

MetaMask x Ganache x Remix - 1-Page Quick Guide (ICE 3)

Deploy contracts from Remix using MetaMask accounts funded by Ganache (local blockchain).

1) Known-Good Settings

Ganache: RPC `http://127.0.0.1:8545` or `http://127.0.0.1:7545` (match Ganache UI). ChainId: 1337 or 5777.

MetaMask -> Add network: Name: Ganache Local, RPC URL: `http://127.0.0.1:8545` (or 7545), ChainId: 1337/5777.

Remix -> Solidity compiler: Version 0.8.20 or 0.8.23, EVM: Shanghai (avoid Prague).

Remix -> Deploy & Run: Environment = Injected Provider - MetaMask.

2) Import a funded Ganache account into MetaMask

In Ganache, click the key icon next to an account and copy its Private Key (64 hex). In MetaMask: Account menu -> Import account -> paste key. You should see ~100 ETH on your Ganache network.

3) Connect that account to Remix

A. Popup way: With the Remix tab active -> click the fox icon -> at top, click the `remix.ethereum.org` row -> Connect/Manage -> check your funded account -> Connect.

B. Console way (if popup will not show): open Remix Console (Ctrl+Shift+J) -> type 'allow pasting', then run:

```
ethereum.request({ method: 'wallet_requestPermissions', params: [{ 'eth_accounts': {} }] })
```

Approve and select only your funded account, then run:

```
ethereum.request({ method: 'eth_requestAccounts' })
```

Verify it prints your address:

```
ethereum.request({ method: 'eth_accounts' }).then(console.log)
```

4) Compile & Deploy

Select a .sol file in Remix -> compile with 0.8.20/0.8.23 and Shanghai EVM -> Deploy with Injected Provider - MetaMask using the funded account -> Confirm in MetaMask.

5) If Remix uses the wrong account

Fastest fix: fund that account. In Remix copy the ACCOUNT address -> in MetaMask (funded account) Send 5-10 ETH to it -> Deploy again. Or re-connect using the Console way in step 3B.

6) Common errors -> quick fixes

- MetaMask 'Localhost 8545': Port mismatch -> use the exact RPC and ChainId shown by Ganache.

- 'can't detect network' or no ACCOUNT in Remix: MetaMask locked/not connected -> unlock and do step 3A/3B, then hard-refresh Remix (Ctrl+Shift+R).

- 'evm version: prague' shown in Remix: set EVM to Shanghai, re-compile.

- User denied / Timeout: bring MetaMask popup forward, unlock, then Confirm.

- 'No file selected' on compile: click a .sol file in Remix's file explorer first.

7) Alternate path (no MetaMask)

Remix -> Environment = Dev - HTTP (Web3 Provider) -> Endpoint = `http://127.0.0.1:8545` (or 7545). Deploys directly to Ganache.

8) 60-second checklist

1) Start Ganache (note RPC & ChainId). 2) MetaMask: add/switch to that network. 3) Import a funded key. 4) Remix: Compiler 0.8.20/0.8.23, EVM Shanghai. 5) Connect the funded account to Remix (Popup or Console). 6) Deploy & Confirm. 7) Call functions -> check Logs/Events.