

Homework 2

Deploy Your First Contract

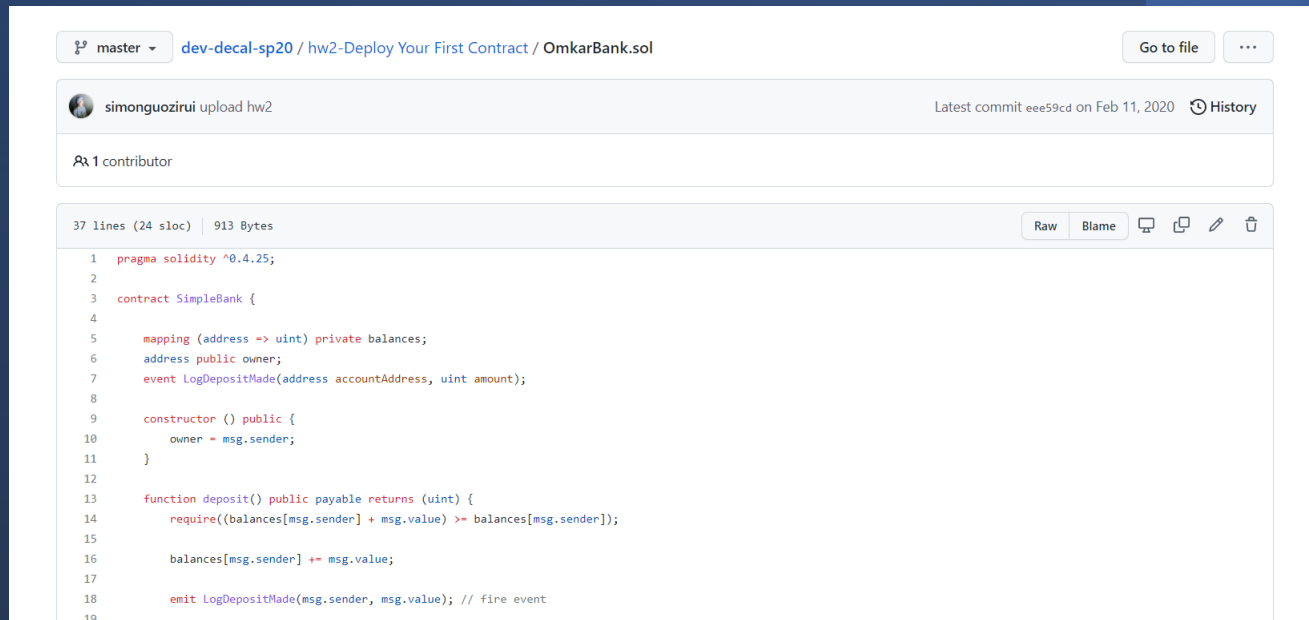
ศิษย์พร กิตตินันท์ธนโชติ

ID : 2110731303004

Download & Compile Contract

Resource from

- <https://github.com/BerkeleyBlockchain/dev-decal-sp20/tree/master/hw2-Deploy%20Your%20First%20Contract>
- OmkarBank.sol



The screenshot displays a GitHub repository page for the file `OmkarBank.sol`. The repository is named `dev-decal-sp20 / hw2-Deploy Your First Contract`. The file was uploaded by `simonguozirui` with the commit message `upload hw2`. The latest commit is `eee59cd` on Feb 11, 2020. The file is 37 lines long (24 sloc) and 913 Bytes. The code is a Solidity contract named `SimpleBank`. It includes a pragma statement for Solidity version `^0.4.25`, a mapping for balances, a public owner address, an event `LogDepositMade`, a constructor that sets the owner to the sender, a `deposit` function that checks the balance and updates it, and an `emit` statement for the event.

```
1 pragma solidity ^0.4.25;
2
3 contract SimpleBank {
4
5     mapping (address => uint) private balances;
6     address public owner;
7     event LogDepositMade(address accountAddress, uint amount);
8
9     constructor () public {
10         owner = msg.sender;
11     }
12
13     function deposit() public payable returns (uint) {
14         require((balances[msg.sender] + msg.value) >= balances[msg.sender]);
15
16         balances[msg.sender] += msg.value;
17
18         emit LogDepositMade(msg.sender, msg.value); // fire event
19 }
```

Compile Contract

Compile OmkarBank.sol with Remix - Ethereum ID

The screenshot displays the Remix IDE interface with the following components:

- SOLIDITY COMPILER Panel (Left):**
 - COMPILER:** 0.4.26+commit.4563c3fc
 - ☐ Include nightly builds
 - LANGUAGE:** Solidity
 - EVM VERSION:** compiler default
 - COMPILER CONFIGURATION:**
 - ☐ Auto compile
 - ☐ Enable optimization (200)
 - ☐ Hide warnings
 - Buttons:** Compile OmkarBank.sol, Publish on Ipfs, Compilation Details
 - CONTRACT:** SimpleBank (OmkarBank.sol)
 - Bottom:** ABI, Bytecode
- Editor (Center):** Contains the Solidity code for `OmkarBank.sol`. The code defines a `SimpleBank` contract with a `balances` mapping, a `deposit` function, and a `withdraw` function.
- Bottom Panel:**
 - Search:** Search with transaction hash or address
 - Network:** listen on network (unchecked)
 - Transaction Log:** Shows a successful transaction at block 30381583, txIndex 5, from 0xFF2...528d4 to 0x3A874792b513Fe4c7bbAc780A9BE07FFc75FE472, with a value of 1000 wei and data 0xd0e...30db0. The log hash is 0xd6b...3159f.
 - Buttons:** Debug

Deploy to Test Net

Environment

- Injected Web3 - Kovan Network

The screenshot displays the Remix Ethereum IDE interface. On the left, the 'DEPLOY & RUN TRANSACTIONS' sidebar is visible. The 'ENVIRONMENT' section is highlighted with a red box, showing 'Injected Web3' and 'Kovan (42) network'. Below this, the 'ACCOUNT' section shows the address '0xFF2...528d4 (1.00530091)' and the 'GAS LIMIT' is set to '3000000'. The 'VALUE' is set to '0' in 'Wei'. The 'CONTRACT' section shows 'SimpleBank - contracts/OmKarBank.sol'. The 'Deploy' button is highlighted. Below the 'Deploy' button, there is a checkbox for 'Publish to IPFS' and a section for 'At Address' with a 'Load contract from Address' button. At the bottom of the sidebar, it says 'Transactions recorded 1' and 'Deployed Contracts'. A message at the bottom of the sidebar states: 'Currently you have no contract instances to interact with.'

The main editor shows the Solidity code for the 'SimpleBank' contract:

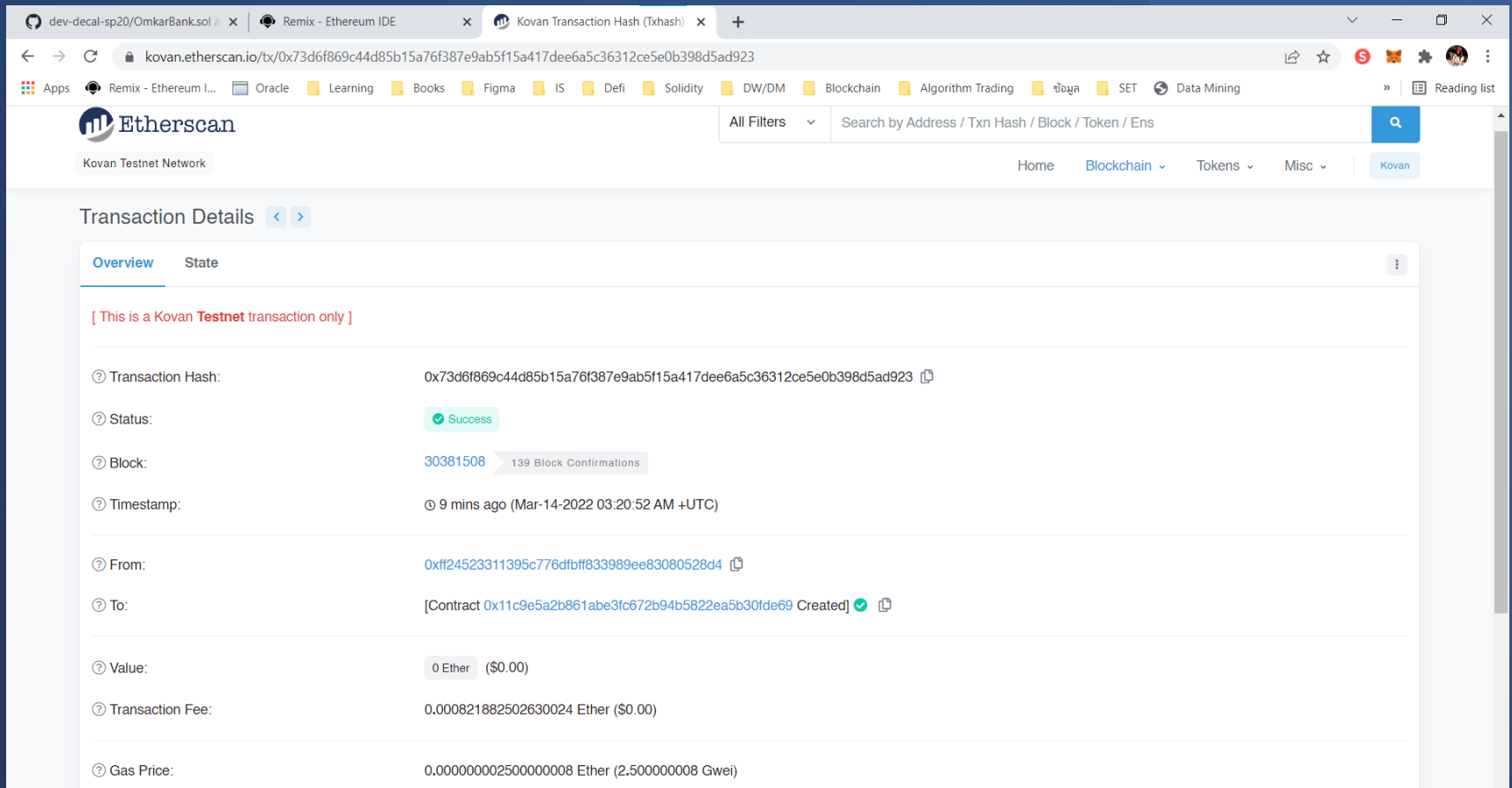
```
1 pragma solidity ^0.4.25;
2
3 contract SimpleBank {
4
5     mapping (address => uint) private balances;
6     address public owner;
7     event LogDepositMade(address accountAddress, uint amount);
8
9     constructor () public {
10         owner = msg.sender;
11     }
12
13     function deposit() public payable returns (uint) {
14         require((balances[msg.sender] + msg.value) >= balances[msg.sender]);
15
16         balances[msg.sender] += msg.value;
17
18         emit LogDepositMade(msg.sender, msg.value); // fire event
19
20         return balances[msg.sender];
21     }
22
23     function withdraw(uint withdrawAmount) public returns (uint remainingBal) {
24         require(withdrawAmount <= balances[msg.sender]);
25
26         balances[msg.sender] -= withdrawAmount;
27
28         msg.sender.transfer(withdrawAmount);
29     }
30 }
```

On the right, the 'New Contract' dialog is open, showing the URL 'https://remix.ethereum.org' and the 'CONTRACT DEPLOYMENT' button. Below this, the 'DETAILS' tab is selected, showing the 'Estimated gas fee' as '0.00082188 ETH' and the 'Total' as '0.00082188 ETH'. The 'Max fee' is '0.00082188 ETH' and the 'Max amount' is '0.00082188 ETH'. The 'Reject' and 'Confirm' buttons are visible at the bottom of the dialog.

The bottom status bar shows the transaction details: '[vm] from: 0x5B3...eddC4 to: SimpleBank.(constructor) value: 0 wei data: 0x608...f0029 logs: 0 hash: 0x124...33d1a' and the message 'creation of SimpleBank pending...'. A 'Debug' button is also present.

Transaction Details

<https://kovan.etherscan.io/tx/0x73d6f869c44d85b15a76f387e9ab5f15a417dee6a5c36312ce5e0b398d5ad923>



The screenshot shows the Etherscan Kovan Testnet interface. The browser tabs include 'dev-decal-sp20/OmkarBank.sol', 'Remix - Ethereum IDE', and 'Kovan Transaction Hash (Txhash)'. The address bar shows the transaction hash: `kovan.etherscan.io/tx/0x73d6f869c44d85b15a76f387e9ab5f15a417dee6a5c36312ce5e0b398d5ad923`. The Etherscan logo and 'Kovan Testnet Network' are visible. A search bar with 'All Filters' and a search icon is present. The transaction details are displayed under the 'Overview' tab, with a 'State' tab also available. A red warning message states: '[This is a Kovan Testnet transaction only]'. The transaction details are as follows:

Field	Value
Transaction Hash:	0x73d6f869c44d85b15a76f387e9ab5f15a417dee6a5c36312ce5e0b398d5ad923
Status:	Success
Block:	30381508 139 Block Confirmations
Timestamp:	9 mins ago (Mar-14-2022 03:20:52 AM +UTC)
From:	0xff24523311395c776dfbff833989ee83080528d4
To:	[Contract 0x11c9e5a2b861abe3fc672b94b5822ea5b30fde69 Created]
Value:	0 Ether (\$0.00)
Transaction Fee:	0.000821882502630024 Ether (\$0.00)
Gas Price:	0.000000002500000008 Ether (2.500000008 Gwei)

Send Ether to another account

Friend's Address for sending 1000 Wei

- 0x3A874792b513Fe4c7bbAc780A9BE07fFc75fE472

The screenshot displays the Remix IDE interface for deploying and running transactions. The left sidebar shows the 'DEPLOY & RUN TRANSACTIONS' panel with the 'Injected Web3' environment selected. The 'ACCOUNT' field shows '0xFF2...528d4 (1.00265437)'. The 'VALUE' field is set to '1000' Wei. The 'At Address' field is set to '0x3A874792b513Fe4c7bbAc'. The 'Deploy' button is visible. The main editor shows the Solidity code for a 'SimpleBank' contract. The right sidebar shows the 'MetaMask Notification' window for the 'Kovan Test Network'. It displays a 'DEPOSIT' button and transaction details: 'Estimated gas fee: 0.000053 ETH', 'Total: 0.00005266 ETH', and 'Max fee: 0.00005266 ETH'. The 'Confirm' button is highlighted.

```
1 pragma solidity ^0.4.25;
2
3 contract SimpleBank {
4
5     mapping (address => uint) private balances;
6     address public owner;
7     event LogDepositMade(address accountAddress, uint amount);
8
9     constructor () public {
10         owner = msg.sender;
11     }
12
13     function deposit() public payable returns (uint) {
14         require((balances[msg.sender] + msg.value) >= balances[msg.sender]);
15
16         balances[msg.sender] += msg.value;
17
18         emit LogDepositMade(msg.sender, msg.value); // fire event
19
20         return balances[msg.sender];
21     }
22
23     function withdraw(uint withdrawAmount) public returns (uint remainingBal) {
24         require(withdrawAmount <= balances[msg.sender]);
25
26         balances[msg.sender] -= withdrawAmount;
27
28         msg.sender.transfer(withdrawAmount);
29     }
30 }
```

Transaction Details

The screenshot displays the Remix Ethereum IDE interface. The top bar shows the current project as 'dev-decal-sp20/OmkarBank.sol'. The left sidebar contains a 'DEPLOY & RUN TRANSACTIONS' panel with a 'Deploy' button and a 'Publish to IPFS' checkbox. Below this, it shows 'Transactions recorded' (7) and 'Deployed Contracts'. A contract named 'SIMPLEBANK AT 0X092...486C9 (BLO)' is listed. The main editor shows the Solidity code for 'SimpleBank'.

```
1 pragma solidity ^0.4.25;
2
3 contract SimpleBank {
4
5     mapping (address => uint) private balances;
6     address public owner;
7     event LogDepositMade(address accountAddress, uint amount);
8
9     constructor () public {
```

The right sidebar shows the 'view on etherscan' link and a list of transaction details. The transaction hash is highlighted with a red box.

transaction hash
0x622156ff99156ba8f7d59fabcfac1a0488eee0f53283289566f19245ba5744a

Other transaction details include:

- from: 0xFF24523311395C776dFbF833989eE83080528d4
- to: 0x3A874792b513Fe4c7bbAc780A9BE07fFc75fE472
- gas: 21064 gas
- transaction cost: 21064 gas
- hash: 0x622156ff99156ba8f7d59fabcfac1a0488eee0f53283289566f19245ba5744a
- input: 0xd0e...30db0
- decoded output: -
- val: 1000 wei

Transaction Details

<https://kovan.etherscan.io/tx/0x622156ff99156ba8f7d59fabcf6c1a0488ee0f53283289566f19245ba5744a>

The screenshot shows the Etherscan website interface for a transaction on the Kovan Testnet. The transaction hash is 0x622156ff99156ba8f7d59fabcf6c1a0488ee0f53283289566f19245ba5744a. The transaction is marked as 'Success' and has 432 block confirmations. The 'From' address is 0xff24523311395c776dfbf833989ee83080528d4 and the 'To' address is 0x3a874792b513fe4c7bbac780a9be07ffc75fe472. The transaction value is 0.0000000000000001 Ether (\$0.00) and the transaction fee is 0.000052660000168512 Ether (\$0.00). The gas price is 0.000000002500000008 Ether (2,500,000,008 Gwei).

dev-decal-sp20/OmkarBank.sol x Remix - Ethereum IDE x Kovan Transaction Hash (Txhash) x

kovan.etherscan.io/tx/0x622156ff99156ba8f7d59fabcf6c1a0488ee0f53283289566f19245ba5744a

Apps Remix - Ethereum L... Oracle Learning Books Figma IS Defi Solidity DW/DM Blockchain Algorithm Trading SET Data Mining Reading list

Etherscan

Kovan Testnet Network

All Filters Search by Address / Txn Hash / Block / Token / Ens

Home Blockchain Tokens Misc Kovan

Transaction Details

Overview State

[This is a Kovan **Testnet** transaction only]

Transaction Hash:	0x622156ff99156ba8f7d59fabcf6c1a0488ee0f53283289566f19245ba5744a
Status:	Success
Block:	30381583 432 Block Confirmations
Timestamp:	28 mins ago (Mar-14-2022 03:25:52 AM +UTC)
From:	0xff24523311395c776dfbf833989ee83080528d4
To:	0x3a874792b513fe4c7bbac780a9be07ffc75fe472
Value:	0.0000000000000001 Ether (\$0.00)
Transaction Fee:	0.000052660000168512 Ether (\$0.00)
Gas Price:	0.000000002500000008 Ether (2,500,000,008 Gwei)