

GROUP C : ASSIGNMENT No. 1

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COMPBE1326

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Title: Installation of Metamask

Objective: To understand about Metamask and transactions in it.

Problem Statement:

Installation of MetaMask & study spending Ether per transaction.

Software & Hardware Requirement:

1. Desktop / Laptop
2. Any Operating System
3. Web Browser
4. Internet Connection

Theory:

MetaMask:

Metamask is a type of Ethereum wallet that bridges the gap between the users interfaces for Ethereum (For example, Mist browser, DApps) & the regular web (For example, Google Chrome, Mozilla Firefox, websites). Its function is to inject a JavaScript library called web3.js into the namespace of each page your browser loads. web3.js is written by the Ethereum core team. MetaMask is mainly used as a plugin in the web browser.

Installation Steps For Google Chrome:

Step 1: Go to Chrome Web Store Extensions Section.

Step 2: Search MetaMask.

Step 3: Check the number of downloads to make sure that the legitimate MetaMask is being installed, as hackers might try to make clones of it.

Step 4: Click the Add to Chrome button.

Step 5: Once installation is complete, Welcome To MetaMask page will be displayed. Click on the Get Started button.

Step 6: At This step installation of MetaMask is complete.

Gas & Fees:

Gas is essential to the Ethereum network. It is the fuel that allows it to operate, in the same way that a car needs gasoline to run.

Gas:

Gas refers to the unit that measures the amount of computational effort required to execute specific operations on the Ethereum network.

Since each Ethereum transaction requires computational resources to execute, each transaction requires a fee. Gas refers to the fee required to conduct a transaction.

on Ethereum successfully.

Gas fees are paid in Ethereum's native currency, ether (ETH). Gas prices are denoted in gwei, which itself is a denomination of ETH - each gwei is equal to 0.000000001 ETH (10^{-9} ETH). For example, instead of saying that your gas costs 0.000000001 ether, you can say your gas costs 1 gwei. The word 'gwei' itself means 'giga-wei', & it is equal to 1,000,000,000 wei. Wei itself (named after Wei Dai, creator of b-money) is the smallest unit of ETH.

Need of Gas Fees:

In short, gas fees help keep the Ethereum network secure. By requiring a fee for every computation executed on the network, we prevent bad actors from spamming the network. In order to avoid accidental or hostile infinite loop or other computational wastage in code, each transaction is required to set a limit to how many computational steps of code execution it can use. The fundamental unit of computation is "Gas".

Although a transaction includes a limit, any gas not used in a transaction is returned to the user (i.e. $\text{max Fee} - (\text{base Fee} + \text{tip})$ is returned).

MetaMask is a browser plugin that serves as an Ethereum wallet, & is installed like any other browser plugin. Once it's installed, it allows users to store Ethers & other ERC-20 tokens, enabling them to transact with any Ethereum address.

By connecting to MetaMask to Ethereum-based dapps, users can spend their coins in games, stake tokens in gambling applications, & trade them on decentralized exchanges (DEXs). It also provides users with an entry point into the emerging world of decentralized finance, or DeFi, providing a way to access DeFi apps such as Compound or PoolTogether.

Conclusion:

Successfully installed metamask & studied about gas fees.

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17/10/22



Ethereum Mainnet ▼



Welcome back!

The decentralized web awaits

Password

Unlock

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Need help? Contact [MetaMask support](#)