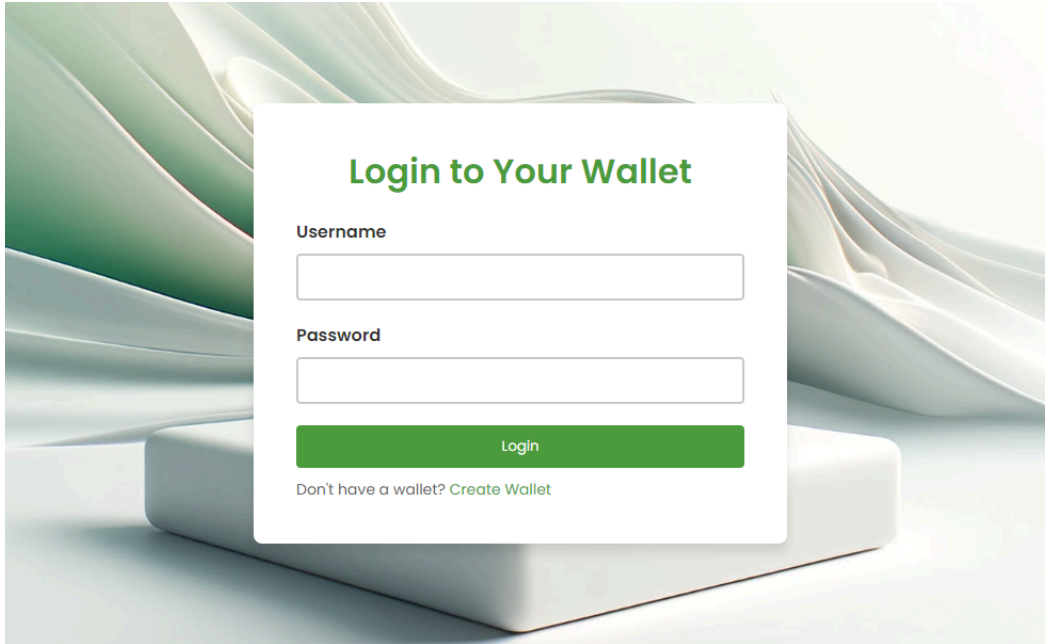


HD Wallet Guide

By Ibraheem Ganayim - 206693194

Start by opening Login.html to start.

Enter your Username and Password to log in or Create a New Wallet.

A screenshot of a login form titled "Login to Your Wallet" in green text. The form is white and centered on a background of flowing green and white fabric. It contains two input fields: "Username" and "Password", both with light gray borders. Below the password field is a green button with the text "Login" in white. At the bottom of the form, there is a link that says "Don't have a wallet? Create Wallet" in green text.

Login to Your Wallet

Username

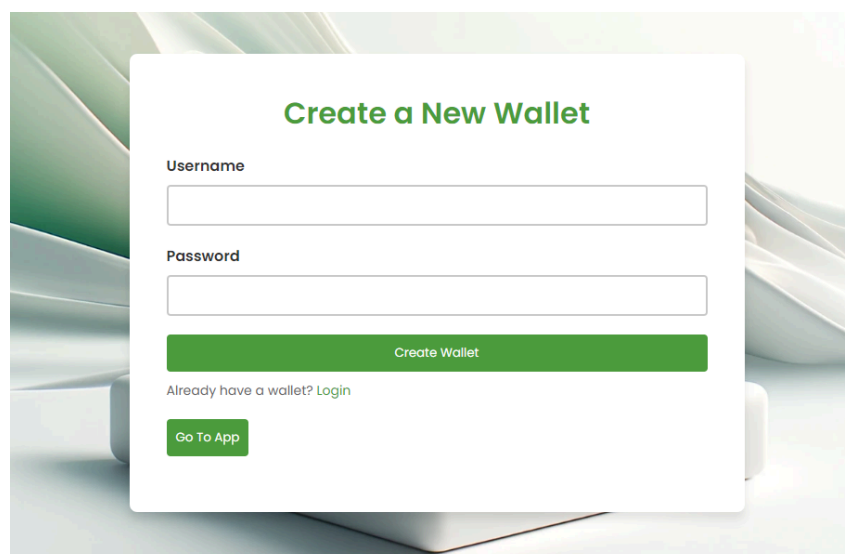
Password

Login

Don't have a wallet? [Create Wallet](#)

To demonstrate a transaction between wallets we are going to start by creating a new wallet.

By clicking on Create Wallet we are directed to the following page.

A screenshot of a form titled "Create a New Wallet" in green text. The form is white and centered on the same background as the login form. It contains two input fields: "Username" and "Password", both with light gray borders. Below the password field is a green button with the text "Create Wallet" in white. At the bottom of the form, there is a link that says "Already have a wallet? Login" in green text, and a green button with the text "Go To App" in white.

Create a New Wallet

Username

Password

Create Wallet

Already have a wallet? [Login](#)

[Go To App](#)

Fill out the desired username and password and hit Create Wallet.

Upon successful wallet creation, you will get your account address and a personal seed phrase.

Create a New Wallet

Username

ibra

Password

.

Create Wallet

Already have a wallet? [Login](#)

[Go To App](#)

Username: ibra

Account Address: 0xc554370ad60c1fa62857db2bd872f25ae1826ced

club spice bracket warrior soap genuine sample retreat seed crane carry swap

Store the seed phrase somewhere safe and hit [Go To App](#) to continue as the new user.

This is the user Home Page (in our case the first user is **ibra**):

Home Wallet Actions V Log Out

Logged in as:
ibra

My Wallet

My Address:	0xc554370ad60c1fa62857db2bd872f25ae1826ced
My ETH Balance:	0 ETH
My AVAX Balance:	0 AVAX

ETH Price: 3313.15 \$

AVAX Price: 34.59 \$

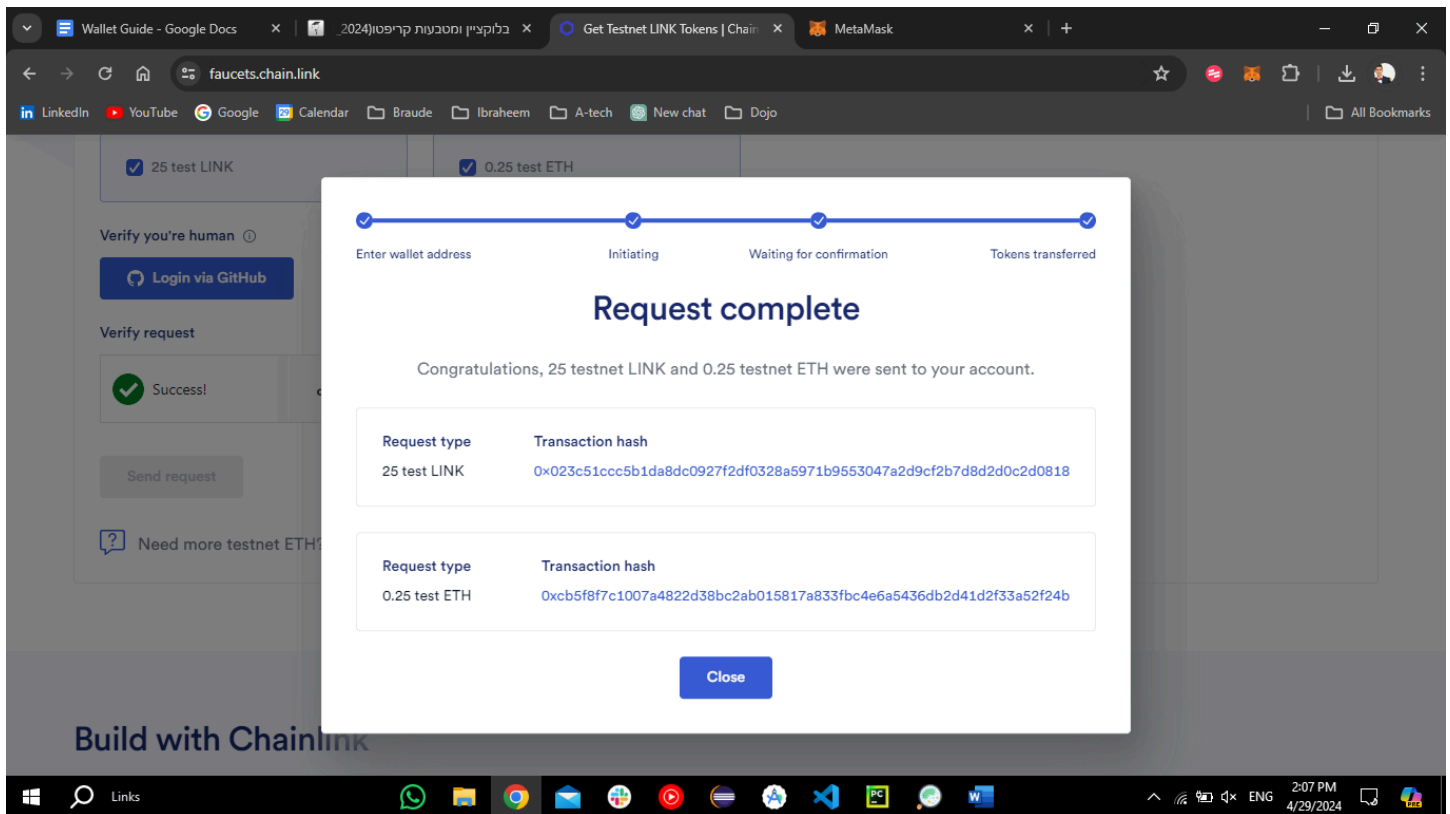
You can see your wallet address along with your account balance.

Current prices of ETH and AVAX are displayed on the right side of the page in USD. Additionally, you will see a menu at the top of the page providing easy navigation to different sections of the application.

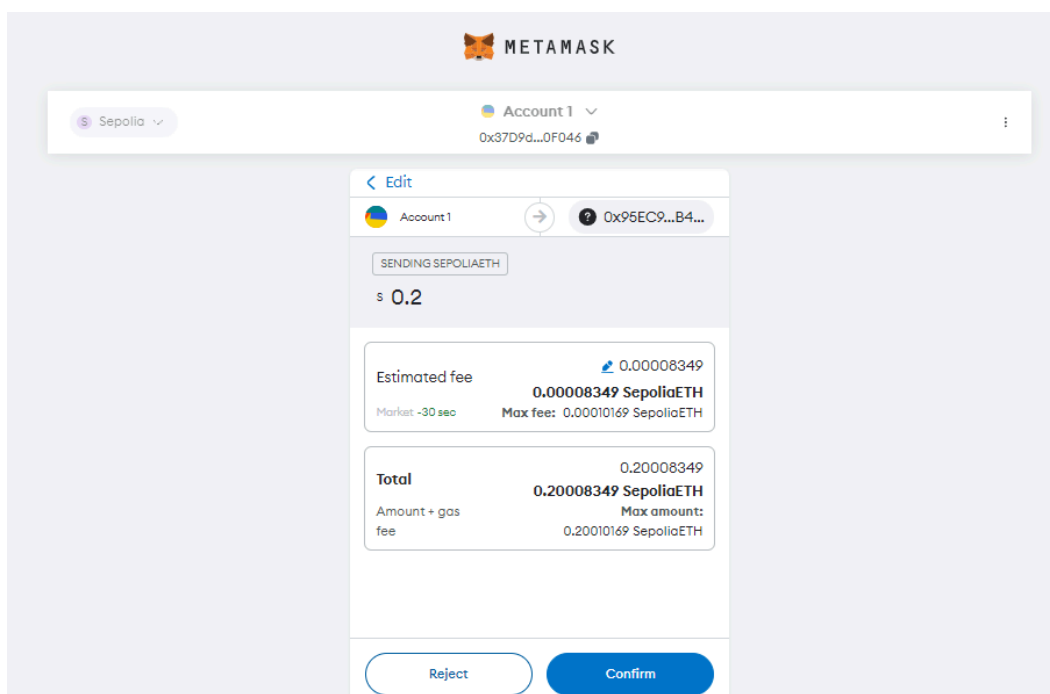
In order to be able to make a transaction we will need some test coins, to do this I used <https://faucets.chain.link/> to get 0.25 ETH into my MetaMask account.

Then I made a 0.2 ETH transaction through MetaMask to my account **ibra** in this HD Wallet.

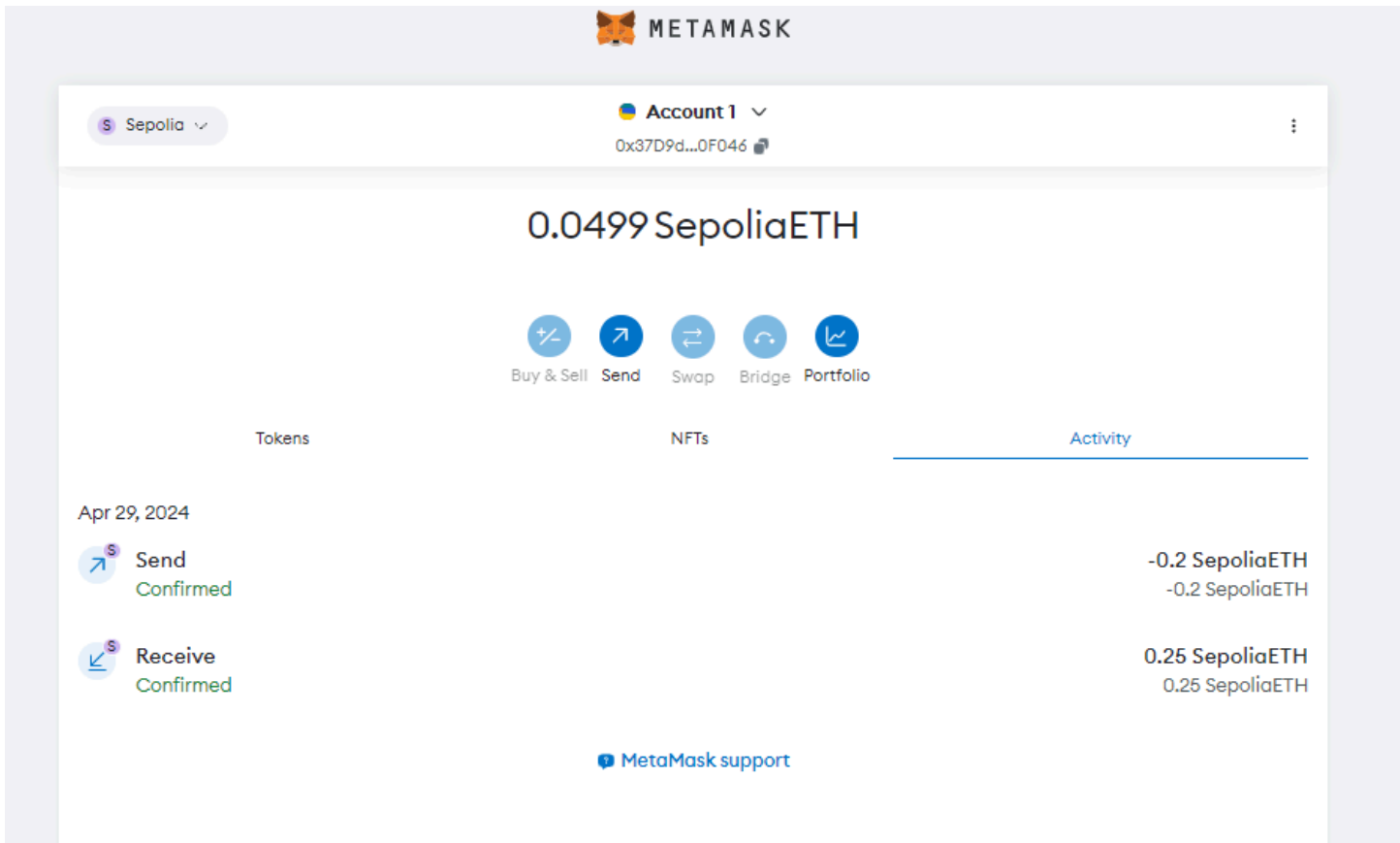
This is the transaction from the faucet to my MetaMask account:



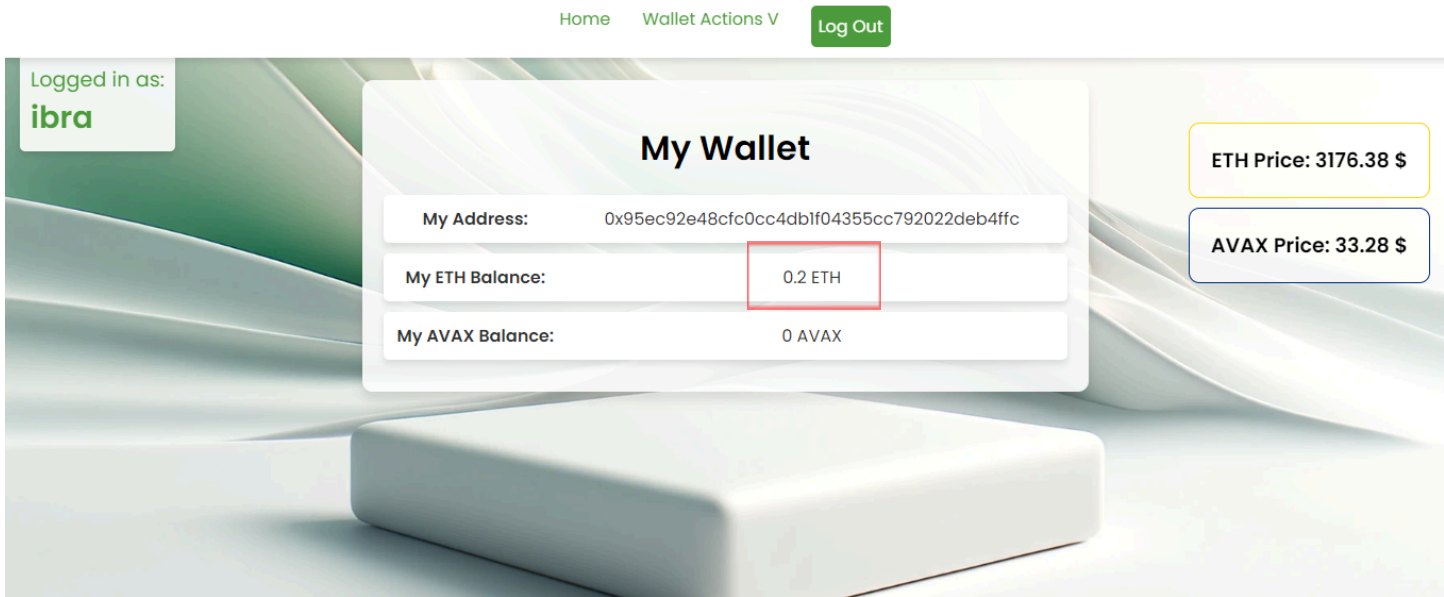
and this one is from the MetaMask account to my HD Wallet:



After confirmation:



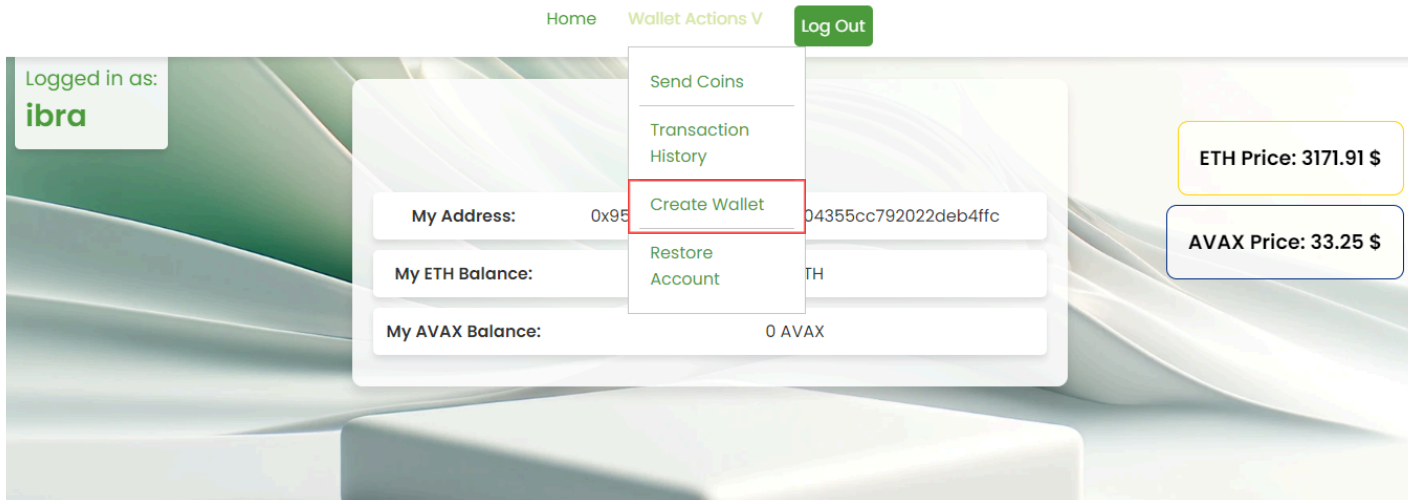
Here’s the ETH balance at **ibra**’s HD Wallet account updated:



Successfully received 0.2 ETH.

In order to make a successful transaction let's create a second account to move funds into.

To create a new wallet click on Wallet Actions drop-down menu in the navigation bar and hit Create Wallet:



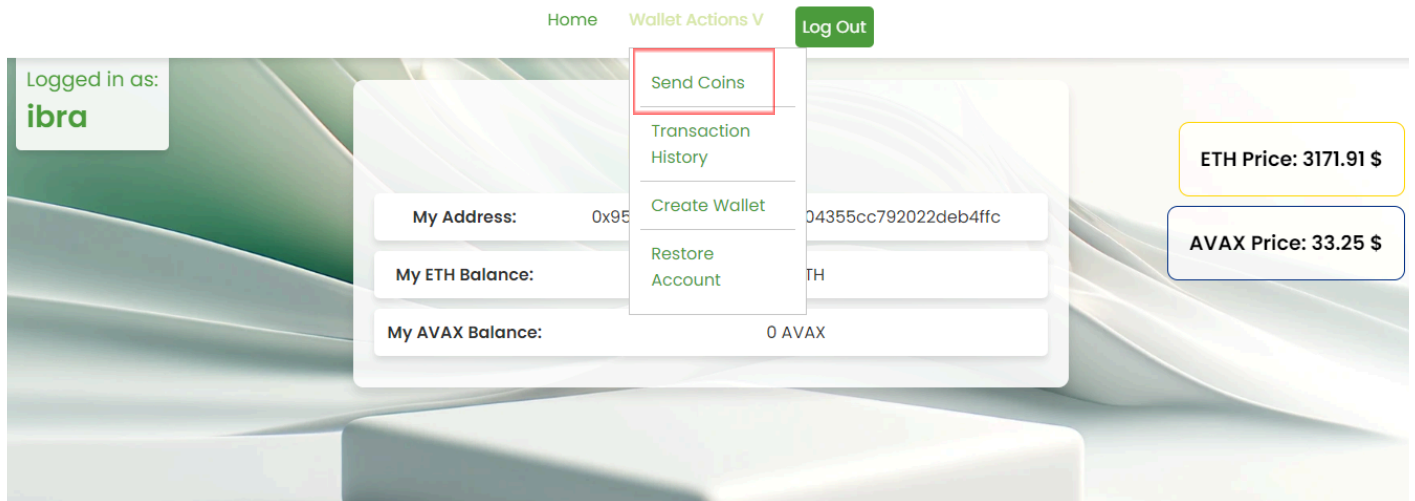
Fill in a new Username and Password, for this demo I'm using **ibra2** as the Username. Hit Create Wallet and proceed as I showed in creating the first Wallet.

A screenshot of the 'Create a New Wallet' form. The title 'Create a New Wallet' is in green. Below it are two input fields: 'Username' with the value 'ibra2' and 'Password' with a single dot. A green 'Create Wallet' button is below the password field. Underneath the button, it says 'Already have a wallet? Login' in green. Below that is a green 'Go To App' button. At the bottom, it displays the 'Username: ibra2' and 'Account Address: 0x781985918eabd3eb2b50ff3ce75bb7760afb6f9a'. At the very bottom, there's a green mnemonic phrase: 'lesson naive tribe talk tell picture oyster guilt toward utility recall two'.

Note: Opening the Create Wallet page will log you out.

Now copy **ibra2's** wallet address from this form or the home page and log out to log in again to **ibra's** wallet to make a new transaction.

After logging in as **ibra** again, click Wallet Actions and hit Send Coins to make a new transaction:



You will be directed to this page:

A screenshot of the 'Send Coins' form. The title 'Send Coins' is in large green text. Below it, there are three input fields: 'Recipient's Wallet ID:' with the value '0x21e60444df581f1e5004163fbeadc254bf6c776b', 'Amount:' with the value '0.1', and 'Coin:' with the value 'Ethereum (ETH)'. At the bottom is a green button labeled 'Send Coins'. The background of the page shows a green and white abstract design.

Fill out the recipient's (**ibra2**) wallet address and the desired amount and type to transfer and hit Send Coins. for the demo, I'm transferring 0.1 ETH.

Upon successful transaction, you will receive a message as follows:

Home Wallet Actions V Log Out

Send Coins

Recipient's Wallet ID:

0x21e60444df581f1e5004163fbeadc254bf6c776b

Amount:

0.1

Coin:

Ethereum (ETH)

Send Coins

Transaction sent successfully. Transaction hash:
0x3074b053b1c7147ed4e43c990d01501fe25578bbc7031e7c24d81ddf14db0d0a

Now log out and log in to **ibra2** to view the received funds:

Home Wallet Actions V Log Out

Logged in as:
ibra2

My Wallet

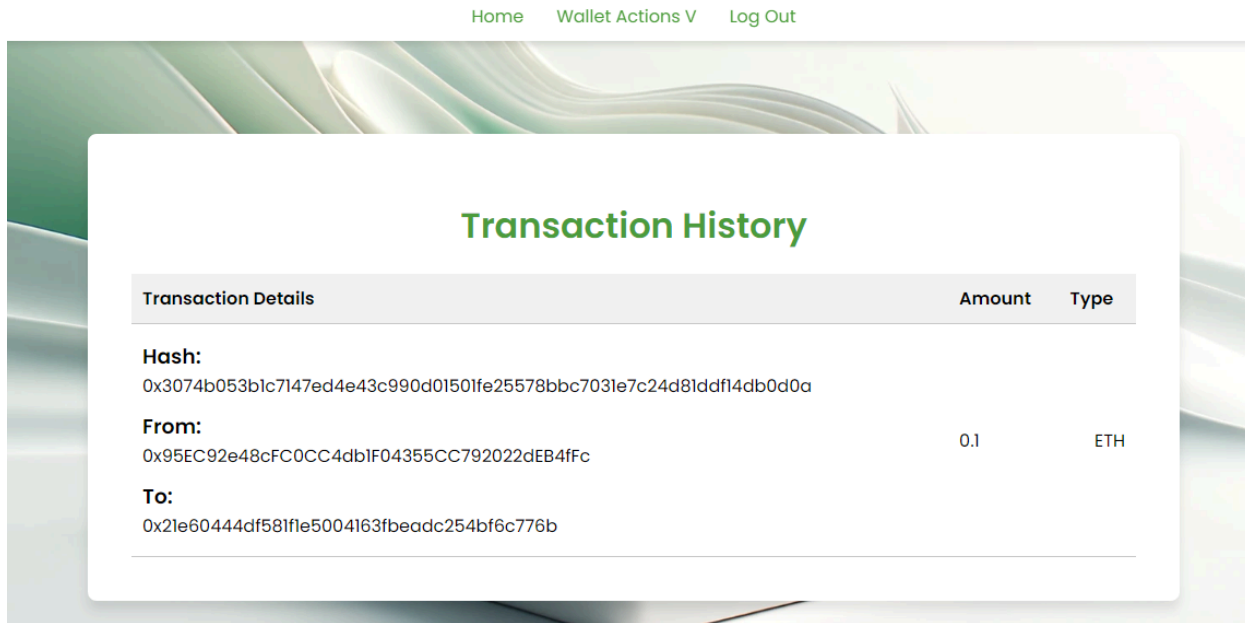
My Address:	0x21e60444df581f1e5004163fbeadc254bf6c776b
My ETH Balance:	0.1 ETH
My AVAX Balance:	0 AVAX

ETH Price: 3173.26 \$

AVAX Price: 33.27 \$

0.1 ETH successfully transfered.

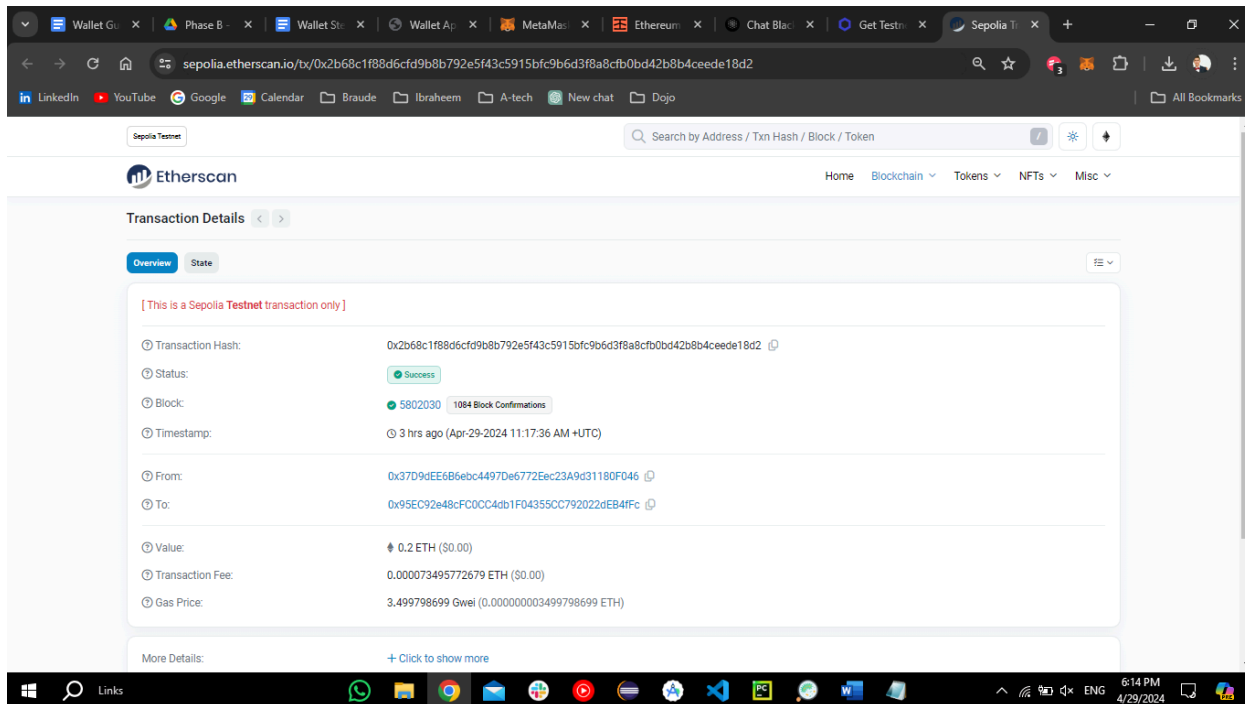
To view transactions history click Wallet Actions and then Transaction History:



You can see the transactions Hash and the wallet addresses of the sender and the receiver.

Here's the transaction proof:

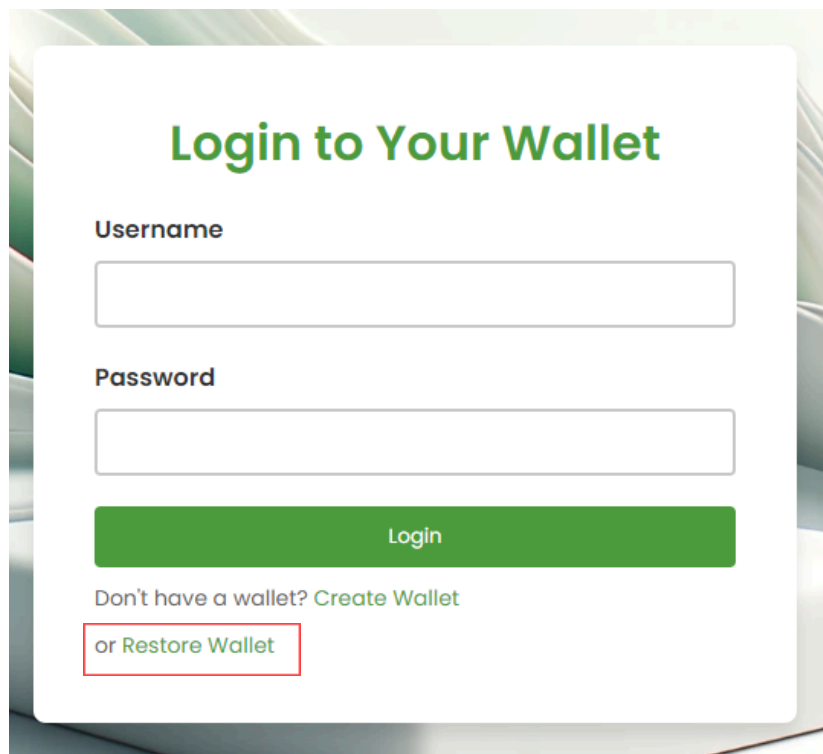
<https://sepolia.etherscan.io/tx/0x2b68c1f88d6cfd9b8b792e5f43c5915bfc9b6d3f8a8cfb0bd42b8b4ceede18d2>



This screenshot serves as concrete evidence that the transaction was completed without any issues. It further validates the reliability and accuracy of the transaction details presented.

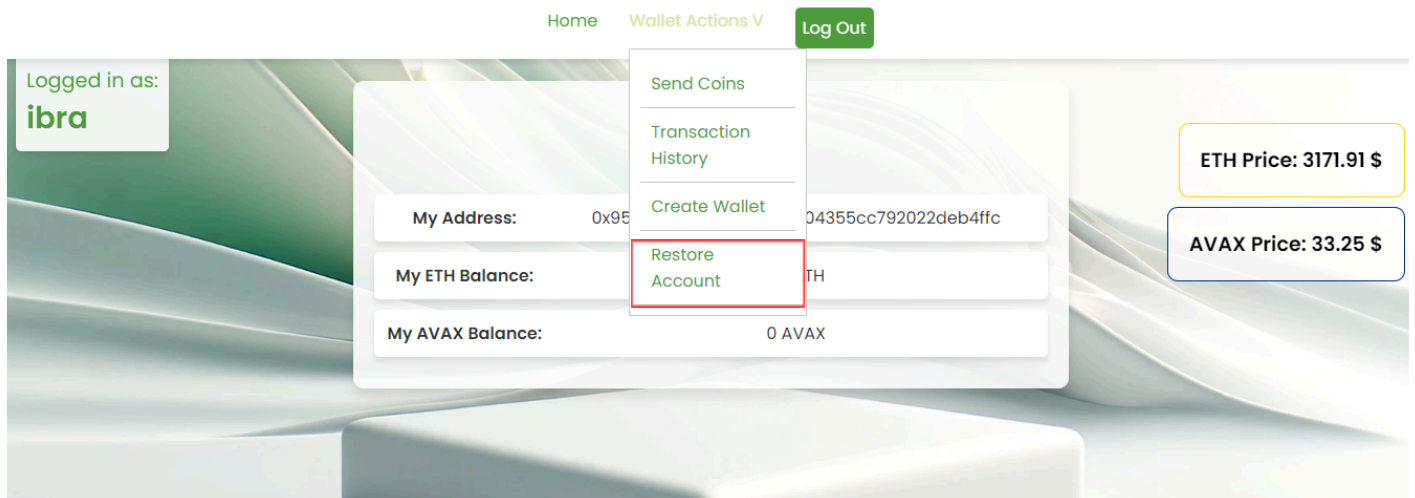
Now let's demonstrate **Account Restoration**.

To restore an account, click on Restore Wallet from the login page.



The image shows a login form titled "Login to Your Wallet" in green text. Below the title are two input fields: "Username" and "Password". A green "Login" button is positioned below the password field. At the bottom of the form, there is a link "Don't have a wallet? Create Wallet" and a link "or Restore Wallet" which is highlighted with a red rectangular border.

or from Wallet Actions from the top navigation bar:



The image shows a user interface with a top navigation bar containing "Home", "Wallet Actions V", and a green "Log Out" button. On the left, a box indicates the user is "Logged in as: ibra". A dropdown menu is open under "Wallet Actions V", listing "Send Coins", "Transaction History", "Create Wallet", and "Restore Account". The "Restore Account" option is highlighted with a red rectangular border. Below the dropdown, a card displays wallet information: "My Address:" followed by a partially visible address, "My ETH Balance:" followed by a partially visible balance, and "My AVAX Balance:" followed by "0 AVAX". On the right side, two price boxes are visible: "ETH Price: 3171.91 \$" and "AVAX Price: 33.25 \$".

To restore your account, enter the **seed phrase** that was provided during the account creation process.

This seed phrase serves as the key to recovering your account and accessing your funds. Additionally, enter a new password for your account.

After filling out the form, hit Restore Account.

The image shows a 'Restore Account' form with a green title. Below the title is a section for the 'Seed Phrase' consisting of a 4x3 grid of input boxes. The words in the grid are: club, spice, bracket, warrior, soap, genuine, sample, retreat, seed, crane, carry, and swap. Below the seed phrase section is a 'New Password' section with a single input box containing ten dots. Underneath the password box is a success message: 'Successfully logged in, password is restored!'. At the bottom of the form is a green button labeled 'Restore Account'.

Seed Phrase		
club	spice	bracket
warrior	soap	genuine
sample	retreat	seed
crane	carry	swap

New Password

.....

Successfully logged in, password is restored!

Restore Account

If you receive the message "Successfully logged in, password restored!" after entering the seed phrase and setting a new password, it indicates that your account has been successfully restored, and you are now logged in.

In case the seed phrase entered is incorrect, the user will receive an error message indicating an incorrect seed phrase.

General Notes

Transaction API:

- To facilitate the ETH transaction, I leveraged an API documented in the MainFuncs.js file.
- The API I used is <https://sepolia.infura.io/v3/b4eef4414e364d1094a02604a7018b22>.

API Sources:

- The project notes document three API sources:
 - The first API is from now nodes.io.
 - The second API is from Infura.
 - For Avalanche, we utilized the Fuji testnet API.
 - (<https://avalanche-fuji.infura.io/v3/b4eef4414e364d1094a02604a7018b22>)

Gas Price:

- We utilized a gas price of 3.499798699 Gwei (0.000000003499798699 ETH) for the transaction.
- This value aligns with the average price during the transaction's execution.

Other possible APIs

Ethereum

Mainnet: <https://mainnet.infura.io/v3/b4eef4414e364d1094a02604a7018b22>

Sepolia: <https://sepolia.infura.io/v3/b4eef4414e364d1094a02604a7018b22>

Holesky: <https://holesky.infura.io/v3/b4eef4414e364d1094a02604a7018b22>

Avalanche C-Chain

Fuji: <https://avalanche-fuji.infura.io/v3/b4eef4414e364d1094a02604a7018b22>

Mainnet: <https://avalanche-mainnet.infura.io/v3/b4eef4414e364d1094a02604a7018b22>

Thank you.