ASSIGNMENT NO. 1

TITLE: Installation of MetaMask and study spending Ether per transaction.

Problem Statement: Installation of MetaMask and study spending Ether per transaction.

Objective:

- Understand What is MetaMask
- Installation of MetaMask
- Understand what Ether is
- Creating wallet and spending Ether per transaction

Theory:

What is MetaMask?

Blockchain offers privacy, transparency, and immutability. You will be powered to use applications, transact anywhere, and do a lot more without anyone watching (read Google, Governments).

But there are various blockchains, each one coded for a different purpose.

However, Ethereum, a gigantic, decentralized ecosystem, is for the masses. And MetaMask is a free, open-source, hot wallet to get you rolling with Ethereum.

Hot wallets are free and can be used from any internet-connected device. This also brings in the single most vulnerability of such wallets–security. While a single low-key user can be quite safe with a hot wallet, you should beware of crypto exchanges using them–and better look for cold wallets supported exchanges.

Let's take a look at some of the prominent features of this wallet:

Ease of use

Starting with MetaMask is easy, quick, and anonymous. You don't even need an email address. Just set up a password and remember (and store) the secret recovery phrase, and you're done.

Security

Your information is encrypted in your browser that nobody has access to. In the event of a lost password, you have the 12-word secret recovery phase (also called a seed phrase) for recovery. Notably, it's essential to keep the seed phrase safe, as even MetaMask has no information about it. Once lost, it can't be retrieved.

Built-In Crypto Store

If you're wondering, no, you can't buy Bitcoin with MetaMask. It only supports Ether and other Ether-related tokens, including the famous ERC-20 tokens. Cryptocurrencies (excluding Ether) on Ethereum are built as ERC-20 tokens.

Backup and Restore

MetaMask stores your information locally. So, in case you switch browsers or machines, you can restore your MetaMask wallet with your secret recovery phrase.

Community Support

As of August 2021, MetaMask was home to 10 million monthly active users around the world. Its simple and intuitive user interface keeps pushing these numbers with a recorded 1800% increase from July 2020.

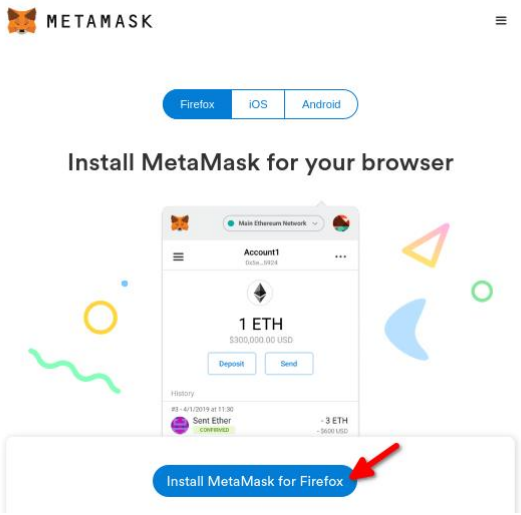
Conclusively, try MetaMask if hot wallets are your pick. Let's begin with the installation before moving to its use cases.

How to Get Started

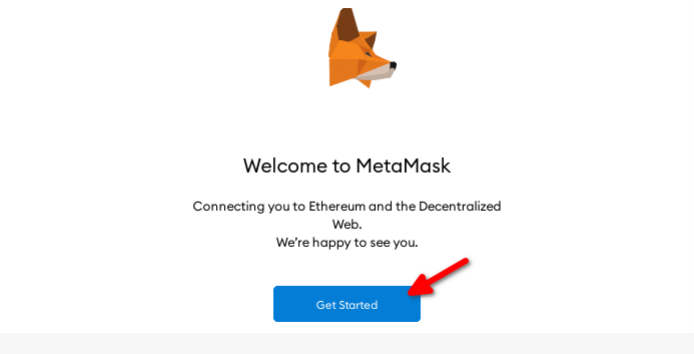
1. Install Metamask

Install Metamask from the project's official website or an app store. It is safest to install from the official website because app stores have accidentally hosted fake Metamask apps in the past.

Chrome, Firefox, Brave, and Edge all support Metamask. Opera users can use Metamask through Chrome extensions, though issues have been reported. Apple and Android devices also support the app.

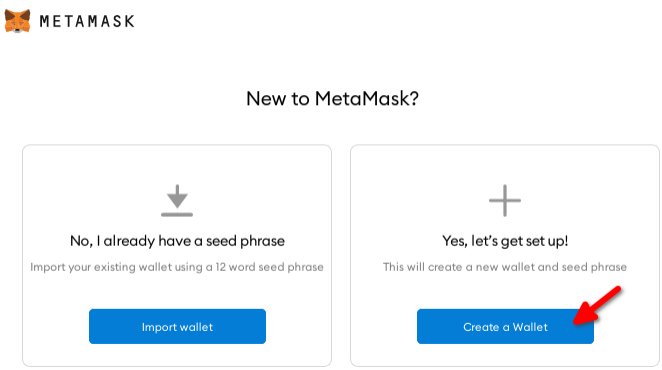


Once you have installed Metamask, click on the Metamask icon in your browser's toolbar to open the app. Then, click on "Get Started."



2. Set up a New Wallet

Click on "Create a Wallet" to make a new Ethereum wallet. (Or, if you have created one already, follow these instructions to restore your wallet and access your existing funds.)



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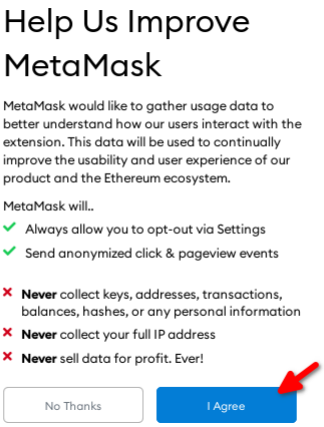
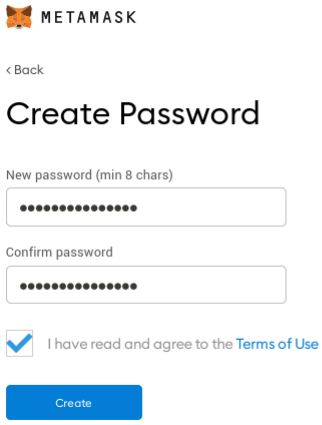
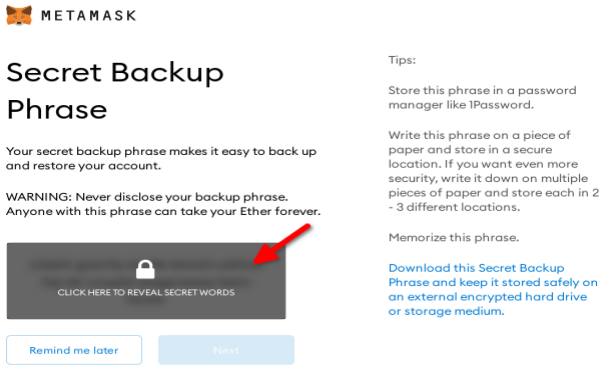


Create a password for your wallet. Though you should safely store this password, you can recover your wallet even if you lose your password.



Click on the grey area to unlock your seed phrase. **Be sure to store this seed phrase safely.**

Anyone who knows it will be able to access your Ethereum wallet, and you will not be able to recover your wallet without it. You can safely store your seed phrase by making multiple backups or storing the phrase in a durable metal wallet.

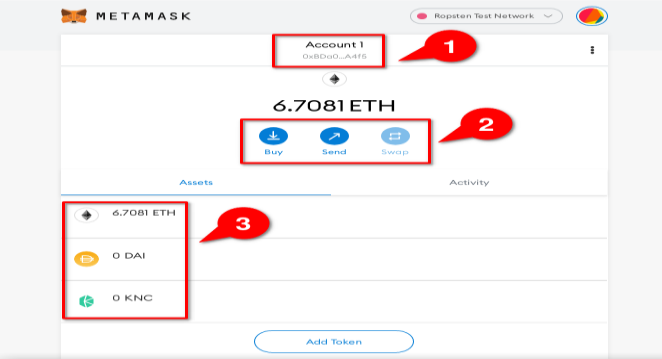


Click on your seed phrase's words in the right order (1) to prove that you have written them down correctly. Then, click "Confirm" (2). Your Metamask wallet is ready for use in transactions.

3. Buy or Deposit Cryptocurrency

Now you can add funds to your wallet. Click on your wallet address (1) to copy it, then send ETH to that address from an exchange.

Or, if you have not yet purchased ETH, click on "Buy" (2) to buy funds from Metamask's built-in exchange.



You will see your balance in the lower portion of the wallet (3) once your funds have been deposited. ETH will show up by default. If custom ERC-20 tokens do not show up, click "Add Token" to add those tokens to the list.

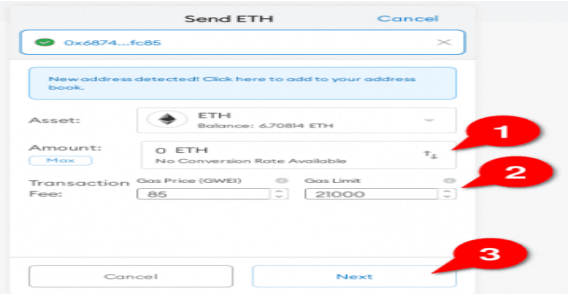
It may take several minutes for your ETH to arrive, depending on the amount of traffic that Ethereum is experiencing.

4. Send Cryptocurrency

Once you own cryptocurrency, you can send your funds to other users, merchants, or your own additional ETH wallets. To do so, click on the "Send" button in Metamask's main panel. Enter the amount of ETH you want to send (1) and the amount of transaction fees you want to pay (2).

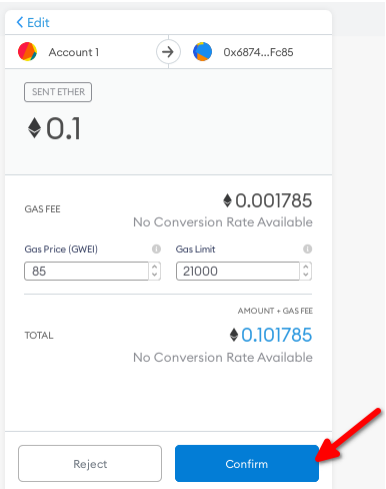
Then, click "Next" (3).

A higher fee will help your transaction get confirmed faster. Metamask automatically sets a fee by default. However, sites like EthGasStation can help you find an ideal fee manually.



Click "Next" (3) to finalize the details of your transaction. Then, click "Confirm." Once again, it may take some time for your transaction to be confirmed.

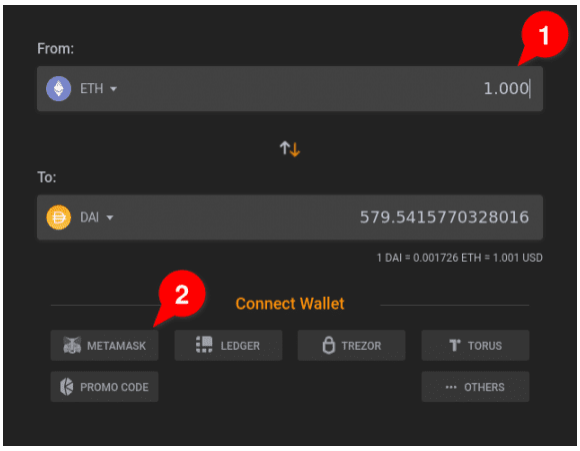
You can check the status of your transaction in Metamask's "Activity" panel. If your transaction stalls, see this page.



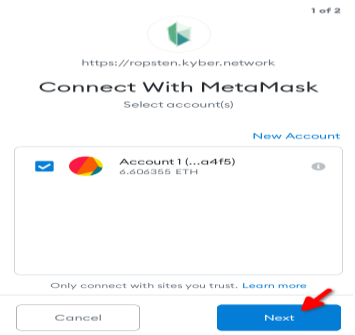
5. Spend Crypto in a dApp

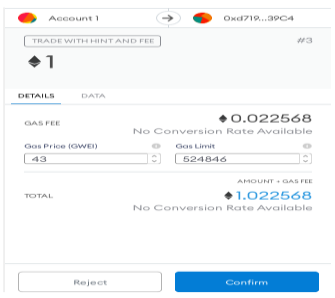
If you want to spend your ETH in a DApp, chose an app from DAppRadar. In this example, we will use Kyber, a decentralized exchange (DEX) that allows you to swap Ethereum for altcoins easily.

Visit KyberSwap's web page. Enter the amount of crypto you want to buy and choose the tokens you want to swap (1). Then, link your Metamask wallet to Kyberswap by clicking on "Connect Wallet" and choosing Metamask (2).

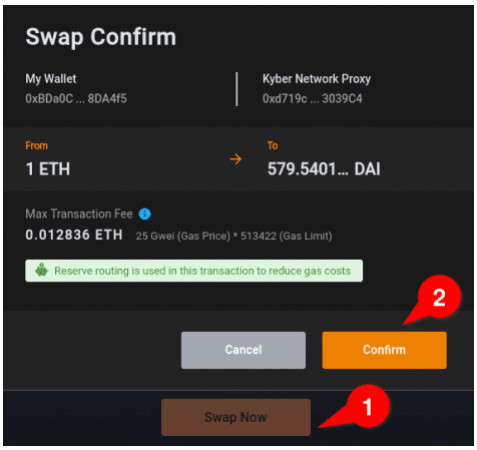


A Metamask panel will pop up. Connect to Kyber if it is your first visit. Click "Next," then click "Confirm."





Return to Kyber's web page and click "Swap Now" (1). Then, in the popup, click "Confirm" (2) to perform the transaction.



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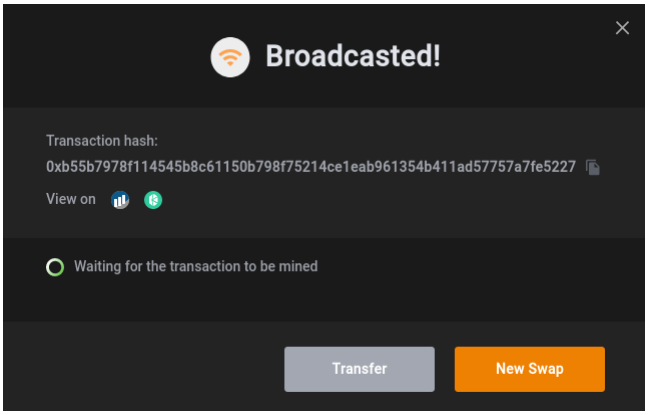

What Can You Do with Metamask?

Now that you know the basics of Metamask, you can use all of Ethereum's features, including:

- Sending and receiving transactions between standard Ethereum addresses, such as those owned by individuals and merchants.
- Paying for transactions in DApps such as games, gambling apps, DeFi apps, and decentralized exchanges.
- Storing ETH and custom tokens (i.e., ERC-20 tokens).
- Storing collectibles and non-fungible tokens (NFTs).
- Connecting to Ledger and Trezor hardware wallets.

Conclusion: We learned how to do Installation of MetaMask and study spending Ether per transaction.

ASSIGNMENT NO.2

TITLE: Create your own wallet using Metamask for crypto transactions**.**

Problem Statement: Create your own wallet using Metamask for crypto transactions**.**

Objective:

- Creating Own wallet using Metamask for crypto transactions.

Theory:

1. Set up a New Wallet

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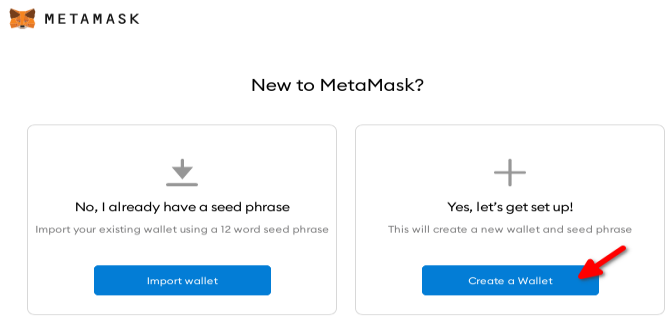

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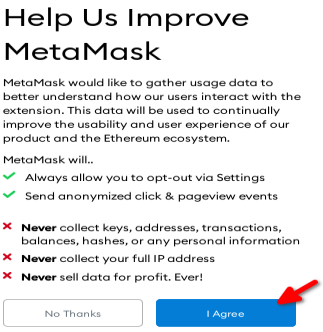

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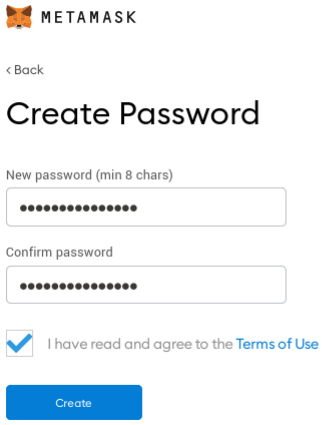

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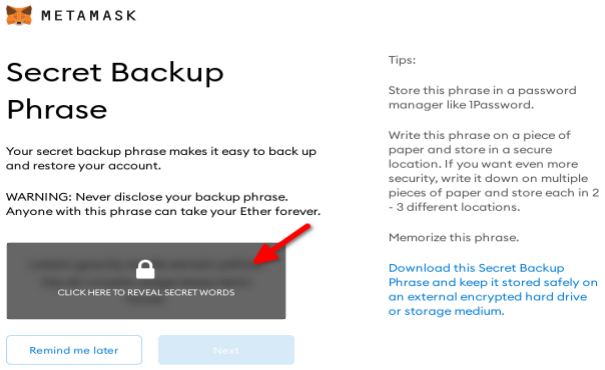

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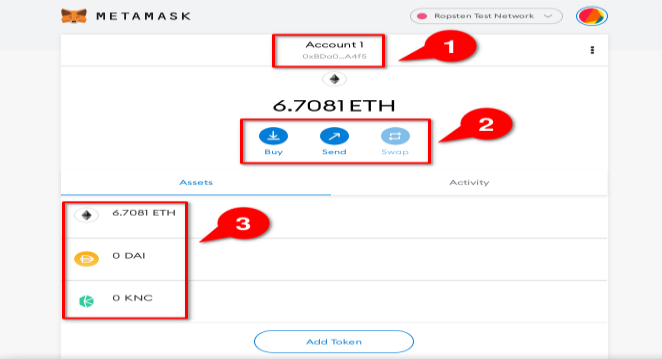

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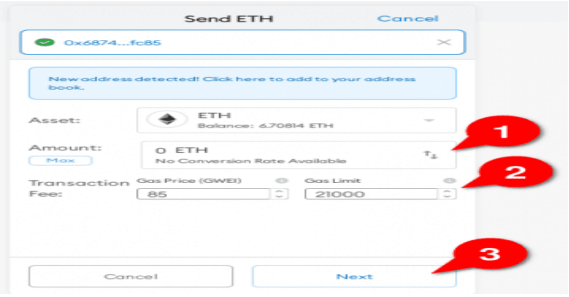

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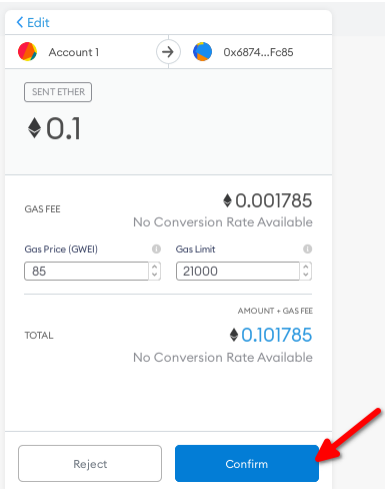

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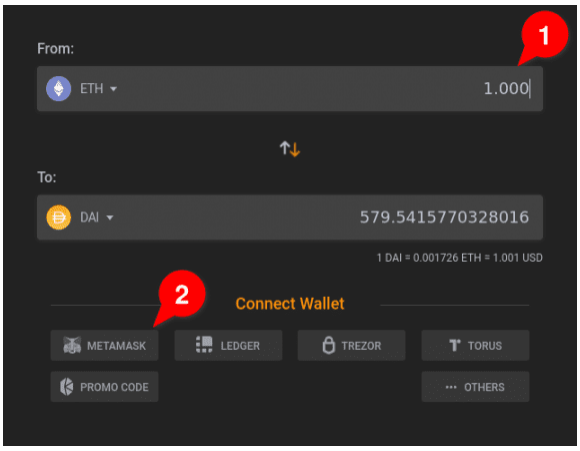

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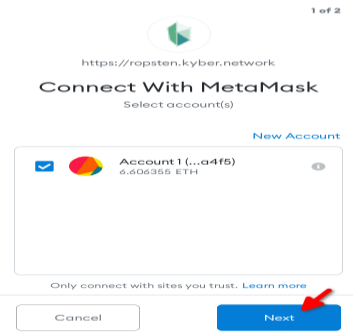

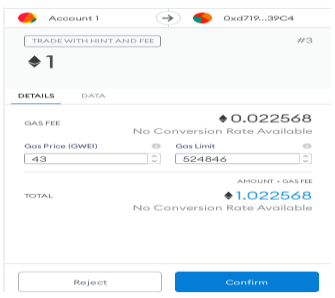

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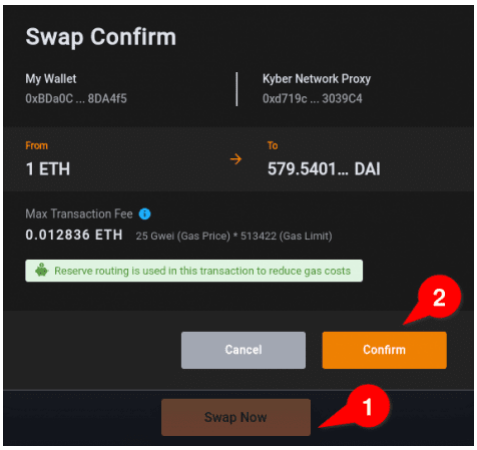

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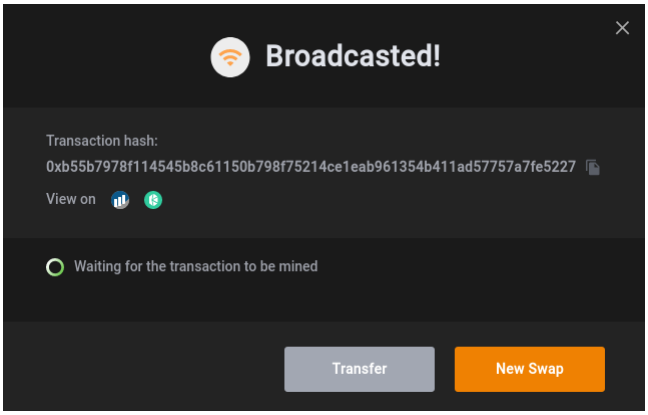

Conclusion: We learn how to Create our own wallet using Metamask for crypto transactions**.**