



School: Campus:

Academic Year: Subject Name: Subject Code:

Semester: Program: Branch: Specialization:

Date:

Applied and Action Learning

(Learning by Doing and Discovery)

Name of the Experiment : UI for DApps – Building a DApp Frontend

Objective/Aim:

- To design a simple web-based UI for interacting with the **SimpleStorage smart contract** deployed on Ethereum blockchain using **Web3.js**.

Apparatus/Software Used:

- MetaMask
- Remix IDE
- Vs code

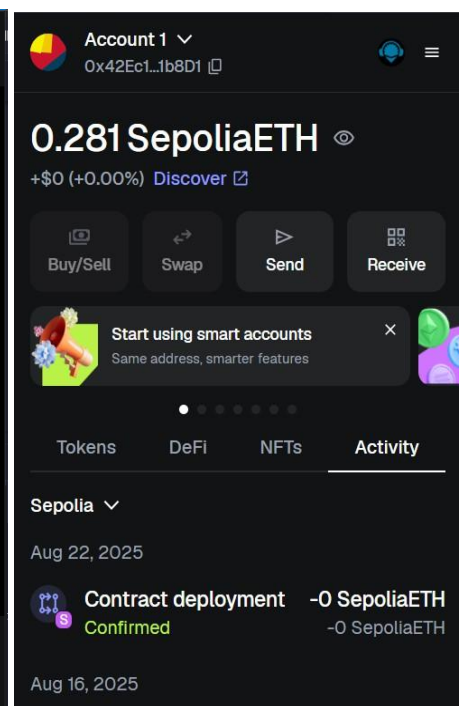
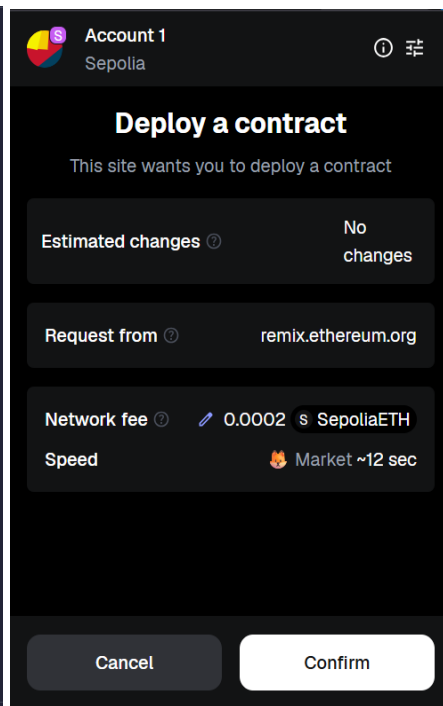
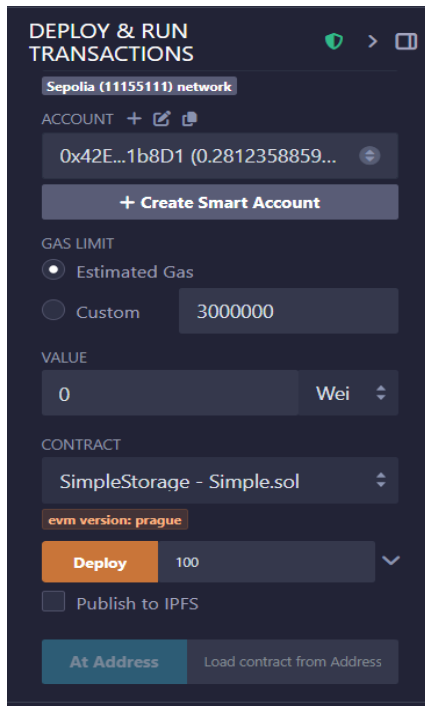
Procedure:

1. Open Remix IDE and write the SimpleStorage.sol smart contract.

```
1  //SPDX-License-Identifier:MIT
2  pragma solidity ^0.8.0;
3
4  contract SimpleStorage{
5      uint public storedData;
6
7      constructor(uint _data){    infinite gas 73800 gas
8          storedData = _data;
9      }
10
11
12      function set(uint x) public {    22514 gas
13          storedData = x;
14      }
15
16      function get() public view returns(uint){    2453 gas
17          return storedData;
18      }
19  }
```

Procedure:

2. After writing smart contract compile it and copy the abi .
3. Then go to the deploye section and delpoye it by giving some value and confirm it on MetaMask.



3. Now open Vs code and past the abi and write the frontend in app.js and ether.js after connecting our smart contract with frontend run the the code .



Simple Storage DApp

[Connect MetaMask Wallet](#)

4. Now in the output section first connect the MetaMak.



Simple Storage DApp

Connected: 0x42Ec11BcdF103cCcAa71be8E655488d9cC91b8D1

[Disconnect Wallet](#)

Stored Value: 1233

[Update](#)

[Retrieve Latest Data](#)

5. After connecting MetaMask , We can store value by giving some value.




Simple Storage DApp

Connected: 0x42Ec11BcdF103cCcAa71be8E655488d9cC91b8D1

Disconnect Wallet

Stored Value: 1233

Update

 Retrieve Latest Data

6. After giving value click on Update option and confirm transaction in MetaMask. Now the value is stored.



Simple Storage DApp


Connected: 0x42Ec11BcdF103cCcAa71be8E655488d9cC91b8D1

Disconnect Wallet

Stored Value: 1

Enter new value

Update

 Retrieve Latest Data

Observation:

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- On loading the page, Metamask prompts to connect wallet.
- User enters a number in the input field.
- On clicking **Store Value**, a blockchain transaction is triggered.
- After confirmation, the number is stored in the contract.
- On clicking **Retrieve Value**, the stored number is fetched and displayed.

ASSESSMENT

Rubrics	Full Mark	Marks Obtained	Remarks
Concept	10		
Planning and Execution/ Practical Simulation/ Programming	10		
Result and Interpretation	10		
Record of Applied and Action Learning	10		
Viva	10		
Total	50		

Signature of the Student:

Name :

Regn. No. :

Signature of the Faculty:

Page No.

**As applicable according to the experiment.
Two sheets per experiment (10-20) to be used.*