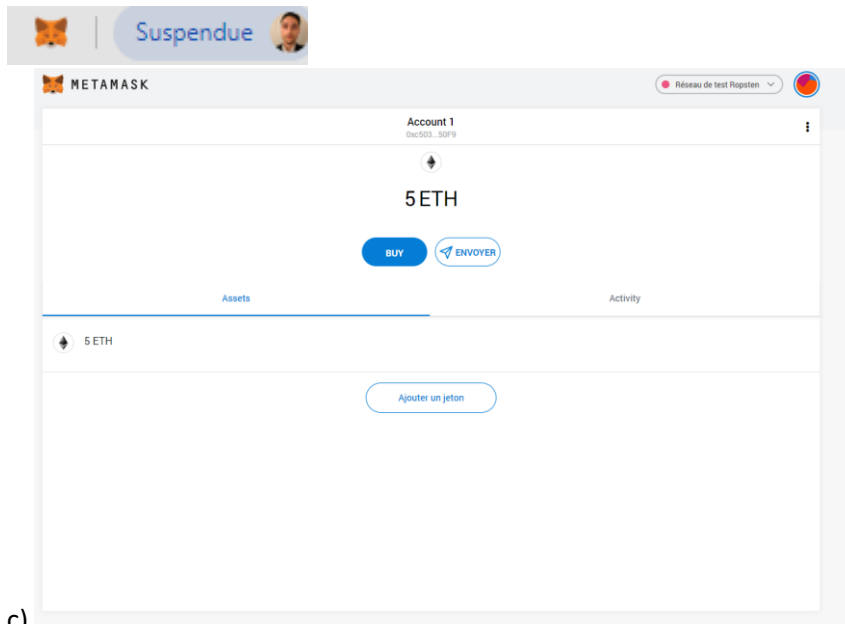


TP Blockchain Election

Alves Antony A2IR

a)



b) c)

Enter Your Ropsten Address

Send Ropsten ETH

3971744 ETH left in Faucet. Gas Limit 400k

Congratulations, 5ETH sent on TxHash: 0x7161d8cbd217fc3c76e8a99363d3837f1547d462f7a86ec118d3f0ecb7340e

d)

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

Ropsten Testnet Network
Home
Blockchain
Tokens
Misc
Ropsten

Transaction Details

Overview
State

[This is a Ropsten Testnet transaction only]

Transaction Hash: 0x7161d8cbd217fc3c76e8a99363d3837f1547d462f7a86ec118d3f0ecb7340e

Status: Success

Block: 8635922 5 Block Confirmations

Timestamp: 58 secs ago (Sep-07-2020 08:03:35 AM +UTC)

From: 0x78c115f1c8b7d0804fbd3cf7995b030c512ee78

To: 0xc503d5ad7d094fb0d7e6d8266124156bf0f50f9

Value: 5 Ether (\$0.00)

Transaction Fee: 0.000105 Ether (\$0.000000)

Click to see More

e)

f) Numéro de block 8635922

Transaction Details

[Overview](#)
[State](#)

[This is a Ropsten Testnet transaction only]

Transaction Hash:	0x7161d8cbd217fcfc3c76e8a99363d3837f1547d462f7a86ec118d3f0ecb7340e
Status:	Success
Block:	8635922 5 Block Confirmations
Timestamp:	58 secs ago (Sep-07-2020 08:03:35 AM +UTC)
From:	0x78c115f1c8b7d0804fbd3cf7995b030c512ee78
To:	0xc503d5ad7d094fb0d7e6d8266124156b0ff50f9
Value:	5 Ether (\$0.00)
Transaction Fee:	0.000105 Ether (\$0.000000)
Gas Limit:	400,000
Gas Used by Transaction:	21,000 (5.25%)
Gas Price:	0.000000005 Ether (5 Gwei)
Nonce	7128
Input Data:	0x

[Click to see Less](#)

g)

Envoyer des ETH

Annuler

0xc25a...100F

×

Nouvelle adresse détectée ! Cliquez ici pour ajouter à votre carnet d'adresses.

Actif:

ETH

Balance: 5 ETH

Montant:

1 ETH

Aucun taux de conversion disponible

Frais de transaction:

Lente

Moyen

Rapide

0.00065 ETH

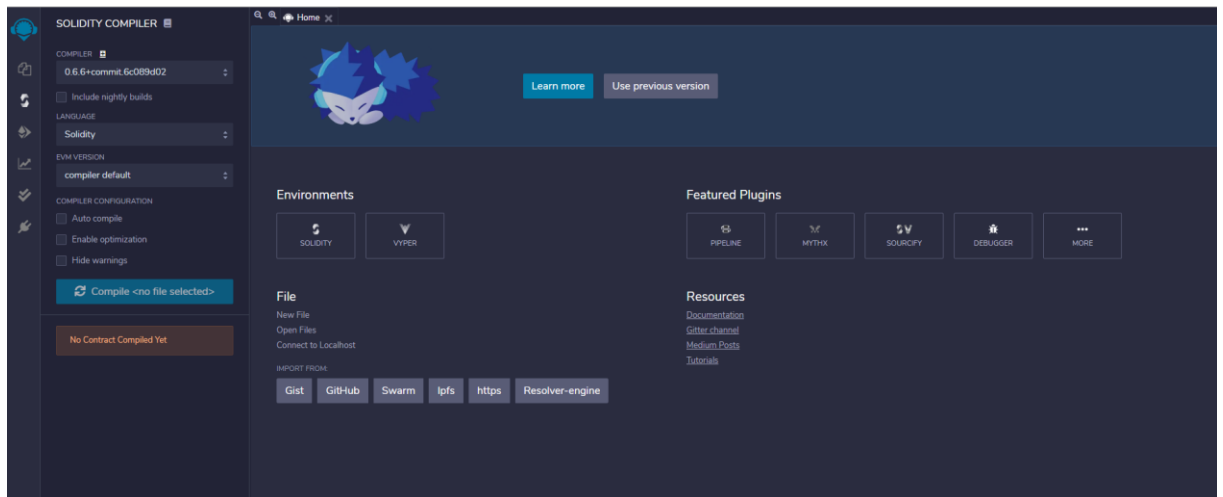
0.0017 ETH

0.00202 ETH

Options avancées

Annuler

Suivant



h)

i)

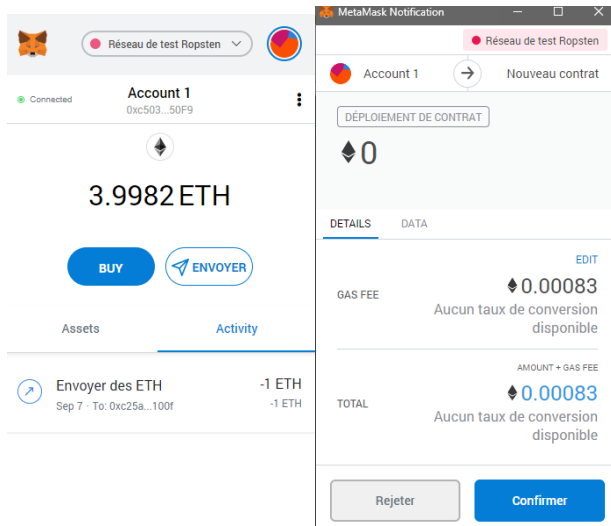
j)

```

1 // SPDX-License-Identifier: GPL-3.0
2
3
4
5 import "./Ownable.sol";
6 import "./SafeMath.sol";
7
8 contract Election is Ownable {
9
10     using SafeMath for uint256;
11
12     // Model a Candidate
13     struct Candidate {
14         uint256 id;
15         string name;
16         uint voteCount;
17     }
18
19     // Store accounts that have voted
20     mapping(address => bool) public voters;
21     // Store Candidates
22     // Fetch Candidate
23     mapping(uint => Candidate) public candidates;
24     // Store Candidates Count
25     uint public candidatesCount;
26
27     // voted event
28     event votedEvent ( uint indexed _candidateId);
29
30     function addCandidate (string memory _name) public {
31         candidatesCount ++;
32         candidates[candidatesCount] = Candidate(candidatesCount, _name, 0);
33     }
34
35     function vote (uint _candidateId) public {
36         // require that they haven't voted before
37         require(!voters[msg.sender]);
38
39         // require a valid candidate
40         require(_candidateId > 0 && _candidateId <= candidatesCount);
41
42         // record that voter has voted
43         voters[msg.sender] = true;
44
45         // update candidate vote Count
46         candidates[_candidateId].voteCount ++;
47
48         // trigger voted event
49         emit votedEvent (_candidateId);
50     }
51 }
52

```

k) Fichiers ABI.json & Byte_code.txt dans le dossier



l)

Overview	State
[This is a Ropsten Testnet transaction only]	
Transaction Hash:	0xe5b012dfac61bd3c929415486dc527e84bdeb9a8b2fde46746a95a96ed5e61d
Status:	Success
Block:	8636227 7 Block Confirmations
Timestamp:	51 secs ago (Sep-07-2020 08:47:10 AM +UTC)
From:	0xc503d5ad7d094fb0d7e6d8266124156b0f0f50f9
To:	[Contract 0x3634683f04ef7ebb48809f50638168290d3c78b7 Created]
Value:	0 Ether (\$0.00)
Transaction Fee:	0.000829809 Ether (\$0.000000)
Gas Limit:	553,206
Gas Used by Transaction:	553,206 (100%)
Gas Price:	0.0000000015 Ether (1.5 Gwei)
Nonce	1
Input Data:	<pre> 0x608060405234801561001057600080fd5b50336000806101000a81548173fff021916908373ffffffff ff1602179055506108ab8061006000396000f3fe608060405234801561001057600080fd5b5060004361061 007d5760003560e01c8063462e91ec1161005b578063462e91ec146101835780638da5cb5b1461023e578063a3ec138d14610272578063f2fde38b14 6102cc5761007d565b80630121b93f146100825780632d35a8a2146100b05780633477ee2e146100ce575b600080fd5b6100ae600480360360208110 1561008057600080fd5b8101900080359060200190029100505050610310565b005b6100808061002f565b604051808281526020019150506040518091 </pre>

- m) Les frais de transactions sont différents de la transaction précédente (x8 supérieur). Les frais de gaz font varier le prix des frais de transaction, le prix dépend du flux de transaction. L'adresse publique du smart contrat est [0x3634683f04ef7ebb48809f50638168290d3c78b7](#)

Réseau de test Ropsten

Account 1 → 0x3634...78...

ADD CANDIDATE

0

DETAILS DATA

EDIT

GAS FEE 0.000132
Aucun taux de conversion disponible

AMOUNT + GAS FEE

TOTAL 0.000132
Aucun taux de conversion disponible

Rejeter Confirmer addCandidate Alves

n)

Transaction Details

Overview State

[This is a Ropsten Testnet transaction only]

Transaction Hash: 0xfa668bc4ba0566bbc9894c63a39f85c0297105d9590a9a167eff5744ee89691

Status: Success

Block: 8636368 7 Block Confirmations

Timestamp: 1 min ago (Sep-07-2020 09:02:24 AM +UTC)

From: 0xc503d5ad7d094fb0d7e6d8266124156bf0ff50f9

To: Contract 0x3634683f04ef7ebb48809f50638168290d3c78b7

Value: 0 Ether (\$0.00)

Transaction Fee: 0.000130005 Ether (\$0.000000)

Gas Limit: 88,153

Gas Used by Transaction: 86,670 (98.32%)

Gas Price: 0.0000000015 Ether (1.5 Gwei)

Nonce 2 13

Input Data:

```
Function: addCandidate(string name) ***

MethodID: 0x462e91ec
[0]: 0000000000000000000000000000000000000000000000000000000000000020
[1]: 0000000000000000000000000000000000000000000000000000000000000005
[2]: 416c76657300000000000000000000000000000000000000000000000000000000
```

View Input As

o)

candidates 1

0: uint256: id 1

1: string: name Alves

2: uint256: voteCount 0

p)

● Réseau de test Ropsten

Account 1 → 0x3634...78...

ADD CANDIDATE

0

DETAILS DATA EDIT

GAS FEE 0.00011
Aucun taux de conversion disponible

AMOUNT + GAS FEE

TOTAL 0.00011
Aucun taux de conversion disponible

Rejeter Confirmer

q)

Transaction Details

Overview State

[This is a Ropsten Testnet transaction only]

Transaction Hash: 0xf75b5d337a2c41011792b114803960ec007b92b364accf6122390cb5a57b6f8e

Status: Success

Block: 8636402 2 Block Confirmations

Timestamp: 33 secs ago (Sep-07-2020 09:06:25 AM +UTC)

From: 0xc503d5ad7d094fb0d7e6d8266124156bf0ff50f9

To: Contract 0x3634683f04ef7ebb48809f50638168290d3c78b7

Value: 0 Ether (\$0.00)

Transaction Fee: 0.000107541 Ether (\$0.000000)

Gas Limit: 73,177

Gas Used by Transaction: 71,694 (97.97%)

Gas Price: 0.0000000015 Ether (1.5 Gwei)

Nonce Position 3 4

Input Data:

```
Function: addCandidate(string name) ***
MethodID: 0x462e91ec
[0]: 0000000000000000000000000000000000000000000000000000000000000000
[1]: 0000000000000000000000000000000000000000000000000000000000000007
[2]: 44656261726c6500000000000000000000000000000000000000000000000000
```

View Input As

r)

candidates 2

0: uint256: id 2

1: string: name Debarle

2: uint256: voteCount 0

s)

owner

0: address: 0xc503d5AD7D094Fb0D7E6d82661241568f0Ff50F9

vote 1

[illegible]

candidates	1
0:	uint256: id 1
1:	string: name Alves
2:	uint256: voteCount 1

v)

Overview

State

transferOwner...0xeA6618C37820d147A56

Transfer Ownership
Sep 7 · remix.ethereum.org

OverviewLogs (1)State

[This is a Ropsten Testnet transaction only]

Transaction Hash:	0x06130f36f1f699ae4fcbece51a2aeaa0e6063bf94ceec7fe3c0565fb363511e8
Status:	Success
Block:	8636517 2 Block Confirmations
Timestamp:	43 secs ago (Sep-07-2020 09:22:04 AM +UTC)
From:	0xc503d5ad7d094fb0d7e6d8266124156bf0ff50f9
To:	Contract 0x3634683f04ef7ebb48809f50638168290d3c78b7
Value:	0 Ether (\$0.00)
Transaction Fee:	0.000046323 Ether (\$0.000000)
Gas Limit:	30,882
Gas Used by Transaction:	30,882 (100%)
Gas Price:	0.0000000015 Ether (1.5 Gwei)
Nonce	7
Input Data:	<pre>Function: transferOwnership(address newOwner) *** MethodID: 0xf2fde38b [0]: 00000000000000000000000000000000ea6618c37820d147a56498b641d2c1e96a270840</pre> View Input As

[Click to see Less](#)

- x) Pour sécuriser la gestion des candidats, il suffit d'ajouter une condition qui vérifie que le owner du contrat est bien celui qui veut modifier les candidats.
- y) Une fonction est déjà créée nous allons la re-utiliser :

```
function addCandidate (string memory _name) public onlyOwner {
```

```
function addCandidate (string memory _name) public onlyOwner {
    candidatesCount ++;
    candidates[candidatesCount] = Candidate(candidatesCount, _name, 0);
}
```

Nous ajoutons un candidat, transférons le contrat et réessayons d'ajouter un contrat :

	Add Candidate Échec · remix.ethereum.org	-0 ETH -0 ETH
	Transfer Ownership Sep 7 · remix.ethereum.org	-0 ETH -0 ETH
	Add Candidate Sep 7 · remix.ethereum.org	-0 ETH -0 ETH

Overview

State

[This is a Ropsten Testnet transaction only]

Transaction Hash:

0xd54e410e27d55864c54ab16291c102964e2093cdbcdf8bcbddff0aa9ee48d3217e

Status:

Fail with error 'Not authorized operation'

Block:

8636726

3 Block Confirmations

Timestamp:

42 secs ago (Sep-07-2020 09:47:23 AM +UTC)

From:

0xc503d5ad7d094fb0d7e6d8266124156bf0ff50f9

To:

Contract 0x238f04a9dea11c1e5a76aec93aa33dd1fdff947f

Warning! Error encountered during contract execution [Reverted]

Value:

0 Ether (\$0.00)

Transaction Fee:

0.0000346125 Ether (\$0.000000)

Gas Limit:

3,000,000

Gas Used by Transaction:

23,075 (0.77%)

Gas Price:

0.0000000015 Ether (1.5 Gwei)

Nonce

Position

145

Input Data:

Function: addCandidate(string name) ***

MethodID: 0x462e91ec

[0]: 00

[1]: 0006

[2]: 4d6178696d6500

View Input As