



Experiment No. 4

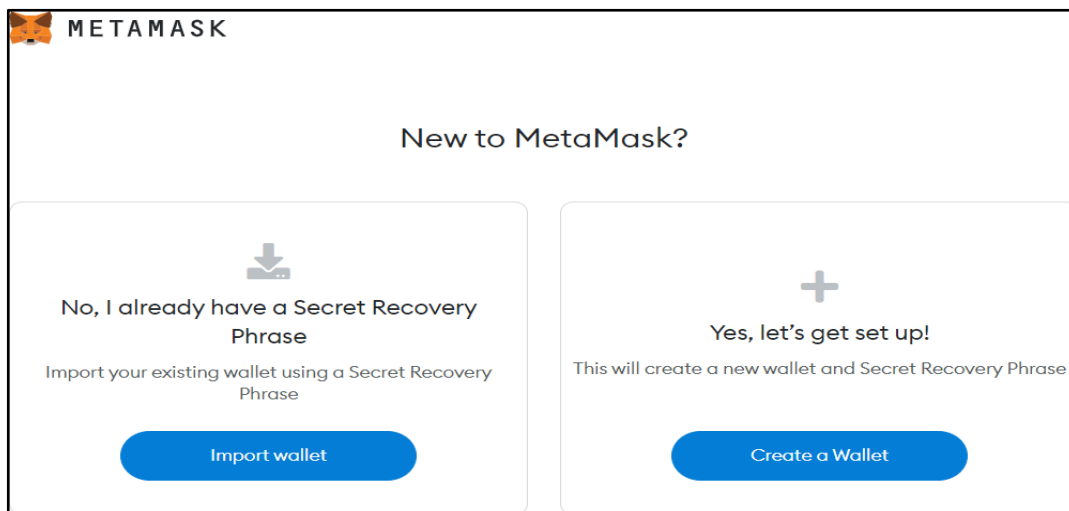
Aim:

Creating a MetaMask wallet and performing the transactions to add Ethersand Tokens.


Theory:

Step 1: Create a wallet at meta-mask

- Install MetaMask in Chrome browser and enable it. After installation, click on its icon on the top right of the browser page. It will open in a new tab of the browser. Click on “Create Wallet” and click “I agree” to proceed further. Now you are agreeing to the terms and conditions. Create a password and then it will send you a secret backup phrase used for backing up and restoring the account.
- It should not be disclosed or shared with anyone, as this phrase can steal your Ethers. Ensure that you are in the “Main Ethereum Network.” If you find a checkmark next to “Main Ethereum Network”, you are in the right place. You can see following pages.





 **METAMASK**
[< Back](#)

Secret Recovery Phrase

Your Secret Recovery Phrase makes it easy to back up and restore your account.

WARNING: Never disclose your Secret Recovery Phrase. Anyone with this phrase can take your Ether forever.

mechanic omit honey slim pony
casino brush bag amused knife
clarify spin

Tips:

Store this phrase in a password manager like 1Password.

Write this phrase on a piece of paper and store in a secure location. If you want even more security, write it down on multiple pieces of paper and store each in 2 - 3 different locations.


Memorize this phrase.

[Download this Secret Recovery Phrase and keep it stored safely on an external encrypted hard drive or storage medium.](#)


 **METAMASK**
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Confirm your Secret Recovery Phrase

Please select each phrase in order to make sure it is correct.

 **METAMASK**Ethereum Mainnet


Account 1
0x352...38DE


0 ETH
\$0.00 USD

[Buy](#) [Send](#) [Swap](#)

Assets

Activity

 0 ETH
\$0.00 USD

Don't see your token?
[Refresh list](#) or [import tokens](#)

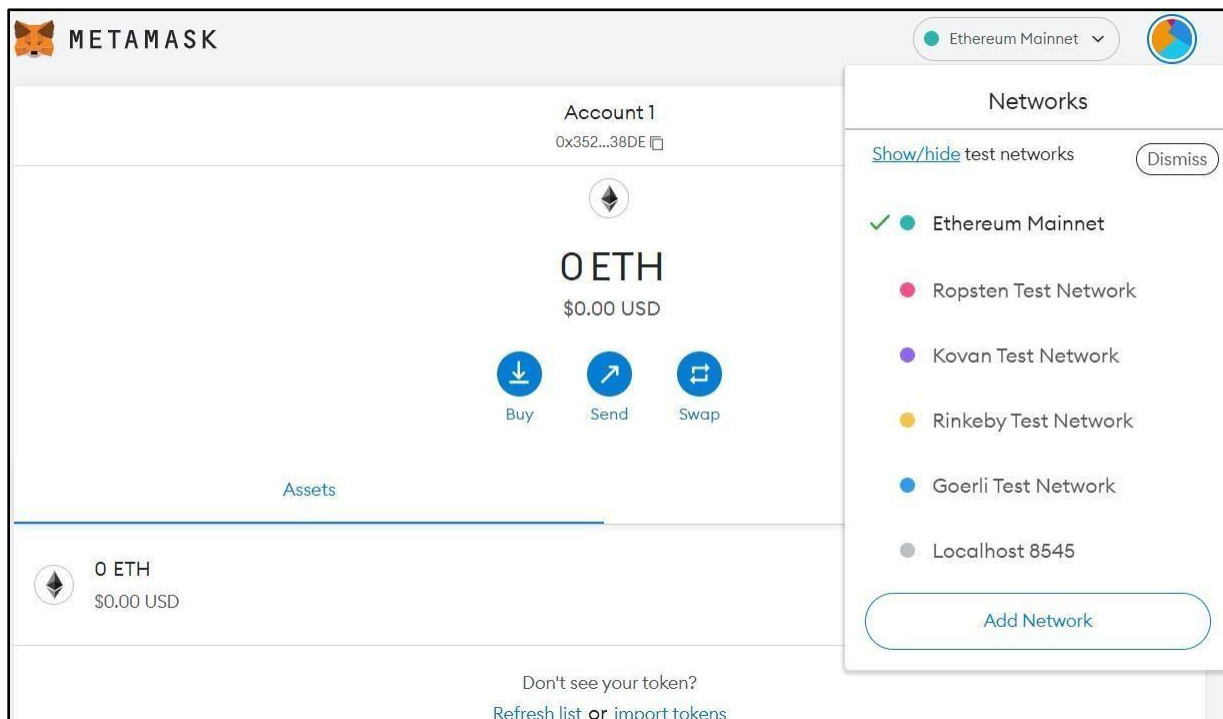


Step 2: Select any one test network

Click on show networks. Enable show networks and other information. Following test networks can be seen in your MetaMask wallet. These networks are only for the purpose of testing and ethers involved in it have no value.

- Ropsten Test Network
- Kovan Test Network
- Rinkeby Test Network
- Goerli Test Network

Select Ropsten Test Network.



Step 3: Add some dummy Ethers to your wallet

- To test the smart contract, your MetaMask wallet should contain some dummy ethers. For example, if you test a contract using the Ropsten test network, select it and you will find 0 ETH as the initial balance in your account. Click on the “Deposit” and “Get Ether” buttons under
- Test Faucet in order to add dummy ethers. Open site <https://faucet.metamask.io/>. Link your wallet account and add one dummy ether. You will receive one ether in account as below. Click Request 1 Ether from faucet.



- Click on Buy button. Buy test ethers

faucet

address: 0x81b7e08f65bdf5648606c89998a9cc8164397647
balance: 98894180.57 ether

request 1 ether from faucet

user

address: 0xdb45a091367e0ac1a58636bcb11c67ad16dd8aa9
balance: 4.00 ether
donate to faucet:

1 ether 10 ether 100 ether

transactions

0x97ee970e682d0eae5c82e1b95b1fc6e66d33e08c7209d19c22a92a1f10b95a63
0x4b416e8477e0550d249248a9574524036de93298d194a8d1e85774a5a39da1f4
0xcfcfad84b16a977889581ea4d127781029a27e4179a981ffcbec56f9b404ff
0x75132675292b37d3c0470a9649adf099c03e03bb870bc9c431f9f9a37aceb410
0xa04e7b8839e14c63568c43c6ed14707e8bec60cb6858fe2939d8ca178028b3d8
0x224fc0ceb0896bf62caeb10faeb0b89900c42085513e500935849803a8eb5388
0x95d128fa7139112c5a7c58c3056f98683a58cdb6c112ab7bc953904826766633

Step 4: Compile and Deploy following contract in Ethereum Remix IDE. Give name to file token.sol.
Deploy by selecting **token.sol**. Select Environment as **Injected Provider-MetaMask**.

```
pragma solidity ^ 0.6.6;
```

```
contract calculator { uint c;
```

```
function add(uint a, uint b) public { c = a + b;  
}
```

```
function sub(uint a, uint b) public { c = a - b;  
}
```

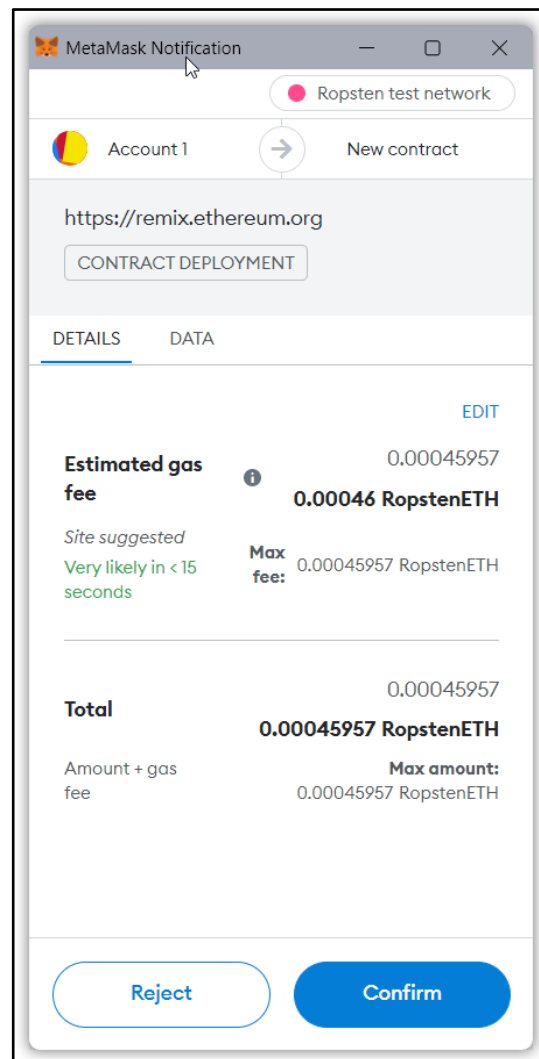
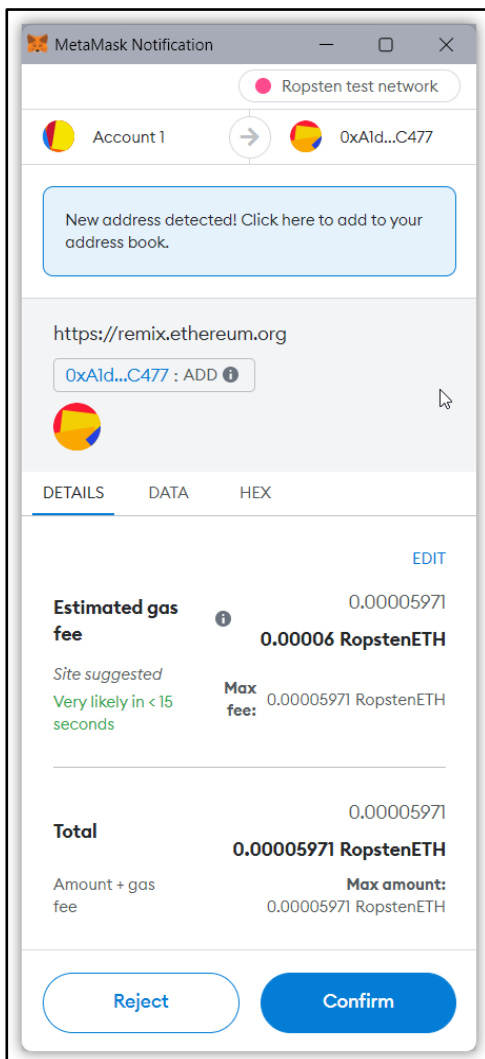


```
function mul(uint a, uint b) public {
```

```
    c = a * b;  
}
```

```
function div(uint a, uint b) public {  
    require(b > 0, "The second parameter should be greater than zero.");  
    c = a / b;  
}
```

```
function getResult() public view returns (uint x) {return c;  
}  
}
```





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Step 5: Perform an Add transaction by entering two integer parameters and click on “transact”. On the MetaMask notification window, confirm the transaction. After the transaction is successful, click on get Result.



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Deployed Contracts

▼ CALCULATOR AT 0X9CF...EFCF (BLOC) [Copy] [Close]

Balance: 0 ETH

add

a:

b:

[Copy] Calldata [Copy] Parameters **transact**

div uint256 a, uint256 b ▼

mul uint256 a, uint256 b ▼

sub uint256 a, uint256 b ▼

getResult

0: uint256: x 8

MetaMask Notification

Ropsten test network

Account 1 → 0x9cF...eFCF

New address detected! Click here to add to your address book.

<https://remix.ethereum.org>

0x9cF...eFCF : ADD ⓘ

DETAILS DATA HEX

Estimated gas fee 0.00010925
0.000109 RopstenETH

Site suggested: Very likely in < 15 seconds

Max fee: 0.00010925 RopstenETH

Total 0.00010925
0.00010925 RopstenETH

Amount + gas fee: 0.00010925 RopstenETH

Max amount: 0.00010925 RopstenETH

Reject **Confirm**

METAMASK

Ropsten test network

Add [Close]

Status Confirmed [View on block explorer](#) [Copy transaction ID](#)

From 0x141...1494 **To** 0x9cF...eFCF

Transaction

Nonce	5
Amount	-0 RopstenETH
Gas Limit (Units)	43699
Gas Used (Units)	43699
Base fee (GWEI)	0.000000009
Priority fee (GWEI)	2.5
Total gas fee	0.000109 RopstenETH
Max fee per gas	0.000000003 RopstenETH
Total	0.00010925 RopstenETH

+ Activity log

+ Transaction data

Assets

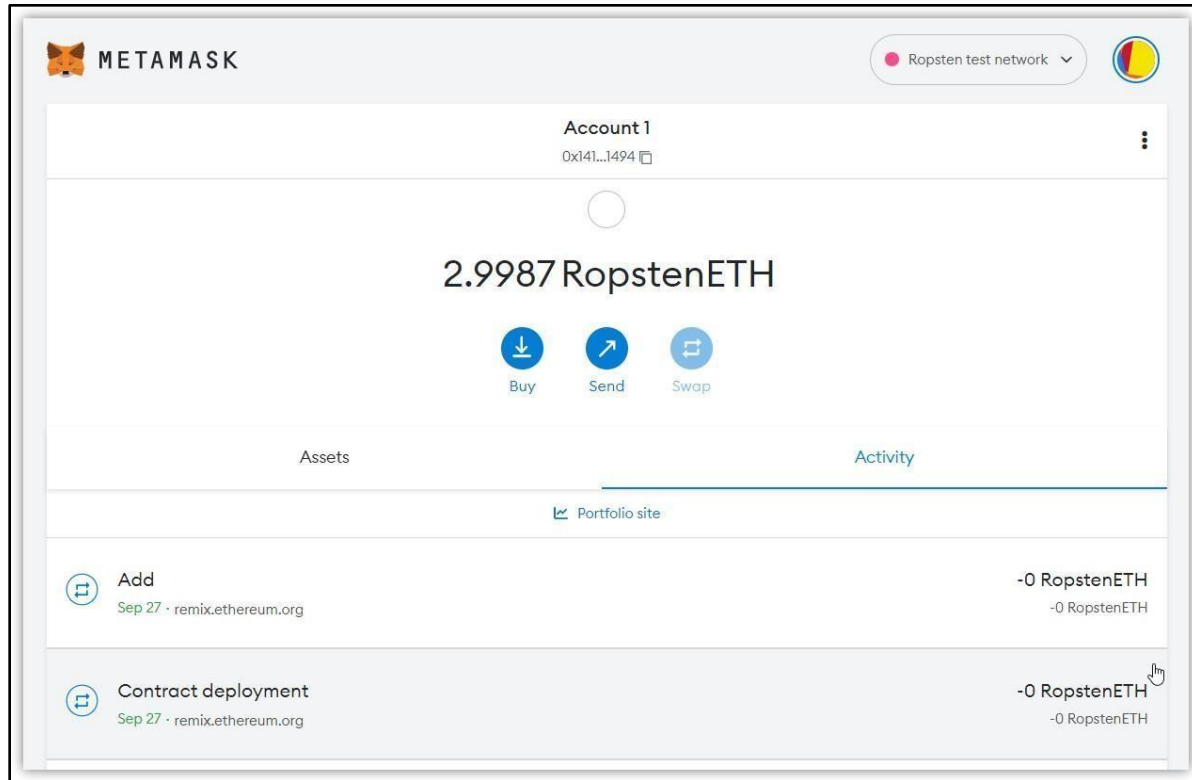
Activity

-0 RopstenETH	-0 RopstenETH
-0 RopstenETH	-0 RopstenETH
-0 RopstenETH	-0 RopstenETH

Add Sep 27 · remix.ethereum.org

Contract deployment Sep 27 · remix.ethereum.org

Add



Conclusion:

Q. How do you create a MetaMask wallet and perform transactions to add Ether and tokens to your wallet?