

Web3js Part 2

Webjs documentation

<https://web3js.readthedocs.io/en/v1.3.4/index.html> (<https://web3js.readthedocs.io/en/v1.3.4/index.html>)

Web3 Providers, for web sockets or IPC

Localhost examples

```
var Web3 = require('web3');
var web3 = new Web3('http://localhost:8545');

// change provider to web sockets
web3.setProvider('wss://localhost:8546');
// or
web3.setProvider(new Web3.providers.WebsocketProvider('wss://localhost:8546'));

// Using the IPC provider in node.js
var net = require('net');
// mac os path
var web3 = new Web3('/Users/myuser/Library/Ethereum/geth.ipc', net);
// or
var web3 = new Web3(new Web3.providers.IpcProvider
('/Users/myuser/Library/Ethereum/geth.ipc', net)); // mac os path
// on windows the path is: "\\.\pipe\geth.ipc"
// on linux the path is: "/users/myuser/.ethereum/geth.ipc"
```

Remote Nodes

```
let web3 = new Web3(
  new Web3.providers.WebsocketProvider
  ("wss://mainnet.infura.io/ws/v3/YOUR-PROJECT-ID")
);
```

Setting up Wallets

```
const HDWalletProvider = require("@truffle/hdwallet-provider");
const Web3 = require("web3");
// 12 word mnemonic
const mnemonicPhrase = "get this from an environment variable ";
let provider = new HDWalletProvider({
```

```
mnemonic: {  
  phrase: mnemonicPhrase  
},  
providerOrUrl: "http://localhost:8545 (http://localhost:8545)"  
});
```

You can then use

```
web3.getAccounts();
```

See : <https://github.com/trufflesuite/truffle/tree/master/packages/hdwallet-provider#readme>

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<https://web3js.readthedocs.io/en/v1.5.2/web3-eth.html?highlight=getAccounts#getaccounts>

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In truffle you can include this in the truffle config file

For other wallets see

<https://www.npmjs.com/package/@walletconnect/web3-provider>

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In memory wallet - web3.eth.accounts.wallet;

See : <https://web3js.readthedocs.io/en/v1.5.2/web3-eth-accounts.html#wallet>

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```
web3.eth.accounts.wallet.add({  
  privateKey: '0x...',  
  address: '0x...',  
});  
  
async function pay({ recipient, amount }) {  
  let receipt = await myContract.methods  
    .transfer(recipient, amount)  
    .send({ from: '0x...', gas: 5000000 });  
  console.log('Tokens transfered');  
}
```