

day88-sol-truffle

☰ 태그	
📅 날짜	@2023년 2월 1일

truffle 폴더 생성

CMD

이전 truffle 삭제

- `npm uninstall -g truffle`

5.0 버전으로 설치

- `npm install -g truffle@5.0`

truffle 버전 확인

- `truffle version`

```
PS C:\WTRUFFLE> truffle version
Truffle v5.0.44 (core: 5.0.44)
Solidity v0.5.12 (solc-js)
Node v16.13.2
Web3.js v1.2.2
PS C:\WTRUFFLE>
```

cmd에서 폴더 생성

- `mkdir 폴더명`

- mkdir dapp-example1

truffle 관련 프레임워크 설치

- truffle init

```
PS C:\WTRUFFLE\example1> truffle init

✓ Preparing to download
✓ Downloading
✓ Cleaning up temporary files
✓ Setting up box

Unbox successful. Sweet!

Commands:

Compile:      truffle compile
Migrate:      truffle migrate
Test contracts: truffle test

PS C:\WTRUFFLE\example1> dir

디렉터리: C:\WTRUFFLE\example1

Mode                LastWriteTime         Length Name
----                -
d-----          2023-02-01 오전 9:45             contracts
d-----          2023-02-01 오전 9:45             migrations
d-----          2023-02-01 오전 9:45             test
-a----          2023-02-01 오전 9:45         4235 truffle-config.js
```

code . 명령어로 vsCODE 실행

truffle-config.js

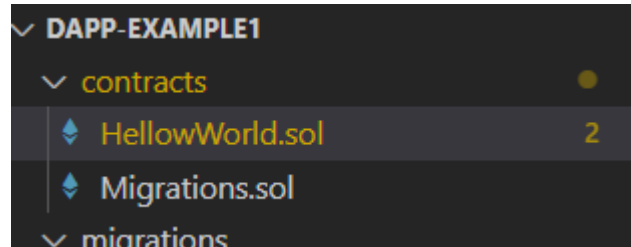
```
//
development: {
  host: "127.0.0.1",      // Localhost (default: none)
  port: 8545,            // Standard Ethereum port (default: none)
  network_id: "*",       // Any network (default: none)
},
```

```

compilers: {
  solc: {
    version: "0.5.1", // Fetch exact version from solc-bin (default: truffle's version)
  }
}

```

주석 풀어주기



파일 생성

```

pragma solidity ^0.5.1;

contract HellowWorld{
    string public greeting;

    constructor(string memory _greeting) public{
        greeting = _greeting;
    }

    function setGreeting(string memory _greeting) public{
        greeting = _greeting;
    }

    function say() public view returns(string memory){
        return greeting;
    }
}

```

실행 cmd로

- truffle compile

```
C:\TRUFFLE\dapp-example1>truffle compile

Compiling your contracts...
=====
> Compiling .\contracts\HelloWorld.sol
> Compiling .\contracts\Migrations.sol
> Artifacts written to C:\TRUFFLE\dapp-example1\build\contracts
> Compiled successfully using:
  - solc: 0.5.1+commit.c8a2cb62.Emscripten.clang
```

```
JS truffle-config.js  HelloWorld.sol 1  JS 1_initial_migration.js X
migrations > JS 1_initial_migration.js > ...
1  const Migrations = artifacts.require("Migrations");
2
3  module.exports = function(deployer) {
4    deployer.deploy(Migrations);
5  };
6
```

아래처럼 변경

```
JS truffle-config.js  HelloWorld.sol 1  JS 1_initial_migration.js X
migrations > JS 1_initial_migration.js > ...
1  const helloWorld = artifacts.require("HelloWorld.sol");
2
3  module.exports = function(deployer) {
4    deployer.deploy(helloWorld);
5  };
6
```

가나슈 실행

```
development: {
  host: "127.0.0.1", // Localhost (default: none)
  port: 8545, // Standard Ethereum port (default: none)
  network_id: "*", // Any network (default: none)
},
```

ACCOUNTS	BLOCKS	TRANSACTIONS	CONTRACTS	EVENTS	LOGS	SEARCH FOR BLOCK NUMBERS OR TX HASHES
CURRENT BLOCK 0	GAS PRICE 20000000000	GAS LIMIT 6721975	HARDFORK MUIRGLACIER	NETWORK ID 5777	RPC SERVER HTTP://127.0.0.1:8545	MINING STATUS AUTOMINING
MNEMONIC buddy able record dry account diary dress man light filter morning north						HD PATH m/44'/60'/0'/0'/0/account_index
ADDRESS 0x0Ca6d82dB9A10337156fD3b8729D9ABece114760	BALANCE 100.00 ETH	TX COUNT 0	INDEX 0			
ADDRESS 0x0BBC78edEADe58B1513E1Bbd67253F3b8d1ab2eD	BALANCE 100.00 ETH	TX COUNT 0	INDEX 1			
ADDRESS 0x92d9835FbDa7B9E5a3aF331bC23726Ee14f66D52	BALANCE 100.00 ETH	TX COUNT 0	INDEX 2			
ADDRESS 0xa625078337B5B2c70D712E5d992EB259Cb216c64	BALANCE 100.00 ETH	TX COUNT 0	INDEX 3			
ADDRESS 0x5a3C3EAC5E5FCE289881fe9635E6149047Ca790c	BALANCE 100.00 ETH	TX COUNT 0	INDEX 4			
ADDRESS 0xE9868dd9C160762ce3aB350AB16Fb6e2BBE431Fc	BALANCE 100.00 ETH	TX COUNT 0	INDEX 5			
ADDRESS 0x014a2dfe74DDc6990E1a6d5A6309A1990Ef08Ad7	BALANCE 100.00 ETH	TX COUNT 0	INDEX 6			

포트 번호 맞춰야한다.

트러플 배포 명령어

- truffle migrate --network development

```
1_initial_migration.js
=====
Error: Error: Could not find artifacts for HelloWorld from any sources
    at Object.run (C:\Users\tjooun\AppData\Roaming\npm\node_modules\truffle\build\webpack:\packages\migrate\index.js:96:1)
    at processTicksAndRejections (node:internal/process/task_queues:96:5)
    at runMigrations (C:\Users\tjooun\AppData\Roaming\npm\node_modules\truffle\build\webpack:\packages\core\lib\commands\migrate.js:252:1)
    at C:\Users\tjooun\AppData\Roaming\npm\node_modules\truffle\build\webpack:\packages\core\lib\commands\migrate.js:217:1
Truffle v5.0.44 (core: 5.0.44)
Node v16.13.2
```

에러 발생

```
JS truffle-config.js  HellowWorld.sol 1  Migrations.sol  JS 1_initial_migration.js X
migrations > JS 1_initial_migration.js > ...
1  const helloWorld = artifacts.require("HelloWorld.sol");
2
3  module.exports = function(deployer) {
4    deployer.deploy(helloWorld, "hello world!");
5  };
6
```

에러가 발생했기 때문에 리셋을 한번 해야한다.

- truffle migrate --reset
- truffle migrate --network development

```
Compiling your contracts...
=====
> Compiling .\contracts\HellowWorld.sol
> Artifacts written to C:\TRUFFLE\dapp-example1\build\contracts
> Compiled successfully using:
  - solc: 0.5.1+commit.c8a2cb62.Emscripten.clang

Starting migrations...
=====
> Network name:    'development'
> Network id:     5777
> Block gas limit: 0x6691b7

1_initial_migration.js
=====

Replacing 'HelloWorld'
-----
> transaction hash:  0x23aad778708dd5a69181b0032b7bc12379e690b07cb5e6746bda63d5a9e97be0
> Blocks: 0         Seconds: 0
> contract address: 0xff189525880e99792DA18534eF7F463E54eDA1C1
> block number:     2
> block timestamp:  1675213401
> account:          0x0Ca6d82dB9A10337156fD3b8729D9ABece114760
> balance:          99.98706912
> gas used:         323272
> gas price:        20 gwei
> value sent:       0 ETH
> total cost:       0.00646544 ETH

> Saving artifacts
=====
```

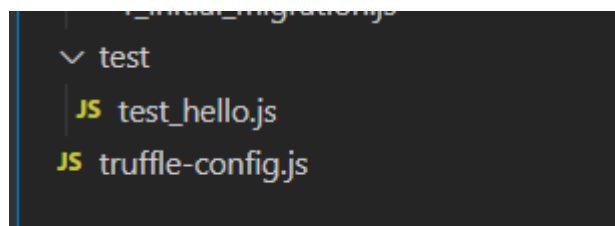
컨트렉트 주소를 통해 가져와야한다.

네트워크연결(컨트랙트 주소를 가져올수 있다.)

- truffle console --network development
- let hello = await HelloWorld.at("컨트랙트주소")
- hello.say()

```
C:\TRUFFLE\dapp-example1>truffle console --network development
truffle(development)> let hello = await HelloWorld.at("0xFF189525880e99792DA18534eF7F463E54eDA1C1")
undefined
truffle(development)> hello.say()
'hello world!'
truffle(development)> █
```

test 폴더에 파일 생성



```
const helloWorld = artifacts.require("HelloWorld");

contract("HelloWorld", function(accounts){

  before(async ()=>{
    this.instance = await helloWorld.deployed();
  });

  //단위 테스트 케이스
  it("should be initialized with correct value", async()=> {
    const greeting = await this.instance.greeting();

    assert.equal(greeting,"hello world!","Wrong initialized value!");
  })
})
```

- truffle test

```
C:\TRUFFLE\dapp-example1>truffle test
Using network 'development'.

Compiling your contracts...
=====
> Compiling .\contracts\HelloWorld.sol

Contract: HelloWorld
  ✓ should be initialized with correct value (133ms)

1 passing (179ms)

C:\TRUFFLE\dapp-example1>
```

해당 파일은 에러가 없다는것을 테스트할 수 있다.

