Foundry课程

安装

中文：https://learnblockchain.cn/docs/foundry/i18n/zh/getting-started/installation.html

英文：https://book.getfoundry.sh/getting-started/installation

使用cli初始化项目

```
forge init demo
```

合约

```
// SPDX-License-Identifier: UNLICENSED
pragma solidity ^0.8.13;

contract Counter {
    uint256 public number;

    function setNumber(uint256 newNumber) public {
        number = newNumber;
    }

    function increment() public {
        number++;
    }
}
```

测试

- 测试命名规范，没有test前缀的代码不会执行（不带test前缀的方法有什么用）

- fuzz test

```
// SPDX-License-Identifier: UNLICENSED
pragma solidity ^0.8.13;

import {Test, console} from "forge-std/Test.sol";
import {Counter} from "../src/Counter.sol";

contract CounterTest is Test {
    Counter public counter;
```

```solidity
    function setUp() public {
        counter = new Counter();
        counter.setNumber(0);
    }

    function test_Increment() public {
        counter.increment();
        assertEq(counter.number(), 2);
    }

    function testFuzz_SetNumber(uint256 x) public {
        counter.setNumber(x);
        assertEq(counter.number(), x);
    }
}
```

编译

`forge build`

out文件夹下生成编译代码

- abi文件

- 合约二进制代码

Gas报告

`forge test --gas-report`

- 和测试模块绑定

- 可以在.toml中指定那些合约使用gas报告

https://book.getfoundry.sh/forge/gas-reports

部署上测试网

写配置到环境变量

- 私钥

mac

```
export PRIVATE_KEY=...
```

windows

```
set PRIVATE_KEY=...
```

- rpc-url

```
[rpc_endpoints]
localhost="http://127.0.0.1:8545"
ethers_mainnet="..."
```

- 启动本地测试链

`anvil`

- 部署测试网络

`forge create Counter --rpc-url localhost --private-key $PRIVATE_KEY`