

Web3 and Blockchain Basics: Wallet Setup and DApp Interaction Report

Student Information

- **Name:** Tippana Sai Venkata Balaram
 - **Student ID:** 22A91A0599
 - **Date:** January 2nd, 2026
 - **Task Type:** Mandatory Task (Easy Difficulty)
 - **Platform:** Partnr Network – Global Placement Program
-

Objective

The objective of this task is to gain a foundational understanding of blockchain technology, Web3 concepts, and decentralized applications (DApps) through hands-on experience. By setting up a crypto wallet, interacting with Ethereum test networks, and performing on-chain transactions in a risk-free environment, this task helps in understanding how users interact with blockchain systems. This practical exposure provides essential knowledge for future development and participation in the Web3 ecosystem.

Section 1: Blockchain and Web3 Overview

Blockchain is a distributed ledger technology where data is stored across multiple nodes instead of a single centralized server. Unlike traditional databases that are controlled by a central authority, blockchain ensures transparency, immutability, and decentralization. Consensus mechanisms such as Proof of Work (PoW) and Proof of Stake (PoS) are used to validate and secure transactions across the network.

Web3 represents a shift from centralized Web2 platforms to decentralized systems where users control their data and digital assets. Smart contracts play a crucial role in Web3 by enabling automated execution of predefined rules without intermediaries. These contracts require gas fees for execution and reach finality once confirmed on the blockchain.

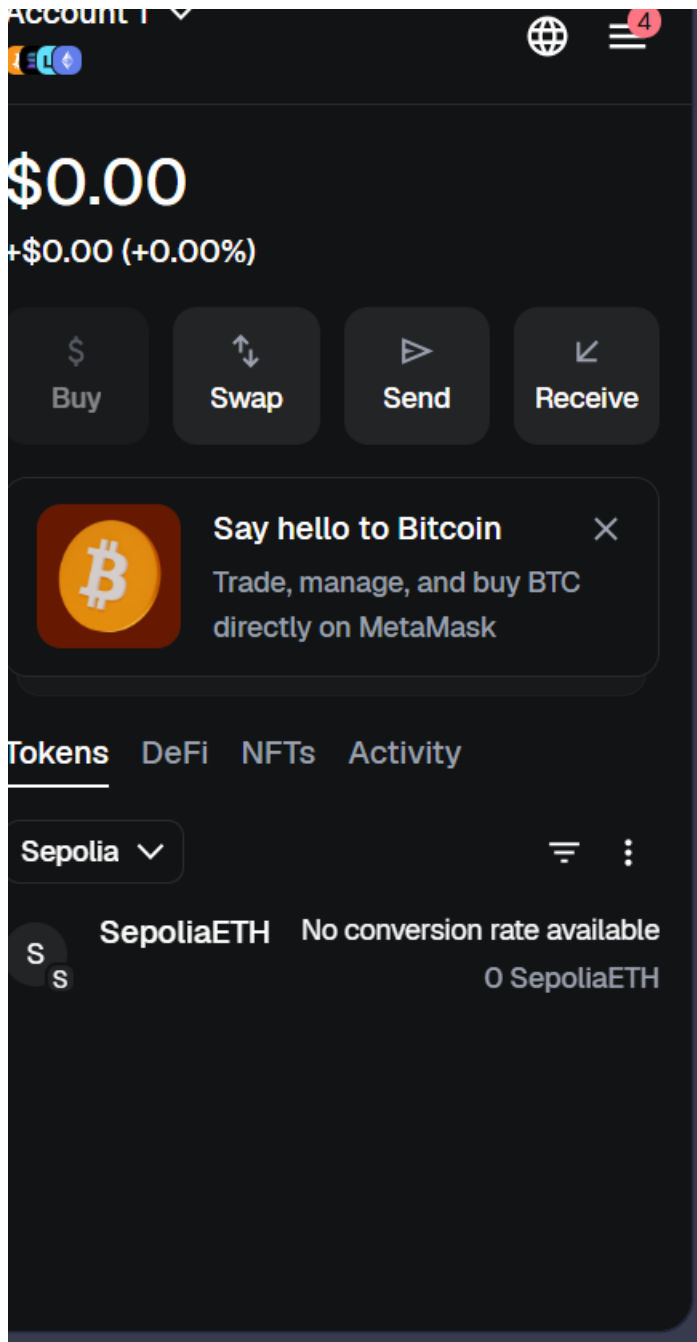
Section 2: Crypto Wallet Setup and Configuration

A MetaMask wallet was installed using the official MetaMask website. A new wallet was created, and the secret recovery phrase was securely backed up offline to ensure wallet safety. MetaMask acts as both a wallet and an identity for interacting with blockchain networks and DApps.

The wallet was configured to connect to the **Ethereum Sepolia Testnet**, which is a test environment that mimics Ethereum Mainnet behavior without using real money. Wallet security best practices such as avoiding phishing links, never sharing private keys, and verifying DApp URLs were strictly followed.

Wallet Details:

- **Wallet Address:**
0x2E0b244F94064f224673e335cB6bDDC34431C970
- **Network:** Ethereum Sepolia Testnet
- **Wallet Type:** MetaMask Browser Extension



Section 3: Acquiring Testnet ETH

To perform transactions on the Sepolia testnet, testnet Ether (SepoliaETH) was required. A Sepolia Proof-of-Work Faucet was used to acquire free test ETH. After providing the wallet address, mining was completed and the reward was successfully claimed.



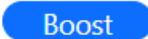
The transaction was verified using the Sepolia Etherscan block explorer, confirming that the funds were transferred successfully to the wallet.

Faucet Transaction Details:

- **Amount Received:** 0.393 SepoliaETH
- **Transaction Hash:**
0xa0c4093c1b2cf1ff729af39b4a968bce13cd5eccc7026168f612e4d585df730b
- **Block Number:** 9965273
- **Status:** Success

Target Address:
0x2E0b244F94064f224673e335cB6bDDC34431C970

Your Mining Reward: Current Hashrate:
0.061 SepETH **106.56 H/s**

Number of Workers:	8 / 8	 
Minimum Claim Reward:	0.05 SepETH	
Maximum Claim Reward:	2.5 SepETH	
Remaining Session Time:	11h 57min	
Total Shares:	3	
Avg. Reward per Hour:	1.758 SepETH/h	
Reward Boost:	+ 0%	

Section 4: DApp / On-Chain Transaction Interaction

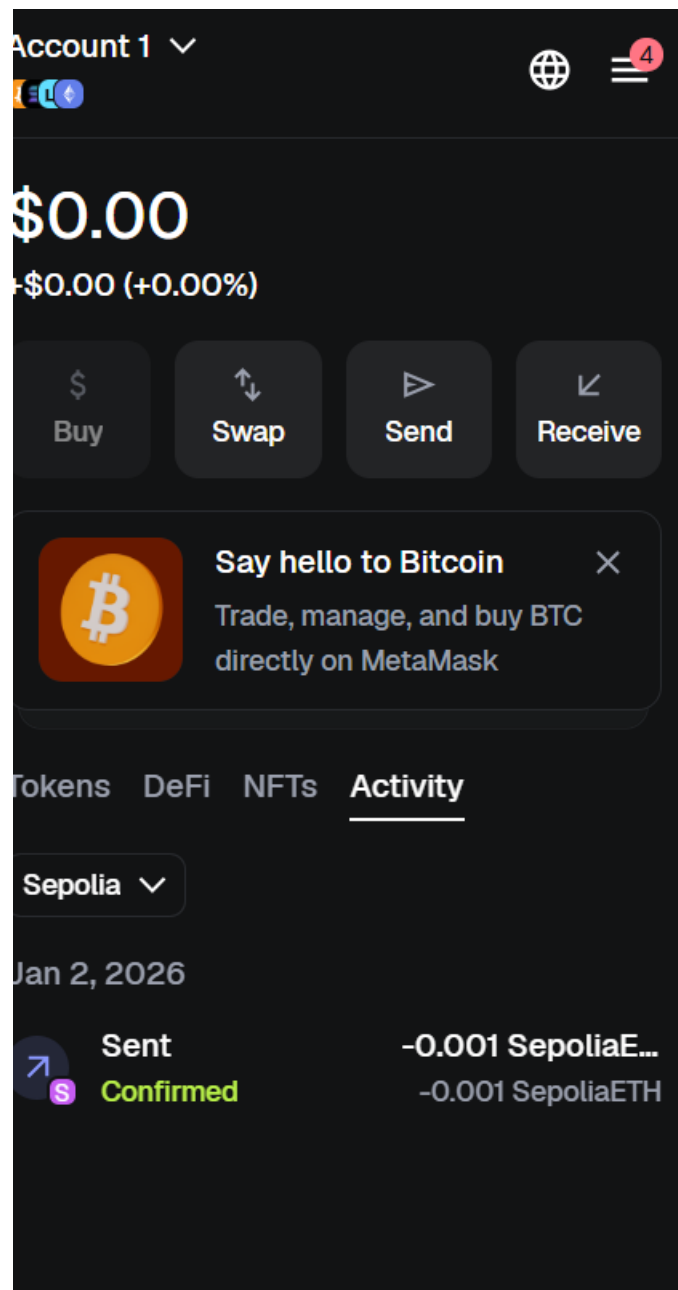
To demonstrate an on-chain interaction, a transaction was executed using the MetaMask wallet. A second account was created within MetaMask, and **0.001 SepoliaETH** was transferred from Account 1 to Account 2. This transaction represents a successful interaction with the blockchain, similar to how DApps trigger smart contract executions.

During the transaction, MetaMask displayed gas fee estimation and confirmation prompts. After approval, the transaction was confirmed on the blockchain and verified through Etherscan.

Transaction Details:

- **Transaction Type:** ETH Transfer
- **Amount Sent:** 0.001 SepoliaETH
- **From Address:** Account 1
- **To Address:** Account 2

- **Gas Fee:** 0.000031 SepoliaETH
- **Status:** Confirmed
- **Transaction Hash:**
0x3efcf5ec2b3ce113c6908c48bde5d9fa0d25f5c1ce194ac315cae6dabaca0a03



Section 5: Reflection (Learning Experience)

This hands-on Web3 task provided valuable insight into how blockchain technology functions from a user's perspective. Unlike traditional databases where data is centrally managed and hidden from users, blockchain offers complete transparency, allowing anyone to verify transactions using a public block explorer. This transparency builds trust without relying on centralized authorities.

Setting up MetaMask helped me understand how crypto wallets act as gateways to decentralized networks. Wallets not only store assets but also manage private keys, making users fully responsible for their security. This highlights the importance of safeguarding seed phrases, as losing them results in permanent loss of access.

Interacting with the Sepolia testnet demonstrated how real blockchain transactions operate, including gas fees and confirmation times. Even though testnet ETH has no real value, the transaction flow closely resembles Ethereum Mainnet behavior. Observing transactions move from pending to confirmed emphasized how consensus mechanisms validate state changes.

Overall, this task strengthened my understanding of decentralization, smart contracts, and user-controlled identity. It provided confidence in navigating wallets, faucets, and block explorers—skills that are fundamental for future Web3 development and decentralized application design.

Section 6: Key Learnings

1. Blockchain ensures transparent and immutable data storage.
2. Web3 shifts control from centralized platforms to users.
3. Smart contracts automate transactions without intermediaries.
4. Gas fees represent the computational cost of blockchain operations.
5. Wallet security is critical in decentralized systems.
6. Testnets provide a safe environment to learn blockchain concepts.