
tdns

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An asynchronous Tornado [pycares](#) DNS client wrapper, exporting the full API.

Installation

tdns is available from the [Python Package Index](#) and can be installed by running `pip install tdns`

Contents

2.1 tdns API

The `Channel` implements a Python class for interacting with the `c-ares` API using native `Tornado` asynchronous conventions. For example, to query the MX records for google you could use the following snippet:

```
from tornado import gen, ioloop, web
import tdns

class RequestHandler(web.RequestHandler):

    @gen.coroutine
    def get(self, *args, **kwargs):
        channel = tdns.Channel(io_loop=ioloop.IOLoop.current())
        response = yield channel.query('google.com', 'MX')
```

`tdns` is build on top of the excellent `pycares` library.

2.1.1 Ares Channel

class `tdns.Channel` (*io_loop=None*, ***kwargs*)

An asynchronous wrapper class for c-ares channels.

cancel ()

Cancel any pending query on this channel. All pending requests will raise a `AresError` with the `ARES_ECANCELLED` errorno.

Raises `AresError`

destroy ()

Destroy the channel. All pending requests will raise a `AresError` with the `ARES_EDESTRUCTION` errorno.

Raises `AresError`

gethostbyaddr (*addr*)

Retrieves the host information corresponding to a network address.

Parameters `addr` (*str*) – Network address to query

Return type `str`

Raises `AresError`

gethostbyname (*name*, *family*)

Retrieves host information corresponding to a host name from a host database.

Parameters

- **name** (*str*) – Name to query
- **family** (*int*) – Socket family

Raises AresError

getnameinfo (*name*, *port*, *flags*)

Provides protocol-independent name resolution from an address to a host name and from a port number to the service name.

Parameters

- **name** (*str*) – Name to query
- **port** (*int*) – Port of the service to query
- **flags** (*int*) – Query flags, see the NI flags section

Raises AresError

query (*name*, *query_type*)

Do a DNS query of the specified type. Available types:

- `tdns.QUERY_TYPE_A`
- `tdns.QUERY_TYPE_AAAA`
- `tdns.QUERY_TYPE_CNAME`
- `tdns.QUERY_TYPE_MX`
- `tdns.QUERY_TYPE_NAPTR`
- `tdns.QUERY_TYPE_NS`
- `tdns.QUERY_TYPE_PTR`
- `tdns.QUERY_TYPE_SOA`
- `tdns.QUERY_TYPE_SRV`
- `tdns.QUERY_TYPE_TXT`

Parameters

- **name** (*str*) – Name to query
- **query_type** (*int*) – Type of query to perform.

Return Types:

- **A and AAAA:** `ares_query_simple_result`, fields:
 - `host`
 - `ttl`
- **CNAME:** `ares_query_cname_result`, fields:
 - `cname`
 - `ttl`
- **MX:** `ares_query_mx_result`, fields:

- host
- priority
- ttl
- NAPTR: ares_query_naptr_result, fields:
 - order
 - preference
 - flags
 - service
 - regex
 - replacement
 - ttl
- NS: ares_query_ns_result, fields:
 - host
 - ttl
- PTR: ares_query_ptr_result, fields:
 - name
 - ttl
- SOA: ares_query_soa_result, fields:
 - nsmane
 - hostmaster
 - serial
 - refresh
 - retry
 - expires
 - minttl
 - ttl
- SRV: ares_query_srv_result, fields:
 - host
 - port
 - priority
 - weight
 - ttl
- TXT: ares_query_txt_result, fields:
 - text
 - ttl

Raises `AresError`

servers

List of nameservers to use for DNS queries

Return type `list`

set_local_dev (*local_dev*)

Set the local ethernet device from which the queries will be sent.

Parameters **local_dev** (*str*) – Network device name

Raises `AresError`

Raises `ValueError`

set_local_ip (*local_ip*)

Set the local IPv4 or IPv6 address from which the queries will be sent.

Parameters **local_ip** (*str*) – IP address

Raises `AresError`

Raises `ValueError`

timeout (*max_timeout*)

Set the maximum time for which the caller should wait before invoking `process_fd` to process timeouts. If the `max_timeout` parameter is specified, it is stored on the channel and the appropriate value is then returned.

Parameters **max_timeout** (*float*) – Maximum timeout

Return type `float`

Raises `AresError`

Raises `ValueError`

2.1.2 Utility Functions

`tdns.reverse_address` (*ip_address*)

Returns the reversed representation of an IP address, usually used when doing PTR queries.

Parameters **ip_address** (*str*) – IP address to be reversed

Return type `str`

2.2 Version History

- 0.2.0 - released 2016-06-06
 - exported constants from `pycares.errno`
- 0.1.0 - released 2016-04-27
 - initial version

Issues

Please report any issues to the Github repo at <https://github.com/gmr/tdns/issues>

Source

tdns source is available on Github at <https://github.com/gmr/tdns>

Indices and tables

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