Experiment No : 2

Title: Create Your Own eWallet Using MetaMask for Crypto Transactions

Aim:

To create a personalized eWallet using MetaMask for managing cryptocurrency transactions, including sending, receiving, and storing digital assets securely.

Materials:

Computer with a web browser (Chrome or Firefox)

Internet connection

Cryptocurrency (e.g., Ether)

Objective:

Install MetaMask: Install the MetaMask browser extension to create and access your Ethereum-based eWallet.

Create a New Wallet: Set up a new wallet within MetaMask to store and manage your cryptocurrency holdings.
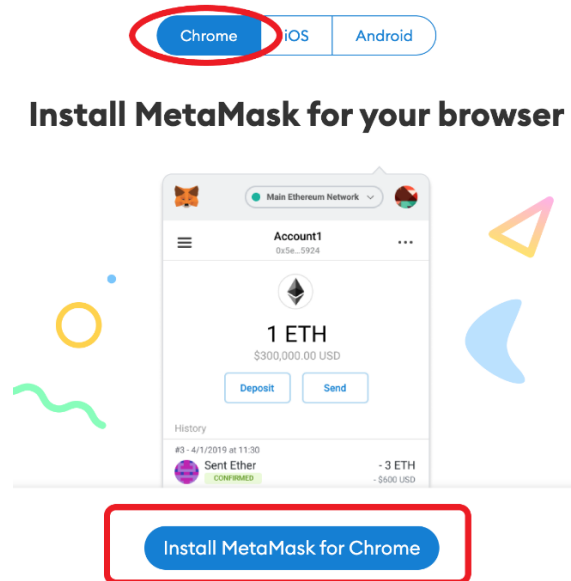
Secure Your Wallet: Learn about wallet security practices, including private keys and backup phrases.

Fund Your Wallet: Add cryptocurrency (e.g., Ether) to your MetaMask wallet.

Perform Crypto Transactions: Conduct transactions by sending and receiving cryptocurrency using your MetaMask wallet.

Procedure:

1) **Install the MetaMask Wallet Extension:**

MetaMask is a browser extension that acts as an Ethereum wallet, enabling users to interact with Ethereum-based applications (DApps) and manage their Ether holdings.

Begin by opening your preferred web browser (Google Chrome or Mozilla Firefox).

Navigate to the official MetaMask website by typing "https://metamask.io/" into your browser's address bar.

Once on the MetaMask website, you will find options for different browsers. Click on "Get Chrome Extension" if you are using Chrome or "Get Firefox Extension" if you are using Firefox.
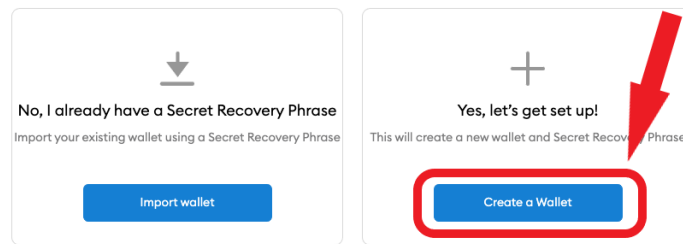
Follow the installation instructions provided by your browser to add the MetaMask extension.

During the installation process, you will be prompted to create a password and generate a secret backup phrase. This backup phrase is crucial for recovering your wallet if you lose access to it. Store it in a safe place and do not share it with anyone.

2) **Create an Account in MetaMask:**

After successfully installing the MetaMask extension, open it by clicking on its icon in your browser's toolbar.
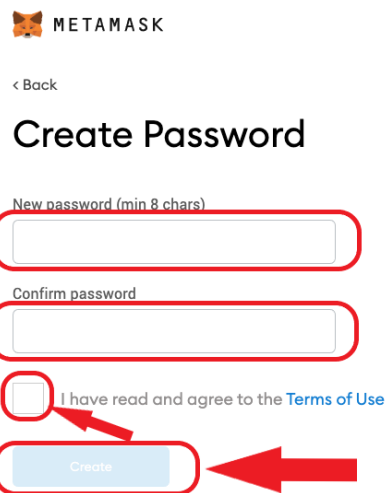
The first time you open MetaMask, it will guide you through the process of creating an account:
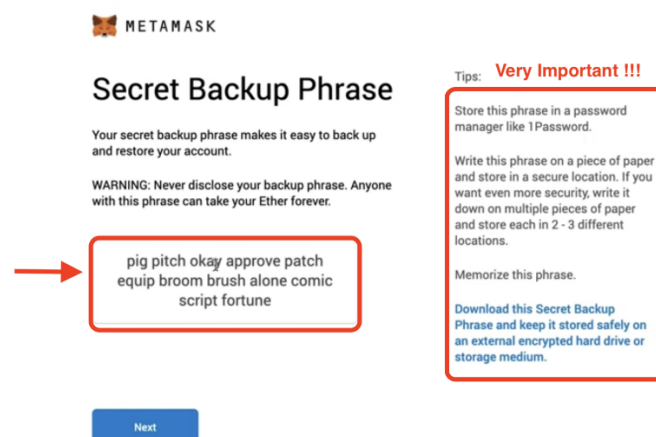
Click "Get Started" to begin.

Read and accept the terms of use and privacy policy.

Create a strong password for your MetaMask account. This password will be used to unlock your wallet and confirm transactions.
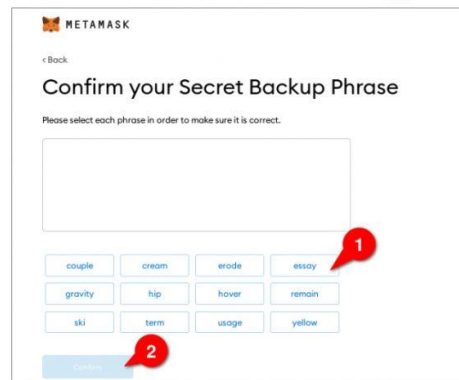

Next, you will be prompted to create a secret backup phrase (also known as a seed phrase). This is a critical piece of information that allows you to recover your wallet if you ever lose access to it. Write down the 12 (or 24) words in the exact order presented and store them securely. Do not share this phrase with anyone, as it provides full access to your wallet.

Confirm your secret backup phrase by entering it in the correct order to verify that you've saved it correctly.
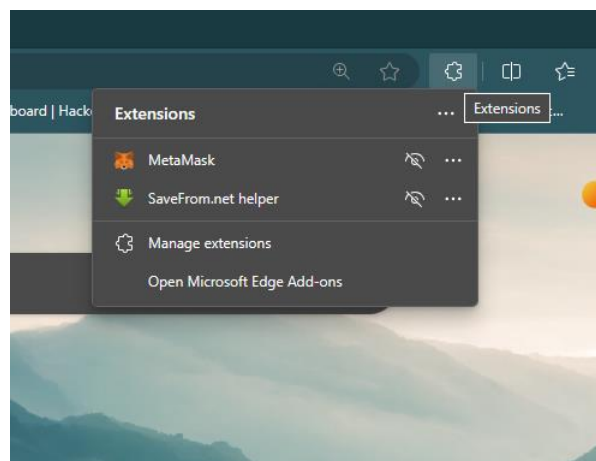

Once your backup phrase is confirmed, your MetaMask account will be created, and you'll have access to your Ethereum wallet.

3) Add Ether to Your MetaMask Wallet:

To perform transactions on the Ethereum network, you'll need Ether in your MetaMask wallet. You can acquire Ether by purchasing it from a cryptocurrency exchange or receiving it from someone who already owns Ether.

Open the MetaMask extension by clicking on its icon in your browser's toolbar.

Click on your account icon at the top right corner of the MetaMask popup. This will take you to the account overview page.
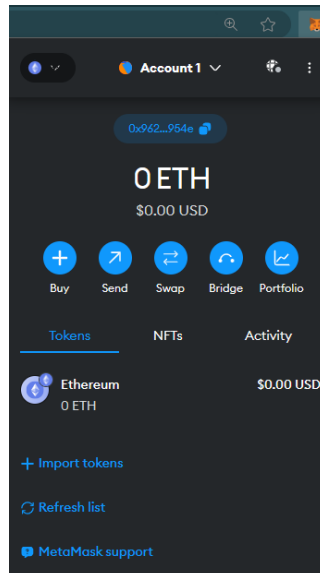
To receive Ether, click the "Receive" button. This will display your Ethereum wallet address. Copy this address, as you will use it to receive Ether from other wallets or exchanges.

4) Study Spending Ether per Transaction:

Ethereum transactions involve a cost known as "gas." Gas is paid to miners on the Ethereum network to process and validate your transactions. The cost of gas varies depending on factors like gas price, gas limit, and network congestion.

Open your MetaMask wallet and ensure that you are logged in.

Click on the "Send" button within the MetaMask extension to initiate a transaction.

In the transaction form, you'll need to enter the recipient's Ethereum address and specify the amount of Ether you want to send.

The key element to study is the "Gas Fee" or "Transaction Fee" field. This represents the amount of Ether you will pay as a fee for processing your transaction.

You have the option to manually set the gas fee or allow MetaMask to estimate it for you. Higher gas fees result in faster transaction processing, while lower fees may result in slower confirmations.

Experiment with different gas fees and transaction amounts to understand how they impact the total Ether spent on each transaction.

Conclusion:

By following this experiment, you have successfully created your personalized eWallet using MetaMask, learned about wallet security practices, funded your wallet, and conducted cryptocurrency transactions. You can now confidently use MetaMask for managing and interacting with cryptocurrencies on the Ethereum blockchain, including sending, receiving, and storing digital assets securely. Always prioritize security and safeguard your private keys and backup phrases to protect your cryptocurrency holdings.