Start EthSigner with a single signer

For file-based signing, EthSigner requires a V3 keystore key file and a password file.

tip EthSigner also supports signing transactions with a key stored in an external vault (for exampleHashiCorp Vault), or usingmultiple V3 keystore key files .

Prerequisites

- EthSigner
- Hyperledger Besu
- Node.js
- web3.js

note The Ethereum client used in this documentation is Hyperledger Besu but EthSigner can be used with any Ethereum client.

Start Besu

Start Besu , setting the:

- --rpc-http-port
- option to8590
- --data-path
- option to an appropriate directory.

besu --network

dev --miner-enabled --miner-coinbase

0xfe3b557e8fb62b89f4916b721be55ceb828dbd73 --rpc-http-cors-origins

"all" --host-allowlist = "*" --rpc-http-enabled --rpc-http-port = 8590 --data-path = /Users/ < user.name

> /Datadir caution EthSigner requires achain ID to be used when signing transactions. The downstream Ethereum client must be operating in a milestone supporting replay protection. That is, the genesis file must include at least the Spurious Dragon milestone (defined aseip158Block in the genesis file) so the blockchain is using a chain ID.

Create password and key files

Create a text file containing the password for the V3 keystore key file to be created (for example,passwordFile).

Use theweb3.js library to create a key file where:

-
- is the private key of the account with which EthSigner will sign transactions.
-
- is the password for the key file being created. The password must match the password saved in the password file created previously (passwordFile
- in this example).

info * Create key file * Example

const

Web3

=

require ("web3") ;

// Web3 initialization (should point to the JSON-RPC endpoint) const web3 =

```
new

Web3 ( new

Web3 . providers . HttpProvider ( "http://127.0.0.1:8590" ) ) ;

var

V3KeyStore

= web3 . eth . accounts . encrypt ( " ,

"" ) ; console . log ( JSON . stringify ( V3KeyStore ) ) ; process . exit ( ) ; const

Web3

=

require ( "web3" ) ;

// Web3 initialization (should point to the JSON-RPC endpoint) const web3 =

new

Web3 ( new

Web3 . providers . HttpProvider ( "http://127.0.0.1:8590" ) ) ;

var

V3KeyStore

= web3 . eth . accounts . encrypt ( "0x8f2a55949038a9610f50fb23b5883af3b4ecb3c3bb792cbcefbd1542c692be63" ,
"password" , ) ; console . log ( JSON . stringify ( V3KeyStore ) ) ; process . exit ( ) ;
```

Copy and paste the example JS script to a file (for example,createKeyFile.js) and replace the placeholders.

Use the JS script to display the text for the key file:

```
node createKeyFile.js
```

Copy and paste the text to a file (for example,keyFile). The file is your V3 keystore key file.

Start EthSigner

Start EthSigner with options specified as follows:

- chain-id
- is the chain ID specified in the Besu genesis file.
- downstream-http-port
- is therpc-http-port
- specified for Besu (8590
- in this example).
- key-file
- andpassword-file
- are the key and password filescreated above
- .

Start EthSigner

```
ethsigner --chain-id=2018 --downstream-http-port=8590 file-based-signer --key-file=/mydirectory/keyFile --password-file=/mydirectory/passwordFile
```

If using a cloud-based Ethereum client such asInfura , specify the endpoint using the--downstream-http-host and--downstream-http-path command line options.

```
ethsigner --chain-id=5 --downstream-http-host=goerli.infura.io \ --downstream-http-path=/v3/d0e63ca5bb1e4eef2284422efbc51a56 --downstream-http-port=443 \ --downstream-http-tls-enabled file-based-signer --key-file=/mydirectory/keyFile \ --password-file=/mydirectory/passwordFile
```

Confirm EthSigner is up

Use theupcheck endpoint to confirm EthSigner is running.

info * curl HTTP request * Result

```
curl -X GET http://127.0.0.1:8545/upcheck
```

I'm up

Confirm EthSigner passing requests to Besu

Request the current block number usingeth_blockNumber with the EthSigner JSON-RPC endpoint (8545 in this example):

```
curl -X POST --data '{"jsonrpc":"2.0","method":"eth_blockNumber","params":[],"id":51}' http://127.0.0.1:8545
```

You can nowuse EthSigner to sign transactions with the key stored in the V3 keystore key file.Edit this page Last updatedonMar 30, 2023 byEric Lin Previous Tutorials Next Start with multiple signers