

# Cryptonet Documentation

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## Introduction

This documentation is created and owned by Deepan Saravanan, a former student at the University of Pennsylvania, and initial creator of the Cryptonet library. Any questions not addressed by this documentation can be resolved by reaching out to Deepan at the following email: [deepan.saravanan83@gmail.com](mailto:deepan.saravanan83@gmail.com)

## Setting Up Cryptonet

The first step will always be to clone the cryptonet [repo](#) into a location of your choice. Now your instructions and functionalities change depending on the use case

**Client Side Setup:** The client side setup is necessary for simply downloading graph data from a server that is already crawling the blockchain. The steps for this setup are as follows

1. Set up a virtual environment running python3
  - a. More information on this can be found here: <https://realpython.com/python-virtual-environments-a-primer/>
2. Run `pip install -r requirements_client.txt`
3. While in the root of the project, create a directory called **credentials**
4. Copy in the files **mongo\_credentials** and **test\_user\_credentials** into the credentials directory
5. Run the `download_net.py` script as detailed below to get graph data

## Server Side Setup:

Prerequisites

1. You must have a server running the bitcoind process (i.e you must be running a bitcoin node)
  - a. More information here: <https://bitcoin.org/en/full-node#what-is-a-full-node>
  - b. Note: When running the Bitcoin node, you must enable RPC calls (i.e. edit the configurations to maintain an rpcuser and rpcpasswd). You must also run the daemon with the `-txindex` option
2. You must have MongoDB set up with at least an admin user

Instructions

1. Set up a virtual environment running python3
2. Run `pip install -r requirements_client.txt`
3. Run the `btc_crawl.py` script as detailed below to start crawling the blockchain

### **More on Credentials:**

**mongo\_credentials** - this file houses the credentials needed to authenticate into your mongodb database. It is structured as follows

```
host=<host_ip>
username=<username>
password=<password>
```

**test\_user\_credentials** - this file houses the credentials needed to send emails on script completion. The file is structured as follows

```
username=<test_username>
email=<test_username>@gmail.com
password=<test_user_password>
recipient=<your_email>
```

\*\* Note that if you already have access to the credentials files (i.e. I sent these to you) then please just put them in the credentials directory. **No need to create you own**

### **Crawling the Blockchain**

**Command to start crawler:** python btc\_crawl.py

(Note: btc\_crawl.py script is smart enough to find out where the execution has paused between runs)

### **Downloading Graph Data**

All logic to download blockchain data in a graph format is housed in the script **download\_net.py**

**Download Graph Data from Y-m-d to Y-m-d:** python download\_net.py --download Y-m-d Y-m-d <filename.txt>

\*\* More documentation and instructions for running other command can be found in the code