
btdht Documentation

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Contents:

btdht: A python implementation of the Bittorrent distributed hash table

The aim of btdht is to provide a powerful implementation of the Bittorrent mainline DHT easily extended to build application over the DHT. The author currently uses it to crawl the dht and has been able to retrieve more than 200.000 torrents files a day.

The implementation is fully compliant with the [BEP5](#) and the kademlia paper¹ (with a predominance of the BEP5 over the paper) For example, this implementation uses a bucket-based approach for the routing table.

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1.1 Dependencies

- python 2.7 or 3.4 or above
- [datrie](#)
- [netaddr](#)

¹ Maymounkov, P., & Mazieres, D. (2002, March). Kademlia: A peer-to-peer information system based on the xor metric. In International Workshop on Peer-to-Peer Systems (pp. 53-65). Springer Berlin Heidelberg.

1.2 Build dependencies

- A C compiler
- `cython`
- python header files

1.3 Installation

The recommended installation mode is to use a `virtualenv`.

To Install `btdht` using the last published release, run:

```
$ pip install btdht
```

Alternatively if you want to use the version of the git repository, you can clone it:

```
$ git clone https://github.com/nitmir/btdht
$ cd btdht
$ pip install -r requirements-dev.txt
```

Then, run `make install` to compile the sources and create a python package and install it with `pip`.

For installing or building on linux and unix systems, you will need a C compiler and the python headers (installing the packages `build-essential` and `python-dev` should be enough on debian like systems, you'll probably gonna need `make`, `gcc`, `python2-devel` and `redhat-rpm-config` on centos like systems).

On windows systems, we provide pre-built releases for python 2.7 and 3.5 so just running `pip install btdht` should be fine. If you want to build from the sources of the repository or, for another python version, you will also need a C compiler.

1.4 Usage examples

Search for the peers announcing the torrent `0403fb4728bd788fbc67e87d6feb241ef38c75a` ([Ubuntu 16.10 Desktop \(64-bit\)](#))

```
>>> import btdht
>>> import binascii
>>> dht = btdht.DHT()
>>> dht.start() # now wait at least 15s for the dht to bootstrap
init socket for 4c323257aa6c4c5c6ccae118db93ccce5bb05d92
Bootstrapping
>>> dht.get_peers(binascii.a2b_hex("0403fb4728bd788fbc67e87d6feb241ef38c75a"))
[
  ('81.171.107.75', 17744),
  ('94.242.250.86', 3813),
  ('88.175.164.228', 32428),
  ('82.224.107.213', 61667),
  ('85.56.118.178', 6881),
  ('78.196.28.4', 38379),
  ('82.251.140.70', 32529),
  ('78.198.108.3', 10088),
  ('78.235.153.136', 10619),
```

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```
( '88.189.113.32', 33192),  
( '81.57.9.183', 5514),  
( '82.251.17.155', 14721),  
( '88.168.207.178', 31466),  
( '82.238.89.236', 32970),  
( '78.226.209.88', 2881),  
( '5.164.219.48', 6881),  
( '78.225.252.39', 31002)  
]
```

Subsequent calls to `get_peers` may return more peers.

You may also inherit `btdht.DHT_BASE` and overload some of the `on_`msg`_(query|response)` functions. See the [doc](#) for a full overview of the `btdht` API.

2.1 Submodules

2.1.1 btdht.dht module

DHT
DHT_BASE
Node
Bucket
RoutingTable

2.1.2 btdht.utils module

bencode
bdecode
bdecode_rest
enumerate_ids
id_to_longid
ip_in_nets
nbit
nflip
nset
ID
PollableQueue
Scheduler

2.1.3 btdht.krcp module

2.1.4 btdht.exceptions module

2.2 Module contents

CHAPTER 3

Indices and tables

- `genindex`
- `modindex`
- `search`