**Blockchain Project (Part 2)**

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File:

1. test.js

Test using javascript to test 3 types of unit-test:

* Good-day behavior: Deposit, withdraw, balance less than threshold
* Deposits Exceed Threshold Value: Deposit more than threshold
* SC Balance Exceed Threshold Value: Smart contract balance more than threshold

1. index.html

Front-end for deployed smart contract (website)

Code:

1. test.js

const CryptocurrencyLaundererDetector = artifacts.require("CryptocurrencyLaundererDetector");

contract("Good-day Behaviour", function(accounts){

it("Account 1: Deposit 5 ether", async () => {

const bank = await CryptocurrencyLaundererDetector.deployed();

bank.deposit({from: accounts[1], value: 5 \* 10\*\*18});

});

it("Account 2: Deposit 4 ether", async () => {

const bank = await CryptocurrencyLaundererDetector.deployed();

bank.deposit({from: accounts[2], value: 4 \* 10\*\*18});

});

it("Check transactions that the value are more than threshold value", async() =>{

const bank = await CryptocurrencyLaundererDetector.deployed();

let potentialLaunder, amountExceed = await bank.getExceedTransacctions();

console.log(potentialLaunder);

console.log(amountExceed);

});

it("Check balance that are more than the threshold and get the potential launderer", async() =>{

const bank = await CryptocurrencyLaundererDetector.deployed();

let potentialLaunderer = await bank.getLaunder();

console.log(potentialLaunderer);

});

it("SC Balance", async() =>{

const bank = await LaundererDetector.deployed();

let bal = await bank.getBalance();

bal = Number(bal);

console.log(bal);

});

});

contract("Deposits Exceed Threshold Value", function(accounts){

it("Account 3: Deposit 15 ether", async () => {

const bank = await CryptocurrencyLaundererDetector.deployed();

bank.deposit({from: accounts[3], value: 15 \* 10\*\*18});

});

it("Account 4: Deposit 17 ether", async () => {

const bank = await CryptocurrencyLaundererDetector.deployed();

bank.deposit({from: accounts[4], value: 17 \* 10\*\*18});

});

it("Check transactions that the value are more than threshold value", async() =>{

const bank = await CryptocurrencyLaundererDetector.deployed();

let potentialLaunder, amountExceed = await bank.getExceedTransacctions();

console.log(potentialLaunder);

console.log(amountExceed);

});

it("Check balance that are more than the threshold and get the potential launderer", async() =>{

const bank = await CryptocurrencyLaundererDetector.deployed();

let potentialLaunderer = await bank.getLaunder();

console.log(potentialLaunderer);

});

it("SC Balance", async() =>{

const bank = await CryptocurrencyLaundererDetector.deployed();

let bal = await bank.getBalance();

bal = Number(bal);

console.log(bal);

});

});

contract("SC Balance Exceed Threshold Value", function(accounts){

it("Account 1: Deposit 10 ether", async () => {

const bank = await CryptocurrencyLaundererDetector.deployed();

bank.deposit({from: accounts[1], value: 10 \* 10\*\*18});

});

it("Account 2: Withdraw 9 ether", async () => {

const bank = await CryptocurrencyLaundererDetector.deployed();

bank.withdraw(9, {from: accounts[2]});

});

it("Account 2: Deposit 10 ether", async () => {

const bank = await CryptocurrencyLaundererDetector.deployed();

bank.deposit({from: accounts[2], value: 10 \* 10\*\*18});

});

it("Account 1: Deposit 28 ether", async () => {

const bank = await CryptocurrencyLaundererDetector.deployed();

bank.deposit({from: accounts[1], value: 28 \* 10\*\*18});

});

it("Account 2: Withdraw 5 ether", async () => {

const bank = await CryptocurrencyLaundererDetector.deployed();

bank.withdraw(5, {from: accounts[2]});

});

it("Account 3: Deposit 31 ether", async () => {

const bank = await CryptocurrencyLaundererDetector.deployed();

bank.deposit({from: accounts[3], value: 31 \* 10\*\*18});

});

it("Check transactions that the value are more than threshold value", async() =>{

const bank = await CryptocurrencyLaundererDetector.deployed();

let potentialLaunder, amountExceed = await bank.getExceedTransacctions();

console.log(potentialLaunder);

console.log(amountExceed);

});

it("Check balance that are more than the threshold and get the potential launderer", async() =>{

const bank = await CryptocurrencyLaundererDetector.deployed();

let potentialLaunderer = await bank.getLaunder();

console.log(potentialLaunderer);;

});

it("SC Balance", async() =>{

const bank = await CryptocurrencyLaundererDetector.deployed();

let bal = await bank.getBalance();

bal = Number(bal);

console.log(bal);

});

});

1. index.html

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="utf-8">

<meta http-equiv="X-UA-Compatible" content="IE=edge">

<meta name="viewport" content="width=device-width, initial-scale=1">

<link rel="icon" href="src/image/BankNegara\_Logo.png">

<title>Home</title>

<!-- Bootstrap -->

<link href="src/css/bootstrap.min.css" rel="stylesheet">

</head>

<body>

<div class="container">

<div class="row">

<div class="col-md-2"></div>

<div class="col-md-8">

<br>

<div class="row">

<div class="col-md-4"></div>

<div class="col-md-4"><img src="src/image/BankNegara\_Logo.png" alt=""></div>

<div class="col-md-4"></div>

</div>

<br>

<h1 class="text-center">Crypto Launderer Smart Contract</h1>

<br/>

</div>

</div>

<div class="row">

<div class="col-md-6">

<p>Account Balance : <b id="bal"> </b><b>ether</b></p>

</div>

<div class="col-md-6"></div>

</div>

<div class="row">

<div class="col-md-4">

<label >Insert Withdraw Amount : </label>

<input type="text" class="form-control"><br>

<button class="btn btn-primary">Withdraw</button>

</div>

<div class="col-md-8"></div>

</div>

<br>

<div class="row">

<div class="col-md-4">

<label for="">Insert Deposit Amount : </label>

<input type="text" class="form-control"><br>

<button class="btn btn-primary">Deposit</button>

</div>

<div class="col-md-8"></div>

</div>

<br><br>

</div>

<!-- jQuery (necessary for Bootstrap's JavaScript plugins) -->

<script src="https://ajax.googleapis.com/ajax/libs/jquery/1.12.4/jquery.min.js"></script>

<!-- Include all compiled plugins (below), or include individual files as needed -->

<script src="src/js/bootstrap.min.js"></script>

<script src="src/js/web3.min.js"></script>

<script src="src/js/truffle-contract.js"></script>

<script src="src/js/app.js"></script>

</body>

</html>

Snapshot:

1. index.html

