Encode Bootcamp

Weekend project 2

Group 9

https://github.com/Encode-Solidity-Group9/Week2

Team Members

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Deployment Experience

We have created an “Assignment.ts” script inside the scripts folder that loaded multiple wallets from mnemonic, deploys the Ballot contract, gives voting rights, delegates votes and finally queries the result.

The problem we had during the testing phase was the high prices in the Goerli network. Even though the wallet we have tested had 0.2 ETH in it, our network provider was returning us an “Insufficient funds” error due to congestion in the Goerli network.

In order to be able to test the script extensively using the addresses loaded from mnemonic, we decided to use the local network provided by hardhat. We introduced a boolean variable “localDeploy” that switched between the hardhat network and the Goerli network easily. However, due to the fact that our mnemonic addresses has 0 balance in the hardhat network, we edited their balance using network.provider.send("hardhat_setBalance")

Our local tests worked without any issue. After switching “localDeploy” to false, we still experienced insufficient gas issues, our test wallets balance was only enough for deployment in Goerli environment (100+ gwei cost). According to the Goerli Gas Chart (https://explorer.bitquery.io/goerli/gas) average gas price went from 2 gwei to 75 gwei in a few days.

In order to remedy this, we set a custom cheap gas price option while sending the transaction to 31 gwei as can be seen in the tx : https://goerli.etherscan.io/tx/0x1b2029f2e3aaf4e0646a6aafe63968bc0804fd45f75710b327312fcd65308e6d . However it hasnt confirmed yet.

Logs from Goerli Network

Using Goerli network
Loading multiple accounts from mnemonic

Account 0 address: 0x1fAA864C0bf78E7fEF5eAfBE0A33Fa7c2586Bdde
Account 0 balance: 0.39254631965911048 ETH
Account 1 address: 0x01592c6e3d8eF0499D9E438Ca4a47e3709208202
Account 1 balance: 0.02 ETH
Account 2 address: 0x087e1e59594b6f5fC4F3EBd44872ae3fB792653e
Account 2 balance: 0.02 ETH

Deploying Ballot contract
Proposals:
Proposal N. 1: Raspberry
Proposal N. 2: Vanilla
Proposal N. 3: Pistacchio

The contract is deployed.
Contract address: 0xdB16d81BeEeA0bA9613046Ea6CB67ff0ad1B92c4
The chairperson of the ballot: 0x1fAA864C0bf78E7fEF5eAfBE0A33Fa7c2586Bdde

Giving voting rights to the other accounts
Error: insufficient funds for intrinsic transaction cost [See: https://links.ethers.org/v5-errors-INSUFFICIENT_FUNDS] (error={"reason":"processing response error","code":"SERVER_ERROR","body":"{\"jsonrpc\":\"2.0\",\"id\":47,\"error\":{\"code\":-32000,\"message\":\"insufficient funds for gas * price + value\"}}","error":{"code":-32000},"requestBody":"{\"method\":\"eth_sendRawTransaction\",\"params\":[\"0x02f891050a8459682f008527f28057cc8401bad9d894db16d81beeea0ba9613046ea6cb67ff0ad1b92c480a49e7b8d6100000000000000000000000001592c6e3d8ef0499d9e438ca4a47e3709208202c080a029f3d11e7a17c93b265a82e68078b068111bac70edc177c248adc36839cc937ba0230064f8……

Logs from Local Network

Using local network
Loading multiple accounts from mnemonic

Account 0 address: 0x1fAA864C0bf78E7fEF5eAfBE0A33Fa7c2586Bdde
Account 0 balance: 1.152921504606846976 ETH
Account 1 address: 0x01592c6e3d8eF0499D9E438Ca4a47e3709208202
Account 1 balance: 1.152921504606846976 ETH
Account 2 address: 0x087e1e59594b6f5fC4F3EBd44872ae3fB792653e
Account 2 balance: 1.152921504606846976 ETH

Deploying Ballot contract
Proposals:
Proposal N. 1: Raspberry
Proposal N. 2: Vanilla
Proposal N. 3: Pistacchio

The contract is deployed.
Contract address: 0xF9de83d41e68d3a15b98Cf3d4656eaf4CF3Aac8B
The chairperson of the ballot: 0x1fAA864C0bf78E7fEF5eAfBE0A33Fa7c2586Bdde

Giving voting rights to the other accounts
Account 1 - (0x01592c6e3d8eF0499D9E438Ca4a47e3709208202) has been given voting rights
Transaction hash:
0x4b44c75217c717625e7ff3fc08c9eee4fef5687559d472dc282cc39af274cbcb
Tx cost: 0.00011063883865965 ETH
Account 2 - (0x087e1e59594b6f5fC4F3EBd44872ae3fB792653e) has been given voting rights
Transaction hash:
0x0bebdfb2f8256419b573899ba65243dcc566001573346702808e9c35d1a7bb04
Tx cost: 0.000105947438835504 ETH

Delegating votes
Account 0 / (0x1fAA864C0bf78E7fEF5eAfBE0A33Fa7c2586Bdde) delegated the rights to:
Account 2 / (0x087e1e59594b6f5fC4F3EBd44872ae3fB792653e)
Transaction hash:
0x57112468483769c17e2e2e3884d8386588c887906fa08b3256c29df3b89165c0

Casting votes

Account 1 / (0x01592c6e3d8eF0499D9E438Ca4a47e3709208202) voted for proposal 1 / Vanilla
Transaction hash:
0xa4bf3cd01076591d04e5c4c110f68875296e85cbb68c8acde206f5a9905d385f
Account 2 / (0x087e1e59594b6f5fC4F3EBd44872ae3fB792653e) voted for proposal 2 / Pistacchio
Transaction hash:
0xeab26aa8be56d6a725657d918c40cc6c26532b4935f473f2fcd6055c2c94553d

The winner is: Pistacchio