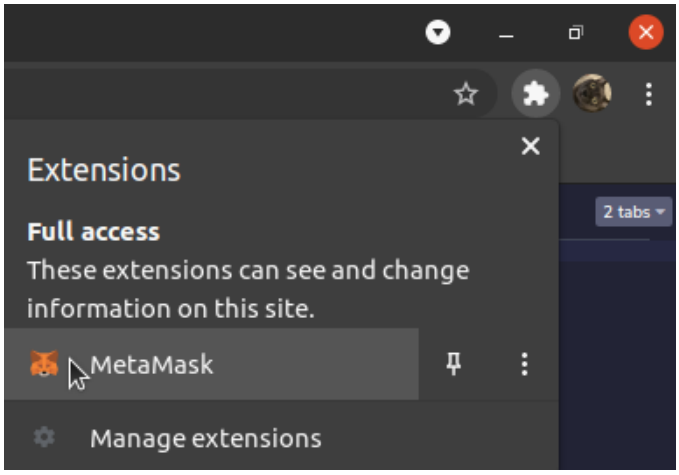
How to Use Chainlink’s Cross-Chain Interoperability Protocol (CCIP) on the Metis Blockchain

Chainlink's Cross-Chain Interoperability Protocol (CCIP) is a powerful tool for enabling seamless interaction between different blockchain networks. In this tutorial, you'll learn how to set up a test development environment on the Metis blockchain using CCIP, configure your MetaMask wallet, deploy a sample smart contract, and test its functionality. Whether you're new to blockchain development or looking to expand your skills, this guide will walk you through the process step-by-step.

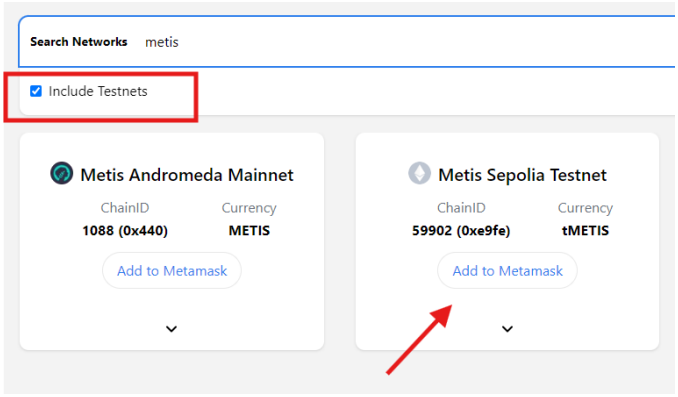
Step 1: Set Up MetaMask and Fund Your Wallet

1. Install the MetaMask extension for your browser by following the instructions on the official MetaMask installation page.

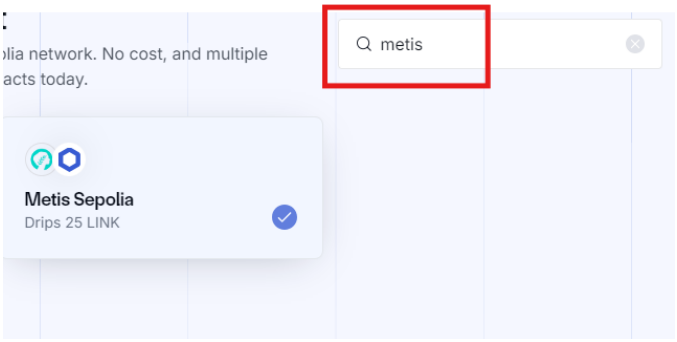
2. Open MetaMask from your browser's extension list and follow the prompts to create a new wallet. Be sure to securely store your 12-word mnemonic phrase as it is essential for accessing your wallet.



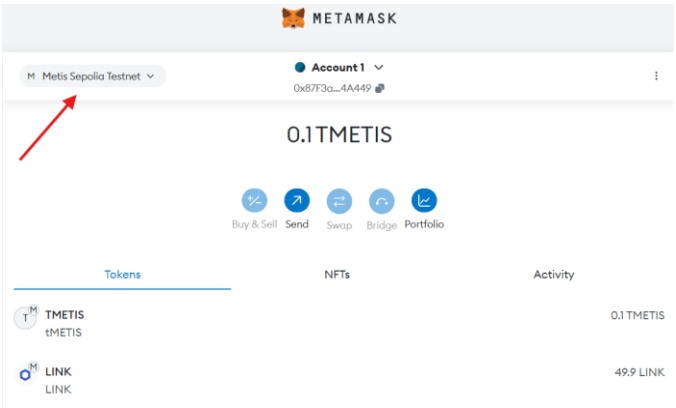
3. Add the Metis Sepolia Testnet to your MetaMask by visiting chainlist.org, searching for 'Metis Sepolia Testnet', and clicking 'Add to MetaMask'. Ensure that 'Include Testnets' is checked.



4. Fund your wallet with Metis Sepolia Testnet tokens by visiting faucets.chain.link, searching for 'Metis', and entering your wallet address to receive the tokens.



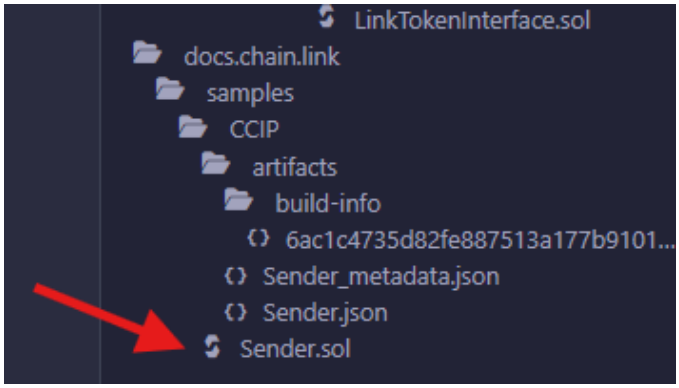
5. You should now have Metis Testnet tokens in your MetaMask wallet.



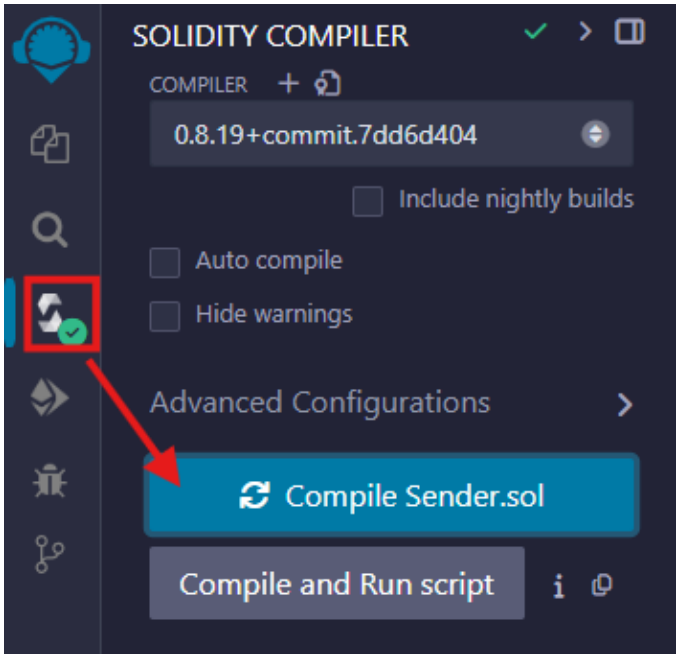
Step 2: Deploy a Sample Contract Using Remix

If you are new to Remix and Solidity language, all you need to know is that Remix is a web-based IDE (Integrated Development Environment) for writing and deploying smart contracts on the Ethereum blockchain using Solidity language.

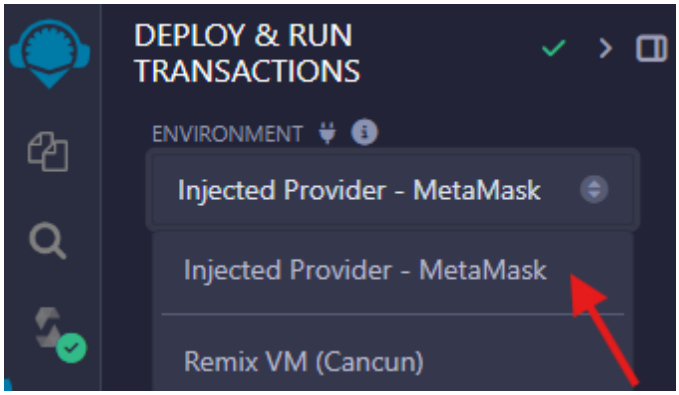
1. Open your browser and load the sample sender contract code by clicking this link. Optionally, review the comments in Sender.sol file to understand the Solidity code. You can revisit this later for a more in-depth study.



2. Compile the contract in Remix.



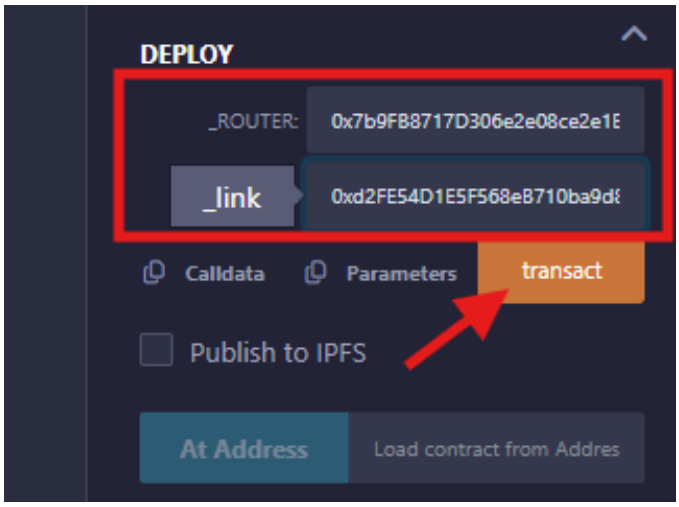
3. Select 'Injected Provider – MetaMask' under the 'Deploy & Run Transactions' tab. Remix will use MetaMask to interact with your wallet test networks and funds.



4. In the 'Deploy' section, enter the Router address and the LINK token contract address for Metis and click 'Transact' to deploy the contract.

- Router address: 0xaCdaBa07ECad81dc634458b98673931DD9d3Bc14
- LINK token contract address: 0x9870D6a0e05F867EAAe696e106741843F7fD116D

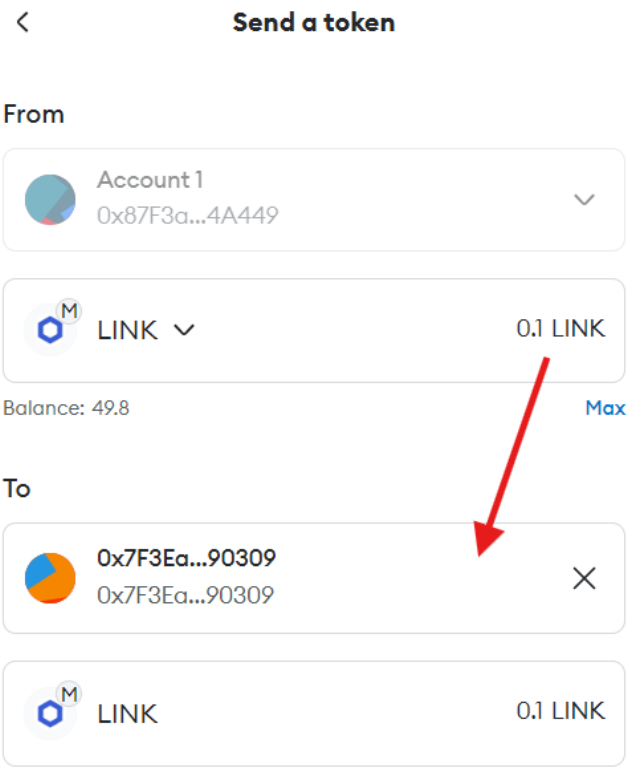
You can also find both of these addresses for Metis on the Supported Networks page. The LINK token contract address is also listed on the LINK Token Contracts page.



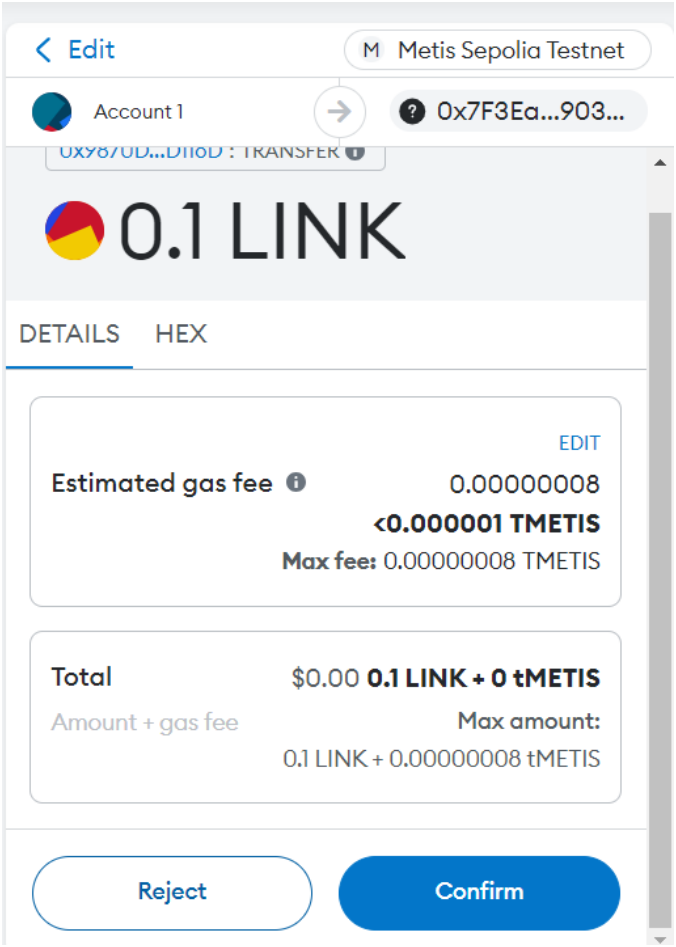
Step 3: Test Your Contract

1. Copy the deployed Sender contract address from Remix.

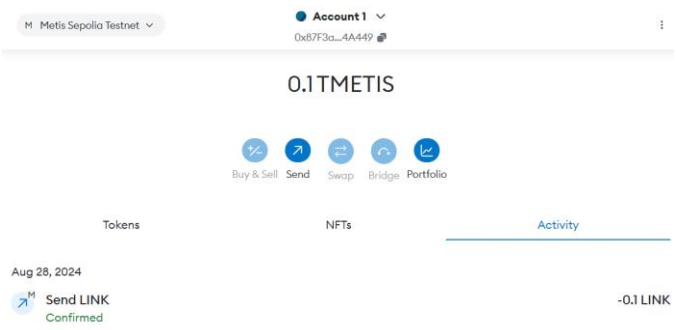
2. Open MetaMask and send 0.1 LINK to the contract address using your Metis Testnet funds.



3. Confirm the transaction in MetaMask.



4. Check the activity tab in MetaMask to verify the transaction which confirms functionality of your deployed contract.



Congratulations! You've successfully set up and used MetaMask, Solidity, and Remix IDE to deploy and interact with a smart contract on the Metis Sepolia Testnet. By following this tutorial, you've gained hands-on experience in blockchain development on the Metis network, enhancing your skills and understanding of cross-chain interoperability. Keep exploring and experimenting to further your knowledge in this exciting field.