

Go to <https://remix.ethereum.org/>

Write the following code in .sol

```
// SPDX-License-Identifier: MIT
pragma solidity ^0.8.0;

contract WavePortal {
    struct Wave {
        address waver;      // The address of the user who waved
        string message;    // The message the user sent
        uint256 timestamp; // The timestamp when the user waved
    }

    Wave[] public waves;      // Array to store all waves
    uint256 public totalWaves; // Counter for total waves

    event NewWave(address indexed waver, string message, uint256 timestamp);

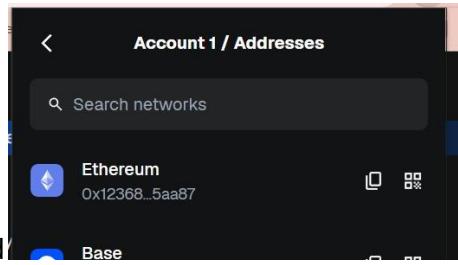
    constructor() {
        totalWaves = 0;
    }

    function wave(string memory _message) public {
        waves.push(Wave(msg.sender, _message, block.timestamp));
        totalWaves += 1;
        emit NewWave(msg.sender, _message, block.timestamp);
    }

    function getAllWaves() public view returns (Wave[] memory) {
        return waves;
    }

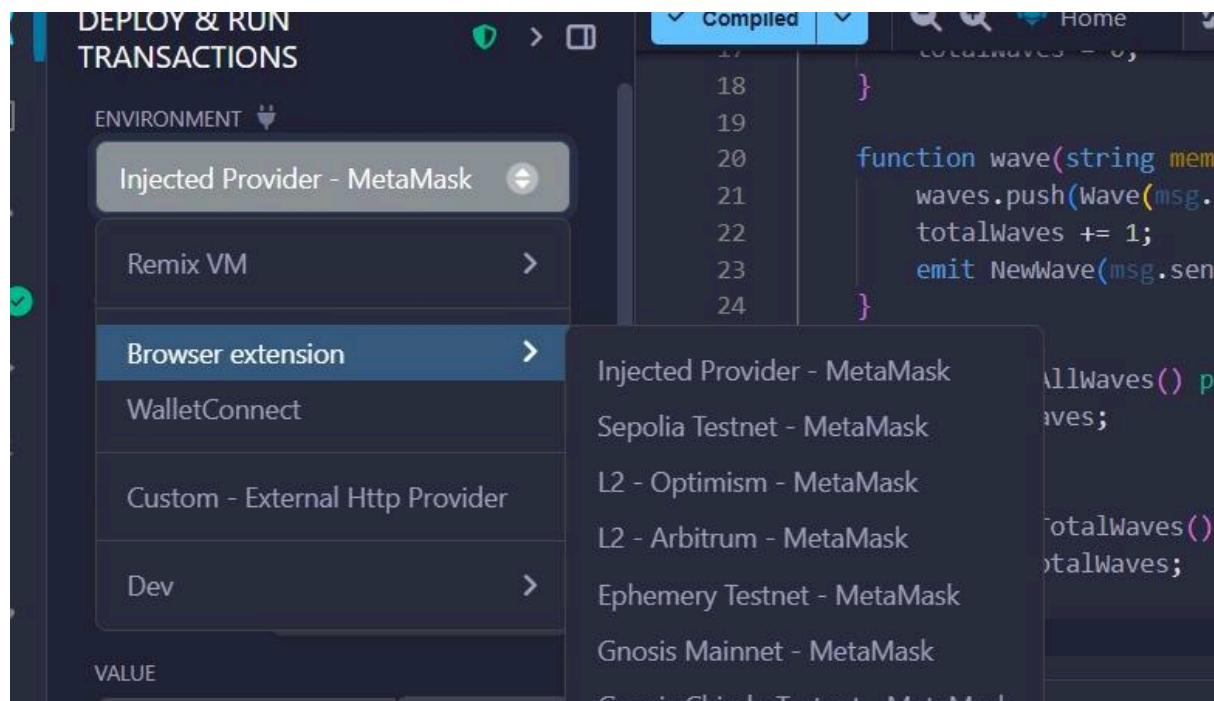
    function getTotalWaves() public view returns (uint256) {
        return totalWaves;
    }
}
```

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then



The screenshot shows the Remix IDE interface. On the left, there's a sidebar titled "DEPLOY & RUN TRANSACTIONS" with a "ENVIRONMENT" dropdown. The dropdown menu is open, showing several options: "Injected Provider - MetaMask" (selected), "Remix VM", "Browser extension" (highlighted in blue), "WalletConnect", "Custom - External Http Provider", and "Dev". Below the dropdown is a "VALUE" button. To the right of the sidebar is a code editor window titled "Compiled". The code is a Solidity smart contract with the following content:

```
18 }  
19  
20 function wave(string memory _msg) public {  
21     waves.push(Wave(_msg));  
22     totalWaves += 1;  
23     emit NewWave(_msg);  
24 }
```

Below the code editor, a list of deployment environments is shown:

- Injected Provider - MetaMask
- Sepolia Testnet - MetaMask
- L2 - Optimism - MetaMask
- L2 - Arbitrum - MetaMask
- Ephemery Testnet - MetaMask
- Gnosis Mainnet - MetaMask
- Carsten Göring Testnet - MetaMask

Deploy and verify done!!