



CRYPTO BALANCES

ACQUISITION GUIDE

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INTRODUCTION

Hello readers! I am Peter Andrei Limpoco Bunao and currently doing my internship in one of the Big 4 as a Digital Forensic Investigator. Before joining the company, I thought to myself that I will only do computer, network, mobile, memory forensics, malware analysis and so on. To my big surprise, lo and behold '**Blockchain Forensics**'.

Although I have invested in crypto way back and familiar with different chains, projects, DAOs and etc. I would say that I have no prior knowledge in this forensic domain. I can manually search for 300 Bitcoin or Ethereum addresses on blockchain explorers, no sweat. However, what if I told you that I needed to determine which of the **200,000 crypto wallet addresses** has balances in it? To add on, I did not have any software/nodes/manpower. I could have settled this with any block explorers with API and create a python script. Due to some reasons, I need to develop a script using **free** open-source tools.

Therefore, I created this short and simple guide to help you overcome this problem should you ever encounter it in the future. I will release a **version 2** of this guide sometime next year which involves bitcoin nodes.



Pre-requisites

- ## Database dumps

Step 1

LOYCE.CLUB

BLOCK DATA
(CSV)

ALL ADDRESSES WITH
BALANCE

ALL USED
ADDRESSES

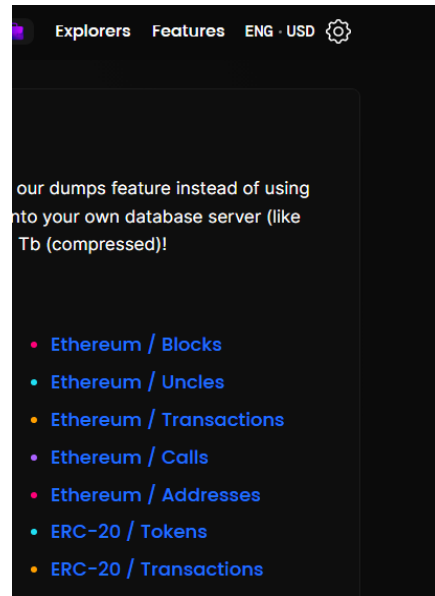
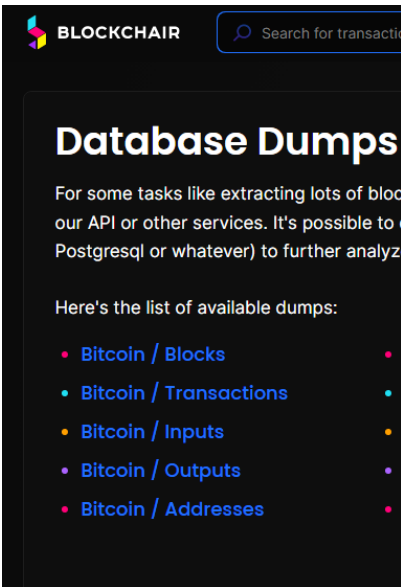
RAW BLOCK
DATA

DONATIONS

| List of all funded Bitcoin addresses (sorted by balance (in satoshis), highest first) | List of all funded Bitcoin addresses (balance not shown, sorted in alphabetical order) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---------|-----------------------------------|----------------|----------------------------------|----------------|------------------------------------|---------------|-------|--|-----------------------------------|---|-----------------------------------|---|------------------------------------|---|--|---------|---------|-------------------------------------|--|-------------------------------------|--|-------------------------------------|--|-------------------------------------|--|-------|--|---|--|---|--|-----------------|--|
| <p>Sample:</p> <table> <thead> <tr> <th>address</th><th>balance</th></tr> </thead> <tbody> <tr> <td>35HK24tcLEWcgNA43xpvbkhkoACDgQpSP</td><td>25550215765875</td></tr> <tr> <td>3KZ526NxCVXkKwP66RgH3pte6zW4gYtD</td><td>10185724750535</td></tr> <tr> <td>37XuV5EPw4trkfmVwzegtHQkt7BdktSKUs</td><td>9450577254951</td></tr> <tr> <td>.....</td><td></td></tr> <tr> <td>m-3165957a315e3d9d2de76eccb1140cb</td><td>8</td></tr> <tr> <td>127TNyq7APw8WfKewd7Edx8AgHUXtcr23</td><td>1</td></tr> <tr> <td>1E6NKSVsBevyz8Z8w3BYVTKgmdqpcUSwks</td><td>1</td></tr> </tbody> </table> | address | balance | 35HK24tcLEWcgNA43xpvbkhkoACDgQpSP | 25550215765875 | 3KZ526NxCVXkKwP66RgH3pte6zW4gYtD | 10185724750535 | 37XuV5EPw4trkfmVwzegtHQkt7BdktSKUs | 9450577254951 | | | m-3165957a315e3d9d2de76eccb1140cb | 8 | 127TNyq7APw8WfKewd7Edx8AgHUXtcr23 | 1 | 1E6NKSVsBevyz8Z8w3BYVTKgmdqpcUSwks | 1 | <p>Sample:</p> <table> <thead> <tr> <th>address</th><th>balance</th></tr> </thead> <tbody> <tr> <td>1111111111111111111111111111140lvT2</td><td></td></tr> <tr> <td>111111111111111111111111111128EH2ro</td><td></td></tr> <tr> <td>11111111111111111111111111112xT3273</td><td></td></tr> <tr> <td>111111111111111111111111111141PmnWZ</td><td></td></tr> <tr> <td>.....</td><td></td></tr> <tr> <td>bc1qzzzz6hthvpjgt19pgqyepwzfrky2ntmm5ccpc</td><td></td></tr> <tr> <td>bc1qzzzz3pkhtxe32q03qf6epm5tytytq7f1cakpn</td><td></td></tr> <tr> <td>bc12qyqsywvzqze</td><td></td></tr> </tbody> </table> | address | balance | 1111111111111111111111111111140lvT2 | | 111111111111111111111111111128EH2ro | | 11111111111111111111111111112xT3273 | | 111111111111111111111111111141PmnWZ | | | | bc1qzzzz6hthvpjgt19pgqyepwzfrky2ntmm5ccpc | | bc1qzzzz3pkhtxe32q03qf6epm5tytytq7f1cakpn | | bc12qyqsywvzqze | |
| address | balance | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 35HK24tcLEWcgNA43xpvbkhkoACDgQpSP | 25550215765875 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3KZ526NxCVXkKwP66RgH3pte6zW4gYtD | 10185724750535 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 37XuV5EPw4trkfmVwzegtHQkt7BdktSKUs | 9450577254951 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| m-3165957a315e3d9d2de76eccb1140cb | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 127TNyq7APw8WfKewd7Edx8AgHUXtcr23 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1E6NKSVsBevyz8Z8w3BYVTKgmdqpcUSwks | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| address | balance | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1111111111111111111111111111140lvT2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 111111111111111111111111111128EH2ro | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11111111111111111111111111112xT3273 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 111111111111111111111111111141PmnWZ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| bc1qzzzz6hthvpjgt19pgqyepwzfrky2ntmm5ccpc | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| bc1qzzzz3pkhtxe32q03qf6epm5tytytq7f1cakpn | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| bc12qyqsywvzqze | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Step 2

Alternatively, you can use this website <https://blockchair.com/dumps>. Click the **Bitcoin/Addresses** or **Ethereum / Addresses**.



Step 3

It will look something like this. Hold your horses, do not download yet. Silly me downloaded this and opened it. It contains millions of rows and my excel could not handle it.



Blockchair Database Dumps

[Description](#) • [Lift the speed limit](#)

Index of `/bitcoin/addresses/`

| File Name | Size | Date |
|---|------|-------------------|
| ../blockchair_bitcoin_addresses_latest.tsv.gz | 16 | 03-Dec-2022 01:08 |

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Step 4

Right click the link and copy the link address. It should be something like this.

[http://addresses.loyce.club/blockchair bitcoin addresses and balance LATEST.tsv.gz](http://addresses.loyce.club/blockchair%20bitcoin%20addresses%20and%20balance%20LATEST.tsv.gz)

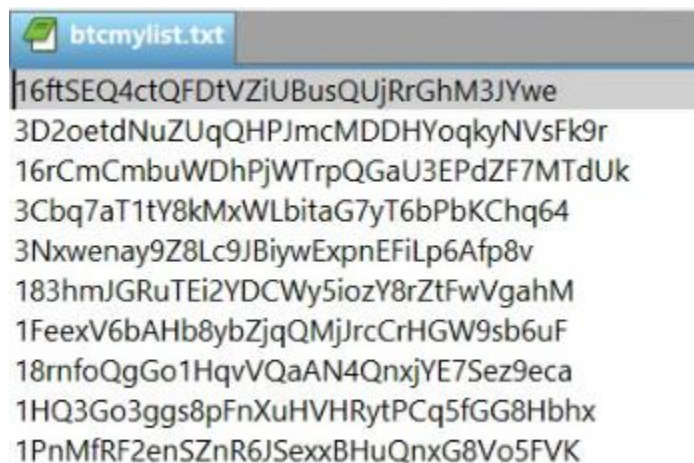
Step 5

I will use my trusty Kali Linux on a virtual machine to handle this .tsv file.



Step 6

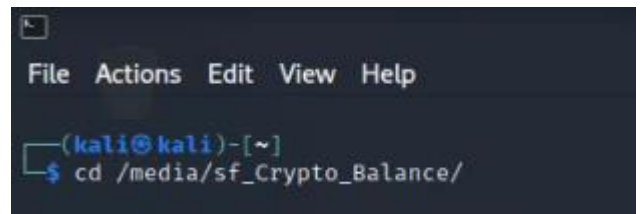
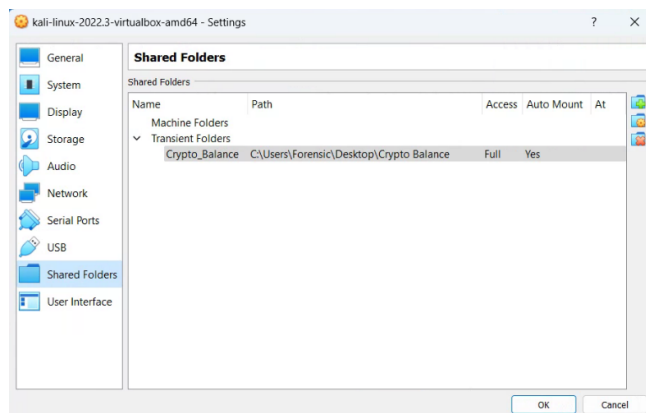
These are some of the wallet addresses in my btcmylist text file. These are only examples for the purpose of this guide.



```
16ftSEQ4ctQFDtVZiUBusQUjRrGhM3JYwe  
3D2oetdNuZUqQHPJmcMDDHYoqkyNVsFk9r  
16rCmCmbuWDhPjWTrpQGau3EPdZF7MTdUk  
3Cbq7aT1tY8kMxWLbitaG7yT6bPbKChq64  
3Nxwenay9Z8Lc9JBiywExpnEFiLp6Afp8v  
183hmJGRuTEi2YDCWySiozY8rZtFwVgahM  
1FeexV6bAHb8ybZjqQMjJrcCrHGW9sb6uF  
18rnfoQgGo1HqvVQaAN4QnxjYE7Sez9eca  
1HQ3Go3ggs8pFnXuHVHRytPCq5fGG8Hbhx  
1PnMfRF2enSZnR6JSexxBHuQnxG8Vo5FVK
```

Step 7

Add it to the shared folder and navigate via the terminal.



Step 8

- 1) Make a directory
- 2) Go into the directory
- 3) Get the .tsv file from the website and extract it as a text file
- 4) Compare your own Bitcoin address list with the extracted text file and the output will be
- 5) Replace the dates accordingly.

These are the commands.

```
mkdir December_03_2022
cd December_03_2022/
wget http://addresses.loyce.club/blockchair_bitcoin_addresses_and_balance_LATEST.tsv.gz -O - | gunzip -c > December_03_2022_btcbalance.txt
join <(sort "December_01_2022_btcbalance.txt") <(sort "/media/sf_Crypto_Balance/btcmylist.txt" | fromdos) > December_03_2022_checkedbalance.txt
```


Step 9

I created a bash script in case I had to do this again. I am going to create a bash script called btcbalance.sh

```
kali@kali: /media/sf_Crypto_Balance
File Actions Edit View Help

(kali@kali)-[/media/sf_Crypto_Balance]
$ sudo vim btcbalance.sh
[sudo] password for kali:
```

```
#!/bin/bash
today=$(date +%B_%d_%Y)
FILE=/media/sf_Crypto_Balance/$today/$today"_checkedbalance.txt"

mkdir -p /media/sf_Crypto_Balance/$today && cd /media/sf_Crypto_Balance/$today && wget http://addresses.loyce.club/blockchair_
bitcoin_addresses_and_balance_LATEST.tsv.gz -O - | gunzip -c > $today"_btcbalance.txt" && join <(sort $today"_btcbalance.txt"
)<(sort "/media/sf_Crypto_Balance/btcmylist.txt" | fromdos) > $today"_checkedbalance.txt"
```

Step 10

Execute the bash script btcbalance.sh. It is working!

```
(kali@kali)-[/media/sf_Crypto_Balance]
$ ./btcbalance.sh
--2022-12-03 21:23:33-- http://addresses.loyce.club/blockchair_bitcoin_addresses_and_balance_LATEST.tsv.gz
Resolving addresses.loyce.club (addresses.loyce.club) ... 89.38.99.81
Connecting to addresses.loyce.club (addresses.loyce.club)|89.38.99.81|:80 ... connected.
HTTP request sent, awaiting response ... 200 OK
Length: 1243143941 (1.2G) [application/x-gzip]
Saving to: 'STDOUT'

-
100%[=====] 1.16G 6.36MB/s in 4m 26s

2022-12-03 21:28:00 (4.45 MB/s) - written to stdout [1243143941/1243143941]

(kali@kali)-[/media/sf_Crypto_Balance]
$ ls
btcbalance.sh btccsvreport.py btcmylist.txt December_03_2022

(kali@kali)-[/media/sf_Crypto_Balance]
$ cd December_03_2022

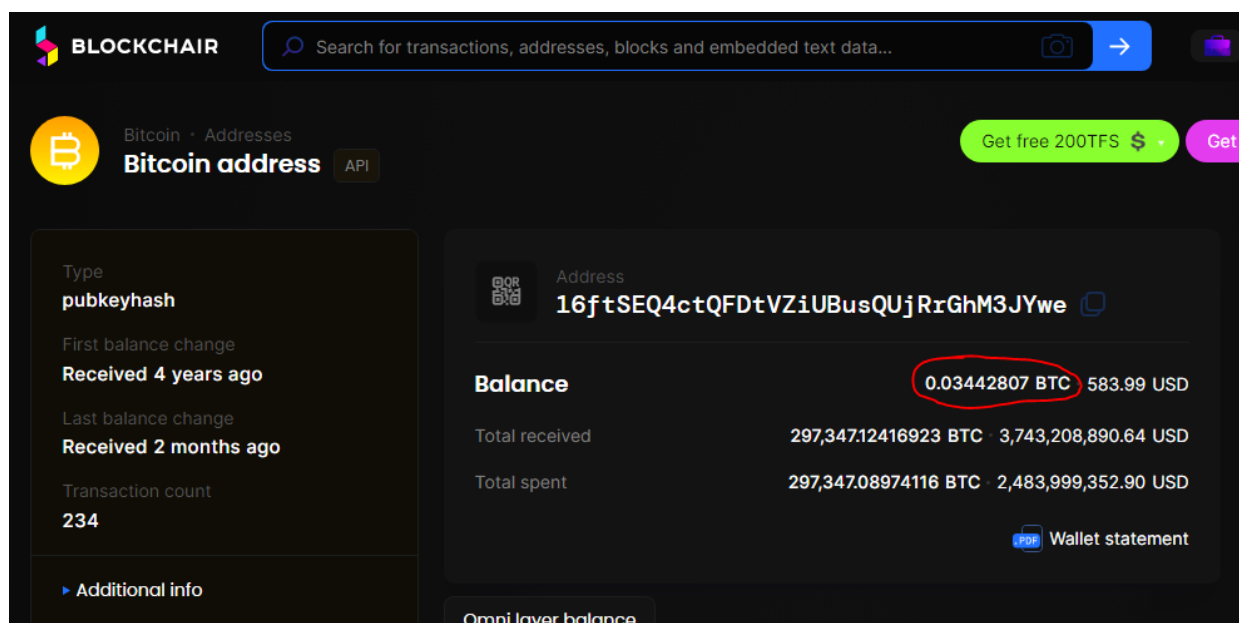
(kali@kali)-[/media/sf_Crypto_Balance/December_03_2022]
$ ls
December_03_2022_btcbalance.txt December_03_2022_checkedbalance.txt
```

Step 11

This is the output of the December_03_2022_checkedbalance.txt. You might be wondering, wait so that address has 3,442,807 bitcoin?

```
(kali@kali)-[/media/sf_Crypto_Balance/December_03_2022]
$ cat December_03_2022_checkedbalance.txt
16ftSEQ4ctQFDtVZiUBusQUjRrGhM3JYwe 3442807
16rCmCmbuWDhPjWTrpQGaU3EPdZF7MTdUk 15551
183hmJGRuTEi2YDCWy5iozY8rZtFwVgahM 66790
18rnfoQgGo1HqvVQaAN4QnxjYE7Sez9eca 331851
1FeexV6bAHb8ybZjqQMjJrcCrHGW9sb6uF 7995722199193
1HQ3Go3ggs8pFnXuHVHRytPCq5fGG8Hbhx 1212207
1PnMfRF2enSZnR6JSexxBHuQnxG8Vo5FVK 1547
3Cbq7aT1tY8kMxWLbitaG7yT6bPbKChq64 20428351
3D2oetdNuZUqQHPJmcMDDHYoqkyNVsFk9r 13863245
3Nxwenay9Z8Lc9JBiywExpnEFiLp6Afp8v 905205
```

No it does not. If you check that address on a block explorer. It has 0.03442807 BTC. The tsv file contains what we call Satoshi. There are One hundred million Satoshis in one Bitcoin. Therefore you have to divide it to 100000000.



BLOCKCHAIR Search for transactions, addresses, blocks and embedded text data...

Bitcoin · Addresses
Bitcoin address API

Get free 200TFS \$ Get

Type: pubkeyhash

First balance change: Received 4 years ago

Last balance change: Received 2 months ago

Transaction count: 234

Additional info

Address: 16ftSEQ4ctQFDtVZiUBusQUjRrGhM3JYwe

Balance: 0.03442807 BTC 583.99 USD

Total received: 297,347,124,169,233 BTC 3,743,208,890.64 USD

Total spent: 297,347,089,741,116 BTC 2,483,999,352.90 USD

Wallet statement

Omni layer balance

Step 12

I created a python script to convert the Satoshis to Bitcoin and output into a csv file

```
import os
import datetime
import pandas as pd

date = datetime.datetime.now()
today = date.strftime("%B_%d_%Y")
print(today)
os.chdir('/media/sf_Crypto_Balance/'+today))

df = pd.read_csv((today)+"_checkedbalance.txt", delim_whitespace=True)
df.columns = ['Address', today]

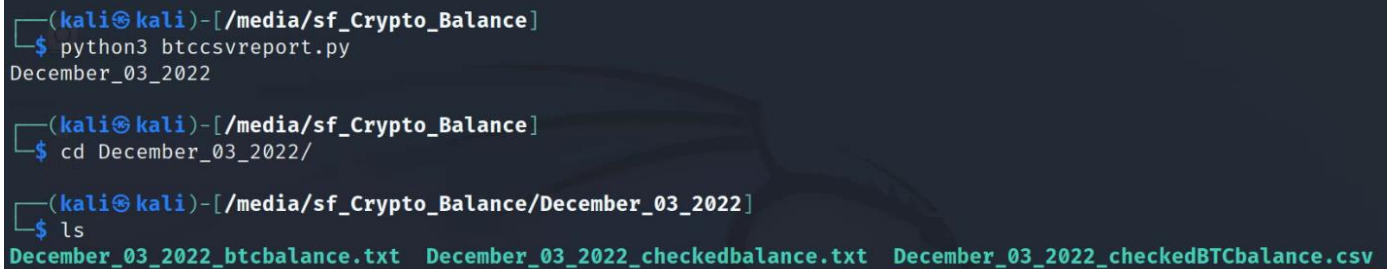
Wallet_Balance=(df.loc[:,today])

Balance_storage=[]
for balance in Wallet_Balance:
    new_balance = int(balance)/100000000
    Balance_storage.append(new_balance)

df.loc[:,today] = Balance_storage
df.to_csv((today)+"_checkedBTCbalance.csv", index=None)
```

Step 13

Run the script and the final output is there.



```
(kali㉿kali)-[/media/sf_Crypto_Balance]
$ python3 btccsvreport.py
December_03_2022

(kali㉿kali)-[/media/sf_Crypto_Balance]
$ cd December_03_2022/

(kali㉿kali)-[/media/sf_Crypto_Balance/December_03_2022]
$ ls
December_03_2022_btcbalance.txt  December_03_2022_checkedbalance.txt  December_03_2022_checkedBTCbalance.csv
```

This is how the final output looks like.

| Address | December_03_2022 |
|------------------------------------|------------------|
| 16ftSEQ4ctQFDtVZiUBusQUjRrGhM3JYwe | 0.03442807 |
| 16rCmCmbuWDhPjWTrpQGaU3EPdZF7MTdUk | 0.00015551 |
| 183hmJGRuTEi2YDCWy5iozY8rZtFwVgahM | 0.0006679 |
| 18rnfoQgGo1HqvVQaAN4QnxjYE7Sez9eca | 0.00331851 |
| 1FeexV6bAHb8ybZjqQMjJrcCrHGW9sb6uF | 79957.22199 |
| 1HQ3Go3ggs8pFnXuHVHRytPCq5fGG8Hbhx | 0.01212207 |
| 1PnMfRF2enSZnR6JSexxBHuQnxG8Vo5FVK | 0.00001547 |
| 3Cbq7aT1tY8kMxWLbitaG7yT6bPbKChq64 | 0.20428351 |
| 3D2oetdNuZUqQHPJmcMDDHYoqkyNVsFk9r | 0.13863245 |
| 3Nxwenay9Z8Lc9JBiywExpnEFiLp6Afp8v | 0.00905205 |

Step 14 (Bonus Step)

If you would like to cross-check this to another reputable website like

www.blockchain.com. You can either key all of these manually or use the python code that is in my Github Repository <https://github.com/ChaosRaleigh/Bitcoin-MultiAddress-Checker> .

Final words

I hope this guide can help. Deploying a node will allow us to tap directly into the Bitcoin Network. On **version 2** of this guide, I will show how to use Bitcoin node to query for balances. Thank you.