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Div : 6-A

# Blockchain Metamask Transaction

**Step 1:** Add the metamask chrome Extension in the Chrome and open it.

chrome web store

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**MetaMask**

[metamask.io](#) 2.9★ (4.9K ratings) < Share

Extension Workflow and planning 16,000,000 users

Buy, sell, swap thousands of tokens

MetaMask

Account 1  
\$1,343.88 USD  
+864.49 (+5.04%) Portfolio

Buy Sell Swap Bridge Send Receive

Ready to bridge?  
Please connect to a bridge, or create your wallet.

Tokens NFTs Activity

United Method

Ethereum +0.0%

Ethereum +0.0%

MetaMask

Manage extensions

Let's get started

Trusted by millions, MetaMask is a secure wallet making the world of web3 accessible to all.

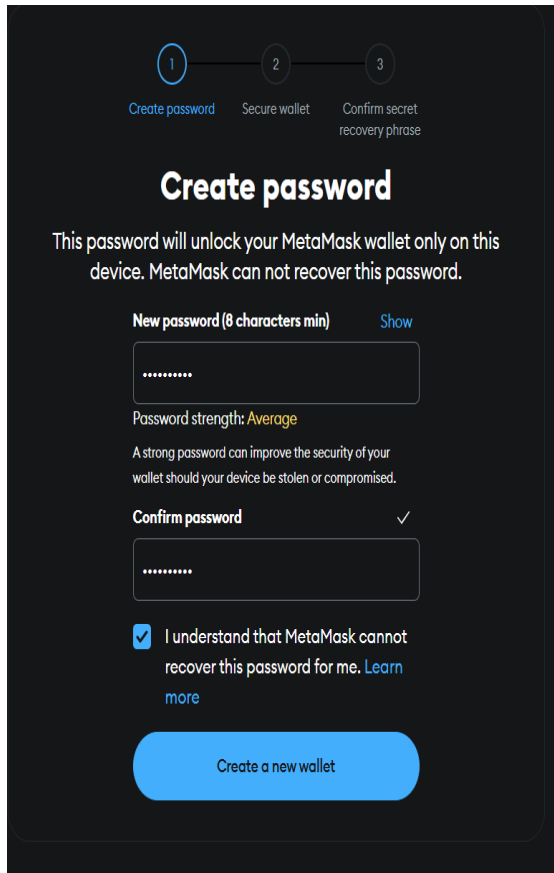
☐ I agree to MetaMask's Terms of use

Create a new wallet

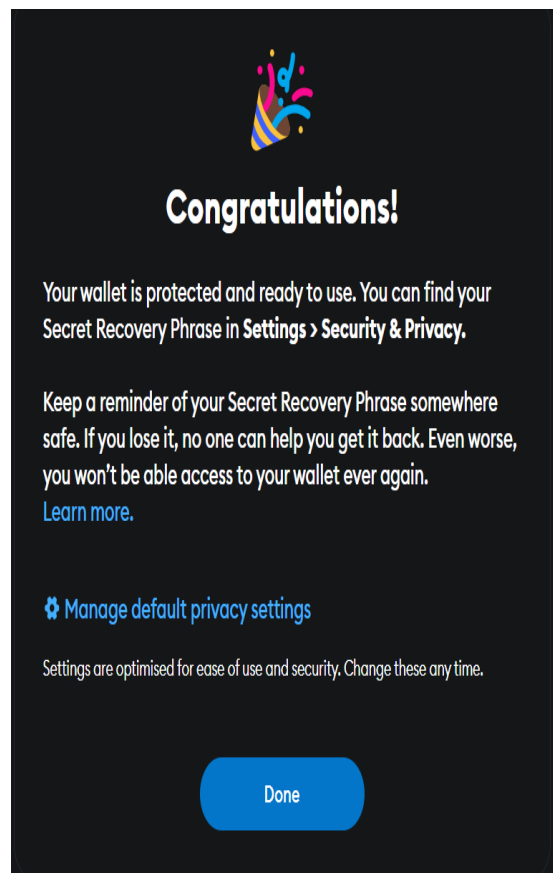
Import an existing wallet

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**Step 2:** Now create Your MetaMask Account by entering all required details.

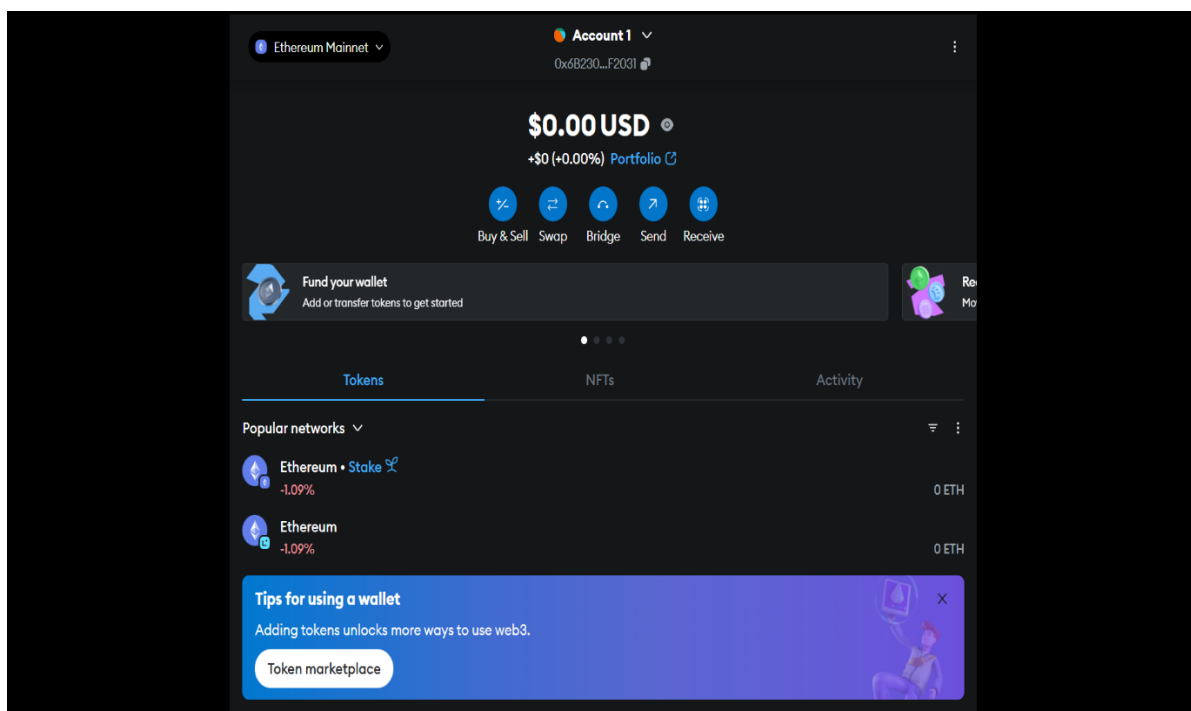


The screen shows a three-step progress bar at the top: 1. Create password (active), 2. Secure wallet, and 3. Confirm secret recovery phrase. The main heading is 'Create password'. Below it, a note states: 'This password will unlock your MetaMask wallet only on this device. MetaMask can not recover this password.' There are two password input fields: 'New password (8 characters min)' and 'Confirm password'. The 'New password' field has a 'Show' link. Below the first field, it says 'Password strength: Average' and 'A strong password can improve the security of your wallet should your device be stolen or compromised.' The 'Confirm password' field has a checkmark. At the bottom, there is a checkbox with the text 'I understand that MetaMask cannot recover this password for me. Learn more' and a 'Create a new wallet' button.



The screen features the MetaMask logo at the top. The heading is 'Congratulations!'. The text reads: 'Your wallet is protected and ready to use. You can find your Secret Recovery Phrase in Settings > Security & Privacy.' Below this, it says: 'Keep a reminder of your Secret Recovery Phrase somewhere safe. If you lose it, no one can help you get it back. Even worse, you won't be able access to your wallet ever again. Learn more.' There is a link 'Manage default privacy settings' and a note: 'Settings are optimised for ease of use and security. Change these any time.' At the bottom is a 'Done' button.

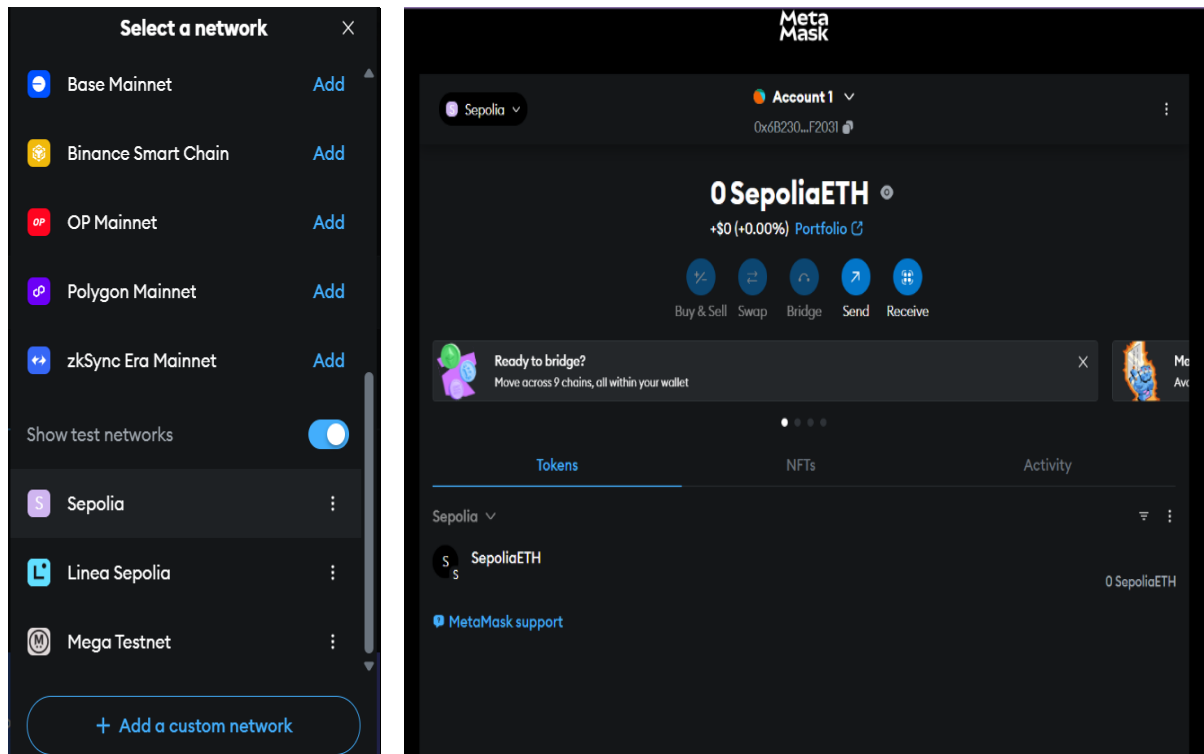
**Step 3:** Now MetaMask will open the dashboard of it in Ethereum Mainnet Network .



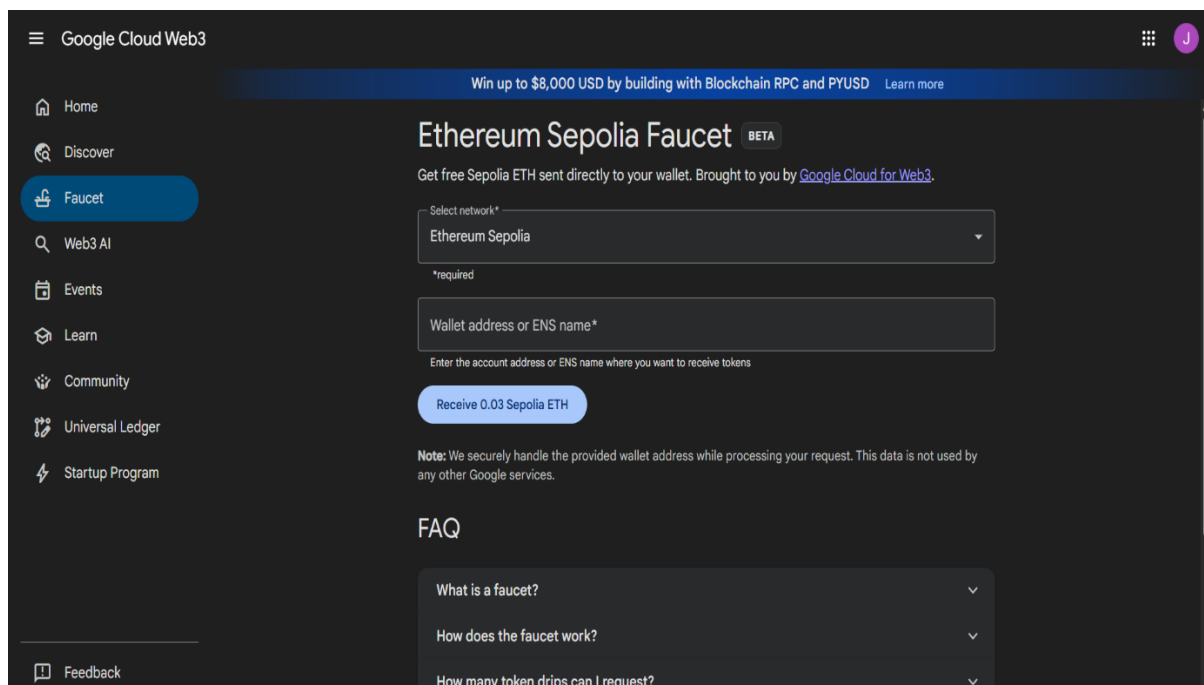
The screenshot shows the MetaMask dashboard for 'Account 1' on the 'Ethereum Mainnet' network. The account address is '0x6B230...F2031'. The balance is '\$0.00 USD' with a '+\$0 (+0.00%) Portfolio' link. Below the balance are buttons for 'Buy & Sell', 'Swap', 'Bridge', 'Send', and 'Receive'. There is a 'Fund your wallet' section with the text 'Add or transfer tokens to get started'. Below this are tabs for 'Tokens', 'NFTs', and 'Activity'. The 'Tokens' tab is active, showing 'Popular networks' with 'Ethereum • Stake' and 'Ethereum' both at '-1.09%'. At the bottom, there is a 'Tips for using a wallet' banner with the text 'Adding tokens unlocks more ways to use web3.' and a 'Token marketplace' button.

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**Step 4:** Now you have to change the network to the sepolia Network, then it will open the dashboard of the sepolia Network in MetaMask.

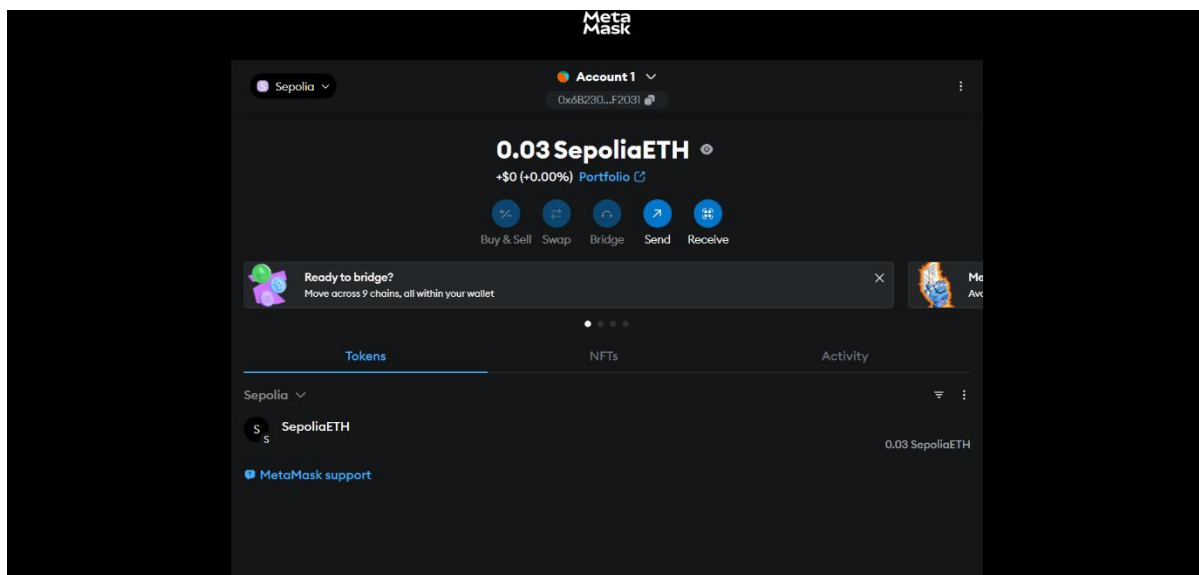
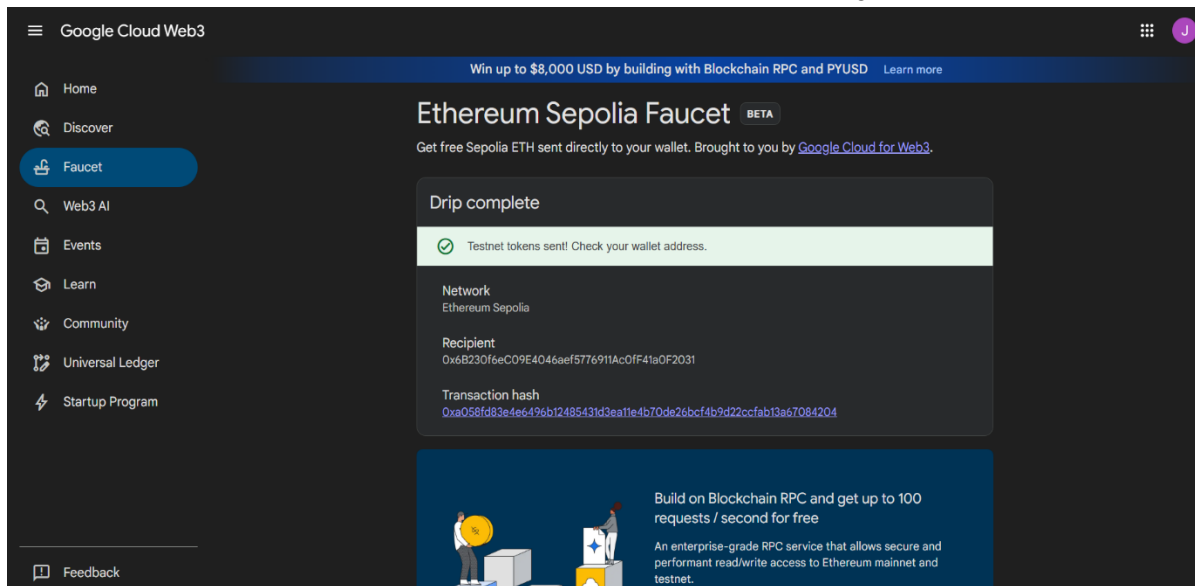


**Step 5:** Now you have to search for the sepolia Faucet in the browser and open the Ethereum Sepolia Faucet by google cloud to get the free Ether.



**Step 6:** Then you have to copy the address of your sepolia MetaMask account and paste it in the website and then click on receive 0.03 Sepolia ETH. Then it will show the confirmation of the sent ether, that we can also check in our Sepolia MetaMask account.

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**Step 7:** We have ether in our sefolia MetaMask account, now we will Compile and deploy our smart Contract to do the transaction.

**Step 8:** We will now open the Remix Ethereum IDE in the browser, in that we will create a new workspace BlockChain and in that workspace we will create the contract.sol file in which our smart Contract code will be added.

**Step 9:** I have added the smart Contract Code on Blockchain-Based Crowdfunding Platform in the contract.sol file.

**Code:**

```
// SPDX-License-Identifier: GPL-3.0
```

```
pragma solidity >=0.8.2 <0.9.0;
```

```
contract CrowdfundingPlatform {
```

```
    struct Campaign {
```

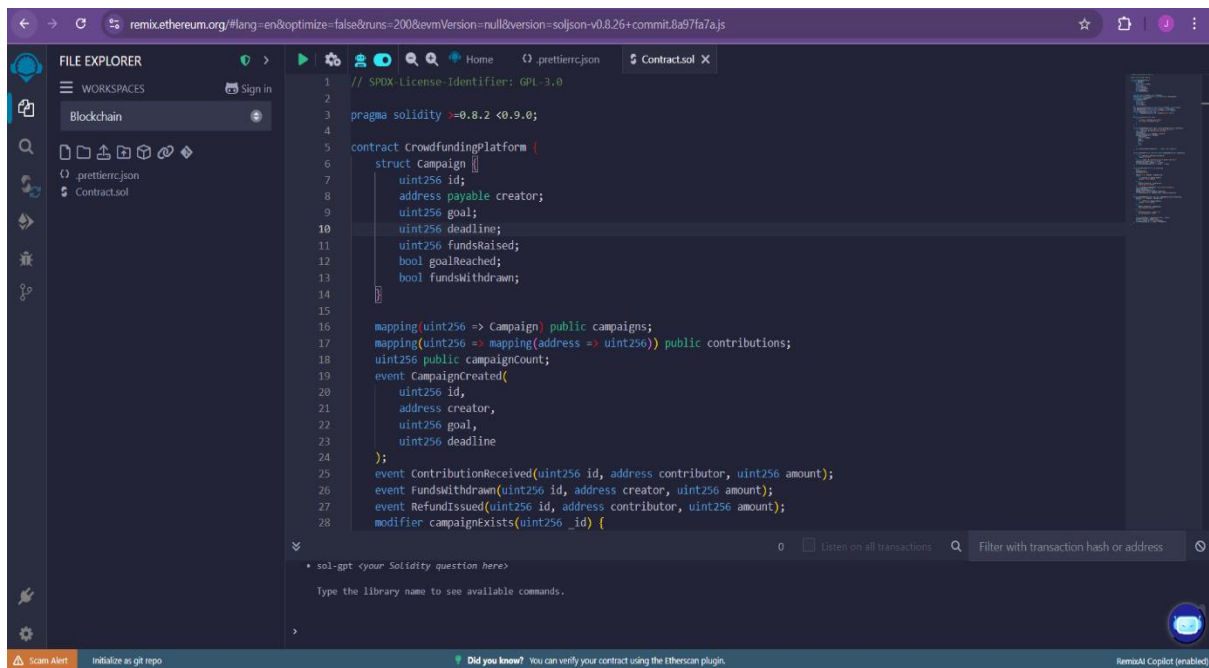
```
uint256 id;
address payable creator;
uint256 goal;
uint256 deadline;
uint256 fundsRaised;
bool goalReached;
bool fundsWithdrawn;
}
mapping(uint256 => Campaign) public campaigns;
mapping(uint256 => mapping(address => uint256)) public contributions;
uint256 public campaignCount;
event CampaignCreated(
    uint256 id,
    address creator,
    uint256 goal,
    uint256 deadline
);
event ContributionReceived(uint256 id, address contributor, uint256 amount);
event FundsWithdrawn(uint256 id, address creator, uint256 amount);
event RefundIssued(uint256 id, address contributor, uint256 amount);
modifier campaignExists(uint256 _id) {
    require(campaigns[_id].id == _id, "Campaign does not exist");
    _;
}
modifier onlyCreator(uint256 _id) {
    require(
        msg.sender == campaigns[_id].creator,
        "Only creator can withdraw funds"
    );
    _;
```

```
}  
  
function createCampaign(uint256 _goal, uint256 _duration) public {  
    require(_goal > 0, "Funding goal must be greater than zero");  
    require(_duration > 0, "Duration must be valid");  
    campaignCount++;  
    uint256 deadline = block.timestamp + _duration;  
    campaigns[campaignCount] = Campaign(  
        campaignCount,  
        payable(msg.sender),  
        _goal,  
        deadline,  
        0,  
        false,  
        false  
    );  
    emit CampaignCreated(campaignCount, msg.sender, _goal, deadline);  
}  
  
function contribute(uint256 _id) public payable campaignExists(_id) {  
    require(  
        block.timestamp < campaigns[_id].deadline,  
        "Campaign has ended"  
    );  
    require(msg.value > 0, "Contribution must be greater than zero");  
    campaigns[_id].fundsRaised += msg.value;  
    contributions[_id][msg.sender] += msg.value;  
    emit ContributionReceived(_id, msg.sender, msg.value);  
}  
  
function withdrawFunds(uint256 _id)  
    public  
    onlyCreator(_id)
```

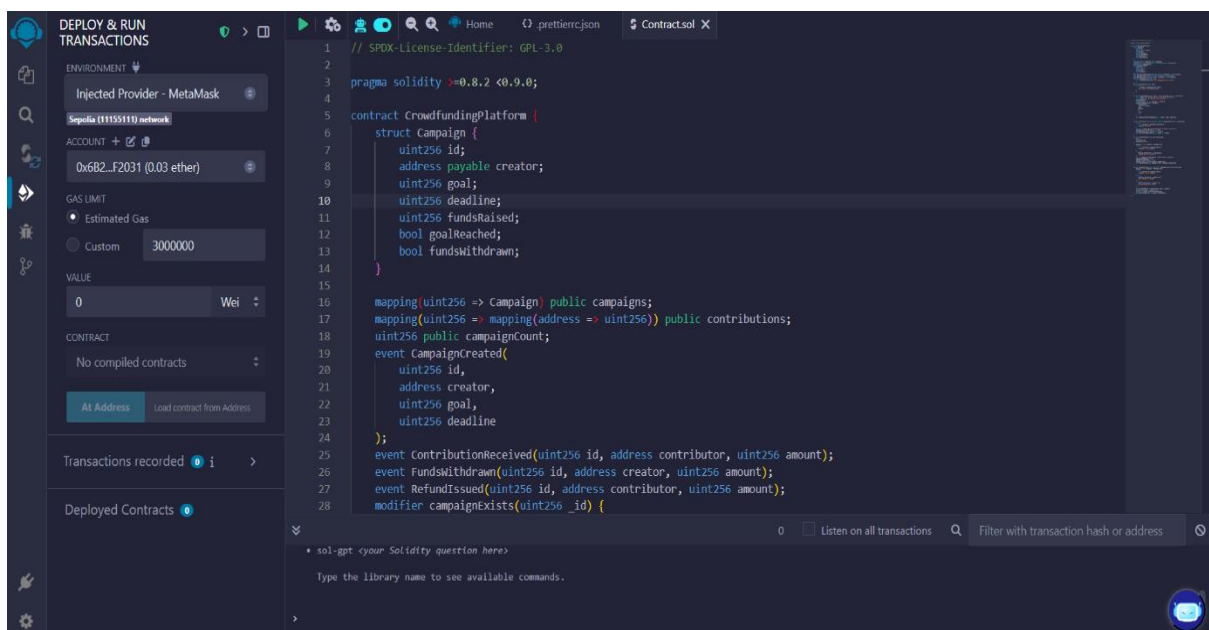
```
campaignExists(_id)
{
    Campaign storage campaign = campaigns[_id];
    require(
        block.timestamp >= campaign.deadline,
        "Campaign is still ongoing"
    );
    require(
        campaign.fundsRaised >= campaign.goal,
        "Funding goal not reached"
    );
    require(!campaign.fundsWithdrawn, "Funds already withdrawn");
    campaign.goalReached = true;
    campaign.fundsWithdrawn = true;
    campaign.creator.transfer(campaign.fundsRaised);
    emit FundsWithdrawn(_id, campaign.creator, campaign.fundsRaised);
}

function requestRefund(uint256 _id) public campaignExists(_id) {
    Campaign storage campaign = campaigns[_id];
    require(
        block.timestamp >= campaign.deadline,
        "Campaign is still ongoing"
    );
    require(
        campaign.fundsRaised < campaign.goal,
        "Goal reached, no refunds"
    );
    require(
        contributions[_id][msg.sender] > 0,
        "No contributions to refund"
    );
}
```

```
);  
  
uint256 refundAmount = contributions[_id][msg.sender];  
  
contributions[_id][msg.sender] = 0;  
  
payable(msg.sender).transfer(refundAmount);  
  
emit RefundIssued(_id, msg.sender, refundAmount);  
  
}  
  
}
```



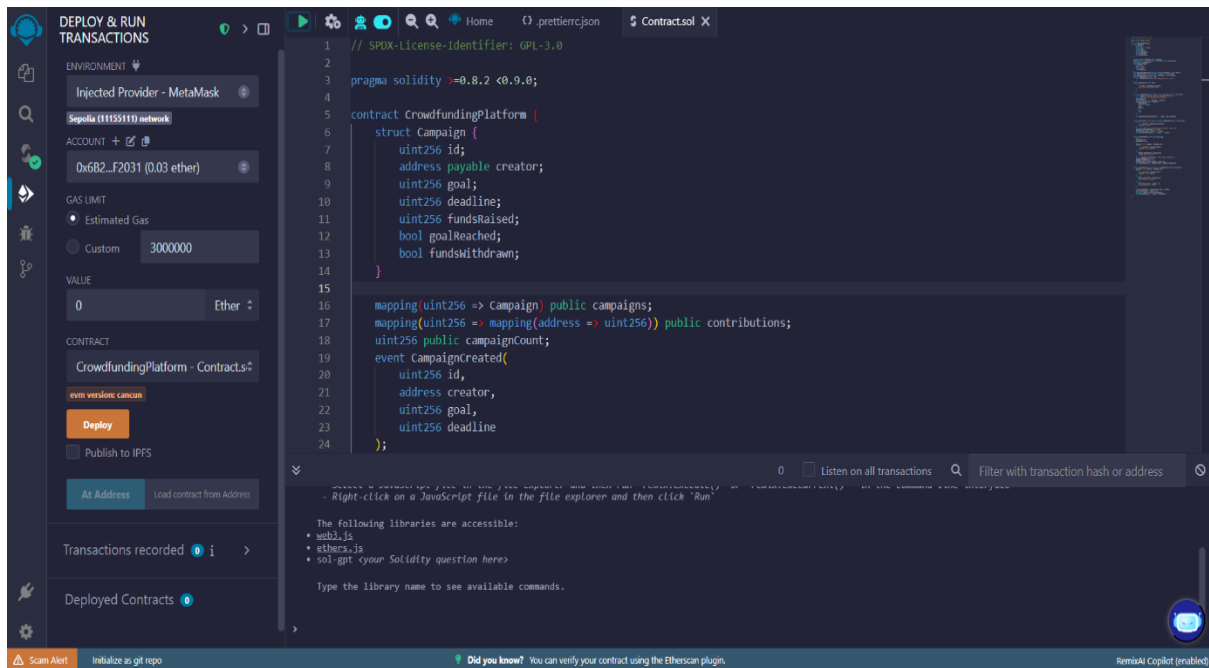
**Step 10:** Now open the Deploy and Run transactions in the remix ide, in the environment connect your MetaMask there.



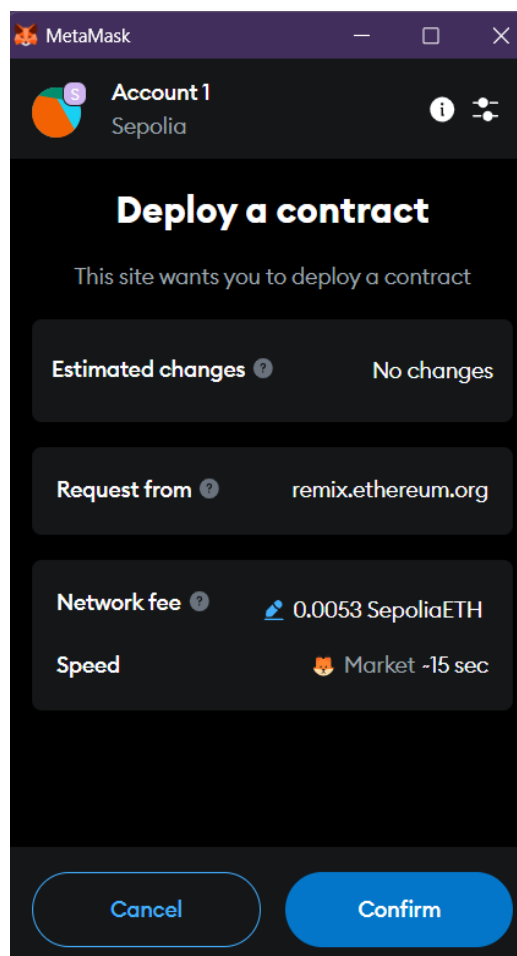


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**Step 11:** Now Compile the smart contract, after the successful compilation the file name should be displayed in the contract placeholder on the deploy and run transaction section.

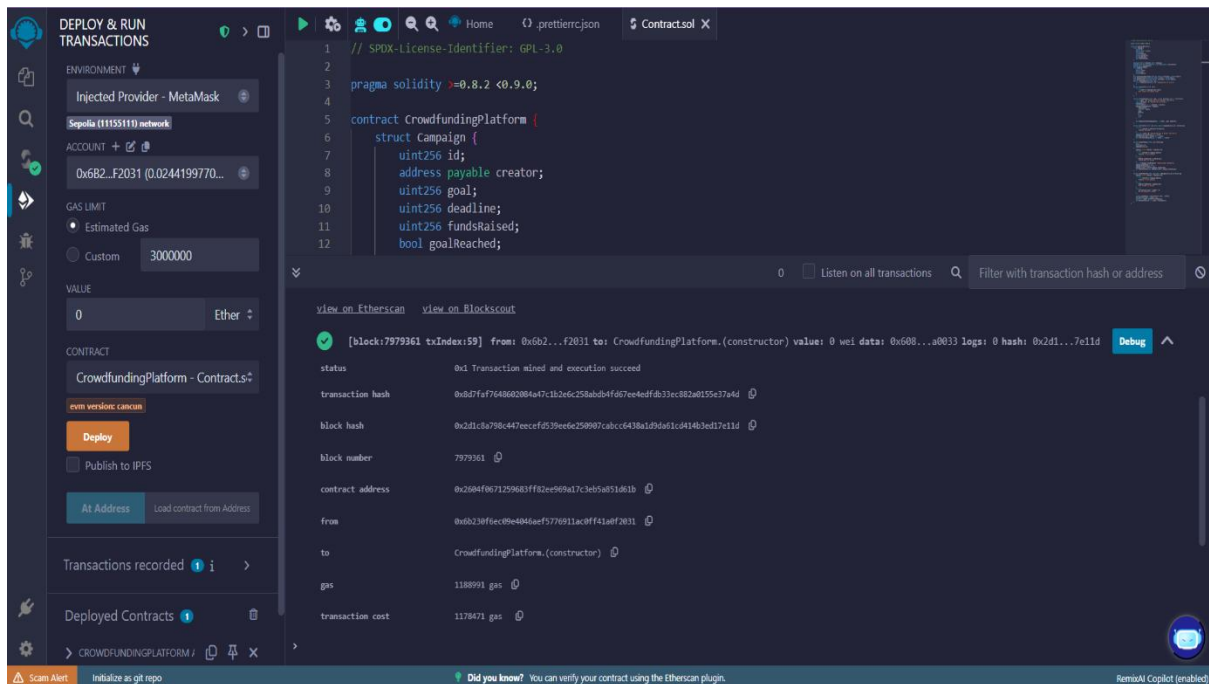


**Step 12:** For the Transaction, add the value in the value placeholder in the run and deploy transaction section and then click on the deploy to do the transaction.

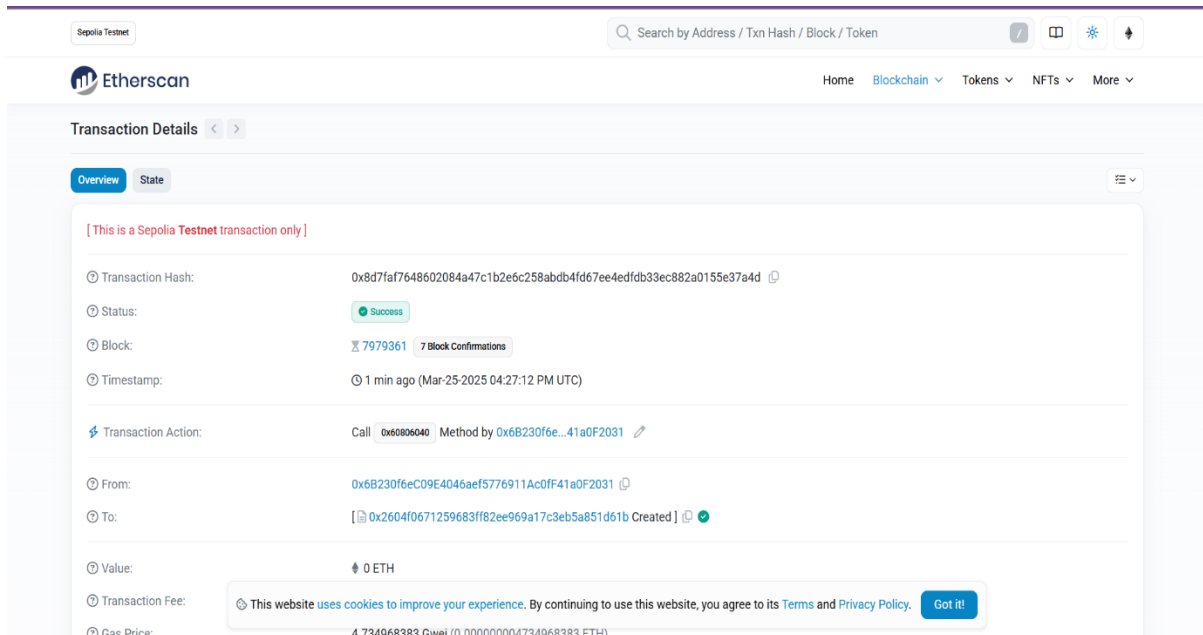


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**Step 13:** Now when you confirm it the transaction is done and it is shown in the Remix IDE.

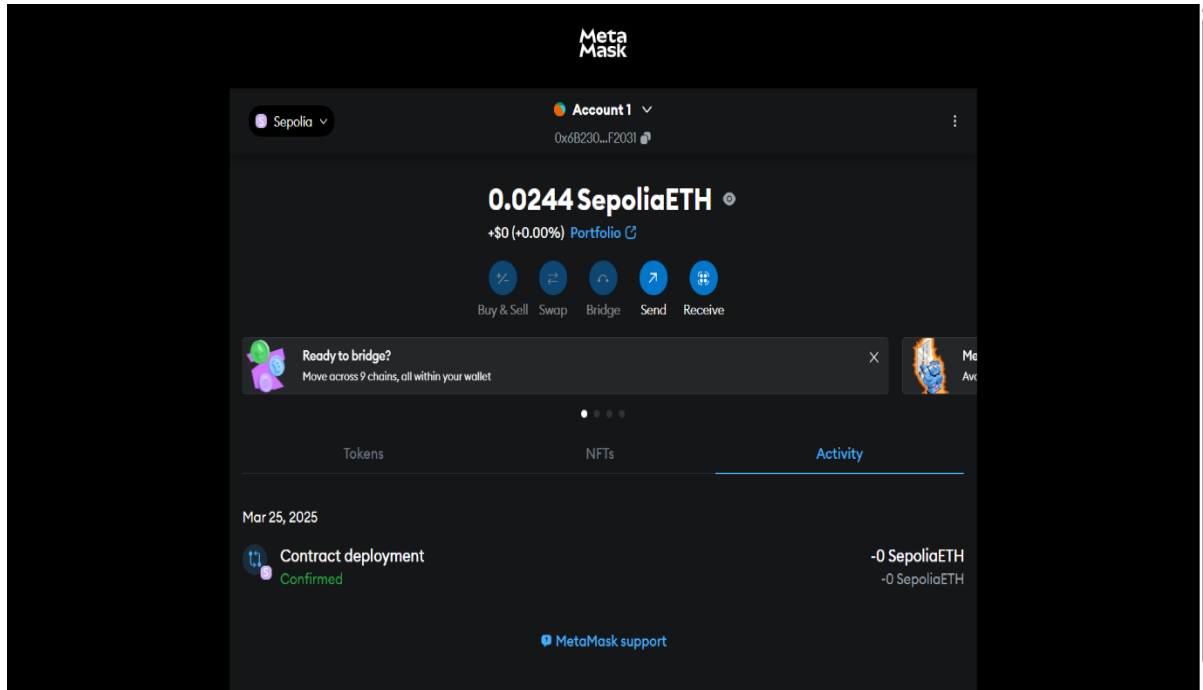


**Step 14:** We can check the details of the transaction in the Etherscan or Blockscan. I have done it in the Etherscan.




**Step 15:** We can also see in the MetaMask that our Sepolia ETH is also deducted and below the transaction is also shown, when we click on the transaction it will show the transaction details.

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### Contract deployment

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

**From**  0x6B230...F... **To** New contract

**Transaction**

Nonce	0
Amount	-0 SepoliaETH
Gas Limit (Units)	1188991
Gas Used (Units)	1178471
Base fee (GWEI)	3.234968383
Priority fee (GWEI)	1.5
Total gas fee	0.00558 SepoliaETH
Max fee per gas	0.000000006 SepoliaETH
Total	0.00558002 SepoliaETH

[+ Activity log](#)