

BLOCK CHAIN TECNOLOGY

ASSIGNMENT 1

MetaMask is a popular cryptocurrency wallet and browser extension that allows users to manage and interact with Ethereum-based cryptocurrencies, tokens, and decentralized applications (DApps) within their web browsers. It provides a user-friendly interface for handling digital assets on the Ethereum blockchain, and it has gained widespread adoption among crypto enthusiasts, investors, and users of decentralized applications.

Remember that sending transactions on the Ethereum network incurs gas fees, which can vary depending on network congestion. Make sure to review and confirm the transaction details before sending, as blockchain transactions are irreversible.

MetaMask is a valuable tool for interacting with the Ethereum ecosystem, providing secure and convenient access to decentralized applications and the management of digital assets. It's commonly used for everything from trading cryptocurrencies and participating in decentralized finance (DeFi) to accessing NFT marketplaces and engaging with various DApps.

Here are some key aspects of MetaMask:

1. **Wallet:** MetaMask serves as a secure digital wallet for storing Ethereum (ETH) and other Ethereum-based tokens (ERC-20 and ERC-721). Users can create and manage multiple Ethereum addresses within the wallet.
2. **Browser Extension:** MetaMask is available as a browser extension for popular web browsers like Chrome, Firefox, and Brave. This extension allows users to access their wallet and interact with Ethereum-based services directly from their browser.
3. **Access to DApps:** MetaMask enables users to interact with decentralized applications (DApps) on the Ethereum network. Users can log in to DApps, participate in token sales, play blockchain games, and perform various

decentralized financial activities, all while maintaining control of their private keys and data.

4. **Secure and Non-Custodial**: MetaMask is a non-custodial wallet, which means users have full control over their private keys and funds. Private keys are stored locally on the user's device and are never shared with the MetaMask team.
5. **User-Friendly**: The user interface is designed to be user-friendly and easy to understand, making it accessible to both beginners and experienced users.
6. **Cross-Platform**: MetaMask is available as a browser extension for desktop and as a mobile app for iOS and Android, providing a consistent experience across different platforms.
7. **Network Support**: While Ethereum is the primary blockchain supported, MetaMask also allows users to connect to different Ethereum networks, including testnets (e.g., Ropsten, Rinkeby) and other compatible networks like Binance Smart Chain and Polygon.
8. **Security Features**: MetaMask offers various security features, including password protection, seed phrase backup, and the ability to set up hardware wallets for added security.

Imagine you have some digital money, like a special kind of money called "Ether." You can use this digital money to do things on the internet, like buying stuff or playing games. But you need a safe and easy way to manage and use it.

This is where MetaMask comes in:

1. **Wallet**: MetaMask is like a digital wallet for your digital money. It keeps your money safe and makes it easy to see how much you have.
2. **Internet Access**: It also lets you access special places on the internet called "DApps" (short for decentralized apps). These are like websites or apps that work with digital money. For example, you can use DApps to trade digital assets, play games, or invest.
3. **Security**: MetaMask keeps your digital money safe from bad guys on the internet. You have a secret code (like a password) that only you know, and MetaMask helps protect it.

4. **Easy to Use**: It's designed to be simple to use, so you don't need to be a tech expert to use it. You can use it as a browser extension on your computer or as an app on your phone.

In simple terms, MetaMask is like your digital piggy bank and your key to special online places where you can use your digital money for various things. It's a handy tool to manage and protect your digital wealth on the internet.

To install MetaMask and study spending Ether per transaction, follow these general steps:

Installation:

1. Visit the MetaMask website (<https://metamask.io>) or search for "MetaMask" in your browser's extension store.
2. Install the MetaMask browser extension or mobile app.
3. Set up a new wallet by following the on-screen instructions. Be sure to write down your seed phrase and keep it in a safe place. This is crucial for wallet recovery in case you lose access to your wallet.

Funding Your Wallet:

1. After setting up your wallet, you can send Ether (ETH) to your wallet address.
2. You can obtain ETH from cryptocurrency exchanges or other individuals.

Sending Ether:

1. To send Ether to another Ethereum address, open your MetaMask extension or app and navigate to the "Send" or "Send Ether" section.
2. Enter the recipient's Ethereum address, the amount you want to send, and any transaction details you'd like to add.
3. Confirm the transaction, and it will be broadcast to the Ethereum network.

Transaction Confirmation:

1. Wait for the transaction to be confirmed by the Ethereum network.
2. The recipient will receive the Ether once the transaction is confirmed.

Creating a wallet using MetaMask for crypto transactions is a straightforward process. Here are step-by-step instructions:

What You'll Achieve: By following these steps, you'll create a secure digital wallet with MetaMask, which will allow you to store, send, and receive cryptocurrencies like Ethereum (ETH) and interact with various decentralized applications (DApps) on the Ethereum blockchain.

Step 1: Install MetaMask

1. Open your web browser (Google Chrome, Firefox, Brave, or Microsoft Edge) and visit the MetaMask website: <https://metamask.io>.
2. Click on the "Get Started" or "Install MetaMask" button.
3. You'll be directed to the respective browser's extension store (e.g., Chrome Web Store). Click on "Add to [Browser Name]" and follow the installation prompts.

Step 2: Set Up Your Wallet

1. Once MetaMask is installed, click on the MetaMask icon in your browser's toolbar or launch the MetaMask app if you installed it on your mobile device.
2. Click "Get Started" to begin setting up your wallet.
3. Create a strong password for your MetaMask account and confirm it. This password is essential for protecting your wallet.
4. Read and agree to the terms of use and privacy policy, then click "Create."

Step 3: Backup Your Seed Phrase

MetaMask will generate a secret backup phrase consisting of 12 random words. This is a crucial step to recover your wallet if you ever lose access to it. Write down these words in the exact order presented.

Confirm your seed phrase by entering the words in the correct sequence.

Step 4: Wallet Created

Congratulations, your MetaMask wallet is now set up. You'll see your Ethereum address, balance (if you've added any funds), and access to various features.

Step 5: Fund Your Wallet

To start using your wallet, you can fund it with Ethereum (ETH) by transferring from a cryptocurrency exchange or another wallet. Click on "Buy" or "Deposit" within MetaMask to explore options for adding funds.

Step 6: Send and Receive Crypto

You can now use your MetaMask wallet to send or receive Ethereum or other supported tokens. Click on the "Send" or "Receive" tab, enter the recipient's address (if sending) or share your address (if receiving), and specify the amount.

Step 7: Interact with DApps

MetaMask allows you to interact with Ethereum-based decentralized applications (DApps). To use a DApp, simply navigate to the DApp's website and log in using your MetaMask wallet. MetaMask will ask for your permission to connect.

What You'll Achieve: With your MetaMask wallet, you'll have a secure place to store your cryptocurrencies, and you'll be able to send, receive, and interact with various DApps on the Ethereum blockchain. Your wallet's private keys are stored securely, and you can manage your digital assets conveniently through the MetaMask interface. Remember to keep your wallet's seed phrase safe, as it's crucial for wallet recovery if needed.