

BLOCKCHAIN

HARDHAT STARTER KIT



INSTALL FRAMEWORK

- npm install @chainlink/contracts --save
- yarn add @chainlink/contracts
- pipx install eth-brownie
- npm install truffle -g

```
brew install pipx
npm install @chainlink/contracts --save
npm WARN ERESOLVE overriding peer dependency
npm WARN While resolving: use-immer@0.6.0
npm WARN Found: react@18.2.0
npm WARN   node_modules/react
npm WARN     peer react@"^18.2.0" from react-dom@18.2.0
npm WARN   node_modules/react-dom
npm WARN     peer react-dom@">=17.0.0" from react-moralis@1.4.0
npm WARN   node_modules/react-moralis
npm WARN     1 more (the root project)
npm WARN     2 more (react-moralis, the root project)
npm WARN
npm WARN Could not resolve dependency:
npm WARN   peer react@"^16.8.0 || ^17.0.1" from use-immer@0.6.0
npm WARN   node_modules/react-moralis/node_modules/use-immer
npm WARN     use-immer@"^0.6.0" from react-moralis@1.4.0
npm WARN   node_modules/react-moralis
npm WARN
npm WARN Conflicting peer dependency: react@17.0.2
npm WARN   node_modules/react
npm WARN     peer react@"^16.8.0 || ^17.0.1" from use-immer@0.6.0
npm WARN   node_modules/react-moralis/node_modules/use-immer
npm WARN     use-immer@"^0.6.0" from react-moralis@1.4.0
npm WARN   node_modules/react-moralis
added 1 package, removed 32 packages, and audited 2266 packages in 32s
```



Search or jump to...

/ Pull requests Issues Marketplace Explore

bell + user icon

smartcontractkit / hardhat-starter-kit Public template

Watch 12

Fork 202

Star 574

<> Code Issues 10 Pull requests 2 Discussions Actions Projects Wiki Security Insights

main

3 branches

3 tags

Go to file

Add file

Code

Use this template

bobanm Fixed documentation on how to run staging tests (#104)

5bce50f 17 days ago 159 commits

contracts

Changed constant variable names to UPPERCASE

26 days ago

deploy

Removed unnecessary usage of Link token interface from RandomN...

last month

scripts

massive testing overhaul

5 months ago

tasks

Add VRF V2, Fuzz Testing, NatSpec, Coverage

4 months ago

About

A repo for boilerplate code for testing, deploying, and shipping chainlink solidity code.

javascript

chainlink

hardhat

Readme

MIT license

574 stars

BUAT NEW PROJECT

Buat project baru dengan clone github hardhat starter kit:

git clone https://github.com/smartcontractkit/hardhat-starter-kit

cd hardhat-starter-kit

INSTAL DEPENDENCY

Install Dependency dengan perintah "yarn" pada terminal

The screenshot shows the Visual Studio Code (VS Code) interface. The top menu bar includes 'Code', 'File', 'Edit', 'Selection', 'View', 'Go', 'Run', 'Terminal', 'Window', and 'Help'. The title bar displays 'readPrice.js — hardhat-starter-kit'. The left sidebar has sections for 'EXPLORER', 'OPEN EDITORS' (with 'readPrice.js' selected), 'HARDH...', 'artifacts', 'cache', 'contracts' (containing 'APIConsumer.sol', 'KeepersCounte...', 'PriceConsumer...', 'RandomNumbe...'), 'test' (containing 'APIConsumer...', 'KeepersCounte...', 'PriceConsumer...', 'RandomNumbe...'), 'deploy', 'deployments' (selected), 'node_modules', 'scripts' (containing 'readPrice.js'), 'tasks', 'test' (containing 'staging' folder with 'APIConsumer...', 'RandomNumb...'), and 'staging'. The main area features tabs for 'PROBLEMS', 'OUTPUT', 'DEBUG CONSOLE', and 'TERMINAL'. The 'TERMINAL' tab is active, showing a terminal window with the following output:

```
yarn install v1.22.17
[1/4] 🐠 Resolving packages...
[2/4] 🛡 Fetching packages...
warning Pattern ["ethereumjs-abi@git+https://github.com/ethereumjs/ethereumjs-abi.git"] is trying
"/Users/darma/Library/Caches/Yarn/v6/npm-ethereumjs-abi-0.6.8-ee3994657fa7a427238e6ba92a84d0b529b
as pattern ["ethereumjs-abi@0.6.8", "ethereumjs-abi@^0.6.8", "ethereumjs-abi@~0.6.8"]. This could re
, skipping.
warning Pattern ["@eth-optimism/solc@^0.6.12-alpha.1"] is trying to unpack in the same destination
/v6/npm-@eth-optimism-solc-v0-6-12-0.6.12-alpha.1-041876f83b34c6afe2f19dfe9626568df6ed8590-integr
-v0.6.12" as pattern ["@eth-optimism/solc-v0.6.12@npm:@eth-optimism/solc@^0.6.12-alpha.1"]. This c
ehavior, skipping.
info There appears to be trouble with your network connection. Retrying...
info There appears to be trouble with your network connection. Retrying...
[3/4] ⚡ Linking dependencies...
warning "@chainlink/test-helpers > @krebernisak/ovm-plugins@0.0.15" has incorrect peer dependency
.
warning "@chainlink/test-helpers > @krebernisak/ovm-plugins > @nomiclabs/hardhat-truffle5@2.0.3" l
bs/hardhat-web3@^2.0.0".
warning "@chainlink/test-helpers > @krebernisak/ovm-plugins > @nomiclabs/hardhat-truffle5@2.0.3" l
0.0-beta.36".
warning "@chainlink/test-helpers > typechain > ts-essentials@7.0.3" has unmet peer dependency "typ
warning "@chainlink/test-helpers > @krebernisak/ovm-plugins > @nomiclabs/hardhat-truffle5 > @nomi
unmet peer dependency "web3@^1.2.1".
warning "@chainlink/test-helpers > @krebernisak/ovm-plugins > @nomiclabs/hardhat-truffle5 > @nomi
unmet peer dependency "web3-core-helpers@^1.2.1".
warning "@chainlink/test-helpers > @krebernisak/ovm-plugins > @nomiclabs/hardhat-truffle5 > @nomi
unmet peer dependency "web3-core-promievent@^1.2.1".
warning "@chainlink/test-helpers > @krebernisak/ovm-plugins > @nomiclabs/hardhat-truffle5 > @nomi
```

The screenshot shows the VS Code interface with the following details:

- Top Bar:** Code, File, Edit, Selection, View, Go, Run, Terminal, Window, Help.
- Left Sidebar:** Explorer, Open Editors, HARDH... (expanded), artifacts, cache, contracts, deploy, deployments, node_modules, scripts, tasks, test (selected).
- Terminal Tab:** TERMINAL
- Terminal Output:**

```
~ /Users/darma/Desktop/hardhat-starter-kit on main
yarn hardhat test
yarn run v1.22.17
$ /Users/darma/Desktop/hardhat-starter-kit/node_modules/.bin/hardhat test
Downloading compiler 0.8.7
Downloading compiler 0.4.24
@chainlink/token/contracts/v0.4/token/linkStandardToken.sol:27:5: Warning: Use of the "
    var _allowance = allowed[_from][msg.sender];
                           ^
@chainlink/token/contracts/v0.4/LinkToken.sol:15:3: Warning: Defining constructors as f
s deprecated. Use "constructor(...) { ... }" instead.
    function LinkToken()
                           ^
(Related source part starts here and spans across multiple lines).

@chainlink/token/contracts/v0.4/ERC677Token.sol:21:5: Warning: Invoking events without
    Transfer(msg.sender, _to, _value, _data);
                           ^
@chainlink/token/contracts/v0.4/token/linkBasicToken.sol:25:5: Warning: Invoking events
    Transfer(msg.sender, _to, _value);
                           ^
@chainlink/token/contracts/v0.4/token/linkStandardToken.sol:35:5: Warning: Invoking eve
    Transfer(_from, _to, _value);
                           ^
```

TEST HADHAT

lakukan Uji Coba dengan perintah "yarn hardhat test" pada terminal. Setelah itu akan mendapatkan data akun yang akan di uji coba.

The screenshot shows a terminal window with the following output:

```
/Users/darma/.zprofile:18: no such file or directory
[1/1] ~/Desktop/hardhat-starter-kit [on]
yarn hardhat node
yarn run v1.22.17
$ /Users/darma/Desktop/hardhat-starter-kit/node_modules/.bin/hardhat node
Nothing to compile
Local network detected! Deploying mocks...
deploying "LinkToken" (tx: 0x90ca71286c245a64ce27f032d93F642f64180aa3 with 1279499 gas)
deploying "MockV3Aggregator" (tx: 0x73367e44aa67CE288F8367e1Bb143E90bb3F0512 with 569671 gas)
deploying "VRFCoordinatorV2Mock" (tx: 0x4a1df221679d2D9a65F0992F2272dE9f3c7fa6e0 with 1797707 gas)
deploying "MockOracle" (tx: 0x7c5bf13ac29f675421704C703E8D87F634fB0Fc9 with 1131081 gas)
Mocks Deployed!

You are deploying to a local network, you'll need to
Please run `yarn hardhat console` to interact with your contracts

deploying "PriceConsumerV3" (tx: 0x1d0187d17e35781100a9becA4E685f962f0cF6C9 with 245612 gas)
Run Price Feed contract with command:
yarn hardhat read-price-feed --contract 0xDc64a1

deploying "APIConsumer" (tx: 0xd3acc18d9eb5d1b1739d9d3abcBD16989F875707 with 1404981 gas)
Run API Consumer contract with following command:
yarn hardhat request-data --contract 0x5FC8d3269
```

DEPLOY PRICE CONSUMERV3

Lakukan Deploying pada harga konsumen dengan perintah "yarn hardhat node" pada terminal anda

MENAMPILKAN HARGA

Menampilkan harga dengan cara masukkan perintah "yarn hardhat console --network localhost" pada terminal. Setelah itu ikuti perintah gambar tersebut untuk menampilkan nilai



A screenshot of a Mac OS X desktop environment showing a code editor window for a Hardhat project. The title bar reads "readPrice.js — hardhat-starter-kit". The code editor shows a file named "readPrice.js" with the following content:

```
async function readPrice() {
  const priceConsumerV3 = await ethers.getContract("PriceConsumerV3")
  const price = await priceConsumerV3.getLatestPrice()
  console.log(price.toString())
}

readPrice()
  .then(() => process.exit(0))
  .catch(error) => {
    console.error(error)
    process.exit(1)
}
```

The "OPEN EDITORS" sidebar shows other files like "scripts.ts", "tasks.js", "test.ts", "staging.ts", "unit.ts", ".env.example", ".gitattributes", ".gitignore", ".gitpod.yml", ".npmignore", ".prettierignore", ".prettierrc", ".solcover.js", and ".solhint.json". The "TERMINAL" tab at the bottom shows the command "yarn hardhat console --network localhost" being run, followed by the Node.js welcome message and the execution of the "readPrice" script.

The screenshot shows the VS Code interface with the following details:

- Explorer:** Shows the project structure under "HARDHAT-STARTER-KIT".
- Terminal:** Displays the output of the "yarn hardhat deploy" command.

```
:443:23)
    at DeploymentsManager.loadDeployments (/Users/darma/Desktop/hardhat-starter-kit/node_modules/hardhat-deployer.ts:619:17)
error Command failed with exit code 1.
info Visit https://yarnpkg.com/en/docs/cli/run for documentation about this command.
yarn hardhat deploy
yarn run v1.22.17
$ /Users/darma/Desktop/hardhat-starter-kit/node_modules/.bin/hardhat deploy
Nothing to compile
Local network detected! Deploying mocks...
deploying "LinkToken" (tx: 0x90ca71286c245a64ceaaafde24331fe80e7daf4cf71e7ad32fcf620ae66a943c8)...: deployed
7f032d93F642f64180aa3 with 1279499 gas
deploying "MockV3Aggregator" (tx: 0x73367e44aa675ec6c93d61558f83d0f310bb095b07043a5cef3310614d95f406)...: deployed
CE288F8367e1Bb143E90bb3F0512 with 569671 gas
deploying "VRFCoordinatorV2Mock" (tx: 0x4a1df22fde7a09f1539013ccece1869430a238b0a6213bda3ceab8d866121a26)...: deployed
679d2D9a65F0992F2272dE9f3c7fa6e0 with 1797707 gas
deploying "MockOracle" (tx: 0x7c5bf13ac29f67542f81da4712d1a199f079ec7e4e32f35cecab7fc52885da82)...: deployed
704C703E8D87F634fB0Fc9 with 1131081 gas
Mocks Deployed!

You are deploying to a local network, you'll need a local network running to interact
Please run `yarn hardhat console` to interact with the deployed smart contracts!

deploying "PriceConsumerV3" (tx: 0x1d0187d17e357248aa44108bc810533839e20a73625698ddbba1b3707c428a2a)...: deployed
81100a9becA4E685f962f0cF6C9 with 245612 gas
Run Price Feed contract with command:
yarn hardhat read-price-feed --contract 0xDc64a140Aa3E981100a9becA4E685f962f0cF6C9 --network localhost

deploying "APIConsumer" (tx: 0xd3acc18d9eb5d1b177e8338dc15e772e49ff29a965968183e07e19bc98285301)...: deployed
39d9d3abcBD16989F875707 with 1404981 gas
Run API Consumer contract with following command:
yarn hardhat request-data --contract 0x5FC8d32690cc91D4c39d9d3abcBD16989F875707 --network localhost

deploying "RandomNumberConsumerV2" (tx: 0xf88f155ba41e6a4d95c9e296ed49147888b017dd96004d4a17ab78e0b1b82d9b).A0a67DB372996a5FaB50D91eAA73d2eBe6 with 564345 gas
Then run RandomNumberConsumer contract with the following command
yarn hardhat request-random-number --contract 0x2279B7A0a67DB372996a5FaB50D91eAA73d2eBe6 --network localhost

deploying "KeepersCounter" (tx: 0x86836f42077c9d4e1700a35fb27a757e8a6c1d724c4c96fa434146e061677f4)...: deployed
079BF849Dc5567aDC3F2FdC318 with 448166 gas
Head to https://keepers.chain.link/ to register your contract for upkeeps. Then run the following command to es:
yarn hardhat read-keepers-counter --contract 0x8A791620dd6260079BF849Dc5567aDC3F2FdC318 --network localhost
```

DEPLOYING HARDHAT