Hardhat

Hardhat is an open-source development environment designed to provide developers with a flexible and extensible framework for building, testing, and deploying smart contracts.

While originally created for the Ethereum blockchain, the Filecoin Ethereum Virtual Machine runtime (FEVM) allows Hardhat to be used to develop and deploy smart contracts on the Filecoin network.

Quickstart

TheFEVM Hardhat kit is a starter hardhat project for developing, deploying, and testing Solidity smart contracts on the Filecoin network. It functions in the same way as other Hardhat development kits. Check out the quickstart below to test it out!

Prerequisites

This guide assumes you have the following installed:

- Yarn
- A Filecoin address stored inMetaMask
-

Environment setup

First, we need to grab the starter kit and install the dependencies.

1. Clone the Hardhat starter kit and move into the newfevm-hardhat-kit
2. directory:
3.

```

Copy gitclonehttps://github.com/filecoin-project/fevm-hardhat-kit.git cdfevm-hardhat-kit

# Cloning into 'fevm-hardhat-kit'...

# remote: Enumerating objects: 758, done.

# remote: Counting objects: 100% (725/725), done.

# ...

```

1. Use Yarn to install the project's dependencies:
2.

```

Copy yarninstall

# [1/4] Resolving packages...

# [2/4] Fetching packages...

# [3/4] Linking dependencies...

# ...
```

Done in 16.34s.

```

1. Add your private key to the.env
2. file:
3.

```

Copy PRIVATE_KEY=

```

Always be careful when dealing with your private key. Double-check that you're not hardcoding it anywhere or committing it to Git. Remember: anyone with access to your private key has complete control over your funds. 1. Get the addresses associated with the private key from Hardhat: 2.

```

Copy yarnhardhatget-address

Ethereum address (this addresss should work for most tools): 0x11Fc070e5c0D32024c9B63c136913405e07C8c48

f4address (also known as t4 address on testnets): f410fch6aods4buzaete3mpatnejuaxqhzdci3j67vyi

Done in 1.40s.

```

Now that we've got the kit set up, we can start using it to develop and deploy our contracts.

Manage the contracts

There are two main types of contracts:

- Basic Solidity examples: Simple contracts to show off basic Solidity.
- Filecoin API Examples: Contracts that demo how to use the Filecoin APIs in Solidity to access storage deals and other Filecoin-specific functions.
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Make sure that your account has funds. You won't be able to deploy any contracts withoutFIL ortFIL .

1. Runhardhat deploy
2. to deploy all the contracts. This can take a few minutes:
3.

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Copy yarnhardhatdeploy

Compiled 18 Solidity files successfully

Wallet Ethereum Address: 0x11Fc070e5c0D32024c9B63c136913405e07C8c48

Deploying Simplecoin...

...

Done in 211.76s.

```

1. Interact with the contracts using the available functions within thetasks
2. folder. For example, you can get the balance of thesimple-coin
3. contract by calling theget-balance
4. function:
5.

```

Copy yarnhardhatget-balance--contract'0xA855520fcCB6422976F7Ac78534edec2379Be5f6'--account'0x11Fc070e5c0D32024c9B63c136913405e07C8c48'

Reading SimpleCoin owned by 0x11Fc070e5c0D32024c9B63c136913405e07C8c48 on network calibration

Amount of Simplecoin owned by 0x11Fc070e5c0D32024c9B63c136913405e07C8c48 is 12000

Total amount of minted tokens is 12000

Done in 3.73s.

```

Hardhat docs

You can view the official Hardhat documentation over athardhart.org/docs .

Previous Remix Next Foundry

Last updated5 months ago
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