



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 :

* Coding Phase: Pseudo Code / Flow Chart / Algorithm

Swap ETH → DAI on Aave (Testnet)

Swap Procedure on app.aave.com

1. Open Aave
 - Visit: <https://app.aave.com>
2. Connect Your Wallet
 - Click Connect Wallet in the top-right corner.
 - Select MetaMask.
 - Approve the connection request.
3. Pick the Network
 - Ensure the selected chain is Ethereum Sepolia Testnet.
 - If not, switch to Sepolia inside MetaMask.
4. Navigate to Swap
 - On the left sidebar, click Swap (sometimes under “More”).
 - This feature runs via ParaSwap.
5. Select Tokens
 - From: ETH
 - To: DAI
6. Enter Amount
 - Type in the number of ETH you want to convert.
7. Check the Quote
 - Aave shows the best conversion path from different DEXs.
 - You’ll see info like slippage, minimum tokens you’ll get, and fees.
8. Approve ETH (if first time)
 - The first swap requires an approval transaction in MetaMask.
9. Confirm Swap
 - Click Swap.
 - Approve the transaction in MetaMask (including gas fee).
 - Wait for blockchain confirmation.
10. Finished
 - After confirmation, your new DAI tokens will be visible in MetaMask and also on the Aave dashboard.

Coding Phase: Pseudo Code / Flow Chart / Algorithm

* **Softwares used**

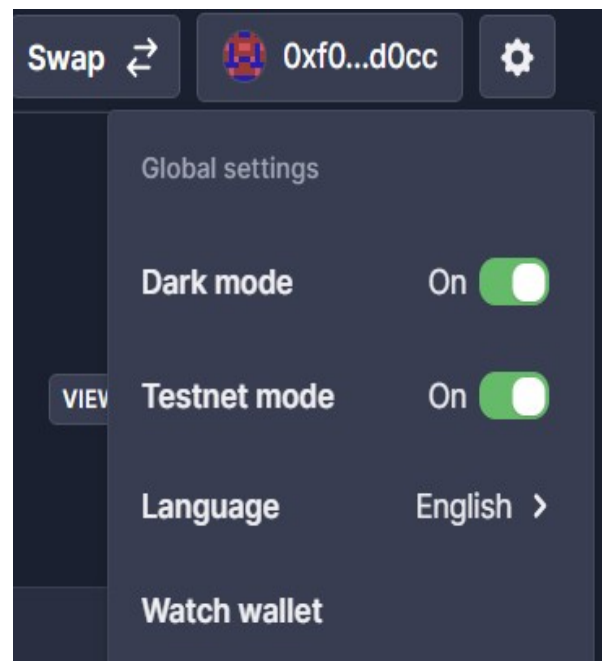
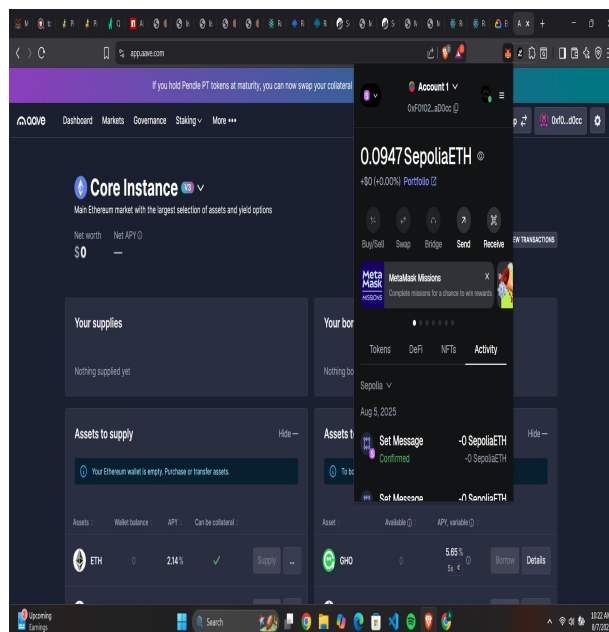
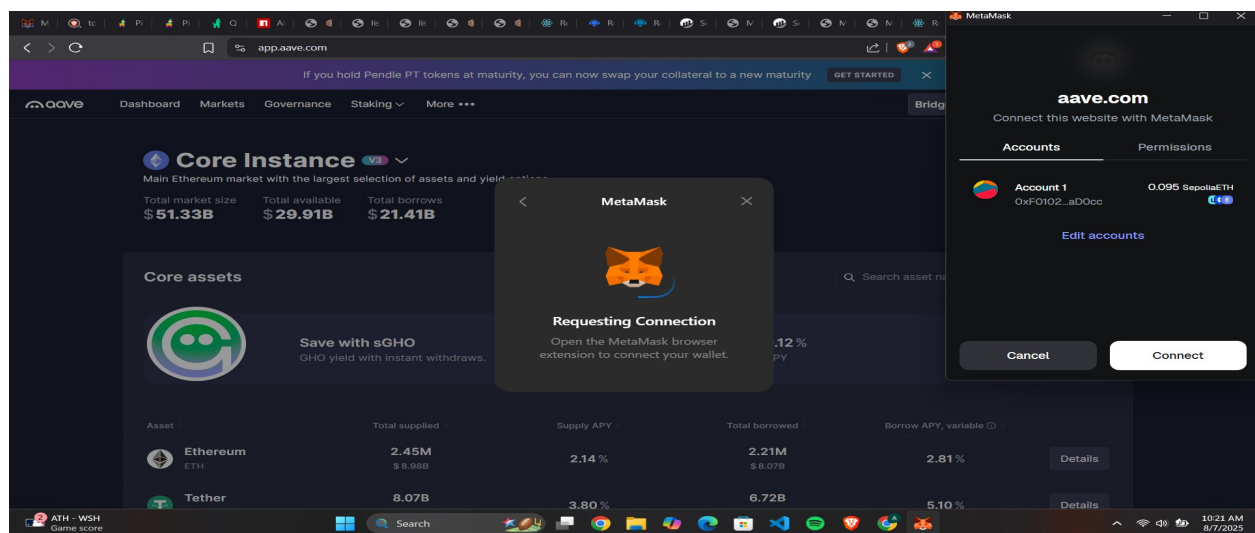
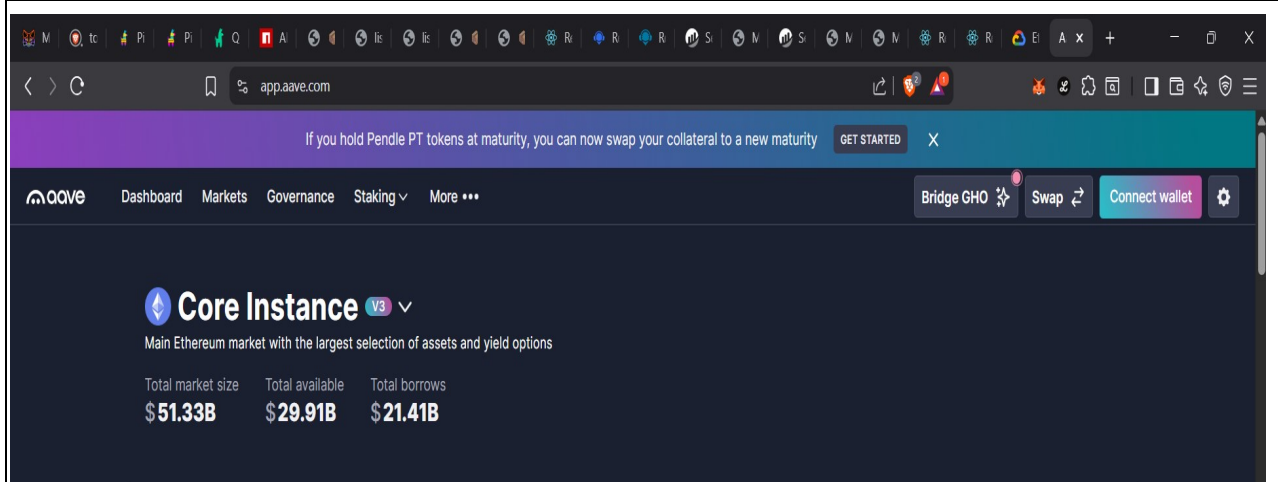
During exchange ETH for DAI on Aave's application (Ethereum Mainnet), several layers of technology interact to make the transaction possible:

- User Interface: Built with React.js along with libraries like Ethers.js/Web3.js to link your wallet.
- Middleware & Services: Uses Aave Protocol v3, ParaSwap's API, and The Graph for data indexing and queries.
- Blockchain Layer (Smart Contracts): Involves Aave pool and lending contracts, the DAI token smart contract, and ParaSwap contracts that handle the swap.
- Wallet Connections: Accessed through MetaMask browser extension or via WalletConnect for mobile and other wallets.

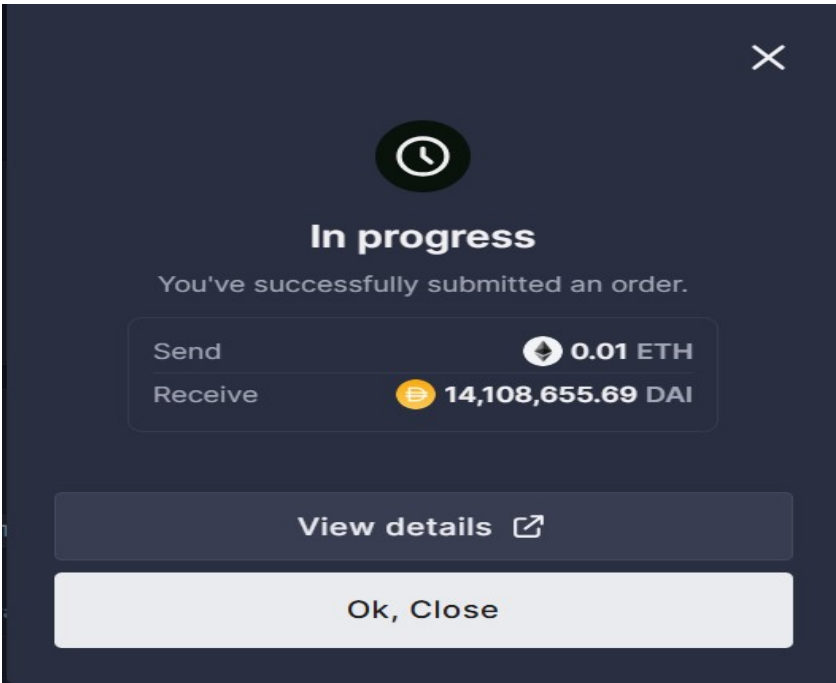
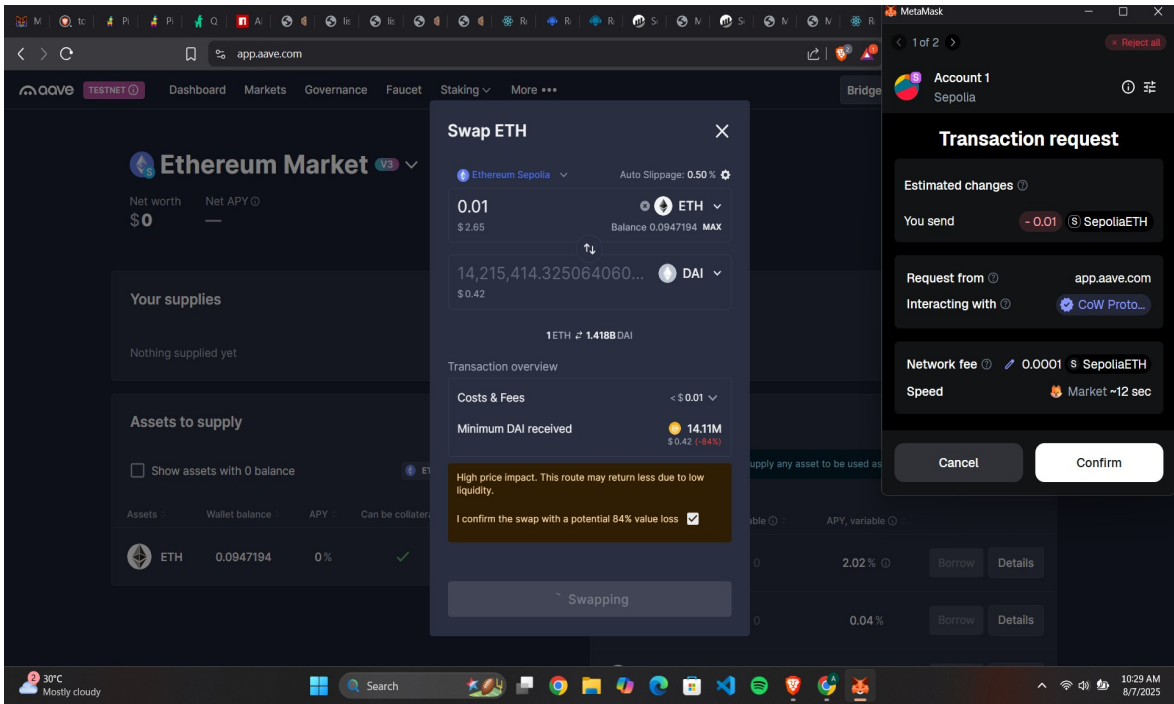
*** Testing Phase: Compilation of Code (error detection)**

No Error

* Implementation Phase: Final Output (no error)

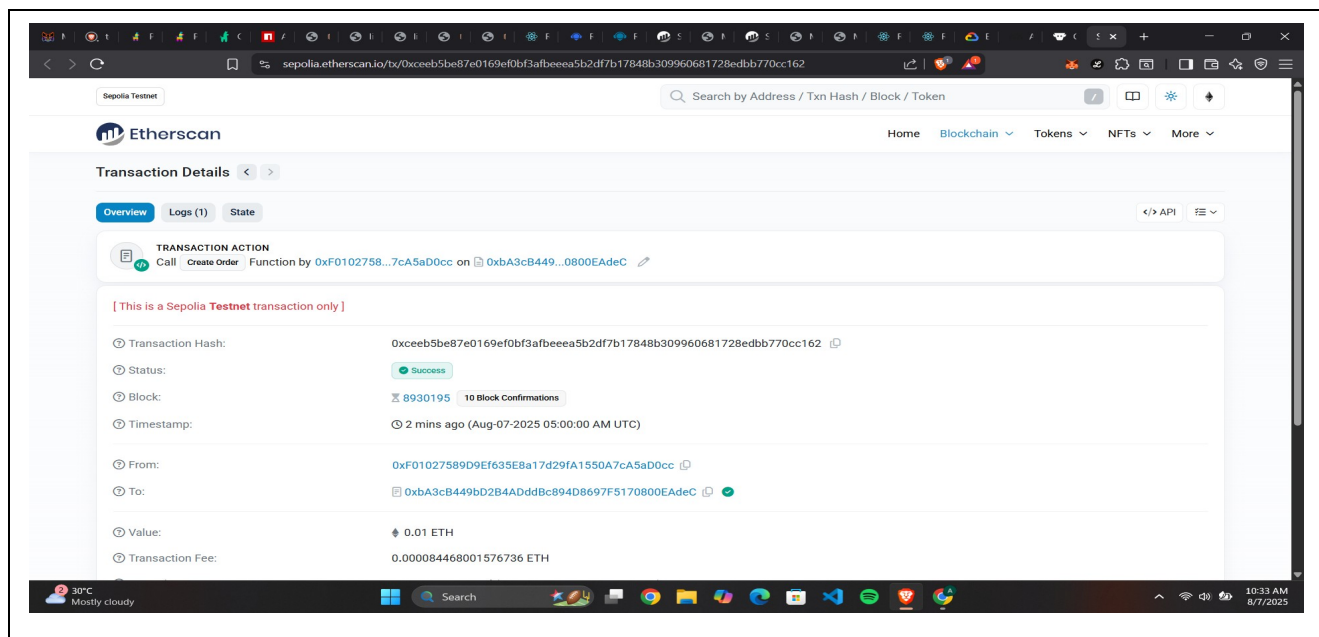


Implementation Phase: Final Output (no error)



* Implementation Phase: Final Output (no error)

Applied and Action Learning



* Observations

- The DAI token balance showed an increase in the connected wallet and on the Aave dashboard once the swap was successful.
- The ETH balance dropped because of the amount exchanged into DAI, along with an additional deduction for network gas fees.
- A unique transaction hash was generated, which can be checked on Etherscan to see the full transaction flow and confirmation details.
- The gas consumed during the process generally ranged between 150,000 and 300,000 units, depending on the route chosen by ParaSwap

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.*