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| **Assignment No.** | **C1** |
| **Title** | Installation of MetaMask and Create your own wallet using Metamask for crypto transactions. |
| **PROBLEM STATEMENT/DEFINITION** | Installation of MetaMask and Create your own wallet using Metamask for crypto transactions. |
| **Objectives** | Study Metamask and its application for Blockchain transaction |
| **Software packages and hardware apparatus used** | Any device with chrome browser. |
| **References** | [**https://metamask.io/**](https://metamask.io/)  [**https://ethereum.org/en/developers/docs**](https://ethereum.org/en/developers/docs)  [**https://www.ceilidhswhisky.com/documents/Tutorial-on-How-to-use-Metamask.pdf**](https://www.ceilidhswhisky.com/documents/Tutorial-on-How-to-use-Metamask.pdf)  [**https://ethereum.org/en/developers/docs/transactions/**](https://ethereum.org/en/developers/docs/transactions/) |
| **STEPS** | 1. Install MetaMask from metamask.io 2. Create account and setup password 3. Secure your account using 12 word secret recovery phrase 4. Get test network ETH using any one of the test network. 5. Perform ETH transaction |
| **Instructions for writing journal** | * Date * Title * Problem Definition * Learning Objective * Learning Outcome * Theory-Related concept,Architecture,Syntax etc * Test cases * Program Listing * Output * Conclusion |

**Concept Related Theory**:

**Digital Wallet**: A digital wallet, just like your traditional leather wallet, in blockchain terms, is an interface that allows you to store your private key and interact with multiple digital ledgers depending on the wallet type. Each public blockchain has its wallet. The MetaMask wallet is native to Ethereum, supporting the storage of ETH and its tokens. It’s like a bridge, bringing the Ethereum blockchain closer to users through browsers.

**MetaMask:**

MetaMask is a wallet that connects the user to the Ethereum blockchain. The objective of its creators back in 2016 was to make ETH transactions simple and as intuitive as possible. The project grew much more than that and is today one of the biggest web3 companies. Through MetaMask, you can also interact and use various Ethereum dapps easily – and you can do it from your desktop or mobile app.

MetaMask is a web browser add-on which enables anyone to run the Ethereum, DApps without running the Ethereum full node. An Ethereum full node installation will take a lot of memory as well as time; so Metamask is a tool that eliminates the overburden of this hectic installation task. Initially, Metamask was available only for Google Chrome, but now it is available for Firefox and other popular web browsers.

MetaMask add-on for chrome can be added from chrome web store or from ‘metamask.io’ website. This MetaMask add-on provides a user interface for interacting with the blockchain. The user can connect to the Ethereum main network or ‘testnet’ or he may create his own private network and run DApps on the blockchain.

After adding the Metamask, the user can interact with Ethereum blockchain. The user can create an account, access Ethereum DApps, or deploy once own DApp. MetaMask retrieves data from the blockchain and allows the users to manage the data securely.

**Wallet Seed** :

The Metamask will provide a group of 12 words known as “wallet seed” while installing it. It is the user credential and it must be stored somewhere safe. The users can also create passwords for their account. The wallet seed or the password is necessary to log in to the MetaMask. The vault account will encrypt the user metadata and securely store it in the browser itself.

**How to Install MetaMask?**

To install MetaMask, you need your computer and Google Chrome.

Go to [metamask.io](https://metamask.io/download.html) and click Install MetaMask for Chrome:

Graphical user interface, application

Description automatically generated

The Chrome web store will open and click “Add to Chrome”

Text

Description automatically generated with medium confidence

A confirmation popup will open. And Click Add extension:

Graphical user interface, text, application, chat or text message

Description automatically generated

A MetaMask welcome screen will open.

A screenshot of a computer

Description automatically generated with low confidence

Click Create a Wallet:

Graphical user interface, text, application

Description automatically generated

Graphical user interface, text, application

Description automatically generated

Click I Agree:

Graphical user interface, text, application, chat or text message

Description automatically generatedCreate a password:

Save it somewhere, MetaMask will sometimes ask for it. DON”T LOSE THIS!

Click Next:

Graphical user interface, application

Description automatically generated

Reveal your secret words:

Graphical user interface, application

Description automatically generated

These words are basically the key to your wallet.

They are your secret recovery phrase so the order is important. Write your phrase down, so you won't lose it.

Also never share it with anyone, ever!

When you have carefully written down your phrase, click Next:

Graphical user interface, text, application

Description automatically generated

We're sharing our phrase in this tutorial but never share yours with anyone!

Table

Description automatically generated

Click All Done:

Graphical user interface, text, application, email

Description automatically generated

A popup will open.

Qr code

Description automatically generatedClick [ x ] in the top right corner to close it:

Congratulations, you now have a MetaMask wallet! You can find your ETH address under Account 1:

Graphical user interface, application

Description automatically generated

Our tutorial address is 0x7E8...3c0c. Yours will be different!

# Buying ETH

There are multiple ways to buy Eth.

The simplest way to get Eth is to buy directly from MetaMask

Simply go to your MetaMask, and select BUY:

Graphical user interface, application

Description automatically generated

For this Assignment you need to perform transactions any of the following test networks using metamask,

1. Rinkeby
2. Kovan
3. Ropsten
4. Goerli

You may get free test network ETH by following instructions on MetaMask.

Graphical user interface, text, application

Description automatically generated

Conclusion: This Assignments enables students to understand and apply blockchain on test cryptocurrency. Ethereum test networks supported by MetalMask is used to create a secure wallet.