# Lab: Accounts and Addresses

## Prerequisites

1. Chrome or Firefox browser.
2. An Internet connection

**This Document has been updated in March 2020 to reflect latest Solidity 0.6 updates**

Open Remix with the following Smart Contract:

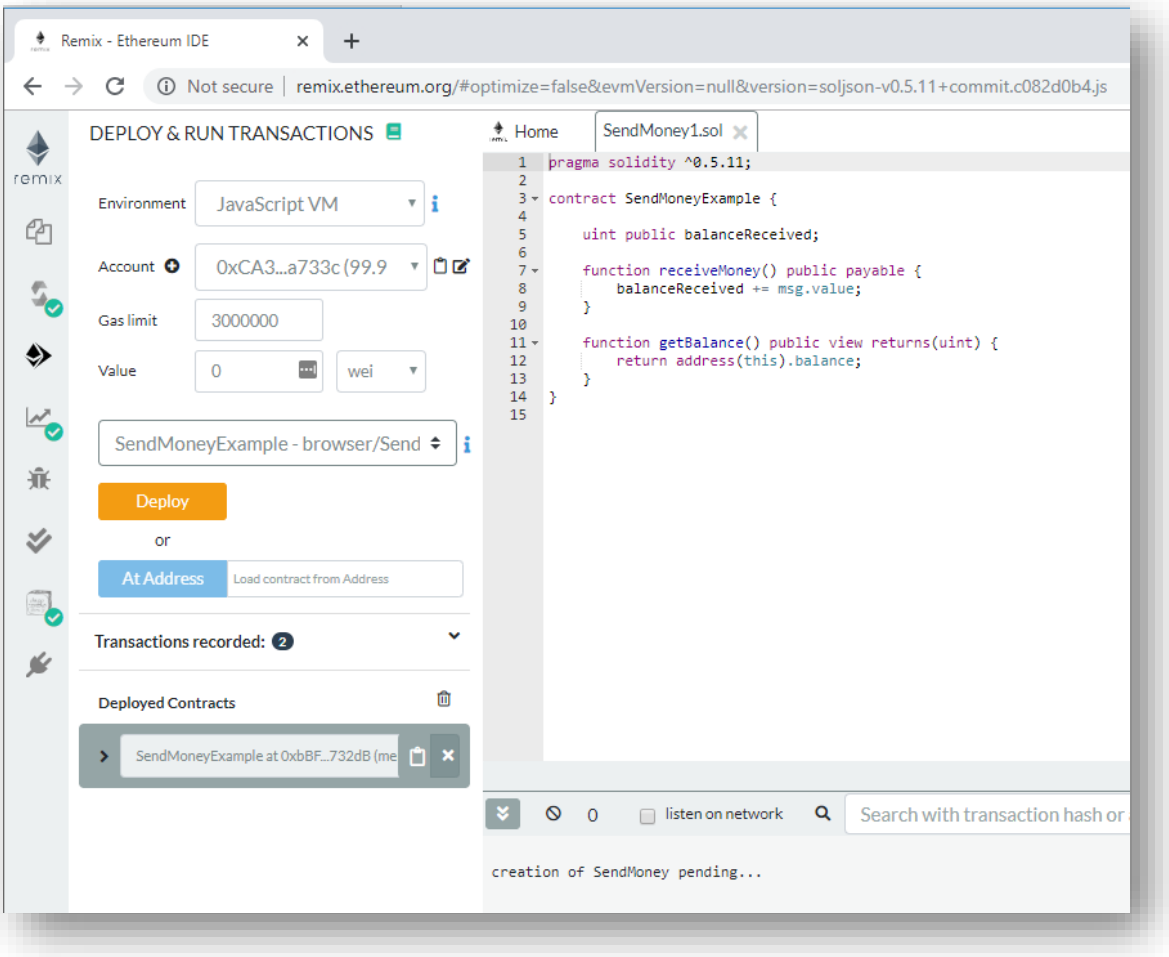
```
pragma solidity >=0.5.11 <0.7.0;

contract SendMoneyExample {

    uint public balanceReceived;

    function receiveMoney() public payable {
        balanceReceived += msg.value;
    }

    function getBalance() public view returns(uint) {
        return address(this).balance;
    }
}
```

## Step by Step Instruction

*Deploy the Smart Contract in the JavaScript VM*

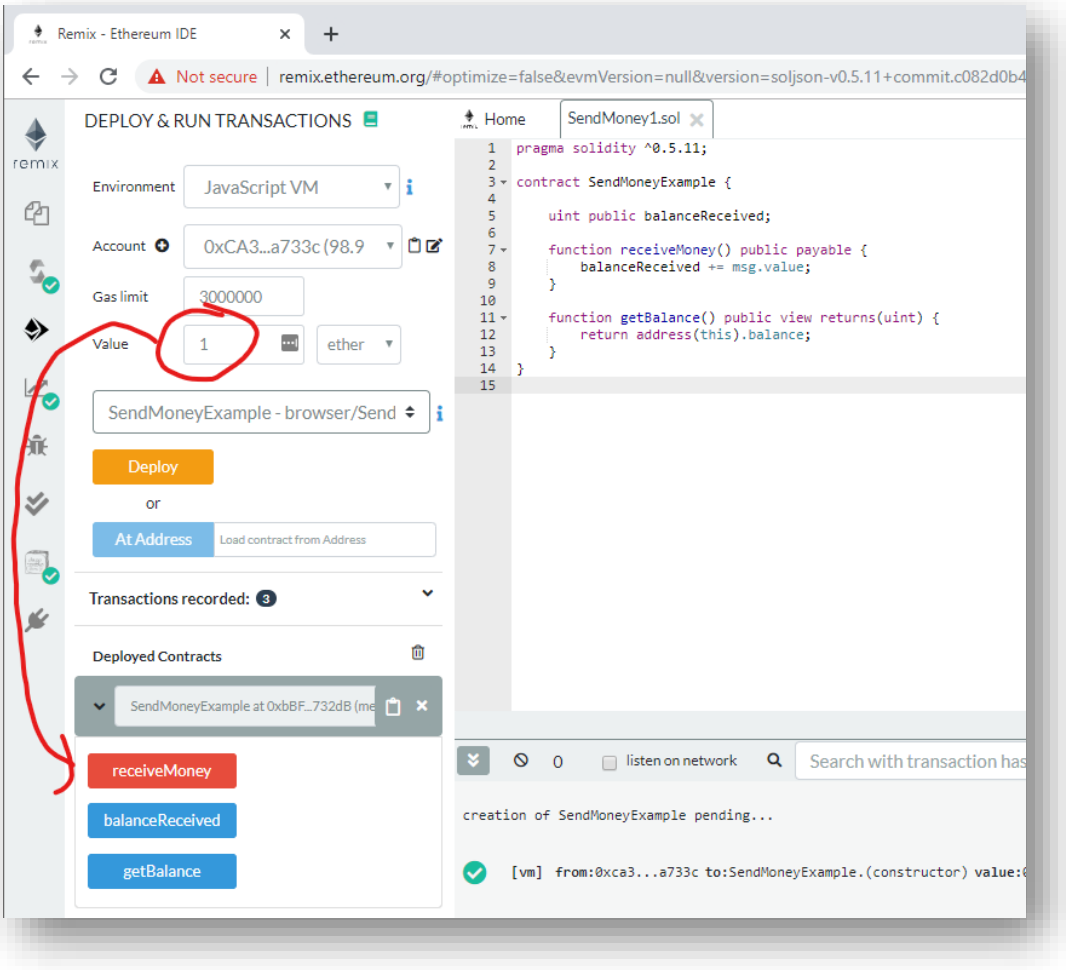
Open the “Deploy and Run Transactions” view in Remix with the smart contract

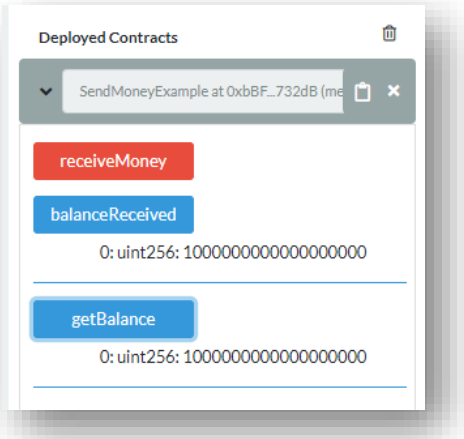



*Send some money to the Smart Contract*




## *Get the Balance of the Smart Contract Address*



*We add a Witdrawal-Function*

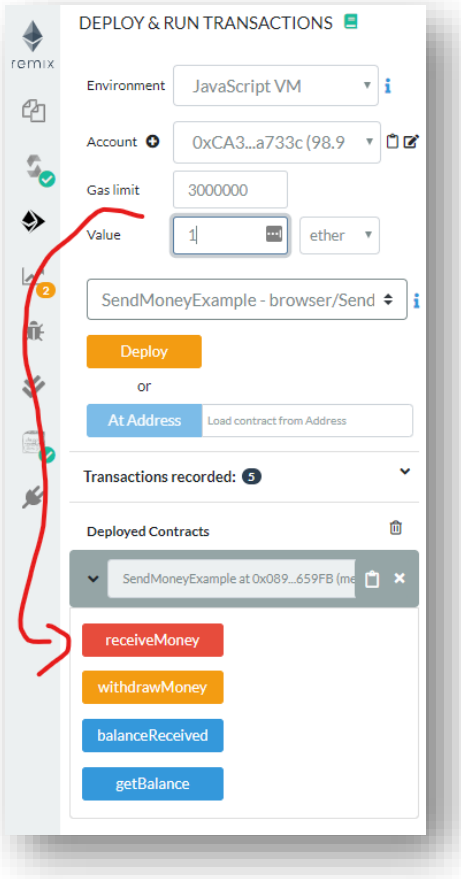
```
pragma solidity >=0.5.11 <0.7.0;

contract SendMoneyExample {

    uint public balanceReceived;

    function receiveMoney() public payable {
        balanceReceived += msg.value;
    }

    function getBalance() public view returns(uint) {
        return address(this).balance;
    }

    function withdrawMoney() public {
        address payable to = msg.sender;
        to.transfer(this.getBalance());
    }

}
```

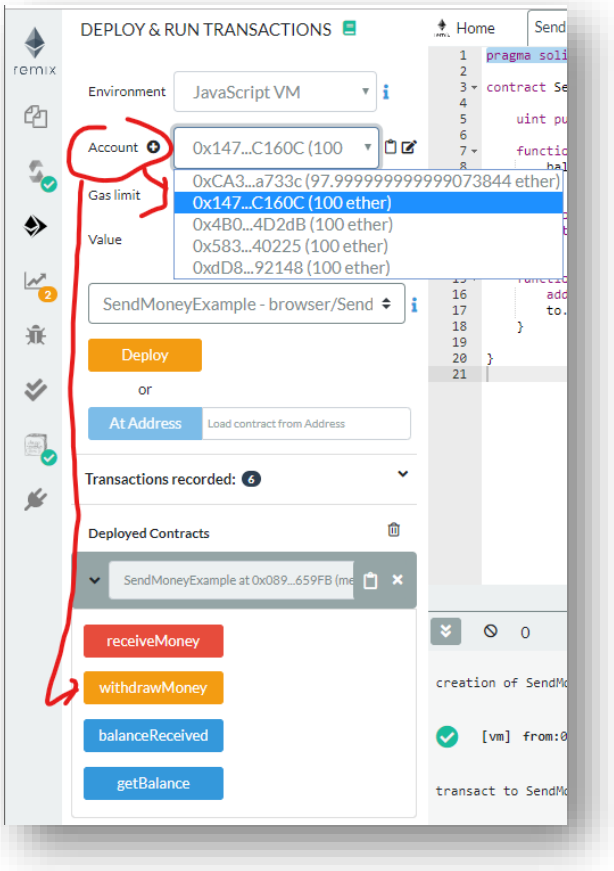
*Use the new Withdrawal function*

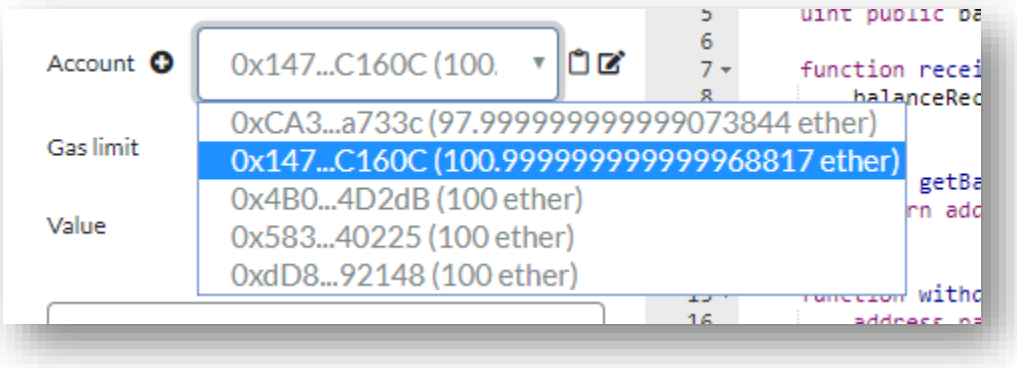
Note: Don't forget, first you need to deploy a new version of the smart contract and you can close the previous Instance.

First send again 1 Ether *to* the smart contract. Then switch the account and withdraw that Ether!




*Add a function to withdraw money to a given address*

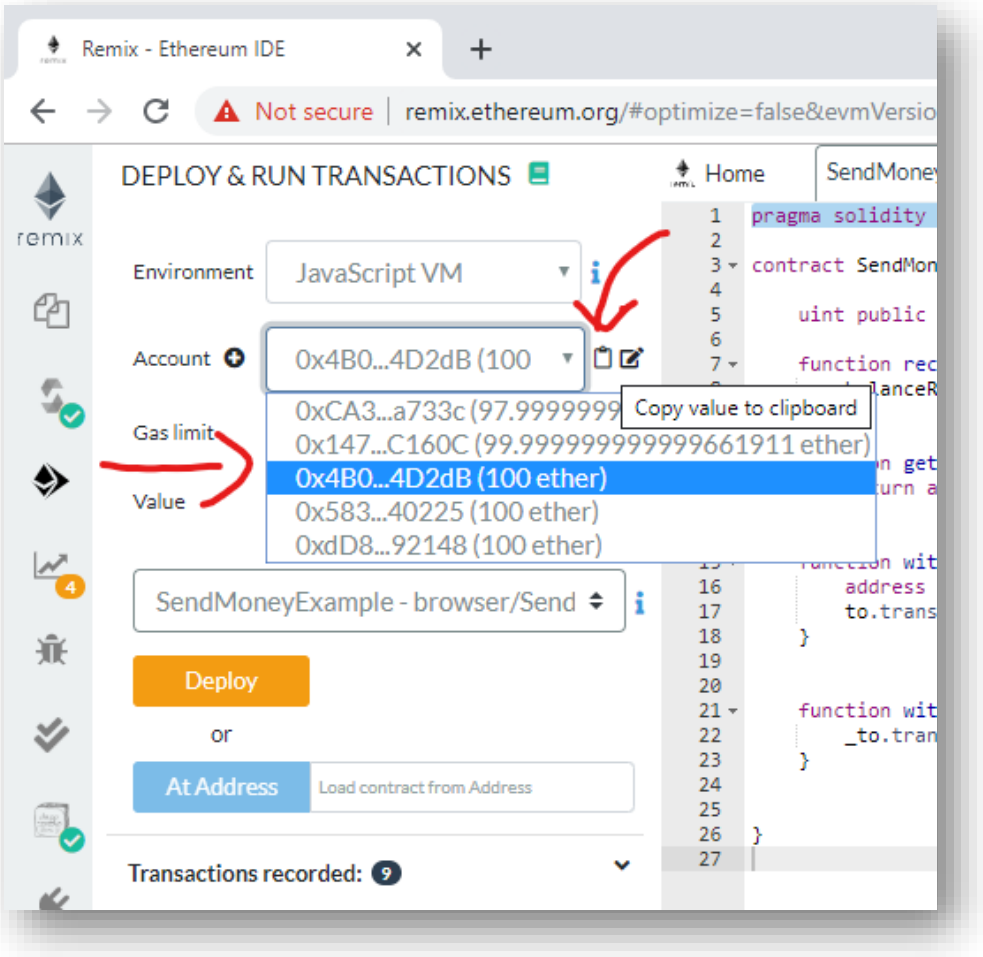
 

```
pragma solidity >=0.5.11 <0.7.0;

contract SendMoneyExample {

    uint public balanceReceived;

    function receiveMoney() public payable {
        balanceReceived += msg.value;
    }

    function getBalance() public view returns(uint) {
        return address(this).balance;
    }

    function withdrawMoney() public {
        address payable to = msg.sender;
        to.transfer(this.getBalance());
    }


    function withdrawMoneyTo(address payable _to) public {
        _to.transfer(this.getBalance());
    }

}
```

*Withdraw money to an arbitrary address*

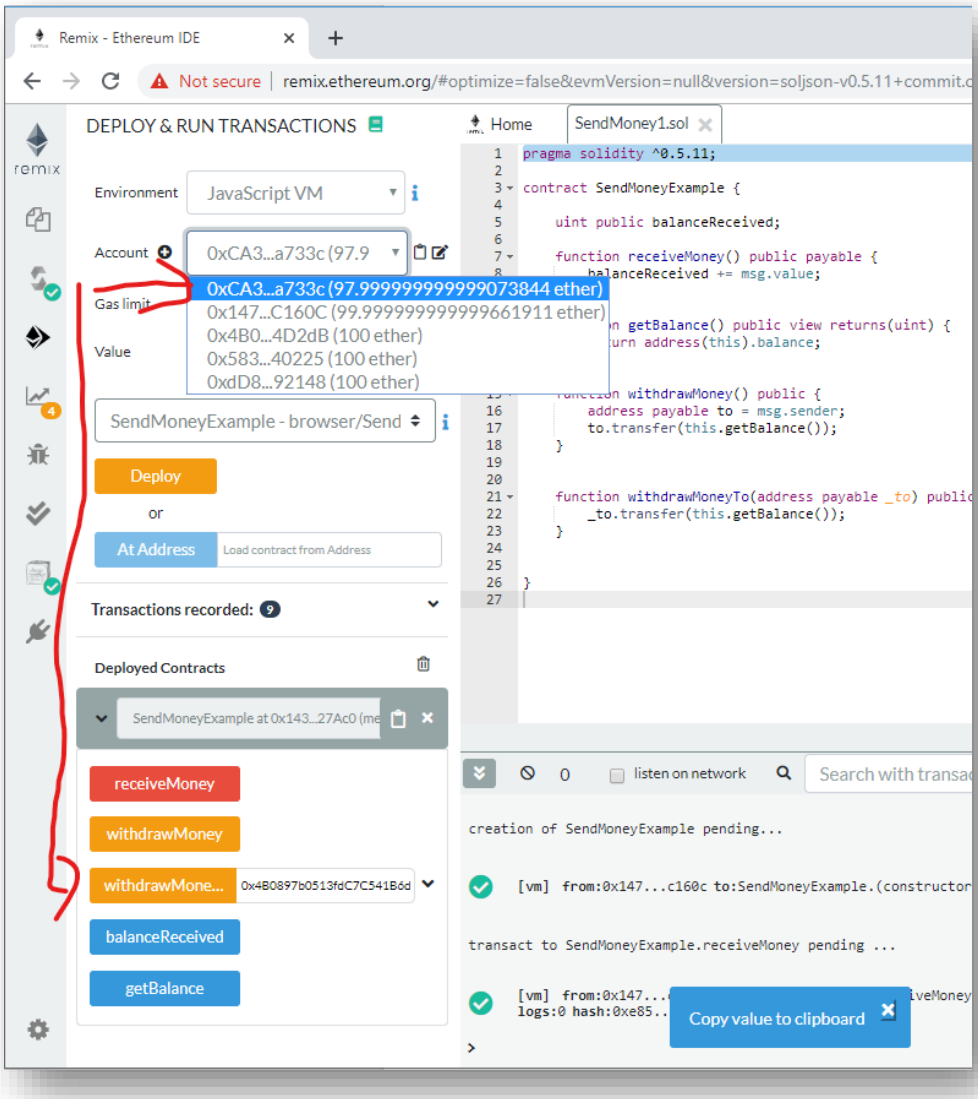
First deploy the new instance. Then send 1 Ether to the new instance. Then copy the address of some account:




Then paste it and use any other account from the accounts-dropdown to send the transaction:



# Congratulations, LAB is completed

From the Course “Ethereum Blockchain Developer – Build Projects in Solidity”


FULL COURSE:

https://www.udemy.com/course/blockchain-developer/?referralCode=E8611DF99D7E491DFD96