



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 → 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>*

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.*

app.aave.com

aaaveTEST NETDashboardMarketsGovernanceFaucetSavingsStakingMore

Bridge GHOSwapConnect wallet


Ethereum Market

Total market size\$623.91B

Total available\$505.90B

Total borrows\$118.00B

Ethereum Sepolia assets



Save with sGHO

GHO yield with instant withdrawals.






\$186.85M

Total deposited

0%

APY

View details


Asset	Total supplied	Supply APY	Total borrowed	Borrow APY, variable	
<div> Wrapped BTC</div> <div>WBTC</div>	<div>8.32M</div> <div>\$499.38B</div>	< 0.01%	<div>23.07K</div> <div>\$1.38B</div>	0.04%	Details
<div> Gho Token</div> <div>GHO</div>	<div>99.98B</div> <div>\$99.98B</div>	0%	<div>99.32B</div> <div>\$99.32B</div>	2.02%	Details
<div> ChainLink</div> <div>LINK</div>	<div>532.47M</div> <div>\$15.97B</div>	52.63%	<div>318.95M</div> <div>\$9.57B</div>	141.70%	Details
<div> DAI</div> <div>DAI</div>	<div>2.69B</div> <div>\$2.69B</div>	103.59%	<div>2.69B</div> <div>\$2.69B</div>	120.34%	Details
<div><div> Tether</div><div>USDT</div></div> <div>isolated</div>	<div>2.54B</div> <div>\$2.54B</div>	77.78%	<div>2.54B</div> <div>\$2.54B</div>	89.56%	Details

aave.com

Connect this website with MetaMask

Accounts


Permissions



Abinash

0xc7e72...9511b

0.585 SepoliaETH



Edit accounts

Cancel

Connect

oave

TESTNET

Dashboard

Markets

Governance

Faucet

Savings

Staking

More

Bridge GHO

Swap

Oxc7...511b

Ethereum Market

VS

Net worth

\$0

Net APY

—

VIEW TRANSACTIONS

Your supplies

Nothing supplied yet

Your borrows

Nothing borrowed yet

Assets to supply

Hide

☐ Show assets with 0 balance

ETHEREUM SEPOLIA FAUCET

Assets	Wallet balance	APY	Can be collateral	
ETH	0.5748274	0%	✓	<div>Supply</div>

Assets to borrow

Hide

To borrow you need to supply any asset to be used as collateral.

Asset	Available	APY, variable	
GHO	0	2.02%	<div>Borrow</div> <div>Details</div>
WBTC	0	0.04%	<div>Borrow</div> <div>Details</div>
LINK	0	141.74%	<div>Borrow</div> <div>Details</div>
DAI	0	120.34%	<div>Borrow</div> <div>Details</div>
USDT	0	89.56%	<div>Borrow</div> <div>Details</div>

Swap ETH

Ethereum Sepolia

Auto Slippage: 0.59%

0.01

\$ 2.57

ETH

Balance 0.5849119 MAX

2,881,291.0076805018...

\$ 1.76

DAI

1 ETH \rightleftharpoons 286.868M DAI

Transaction overview

Costs & Fees

<\$ 0.01

Minimum DAI received

2.85M

\$ 1.74 (-32%)

High price impact. This route may return less due to low liquidity.

I confirm the swap with a potential 32% value loss

Swap

In progress

You've successfully submitted an order.

Send

0.01 ETH

Receive

2,851,753.70 DAI

View details

Ok, Close

CoW Explorer

SEPOLIA

HomeMore

Order ID / ETH Address / ENS Address / Tx Hash

Order details0x023e8840...

Overview

Order Id0x023e8840...

From0xc7e72e73c924058a28afdd1bc27a30208379511b on Sepolia

Order history

To0xc7e72e73c924058a28afdd1bc27a30208379511b on Sepolia

Order history

Transaction hash0x06b58123cc34da08cf3acce860f08491698f34081c6d05f693327310d6f3869c

Batch

Graph

Status

FILLED

Submission Time

10/09/2025 - 8:40PM

Execution Time

10/09/2025 - 8:40PM

Expiration Time

10/09/2025 - 9:10PM

Type

Sell market order (Fill or Kill)

Amount

From

0.01

Ether (ETH)

* 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.*

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.....