Building on Bitcoin Core

PlebLab Edition

Presentation Link

```
=> insert link here.
```

Install Guide

- Download Bitcoin Core:

  https://bitcoin.org/en/download

- Windows Guide:

  https://bitcoin.org/en/full-node#windows-instructions

- Mac OSX Guide:

  https://bitcoin.org/en/full-node#mac-os-x-instructions

- Linux Guide:

  https://bitcoin.org/en/full-node#linux-instructions

Configuring Bitcoin-Qt

- Windows Instructions:

  Settings → Options → Open Config File

  C:\Users\<you>\AppData\Roaming\Bitcoin\bitcoin.conf

- OSX Instructions:

  Settings → Options → Open Config File

  /users/<you>/Library/Application Support/Bitcoin/bitcoin.conf

- Linux Instructions:

  Settings → Options → Open Config File

  /home/<you>/.bitcoin/bitcoin.conf

Configuration

```
## Bitcoin Core Config

regtest = 1
server  = 1
txindex = 1 # maybe
```

Create Wallet

- *File → Create Wallet*

- Avoid spaces or uppercase.

- Uncheck Use Descriptor Wallet

RPC Console

- *Window → Console*

- Select your wallet.

- Enter `getblockchaininfo`

  into your console.

Mining Blocks

- `getnewaddress`
- `generatetoaddress 100 <address>`
- Profit!

Send a Payment

- Select Send tab.
- Enter Address into Pay To:
- Enter Amount:
- Select Custom Fee: 1000 satoshis
- Click Send!

RPC Authentication

- Visit RPC Auth Generator:

  https://jlopp.github.io/bitcoin-core-rpc-auth-generator

- Generate `rpcauth=<user:stuff>` string.

- Add string to *bitcoin.conf* file.

- Restart Bitcoin-Qt.

JSON-RPC Request

```
{
  host: 'http://127.0.0.1:18443/wallet/<wallet_name>'
  method: 'POST',
  headers: {
    'Authorization': 'Basic ' + toBase64('user' + ':' + 'pass'),
    'content-type': 'application/json'
  },
  body: String({
    jsonrpc: 1.0,
    id: randomId(),
    method: 'methodName',
    params: [ 'arg1', 'arg2' … ]
  })
}
```

More Resources

- Standard RPC API Documentation

  https://developer.bitcoin.org/reference/rpc

- Bitcoin Core Config Generator

  https://jlopp.github.io/bitcoin-core-config-generator

- Programming Bitcoin by Jimmy Song

  https://github.com/jimmysong/programmingbitcoin

- My Github

  https://github.com/cmdruid/bitcoin-programming