

**Name of the Experiment : Try De F i – 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 → 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*
   * *Go to: [https://app.aave.com](https://app.aave.com/)*
2. *Connect Your Wallet*
   * *Top-right: Click Connect Wallet*
   * *Select MetaMask.*
   * *Approve the connection request in MetaMask.*
3. *Select the Network*
   * *Ensure the network is set to Ethereum Goerli.*
   * *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)*
   * *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*
   * *Once confirmed, your WETH will appear in your wallet and be visible on the Aave dashboard.*











