



School:Campus:

Academic Year: Subject Name: Subject Code:

Semester: Program: Branch: Specialization:

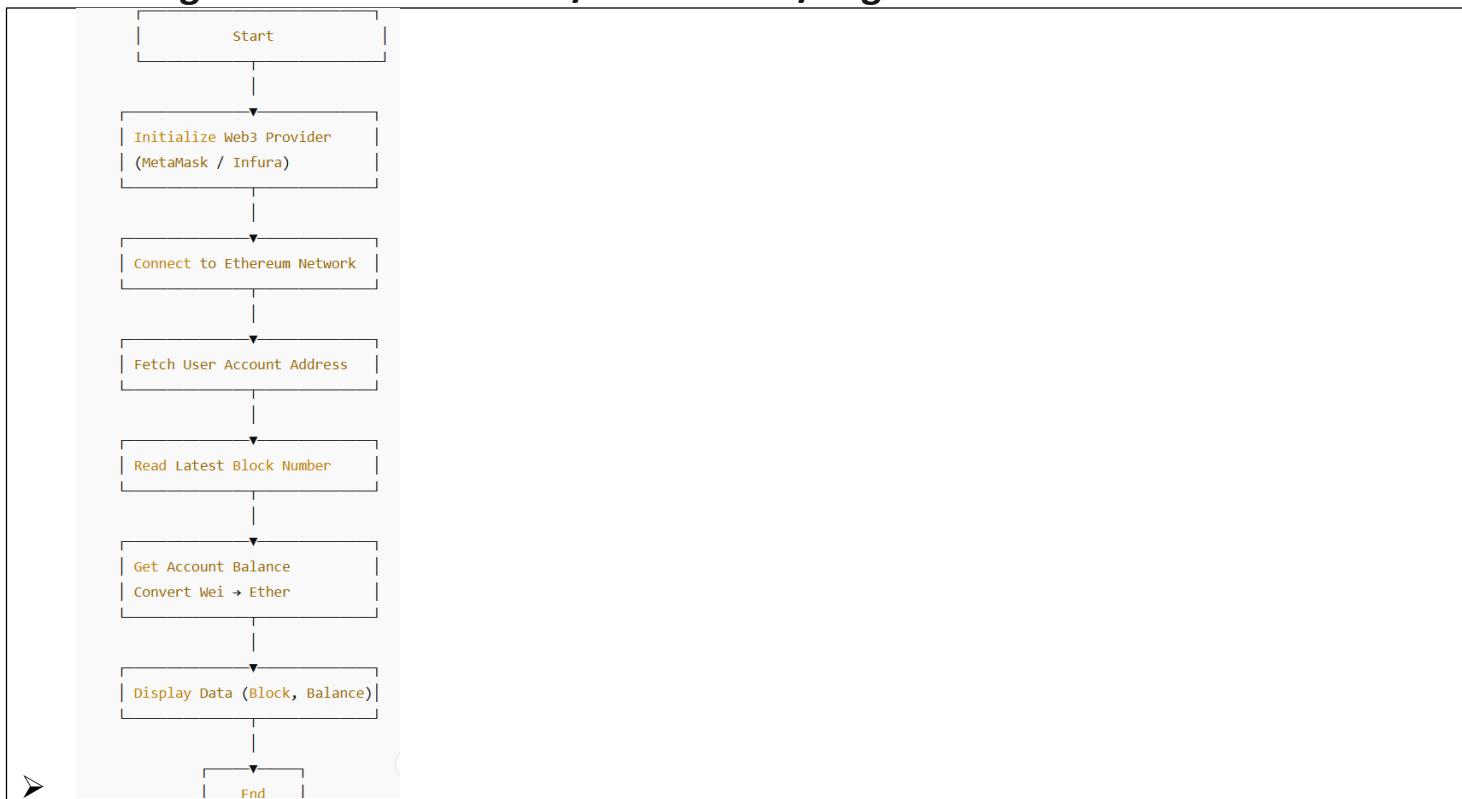
Date:

Applied and Action Learning

(Learning by Doing and Discovery)

Name of the Experiment: Read the Chain – Web3.js Basics

*Coding Phase: Pseudo Code / Flow Chart / Algorithm



* Software used:

- Laptop
- Visual Studio Code (code editor)
- MetaMask Wallet (browser extension)
- Remix IDE (web-based smart contract IDE)
- Node.js
- React (via create-react-app)
- Web3.js (Ethereum JavaScript library)
- dotenv (for environment variables)

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

* Testing Phase: Compilation of Code (error detection)

- First we have to go Remix IDE and create a .sol file named as simpleStorage.sol and write our smart contract.
- Then we need to compile our smart contract and copy the generated ABI
- After successful compilation deploy the smart contract and choose the environment to Injected Provider - MetaMask
- After deployment under Deployed Contracts section copy the contract address for future use.
- Then using web3.js library we create frontend and interact with our wallet.

```
SOLIDITY COMPILER
COMPILER + 0.8.30+commit.73712a01
Include nightly builds
Auto compile
Hide warnings
Advanced Configurations
Compile simpleStorage.sol
Compile and Run script
```

```
5 uint256 private data;
6
7 function set(uint256 _data) public {
8     data = _data;
9 }
10
11 function get() public view returns (uint256) {
12     return data;
13 }
```

DEPLOY & RUN TRANSACTIONS

ENVIRONMENT: Injected Provider - MetaMask (Sepolia (11155111) network)

ACCOUNT: 0xc00...016C7 (0.2249261056...)

GAS LIMIT: Estimated Gas (3000000)

VALUE: 0 Wei

CONTRACT: SimpleStorage - SimpleStorage.sol

evm version: prague

Deploy

Publish to IPFS

MetaMask

Account 1 Sepolia

Deploy a contract

This site wants you to deploy a contract

Estimated changes: No changes

Request from: remix.ethereum.org

Network fee: 0.0002 s SepoliaETH

Speed: Market ~12 sec

Cancel Confirm

0.2247 SepoliaETH

+ \$0 (+0.00%) Discover

Buy/Sell Swap Bridge Send Receive

Sei is live on MetaMask

Tokens DeFi NFTs Activity

Sepolia

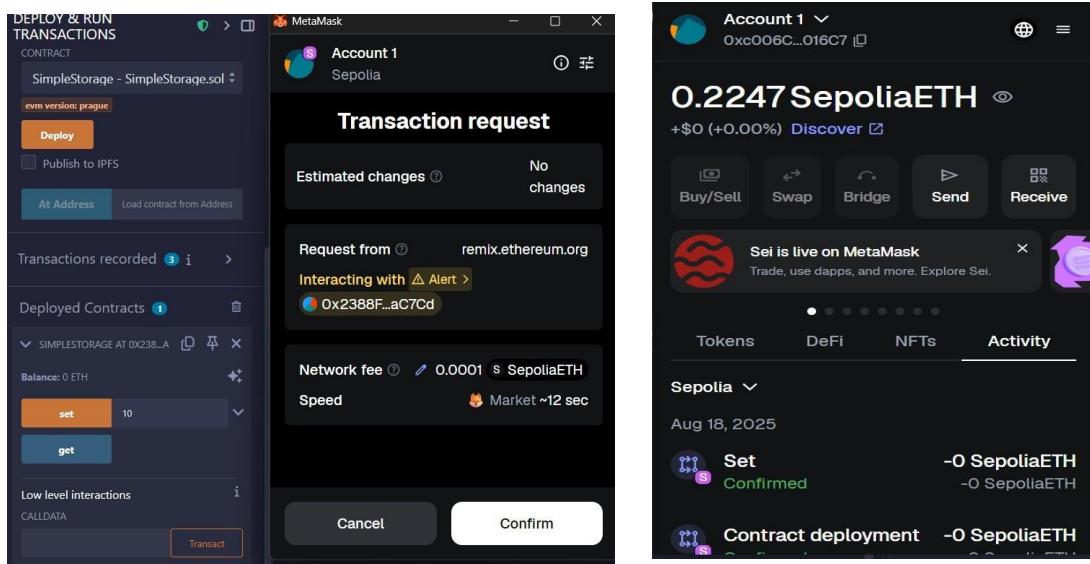
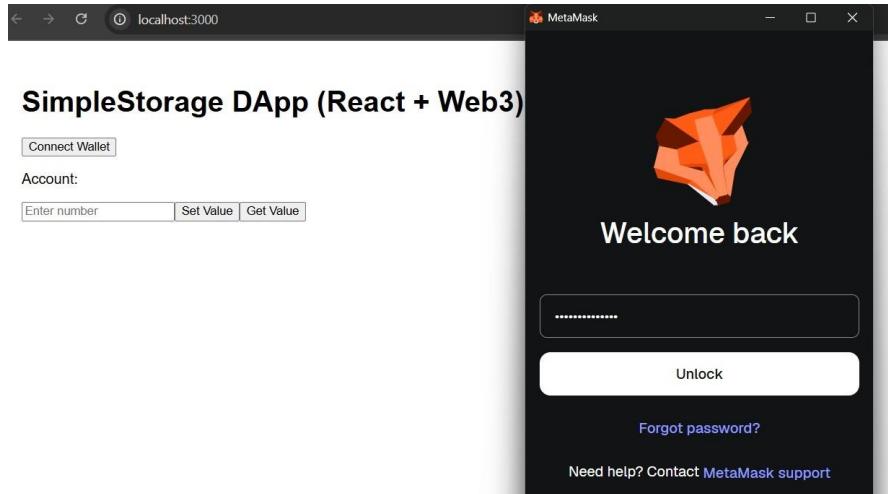
Aug 18, 2025

Contract deployment Confirmed

* Implementation Phase: Final Output (no error)

- Now we have to create a folder named as “frontend” and open the terminal and move to the current frontend directory.
- Inside frontend we have to create a ‘.env’ file where we will store our contract address.
- In the frontend/src/ folder we have to create a ABI.json file to store our contract ABI.
- Now in the App.js file we have to write our frontend code and wallet connection function using by importing web3.
- In the terminal install and the required packages from node package manager.
- Then run the terminal with the command ‘npm start’.
- Then we can interact with the UI such as connecting to wallet and set and get functions.

* Implementation Phase: Final Output (no error)



SimpleStorage DApp (React + Web3)

Connect Wallet
Account: 0x19b9a3978978a4165cE5194FDD1CbD4f6a79525F
10 Set Value Get Value
Stored Value: 10

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 :

Signature of the Faculty :

Regn. No. :

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