

# Metamask

## Digital Wallet



## Metamask

### Lesson 25

To participate in the digital economy, we need to have a digital wallet. For a person in prison, who doesn't have access to the internet, a digital wallet may be difficult to understand. In this lesson, I'm going to do my best to explain, and also provide some background on a popular digital wallet that I will use to convert this series of lessons into a Non Fungible Token (NFT).

A digital wallet is a tool, physical medium, program, or service which stores the public and/or private keys for cryptocurrency transactions. On the surface, it might seem similar to a wallet in your pocket, but instead of storing physical currency, it holds digital information.

Below we offer the key components and functionalities of a cryptocurrency wallet:

### Key Components

- » **Public Key:** This is akin to your bank account number or email address. It's the address you share with others to receive cryptocurrency. It's derived from the private key and can be safely shared.

- » **Private Key:** This is the critical part of a wallet. It's akin to your PIN or password, providing the ability to access and manage your cryptocurrencies. It should be kept secret and secure, as anyone with access to your private key can control your funds.

## Types of Cryptocurrency Wallets

- » **Hot Wallets:** These are connected to the internet, offering convenience for quick transactions. Examples include desktop wallets, mobile wallets, and web wallets. While they provide easy access to your cryptocurrency, they are considered less secure due to their internet connectivity.
- » **Cold Wallets:** These are offline wallets and are considered more secure because they are less susceptible to hacking. Examples include hardware wallets (physical devices that store keys securely) and paper wallets (a piece of paper with your keys written on it).
- » **Software Wallets:** These are applications that can be installed on your computer or smartphone. They are a form of hot wallet.
- » **Hardware Wallets:** Physical devices that store private keys electronically and facilitate payments.
- » **Paper Wallets:** Physical documents that list both the public and private keys. They can also refer to software used to securely generate a pair of keys which are then printed.

## Functions of a Digital Wallet

**Sending Cryptocurrency:** To send cryptocurrency, the wallet utilizes the private key to sign transactions, proving the ownership of the related public key. The transaction is broadcast to the network and then recorded on the blockchain.

**Receiving Cryptocurrency:** To receive cryptocurrency, you provide the sender with your wallet's public address. Once the transaction is confirmed by the network, the balance in your wallet is updated.

**Security:** Wallets often include security features such as encryption and backup options to protect against theft and loss. Advanced security measures like two-factor authentication (2FA), multi-signature requirements, and biometric security can also be present, especially in hot wallets.

Cryptocurrency wallets are essential for managing and using cryptocurrencies like Bitcoin, Ethereum, and others. They allow users to interact with various blockchain technologies, enabling the transfer of digital assets, participation in ICOs (Initial Coin Offerings), staking, and access to decentralized applications (dApps). The choice between different types of wallets depends on the user's specific needs regarding security, convenience, and functionality.

### **MetaMask:**

When I made the decision to convert this series of lessons into a Non Fungible Token (NFT), I learned that I would need a digital wallet. I signed up with MetaMask.

MetaMask is a software cryptocurrency wallet used to interact with the Ethereum blockchain. It allows users to access their Ethereum wallet through a browser extension or mobile app, which can then be used to interact with decentralized applications (dApps).

Below I offer a brief history of MetaMask, which is another example of a successful company in the digital economy.

### **Origins and Development**

Aaron Davis and Dan Finlay launched MetaMask in 2016. They created the company to address the need for a more user-friendly interface to interact with the Ethereum blockchain, making it easier for users to manage their identities and conduct transactions without needing to run a full Ethereum node.

MetaMask aspired to simplify access to Ethereum's decentralized applications (dApps) by integrating a wallet directly into the browser. This would lower the barrier to entry for users new to the blockchain space.

### **Growth and Expansion**

**Adoption:** MetaMask quickly became popular among Ethereum users due to its ease of use and the growing interest in dApps. It became a critical tool

for interacting with the Ethereum ecosystem, including platforms for decentralized finance (DeFi), non-fungible tokens (NFTs), and more.

**Mobile App Launch:** In September 2020, MetaMask launched its mobile app, extending its services beyond browser extensions. This move significantly broadened its user base by catering to mobile-first users.

**Token Swaps:** MetaMask introduced a token swapping feature directly within the wallet in October 2020, allowing users to swap tokens without needing to navigate to a decentralized exchange, further enhancing its functionality.

### Non Fungible Tokens (NFT)

Since I wanted to provide an example of how to make an NFT, I opened an account with MetaMask. I needed to set up my digital wallet to get started. MetaMask allowed me to store Ethereum (ETH) and other ERC-20 tokens, which were required to pay for transaction fees (known as gas fees) on the Ethereum network.

### Connecting to NFT Marketplaces

After setting up MetaMask, I funded it with .5 ETH. I simply had to transfer the ETH from my account on Coinbase to my digital wallet. With the set up, I could then connect to an NFT marketplace, Open Sea, which we will discuss in the next lesson.

In the next lesson, I'll offer more insight into the next steps of creating an NFT-which is a new project for me, and a potential opportunity to fund our nonprofit, the Prison Professors Charitable Corporation.

Participants in our MasterClass may want to think about how they can use time inside to begin building projects that they can launch as NFTs.

### Critical Thinking Questions:

1. Considering the differences between hot and cold wallets, what are the potential risks and benefits of each type for someone who might not have constant access to the internet?
2. How does MetaMask's functionality and ease of use contribute to democratizing access to blockchain technologies and digital economies, especially for individuals who are currently disconnected from the digital world?

3. In what ways can people in prison use time to prepare digital assets that will facilitate their success upon release?

### Advocacy Initiative:

Prison Professors encourages the exploration of blockchain technology to create positive social changes, such as improved access to education. We invite you to be a part of our initiative by documenting all that you're learning through our MasterClass on the Digital Economy.

Please share your story and responses through the manner that works best for you:

- » Email: [Interns@PrisonProfessorsTalent.com](mailto:Interns@PrisonProfessorsTalent.com)
- » Regular mail: Prison Professors, ☒ Digital Economy Course, 32565 Golden Lantern, Suite B-1026, Dana Point, CA 92629
- » Edovo tablet: Prison Professors, ☒ Digital Economy Course, 32565 Golden Lantern, Suite B-1026, Dana Point, CA 92629

### Investment:

On Tuesday morning, February 27, 2024, at 6:34 am, the Coinbase Exchange showed Bitcoin valued at \$56,883.10

- » Total investment in BTC: \$192,202.76.
- » Total holdings: 4 BTC
- » Total value: \$227,532.40
- » Gain or Loss: \$35,329.64

The value of my holdings surpassed the total amount that I had paid by \$35,329.64 since I began investing in cryptocurrency, on January 31, 2024.

Separately, I purchased 1 ETH. It was valued at \$2,954.74 and Coinbase charged me a fee of \$66.48. My total investment: \$3,021.22. Value of ETH at end of day: \$3,258.32