



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 : Try DeFi – Using Uniswap or Aave Testnets

Objective/Aim:

To understand the the basics of how to connect the frontend and the smart contract using web3.js

Apparatus/Software Used:

- Laptop / PC
- Remix IDE
- Metamask
- Etherscan

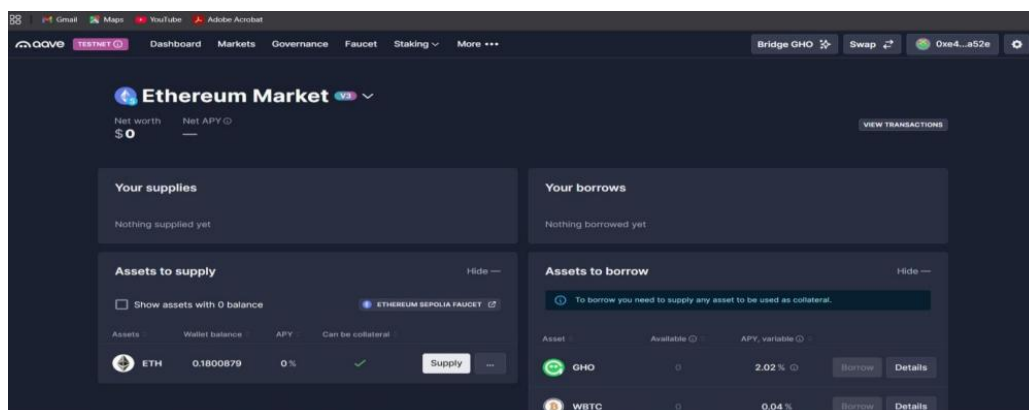
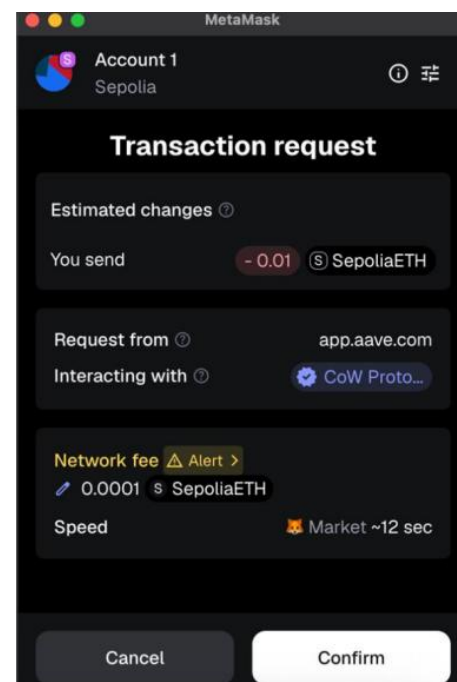
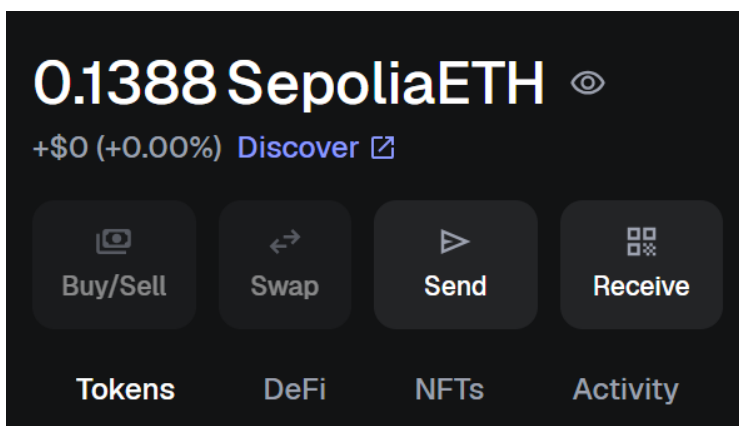
Theory/Concept:

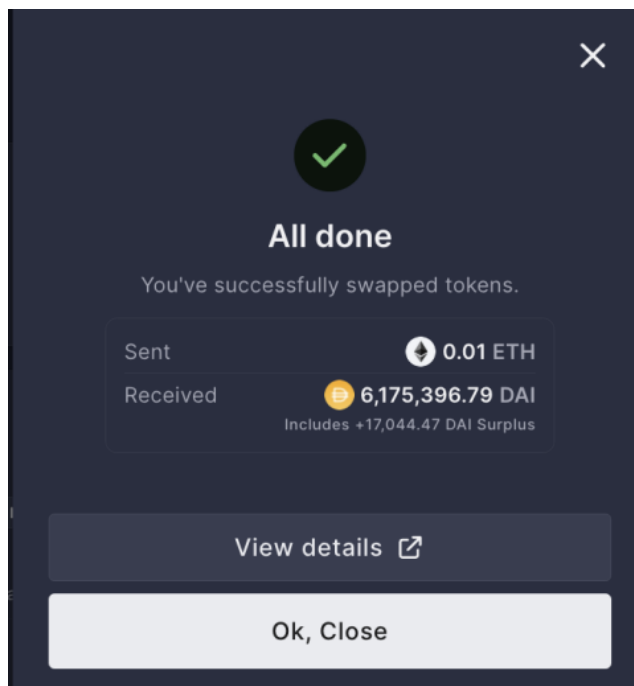
Introduction

- Blockchain Data Access – Web3.js allows developers to read data stored on the blockchain (Ethereum, BSC, Polygon, etc.) such as account balances, transaction details, and block info.
- No Gas Fees for Reading – Reading (calling `eth_call`) is free because it doesn't change the blockchain state, unlike transactions (`eth_sendTransaction`).
- Functions for Reading – Common Web3.js methods include `web3.eth.getBalance()`, `web3.eth.getBlock()`, `web3.eth.getTransaction()`, and contract read functions using `myContract.methods.methodName().call()`.
- Smart Contract Interaction – You can connect to deployed smart contracts using their ABI and address, then read variables and return values from functions without modifying the state.
- Use Cases – Reading is used for showing token balances, NFT metadata, transaction history, block details, and DApp dashboards.

Procedure:

1. Open MetaMask and switch to the Sepolia testnet.
2. Visit aave.com in your browser.
3. Click “Enter App” to launch the Aave application.
4. Select “Connect Wallet” and connect via MetaMask.
5. From the top-right corner, enable Testnet Mode.
6. Choose the Ethereum (Sepolia) network.
7. Navigate to the Swap section.
8. In the swap fields, select ETH as the token you’re swapping from and DAI as the token you’re swapping to.
9. Enter a test amount of ETH to swap.





Observation

- 1.Ethers.js provides a lightweight and modular approach for interacting with Ethereum smart contract.
2. It simplifies wallet connection and contract function calls using a clean and modern syntax.
- 3.The library ensures better security and improved developer experience compared to older Web3.js practices.

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:

Signature of the Faculty:

Name :
Regn. No. :