

RSK React Truffle Box ¶

This box comes with everything you need to start using smart contracts from a react app on RSK Network. This box was ported and adapted from [React Truffle Box](#) to RSK.

Installation ¶

First ensure you are in a new and empty directory.

1. Run theunbox
2. command via npx
3. and skip to step 3. This will install all necessary dependencies. A Create-React-App is generated in the client
4. directory.
5. npx
6. truffle
7. unbox
8. rsksmart
9. /
10. rsk
11. -
12. react
13. -
14. box
15. Alternatively, you can install Truffle globally and run theunbox
16. command.
17. npm
18. install
19. -
20. g
21. truffle
22. truffle
23. unbox
24. rsksmart
25. /
26. rsk
27. -
28. react
29. -
30. box
31. Run the development console.
32. truffle
33. develop
34. Compile and migrate the smart contracts. Note inside the development console we don't preface commands withtruffle
35. .
36. compile
37. migrate
38. In theclient
39. directory, we run the React app. Smart contract changes must be manually recompiled and migrated.
40. // in another terminal (i.e. not in the truffle develop prompt)
41. cd
42. client
43. npm
44. run
45. start
46. Truffle can run tests written in Solidity or JavaScript against your smart contracts. Note the command varies slightly if you're in or outside of the development console.
47. // inside the development console.
48. test
49. // outside the development console..
50. truffle
51. test
52. Jest is included for testing React components. Compile your contracts before running Jest, or you may receive some file not found errors.
53. // ensure you are inside the client directory when running this
54. npm
55. run
56. test

57. To build the application for production, use the build script. A production build will be in the client/build
58. folder.
59. // ensure you are inside the client directory when running this
60. npm
61. run
62. build

RSK

Setup an account & get R-BTC

- Get an address using [these instructions](#)
- .
- For the RSK Testnet, get tR-BTC from [our faucet](#)
- .
- For the RSK Mainnet, get R-BTC from [an exchange](#)
- .

Setup the gas price

Gas is the internal pricing for running a transaction or contract. When you send tokens, interact with a contract, send RBTC, or do anything else on the blockchain, you must pay for that computation. That payment is calculated as gas. In RSK, this is paid in R-BTC. The `minimumGasPrice` is written in the block header by miners and establishes the minimum gas price that a transaction should have in order to be included in that block.

To get the `minimumGasPrice` do the following steps: 1. Run this query using cURL:

Mainnet

```
shell curl https://public-node.rsk.co/ \ -X POST -H "Content-Type: application/json" \ --data '{"jsonrpc":"2.0","method":"eth_getBlockByNumber","params":["latest",false],"id":1}'
```

Testnet

```
shell curl https://public-node.testnet.rsk.co/ \ -X POST -H "Content-Type: application/json" \ --data '{"jsonrpc":"2.0","method":"eth_getBlockByNumber","params":["latest",false],"id":1}'
```

1. Find in the result the field `minimumGasPrice`

For more information about the `Gas` and `minimumGasPrice` please go [here](#).

Connect to RSK

1. Copy your mnemonic to `truffle-config.js`
2. // `truffle-config.js`
3. const
4. HDWalletProvider
5. =
6. require
7. (
8. '@truffle/hdwallet-provider'
9.);
10. // Put your mnemonic here, be careful not to deploy your mnemonic into production!
11. const
12. mnemonic
13. =
14. 'A_MNEMONIC'
15. ;
16. Please be aware that we are using `HDWalletProvider`
17. with RSK Networks derivations path: - RSK Mainnet dpath:m/44'/137'/0'/0
18.
 - RSK Testnet dpath:m/44'/37310'/0'/0
19. For more information check [RSKIP57](#)
20. .
21. Check the gas price of the network, and update `truffle-config.js`
22. if necessary.
23. Run the development console for any RSK network.

24. Console for Mainnet

25. truffle
26. console
27. --network
28. mainnet# Console for Testnet
29. truffle
30. console
31. --network
32. testnet
33. Compile and migrate the smart contracts. Note that inside the development console, we don't preface commands with truffle.
34. compile
35. migrate

Then continue from step 5 of [installation steps](#)