

# Run a development network

You can run a personal Ethereum development network using [Hardhat](#) , which allows you to develop a dapp in a secure test environment.

note When using a local development blockchain such as Hardhat Network or [anvil](#) , your node must calculate gas to make transactions on MetaMask.

## Connect to Hardhat Network

Follow these steps to connect MetaMask to Hardhat Network.

1. [Set up a Hardhat project.](#)
2. Create a new [MetaMask seed phrase](#)
3. specifically for development.
4. important
5. Your seed phrase controls all your accounts, so we recommend keeping at least one seed phrase for
6. development, separate from any used to store real value.
7. You can manage multiple seed phrases by using multiple browser profiles, each with its own
8. MetaMask installation.
9. In your `hardhat.config.js`
10. file, specify a [networks configuration](#)
11. with a `hardhat`
12. network.
13. In this `networks.hardhat`
14. configuration:
15.
  - Specify your MetaMask seed phrase in the [accounts.mnemonic](#)
16.
  - field.
17.
  - tip
18.
  - Alternatively, to prevent committing your seed phrase, we recommend adding your seed phrase to a [.env file](#)
19.
  - and using the `process.env`
20.
  - global variable in `hardhat.config.js`
21.
  - .
22.
  - Specify the [chain ID 1337](#)
23.
  - in the [chainId](#)
24.
  - field.
25. For example:
26. `hardhat.config.js`
27. module
28. .
29. exports
30. =
31. {
32. networks
33. :
34. {
35. hardhat
36. :
37. {
38. accounts
39. :
40. {
41. mnemonic
42. :
43. process
44. .
45. env

```

46. .
47. SEED_PHRASE
48. ,
49. }
50. ,
51. chainId
52. :
53. 1337
54. ,
55. }
56. ,
57. }
58. ,
59. }
60. ;
61. Hardhat automatically gives each of your first 20 accounts 10000 test ether (you can modify
62. these numbers in the accounts
63. configuration), which makes it easy to start development.
64. Runnpx hardhat node
65. to run Hardhat Network and expose a JSON-RPC interface.
66. You can now connect MetaMask to your Hardhat Network RPC URL,http://127.0.0.1:8545/
67. .
68. In the MetaMask extension:
69.
    1. In the upper left corner, select the network you're currently connected to.
70.
    1. SelectAdd network
71.
    1. .
72.
    1. SelectAdd a network manually
73.
    1. .
74.
    1. Enter your Hardhat Network RPC URL,http://127.0.0.1:8545/
75.
    1. (orhttp://localhost:8545
76.
    1. ).
77.
    1. Enter your Hardhat Network chain ID,1337
78.
    1. (or0x539
79.
    1. in hexadecimal format).
80. tip
81. Alternatively, you can add Hardhat Network to MetaMask using wallet\_addEthereumChain
82. in the interactive API playground.

```

## Reset your local nonce calculation

If you restart your development network, you can accidentally confuse MetaMask because it calculates the next [nonce](#) based on both the network state and the known sent transactions.

To clear MetaMask's transaction queue and reset its nonce calculation, go to Settings > Advanced and select Reset account .

## Next steps

Once you have your development environment set up and development network running, you can [connect your dapp to MetaMask](#) by setting up MetaMask SDK, detecting MetaMask, detecting a user's network, and accessing a user's accounts.

For an end-to-end example, you can also follow the [Create a simple React dapp](#) tutorial.

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