethers =

require ( "ethers" ) ; const

{

OdisUtils

}

=

require ( "@celo/identity" ) ; const

{

OdisContextName

}

=

require ( "@celo/identity/lib/odis/query" ) ;

const

{

Contract , utils }

= ethers ; const

{ parseEther }

= utils ;

const

ONE_CENT_CUSD

=

parseEther ( "0.01" ) ;

const

SERVICE_CONTEXT

= process . env . ENVIRONMENT

```

===

"TESTNET" ?

OdisContextName . ALFAJORES :

OdisContextName . MAINNET ;

class

SocialConnectIssuer

{ wallet ; authSigner ;

federatedAttestationsContract ; odisPaymentsContract ; stableTokenContract ; serviceContext ;

initialized

false ;

constructor (wallet , authSigner)

{ this . wallet

= wallet ; this . authSigner

= authSigner ; this . serviceContext

= OdisUtils . Query . getServiceContext (SERVICE_CONTEXT) ; }

async

initialize ()

{ this . federatedAttestationsContract

=

new

Contract (await

getCoreContractAddress ("FederatedAttestations") , federatedAttestationsABI , this . wallet) ;

this . odisPaymentsContract

=

new

Contract (await

getCoreContractAddress ("OdisPayments") , odisPaymentsABI , this . wallet) ;

this . stableTokenContract

=

new

Contract (await

getCoreContractAddress ("StableToken") , stableTokenABI , this . wallet) ;

this . initialize

=

true ; }

async

getObfuscatedId

```
( plaintextId , identifierType )  
  
{ // TODO look into client side blinding const  
  
{ obfuscatedIdentifier }  
  
= await  
  
OdisUtils . Identifier . getObfuscatedIdentifier ( plaintextId , identifierType , this . wallet . address , this . authSigner , this .  
serviceContext ) ; return obfuscatedIdentifier ; }  
  
async
```

checkAndTopUpODISQuota

```
( )  
  
{ const remainingQuota =  
  
await  
  
this . checkODISQuota ( ) ;  
  
if  
  
( remainingQuota <  
  
1 )  
  
{ // TODO make threshold a constant const approvalTxReceipt =  
  
( await  
  
this . stableTokenContract . increaseAllowance ( this . odisPaymentsContract . address , ONE_CENT_CUSD  
  
// TODO we should increase by more ) ) . wait ( ) ;  
  
const odisPaymentTxReceipt =  
  
( await  
  
this . odisPaymentsContract . payInCUSD ( this . wallet . address , ONE_CENT_CUSD  
  
// TODO we should increase by more ) ) . wait ( ) ; } }  
  
async  
  
getObfuscatedIdWithQuotaRetry ( plaintextId , identifierType )  
  
{ if  
  
( this . initialized )  
  
{ try  
  
{ return  
  
await  
  
this .
```

getObfuscatedId

```
( plaintextId , identifierType ) ; }  
  
catch
```

```
{ await
```

```
this .
```

checkAndTopUpODISQuota

```
( ) ; return
```

```
this .
```

getObfuscatedId

```
( plaintextId , identifierType ) ; } } throw
```

```
new
```

```
Error ( "SocialConnect instance not initialized" ) ; }
```

```
async
```

```
registerOnChainIdentifier ( plaintextId , identifierType , address )
```

```
{ if
```

```
( this . initialized )
```

```
{ const obfuscatedId =
```

```
await
```

```
this . getObfuscatedIdWithQuotaRetry ( plaintextId , identifierType ) ;
```

```
const tx = await
```

```
this . federatedAttestationsContract . registerAttestationAsIssuer ( // TODO check if there are better code patterns for  
sending txs obfuscatedId , address , NOW_TIMESTAMP ) ;
```

```
const receipt =
```

```
await tx . wait ( ) ; return receipt ; } throw
```

```
new
```

```
Error ( "SocialConnect instance not initialized" ) ; }
```

```
async
```

```
deregisterOnChainIdentifier ( plaintextId , identifierType , address )
```

```
{ if
```

```
( this . initialized )
```

```
{ const obfuscatedId =
```

```
await
```

```
this . getObfuscatedIdWithQuotaRetry ( plaintextId , identifierType ) ; const tx = await
```

```
this . federatedAttestationsContract . revokeAttestation ( obfuscatedId , this . wallet . address , address ) ; const receipt =
```

```
await tx . wait ( ) ; return receipt ; } throw
```

```
new
```

```
Error ( "SocialConnect instance not initialized" ) ; }
```

```
async
```

```
checkODISQuota ( )
```

```

{ if
  ( this . initialized )

  { const
    { remainingQuota }

    =

    await

    OdisUtils . Quota . getPnpQuotaStatus ( this . wallet . address , this . authSigner , this . serviceContext ) ; console . log (
    "Remaining Quota" , remainingQuota ) ; return remainingQuota ; } throw

    new

    Error ( "SocialConnect instance not initialized" ) ; }

  async

  lookup ( plaintextId , identifierType , issuerAddresses )

  { if
    ( this . initialized )

    { const obfuscatedId =

      await

      this . getObfuscatedIdWithQuotaRetry ( plaintextId , identifierType ) ; const attestations = await

      this . federatedAttestationsContract . lookupAttestations ( obfuscatedId , issuerAddresses ) ;

      return

      { accounts : attestations . accounts ,

        // TODO typesafety obfuscatedId , } ; } throw

      new

      Error ( "SocialConnect instance not initialized" ) ; } }

```

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