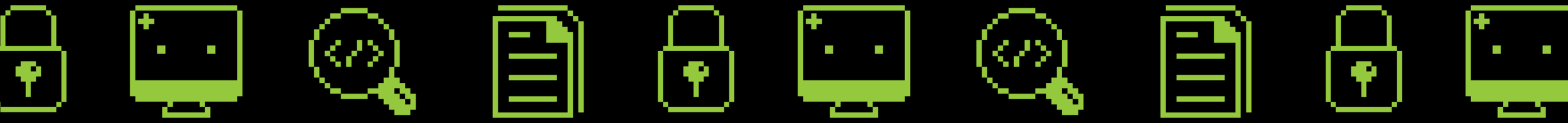


ZERO 2 KNOWLEDGE

A Workshop on Zero-Knowledge Trust

ΞDCON 2024 × ZKT NETWORK

WELCOME TO ZKTNETWORK!

ZKT Network DevRel

@MadaoChris on TG / X

ZKT NETWORK

QRCode

bit.ly/zkt-sdk-workshop-edcon

ZKT NETWORK

About ZKT Network

- We’re a all-chain Trust Machine
- We provide Trust Score Oracle for developers & protocols.
- We are working to create a better privacy and compliance blockchain based on Trust.

Introducing ZKT SDK 🎉

ZKT NETWORK

- ZKT SDK is the oracle calling SDK we provide to various public chain developers.
- This Trust Score represents the aggregated result of an address's on-chain and off-chain behaviors.
- This SDK supports multiple chains and can be used on multiple L1/L2.

ZKT NETWORK

What can I do with ZKT SDK?

- Get scores through the Trust Score oracle and provide different types of services to users of the DeFi protocol
- Identify risky users by screening out low scores and protect users' assets.
- Create your own Trust Score Persona and get your own Trust Score. Users with high Trust Score will be rewarded by the network.
- …and a lot more on th way!

LFG!!! How we can start?

ZKT NETWORK

```
forge install ZKTLabs/zktnetwork
```

ZKT NETWORK

Easy! What is next?

- Documentation - https://docs.zkt.network/zkt/product/zkt-sdk
- Discord - https://discord.gg/eagyPuaGj5
- Github Discussions - https://github.com/ZKTLabs/zktnetwork/discussions
- Github repo - https://github.com/ZKTLabs/zktnetwork
- Examples - https://github.com/ZKTLabs/zkt-examples/tree/main

ZKT NETWORK

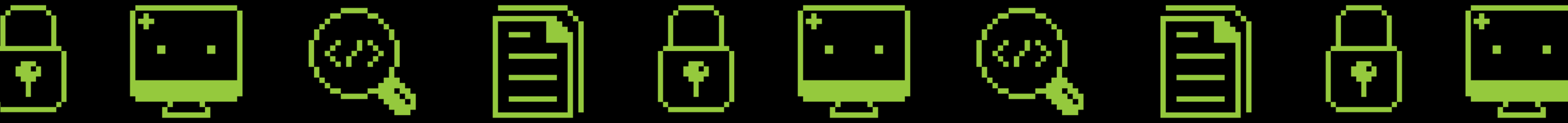
Example 1: Basic usage

```solidity
// SPDX-License-Identifier: MIT
pragma solidity ^0.8.0;

import {ComplianceAggregatorV2} from "@zktnetwork/v0.2/abstract/ComplianceAggregatorV2.sol";

contract Counter is ComplianceAggregatorV2 {
    uint256 public count;

    constructor(address _versionedMerkleTreeStub) ComplianceAggregatorV2(_versionedMerkleTreeStub)
{        count = 0;
    }

    /// @notice Increment the counter, only if the caller is verified
    function increment(bytes32[] memory proof, bytes memory encodedData) external {
        require(stub.verify(proof, encodedData), "Counter: Invalid proof");

        require(msg.sender == stub.getAccount(encodedData, true), "Counter: Invalid account");
        require(stub.getScore(encodedData, true) > 60, "Counter: Invalid score");

        count += 1;
    }

    /// @notice Increment the counter, only if the caller is verified
    function decrement(bytes32[] memory proof, bytes memory encodedData) external {
        require(stub.verify(proof, encodedData), "Counter: Invalid proof");

        require(msg.sender == stub.getAccount(encodedData, true), "Counter: Invalid account");
        require(stub.getScore(encodedData, true) > 90, "Counter: Invalid score");
        count -= 1;
```

Example 2: Integration for Uniswap hook

```solidity
// SPDX-License-Identifier: MIT
pragma solidity ^0.8.4;

import {ComplianceAggregatorV2} from "@zktnetwork/v0.2/abstract/ComplianceAggregatorV2.sol";
import {BaseHook} from "v4-periphery/BaseHook.sol";
import "v4-core/interfaces/IPoolManager.sol";
import "v4-core/types/PoolKey.sol";
import "v4-core/libraries/Hooks.sol";

contract ZKTUniswapV4ComplianceHook is B

        uint256 public beforeSwapCounter
        uint256 public validScore;
        bool public bypass;

        constructor(
            address _versionedMerkleTree
            IPoolManager _poolManager,
            uint256 _validScore,
            bool _bypass
        )
            BaseHook(_poolManager)
            ComplianceAggregatorV2(_versi
        {
            beforeSwapCounter = 0;
            validScore = _validScore;
            bypass = _bypass;
        }

        function getHookPermissions() pu
            return Hooks.Permissions({
                beforeInitialize: false,
                afterInitialize: false,
                beforeAddLiquidity: fals
                afterAddLiquidity: false
                beforeRemoveLiquidity: f
                afterRemoveLiquidity: fa
                beforeSwap: true,
                afterSwap: false,
                beforeDonate: false,
                afterDonate: false
            });
        }

        function beforeSwap(address, Poo
data)
            external
            virtual
            override
            returns (bytes4)
        {
            (
                bytes32[] memory proof,
                bytes memory encodedData
            ) = abi.decode(data, (bytes32[], bytes));
            require(stub.verify(proof, encodedData), "ZKTUniswapV4ComplianceHook: Invalid proof");

            if (!bypass) {
                require(tx.origin == stub.getAccount(encodedData, true), "ZKTUniswapV4ComplianceHook:
Invalid account");
```

```solidity
        // ......

        function beforeSwap(address, PoolKey calldata, IPoolManager.SwapParams calldata, bytes calldata data)
            external
            virtual
            override
            returns (bytes4)
        {
            (
                bytes32[] memory proof,
                bytes memory encodedData
            ) = abi.decode(data, (bytes32[], bytes));
            require(stub.verify(proof, encodedData), "ZKTUniswapV4ComplianceHook: Invalid proof");

            if (!bypass) {
                require(tx.origin == stub.getAccount(encodedData, true), "ZKTUniswapV4ComplianceHook: Invalid account");
            }
            require(stub.getScore(encodedData, true) > validScore, "ZKTUniswapV4ComplianceHook: Invalid score");
            beforeSwapCounter += 1;
            return BaseHook.beforeSwap.selector;
        }
}
```



THANK YOU

Get in touch ykw@zkt.network