

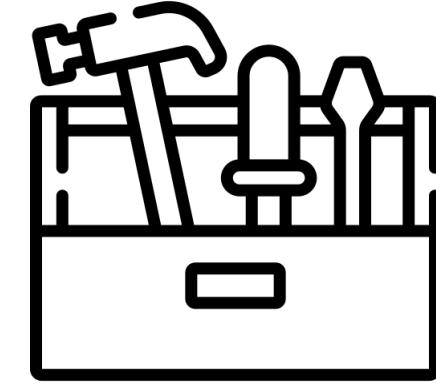
Marco Walz / 28-03-2023



DAO-Fi: The DAO and DeFi Code Challenge

Checkpoint 1: Ready, Set, CODE!

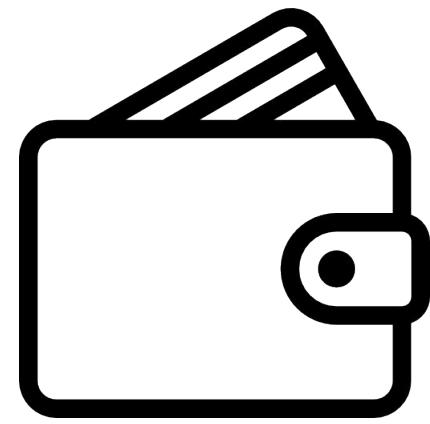
DevTools and Token Standards



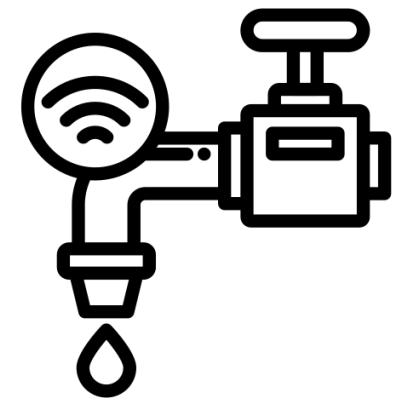
DEVTOOLS



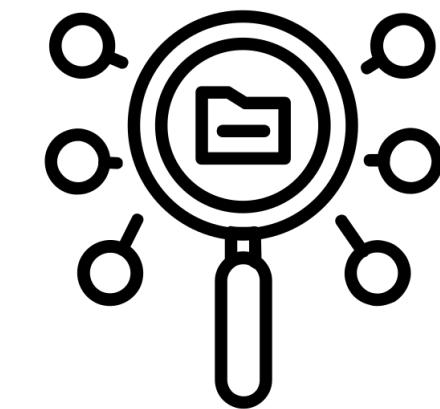
NODE,
MIDDLEWARE &
APIS



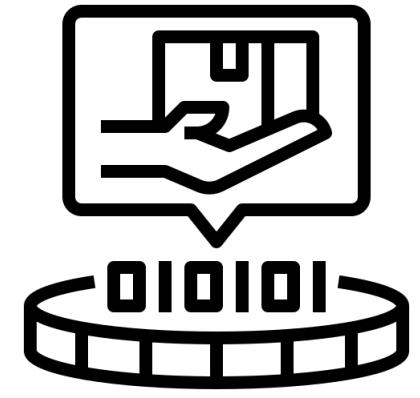
WALLETS



Æ FAUCET



EXPLORERS



TOKEN
STANDARDS

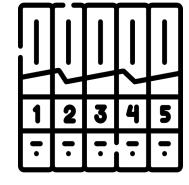
DEVTOOLS



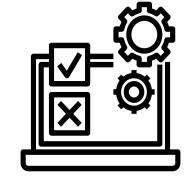
JavaScript SDK



Command Line Interface



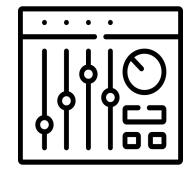
Calldata Library (æternity data serialization)



Sophia REPL



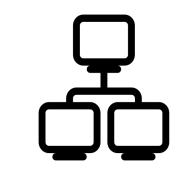
AProject



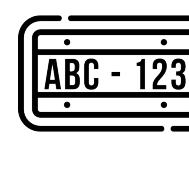
AEstudio



Contract Editor



Localnet



Boilerplates



DevTools

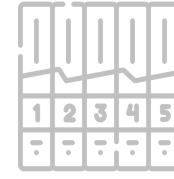




JavaScript SDK



Command Line Interface



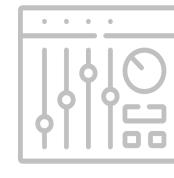
Calldata Library



Sophia REPL



AEproject



AEstudio



Contract Editor



Localnet



Boilerplates

DevTools

<https://docs.aeternity.com/aapp-sdk-js/v12.1.3/>



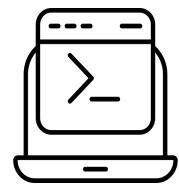
The screenshot shows the homepage of the aeternity JavaScript SDK documentation. The header includes the logo, version v12.1.3, and a search bar. The left sidebar lists navigation links: Installation, Quick Start (which is highlighted in pink), Usage Guides, Transaction options, Examples & Tutorials, API Reference, Compatibility Table, Changelog, Migration Guides, and Contribute. The main content area is titled "Quick Start" and contains the following text: "In this example we will send 1 AE coin from one account to another". Below this, it says "1. Specify imports" and provides a code snippet:

```
const {
  AeSdk,
  MemoryAccount,
  Node,
  AE_AMOUNT_FORMATS,
  generateKeyPair
} = require('@aeternity/aapp-sdk')
```





JavaScript SDK



Command Line Interface



<https://github.com/aeternity/aepp-cli-js>



Calldata Library



Sophia REPL



AEproject



AEstudio



Contract Editor



Localnet



Boilerplates

The screenshot shows the GitHub repository page for 'aeternity / aepp-cli-js'. The 'Code' tab is selected. At the top, it displays 'develop' branch, '4 branches', and '11 tags'. Below this, a list of recent commits is shown:

Commit Details	Date
davyuk Merge pull request #206 from aeternity/feature/file-system-s... chore(commitlint): fetch more commits	2 years ago
docker test: speedup using sdk with customisable polling intervals	2 years ago
scripts refactor: avoid using deprecated symbols	8 months ago
src Merge pull request #206 from aeternity/feature/file-system-support	5 months ago
test feat(contract): includes support	5 months ago

DevTools

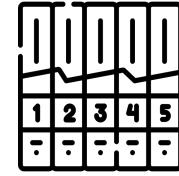




JavaScript SDK



Command Line Interface



Calldata Library



Sophia REPL



AProject



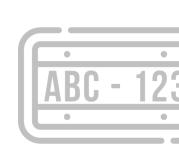
AEstudio



Contract Editor



Localnet



Boilerplates

<https://github.com/aeternity/protocol/blob/master/serializations.md>



Data

```
Data(D) ::=  
  Boolean  
  | Integer  
  | String  
  | Bytes  
  | Bits  
  | Address  
  | ContractAddress  
  | Oracle  
  | OracleQuery  
  | Channel  
  | Tuple  
  | List  
  | Map  
  | StoreMap  
  | Variant  
  | Type
```

Boolean

```
Boolean ::=  
  <<<11111111>> ; True  
  | <<<01111111>> ; False
```

Integer

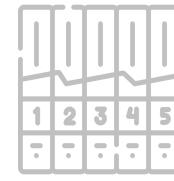
```
Integer(I) ::=  
  <<< 0, I, 0 >>> ; When abs(I) < 64, I >= 0  
  | <<< 1, -I, 0 >>> ; When abs(I) < 64, I < 0  
  | <<< 01101111 >>>, LargeInt(I - 64) ; When abs(I) >= 64, I >= 0  
  | <<< 11101111 >>>, LargeInt(-I - 64) ; When abs(I) >= 64, I < 0
```



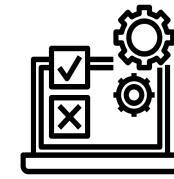
JavaScript SDK



Command Line Interface



Calldata Library



Sophia REPL



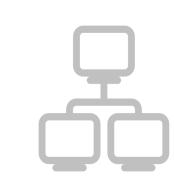
AProject



AEstudio



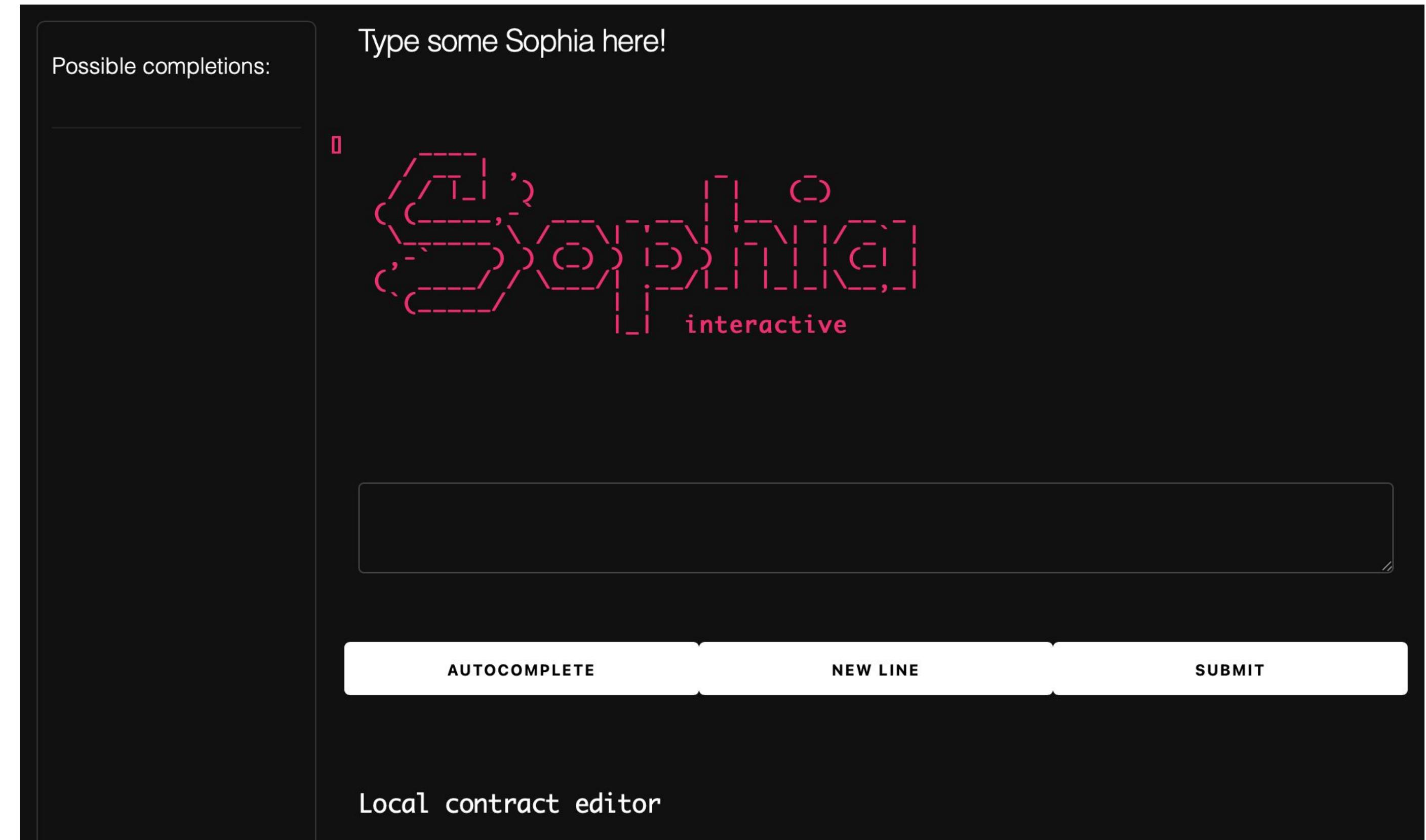
Contract Editor



Localnet



Boilerplates

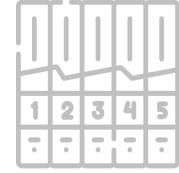




JavaScript SDK



Command Line Interface



Calldata Library



Sophia REPL



AEP project



AEstudio



Contract Editor



Localnet



Boilerplates

DevTools

The screenshot shows the GitHub repository page for "AEP project: Smart Contract Testing Framework". The repository has 1,234 stars and 1,234 forks. The main branch is "main". The repository description is "AEP project: Smart Contract Testing Framework".
Quick Start:
In order to have AEP project working you must have installed the following:
`nodejs >= 14
docker`
Note: on windows WSL 2 must be used
Install:
`npm install -g @aeternity/aeproject`
Init a project:
`aeproject init [folder]`





JavaScript SDK



Command Line Interface



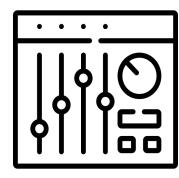
Calldata Library



Sophia REPL



AEproject



AEstudio



Contract Editor



Localnet



Boilerplates

DevTools

æternity Studio

Menu CryptoHamster x AeForUsers x AeUnlockOnTime x FungibleToken x BasicNFT x +

```
1 @compiler >= 6
2
3 include "String.aes"
4
5 contract CryptoHamster =
6
7   record state = {
8     index : int,
9     map_hamsters : map(string, hamster),
10    testvalue: int}
11
12   record hamster = {
13     id : int,
14     name : string,
15     dna : int}
16
17   stateful entrypoint init() =
18     { index = 1,
19       map_hamsters = {},
20       testvalue = 42}
21
22   public entrypoint read_test_value() : int =
23     state.testvalue
24
25   public entrypoint return_caller() : address =
26     Call.caller
27
28
```

<https://studio.aepps.com>



Settings

Account: ak_xCqdHTkCZahRMUTwAMgxr1q..

TESTNET

Install Superhero Wallet and use AE Studio with Aeternity mainnet !

Value	Gas Amount	Gas price
0	aetto	

Compiled Contract

CryptoHamster

Deploy or Use at address: ct_nv5B9...Mp59bv..

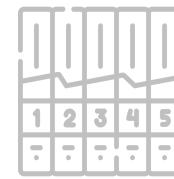




JavaScript SDK



Command Line Interface



Calldata Library



Sophia REPL



AEproject



AEstudio



Contract Editor



Localnet



Boilerplates

DevTools

Connect Wallet Extension

Modify Local Account

<https://contracts.aepps.com>



Test contracts (<https://testnet.aeternity.io>)

Sophia Contract's Code:

```
1 @compiler >= 4
2
3 contract Example =
4   entrypoint example(x : int) = x
```

Compile

Reset

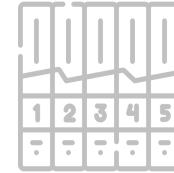




JavaScript SDK



Command Line Interface



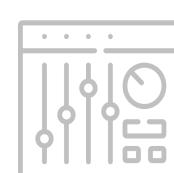
Calldata Library



Sophia REPL



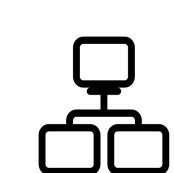
AEproject



AEstudio



Contract Editor



Localnet



Boilerplates

DevTools

<https://github.com/aeternity/localnet>



The screenshot shows the GitHub repository page for 'aeternity/localnet'. The repository is public and has 2 branches and 3 tags. The master branch has 8 commits from 'dincho Devmode (#10)' dated March 31, 2022. The commits are listed below:

File / Folder	Commit Message	Date
.circleci	Devmode (#10)	last year
nginx	Refactor (#9)	last year
node	Devmode (#10)	last year
test	Refactor (#9)	last year
README.md	Devmode (#10)	last year
docker-compose.multi.yml	Devmode (#10)	last year
docker-compose.yml	Devmode (#10)	last year

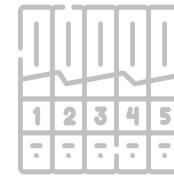




JavaScript SDK



Command Line Interface



Calldata Library



Sophia REPL



AProject



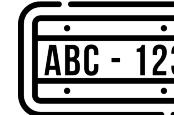
AStudio



Contract Editor



Localnet



Boilerplates

DevTools

<https://github.com/YinkaEnoch/aapp-boilerplate-angular>



YinkaEnoch / **aapp-boilerplate-angular** Public

Code Issues Pull requests Actions Projects Security Insights

<https://github.com/emmanuelJet/aapp-boilerplate-react>



emmanuelJet / **aapp-boilerplate-react**

Code Issues 1 Pull requests 1 Discussions Actions Security Insights

<https://github.com/aeternity/aapp-boilerplate-vue>



aeternity / **aapp-boilerplate-vue** Public template

Code Issues 1 Pull requests Actions Projects Security Insights



Node, Middleware & APIs

<https://aeternity.com/#build>



◦ Core Protocol 

◦ Node API 

◦ Middleware 

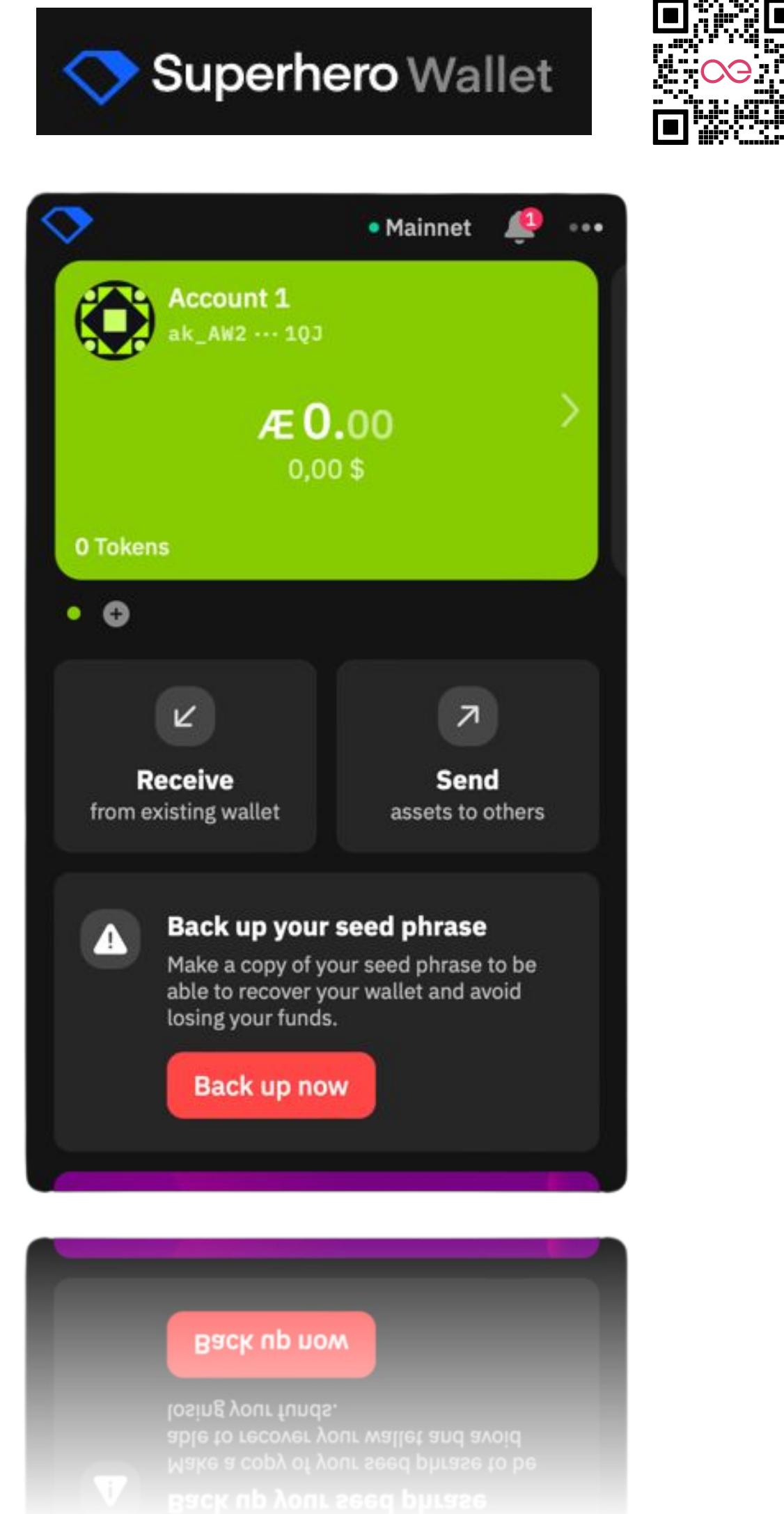
WALLETS



Trust Wallet



Box wallet
www.boxwallet.app



WALLETS

▼ venly

AirGap



FAUCET

<https://faucet.aepps.com>



 **Æternity Blockchain's Faucet Aepp**

<https://testnet.aeternity.io>

ak_Y0UrPubl1ckeyh4sHh3r3 Top UP

FAUCET



EXPLORERS

Help us improve æScan. Fill out the survey.

æternity mainnet at a glance

Welcome to æScan, the æternity blockchain explorer

Search accounts, transactions, names, contracts...



AEKnow

≡ Explore Accounts



Powered by Iris 6.5

Bell Iris 6.0

AETernity Explorer

Explore Accounts

Dashboards



For User

online



For Miner

online



For Developer

online

Data Tracking



AENS

online



AEPoS

online



Blocks

online



Contracts

online



AEX9 Token

online



Network Status

online



Oracles

online



Popular Stats

online



Transactions

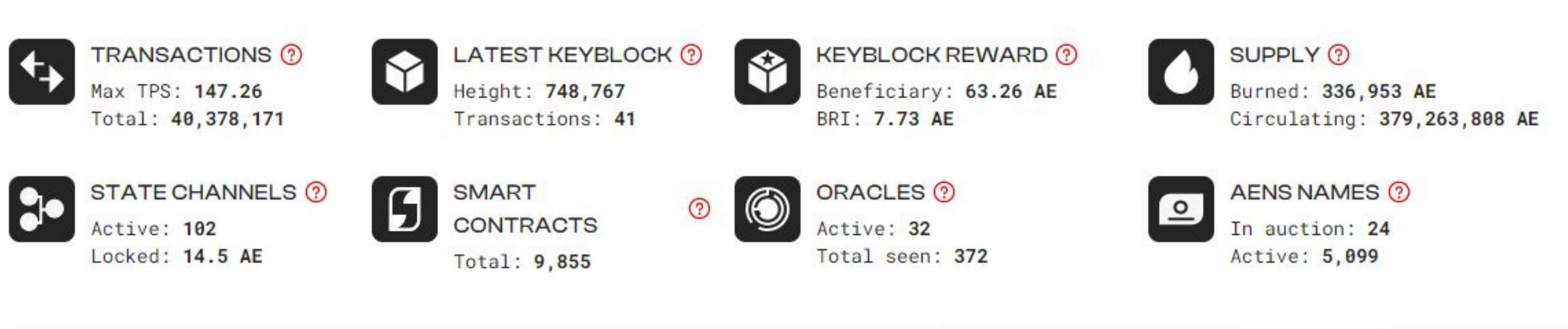
online

Current Mainnet Stats

Price: \$ --- --- %

Marketcap: \$ ---

Distribution: 379,600,762 AE / 536,306,702 AE (70.78%)



æternity by the block

Discover and navigate through the æternity blockchain mainnet, powered by Next-Generation-Nakamoto-Consensus (Bitcoin-NG). [Learn more](#)

TOKEN STANDARDS

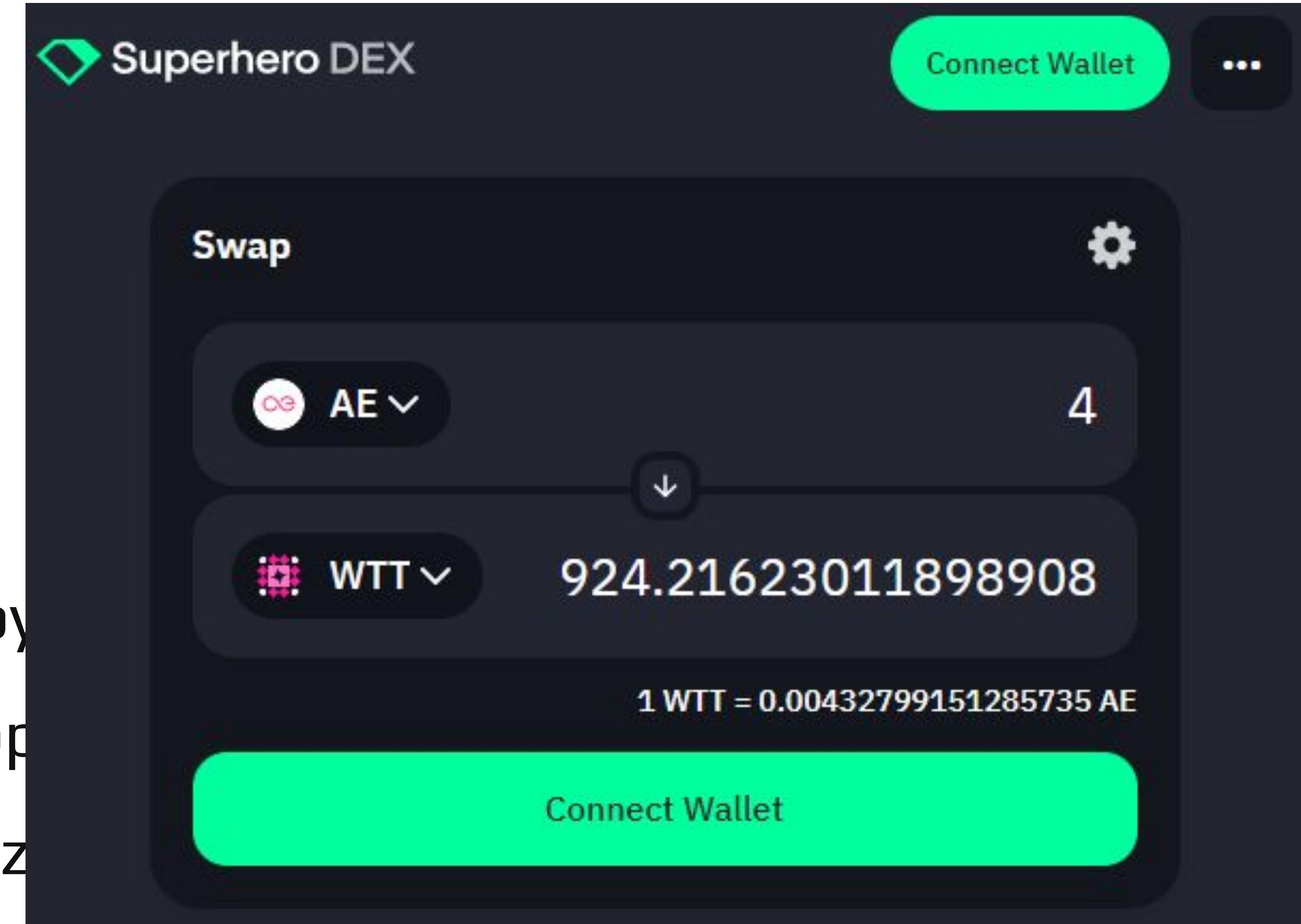
AEX-9

Fungible Token

AEX-141

Non-Fungible Token

- Inspired by
- Allows app
- standardiza
- Example: Superhero DEX where AEX-9 tokens can easily be traded



AEX-I4I

Non-Fungible Token



- Following the well-known ERC-721 standard as much as possible
- Core differences comparing to the ERC-721 standard:
 - Unsafe transactions are not supported. Therefore, all transactions are ought to be safe
 - Usage of zero-address for minting or burning is avoided. Thus, explicit events for minting and burning have been defined
 - High flexibility when it comes to dealing with metadata is provided

THANKS!