Centurion UNIVERSITY Shatise Lives.	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:

Learn the fundamental DeFi concepts (swapping, lending, borrowing, liquidity pools).

Install a crypto wallet (MetaMask) and link it to a testnet.

Get testnet tokens from faucets.

Do transactions on:

Uniswap Testnet \rightarrow exchange test tokens, supply liquidity.

Aave Testnet → stake tokens, borrow against collateral.

Apparatus/Software Used:

- Frontend: React.js, Ethers.js/Web3.js, wallet integration
- Backend: Aave Protocol V3, ParaSwap API, The Graph
- Smart Contracts: Aave Pool & Lending Contracts, DAI Token Contract, ParaSwap Contracts
- Wallet Tools: MetaMask, WalletConnect

Theory/Concept:

Decentralized Finance (DeFi):

- A blockchain-based financial system that eliminates intermediaries such as banks.
- Employing smart contracts to automate services such as trading, lending, and borrowing.
- Direct interaction by users through crypto wallets.

Testnets:

- Blockchain networks for testing and learning.
- Employing fake/test tokens (not actual money).
- Safe platform to rehearse DeFi operations.
- Uniswap (DEX Decentralized Exchange):
- Operates on the Automated Market Maker (AMM) model.

Aave (Lending & Borrowing Protocol):

- A DeFi application for token deposits to gain interest or for borrowing against collateral.
- Operates through smart contracts that provide lending security.

Procedure:

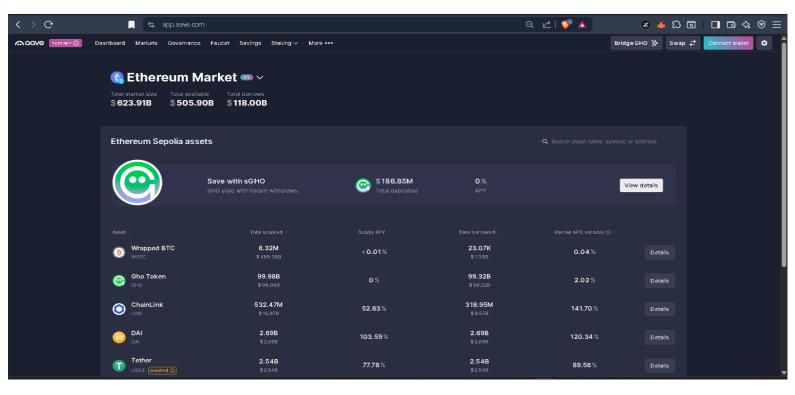
USDC → WETH Swap on Aave (Goerli Testnet)

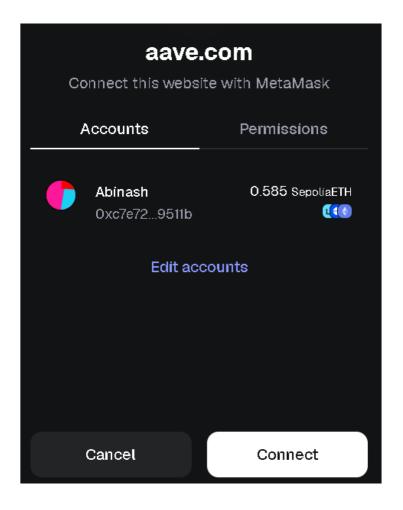
Prerequisites:

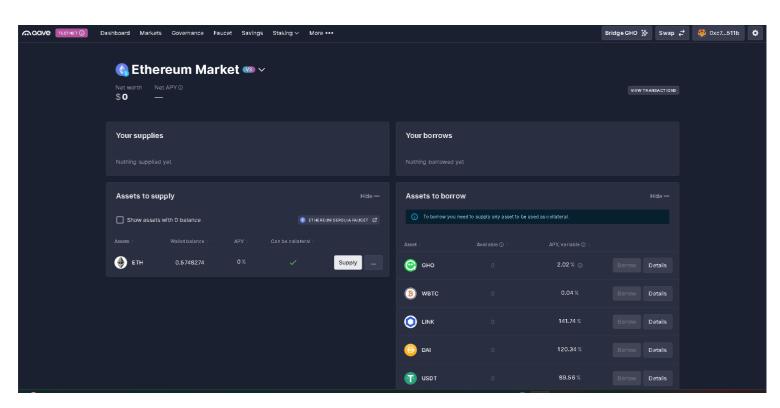
- Ethereum wallet (e.g., MetaMask) connected to Aave.
- USDC tokens in your wallet (on Ethereum Goerli testnet).
- Some ETH on Goerli for gas fees.

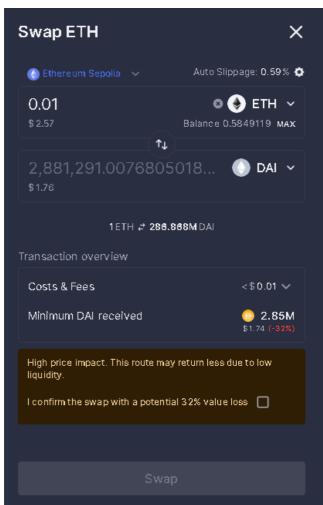
Swap Procedure on app.aave.com:

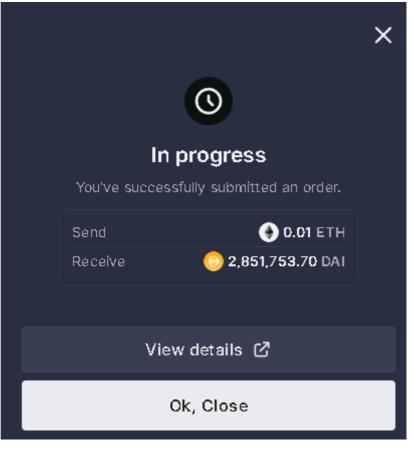
- 1. Open Aave
 - o Go to: https://app.aave.com
- 2. Connect Your Wallet
 - o Top-right: Click Connect Wallet
 - Select MetaMask.
 - Approve the connection request in MetaMask.
- 3. Select the Network
 - o Ensure the network is set to Ethereum Goerli.
 - o If not, switch to the Goerli testnet via MetaMask.
- 4. Navigate to Swap
 - From the left menu, choose Swap (sometimes under More).
 - Aave uses ParaSwap integration for swaps.
- 5. Choose Tokens
 - 。 From: USDC
 - 。 To: WETH
- 6. Enter Swap Amount
 - Type the amount of USDC you want to convert to WETH.
- 7. Check Swap Details
 - Review rate, slippage tolerance, minimum WETH to receive, and any protocol fees.
- 8. Approve USDC (if it's your first swap)
 - o Click Approve and confirm in MetaMask.
 - This allows the swap contract to use your USDC.
- 9. Execute Swap
 - Click Swap and approve the transaction in MetaMask.
 - Wait for the blockchain confirmation.
- 10.Completion
 - o Once confirmed, your WETH will appear in your wallet and be visible on the Aave dashboard.

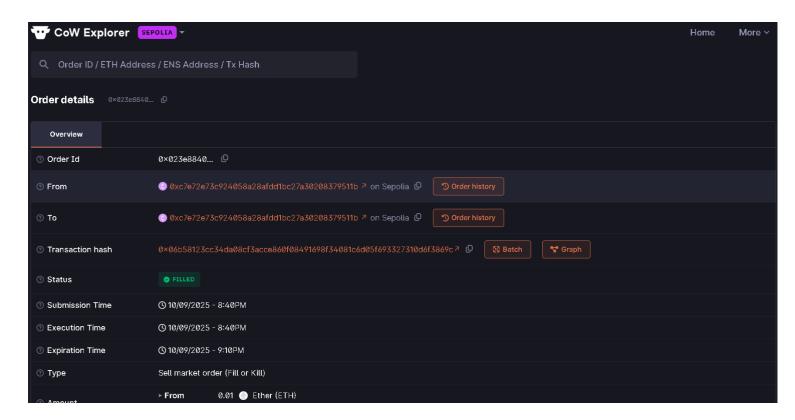












* Observations

- WETH Balance | Increases in your wallet and is visible on the Aave dashboard.
- USDC Balance | Decreases by the swapped amount plus any protocol and gas fees.
- Transaction Hash | Available on PolygonScan showing full swap path via ParaSwap integration.
- Gas Usage | Typically ranges between 120k-250k units depending on network congestion and routing.

ASSESMENT

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

Signature of the Student:

Name:

Regn. No.:

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