Create Token

Objectives:

- Create an ERC20 token like Shiba Inu, Safemoon, Aave, etc
- Use OpenZeppelin library
- Use QuickNode to create your dApp
- Deploy on Ethereum Testnet

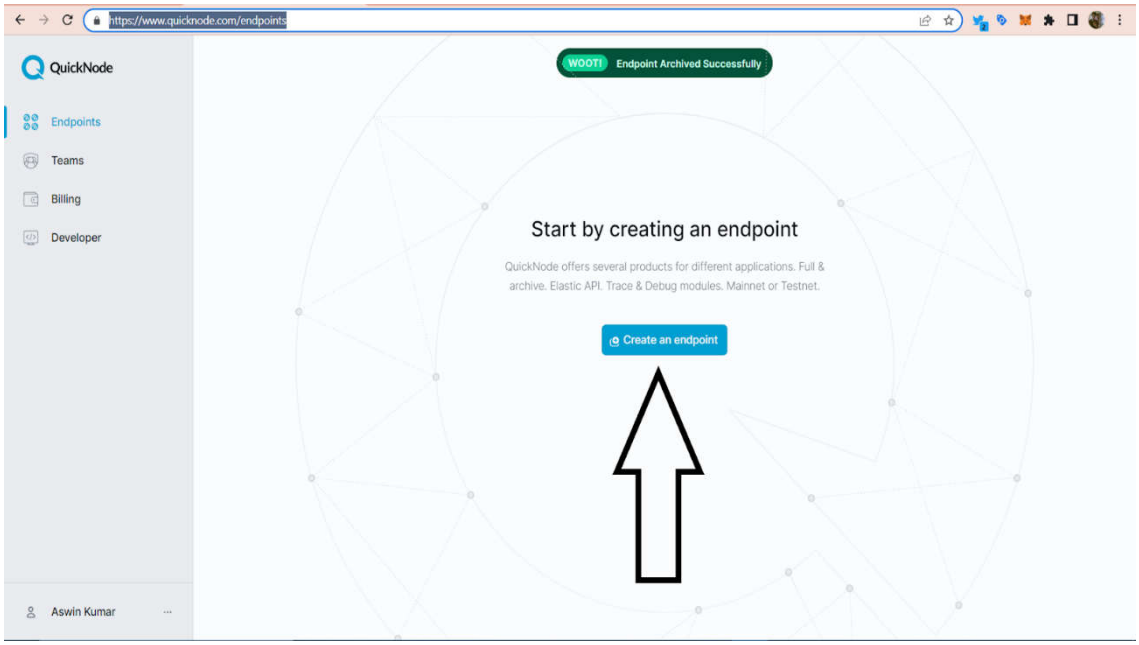
Prerequisites to build a token on Ethereum Network

- Remix IDE - to write and deploy the code
- OpenZeppelin - Ethereum Network supports EVM so you will use ERC-20 standards
- MetaMask - to interact with the Ethereum Network
- Quick Node - to interact with Ethereum Testnet (also called Ethereum Sepolia)
- Some ETH tokens - which you can get from the faucet

Setting up environment

QuickNode is a platform which helps you access the blockchain environment without going through the hassle of hosting your own node, saving time and resources. This platform lets you access blockchain nodes in a few clicks and you can scale the node performance according to your need thus creating an environment for you to scale your DApp.

- Sign in / Sign up to your **QuickNode** account
- Click on create an **QuickNode** endpoint



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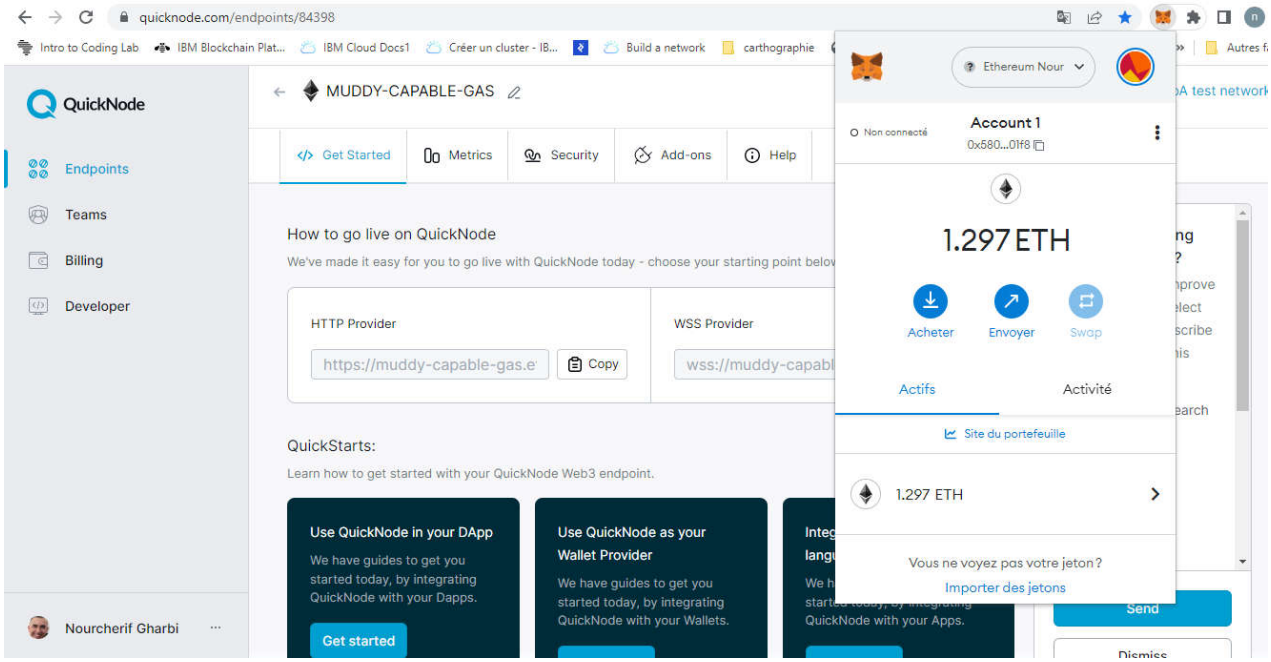
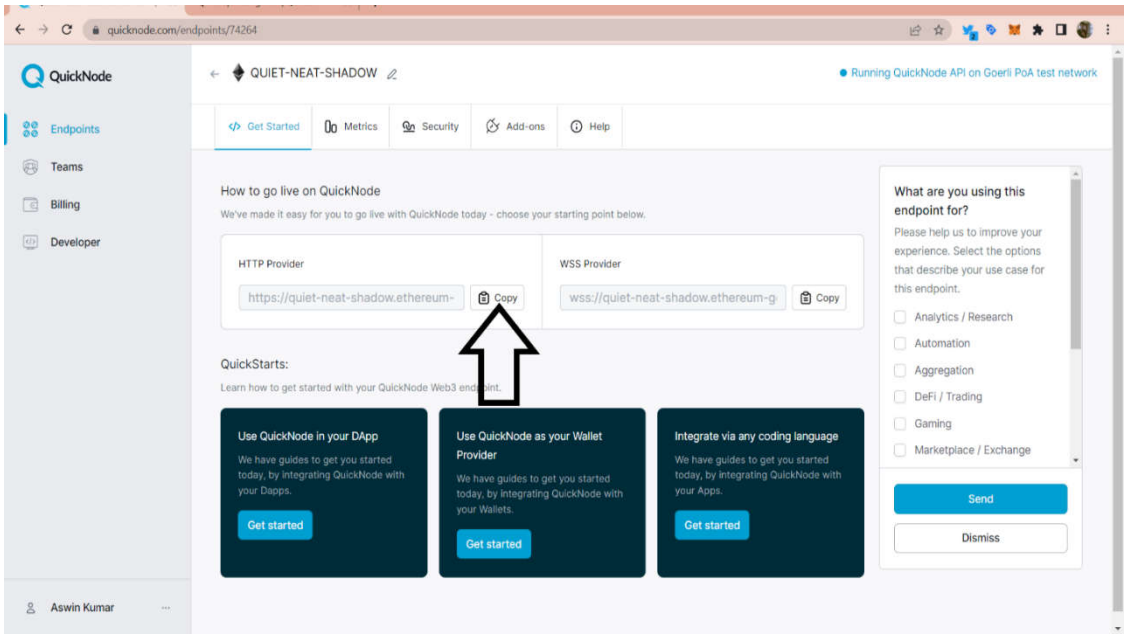
- Now select **Ethereum as Chain** and **Sepolia as Network** and continue
- We don't need any add-on so click **create endpoint** now

Once you create the endpoint you can start setting up your MetaMask Wallet with QuickNode.

- Now go to your MetaMask wallet and **click on the list of networks.**



- A drop-down list will show up with a list of networks, but you need to click on **ADD NETWORK** at the bottom of the list
- Doing so will give you a form to fill up to add a new network to your MetaMask account
- Let's go back to QuickNode Endpoint Dashboard, and copy the HTTPS as shown below



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- Go back to MetaMask add network form and paste the HTTPS in **New RPC URL** field with : rpc url : https://rpc.sepolia.org or https://sepolia.infura.io

11155111 as **Chain ID**, "SepoliaETH" as **Currency Symbol**, Sepolia Test Network as **Network Name (any name as you like)** and finally https://sepolia.etherscan.io as **Block Explorer URL.** Click Save.

Important note: Never ever share your private keys with anyone. It is the master access to your wallet

Keep your account and private key safe in the next steps. For now, export the private key and paste it somewhere secure

Since we are on testnet, we can go to the faucet and get some free ETH.

Write your token smart contract

- Go to http://remix.ethereum.org/ or open Remix desktop app anything you prefer
- **Click on create file** at the top of your file explorer panel and **create MyToken.sol**
- Now **click on MyToken.sol** and let's add some code

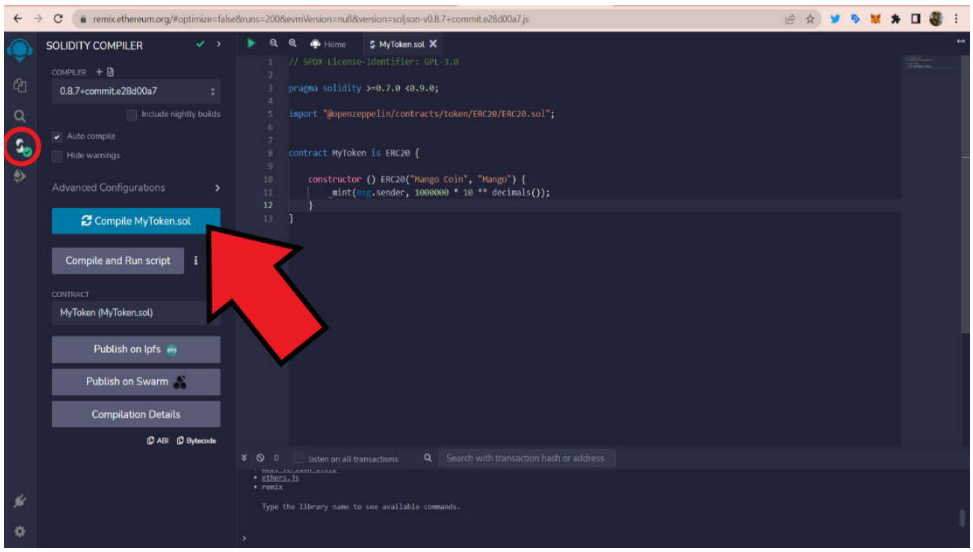
So, your MyToken will contain the code and the OpenZeppelin library will be used to write our smart contract.

```
// SPDX-License-Identifier: GPL-3.0
pragma solidity >=0.7.0 <0.9.0;
import "@openzeppelin/contracts/token/ERC20/ERC20.sol";
contract MyToken is ERC20 {
constructor () ERC20("SSIR Coin", "SSIR") {
_mint(msg.sender, 1000000 * 10 ** decimals());
}
}
```

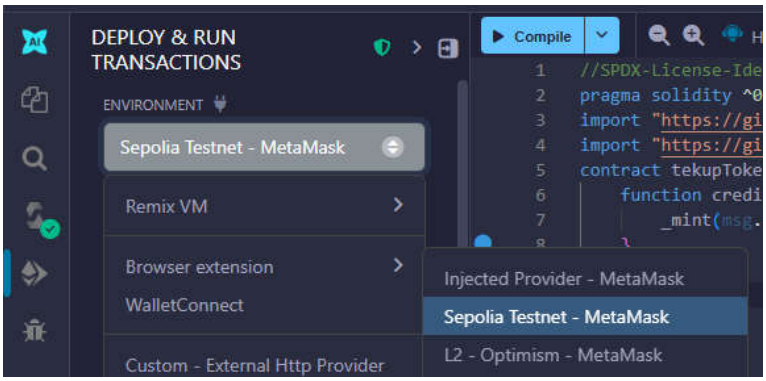
Deploy your token

After we are done with our coding part, let's proceed to deployment where we will be launching our token on Ethereum testnet.

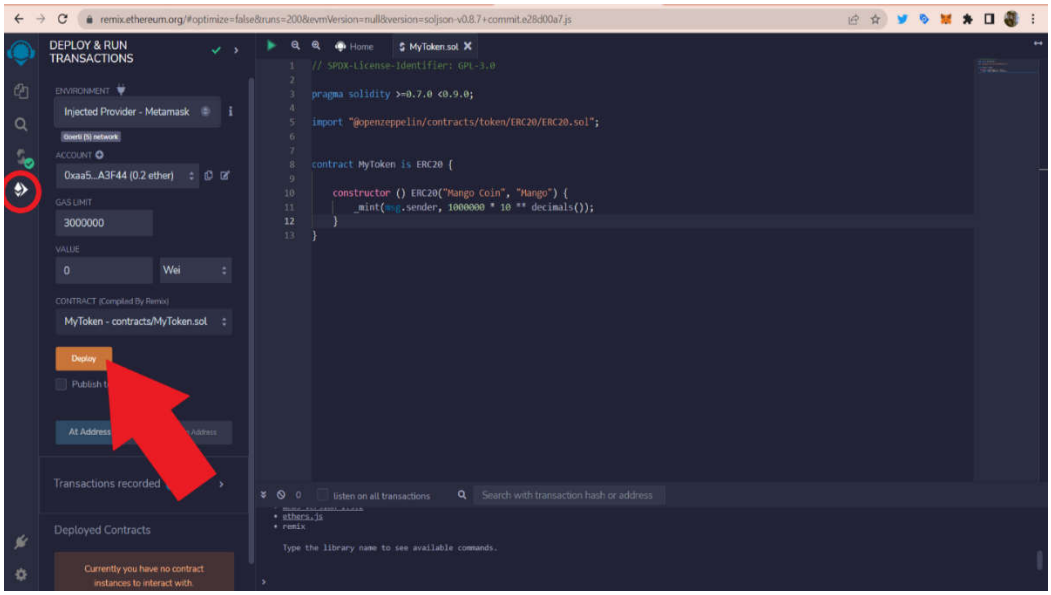
To start the deployment, go to the Solidity Compiler section on your left sidebar and then **click Compile MyToken.sol**



- After the compilation, **click on Deploy** right under Solidity Compiler on the sidebar and **select Browser extension=>Sepolia Testnet- Metamask** as Environment



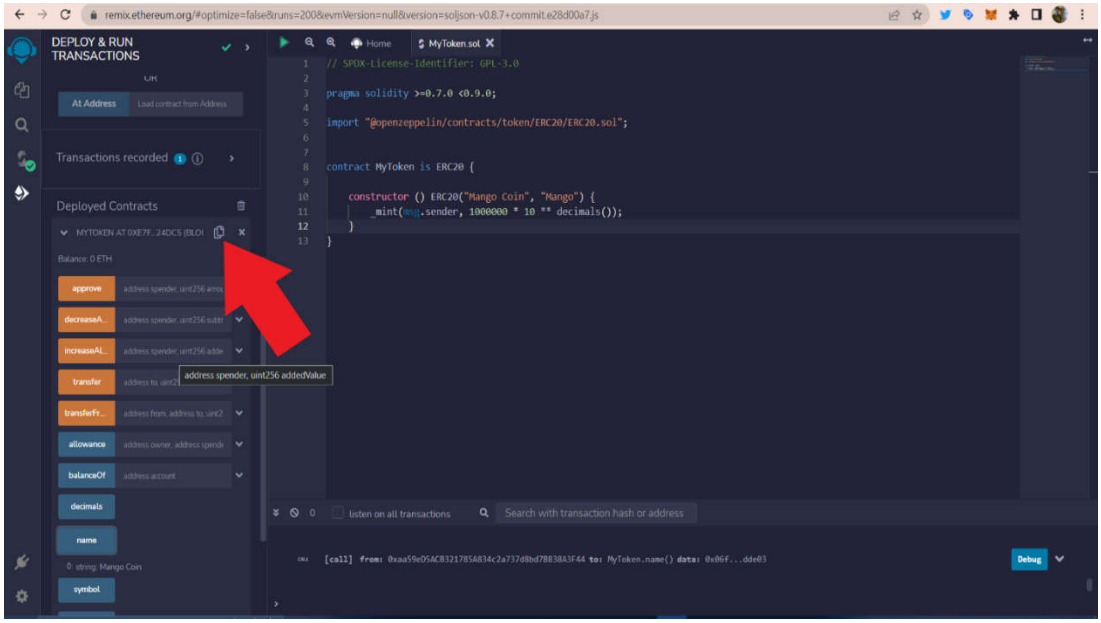
- A popup will appear to connect your MetaMask wallet so just select the account in which you received your free ETH from the faucet



- **Click on Deploy** to launch your token. Do not change any value other than environment
- A MetaMask popup will appear to sign the transaction. Confirm it and you will have successfully launched your own token on Ethereum Network

Let's check if our token is deployed correctly.

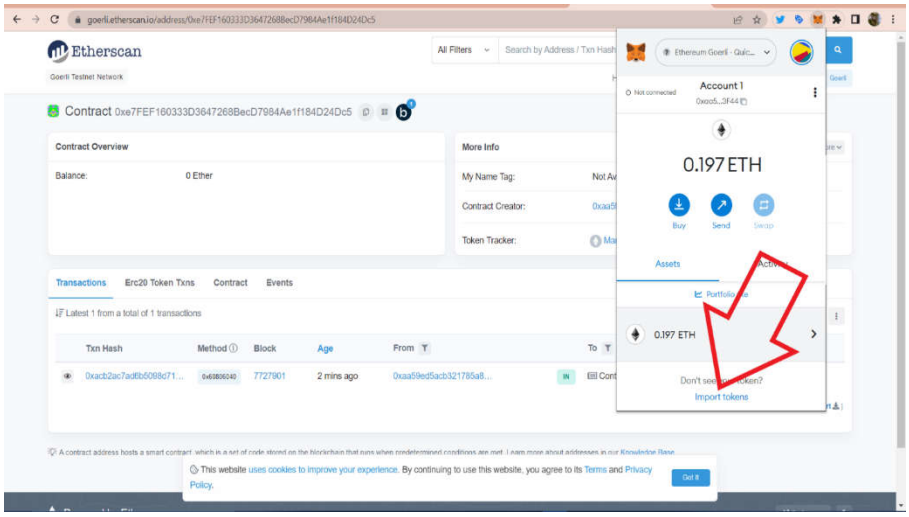
- Scroll down and copy your contract address under deployed contract in Remix by **clicking the copy icon**



- Go to_ https://sepolia.etherscan.io and search for your contract address

Now let's add our token to our MetaMask and check if we received our minted 1000000 SSIR Coin. To do this, you'll have to:

- Go to your MetaMask, go to asset and **click on import token**



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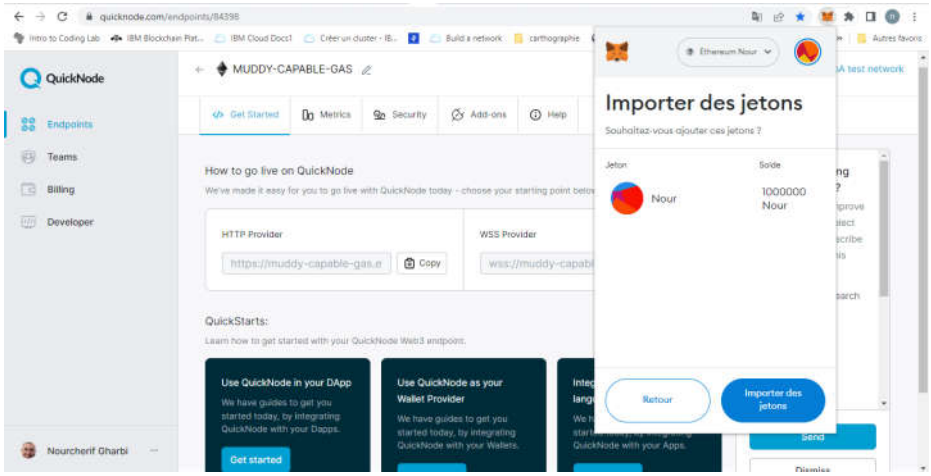
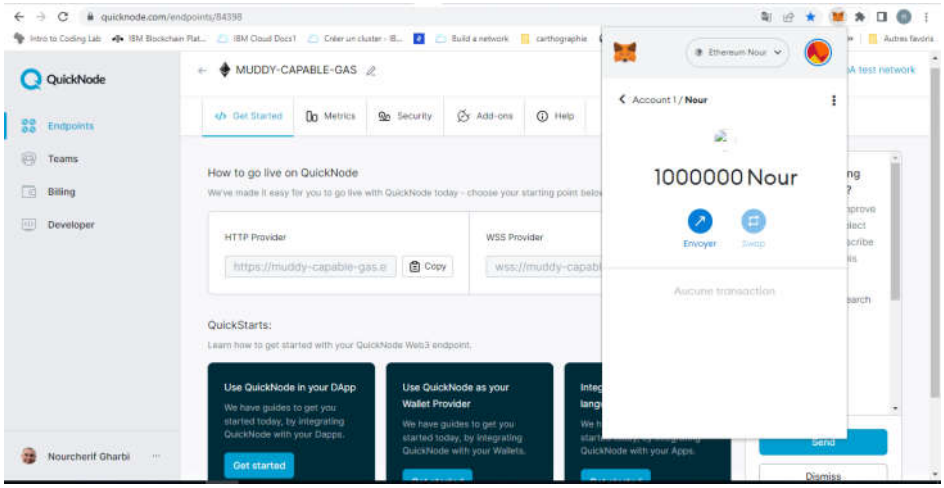
- Paste your contract address and rest of the details will be auto filled. Then **click on add custom token** and import the token
- Now you will see your 1000000 tokens minted to your Ethereum Sepolia address





Summary

The code we wrote is basic and is not ready to be deployed on the mainnet as we are still missing the SafeMath function, and we don't have any utility for the token as of now.