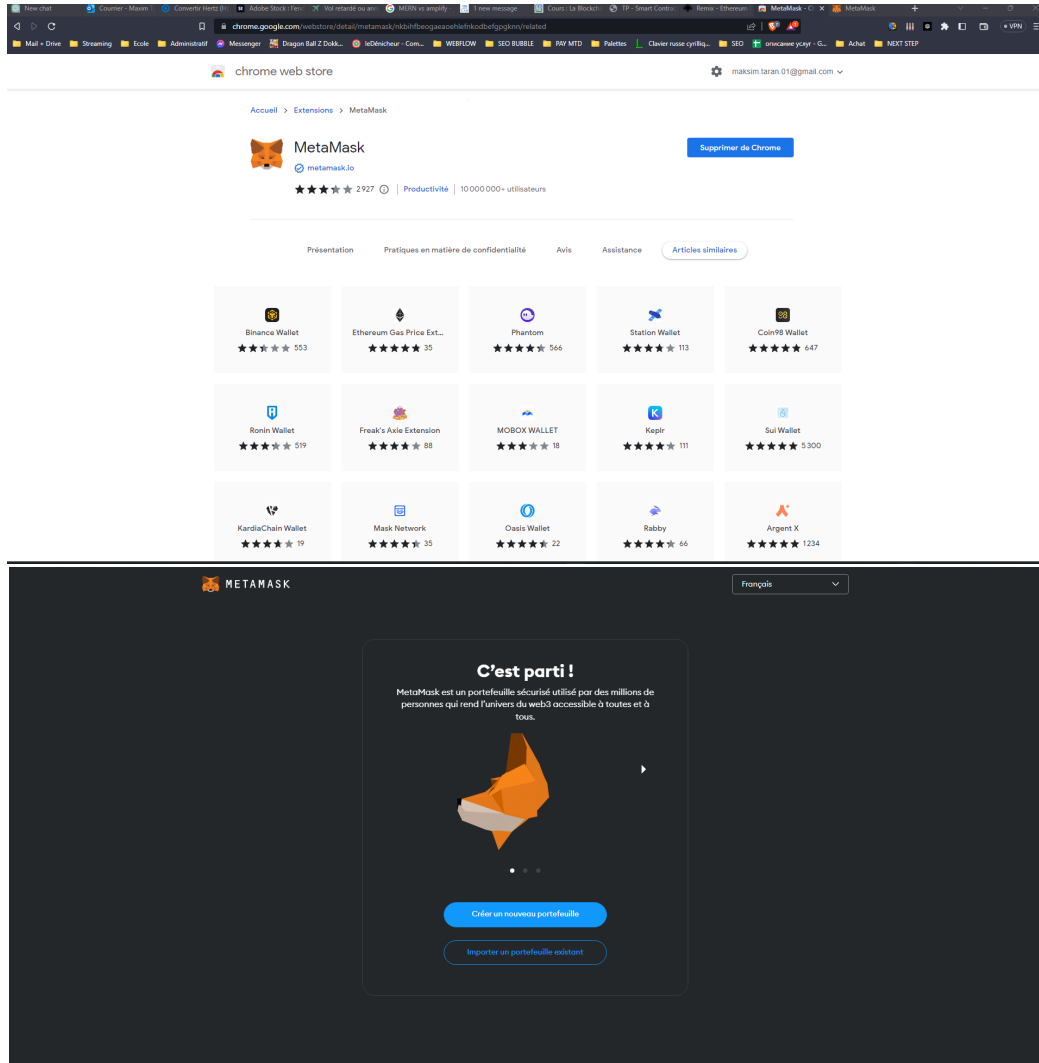
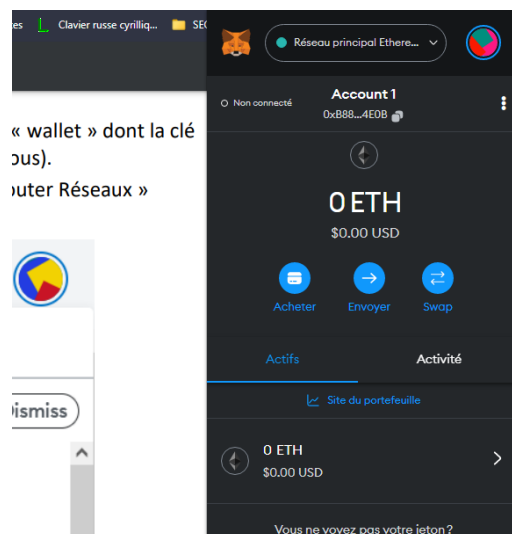


TARAN MAXIM A2MSI - TP1 : BlockChain

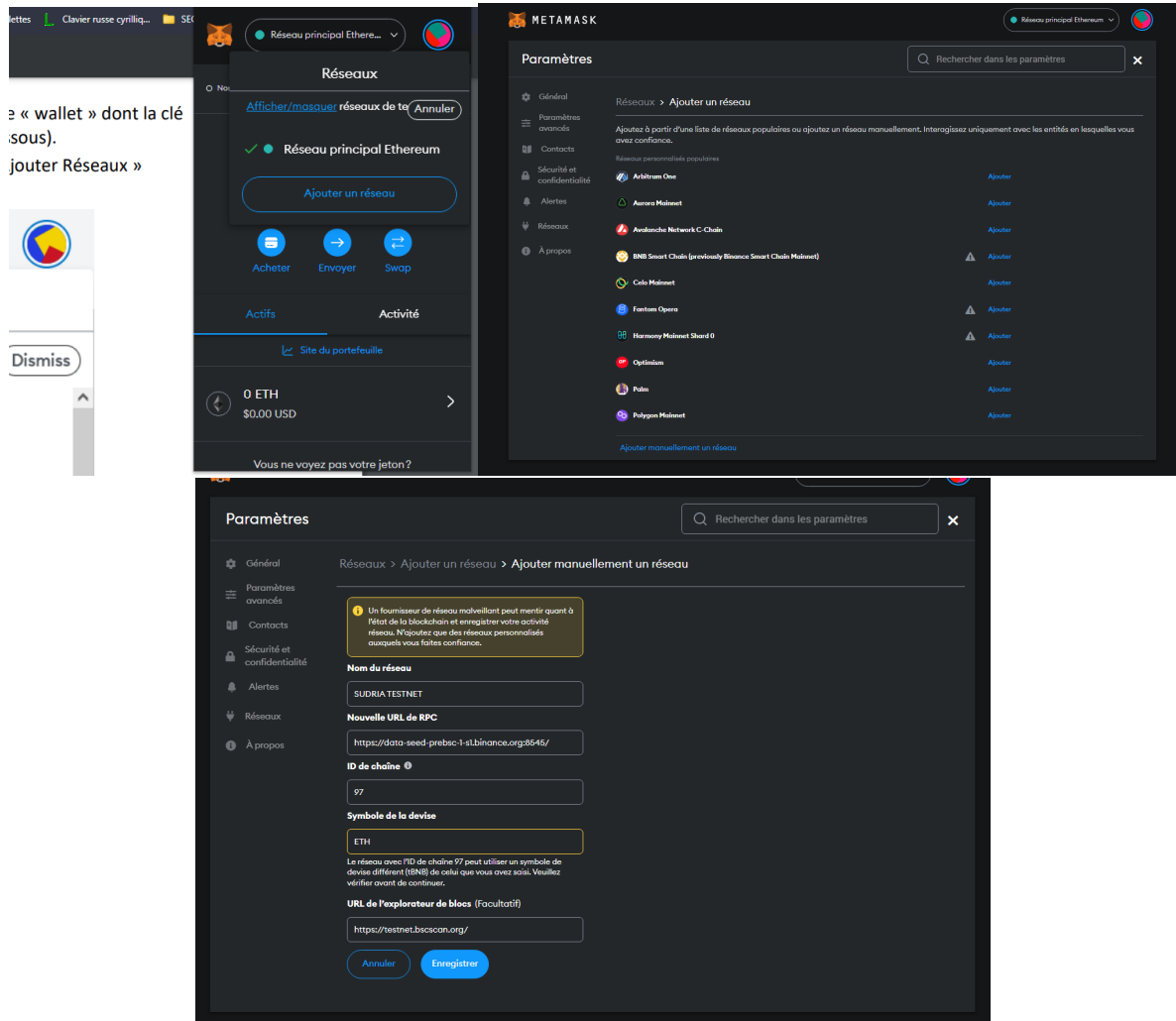
a)
b)



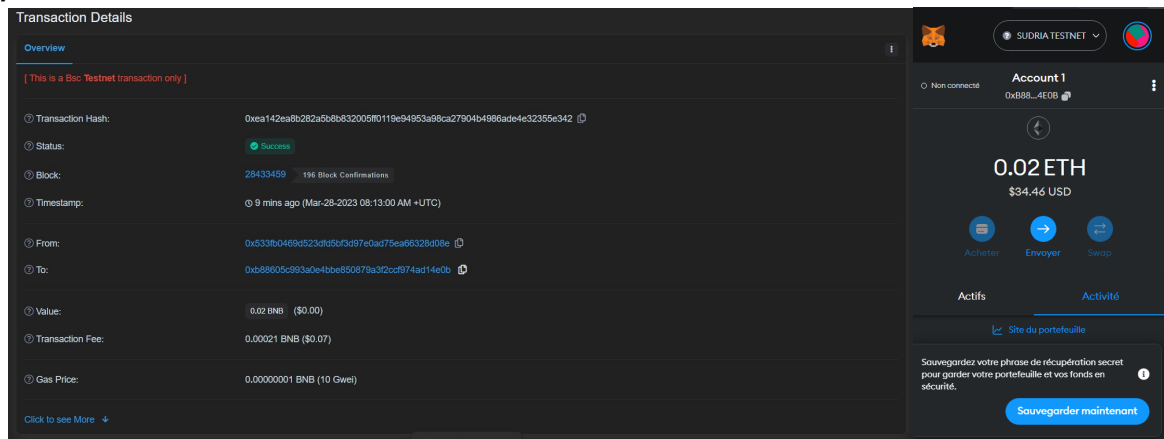
c)



d)



e)



g)

Block #28433459

Overview

[This is a Bsc-Testnet block only]

Block Height:

28433459

Timestamp:

13 mins ago (Mar-28-2023 08:13:00 AM +UTC)

Transactions:

11 transactions and 54 contract internal transactions in this block

Validated by:

0x671b214c988500844365e95d9942c7276e708 in 3 secs

Validator Set Info Snapshot:

7 validators with Voting Power of 3,076,438.2 BNB

Block Reward:

0.00717346 BNB

Difficulty:

2

Total Difficulty:

56,691,003

Size:

3,066 bytes

Gas Used:

728,519 (1.46%)

Gas Limit:

50,000,000

Fee Burnt:

0.000717346 BNB

h)

Envoyer

0x538180469D523d0D5Bf3D97e0Ad75e0a6328D08E

Actif: ETH Solde: 0.02 ETH

Montant: 0.01 ETH \$17.25 USD

Carburant (estimé) 0.00021 ETH

Modifier

Account 1 0x533...D08E

0x88...4E08 Copier l'adresse dans le presse-papier

0.01 \$17.25

Frais de carburant estimés \$0.36 0.00021 ETH

Total \$17.61 0.01021 ETH

Transaction Details

Overview

[This is a Bsc-Testnet transaction only]

Transaction Hash:

0x6480637a8ea532b6318b75a53a9d9f567ab2000b1da1aa7cab0a6b38b1

Status:

Success

Block:

28433781 28 Block Confirmations

Timestamp:

1 min ago (Mar-28-2023 08:29:06 AM +UTC)

From:

0xb8605c993a0e4bca850873a3f2c0f974ac1460b

To:

0x533b0469d523d0d5b0d97e0ad75ea09328d08e

Value:

0.01 BNB (\$0.00)

Transaction Fee:

0.00021 BNB (\$0.06)

Gas Price:

0.00000001 BNB (10 Gwei)

i)

j)

PLUGIN MANAGER

wait

Connect to a Local Plugin

Active Modules

WALLET CONNECT

Use an external wallet for transacting

Permissions

INEURA settings

Please provide an Ineura ID

Connect to a wallet

listen on all transactions

Search with transaction hash or address

The following libraries are accessible:

web3_version: 1.3.2

ethers: 5.7.2

remix

Type the library name to see available commands.

k)
l)

DEPLOY & RUN TRANSACTIONS

ENVIRONMENT: Injected Provider - MetaMask

ACCOUNT: 0x8B8...14E0B (0.00979 eth)

GAS LIMIT: 3000000

VALUE: 0 Wei

CONTRACT (Compiled by Remix): Election - contracts/Election.sol

Deploy

Publish to IPFS

OR

At Address Load contract from Address

Transactions recorded: 0

Deployed Contracts

```
1 pragma solidity ^0.4.12;
2
3 // SPDX-License-Identifier: GPL-3.0
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     // Return 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);
```

m)

DEPLOY & RUN TRANSACTIONS

ENVIRONMENT: Injected Provider - MetaMask

ACCOUNT: 0x8B8...14E0B (0.00979 eth)

GAS LIMIT: 3000000

VALUE: 0 Wei

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23     mapping(uint => Candidate) public candidates;
24     // Store Candidates Count
25     uint public candidatesCount;
26
27     // voted event
28     event votedEvent ( uint indexed_candidateId);
```

The following libraries are accessible:

- web3 version 1.3.2
- ethers.js
- react

Transaction Details

Overview

[This is a Bsc Testnet transaction only]

Transaction Hash: 0x0316360b957c74c0bfb64852e5dca3cd9e87afb11d2793a90ca3a36b40

Status: Success

Block: 28434341 31 Block Confirmations

Timestamp: 1 min ago (Mar-28-2023 08:57:06 AM +UTC)

From: 0x08805c993a0e4be650878a32cc974ad14e0b

To: [Contract 0x0b523ad4e604411c27a10d1245d27c62d4e2a Created]

Value: 0 BNB (\$0.00)

Transaction Fee: 0.00548492 BNB (\$1.70)

Gas Price: 0.00000001 BNB (10 Gwei)

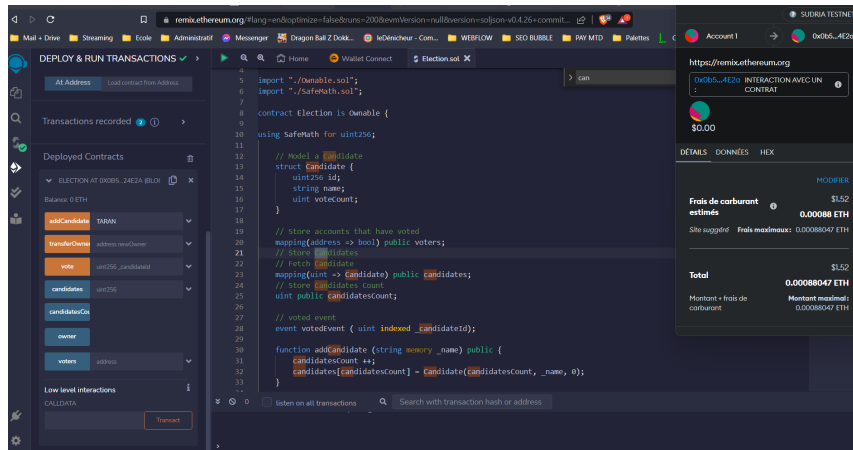
Click to see More

Frais : 0.00548492 BNB (\$1.70)

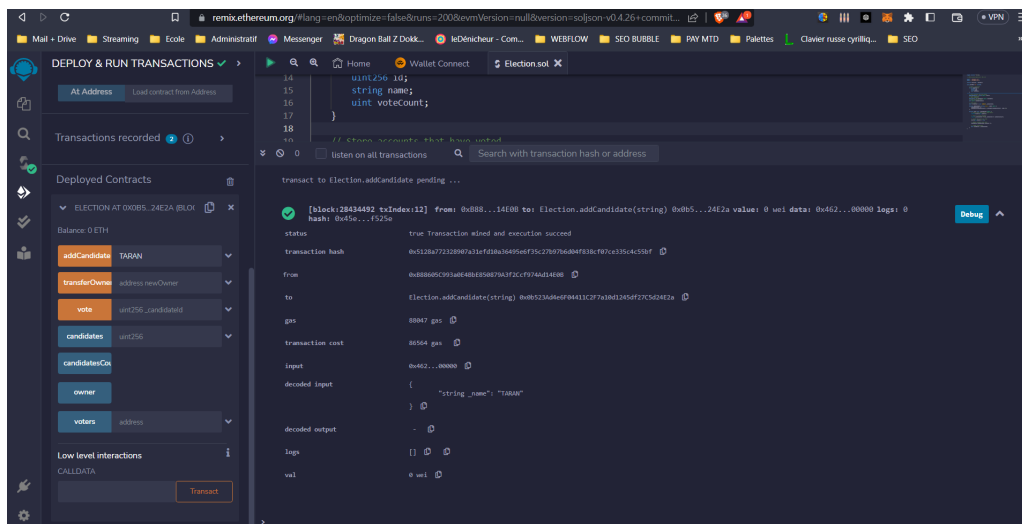
Quelle est l'adresse public de votre smart contract ?

0x0b523ad4e6f04411c2f7a10d1245df27c5d24e2a

n)



o)



Transaction Details

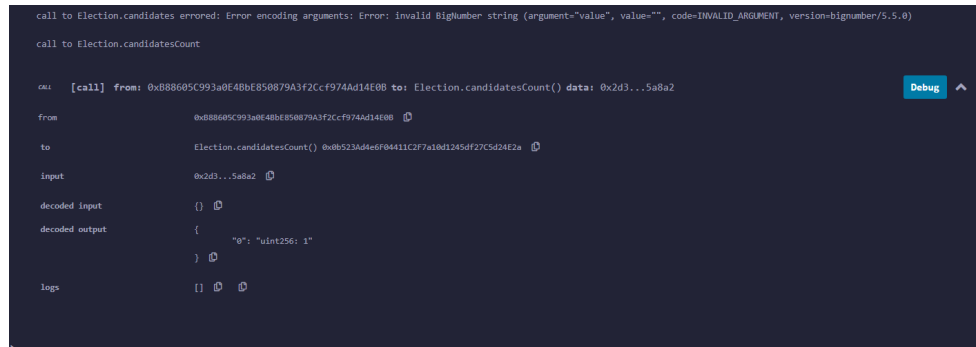
Overview

[This is a Bsc Testnet transaction only]

Transaction Hash:	0x5128a772328907a31ef10a36495e6f35c27b976bd04f838cf07ce335c4c55bf
Status:	Success
Block:	28434492 60 Block Confirmations
Timestamp:	3 mins ago (Mar-28-2023 09:04:39 AM +UTC)
From:	0xb8805c993a0e4bbe50879a3f2cdf74ad14e0b
To:	Contract 0x0b523ad4e6f04411c2f7a10d1245df27c5d24e2a
Value:	0 BNB (\$0.00)
Transaction Fee:	0.00086564 BNB (\$0.27)
Gas Price:	0.00000001 BNB (10 Gwei)

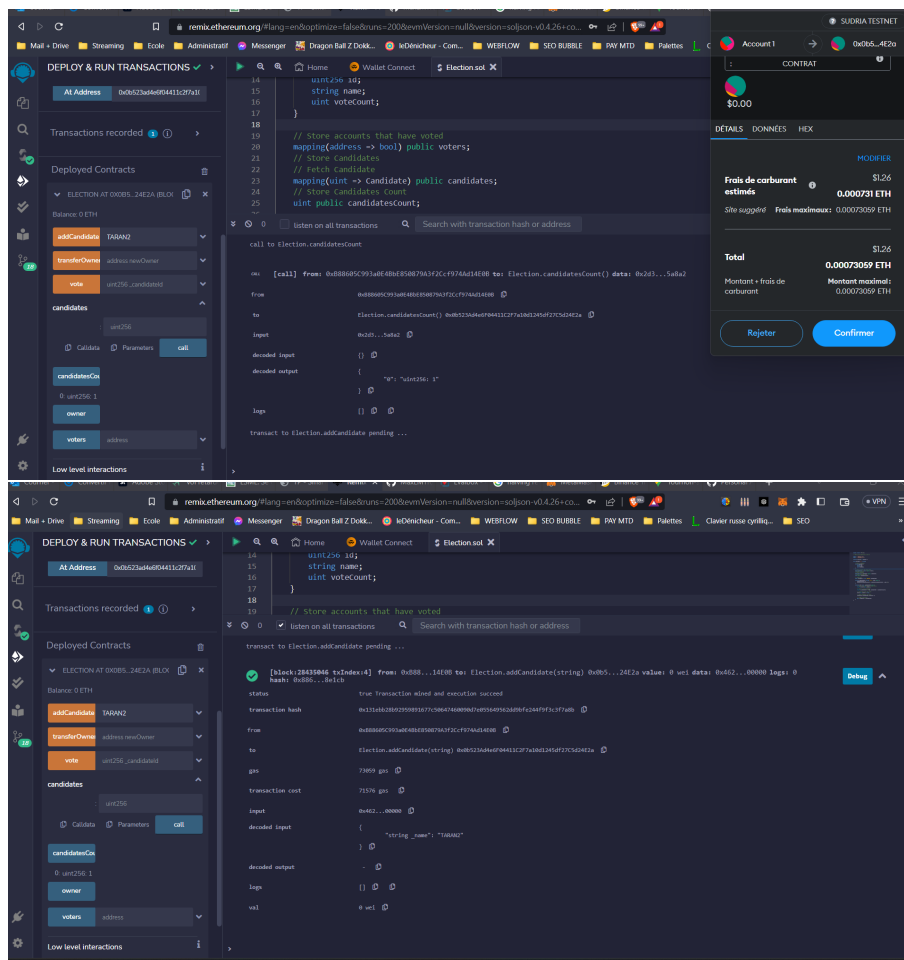
Click to see More

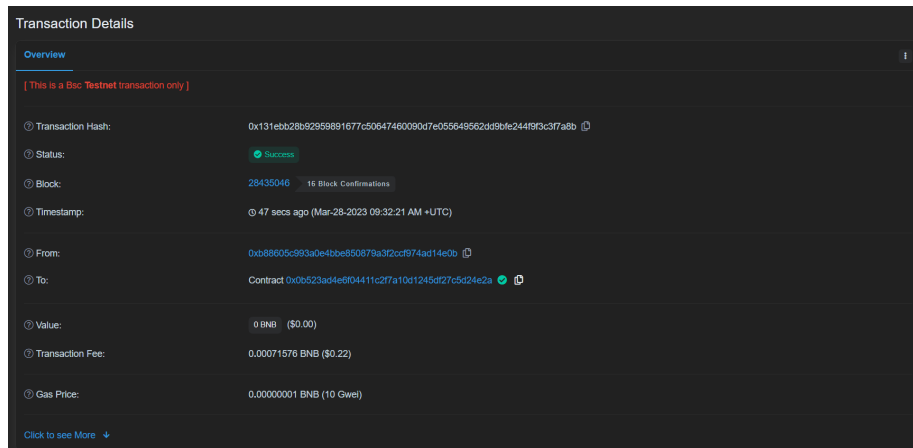
p)



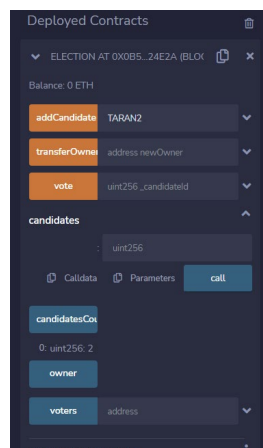
ID : 1

q)



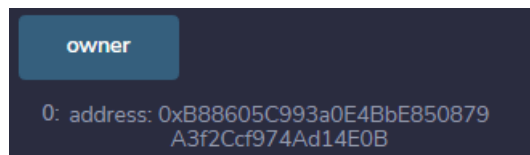


r)



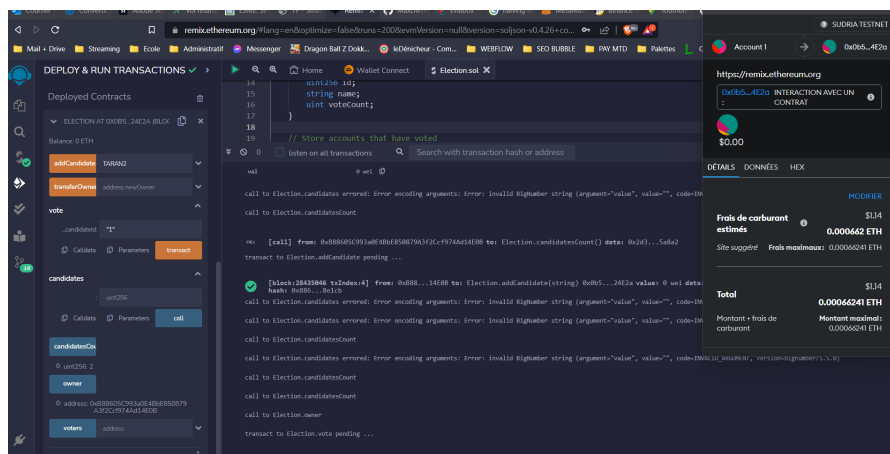
ID : 2

s)



Adress : 0xB88605C993a0E4BbE850879A3f2Ccf974Ad14E0B

t)



Transaction Details

Overview Logs (1)

[This is a Bsc Testnet transaction only]

Transaction Hash:

0x8cbe06422d4ce308cd5e4788c396306e5a1609f25ada5830559d9d5b40398

Status:

Success

Block:

28435443 19 Block Confirmations

Timestamp:

59 secs ago (Mar-28-2023 09:52:12 AM +UTC)

From:

0xb88605c983a0e4bbe850879a3f2cd974ad14e0b

To:

Contract 0xdc98ef549025d386fbb34448a9f878c5073a5674

Value:

0 BNB (\$0.00)

Transaction Fee:

0.00051241 BNB (\$0.16)

Gas Price:

0.00000001 BNB (10 Gwei)

Click to see More

w)

DEPLOY & RUN TRANSACTIONS

Deployed Contracts

ELECTION AT 0XB85...24E2A (BLOC)

addCandidate

transferOwner

vote

Balance: 0 ETH

0x63356a45f8194c0e4619

candidates

0: uint256: id 1

1: string: name TARAN

2: uint256: voteCount 1

candidateCall

owner

14

uint256 id;

15

string name;

16

uint voteCount;

17

}

18

// Known parameter that known contract

19

on

20

listen on all transactions

21

Search with transaction hash or address

22

on: [call] from: 0xb88605c993a0e4bbe850879a3f2cd974ad14e0b to: Election.candidates

23

transaction to Election.addCandidate pending ...

24

[block:28435443 txIndex:4] from: 0xb88...14e0b to: Election.addCandidate(string

25

hash: 0x880...8d1c

26

call to Election.candidates errored: Error encoding arguments: Error: Invalid BigNumber string

27

call to Election.candidates errored: Error encoding arguments: Error: Invalid BigNumber string

28

call to Election.candidates errored: Error encoding arguments: Error: Invalid BigNumber string

29

call to Election.candidatesCount

30

call to Election.candidatesCount

31

call to Election.candidatesCount

32

call to Election.candidatesCount

33

call to Election.owner

34

transaction to Election.vote pending ...

35

call to Election.candidates

Account 1

0x0b5...4e2a

https://remix.ethereum.org

0x0b5...4e2a INTERACTION AVEC UN CONTRAT

\$0.00

DÉTAILS DONNÉES HEX

Frais de carburant estimés

0.000309 ETH

Site suggéré

Frais maximum: 0.00030929 ETH

Total

0.00030929 ETH

Montant + frais de carburant

0.00030929 ETH

Transaction Details

Overview Logs (1)

[This is a Bsc Testnet transaction only]

Transaction Hash:

0x5b63f1084b80f08cb2b11a23cd138f2e90ad4bc091424d515cbada65b6cfff

Status:

Success

Block:

28435416 61 Block Confirmations

Timestamp:

3 mins ago (Mar-28-2023 09:50:51 AM +UTC)

From:

0xb88605c983a0e4bbe850879a3f2cd974ad14e0b

To:

Contract 0x0b523ad4e6f04411c277a10d1245df27c5d24e2a

Value:

0 BNB (\$0.00)

Transaction Fee:

0.00030929 BNB (\$0.10)

Gas Price:

0.00000001 BNB (10 Gwei)

Click to see More

x)

La bibliothèque Ownable.sol permet de restreindre l'accès à certaines fonctions du contrat aux seuls propriétaires autorisés.

Pour sécuriser l'appel de la fonction addCandidate, on peut ajouter une directive d'importation pour la bibliothèque Ownable.sol dans votre contrat et modifier la fonction addCandidate pour inclure une vérification de propriété.

y)

Avant :

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

Après :

```
function addCandidate(string memory _name) public onlyOwner {
    // vérifier que l'appelant est le propriétaire du contrat
    require(msg.sender == owner, "Seul le propriétaire peut ajouter un candidat.");

    // ajouter le nouveau candidat
    candidatesCount++;
    candidates[candidatesCount] = Candidate(candidatesCount, _name, 0);
}
```

DEPLOY & RUN TRANSACTIONS

ENVIRONMENT: Injected Provider - MetaMask

ACCOUNT: 0x888...14E0B (0.0010275 ETH)

GAS LIMIT: 3000000

VALUE: 0 Wei

CONTRACT (Compiled by Remix): Election - contracts/Election.sol

Deploy

OR

Publish to IPFS

At Address: 0x888...14E0B

Transactions recorded: 0

Deployed Contracts: ELECTION AT 0x888...14E0B (0.0010275 ETH)

creation of election pending...

Account 1: Nouveau contrat

https://remix.ethereum.org

DÉPLOIEMENT DE CONTRAT

\$0.00

DÉTAILS DONNÉES

MODIFIER

Frais de carburant estimés: 0.006404 ETH

Site suggéré: Frais maximums: 0.0064044 ETH

Total: 0.0064044 ETH

Montant + frais de carburant: 0.0064044 ETH

Fonds insuffisants.