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Lesson 6 : HARDHAT SIMPLE STORAGE

Hardhat dilengkapi dengan Hardhat Network, node jaringan Ethereum lokal yang dirancang untuk pengembangan, mirip dengan Ganache, geth --dev, dll. Ini memungkinkan Anda untuk menerapkan kontrak, menjalankan pengujian, dan men-debug kode yang ada.

```
^C
mumun@Mumun-MacBook-Air hardhat-simple-storage % npx hardhat
Hardhat version 2.9.9

Usage: hardhat [GLOBAL OPTIONS] <TASK> [TASK OPTIONS]

GLOBAL OPTIONS:

  --config          A Hardhat config file.
  --emoji           Use emoji in messages.
  --help           Shows this message, or a task's help if its name is provided
  --max-memory      The maximum amount of memory that Hardhat can use.
  --network         The network to connect to.
  --show-stack-traces Show stack traces.
  --tsconfig        A TypeScript config file.
  --verbose        Enables Hardhat verbose logging
  --version        Shows hardhat's version.

AVAILABLE TASKS:

  accounts          Prints the list of accounts
  block-number      print current block number
  check            Check whatever you need
  clean            Clears the cache and deletes all artifacts
  compile          Compiles the entire project, building all artifacts
  console          Opens a hardhat console
  flatten          Flattens and prints contracts and their dependencies
  gas-reporter:merge Prints this message
  help            Prints this message
  node            Starts a JSON-RPC server on top of Hardhat Network
  run             Runs a user-defined script after compiling the project
  test            Runs mocha tests
  verify          Verifies contract on Etherscan

To get help for a specific task run: npx hardhat help [task]

mumun@Mumun-MacBook-Air hardhat-simple-storage %
```

Deploy :

npx hardhat run scripts/deploy.js

```
mumun@Mumun-MacBook-Air hardhat-simple-storage % npx hardhat run scripts/deploy.js
Deploying contract .....
deployed to: 0x5f8002315678afecb367f832d93f642f64180aa3
{
  hardfork: 'arrowGlacier',
  blockGasLimit: 30000000,
  gasPrice: 'auto',
  chainId: 31337,
  throwOnTransactionFailures: true,
  throwOnCallFailures: true,
  allowUnlimitedContractSize: false,
  mining: { auto: true, interval: 0, mempool: { order: 'priority' } },
  accounts: {
    initialIndex: 0,
    count: 20,
    path: '/44'/60'/0'/0',
    passphrase: '',
    mnemonic: 'test test test test test test test test test test junk',
    accountsBalance: '1000000000000000000000'
  },
  loggingEnabled: false,
  gasMultiplier: 1,
  minGasPrice: <BN: 0>,
  chains: Map {
    1 => { hardforkHistory: [Map] },
    3 => { hardforkHistory: [Map] },
    4 => { hardforkHistory: [Map] },
    42 => { hardforkHistory: [Map] }
  },
  gas: 30000000,
  initialDate: '2022-07-08T15:56:23.907Z'
}
current value is: 0
update value is: 7
mumun@Mumun-MacBook-Air hardhat-simple-storage %
```

Testing / Estimate gas

npx hardhat test

You can estimate how much gas things cost by running

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL

simpleStorage
  ✓ Should start with a favorite number of 0
  ✓ Should update when we call store

-----|-----|-----|-----|
| Solc version: 0.8.8 | Optimizer enabled: false | Runs: 200 | Block limit: 30000000 gas |
-----|-----|-----|-----|
| Methods |
-----|-----|-----|-----|
| Contract | Method | Min | Max | Avg | # calls | eur (avg) |
-----|-----|-----|-----|
| SimpleStorage | store | - | - | 43724 | 2 | - |
-----|-----|-----|-----|
| Deployments |
-----|-----|-----|-----|
| SimpleStorage | - | - | - | 463682 | 1.5 % | - |
-----|-----|-----|-----|

2 passing (1s)

mumun@Mumun-MacBook-Air hardhat-simple-storage %
```