Telethon Documentation

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FIRST STEPS

```python
from telethon.sync import TelegramClient, events

with TelegramClient('name', api_id, api_hash) as client:
    client.send_message('me', 'Hello, myself!')
    print(client.download_profile_photo('me'))

    @client.on(events.NewMessage(pattern='(?i).*Hello'))
    async def handler(event):
        await event.reply('Hey!')

    client.run_until_disconnected()
```

- Are you new here? Jump straight into *Installation*!

- Looking for the method reference? See *Client Reference*.

- Did you upgrade the library? Please read *Changelog (Version History)*.

- Used Telethon before v1.0? See *Compatibility and Convenience*.

- Coming from Bot API or want to create new bots? See *HTTP Bot API vs MTProto*.

- Need the full API reference? https://tl.telethon.dev/.

ONE

WHAT IS THIS?

Telegram is a popular messaging application. This library is meant to make it easy for you to write Python programs that can interact with Telegram. Think of it as a wrapper that has already done the heavy job for you, so you can focus on developing an application.

HOW SHOULD I USE THE DOCUMENTATION?

If you are getting started with the library, you should follow the documentation in order by pressing the "Next" button at the bottom-right of every page.

You can also use the menu on the left to quickly skip over sections.

2.1 Installation

Telethon is a Python library, which means you need to download and install Python from https://www.python.org/downloads/ if you haven't already. Once you have Python installed, upgrade pip and run:

```
python3 -m pip install --upgrade pip
python3 -m pip install --upgrade telethon
```

. . . to install or upgrade the library to the latest version.

2.1.1 Installing Development Versions

If you want the *latest* unreleased changes, you can run the following command instead:

```
python3 -m pip install --upgrade https://github.com/LonamiWebs/Telethon/archive/v1.zip
```

Note: The development version may have bugs and is not recommended for production use. However, when you are reporting a library bug, you should try if the bug still occurs in this version.

2.1.2 Verification

To verify that the library is installed correctly, run the following command:

```
python3 -c "import telethon; print(telethon.__version__)"
```

The version number of the library should show in the output.

2.1.3 Optional Dependencies

If cryptg is installed, **the library will work a lot faster**, since encryption and decryption will be made in C instead of Python. If your code deals with a lot of updates or you are downloading/uploading a lot of files, you will notice a considerable speed-up (from a hundred kilobytes per second to several megabytes per second, if your connection allows it). If it's not installed, pyaes will be used (which is pure Python, so it's much slower).

If pillow is installed, large images will be automatically resized when sending photos to prevent Telegram from failing with "invalid image". Official clients also do this.

If aiohttp is installed, the library will be able to download WebDocument media files (otherwise you will get an error).

If hachoir is installed, it will be used to extract metadata from files when sending documents. Telegram uses this information to show the song's performer, artist, title, duration, and for videos too (including size). Otherwise, they will default to empty values, and you can set the attributes manually.

Note: Some of the modules may require additional dependencies before being installed through `pip`. If you have an `apt`-based system, consider installing the most commonly missing dependencies (with the right `pip`):

```
apt update
apt install clang lib{jpeg-turbo,webp}-dev python{,-dev} zlib-dev
pip install -U --user setuptools
pip install -U --user telethon cryptg pillow
```

Thanks to @bb010g for writing down this nice list.

2.2 Signing In

Before working with Telegram's API, you need to get your own API ID and hash:

1. Login to your Telegram account with the phone number of the developer account to use.

2. Click under API Development tools.

3. A *Create new application* window will appear. Fill in your application details. There is no need to enter any *URL*, and only the first two fields (*App title* and *Short name*) can currently be changed later.

4. Click on *Create application* at the end. Remember that your **API hash is secret** and Telegram won't let you revoke it. Don't post it anywhere!

Note: This API ID and hash is the one used by *your application*, not your phone number. You can use this API ID and hash with *any* phone number or even for bot accounts.

2.2.1 Editing the Code

This is a little introduction for those new to Python programming in general.

We will write our code inside `hello.py`, so you can use any text editor that you like. To run the code, use `python3 hello.py` from the terminal.

Important: Don't call your script `telethon.py`! Python will try to import the client from there and it will fail with an error such as "ImportError: cannot import name 'TelegramClient' …".

2.2.2 Signing In

We can finally write some code to log into our account!

```python
from telethon import TelegramClient

# Use your own values from my.telegram.org
api_id = 12345
api_hash = '0123456789abcdef0123456789abcdef'

# The first parameter is the .session file name (absolute paths allowed)
with TelegramClient('anon', api_id, api_hash) as client:
    client.loop.run_until_complete(client.send_message('me', 'Hello, myself!'))
```

In the first line, we import the class name so we can create an instance of the client. Then, we define variables to store our API ID and hash conveniently.

At last, we create a new *TelegramClient* instance and call it `client`. We can now use the client variable for anything that we want, such as sending a message to ourselves.

Note: Since Telethon is an asynchronous library, you need to `await` coroutine functions to have them run (or otherwise, run the loop until they are complete). In this tiny example, we don't bother making an `async def main()`.

See *Mastering asyncio* to find out more.

Using a `with` block is the preferred way to use the library. It will automatically *start()* the client, logging or signing up if necessary.

If the `.session` file already existed, it will not login again, so be aware of this if you move or rename the file!

2.2.3 Signing In as a Bot Account

You can also use Telethon for your bots (normal bot accounts, not users). You will still need an API ID and hash, but the process is very similar:

```python
from telethon.sync import TelegramClient

api_id = 12345
api_hash = '0123456789abcdef0123456789abcdef'
bot_token = '12345:0123456789abcdef0123456789abcdef'
```

```python
# We have to manually call "start" if we want an explicit bot token
bot = TelegramClient('bot', api_id, api_hash).start(bot_token=bot_token)

# But then we can use the client instance as usual
with bot:
    ...
```

To get a bot account, you need to talk with @BotFather.

2.2.4 Signing In behind a Proxy

If you need to use a proxy to access Telegram, you will need to either:

- For Python >= 3.6 : install python-socks[asyncio]
- For Python <= 3.5 : install PySocks

and then change

```python
TelegramClient('anon', api_id, api_hash)
```

with

```python
TelegramClient('anon', api_id, api_hash, proxy=("socks5", '127.0.0.1', 4444))
```

(of course, replacing the protocol, IP and port with the protocol, IP and port of the proxy).

The proxy= argument should be a dict (or tuple, for backwards compatibility), consisting of parameters described in PySocks usage.

The allowed values for the argument proxy_type are:

- **For Python <= 3.5:**

    – socks.SOCKS5 or 'socks5'

    – socks.SOCKS4 or 'socks4'

    – socks.HTTP or 'http'

- **For Python >= 3.6:**

    – All of the above

    – python_socks.ProxyType.SOCKS5

    – python_socks.ProxyType.SOCKS4

    – python_socks.ProxyType.HTTP

Example:

```python
proxy = {
    'proxy_type': 'socks5',  # (mandatory) protocol to use (see above)
    'addr': '1.1.1.1',       # (mandatory) proxy IP address
    'port': 5555,            # (mandatory) proxy port number
    'username': 'foo',       # (optional) username if the proxy requires auth
    'password': 'bar',       # (optional) password if the proxy requires auth
    'rdns': True             # (optional) whether to use remote or local resolve, default␣
```

```
↪remote
}
```

For backwards compatibility with `PySocks` the following format is possible (but discouraged):

```
proxy = (socks.SOCKS5, '1.1.1.1', 5555, True, 'foo', 'bar')
```

2.2.5 Using MTProto Proxies

MTProto Proxies are Telegram's alternative to normal proxies, and work a bit differently. The following protocols are available:

- `ConnectionTcpMTProxyAbridged`
- `ConnectionTcpMTProxyIntermediate`
- `ConnectionTcpMTProxyRandomizedIntermediate` (preferred)

For now, you need to manually specify these special connection modes if you want to use a MTProto Proxy. Your code would look like this:

```python
from telethon import TelegramClient, connection
#   we need to change the connection ^^^^^^^^^^

client = TelegramClient(
    'anon',
    api_id,
    api_hash,

    # Use one of the available connection modes.
    # Normally, this one works with most proxies.
    connection=connection.ConnectionTcpMTProxyRandomizedIntermediate,

    # Then, pass the proxy details as a tuple:
    #     (host name, port, proxy secret)
    #
    # If the proxy has no secret, the secret must be:
    #     '00000000000000000000000000000000'
    proxy=('mtproxy.example.com', 2002, 'secret')
)
```

In future updates, we may make it easier to use MTProto Proxies (such as avoiding the need to manually pass `connection=`).

In short, the same code above but without comments to make it clearer:

```python
from telethon import TelegramClient, connection

client = TelegramClient(
    'anon', api_id, api_hash,
    connection=connection.ConnectionTcpMTProxyRandomizedIntermediate,
    proxy=('mtproxy.example.com', 2002, 'secret')
)
```

2.3 Quick-Start

Let's see a longer example to learn some of the methods that the library has to offer. These are known as "friendly methods", and you should always use these if possible.

```python
from telethon import TelegramClient

# Remember to use your own values from my.telegram.org!
api_id = 12345
api_hash = '0123456789abcdef0123456789abcdef'
client = TelegramClient('anon', api_id, api_hash)

async def main():
    # Getting information about yourself
    me = await client.get_me()

    # "me" is a user object. You can pretty-print
    # any Telegram object with the "stringify" method:
    print(me.stringify())

    # When you print something, you see a representation of it.
    # You can access all attributes of Telegram objects with
    # the dot operator. For example, to get the username:
    username = me.username
    print(username)
    print(me.phone)

    # You can print all the dialogs/conversations that you are part of:
    async for dialog in client.iter_dialogs():
        print(dialog.name, 'has ID', dialog.id)

    # You can send messages to yourself...
    await client.send_message('me', 'Hello, myself!')
    # ...to some chat ID
    await client.send_message(-100123456, 'Hello, group!')
    # ...to your contacts
    await client.send_message('+34600123123', 'Hello, friend!')
    # ...or even to any username
    await client.send_message('username', 'Testing Telethon!')

    # You can, of course, use markdown in your messages:
    message = await client.send_message(
        'me',
        'This message has **bold**, `code`, __italics__ and '
        'a [nice website](https://example.com)!',
        link_preview=False
    )

    # Sending a message returns the sent message object, which you can use
    print(message.raw_text)

    # You can reply to messages directly if you have a message object
    await message.reply('Cool!')
```

(continues on next page)

```python
    # Or send files, songs, documents, albums...
    await client.send_file('me', '/home/me/Pictures/holidays.jpg')

    # You can print the message history of any chat:
    async for message in client.iter_messages('me'):
        print(message.id, message.text)

        # You can download media from messages, too!
        # The method will return the path where the file was saved.
        if message.photo:
            path = await message.download_media()
            print('File saved to', path)  # printed after download is done

with client:
    client.loop.run_until_complete(main())
```

Here, we show how to sign in, get information about yourself, send messages, files, getting chats, printing messages, and downloading files.

You should make sure that you understand what the code shown here does, take note on how methods are called and used and so on before proceeding. We will see all the available methods later on.

Important: Note that Telethon is an asynchronous library, and as such, you should get used to it and learn a bit of basic `asyncio`. This will help a lot. As a quick start, this means you generally want to write all your code inside some `async def` like so:

```python
client = ...

async def do_something(me):
    ...

async def main():
    # Most of your code should go here.
    # You can of course make and use your own async def (do_something).
    # They only need to be async if they need to await things.
    me = await client.get_me()
    await do_something(me)

with client:
    client.loop.run_until_complete(main())
```

After you understand this, you may use the `telethon.sync` hack if you want do so (see *Compatibility and Convenience*), but note you may run into other issues (iPython, Anaconda, etc. have some issues with it).

2.4 Updates

Updates are an important topic in a messaging platform like Telegram. After all, you want to be notified when a new message arrives, when a member joins, when someone starts typing, etc. For that, you can use **events**.

Important: It is strongly advised to enable logging when working with events, since exceptions in event handlers are hidden by default. Please add the following snippet to the very top of your file:

```python
import logging
logging.basicConfig(format='[%(levelname) 5s/%(asctime)s] %(name)s: %(message)s',
                    level=logging.WARNING)
```

2.4.1 Getting Started

Let's start things with an example to automate replies:

```python
from telethon import TelegramClient, events

client = TelegramClient('anon', api_id, api_hash)

@client.on(events.NewMessage)
async def my_event_handler(event):
    if 'hello' in event.raw_text:
        await event.reply('hi!')

client.start()
client.run_until_disconnected()
```

This code isn't much, but there might be some things unclear. Let's break it down:

```python
from telethon import TelegramClient, events

client = TelegramClient('anon', api_id, api_hash)
```

This is normal creation (of course, pass session name, API ID and hash). Nothing we don't know already.

```python
@client.on(events.NewMessage)
```

This Python decorator will attach itself to the `my_event_handler` definition, and basically means that *on a NewMessage event*, the callback function you're about to define will be called:

```python
async def my_event_handler(event):
    if 'hello' in event.raw_text:
        await event.reply('hi!')
```

If a *NewMessage* event occurs, and `'hello'` is in the text of the message, we *reply()* to the event with a `'hi!'` message.

Note: Event handlers **must** be `async def`. After all, Telethon is an asynchronous library based on `asyncio`, which is a safer and often faster approach to threads.

You **must** await all method calls that use network requests, which is most of them.

2.4.2 More Examples

Replying to messages with hello is fun, but, can we do more?

```
@client.on(events.NewMessage(outgoing=True, pattern=r'\.save'))
async def handler(event):
    if event.is_reply:
        replied = await event.get_reply_message()
        sender = replied.sender
        await client.download_profile_photo(sender)
        await event.respond('Saved your photo {}'.format(sender.username))
```

We could also get replies. This event filters outgoing messages (only those that we send will trigger the method), then we filter by the regex r'\.save', which will match messages starting with ".save".

Inside the method, we check whether the event is replying to another message or not. If it is, we get the reply message and the sender of that message, and download their profile photo.

Let's delete messages which contain "heck". We don't allow swearing here.

```
@client.on(events.NewMessage(pattern=r'(?i).*heck'))
async def handler(event):
    await event.delete()
```

With the r'(?i).*heck' regex, we match case-insensitive "heck" anywhere in the message. Regex is very powerful and you can learn more at https://regexone.com/.

So far, we have only seen the *NewMessage*, but there are many more which will be covered later. This is only a small introduction to updates.

2.4.3 Entities

When you need the user or chat where an event occurred, you **must** use the following methods:

```
async def handler(event):
    # Good
    chat = await event.get_chat()
    sender = await event.get_sender()
    chat_id = event.chat_id
    sender_id = event.sender_id

    # BAD. Don't do this
    chat = event.chat
    sender = event.sender
    chat_id = event.chat.id
    sender_id = event.sender.id
```

Events are like messages, but don't have all the information a message has! When you manually get a message, it will have all the information it needs. When you receive an update about a message, it **won't** have all the information, so you have to **use the methods**, not the properties.

Make sure you understand the code seen here before continuing! As a rule of thumb, remember that new message events behave just like message objects, so you can do with them everything you can do with a message object.

2.5 Next Steps

These basic first steps should have gotten you started with the library.

By now, you should know how to call friendly methods and how to work with the returned objects, how things work inside event handlers, etc.

Next, we will see a quick reference summary of *all* the methods and properties that you will need when using the library. If you follow the links there, you will expand the documentation for the method and property, with more examples on how to use them.

Therefore, **you can find an example on every method** of the client to learn how to use it, as well as a description of all the arguments.

After that, we will go in-depth with some other important concepts that are worth learning and understanding.

From now on, you can keep pressing the "Next" button if you want, or use the menu on the left, since some pages are quite lengthy.

2.5.1 A note on developing applications

If you're using the library to make an actual application (and not just automate things), you should make sure to comply with the ToS:

> [. . .] when logging in as an existing user, apps are supposed to call [GetTermsOfServiceUpdate] to check for any updates to the Terms of Service; this call should be repeated after `expires` seconds have elapsed. If an update to the Terms Of Service is available, clients are supposed to show a consent popup; if accepted, clients should call [AcceptTermsOfService], providing the `termsOfService id` JSON object; in case of denial, clients are to delete the account using [DeleteAccount], providing Decline ToS update as deletion reason.

However, if you use the library to automate or enhance your Telegram experience, it's very likely that you are using other applications doing this check for you (so you wouldn't run the risk of violating the ToS).

The library itself will not automatically perform this check or accept the ToS because it should require user action (the only exception is during sign-up).

2.6 FAQ

Let's start the quick references section with some useful tips to keep in mind, with the hope that you will understand why certain things work the way that they do.

Contents

2.6.1 Code without errors doesn't work

Then it probably has errors, but you haven't enabled logging yet. To enable logging, at the following code to the top of your main file:

```python
import logging
logging.basicConfig(format='[%(levelname) 5s/%(asctime)s] %(name)s: %(message)s',
                    level=logging.WARNING)
```

You can change the logging level to be something different, from less to more information:

```python
level=logging.CRITICAL  # won't show errors (same as disabled)
level=logging.ERROR     # will only show errors that you didn't handle
level=logging.WARNING   # will also show messages with medium severity, such as internal
↪Telegram issues
level=logging.INFO      # will also show informational messages, such as connection or
↪disconnections
level=logging.DEBUG     # will show a lot of output to help debugging issues in the
↪library
```

See the official Python documentation for more information on logging.

2.6.2 How can I except FloodWaitError?

You can use all errors from the API by importing:

```
from telethon import errors
```

And except them as such:

```
try:
    await client.send_message(chat, 'Hi')
except errors.FloodWaitError as e:
    # e.seconds is how many seconds you have
    # to wait before making the request again.
    print('Flood for', e.seconds)
```

2.6.3 My account was deleted/limited when using the library

First and foremost, **this is not a problem exclusive to Telethon. Any third-party library is prone to cause the accounts to appear banned.** Even official applications can make Telegram ban an account under certain circumstances. Third-party libraries such as Telethon are a lot easier to use, and as such, they are misused to spam, which causes Telegram to learn certain patterns and ban suspicious activity.

There is no point in Telethon trying to circumvent this. Even if it succeeded, spammers would then abuse the library again, and the cycle would repeat.

The library will only do things that you tell it to do. If you use the library with bad intentions, Telegram will hopefully ban you.

However, you may also be part of a limited country, such as Iran or Russia. In that case, we have bad news for you. Telegram is much more likely to ban these numbers, as they are often used to spam other accounts, likely through the use of libraries like this one. The best advice we can give you is to not abuse the API, like calling many requests really quickly.

We have also had reports from Kazakhstan and China, where connecting would fail. To solve these connection problems, you should use a proxy.

Telegram may also ban virtual (VoIP) phone numbers, as again, they're likely to be used for spam.

More recently (year 2023 onwards), Telegram has started putting a lot more measures to prevent spam (with even additions such as anonymous participants in groups or the inability to fetch group members at all). This means some of the anti-spam measures have gotten more aggressive.

The recommendation has usually been to use the library only on well-established accounts (and not an account you just created), and to not perform actions that could be seen as abuse. Telegram decides what those actions are, and they're free to change how they operate at any time.

If you want to check if your account has been limited, simply send a private message to @SpamBot through Telegram itself. You should notice this by getting errors like `PeerFloodError`, which means you're limited, for instance, when sending a message to some accounts but not others.

For more discussion, please see issue 297.

2.6.4 How can I use a proxy?

This was one of the first things described in *Signing In*.

2.6.5 How do I access a field?

This is basic Python knowledge. You should use the dot operator:

```python
me = await client.get_me()
print(me.username)
#        ^ we used the dot operator to access the username attribute

result = await client(functions.photos.GetUserPhotosRequest(
    user_id='me',
    offset=0,
    max_id=0,
    limit=100
))

# Working with list is also pretty basic
print(result.photos[0].sizes[-1].type)
#              ^        ^ ^         ^ ^
#              |        | |         | \ type
#              |        | |         \ last size
#              |        | \ list of sizes
#  access      |        \ first photo from the list
#  the...      \ list of photos
#
# To print all, you could do (or mix-and-match):
for photo in result.photos:
    for size in photo.sizes:
        print(size.type)
```

2.6.6 AttributeError: 'coroutine' object has no attribute 'id'

You either forgot to:

```python
import telethon.sync
#             ^^^^^ import sync
```

Or:

```python
async def handler(event):
    me = await client.get_me()
    #    ^^^^^ note the await
    print(me.username)
```

2.6.7 sqlite3.OperationalError: database is locked

An older process is still running and is using the same `'session'` file.

This error occurs when **two or more clients use the same session**, that is, when you write the same session name to be used in the client:

- You have an older process using the same session file.

- You have two different scripts running (interactive sessions count too).

- You have two clients in the same script running at the same time.

The solution is, if you need two clients, use two sessions. If the problem persists and you're on Linux, you can use `fuser my.session` to find out the process locking the file. As a last resort, you can reboot your system.

If you really dislike SQLite, use a different session storage. There is an entire section covering that at *Session Files*.

2.6.8 event.chat or event.sender is None

Telegram doesn't always send this information in order to save bandwidth. If you need the information, you should fetch it yourself, since the library won't do unnecessary work unless you need to:

```python
async def handler(event):
    chat = await event.get_chat()
    sender = await event.get_sender()
```

2.6.9 File download is slow or sending files takes too long

The communication with Telegram is encrypted. Encryption requires a lot of math, and doing it in pure Python is very slow. `cryptg` is a library which containns the encryption functions used by Telethon. If it is installed (via `pip install cryptg`), it will automatically be used and should provide a considerable speed boost. You can know whether it's used by configuring `logging` (at `INFO` level or lower) *before* importing `telethon`.

Note that the library does *not* download or upload files in parallel, which can also help with the speed of downloading or uploading a single file. There are snippets online implementing that. The reason why this is not built-in is because the limiting factor in the long run are `FloodWaitError`, and using parallel download or uploads only makes them occur sooner.

2.6.10 What does "Server sent a very new message with ID" mean?

You may also see this error as "Server sent a very old message with ID".

This is a security feature from Telethon that cannot be disabled and is meant to protect you against replay attacks.

When this message is incorrectly reported as a "bug", the most common patterns seem to be:

- Your system time is incorrect.

- The proxy you're using may be interfering somehow.

- The Telethon session is being used or has been used from somewhere else. Make sure that you created the session from Telethon, and are not using the same session anywhere else. If you need to use the same account from multiple places, login and use a different session for each place you need.

2.6.11 What does "Server replied with a wrong session ID" mean?

This is a security feature from Telethon that cannot be disabled and is meant to protect you against unwanted session reuse.

When this message is reported as a "bug", the most common patterns seem to be:

- The proxy you're using may be interfering somehow.

- The Telethon session is being used or has been used from somewhere else. Make sure that you created the session from Telethon, and are not using the same session anywhere else. If you need to use the same account from multiple places, login and use a different session for each place you need.

- You may be using multiple connections to the Telegram server, which seems to confuse Telegram.

Most of the time it should be safe to ignore this warning. If the library still doesn't behave correctly, make sure to check if any of the above bullet points applies in your case and try to work around it.

If the issue persists and there is a way to reliably reproduce this error, please add a comment with any additional details you can provide to issue 3759, and perhaps some additional investigation can be done (but it's unlikely, as Telegram *is* sending unexpected data).

2.6.12 What does "Could not find a matching Constructor ID for the TLObject" mean?

Telegram uses "layers", which you can think of as "versions" of the API they offer. When Telethon reads responses that the Telegram servers send, these need to be deserialized (into what Telethon calls "TLObjects").

Every Telethon version understands a single Telegram layer. When Telethon connects to Telegram, both agree on the layer to use. If the layers don't match, Telegram may send certain objects which Telethon no longer understands.

When this message is reported as a "bug", the most common patterns seem to be that he Telethon session is being used or has been used from somewhere else. Make sure that you created the session from Telethon, and are not using the same session anywhere else. If you need to use the same account from multiple places, login and use a different session for each place you need.

2.6.13 What does "Task was destroyed but it is pending" mean?

Your script likely finished abruptly, the `asyncio` event loop got destroyed, and the library did not get a chance to properly close the connection and close the session.

Make sure you're either using the context manager for the client or always call `await client.disconnect()` (by e.g. using a `try/finally`).

2.6.14 What does "The asyncio event loop must not change after connection" mean?

Telethon uses `asyncio`, and makes use of things like tasks and queues internally to manage the connection to the server and match responses to the requests you make. Most of them are initialized after the client is connected.

For example, if the library expects a result to a request made in loop A, but you attempt to get that result in loop B, you will very likely find a deadlock. To avoid a deadlock, the library checks to make sure the loop in use is the same as the one used to initialize everything, and if not, it throws an error.

The most common cause is `asyncio.run`, since it creates a new event loop. If you `asyncio.run` a function to create the client and set it up, and then you `asyncio.run` another function to do work, things won't work, so the library throws an error early to let you know something is wrong.

Instead, it's often a good idea to have a single `async def main` and simply `asyncio.run()` it and do all the work there. From it, you're also able to call other `async def` without having to touch `asyncio.run` again:

```python
# It's fine to create the client outside as long as you don't connect
client = TelegramClient(...)

async def main():
    # Now the client will connect, so the loop must not change from now on.
    # But as long as you do all the work inside main, including calling
    # other async functions, things will work.
    async with client:
        ....

if __name__ == '__main__':
    asyncio.run(main())
```

Be sure to read the `asyncio` documentation if you want a better understanding of event loop, tasks, and what functions you can use.

2.6.15 What does "bases ChatGetter" mean?

In Python, classes can base others. This is called inheritance. What it means is that "if a class bases another, you can use the other's methods too".

For example, *Message* bases *ChatGetter*. In turn, *ChatGetter* defines things like *obj.chat_id*.

So if you have a message, you can access that too:

```python
# ChatGetter has a chat_id property, and Message bases ChatGetter.
# Thus you can use ChatGetter properties and methods from Message
print(message.chat_id)
```

Telegram has a lot to offer, and inheritance helps the library reduce boilerplate, so it's important to know this concept. For newcomers, this may be a problem, so we explain what it means here in the FAQ.

2.6.16 Can I send files by ID?

When people talk about IDs, they often refer to one of two things: the integer ID inside media, and a random-looking long string.

You cannot use the integer ID to send media. Generally speaking, sending media requires a combination of ID, `access_hash` and `file_reference`. The first two are integers, while the last one is a random `bytes` sequence.

- The integer `id` will always be the same for every account, so every user or bot looking at a particular media file, will see a consistent ID.

- The `access_hash` will always be the same for a given account, but different accounts will each see their own, different `access_hash`. This makes it impossible to get media object from one account and use it in another. The other account must fetch the media object itself.

- The `file_reference` is random for everyone and will only work for a few hours before it expires. It must be refetched before the media can be used (to either resend the media or download it).

The second type of "file ID" people refer to is a concept from the HTTP Bot API. It's a custom format which encodes enough information to use the media.

Telethon provides an old version of these HTTP Bot API-style file IDs via `message.file.id`, however, this feature is no longer maintained, so it may not work. It will be removed in future versions. Nonetheless, it is possible to find a different Python package (or write your own) to parse these file IDs and construct the necessary input file objects to send or download the media.

2.6.17 Can I use Flask with the library?

Yes, if you know what you are doing. However, you will probably have a lot of headaches to get threads and asyncio to work together. Instead, consider using Quart, an asyncio-based alternative to Flask.

Check out quart_login.py for an example web-application based on Quart.

2.6.18 Can I use Anaconda/Spyder/IPython with the library?

Yes, but these interpreters run the asyncio event loop implicitly, which interferes with the `telethon.sync` magic module.

If you use them, you should **not** import `sync`:

```
# Change any of these...:
from telethon import TelegramClient, sync, ...
from telethon.sync import TelegramClient, ...

# ...with this:
from telethon import TelegramClient, ...
```

You are also more likely to get "sqlite3.OperationalError: database is locked" with them. If they cause too much trouble, just write your code in a `.py` file and run that, or use the normal `python` interpreter.

2.7 Client Reference

This page contains a summary of all the important methods and properties that you may need when using Telethon. They are sorted by relevance and are not in alphabetical order.

You should use this page to learn about which methods are available, and if you need a usage example or further description of the arguments, be sure to follow the links.

Contents

- *Client Reference*
  - *TelegramClient*
    - *Auth*
    - *Base*
    - *Messages*
    - *Uploads*
    - *Downloads*
    - *Dialogs*

2.7.1 TelegramClient

This is a summary of the methods and properties you will find at *TelegramClient*.

Auth

start	Starts the client (connects and logs in if necessary).
send_code_request	Sends the Telegram code needed to login to the given phone number.
sign_in	Logs in to Telegram to an existing user or bot account.
qr_login	Initiates the QR login procedure.
log_out	Logs out Telegram and deletes the current `*.session` file.
edit_2fa	Changes the 2FA settings of the logged in user.

Base

connect	Connects to Telegram.
disconnect	Disconnects from Telegram.
is_connected	Returns `True` if the user has connected.
disconnected	Property with a `Future` that resolves upon disconnection.
loop	Property with the `asyncio` event loop used by this client.
set_proxy	Changes the proxy which will be used on next (re)connection.

Messages

send_message	Sends a message to the specified user, chat or channel.
edit_message	Edits the given message to change its text or media.
delete_messages	Deletes the given messages, optionally "for everyone".
forward_messages	Forwards the given messages to the specified entity.
iter_messages	Iterator over the messages for the given chat.
get_messages	Same as *iter_messages()*, but returns a *TotalList* instead.
pin_message	Pins a message in a chat.
unpin_message	Unpins a message in a chat.
send_read_acknowledge	Marks messages as read and optionally clears mentions.

Uploads

send_file	Sends message with the given file to the specified entity.
upload_file	Uploads a file to Telegram's servers, without sending it.

Downloads

download_media	Downloads the given media from a message object.
download_profile_photo	Downloads the profile photo from the given user, chat or channel.
download_file	Low-level method to download files from their input location.
iter_download	Iterates over a file download, yielding chunks of the file.

Dialogs

iter_dialogs	Iterator over the dialogs (open conversations/subscribed channels).
get_dialogs	Same as *iter_dialogs()*, but returns a *TotalList* instead.
edit_folder	Edits the folder used by one or more dialogs to archive them.
iter_drafts	Iterator over draft messages.
get_drafts	Same as *iter_drafts()*, but returns a list instead.
delete_dialog	Deletes a dialog (leaves a chat or channel).
conversation	Creates a *Conversation* with the given entity.

Users

get_me	Gets "me", the current User who is logged in.
is_bot	Return True if the signed-in user is a bot, False otherwise.
is_user_authorized	Returns True if the user is authorized (logged in).
get_entity	Turns the given entity into a valid Telegram User, Chat or Channel.
get_input_entity	Turns the given entity into its input entity version.
get_peer_id	Gets the ID for the given entity.

Chats

iter_participants	Iterator over the participants belonging to the specified chat.
get_participants	Same as *iter_participants()*, but returns a *TotalList* instead.
kick_participant	Kicks a user from a chat.
iter_admin_log	Iterator over the admin log for the specified channel.
get_admin_log	Same as *iter_admin_log()*, but returns a list instead.
iter_profile_photos	Iterator over a user's profile photos or a chat's photos.
get_profile_photos	Same as *iter_profile_photos()*, but returns a *TotalList* instead.
edit_admin	Edits admin permissions for someone in a chat.
edit_permissions	Edits user restrictions in a chat.
get_permissions	Fetches the permissions of a user in a specific chat or channel or get Default Restricted Rights of Chat or Channel.
get_stats	Retrieves statistics from the given megagroup or broadcast channel.
action	Returns a context-manager object to represent a "chat action".

Parse Mode

parse_mode	This property is the default parse mode used when sending messages.

Updates

on	Decorator used to *add_event_handler* more conveniently.
run_until_disconnected	Runs the event loop until the library is disconnected.
add_event_handler	Registers a new event handler callback.
remove_event_handler	Inverse operation of *add_event_handler()*.
list_event_handlers	Lists all registered event handlers.
catch_up	"Catches up" on the missed updates while the client was offline.
set_receive_updates	Change the value of `receive_updates`.

Bots

inline_query	Makes an inline query to the specified bot (`@vote New Poll`).

Buttons

build_reply_markup	Builds a ReplyInlineMarkup or ReplyKeyboardMarkup for the given buttons.

Account

takeout	Returns a *TelegramClient* which calls methods behind a takeout session.
end_takeout	Finishes the current takeout session.

2.8 Events Reference

Here you will find a quick summary of all the methods and properties that you can access when working with events.

You can access the client that creates this event by doing `event.client`, and you should view the description of the events to find out what arguments it allows on creation and its **attributes** (the properties will be shown here).

Important: Remember that **all events base** `ChatGetter`! Please see *FAQ* if you don't know what this means or the implications of it.

Contents

- *Events Reference*
    - *NewMessage*
    - *MessageEdited*
    - *MessageDeleted*
    - *MessageRead*
    - *ChatAction*
    - *UserUpdate*
    - *CallbackQuery*
    - *InlineQuery*
    - *Album*
    - *Raw*

2.8.1 NewMessage

Occurs whenever a new text message or a message with media arrives.

Note: The new message event **should be treated as** a normal `Message`, with the following exceptions:

- `pattern_match` is the match object returned by `pattern=`.
- `message` is **not** the message string. It's the `Message` object.

Remember, this event is just a proxy over the message, so while you won't see its attributes and properties, you can still access them. Please see the full documentation for examples.

Full documentation for the `NewMessage`.

2.8.2 MessageEdited

Occurs whenever a message is edited. Just like `NewMessage`, you should treat this event as a `Message`.

Full documentation for the `MessageEdited`.

2.8.3 MessageDeleted

Occurs whenever a message is deleted. Note that this event isn't 100% reliable, since Telegram doesn't always notify the clients that a message was deleted.

It only has the `deleted_id` and `deleted_ids` attributes (in addition to the chat if the deletion happened in a channel).

Full documentation for the *MessageDeleted*.

2.8.4 MessageRead

Occurs whenever one or more messages are read in a chat.

Full documentation for the *MessageRead*.

inbox	`True` if you have read someone else's messages.
message_ids	The IDs of the messages **which contents'** were read.
get_messages	Returns the list of *Message* **which contents'** were read.
is_read	Returns `True` if the given message (or its ID) has been read.

2.8.5 ChatAction

Occurs on certain chat actions, such as chat title changes, user join or leaves, pinned messages, photo changes, etc.

Full documentation for the *ChatAction*.

added_by	The user who added `users`, if applicable (`None` otherwise).
kicked_by	The user who kicked `users`, if applicable (`None` otherwise).
user	The first user that takes part in this action.
input_user	Input version of the `self.user` property.
user_id	Returns the marked signed ID of the first user, if any.
users	A list of users that take part in this action.
input_users	Input version of the `self.users` property.
user_ids	Returns the marked signed ID of the users, if any.
respond	Responds to the chat action message (not as a reply).
reply	Replies to the chat action message (as a reply).
delete	Deletes the chat action message.
get_pinned_message	If `new_pin` is `True`, this returns the *Message* object that was pinned.
get_added_by	Returns *added_by* but will make an API call if necessary.
get_kicked_by	Returns *kicked_by* but will make an API call if necessary.
get_user	Returns *user* but will make an API call if necessary.
get_input_user	Returns *input_user* but will make an API call if necessary.
get_users	Returns *users* but will make an API call if necessary.
get_input_users	Returns *input_users* but will make an API call if necessary.

2.8.6 UserUpdate

Occurs whenever a user goes online, starts typing, etc.

Full documentation for the *UserUpdate*.

user	Alias for *sender*.
input_user	Alias for *input_sender*.
user_id	Alias for *sender_id*.
get_user	Alias for *get_sender*.
get_input_user	Alias for *get_input_sender*.
typing	True if the action is typing a message.
uploading	True if the action is uploading something.
recording	True if the action is recording something.
playing	True if the action is playing a game.
cancel	True if the action was cancelling other actions.
geo	True if what's being uploaded is a geo.
audio	True if what's being recorded/uploaded is an audio.
round	True if what's being recorded/uploaded is a round video.
video	True if what's being recorded/uploaded is an video.
contact	True if what's being uploaded (selected) is a contact.
document	True if what's being uploaded is document.
photo	True if what's being uploaded is a photo.
last_seen	Exact datetime.datetime when the user was last seen if known.
until	The datetime.datetime until when the user should appear online.
online	True if the user is currently online,
recently	True if the user was seen within a day.
within_weeks	True if the user was seen within 7 days.
within_months	True if the user was seen within 30 days.

2.8.7 CallbackQuery

Occurs whenever you sign in as a bot and a user clicks one of the inline buttons on your messages.

Full documentation for the *CallbackQuery*.

`id`	Returns the query ID.
`message_id`	Returns the message ID to which the clicked inline button belongs.
`data`	Returns the data payload from the original inline button.
`chat_instance`	Unique identifier for the chat where the callback occurred.
`via_inline`	Whether this callback was generated from an inline button sent via an inline query or not.
`respond`	Responds to the message (not as a reply).
`reply`	Replies to the message (as a reply).
`edit`	Edits the message.
`delete`	Deletes the message.
`answer`	Answers the callback query (and stops the loading circle).
`get_message`	Returns the message to which the clicked inline button belongs.

2.8.8 InlineQuery

Occurs whenever you sign in as a bot and a user sends an inline query such as @bot query.

Full documentation for the `InlineQuery`.

`id`	Returns the unique identifier for the query ID.
`text`	Returns the text the user used to make the inline query.
`offset`	The string the user's client used as an offset for the query.
`geo`	If the user location is requested when using inline mode and the user's device is able to send it, this will return the GeoPoint with the position of the user.
`builder`	Returns a new `InlineBuilder` instance.
`answer`	Answers the inline query with the given results.

2.8.9 Album

Occurs whenever you receive an entire album.

Full documentation for the `Album`.

grouped_id	The shared `grouped_id` between all the messages.
text	The message text of the first photo with a caption, formatted using the client's default parse mode.
raw_text	The raw message text of the first photo with a caption, ignoring any formatting.
is_reply	`True` if the album is a reply to some other message.
forward	The `Forward` information for the first message in the album if it was forwarded.
get_reply_message	The `Message` that this album is replying to, or `None`.
respond	Responds to the album (not as a reply).
reply	Replies to the first photo in the album (as a reply).
forward_to	Forwards the entire album.
edit	Edits the first caption or the message, or the first messages' caption if no caption is set, iff it's outgoing.
delete	Deletes the entire album.
mark_read	Marks the entire album as read.
pin	Pins the first photo in the album.

2.8.10 Raw

Raw events are not actual events. Instead, they are the raw Update object that Telegram sends. You normally shouldn't need these.

2.9 Objects Reference

This is the quick reference for those objects returned by client methods or other useful modules that the library has to offer. They are kept in a separate page to help finding and discovering them.

Remember that this page only shows properties and methods, **not attributes**. Make sure to open the full documentation to find out about the attributes.

Contents

2.9.1 ChatGetter

All events base `ChatGetter`, and some of the objects below do too, so it's important to know its methods.

`chat`	Returns the User, Chat or Channel where this object belongs to.
`input_chat`	This InputPeer is the input version of the chat where the message was sent.
`chat_id`	Returns the marked chat integer ID.
`is_private`	True if the message was sent as a private message.
`is_group`	True if the message was sent on a group or megagroup.
`is_channel`	True if the message was sent on a megagroup or channel.
`get_chat`	Returns `chat`, but will make an API call to find the chat unless it's already cached.
`get_input_chat`	Returns `input_chat`, but will make an API call to find the input chat unless it's already cached.

2.9.2 SenderGetter

Similar to `ChatGetter`, a `SenderGetter` is the same, but it works for senders instead.

`sender`	Returns the User or Channel that sent this object.
`input_sender`	This InputPeer is the input version of the user/channel who sent the message.
`sender_id`	Returns the marked sender integer ID, if present.
`get_sender`	Returns `sender`, but will make an API call to find the sender unless it's already cached.
`get_input_sender`	Returns `input_sender`, but will make an API call to find the input sender unless it's already cached.

2.9.3 Message

The `Message` type is very important, mostly because we are working with a library for a *messaging* platform, so messages are widely used: in events, when fetching history, replies, etc.

It bases `ChatGetter` and `SenderGetter`.

Properties

Note: We document *custom properties* here, not all the attributes of the `Message` (which is the information Telegram actually returns).

`text`	The message text, formatted using the client's default parse mode.
`raw_text`	The raw message text, ignoring any formatting.
`is_reply`	`True` if the message is a reply to some other message.
`forward`	The `Forward` information if this message is a forwarded message.
`buttons`	Returns a list of lists of `MessageButton`, if any.
`button_count`	Returns the total button count (sum of all `buttons` rows).
`file`	Returns a `File` wrapping the `photo` or `document` in this message.
`photo`	The Photo media in this message, if any.
`document`	The Document media in this message, if any.
`web_preview`	The WebPage media in this message, if any.
`audio`	The Document media in this message, if it's an audio file.
`voice`	The Document media in this message, if it's a voice note.
`video`	The Document media in this message, if it's a video.
`video_note`	The Document media in this message, if it's a video note.
`gif`	The Document media in this message, if it's a "gif".
`sticker`	The Document media in this message, if it's a sticker.
`contact`	The MessageMediaContact in this message, if it's a contact.
`game`	The Game media in this message, if it's a game.
`geo`	The GeoPoint media in this message, if it has a location.
`invoice`	The MessageMediaInvoice in this message, if it's an invoice.
`poll`	The MessageMediaPoll in this message, if it's a poll.
`venue`	The MessageMediaVenue in this message, if it's a venue.
`action_entities`	Returns a list of entities that took part in this action.
`via_bot`	The bot User if the message was sent via said bot.
`via_input_bot`	Returns the input variant of `via_bot`.
`client`	Returns the `TelegramClient` that *patched* this message.

Methods

respond	Responds to the message (not as a reply).
reply	Replies to the message (as a reply).
forward_to	Forwards the message.
edit	Edits the message if it's outgoing.
delete	Deletes the message.
get_reply_message	The `Message` that this message is replying to, or `None`.
click	Calls SendVote with the specified poll option or `button.click` on the specified button.
mark_read	Marks the message as read.
pin	Pins the message.
download_media	Downloads the media contained in the message, if any.
get_entities_text	Returns a list of (`markup entity`, `inner text`) (like bold or italics).
get_buttons	Returns `buttons` when that property fails (this is rarely needed).

2.9.4 File

The `File` type is a wrapper object returned by `Message.file`, and you can use it to easily access a document's attributes, such as its name, bot-API style file ID, etc.

id	The old bot-API style `file_id` representing this file.
name	The file name of this document.
ext	The extension from the mime type of this file.
mime_type	The mime-type of this file.
width	The width in pixels of this media if it's a photo or a video.
height	The height in pixels of this media if it's a photo or a video.
size	The size in bytes of this file.
duration	The duration in seconds of the audio or video.
title	The title of the song.
performer	The performer of the song.
emoji	A string with all emoji that represent the current sticker.
sticker_set	The InputStickerSet to which the sticker file belongs.

2.9.5 Conversation

The `Conversation` object is returned by the `client.conversation()` method to easily send and receive responses like a normal conversation.

It bases `ChatGetter`.

send_message	Sends a message in the context of this conversation.
send_file	Sends a file in the context of this conversation.
mark_read	Marks as read the latest received message if `message is None`.
get_response	Gets the next message that responds to a previous one.
get_reply	Gets the next message that explicitly replies to a previous one.
get_edit	Awaits for an edit after the last message to arrive.
wait_read	Awaits for the sent message to be marked as read.
wait_event	Waits for a custom event to occur.
cancel	Cancels the current conversation.
cancel_all	Calls *cancel* on *all* conversations in this chat.

2.9.6 AdminLogEvent

The *AdminLogEvent* object is returned by the *client.iter_admin_log()* method to easily iterate over past "events" (deleted messages, edits, title changes, leaving members. . .)

These are all the properties you can find in it:

id	The ID of this event.
date	The date when this event occurred.
user_id	The ID of the user that triggered this event.
action	The original ChannelAdminLogEventAction.
old	The old value from the event.
new	The new value present in the event.
changed_about	Whether the channel's about was changed or not.
changed_title	Whether the channel's title was changed or not.
changed_username	Whether the channel's username was changed or not.
changed_photo	Whether the channel's photo was changed or not.
changed_sticker_set	Whether the channel's sticker set was changed or not.
changed_message	Whether a message in this channel was edited or not.
deleted_message	Whether a message in this channel was deleted or not.
changed_admin	Whether the permissions for an admin in this channel changed or not.
changed_restrictions	Whether a message in this channel was edited or not.
changed_invites	Whether the invites in the channel were toggled or not.
joined	Whether `user` joined through the channel's public username or not.
joined_invite	Whether a new user joined through an invite link to the channel or not.
left	Whether `user` left the channel or not.
changed_hide_history	Whether hiding the previous message history for new members in the channel was toggled or not.
changed_signatures	Whether the message signatures in the channel were toggled or not.
changed_pin	Whether a new message in this channel was pinned or not.
changed_default_banned_rights	Whether the default banned rights were changed or not.
stopped_poll	Whether a poll was stopped or not.

2.9.7 Button

The *Button* class is used when you login as a bot account to send messages with reply markup, such as inline buttons or custom keyboards.

These are the static methods you can use to create instances of the markup:

inline	Creates a new inline button with some payload data in it.
switch_inline	Creates a new inline button to switch to inline query.
url	Creates a new inline button to open the desired URL on click.
auth	Creates a new inline button to authorize the user at the given URL.
text	Creates a new keyboard button with the given text.
request_location	Creates a new keyboard button to request the user's location on click.
request_phone	Creates a new keyboard button to request the user's phone on click.
request_poll	Creates a new keyboard button to request the user to create a poll.
clear	Clears all keyboard buttons after sending a message with this markup.
force_reply	Forces a reply to the message with this markup.

2.9.8 InlineResult

The *InlineResult* object is returned inside a list by the *client.inline_query()* method to make an inline query to a bot that supports being used in inline mode, such as @like.

Note that the list returned is in fact a *subclass* of a list called *InlineResults*, which, in addition of being a list (iterator, indexed access, etc.), has extra attributes and methods.

These are the constants for the types, properties and methods you can find the individual results:

ARTICLE	
PHOTO	
GIF	
VIDEO	
VIDEO_GIF	
AUDIO	
DOCUMENT	
LOCATION	
VENUE	
CONTACT	
GAME	
type	The always-present type of this result.
message	The always-present BotInlineMessage that will be sent if *click* is called on this result.
title	The title for this inline result.
description	The description for this inline result.
url	The URL present in this inline results.
photo	Returns either the WebDocument thumbnail for normal results or the Photo for media results.
document	Returns either the WebDocument content for normal results or the Document for media results.
click	Clicks this result and sends the associated *message*.
download_media	Downloads the media in this result (if there is a document, the document will be downloaded; otherwise, the photo will if present).

2.9.9 Dialog

The *Dialog* object is returned when you call *client.iter_dialogs()*.

send_message	Sends a message to this dialog.
archive	Archives (or un-archives) this dialog.
delete	Deletes the dialog from your dialog list.

2.9.10 Draft

The *Draft* object is returned when you call *client.iter_drafts()*.

entity	The entity that belongs to this dialog (user, chat or channel).
input_entity	Input version of the entity.
get_entity	Returns *entity* but will make an API call if necessary.
get_input_entity	Returns *input_entity* but will make an API call if necessary.
text	The markdown text contained in the draft.
raw_text	The raw (text without formatting) contained in the draft.
is_empty	Convenience bool to determine if the draft is empty or not.
set_message	Changes the draft message on the Telegram servers.
send	Sends the contents of this draft to the dialog.
delete	Deletes this draft, and returns *True* on success.

2.9.11 Utils

The *telethon.utils* module has plenty of methods that make using the library a lot easier. Only the interesting ones will be listed here.

get_display_name	Gets the display name for the given User, Chat or Channel.
get_extension	Gets the corresponding extension for any Telegram media.
get_inner_text	Gets the inner text that's surrounded by the given entities.
get_peer_id	Convert the given peer into its marked ID by default.
resolve_id	Given a marked ID, returns the original ID and its Peer type.
pack_bot_file_id	Inverse operation for *resolve_bot_file_id*.
resolve_bot_file_id	Given a Bot API-style *file_id*, returns the media it represents.
resolve_invite_link	Resolves the given invite link.

2.10 String-based Debugging

Debugging is *really* important. Telegram's API is really big and there are a lot of things that you should know. Such as, what attributes or fields does a result have? Well, the easiest thing to do is printing it:

```
entity = await client.get_entity('username')
print(entity)
```

That will show a huge **string** similar to the following:

```
Channel(id=1066197625, title='Telegram Usernames', photo=ChatPhotoEmpty(), date=datetime.
→datetime(2016, 12, 16, 15, 15, 43, tzinfo=datetime.timezone.utc), version=0,␣
→creator=False, left=True, broadcast=True, verified=True, megagroup=False,␣
```

(continues on next page)

```
→restricted=False, signatures=False, min=False, scam=False, has_link=False, has_
→geo=False, slowmode_enabled=False, access_hash=-6309373984955162244, username='username
→', restriction_reason=[], admin_rights=None, banned_rights=None, default_banned_
→rights=None, participants_count=None)
```

That's a lot of text. But as you can see, all the properties are there. So if you want the title you **don't use regex** or anything like splitting `str(entity)` to get what you want. You just access the attribute you need:

```
title = entity.title
```

Can we get better than the shown string, though? Yes!

```
print(entity.stringify())
```

Will show a much better representation:

```
Channel(
    id=1066197625,
    title='Telegram Usernames',
    photo=ChatPhotoEmpty(
    ),
    date=datetime.datetime(2016, 12, 16, 15, 15, 43, tzinfo=datetime.timezone.utc),
    version=0,
    creator=False,
    left=True,
    broadcast=True,
    verified=True,
    megagroup=False,
    restricted=False,
    signatures=False,
    min=False,
    scam=False,
    has_link=False,
    has_geo=False,
    slowmode_enabled=False,
    access_hash=-6309373984955162244,
    username='username',
    restriction_reason=[
    ],
    admin_rights=None,
    banned_rights=None,
    default_banned_rights=None,
    participants_count=None
)
```

Now it's easy to see how we could get, for example, the `year` value. It's inside `date`:

```
channel_year = entity.date.year
```

You don't need to print everything to see what all the possible values can be. You can just search in http://tl.telethon. dev/.

Remember that you can use Python's isinstance to check the type of something. For example:

```
from telethon import types

if isinstance(entity.photo, types.ChatPhotoEmpty):
    print('Channel has no photo')
```

2.11 Entities

The library widely uses the concept of "entities". An entity will refer to any User, Chat or Channel object that the API may return in response to certain methods, such as GetUsersRequest.

Note: When something "entity-like" is required, it means that you need to provide something that can be turned into an entity. These things include, but are not limited to, usernames, exact titles, IDs, Peer objects, or even entire User, Chat and Channel objects and even phone numbers **from people you have in your contact list**.

To "encounter" an ID, you would have to "find it" like you would in the normal app. If the peer is in your dialogs, you would need to `client.get_dialogs()`. If the peer is someone in a group, you would similarly `client.get_participants(group)`.

Once you have encountered an ID, the library will (by default) have saved their `access_hash` for you, which is needed to invoke most methods. This is why sometimes you might encounter this error when working with the library. You should `except ValueError` and run code that you know should work to find the entity.

Contents

- *Entities*
    - *What is an Entity?*
    - *Getting Entities*
    - *Entities vs. Input Entities*
    - *Full Entities*
    - *Accessing Entities*
    - *Summary*

2.11.1 What is an Entity?

A lot of methods and requests require *entities* to work. For example, you send a message to an *entity*, get the username of an *entity*, and so on.

There are a lot of things that work as entities: usernames, phone numbers, chat links, invite links, IDs, and the types themselves. That is, you can use any of those when you see an "entity" is needed.

Note: Remember that the phone number must be in your contact list before you can use it.

You should use, **from better to worse**:

1. Input entities. For example, *event.input_chat*, *message.input_sender*, or caching an entity you will use a lot with `entity = await client.get_input_entity(...)`.

2. Entities. For example, if you had to get someone's username, you can just use `user` or `channel`. It will work. Only use this option if you already have the entity!

3. IDs. This will always look the entity up from the cache (the `*.session` file caches seen entities).

4. Usernames, phone numbers and links. The cache will be used too (unless you force a *client.get_entity()*), but may make a request if the username, phone or link has not been found yet.

In recent versions of the library, the following two are equivalent:

```python
async def handler(event):
    await client.send_message(event.sender_id, 'Hi')
    await client.send_message(event.input_sender, 'Hi')
```

If you need to be 99% sure that the code will work (sometimes it's simply impossible for the library to find the input entity), or if you will reuse the chat a lot, consider using the following instead:

```python
async def handler(event):
    # This method may make a network request to find the input sender.
    # Properties can't make network requests, so we need a method.
    sender = await event.get_input_sender()
    await client.send_message(sender, 'Hi')
    await client.send_message(sender, 'Hi')
```

2.11.2 Getting Entities

Through the use of the *Session Files*, the library will automatically remember the ID and hash pair, along with some extra information, so you're able to just do this:

```python
# (These examples assume you are inside an "async def")
#
# Dialogs are the "conversations you have open".
# This method returns a list of Dialog, which
# has the .entity attribute and other information.
#
# This part is IMPORTANT, because it fills the entity cache.
dialogs = await client.get_dialogs()

# All of these work and do the same.
username = await client.get_entity('username')
username = await client.get_entity('t.me/username')
username = await client.get_entity('https://telegram.dog/username')

# Other kind of entities.
channel = await client.get_entity('telegram.me/joinchat/AAAAAEkk2WdoDrB4-Q8-gg')
contact = await client.get_entity('+34xxxxxxxxx')
friend  = await client.get_entity(friend_id)

# Getting entities through their ID (User, Chat or Channel)
entity = await client.get_entity(some_id)
```

(continues on next page)

```
# You can be more explicit about the type for said ID by wrapping
# it inside a Peer instance. This is recommended but not necessary.
from telethon.tl.types import PeerUser, PeerChat, PeerChannel


my_user    = await client.get_entity(PeerUser(some_id))
my_chat    = await client.get_entity(PeerChat(some_id))
my_channel = await client.get_entity(PeerChannel(some_id))
```

Note: You **don't** need to get the entity before using it! Just let the library do its job. Use a phone from your contacts, username, ID or input entity (preferred but not necessary), whatever you already have.

All methods in the *TelegramClient* call `.get_input_entity()` prior to sending the request to save you from the hassle of doing so manually. That way, convenience calls such as `client.send_message('username', 'hi!')` become possible.

Every entity the library encounters (in any response to any call) will by default be cached in the `.session` file (an SQLite database), to avoid performing unnecessary API calls. If the entity cannot be found, additonal calls like ResolveUsernameRequest or GetContactsRequest may be made to obtain the required information.

2.11.3 Entities vs. Input Entities

Note: This section is informative, but worth reading. The library will transparently handle all of these details for you.

On top of the normal types, the API also make use of what they call their `Input*` versions of objects. The input version of an entity (e.g. InputPeerUser, InputChat, etc.) only contains the minimum information that's required from Telegram to be able to identify who you're referring to: a Peer's **ID** and **hash**. They are named like this because they are input parameters in the requests.

Entities' ID are the same for all user and bot accounts, however, the access hash is **different for each account**, so trying to reuse the access hash from one account in another will **not** work.

Sometimes, Telegram only needs to indicate the type of the entity along with their ID. For this purpose, Peer versions of the entities also exist, which just have the ID. You cannot get the hash out of them since you should not be needing it. The library probably has cached it before.

Peers are enough to identify an entity, but they are not enough to make a request with them. You need to know their hash before you can "use them", and to know the hash you need to "encounter" them, let it be in your dialogs, participants, message forwards, etc.

Note: You *can* use peers with the library. Behind the scenes, they are replaced with the input variant. Peers "aren't enough" on their own but the library will do some more work to use the right type.

As we just mentioned, API calls don't need to know the whole information about the entities, only their ID and hash. For this reason, another method, `client.get_input_entity()` is available. This will always use the cache while possible, making zero API calls most of the time. When a request is made, if you provided the full entity, e.g. an User, the library will convert it to the required InputPeer automatically for you.

You should always favour `client.get_input_entity()` **over** `client.get_entity()` for this reason! Calling the latter will always make an API call to get the most recent information about said entity, but invoking requests don't

need this information, just the InputPeer. Only use `client.get_entity()` if you need to get actual information, like the username, name, title, etc. of the entity.

To further simplify the workflow, since the version `0.16.2` of the library, the raw requests you make to the API are also able to call `client.get_input_entity()` wherever needed, so you can even do things like:

```
await client(SendMessageRequest('username', 'hello'))
```

The library will call the `.resolve()` method of the request, which will resolve `'username'` with the appropriated InputPeer. Don't worry if you don't get this yet, but remember some of the details here are important.

2.11.4 Full Entities

In addition to PeerUser, InputPeerUser, User (and its variants for chats and channels), there is also the concept of UserFull.

This full variant has additional information such as whether the user is blocked, its notification settings, the bio or about of the user, etc.

There is also messages.ChatFull which is the equivalent of full entities for chats and channels, with also the about section of the channel. Note that the `users` field only contains bots for the channel (so that clients can suggest commands to use).

You can get both of these by invoking GetFullUser, GetFullChat and GetFullChannel respectively.

2.11.5 Accessing Entities

Although it's explicitly noted in the documentation that messages *subclass `ChatGetter` and `SenderGetter`*, some people still don't get inheritance.

When the documentation says "Bases: `telethon.tl.custom.chatgetter.ChatGetter`" it means that the class you're looking at, *also* can act as the class it bases. In this case, `ChatGetter` knows how to get the *chat* where a thing belongs to.

So, a `Message` is a `ChatGetter`. That means you can do this:

```
message.is_private
message.chat_id
await message.get_chat()
# ...etc
```

`SenderGetter` is similar:

```
message.user_id
await message.get_input_sender()
message.user
# ...etc
```

Quite a few things implement them, so it makes sense to reuse the code. For example, all events (except raw updates) implement `ChatGetter` since all events occur in some chat.

2.11.6 Summary

TL;DR; If you're here because of *"Could not find the input entity for"*, you must ask yourself "how did I find this entity through official applications"? Now do the same with the library. Use what applies:

```python
# (These examples assume you are inside an "async def")
async with client:
    # Does it have a username? Use it!
    entity = await client.get_entity(username)

    # Do you have a conversation open with them? Get dialogs.
    await client.get_dialogs()

    # Are they participant of some group? Get them.
    await client.get_participants('username')

    # Is the entity the original sender of a forwarded message? Get it.
    await client.get_messages('username', 100)

    # NOW you can use the ID, anywhere!
    await client.send_message(123456, 'Hi!')

    entity = await client.get_entity(123456)
    print(entity)
```

Once the library has "seen" the entity, you can use their **integer** ID. You can't use entities from IDs the library hasn't seen. You must make the library see them *at least once* and disconnect properly. You know where the entities are and you must tell the library. It won't guess for you.

2.12 Chats vs Channels

Telegram's raw API can get very confusing sometimes, in particular when it comes to talking about "chats", "channels", "groups", "megagroups", and all those concepts.

This section will try to explain what each of these concepts are.

2.12.1 Chats

A `Chat` can be used to talk about either the common "subclass" that both chats and channels share, or the concrete Chat type.

Technically, both Chat and Channel are a form of the Chat type.

Most of the time, the term Chat is used to talk about *small group chats*. When you create a group through an official application, this is the type that you get. Official applications refer to these as "Group".

Both the bot API and Telethon will add a minus sign (negate) the real chat ID so that you can tell at a glance, with just a number, the entity type.

For example, if you create a chat with CreateChatRequest, the real chat ID might be something like 123. If you try printing it from a `message.chat_id` you will see `-123`. This ID helps Telethon know you're talking about a Chat.

2.12.2 Channels

Official applications create a *broadcast* channel when you create a new channel (used to broadcast messages, only administrators can post messages).

Official applications implicitly *migrate* an *existing* Chat to a *megagroup* Channel when you perform certain actions (exceed user limit, add a public username, set certain permissions, etc.).

A `Channel` can be created directly with CreateChannelRequest, as either a `megagroup` or `broadcast`.

Official applications use the term "channel" **only** for broadcast channels.

The API refers to the different types of Channel with certain attributes:

- A **broadcast channel** is a Channel with the `channel.broadcast` attribute set to True.

- A **megagroup channel** is a Channel with the `channel.megagroup` attribute set to True. Official applications refer to this as "supergroup".

- A **gigagroup channel** is a Channel with the `channel.gigagroup` attribute set to True. Official applications refer to this as "broadcast groups", and is used when a megagroup becomes very large and administrators want to transform it into something where only they can post messages.

Both the bot API and Telethon will "concatenate" `-100` to the real chat ID so that you can tell at a glance, with just a number, the entity type.

For example, if you create a new broadcast channel, the real channel ID might be something like `456`. If you try printing it from a `message.chat_id` you will see `-1000000000456`. This ID helps Telethon know you're talking about a Channel.

2.12.3 Converting IDs

You can convert between the "marked" identifiers (prefixed with a minus sign) and the real ones with `utils.resolve_id`. It will return a tuple with the real ID, and the peer type (the class):

```python
from telethon import utils
real_id, peer_type = utils.resolve_id(-1000000000456)

print(real_id)  # 456
print(peer_type)  # <class 'telethon.tl.types.PeerChannel'>

peer = peer_type(real_id)
print(peer)  # PeerChannel(channel_id=456)
```

The reverse operation can be done with `utils.get_peer_id`:

```python
print(utils.get_peer_id(types.PeerChannel(456)))  # -1000000000456
```

Note that this function can also work with other types, like Chat or Channel instances.

If you need to convert other types like usernames which might need to perform API calls to find out the identifier, you can use `client.get_peer_id`:

```python
print(await client.get_peer_id('me'))  # your id
```

If there is no "mark" (no minus sign), Telethon will assume your identifier refers to a User. If this is **not** the case, you can manually fix it:

```
from telethon import types
await client.send_message(types.PeerChannel(456), 'hello')
#                        ^^^^^^^^^^^^^^^^^ explicit peer type
```

2.12.4 A note on raw API

Certain methods only work on a Chat, and some others only work on a Channel (and these may only work in broadcast, or megagroup). Your code likely knows what it's working with, so it shouldn't be too much of an issue.

If you need to find the Channel from a Chat that migrated to it, access the `migrated_to` property:

```
# chat is a Chat
channel = await client.get_entity(chat.migrated_to)
# channel is now a Channel
```

Channels do not have a "migrated_from", but a ChannelFull does. You can use GetFullChannelRequest to obtain this:

```
from telethon import functions
full = await client(functions.channels.GetFullChannelRequest(your_channel))
full_channel = full.full_chat
# full_channel is a ChannelFull
print(full_channel.migrated_from_chat_id)
```

This way, you can also access the linked discussion megagroup of a broadcast channel:

```
print(full_channel.linked_chat_id)  # prints ID of linked discussion group or None
```

You do not need to use `client.get_entity` to access the `migrated_from_chat_id` Chat or the `linked_chat_id` Channel. They are in the `full.chats` attribute:

```
if full_channel.migrated_from_chat_id:
    migrated_from_chat = next(c for c in full.chats if c.id == full_channel.migrated_
↪from_chat_id)
    print(migrated_from_chat.title)

if full_channel.linked_chat_id:
    linked_group = next(c for c in full.chats if c.id == full_channel.linked_chat_id)
    print(linked_group.username)
```

2.13 Updates in Depth

2.13.1 Properties vs. Methods

The event shown above acts just like a `custom.Message`, which means you can access all the properties it has, like `.sender`.

However events are different to other methods in the client, like `client.get_messages`. Events *may not* send information about the sender or chat, which means it can be None, but all the methods defined in the client always have this information so it doesn't need to be re-fetched. For this reason, you have `get_` methods, which will make a network call if necessary.

In short, you should do this:

```
@client.on(events.NewMessage)
async def handler(event):
    # event.input_chat may be None, use event.get_input_chat()
    chat = await event.get_input_chat()
    sender = await event.get_sender()
    buttons = await event.get_buttons()

async def main():
    async for message in client.iter_messages('me', 10):
        # Methods from the client always have these properties ready
        chat = message.input_chat
        sender = message.sender
        buttons = message.buttons
```

Notice, properties (`message.sender`) don't need an `await`, but methods (`message.get_sender`) **do** need an `await`, and you should use methods in events for these properties that may need network.

2.13.2 Events Without the client

The code of your application starts getting big, so you decide to separate the handlers into different files. But how can you access the client from these files? You don't need to! Just *events.register* them:

```
# handlers/welcome.py
from telethon import events

@events.register(events.NewMessage('(?i)hello'))
async def handler(event):
    client = event.client
    await event.respond('Hey!')
    await client.send_message('me', 'I said hello to someone')
```

Registering events is a way of saying "this method is an event handler". You can use *telethon.events.is_handler* to check if any method is a handler. You can think of them as a different approach to Flask's blueprints.

It's important to note that this does **not** add the handler to any client! You never specified the client on which the handler should be used. You only declared that it is a handler, and its type.

To actually use the handler, you need to *client.add_event_handler* to the client (or clients) where they should be added to:

```
# main.py
from telethon import TelegramClient
import handlers.welcome

with TelegramClient(...) as client:
    client.add_event_handler(handlers.welcome.handler)
    client.run_until_disconnected()
```

This also means that you can register an event handler once and then add it to many clients without re-declaring the event.

2.13.3 Events Without Decorators

If for any reason you don't want to use `telethon.events.register`, you can explicitly pass the event handler to use to the mentioned `client.add_event_handler`:

```python
from telethon import TelegramClient, events


async def handler(event):
    ...


with TelegramClient(...) as client:
    client.add_event_handler(handler, events.NewMessage)
    client.run_until_disconnected()
```

Similarly, you also have `client.remove_event_handler` and `client.list_event_handlers`.

The `event` argument is optional in all three methods and defaults to `events.Raw` for adding, and `None` when removing (so all callbacks would be removed).

Note: The `event` type is ignored in `client.add_event_handler` if you have used `telethon.events.register` on the `callback` before, since that's the point of using such method at all.

2.13.4 Stopping Propagation of Updates

There might be cases when an event handler is supposed to be used solitary and it makes no sense to process any other handlers in the chain. For this case, it is possible to raise a `telethon.events.StopPropagation` exception which will cause the propagation of the update through your handlers to stop:

```python
from telethon.events import StopPropagation

@client.on(events.NewMessage)
async def _(event):
    # ... some conditions
    await event.delete()

    # Other handlers won't have an event to work with
    raise StopPropagation

@client.on(events.NewMessage)
async def _(event):
    # Will never be reached, because it is the second handler
    # in the chain.
    pass
```

Remember to check *Update Events* if you're looking for the methods reference.

2.13.5 Understanding asyncio

With `asyncio`, the library has several tasks running in the background. One task is used for sending requests, another task is used to receive them, and a third one is used to handle updates.

To handle updates, you must keep your script running. You can do this in several ways. For instance, if you are *not* running `asyncio`'s event loop, you should use `client.run_until_disconnected`:

```python
import asyncio
from telethon import TelegramClient

client = TelegramClient(...)
...
client.run_until_disconnected()
```

Behind the scenes, this method is `await`'ing on the `client.disconnected` property, so the code above and the following are equivalent:

```python
import asyncio
from telethon import TelegramClient

client = TelegramClient(...)

async def main():
    await client.disconnected

asyncio.run(main())
```

You could also run `client.disconnected` until it completed.

But if you don't want to `await`, then you should know what you want to be doing instead! What matters is that you shouldn't let your script die. If you don't care about updates, you don't need any of this.

Notice that unlike `client.disconnected`, `client.run_until_disconnected` will handle `KeyboardInterrupt` for you. This method is special and can also be ran while the loop is running, so you can do this:

```python
async def main():
    await client.run_until_disconnected()

loop.run_until_complete(main())
```

2.13.6 Sequential Updates

If you need to process updates sequentially (i.e. not in parallel), you should set `sequential_updates=True` when creating the client:

```python
with TelegramClient(..., sequential_updates=True) as client:
    ...
```

2.14 Session Files

Contents

- *Session Files*
  - *What are Sessions?*
  - *Different Session Storage*
  - *Creating your Own Storage*
  - *String Sessions*

They are an important part for the library to be efficient, such as caching and handling your authorization key (or you would have to login every time!).

2.14.1 What are Sessions?

The first parameter you pass to the constructor of the *TelegramClient* is the `session`, and defaults to be the session name (or full path). That is, if you create a `TelegramClient('anon')` instance and connect, an `anon.session` file will be created in the working directory.

Note that if you pass a string it will be a file in the current working directory, although you can also pass absolute paths.

The session file contains enough information for you to login without re-sending the code, so if you have to enter the code more than once, maybe you're changing the working directory, renaming or removing the file, or using random names.

These database files using `sqlite3` contain the required information to talk to the Telegram servers, such as to which IP the client should connect, port, authorization key so that messages can be encrypted, and so on.

These files will by default also save all the input entities that you've seen, so that you can get information about a user or channel by just their ID. Telegram will **not** send their `access_hash` required to retrieve more information about them, if it thinks you have already seem them. For this reason, the library needs to store this information offline.

The library will by default too save all the entities (chats and channels with their name and username, and users with the phone too) in the session file, so that you can quickly access them by username or phone number.

If you're not going to work with updates, or don't need to cache the `access_hash` associated with the entities' ID, you can disable this by setting `client.session.save_entities = False`.

2.14.2 Different Session Storage

If you don't want to use the default SQLite session storage, you can also use one of the other implementations or implement your own storage.

While it's often not the case, it's possible that SQLite is slow enough to be noticeable, in which case you can also use a different storage. Note that this is rare and most people won't have this issue, but it's worth a mention.

To use a custom session storage, simply pass the custom session instance to *TelegramClient* instead of the session name.

Telethon contains three implementations of the abstract `Session` class:

- *MemorySession*: stores session data within memory.

- *SQLiteSession*: stores sessions within on-disk SQLite databases. Default.

- *StringSession*: stores session data within memory, but can be saved as a string.

You can import these `from telethon.sessions`. For example, using the *StringSession* is done as follows:

```python
from telethon.sync import TelegramClient
from telethon.sessions import StringSession

with TelegramClient(StringSession(string), api_id, api_hash) as client:
    ...  # use the client

    # Save the string session as a string; you should decide how
    # you want to save this information (over a socket, remote
    # database, print it and then paste the string in the code,
    # etc.); the advantage is that you don't need to save it
    # on the current disk as a separate file, and can be reused
    # anywhere else once you log in.
    string = client.session.save()

# Note that it's also possible to save any other session type
# as a string by using ``StringSession.save(session_instance)``:
client = TelegramClient('sqlite-session', api_id, api_hash)
string = StringSession.save(client.session)
```

There are other community-maintained implementations available:

- SQLAlchemy: stores all sessions in a single database via SQLAlchemy.

- Redis: stores all sessions in a single Redis data store.

- MongoDB: stores the current session in a MongoDB database.

2.14.3 Creating your Own Storage

The easiest way to create your own storage implementation is to use *MemorySession* as the base and check out how *SQLiteSession* or one of the community-maintained implementations work. You can find the relevant Python files under the `sessions/` directory in the Telethon's repository.

After you have made your own implementation, you can add it to the community-maintained session implementation list above with a pull request.

2.14.4 String Sessions

StringSession are a convenient way to embed your login credentials directly into your code for extremely easy portability, since all they take is a string to be able to login without asking for your phone and code (or faster start if you're using a bot token).

The easiest way to generate a string session is as follows:

```python
from telethon.sync import TelegramClient
from telethon.sessions import StringSession

with TelegramClient(StringSession(), api_id, api_hash) as client:
    print(client.session.save())
```

Think of this as a way to export your authorization key (what's needed to login into your account). This will print a string in the standard output (likely your terminal).

> **Warning: Keep this string safe!** Anyone with this string can use it to login into your account and do anything
> they want to.
>
> This is similar to leaking your `*.session` files online, but it is easier to leak a string than it is to leak a file.

Once you have the string (which is a bit long), load it into your script somehow. You can use a normal text file and
`open(...).read()` it or you can save it in a variable directly:

```
string = '1aaNk8EX-YRfwoRsebUkugFvht6DUPi_Q25UOCzOAqzc...'
with TelegramClient(StringSession(string), api_id, api_hash) as client:
    client.loop.run_until_complete(client.send_message('me', 'Hi'))
```

These strings are really convenient for using in places like Heroku since their ephemeral filesystem will delete external
files once your application is over.

2.15 The Full API

> **Important:**   While you have access to this, you should always use the friendly methods listed on *Client Reference*
> unless you have a better reason not to, like a method not existing or you wanting more control.

> **Contents**
>
> - *The Full API*
>   - *Introduction*
>   - *Navigating the TL reference*
>   * *Functions*
>   * *Types*
>   * *Constructors*
>   - *Using the TL reference*
>   - *Example walkthrough*
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2.15.1 Introduction

The *TelegramClient* doesn't offer a method for every single request the Telegram API supports. However, it's very
simple to *call* or *invoke* any request defined in Telegram's API.

This section will teach you how to use what Telethon calls the TL reference. The linked page contains a list and a way
to search through *all* types generated from the definition of Telegram's API (in `.tl` file format, hence the name). These
types include requests and constructors.

> **Note:**   The reason to keep both https://tl.telethon.dev and this documentation alive is that the former allows instant
> search results as you type, and a "Copy import" button. If you like namespaces, you can also do `from telethon.tl`

```
import types, functions. Both work.
```

Telegram makes these `.tl` files public, which other implementations, such as Telethon, can also use to generate code. These files are versioned under what's called "layers". `.tl` files consist of thousands of definitions, and newer layers often add, change, or remove them. Each definition refers to either a Remote Procedure Call (RPC) function, or a type (which the TL reference calls "constructors", as they construct particular type instances).

As such, the TL reference is a good place to go to learn about all possible requests, types, and what they look like. If you're curious about what's been changed between layers, you can refer to the TL diff site.

2.15.2 Navigating the TL reference

Functions

"Functions" is the term used for the Remote Procedure Calls (RPC) that can be sent to Telegram to ask it to perform something (e.g. "send message"). These requests have an associated return type. These can be invoked ("called"):

```python
client = TelegramClient(...)
function_instance = SomeRequest(...)

# Invoke the request
returned_type = await client(function_instance)
```

Whenever you find the type for a function in the TL reference, the page will contain the following information:

- What type of account can use the method. This information is regenerated from time to time (by attempting to invoke the function under both account types and finding out where it fails). Some requests can only be used by bot accounts, others by user accounts, and others by both.

- The TL definition. This helps you get a feel for the what the function looks like. This is not Python code. It just contains the definition in a concise manner.

- "Copy import" button. Does what it says: it will copy the necessary Python code to import the function to your system's clipboard for easy access.

- Returns. The returned type. When you invoke the function, this is what the result will be. It also includes which of the constructors can be returned inline, to save you a click.

- Parameters. The parameters accepted by the function, including their type, whether they expect a list, and whether they're optional.

- Known RPC errors. A best-effort list of known errors the request may cause. This list is not complete and may be out of date, but should provide an overview of what could go wrong.

- Example. Autogenerated example, showcasing how you may want to call it. Bear in mind that this is *autogenerated*. It may be spitting out non-sense. The goal of this example is not to show you everything you can do with the request, only to give you a feel for what it looks like to use it.

It is very important to click through the links and navigate to get the full picture. A specific page will show you what the specific function returns and needs as input parameters. But it may reference other types, so you need to navigate to those to learn what those contain or need.

Types

"Types" as understood by TL are not actually generated in Telethon. They would be the "abstract base class" of the constructors, but since Python is duck-typed, there is hardly any need to generate mostly unnecessary code. The page for a type contains:

- Constructors. Every type will have one or more constructors. These constructors *are* generated and can be immported and used.

- Requests returning this type. A helpful way to find out "what requests can return this?". This is how you may learn what request you need to use to obtain a particular instance of a type.

- Requests accepting this type as input. A helpful way to find out "what requests can use this type as one of their input parameters?". This is how you may learn where a type is used.

- Other types containing this type. A helpful way to find out "where else does this type appear?". This is how you can walk back through nested objects.

Constructors

Constructors are used to create instances of a particular type, and are also returned when invoking requests. You will have to create instances yourself when invoking requests that need a particular type as input. The page for a constructor contains:

- Belongs to. The parent type. This is a link back to the types page for the specific constructor. It also contains the sibling constructors inline, to save you a click.

- Members. Both the input parameters *and* fields the constructor contains.

2.15.3 Using the TL reference

After you've found a request you want to send, a good start would be to simply copy and paste the autogenerated example into your script. Then you can simply tweak it to your needs.

If you want to do it from scratch, first, make sure to import the request into your code (either using the "Copy import" button near the top, or by manually spelling out the package under `telethon.tl.functions.*`).

Then, start reading the parameters one by one. If the parameter cannot be omitted, you **will** need to specify it, so make sure to spell it out as an input parameter when constructing the request instance. Let's look at PingRequest for example. First, we copy the import:

```python
from telethon.tl.functions import PingRequest
```

Then, we look at the parameters:

> ping_id - long

A single parameter, and it's a long (a integer number with a large range of values). It doesn't say it can be omitted, so we must provide it, like so:

```python
PingRequest(
    ping_id=48641868471
)
```

(In this case, the ping ID is a random number. You often have to guess what the parameter needs just by looking at the name.)

Now that we have our request, we can invoke it:

```
response = await client(PingRequest(
    ping_id=48641868471
))
```

To find out what `response` looks like, we can do as the autogenerated example suggests and "stringify" the result as a pretty-printed string:

```
print(result.stringify())
```

This will print out the following:

```
Pong(
    msg_id=781875678118,
    ping_id=48641868471
)
```

Which is a very easy way to get a feel for a response. You should nearly always print the stringified result, at least once, when trying out requests, to get a feel for what the response may look like.

But of course, you don't need to do that. Without writing any code, you could have navigated through the "Returns" link to learn `PingRequest` returns a `Pong`, which only has one constructor, and the constructor has two members, `msg_id` and `ping_id`.

If you wanted to create your own `Pong`, you would use both members as input parameters:

```
my_pong = Pong(
    msg_id=781875678118,
    ping_id=48641868471
)
```

(Yes, constructing object instances can use the same code that `.stringify` would return!)

And if you wanted to access the `msg_id` member, you would simply access it like any other attribute access in Python:

```
print(response.msg_id)
```

2.15.4 Example walkthrough

Say `client.send_message()` didn't exist, we could use the search to look for "message". There we would find SendMessageRequest, which we can work with.

Every request is a Python class, and has the parameters needed for you to invoke it. You can also call `help(request)` for information on what input parameters it takes. Remember to "Copy import to the clipboard", or your script won't be aware of this class! Now we have:

```
from telethon.tl.functions.messages import SendMessageRequest
```

If you're going to use a lot of these, you may do:

```
from telethon.tl import types, functions
# We now have access to 'functions.messages.SendMessageRequest'
```

We see that this request must take at least two parameters, a `peer` of type InputPeer, and a `message` which is just a Python string.

How can we retrieve this InputPeer? We have two options. We manually construct one, for instance:

```
from telethon.tl.types import InputPeerUser

peer = InputPeerUser(user_id, user_hash)
```

Or we call *client.get_input_entity()*:

```
import telethon

async def main():
    peer = await client.get_input_entity('someone')

client.loop.run_until_complete(main())
```

Note: Remember that `await` must occur inside an `async def`. Every full API example assumes you already know and do this.

When you're going to invoke an API method, most require you to pass an InputUser, InputChat, or so on, this is why using *client.get_input_entity()* is more straightforward (and often immediate, if you've seen the user before, know their ID, etc.). If you also **need** to have information about the whole user, use *client.get_entity()* instead:

```
entity = await client.get_entity('someone')
```

In the later case, when you use the entity, the library will cast it to its "input" version for you. If you already have the complete user and want to cache its input version so the library doesn't have to do this every time its used, simply call *telethon.utils.get_input_peer*:

```
from telethon import utils
peer = utils.get_input_peer(entity)
```

Note: Since `v0.16.2` this is further simplified. The `Request` itself will call *client.get_input_entity* for you when required, but it's good to remember what's happening.

After this small parenthesis about *client.get_entity* versus *client.get_input_entity()*, we have everything we need. To invoke our request we do:

```
result = await client(SendMessageRequest(peer, 'Hello there!'))
```

Message sent! Of course, this is only an example. There are over 250 methods available as of layer 80, and you can use every single of them as you wish. Remember to use the right types! To sum up:

```
result = await client(SendMessageRequest(
    await client.get_input_entity('username'), 'Hello there!'
))
```

This can further be simplified to:

```
result = await client(SendMessageRequest('username', 'Hello there!'))
# Or even
result = await client(SendMessageRequest(PeerChannel(id), 'Hello there!'))
```

Note: Note that some requests have a "hash" parameter. This is **not** your `api_hash`! It likely isn't your self-user `.access_hash` either.

It's a special hash used by Telegram to only send a difference of new data that you don't already have with that request, so you can leave it to 0, and it should work (which means no hash is known yet).

For those requests having a "limit" parameter, you can often set it to zero to signify "return default amount". This won't work for all of them though, for instance, in "messages.search" it will actually return 0 items.

2.15.5 Requests in Parallel

The library will automatically merge outgoing requests into a single *container*. Telegram's API supports sending multiple requests in a single container, which is faster because it has less overhead and the server can run them without waiting for others. You can also force using a container manually:

```python
async def main():

    # Letting the library do it behind the scenes
    await asyncio.wait([
        client.send_message('me', 'Hello'),
        client.send_message('me', ','),
        client.send_message('me', 'World'),
        client.send_message('me', '.')
    ])

    # Manually invoking many requests at once
    await client([
        SendMessageRequest('me', 'Hello'),
        SendMessageRequest('me', ', '),
        SendMessageRequest('me', 'World'),
        SendMessageRequest('me', '.')
    ])
```

Note that you cannot guarantee the order in which they are run. Try running the above code more than one time. You will see the order in which the messages arrive is different.

If you use the raw API (the first option), you can use `ordered` to tell the server that it should run the requests sequentially. This will still be faster than going one by one, since the server knows all requests directly:

```python
await client([
    SendMessageRequest('me', 'Hello'),
    SendMessageRequest('me', ', '),
    SendMessageRequest('me', 'World'),
    SendMessageRequest('me', '.')
], ordered=True)
```

If any of the requests fails with a Telegram error (not connection errors or any other unexpected events), the library will raise *telethon.errors.common.MultiError*. You can `except` this and still access the successful results:

```python
from telethon.errors import MultiError

try:
```

(continues on next page)

```python
    await client([
        SendMessageRequest('me', 'Hello'),
        SendMessageRequest('me', ''),
        SendMessageRequest('me', 'World')
    ], ordered=True)
except MultiError as e:
    # The first and third requests worked.
    first = e.results[0]
    third = e.results[2]
    # The second request failed.
    second = e.exceptions[1]
```

2.16 RPC Errors

RPC stands for Remote Procedure Call, and when the library raises a `RPCError`, it's because you have invoked some of the API methods incorrectly (wrong parameters, wrong permissions, or even something went wrong on Telegram's server).

You should import the errors from `telethon.errors` like so:

```python
from telethon import errors

try:
    async with client.takeout() as takeout:
        ...

except errors.TakeoutInitDelayError as e:
    #      ^^^^^^^^^^^^^^^^^^^^^^^^^^ here we except TAKEOUT_INIT_DELAY
    print('Must wait', e.seconds, 'before takeout')
```

There isn't any official list of all possible RPC errors, so the list of known errors is provided on a best-effort basis. When new methods are available, the list may be lacking since we simply don't know what errors can raise from them.

Once we do find out about a new error and what causes it, the list is updated, so if you see an error without a specific class, do report it (and what method caused it)!.

This list is used to generate documentation for the raw API page. For example, if we want to know what errors can occur from messages.sendMessage we can simply navigate to its raw API page and find it has 24 known RPC errors at the time of writing.

2.16.1 Base Errors

All the "base" errors are listed in *API Errors*. Any other more specific error will be a subclass of these.

If the library isn't aware of a specific error just yet, it will instead raise one of these superclasses. This means you may find stuff like this:

```
telethon.errors.rpcbaseerrors.BadRequestError: RPCError 400: MESSAGE_POLL_CLOSED (caused
→by SendVoteRequest)
```

If you do, make sure to open an issue or send a pull request to update the list of known errors.

2.16.2 Common Errors

These are some of the errors you may normally need to deal with:

- `FloodWaitError` (420), the same request was repeated many times. Must wait `.seconds` (you can access this attribute). For example:

```
...
from telethon import errors

try:
    messages = await client.get_messages(chat)
    print(messages[0].text)
except errors.FloodWaitError as e:
    print('Have to sleep', e.seconds, 'seconds')
    time.sleep(e.seconds)
```

- `SessionPasswordNeededError`, if you have setup two-steps verification on Telegram and are trying to sign in.

- `FilePartMissingError`, if you have tried to upload an empty file.

- `ChatAdminRequiredError`, you don't have permissions to perform said operation on a chat or channel. Try avoiding filters, i.e. when searching messages.

The generic classes for different error codes are:

- `InvalidDCError` (303), the request must be repeated on another DC.

- `BadRequestError` (400), the request contained errors.

- `UnauthorizedError` (401), the user is not authorized yet.

- `ForbiddenError` (403), privacy violation error.

- `NotFoundError` (404), make sure you're invoking `Request`'s!

If the error is not recognised, it will only be an `RPCError`.

You can refer to all errors from Python through the `telethon.errors` module. If you don't know what attributes they have, try printing their dir (like `print(dir(e))`).

2.16.3 Attributes

Some of the errors carry additional data in them. When they look like `EMAIL_UNCONFIRMED_X`, the `_X` value will be accessible from the error instance. The current list of errors that do this is the following:

- `EmailUnconfirmedError` has `.code_length`.

- `FileMigrateError` has `.new_dc`.

- `FilePartMissingError` has `.which`.

- `FloodTestPhoneWaitError` has `.seconds`.

- `FloodWaitError` has `.seconds`.

- `InterdcCallErrorError` has `.dc`.

- `InterdcCallRichErrorError` has `.dc`.

- `NetworkMigrateError` has `.new_dc`.

- `PhoneMigrateError` has `.new_dc`.

- `SlowModeWaitError` has `.seconds`.

- `TakeoutInitDelayError` has `.seconds`.

- `UserMigrateError` has `.new_dc`.

2.16.4 Avoiding Limits

Don't spam. You won't get `FloodWaitError` or your account banned or deleted if you use the library *for legit use cases*. Make cool tools. Don't spam! Nobody knows the exact limits for all requests since they depend on a lot of factors, so don't bother asking.

Still, if you do have a legit use case and still get those errors, the library will automatically sleep when they are smaller than 60 seconds by default. You can set different "auto-sleep" thresholds:

```python
client.flood_sleep_threshold = 0  # Don't auto-sleep
client.flood_sleep_threshold = 24 * 60 * 60  # Sleep always
```

You can also except it and act as you prefer:

```python
from telethon.errors import FloodWaitError
try:
    ...
except FloodWaitError as e:
    print('Flood waited for', e.seconds)
    quit(1)
```

VoIP numbers are very limited, and some countries are more limited too.

2.17 HTTP Bot API vs MTProto

Telethon is more than just another viable alternative when developing bots for Telegram. If you haven't decided which wrapper library for bots to use yet, using Telethon from the beginning may save you some headaches later.

Contents

2.17.1 What is Bot API?

The Telegram Bot API, also known as HTTP Bot API and from now on referred to as simply "Bot API" is Telegram's official way for developers to control their own Telegram bots. Quoting their main page:

> The Bot API is an HTTP-based interface created for developers keen on building bots for Telegram.

> To learn how to create and set up a bot, please consult our Introduction to Bots and Bot FAQ.

Bot API is simply an HTTP endpoint which translates your requests to it into MTProto calls through tdlib, their bot backend.

Configuration of your bot, such as its available commands and auto-completion, is configured through @BotFather.

2.17.2 What is MTProto?

MTProto is Telegram's own protocol to communicate with their API when you connect to their servers.

Telethon is an alternative MTProto-based backend written entirely in Python and much easier to setup and use.

Both official applications and third-party clients (like your own applications) logged in as either user or bots **can use MTProto** to communicate directly with Telegram's API (which is not the HTTP bot API).

When we talk about MTProto, we often mean "MTProto-based clients".

2.17.3 Advantages of MTProto over Bot API

MTProto clients (like Telethon) connect directly to Telegram's servers, which means there is no HTTP connection, no "polling" or "web hooks". This means **less overhead**, since the protocol used between you and the server is much more compact than HTTP requests with responses in wasteful JSON.

Since there is a direct connection to Telegram's servers, even if their Bot API endpoint is down, you can still have connection to Telegram directly.

Using a MTProto client, you are also not limited to the public API that they expose, and instead, **you have full control** of what your bot can do. Telethon offers you all the power with often **much easier usage** than any of the available Python Bot API wrappers.

If your application ever needs user features because bots cannot do certain things, you will be able to easily login as a user and even keep your bot without having to learn a new library.

If less overhead and full control didn't convince you to use Telethon yet, check out the wiki page MTProto vs HTTP Bot API with a more exhaustive and up-to-date list of differences.

2.17.4 Migrating from Bot API to Telethon

It doesn't matter if you wrote your bot with requests and you were making API requests manually, or if you used a wrapper library like python-telegram-bot or pyTelegramBotAPI. It's never too late to migrate to Telethon!

If you were using an asynchronous library like aiohttp or a wrapper like aiogram or dumbot, it will be even easier, because Telethon is also an asynchronous library.

Next, we will see some examples from the most popular libraries.

Migrating from python-telegram-bot

Let's take their echobot.py example and shorten it a bit:

```python
from telegram.ext import Updater, CommandHandler, MessageHandler, Filters

def start(update, context):
    """Send a message when the command /start is issued."""
    update.message.reply_text('Hi!')

def echo(update, context):
    """Echo the user message."""
    update.message.reply_text(update.message.text)

def main():
    """Start the bot."""
    updater = Updater("TOKEN")
    dp = updater.dispatcher
    dp.add_handler(CommandHandler("start", start))
    dp.add_handler(MessageHandler(Filters.text & ~Filters.command, echo))

    updater.start_polling()

    updater.idle()

if __name__ == '__main__':
    main()
```

After using Telethon:

```python
from telethon import TelegramClient, events

bot = TelegramClient('bot', 11111, 'a1b2c3d4').start(bot_token='TOKEN')

@bot.on(events.NewMessage(pattern='/start'))
async def start(event):
    """Send a message when the command /start is issued."""
    await event.respond('Hi!')
    raise events.StopPropagation

@bot.on(events.NewMessage)
async def echo(event):
    """Echo the user message."""
    await event.respond(event.text)

def main():
    """Start the bot."""
    bot.run_until_disconnected()

if __name__ == '__main__':
    main()
```

Key differences:

- The recommended way to do it imports fewer things.

- All handlers trigger by default, so we need `events.StopPropagation`.

- Adding handlers, responding and running is a lot less verbose.

- Telethon needs `async def` and `await`.

- The bot isn't hidden away by `Updater` or `Dispatcher`.

Migrating from pyTelegramBotAPI

Let's show another echobot from their README:

```python
import telebot

bot = telebot.TeleBot("TOKEN")

@bot.message_handler(commands=['start'])
def send_welcome(message):
    bot.reply_to(message, "Howdy, how are you doing?")

@bot.message_handler(func=lambda m: True)
def echo_all(message):
    bot.reply_to(message, message.text)

bot.polling()
```

Now we rewrite it to use Telethon:

```python
from telethon import TelegramClient, events

bot = TelegramClient('bot', 11111, 'a1b2c3d4').start(bot_token='TOKEN')

@bot.on(events.NewMessage(pattern='/start'))
async def send_welcome(event):
    await event.reply('Howdy, how are you doing?')

@bot.on(events.NewMessage)
async def echo_all(event):
    await event.reply(event.text)

bot.run_until_disconnected()
```

Key differences:

- Instead of doing `bot.reply_to(message)`, we can do `event.reply`. Note that the `event` behaves just like their `message`.

- Telethon also supports `func=lambda m:   True`, but it's not necessary.

Migrating from aiogram

From their GitHub:

```python
from aiogram import Bot, Dispatcher, executor, types

API_TOKEN = 'BOT TOKEN HERE'

# Initialize bot and dispatcher
bot = Bot(token=API_TOKEN)
dp = Dispatcher(bot)


@dp.message_handler(commands=['start'])
async def send_welcome(message: types.Message):
    """
    This handler will be called when client send `/start` command.
    """
    await message.reply("Hi!\nI'm EchoBot!\nPowered by aiogram.")


@dp.message_handler(regexp='(^cat[s]?$|puss)')
async def cats(message: types.Message):
    with open('data/cats.jpg', 'rb') as photo:
        await bot.send_photo(message.chat.id, photo, caption='Cats is here ',
                             reply_to_message_id=message.message_id)


@dp.message_handler()
async def echo(message: types.Message):
    await bot.send_message(message.chat.id, message.text)


if __name__ == '__main__':
    executor.start_polling(dp, skip_updates=True)
```

After rewrite:

```python
from telethon import TelegramClient, events

# Initialize bot and... just the bot!
bot = TelegramClient('bot', 11111, 'a1b2c3d4').start(bot_token='TOKEN')


@bot.on(events.NewMessage(pattern='/start'))
async def send_welcome(event):
    await event.reply('Howdy, how are you doing?')


@bot.on(events.NewMessage(pattern='(^cat[s]?$|puss)'))
async def cats(event):
    await event.reply('Cats is here ', file='data/cats.jpg')


@bot.on(events.NewMessage)
async def echo_all(event):
    await event.reply(event.text)


if __name__ == '__main__':
    bot.run_until_disconnected()
```

Key differences:

- Telethon offers convenience methods to avoid retyping `bot.send_photo(message.chat.id, ...)` all the time, and instead let you type `event.reply`.

- Sending files is **a lot** easier. The methods for sending photos, documents, audios, etc. are all the same!

Migrating from dumbot

Showcasing their subclassing example:

```python
from dumbot import Bot

class Subbot(Bot):
    async def init(self):
        self.me = await self.getMe()

    async def on_update(self, update):
        await self.sendMessage(
            chat_id=update.message.chat.id,
            text='i am {}'.format(self.me.username)
        )

Subbot(token).run()
```

After rewriting:

```python
from telethon import TelegramClient, events

class Subbot(TelegramClient):
    def __init__(self, *a, **kw):
        super().__init__(*a, **kw)
        self.add_event_handler(self.on_update, events.NewMessage)

    async def connect():
        await super().connect()
        self.me = await self.get_me()

    async def on_update(event):
        await event.reply('i am {}'.format(self.me.username))

bot = Subbot('bot', 11111, 'a1b2c3d4').start(bot_token='TOKEN')
bot.run_until_disconnected()
```

Key differences:

- Telethon method names are `snake_case`.

- dumbot does not offer friendly methods like `update.reply`.

- Telethon does not have an implicit `on_update` handler, so we need to manually register one.

2.18 Mastering asyncio

Contents

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    - *What are asyncio basics?*
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    - *client.run_until_disconnected() blocks!*
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    - *Why does client.start() work outside async?*
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2.18.1 What's asyncio?

`asyncio` is a Python 3's built-in library. This means it's already installed if you have Python 3. Since Python 3.5, it is convenient to work with asynchronous code. Before (Python 3.4) we didn't have `async` or `await`, but now we do.

`asyncio` stands for *Asynchronous Input Output*. This is a very powerful concept to use whenever you work IO. Interacting with the web or external APIs such as Telegram's makes a lot of sense this way.

2.18.2 Why asyncio?

Asynchronous IO makes a lot of sense in a library like Telethon. You send a request to the server (such as "get some message"), and thanks to `asyncio`, your code won't block while a response arrives.

The alternative would be to spawn a thread for each update so that other code can run while the response arrives. That is *a lot* more expensive.

The code will also run faster, because instead of switching back and forth between the OS and your script, your script can handle it all. Avoiding switching saves quite a bit of time, in Python or any other language that supports asynchronous IO. It will also be cheaper, because tasks are smaller than threads, which are smaller than processes.

2.18.3 What are asyncio basics?

The code samples below assume that you have Python 3.7 or greater installed.

```python
# First we need the asyncio library
import asyncio

# We also need something to run
async def main():
    for char in 'Hello, world!\n':
        print(char, end='', flush=True)
        await asyncio.sleep(0.2)

# Then, we can create a new asyncio loop and use it to run our coroutine.
# The creation and tear-down of the loop is hidden away from us.
asyncio.run(main())
```

2.18.4 What does telethon.sync do?

The moment you import any of these:

```python
from telethon import sync, ...
# or
from telethon.sync import ...
# or
import telethon.sync
```

The `sync` module rewrites most `async def` methods in Telethon to something similar to this:

```python
def new_method():
    result = original_method()
    if loop.is_running():
        # the loop is already running, return the await-able to the user
        return result
    else:
        # the loop is not running yet, so we can run it for the user
        return loop.run_until_complete(result)
```

That means you can do this:

```python
print(client.get_me().username)
```

Instead of this:

```python
me = client.loop.run_until_complete(client.get_me())
print(me.username)

# or, using asyncio's default loop (it's the same)
import asyncio
loop = asyncio.get_running_loop()   # == client.loop
me = loop.run_until_complete(client.get_me())
print(me.username)
```

As you can see, it's a lot of boilerplate and noise having to type `run_until_complete` all the time, so you can let the magic module to rewrite it for you. But notice the comment above: it won't run the loop if it's already running, because it can't. That means this:

```python
async def main():
    # 3. the loop is running here
    print(
        client.get_me()  # 4. this will return a coroutine!
        .username  # 5. this fails, coroutines don't have usernames
    )

loop.run_until_complete(  # 2. run the loop and the ``main()`` coroutine
    main()  # 1. calling ``async def`` "returns" a coroutine
)
```

Will fail. So if you're inside an `async def`, then the loop is running, and if the loop is running, you must `await` things yourself:

```python
async def main():
    print((await client.get_me()).username)

loop.run_until_complete(main())
```

2.18.5 What are async, await and coroutines?

The `async` keyword lets you define asynchronous functions, also known as coroutines, and also iterate over asynchronous loops or use `async with`:

```python
import asyncio

async def main():
    # ^ this declares the main() coroutine function

    async with client:
        # ^ this is an asynchronous with block

        async for message in client.iter_messages(chat):
            # ^ this is a for loop over an asynchronous generator

            print(message.sender.username)

asyncio.run(main())
# ^ this will create a new asyncio loop behind the scenes and tear it down
#   once the function returns. It will run the loop untiil main finishes.
#   You should only use this function if there is no other loop running.
```

The `await` keyword blocks the *current* task, and the loop can run other tasks. Tasks can be thought of as "threads", since many can run concurrently:

```python
import asyncio

async def hello(delay):
    await asyncio.sleep(delay)  # await tells the loop this task is "busy"
```

(continues on next page)

```python
    print('hello')  # eventually the loop resumes the code here

async def world(delay):
    # the loop decides this method should run first
    await asyncio.sleep(delay)  # await tells the loop this task is "busy"
    print('world')  # eventually the loop finishes all tasks

async def main():
    asyncio.create_task(world(2))  # create the world task, passing 2 as delay
    asyncio.create_task(hello(delay=1))  # another task, but with delay 1
    await asyncio.sleep(3)  # wait for three seconds before exiting

try:
    # create a new temporary asyncio loop and use it to run main
    asyncio.run(main())
except KeyboardInterrupt:
    pass
```

The same example, but without the comment noise:

```python
import asyncio

async def hello(delay):
    await asyncio.sleep(delay)
    print('hello')

async def world(delay):
    await asyncio.sleep(delay)
    print('world')

async def main():
    asyncio.create_task(world(2))
    asyncio.create_task(hello(delay=1))
    await asyncio.sleep(3)

try:
    asyncio.run(main())
except KeyboardInterrupt:
    pass
```

2.18.6 Can I use threads?

Yes, you can, but you must understand that the loops themselves are not thread safe. and you must be sure to know what is happening. The easiest and cleanest option is to use `asyncio.run` to create and manage the new event loop for you:

```python
import asyncio
import threading

async def actual_work():
    client = TelegramClient(..., loop=loop)
```

```
    ...    # can use `await` here


def go():
    asyncio.run(actual_work())


threading.Thread(target=go).start()
```

Generally, **you don't need threads** unless you know what you're doing. Just create another task, as shown above. If you're using the Telethon with a library that uses threads, you must be careful to use `threading.Lock` whenever you use the client, or enable the compatible mode. For that, see *Compatibility and Convenience*.

You may have seen this error:

```
RuntimeError: There is no current event loop in thread 'Thread-1'.
```

It just means you didn't create a loop for that thread. Please refer to the `asyncio` documentation to correctly learn how to set the event loop for non-main threads.

2.18.7 client.run_until_disconnected() blocks!

All of what `client.run_until_disconnected()` does is run the `asyncio`'s event loop until the client is disconnected. That means *the loop is running*. And if the loop is running, it will run all the tasks in it. So if you want to run *other* code, create tasks for it:

```
from datetime import datetime


async def clock():
    while True:
        print('The time:', datetime.now())
        await asyncio.sleep(1)


loop.create_task(clock())
...
client.run_until_disconnected()
```

This creates a task for a clock that prints the time every second. You don't need to use `client.run_until_disconnected()` either! You just need to make the loop is running, somehow. `loop.run_forever()` and `loop.run_until_complete()` can also be used to run the loop, and Telethon will be happy with any approach.

Of course, there are better tools to run code hourly or daily, see below.

2.18.8 What else can asyncio do?

Asynchronous IO is a really powerful tool, as we've seen. There are plenty of other useful libraries that also use `asyncio` and that you can integrate with Telethon.

- aiohttp is like the infamous requests but asynchronous.
- quart is an asynchronous alternative to Flask.
- aiocron lets you schedule things to run things at a desired time, or run some tasks hourly, daily, etc.

And of course, asyncio itself! It has a lot of methods that let you do nice things. For example, you can run requests in parallel:

```python
async def main():
    last, sent, download_path = await asyncio.gather(
        client.get_messages('telegram', 10),
        client.send_message('me', 'Using asyncio!'),
        client.download_profile_photo('telegram')
    )


loop.run_until_complete(main())
```

This code will get the 10 last messages from @telegram, send one to the chat with yourself, and also download the profile photo of the channel. `asyncio` will run all these three tasks at the same time. You can run all the tasks you want this way.

A different way would be:

```python
loop.create_task(client.get_messages('telegram', 10))
loop.create_task(client.send_message('me', 'Using asyncio!'))
loop.create_task(client.download_profile_photo('telegram'))
```

They will run in the background as long as the loop is running too.

You can also start an asyncio server in the main script, and from another script, connect to it to achieve Inter-Process Communication. You can get as creative as you want. You can program anything you want. When you use a library, you're not limited to use only its methods. You can combine all the libraries you want. People seem to forget this simple fact!

2.18.9 Why does client.start() work outside async?

Because it's so common that it's really convenient to offer said functionality by default. This means you can set up all your event handlers and start the client without worrying about loops at all.

Using the client in a `with` block, *start*, *run_until_disconnected*, and *disconnect* all support this.

2.18.10 Where can I read more?

Check out my blog post about `asyncio`, which has some more examples and pictures to help you understand what happens when the loop runs.

2.19 A Word of Warning

Full API is **not** how you are intended to use the library. You **should** always prefer the *Client Reference*. However, not everything is implemented as a friendly method, so full API is your last resort.

If you select a method in *Client Reference*, you will most likely find an example for that method. This is how you are intended to use the library.

Full API **will** break between different minor versions of the library, since Telegram changes very often. The friendly methods will be kept compatible between major versions.

If you need to see real-world examples, please refer to the wiki page of projects using Telethon.

2.20 Working with Chats and Channels

Note: These examples assume you have read *The Full API*.

Contents

- *Working with Chats and Channels*
    - *Joining a chat or channel*
    - *Joining a public channel*
    - *Joining a private chat or channel*
    - *Adding someone else to such chat or channel*
    - *Checking a link without joining*
    - *Increasing View Count in a Channel*

2.20.1 Joining a chat or channel

Note that Chat are normal groups, and Channel are a special form of Chat, which can also be super-groups if their `megagroup` member is `True`.

2.20.2 Joining a public channel

Once you have the *entity* of the channel you want to join to, you can make use of the JoinChannelRequest to join such channel:

```python
from telethon.tl.functions.channels import JoinChannelRequest
await client(JoinChannelRequest(channel))

# In the same way, you can also leave such channel
from telethon.tl.functions.channels import LeaveChannelRequest
await client(LeaveChannelRequest(input_channel))
```

For more on channels, check the channels namespace.

2.20.3 Joining a private chat or channel

If all you have is a link like this one: `https://t.me/joinchat/AAAAAFFszQPyPEZ7wgxLtd`, you already have enough information to join! The part after the `https://t.me/joinchat/`, this is, `AAAAAFFszQPyPEZ7wgxLtd` on this example, is the `hash` of the chat or channel. Now you can use ImportChatInviteRequest as follows:

```python
from telethon.tl.functions.messages import ImportChatInviteRequest
updates = await client(ImportChatInviteRequest('AAAAAEHbEkejzxUjAUCfYg'))
```

2.20.4 Adding someone else to such chat or channel

If you don't want to add yourself, maybe because you're already in, you can always add someone else with the Add-ChatUserRequest, which use is very straightforward, or InviteToChannelRequest for channels:

```python
# For normal chats
from telethon.tl.functions.messages import AddChatUserRequest

# Note that ``user_to_add`` is NOT the name of the parameter.
# It's the user you want to add (``user_id=user_to_add``).
await client(AddChatUserRequest(
    chat_id,
    user_to_add,
    fwd_limit=10  # Allow the user to see the 10 last messages
))

# For channels (which includes megagroups)
from telethon.tl.functions.channels import InviteToChannelRequest

await client(InviteToChannelRequest(
    channel,
    [users_to_add]
))
```

Note that this method will only really work for friends or bot accounts. Trying to mass-add users with this approach will not work, and can put both your account and group to risk, possibly being flagged as spam and limited.

2.20.5 Checking a link without joining

If you don't need to join but rather check whether it's a group or a channel, you can use the CheckChatInviteRequest, which takes in the hash of said channel or group.

2.20.6 Increasing View Count in a Channel

It has been asked quite a few times (really, many), and while I don't understand why so many people ask this, the solution is to use GetMessagesViewsRequest, setting `increment=True`:

```python
# Obtain `channel' through dialogs or through client.get_entity() or anyhow.
# Obtain `msg_ids' through `.get_messages()` or anyhow. Must be a list.

await client(GetMessagesViewsRequest(
    peer=channel,
    id=msg_ids,
    increment=True
))
```

Note that you can only do this **once or twice a day** per account, running this in a loop will obviously not increase the views forever unless you wait a day between each iteration. If you run it any sooner than that, the views simply won't be increased.

2.21 Users

Note: These examples assume you have read *The Full API*.

Contents

- *Users*
    - *Retrieving full information*
    - *Updating your name and/or bio*
    - *Updating your username*
    - *Updating your profile photo*

2.21.1 Retrieving full information

If you need to retrieve the bio, biography or about information for a user you should use GetFullUser:

```python
from telethon.tl.functions.users import GetFullUserRequest

full = await client(GetFullUserRequest(user))
# or even
full = await client(GetFullUserRequest('username'))

bio = full.full_user.about
```

See UserFull to know what other fields you can access.

2.21.2 Updating your name and/or bio

The first name, last name and bio (about) can all be changed with the same request. Omitted fields won't change after invoking UpdateProfile:

```python
from telethon.tl.functions.account import UpdateProfileRequest

await client(UpdateProfileRequest(
    about='This is a test from Telethon'
))
```

2.21.3 Updating your username

You need to use account.UpdateUsername:

```
from telethon.tl.functions.account import UpdateUsernameRequest

await client(UpdateUsernameRequest('new_username'))
```

2.21.4 Updating your profile photo

The easiest way is to upload a new file and use that as the profile photo through UploadProfilePhoto:

```
from telethon.tl.functions.photos import UploadProfilePhotoRequest

await client(UploadProfilePhotoRequest(
    await client.upload_file('/path/to/some/file')
))
```

2.22 Working with messages

Note: These examples assume you have read *The Full API*.

This section has been moved to the wiki, where it can be easily edited as new features arrive and the API changes. Please refer to the linked page to learn how to send spoilers, custom emoji, stickers, react to messages, and more things.

2.23 Philosophy

The intention of the library is to have an existing MTProto library existing with hardly any dependencies (indeed, wherever Python is available, you can run this library).

Being written in Python means that performance will be nowhere close to other implementations written in, for instance, Java, C++, Rust, or pretty much any other compiled language. However, the library turns out to actually be pretty decent for common operations such as sending messages, receiving updates, or other scripting. Uploading files may be notably slower, but if you would like to contribute, pull requests are appreciated!

If `libssl` is available on your system, the library will make use of it to speed up some critical parts such as encrypting and decrypting the messages. Files will notably be sent and downloaded faster.

The main focus is to keep everything clean and simple, for everyone to understand how working with MTProto and Telegram works. Don't be afraid to read the source, the code won't bite you! It may prove useful when using the library on your own use cases.

2.24 Test Servers

To run Telethon on a test server, use the following code:

```
client = TelegramClient(None, api_id, api_hash)
client.session.set_dc(dc_id, '149.154.167.40', 80)
```

You can check your `'test ip'` on https://my.telegram.org.

You should set `None` session so to ensure you're generating a new authorization key for it (it would fail if you used a session where you had previously connected to another data center).

Note that port 443 might not work, so you can try with 80 instead.

Once you're connected, you'll likely be asked to either sign in or sign up. Remember anyone can access the phone you choose, so don't store sensitive data here.

Valid phone numbers are `99966XYYYY`, where `X` is the `dc_id` and `YYYY` is any number you want, for example, `1234` in `dc_id = 2` would be `9996621234`. The code sent by Telegram will be `dc_id` repeated five times, in this case, `22222` so we can hardcode that:

```
client = TelegramClient(None, api_id, api_hash)
client.session.set_dc(2, '149.154.167.40', 80)
client.start(
    phone='9996621234', code_callback=lambda: '22222'
)
```

Note that Telegram has changed the length of login codes multiple times in the past, so if `dc_id` repeated five times does not work, try repeating it six times.

2.25 Project Structure

2.25.1 Main interface

The library itself is under the `telethon/` directory. The `__init__.py` file there exposes the main `TelegramClient`, a class that servers as a nice interface with the most commonly used methods on Telegram such as sending messages, retrieving the message history, handling updates, etc.

The `TelegramClient` inherits from several mixing `Method` classes, since there are so many methods that having them in a single file would make maintenance painful (it was three thousand lines before this separation happened!). It's a "god object", but there is only a way to interact with Telegram really.

The `TelegramBaseClient` is an ABC which will support all of these mixins so they can work together nicely. It doesn't even know how to invoke things because they need to be resolved with user information first (to work with input entities comfortably).

The client makes use of the `network/mtprotosender.py`. The `MTProtoSender` is responsible for connecting, reconnecting, packing, unpacking, sending and receiving items from the network. Basically, the low-level communication with Telegram, and handling MTProto-related functions and types such as `BadSalt`.

The sender makes use of a `Connection` class which knows the format in which outgoing messages should be sent (how to encode their length and their body, if they're further encrypted).

2.25.2 Auto-generated code

The files under `telethon_generator/` are used to generate the code that gets placed under `telethon/tl/`. The parsers take in files in a specific format (such as `.tl` for objects and `.json` for errors) and spit out the generated classes which represent, as Python classes, the request and types defined in the `.tl` file. It also constructs an index so that they can be imported easily.

Custom documentation can also be generated to easily navigate through the vast amount of items offered by the API.

If you clone the repository, you will have to run `python setup.py gen` in order to generate the code. Installing the library runs the generator too, but the mentioned command will just generate code.

2.26 Coding Style

Basically, make it **readable**, while keeping the style similar to the code of whatever file you're working on.

Also note that not everyone has 4K screens for their primary monitors, so please try to stick to the 80-columns limit. This makes it easy to `git diff` changes from a terminal before committing changes. If the line has to be long, please don't exceed 120 characters.

For the commit messages, please make them *explanatory*. Not only they're helpful to troubleshoot when certain issues could have been introduced, but they're also used to construct the change log once a new version is ready.

If you don't know enough Python, I strongly recommend reading Dive Into Python 3, available online for free. For instance, remember to do `if x is None` or `if x is not None` instead `if x == None`!

2.27 Tests

Telethon uses Pytest, for testing, Tox for environment setup, and pytest-asyncio and pytest-cov for asyncio and coverage integration.

While reading the full documentation for these is probably a good idea, there is a lot to read, so a brief summary of these tools is provided below for convienience.

2.27.1 Brief Introduction to Pytest

Pytest is a tool for discovering and running python tests, as well as allowing modular reuse of test setup code using fixtures.

Most Pytest tests will look something like this:

```
from module import my_thing, my_other_thing

def test_my_thing(fixture):
    assert my_thing(fixture) == 42

@pytest.mark.asyncio
async def test_my_thing(event_loop):
    assert await my_other_thing(loop=event_loop) == 42
```

Note here:

1. The test imports one specific function. The role of unit tests is to test that the implementation of some unit, like a function or class, works. It's role is not so much to test that components interact well with each other. I/O, such as connecting to remote servers, should be avoided. This helps with quickly identifying the source of an error, finding silent breakage, and makes it easier to cover all possible code paths.

   System or integration tests can also be useful, but are currently out of scope of Telethon's automated testing.

2. A function `test_my_thing` is declared. Pytest searches for files starting with `test_`, classes starting with `Test` and executes any functions or methods starting with `test_` it finds.

3. The function is declared with a parameter `fixture`. Fixtures are used to request things required to run the test, such as temporary directories, free TCP ports, Connections, etc. Fixtures are declared by simply adding the fixture name as parameter. A full list of available fixtures can be found with the `pytest --fixtures` command.

4. The test uses a simple `assert` to test some condition is valid. Pytest uses some magic to ensure that the errors from this are readable and easy to debug.

5. The `pytest.mark.asyncio` fixture is provided by `pytest-asyncio`. It starts a loop and executes a test function as coroutine. This should be used for testing asyncio code. It also declares the `event_loop` fixture, which will request an `asyncio` event loop.

2.27.2 Brief Introduction to Tox

Tox is a tool for automated setup of virtual environments for testing. While the tests can be run directly by just running `pytest`, this only tests one specific python version in your existing environment, which will not catch e.g. undeclared dependencies, or version incompatabilities.

Tox environments are declared in the `tox.ini` file. The default environments, declared at the top, can be simply run with `tox`. The option `tox -e py36,flake` can be used to request specific environments to be run.

2.27.3 Brief Introduction to Pytest-cov

Coverage is a useful metric for testing. It measures the lines of code and branches that are exercised by the tests. The higher the coverage, the more likely it is that any coding errors will be caught by the tests.

A brief coverage report can be generated with the `--cov` option to `tox`, which will be passed on to `pytest`. Additionally, the very useful HTML report can be generated with `--cov --cov-report=html`, which contains a browsable copy of the source code, annotated with coverage information for each line.

2.28 Understanding the Type Language

Telegram's Type Language (also known as TL, found on `.tl` files) is a concise way to define what other programming languages commonly call classes or structs.

Every definition is written as follows for a Telegram object is defined as follows:

```
name#id argument_name:argument_type = CommonType
```

This means that in a single line you know what the `TLObject` name is. You know it's unique ID, and you know what arguments it has. It really isn't that hard to write a generator for generating code to any platform!

The generated code should also be able to *encode* the `TLObject` (let this be a request or a type) into bytes, so they can be sent over the network. This isn't a big deal either, because you know how the `TLObject`'s are made, and how the types should be serialized.

You can either write your own code generator, or use the one this library provides, but please be kind and keep some special mention to this project for helping you out.

This is only a introduction. The TL language is not *that* easy. But it's not that hard either. You're free to sniff the `telethon_generator/` files and learn how to parse other more complex lines, such as `flags` (to indicate things that may or may not be written at all) and `vector`'s.

2.29 Tips for Porting the Project

If you're going to use the code on this repository to guide you, please be kind and don't forget to mention it helped you!

You should start by reading the source code on the first release of the project, and start creating a `MTProtoSender`. Once this is made, you should write by hand the code to authenticate on the Telegram's server, which are some steps required to get the key required to talk to them. Save it somewhere! Then, simply mimic, or reinvent other parts of the code, and it will be ready to go within a few days.

Good luck!

2.30 Telegram API in Other Languages

Telethon was made for **Python**, and it has inspired other libraries such as gramjs (JavaScript) and grammers (Rust). But there is a lot more beyond those, made independently by different developers.

If you're looking for something like Telethon but in a different programming language, head over to Telegram API in Other Languages in the official wiki for a (mostly) up-to-date list.

2.31 Changelog (Version History)

This page lists all the available versions of the library, in chronological order. You should read this when upgrading the library to know where your code can break, and where it can take advantage of new goodies!

List of All Versions

  – *Updated pip version (v0.6)*

  – *Ready, pip, go! (v0.5)*

  – *Made InteractiveTelegramClient cool (v0.4)*

  – *Media revolution and improvements to update handling! (v0.3)*

  – *Handle updates in their own thread! (v0.2)*

  – *First working alpha version! (v0.1)*

2.31.1 New layer (v1.35)

Scheme layer used: 178

View new and changed raw API methods.

Additions

- `drop_author` parameter now exposed in `forward_messages`.

Enhancements

- "Custom secret support" should work with `TcpMTProxy`.

- Some type hints should now be more accurate.

Bug fixes

- Session path couldn't be a `pathlib.Path` or `None`.

- Python versions older than 3.9 should now be supported again.

- Readthedocs should hopefully build the v1 documentation again.

2.31.2 New layer (v1.34)

Scheme layer used: 173

View new and changed raw API methods.

Additions

- `reply_to_chat` and `reply_to_sender` are now in `Message`. This is useful when you lack access to the chat, but Telegram still included some basic information.

Bug fixes

- `parse_mode` with a custom instance containing both `parse` and `unparse` should now work.

- Parsing and unparsing message entities should now behave better in certain corner-cases.

2.31.3 New layer (v1.33)

Scheme layer used: 167

View new and changed raw API methods.

Enhancements

- `webbrowser` is now imported conditionally, to support niche environments.

- Library should now retry on the suddenly-common `TimedOutError`.

Bug fixes

- Sending photos which were automatically resized should work again (included in the v1.32 series).

2.31.4 New layer (v1.32)

Scheme layer used: 166

View new and changed raw API methods.

This enables you to use custom languages in preformatted blocks using HTML:

```
<pre>
  <code class='language-python'>from telethon import TelegramClient</code>
</pre>
```

Note that Telethon v1's markdown is a custom format and won't support language tags. If you want to set a custom language, you have to use HTML or a custom formatter.

2.31.5 Dropped imghdr support (v1.31)

Scheme layer used: 165

This release contains a breaking change in preparation for Python 3.12. If you were sending photos from in-memory `bytes` or `BytesIO` containing images, you should now use `BytesIO` and set the `.name` property to a dummy name. This will allow Telethon to detect the correct extension (and file type).

```python
# before
image_data = b'...'
client.send_file(chat, image_data)

# after
from io import BytesIO
image_data = BytesIO(b'...')
image_data.name = 'a.jpg'  # any name, only the extension matters
client.send_file(chat, image_data)
```

Bug fixes

- Code generation wasn't working under PyPy.

- Obtaining markdown or HTML from message text could produce unexpected results sometimes.

- Other fixes for bugs from the previous version, which were already fixed in patch versions.

Breaking Changes

- `imghdr` is deprecated in newer Python versions, so Telethon no longer uses it. This means there might be some cases where Telethon fails to infer the file extension for buffers containing images. If you were relying on this, add `.name = 'a.jpg'` (or other extension) to the `BytesIO` buffers you upload.

2.31.6 Layer bump and small changes (v1.30)

Scheme layer used: 162

Some of the bug fixes were already present in patch versions of `v1.29`, but the new layer necessitated a minor bump.

Enhancements

- Removed client-side checks for editing messages. This only affects `Message.edit`, as `client.edit_message` already had no checks.

- Library should not understand more server-side errors during update handling which should reduce crashes.

- Client-side image compression should behave better now.

Bug fixes

- Some updates such as `UpdateChatParticipant` were being missed due to the order in which Telegram sent them. The library now more carefully checks for the sequence and pts contained in them to avoid dropping them.

- Fixed `is_inline` check for KeyboardButtonWebView.

- Fixed some issues getting entity from cache by ID.

- `reply_to` should now work when sending albums.

2.31.7 More bug fixing (v1.29)

Scheme layer used: 160

This layer introduces the necessary raw API methods to work with stories.

The library is aiming to be "feature-frozen" for as long as v1 is active, so friendly client methods are not implemented, but example code to use stories can be found in the GitHub wiki of the project.

Enhancements

- Removed client-side checks for methods dealing with chat permissions. In particular, this means you can now ban channels.

- Improved some error messages and added new classes for more RPC errors.

- The client-side check for valid usernames has been loosened, so that very short premium usernames are no longer considered invalid.

Bug fixes

- Attempting to download a thumbnail from documnets without one would fail, rather than do nothing (since nothing can be downloaded if there is no thumb).

- More errors are caught in the update handling loop.

- HTML `.text` should now "unparse" any message contents correctly.

- Fixed some problems related to logging.

- `comment_to` should now work as expected with albums.

- `asyncio.CancelledError` should now correctly propagate from the update loop.

- Removed some absolute imports in favour of relative imports.

- `UserUpdate.last_seen` should now behave correctly.

- Fixed a rare `ValueError` during `connect` if the session cache was bad.

2.31.8 New Layer and housekeeping (v1.28)

> Scheme layer used: 155

Plenty of stale issues closed, as well as improvements for some others.

Additions

- New `entity_cache_limit` parameter in the `TelegramClient` constructor. This should help a bit in keeping memory usage in check.

Enhancements

- `progress_callback` is now called when dealing with albums. See the documentation on *client. send_file()* for details.
- Update state and entities are now periodically saved, so that the information isn't lost in the case of crash or unexpected script terminations. You should still be calling `disconnect` or using the context-manager, though.
- The client should no longer unnecessarily call `get_me` every time it's started.

Bug fixes

- Messages obtained via raw API could not be used in `forward_messages`.
- `force_sms` and `sign_up` have been deprecated. See issue 4050 for details. It is no longer possible for third-party applications, such as those made with Telethon, to use those features.
- `events.ChatAction` should now work in more cases in groups with hidden members.
- Errors that occur at the connection level should now be properly propagated, so that you can actually have a chance to handle them.
- Update handling should be more resilient.
- `PhoneCodeExpiredError` will correctly clear the stored hash if it occurs in `sign_in`.
- In patch `v1.28.2`, InputBotInlineMessageID64 can now be used to edit inline messages.

2.31.9 New Layer and some Bug fixes (v1.27)

> Scheme layer used: 152

Bug fixes

- When the account is logged-out, the library should now correctly propagate an error through `run_until_disconnected` to let you handle it.

- The library no longer uses `asyncio.get_event_loop()` in newer Python versions, which should get rid of some deprecation warnings.

- It could happen that bots would receive messages sent by themselves, very often right after they deleted a message. This should happen far less often now (but might still happen with unlucky timings).

- Maximum photo size for automatic image resizing is now larger.

- The initial request is now correctly wrapped in `invokeWithoutUpdates` when updates are disabled after constructing the client instance.

- Using a `pathlib.Path` to download contacts and web documents should now work correctly.

2.31.10 New Layer and some Bug fixes (v1.26)

Scheme layer used: 149

This new layer includes things such as emoji status, more admin log events, forum topics and message reactions, among other things. You can access these using raw API. It also contains a few bug fixes.

These were fixed in the v1.25 series:

- `client.edit_admin` did not work on small group chats.

- `client.get_messages` could stop early in some channels.

- `client.download_profile_photo` now should work even if `User.min`.

- `client.disconnect` should no longer hang when being called from within an event handlers.

- `client.get_dialogs` now initializes the update state for channels.

- The message sender should not need to be fetched in more cases.

- Lowered the severity of some log messages to be less spammy.

These are new to v1.26.0:

- Layer update.

- New documented RPC errors.

- Sometimes the first message update to a channel could be missed if said message was read immediately.

- `client.get_dialogs` would fail when the total count evenly divided the chunk size of 100.

- `client.get_messages` could get stuck during a global search.

- Potentially fixed some issues when sending certain videos.

- Update handling should be more resilient.

- The client should handle having its auth key destroyed more gracefully.

- Fixed some issues when logging certain messages.

2.31.11 Bug fixes (v1.25.1)

This version should fix some of the problems that came with the revamped update handling.

- Some inline URLs were not parsing correctly with markdown.
- `events.Raw` was handling UpdateShort which it shouldn't do.
- `events.Album` should now work again.
- `CancelledError` was being incorrectly logged as a fatal error.
- Some fixes to update handling primarly aimed for bot accounts.
- Update handling now can deal with more errors without crashing.
- Unhandled errors from update handling will now be propagated through `client.run_until_disconnected`.
- Invite links with + are now recognized.
- Added new known RPC errors.
- `telethon.types` could not be used as a module.
- 0-length message entities are now stripped to avoid errors.
- `client.send_message` was not returning a message with `reply_to` in some cases.
- `aggressive` in `client.iter_participants` now does nothing (it did not really work anymore anyway, and this should prevent other errors).
- `client.iter_participants` was failing in some groups.
- Text with HTML URLs could sometimes fail to parse.
- Added a hard timeout during disconnect in order to prevent the program from freezing.

Please be sure to report issues with update handling if you still encounter some errors!

2.31.12 Update handling overhaul (v1.25)

Scheme layer used: 144

I had plans to release v2 way earlier, but my motivation drained off, so that didn't happen. The reason for another v1 release is that there was a clear need to fix some things regarding update handling (which were present in v2). I did not want to make this release. But with the release date for v2 still being unclear, I find it necessary to release another v1 version. I apologize for the delay (I should've done this a lot sooner but didn't because in my head I would've pushed through and finished v2, but I underestimated how much work that was and I probably experienced burn-out).

I still don't intend to make new additions to the v1 series (beyond updating the Telegram layer being used). I still have plans to finish v2 some day. But in the meantime, new features, such as reactions, will have to be used through raw API.

This update also backports the update overhaul from v2. If you experience issues with updates, please report them on the GitHub page for the project. However, this new update handling should be more reliable, and `catch_up` should actually work properly.

Breaking Changes

- In order for `catch_up` to work (new flag in the `TelegramClient` constructor), sessions need to impleemnt the new `get_update_states`. Third-party session storages won't have this implemented by the time this version released, so `catch_up` may not work with those.

2.31.13 Rushed release to fix login (v1.24)

Scheme layer used: 133

This is a rushed release. It contains a layer recent enough to not fail with `UPDATE_APP_TO_LOGIN`, but still not the latest, to avoid breaking more than necessary.

Breaking Changes

- The biggest change is user identifiers (and chat identifiers, and others) **now use up to 64 bits**, rather than 32. If you were storing them in some storage with fixed size, you may need to update (such as database tables storing only integers).

There have been other changes which I currently don't have the time to document. You can refer to the following link to see them early: https://github.com/LonamiWebs/Telethon/compare/v1.23.0...v1.24.0

2.31.14 New schema and bug fixes (v1.23)

Scheme layer used: 130

View new and changed raw API methods.

Enhancements

- *client.pin_message()* can now pin on a single side in PMs.
- Iterating participants should now be less expensive floodwait-wise.

Bug fixes

- The QR login URL was being encoded incorrectly.
- `force_document` was being ignored in inline queries for document.
- `manage_call` permission was accidentally set to `True` by default.

2.31.15 New schema and bug fixes (v1.22)

Scheme layer used: 129

View new and changed raw API methods.

Enhancements

- You can now specify a message in `client.get_stats()`.
- Metadata extraction from audio files with `hachoir` now recognises "artist".
- Get default chat permissions by not supplying a user to `client.get_permissions()`.
- You may now use `thumb` when editing messages.

Bug fixes

- Fixes regarding bot markup in messages.
- Gracefully handle ChannelForbidden in `get_sender`.

And from v1.21.1:

- `file.width` and `.height` was not working correctly in photos.
- Raw API was mis-interpreting `False` values on boolean flag parameters.

2.31.16 New schema and QoL improvements (v1.21)

Scheme layer used: 125

View new and changed raw API methods.

Not many changes in this release, mostly the layer change. Lately quite a few people have been reporting `TypeNotFoundError`, which occurs when the server **sends types that it shouldn't**. This can happen when Telegram decides to add a new, incomplete layer, and then they change the layer without bumping the layer number (so some constructor IDs no longer match and the error occurs). This layer change should fix it.

Additions

- `Message.click()` now supports a `password` parameter, needed when doing things like changing the owner of a bot via @BotFather.

Enhancements

- `tgcrypto` will now be used for encryption when installed.

Bug fixes

- *Message.edit* wasn't working in your own chat on events other than `NewMessage`.
- *client.delete_dialog()* was not working on chats.
- `events.UserUpdate` should now handle channels' typing status.
- InputNotifyPeer auto-cast should now work on other `TLObject`.
- For some objects, `False` was not correctly serialized.

2.31.17 New schema and QoL improvements (v1.20)

Scheme layer used: 124

View new and changed raw API methods.

A bit late to the party, but Telethon now offers a convenient way to comment on channel posts. It works very similar to `reply_to`:

```
client.send_message(channel, 'Great update!', comment_to=1134)
```

This code will leave a comment to the channel post with ID 1134 in `channel`.

In addition, the library now logs warning or error messages to `stderr` by default! You no longer should be left wondering "why isn't my event handler working" if you forgot to configure logging. It took so long for this change to arrive because nobody noticed that Telethon was using a `logging.NullHandler` when it really shouldn't have.

If you want the old behaviour of no messages being logged, you can configure `logging` to CRITICAL severity:

```
import logging
logging.basicConfig(level=logging.CRITICAL)
```

This is not considered a breaking change because `stderr` should only be used for logging purposes, not to emit information others may consume (use `stdout` for that).

Additions

- New `comment_to` parameter in *client.send_message()*, and *client.send_file()* to comment on channel posts.

Enhancements

- `utils.resolve_invite_link` handles the newer link format.

- Downloading files now retries once on `TimeoutError`, which has been happening recently. It is not guaranteed to work, but it should help.

- Sending albums of photo URLs is now supported.

- EXIF metadata is respected when automatically resizing photos, so the orientation information should no longer be lost.

- Downloading a thumbnail by index should now use the correct size ordering.

Bug fixes

- Fixed a `KeyError` on certain cases with `Conversation`.

- Thumbnails should properly render on more clients. Installing `hachoir` may help.

- Message search was broken when using a certain combination of parameters.

- `utils.resolve_id` was misbehaving with some identifiers.

- Fix `TypeNotFoundError` was not being propagated, causing deadlocks.

- Invoking multiple requests at once with `ordered=True` was deadlocking.

2.31.18 New raw API call methods (v1.19)

Scheme layer used: 122

Telegram has had group calls for some weeks now. This new version contains the raw API methods needed to initiate and manage these group calls, however, the library will likely **not offer ways to stream audio directly**.

Telethon's focus is being an asyncio-based, pure-Python implementation to interact with Telegram's API. Streaming audio is beyond the current scope of the project and would be a big undertaking.

However, that doesn't mean calls are not possible with Telethon. If you want to help design a Python library to perform audio calls, which can then be used with Telethon (so you can use Telethon + that new library to perform calls with Telethon), please refer to @pytgcallschat and join the relevant chat to discuss and help with the implementation!

The above message was also posted in the official Telegram group, if you wish to discuss it further.

With that out of the way, let's list the additions and bug fixes in this release:

Additions

- New `has_left` property for user permissions on *client.get_permissions()*.

Enhancements

- Updated documentation and list of known RPC errors.

- The library now treats a lack of ping responses as a network error.

- `client.kick_participant()` now returns the service message about the user being kicked, so you can delete it.

Bug fixes

- When editing inline messages, the text parameter is preferred if provided.

- Additional senders are unconditionally disconnected when disconnecting the main client, which should reduce the amount of asyncio warnings.

- Automatic reconnection with no retries was failing.

- PhotoPathSize is now ignored when determining a download size, since this "size" is not a JPEG thumbnail unlike the rest.

- `events.ChatAction` should misbehave less.

2.31.19 New layer and QoL improvements (v1.18)

Scheme layer used: 120

Mostly fixes, and added some new things that can be done in this new layer.

For proxy users, a pull request was merged that will use the `python-socks` library when available for proxy support. This library natively supports `asyncio`, so it should work better than the old `pysocks`. `pysocks` will still be used if the new library is not available, and both will be handled transparently by Telethon so you don't need to worry about it.

Additions

- New `client.set_proxy()` method which lets you change the proxy without recreating the client. You will need to reconnect for it to take effect, but you won't need to recreate the client. This is also an external contribution.

- New method to unpin messages `client.unpin_message()`.

Enhancements

- Empty peers are excluded from the list of dialogs.

- If the `python-socks` library is installed (new optional requirement), it will be used instead of `pysocks` for proxy support. This should fix some issues with proxy timeouts, because the new library natively supports `asyncio`.

- `client.send_file()` will now group any media type, instead of sending non-image documents separatedly. This lets you create music albums, for example.

- You can now search messages with a `from_user` that's not a user. This is a Telegram feature, we know the name isn't great, but backwards-compatibility has to be kept.

Bug fixes

- Fixes related to conversation timeouts.

- Large dates (over year 2038) now wrap around a 32-bit integer, which is the only way we can represent them to Telegram. Even if "wrong", it makes things not crash, and it's the best we can do with 32-bit dates.

- The library was accidentally using a deprecated argument in one of its friendly methods, producing a warning.

- Improvements to the way marked IDs are parsed.

- `SlowModeWaitError` floods are no longer cached.

- Getting the buttons for a message could fail sometimes.

- Getting the display name for "forbidden" chats now works.

- Better handling of errors in some internal methods.

2.31.20 Channel comments and Anonymous Admins (v1.17)

Scheme layer used: 119

New minor version, new layer change! This time is a good one to remind every consumer of Python libraries that **you should always specify fixed versions of your dependencies**! If you're using a `requirements.txt` file and you want to stick with the old version (or any version) for the time being, you can use the following syntax:

```
telethon~=1.16.0
```

This will install any version compatible with the written version (so, any in the `1.16` series). Patch releases will never break your code (and if they do, it's a bug). You can also use that syntax in `pip install`. Your code can't know what new versions will look like, so saying it will work with all versions is a lie and will cause issues.

The reason to bring this up is that Telegram has changed things again, and with the introduction of anonymous administrators and channel comments, the sender of a message may not be a User! To accomodate for this, the field is now a Peer and not `int`. As a reminder, it's always a good idea to use Telethon's friendly methods and custom properties, which have a higher stability guarantee than accessing raw API fields.

Even if you don't update, your code will still need to account for the fact that the sender of a message might be one of the accounts Telegram introduced to preserve backwards compatibility, because this is a server-side change, so it's better to update and not lag behind. As it's mostly just a single person driving the project on their free time, bug-fixes are not backported.

This version also updates the format of SQLite sessions (the default), so after upgrading and using an old session, the session will be updated, which means trying to use it back in older versions of the library won't work.

For backwards-compatibility sake, the library has introduced the properties *Message.reply_to_msg_id* and *Message.to_id* that behave like they did before (Telegram has renamed and changed how these fields work).

Breaking Changes

- `Message.from_id` is now a Peer, not `int`! If you want the marked sender ID (much like old behaviour), replace all uses of `.from_id` with `.sender_id`. This will mostly work, but of course in old and new versions you have to account for the fact that this sender may no longer be a user.

- You can no longer assign to *Message.reply_to_msg_id* and *Message.to_id* because these are now properties that offer a "view" to the real value from a different field.

- Answering inline queries with a `photo` or `document` will now send the photo or document used in the resulting message by default. Not sending the media was technically a bug, but some people may be relying on this old behaviour. You can use the old behaviour with `include_media=False`.

Additions

- New `raise_last_call_error` parameter in the client constructor to raise the same error produced by the last failing call, rather than a generic ValueError.

- New `formatting_entities` parameter in *client.send_message()*, and *client.send_file()* to bypass the parse mode and manually specify the formatting entities.

- New *client.get_permissions()* method to query a participant's permissions in a group or channel. This request is slightly expensive in small group chats because it has to fetch the entire chat to check just a user, so use of a cache is advised.

- *Message.click()* now works on normal polls!

- New `local_addr` parameter in the client constructor to use a specific local network address when connecting to Telegram.

- *client.inline_query()* now lets you specify the chat where the query is being made from, which some bots need to provide certain functionality.

- You can now get comments in a channel post with the `reply_to` parameter in *client.iter_messages()*. Comments are messages that "reply to" a specific channel message, hence the name (which is consistent with how Telegram's API calls it).

Enhancements

- Updated documentation and list of known errors.

- If `hachoir` is available, the file metadata can now be extracted from streams and in-memory bytes.

- The default parameters used to initialize a connection now match the format of those used by Telegram Desktop.

- Specifying 0 retries will no longer cause the library to attempt to reconnect.

- The library should now be able to reliably download very large files.

- Global search should work more reliably now.

- Old usernames are evicted from cache, so getting entities by cached username should now be more reliable.

- Slightly less noisy logs.

- Stability regarding transport-level errors (transport flood, authorization key not found) should be improved. In particular, you should no longer be getting unnecessarily logged out.

- Reconnection should no longer occur if the client gets logged out (for example, another client revokes the session).

Bug fixes

- In some cases, there were issues when using `events.Album` together with `events.Raw`.

- For some channels, one of their channel photos would not show up in `client.iter_profile_photos()`.

- In some cases, a request that failed to be sent would be forgotten, causing the original caller to be "locked" forever for a response that would never arrive. Failing requests should now consistently be automatically re-sent.

- The library should more reliably handle certain updates with "empty" data.

- Sending documents in inline queries should now work fine.

- Manually using `client.sign_up` should now work correctly, instead of claiming "code invalid".

Special mention to some of the other changes in the 1.16.x series:

- The `thumb` for `download_media` now supports both `str` and VideoSize.

- Thumbnails are sorted, so `-1` is always the largest.

2.31.21 Bug Fixes (v1.16.1)

The last release added support to `force_file` on any media, including things that were not possible before like `.webp` files. However, the `force_document` toggle commonly used for photos was applied "twice" (one told the library to send it as a document, and then to send that document as file), which prevented Telegram for analyzing the images. Long story short, sending files to the stickers bot stopped working, but that's been fixed now, and sending photos as documents include the size attribute again as long as Telegram adds it.

Enhancements

- When trying to `client.start()` to another account if you were previously logged in, the library will now warn you because this is probably not intended. To avoid the warning, make sure you're logging in to the right account or logout from the other first.

- Sending a copy of messages with polls will now work when possible.

- The library now automatically retries on inter-dc call errors (which occur when Telegram has internal issues).

Bug Fixes

- The aforementioned issue with `force_document`.

- Square brackets removed from IPv6 addresses. This may fix IPv6 support.

2.31.22 Channel Statistics (v1.16)

Scheme layer used: 116

The newest Telegram update has a new method to also retrieve megagroup statistics, which can now be used with `client.get_stats()`. This way you'll be able to access the raw data about your channel or megagroup statistics.

The maximum file size limit has also been increased to 2GB on the server, so you can send even larger files.

Breaking Changes

- Besides the obvious layer change, the `loop` argument **is now ignored**. It has been deprecated since Python 3.8 and will be removed in Python 3.10, and also caused some annoying warning messages when using certain parts of the library. If you were (incorrectly) relying on using a different loop from the one that was set, things may break.

Enhancements

- *client.upload_file()* now works better when streaming files (anything that has a `.read()`), instead of reading it all into memory when possible.

2.31.23 QR login (v1.15)

Published at 2020/07/04

Scheme layer used: 114

The library now has a friendly method to perform QR-login, as detailed in https://core.telegram.org/api/qr-login. It won't generate QR images, but it provides a way for you to easily do so with any other library of your choice.

Additions

- New *client.qr_login()*.
- *message.click* now lets you click on buttons requesting phone or location.

Enhancements

- Updated documentation and list of known errors.
- *events.Album* should now handle albums from different data centers more gracefully.
- *client.download_file()* now supports `pathlib.Path` as the destination.

Bug fixes

- No longer crash on updates received prior to logging in.
- Server-side changes caused clicking on inline buttons to trigger a different error, which is now handled correctly.

2.31.24 Minor quality of life improvements (v1.14)

Published at 2020/05/26

Scheme layer used: 113

Some nice things that were missing, along with the usual bug-fixes.

Additions

- New `Message.dice` property.

- The `func=` parameter of events can now be an `async` function.

Bug fixes

- Fixed `client.action()` having an alias wrong.

- Fixed incorrect formatting of some errors.

- Probably more reliable detection of pin events in small groups.

- Fixed send methods on `client.conversation()` were not honoring cancellation.

- Flood waits of zero seconds are handled better.

- Getting the pinned message in a chat was failing.

- Fixed the return value when forwarding messages if some were missing and also the return value of albums.

Enhancements

- `.tgs` files are now recognised as animated stickers.

- The service message produced by `Message.pin()` is now returned.

- Sending a file with `client.send_file()` now works fine when you pass an existing dice media (e.g. sending a message copy).

- `client.edit_permissions()` now has the `embed_links` parameter which was missing.

2.31.25 Bug Fixes (v1.13)

Published at 2020/04/25

Scheme layer used: 112

Bug fixes and layer bump.

Bug fixes

- Passing `None` as the entity to `client.delete_messages()` would fail.

- When downloading a thumbnail, the name inferred was wrong.

2.31.26 Bug Fixes (v1.12)

Published at 2020/04/20

Scheme layer used: 111

Once again nothing major, but a few bug fixes and primarily the new layer deserves a new minor release.

Bug fixes

These were already included in the `v1.11.3` patch:

- `libssl` check was failing on macOS.
- Getting input users would sometimes fail on `events.ChatAction`.

These bug fixes are available in this release and beyond:

- Avoid another occurrence of `MemoryError`.
- Sending large files in albums would fail because it tried to cache them.
- The `thumb` was being ignored when sending files from InputFile.
- Fixed editing inline messages from callback queries in some cases.
- Proxy connection is now blocking which should help avoid some errors.

2.31.27 Bug Fixes (v1.11)

Published at 2020/02/20

Scheme layer used: 110

It has been a while since the last release, and a few bug fixes have been made since then. This release includes them and updates the scheme layer.

Note that most of the bug-fixes are available in the `v1.10.10` patch.

Bug fixes

- Fix `MemoryError` when casting certain media.
- Fix `client.get_entity()` on small group chats.
- `client.delete_dialog()` now handles deactivated chats more gracefully.
- Sending a message with `file=` would ignore some of the parameters.
- Errors are now un-pickle-able once again.
- Fixed some issues regarding markdown and HTML (un)parsing.

The following are also present in `v1.10.10`:

- Fixed some issues with `events.Album`.
- Fixed some issues with `client.kick_participant()` and `client.edit_admin()`.

- Fixed sending albums and more within *client.conversation()*.

- Fixed some import issues.

- And a lot more minor stuff.

Enhancements

- Videos can now be included when sending albums.

- Getting updates after reconnect should be more reliable.

- Updated documentation and added more examples.

- More security checks during the generation of the authorization key.

The following are also present in `v1.10.10`:

- URLs like `t.me/@username` are now valid.

- Auto-sleep now works for slow-mode too.

- Improved some error messages.

- Some internal improvements and updating.

- *client.pin_message()* now also works with message objects.

- Asynchronous file descriptors are now allowed during download and upload.

2.31.28 Scheduled Messages (v1.10)

Published at 2019/09/08

Scheme layer used: 105

You can now schedule messages to be sent (or edited, or forwarded...) at a later time, which can also work as reminders for yourself when used in your own chat!

```python
from datetime import timedelta

# Remind yourself to walk the dog in 10 minutes (after you play with Telethon's update)
await client.send_message('me', 'Walk the dog',
                          schedule=timedelta(minutes=10))

# Remind your friend tomorrow to update Telethon
await client.send_message(friend, 'Update Telethon!',
                          schedule=timedelta(days=1))
```

Additions

- New *Button.auth* friendly button you can use to ask users to login to your bot.

- Telethon's repository now contains `*.nix` expressions that you can use.

- New *client.kick_participant()* method to truly kick (not ban) participants.

- New `schedule` parameter in *client.send_message()*, *client.edit_message()*, *client.forward_messages()* and *client.send_file()*.

Bug fixes

- Fix calling `flush` on file objects which lack this attribute.

- Fix *CallbackQuery* pattern.

- Fix *client.action()* not returning itself when used in a context manager (so the `as` would be None).

- Fix sending InputKeyboardButtonUrlAuth as inline buttons.

- Fix *client.edit_permissions()* defaults.

- Fix *Forward* had its `client` as None.

- Fix (de)serialization of negative timestamps (caused by the information in some sites with instant view, where the date could be very old).

- Fix HTML un-parsing.

- Fix `to`/`from_id` in private messages when using multiple clients.

- Stop disconnecting from None (incorrect logging).

- Fix double-read on double-connect.

- Fix *client.get_messages()* when being passed more than 100 IDs.

- Fix *Message.document* for documents coming from web-pages.

Enhancements

- Some documentation improvements, including the TL reference.

- Documentation now avoids `telethon.sync`, which should hopefully be less confusing.

- Better error messages for flood wait.

- You can now *client.get_drafts()* for a single entity (which means you can now get a single draft from a single chat).

- New-style file IDs now work with Telethon.

- The `progress_callback` for *client.upload_file()* can now be an `async def`.

2.31.29 Animated Stickers (v1.9)

Published at 2019/07/06

> Scheme layer used: 103

With the layer 103, Telethon is now able to send and receive animated stickers! These use the `'application/x-tgsticker'` mime-type and for now, you can access its raw data, which is a gzipped JSON.

Additions

- New `events.Album` to easily receive entire albums!
- New `client.edit_admin()` and `client.edit_permissions()` methods to more easily manage your groups.
- New `pattern=` in `CallbackQuery`.
- New `conversation.cancel_all()` method, to cancel all currently-active conversations in a particular chat.
- New `telethon.utils.encode_waveform` and `telethon.utils.decode_waveform` methods as implemented by Telegram Desktop, which lets you customize how voice notes will render.
- New `ignore_pinned` parameter in `client.iter_dialogs()`.
- New `Message.mark_read()` method.
- You can now use strike-through in markdown with `~~text~~`, and the corresponding HTML tags for strike-through, quotes and underlined text.
- You can now nest entities, as in `**__text__**`.

Bug fixes

- Fixed downloading contacts.
- Fixed `client.iter_dialogs()` missing some under certain circumstances.
- Fixed incredibly slow imports under some systems due to expensive path resolution when searching for `libssl`.
- Fixed captions when sending albums.
- Fixed invalid states in `Conversation`.
- Fixes to some methods in utils regarding extensions.
- Fixed memory cycle in `Forward` which let you do things like the following:

```
original_fwd = message.forward.original_fwd.original_fwd.original_fwd.original_fwd.
↪original_fwd.original_fwd
```

  Hopefully you didn't rely on that in your code.
- Fixed `File.ext` not working on unknown mime-types, despite the file name having the extension.
- Fixed `ids=..., reverse=True` in `client.iter_messages()`.
- Fixed `Draft` not being aware of the entity.
- Added missing re-exports in `telethon.sync`.

Enhancements

- Improved *conversation.cancel()* behaviour. Now you can use it from anywhere.

- The progress_callback in *client.download_media()* now lets you use async def.

- Improved documentation and the online method reference at https://tl.telethon.dev.

2.31.30 Documentation Overhaul (v1.8)

Published at 2019/05/30

Scheme layer used: 100

The documentation has been completely reworked from the ground up, with awesome new quick references such as *Client Reference* to help you quickly find what you need!

Raw methods also warn you when a friendly variant is available, so that you don't accidentally make your life harder than it has to be.

In addition, all methods in the client now are fully annotated with type hints! More work needs to be done, but this should already help a lot when using Telethon from any IDEs.

You may have noticed that the patch versions between v1.7.2 to v1.7.7 have not been documented. This is because patch versions should only contain bug fixes, no new features or breaking changes. This hasn't been the case in the past, but from now on, the library will try to adhere more strictly to the Semantic Versioning principles.

If you ever want to look at those bug fixes, please use the appropriated git command, such as git shortlog v1.7. 1...v1.7.4, but in general, they probably just fixed your issue.

With that out of the way, let's look at the full change set:

Breaking Changes

- The layer changed, so take note if you use the raw API, as it's usual.

- The way photos are downloaded changed during the layer update of the previous version, and fixing that bug as a breaking change in itself. *client.download_media()* now offers a different way to deal with thumbnails.

Additions

- New *Message.file* property! Now you can trivially access *message.file.id* to get the file ID of some media, or even print(message.file.name).

- Archiving dialogs with *Dialog.archive()* or *client.edit_folder()* is now possible.

- New cleaned-up method to stream downloads with *client.iter_download()*, which offers a lot of flexibility, such as arbitrary offsets for efficient seeking.

- *Dialog.delete()* has existed for a while, and now *client.delete_dialog()* exists too so you can easily leave chats or delete dialogs without fetching all dialogs.

- Some people or chats have a lot of profile photos. You can now iterate over all of them with the new *client. iter_profile_photos()* method.

- You can now annoy everyone with the new *Message.pin(notify=True)*! The client has its own variant too, called *client.pin_message()*.

Bug fixes

- Correctly catch and raise all RPC errors.

- Downloading stripped photos wouldn't work correctly.

- Under some systems, `libssl` would fail to load earlier than expected, causing the library to fail when being imported.

- `conv.get_response()` after ID 0 wasn't allowed when it should.

- `InlineBuilder` only worked with local files, but files from anywhere are supported.

- Accessing the text property from a raw-API call to fetch Message would fail (any any other property that needed the client).

- Database is now upgraded if the version was lower, not different. From now on, this should help with upgrades and downgrades slightly.

- Fixed saving `pts` and session-related stuff.

- Disconnection should not raise any errors.

- Invite links of the form `tg://join?invite=` now work.

- `client.iter_participants(search=...)` now works on private chats again.

- Iterating over messages in reverse with a date as offset wouldn't work.

- The conversation would behave weirdly when a timeout occurred.

Enhancements

- `telethon` now re-export all the goodies that you commonly need when using the library, so e.g. `from telethon import Button` will now work.

- `telethon.sync` now re-exports everything from `telethon`, so that you can trivially import from just one place everything that you need.

- More attempts at reducing CPU usage after automatically fetching missing entities on events. This isn't a big deal, even if it sounds like one.

- Hexadecimal invite links are now supported. You didn't need them, but they will now work.

Internal Changes

- Deterministic code generation. This is good for `diff`.

- On Python 3.7 and above, we properly close the connection.

- A lot of micro-optimization.

- Fixes to bugs introduced while making this release.

- Custom commands on `setup.py` are nicer to use.

2.31.31 Fix-up for Photo Downloads (v1.7.1)

Published at 2019/04/24

Telegram changed the way thumbnails (which includes photos) are downloaded, so you can no longer use a PhotoSize alone to download a particular thumbnail size (this is a **breaking change**).

Instead, you will have to specify the new `thumb` parameter in `client.download_media()` to download a particular thumbnail size. This addition enables you to easily download thumbnails from documents, something you couldn't do easily before.

2.31.32 Easier Events (v1.7)

Published at 2019/04/22

Scheme layer used: 98

If you have been using Telethon for a while, you probably know how annoying the "Could not find the input entity for…" error can be. In this new version, the library will try harder to find the input entity for you!

That is, instead of doing:

```python
@client.on(events.NewMessage)
async def handler(event):
    await client.download_profile_photo(await event.get_input_sender())
    # ...... needs await, it's a method ^^^^^                        ^^
```

You can now do:

```python
@client.on(events.NewMessage)
async def handler(event):
    await client.download_profile_photo(event.input_sender)
    # ...... no await, it's a property! ^
    # It's also 12 characters shorter :)
```

And even the following will hopefully work:

```python
@client.on(events.NewMessage)
async def handler(event):
    await client.download_profile_photo(event.sender_id)
```

A lot of people use IDs thinking this is the right way of doing it. Ideally, you would always use `input_*`, not `sender` or `sender_id` (and the same applies to chats). But, with this change, IDs will work just the same as `input_*` inside events.

This feature still needs some more testing, so please do open an issue if you find strange behaviour.

Breaking Changes

- The layer changed, and a lot of things did too. If you are using raw API, you should be careful with this. In addition, some attributes weren't of type `datetime` when they should be, which has been fixed.

- Due to the layer change, you can no longer download photos with just their PhotoSize. Version 1.7.1 introduces a new way to download thumbnails to work around this issue.

- `client.disconnect()` is now asynchronous again. This means you need to `await` it. You don't need to worry about this if you were using `with client` or `client.run_until_disconnected`. This should prevent the "pending task was destroyed" errors.

Additions

- New in-memory cache for input entities. This should mean a lot less of disk look-ups.

- New `client.action` method to easily indicate that you are doing some chat action:

```
async with client.action(chat, 'typing'):
    await asyncio.sleep(2)  # type for 2 seconds
    await client.send_message(chat, 'Hello world! I type slow ^^')
```

You can also easily use this for sending files, playing games, etc.

New bugs

- Downloading photos is broken. This is fixed in v1.7.1.

Bug fixes

- Fix sending photos from streams/bytes.

- Fix unhandled error when sending requests that were too big.

- Fix edits that arrive too early on conversations.

- Fix `client.edit_message()` when trying to edit a file.

- Fix method calls on the objects returned by `client.iter_dialogs()`.

- Attempt at fixing `client.iter_dialogs()` missing many dialogs.

- `offset_date` in `client.iter_messages()` was being ignored in some cases. This has been worked around.

- Fix `callback_query.edit()`.

- Fix `CallbackQuery(func=...)` was being ignored.

- Fix `UserUpdate` not working for "typing" (and uploading file, etc.) status.

- Fix library was not expecting `IOError` from PySocks.

- Fix library was raising a generic `ConnectionError` and not the one that actually occurred.

- Fix the `blacklist_chats` parameter in `MessageRead` not working as intended.

- Fix `client.download_media(contact)`.

- Fix mime type when sending `mp3` files.

- Fix forcibly getting the sender or chat from events would not always return all their information.

- Fix sending albums with `client.send_file()` was not returning the sent messages.
- Fix forwarding albums with `client.forward_messages()`.
- Some fixes regarding filtering updates from chats.
- Attempt at preventing duplicated updates.
- Prevent double auto-reconnect.

Enhancements

- Some improvements related to proxy connections.
- Several updates and improvements to the documentation, such as optional dependencies now being properly listed.
- You can now forward messages from different chats directly with `client.forward_messages`.

2.31.33 Tidying up Internals (v1.6)

Published at 2019/02/27

Scheme layer used: 95

First things first, sorry for updating the layer in the previous patch version. That should only be done between major versions ideally, but due to how Telegram works, it's done between minor versions. However raw API has and will always be considered "unsafe", this meaning that you should always use the convenience client methods instead. These methods don't cover the full API yet, so pull requests are welcome.

Breaking Changes

- The layer update, of course. This didn't really need a mention here.
- You can no longer pass a `batch_size` when iterating over messages. No other method exposed this parameter, and it was only meant for testing purposes. Instead, it's now a private constant.
- `client.iter_*` methods no longer have a `_total` parameter which was supposed to be private anyway. Instead, they return a new generator object which has a `.total` attribute:

```
it = client.iter_messages(chat)
for i, message in enumerate(it, start=1):
    percentage = i / it.total
    print('{:.2%} {}'.format(percentage, message.text))
```

Additions

- You can now pass phone and phone_code_hash in *client.sign_up*, although you probably don't need that.

- Thanks to the overhaul of all `client.iter_*` methods, you can now do:

```
for message in reversed(client.iter_messages('me')):
    print(message.text)
```

Bug fixes

- Fix *telethon.utils.resolve_bot_file_id*, which wasn't working after the layer update (so you couldn't send some files by bot file IDs).

- Fix sending albums as bot file IDs (due to image detection improvements).

- Fix *takeout()* failing when they need to download media from other DCs.

- Fix repeatedly calling *conversation.get_response()* when many messages arrived at once (i.e. when several of them were forwarded).

- Fixed connecting with *ConnectionTcpObfuscated*.

- Fix *client.get_peer_id('me')*.

- Fix warning of "missing sqlite3" when in reality it just had wrong tables.

- Fix a strange error when using too many IDs in *client.delete_messages()*.

- Fix *client.send_file* with the result of *client.upload_file*.

- When answering inline results, their order was not being preserved.

- Fix *events.ChatAction* detecting user leaves as if they were kicked.

Enhancements

- Cleared up some parts of the documentation.

- Improved some auto-casts to make life easier.

- Improved image detection. Now you can easily send `bytes` and streams of images as photos, unless you force document.

- Sending images as photos that are too large will now be resized before uploading, reducing the time it takes to upload them and also avoiding errors when the image was too large (as long as `pillow` is installed). The images will remain unchanged if you send it as a document.

- Treat `errors.RpcMcgetFailError` as a temporary server error to automatically retry shortly. This works around most issues.

Internal changes

- New common way to deal with retries (`retry_range`).

- Cleaned up the takeout client.

- Completely overhauled asynchronous generators.

2.31.34 Layer Update (v1.5.5)

Published at 2019/01/14

Scheme layer used: 93

There isn't an entry for v1.5.4 because it contained only one hot-fix regarding loggers. This update is slightly bigger so it deserves mention.

Additions

- New `supports_streaming` parameter in *client.send_file*.

Bug fixes

- Dealing with mimetypes should cause less issues in systems like Windows.

- Potentially fix alternative session storages that had issues with dates.

Enhancements

- Saner timeout defaults for conversations.

- `Path`-like files are now supported for thumbnails.

- Added new hot-keys to the online documentation at https://tl.telethon.dev/ such as / to search. Press ? to view them all.

2.31.35 Bug Fixes (v1.5.3)

Published at 2019/01/14

Several bug fixes and some quality of life enhancements.

Breaking Changes

- `message.edit` now respects the previous message buttons or link preview being hidden. If you want to toggle them you need to explicitly set them. This is generally the desired behaviour, but may cause some bots to have buttons when they shouldn't.

Additions

- You can now "hide_via" when clicking on results from `client.inline_query` to @bing and @gif.
- You can now further configure the logger Telethon uses to suit your needs.

Bug fixes

- Fixes for ReadTheDocs to correctly build the documentation.
- Fix UserEmpty not being expected when getting the input variant.
- The message object returned when sending a message with buttons wouldn't always contain the ReplyMarkup.
- Setting email when configuring 2FA wasn't properly supported.
- `utils.resolve_bot_file_id` now works again for photos.

Enhancements

- Chat and channel participants can now be used as peers.
- Reworked README and examples at https://github.com/LonamiWebs/Telethon/tree/master/telethon_examples

2.31.36 Takeout Sessions (v1.5.2)

Published at 2019/01/05

You can now easily start takeout sessions (also known as data export sessions) through `client.takeout()`. Some of the requests will have lower flood limits when done through the takeout session.

Bug fixes

- The new `AdminLogEvent` had a bug that made it unusable.
- `client.iter_dialogs()` will now locally check for the offset date, since Telegram ignores it.
- Answering inline queries with media no works properly. You can now use the library to create inline bots and send stickers through them!

2.31.37 object.to_json() (v1.5.1)

Published at 2019/01/03

The library already had a way to easily convert the objects the API returned into dictionaries through `object.to_dict()`, but some of the fields are dates or `bytes` which JSON can't serialize directly.

For convenience, a new `object.to_json()` has been added which will by default format both of those problematic types into something sensible.

Additions

• New `client.iter_admin_log()` method.

Bug fixes

• `client.is_connected()` would be wrong when the initial connection failed.

• Fixed `UnicodeDecodeError` when accessing the text of messages with malformed offsets in their entities.

• Fixed `client.get_input_entity()` for integer IDs that the client has not seen before.

Enhancements

• You can now configure the reply markup when using `Button` as a bot.

• More properties for `Message` to make accessing media convenient.

• Downloading to `file=bytes` will now return a `bytes` object with the downloaded media.

2.31.38 Polls with the Latest Layer (v1.5)

Published at 2018/12/25

> Scheme layer used: 91

This version doesn't really bring many new features, but rather focuses on updating the code base to support the latest available Telegram layer, 91. This layer brings polls, and you can create and manage them through Telethon!

Breaking Changes

• The layer change from 82 to 91 changed a lot of things in the raw API, so be aware that if you rely on raw API calls, you may need to update your code, in particular **if you work with files**. They have a new `file_reference` parameter that you must provide.

Additions

- New *client.is_bot()* method.

Bug fixes

- Markdown and HTML parsing now behave correctly with leading whitespace.
- HTTP connection should now work correctly again.
- Using `caption=None` would raise an error instead of setting no caption.
- `KeyError` is now handled properly when forwarding messages.
- *button.click()* now works as expected for KeyboardButtonGame.

Enhancements

- Some improvements to the search in the full API and generated examples.
- Using entities with `access_hash = 0` will now work in more cases.

Internal changes

- Some changes to the documentation and code generation.
- 2FA code was updated to work under the latest layer.

2.31.39 Error Descriptions in CSV files (v1.4.3)

Published at 2018/12/04

While this may seem like a minor thing, it's a big usability improvement.

Anyone who wants to update the documentation for known errors, or whether some methods can be used as a bot, user or both, can now be easily edited. Everyone is encouraged to help document this better!

Bug fixes

- `TimeoutError` was not handled during automatic reconnects.
- Getting messages by ID using InputMessageReplyTo could fail.
- Fixed *message.get_reply_message* as a bot when a user replied to a different bot.
- Accessing some document properties in a *Message* would fail.

Enhancements

- Accessing *events.ChatAction* properties such as input users may now work in more cases.

Internal changes

- Error descriptions and information about methods is now loaded from a CSV file instead of being part of several messy JSON files.

2.31.40 Bug Fixes (v1.4.2)

Published at 2018/11/24

This version also includes the v1.4.1 hot-fix, which was a single quick fix and didn't really deserve an entry in the changelog.

Bug fixes

- Authorization key wouldn't be saved correctly, requiring re-login.
- Conversations with custom events failed to be cancelled.
- Fixed `telethon.sync` when using other threads.
- Fix markdown/HTML parser from failing with leading/trailing whitespace.
- Fix accessing `chat_action_event.input_user` property.
- Potentially improved handling unexpected disconnections.

Enhancements

- Better default behaviour for *client.send_read_acknowledge*.
- Clarified some points in the documentation.
- Clearer errors for `utils.get_peer*`.

2.31.41 Connection Overhaul (v1.4)

Published at 2018/11/03

Yet again, a lot of work has been put into reworking the low level connection classes. This means `asyncio.open_connection` is now used correctly and the errors it can produce are handled properly. The separation between packing, encrypting and network is now abstracted away properly, so reasoning about the code is easier, making it more maintainable.

As a user, you shouldn't worry about this, other than being aware that quite a few changes were made in the insides of the library and you should report any issues that you encounter with this version if any.

Breaking Changes

- The threaded version of the library will no longer be maintained, primarily because it never was properly maintained anyway. If you have old code, stick with old versions of the library, such as `0.19.1.6`.

- Timeouts no longer accept `timedelta`. Simply use seconds.

- The `callback` parameter from `telethon.tl.custom.button.Button.inline()` was removed, since it had always been a bad idea. Adding the callback there meant a lot of extra work for every message sent, and only registering it after the first message was sent! Instead, use `telethon.events.callbackquery.CallbackQuery`.

Additions

- New `dialog.delete()` method.
- New `conversation.cancel()` method.
- New `retry_delay` delay for the client to be used on auto-reconnection.

Bug fixes

- Fixed `Conversation.wait_event()`.
- Fixed replying with photos/documents on inline results.
- `client.is_user_authorized()` now works correctly after `client.log_out()`.
- `dialog.is_group` now works for ChatForbidden.
- Not using `async with` when needed is now a proper error.
- `events.CallbackQuery` with string regex was not working properly.
- `client.get_entity('me')` now works again.
- Empty codes when signing in are no longer valid.
- Fixed file cache for in-memory sessions.

Enhancements

- Support `next_offset` in `inline_query.answer()`.
- Support `<a href="tg://user?id=123">` mentions in HTML parse mode.
- New auto-casts for InputDocument and InputChatPhoto.
- Conversations are now exclusive per-chat by default.
- The request that caused a RPC error is now shown in the error message.
- New full API examples in the generated documentation.
- Fixed some broken links in the documentation.
- `client.disconnect()` is now synchronous, but you can still `await` it for consistency or compatibility.

2.31.42 Event Templates (v1.3)

Published at 2018/09/22

If you have worked with Flask templates, you will love this update, since it gives you the same features but even more conveniently:

```python
# handlers/welcome.py
from telethon import events


@events.register(events.NewMessage('(?i)hello'))
async def handler(event):
    client = event.client
    await event.respond('Hi!')
    await client.send_message('me', 'Sent hello to someone')
```

This will *register* the `handler` callback to handle new message events. Note that you didn't add this to any client yet, and this is the key point: you don't need a client to define handlers! You can add it later:

```python
# main.py
from telethon import TelegramClient
import handlers.welcome


with TelegramClient(...) as client:
    # This line adds the handler we defined before for new messages
    client.add_event_handler(handlers.welcome.handler)
    client.run_until_disconnected()
```

This should help you to split your big code base into a more modular design.

Breaking Changes

- `.sender` is the `.chat` when the message is sent in a broadcast channel. This makes sense, because the sender of the message was the channel itself, but you now must take into consideration that it may be either a User or Channel instead of being None.

Additions

- New `MultiError` class when invoking many requests at once through `client([requests])`.

- New custom `func=` on all events. These will receive the entire event, and a good usage example is `func=lambda e: e.is_private`.

- New `.web_preview` field on messages. The `.photo` and `.document` will also return the media in the web preview if any, for convenience.

- Callback queries now have a `.chat` in most circumstances.

Bug fixes

- Running code with `python3 -O` would remove critical code from asserts.

- Fix some rare ghost disconnections after reconnecting.

- Fix strange behavior for *send_message(chat, Message, reply_to=foo)*.

- The `loop=` argument was being pretty much ignored.

- Fix `MemorySession` file caching.

- The logic for getting entities from their username is now correct.

- Fixes for sending stickers from `.webp` files in Windows, again.

- Fix disconnection without being logged in.

- Retrieving media from messages would fail.

- Getting some messages by ID on private chats.

Enhancements

- *iter_participants* will now use its `search=` as a symbol set when `aggressive=True`, so you can do `client.get_participants(group, aggressive=True, search='')`.

- The `StringSession` supports custom encoding.

- Callbacks for *telethon.client.auth.AuthMethods.start* can be `async`.

Internal changes

- Cherry-picked a commit to use `asyncio.open_connection` in the lowest level of the library. Do open issues if this causes trouble, but it should otherwise improve performance and reliability.

- Building and resolving events overhaul.

2.31.43 Conversations, String Sessions and More (v1.2)

Published at 2018/08/14

This is a big release! Quite a few things have been added to the library, such as the new *Conversation*. This makes it trivial to get tokens from @BotFather:

```python
from telethon.tl import types

with client.conversation('BotFather') as conv:
    conv.send_message('/mybots')
    message = conv.get_response()
    message.click(0)
    message = conv.get_edit()
    message.click(0)
    message = conv.get_edit()
    for _, token in message.get_entities_text(types.MessageEntityCode):
        print(token)
```

In addition to that, you can now easily load and export session files without creating any on-disk file thanks to the
StringSession:

```
from telethon.sessions import StringSession
string = StringSession.save(client.session)
```

Check out *Session Files* for more details.

For those who aren't able to install `cryptg`, the support for `libssl` has been added back. While interfacing `libssl`
is not as fast, the speed when downloading and sending files should really be noticeably faster.

While those are the biggest things, there are still more things to be excited about.

Additions

- The mentioned method to start a new `client.conversation`.

- Implemented global search through `client.iter_messages` with `None` entity.

- New `client.inline_query` method to perform inline queries.

- Bot-API-style `file_id` can now be used to send files and download media. You can also access `telethon.`
  `utils.resolve_bot_file_id` and `telethon.utils.pack_bot_file_id` to resolve and create these file
  IDs yourself. Note that each user has its own ID for each file so you can't use a bot's `file_id` with your user,
  except stickers.

- New `telethon.utils.get_peer`, useful when you expect a Peer.

Bug fixes

- UTC timezone for `telethon.events.userupdate.UserUpdate`.

- Bug with certain input parameters when iterating messages.

- RPC errors without parent requests caused a crash, and better logging.

- `incoming = outgoing = True` was not working properly.

- Getting a message's ID was not working.

- File attributes not being inferred for `open()`'ed files.

- Use `MemorySession` if `sqlite3` is not installed by default.

- Self-user would not be saved to the session file after signing in.

- `client.catch_up()` seems to be functional again.

Enhancements

- Updated documentation.

- Invite links will now use cache, so using them as entities is cheaper.

- You can reuse message buttons to send new messages with those buttons.

- `.to_dict()` will now work even on invalid `TLObject`'s.

2.31.44 Better Custom Message (v1.1.1)

Published at 2018/07/23

The `custom.Message` class has been rewritten in a cleaner way and overall feels less hacky in the library. This should perform better than the previous way in which it was patched.

The release is primarily intended to test this big change, but also fixes **Python 3.5.2 compatibility** which was broken due to a trailing comma.

Bug fixes

- Using `functools.partial` on event handlers broke updates if they had uncaught exceptions.
- A bug under some session files where the sender would export authorization for the same data center, which is unsupported.
- Some logical bugs in the custom message class.

2.31.45 Bot Friendly (v1.1)

Published at 2018/07/21

Two new event handlers to ease creating normal bots with the library, namely `events.InlineQuery` and `events.CallbackQuery` for handling `@InlineBot queries` or reacting to a button click. For this second option, there is an even better way:

```python
from telethon.tl.custom import Button

async def callback(event):
    await event.edit('Thank you!')

bot.send_message(chat, 'Hello!',
                 buttons=Button.inline('Click me', callback))
```

You can directly pass the callback when creating the button.

This is fine for small bots but it will add the callback every time you send a message, so you probably should do this instead once you are done testing:

```python
markup = bot.build_reply_markup(Button.inline('Click me', callback))
bot.send_message(chat, 'Hello!', buttons=markup)
```

And yes, you can create more complex button layouts with lists:

```python
from telethon import events

global phone = ''

@bot.on(events.CallbackQuery)
async def handler(event):
    global phone
    if event.data == b'<':
        phone = phone[:-1]
    else:
```

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```
        phone += event.data.decode('utf-8')

    await event.answer('Phone is now {}'.format(phone))

markup = bot.build_reply_markup([
    [Button.inline('1'), Button.inline('2'), Button.inline('3')],
    [Button.inline('4'), Button.inline('5'), Button.inline('6')],
    [Button.inline('7'), Button.inline('8'), Button.inline('9')],
    [Button.inline('+'), Button.inline('0'), Button.inline('<')],
])
bot.send_message(chat, 'Enter a phone', buttons=markup)
```

(Yes, there are better ways to do this). Now for the rest of things:

Additions

- New *custom.Button* class to help you create inline (or normal) reply keyboards. You must sign in as a bot to use the buttons= parameters.

- New events usable if you sign in as a bot: *events.InlineQuery* and *events.CallbackQuery*.

- New silent parameter when sending messages, usable in broadcast channels.

- Documentation now has an entire section dedicate to how to use the client's friendly methods at *(removed broken link)*.

Bug fixes

- Empty except are no longer used which means sending a keyboard interrupt should now work properly.

- The pts of incoming updates could be None.

- UTC timezone information is properly set for read datetime.

- Some infinite recursion bugs in the custom message class.

- Updates was being dispatched to raw handlers when it shouldn't.

- Using proxies and HTTPS connection mode may now work properly.

- Less flood waits when downloading media from different data centers, and the library will now detect them even before sending requests.

Enhancements

- Interactive sign in now supports signing in with a bot token.

- timedelta is now supported where a date is expected, which means you can e.g. ban someone for timedelta(minutes=5).

- Events are only built once and reused many times, which should save quite a few CPU cycles if you have a lot of the same type.

- You can now click inline buttons directly if you know their data.

Internal changes

- When downloading media, the right sender is directly used without previously triggering migrate errors.

- Code reusing for getting the chat and the sender, which easily enables this feature for new types.

2.31.46 New HTTP(S) Connection Mode (v1.0.4)

Published at 2018/07/09

This release implements the HTTP connection mode to the library, which means certain proxies that only allow HTTP connections should now work properly. You can use it doing the following, like any other mode:

```python
from telethon import TelegramClient, sync
from telethon.network import ConnectionHttp


client = TelegramClient(..., connection=ConnectionHttp)
with client:
    client.send_message('me', 'Hi!')
```

Additions

- `add_mark=` is now back on `utils.get_input_peer` and also on *client.get_input_entity()*.

- New *client.get_peer_id* convenience for `utils.get_peer_id(await client.get_input_entity(peer))`.

Bug fixes

- If several `TLMessage` in a `MessageContainer` exceeds 1MB, it will no longer be automatically turned into one. This basically means that e.g. uploading 10 file parts at once will work properly again.

- Documentation fixes and some missing `await`.

- Revert named argument for *client.forward_messages*

Enhancements

- New auto-casts to InputNotifyPeer and `chat_id`.

Internal changes

- Outgoing `TLMessage` are now pre-packed so if there's an error when serializing the raw requests, the library will no longer swallow it. This also means re-sending packets doesn't need to re-pack their bytes.

2.31.47 Iterate Messages in Reverse (v1.0.3)

Published at 2018/07/04

> Scheme layer used: 82

Mostly bug fixes, but now there is a new parameter on `client.iter_messages` to support reversing the order in which messages are returned.

Additions

- The mentioned `reverse` parameter when iterating over messages.
- A new `sequential_updates` parameter when creating the client for updates to be processed sequentially. This is useful when you need to make sure that all updates are processed in order, such as a script that only forwards incoming messages somewhere else.

Bug fixes

- Count was always `None` for `message.button_count`.
- Some fixes when disconnecting upon dropping the client.
- Support for Python 3.4 in the sync version, and fix media download.
- Some issues with events when accessing the input chat or their media.
- Hachoir wouldn't automatically close the file after reading its metadata.
- Signing in required a named `code=` parameter, but usage without a name was really widespread so it has been reverted.

2.31.48 Bug Fixes (v1.0.2)

Published at 2018/06/28

Updated some asserts and parallel downloads, as well as some fixes for sync.

2.31.49 Bug Fixes (v1.0.1)

Published at 2018/06/27

And as usual, every major release has a few bugs that make the library unusable! This quick update should fix those, namely:

Bug fixes

- `client.start()` was completely broken due to a last-time change requiring named arguments everywhere.
- Since the rewrite, if your system clock was wrong, the connection would get stuck in an infinite "bad message" loop of responses from Telegram.
- Accessing the buttons of a custom message wouldn't work in channels, which lead to fix a completely different bug regarding starting bots.
- Disconnecting could complain if the magic `telethon.sync` was imported.
- Successful automatic reconnections now ask Telegram to send updates to us once again as soon as the library is ready to listen for them.

2.31.50 Synchronous magic (v1.0)

Published at 2018/06/27

Important: If you come from Telethon pre-1.0 you **really** want to read *Compatibility and Convenience* to port your scripts to the new version.

The library has been around for well over a year. A lot of improvements have been made, a lot of user complaints have been fixed, and a lot of user desires have been implemented. It's time to consider the public API as stable, and remove some of the old methods that were around until now for compatibility reasons. But there's one more surprise!

There is a new magic `telethon.sync` module to let you use **all** the methods in the *TelegramClient* (and the types returned from its functions) in a synchronous way, while using `asyncio` behind the scenes! This means you're now able to do both of the following:

```python
import asyncio

async def main():
  await client.send_message('me', 'Hello!')

asyncio.run(main())

# ...can be rewritten as:

from telethon import sync
client.send_message('me', 'Hello!')
```

Both ways can coexist (you need to `await` if the loop is running).

You can also use the magic `sync` module in your own classes, and call `sync.syncify(cls)` to convert all their `async def` into magic variants.

Breaking Changes

- `message.get_fwd_sender` is now in *message.forward*.

- `client.idle` is now *client.run_until_disconnected()*

- `client.add_update_handler` is now *client.add_event_handler*

- `client.remove_update_handler` is now *client.remove_event_handler*

- `client.list_update_handlers` is now *client.list_event_handlers*

- `client.get_message_history` is now *client.get_messages*

- `client.send_voice_note` is now *client.send_file* with `is_voice=True`.

- `client.invoke()` is now `client(...)`.

- `report_errors` has been removed since it's currently not used, and `flood_sleep_threshold` is now part of the client.

- The `update_workers` and `spawn_read_thread` arguments are gone. Simply remove them from your code when you create the client.

- Methods with a lot of arguments can no longer be used without specifying their argument. Instead you need to use named arguments. This improves readability and not needing to learn the order of the arguments, which can also change.

Additions

- *client.send_file* now accepts external `http://` and `https://` URLs.

- You can use the *TelegramClient* inside of `with` blocks, which will *client.start()* and *disconnect()* the client for you:

```python
from telethon import TelegramClient, sync


with TelegramClient(name, api_id, api_hash) as client:
    client.send_message('me', 'Hello!')
```

Convenience at its maximum! You can even chain the *.start()* method since it returns the instance of the client:

```python
with TelegramClient(name, api_id, api_hash).start(bot_token=token) as bot:
    bot.send_message(chat, 'Hello!')
```

Bug fixes

- There were some `@property async def` left, and some `await property`.

- "User joined" event was being treated as "User was invited".

- SQLite's cursor should not be closed properly after usage.

- `await` the updates task upon disconnection.

- Some bug in Python 3.5.2's `asyncio` causing 100% CPU load if you forgot to call *client.disconnect()*. The method is called for you on object destruction, but you still should disconnect manually or use a `with` block.

- Some fixes regarding disconnecting on client deletion and properly saving the authorization key.

- Passing a class to `message.get_entities_text` now works properly.

- Iterating messages from a specific user in private messages now works.

Enhancements

- Both `client.start()` and `client.run_until_disconnected()` can be ran in both a synchronous way (without starting the loop manually) or from an `async def` where they need to have an `await`.

2.31.51 Core Rewrite in asyncio (v1.0-rc1)

Published at 2018/06/24

<div align="center">

Scheme layer used: 81

</div>

This version is a major overhaul of the library internals. The core has been rewritten, cleaned up and refactored to fix some oddities that have been growing inside the library.

This means that the code is easier to understand and reason about, including the code flow such as conditions, exceptions, where to reconnect, how the library should behave, and separating different retry types such as disconnections or call fails, but it also means that **some things will necessarily break** in this version.

All requests that touch the network are now methods and need to have their `await` (or be ran until their completion).

Also, the library finally has the simple logo it deserved: a carefully hand-written `.svg` file representing a T following Python's colours.

Breaking Changes

- If you relied on internals like the `MtProtoSender` and the `TelegramBareClient`, both are gone. They are now `MTProtoSender` and `TelegramBaseClient` and they behave differently.

- Underscores have been renamed from filenames. This means `telethon.errors.rpc_error_list` won't work, but you should have been using `telethon.errors` all this time instead.

- `client.connect` no longer returns `True` on success. Instead, you should `except` the possible `ConnectionError` and act accordingly. This makes it easier to not ignore the error.

- You can no longer set `retries=n` when calling a request manually. The limit works differently now, and it's done on a per-client basis.

- Accessing `.sender`, `.chat` and similar may *not* work in events anymore, since previously they could access the network. The new rule is that properties are not allowed to make API calls. You should use `.get_sender()`, `.get_chat()` instead while using events. You can safely access properties if you get messages through `client.get_messages()` or other methods in the client.

- The above point means `reply_message` is now `.get_reply_message()`, and `fwd_from_entity` is now `get_fwd_sender()`. Also `forward` was gone in the previous version, and you should be using `fwd_from` instead.

Additions

- Telegram's Terms Of Service are now accepted when creating a new account. This can possibly help avoid bans. This has no effect for accounts that were created before.

- The method reference now shows which methods can be used if you sign in with a `bot_token`.

- There's a new `client.disconnected` future which you can wait on. When a disconnection occurs, you will now, instead letting it happen in the background.

- More configurable retries parameters, such as auto-reconnection, retries when connecting, and retries when sending a request.

- You can filter `events.NewMessage` by sender ID, and also whether they are forwards or not.

- New `ignore_migrated` parameter for `client.iter_dialogs`.

Bug fixes

- Several fixes to `telethon.events.newmessage.NewMessage`.

- Removed named `length` argument in `to_bytes` for PyPy.

- Raw events failed due to not having `._set_client`.

- `message.get_entities_text` properly supports filtering, even if there are no message entities.

- `message.click` works better.

- The server started sending DraftMessageEmpty which the library didn't handle correctly when getting dialogs.

- The "correct" chat is now always returned from returned messages.

- `to_id` was not validated when retrieving messages by their IDs.

- `'__'` is no longer considered valid in usernames.

- The `fd` is removed from the reader upon closing the socket. This should be noticeable in Windows.

- MessageEmpty is now handled when searching messages.

- Fixed a rare infinite loop bug in `client.iter_dialogs` for some people.

- Fixed `TypeError` when there is no `.sender`.

Enhancements

- You can now delete over 100 messages at once with `client.delete_messages`.

- Signing in now accounts for `AuthRestartError` itself, and also handles `PasswordHashInvalidError`.

- `__all__` is now defined, so `from telethon import *` imports sane defaults (client, events and utils). This is however discouraged and should be used only in quick scripts.

- `pathlib.Path` is now supported for downloading and uploading media.

- Messages you send to yourself are now considered outgoing, unless they are forwarded.

- The documentation has been updated with a brand new `asyncio` crash course to encourage you use it. You can still use the threaded version if you want though.

- `.name` property is now properly supported when sending and downloading files.

- Custom `parse_mode`, which can now be set per-client, support MessageEntityMentionName so you can return those now.

- The session file is saved less often, which could result in a noticeable speed-up when working with a lot of incoming updates.

Internal changes

- The flow for sending a request is as follows: the `TelegramClient` creates a `MTProtoSender` with a `Connection`, and the sender starts send and receive loops. Sending a request means enqueueing it in the sender, which will eventually pack and encrypt it with its `ConnectionState` instead of using the entire `Session` instance. When the data is packed, it will be sent over the `Connection` and ultimately over the `TcpClient`.

- Reconnection occurs at the `MTProtoSender` level, and receiving responses follows a similar process, but now `asyncio.Future` is used for the results which are no longer part of all `TLObject`, instead are part of the `TLMessage` which simplifies things.

- Objects can no longer be `content_related` and instead subclass `TLRequest`, making the separation of concerns easier.

- The `TelegramClient` has been split into several mixin classes to avoid having a 3,000-lines-long file with all the methods.

- More special cases in the `MTProtoSender` have been cleaned up, and also some attributes from the `Session` which didn't really belong there since they weren't being saved.

- The `telethon_generator/` can now convert `.tl` files into `.json`, mostly as a proof of concept, but it might be useful for other people.

2.31.52 Custom Message class (v0.19.1)

Published at 2018/06/03

Scheme layer used: 80

This update brings a new *telethon.tl.custom.message.Message* object!

All the methods in the `telethon.telegram_client.TelegramClient` that used to return a Message will now return this object instead, which means you can do things like the following:

```
msg = client.send_message(chat, 'Hello!')
msg.edit('Hello there!')
msg.reply('Good day!')
print(msg.sender)
```

Refer to its documentation to see all you can do, again, click *telethon.tl.custom.message.Message* to go to its page.

Breaking Changes

- The `telethon.network.connection.common.Connection` class is now an ABC, and the old `ConnectionMode` is now gone. Use a specific connection (like *telethon.network.connection.tcpabridged.ConnectionTcpAbridged*) instead.

Additions

- You can get messages by their ID with `telethon.telegram_client.TelegramClient.get_messages`'s `ids` parameter:

```
message = client.get_messages(chats, ids=123)  # Single message
message_list = client.get_messages(chats, ids=[777, 778])  # Multiple
```

- More convenience properties for *telethon.tl.custom.dialog.Dialog*.
- New default `telethon.telegram_client.TelegramClient.parse_mode`.
- You can edit the media of messages that already have some media.
- New dark theme in the online `tl` reference, check it out at https://tl.telethon.dev/.

Bug fixes

- Some IDs start with `1000` and these would be wrongly treated as channels.
- Some short usernames like `@vote` were being ignored.
- `telethon.telegram_client.TelegramClient.iter_messages`'s `from_user` was failing if no filter had been set.
- `telethon.telegram_client.TelegramClient.iter_messages`'s `min_id`/`max_id` was being ignored by Telegram. This is now worked around.
- `telethon.telegram_client.TelegramClient.catch_up` would fail with empty states.
- *telethon.events.newmessage.NewMessage* supports `incoming=False` to indicate `outgoing=True`.

Enhancements

- You can now send multiple requests at once while preserving the order:

```
from telethon.tl.functions.messages import SendMessageRequest
client([SendMessageRequest(chat, 'Hello 1!'),
        SendMessageRequest(chat, 'Hello 2!')], ordered=True)
```

Internal changes

- `without rowid` is not used in SQLite anymore.

- Unboxed serialization would fail.

- Different default limit for `iter_messages` and `get_messages`.

- Some clean-up in the `telethon_generator/` package.

2.31.53 Catching up on Updates (v0.19)

Published at 2018/05/07

Scheme layer used: 76

This update prepares the library for catching up with updates with the new `telethon.telegram_client.`
`TelegramClient.catch_up` method. This feature needs more testing, but for now it will let you "catch up" on
some old updates that occurred while the library was offline, and brings some new features and bug fixes.

Additions

- Add `search`, `filter` and `from_user` parameters to `telethon.telegram_client.TelegramClient.`
`iter_messages`.

- `telethon.telegram_client.TelegramClient.download_file` now supports a None path to return the file
in memory and return its bytes.

- Events now have a `.original_update` field.

Bug fixes

- Fixed a race condition when receiving items from the network.

- A disconnection is made when "retries reached 0". This hasn't been tested but it might fix the bug.

- `reply_to` would not override Message object's reply value.

- Add missing caption when sending Message with media.

Enhancements

- Retry automatically on `RpcCallFailError`. This error happened a lot when iterating over many messages, and
retrying often fixes it.

- Faster `telethon.telegram_client.TelegramClient.iter_messages` by sleeping only as much as
needed.

- `telethon.telegram_client.TelegramClient.edit_message` now supports omitting the entity if you pass
a Message.

- *telethon.events.raw.Raw* can now be filtered by type.

Internal changes

- The library now distinguishes between MTProto and API schemas.
- State is now persisted to the session file.
- Connection won't retry forever.
- Fixed some errors and cleaned up the generation of code.
- Fixed typos and enhanced some documentation in general.
- Add auto-cast for InputMessage and InputLocation.

2.31.54 Pickle-able objects (v0.18.3)

Published at 2018/04/15

Now you can use Python's `pickle` module to serialize `RPCError` and any other `TLObject` thanks to **@vegeta1k95**! A fix that was fairly simple, but still might be useful for many people.

As a side note, the documentation at https://tl.telethon.dev now lists known `RPCError` for all requests, so you know what to expect. This required a major rewrite, but it was well worth it!

Breaking changes

- `telethon.telegram_client.TelegramClient.forward_messages` now returns a single item instead of a list if the input was also a single item.

Additions

- New `telethon.events.messageread.MessageRead` event, to find out when and who read which messages as soon as it happens.
- Now you can access `.chat_id` on all events and `.sender_id` on some.

Bug fixes

- Possibly fix some bug regarding lost `GzipPacked` requests.
- The library now uses the "real" layer 75, hopefully.
- Fixed `.entities` name collision on updates by making it private.
- `AUTH_KEY_DUPLICATED` is handled automatically on connection.
- Markdown parser's offset uses `match.start()` to allow custom regex.
- Some filter types (as a type) were not supported by `telethon.telegram_client.TelegramClient.iter_participants`.
- `telethon.telegram_client.TelegramClient.remove_event_handler` works.
- `telethon.telegram_client.TelegramClient.start` works on all terminals.
- InputPeerSelf case was missing from `telethon.telegram_client.TelegramClient.get_input_entity`.

Enhancements

- The `parse_mode` for messages now accepts a callable.

- `telethon.telegram_client.TelegramClient.download_media` accepts web previews.

- *telethon.tl.custom.dialog.Dialog* instances can now be casted into InputPeer.

- Better logging when reading packages "breaks".

- Better and more powerful `setup.py gen` command.

Internal changes

- The library won't call `.get_dialogs()` on entity not found. Instead, it will `raise ValueError()` so you can properly `except` it.

- Several new examples and updated documentation.

- `py:obj` is the default Sphinx's role which simplifies `.rst` files.

- `setup.py` now makes use of `python_requires`.

- Events now live in separate files.

- Other minor changes.

2.31.55 Several bug fixes (v0.18.2)

Published at 2018/03/27

Just a few bug fixes before they become too many.

Additions

- Getting an entity by its positive ID should be enough, regardless of their type (whether it's an `User`, a `Chat` or a `Channel`). Although wrapping them inside a `Peer` is still recommended, it's not necessary.

- New `client.edit_2fa` function to change your Two Factor Authentication settings.

- `.stringify()` and string representation for custom `Dialog/Draft`.

Bug fixes

- Some bug regarding `.get_input_peer`.

- `events.ChatAction` wasn't picking up all the pins.

- `force_document=True` was being ignored for albums.

- Now you're able to send `Photo` and `Document` as files.

- Wrong access to a member on chat forbidden error for `.get_participants`. An empty list is returned instead.

- `me/self` check for `.get[_input]_entity` has been moved up so if someone has "me" or "self" as their name they won't be retrieved.

2.31.56 Iterator methods (v0.18.1)

Published at 2018/03/17

All the `.get_` methods in the `TelegramClient` now have a `.iter_` counterpart, so you can do operations while retrieving items from them. For instance, you can `client.iter_dialogs()` and `break` once you find what you're looking for instead fetching them all at once.

Another big thing, you can get entities by just their positive ID. This may cause some collisions (although it's very unlikely), and you can (should) still be explicit about the type you want. However, it's a lot more convenient and less confusing.

Breaking changes

- The library only offers the default `SQLiteSession` again. See *Session Files* for more on how to use a different storage from now on.

Additions

- Events now override `__str__` and implement `.stringify()`, just like every other `TLObject` does.
- `events.ChatAction` now has `respond()`, `reply()` and `delete()` for the message that triggered it.
- `client.iter_participants()` (and its `client.get_participants()` counterpart) now expose the `filter` argument, and the returned users also expose the `.participant` they are.
- You can now use `client.remove_event_handler()` and `client.list_event_handlers()` similar how you could with normal updates.
- New properties on `events.NewMessage`, like `.video_note` and `.gif` to access only specific types of documents.
- The `Draft` class now exposes `.text` and `.raw_text`, as well as a new `Draft.send()` to send it.

Bug fixes

- `MessageEdited` was ignoring `NewMessage` constructor arguments.
- Fixes for `Event.delete_messages` which wouldn't handle `MessageService`.
- Bot API style IDs not working on `client.get_input_entity()`.
- `client.download_media()` didn't support `PhotoSize`.

Enhancements

- Less RPC are made when accessing the `.sender` and `.chat` of some events (mostly those that occur in a channel).
- You can send albums larger than 10 items (they will be sliced for you), as well as mixing normal files with photos.
- `TLObject` now have Python type hints.

Internal changes

- Several documentation corrections.

- `client.get_dialogs()` is only called once again when an entity is not found to avoid flood waits.

2.31.57 Sessions overhaul (v0.18)

Published at 2018/03/04

Scheme layer used: 75

The `Session`'s have been revisited thanks to the work of **@tulir** and they now use an ABC so you can easily implement your own!

The default will still be a `SQLiteSession`, but you might want to use the new `AlchemySessionContainer` if you need. Refer to the section of the documentation on *Session Files* for more.

Breaking changes

- `events.MessageChanged` doesn't exist anymore. Use the new `events.MessageEdited` and `events.MessageDeleted` instead.

Additions

- The mentioned addition of new session types.

- You can omit the event type on `client.add_event_handler` to use `Raw`.

- You can `raise StopPropagation` of events if you added several of them.

- `.get_participants()` can now get up to 90,000 members from groups with 100,000 if when `aggressive=True`, "bypassing" Telegram's limit.

- You now can access `NewMessage.Event.pattern_match`.

- Multiple captions are now supported when sending albums.

- `client.send_message()` has an optional `file=` parameter, so you can do `events.reply(file='/path/to/photo.jpg')` and similar.

- Added `.input_` versions to `events.ChatAction`.

- You can now access the public `.client` property on `events`.

- New `client.forward_messages`, with its own wrapper on `events`, called `event.forward_to(...)`.

Bug fixes

- Silly bug regarding `client.get_me(input_peer=True)`.

- `client.send_voice_note()` was missing some parameters.

- `client.send_file()` plays better with streams now.

- Incoming messages from bots weren't working with whitelists.

- Markdown's URL regex was not accepting newlines.

- Better attempt at joining background update threads.

- Use the right peer type when a marked integer ID is provided.

Internal changes

- Resolving `events.Raw` is now a no-op.

- Logging calls in the `TcpClient` to spot errors.

- `events` resolution is postponed until you are successfully connected, so you can attach them before starting the client.

- When an entity is not found, it is searched in *all* dialogs. This might not always be desirable but it's more comfortable for legitimate uses.

- Some non-persisting properties from the `Session` have been moved out.

2.31.58 Further easing library usage (v0.17.4)

Published at 2018/02/24

Some new things and patches that already deserved their own release.

Additions

- New `pattern` argument to `NewMessage` to easily filter messages.

- New `.get_participants()` convenience method to get members from chats.

- `.send_message()` now accepts a `Message` as the `message` parameter.

- You can now `.get_entity()` through exact name match instead username.

- Raise `ProxyConnectionError` instead looping forever so you can `except` it on your own code and behave accordingly.

Bug fixes

- `.parse_username` would fail with `www.` or a trailing slash.
- `events.MessageChanged` would fail with `UpdateDeleteMessages`.
- You can now send `b'byte strings'` directly as files again.
- `.send_file()` was not respecting the original captions when passing another message (or media) as the file.
- Downloading media from a different data center would always log a warning for the first time.

Internal changes

- Use `req_pq_multi` instead `req_pq` when generating `auth_key`.
- You can use `.get_me(input_peer=True)` if all you need is your self ID.
- New addition to the interactive client example to show peer information.
- Avoid special casing `InputPeerSelf` on some `NewMessage` events, so you can always safely rely on `.sender` to get the right ID.

2.31.59 New small convenience functions (v0.17.3)

Published at 2018/02/18

More bug fixes and a few others addition to make events easier to use.

Additions

- Use `hachoir` to extract video and audio metadata before upload.
- New `.add_event_handler`, `.add_update_handler` now deprecated.

Bug fixes

- `bot_token` wouldn't work on `.start()`, and changes to `password` (now it will ask you for it if you don't provide it, as docstring hinted).
- `.edit_message()` was ignoring the formatting (e.g. markdown).
- Added missing case to the `NewMessage` event for normal groups.
- Accessing the `.text` of the `NewMessage` event was failing due to a bug with the markdown unparser.

Internal changes

- `libssl` is no longer an optional dependency. Use `cryptg` instead, which you can find on https://pypi.org/project/cryptg/.

2.31.60 New small convenience functions (v0.17.2)

Published at 2018/02/15

Primarily bug fixing and a few welcomed additions.

Additions

- New convenience `.edit_message()` method on the `TelegramClient`.
- New `.edit()` and `.delete()` shorthands on the `NewMessage` event.
- Default to markdown parsing when sending and editing messages.
- Support for inline mentions when sending and editing messages. They work like inline urls (e.g. `[text](@username)`) and also support the Bot-API style (see here).

Bug fixes

- Periodically send `GetStateRequest` automatically to keep the server sending updates even if you're not invoking any request yourself.
- HTML parsing was failing due to not handling surrogates properly.
- `.sign_up` was not accepting `int` codes.
- Whitelisting more than one chat on `events` wasn't working.
- Video files are sent as a video by default unless `force_document`.

Internal changes

- More `logging` calls to help spot some bugs in the future.
- Some more logic to retrieve input entities on events.
- Clarified a few parts of the documentation.

2.31.61 Updates as Events (v0.17.1)

Published at 2018/02/09

Of course there was more work to be done regarding updates, and it's here! The library comes with a new `events` module (which you will often import as `from telethon import TelegramClient, events`). This are pretty much all the additions that come with this version change, but they are a nice addition. Refer to *(removed broken link)* to get started with events.

2.31.62 Trust the Server with Updates (v0.17)

Published at 2018/02/03

The library trusts the server with updates again. The library will *not* check for duplicates anymore, and when the server kicks us, it will run `GetStateRequest` so the server starts sending updates again (something it wouldn't do unless you invoked something, it seems). But this update also brings a few more changes!

Additions

- `TLObject`'s override `__eq__` and `__ne__`, so you can compare them.
- Added some missing cases on `.get_input_entity()` and peer functions.
- `obj.to_dict()` now has a `'_'` key with the type used.
- `.start()` can also sign up now.
- More parameters for `.get_message_history()`.
- Updated list of RPC errors.
- HTML parsing thanks to **@tulir**! It can be used similar to markdown: `client.send_message(...,` `parse_mode='html')`.

Enhancements

- `client.send_file()` now accepts `Message`'s and `MessageMedia`'s as the `file` parameter.
- Some documentation updates and fixed to clarify certain things.
- New exact match feature on https://tl.telethon.dev.
- Return as early as possible from `.get_input_entity()` and similar, to avoid penalizing you for doing this right.

Bug fixes

- `.download_media()` wouldn't accept a `Document` as parameter.
- The SQLite is now closed properly on disconnection.
- IPv6 addresses shouldn't use square braces.
- Fix regarding `.log_out()`.
- The time offset wasn't being used (so having wrong system time would cause the library not to work at all).

2.31.63 New `.resolve()` method (v0.16.2)

Published at 2018/01/19

The `TLObject`'s (instances returned by the API and `Request`'s) have now acquired a new `.resolve()` method. While this should be used by the library alone (when invoking a request), it means that you can now use `Peer` types or even usernames where a `InputPeer` is required. The object now has access to the `client`, so that it can fetch the right type if needed, or access the session database. Furthermore, you can reuse requests that need "autocast" (e.g. you put User but `InputPeer` was needed), since `.resolve()` is called when invoking. Before, it was only done on object construction.

Additions

- Album support. Just pass a list, tuple or any iterable to `.send_file()`.

Enhancements

- `.start()` asks for your phone only if required.
- Better file cache. All files under 10MB, once uploaded, should never be needed to be re-uploaded again, as the sent media is cached to the session.

Bug fixes

- `setup.py` now calls `gen_tl` when installing the library if needed.

Internal changes

- The mentioned `.resolve()` to perform "autocast", more powerful.
- Upload and download methods are no longer part of `TelegramBareClient`.
- Reuse `.on_response()`, `.__str__` and `.stringify()`. Only override `.on_response()` if necessary (small amount of cases).
- Reduced "autocast" overhead as much as possible. You shouldn't be penalized if you've provided the right type.

2.31.64 MtProto 2.0 (v0.16.1)

Published at 2018/01/11

Scheme layer used: 74

The library is now using MtProto 2.0! This shouldn't really affect you as an end user, but at least it means the library will be ready by the time MtProto 1.0 is deprecated.

Additions

- New `.start()` method, to make the library avoid boilerplate code.
- `.send_file` accepts a new optional `thumbnail` parameter, and returns the `Message` with the sent file.

Bug fixes

- The library uses again only a single connection. Less updates are be dropped now, and the performance is even better than using temporary connections.
- `without rowid` will only be used on the `*.session` if supported.
- Phone code hash is associated with phone, so you can change your mind when calling `.sign_in()`.

Internal changes

- File cache now relies on the hash of the file uploaded instead its path, and is now persistent in the `*.session` file. Report any bugs on this!

- Clearer error when invoking without being connected.

- Markdown parser doesn't work on bytes anymore (which makes it cleaner).

2.31.65 Sessions as sqlite databases (v0.16)

Published at 2017/12/28

In the beginning, session files used to be pickle. This proved to be bad as soon as one wanted to add more fields. For this reason, they were migrated to use JSON instead. But this proved to be bad as soon as one wanted to save things like entities (usernames, their ID and hash), so now it properly uses sqlite3, which has been well tested, to save the session files! Calling `.get_input_entity` using a `username` no longer will need to fetch it first, so it's really 0 calls again. Calling `.get_entity` will always fetch the most up to date version.

Furthermore, nearly everything has been documented, thus preparing the library for Read the Docs (although there are a few things missing I'd like to polish first), and the logging are now better placed.

Breaking changes

- `.get_dialogs()` now returns a **single list** instead a tuple consisting of a **custom class** that should make everything easier to work with.

- `.get_message_history()` also returns a **single list** instead a tuple, with the `Message` instances modified to make them more convenient.

Both lists have a `.total` attribute so you can still know how many dialogs/messages are in total.

Additions

- The mentioned use of `sqlite3` for the session file.

- `.get_entity()` now supports lists too, and it will make as little API calls as possible if you feed it `InputPeer` types. Usernames will always be resolved, since they may have changed.

- `.set_proxy()` method, to avoid having to create a new `TelegramClient`.

- More `date` types supported to represent a date parameter.

Bug fixes

- Empty strings weren't working when they were a flag parameter (e.g., setting no last name).

- Fix invalid assertion regarding flag parameters as well.

- Avoid joining the background thread on disconnect, as it would be None due to a race condition.

- Correctly handle None dates when downloading media.

- `.download_profile_photo` was failing for some channels.

- `.download_media` wasn't handling `Photo`.

Internal changes

- `date` was being serialized as local date, but that was wrong.

- `date` was being represented as a `float` instead of an `int`.

- `.tl` parser wasn't stripping inline comments.

- Removed some redundant checks on `update_state.py`.

- Use a synchronized queue instead a hand crafted version.

- Use signed integers consistently (e.g. `salt`).

- Always read the corresponding `TLObject` from API responses, except for some special cases still.

- A few more `except` low level to correctly wrap errors.

- More accurate exception types.

- `invokeWithLayer(initConnection(X))` now wraps every first request after `.connect()`.

As always, report if you have issues with some of the changes!

2.31.66 IPv6 support (v0.15.5)

Published at 2017/11/16

Scheme layer used: 73

It's here, it has come! The library now **supports IPv6**! Just pass `use_ipv6=True` when creating a `TelegramClient`. Note that I could *not* test this feature because my machine doesn't have IPv6 setup. If you know IPv6 works in your machine but the library doesn't, please refer to #425.

Additions

- IPv6 support.

- New method to extract the text surrounded by `MessageEntity`'s, in the `extensions.markdown` module.

Enhancements

- Markdown parsing is Done Right.

- Reconnection on failed invoke. Should avoid "number of retries reached 0" (#270).

- Some missing autocast to `Input*` types.

- The library uses the `NullHandler` for `logging` as it should have always done.

- `TcpClient.is_connected()` is now more reliable.

Bug fixes

- Getting an entity using their phone wasn't actually working.

- Full entities aren't saved unless they have an `access_hash`, to avoid some `None` errors.

- `.get_message_history` was failing when retrieving items that had messages forwarded from a channel.

2.31.67 General enhancements (v0.15.4)

Published at 2017/11/04

Scheme layer used: 72

This update brings a few general enhancements that are enough to deserve a new release, with a new feature: beta **markdown-like parsing** for `.send_message()`!

Additions

- `.send_message()` supports `parse_mode='md'` for **Markdown**! It works in a similar fashion to the official clients (defaults to double underscore/asterisk, like `**this**`). Please report any issues with emojies or enhancements for the parser!

- New `.idle()` method so your main thread can do useful job (listen for updates).

- Add missing `.to_dict()`, `__str__` and `.stringify()` for `TLMessage` and `MessageContainer`.

Bug fixes

- The list of known peers could end "corrupted" and have users with `access_hash=None`, resulting in `struct` error for it not being an integer. You shouldn't encounter this issue anymore.

- The warning for "added update handler but no workers set" wasn't actually working.

- `.get_input_peer` was ignoring a case for `InputPeerSelf`.

- There used to be an exception when logging exceptions (whoops) on update handlers.

- "Downloading contacts" would produce strange output if they had semicolons (`;`) in their name.

- Fix some cyclic imports and installing dependencies from the `git` repository.

- Code generation was using f-strings, which are only supported on Python 3.6.

Internal changes

- The `auth_key` generation has been moved from `.connect()` to `.invoke()`. There were some issues were `.connect()` failed and the `auth_key` was `None` so this will ensure to have a valid `auth_key` when needed, even if `BrokenAuthKeyError` is raised.

- Support for higher limits on `.get_history()` and `.get_dialogs()`.

- Much faster integer factorization when generating the required `auth_key`. Thanks @delivrance for making me notice this, and for the pull request.

2.31.68 Bug fixes with updates (v0.15.3)

Published at 2017/10/20

Hopefully a very ungrateful bug has been removed. When you used to invoke some request through update handlers, it could potentially enter an infinite loop. This has been mitigated and it's now safe to invoke things again! A lot of updates were being dropped (all those gzipped), and this has been fixed too.

More bug fixes include a correct parsing of certain TLObjects thanks to @stek29, and some wrong calls that would cause the library to crash thanks to @andr-04, and the `ReadThread` not re-starting if you were already authorized.

Internally, the `.to_bytes()` function has been replaced with `__bytes__` so now you can do `bytes(tlobject)`.

2.31.69 Bug fixes and new small features (v0.15.2)

Published at 2017/10/14

This release primarily focuses on a few bug fixes and enhancements. Although more stuff may have broken along the way.

Enhancements

- You will be warned if you call `.add_update_handler` with no `update_workers`.
- New customizable threshold value on the session to determine when to automatically sleep on flood waits. See `client.session.flood_sleep_threshold`.
- New `.get_drafts()` method with a custom `Draft` class by @JosXa.
- Join all threads when calling `.disconnect()`, to assert no dangling thread is left alive.
- Larger chunk when downloading files should result in faster downloads.
- You can use a callable key for the `EntityDatabase`, so it can be any filter you need.

Bug fixes

- `.get_input_entity` was failing for IDs and other cases, also making more requests than it should.
- Use `basename` instead `abspath` when sending a file. You can now also override the attributes.
- `EntityDatabase.__delitem__` wasn't working.
- `.send_message()` was failing with channels.
- `.get_dialogs(limit=None)` should now return all the dialogs correctly.
- Temporary fix for abusive duplicated updates.

Internal changes

- MsgsAck is now sent in a container rather than its own request.

- `.get_input_photo` is now used in the generated code.

- `.process_entities` was being called from more places than only `__call__`.

- `MtProtoSender` now relies more on the generated code to read responses.

2.31.70 Custom Entity Database (v0.15.1)

Published at 2017/10/05

The main feature of this release is that Telethon now has a custom database for all the entities you encounter, instead depending on `@lru_cache` on the `.get_entity()` method.

The `EntityDatabase` will, by default, **cache** all the users, chats and channels you find in memory for as long as the program is running. The session will, by default, save all key-value pairs of the entity identifiers and their hashes (since Telegram may send an ID that it thinks you already know about, we need to save this information).

You can **prevent** the `EntityDatabase` from saving users by setting `client.session.entities.enabled = False`, and prevent the `Session` from saving input entities at all by setting `client.session.save_entities = False`. You can also clear the cache for a certain user through `client.session.entities.clear_cache(entity=None)`, which will clear all if no entity is given.

Additions

- New method to `.delete_messages()`.

- New `ChannelPrivateError` class.

Enhancements

- `.sign_in` accepts phones as integers.

- Changing the IP to which you connect to is as simple as `client.session.server_address = 'ip'`, since now the server address is always queried from the session.

Bug fixes

- `.get_dialogs()` doesn't fail on Windows anymore, and returns the right amount of dialogs.

- `GeneralProxyError` should be passed to the main thread again, so that you can handle it.

2.31.71 Updates Overhaul Update (v0.15)

Published at 2017/10/01

After hundreds of lines changed on a major refactor, *it's finally here*. It's the **Updates Overhaul Update**; let's get right into it!

Breaking changes

- `.create_new_connection()` is gone for good. No need to deal with this manually since new connections are now handled on demand by the library itself.

Enhancements

- You can **invoke** requests from **update handlers**. And **any other thread**. A new temporary will be made, so that you can be sending even several requests at the same time!
- **Several worker threads** for your updates! By default, `None` will spawn. I recommend you to work with `update_workers=4` to get started, these will be polling constantly for updates.
- You can also change the number of workers at any given time.
- The library can now run **in a single thread** again, if you don't need to spawn any at all. Simply set `spawn_read_thread=False` when creating the `TelegramClient`!
- You can specify `limit=None` on `.get_dialogs()` to get **all** of them[1].
- **Updates are expanded**, so you don't need to check if the update has `.updates` or an inner `.update` anymore.
- All `InputPeer` entities are **saved in the session** file, but you can disable this by setting `save_entities=False`.
- New `.get_input_entity` method, which makes use of the above feature. You **should use this** when a request needs a `InputPeer`, rather than the whole entity (although both work).
- Assert that either all or None dependent-flag parameters are set before sending the request.
- Phone numbers can have dashes, spaces, or parenthesis. They'll be removed before making the request.
- You can override the phone and its hash on `.sign_in()`, if you're creating a new `TelegramClient` on two different places.

Bug fixes

- `.log_out()` was consuming all retries. It should work just fine now.
- The session would fail to load if the `auth_key` had been removed manually.
- `Updates.check_error` was popping wrong side, although it's been completely removed.
- `ServerError`'s will be **ignored**, and the request will immediately be retried.
- Cross-thread safety when saving the session file.
- Some things changed on a matter of when to reconnect, so please report any bugs!

Internal changes

- `TelegramClient` is now only an abstraction over the `TelegramBareClient`, which can only do basic things, such as invoking requests, working with files, etc. If you don't need any of the abstractions the `TelegramClient`, you can now use the `TelegramBareClient` in a much more comfortable way.
- `MtProtoSender` is not thread-safe, but it doesn't need to be since a new connection will be spawned when needed.
- New connections used to be cached and then reused. Now only their sessions are saved, as temporary connections are spawned only when needed.
- Added more RPC errors to the list.

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[1]: Broken due to a condition which should had been the opposite (sigh), fixed 4 commits ahead on https://github.com/LonamiWebs/Telethon/commit/62ea77cbeac7c42bfac85aa8766a1b5b35e3a76c.

That's pretty much it, although there's more work to be done to make the overall experience of working with updates *even better*. Stay tuned!

2.31.72 Serialization bug fixes (v0.14.2)

Published at 2017/09/29

Bug fixes

- **Important**, related to the serialization. Every object or request that had to serialize a `True/False` type was always being serialized as `false`!

- Another bug that didn't allow you to leave as `None` flag parameters that needed a list has been fixed.

Internal changes

- Other internal changes include a somewhat more readable `.to_bytes()` function and pre-computing the flag instead using bit shifting. The `TLObject.constructor_id` has been renamed to `TLObject.CONSTRUCTOR_ID`, and `.subclass_of_id` is also uppercase now.

2.31.73 Farewell, BinaryWriter (v0.14.1)

Published at 2017/09/28

Version `v0.14` had started working on the new `.to_bytes()` method to dump the `BinaryWriter` and its usage on the `.on_send()` when serializing TLObjects, and this release finally removes it. The speed up when serializing things to bytes should now be over twice as fast wherever it's needed.

Bug fixes

- This version is again compatible with Python 3.x versions **below 3.5** (there was a method call that was Python 3.5 and above).

Internal changes

- Using proper classes (including the generated code) for generating authorization keys and to write out `TLMessage`'s.

2.31.74 Several requests at once and upload compression (v0.14)

Published at 2017/09/27

New major release, since I've decided that these two features are big enough:

Additions

- Requests larger than 512 bytes will be **compressed through gzip**, and if the result is smaller, this will be uploaded instead.
- You can now send **multiple requests at once**, they're simply `*var_args` on the `.invoke()`. Note that the server doesn't guarantee the order in which they'll be executed!

Internally, another important change. The `.on_send` function on the `TLObjects` is **gone**, and now there's a new `.to_bytes()`. From my tests, this has always been over twice as fast serializing objects, although more replacements need to be done, so please report any issues.

Enhancements

- Implemented `.get_input_media` helper methods. Now you can even use another message as input media!

Bug fixes

- Downloading media from CDNs wasn't working (wrong access to a parameter).
- Correct type hinting.
- Added a tiny sleep when trying to perform automatic reconnection.
- Error reporting is done in the background, and has a shorter timeout.
- `setup.py` used to fail with wrongly generated code.

2.31.75 Quick fix-up (v0.13.6)

Published at 2017/09/23

Before getting any further, here's a quick fix-up with things that should have been on `v0.13.5` but were missed. Specifically, the **timeout when receiving** a request will now work properly.

Some other additions are a tiny fix when **handling updates**, which was ignoring some of them, nicer `__str__` and `.stringify()` methods for the `TLObject`'s, and not stopping the `ReadThread` if you try invoking something there (now it simply returns `None`).

2.31.76 Attempts at more stability (v0.13.5)

Published at 2017/09/23

Yet another update to fix some bugs and increase the stability of the library, or, at least, that was the attempt!

This release should really **improve the experience with the background thread** that the library starts to read things from the network as soon as it can, but I can't spot every use case, so please report any bug (and as always, minimal reproducible use cases will help a lot).

Bug fixes

- `setup.py` was failing on Python < 3.5 due to some imports.

- Duplicated updates should now be ignored.

- `.send_message` would crash in some cases, due to having a typo using the wrong object.

- `"socket is None"` when calling `.connect()` should not happen anymore.

- `BrokenPipeError` was still being raised due to an incorrect order on the `try/except` block.

Enhancements

- **Type hinting** for all the generated `Request`'s and `TLObjects`! IDEs like PyCharm will benefit from this.

- `ProxyConnectionError` should properly be passed to the main thread for you to handle.

- The background thread will only be started after you're authorized on Telegram (i.e. logged in), and several other attempts at polishing the experience with this thread.

- The `Connection` instance is only created once now, and reused later.

- Calling `.connect()` should have a better behavior now (like actually *trying* to connect even if we seemingly were connected already).

- `.reconnect()` behavior has been changed to also be more consistent by making the assumption that we'll only reconnect if the server has disconnected us, and is now private.

Internal changes

- `TLObject.__repr__` doesn't show the original TL definition anymore, it was a lot of clutter. If you have any complaints open an issue and we can discuss it.

- Internally, the `'+'` from the phone number is now stripped, since it shouldn't be included.

- Spotted a new place where `BrokenAuthKeyError` would be raised, and it now is raised there.

2.31.77 More bug fixes and enhancements (v0.13.4)

Published at 2017/09/18

Additions

- `TelegramClient` now exposes a `.is_connected()` method.

- Initial authorization on a new data center will retry up to 5 times by default.

- Errors that couldn't be handled on the background thread will be raised on the next call to `.invoke()` or `updates.poll()`.

Bug fixes

- Now you should be able to sign in even if you have `process_updates=True` and no previous session.

- Some errors and methods are documented a bit clearer.

- `.send_message()` could randomly fail, as the returned type was not expected.

- `TimeoutError` is now ignored, since the request will be retried up to 5 times by default.

- "-404" errors (`BrokenAuthKeyError`'s) are now detected when first connecting to a new data center.

- `BufferError` is handled more gracefully, in the same way as `InvalidCheckSumError`'s.

- Attempt at fixing some "NoneType has no attribute..." errors (with the `.sender`).

Internal changes

- Calling `GetConfigRequest` is now made less often.

- The `initial_query` parameter from `.connect()` is gone, as it's not needed anymore.

- Renamed `all_tlobjects.layer` to `all_tlobjects.LAYER` (since it's a constant).

- The message from `BufferError` is now more useful.

2.31.78 Bug fixes and enhancements (v0.13.3)

Published at 2017/09/14

Bug fixes

- **Reconnection** used to fail because it tried invoking things from the `ReadThread`.

- Inferring **random ids** for `ForwardMessagesRequest` wasn't working.

- Downloading media from **CDNs** failed due to having forgotten to remove a single line.

- `TcpClient.close()` now has a ``**threading.Lock**``, so `NoneType has no close()` should not happen.

- New **workaround** for `msg seqno too low/high`. Also, both `Session.id/seq` are not saved anymore.

Enhancements

- **Request will be retried** up to 5 times by default rather than failing on the first attempt.

- `InvalidChecksumError`'s are now **ignored** by the library.

- `TelegramClient.get_entity()` is now **public**, and uses the `@lru_cache()` decorator.

- New method to ``**.send_voice_note()**``'s.

- Methods to send message and media now support a ``**reply_to** **parameter**``.

- `.send_message()` now returns the **full message** which was just sent.

2.31.79 New way to work with updates (v0.13.2)

Published at 2017/09/08

This update brings a new way to work with updates, and it's begging for your **feedback**, or better names or ways to do what you can do now.

Please refer to the wiki/Usage Modes for an in-depth description on how to work with updates now. Notice that you cannot invoke requests from within handlers anymore, only the `v.0.13.1` patch allowed you to do so.

Bug fixes

- Periodic pings are back.

- The username regex mentioned on `UsernameInvalidError` was invalid, but it has now been fixed.

- Sending a message to a phone number was failing because the type used for a request had changed on layer 71.

- CDN downloads weren't working properly, and now a few patches have been applied to ensure more reliability, although I couldn't personally test this, so again, report any feedback.

2.31.80 Invoke other requests from within update callbacks (v0.13.1)

Published at 2017/09/04

> **Warning:** This update brings some big changes to the update system, so please read it if you work with them!

A silly "bug" which hadn't been spotted has now been fixed. Now you can invoke other requests from within your update callbacks. However **this is not advised**. You should post these updates to some other thread, and let that thread do the job instead. Invoking a request from within a callback will mean that, while this request is being invoked, no other things will be read.

Internally, the generated code now resides under a *lot* less files, simply for the sake of avoiding so many unnecessary files. The generated code is not meant to be read by anyone, simply to do its job.

Unused attributes have been removed from the `TLObject` class too, and `.sign_up()` returns the user that just logged in in a similar way to `.sign_in()` now.

2.31.81 Connection modes (v0.13)

Published at 2017/09/04

> Scheme layer used: 71

The purpose of this release is to denote a big change, now you can connect to Telegram through different **connection modes**. Also, a **second thread** will *always* be started when you connect a `TelegramClient`, despite whether you'll be handling updates or ignoring them, whose sole purpose is to constantly read from the network.

The reason for this change is as simple as *"reading and writing shouldn't be related"*. Even when you're simply ignoring updates, this way, once you send a request you will only need to read the result for the request. Whatever Telegram sent before has already been read and outside the buffer.

Additions

- The mentioned different connection modes, and a new thread.

- You can modify the `Session` attributes through the `TelegramClient` constructor (using `**kwargs`).

- `RPCError`'s now belong to some request you've made, which makes more sense.

- `get_input_*` now handles `None` (default) parameters more gracefully (it used to crash).

Enhancements

- The low-level socket doesn't use a handcrafted timeout anymore, which should benefit by avoiding the arbitrary `sleep(0.1)` that there used to be.

- `TelegramClient.sign_in` will call `.send_code_request` if no `code` was provided.

Deprecation

- `.sign_up` does *not* take a `phone` argument anymore. Change this or you will be using `phone` as `code`, and it will fail! The definition looks like `def sign_up(self, code, first_name, last_name='')`.

- The old `JsonSession` finally replaces the original `Session` (which used pickle). If you were overriding any of these, you should only worry about overriding `Session` now.

2.31.82 Added verification for CDN file (v0.12.2)

Published at 2017/08/28

Since the Content Distributed Network (CDN) is not handled by Telegram itself, the owners may tamper these files. Telegram sends their sha256 sum for clients to implement this additional verification step, which now the library has. If any CDN has altered the file you're trying to download, `CdnFileTamperedError` will be raised to let you know.

Besides this. `TLObject.stringify()` was showing bytes as lists (now fixed) and RPC errors are reported by default:

> In an attempt to help everyone who works with the Telegram API, Telethon will by default report all Remote Procedure Call errors to PWRTelegram, a public database anyone can query, made by Daniil. All the information sent is a GET request with the error code, error message and method used.

Note: If you still would like to opt out, simply set `client.session.report_errors = False` to disable this feature. However Daniil would really thank you if you helped him (and everyone) by keeping it on!

2.31.83 CDN support (v0.12.1)

Published at 2017/08/24

The biggest news for this update are that downloading media from CDN's (you'll often encounter this when working with popular channels) now **works**.

Bug fixes

- The method used to download documents crashed because two lines were swapped.

- Determining the right path when downloading any file was very weird, now it's been enhanced.

- The `.sign_in()` method didn't support integer values for the code! Now it does again.

Some important internal changes are that the old way to deal with RSA public keys now uses a different module instead the old strange hand-crafted version.

Hope the new, super simple `README.rst` encourages people to use Telethon and make it better with either suggestions, or pull request. Pull requests are *super* appreciated, but showing some support by leaving a star also feels nice .

2.31.84 Newbie friendly update (v0.12)

Published at 2017/08/22

Scheme layer used: 70

This update is overall an attempt to make Telethon a bit more user friendly, along with some other stability enhancements, although it brings quite a few changes.

Breaking changes

- The `TelegramClient` methods `.send_photo_file()`, `.send_document_file()` and `.send_media_file()` are now a **single method** called `.send_file()`. It's also important to note that the **order** of the parameters has been **swapped**: first to *who* you want to send it, then the file itself.

- The same applies to `.download_msg_media()`, which has been renamed to `.download_media()`. The method now supports a `Message` itself too, rather than only `Message.media`. The specialized `.download_photo()`, `.download_document()` and `.download_contact()` still exist, but are private.

Additions

- Updated to **layer 70**!

- Both downloading and uploading now support **stream-like objects**.

- A lot **faster initial connection** if `sympy` is installed (can be installed through `pip`).

- `libssl` will also be used if available on your system (likely on Linux based systems). This speed boost should also apply to uploading and downloading files.

- You can use a **phone number** or an **username** for methods like `.send_message()`, `.send_file()`, and all the other quick-access methods provided by the `TelegramClient`.

Bug fixes

- Crashing when migrating to a new layer and receiving old updates should not happen now.

- `InputPeerChannel` is now casted to `InputChannel` autmotically too.

- `.get_new_msg_id()` should now be thread-safe. No promises.

- Logging out on macOS caused a crash, which should be gone now.

- More checks to ensure that the connection is flagged correctly as either connected or not.

Note: Downloading files from CDN's will **not work** yet (something new that comes with layer 70).

That's it, any new idea or suggestion about how to make the project even more friendly is highly appreciated.

Note: Did you know that you can pretty print any result Telegram returns (called `TLObject`'s) by using their `.stringify()` function? Great for debugging!

2.31.85 get_input_* now works with vectors (v0.11.5)

Published at 2017/07/11

Quick fix-up of a bug which hadn't been encountered until now. Auto-cast by using `get_input_*` now works.

2.31.86 get_input_* everywhere (v0.11.4)

Published at 2017/07/10

For some reason, Telegram doesn't have enough with the InputPeer. There also exist InputChannel and InputUser! You don't have to worry about those anymore, it's handled internally now.

Besides this, every Telegram object now features a new default `.__str__` look, and also a .stringify() method to pretty format them, if you ever need to inspect them.

The library now uses the DEBUG level everywhere, so no more warnings or information messages if you had logging enabled.

The `no_webpage` parameter from `.send_message` has been renamed to `link_preview` for clarity, so now it does the opposite (but has a clearer intention).

2.31.87 Quick .send_message() fix (v0.11.3)

Published at 2017/07/05

A very quick follow-up release to fix a tiny bug with `.send_message()`, no new features.

2.31.88 Callable TelegramClient (v0.11.2)

Published at 2017/07/04

Scheme layer used: 68

There is a new preferred way to **invoke requests**, which you're encouraged to use:

```
# New!
result = client(SomeRequest())

# Old.
result = client.invoke(SomeRequest())
```

Existing code will continue working, since the old `.invoke()` has not been deprecated.

When you `.create_new_connection()`, it will also handle `FileMigrateError`'s for you, so you don't need to worry about those anymore.

Bugs fixes

- Fixed some errors when installing Telethon via `pip` (for those using either source distributions or a Python version 3.5).
- `ConnectionResetError` didn't flag sockets as closed, but now it does.

On a more technical side, `msg_id`'s are now more accurate.

2.31.89 Improvements to the updates (v0.11.1)

Published at 2017/06/24

Receiving new updates shouldn't miss any anymore, also, periodic pings are back again so it should work on the long run.

On a different order of things, `.connect()` also features a timeout. Notice that the `timeout=` is **not** passed as a **parameter** anymore, and is instead specified when creating the `TelegramClient`.

Bug fixes

- Fixed some name class when a request had a `.msg_id` parameter.
- The correct amount of random bytes is now used in DH request
- Fixed `CONNECTION_APP_VERSION_EMPTY` when using temporary sessions.
- Avoid connecting if already connected.

2.31.90 Support for parallel connections (v0.11)

Published at 2017/06/16

This update brings a lot of changes, so it would be nice if you could **read the whole change log**!

Breaking changes

- Every Telegram error has now its **own class**, so it's easier to fine-tune your `except`'s.

- Markdown parsing is **not part** of Telethon itself anymore, although there are plans to support it again through a some external module.

- The `.list_sessions()` has been moved to the `Session` class instead.

- The `InteractiveTelegramClient` is **not** shipped with `pip` anymore.

Additions

- A new, more **lightweight class** has been added. The `TelegramBareClient` is now the base of the normal `TelegramClient`, and has the most basic features.

- New method to `.create_new_connection()`, which can be ran **in parallel** with the original connection. This will return the previously mentioned `TelegramBareClient` already connected.

- Any file object can now be used to download a file (for instance, a `BytesIO()` instead a file name).

- Vales like `random_id` are now **automatically inferred**, so you can save yourself from the hassle of writing `generate_random_long()` everywhere. Same applies to `.get_input_peer()`, unless you really need the extra performance provided by skipping one `if` if called manually.

- Every type now features a new `.to_dict()` method.

Bug fixes

- Received errors are acknowledged to the server, so they don't happen over and over.

- Downloading media on different data centers is now up to **x2 faster**, since there used to be an `InvalidDCError` for each file part tried to be downloaded.

- Lost messages are now properly skipped.

- New way to handle the **result of requests**. The old `ValueError` "*The previously sent request must be resent. However, no request was previously sent (possibly called from a different thread).*" *should* not happen anymore.

Internal changes

- Some fixes to the `JsonSession`.

- Fixed possibly crashes if trying to `.invoke()` a `Request` while `.reconnect()` was being called on the `UpdatesThread`.

- Some improvements on the `TcpClient`, such as not switching between blocking and non-blocking sockets.

- The code now uses ASCII characters only.

- Some enhancements to `.find_user_or_chat()` and `.get_input_peer()`.

2.31.91 JSON session file (v0.10.1)

Published at 2017/06/07

This version is primarily for people to **migrate** their `.session` files, which are *pickled*, to the new *JSON* format. Although slightly slower, and a bit more vulnerable since it's plain text, it's a lot more resistant to upgrades.

> **Warning:** You **must** upgrade to this version before any higher one if you've used Telethon v0.10. If you happen to upgrade to an higher version, that's okay, but you will have to manually delete the `*.session` file, and logout from that session from an official client.

Additions

- New `.get_me()` function to get the **current** user.

- `.is_user_authorized()` is now more reliable.

- New nice button to copy the `from telethon.tl.xxx.yyy import Yyy` on the online documentation.

- **More error codes** added to the `errors` file.

Enhancements

- Everything on the documentation is now, theoretically, **sorted alphabetically**.

- No second thread is spawned unless one or more update handlers are added.

2.31.92 Full support for different DCs and ++stable (v0.10)

Published at 2017/06/03

Working with **different data centers** finally *works*! On a different order of things, **reconnection** is now performed automatically every time Telegram decides to kick us off their servers, so now Telethon can really run **forever and ever**! In theory.

Enhancements

- **Documentation** improvements, such as showing the return type.

- The `msg_id too low/high` error should happen **less often**, if any.

- Sleeping on the main thread is **not done anymore**. You will have to `except FloodWaitError`'s.

- You can now specify your *own application version*, device model, system version and language code.

- Code is now more *pythonic* (such as making some members private), and other internal improvements (which affect the **updates thread**), such as using `logger` instead a bare `print()` too.

This brings Telethon a whole step closer to `v1.0`, though more things should preferably be changed.

2.31.93 Stability improvements (v0.9.1)

Published at 2017/05/23

Telethon used to crash a lot when logging in for the very first time. The reason for this was that the reconnection (or dead connections) were not handled properly. Now they are, so you should be able to login directly, without needing to delete the `*.session` file anymore. Notice that downloading from a different DC is still a WIP.

Enhancements

- Updates thread is only started after a successful login.

- Files meant to be ran by the user now use **shebangs** and proper permissions.

- In-code documentation now shows the returning type.

- **Relative import** is now used everywhere, so you can rename `telethon` to anything else.

- **Dead connections** are now **detected** instead entering an infinite loop.

- **Sockets** can now be **closed** (and re-opened) properly.

- Telegram decided to update the layer 66 without increasing the number. This has been fixed and now we're up-to-date again.

2.31.94 General improvements (v0.9)

Published at 2017/05/19

Scheme layer used: 66

Additions

- The **documentation**, available online here, has a new search bar.

- Better **cross-thread safety** by using `threading.Event`.

- More improvements for running Telethon during a **long period of time**.

Bug fixes

- **Avoid a certain crash on login** (occurred if an unexpected object ID was received).

- Avoid crashing with certain invalid UTF-8 strings.

- Avoid crashing on certain terminals by using known ASCII characters where possible.

- The `UpdatesThread` is now a daemon, and should cause less issues.

- Temporary sessions didn't actually work (with `session=None`).

Internal changes

- `.get_dialogs(count=` was renamed to `.get_dialogs(limit=`.

2.31.95 Bot login and proxy support (v0.8)

Published at 2017/04/14

Additions

- **Bot login**, thanks to @JuanPotato for hinting me about how to do it.

- **Proxy support**, thanks to @exzhawk for implementing it.

- **Logging support**, used by passing `--telethon-log=DEBUG` (or `INFO`) as a command line argument.

Bug fixes

- Connection fixes, such as avoiding connection until `.connect()` is explicitly invoked.

- Uploading big files now works correctly.

- Fix uploading big files.

- Some fixes on the updates thread, such as correctly sleeping when required.

2.31.96 Long-run bug fix (v0.7.1)

Published at 2017/02/19

If you're one of those who runs Telethon for a long time (more than 30 minutes), this update by @strayge will be great for you. It sends periodic pings to the Telegram servers so you don't get disconnected and you can still send and receive updates!

2.31.97 Two factor authentication (v0.7)

Published at 2017/01/31

Scheme layer used: 62

If you're one of those who love security the most, these are good news. You can now use two factor authentication with Telethon too! As internal changes, the coding style has been improved, and you can easily use custom session objects, and various little bugs have been fixed.

2.31.98 Updated pip version (v0.6)

Published at 2016/11/13

<div style="text-align: center; border: 1px solid #000; display: inline-block; padding: 8px;">Scheme layer used: 57</div>

This release has no new major features. However, it contains some small changes that make using Telethon a little bit easier. Now those who have installed Telethon via `pip` can also take advantage of changes, such as less bugs, creating empty instances of `TLObjects`, specifying a timeout and more!

2.31.99 Ready, pip, go! (v0.5)

Published at 2016/09/18

Telethon is now available as a `` `Python package <https://pypi.python.org/pypi?name=Telethon>`__ ``! Those are really exciting news (except, sadly, the project structure had to change *a lot* to be able to do that; but hopefully it won't need to change much more, any more!)

Not only that, but more improvements have also been made: you're now able to both **sign up** and **logout**, watch a pretty "Uploading/Downloading... x%" progress, and other minor changes which make using Telethon **easier**.

2.31.100 Made InteractiveTelegramClient cool (v0.4)

Published at 2016/09/12

Yes, really cool! I promise. Even though this is meant to be a *library*, that doesn't mean it can't have a good *interactive client* for you to try the library out. This is why now you can do many, many things with the `InteractiveTelegramClient`:

- **List dialogs** (chats) and pick any you wish.
- **Send any message** you like, text, photos or even documents.
- **List** the **latest messages** in the chat.
- **Download** any message's media (photos, documents or even contacts!).
- **Receive message updates** as you talk (i.e., someone sent you a message).

It actually is a usable-enough client for your day by day. You could even add `libnotify` and pop, you're done! A great cli-client with desktop notifications.

Also, being able to download and upload media implies that you can do the same with the library itself. Did I need to mention that? Oh, and now, with even less bugs! I hope.

2.31.101 Media revolution and improvements to update handling! (v0.3)

Published at 2016/09/11

Telegram is more than an application to send and receive messages. You can also **send and receive media**. Now, this implementation also gives you the power to upload and download media from any message that contains it! Nothing can now stop you from filling up all your disk space with all the photos! If you want to, of course.

2.31.102 Handle updates in their own thread! (v0.2)

Published at 2016/09/10

This version handles **updates in a different thread** (if you wish to do so). This means that both the low level `TcpClient` and the not-so-low-level `MtProtoSender` are now multi-thread safe, so you can use them with more than a single thread without worrying!

This also implies that you won't need to send a request to **receive an update** (is someone typing? did they send me a message? has someone gone offline?). They will all be received **instantly**.

Some other cool examples of things that you can do: when someone tells you "*Hello*", you can automatically reply with another "*Hello*" without even needing to type it by yourself :)

However, be careful with spamming!! Do **not** use the program for that!

2.31.103 First working alpha version! (v0.1)

Published at 2016/09/06

<div style="text-align:center; border:1px solid #000; display:inline-block; padding:4px;">Scheme layer used: 55</div>

There probably are some bugs left, which haven't yet been found. However, the majority of code works and the application is already usable! Not only that, but also uses the latest scheme as of now *and* handles way better the errors. This tag is being used to mark this release as stable enough.

2.32 Wall of Shame

This project has an issues section for you to file **issues** whenever you encounter any when working with the library. Said section is **not** for issues on *your* program but rather issues with Telethon itself.

If you have not made the effort to 1. read through the docs and 2. look for the method you need, you will end up on the Wall of Shame, i.e. all issues labeled "RTFM":

> **rtfm** Literally "Read The F–king Manual"; a term showing the frustration of being bothered with questions so trivial that the asker could have quickly figured out the answer on their own with minimal effort, usually by reading readily-available documents. People who say "RTFM!" might be considered rude, but the true rude ones are the annoying people who take absolutely no self-responibility and expect to have all the answers handed to them personally.
>
> *"Damn, that's the twelveth time that somebody posted this question to the messageboard today! RTFM, already!"*
>
> *by Bill M. July 27, 2004*

If you have indeed read the docs, and have tried looking for the method, and yet you didn't find what you need, **that's fine**. Telegram's API can have some obscure names at times, and for this reason, there is a "question" label with questions that are okay to ask. Just state what you've tried so that we know you've made an effort, or you'll go to the Wall of Shame.

Of course, if the issue you're going to open is not even a question but a real issue with the library (thankfully, most of the issues have been that!), you won't end up here. Don't worry.

2.32.1 Current winner

The current winner is issue 213:

Issue:

i'm confused in working with Telethon library #213

Open HoomanHP opened this issue a minute ago · 0 comments

HoomanHP commented a minute ago

is this library written under python2? because I'm really confused

> **alt**
> Winner issue

Winner issue

Answer:

<> Code   Issues **18**   Pull requests

Pure Python 3 Telegram client library https:/

python   library   telegram   telegram-api   Man
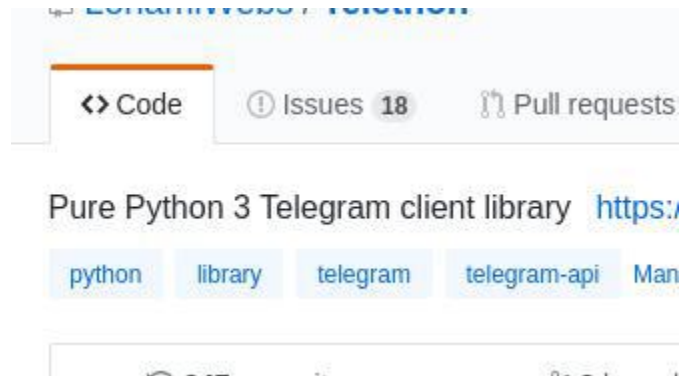
> **alt**
> Winner issue answer

Winner issue answer

2.33 Compatibility and Convenience

Telethon is an `asyncio` library. Compatibility is an important concern, and while it can't always be kept and mistakes happens, the *Changelog (Version History)* is there to tell you when these important changes happen.

> **Contents**
>
> - *Compatibility and Convenience*
>   - *Compatibility*
>   - *Convenience*

> – *Speed*
>
> – *Learning*

2.33.1 Compatibility

Some decisions when developing will inevitable be proven wrong in the future. One of these decisions was using threads. Now that Python 3.4 is reaching EOL and using `asyncio` is usable as of Python 3.5 it makes sense for a library like Telethon to make a good use of it.

If you have old code, **just use old versions** of the library! There is nothing wrong with that other than not getting new updates or fixes, but using a fixed version with `pip install telethon==0.19.1.6` is easy enough to do.

You might want to consider using Virtual Environments in your projects.

There's no point in maintaining a synchronous version because the whole point is that people don't have time to upgrade, and there has been several changes and clean-ups. Using an older version is the right way to go.

Sometimes, other small decisions are made. These all will be reflected in the *Changelog (Version History)* which you should read when upgrading.

If you want to jump the `asyncio` boat, here are some of the things you will need to start migrating really old code:

```python
# 1. Import the client from telethon.sync
from telethon.sync import TelegramClient

# 2. Change this monster...
try:
    assert client.connect()
    if not client.is_user_authorized():
        client.send_code_request(phone_number)
        me = client.sign_in(phone_number, input('Enter code: '))

    ...   # REST OF YOUR CODE
finally:
    client.disconnect()

# ...for this:
with client:
    ...   # REST OF YOUR CODE

# 3. client.idle() no longer exists.
# Change this...
client.idle()
# ...to this:
client.run_until_disconnected()

# 4. client.add_update_handler no longer exists.
# Change this...
client.add_update_handler(handler)
# ...to this:
client.add_event_handler(handler)
```

In addition, all the update handlers must be `async def`, and you need to `await` method calls that rely on network requests, such as getting the chat or sender. If you don't use updates, you're done!

2.33.2 Convenience

Note: The entire documentation assumes you have done one of the following:

```python
from telethon import TelegramClient, sync
# or
from telethon.sync import TelegramClient
```

This makes the examples shorter and easier to think about.

For quick scripts that don't need updates, it's a lot more convenient to forget about `asyncio` and just work with sequential code. This can prove to be a powerful hybrid for running under the Python REPL too.

```python
from telethon.sync import TelegramClient
#             ^~~~ note this part; it will manage the asyncio loop for you

with TelegramClient(...) as client:
    print(client.get_me().username)
    #      ^ notice the lack of await, or loop.run_until_complete().
    #        Since there is no loop running, this is done behind the scenes.
    #
    message = client.send_message('me', 'Hi!')
    import time
    time.sleep(5)
    message.delete()

    # You can also have an hybrid between a synchronous
    # part and asynchronous event handlers.
    #
    from telethon import events
    @client.on(events.NewMessage(pattern='(?i)hi|hello'))
    async def handler(event):
        await event.reply('hey')

    client.run_until_disconnected()
```

Some methods, such as `with`, `start`, `disconnect` and `run_until_disconnected` work both in synchronous and asynchronous contexts by default for convenience, and to avoid the little overhead it has when using methods like sending a message, getting messages, etc. This keeps the best of both worlds as a sane default.

Note: As a rule of thumb, if you're inside an `async def` and you need the client, you need to `await` calls to the API. If you call other functions that also need API calls, make them `async def` and `await` them too. Otherwise, there is no need to do so with this mode.

2.33.3 Speed

When you're ready to micro-optimize your application, or if you simply don't need to call any non-basic methods from a synchronous context, just get rid of `telethon.sync` and work inside an `async def`:

```python
import asyncio
from telethon import TelegramClient, events

async def main():
    async with TelegramClient(...) as client:
        print((await client.get_me()).username)
        #      ^_____^ notice these parenthesis
        #      You want to ``await`` the call, not the username.
        #
        message = await client.send_message('me', 'Hi!')
        await asyncio.sleep(5)
        await message.delete()

        @client.on(events.NewMessage(pattern='(?i)hi|hello'))
        async def handler(event):
            await event.reply('hey')

        await client.run_until_disconnected()

asyncio.run(main())
```

The `telethon.sync` magic module essentially wraps every method behind:

```python
asyncio.run(main())
```

With some other tricks, so that you don't have to write it yourself every time. That's the overhead you pay if you import it, and what you save if you don't.

2.33.4 Learning

You know the library uses `asyncio` everywhere, and you want to learn how to do things right. Even though `asyncio` is its own topic, the documentation wants you to learn how to use Telethon correctly, and for that, you need to use `asyncio` correctly too. For this reason, there is a section called *Mastering asyncio* that will introduce you to the `asyncio` world, with links to more resources for learning how to use it. Feel free to check that section out once you have read the rest.

2.34 TelegramClient

The *TelegramClient* aggregates several mixin classes to provide all the common functionality in a nice, Pythonic interface. Each mixin has its own methods, which you all can use.

In short, to create a client you must run:

```python
from telethon import TelegramClient

client = TelegramClient(name, api_id, api_hash)

async def main():
```
(continues on next page)

```
    # Now you can use all client methods listed below, like for example...
    await client.send_message('me', 'Hello to myself!')

with client:
    client.loop.run_until_complete(main())
```

You **don't** need to import these `AuthMethods`, `MessageMethods`, etc. Together they are the *TelegramClient* and you can access all of their methods.

See *Client Reference* for a short summary.

class telethon.client.telegramclient.**TelegramClient**(*session: typing.Union[str, pathlib.Path, Session],*
api_id: int, api_hash: str,
*, connection: typing.Type[Connection] = <class
'telethon.network.connection.tcpfull.ConnectionTcpFull'>,
use_ipv6: bool = False, proxy: tuple | dict =
None, local_addr: str | tuple = None, timeout:
int = 10, request_retries: int = 5,
connection_retries: int = 5, retry_delay: int = 1,
auto_reconnect: bool = True,
sequential_updates: bool = False,
flood_sleep_threshold: int = 60,
raise_last_call_error: bool = False,
device_model: str = None, system_version: str =
None, app_version: str = None, lang_code: str
= 'en', system_lang_code: str = 'en', loop:
~asyncio.events.AbstractEventLoop = None,
base_logger: str | ~logging.Logger = None,
receive_updates: bool = True, catch_up: bool =
False, entity_cache_limit: int = 5000)

    Bases: *AccountMethods*, *AuthMethods*, *DownloadMethods*, *DialogMethods*, *ChatMethods*, *BotMethods*,
    MessageMethods, *UploadMethods*, *ButtonMethods*, *UpdateMethods*, *MessageParseMethods*,
    UserMethods, *TelegramBaseClient*

`class` `telethon.client.telegrambaseclient.`**`TelegramBaseClient`**(*session: typing.Union[str, pathlib.Path, Session], api_id: int, api_hash: str, *, connection: typing.Type[Connection] = <class 'telethon.network.connection.tcpfull.ConnectionTcpFull'>, use_ipv6: bool = False, proxy: tuple | dict = None, local_addr: str | tuple = None, timeout: int = 10, request_retries: int = 5, connection_retries: int = 5, retry_delay: int = 1, auto_reconnect: bool = True, sequential_updates: bool = False, flood_sleep_threshold: int = 60, raise_last_call_error: bool = False, device_model: str = None, system_version: str = None, app_version: str = None, lang_code: str = 'en', system_lang_code: str = 'en', loop: ~asyncio.events.AbstractEventLoop = None, base_logger: str | ~logging.Logger = None, receive_updates: bool = True, catch_up: bool = False, entity_cache_limit: int = 5000*)

Bases: [ABC](#)

This is the abstract base class for the client. It defines some basic stuff like connecting, switching data center, etc, and leaves the `__call__` unimplemented.

Arguments

> **session** (`str` | *`telethon.sessions.abstract.Session`*, `None`):
> > The file name of the session file to be used if a string is given (it may be a full path), or the Session instance to be used otherwise. If it's `None`, the session will not be saved, and you should call *`log_out()`* when you're done.
> >
> > Note that if you pass a string it will be a file in the current working directory, although you can also pass absolute paths.
> >
> > The session file contains enough information for you to login without re-sending the code, so if you have to enter the code more than once, maybe you're changing the working directory, renaming or removing the file, or using random names.
>
> **api_id** (`int` | `str`):
> > The API ID you obtained from https://my.telegram.org.
>
> **api_hash** (`str`):
> > The API hash you obtained from https://my.telegram.org.
>
> **connection** (`telethon.network.connection.common.Connection`, optional):
> > The connection instance to be used when creating a new connection to the servers. It **must** be a type.
> >
> > Defaults to *`telethon.network.connection.tcpfull.ConnectionTcpFull`*.
>
> **use_ipv6** (`bool`, optional):
> > Whether to connect to the servers through IPv6 or not. By default this is `False` as IPv6 support is not too widespread yet.

---

proxy (`tuple` | `list` | `dict`, optional):
  An iterable consisting of the proxy info. If `connection` is one of `MTProxy`, then it should contain MT-Proxy credentials: (`'hostname'`, `port`, `'secret'`). Otherwise, it's meant to store function parameters for PySocks, like (`type`, `'hostname'`, `port`). See https://github.com/Anorov/PySocks#usage-1 for more.

local_addr (`str` | `tuple`, optional):
  Local host address (and port, optionally) used to bind the socket to locally. You only need to use this if you have multiple network cards and want to use a specific one.

timeout (`int` | `float`, optional):
  The timeout in seconds to be used when connecting. This is **not** the timeout to be used when `await`'ing for invoked requests, and you should use `asyncio.wait` or `asyncio.wait_for` for that.

request_retries (`int` | `None`, optional):
  How many times a request should be retried. Request are retried when Telegram is having internal issues (due to either `errors.ServerError` or `errors.RpcCallFailError`), when there is a `errors.FloodWaitError` less than *flood_sleep_threshold*, or when there's a migrate error.

  May take a negative or `None` value for infinite retries, but this is not recommended, since some requests can always trigger a call fail (such as searching for messages).

connection_retries (`int` | `None`, optional):
  How many times the reconnection should retry, either on the initial connection or when Telegram disconnects us. May be set to a negative or `None` value for infinite retries, but this is not recommended, since the program can get stuck in an infinite loop.

retry_delay (`int` | `float`, optional):
  The delay in seconds to sleep between automatic reconnections.

auto_reconnect (`bool`, optional):
  Whether reconnection should be retried `connection_retries` times automatically if Telegram disconnects us or not.

sequential_updates (`bool`, optional):
  By default every incoming update will create a new task, so you can handle several updates in parallel. Some scripts need the order in which updates are processed to be sequential, and this setting allows them to do so.

  If set to `True`, incoming updates will be put in a queue and processed sequentially. This means your event handlers should *not* perform long-running operations since new updates are put inside of an unbounded queue.

flood_sleep_threshold (`int` | `float`, optional):
  The threshold below which the library should automatically sleep on flood wait and slow mode wait errors (inclusive). For instance, if a `FloodWaitError` for 17s occurs and *flood_sleep_threshold* is 20s, the library will `sleep` automatically. If the error was for 21s, it would `raise FloodWaitError` instead. Values larger than a day (like `float('inf')`) will be changed to a day.

raise_last_call_error (`bool`, optional):
  When API calls fail in a way that causes Telethon to retry automatically, should the RPC error of the last attempt be raised instead of a generic ValueError. This is mostly useful for detecting when Telegram has internal issues.

device_model (`str`, optional):
  "Device model" to be sent when creating the initial connection. Defaults to 'PC (n)bit' derived from `platform.uname().machine`, or its direct value if unknown.

system_version (`str`, optional):

"System version" to be sent when creating the initial connection. Defaults to `platform.uname().release` stripped of everything ahead of -.

app_version (`str`, optional):
"App version" to be sent when creating the initial connection. Defaults to `telethon.version.__version__`.

lang_code (`str`, optional):
"Language code" to be sent when creating the initial connection. Defaults to `'en'`.

system_lang_code (`str`, optional):
"System lang code" to be sent when creating the initial connection. Defaults to `lang_code`.

loop (`asyncio.AbstractEventLoop`, optional):
Asyncio event loop to use. Defaults to `asyncio.get_running_loop()`. This argument is ignored.

base_logger (`str` | `logging.Logger`, optional):
Base logger name or instance to use. If a `str` is given, it'll be passed to `logging.getLogger()`. If a `logging.Logger` is given, it'll be used directly. If something else or nothing is given, the default logger will be used.

receive_updates (`bool`, optional):
Whether the client will receive updates or not. By default, updates will be received from Telegram as they occur.

Turning this off means that Telegram will not send updates at all so event handlers, conversations, and QR login will not work. However, certain scripts don't need updates, so this will reduce the amount of bandwidth used.

entity_cache_limit (`int`, optional):
How many users, chats and channels to keep in the in-memory cache at most. This limit is checked against when processing updates.

When this limit is reached or exceeded, all entities that are not required for update handling will be flushed to the session file.

Note that this implies that there is a lower bound to the amount of entities that must be kept in memory.

Setting this limit too low will cause the library to attempt to flush entities to the session file even if no entities can be removed from the in-memory cache, which will degrade performance.

`__annotations__ = {}`

abstract `__call__`(*request*, *ordered=False*)

Invokes (sends) one or more MTProtoRequests and returns (receives) their result.

Args:

request (`TLObject` | `list`):
The request or requests to be invoked.

ordered (`bool`, optional):
Whether the requests (if more than one was given) should be executed sequentially on the server. They run in arbitrary order by default.

flood_sleep_threshold (`int` | `None`, optional):
The flood sleep threshold to use for this request. This overrides the default value stored in `client.flood_sleep_threshold`

Returns:
The result of the request (often a `TLObject`) or a list of results if more than one request was given.

__version__ = '1.35.1'

__weakref__

list of weak references to the object (if defined)

async connect() → None

Connects to Telegram.

Note: Connect means connect and nothing else, and only one low-level request is made to notify Telegram about which layer we will be using.

Before Telegram sends you updates, you need to make a high-level request, like *client.get_me()*, as described in https://core.telegram.org/api/updates.

Example

```
try:
    await client.connect()
except OSError:
    print('Failed to connect')
```

disconnect()

Disconnects from Telegram.

If the event loop is already running, this method returns a coroutine that you should await on your own code; otherwise the loop is ran until said coroutine completes.

Event handlers which are currently running will be cancelled before this function returns (in order to properly clean-up their tasks). In particular, this means that using `disconnect` in a handler will cause code after the `disconnect` to never run. If this is needed, consider spawning a separate task to do the remaining work.

Example

```
# You don't need to use this if you used "with client"
await client.disconnect()
```

property disconnected: Future

Property with a `Future` that resolves upon disconnection.

Example

```
# Wait for a disconnection to occur
try:
    await client.disconnected
except OSError:
    print('Error on disconnect')
```

property flood_sleep_threshold

is_connected() → bool

Returns True if the user has connected.

This method is **not** asynchronous (don't use `await` on it).

Example

```
while client.is_connected():
    await asyncio.sleep(1)
```

property loop: AbstractEventLoop

> Property with the `asyncio` event loop used by this client.

> **Example**

```
# Download media in the background
task = client.loop.create_task(message.download_media())

# Do some work
...

# Join the task (wait for it to complete)
await task
```

set_proxy(*proxy: tuple | dict*)

> Changes the proxy which will be used on next (re)connection.

> Method has no immediate effects if the client is currently connected.

> **The new proxy will take it's effect on the next reconnection attempt:**
>
> > - on a call `await client.connect()` (after complete disconnect)
> > - on auto-reconnect attempt (e.g, after previous connection was lost)

class telethon.client.account.**AccountMethods**

> Bases: object

> **__annotations__ = {}**

> **__weakref__**
>
> > list of weak references to the object (if defined)

> **async end_takeout**(*success: bool*) → bool
>
> > Finishes the current takeout session.
> >
> > **Arguments**
> >
> > > **success (bool):**
> > > > Whether the takeout completed successfully or not.
> >
> > **Returns**
> > > `True` if the operation was successful, `False` otherwise.
> >
> > **Example**

```
await client.end_takeout(success=False)
```

takeout(*finalize: bool = True, *, contacts: bool = None, users: bool = None, chats: bool = None,*
> *megagroups: bool = None, channels: bool = None, files: bool = None, max_file_size: bool = None*)
> → *TelegramClient*

> Returns a *TelegramClient* which calls methods behind a takeout session.

> It does so by creating a proxy object over the current client through which making requests will use Invoke-WithTakeoutRequest to wrap them. In other words, returns the current client modified so that requests are done as a takeout:

Some of the calls made through the takeout session will have lower flood limits. This is useful if you want to export the data from conversations or mass-download media, since the rate limits will be lower. Only some requests will be affected, and you will need to adjust the `wait_time` of methods like *client. iter_messages*.

By default, all parameters are `None`, and you need to enable those you plan to use by setting them to either `True` or `False`.

You should `except errors.TakeoutInitDelayError as e`, since this exception will raise depending on the condition of the session. You can then access `e.seconds` to know how long you should wait for before calling the method again.

There's also a `success` property available in the takeout proxy object, so from the `with` body you can set the boolean result that will be sent back to Telegram. But if it's left `None` as by default, then the action is based on the `finalize` parameter. If it's `True` then the takeout will be finished, and if no exception occurred during it, then `True` will be considered as a result. Otherwise, the takeout will not be finished and its ID will be preserved for future usage as *client.session.takeout_id*.

Arguments

> **finalize (*bool*):**
>> Whether the takeout session should be finalized upon exit or not.
>
> **contacts (*bool*):**
>> Set to `True` if you plan on downloading contacts.
>
> **users (*bool*):**
>> Set to `True` if you plan on downloading information from users and their private conversations with you.
>
> **chats (*bool*):**
>> Set to `True` if you plan on downloading information from small group chats, such as messages and media.
>
> **megagroups (*bool*):**
>> Set to `True` if you plan on downloading information from megagroups (channels), such as messages and media.
>
> **channels (*bool*):**
>> Set to `True` if you plan on downloading information from broadcast channels, such as messages and media.
>
> **files (*bool*):**
>> Set to `True` if you plan on downloading media and you don't only wish to export messages.
>
> **max_file_size (*int*):**
>> The maximum file size, in bytes, that you plan to download for each message with media.

Example

```python
from telethon import errors

try:
    async with client.takeout() as takeout:
        await client.get_messages('me')  # normal call
        await takeout.get_messages('me')  # wrapped through takeout (less
↪limits)

        async for message in takeout.iter_messages(chat, wait_time=0):
            ...  # Do something with the message
```

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```
except errors.TakeoutInitDelayError as e:
    print('Must wait', e.seconds, 'before takeout')
```

class telethon.client.auth.**AuthMethods**

> Bases: object

> **async __aenter__**()

> **async __aexit__**(**args*)

> **__annotations__ = {}**

> **__enter__**()
>
> > Helps to cut boilerplate on async context managers that offer synchronous variants.

> **__exit__**(**args*)

> **__weakref__**
>
> > list of weak references to the object (if defined)

> **async edit_2fa**(*current_password: str = None*, *new_password: str = None*, ***, *hint: str = ''*, *email: str = None*, *email_code_callback: Callable[[int], str] = None*) → bool
>
> > Changes the 2FA settings of the logged in user.
> >
> > Review carefully the parameter explanations before using this method.
> >
> > Note that this method may be *incredibly* slow depending on the prime numbers that must be used during the process to make sure that everything is safe.
> >
> > Has no effect if both current and new password are omitted.
> >
> > **Arguments**
> >
> > > **current_password (str, optional):**
> > > > The current password, to authorize changing to new_password. Must be set if changing existing 2FA settings. Must **not** be set if 2FA is currently disabled. Passing this by itself will remove 2FA (if correct).
> > >
> > > **new_password (str, optional):**
> > > > The password to set as 2FA. If 2FA was already enabled, current_password **must** be set. Leaving this blank or None will remove the password.
> > >
> > > **hint (str, optional):**
> > > > Hint to be displayed by Telegram when it asks for 2FA. Leaving unspecified is highly discouraged. Has no effect if new_password is not set.
> > >
> > > **email (str, optional):**
> > > > Recovery and verification email. If present, you must also set email_code_callback, else it raises ValueError.
> > >
> > > **email_code_callback (callable, optional):**
> > > > If an email is provided, a callback that returns the code sent to it must also be set. This callback may be asynchronous. It should return a string with the code. The length of the code will be passed to the callback as an input parameter.
> > > >
> > > > If the callback returns an invalid code, it will raise CodeInvalidError.
> >
> > **Returns**
> > > True if successful, False otherwise.

Example

```
# Setting a password for your account which didn't have
await client.edit_2fa(new_password='I_<3_Telethon')

# Removing the password
await client.edit_2fa(current_password='I_<3_Telethon')
```

async **log_out**() → bool

Logs out Telegram and deletes the current `*.session` file.

The client is unusable after logging out and a new instance should be created.

Returns

True if the operation was successful.

Example

```
# Note: you will need to login again!
await client.log_out()
```

async **qr_login**(*ignored_ids: List[int] = None*) → *QRLogin*

Initiates the QR login procedure.

Note that you must be connected before invoking this, as with any other request.

It is up to the caller to decide how to present the code to the user, whether it's the URL, using the token bytes directly, or generating a QR code and displaying it by other means.

See the documentation for `QRLogin` to see how to proceed after this.

Arguments

ignored_ids (List[int]):

List of already logged-in user IDs, to prevent logging in twice with the same user.

Returns

An instance of `QRLogin`.

Example

```
def display_url_as_qr(url):
    pass  # do whatever to show url as a qr to the user

qr_login = await client.qr_login()
display_url_as_qr(qr_login.url)

# Important! You need to wait for the login to complete!
await qr_login.wait()

# If you have 2FA enabled, `wait` will raise `telethon.errors.
↪SessionPasswordNeededError`.
# You should except that error and call `sign_in` with the password if this␣
↪happens.
```

async **send_code_request**(*phone: str, *, force_sms: bool = False, _retry_count: int = 0*) →
                          types.auth.SentCode

Sends the Telegram code needed to login to the given phone number.

Arguments

> **phone (`str` | `int`):**
> > The phone to which the code will be sent.
>
> **force_sms (`bool`, optional):**
> > Whether to force sending as SMS. This has been deprecated. See issue #4050 for context.

Returns

> An instance of SentCode.

Example

```
phone = '+34 123 123 123'
sent = await client.send_code_request(phone)
print(sent)
```

async sign_in(*phone: str = None, code: str | int = None, *, password: str = None, bot_token: str = None, phone_code_hash: str = None*) → Union[types.User, types.auth.SentCode]

Logs in to Telegram to an existing user or bot account.

You should only use this if you are not authorized yet.

This method will send the code if it's not provided.

Note: In most cases, you should simply use `start()` and not this method.

Arguments

> **phone (`str` | `int`):**
> > The phone to send the code to if no code was provided, or to override the phone that was previously used with these requests.
>
> **code (`str` | `int`):**
> > The code that Telegram sent. Note that if you have sent this code through the application itself it will immediately expire. If you want to send the code, obfuscate it somehow. If you're not doing any of this you can ignore this note.
>
> **password (`str`):**
> > 2FA password, should be used if a previous call raised `SessionPasswordNeededError`.
>
> **bot_token (`str`):**
> > Used to sign in as a bot. Not all requests will be available. This should be the hash the @BotFather gave you.
>
> **phone_code_hash (`str`, optional):**
> > The hash returned by `send_code_request`. This can be left as None to use the last hash known for the phone to be used.

Returns

> The signed in user, or the information about `send_code_request()`.

Example

```
phone = '+34 123 123 123'
await client.sign_in(phone)  # send code

code = input('enter code: ')
await client.sign_in(phone, code)
```

async sign_up(*code: str | int*, *first_name: str*, *last_name: str = ''*, *, *phone: str = None*, *phone_code_hash: str = None*) → types.User

> This method can no longer be used, and will immediately raise a `ValueError`. See issue #4050 for context.

start(*phone: ~typing.Callable[[], str] | str = <function AuthMethods.<lambda>>*, *password: ~typing.Callable[[], str] | str = <function AuthMethods.<lambda>>*, *, *bot_token: str = None*, *force_sms: bool = False*, *code_callback: ~typing.Callable[[], str | int] = None*, *first_name: str = 'New User'*, *last_name: str = ''*, *max_attempts: int = 3*) → *TelegramClient*

> Starts the client (connects and logs in if necessary).
>
> By default, this method will be interactive (asking for user input if needed), and will handle 2FA if enabled too.
>
> If the event loop is already running, this method returns a coroutine that you should await on your own code; otherwise the loop is ran until said coroutine completes.
>
> **Arguments**
>
> > **phone (`str` | `int` | `callable`):**
> >   The phone (or callable without arguments to get it) to which the code will be sent. If a bot-token-like string is given, it will be used as such instead. The argument may be a coroutine.
> >
> > **password (`str`, `callable`, optional):**
> >   The password for 2 Factor Authentication (2FA). This is only required if it is enabled in your account. The argument may be a coroutine.
> >
> > **bot_token (`str`):**
> >   Bot Token obtained by @BotFather to log in as a bot. Cannot be specified with `phone` (only one of either allowed).
> >
> > **force_sms (`bool`, optional):**
> >   Whether to force sending the code request as SMS. This only makes sense when signing in with a `phone`.
> >
> > **code_callback (`callable`, optional):**
> >   A callable that will be used to retrieve the Telegram login code. Defaults to `input()`. The argument may be a coroutine.
> >
> > **first_name (`str`, optional):**
> >   The first name to be used if signing up. This has no effect if the account already exists and you sign in.
> >
> > **last_name (`str`, optional):**
> >   Similar to the first name, but for the last. Optional.
> >
> > **max_attempts (`int`, optional):**
> >   How many times the code/password callback should be retried or switching between signing in and signing up.
>
> **Returns**
> > This `TelegramClient`, so initialization can be chained with `.start()`.
>
> **Example**

```
client = TelegramClient('anon', api_id, api_hash)

# Starting as a bot account
await client.start(bot_token=bot_token)

# Starting as a user account
```

(continues on next page)

```python
await client.start(phone)
# Please enter the code you received: 12345
# Please enter your password: *******
# (You are now logged in)

# Starting using a context manager (this calls start()):
with client:
    pass
```

class telethon.client.bots.**BotMethods**

> Bases: object
>
> **__annotations__ = {}**
>
> **__weakref__**
>
> > list of weak references to the object (if defined)
>
> **async inline_query**(*bot: hints.EntityLike*, *query:* str, ***, *entity: hints.EntityLike = None*, *offset:* str *= None*, *geo_point: types.GeoPoint = None*) → *InlineResults*
>
> > Makes an inline query to the specified bot (@vote New Poll).
> >
> > **Arguments**
> >
> > > **bot (entity):**
> > > The bot entity to which the inline query should be made.
> > >
> > > **query (str):**
> > > The query that should be made to the bot.
> > >
> > > **entity (entity, optional):**
> > > The entity where the inline query is being made from. Certain bots use this to display different results depending on where it's used, such as private chats, groups or channels.
> > >
> > > If specified, it will also be the default entity where the message will be sent after clicked. Otherwise, the "empty peer" will be used, which some bots may not handle correctly.
> > >
> > > **offset (str, optional):**
> > > The string offset to use for the bot.
> > >
> > > **geo_point (GeoPoint, optional)**
> > > The geo point location information to send to the bot for localised results. Available under some bots.
> >
> > **Returns**
> > A list of *custom.InlineResult*.
> >
> > **Example**
> >
> > ```python
> > # Make an inline query to @like
> > results = await client.inline_query('like', 'Do you like Telethon?')
> >
> > # Send the first result to some chat
> > message = await results[0].click('TelethonOffTopic')
> > ```

class telethon.client.buttons.**ButtonMethods**

> Bases: object

__annotations__ = {}

__weakref__

> list of weak references to the object (if defined)

static build_reply_markup(*buttons: ReplyKeyboardHide | ReplyKeyboardForceReply | ReplyKeyboardMarkup | ReplyInlineMarkup | KeyboardButton | KeyboardButtonUrl | KeyboardButtonCallback | KeyboardButtonRequestPhone | KeyboardButtonRequestGeoLocation | KeyboardButtonSwitchInline | KeyboardButtonGame | KeyboardButtonBuy | KeyboardButtonUrlAuth | InputKeyboardButtonUrlAuth | KeyboardButtonRequestPoll | InputKeyboardButtonUserProfile | KeyboardButtonUserProfile | KeyboardButtonWebView | KeyboardButtonSimpleWebView | KeyboardButtonRequestPeer | InputKeyboardButtonRequestPeer |* [Button](#) *|* [Sequence](#)*[KeyboardButton | KeyboardButtonUrl | KeyboardButtonCallback | KeyboardButtonRequestPhone | KeyboardButtonRequestGeoLocation | KeyboardButtonSwitchInline | KeyboardButtonGame | KeyboardButtonBuy | KeyboardButtonUrlAuth | InputKeyboardButtonUrlAuth | KeyboardButtonRequestPoll | InputKeyboardButtonUserProfile | KeyboardButtonUserProfile | KeyboardButtonWebView | KeyboardButtonSimpleWebView | KeyboardButtonRequestPeer | InputKeyboardButtonRequestPeer |* [Button](#)*] |* [Sequence](#)*[*[Sequence](#)*[KeyboardButton | KeyboardButtonUrl | KeyboardButtonCallback | KeyboardButtonRequestPhone | KeyboardButtonRequestGeoLocation | KeyboardButtonSwitchInline | KeyboardButtonGame | KeyboardButtonBuy | KeyboardButtonUrlAuth | InputKeyboardButtonUrlAuth | KeyboardButtonRequestPoll | InputKeyboardButtonUserProfile | KeyboardButtonUserProfile | KeyboardButtonWebView | KeyboardButtonSimpleWebView | KeyboardButtonRequestPeer | InputKeyboardButtonRequestPeer |* [Button](#)*]] |* [None](#)*, inline_only:* [bool](#) *= False*) → ReplyKeyboardHide | ReplyKeyboardForceReply | ReplyKeyboardMarkup | ReplyInlineMarkup | [None](#)

> Builds a [ReplyInlineMarkup](#) or [ReplyKeyboardMarkup](#) for the given buttons.
>
> Does nothing if either no buttons are provided or the provided argument is already a reply markup.
>
> You should consider using this method if you are going to reuse the markup very often. Otherwise, it is not necessary.
>
> This method is **not** asynchronous (don't use `await` on it).
>
> **Arguments**
>
> > **buttons (`hints.MarkupLike`):**
> > > The button, list of buttons, array of buttons or markup to convert into a markup.
> >
> > **inline_only ([bool](#), optional):**
> > > Whether the buttons **must** be inline buttons only or not.
>
> **Example**
>
> ```python
> from telethon import Button
>
> markup = client.build_reply_markup(Button.inline('hi'))
> ```
> (continues on next page)

```
# later
await client.send_message(chat, 'click me', buttons=markup)
```

class telethon.client.chats.**ChatMethods**

    Bases: object

    __annotations__ = {}

    __weakref__

        list of weak references to the object (if defined)

    action(*entity: hints.EntityLike*, *action: Union[str, types.TypeSendMessageAction]*, ***, *delay: float = 4*, *auto_cancel: bool = True*) → Union[_ChatAction, Coroutine]

        Returns a context-manager object to represent a "chat action".

        Chat actions indicate things like "user is typing", "user is uploading a photo", etc.

        If the action is `'cancel'`, you should just `await` the result, since it makes no sense to use a context-manager for it.

        See the example below for intended usage.

        Arguments

            entity (`entity`):

                The entity where the action should be showed in.

            action (`str` | **SendMessageAction):**

                The action to show. You can either pass a instance of SendMessageAction or better, a string used while:

                - `'typing'`: typing a text message.

                - `'contact'`: choosing a contact.

                - `'game'`: playing a game.

                - `'location'`: choosing a geo location.

                - `'sticker'`: choosing a sticker.

                - `'record-audio'`: recording a voice note. You may use `'record-voice'` as alias.

                - `'record-round'`: recording a round video.

                - `'record-video'`: recording a normal video.

                - `'audio'`: sending an audio file (voice note or song). You may use `'voice'` and `'song'` as aliases.

                - `'round'`: uploading a round video.

                - `'video'`: uploading a video file.

                - `'photo'`: uploading a photo.

                - `'document'`: uploading a document file. You may use `'file'` as alias.

                - `'cancel'`: cancel any pending action in this chat.

                Invalid strings will raise a `ValueError`.

delay (`int` | `float`):
  The delay, in seconds, to wait between sending actions. For example, if the delay is 5 and it takes 7 seconds to do something, three requests will be made at 0s, 5s, and 7s to cancel the action.

auto_cancel (`bool`):
  Whether the action should be cancelled once the context manager exists or not. The default is `True`, since you don't want progress to be shown when it has already completed.

Returns
  Either a context-manager object or a coroutine.

Example

```python
# Type for 2 seconds, then send a message
async with client.action(chat, 'typing'):
    await asyncio.sleep(2)
    await client.send_message(chat, 'Hello world! I type slow ^^')

# Cancel any previous action
await client.action(chat, 'cancel')

# Upload a document, showing its progress (most clients ignore this)
async with client.action(chat, 'document') as action:
    await client.send_file(chat, zip_file, progress_callback=action.
    progress)
```

async **edit_admin**(*entity: hints.EntityLike, user: hints.EntityLike, *, change_info: bool = None, post_messages: bool = None, edit_messages: bool = None, delete_messages: bool = None, ban_users: bool = None, invite_users: bool = None, pin_messages: bool = None, add_admins: bool = None, manage_call: bool = None, anonymous: bool = None, is_admin: bool = None, title: str = None*) → Updates

Edits admin permissions for someone in a chat.

Raises an error if a wrong combination of rights are given (e.g. you don't have enough permissions to grant one).

Unless otherwise stated, permissions will work in channels and megagroups.

Arguments

entity (`entity`):
  The channel, megagroup or chat where the promotion should happen.

user (`entity`):
  The user to be promoted.

change_info (`bool`, optional):
  Whether the user will be able to change info.

post_messages (`bool`, optional):
  Whether the user will be able to post in the channel. This will only work in broadcast channels.

edit_messages (`bool`, optional):
  Whether the user will be able to edit messages in the channel. This will only work in broadcast channels.

delete_messages (`bool`, optional):
  Whether the user will be able to delete messages.

ban_users (`bool`, optional):
Whether the user will be able to ban users.

invite_users (`bool`, optional):
Whether the user will be able to invite users. Needs some testing.

pin_messages (`bool`, optional):
Whether the user will be able to pin messages.

add_admins (`bool`, optional):
Whether the user will be able to add admins.

manage_call (`bool`, optional):
Whether the user will be able to manage group calls.

anonymous (`bool`, optional):
Whether the user will remain anonymous when sending messages. The sender of the anonymous messages becomes the group itself.

Note: Users may be able to identify the anonymous admin by its custom title, so additional care is needed when using both `anonymous` and custom titles. For example, if multiple anonymous admins share the same title, users won't be able to distinguish them.

---

is_admin (`bool`, optional):
Whether the user will be an admin in the chat. This will only work in small group chats. Whether the user will be an admin in the chat. This is the only permission available in small group chats, and when used in megagroups, all non-explicitly set permissions will have this value.

Essentially, only passing `is_admin=True` will grant all permissions, but you can still disable those you need.

title (`str`, optional):
The custom title (also known as "rank") to show for this admin. This text will be shown instead of the "admin" badge. This will only work in channels and megagroups.

When left unspecified or empty, the default localized "admin" badge will be shown.

Returns
The resulting Updates object.

Example

```python
# Allowing `user` to pin messages in `chat`
await client.edit_admin(chat, user, pin_messages=True)

# Granting all permissions except for `add_admins`
await client.edit_admin(chat, user, is_admin=True, add_admins=False)
```

async **edit_permissions**(*entity: hints.EntityLike, user: Optional[hints.EntityLike] = None, until_date: hints.DateLike = None, *, view_messages: bool = True, send_messages: bool = True, send_media: bool = True, send_stickers: bool = True, send_gifs: bool = True, send_games: bool = True, send_inline: bool = True, embed_link_previews: bool = True, send_polls: bool = True, change_info: bool = True, invite_users: bool = True, pin_messages: bool = True*) → Updates

Edits user restrictions in a chat.

Set an argument to `False` to apply a restriction (i.e. remove the permission), or omit them to use the default `True` (i.e. don't apply a restriction).

Raises an error if a wrong combination of rights are given (e.g. you don't have enough permissions to revoke one).

By default, each boolean argument is `True`, meaning that it is true that the user has access to the default permission and may be able to make use of it.

If you set an argument to `False`, then a restriction is applied regardless of the default permissions.

It is important to note that `True` does *not* mean grant, only "don't restrict", and this is where the default permissions come in. A user may have not been revoked the `pin_messages` permission (it is `True`) but they won't be able to use it if the default permissions don't allow it either.

Arguments

> **entity (`entity`):**
> The channel or megagroup where the restriction should happen.
>
> **user (`entity`, optional):**
> If specified, the permission will be changed for the specific user. If left as `None`, the default chat permissions will be updated.
>
> **until_date (`DateLike`, optional):**
> When the user will be unbanned.
>
> If the due date or duration is longer than 366 days or shorter than 30 seconds, the ban will be forever. Defaults to `0` (ban forever).
>
> **view_messages (`bool`, optional):**
> Whether the user is able to view messages or not. Forbidding someone from viewing messages equals to banning them. This will only work if `user` is set.
>
> **send_messages (`bool`, optional):**
> Whether the user is able to send messages or not.
>
> **send_media (`bool`, optional):**
> Whether the user is able to send media or not.
>
> **send_stickers (`bool`, optional):**
> Whether the user is able to send stickers or not.
>
> **send_gifs (`bool`, optional):**
> Whether the user is able to send animated gifs or not.
>
> **send_games (`bool`, optional):**
> Whether the user is able to send games or not.
>
> **send_inline (`bool`, optional):**
> Whether the user is able to use inline bots or not.
>
> **embed_link_previews (`bool`, optional):**
> Whether the user is able to enable the link preview in the messages they send. Note that the user will still be able to send messages with links if this permission is removed, but these links won't display a link preview.
>
> **send_polls (`bool`, optional):**
> Whether the user is able to send polls or not.
>
> **change_info (`bool`, optional):**
> Whether the user is able to change info or not.
>
> **invite_users (`bool`, optional):**
> Whether the user is able to invite other users or not.

> **pin_messages (bool, optional):**
>> Whether the user is able to pin messages or not.
>
> **Returns**
>> The resulting Updates object.
>
> **Example**

```python
from datetime import timedelta

# Banning `user` from `chat` for 1 minute
await client.edit_permissions(chat, user, timedelta(minutes=1),
                              view_messages=False)

# Banning `user` from `chat` forever
await client.edit_permissions(chat, user, view_messages=False)

# Kicking someone (ban + un-ban)
await client.edit_permissions(chat, user, view_messages=False)
await client.edit_permissions(chat, user)
```

async get_admin_log(*entity: hints.EntityLike, limit: float = None, *, max_id: int = 0, min_id: int = 0, search: str = None, admins: hints.EntitiesLike = None, join: bool = None, leave: bool = None, invite: bool = None, restrict: bool = None, unrestrict: bool = None, ban: bool = None, unban: bool = None, promote: bool = None, demote: bool = None, info: bool = None, settings: bool = None, pinned: bool = None, edit: bool = None, delete: bool = None, group_call: bool = None*) → _AdminLogIter*

> Same as `iter_admin_log()`, but returns a `list` instead.
>
> **Example**

```python
# Get a list of deleted message events which said "heck"
events = await client.get_admin_log(channel, search='heck', delete=True)

# Print the old message before it was deleted
print(events[0].old)
```

async get_participants(*entity: hints.EntityLike, limit: float = None, *, search: str = '', filter: types.TypeChannelParticipantsFilter = None, aggressive: bool = False*) → _ParticipantsIter*

> Same as `iter_participants()`, but returns a `TotalList` instead.
>
> **Example**

```python
users = await client.get_participants(chat)
print(users[0].first_name)

for user in users:
    if user.username is not None:
        print(user.username)
```

async get_permissions(*entity: hints.EntityLike, user: hints.EntityLike = None*) → Optional[custom.ParticipantPermissions]*

> Fetches the permissions of a user in a specific chat or channel or get Default Restricted Rights of Chat or Channel.

Note: This request has to fetch the entire chat for small group chats, which can get somewhat expensive, so use of a cache is advised.

Arguments

> **entity (`entity`):**
> > The channel or chat the user is participant of.
>
> **user (`entity`, optional):**
> > Target user.

Returns

> A `ParticipantPermissions` instance. Refer to its documentation to see what properties are available.

Example

```
permissions = await client.get_permissions(chat, user)
if permissions.is_admin:
    # do something

# Get Banned Permissions of Chat
await client.get_permissions(chat)
```

async get_profile_photos(*entity: hints.EntityLike*, *limit: int = None*, ***, *offset: int = 0*, *max_id: int = 0*) → _ProfilePhotoIter

Same as *iter_profile_photos()*, but returns a `TotalList` instead.

Example

```
# Get the photos of a channel
photos = await client.get_profile_photos(channel)

# Download the oldest photo
await client.download_media(photos[-1])
```

async get_stats(*entity: hints.EntityLike*, *message: Union[int, types.Message] = None*)

Retrieves statistics from the given megagroup or broadcast channel.

Note that some restrictions apply before being able to fetch statistics, in particular the channel must have enough members (for megagroups, this requires at least 500 members).

Arguments

> **entity (`entity`):**
> > The channel from which to get statistics.
>
> **message (`int` | `Message`, optional):**
> > The message ID from which to get statistics, if your goal is to obtain the statistics of a single message.

Raises

> If the given entity is not a channel (broadcast or megagroup), a `TypeError` is raised.
>
> If there are not enough members (poorly named) errors such as `telethon.errors.ChatAdminRequiredError` will appear.

Returns

If both `entity` and `message` were provided, returns MessageStats. Otherwise, either BroadcastStats or MegagroupStats, depending on whether the input belonged to a broadcast channel or megagroup.

Example

```
# Some megagroup or channel username or ID to fetch
channel = -100123
stats = await client.get_stats(channel)
print('Stats from', stats.period.min_date, 'to', stats.period.max_date, ':')
print(stats.stringify())
```

iter_admin_log(*entity: hints.EntityLike, limit: float = None, *, max_id: int = 0, min_id: int = 0, search: str = None, admins: hints.EntitiesLike = None, join: bool = None, leave: bool = None, invite: bool = None, restrict: bool = None, unrestrict: bool = None, ban: bool = None, unban: bool = None, promote: bool = None, demote: bool = None, info: bool = None, settings: bool = None, pinned: bool = None, edit: bool = None, delete: bool = None, group_call: bool = None*) → _AdminLogIter

Iterator over the admin log for the specified channel.

The default order is from the most recent event to to the oldest.

Note that you must be an administrator of it to use this method.

If none of the filters are present (i.e. they all are None), *all* event types will be returned. If at least one of them is True, only those that are true will be returned.

Arguments

entity (`entity`):
The channel entity from which to get its admin log.

limit (`int` | `None`, optional):
Number of events to be retrieved.

The limit may also be None, which would eventually return the whole history.

max_id (`int`):
All the events with a higher (newer) ID or equal to this will be excluded.

min_id (`int`):
All the events with a lower (older) ID or equal to this will be excluded.

search (`str`):
The string to be used as a search query.

admins (`entity` | `list`):
If present, the events will be filtered by these admins (or single admin) and only those caused by them will be returned.

join (`bool`):
If True, events for when a user joined will be returned.

leave (`bool`):
If True, events for when a user leaves will be returned.

invite (`bool`):
If True, events for when a user joins through an invite link will be returned.

restrict (`bool`):
If True, events with partial restrictions will be returned. This is what the API calls "ban".

unrestrict (`bool`):
    If `True`, events removing restrictions will be returned. This is what the API calls "unban".

ban (`bool`):
    If `True`, events applying or removing all restrictions will be returned. This is what the API calls "kick" (restricting all permissions removed is a ban, which kicks the user).

unban (`bool`):
    If `True`, events removing all restrictions will be returned. This is what the API calls "unkick".

promote (`bool`):
    If `True`, events with admin promotions will be returned.

demote (`bool`):
    If `True`, events with admin demotions will be returned.

info (`bool`):
    If `True`, events changing the group info will be returned.

settings (`bool`):
    If `True`, events changing the group settings will be returned.

pinned (`bool`):
    If `True`, events of new pinned messages will be returned.

edit (`bool`):
    If `True`, events of message edits will be returned.

delete (`bool`):
    If `True`, events of message deletions will be returned.

group_call (`bool`):
    If `True`, events related to group calls will be returned.

Yields
    Instances of *`AdminLogEvent`*.

Example

```
async for event in client.iter_admin_log(channel):
    if event.changed_title:
        print('The title changed from', event.old, 'to', event.new)
```

iter_participants(*entity: hints.EntityLike, limit: float = None, *, search: str = '', filter: types.TypeChannelParticipantsFilter = None, aggressive: bool = False*) → _ParticipantsIter

Iterator over the participants belonging to the specified chat.

The order is unspecified.

Arguments

entity (`entity`):
    The entity from which to retrieve the participants list.

limit (`int`):
    Limits amount of participants fetched.

search (`str`, optional):
    Look for participants with this string in name/username.

filter (ChannelParticipantsFilter, optional):
> The filter to be used, if you want e.g. only admins Note that you might not have permissions for some filter. This has no effect for normal chats or users.

> **Note:** The filter ChannelParticipantsBanned will return *restricted* users. If you want *banned* users you should use ChannelParticipantsKicked instead.

---

aggressive (bool, optional):
> Does nothing. This is kept for backwards-compatibility.
>
> There have been several changes to Telegram's API that limits the amount of members that can be retrieved, and this was a hack that no longer works.

Yields
> The User objects returned by GetParticipantsRequest with an additional `.participant` attribute which is the matched ChannelParticipant type for channels/megagroups or ChatParticipants for normal chats.

Example

```python
# Show all user IDs in a chat
async for user in client.iter_participants(chat):
    print(user.id)

# Search by name
async for user in client.iter_participants(chat, search='name'):
    print(user.username)

# Filter by admins
from telethon.tl.types import ChannelParticipantsAdmins
async for user in client.iter_participants(chat,
    filter=ChannelParticipantsAdmins):
    print(user.first_name)
```

iter_profile_photos(*entity: hints.EntityLike, limit: int = None, *, offset: int = 0, max_id: int = 0*) → _ProfilePhotoIter

Iterator over a user's profile photos or a chat's photos.

The order is from the most recent photo to the oldest.

Arguments

entity (entity):
> The entity from which to get the profile or chat photos.

limit (int | None, optional):
> Number of photos to be retrieved.
>
> The limit may also be None, which would eventually all the photos that are still available.

offset (int):
> How many photos should be skipped before returning the first one.

max_id (int):
> The maximum ID allowed when fetching photos.

Yields
> Instances of Photo.

Example

```
# Download all the profile photos of some user
async for photo in client.iter_profile_photos(user):
    await client.download_media(photo)
```

async **kick_participant**(*entity: hints.EntityLike*, *user: Optional[hints.EntityLike]*)

> Kicks a user from a chat.
>
> Kicking yourself (`'me'`) will result in leaving the chat.
>
> ---
>
> **Note:** Attempting to kick someone who was banned will remove their restrictions (and thus unbanning them), since kicking is just ban + unban.
>
> ---
>
> **Arguments**
>
> > **entity (`entity`):**
> > > The channel or chat where the user should be kicked from.
> >
> > **user (`entity`, optional):**
> > > The user to kick.
>
> **Returns**
> > Returns the service `Message` produced about a user being kicked, if any.
>
> **Example**
>
> ```
> # Kick some user from some chat, and deleting the service message
> msg = await client.kick_participant(chat, user)
> await msg.delete()
>
> # Leaving chat
> await client.kick_participant(chat, 'me')
> ```

class telethon.client.dialogs.**DialogMethods**

> Bases: object
>
> **__annotations__ = {}**
>
> **__weakref__**
>
> > list of weak references to the object (if defined)
>
> **conversation**(*entity: hints.EntityLike*, ***, *timeout: float = 60*, *total_timeout: float = None*, *max_messages: int = 100*, *exclusive: bool = True*, *replies_are_responses: bool = True*) → *Conversation*
>
> > Creates a `Conversation` with the given entity.
> >
> > ---
> >
> > **Note:** This Conversation API has certain shortcomings, such as lacking persistence, poor interaction with other event handlers, and overcomplicated usage for anything beyond the simplest case.
> >
> > If you plan to interact with a bot without handlers, this works fine, but when running a bot yourself, you may instead prefer to follow the advice from https://stackoverflow.com/a/62246569/.
> >
> > ---
> >
> > This is not the same as just sending a message to create a "dialog" with them, but rather a way to easily send messages and await for responses or other reactions. Refer to its documentation for more.

Arguments

entity (`entity`):
The entity with which a new conversation should be opened.

timeout (`int` | `float`, optional):
The default timeout (in seconds) *per action* to be used. You may also override this timeout on a per-method basis. By default each action can take up to 60 seconds (the value of this timeout).

total_timeout (`int` | `float`, optional):
The total timeout (in seconds) to use for the whole conversation. This takes priority over per-action timeouts. After these many seconds pass, subsequent actions will result in `asyncio. TimeoutError`.

max_messages (`int`, optional):
The maximum amount of messages this conversation will remember. After these many messages arrive in the specified chat, subsequent actions will result in `ValueError`.

exclusive (`bool`, optional):
By default, conversations are exclusive within a single chat. That means that while a conversation is open in a chat, you can't open another one in the same chat, unless you disable this flag.

If you try opening an exclusive conversation for a chat where it's already open, it will raise `AlreadyInConversationError`.

replies_are_responses (`bool`, optional):
Whether replies should be treated as responses or not.

If the setting is enabled, calls to *conv.get_response* and a subsequent call to *conv.get_reply* will return different messages, otherwise they may return the same message.

Consider the following scenario with one outgoing message, 1, and two incoming messages, the second one replying:

```
                    Hello! <1
2> (reply to 1) Hi!
3> (reply to 1) How are you?
```

And the following code:

```python
async with client.conversation(chat) as conv:
    msg1 = await conv.send_message('Hello!')
    msg2 = await conv.get_response()
    msg3 = await conv.get_reply()
```

With the setting enabled, `msg2` will be `'Hi!'` and `msg3` be `'How are you?'` since replies are also responses, and a response was already returned.

With the setting disabled, both `msg2` and `msg3` will be `'Hi!'` since one is a response and also a reply.

Returns
A *Conversation*.

Example

```python
# <you> denotes outgoing messages you sent
# <usr> denotes incoming response messages
with bot.conversation(chat) as conv:
    # <you> Hi!
```

```
    conv.send_message('Hi!')

    # <usr> Hello!
    hello = conv.get_response()

    # <you> Please tell me your name
    conv.send_message('Please tell me your name')

    # <usr> ?
    name = conv.get_response().raw_text

    while not any(x.isalpha() for x in name):
        # <you> Your name didn't have any letters! Try again
        conv.send_message("Your name didn't have any letters! Try again")

        # <usr> Human
        name = conv.get_response().raw_text

    # <you> Thanks Human!
    conv.send_message('Thanks {}!'.format(name))
```

async **delete_dialog**(*entity: hints.EntityLike*, *, *revoke:* *bool* *= False*)

> Deletes a dialog (leaves a chat or channel).
>
> This method can be used as a user and as a bot. However, bots will only be able to use it to leave groups and channels (trying to delete a private conversation will do nothing).
>
> See also *Dialog.delete()*.
>
> **Arguments**
>
> > **entity (entities):**
> > The entity of the dialog to delete. If it's a chat or channel, you will leave it. Note that the chat itself is not deleted, only the dialog, because you left it.
> >
> > **revoke (*bool*, optional):**
> > On private chats, you may revoke the messages from the other peer too. By default, it's `False`. Set it to `True` to delete the history for both.
> >
> > This makes no difference for bot accounts, who can only leave groups and channels.
>
> **Returns**
> The Updates object that the request produces, or nothing for private conversations.
>
> **Example**

```
# Deleting the first dialog
dialogs = await client.get_dialogs(5)
await client.delete_dialog(dialogs[0])

# Leaving a channel by username
await client.delete_dialog('username')
```

async **edit_folder**(*entity: hints.EntitiesLike = None*, *folder:* *int* *|* *Sequence[int]* *= None*, *, *unpack=None*)
            → Updates

> Edits the folder used by one or more dialogs to archive them.

Arguments

entity (entities):
The entity or list of entities to move to the desired archive folder.

folder (int):
The folder to which the dialog should be archived to.

If you want to "archive" a dialog, use `folder=1`.

If you want to "un-archive" it, use `folder=0`.

You may also pass a list with the same length as `entities` if you want to control where each entity will go.

unpack (int, optional):
If you want to unpack an archived folder, set this parameter to the folder number that you want to delete.

When you unpack a folder, all the dialogs inside are moved to the folder number 0.

You can only use this parameter if the other two are not set.

Returns
The Updates object that the request produces.

Example

```python
# Archiving the first 5 dialogs
dialogs = await client.get_dialogs(5)
await client.edit_folder(dialogs, 1)

# Un-archiving the third dialog (archiving to folder 0)
await client.edit_folder(dialog[2], 0)

# Moving the first dialog to folder 0 and the second to 1
dialogs = await client.get_dialogs(2)
await client.edit_folder(dialogs, [0, 1])

# Un-archiving all dialogs
await client.edit_folder(unpack=1)
```

async **get_dialogs**(*limit: float = None, *, offset_date: hints.DateLike = None, offset_id: int = 0,
offset_peer: hints.EntityLike = <telethon.tl.types.InputPeerEmpty object>,
ignore_pinned: bool = False, ignore_migrated: bool = False, folder: int = None,
archived: bool = None*) → _DialogsIter

Same as *iter_dialogs()*, but returns a *TotalList* instead.

Example

```python
# Get all open conversation, print the title of the first
dialogs = await client.get_dialogs()
first = dialogs[0]
print(first.title)

# Use the dialog somewhere else
await client.send_message(first, 'hi')

# Getting only non-archived dialogs (both equivalent)
```

```
non_archived = await client.get_dialogs(folder=0)
non_archived = await client.get_dialogs(archived=False)


# Getting only archived dialogs (both equivalent)
archived = await client.get_dialogs(folder=1)
archived = await client.get_dialogs(archived=True)
```

async get_drafts(*entity: hints.EntitiesLike = None*) → hints.TotalList

    Same as *iter_drafts()*, but returns a list instead.

    Example

```
# Get drafts, print the text of the first
drafts = await client.get_drafts()
print(drafts[0].text)

# Get the draft in your chat
draft = await client.get_drafts('me')
print(drafts.text)
```

iter_dialogs(*limit: float = None, *, offset_date: hints.DateLike = None, offset_id: int = 0, offset_peer: hints.EntityLike = <telethon.tl.types.InputPeerEmpty object>, ignore_pinned: bool = False, ignore_migrated: bool = False, folder: int = None, archived: bool = None*) → _DialogsIter

    Iterator over the dialogs (open conversations/subscribed channels).

    The order is the same as the one seen in official applications (first pinned, them from those with the most recent message to those with the oldest message).

    Arguments

        limit (int | None):
            How many dialogs to be retrieved as maximum. Can be set to None to retrieve all dialogs. Note that this may take whole minutes if you have hundreds of dialogs, as Telegram will tell the library to slow down through a FloodWaitError.

        offset_date (datetime, optional):
            The offset date to be used.

        offset_id (int, optional):
            The message ID to be used as an offset.

        offset_peer (InputPeer, optional):
            The peer to be used as an offset.

        ignore_pinned (bool, optional):
            Whether pinned dialogs should be ignored or not. When set to True, these won't be yielded at all.

        ignore_migrated (bool, optional):
            Whether Chat that have migrated_to a Channel should be included or not. By default all the chats in your dialogs are returned, but setting this to True will ignore (i.e. skip) them in the same way official applications do.

        folder (int, optional):
            The folder from which the dialogs should be retrieved.

            If left unspecified, all dialogs (including those from folders) will be returned.

            If set to 0, all dialogs that don't belong to any folder will be returned.

If set to a folder number like 1, only those from said folder will be returned.

By default Telegram assigns the folder ID 1 to archived chats, so you should use that if you need to fetch the archived dialogs.

archived (`bool`, optional):
Alias for `folder`. If unspecified, all will be returned, `False` implies `folder=0` and `True` implies `folder=1`.

Yields
Instances of `Dialog`.

Example

```
# Print all dialog IDs and the title, nicely formatted
async for dialog in client.iter_dialogs():
    print('{:>14}: {}'.format(dialog.id, dialog.title))
```

iter_drafts(*entity: hints.EntitiesLike = None*) → _DraftsIter

Iterator over draft messages.

The order is unspecified.

Arguments

entity (`hints.EntitiesLike`, optional):
The entity or entities for which to fetch the draft messages. If left unspecified, all draft messages will be returned.

Yields
Instances of `Draft`.

Example

```
# Clear all drafts
async for draft in client.get_drafts():
    await draft.delete()

# Getting the drafts with 'bot1' and 'bot2'
async for draft in client.iter_drafts(['bot1', 'bot2']):
    print(draft.text)
```

class telethon.client.downloads.**DownloadMethods**

Bases: `object`

__annotations__ = {}

__weakref__
list of weak references to the object (if defined)

async download_file(*input_location: hints.FileLike, file: hints.OutFileLike = None, *, part_size_kb: float = None, file_size: int = None, progress_callback: hints.ProgressCallback = None, dc_id: int = None, key: bytes = None, iv: bytes = None*) → bytes | None

Low-level method to download files from their input location.

Note: Generally, you should instead use `download_media`. This method is intended to be a bit more low-level.

Arguments

input_location ([InputFileLocation](#)):
> The file location from which the file will be downloaded. See [telethon.utils.get_input_location](#) source for a complete list of supported types.

file ([str](#) | file, optional):
> The output file path, directory, or stream-like object. If the path exists and is a file, it will be overwritten.
>
> If the file path is [None](#) or [bytes](#), then the result will be saved in memory and returned as [bytes](#).

part_size_kb ([int](#), optional):
> Chunk size when downloading files. The larger, the less requests will be made (up to 512KB maximum).

file_size ([int](#), optional):
> The file size that is about to be downloaded, if known. Only used if `progress_callback` is specified.

progress_callback ([callable](#), optional):
> A callback function accepting two parameters: `(downloaded bytes, total)`. Note that the `total` is the provided `file_size`.

dc_id ([int](#), optional):
> The data center the library should connect to in order to download the file. You shouldn't worry about this.

key ('bytes', optional):
> In case of an encrypted upload (secret chats) a key is supplied

iv ('bytes', optional):
> In case of an encrypted upload (secret chats) an iv is supplied

Example

```python
# Download a file and print its header
data = await client.download_file(input_file, bytes)
print(data[:16])
```

async download_media(*message: hints.MessageLike, file: hints.FileLike = None, *, thumb: [Union[int,](#) types.TypePhotoSize] = None, progress_callback: hints.ProgressCallback = None*)
→ [str](#) | [bytes](#) | [None](#)

Downloads the given media from a message object.

Note that if the download is too slow, you should consider installing `cryptg` (through `pip install cryptg`) so that decrypting the received data is done in C instead of Python (much faster).

See also [*Message.download_media()*](#).

Arguments

message ([*Message*](#) | Media):
> The media or message containing the media that will be downloaded.

file ([str](#) | file, optional):
> The output file path, directory, or stream-like object. If the path exists and is a file, it will be overwritten. If file is the type [bytes](#), it will be downloaded in-memory and returned as a bytestring (i.e. `file=bytes`, without parentheses or quotes).

progress_callback (`callable`, optional):
    A callback function accepting two parameters: (`received bytes, total`).

thumb (`int` | PhotoSize, optional):
    Which thumbnail size from the document or photo to download, instead of downloading the document or photo itself.

    If it's specified but the file does not have a thumbnail, this method will return None.

    The parameter should be an integer index between `0` and `len(sizes)`. `0` will download the smallest thumbnail, and `len(sizes) - 1` will download the largest thumbnail. You can also use negative indices, which work the same as they do in Python's `list`.

    You can also pass the PhotoSize instance to use. Alternatively, the thumb size type `str` may be used.

    In short, use `thumb=0` if you want the smallest thumbnail and `thumb=-1` if you want the largest thumbnail.

> **Note:** The largest thumbnail may be a video instead of a photo, as they are available since layer 116 and are bigger than any of the photos.

Returns
    None if no media was provided, or if it was Empty. On success the file path is returned since it may differ from the one given.

Example

```python
path = await client.download_media(message)
await client.download_media(message, filename)
# or
path = await message.download_media()
await message.download_media(filename)

# Downloading to memory
blob = await client.download_media(message, bytes)

# Printing download progress
def callback(current, total):
    print('Downloaded', current, 'out of', total,
          'bytes: {:.2%}'.format(current / total))

await client.download_media(message, progress_callback=callback)
```

async download_profile_photo(*entity: hints.EntityLike, file: hints.FileLike = None, *, download_big: bool = True*) → str | None

Downloads the profile photo from the given user, chat or channel.

Arguments

entity (`entity`):
    From who the photo will be downloaded.

> **Note:** This method expects the full entity (which has the data to download the photo), not an input variant.

It's possible that sometimes you can't fetch the entity from its input (since you can get errors like `ChannelPrivateError`) but you already have it through another call, like getting a forwarded message from it.

---

file (`str` | `file`, optional):
> The output file path, directory, or stream-like object. If the path exists and is a file, it will be overwritten. If file is the type `bytes`, it will be downloaded in-memory and returned as a bytestring (i.e. `file=bytes`, without parentheses or quotes).

download_big (`bool`, optional):
> Whether to use the big version of the available photos.

Returns
> `None` if no photo was provided, or if it was Empty. On success the file path is returned since it may differ from the one given.

Example

```python
# Download your own profile photo
path = await client.download_profile_photo('me')
print(path)
```

iter_download(*file: hints.FileLike*, *, *offset: `int` = 0*, *stride: `int` = None*, *limit: `int` = None*, *chunk_size: `int` = None*, *request_size: `int` = 524288*, *file_size: `int` = None*, *dc_id: `int` = None*)

Iterates over a file download, yielding chunks of the file.

This method can be used to stream files in a more convenient way, since it offers more control (pausing, resuming, etc.)

Note: Using a value for `offset` or `stride` which is not a multiple of the minimum allowed `request_size`, or if `chunk_size` is different from `request_size`, the library will need to do a bit more work to fetch the data in the way you intend it to.

You normally shouldn't worry about this.

Arguments

file (`hints.FileLike`):
> The file of which contents you want to iterate over.

offset (`int`, optional):
> The offset in bytes into the file from where the download should start. For example, if a file is 1024KB long and you just want the last 512KB, you would use `offset=512 * 1024`.

stride (`int`, optional):
> The stride of each chunk (how much the offset should advance between reading each chunk). This parameter should only be used for more advanced use cases.
>
> It must be bigger than or equal to the `chunk_size`.

limit (`int`, optional):
> The limit for how many *chunks* will be yielded at most.

chunk_size (`int`, optional):
> The maximum size of the chunks that will be yielded. Note that the last chunk may be less than this value. By default, it equals to `request_size`.

request_size (int, optional):

> How many bytes will be requested to Telegram when more data is required. By default, as many bytes as possible are requested. If you would like to request data in smaller sizes, adjust this parameter.
>
> Note that values outside the valid range will be clamped, and the final value will also be a multiple of the minimum allowed size.

file_size (int, optional):

> If the file size is known beforehand, you should set this parameter to said value. Depending on the type of the input file passed, this may be set automatically.

dc_id (int, optional):

> The data center the library should connect to in order to download the file. You shouldn't worry about this.

Yields

> bytes objects representing the chunks of the file if the right conditions are met, or memoryview objects instead.

Example

```
# Streaming `media` to an output file
# After the iteration ends, the sender is cleaned up
with open('photo.jpg', 'wb') as fd:
    async for chunk in client.iter_download(media):
        fd.write(chunk)

# Fetching only the header of a file (32 bytes)
# You should manually close the iterator in this case.
#
# "stream" is a common name for asynchronous generators,
# and iter_download will yield `bytes` (chunks of the file).
stream = client.iter_download(media, request_size=32)
header = await stream.__anext__()  # "manual" version of `async for`
await stream.close()
assert len(header) == 32
```

class telethon.client.messageparse.**MessageParseMethods**

> Bases: object

__annotations__ = {}

__weakref__

> list of weak references to the object (if defined)

property parse_mode

> This property is the default parse mode used when sending messages. Defaults to telethon.extensions. markdown. It will always be either None or an object with parse and unparse methods.
>
> When setting a different value it should be one of:
>
> - Object with parse and unparse methods.
>
> - A callable to act as the parse method.

- A str indicating the parse_mode. For Markdown `'md'` or `'markdown'` may be used. For HTML, `'htm'` or `'html'` may be used.

The parse method should be a function accepting a single parameter, the text to parse, and returning a tuple consisting of (parsed message str, [MessageEntity instances]).

The unparse method should be the inverse of parse such that assert text == unparse(*parse(text)).

See MessageEntity for allowed message entities.

Example

```python
# Disabling default formatting
client.parse_mode = None

# Enabling HTML as the default format
client.parse_mode = 'html'
```

class telethon.client.messages.**MessageMethods**

Bases: object

__annotations__ = {}

__weakref__

list of weak references to the object (if defined)

async delete_messages(*entity: hints.EntityLike*, *message_ids: Union[hints.MessageIDLike, Sequence[hints.MessageIDLike]]*, ***, *revoke: bool = True*) → Sequence[types.messages.AffectedMessages]

Deletes the given messages, optionally "for everyone".

See also *Message.delete()*.

> **Warning:** This method does **not** validate that the message IDs belong to the chat that you passed! It's possible for the method to delete messages from different private chats and small group chats at once, so make sure to pass the right IDs.

Arguments

entity (entity):
From who the message will be deleted. This can actually be None for normal chats, but **must** be present for channels and megagroups.

message_ids (list | int | *Message*):
The IDs (or ID) or messages to be deleted.

revoke (bool, optional):
Whether the message should be deleted for everyone or not. By default it has the opposite behaviour of official clients, and it will delete the message for everyone.

Since 24 March 2019, you can also revoke messages of any age (i.e. messages sent long in the past) the *other* person sent in private conversations (and of course your messages too).

Disabling this has no effect on channels or megagroups, since it will unconditionally delete the message for everyone.

Returns
> A list of AffectedMessages, each item being the result for the delete calls of the messages in chunks
> of 100 each.

Example

```
await client.delete_messages(chat, messages)
```

async edit_message(*entity: Union[hints.EntityLike, types.Message], message: hints.MessageLike = None,*
text: str = None, *, parse_mode: str = (), attributes:
Sequence[types.TypeDocumentAttribute] = None, formatting_entities:
List[MessageEntityUnknown | MessageEntityMention | MessageEntityHashtag |
MessageEntityBotCommand | MessageEntityUrl | MessageEntityEmail |
MessageEntityBold | MessageEntityItalic | MessageEntityCode | MessageEntityPre |
MessageEntityTextUrl | MessageEntityMentionName |
InputMessageEntityMentionName | MessageEntityPhone | MessageEntityCashtag |
MessageEntityUnderline | MessageEntityStrike | MessageEntityBankCard |
MessageEntitySpoiler | MessageEntityCustomEmoji | MessageEntityBlockquote] |
None = None, link_preview: bool = True, file: hints.FileLike = None, thumb:
hints.FileLike = None, force_document: bool = False, buttons: hints.MarkupLike |
None = None, supports_streaming: bool = False, schedule: hints.DateLike = None)
→ types.Message

Edits the given message to change its text or media.

See also *Message.edit()*.

Arguments

entity (`entity` | *Message*):
> From which chat to edit the message. This can also be the message to be edited, and the entity
> will be inferred from it, so the next parameter will be assumed to be the message text.
>
> You may also pass a InputBotInlineMessageID or InputBotInlineMessageID64, which is the only
> way to edit messages that were sent after the user selects an inline query result.

message (`int` | *Message* | `str`):
> The ID of the message (or *Message* itself) to be edited. If the `entity` was a *Message*, then this
> message will be treated as the new text.

text (`str`, optional):
> The new text of the message. Does nothing if the `entity` was a *Message*.

parse_mode (`object`, optional):
> See the *TelegramClient.parse_mode* property for allowed values. Markdown parsing will be
> used by default.

attributes (`list`, optional):
> Optional attributes that override the inferred ones, like DocumentAttributeFilename and so on.

formatting_entities (`list`, optional):
> A list of message formatting entities. When provided, the `parse_mode` is ignored.

link_preview (`bool`, optional):
> Should the link preview be shown?

file (`str` | `bytes` | `file` | `media`, optional):
> The file object that should replace the existing media in the message.

thumb (`str` | `bytes` | `file`, optional):
> Optional JPEG thumbnail (for documents). **Telegram will ignore this parameter** unless you pass

a `.jpg` file! The file must also be small in dimensions and in disk size. Successful thumbnails were files below 20kB and 320x320px. Width/height and dimensions/size ratios may be important. For Telegram to accept a thumbnail, you must provide the dimensions of the underlying media through `attributes=` with DocumentAttributesVideo or by installing the optional `hachoir` dependency.

force_document (`bool`, optional):
Whether to send the given file as a document or not.

buttons (`list`, `custom.Button`, KeyboardButton):
The matrix (list of lists), row list or button to be shown after sending the message. This parameter will only work if you have signed in as a bot. You can also pass your own ReplyMarkup here.

supports_streaming (`bool`, optional):
Whether the sent video supports streaming or not. Note that Telegram only recognizes as streamable some formats like MP4, and others like AVI or MKV will not work. You should convert these to MP4 before sending if you want them to be streamable. Unsupported formats will result in `VideoContentTypeError`.

schedule (`hints.DateLike`, optional):
If set, the message won't be edited immediately, and instead it will be scheduled to be automatically edited at a later time.

Note that this parameter will have no effect if you are trying to edit a message that was sent via inline bots.

Returns
The edited *Message*, unless `entity` was a InputBotInlineMessageID or InputBotInlineMessageID64 in which case this method returns a boolean.

Raises
`MessageAuthorRequiredError` if you're not the author of the message but tried editing it anyway.

`MessageNotModifiedError` if the contents of the message were not modified at all.

`MessageIdInvalidError` if the ID of the message is invalid (the ID itself may be correct, but the message with that ID cannot be edited). For example, when trying to edit messages with a reply markup (or clear markup) this error will be raised.

Example

```
message = await client.send_message(chat, 'hello')

await client.edit_message(chat, message, 'hello!')
# or
await client.edit_message(chat, message.id, 'hello!!')
# or
await client.edit_message(message, 'hello!!!')
```

async **forward_messages**(*entity: hints.EntityLike, messages: Union[hints.MessageIDLike, Sequence[hints.MessageIDLike]], from_peer: hints.EntityLike = None, *, background: bool = None, with_my_score: bool = None, silent: bool = None, as_album: bool = None, schedule: hints.DateLike = None, drop_author: bool = None*) → Sequence[types.Message]

Forwards the given messages to the specified entity.

If you want to "forward" a message without the forward header (the "forwarded from" text), you should use *send_message* with the original message instead. This will send a copy of it.

See also *Message.forward_to()*.

Arguments

entity (`entity`):
> To which entity the message(s) will be forwarded.

messages (`list` | `int` | *Message*):
> The message(s) to forward, or their integer IDs.

from_peer (`entity`):
> If the given messages are integer IDs and not instances of the `Message` class, this *must* be specified in order for the forward to work. This parameter indicates the entity from which the messages should be forwarded.

silent (`bool`, optional):
> Whether the message should notify people with sound or not. Defaults to `False` (send with a notification sound unless the person has the chat muted). Set it to `True` to alter this behaviour.

background (`bool`, optional):
> Whether the message should be forwarded in background.

with_my_score (`bool`, optional):
> Whether forwarded should contain your game score.

as_album (`bool`, optional):
> This flag no longer has any effect.

schedule (`hints.DateLike`, optional):
> If set, the message(s) won't forward immediately, and instead they will be scheduled to be automatically sent at a later time.

Returns
> The list of forwarded *Message*, or a single one if a list wasn't provided as input.
>
> Note that if all messages are invalid (i.e. deleted) the call will fail with `MessageIdInvalidError`. If only some are invalid, the list will have `None` instead of those messages.

Example

```python
# a single one
await client.forward_messages(chat, message)
# or
await client.forward_messages(chat, message_id, from_chat)
# or
await message.forward_to(chat)

# multiple
await client.forward_messages(chat, messages)
# or
await client.forward_messages(chat, message_ids, from_chat)

# Forwarding as a copy
await client.send_message(chat, message)
```

async **get_messages**(*entity: hints.EntityLike, limit: float = None, *, offset_date: hints.DateLike = None, offset_id: int = 0, max_id: int = 0, min_id: int = 0, add_offset: int = 0, search: str = None, filter: Union[types.TypeMessagesFilter, Type[types.TypeMessagesFilter]] = None, from_user: hints.EntityLike = None, wait_time: float = None, ids: Union[int, Sequence[int]] = None, reverse: bool = False, reply_to: int = None, scheduled: bool = False*) → Union[_MessagesIter, _IDsIter]

Same as `iter_messages()`, but returns a `TotalList` instead.

If the `limit` is not set, it will be 1 by default unless both `min_id` **and** `max_id` are set (as *named* arguments), in which case the entire range will be returned.

This is so because any integer limit would be rather arbitrary and it's common to only want to fetch one message, but if a range is specified it makes sense that it should return the entirety of it.

If `ids` is present in the *named* arguments and is not a list, a single `Message` will be returned for convenience instead of a list.

Example

```
# Get 0 photos and print the total to show how many photos there are
from telethon.tl.types import InputMessagesFilterPhotos
photos = await client.get_messages(chat, 0,
→filter=InputMessagesFilterPhotos)
print(photos.total)

# Get all the photos
photos = await client.get_messages(chat, None,
→filter=InputMessagesFilterPhotos)

# Get messages by ID:
message_1337 = await client.get_messages(chat, ids=1337)
```

`iter_messages`(*entity: hints.EntityLike, limit: float = None, *, offset_date: hints.DateLike = None, offset_id: int = 0, max_id: int = 0, min_id: int = 0, add_offset: int = 0, search: str = None, filter: Union[types.TypeMessagesFilter, Type[types.TypeMessagesFilter]] = None, from_user: hints.EntityLike = None, wait_time: float = None, ids: Union[int, Sequence[int]] = None, reverse: bool = False, reply_to: int = None, scheduled: bool = False*) → Union[_MessagesIter, _IDsIter]

Iterator over the messages for the given chat.

The default order is from newest to oldest, but this behaviour can be changed with the `reverse` parameter.

If either `search`, `filter` or `from_user` are provided, messages.Search will be used instead of messages.getHistory.

Note: Telegram's flood wait limit for GetHistoryRequest seems to be around 30 seconds per 10 requests, therefore a sleep of 1 second is the default for this limit (or above).

Arguments

entity (`entity`):
The entity from whom to retrieve the message history.

It may be None to perform a global search, or to get messages by their ID from no particular chat. Note that some of the offsets will not work if this is the case.

Note that if you want to perform a global search, you **must** set a non-empty `search` string, a `filter`. or `from_user`.

limit (`int` | None, optional):
Number of messages to be retrieved. Due to limitations with the API retrieving more than 3000 messages will take longer than half a minute (or even more based on previous calls).

The limit may also be None, which would eventually return the whole history.

offset_date (`datetime`):
Offset date (messages *previous* to this date will be retrieved). Exclusive.

offset_id (`int`):
Offset message ID (only messages *previous* to the given ID will be retrieved). Exclusive.

max_id (`int`):
All the messages with a higher (newer) ID or equal to this will be excluded.

min_id (`int`):
All the messages with a lower (older) ID or equal to this will be excluded.

add_offset (`int`):
Additional message offset (all of the specified offsets + this offset = older messages).

search (`str`):
The string to be used as a search query.

filter (MessagesFilter | `type`):
The filter to use when returning messages. For instance, InputMessagesFilterPhotos would yield only messages containing photos.

from_user (`entity`):
Only messages from this entity will be returned.

wait_time (`int`):
Wait time (in seconds) between different GetHistoryRequest. Use this parameter to avoid hitting the FloodWaitError as needed. If left to None, it will default to 1 second only if the limit is higher than 3000.

If the `ids` parameter is used, this time will default to 10 seconds only if the amount of IDs is higher than 300.

ids (`int`, `list`):
A single integer ID (or several IDs) for the message that should be returned. This parameter takes precedence over the rest (which will be ignored if this is set). This can for instance be used to get the message with ID 123 from a channel. Note that if the message doesn't exist, None will appear in its place, so that zipping the list of IDs with the messages can match one-to-one.

Note: At the time of writing, Telegram will **not** return MessageEmpty for InputMessageReplyTo IDs that failed (i.e. the message is not replying to any, or is replying to a deleted message). This means that it is **not** possible to match messages one-by-one, so be careful if you use non-integers in this parameter.

---

reverse (`bool`, optional):
If set to True, the messages will be returned in reverse order (from oldest to newest, instead of the default newest to oldest). This also means that the meaning of `offset_id` and `offset_date` parameters is reversed, although they will still be exclusive. `min_id` becomes equivalent to `offset_id` instead of being `max_id` as well since messages are returned in ascending order.

You cannot use this if both `entity` and `ids` are None.

reply_to (`int`, optional):
If set to a message ID, the messages that reply to this ID will be returned. This feature is also known as comments in posts of broadcast channels, or viewing threads in groups.

This feature can only be used in broadcast channels and their linked megagroups. Using it in a chat or private conversation will result in `telethon.errors.PeerIdInvalidError` to occur.

When using this parameter, the `filter` and `search` parameters have no effect, since Telegram's API doesn't support searching messages in replies.

Note: This feature is used to get replies to a message in the *discussion* group. If the same broadcast channel sends a message and replies to it itself, that reply will not be included in the results.

---

scheduled ([bool]**, optional):**
> If set to [True], messages which are scheduled will be returned. All other parameter will be ignored for this, except `entity`.

Yields
> Instances of *Message*.

Example

```python
# From most-recent to oldest
async for message in client.iter_messages(chat):
    print(message.id, message.text)

# From oldest to most-recent
async for message in client.iter_messages(chat, reverse=True):
    print(message.id, message.text)

# Filter by sender
async for message in client.iter_messages(chat, from_user='me'):
    print(message.text)

# Server-side search with fuzzy text
async for message in client.iter_messages(chat, search='hello'):
    print(message.id)

# Filter by message type:
from telethon.tl.types import InputMessagesFilterPhotos
async for message in client.iter_messages(chat,
→filter=InputMessagesFilterPhotos):
    print(message.photo)

# Getting comments from a post in a channel:
async for message in client.iter_messages(channel, reply_to=123):
    print(message.chat.title, message.text)
```

async pin_message(*entity: hints.EntityLike*, *message: Optional[hints.MessageIDLike]*, ***, *notify: bool = False*, *pm_oneside: bool = False*)

Pins a message in a chat.

The default behaviour is to *not* notify members, unlike the official applications.

See also *Message.pin()*.

Arguments

entity (`entity`):
> The chat where the message should be pinned.

message ([int] | *Message*):
> The message or the message ID to pin. If it's [None], all messages will be unpinned instead.

---

notify (`bool`, optional):
    Whether the pin should notify people or not.

pm_oneside (`bool`, optional):
    Whether the message should be pinned for everyone or not. By default it has the opposite behaviour
    of official clients, and it will pin the message for both sides, in private chats.

Example

```
# Send and pin a message to annoy everyone
message = await client.send_message(chat, 'Pinotifying is fun!')
await client.pin_message(chat, message, notify=True)
```

async send_message(*entity: hints.EntityLike*, *message: hints.MessageLike = ''*, ***, *reply_to: Union[int*,
types.Message] = None, *attributes: Sequence[types.TypeDocumentAttribute] = None*,
parse_mode: str | None = (), *formatting_entities: List[MessageEntityUnknown |*
MessageEntityMention | MessageEntityHashtag | MessageEntityBotCommand |
MessageEntityUrl | MessageEntityEmail | MessageEntityBold | MessageEntityItalic |
MessageEntityCode | MessageEntityPre | MessageEntityTextUrl |
MessageEntityMentionName | InputMessageEntityMentionName |
MessageEntityPhone | MessageEntityCashtag | MessageEntityUnderline |
MessageEntityStrike | MessageEntityBankCard | MessageEntitySpoiler |
MessageEntityCustomEmoji | MessageEntityBlockquote] | None = None,
link_preview: bool = True, *file: Union[hints.FileLike, Sequence[hints.FileLike]] =*
None, *thumb: hints.FileLike = None*, *force_document: bool = False*, *clear_draft: bool*
= False, *buttons: hints.MarkupLike | None = None*, *silent: bool = None*, *background:*
bool = None, *supports_streaming: bool = False*, *schedule: hints.DateLike = None*,
comment_to: Union[int, types.Message] = None, *nosound_video: bool = None*) →
types.Message

Sends a message to the specified user, chat or channel.

The default parse mode is the same as the official applications (a custom flavour of markdown). `**bold**`,
`` `code` `` or `__italic__` are available. In addition you can send `[links](https://example.com)` and
`[mentions](@username)` (or using IDs like in the Bot API: `[mention](tg://user?id=123456789)`)
and `pre` blocks with three backticks.

Sending a `/start` command with a parameter (like `?start=data`) is also done through this method. Sim-
ply send `'/start data'` to the bot.

See also *Message.respond()* and *Message.reply()*.

Arguments

entity (`entity`):
    To who will it be sent.

message (`str` | *Message*):
    The message to be sent, or another message object to resend.

    The maximum length for a message is 35,000 bytes or 4,096 characters. Longer messages will not
    be sliced automatically, and you should slice them manually if the text to send is longer than said
    length.

reply_to (`int` | *Message*, optional):
    Whether to reply to a message or not. If an integer is provided, it should be the ID of the message
    that it should reply to.

attributes (`list`, optional):
    Optional attributes that override the inferred ones, like DocumentAttributeFilename and so on.

parse_mode (`object`, optional):
  See the `TelegramClient.parse_mode` property for allowed values. Markdown parsing will be used by default.

formatting_entities (`list`, optional):
  A list of message formatting entities. When provided, the `parse_mode` is ignored.

link_preview (`bool`, optional):
  Should the link preview be shown?

file (`file`, optional):
  Sends a message with a file attached (e.g. a photo, video, audio or document). The `message` may be empty.

thumb (`str` | `bytes` | `file`, optional):
  Optional JPEG thumbnail (for documents). **Telegram will ignore this parameter** unless you pass a `.jpg` file! The file must also be small in dimensions and in disk size. Successful thumbnails were files below 20kB and 320x320px. Width/height and dimensions/size ratios may be important. For Telegram to accept a thumbnail, you must provide the dimensions of the underlying media through `attributes=` with DocumentAttributesVideo or by installing the optional `hachoir` dependency.

force_document (`bool`, optional):
  Whether to send the given file as a document or not.

clear_draft (`bool`, optional):
  Whether the existing draft should be cleared or not.

buttons (`list`, `custom.Button`, KeyboardButton):
  The matrix (list of lists), row list or button to be shown after sending the message. This parameter will only work if you have signed in as a bot. You can also pass your own ReplyMarkup here.

  All the following limits apply together:

  • There can be 100 buttons at most (any more are ignored).

  • There can be 8 buttons per row at most (more are ignored).

  • The maximum callback data per button is 64 bytes.

  • The maximum data that can be embedded in total is just over 4KB, shared between inline callback data and text.

silent (`bool`, optional):
  Whether the message should notify people in a broadcast channel or not. Defaults to `False`, which means it will notify them. Set it to `True` to alter this behaviour.

background (`bool`, optional):
  Whether the message should be send in background.

supports_streaming (`bool`, optional):
  Whether the sent video supports streaming or not. Note that Telegram only recognizes as streamable some formats like MP4, and others like AVI or MKV will not work. You should convert these to MP4 before sending if you want them to be streamable. Unsupported formats will result in `VideoContentTypeError`.

schedule (`hints.DateLike`, optional):
  If set, the message won't send immediately, and instead it will be scheduled to be automatically sent at a later time.

comment_to (`int` | `Message`, optional):
  Similar to `reply_to`, but replies in the linked group of a broadcast channel instead (effectively leaving a "comment to" the specified message).

This parameter takes precedence over `reply_to`. If there is no linked chat, `telethon.errors.
sgIdInvalidError` is raised.

nosound_video ([bool](), optional):
Only applicable when sending a video file without an audio track. If set to `True`, the video will
be displayed in Telegram as a video. If set to `False`, Telegram will attempt to display the video
as an animated gif. (It may still display as a video due to other factors.) The value is ignored if set
on non-video files. This is set to `True` for albums, as gifs cannot be sent in albums.

Returns
The sent `custom.Message`.

Example

```python
# Markdown is the default
await client.send_message('me', 'Hello **world**!')

# Default to another parse mode
client.parse_mode = 'html'

await client.send_message('me', 'Some <b>bold</b> and <i>italic</i> text')
await client.send_message('me', 'An <a href="https://example.com">URL</a>')
# code and pre tags also work, but those break the documentation :)
await client.send_message('me', '<a href="tg://user?id=me">Mentions</a>')

# Explicit parse mode
# No parse mode by default
client.parse_mode = None

# ...but here I want markdown
await client.send_message('me', 'Hello, **world**!', parse_mode='md')

# ...and here I need HTML
await client.send_message('me', 'Hello, <i>world</i>!', parse_mode='html')

# If you logged in as a bot account, you can send buttons
from telethon import events, Button

@client.on(events.CallbackQuery)
async def callback(event):
    await event.edit('Thank you for clicking {}!'.format(event.data))

# Single inline button
await client.send_message(chat, 'A single button, with "clk1" as data',
                          buttons=Button.inline('Click me', b'clk1'))

# Matrix of inline buttons
await client.send_message(chat, 'Pick one from this grid', buttons=[
    [Button.inline('Left'), Button.inline('Right')],
    [Button.url('Check this site!', 'https://example.com')]
])

# Reply keyboard
await client.send_message(chat, 'Welcome', buttons=[
    Button.text('Thanks!', resize=True, single_use=True),
```

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```
    Button.request_phone('Send phone'),
    Button.request_location('Send location')
])


# Forcing replies or clearing buttons.
await client.send_message(chat, 'Reply to me', buttons=Button.force_reply())
await client.send_message(chat, 'Bye Keyboard!', buttons=Button.clear())


# Scheduling a message to be sent after 5 minutes
from datetime import timedelta
await client.send_message(chat, 'Hi, future!',␣
↪schedule=timedelta(minutes=5))
```

async **send_read_acknowledge**(*entity: hints.EntityLike*, *message:* *Union[hints.MessageIDLike,*
Sequence[hints.MessageIDLike]] = None, *, *max_id:* *int* *= None*,
clear_mentions: *bool* *= False*, *clear_reactions:* *bool* *= False*) → bool

Marks messages as read and optionally clears mentions.

This effectively marks a message as read (or more than one) in the given conversation.

If neither message nor maximum ID are provided, all messages will be marked as read by assuming that
`max_id = 0`.

If a message or maximum ID is provided, all the messages up to and including such ID will be marked as
read (for all messages whose ID max_id).

See also *Message.mark_read()*.

Arguments

> **entity** (`entity`):
>> The chat where these messages are located.
>
> **message** (`list` | *Message*):
>> Either a list of messages or a single message.
>
> **max_id** (`int`):
>> Until which message should the read acknowledge be sent for. This has priority over the `message`
>> parameter.
>
> **clear_mentions** (`bool`):
>> Whether the mention badge should be cleared (so that there are no more mentions) or not for the
>> given entity.
>>
>> If no message is provided, this will be the only action taken.
>
> **clear_reactions** (`bool`):
>> Whether the reactions badge should be cleared (so that there are no more reaction notifications)
>> or not for the given entity.
>>
>> If no message is provided, this will be the only action taken.

Example

```
# using a Message object
await client.send_read_acknowledge(chat, message)
# ...or using the int ID of a Message
await client.send_read_acknowledge(chat, message_id)
```

```
# ...or passing a list of messages to mark as read
await client.send_read_acknowledge(chat, messages)
```

async **unpin_message**(*entity: hints.EntityLike*, *message: Optional[hints.MessageIDLike] = None*, ***, *notify: bool = False*)

> Unpins a message in a chat.
>
> If no message ID is specified, all pinned messages will be unpinned.
>
> See also *Message.unpin()*.
>
> **Arguments**
>
> > **entity (`entity`):**
> > The chat where the message should be pinned.
> >
> > **message (`int` | *Message*):**
> > The message or the message ID to unpin. If it's None, all messages will be unpinned instead.
>
> **Example**
>
> ```
> # Unpin all messages from a chat
> await client.unpin_message(chat)
> ```

class telethon.client.updates.**EventBuilderDict**(*client: TelegramClient*, *update*, *others*)

> Bases: object
>
> Helper "dictionary" to return events from types and cache them.
>
> **__getitem__**(*builder*)
>
> **__weakref__**
> > list of weak references to the object (if defined)

class telethon.client.updates.**UpdateMethods**

> Bases: object
>
> **__annotations__ = {}**
>
> **__weakref__**
> > list of weak references to the object (if defined)
>
> **add_event_handler**(*callback: Callable[[Any], Any]*, *event: EventBuilder = None*)
>
> > Registers a new event handler callback.
> >
> > The callback will be called when the specified event occurs.
> >
> > **Arguments**
> >
> > > **callback (`callable`):**
> > > The callable function accepting one parameter to be used.
> > >
> > > Note that if you have used `telethon.events.register` in the callback, event will be ignored, and instead the events you previously registered will be used.
> > >
> > > **event (_EventBuilder | `type`, optional):**
> > > The event builder class or instance to be used, for instance events.NewMessage.
> > >
> > > If left unspecified, `telethon.events.raw.Raw` (the Update objects with no further processing) will be passed instead.
```

**Example**

```python
from telethon import TelegramClient, events
client = TelegramClient(...)

async def handler(event):
    ...

client.add_event_handler(handler, events.NewMessage)
```

async catch_up()

"Catches up" on the missed updates while the client was offline. You should call this method after registering the event handlers so that the updates it loads can by processed by your script.

This can also be used to forcibly fetch new updates if there are any.

Example

```python
await client.catch_up()
```

list_event_handlers() → Sequence[Tuple[Callback, *EventBuilder*]]

Lists all registered event handlers.

Returns

A list of pairs consisting of (callback, event).

Example

```python
@client.on(events.NewMessage(pattern='hello'))
async def on_greeting(event):
    """Greets someone"""
    await event.reply('Hi')

for callback, event in client.list_event_handlers():
    print(id(callback), type(event))
```

on(*event:* EventBuilder)

Decorator used to *add_event_handler* more conveniently.

Arguments

event (_EventBuilder | type):
The event builder class or instance to be used, for instance `events.NewMessage`.

Example

```python
from telethon import TelegramClient, events
client = TelegramClient(...)

# Here we use client.on
@client.on(events.NewMessage)
async def handler(event):
    ...
```

remove_event_handler(*callback:* *Callable[[Any], Any]*, *event:* EventBuilder *= None*) → int

Inverse operation of *add_event_handler()*.

If no event is given, all events for this callback are removed. Returns how many callbacks were removed.

Example

```
@client.on(events.Raw)
@client.on(events.NewMessage)
async def handler(event):
    ...

# Removes only the "Raw" handling
# "handler" will still receive "events.NewMessage"
client.remove_event_handler(handler, events.Raw)

# "handler" will stop receiving anything
client.remove_event_handler(handler)
```

run_until_disconnected()

Runs the event loop until the library is disconnected.

It also notifies Telegram that we want to receive updates as described in https://core.telegram.org/api/updates. If an unexpected error occurs during update handling, the client will disconnect and said error will be raised.

Manual disconnections can be made by calling *disconnect()* or sending a `KeyboardInterrupt` (e.g. by pressing Ctrl+C on the console window running the script).

If a disconnection error occurs (i.e. the library fails to reconnect automatically), said error will be raised through here, so you have a chance to `except` it on your own code.

If the loop is already running, this method returns a coroutine that you should await on your own code.

Note: If you want to handle `KeyboardInterrupt` in your code, simply run the event loop in your code too in any way, such as `loop.run_forever()` or `await client.disconnected` (e.g. `loop.run_until_complete(client.disconnected)`).

Example

```
# Blocks the current task here until a disconnection occurs.
#
# You will still receive updates, since this prevents the
# script from exiting.
await client.run_until_disconnected()
```

async set_receive_updates(*receive_updates*)

Change the value of `receive_updates`.

This is an `async` method, because in order for Telegram to start sending updates again, a request must be made.

class telethon.client.uploads.UploadMethods

Bases: object

__annotations__ = {}

__weakref__

list of weak references to the object (if defined)

---

async send_file(*entity: hints.EntityLike*, *file:* Union*[hints.FileLike,* Sequence*[hints.FileLike]]*, *, *caption:* str *|* Sequence*[str] = None*, *force_document:* bool *= False*, *file_size:* int *= None*, *clear_draft:* bool *= False*, *progress_callback: hints.ProgressCallback = None*, *reply_to: hints.MessageIDLike = None*, *attributes:* Sequence*[types.TypeDocumentAttribute] = None*, *thumb: hints.FileLike = None*, *allow_cache:* bool *= True*, *parse_mode:* str *= ()*, *formatting_entities:* List*[MessageEntityUnknown | MessageEntityMention | MessageEntityHashtag | MessageEntityBotCommand | MessageEntityUrl | MessageEntityEmail | MessageEntityBold | MessageEntityItalic | MessageEntityCode | MessageEntityPre | MessageEntityTextUrl | MessageEntityMentionName | InputMessageEntityMentionName | MessageEntityPhone | MessageEntityCashtag | MessageEntityUnderline | MessageEntityStrike | MessageEntityBankCard | MessageEntitySpoiler | MessageEntityCustomEmoji | MessageEntityBlockquote] |* None *= None*, *voice_note:* bool *= False*, *video_note:* bool *= False*, *buttons: hints.MarkupLike |* None *= None*, *silent:* bool *= None*, *background:* bool *= None*, *supports_streaming:* bool *= False*, *schedule: hints.DateLike = None*, *comment_to:* Union*[int, types.Message] = None*, *ttl:* int *= None*, *nosound_video:* bool *= None*, ***kwargs*) → types.Message

Sends message with the given file to the specified entity.

Note: If the `hachoir3` package (`hachoir` module) is installed, it will be used to determine metadata from audio and video files.

If the `pillow` package is installed and you are sending a photo, it will be resized to fit within the maximum dimensions allowed by Telegram to avoid `errors.PhotoInvalidDimensionsError`. This cannot be done if you are sending [InputFile](#), however.

Arguments

entity (`entity`):
Who will receive the file.

file ([`str`](#) | [`bytes`](#) | `file` | `media`):
The file to send, which can be one of:

- A local file path to an in-disk file. The file name will be the path's base name.

- A [`bytes`](#) byte array with the file's data to send (for example, by using `text.encode('utf-8')`). A default file name will be used.

- A bytes [`io.IOBase`](#) stream over the file to send (for example, by using `open(file, 'rb')`). Its `.name` property will be used for the file name, or a default if it doesn't have one.

- An external URL to a file over the internet. This will send the file as "external" media, and Telegram is the one that will fetch the media and send it.

- A Bot API-like `file_id`. You can convert previously sent media to file IDs for later reusing with [`telethon.utils.pack_bot_file_id`](#).

- A handle to an existing file (for example, if you sent a message with media before, you can use its `message.media` as a file here).

- A handle to an uploaded file (from [`upload_file`](#)).

- A [InputMedia](#) instance. For example, if you want to send a dice use [InputMediaDice](#), or if you want to send a contact use [InputMediaContact](#).

To send an album, you should provide a list in this parameter.

If a list or similar is provided, the files in it will be sent as an album in the order in which they appear, sliced in chunks of 10 if more than 10 are given.

---

caption (`str`, optional):
Optional caption for the sent media message. When sending an album, the caption may be a list of strings, which will be assigned to the files pairwise.

force_document (`bool`, optional):
If left to `False` and the file is a path that ends with the extension of an image file or a video file, it will be sent as such. Otherwise always as a document.

file_size (`int`, optional):
The size of the file to be uploaded if it needs to be uploaded, which will be determined automatically if not specified.

If the file size can't be determined beforehand, the entire file will be read in-memory to find out how large it is.

clear_draft (`bool`, optional):
Whether the existing draft should be cleared or not.

progress_callback (`callable`, optional):
A callback function accepting two parameters: (sent bytes, total).

reply_to (`int` | *Message*):
Same as `reply_to` from `send_message`.

attributes (`list`, optional):
Optional attributes that override the inferred ones, like DocumentAttributeFilename and so on.

thumb (`str` | `bytes` | `file`, optional):
Optional JPEG thumbnail (for documents). **Telegram will ignore this parameter** unless you pass a `.jpg` file!

The file must also be small in dimensions and in disk size. Successful thumbnails were files below 20kB and 320x320px. Width/height and dimensions/size ratios may be important. For Telegram to accept a thumbnail, you must provide the dimensions of the underlying media through `attributes=` with DocumentAttributesVideo or by installing the optional `hachoir` dependency.

allow_cache (`bool`, optional):
This parameter currently does nothing, but is kept for backward-compatibility (and it may get its use back in the future).

parse_mode (`object`, optional):
See the *TelegramClient.parse_mode* property for allowed values. Markdown parsing will be used by default.

formatting_entities (`list`, optional):
A list of message formatting entities. When provided, the `parse_mode` is ignored.

voice_note (`bool`, optional):
If `True` the audio will be sent as a voice note.

video_note (`bool`, optional):
If `True` the video will be sent as a video note, also known as a round video message.

buttons (`list`, *custom.Button*, KeyboardButton):
The matrix (list of lists), row list or button to be shown after sending the message. This parameter will only work if you have signed in as a bot. You can also pass your own ReplyMarkup here.

silent (`bool`, optional):
Whether the message should notify people with sound or not. Defaults to `False` (send with a notification sound unless the person has the chat muted). Set it to `True` to alter this behaviour.

background (`bool`, optional):
> Whether the message should be send in background.

supports_streaming (`bool`, optional):
> Whether the sent video supports streaming or not. Note that Telegram only recognizes as streamable some formats like MP4, and others like AVI or MKV will not work. You should convert these to MP4 before sending if you want them to be streamable. Unsupported formats will result in `VideoContentTypeError`.

schedule (`hints.DateLike`, optional):
> If set, the file won't send immediately, and instead it will be scheduled to be automatically sent at a later time.

comment_to (`int` | *Message*, optional):
> Similar to `reply_to`, but replies in the linked group of a broadcast channel instead (effectively leaving a "comment to" the specified message).
>
> This parameter takes precedence over `reply_to`. If there is no linked chat, `telethon.errors.sgIdInvalidError` is raised.

ttl (`int`. optional):
> The Time-To-Live of the file (also known as "self-destruct timer" or "self-destructing media"). If set, files can only be viewed for a short period of time before they disappear from the message history automatically.
>
> The value must be at least 1 second, and at most 60 seconds, otherwise Telegram will ignore this parameter.
>
> Not all types of media can be used with this parameter, such as text documents, which will fail with `TtlMediaInvalidError`.

nosound_video (`bool`, optional):
> Only applicable when sending a video file without an audio track. If set to `True`, the video will be displayed in Telegram as a video. If set to `False`, Telegram will attempt to display the video as an animated gif. (It may still display as a video due to other factors.) The value is ignored if set on non-video files. This is set to `True` for albums, as gifs cannot be sent in albums.

Returns
> The *Message* (or messages) containing the sent file, or messages if a list of them was passed.

Example

```python
# Normal files like photos
await client.send_file(chat, '/my/photos/me.jpg', caption="It's me!")
# or
await client.send_message(chat, "It's me!", file='/my/photos/me.jpg')

# Voice notes or round videos
await client.send_file(chat, '/my/songs/song.mp3', voice_note=True)
await client.send_file(chat, '/my/videos/video.mp4', video_note=True)

# Custom thumbnails
await client.send_file(chat, '/my/documents/doc.txt', thumb='photo.jpg')

# Only documents
await client.send_file(chat, '/my/photos/photo.png', force_document=True)

# Albums
```

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```python
await client.send_file(chat, [
    '/my/photos/holiday1.jpg',
    '/my/photos/holiday2.jpg',
    '/my/drawings/portrait.png'
])

# Printing upload progress
def callback(current, total):
    print('Uploaded', current, 'out of', total,
          'bytes: {:.2%}'.format(current / total))

await client.send_file(chat, file, progress_callback=callback)

# Dices, including dart and other future emoji
from telethon.tl import types
await client.send_file(chat, types.InputMediaDice(''))
await client.send_file(chat, types.InputMediaDice(''))

# Contacts
await client.send_file(chat, types.InputMediaContact(
    phone_number='+34 123 456 789',
    first_name='Example',
    last_name='',
    vcard=''
))
```

async upload_file(*file: hints.FileLike*, *, *part_size_kb: float = None*, *file_size: int = None*, *file_name: str = None*, *use_cache: type = None*, *key: bytes = None*, *iv: bytes = None*, *progress_callback: hints.ProgressCallback = None*) → types.TypeInputFile

Uploads a file to Telegram's servers, without sending it.

Note: Generally, you want to use *send_file* instead.

This method returns a handle (an instance of InputFile or InputFileBig, as required) which can be later used before it expires (they are usable during less than a day).

Uploading a file will simply return a "handle" to the file stored remotely in the Telegram servers, which can be later used on. This will **not** upload the file to your own chat or any chat at all.

Arguments

file (`str` | `bytes` | `file`):
   The path of the file, byte array, or stream that will be sent. Note that if a byte array or a stream is given, a filename or its type won't be inferred, and it will be sent as an "unnamed application/octet-stream".

part_size_kb (`int`, **optional**):
   Chunk size when uploading files. The larger, the less requests will be made (up to 512KB maximum).

file_size (`int`, **optional**):
   The size of the file to be uploaded, which will be determined automatically if not specified.

If the file size can't be determined beforehand, the entire file will be read in-memory to find out how large it is.

file_name (`str`, optional):
The file name which will be used on the resulting InputFile. If not specified, the name will be taken from the `file` and if this is not a `str`, it will be `"unnamed"`.

use_cache (`type`, optional):
This parameter currently does nothing, but is kept for backward-compatibility (and it may get its use back in the future).

key ('bytes', optional):
In case of an encrypted upload (secret chats) a key is supplied

iv ('bytes', optional):
In case of an encrypted upload (secret chats) an iv is supplied

progress_callback (`callable`, optional):
A callback function accepting two parameters: `(sent bytes, total)`.

When sending an album, the callback will receive a number between 0 and the amount of files as the "sent" parameter, and the amount of files as the "total". Note that the first parameter will be a floating point number to indicate progress within a file (e.g. `2.5` means it has sent 50% of the third file, because it's between 2 and 3).

Returns
InputFileBig if the file size is larger than 10MB, `InputSizedFile` (subclass of InputFile) otherwise.

Example

```python
# Photos as photo and document
file = await client.upload_file('photo.jpg')
await client.send_file(chat, file)                      # sends as photo
await client.send_file(chat, file, force_document=True)  # sends as document

file.name = 'not a photo.jpg'
await client.send_file(chat, file, force_document=True)  # document, new
    name

# As song or as voice note
file = await client.upload_file('song.ogg')
await client.send_file(chat, file)                      # sends as song
await client.send_file(chat, file, voice_note=True)     # sends as voice note
```

class telethon.client.users.`UserMethods`

Bases: `object`

`__annotations__` = {}

async `__call__`(*request*, *ordered=False*, *flood_sleep_threshold=None*)
Call self as a function.

`__weakref__`
list of weak references to the object (if defined)

async `get_entity`(*entity: hints.EntitiesLike*) → hints.Entity | List[hints.Entity]
Turns the given entity into a valid Telegram User, Chat or Channel. You can also pass a list or iterable of entities, and they will be efficiently fetched from the network.

Arguments

entity (`str` | `int` | **Peer** | **InputPeer**):

> If a username is given, **the username will be resolved** making an API call every time. Resolving usernames is an expensive operation and will start hitting flood waits around 50 usernames in a short period of time.
>
> If you want to get the entity for a *cached* username, you should first `get_input_entity(username)` which will use the cache), and then use `get_entity` with the result of the previous call.
>
> Similar limits apply to invite links, and you should use their ID instead.
>
> Using phone numbers (from people in your contact list), exact names, integer IDs or Peer rely on a `get_input_entity` first, which in turn needs the entity to be in cache, unless a InputPeer was passed.
>
> Unsupported types will raise `TypeError`.
>
> If the entity can't be found, `ValueError` will be raised.

Returns

> User, Chat or Channel corresponding to the input entity. A list will be returned if more than one was given.

Example

```python
from telethon import utils

me = await client.get_entity('me')
print(utils.get_display_name(me))

chat = await client.get_input_entity('username')
async for message in client.iter_messages(chat):
    ...

# Note that you could have used the username directly, but it's
# good to use get_input_entity if you will reuse it a lot.
async for message in client.iter_messages('username'):
    ...

# Note that for this to work the phone number must be in your contacts
some_id = await client.get_peer_id('+34123456789')
```

async get_input_entity(*peer: hints.EntityLike*) → types.TypeInputPeer

> Turns the given entity into its input entity version.

Most requests use this kind of InputPeer, so this is the most suitable call to make for those cases. **Generally you should let the library do its job** and don't worry about getting the input entity first, but if you're going to use an entity often, consider making the call:

Arguments

entity (`str` | `int` | **Peer** | **InputPeer**):

> If a username or invite link is given, **the library will use the cache**. This means that it's possible to be using a username that *changed* or an old invite link (this only happens if an invite link for a small group chat is used after it was upgraded to a mega-group).
>
> If the username or ID from the invite link is not found in the cache, it will be fetched. The same rules apply to phone numbers (`'+34 123456789'`) from people in your contact list.

If an exact name is given, it must be in the cache too. This is not reliable as different people can share the same name and which entity is returned is arbitrary, and should be used only for quick tests.

If a positive integer ID is given, the entity will be searched in cached users, chats or channels, without making any call.

If a negative integer ID is given, the entity will be searched exactly as either a chat (prefixed with -) or as a channel (prefixed with -100).

If a Peer is given, it will be searched exactly in the cache as either a user, chat or channel.

If the given object can be turned into an input entity directly, said operation will be done.

Unsupported types will raise TypeError.

If the entity can't be found, ValueError will be raised.

Returns
> InputPeerUser, InputPeerChat or InputPeerChannel or InputPeerSelf if the parameter is 'me' or 'self'.

If you need to get the ID of yourself, you should use *get_me* with input_peer=True) instead.

Example

```
# If you're going to use "username" often in your code
# (make a lot of calls), consider getting its input entity
# once, and then using the "user" everywhere instead.
user = await client.get_input_entity('username')

# The same applies to IDs, chats or channels.
chat = await client.get_input_entity(-123456789)
```

async **get_me**(*input_peer: bool = False*) → Union[types.User, types.InputPeerUser]

Gets "me", the current User who is logged in.

If the user has not logged in yet, this method returns None.

Arguments

> **input_peer (bool, optional):**
> > Whether to return the InputPeerUser version or the normal User. This can be useful if you just need to know the ID of yourself.

Returns
> Your own User.

Example

```
me = await client.get_me()
print(me.username)
```

async **get_peer_id**(*peer: hints.EntityLike, add_mark: bool = True*) → int

Gets the ID for the given entity.

This method needs to be async because peer supports usernames, invite-links, phone numbers (from people in your contact list), etc.

If add_mark is False, then a positive ID will be returned instead. By default, bot-API style IDs (signed) are returned.

Example

```
print(await client.get_peer_id('me'))
```

async is_bot() → bool

Return True if the signed-in user is a bot, False otherwise.

Example

```
if await client.is_bot():
    print('Beep')
else:
    print('Hello')
```

async is_user_authorized() → bool

Returns True if the user is authorized (logged in).

Example

```
if not await client.is_user_authorized():
    await client.send_code_request(phone)
    code = input('enter code: ')
    await client.sign_in(phone, code)
```

2.35 Update Events

Every event (builder) subclasses *common.EventBuilder*, so all the methods in it can be used from any event builder/event instance.

class telethon.events.common.**EventBuilder**(*chats=None, *, blacklist_chats=False, func=None*)

Bases: ABC

The common event builder, with builtin support to filter per chat.

Args:

> **chats (entity, optional):**
> > May be one or more entities (username/peer/etc.), preferably IDs. By default, only matching chats will be handled.
>
> **blacklist_chats (bool, optional):**
> > Whether to treat the chats as a blacklist instead of as a whitelist (default). This means that every chat will be handled *except* those specified in chats which will be ignored if blacklist_chats=True.
>
> **func (callable, optional):**
> > A callable (async or not) function that should accept the event as input parameter, and return a value indicating whether the event should be dispatched or not (any truthy value will do, it does not need to be a bool). It works like a custom filter:
> >
> > ```
> > @client.on(events.NewMessage(func=lambda e: e.is_private))
> > async def handler(event):
> >     pass  # code here
> > ```

__annotations__ = {}

__weakref__

list of weak references to the object (if defined)

abstract classmethod build(*update*, *others=None*, *self_id=None*)

Builds an event for the given update if possible, or returns None.

`others` are the rest of updates that came in the same container as the current `update`.

`self_id` should be the current user's ID, since it is required for some events which lack this information but still need it.

filter(*event*)

Returns a truthy value if the event passed the filter and should be used, or falsy otherwise. The return value may need to be awaited.

The events must have been resolved before this can be called.

async resolve(*client*)

Helper method to allow event builders to be resolved before usage

class telethon.events.common.**EventCommon**(*chat_peer=None*, *msg_id=None*, *broadcast=None*)

Bases: *ChatGetter*, *ABC*

Intermediate class with common things to all events.

Remember that this class implements *ChatGetter* which means you have access to all chat properties and methods.

In addition, you can access the `original_update` field which contains the original Update.

__annotations__ = {}

__str__()

Return str(self).

property client

The `telethon.TelegramClient` that created this event.

stringify()

to_dict()

telethon.events.common.**name_inner_event**(*cls*)

Decorator to rename cls.Event 'Event' as 'cls.Event'

class telethon.events.newmessage.**NewMessage**(*chats=None*, ***, *blacklist_chats=False*, *func=None*, *incoming=None*, *outgoing=None*, *from_users=None*, *forwards=None*, *pattern=None*)

Bases: *EventBuilder*

Occurs whenever a new text message or a message with media arrives.

Args:

incoming (bool, optional):
    If set to True, only **incoming** messages will be handled. Mutually exclusive with `outgoing` (can only set one of either).

outgoing (bool, optional):
    If set to True, only **outgoing** messages will be handled. Mutually exclusive with `incoming` (can only set one of either).

from_users (`entity`, optional):
Unlike `chats`, this parameter filters the *senders* of the message. That is, only messages *sent by these users* will be handled. Use `chats` if you want private messages with this/these users. `from_users` lets you filter by messages sent by *one or more* users across the desired chats (doesn't need a list).

forwards (`bool`, optional):
Whether forwarded messages should be handled or not. By default, both forwarded and normal messages are included. If it's `True` *only* forwards will be handled. If it's `False` only messages that are *not* forwards will be handled.

pattern (`str`, `callable`, `Pattern`, optional):
If set, only messages matching this pattern will be handled. You can specify a regex-like string which will be matched against the message, a callable function that returns `True` if a message is acceptable, or a compiled regex pattern.

Example

```python
import asyncio
from telethon import events

@client.on(events.NewMessage(pattern='(?i)hello.+'))
async def handler(event):
    # Respond whenever someone says "Hello" and something else
    await event.reply('Hey!')

@client.on(events.NewMessage(outgoing=True, pattern='!ping'))
async def handler(event):
    # Say "!pong" whenever you send "!ping", then delete both messages
    m = await event.respond('!pong')
    await asyncio.sleep(5)
    await client.delete_messages(event.chat_id, [event.id, m.id])
```

class `Event`(*message*)

Bases: *EventCommon*

Represents the event of a new message. This event can be treated to all effects as a *Message*, so please **refer to its documentation** to know what you can do with this event.

Members:

message (*Message*):
This is the only difference with the received *Message*, and will return the *telethon.tl.custom.message.Message* itself, not the text.

See *Message* for the rest of available members and methods.

pattern_match (`obj`):
The resulting object from calling the passed `pattern` function. Here's an example using a string (defaults to regex match):

```python
>>> from telethon import TelegramClient, events
>>> client = TelegramClient(...)
>>>
>>> @client.on(events.NewMessage(pattern=r'hi (\w+)!'))
... async def handler(event):
...     # In this case, the result is a ``Match`` object
...     # since the `str` pattern was converted into
```

(continues on next page)

```
...        # the ``re.compile(pattern).match`` function.
...        print('Welcomed', event.pattern_match.group(1))
...
>>>
```

__annotations__ = {}

__getattr__(*item*)

__setattr__(*name*, *value*)

Implement setattr(self, name, value).

__annotations__ = {}

classmethod build(*update*, *others=None*, *self_id=None*)

Builds an event for the given update if possible, or returns None.

`others` are the rest of updates that came in the same container as the current `update`.

`self_id` should be the current user's ID, since it is required for some events which lack this information but still need it.

filter(*event*)

Returns a truthy value if the event passed the filter and should be used, or falsy otherwise. The return value may need to be awaited.

The events must have been resolved before this can be called.

class telethon.events.chataction.**ChatAction**(*chats=None*, *, *blacklist_chats=False*, *func=None*)

Bases: *EventBuilder*

Occurs on certain chat actions:

- Whenever a new chat is created.
- Whenever a chat's title or photo is changed or removed.
- Whenever a new message is pinned.
- Whenever a user scores in a game.
- Whenever a user joins or is added to the group.
- Whenever a user is removed or leaves a group if it has less than 50 members or the removed user was a bot.

Note that "chat" refers to "small group, megagroup and broadcast channel", whereas "group" refers to "small group and megagroup" only.

Example

```python
from telethon import events

@client.on(events.ChatAction)
async def handler(event):
    # Welcome every new user
    if event.user_joined:
        await event.reply('Welcome to the group!')
```

class **Event**(*where*, *new_photo=None*, *added_by=None*, *kicked_by=None*, *created=None*, *users=None*, *new_title=None*, *pin_ids=None*, *pin=None*, *new_score=None*)

>   Bases: *EventCommon*

>   Represents the event of a new chat action.

>   **Members:**

>   > **action_message (MessageAction):**
>   >   The message invoked by this Chat Action.

>   > **new_pin (bool):**
>   >   True if there is a new pin.

>   > **new_photo (bool):**
>   >   True if there's a new chat photo (or it was removed).

>   > **photo (Photo, optional):**
>   >   The new photo (or None if it was removed).

>   > **user_added (bool):**
>   >   True if the user was added by some other.

>   > **user_joined (bool):**
>   >   True if the user joined on their own.

>   > **user_left (bool):**
>   >   True if the user left on their own.

>   > **user_kicked (bool):**
>   >   True if the user was kicked by some other.

>   > **created (bool, optional):**
>   >   True if this chat was just created.

>   > **new_title (str, optional):**
>   >   The new title string for the chat, if applicable.

>   > **new_score (str, optional):**
>   >   The new score string for the game, if applicable.

>   > **unpin (bool):**
>   >   True if the existing pin gets unpinned.

>   **__annotations__ = {}**

>   **property added_by**

>   > The user who added `users`, if applicable (None otherwise).

>   **async delete**(**args*, ***kwargs*)

>   > Deletes the chat action message. You're responsible for checking whether you have the permission to do so, or to except the error otherwise. Shorthand for *telethon.client.messages.MessageMethods.delete_messages* with `entity` and `message_ids` already set.

>   > Does nothing if no message action triggered this event.

>   **async get_added_by**()

>   > Returns *added_by* but will make an API call if necessary.

>   **async get_input_user**()

>   > Returns *input_user* but will make an API call if necessary.

async get_input_users()

> Returns *input_users* but will make an API call if necessary.

async get_kicked_by()

> Returns *kicked_by* but will make an API call if necessary.

async get_pinned_message()

> If new_pin is True, this returns the *Message* object that was pinned.

async get_pinned_messages()

> If new_pin is True, this returns a list of *Message* objects that were pinned.

async get_user()

> Returns *user* but will make an API call if necessary.

async get_users()

> Returns *users* but will make an API call if necessary.

property input_user

> Input version of the self.user property.

property input_users

> Input version of the self.users property.

property kicked_by

> The user who kicked users, if applicable (None otherwise).

async reply(*args, **kwargs*)

> Replies to the chat action message (as a reply). Shorthand for *telethon.client.messages.MessageMethods.send_message* with both entity and reply_to already set.
>
> Has the same effect as *respond* if there is no message.

async respond(*args, **kwargs*)

> Responds to the chat action message (not as a reply). Shorthand for *telethon.client.messages.MessageMethods.send_message* with entity already set.

property user

> The first user that takes part in this action. For example, who joined.
>
> Might be None if the information can't be retrieved or there is no user taking part.

property user_id

> Returns the marked signed ID of the first user, if any.

property user_ids

> Returns the marked signed ID of the users, if any.

property users

> A list of users that take part in this action. For example, who joined.
>
> Might be empty if the information can't be retrieved or there are no users taking part.

__annotations__ = {}

classmethod build(*update*, *others=None*, *self_id=None*)

> Builds an event for the given update if possible, or returns None.
>
> others are the rest of updates that came in the same container as the current update.

`self_id` should be the current user's ID, since it is required for some events which lack this information but still need it.

class telethon.events.userupdate.**UserUpdate**(*chats=None*, ***, *blacklist_chats=False*, *func=None*)

Bases: *EventBuilder*

Occurs whenever a user goes online, starts typing, etc.

Example

```python
from telethon import events

@client.on(events.UserUpdate)
async def handler(event):
    # If someone is uploading, say something
    if event.uploading:
        await client.send_message(event.user_id, 'What are you sending?')
```

class Event(*peer*, ***, *status=None*, *chat_peer=None*, *typing=None*)

Bases: *EventCommon*, *SenderGetter*

Represents the event of a user update such as gone online, started typing, etc.

Members:

status (UserStatus, optional):
The user status if the update is about going online or offline.

You should check this attribute first before checking any of the seen within properties, since they will all be None if the status is not set.

action (SendMessageAction, optional):
The "typing" action if any the user is performing if any.

You should check this attribute first before checking any of the typing properties, since they will all be None if the action is not set.

__annotations__ = {}

property audio
True if what's being recorded/uploaded is an audio.

property cancel
True if the action was cancelling other actions.

property contact
True if what's being uploaded (selected) is a contact.

property document
True if what's being uploaded is document.

property geo
True if what's being uploaded is a geo.

async get_input_user()
Alias for *get_input_sender*.

async get_user()
Alias for *get_sender*.

> **property input_user**
>> Alias for *input_sender*.
>
> **property last_seen**
>> Exact `datetime.datetime` when the user was last seen if known.
>
> **property online**
>> `True` if the user is currently online,
>
> **property photo**
>> `True` if what's being uploaded is a photo.
>
> **property playing**
>> `True` if the action is playing a game.
>
> **property recently**
>> `True` if the user was seen within a day.
>
> **property recording**
>> `True` if the action is recording something.
>
> **property round**
>> `True` if what's being recorded/uploaded is a round video.
>
> **property sticker**
>> `True` if what's being uploaded is a sticker.
>
> **property typing**
>> `True` if the action is typing a message.
>
> **property until**
>> The `datetime.datetime` until when the user should appear online.
>
> **property uploading**
>> `True` if the action is uploading something.
>
> **property user**
>> Alias for *sender*.
>
> **property user_id**
>> Alias for *sender_id*.
>
> **property video**
>> `True` if what's being recorded/uploaded is an video.
>
> **property within_months**
>> `True` if the user was seen within 30 days.
>
> **property within_weeks**
>> `True` if the user was seen within 7 days.

__annotations__ = {}

classmethod build(*update*, *others=None*, *self_id=None*)

> Builds an event for the given update if possible, or returns None.
>
> `others` are the rest of updates that came in the same container as the current `update`.
>
> `self_id` should be the current user's ID, since it is required for some events which lack this information but still need it.

class `telethon.events.messageedited.`**`MessageEdited`**(*chats=None*, ***, *blacklist_chats=False*, *func=None*,
incoming=None, *outgoing=None*,
from_users=None, *forwards=None*, *pattern=None*)

Bases: *NewMessage*

Occurs whenever a message is edited. Just like *NewMessage*, you should treat this event as a *Message*.

> **Warning:** On channels, *Message.out* will be `True` if you sent the message originally, **not if you edited it**! This can be dangerous if you run outgoing commands on edits.
>
> Some examples follow:
>
> - You send a message "A", `out is True`.
>
> - You edit "A" to "B", `out is True`.
>
> - Someone else edits "B" to "C", `out is True` (**be careful!**).
>
> - Someone sends "X", `out is False`.
>
> - Someone edits "X" to "Y", `out is False`.
>
> - You edit "Y" to "Z", `out is False`.
>
> Since there are useful cases where you need the right `out` value, the library cannot do anything automatically to help you. Instead, consider using `from_users='me'` (it won't work in broadcast channels at all since the sender is the channel and not you).

Example

```
from telethon import events

@client.on(events.MessageEdited)
async def handler(event):
    # Log the date of new edits
    print('Message', event.id, 'changed at', event.date)
```

class **`Event`**(*message*)

Bases: *Event*

`__annotations__` = {}

`__annotations__` = {}

classmethod **`build`**(*update*, *others=None*, *self_id=None*)

Builds an event for the given update if possible, or returns None.

`others` are the rest of updates that came in the same container as the current `update`.

`self_id` should be the current user's ID, since it is required for some events which lack this information but still need it.

class `telethon.events.messagedeleted.`**`MessageDeleted`**(*chats=None*, ***, *blacklist_chats=False*,
func=None)

Bases: *EventBuilder*

Occurs whenever a message is deleted. Note that this event isn't 100% reliable, since Telegram doesn't always notify the clients that a message was deleted.

Important: Telegram **does not** send information about *where* a message was deleted if it occurs in private conversations with other users or in small group chats, because message IDs are *unique* and you can identify the chat with the message ID alone if you saved it previously.

Telethon **does not** save information of where messages occur, so it cannot know in which chat a message was deleted (this will only work in channels, where the channel ID *is* present).

This means that the `chats=` parameter will not work reliably, unless you intend on working with channels and super-groups only.

Example

```python
from telethon import events

@client.on(events.MessageDeleted)
async def handler(event):
    # Log all deleted message IDs
    for msg_id in event.deleted_ids:
        print('Message', msg_id, 'was deleted in', event.chat_id)
```

class Event(*deleted_ids*, *peer*)

> Bases: *EventCommon*
>
> **__annotations__ = {}**

__annotations__ = {}

classmethod build(*update*, *others=None*, *self_id=None*)

> Builds an event for the given update if possible, or returns None.
>
> `others` are the rest of updates that came in the same container as the current `update`.
>
> `self_id` should be the current user's ID, since it is required for some events which lack this information but still need it.

class telethon.events.messageread.**MessageRead**(*chats=None*, *, *blacklist_chats=False*, *func=None*, *inbox=False*)

Bases: *EventBuilder*

Occurs whenever one or more messages are read in a chat.

Args:

> **inbox (bool, optional):**
> > If this argument is `True`, then when you read someone else's messages the event will be fired. By default (`False`) only when messages you sent are read by someone else will fire it.

Example

```python
from telethon import events

@client.on(events.MessageRead)
async def handler(event):
    # Log when someone reads your messages
    print('Someone has read all your messages until', event.max_id)
```

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```python
@client.on(events.MessageRead(inbox=True))
async def handler(event):
    # Log when you read message in a chat (from your "inbox")
    print('You have read messages until', event.max_id)
```

class Event(*peer=None*, *max_id=None*, *out=False*, *contents=False*, *message_ids=None*)

Bases: *EventCommon*

Represents the event of one or more messages being read.

Members:

> **max_id** (**int**):
> Up to which message ID has been read. Every message with an ID equal or lower to it have been read.
>
> **outbox** (**bool**):
> True if someone else has read your messages.
>
> **contents** (**bool**):
> True if what was read were the contents of a message. This will be the case when e.g. you play a voice note. It may only be set on `inbox` events.

__annotations__ = {}

__contains__(*message*)

> True if the message(s) are read message.

async get_messages()

> Returns the list of *Message* **which contents'** were read.
>
> Use *is_read()* if you need to check whether a message was read instead checking if it's in here.

property inbox

> True if you have read someone else's messages.

is_read(*message*)

> Returns True if the given message (or its ID) has been read.
>
> If a list-like argument is provided, this method will return a list of booleans indicating which messages have been read.

property message_ids

> The IDs of the messages **which contents'** were read.
>
> Use *is_read()* if you need to check whether a message was read instead checking if it's in here.

__annotations__ = {}

classmethod build(*update*, *others=None*, *self_id=None*)

Builds an event for the given update if possible, or returns None.

`others` are the rest of updates that came in the same container as the current `update`.

`self_id` should be the current user's ID, since it is required for some events which lack this information but still need it.

filter(*event*)

> Returns a truthy value if the event passed the filter and should be used, or falsy otherwise. The return value may need to be awaited.
>
> The events must have been resolved before this can be called.

class telethon.events.callbackquery.**CallbackQuery**(*chats=None*, *, *blacklist_chats=False*, *func=None*, *data=None*, *pattern=None*)

> Bases: *EventBuilder*
>
> Occurs whenever you sign in as a bot and a user clicks one of the inline buttons on your messages.
>
> Note that the `chats` parameter will **not** work with normal IDs or peers if the clicked inline button comes from a "via bot" message. The `chats` parameter also supports checking against the `chat_instance` which should be used for inline callbacks.
>
> **Args:**
>
>> **data (bytes, str, callable, optional):**
>>> If set, the inline button payload data must match this data. A UTF-8 string can also be given, a regex or a callable. For instance, to check against `'data_1'` and `'data_2'` you can use `re. compile(b'data_')`.
>>
>> **pattern (bytes, str, callable, Pattern, optional):**
>>> If set, only buttons with payload matching this pattern will be handled. You can specify a regex-like string which will be matched against the payload data, a callable function that returns True if a the payload data is acceptable, or a compiled regex pattern.
>
> **Example**
>
> ```python
> from telethon import events, Button
>
> # Handle all callback queries and check data inside the handler
> @client.on(events.CallbackQuery)
> async def handler(event):
>     if event.data == b'yes':
>         await event.answer('Correct answer!')
>
> # Handle only callback queries with data being b'no'
> @client.on(events.CallbackQuery(data=b'no'))
> async def handler(event):
>     # Pop-up message with alert
>     await event.answer('Wrong answer!', alert=True)
>
> # Send a message with buttons users can click
> async def main():
>     await client.send_message(user, 'Yes or no?', buttons=[
>         Button.inline('Yes!', b'yes'),
>         Button.inline('Nope', b'no')
>     ])
> ```
>
> **class Event**(*query*, *peer*, *msg_id*)
>
>> Bases: *EventCommon*, *SenderGetter*
>>
>> Represents the event of a new callback query.
>>
>> **Members:**

query (**UpdateBotCallbackQuery**):
> The original UpdateBotCallbackQuery.

data_match (**obj**, **optional**):
> The object returned by the `data=` parameter when creating the event builder, if any. Similar to `pattern_match` for the new message event.

pattern_match (**obj**, **optional**):
> Alias for `data_match`.

__annotations__ = {}

async answer(*message=None*, *cache_time=0*, ***, *url=None*, *alert=False*)

> Answers the callback query (and stops the loading circle).
> **Args:**
> > **message** (**str**, **optional**):
> > > The toast message to show feedback to the user.
> >
> > **cache_time** (**int**, **optional**):
> > > For how long this result should be cached on the user's client. Defaults to 0 for no cache.
> >
> > **url** (**str**, **optional**):
> > > The URL to be opened in the user's client. Note that the only valid URLs are those of games your bot has, or alternatively a 't.me/your_bot?start=xyz' parameter.
> >
> > **alert** (**bool**, **optional**):
> > > Whether an alert (a pop-up dialog) should be used instead of showing a toast. Defaults to `False`.

property chat_instance

> Unique identifier for the chat where the callback occurred. Useful for high scores in games.

property data

> Returns the data payload from the original inline button.

async delete(**args*, ***kwargs*)

> Deletes the message. Shorthand for `telethon.client.messages.MessageMethods.delete_messages` with `entity` and `message_ids` already set.

> If you need to delete more than one message at once, don't use this `delete` method. Use a `telethon.client.telegramclient.TelegramClient` instance directly.

> This method also creates a task to `answer` the callback.

> This method will likely fail if `via_inline` is `True`.

async edit(**args*, ***kwargs*)

> Edits the message. Shorthand for `telethon.client.messages.MessageMethods.edit_message` with the `entity` set to the correct InputBotInlineMessageID or InputBotInlineMessageID64.

> Returns `True` if the edit was successful.

> This method also creates a task to `answer` the callback.

> **Note:** This method won't respect the previous message unlike `Message.edit`, since the message object is normally not present.

---

async get_message()

> Returns the message to which the clicked inline button belongs.

property id

Returns the query ID. The user clicking the inline button is the one who generated this random ID.

property message_id

Returns the message ID to which the clicked inline button belongs.

async reply(**args*, ***kwargs*)

Replies to the message (as a reply). Shorthand for `telethon.client.messages.`
`MessageMethods.send_message` with both `entity` and `reply_to` already set.

This method also creates a task to *answer* the callback.

This method will likely fail if *via_inline* is `True`.

async respond(**args*, ***kwargs*)

Responds to the message (not as a reply). Shorthand for `telethon.client.messages.`
`MessageMethods.send_message` with `entity` already set.

This method also creates a task to *answer* the callback.

This method will likely fail if *via_inline* is `True`.

property via_inline

Whether this callback was generated from an inline button sent via an inline query or not. If the bot sent the message itself with buttons, and one of those is clicked, this will be `False`. If a user sent the message coming from an inline query to the bot, and one of those is clicked, this will be `True`.

If it's `True`, it's likely that the bot is **not** in the chat, so methods like *respond* or *delete* won't work (but *edit* will always work).

__annotations__ = {}

classmethod build(*update*, *others=None*, *self_id=None*)

Builds an event for the given update if possible, or returns None.

`others` are the rest of updates that came in the same container as the current `update`.

`self_id` should be the current user's ID, since it is required for some events which lack this information but still need it.

filter(*event*)

Returns a truthy value if the event passed the filter and should be used, or falsy otherwise. The return value may need to be awaited.

The events must have been resolved before this can be called.

class telethon.events.inlinequery.**InlineQuery**(*users=None*, ***, *blacklist_users=False*, *func=None*, *pattern=None*)

Bases: *EventBuilder*

Occurs whenever you sign in as a bot and a user sends an inline query such as @bot query.

Args:

users (`entity`, optional):
May be one or more entities (username/peer/etc.), preferably IDs. By default, only inline queries from these users will be handled.

blacklist_users (`bool`, optional):
Whether to treat the users as a blacklist instead of as a whitelist (default). This means that every chat will be handled *except* those specified in `users` which will be ignored if `blacklist_users=True`.

pattern (`str`, `callable`, `Pattern`, optional):
> If set, only queries matching this pattern will be handled. You can specify a regex-like string which will be matched against the message, a callable function that returns `True` if a message is acceptable, or a compiled regex pattern.

Example

```python
from telethon import events


@client.on(events.InlineQuery)
async def handler(event):
    builder = event.builder

    # Two options (convert user text to UPPERCASE or lowercase)
    await event.answer([
        builder.article('UPPERCASE', text=event.text.upper()),
        builder.article('lowercase', text=event.text.lower()),
    ])
```

class `Event`(*query*)

> Bases: *EventCommon*, *SenderGetter*

> Represents the event of a new callback query.

> **Members:**

>> **query ([UpdateBotInlineQuery](#)):**
>>> The original UpdateBotInlineQuery.

>>> Make sure to access the `text` property of the query if you want the text rather than the actual query object.

>> **pattern_match (`obj`, optional):**
>>> The resulting object from calling the passed `pattern` function, which is `re.compile(...)`. `match` by default.

> **`__annotations__` = {}**

> **async `answer`**(*results=None*, *cache_time=0*, ***, *gallery=False*, *next_offset=None*, *private=False*, *switch_pm=None*, *switch_pm_param=''*)

>> Answers the inline query with the given results.

>> See the documentation for *builder* to know what kind of answers can be given.

>> **Args:**
>>> **results (`list`, optional):**
>>>> A list of [InputBotInlineResult](#) to use. You should use *builder* to create these:

>>>> ```python
>>>> builder = inline.builder
>>>> r1 = builder.article('Be nice', text='Have a nice day')
>>>> r2 = builder.article('Be bad', text="I don't like you")
>>>> await inline.answer([r1, r2])
>>>> ```

>>>> You can send up to 50 results as documented in https://core.telegram.org/bots/api#answerinlinequery. Sending more will raise `ResultsTooMuchError`, and you should consider using `next_offset` to paginate them.

>>> **cache_time (`int`, optional):**
>>>> For how long this result should be cached on the user's client. Defaults to 0 for no cache.

> **gallery (`bool`, optional):**
>   Whether the results should show as a gallery (grid) or not.
> **next_offset (`str`, optional):**
>   The offset the client will send when the user scrolls the results and it repeats the request.
> **private (`bool`, optional):**
>   Whether the results should be cached by Telegram (not private) or by the user's client (private).
> **switch_pm (`str`, optional):**
>   If set, this text will be shown in the results to allow the user to switch to private messages.
> **switch_pm_param (`str`, optional):**
>   Optional parameter to start the bot with if `switch_pm` was used.

Example:

```python
@bot.on(events.InlineQuery)
async def handler(event):
    builder = event.builder

    rev_text = event.text[::-1]
    await event.answer([
        builder.article('Reverse text', text=rev_text),
        builder.photo('/path/to/photo.jpg')
    ])
```

property builder

Returns a new *InlineBuilder* instance.

property geo

If the user location is requested when using inline mode and the user's device is able to send it, this will return the GeoPoint with the position of the user.

property id

Returns the unique identifier for the query ID.

property offset

The string the user's client used as an offset for the query. This will either be empty or equal to offsets passed to *answer*.

property text

Returns the text the user used to make the inline query.

__annotations__ = {}

classmethod build(*update*, *others=None*, *self_id=None*)

Builds an event for the given update if possible, or returns None.

`others` are the rest of updates that came in the same container as the current `update`.

`self_id` should be the current user's ID, since it is required for some events which lack this information but still need it.

filter(*event*)

Returns a truthy value if the event passed the filter and should be used, or falsy otherwise. The return value may need to be awaited.

The events must have been resolved before this can be called.

class telethon.events.album.**Album**(*chats=None*, ***, *blacklist_chats=False*, *func=None*)

Bases: *EventBuilder*

Occurs whenever you receive an album. This event only exists to ease dealing with an unknown amount of messages that belong to the same album.

Example

```python
from telethon import events

@client.on(events.Album)
async def handler(event):
    # Counting how many photos or videos the album has
    print('Got an album with', len(event), 'items')

    # Forwarding the album as a whole to some chat
    event.forward_to(chat)

    # Printing the caption
    print(event.text)

    # Replying to the fifth item in the album
    await event.messages[4].reply('Cool!')
```

class Event(*messages*)

Bases: *EventCommon*, *SenderGetter*

Represents the event of a new album.

Members:

messages (Sequence[*Message*]):
The list of messages belonging to the same album.

__annotations__ = {}

__getitem__(*n*)

Access the n'th message in the album.

Equivalent to event.messages[n].

__iter__()

Iterate over the messages in the album.

Equivalent to iter(self.messages).

__len__()

Return the amount of messages in the album.

Equivalent to len(self.messages).

async delete(**args*, ***kwargs*)

Deletes the entire album. You're responsible for checking whether you have the permission to do so, or to except the error otherwise. Shorthand for *telethon.client.messages.MessageMethods.delete_messages* with entity and message_ids already set.

async edit(**args*, ***kwargs*)

Edits the first caption or the message, or the first messages' caption if no caption is set, iff it's outgoing. Shorthand for *telethon.client.messages.MessageMethods.edit_message* with both entity and message already set.

Returns None if the message was incoming, or the edited Message otherwise.

Note: This is different from `client.edit_message` and **will respect** the previous state of the message. For example, if the message didn't have a link preview, the edit won't add one by default, and you should force it by setting it to `True` if you want it.

This is generally the most desired and convenient behaviour, and will work for link previews and message buttons.

---

property forward

The *Forward* information for the first message in the album if it was forwarded.

async forward_to(**args*, ***kwargs*)

Forwards the entire album. Shorthand for `telethon.client.messages.MessageMethods.forward_messages` with both `messages` and `from_peer` already set.

async get_reply_message()

The *Message* that this album is replying to, or `None`.

The result will be cached after its first use.

property grouped_id

The shared `grouped_id` between all the messages.

property is_reply

`True` if the album is a reply to some other message.

Remember that you can access the ID of the message this one is replying to through `reply_to_msg_id`, and the `Message` object with *get_reply_message()*.

async mark_read()

Marks the entire album as read. Shorthand for `client.send_read_acknowledge()` with both `entity` and `message` already set.

async pin(***, *notify=False*)

Pins the first photo in the album. Shorthand for `telethon.client.messages.MessageMethods.pin_message` with both `entity` and `message` already set.

property raw_text

The raw message text of the first photo with a caption, ignoring any formatting.

async reply(**args*, ***kwargs*)

Replies to the first photo in the album (as a reply). Shorthand for `telethon.client.messages.MessageMethods.send_message` with both `entity` and `reply_to` already set.

async respond(**args*, ***kwargs*)

Responds to the album (not as a reply). Shorthand for `telethon.client.messages.MessageMethods.send_message` with `entity` already set.

property text

The message text of the first photo with a caption, formatted using the client's default parse mode.

__annotations__ = {}

classmethod build(*update*, *others=None*, *self_id=None*)

Builds an event for the given update if possible, or returns None.

`others` are the rest of updates that came in the same container as the current `update`.

`self_id` should be the current user's ID, since it is required for some events which lack this information but still need it.

---

filter(*event*)

>   Returns a truthy value if the event passed the filter and should be used, or falsy otherwise. The return value may need to be awaited.

>   The events must have been resolved before this can be called.

class `telethon.events.album.`**AlbumHack**(*client*, *event*)

>   Bases: `object`

>   When receiving an album from a different data-center, they will come in separate `Updates`, so we need to temporarily remember them for a while and only after produce the event.

>   Of course events are not designed for this kind of wizardy, so this is a dirty hack that gets the job done.

>   When cleaning up the code base we may want to figure out a better way to do this, or just leave the album problem to the users; the update handling code is bad enough as it is.

>   **__weakref__**

>>   list of weak references to the object (if defined)

>   **async deliver_event**()

>   **extend**(*messages*)

class `telethon.events.raw.`**Raw**(*types=None*, ***, *func=None*)

>   Bases: *EventBuilder*

>   Raw events are not actual events. Instead, they are the raw Update object that Telegram sends. You normally shouldn't need these.

>   **Args:**

>>   **types** (`list` | `tuple` | `type`, **optional**):
>>   The type or types that the Update instance must be. Equivalent to `if not isinstance(update, types):   return`.

>   **Example**

```python
from telethon import events

@client.on(events.Raw)
async def handler(update):
    # Print all incoming updates
    print(update.stringify())
```

>   **__annotations__ = {}**

>   **classmethod build**(*update*, *others=None*, *self_id=None*)

>>   Builds an event for the given update if possible, or returns None.

>>   `others` are the rest of updates that came in the same container as the current `update`.

>>   `self_id` should be the current user's ID, since it is required for some events which lack this information but still need it.

>   **filter**(*event*)

>>   Returns a truthy value if the event passed the filter and should be used, or falsy otherwise. The return value may need to be awaited.

>>   The events must have been resolved before this can be called.

async resolve(*client*)

> Helper method to allow event builders to be resolved before usage

exception `telethon.events.`**StopPropagation**

> Bases: `Exception`
>
> If this exception is raised in any of the handlers for a given event, it will stop the execution of all other registered event handlers. It can be seen as the `StopIteration` in a for loop but for events.
>
> Example usage:

```
>>> from telethon import TelegramClient, events
>>> client = TelegramClient(...)
>>>
>>> @client.on(events.NewMessage)
... async def delete(event):
...     await event.delete()
...     # No other event handler will have a chance to handle this event
...     raise StopPropagation
...
>>> @client.on(events.NewMessage)
... async def _(event):
...     # Will never be reached, because it is the second handler
...     pass
```

> **__weakref__**
>
> > list of weak references to the object (if defined)

`telethon.events.`**is_handler**(*callback*)

> Returns `True` if the given callback is an event handler (i.e. you used *register* on it).

`telethon.events.`**list**(*callback*)

> Returns a list containing the registered event builders inside the specified callback handler.

`telethon.events.`**register**(*event=None*)

> Decorator method to *register* event handlers. This is the client-less *add_event_handler()* variant.
>
> Note that this method only registers callbacks as handlers, and does not attach them to any client. This is useful for external modules that don't have access to the client, but still want to define themselves as a handler. Example:

```
>>> from telethon import events
>>> @events.register(events.NewMessage)
... async def handler(event):
...     ...
...
>>> # (somewhere else)
...
>>> from telethon import TelegramClient
>>> client = TelegramClient(...)
>>> client.add_event_handler(handler)
```

> Remember that you can use this as a non-decorator through `register(event)(callback)`.
>
> **Args:**
>
> > **event (_EventBuilder | type):**
> >
> > > The event builder class or instance to be used, for instance `events.NewMessage`.

telethon.events.**unregister**(*callback*, *event=None*)

> Inverse operation of *register* (though not a decorator). Client-less *remove_event_handler* variant. **Note that this won't remove handlers from the client**, because it simply can't, so you would generally use this before adding the handlers to the client.
>
> This method is here for symmetry. You will rarely need to unregister events, since you can simply just not add them to any client.
>
> If no event is given, all events for this callback are removed. Returns how many callbacks were removed.

2.36 Custom package

The `telethon.tl.custom` package contains custom classes that the library uses in order to make working with Telegram easier. Only those that you are supposed to use will be documented here. You can use undocumented ones at your own risk.

More often than not, you don't need to import these (unless you want type hinting), nor do you need to manually create instances of these classes. They are returned by client methods.

Contents

- *Custom package*
    - *AdminLogEvent*
    - *Button*
    - *ChatGetter*
    - *Conversation*
    - *Dialog*
    - *Draft*
    - *File*
    - *Forward*
    - *InlineBuilder*
    - *InlineResult*
    - *InlineResults*
    - *Message*
    - *MessageButton*
    - *ParticipantPermissions*
    - *QRLogin*
    - *SenderGetter*

2.36.1 AdminLogEvent

class telethon.tl.custom.adminlogevent.**AdminLogEvent**(*original*, *entities*)

> Bases: object
>
> Represents a more friendly interface for admin log events.
>
> **Members:**
>
> > **original (ChannelAdminLogEvent):**
> > The original ChannelAdminLogEvent.
> >
> > **entities (dict):**
> > A dictionary mapping user IDs to User.
> >
> > When *old* and *new* are ChannelParticipant, you can use this dictionary to map the user_id, kicked_by, inviter_id and promoted_by IDs to their User.
> >
> > **user (User):**
> > The user that caused this action (entities[original.user_id]).
> >
> > **input_user (InputPeerUser):**
> > Input variant of user.
>
> **__str__**()
> > Return str(self).
>
> **__weakref__**
> > list of weak references to the object (if defined)
>
> **property action**
> > The original ChannelAdminLogEventAction.
>
> **property changed_about**
> > Whether the channel's about was changed or not.
> >
> > If True, *old* and *new* will be present as str.
>
> **property changed_admin**
> > Whether the permissions for an admin in this channel changed or not.
> >
> > If True, *old* and *new* will be present as ChannelParticipant.
>
> **property changed_call_settings**
> > Whether the group call settings were changed or not.
> >
> > If True, *new* will be True if new users are muted on join.
>
> **property changed_default_banned_rights**
> > Whether the default banned rights were changed or not.
> >
> > If True, *old* and *new* will be present as ChatBannedRights.
>
> **property changed_hide_history**
> > Whether hiding the previous message history for new members in the channel was toggled or not.
> >
> > If True, *old* and *new* will be present as bool.

property changed_history_ttl

Whether the Time To Live of the message history has changed.

Messages sent after this change will have a `ttl_period` in seconds indicating how long they should live for before being auto-deleted.

If *True*, *old* will be the old TTL, and *new* the new TTL, in seconds.

property changed_invites

Whether the invites in the channel were toggled or not.

If *True*, *old* and *new* will be present as *bool*.

property changed_location

Whether the location setting of the channel has changed or not.

If *True*, *old* and *new* will be present as ChannelLocation.

property changed_message

Whether a message in this channel was edited or not.

If *True*, *old* and *new* will be present as *Message*.

property changed_photo

Whether the channel's photo was changed or not.

If *True*, *old* and *new* will be present as Photo.

property changed_pin

Whether a new message in this channel was pinned or not.

If *True*, *new* will be present as *Message*.

property changed_restrictions

Whether a message in this channel was edited or not.

If *True*, *old* and *new* will be present as ChannelParticipant.

property changed_signatures

Whether the message signatures in the channel were toggled or not.

If *True*, *old* and *new* will be present as *bool*.

property changed_sticker_set

Whether the channel's sticker set was changed or not.

If *True*, *old* and *new* will be present as InputStickerSet.

property changed_title

Whether the channel's title was changed or not.

If *True*, *old* and *new* will be present as *str*.

property changed_user_volume

Whether a participant's volume in a call has been changed.

If *True*, *new* will be the updated GroupCallParticipant.

property changed_username

Whether the channel's username was changed or not.

If *True*, *old* and *new* will be present as *str*.

property date

> The date when this event occurred.

property deleted_exported_invite

> Whether the exported chat invite has been deleted.
>
> If True, *old* will be the deleted ExportedChatInvite.

property deleted_message

> Whether a message in this channel was deleted or not.
>
> If True, *old* will be present as *Message*.

property discarded_group_call

> Whether a group call was started or not.
>
> If True, *old* will be present as InputGroupCall.

property edited_exported_invite

> Whether the exported chat invite has been edited.
>
> If True, *old* and *new* will be the old and new ExportedChatInvite, respectively.

property id

> The ID of this event.

property joined

> Whether user joined through the channel's public username or not.

property joined_by_invite

> Whether a new participant has joined with the use of an invite link.
>
> If True, *old* will be pre-existing (old) ExportedChatInvite used to join.

property joined_invite

> Whether a new user joined through an invite link to the channel or not.
>
> If True, *new* will be present as ChannelParticipant.

property left

> Whether user left the channel or not.

property new

> The new value present in the event.

property old

> The old value from the event.

property revoked_exported_invite

> Whether the exported chat invite has been revoked.
>
> If True, *old* will be the revoked ExportedChatInvite.

property started_group_call

> Whether a group call was started or not.
>
> If True, *new* will be present as InputGroupCall.

property stopped_poll

> Whether a poll was stopped or not.
>
> If True, *new* will be present as *Message*.

stringify()

property user_id

The ID of the user that triggered this event.

property user_muted

Whether a participant was muted in the ongoing group call or not.

If *True*, *new* will be present as GroupCallParticipant.

property user_unmuted

Whether a participant was unmuted from the ongoing group call or not.

If *True*, *new* will be present as GroupCallParticipant.

2.36.2 Button

class telethon.tl.custom.button.**Button**(*button*, ***, *resize*, *single_use*, *selective*)

Bases: object

Note: This class is used to **define** reply markups, e.g. when sending a message or replying to events. When you access *Message.buttons* they are actually *MessageButton*, so you might want to refer to that class instead.

Helper class to allow defining reply_markup when sending a message with inline or keyboard buttons.

You should make use of the defined class methods to create button instances instead making them yourself (i.e. don't do Button(...) but instead use methods line *Button.inline(...)* etc.

You can use *inline*, *switch_inline*, *url*, *auth*, *buy* and *game* together to create inline buttons (under the message).

You can use *text*, *request_location*, *request_phone* and *request_poll* together to create a reply markup (replaces the user keyboard). You can also configure the aspect of the reply with these. The latest message with a reply markup will be the one shown to the user (messages contain the buttons, not the chat itself).

You **cannot** mix the two type of buttons together, and it will error if you try to do so.

The text for all buttons may be at most 142 characters. If more characters are given, Telegram will cut the text to 128 characters and add the ellipsis (. . .) character as the 129.

__weakref__

list of weak references to the object (if defined)

static auth(*text*, *url=None*, ***, *bot=None*, *write_access=False*, *fwd_text=None*)

Creates a new inline button to authorize the user at the given URL.

You should set the *url* to be on the same domain as the one configured for the desired bot via @BotFather using the /setdomain command.

For more information about letting the user login via Telegram to a certain domain, see https://core.telegram.org/widgets/login.

If no *url* is specified, it will default to *text*.

Args:

> **bot (hints.EntityLike):**
> The bot that requires this authorization. By default, this is the bot that is currently logged in (itself), although you may pass a different input peer.

> **Note:** For now, you cannot use ID or username for this argument. If you want to use a different
> bot than the one currently logged in, you must manually use `client.get_input_entity()`.

write_access (`bool`):
> Whether write access is required or not. This is `False` by default (read-only access).

fwd_text (`str`):
> The new text to show in the button if the message is forwarded. By default, the button text will be
> the same.

When the user clicks this button, a confirmation box will be shown to the user asking whether they want to
login to the specified domain.

static **buy**(*text*)

> Creates a new inline button to buy a product.
>
> This can only be used when sending files of type InputMediaInvoice, and must be the first button.
>
> If the button is not specified, Telegram will automatically add the button to the message. See the Payments
> API documentation for more information.

static **clear**(*selective=None*)

> Clears all keyboard buttons after sending a message with this markup. When used, no other button
> should be present or it will be ignored.
>
> `selective` is as documented in `text`.

static **force_reply**(*single_use=None*, *selective=None*, *placeholder=None*)

> Forces a reply to the message with this markup. If used, no other button should be present or it will be
> ignored.
>
> `single_use` and `selective` are as documented in `text`.
>
> **Args:**
>
> **placeholder (str):**
> > text to show the user at typing place of message.
> >
> > If the placeholder is too long, Telegram applications will crop the text (for example, to 64 charac-
> > ters and adding an ellipsis (. . .) character as the 65th).

static **game**(*text*)

> Creates a new inline button to start playing a game.
>
> This should be used when sending files of type InputMediaGame, and must be the first button.
>
> See the Games documentation for more information on using games.

static **inline**(*text*, *data=None*)

> Creates a new inline button with some payload data in it.
>
> If `data` is omitted, the given `text` will be used as `data`. In any case `data` should be either `bytes` or `str`.
>
> Note that the given `data` must be less or equal to 64 bytes. If more than 64 bytes are passed as data,
> `ValueError` is raised. If you need to store more than 64 bytes, consider saving the real data in a database
> and a reference to that data inside the button.
>
> When the user clicks this button, `events.CallbackQuery` will trigger with the same data that the button
> contained, so that you can determine which button was pressed.

classmethod request_location(*text*, ***, *resize=None*, *single_use=None*, *selective=None*)

Creates a new keyboard button to request the user's location on click.

`resize`, `single_use` and `selective` are documented in `text`.

When the user clicks this button, a confirmation box will be shown to the user asking whether they want to share their location with the bot, and if confirmed a message with geo media will be sent.

classmethod request_phone(*text*, ***, *resize=None*, *single_use=None*, *selective=None*)

Creates a new keyboard button to request the user's phone on click.

`resize`, `single_use` and `selective` are documented in `text`.

When the user clicks this button, a confirmation box will be shown to the user asking whether they want to share their phone with the bot, and if confirmed a message with contact media will be sent.

classmethod request_poll(*text*, ***, *force_quiz=False*, *resize=None*, *single_use=None*, *selective=None*)

Creates a new keyboard button to request the user to create a poll.

If `force_quiz` is `False`, the user will be allowed to choose whether they want their poll to be a quiz or not. Otherwise, the user will be forced to create a quiz when creating the poll.

If a poll is a quiz, there will be only one answer that is valid, and the votes cannot be retracted. Otherwise, users can vote and retract the vote, and the pol might be multiple choice.

`resize`, `single_use` and `selective` are documented in `text`.

When the user clicks this button, a screen letting the user create a poll will be shown, and if they do create one, the poll will be sent.

static switch_inline(*text*, *query=''*, *same_peer=False*)

Creates a new inline button to switch to inline query.

If `query` is given, it will be the default text to be used when making the inline query.

If `same_peer is True` the inline query will directly be set under the currently opened chat. Otherwise, the user will have to select a different dialog to make the query.

When the user clicks this button, after a chat is selected, their input field will be filled with the username of your bot followed by the query text, ready to make inline queries.

classmethod text(*text*, ***, *resize=None*, *single_use=None*, *selective=None*)

Creates a new keyboard button with the given text.

Args:

> **resize (`bool`):**
>> If present, the entire keyboard will be reconfigured to be resized and be smaller if there are not many buttons.
>
> **single_use (`bool`):**
>> If present, the entire keyboard will be reconfigured to be usable only once before it hides itself.
>
> **selective (`bool`):**
>> If present, the entire keyboard will be reconfigured to be "selective". The keyboard will be shown only to specific users. It will target users that are @mentioned in the text of the message or to the sender of the message you reply to.

When the user clicks this button, a text message with the same text as the button will be sent, and can be handled with `events.NewMessage`. You cannot distinguish between a button press and the user typing and sending exactly the same text on their own.

static **url**(*text*, *url=None*)

> Creates a new inline button to open the desired URL on click.
>
> If no `url` is given, the `text` will be used as said URL instead.
>
> You cannot detect that the user clicked this button directly.
>
> When the user clicks this button, a confirmation box will be shown to the user asking whether they want to open the displayed URL unless the domain is trusted, and once confirmed the URL will open in their device.

2.36.3 ChatGetter

class telethon.tl.custom.chatgetter.**ChatGetter**(*chat_peer=None*, ***, *input_chat=None*, *chat=None*, *broadcast=None*)

> Bases: ABC
>
> Helper base class that introduces the `chat`, `input_chat` and `chat_id` properties and `get_chat` and `get_input_chat` methods.
>
> **__annotations__ = {}**
>
> **__weakref__**
>
> > list of weak references to the object (if defined)
>
> **property chat**
>
> > Returns the User, Chat or Channel where this object belongs to. It may be None if Telegram didn't send the chat.
> >
> > If you only need the ID, use `chat_id` instead.
> >
> > If you need to call a method which needs this chat, use `input_chat` instead.
> >
> > If you're using `telethon.events`, use `get_chat()` instead.
>
> **property chat_id**
>
> > Returns the marked chat integer ID. Note that this value **will be different** from peer_id for incoming private messages, since the chat *to* which the messages go is to your own person, but the *chat* itself is with the one who sent the message.
> >
> > TL;DR; this gets the ID that you expect.
> >
> > If there is a chat in the object, `chat_id` will *always* be set, which is why you should use it instead of `chat.id`.
>
> async **get_chat**()
>
> > Returns `chat`, but will make an API call to find the chat unless it's already cached.
> >
> > If you only need the ID, use `chat_id` instead.
> >
> > If you need to call a method which needs this chat, use `get_input_chat()` instead.
>
> async **get_input_chat**()
>
> > Returns `input_chat`, but will make an API call to find the input chat unless it's already cached.
>
> **property input_chat**
>
> > This InputPeer is the input version of the chat where the message was sent. Similarly to `input_sender`, this doesn't have things like username or similar, but still useful in some cases.
> >
> > Note that this might not be available if the library doesn't have enough information available.

property is_channel

> True if the message was sent on a megagroup or channel.

property is_group

> True if the message was sent on a group or megagroup.
>
> Returns None if there isn't enough information (e.g. on *events.MessageDeleted*).

property is_private

> True if the message was sent as a private message.
>
> Returns None if there isn't enough information (e.g. on *events.MessageDeleted*).

2.36.4 Conversation

class telethon.tl.custom.conversation.**Conversation**(*client*, *input_chat*, ***, *timeout*, *total_timeout*, *max_messages*, *exclusive*, *replies_are_responses*)

> Bases: *ChatGetter*
>
> Represents a conversation inside an specific chat.
>
> A conversation keeps track of new messages since it was created until its exit and easily lets you query the current state.
>
> If you need a conversation across two or more chats, you should use two conversations and synchronize them as you better see fit.
>
> **async __aenter__**()
>
> **async __aexit__**(*exc_type*, *exc_val*, *exc_tb*)
>
> **__annotations__ = {}**
>
> **__enter__**()
>
> > Helps to cut boilerplate on async context managers that offer synchronous variants.
>
> **__exit__**(**args*)
>
> **cancel**()
>
> > Cancels the current conversation. Pending responses and subsequent calls to get a response will raise asyncio.CancelledError.
> >
> > This method is synchronous and should not be awaited.
>
> **async cancel_all**()
>
> > Calls *cancel* on *all* conversations in this chat.
> >
> > Note that you should await this method, since it's meant to be used outside of a context manager, and it needs to resolve the chat.
>
> **get_edit**(*message=None*, ***, *timeout=None*)
>
> > Awaits for an edit after the last message to arrive. The arguments are the same as those for *get_response*.
>
> **get_reply**(*message=None*, ***, *timeout=None*)
>
> > Gets the next message that explicitly replies to a previous one.

get_response(*message=None*, *, *timeout=None*)

> Gets the next message that responds to a previous one. This is the method you need most of the time, along with *get_edit*.
>
> **Args:**
>
> > **message (*Message* | int, optional):**
> > The message (or the message ID) for which a response is expected. By default this is the last sent message.
> >
> > **timeout (int | float, optional):**
> > If present, this timeout (in seconds) will override the per-action timeout defined for the conversation.

```
async with client.conversation(...) as conv:
    await conv.send_message('Hey, what is your name?')

    response = await conv.get_response()
    name = response.text

    await conv.send_message('Nice to meet you, {}!'.format(name))
```

mark_read(*message=None*)

> Marks as read the latest received message if `message is None`. Otherwise, marks as read until the given message (or message ID).
>
> This is equivalent to calling *client.send_read_acknowledge*.

send_file(**args*, ***kwargs*)

> Sends a file in the context of this conversation. Shorthand for *telethon.client.uploads.UploadMethods.send_file* with `entity` already set.

send_message(**args*, ***kwargs*)

> Sends a message in the context of this conversation. Shorthand for *telethon.client.messages.MessageMethods.send_message* with `entity` already set.

async wait_event(*event*, *, *timeout=None*)

> Waits for a custom event to occur. Timeouts still apply.
>
> ---
>
> **Note:** **Only use this if there isn't another method available!** For example, don't use *wait_event* for new messages, since *get_response* already exists, etc.
>
> ---
>
> Unless you're certain that your code will run fast enough, generally you should get a "handle" of this special coroutine before acting. In this example you will see how to wait for a user to join a group with proper use of *wait_event*:

```
from telethon import TelegramClient, events

client = TelegramClient(...)
group_id = ...

async def main():
    # Could also get the user id from an event; this is just an example
    user_id = ...
```

(continues on next page)

```python
async with client.conversation(user_id) as conv:
    # Get a handle to the future event we'll wait for
    handle = conv.wait_event(events.ChatAction(
        group_id,
        func=lambda e: e.user_joined and e.user_id == user_id
    ))

    # Perform whatever action in between
    await conv.send_message('Please join this group before speaking to me!')

    # Wait for the event we registered above to fire
    event = await handle

    # Continue with the conversation
    await conv.send_message('Thanks!')
```

This way your event can be registered before acting, since the response may arrive before your event was registered. It depends on your use case since this also means the event can arrive before you send a previous action.

wait_read(*message=None*, ***, *timeout=None*)

Awaits for the sent message to be marked as read. Note that receiving a response doesn't imply the message was read, and this action will also trigger even without a response.

2.36.5 Dialog

class telethon.tl.custom.dialog.**Dialog**(*client*, *dialog*, *entities*, *message*)

Bases: object

Custom class that encapsulates a dialog (an open "conversation" with someone, a group or a channel) providing an abstraction to easily access the input version/normal entity/message etc. The library will return instances of this class when calling *get_dialogs()*.

Args:

dialog (Dialog):
The original Dialog instance.

pinned (bool):
Whether this dialog is pinned to the top or not.

folder_id (folder_id):
The folder ID that this dialog belongs to.

archived (bool):
Whether this dialog is archived or not (folder_id is None).

message (*Message*):
The last message sent on this dialog. Note that this member will not be updated when new messages arrive, it's only set on creation of the instance.

date (datetime):
The date of the last message sent on this dialog.

entity (entity):
The entity that belongs to this dialog (user, chat or channel).

---

input_entity (**InputPeer**):
>   Input version of the entity.

id (**int**):
>   The marked ID of the entity, which is guaranteed to be unique.

name (**str**):
>   Display name for this dialog. For chats and channels this is their title, and for users it's "First-Name Last-Name".

title (**str**):
>   Alias for `name`.

unread_count (**int**):
>   How many messages are currently unread in this dialog. Note that this value won't update when new messages arrive.

unread_mentions_count (**int**):
>   How many mentions are currently unread in this dialog. Note that this value won't update when new messages arrive.

draft (*Draft*):
>   The draft object in this dialog. It will not be None, so you can call `draft.set_message(...)`.

is_user (**bool**):
>   True if the `entity` is a User.

is_group (**bool**):
>   True if the `entity` is a Chat or a Channel megagroup.

is_channel (**bool**):
>   True if the `entity` is a Channel.

__str__()

>   Return str(self).

__weakref__

>   list of weak references to the object (if defined)

async archive(*folder=1*)

>   Archives (or un-archives) this dialog.
>
>   **Args:**
>
>   >   **folder** (**int**, **optional**):
>   >   >   The folder to which the dialog should be archived to.
>   >   >
>   >   >   If you want to "un-archive" it, use `folder=0`.
>
>   **Returns:**
>   >   The Updates object that the request produces.
>
>   Example:

```
# Archiving
dialog.archive()

# Un-archiving
dialog.archive(0)
```

async delete(*revoke=False*)

> Deletes the dialog from your dialog list. If you own the channel this won't destroy it, only delete it from the list.
>
> Shorthand for *telethon.client.dialogs.DialogMethods.delete_dialog* with `entity` already set.

async send_message(**args*, ***kwargs*)

> Sends a message to this dialog. This is just a wrapper around `client.send_message(dialog.input_entity, *args, **kwargs)`.

stringify()

to_dict()

2.36.6 Draft

class telethon.tl.custom.draft.**Draft**(*client*, *entity*, *draft*)

> Bases: object
>
> Custom class that encapsulates a draft on the Telegram servers, providing an abstraction to change the message conveniently. The library will return instances of this class when calling `get_drafts()`.
>
> **Args:**
>
> > **date** (datetime):
> > > The date of the draft.
> >
> > **link_preview** (bool):
> > > Whether the link preview is enabled or not.
> >
> > **reply_to_msg_id** (int):
> > > The message ID that the draft will reply to.
>
> **__str__**()
>
> > Return str(self).
>
> **__weakref__**
>
> > list of weak references to the object (if defined)
>
> **async delete**()
>
> > Deletes this draft, and returns True on success.
>
> **property entity**
>
> > The entity that belongs to this dialog (user, chat or channel).
>
> **async get_entity**()
>
> > Returns *entity* but will make an API call if necessary.
>
> **async get_input_entity**()
>
> > Returns *input_entity* but will make an API call if necessary.
>
> **property input_entity**
>
> > Input version of the entity.
>
> **property is_empty**
>
> > Convenience bool to determine if the draft is empty or not.

property raw_text

> The raw (text without formatting) contained in the draft. It will be empty if there is no text (thus draft not set).

async send(*clear=True*, *parse_mode=()*)

> Sends the contents of this draft to the dialog. This is just a wrapper around `send_message(dialog.input_entity, *args, **kwargs)`.

async set_message(*text=None*, *reply_to=0*, *parse_mode=()*, *link_preview=None*)

> Changes the draft message on the Telegram servers. The changes are reflected in this object.
>
> > **Parameters**
> >
> > - **text** (`str`) – New text of the draft. Preserved if left as None.
> > - **reply_to** (`int`) – Message ID to reply to. Preserved if left as 0, erased if set to None.
> > - **link_preview** (`bool`) – Whether to attach a web page preview. Preserved if left as None.
> > - **parse_mode** (`str`) – The parse mode to be used for the text.
> >
> > **Return bool**
> > > `True` on success.

stringify()

property text

> The markdown text contained in the draft. It will be empty if there is no text (and hence no draft is set).

to_dict()

2.36.7 File

class telethon.tl.custom.file.**File**(*media*)

> Bases: `object`
>
> Convenience class over media like photos or documents, which supports accessing the attributes in a more convenient way.
>
> If any of the attributes are not present in the current media, the properties will be `None`.
>
> The original media is available through the `media` attribute.
>
> **__weakref__**
>
> > list of weak references to the object (if defined)
>
> **property duration**
>
> > The duration in seconds of the audio or video.
>
> **property emoji**
>
> > A string with all emoji that represent the current sticker.
>
> **property ext**
>
> > The extension from the mime type of this file.
> >
> > If the mime type is unknown, the extension from the file name (if any) will be used.
>
> **property height**
>
> > The height in pixels of this media if it's a photo or a video.

property id

> The old bot-API style `file_id` representing this file.

> > **Warning:** This feature has not been maintained for a long time and may not work. It will be removed in future versions.

> > **Note:** This file ID may not work under user accounts, but should still be usable by bot accounts.
> >
> > You can, however, still use it to identify a file in for example a database.

property mime_type

> The mime-type of this file.

property name

> The file name of this document.

property performer

> The performer of the song.

property size

> The size in bytes of this file.

> For photos, this is the heaviest thumbnail, as it often repressents the largest dimensions.

property sticker_set

> The InputStickerSet to which the sticker file belongs.

property title

> The title of the song.

property width

> The width in pixels of this media if it's a photo or a video.

2.36.8 Forward

class telethon.tl.custom.forward.**Forward**(*client*, *original*, *entities*)

> Bases: *ChatGetter*, *SenderGetter*

> Custom class that encapsulates a MessageFwdHeader providing an abstraction to easily access information like the original sender.

> Remember that this class implements *ChatGetter* and *SenderGetter* which means you have access to all their sender and chat properties and methods.

> Attributes:

> > **original_fwd (MessageFwdHeader):**
> > > The original MessageFwdHeader instance.

> > **Any other attribute:**
> > > Attributes not described here are the same as those available in the original MessageFwdHeader.

> **__annotations__ = {}**

2.36.9 InlineBuilder

class telethon.tl.custom.inlinebuilder.**InlineBuilder**(*client*)

> Bases: [object](#)
>
> Helper class to allow defining *[InlineQuery](#)* results.
>
> Common arguments to all methods are explained here to avoid repetition:
>
> > **text ([str](#), optional):**
> > > If present, the user will send a text message with this text upon being clicked.
> >
> > **link_preview ([bool](#), optional):**
> > > Whether to show a link preview in the sent text message or not.
> >
> > **geo ([InputGeoPoint](#), [GeoPoint](#), [InputMediaVenue](#), [MessageMediaVenue](#), optional):**
> > > If present, it may either be a geo point or a venue.
> >
> > **period (int, optional):**
> > > The period in seconds to be used for geo points.
> >
> > **contact ([InputMediaContact](#), [MessageMediaContact](#), optional):**
> > > If present, it must be the contact information to send.
> >
> > **game ([bool](#), optional):**
> > > May be [True](#) to indicate that the game will be sent.
> >
> > **buttons ([list](#), *custom.Button*, [KeyboardButton](#), optional):**
> > > Same as buttons for *[client.send_message()](#)*.
> >
> > **parse_mode ([str](#), optional):**
> > > Same as parse_mode for *[client.send_message()](#)*.
> >
> > **id ([str](#), optional):**
> > > The string ID to use for this result. If not present, it will be the SHA256 hexadecimal digest of converting the created [InputBotInlineResult](#) with empty ID to bytes(), so that the ID will be deterministic for the same input.
> >
> > > ---
> > >
> > > **Note:** If two inputs are exactly the same, their IDs will be the same too. If you send two articles with the same ID, it will raise ResultIdDuplicateError. Consider giving them an explicit ID if you need to send two results that are the same.
> > >
> > > ---
>
> **__weakref__**
> > list of weak references to the object (if defined)
>
> **async article**(*title*, *description=None*, ***, *url=None*, *thumb=None*, *content=None*, *id=None*, *text=None*, *parse_mode=()*, *link_preview=True*, *geo=None*, *period=60*, *contact=None*, *game=False*, *buttons=None*)
> > Creates new inline result of article type.
> >
> > **Args:**
> >
> > > **title ([str](#)):**
> > > > The title to be shown for this result.
> > >
> > > **description ([str](#), optional):**
> > > > Further explanation of what this result means.
> > >
> > > **url ([str](#), optional):**
> > > > The URL to be shown for this result.

thumb (InputWebDocument, optional):
> The thumbnail to be shown for this result. For now it has to be a InputWebDocument if present.

content (InputWebDocument, optional):
> The content to be shown for this result. For now it has to be a InputWebDocument if present.

Example:

```
results = [
    # Option with title and description sending a message.
    builder.article(
        title='First option',
        description='This is the first option',
        text='Text sent after clicking this option',
    ),
    # Option with title URL to be opened when clicked.
    builder.article(
        title='Second option',
        url='https://example.com',
        text='Text sent if the user clicks the option and not the URL',
    ),
    # Sending a message with buttons.
    # You can use a list or a list of lists to include more buttons.
    builder.article(
        title='Third option',
        text='Text sent with buttons below',
        buttons=Button.url('https://example.com'),
    ),
]
```

async **document**(*file*, *title=None*, ***, *description=None*, *type=None*, *mime_type=None*, *attributes=None*, *force_document=False*, *voice_note=False*, *video_note=False*, *use_cache=True*, *id=None*, *text=None*, *parse_mode=()*, *link_preview=True*, *geo=None*, *period=60*, *contact=None*, *game=False*, *buttons=None*, *include_media=True*)

Creates a new inline result of document type.

`use_cache`, `mime_type`, `attributes`, `force_document`, `voice_note` and `video_note` are described in `client.send_file`.

Args:

file (obj):
> Same as `file` for `client.send_file()`.

title (str, optional):
> The title to be shown for this result.

description (str, optional):
> Further explanation of what this result means.

type (str, optional):
> The type of the document. May be one of: article, audio, contact, file, geo, gif, photo, sticker, venue, video, voice. It will be automatically set if `mime_type` is specified, and default to `'file'` if no matching mime type is found. you may need to pass `attributes` in order to use `type` effectively.

attributes (list, optional):
> Optional attributes that override the inferred ones, like DocumentAttributeFilename and so on.

include_media (`bool`, optional):
> Whether the document file used to display the result should be included in the message itself or not. By default, the document is included, and the text parameter alters the caption.

Example:

```
results = [
    # Sending just the file when the user selects it.
    builder.document('/path/to/file.pdf'),

    # Including a caption with some in-memory file.
    file_bytesio = ...
    builder.document(
        file_bytesio,
        text='This will be the caption of the sent file',
    ),

    # Sending just the message without including the file.
    builder.document(
        photo,
        text='This will be a normal text message',
        include_media=False,
    ),
]
```

async game(*short_name*, *, *id=None*, *text=None*, *parse_mode=()*, *link_preview=True*, *geo=None*, *period=60*, *contact=None*, *game=False*, *buttons=None*)

> Creates a new inline result of game type.
>
> **Args:**
>
> > **short_name (`str`):**
> > > The short name of the game to use.

async photo(*file*, *, *id=None*, *include_media=True*, *text=None*, *parse_mode=()*, *link_preview=True*, *geo=None*, *period=60*, *contact=None*, *game=False*, *buttons=None*)

> Creates a new inline result of photo type.
>
> **Args:**
>
> > **include_media (`bool`, optional):**
> > > Whether the photo file used to display the result should be included in the message itself or not. By default, the photo is included, and the text parameter alters the caption.
> >
> > **file (`obj`, optional):**
> > > Same as `file` for *client.send_file()*.
>
> **Example:**
>
> ```
> results = [
>     # Sending just the photo when the user selects it.
>     builder.photo('/path/to/photo.jpg'),
>
>     # Including a caption with some in-memory photo.
>     photo_bytesio = ...
>     builder.photo(
>         photo_bytesio,
> ```
> (continues on next page)

```
        text='This will be the caption of the sent photo',
    ),

    # Sending just the message without including the photo.
    builder.photo(
        photo,
        text='This will be a normal text message',
        include_media=False,
    ),
]
```

2.36.10 InlineResult

class telethon.tl.custom.inlineresult.**InlineResult**(*client*, *original*, *query_id=None*, ***, *entity=None*)

Bases: object

Custom class that encapsulates a bot inline result providing an abstraction to easily access some commonly needed features (such as clicking a result to select it).

Attributes:

> **result (BotInlineResult):**
>> The original BotInlineResult object.

ARTICLE = 'article'

AUDIO = 'audio'

CONTACT = 'contact'

DOCUMENT = 'document'

GAME = 'game'

GIF = 'gif'

LOCATION = 'location'

PHOTO = 'photo'

VENUE = 'venue'

VIDEO = 'video'

VIDEO_GIF = 'mpeg4_gif'

__weakref__

> list of weak references to the object (if defined)

async **click**(*entity=None*, *reply_to=None*, *comment_to=None*, *silent=False*, *clear_draft=False*, *hide_via=False*, *background=None*)

Clicks this result and sends the associated *message*.

Args:

> **entity (entity):**
>> The entity to which the message of this result should be sent.

> **reply_to** (`int` | *Message*, **optional**):
> If present, the sent message will reply to this ID or message.
>
> **comment_to** (`int` | *Message*, **optional**):
> Similar to `reply_to`, but replies in the linked group of a broadcast channel instead (effectively leaving a "comment to" the specified message).
>
> **silent** (`bool`, **optional**):
> Whether the message should notify people with sound or not. Defaults to `False` (send with a notification sound unless the person has the chat muted). Set it to `True` to alter this behaviour.
>
> **clear_draft** (`bool`, **optional**):
> Whether the draft should be removed after sending the message from this result or not. Defaults to `False`.
>
> **hide_via** (`bool`, **optional**):
> Whether the "via @bot" should be hidden or not. Only works with certain bots (like @bing or @gif).
>
> **background** (`bool`, **optional**):
> Whether the message should be send in background.

property `description`

> The description for this inline result. It may be `None`.

property `document`

> Returns either the WebDocument content for normal results or the Document for media results.

async `download_media`(**args*, ***kwargs*)

> Downloads the media in this result (if there is a document, the document will be downloaded; otherwise, the photo will if present).
>
> This is a wrapper around `client.download_media`.

property `message`

> The always-present BotInlineMessage that will be sent if `click` is called on this result.

property `photo`

> Returns either the WebDocument thumbnail for normal results or the Photo for media results.

property `title`

> The title for this inline result. It may be `None`.

property `type`

> The always-present type of this result. It will be one of: `'article'`, `'photo'`, `'gif'`, `'mpeg4_gif'`, `'video'`, `'audio'`, `'voice'`, `'document'`, `'location'`, `'venue'`, `'contact'`, `'game'`.
>
> You can access all of these constants through *InlineResult*, such as *InlineResult.ARTICLE*, *InlineResult.VIDEO_GIF*, etc.

property `url`

> The URL present in this inline results. If you want to "click" this URL to open it in your browser, you should use Python's `webbrowser.open(url)` for such task.

2.36.11 InlineResults

class telethon.tl.custom.inlineresults.**InlineResults**(*client*, *original*, ***, *entity=None*)

Bases: list

Custom class that encapsulates BotResults providing an abstraction to easily access some commonly needed features (such as clicking one of the results to select it)

Note that this is a list of *InlineResult* so you can iterate over it or use indices to access its elements. In addition, it has some attributes.

Attributes:

result (BotResults):
The original BotResults object.

query_id (int):
The random ID that identifies this query.

cache_time (int):
For how long the results should be considered valid. You can call *results_valid* at any moment to determine if the results are still valid or not.

users (User):
The users present in this inline query.

gallery (bool):
Whether these results should be presented in a grid (as a gallery of images) or not.

next_offset (str, optional):
The string to be used as an offset to get the next chunk of results, if any.

switch_pm (InlineBotSwitchPM, optional):
If presents, the results should show a button to switch to a private conversation with the bot using the text in this object.

__repr__()
Return repr(self).

__str__()
Return str(self).

__weakref__
list of weak references to the object (if defined)

results_valid()
Returns True if the cache time has not expired yet and the results can still be considered valid.

2.36.12 Message

class telethon.tl.custom.message.**Message**(*id: [int](), peer_id: PeerUser | PeerChat | PeerChannel, date:*
[datetime]() | [None]() = None, message: [str]() | [None]() = None, out: [bool]()
| [None]() = None, mentioned: [bool]() | [None]() = None,
media_unread: [bool]() | [None]() = None, silent: [bool]() | [None]() =
None, post: [bool]() | [None]() = None, from_scheduled: [bool]() | [None]()
= None, legacy: [bool]() | [None]() = None, edit_hide: [bool]() | [None]() =
None, pinned: [bool]() | [None]() = None, noforwards: [bool]() | [None]() =
None, invert_media: [bool]() | [None]() = None, offline: [bool]() | [None]()
= None, from_id: PeerUser | PeerChat | PeerChannel | [None]() =
None, from_boosts_applied: [int]() | [None]() = None, saved_peer_id:
PeerUser | PeerChat | PeerChannel | [None]() = None, fwd_from:
MessageFwdHeader | [None]() = None, via_bot_id: [int]() | [None]() =
None, via_business_bot_id: [int]() | [None]() = None, reply_to:
MessageReplyHeader | MessageReplyStoryHeader | [None]() =
None, media: MessageMediaEmpty | MessageMediaPhoto |
MessageMediaGeo | MessageMediaContact |
MessageMediaUnsupported | MessageMediaDocument |
MessageMediaWebPage | MessageMediaVenue |
MessageMediaGame | MessageMediaInvoice |
MessageMediaGeoLive | MessageMediaPoll |
MessageMediaDice | MessageMediaStory |
MessageMediaGiveaway | MessageMediaGiveawayResults |
[None]() = None, reply_markup: ReplyKeyboardHide |
ReplyKeyboardForceReply | ReplyKeyboardMarkup |
ReplyInlineMarkup | [None]() = None, entities:
[List]()[MessageEntityUnknown | MessageEntityMention |
MessageEntityHashtag | MessageEntityBotCommand |
MessageEntityUrl | MessageEntityEmail | MessageEntityBold |
MessageEntityItalic | MessageEntityCode | MessageEntityPre |
MessageEntityTextUrl | MessageEntityMentionName |
InputMessageEntityMentionName | MessageEntityPhone |
MessageEntityCashtag | MessageEntityUnderline |
MessageEntityStrike | MessageEntityBankCard |
MessageEntitySpoiler | MessageEntityCustomEmoji |
MessageEntityBlockquote] | [None]() = None, views: [int]() | [None]() =
None, forwards: [int]() | [None]() = None, replies: MessageReplies |
[None]() = None, edit_date: [datetime]() | [None]() = None, post_author:
[str]() | [None]() = None, grouped_id: [int]() | [None]() = None, reactions:
MessageReactions | [None]() = None, restriction_reason:
[List]()[RestrictionReason] | [None]() = None, ttl_period: [int]() | [None]()
= None, quick_reply_shortcut_id: [int]() | [None]() = None, action:
MessageActionEmpty | MessageActionChatCreate |
MessageActionChatEditTitle | MessageActionChatEditPhoto |
MessageActionChatDeletePhoto | MessageActionChatAddUser
| MessageActionChatDeleteUser |
MessageActionChatJoinedByLink |
MessageActionChannelCreate | MessageActionChatMigrateTo
| MessageActionChannelMigrateFrom |
MessageActionPinMessage | MessageActionHistoryClear |
MessageActionGameScore | MessageActionPaymentSentMe |
MessageActionPaymentSent | MessageActionPhoneCall |
MessageActionScreenshotTaken | MessageActionCustomAction
| MessageActionBotAllowed |
MessageActionSecureValuesSentMe |
MessageActionSecureValuesSent |
MessageActionContactSignUp |
MessageActionGeoProximityReached |
MessageActionGroupCall | MessageActionInviteToGroupCall |
MessageActionSetMessagesTTL |
MessageActionGroupCallScheduled |

Bases: *ChatGetter*, *SenderGetter*, TLObject

This custom class aggregates both Message and MessageService to ease accessing their members.

Remember that this class implements *ChatGetter* and *SenderGetter* which means you have access to all their sender and chat properties and methods.

Members:

    out (bool):

        Whether the message is outgoing (i.e. you sent it from another session) or incoming (i.e. someone else sent it).

        Note that messages in your own chat are always incoming, but this member will be True if you send a message to your own chat. Messages you forward to your chat are *not* considered outgoing, just like official clients display them.

    mentioned (bool):

        Whether you were mentioned in this message or not. Note that replies to your own messages also count as mentions.

    media_unread (bool):

        Whether you have read the media in this message or not, e.g. listened to the voice note media.

    silent (bool):

        Whether the message should notify people with sound or not. Previously used in channels, but since 9 August 2019, it can also be used in private chats.

    post (bool):

        Whether this message is a post in a broadcast channel or not.

    from_scheduled (bool):

        Whether this message was originated from a previously-scheduled message or not.

    legacy (bool):

        Whether this is a legacy message or not.

    edit_hide (bool):

        Whether the edited mark of this message is edited should be hidden (e.g. in GUI clients) or shown.

    pinned (bool):

        Whether this message is currently pinned or not.

    noforwards (bool):

        Whether this message can be forwarded or not.

    invert_media (bool):

        Whether the media in this message should be inverted.

    offline (bool):

        Whether the message was sent by an implicit action, for example, as an away or a greeting business message, or as a scheduled message.

    id (int):

        The ID of this message. This field is *always* present. Any other member is optional and may be None.

    from_id (Peer):

        The peer who sent this message, which is either PeerUser, PeerChat or PeerChannel. This value will be None for anonymous messages.

peer_id (Peer):
> The peer to which this message was sent, which is either PeerUser, PeerChat or PeerChannel. This
> will always be present except for empty messages.

fwd_from (MessageFwdHeader):
> The original forward header if this message is a forward. You should probably use the `forward`
> property instead.

via_bot_id (int):
> The ID of the bot used to send this message through its inline mode (e.g. "via @like").

reply_to (MessageReplyHeader):
> The original reply header if this message is replying to another.

date (datetime):
> The UTC+0 `datetime` object indicating when this message was sent. This will always be present
> except for empty messages.

message (str):
> The string text of the message for `Message` instances, which will be None for other types of messages.

media (MessageMedia):
> The media sent with this message if any (such as photos, videos, documents, gifs, stickers, etc.).
>
> You may want to access the `photo`, `document` etc. properties instead.
>
> If the media was not present or it was MessageMediaEmpty, this member will instead be None for
> convenience.

reply_markup (ReplyMarkup):
> The reply markup for this message (which was sent either via a bot or by a bot). You probably want to
> access `buttons` instead.

entities (List[MessageEntity]):
> The list of markup entities in this message, such as bold, italics, code, hyperlinks, etc.

views (int):
> The number of views this message from a broadcast channel has. This is also present in forwards.

forwards (int):
> The number of times this message has been forwarded.

replies (int):
> The number of times another message has replied to this message.

edit_date (datetime):
> The date when this message was last edited.

post_author (str):
> The display name of the message sender to show in messages sent to broadcast channels.

grouped_id (int):
> If this message belongs to a group of messages (photo albums or video albums), all of them will have
> the same value here.

reactions (MessageReactions)
> Reactions to this message.

restriction_reason (List[RestrictionReason])
> An optional list of reasons why this message was restricted. If the list is None, this message has not
> been restricted.

ttl_period (`int`):
  The Time To Live period configured for this message. The message should be erased from wherever it's stored (memory, a local database, etc.) when `datetime.now() > message.date + timedelta(seconds=message.ttl_period)`.

action (MessageAction):
  The message action object of the message for MessageService instances, which will be `None` for other types of messages.

saved_peer_id (Peer)

__annotations__ = {}

property action_entities
  Returns a list of entities that took part in this action.

  Possible cases for this are MessageActionChatAddUser, types.MessageActionChatCreate, MessageActionChatDeleteUser, MessageActionChatJoinedByLink MessageActionChatMigrateTo and MessageActionChannelMigrateFrom.

  If the action is neither of those, the result will be `None`. If some entities could not be retrieved, the list may contain some `None` items in it.

property audio
  The Document media in this message, if it's an audio file.

property button_count
  Returns the total button count (sum of all `buttons` rows).

property buttons
  Returns a list of lists of `MessageButton`, if any.

  Otherwise, it returns `None`.

async click(*i=None*, *j=None*, ***, *text=None*, *filter=None*, *data=None*, *share_phone=None*, *share_geo=None*, *password=None*)
  Calls SendVote with the specified poll option or `button.click` on the specified button.

  Does nothing if the message is not a poll or has no buttons.

  Args:

  i (`int`|`list`):
    Clicks the i'th button or poll option (starting from the index 0). For multiple-choice polls, a list with the indices should be used. Will `raise IndexError` if out of bounds. Example:

    ```
    >>> message = ...  # get the message somehow
    >>> # Clicking the 3rd button
    >>> # [button1] [button2]
    >>> # [    button3    ]
    >>> # [button4] [button5]
    >>> await message.click(2)  # index
    ```

  j (`int`):
    Clicks the button at position (i, j), these being the indices for the (row, column) respectively. Example:

```
>>> # Clicking the 2nd button on the 1st row.
>>> # [button1] [button2]
>>> # [     button3     ]
>>> # [button4] [button5]
>>> await message.click(0, 1)  # (row, column)
```

This is equivalent to `message.buttons[0][1].click()`.

text (`str` | `callable`):
  Clicks the first button or poll option with the text "text". This may also be a callable, like a `re.compile(...).match`, and the text will be passed to it.

  If you need to select multiple options in a poll, pass a list of indices to the `i` parameter.

filter (`callable`):
  Clicks the first button or poll option for which the callable returns `True`. The callable should accept a single `MessageButton` or `PollAnswer` argument.

  If you need to select multiple options in a poll, pass a list of indices to the `i` parameter.

data (`bytes`):
  This argument overrides the rest and will not search any buttons. Instead, it will directly send the request to behave as if it clicked a button with said data. Note that if the message does not have this data, it will `raise DataInvalidError`.

share_phone (`bool` | `str` | tl:`InputMediaContact`):
  When clicking on a keyboard button requesting a phone number (KeyboardButtonRequestPhone), this argument must be explicitly set to avoid accidentally sharing the number.

  It can be `True` to automatically share the current user's phone, a string to share a specific phone number, or a contact media to specify all details.

  If the button is pressed without this, `ValueError` is raised.

share_geo (`tuple` | `list` | tl:`InputMediaGeoPoint`):
  When clicking on a keyboard button requesting a geo location (KeyboardButtonRequestGeoLocation), this argument must be explicitly set to avoid accidentally sharing the location.

  It must be a `tuple` of `float` as `(longitude, latitude)`, or a InputGeoPoint instance to avoid accidentally using the wrong roder.

  If the button is pressed without this, `ValueError` is raised.

password (`str`):
  When clicking certain buttons (such as BotFather's confirmation button to transfer ownership), if your account has 2FA enabled, you need to provide your account's password. Otherwise, `teltehon.errors.PasswordHashInvalidError` is raised.

Example:

```python
# Click the first button
await message.click(0)

# Click some row/column
await message.click(row, column)

# Click by text
await message.click(text='')
```

(continues on next page)

<div style="text-align: right;">(continued from previous page)</div>

```
# Click by data
await message.click(data=b'payload')

# Click on a button requesting a phone
await message.click(0, share_phone=True)
```

property client

Returns the *TelegramClient* that *patched* this message. This will only be present if you **use the friendly methods**, it won't be there if you invoke raw API methods manually, in which case you should only access members, not properties.

property contact

The MessageMediaContact in this message, if it's a contact.

async delete(*args, **kwargs*)

Deletes the message. You're responsible for checking whether you have the permission to do so, or to except the error otherwise. Shorthand for *telethon.client.messages.MessageMethods. delete_messages* with `entity` and `message_ids` already set.

If you need to delete more than one message at once, don't use this *delete* method. Use a *telethon. client.telegramclient.TelegramClient* instance directly.

property dice

The MessageMediaDice in this message, if it's a dice roll.

property document

The Document media in this message, if any.

async download_media(*args, **kwargs*)

Downloads the media contained in the message, if any. Shorthand for *telethon.client.downloads. DownloadMethods.download_media* with the `message` already set.

async edit(*args, **kwargs*)

Edits the message if it's outgoing. Shorthand for *telethon.client.messages.MessageMethods. edit_message* with both `entity` and `message` already set.

Returns

The edited *Message*, unless `entity` was a InputBotInlineMessageID or InputBotInlineMessageID64 in which case this method returns a boolean.

Raises

`MessageAuthorRequiredError` if you're not the author of the message but tried editing it anyway.

`MessageNotModifiedError` if the contents of the message were not modified at all.

`MessageIdInvalidError` if the ID of the message is invalid (the ID itself may be correct, but the message with that ID cannot be edited). For example, when trying to edit messages with a reply markup (or clear markup) this error will be raised.

Note: This is different from *client.edit_message* and **will respect** the previous state of the message. For example, if the message didn't have a link preview, the edit won't add one by default, and you should force it by setting it to True if you want it.

This is generally the most desired and convenient behaviour, and will work for link previews and message buttons.

---

property file

Returns a *File* wrapping the *photo* or *document* in this message. If the media type is different (polls, games, none, etc.), this property will be None.

This instance lets you easily access other properties, such as *file.id*, *file.name*, etc., without having to manually inspect the document.attributes.

property forward

The *Forward* information if this message is a forwarded message.

async forward_to(**args*, ***kwargs*)

Forwards the message. Shorthand for `telethon.client.messages.MessageMethods.` `forward_messages` with both messages and from_peer already set.

If you need to forward more than one message at once, don't use this *forward_to* method. Use a `telethon.client.telegramclient.TelegramClient` instance directly.

property game

The Game media in this message, if it's a game.

property geo

The GeoPoint media in this message, if it has a location.

async get_buttons()

Returns *buttons* when that property fails (this is rarely needed).

get_entities_text(*cls=None*)

Returns a list of (markup entity, inner text) (like bold or italics).

The markup entity is a MessageEntity that represents bold, italics, etc., and the inner text is the str inside that markup entity.

For example:

```
print(repr(message.text))  # shows: 'Hello **world**!'


for ent, txt in message.get_entities_text():
    print(ent)  # shows: MessageEntityBold(offset=6, length=5)
    print(txt)  # shows: world
```

Args:

cls (type):
    Returns entities matching this type only. For example, the following will print the text for all code entities:

```
>>> from telethon.tl.types import MessageEntityCode
>>>
>>> m = ...  # get the message
>>> for _, inner_text in m.get_entities_text(MessageEntityCode):
>>>     print(inner_text)
```

async get_reply_message()

The *Message* that this message is replying to, or None.

The result will be cached after its first use.

property gif

The Document media in this message, if it's a "gif".

"Gif" files by Telegram are normally `.mp4` video files without sound, the so called "animated" media. However, it may be the actual gif format if the file is too large.

property invoice

The MessageMediaInvoice in this message, if it's an invoice.

property is_reply

True if the message is a reply to some other message.

Remember that you can access the ID of the message this one is replying to through `reply_to.reply_to_msg_id`, and the *Message* object with *get_reply_message()*.

async mark_read()

Marks the message as read. Shorthand for *client.send_read_acknowledge()* with both `entity` and `message` already set.

property photo

The Photo media in this message, if any.

This will also return the photo for MessageService if its action is MessageActionChatEditPhoto, or if the message has a web preview with a photo.

async pin(**, notify=False, pm_oneside=False*)

Pins the message. Shorthand for *telethon.client.messages.MessageMethods.pin_message* with both `entity` and `message` already set.

property poll

The MessageMediaPoll in this message, if it's a poll.

property raw_text

The raw message text, ignoring any formatting. Will be None for MessageService.

Setting a value to this field will erase the `entities`, unlike changing the `message` member.

async reply(**args, **kwargs*)

Replies to the message (as a reply). Shorthand for *telethon.client.messages.MessageMethods.send_message* with both `entity` and `reply_to` already set.

property reply_to_chat

The Channel in which the replied-to message was sent, if this message is a reply in another chat

property reply_to_msg_id

Returns the message ID this message is replying to, if any. This is equivalent to accessing `.reply_to.reply_to_msg_id`.

property reply_to_sender

The User, Channel, or whatever other entity that sent the replied-to message, if this message is a reply in another chat.

async respond(**args, **kwargs*)

Responds to the message (not as a reply). Shorthand for *telethon.client.messages.MessageMethods.send_message* with `entity` already set.

property sticker

The Document media in this message, if it's a sticker.

property text

> The message text, formatted using the client's default parse mode. Will be None for MessageService.

property to_id

> Returns the peer to which this message was sent to. This used to exist to infer the `.peer_id`.

async unpin()

> Unpins the message. Shorthand for `telethon.client.messages.MessageMethods.unpin_message` with both `entity` and `message` already set.

property venue

> The MessageMediaVenue in this message, if it's a venue.

property via_bot

> The bot User if the message was sent via said bot.
>
> This will only be present if `via_bot_id` is not None and the entity is known.

property via_input_bot

> Returns the input variant of `via_bot`.

property video

> The Document media in this message, if it's a video.

property video_note

> The Document media in this message, if it's a video note.

property voice

> The Document media in this message, if it's a voice note.

property web_preview

> The WebPage media in this message, if any.

2.36.13 MessageButton

class telethon.tl.custom.messagebutton.**MessageButton**(*client*, *original*, *chat*, *bot*, *msg_id*)

> Bases: object

Note: *Message.buttons* are instances of this type. If you want to **define** a reply markup for e.g. sending messages, refer to *Button* instead.

Custom class that encapsulates a message button providing an abstraction to easily access some commonly needed features (such as clicking the button itself).

Attributes:

> **button (KeyboardButton):**
> > The original KeyboardButton object.

__weakref__

> list of weak references to the object (if defined)

async click(*share_phone=None*, *share_geo=None*, ***, *password=None*)

>   Emulates the behaviour of clicking this button.

>   If it's a normal KeyboardButton with text, a message will be sent, and the sent *Message* returned.

>   If it's an inline KeyboardButtonCallback with text and data, it will be "clicked" and the BotCallbackAnswer returned.

>   If it's an inline KeyboardButtonSwitchInline button, the StartBotRequest will be invoked and the resulting updates returned.

>   If it's a KeyboardButtonUrl, the URL of the button will be passed to `webbrowser.open` and return `True` on success.

>   If it's a KeyboardButtonRequestPhone, you must indicate that you want to `share_phone=True` in order to share it. Sharing it is not a default because it is a privacy concern and could happen accidentally.

>   You may also use `share_phone=phone` to share a specific number, in which case either `str` or InputMediaContact should be used.

>   If it's a KeyboardButtonRequestGeoLocation, you must pass a tuple in `share_geo=(longitude, latitude)`. Note that Telegram seems to have some heuristics to determine impossible locations, so changing this value a lot quickly may not work as expected. You may also pass a InputGeoPoint if you find the order confusing.

property client

>   Returns the `telethon.client.telegramclient.TelegramClient` instance that created this instance.

property data

>   The `bytes` data for KeyboardButtonCallback objects.

property inline_query

>   The query `str` for KeyboardButtonSwitchInline objects.

property text

>   The text string of the button.

property url

>   The url `str` for KeyboardButtonUrl objects.

2.36.14 ParticipantPermissions

class telethon.tl.custom.participantpermissions.**ParticipantPermissions**(*participant*, *chat: bool*)

>   Bases: `object`

Participant permissions information.

The properties in this objects are boolean values indicating whether the user has the permission or not.

Example

```
permissions = ...

if permissions.is_banned:
    "this user is banned"
elif permissions.is_admin:
    "this user is an administrator"
```

__weakref__

>   list of weak references to the object (if defined)

property add_admins

>   Whether the administrator can add new administrators with the same or less permissions than them.

property anonymous

>   Whether the administrator will remain anonymous when sending messages.

property ban_users

>   Whether the administrator can ban other users or not.

property change_info

>   Whether the administrator can change the information about the chat, such as title or description.

property delete_messages

>   Whether the administrator can delete messages from other participants.

property edit_messages

>   Whether the administrator can edit messages.

property has_default_permissions

>   Whether the user is a normal user of the chat (not administrator, but not banned either, and has no restrictions applied).

property has_left

>   Whether the user left the chat.

property invite_users

>   Whether the administrator can add new users to the chat.

property is_admin

>   Whether the user is an administrator of the chat or not. The creator also counts as begin an administrator, since they have all permissions.

property is_banned

>   Whether the user is banned in the chat.

property is_creator

>   Whether the user is the creator of the chat or not.

property manage_call

>   Whether the user will be able to manage group calls.

property pin_messages

>   Whether the administrator can pin messages or not.

property post_messages

>   Whether the administrator can post messages in the broadcast channel.

2.36.15 QRLogin

class `telethon.tl.custom.qrlogin.QRLogin`(*client*, *ignored_ids*)

> Bases: `object`
>
> QR login information.
>
> Most of the time, you will present the `url` as a QR code to the user, and while it's being shown, call `wait`.
>
> **__weakref__**
>
> > list of weak references to the object (if defined)
>
> **property expires: `datetime`**
>
> > The `datetime` at which the QR code will expire.
> >
> > If you want to try again, you will need to call `recreate`.
>
> **async recreate()**
>
> > Generates a new token and URL for a new QR code, useful if the code has expired before it was imported.
>
> **property token: `bytes`**
>
> > The binary data representing the token.
> >
> > It can be used by a previously-authorized client in a call to auth.importLoginToken to log the client that originally requested the QR login.
>
> **property url: `str`**
>
> > The `tg://login` URI with the token. When opened by a Telegram application where the user is logged in, it will import the login token.
> >
> > If you want to display a QR code to the user, this is the URL that should be launched when the QR code is scanned (the URL that should be contained in the QR code image you generate).
> >
> > Whether you generate the QR code image or not is up to you, and the library can't do this for you due to the vast ways of generating and displaying the QR code that exist.
> >
> > The URL simply consists of `token` base64-encoded.
>
> **async wait**(*timeout:* *float* *= None*)
>
> > Waits for the token to be imported by a previously-authorized client, either by scanning the QR, launching the URL directly, or calling the import method.
> >
> > This method **must** be called before the QR code is scanned, and must be executing while the QR code is being scanned. Otherwise, the login will not complete.
> >
> > Will raise `asyncio.TimeoutError` if the login doesn't complete on time.
> >
> > **Arguments**
> >
> > > **timeout (float):**
> > >
> > > > The timeout, in seconds, to wait before giving up. By default the library will wait until the token expires, which is often what you want.
> >
> > **Returns**
> >
> > > On success, an instance of User. On failure it will raise.

2.36.16 SenderGetter

class `telethon.tl.custom.sendergetter.`**`SenderGetter`**(*sender_id=None*, *, *sender=None*, *input_sender=None*)

> Bases: `ABC`
>
> Helper base class that introduces the *sender*, *input_sender* and *sender_id* properties and *get_sender* and *get_input_sender* methods.
>
> **`__annotations__`** = {}
>
> **`__weakref__`**
>
>> list of weak references to the object (if defined)
>
> **async `get_input_sender`**()
>
>> Returns *input_sender*, but will make an API call to find the input sender unless it's already cached.
>
> **async `get_sender`**()
>
>> Returns *sender*, but will make an API call to find the sender unless it's already cached.
>>
>> If you only need the ID, use *sender_id* instead.
>>
>> If you need to call a method which needs this sender, use *get_input_sender()* instead.
>
> **property `input_sender`**
>
>> This InputPeer is the input version of the user/channel who sent the message. Similarly to *input_chat*, this doesn't have things like username or similar, but still useful in some cases.
>>
>> Note that this might not be available if the library can't find the input chat, or if the message a broadcast on a channel.
>
> **property `sender`**
>
>> Returns the User or Channel that sent this object. It may be None if Telegram didn't send the sender.
>>
>> If you only need the ID, use *sender_id* instead.
>>
>> If you need to call a method which needs this chat, use *input_sender* instead.
>>
>> If you're using *telethon.events*, use *get_sender()* instead.
>
> **property `sender_id`**
>
>> Returns the marked sender integer ID, if present.
>>
>> If there is a sender in the object, *sender_id* will *always* be set, which is why you should use it instead of *sender.id*.

2.37 Utilities

These are the utilities that the library has to offer. Utilities for working with the Telegram API itself (such as handy methods to convert between an entity like a User, Chat, etc. into its Input version)

class `telethon.utils.`**`AsyncClassWrapper`**(*wrapped*)

> Bases: `object`
>
> **`__getattr__`**(*item*)
>
> **`__weakref__`**
>
>> list of weak references to the object (if defined)

telethon.utils.**chunks**(*iterable*, *size=100*)

> Turns the given iterable into chunks of the specified size, which is 100 by default since that's what Telegram uses the most.

telethon.utils.**decode_waveform**(*waveform*)

> Inverse operation of *encode_waveform*.

telethon.utils.**encode_waveform**(*waveform*)

> Encodes the input `bytes` into a 5-bit byte-string to be used as a voice note's waveform. See *decode_waveform* for the reverse operation.

> **Example**

```
chat = ...
file = 'my.ogg'

# Send 'my.ogg' with a ascending-triangle waveform
await client.send_file(chat, file, attributes=[types.DocumentAttributeAudio(
    duration=7,
    voice=True,
    waveform=utils.encode_waveform(bytes(range(2 ** 5))  # 2**5 because 5-bit
)]

# Send 'my.ogg' with a square waveform
await client.send_file(chat, file, attributes=[types.DocumentAttributeAudio(
    duration=7,
    voice=True,
    waveform=utils.encode_waveform(bytes((31, 31, 15, 15, 15, 15, 31, 31)) * 4)
)]
```

telethon.utils.**get_appropriated_part_size**(*file_size*)

> Gets the appropriated part size when uploading or downloading files, given an initial file size.

telethon.utils.**get_attributes**(*file*, ***, *attributes=None*, *mime_type=None*, *force_document=False*, *voice_note=False*, *video_note=False*, *supports_streaming=False*, *thumb=None*)

> Get a list of attributes for the given file and the mime type as a tuple ([attribute], mime_type).

telethon.utils.**get_display_name**(*entity*)

> Gets the display name for the given User, Chat or Channel. Returns an empty string otherwise.

telethon.utils.**get_extension**(*media*)

> Gets the corresponding extension for any Telegram media.

telethon.utils.**get_inner_text**(*text*, *entities*)

> Gets the inner text that's surrounded by the given entities. For instance: text = 'hey!', entity = MessageEntityBold(2, 2) -> 'y!'.

> > **Parameters**
> > - **text** – the original text.
> > - **entities** – the entity or entities that must be matched.
> > **Returns**
> > a single result or a list of the text surrounded by the entities.

telethon.utils.**get_input_channel**(*entity*)

> Similar to *get_input_peer()*, but for InputChannel's alone.

> **Important:** This method does not validate for invalid general-purpose access hashes, unlike *get_input_peer*. Consider using instead: `get_input_channel(get_input_peer(channel))`.

---

telethon.utils.**get_input_chat_photo**(*photo*)

> Similar to *get_input_peer()*, but for chat photos

telethon.utils.**get_input_dialog**(*dialog*)

> Similar to *get_input_peer()*, but for dialogs

telethon.utils.**get_input_document**(*document*)

> Similar to *get_input_peer()*, but for documents

telethon.utils.**get_input_geo**(*geo*)

> Similar to *get_input_peer()*, but for geo points

telethon.utils.**get_input_group_call**(*call*)

> Similar to *get_input_peer()*, but for input calls.

telethon.utils.**get_input_location**(*location*)

> Similar to *get_input_peer()*, but for input messages.

> Note that this returns a tuple (`dc_id, location`), the `dc_id` being present if known.

telethon.utils.**get_input_media**(*media*, *, *is_photo=False*, *attributes=None*, *force_document=False*, *voice_note=False*, *video_note=False*, *supports_streaming=False*, *ttl=None*)

> Similar to *get_input_peer()*, but for media.

> If the media is InputFile and `is_photo` is known to be True, it will be treated as an InputMediaUploadedPhoto. Else, the rest of parameters will indicate how to treat it.

telethon.utils.**get_input_message**(*message*)

> Similar to *get_input_peer()*, but for input messages.

telethon.utils.**get_input_peer**(*entity*, *allow_self=True*, *check_hash=True*)

> Gets the input peer for the given "entity" (user, chat or channel).

> A `TypeError` is raised if the given entity isn't a supported type or if `check_hash is True` but the entity's `access_hash is None` *or* the entity contains `min` information. In this case, the hash cannot be used for general purposes, and thus is not returned to avoid any issues which can derive from invalid access hashes.

> Note that `check_hash` **is ignored** if an input peer is already passed since in that case we assume the user knows what they're doing. This is key to getting entities by explicitly passing `hash = 0`.

telethon.utils.**get_input_photo**(*photo*)

> Similar to *get_input_peer()*, but for photos

telethon.utils.**get_input_user**(*entity*)

> Similar to *get_input_peer()*, but for InputUser's alone.

> **Important:** This method does not validate for invalid general-purpose access hashes, unlike *get_input_peer*. Consider using instead: `get_input_channel(get_input_peer(channel))`.

---

telethon.utils.**get_message_id**(*message*)

> Similar to *get_input_peer()*, but for message IDs.

telethon.utils.**get_peer**(*peer*)

telethon.utils.**get_peer_id**(*peer*, *add_mark=True*)

> Convert the given peer into its marked ID by default.
>
> This "mark" comes from the "bot api" format, and with it the peer type can be identified back. User ID is left unmodified, chat ID is negated, and channel ID is "prefixed" with -100:
>
> - user_id
>
> - -chat_id
>
> - -100channel_id
>
> The original ID and the peer type class can be returned with a call to resolve_id(marked_id)().

telethon.utils.**is_audio**(*file*)

> Returns True if the file has an audio mime type.

telethon.utils.**is_gif**(*file*)

> Returns True if the file extension looks like a gif file to Telegram.

telethon.utils.**is_image**(*file*)

> Returns True if the file extension looks like an image file to Telegram.

telethon.utils.**is_list_like**(*obj*)

> Returns True if the given object looks like a list.
>
> Checking if hasattr(obj, '__iter__') and ignoring str/bytes is not enough. Things like open() are also iterable (and probably many other things), so just support the commonly known list-like objects.

telethon.utils.**is_video**(*file*)

> Returns True if the file has a video mime type.

telethon.utils.**pack_bot_file_id**(*file*)

> Inverse operation for *resolve_bot_file_id*.
>
> The only parameters this method will accept are Document and Photo, and it will return a variable-length file_id string.
>
> If an invalid parameter is given, it will return None.

telethon.utils.**parse_phone**(*phone*)

> Parses the given phone, or returns None if it's invalid.

telethon.utils.**parse_username**(*username*)

> Parses the given username or channel access hash, given a string, username or URL. Returns a tuple consisting of both the stripped, lowercase username and whether it is a joinchat/ hash (in which case is not lowercase'd).
>
> Returns (None, False) if the username or link is not valid.

telethon.utils.**resolve_bot_file_id**(*file_id*)

> Given a Bot API-style *file_id*, returns the media it represents. If the *file_id* is not valid, None is returned instead.
>
> Note that the *file_id* does not have information such as image dimensions or file size, so these will be zero if present.
>
> For thumbnails, the photo ID and hash will always be zero.

telethon.utils.**resolve_id**(*marked_id*)

>   Given a marked ID, returns the original ID and its Peer type.

telethon.utils.**resolve_inline_message_id**(*inline_msg_id*)

>   Resolves an inline message ID. Returns a tuple of (`message id, peer, dc id, access hash`)
>
>   The `peer` may either be a PeerUser referencing the user who sent the message via the bot in a private conversation or small group chat, or a PeerChannel if the message was sent in a channel.
>
>   The `access_hash` does not have any use yet.

telethon.utils.**resolve_invite_link**(*link*)

>   Resolves the given invite link. Returns a tuple of (`link creator user id, global chat id, random int`).
>
>   Note that for broadcast channels or with the newest link format, the link creator user ID will be zero to protect their identity. Normal chats and megagroup channels will have such ID.
>
>   Note that the chat ID may not be accurate for chats with a link that were upgraded to megagroup, since the link can remain the same, but the chat ID will be correct once a new link is generated.

telethon.utils.**sanitize_parse_mode**(*mode*)

>   Converts the given parse mode into an object with `parse` and `unparse` callable properties.

telethon.utils.**split_text**(*text*, *entities*, ***, *limit=4096*, *max_entities=100*, *split_at=('\n', '\s', '.')*)

>   Split a message text and entities into multiple messages, each with their own set of entities. This allows sending a very large message as multiple messages while respecting the formatting.
>
>   **Arguments**
>
>   >   **text (str):**
>   >   The message text.
>   >
>   >   **entities (List[MessageEntity])**
>   >   The formatting entities.
>   >
>   >   **limit (int):**
>   >   The maximum message length of each individual message.
>   >
>   >   **max_entities (int):**
>   >   The maximum amount of entities that will be present in each individual message.
>   >
>   >   **split_at (Tuple[str]):**
>   >   The list of regular expressions that will determine where to split the text. By default, a newline is searched. If no newline is present, a space is searched. If no space is found, the split will be made at any character.
>   >
>   >   The last expression should always match a character, or else the text will stop being splitted and the resulting text may be larger than the limit.
>
>   **Yields**
>
>   >   Pairs of (`str, entities`) with the split message.
>
>   **Example**

```python
from telethon import utils
from telethon.extensions import markdown

very_long_markdown_text = "..."
text, entities = markdown.parse(very_long_markdown_text)
```

(continues on next page)

```
for text, entities in utils.split_text(text, entities):
    await client.send_message(chat, text, formatting_entities=entities)
```

telethon.utils.**stripped_photo_to_jpg**(*stripped*)

> Adds the JPG header and footer to a stripped image.
>
> Ported from https://github.com/telegramdesktop/tdesktop/blob/bec39d89e19670eb436dc794a8f20b657cb87c71/
> Telegram/SourceFiles/ui/image/image.cpp#L225

2.38 API Errors

These are the base errors that Telegram's API may raise.

See *RPC Errors* for a more in-depth explanation on how to handle all known possible errors and learning to determine what a method may raise. Errors not related to the Telegram API itself

exception telethon.errors.common.**AlreadyInConversationError**

> Bases: Exception
>
> Occurs when another exclusive conversation is opened in the same chat.
>
> **__weakref__**
>
> > list of weak references to the object (if defined)

exception telethon.errors.common.**AuthKeyNotFound**

> Bases: Exception
>
> The server claims it doesn't know about the authorization key (session file) currently being used. This might be because it either has never seen this authorization key, or it used to know about the authorization key but has forgotten it, either temporarily or permanently (possibly due to server errors).
>
> If the issue persists, you may need to recreate the session file and login again. This is not done automatically because it is not possible to know if the issue is temporary or permanent.
>
> **__weakref__**
>
> > list of weak references to the object (if defined)

exception telethon.errors.common.**BadMessageError**(*request*, *code*)

> Bases: Exception
>
> Occurs when handling a bad_message_notification.

```
ErrorMessages = {16:  'msg_id too low (most likely, client time is wrong it would be
worthwhile to synchronize it using msg_id notifications and re-send the original
message with the "correct" msg_id or wrap it in a container with a new msg_id if the
original message had waited too long on the client to be transmitted).', 17:
'msg_id too high (similar to the previous case, the client time has to be
synchronized, and the message re-sent with the correct msg_id).', 18:  'Incorrect
two lower order msg_id bits (the server expects client message msg_id to be
divisible by 4).', 19:  'Container msg_id is the same as msg_id of a previously
received message (this must never happen).', 20:  'Message too old, and it cannot be
verified whether the server has received a message with this msg_id or not.', 32:
'msg_seqno too low (the server has already received a message with a lower msg_id
but with either a higher or an equal and odd seqno).', 33:  'msg_seqno too high
(similarly, there is a message with a higher msg_id but with either a lower or an
equal and odd seqno).', 34:  'An even msg_seqno expected (irrelevant message), but
odd received.', 35:  'Odd msg_seqno expected (relevant message), but even
received.', 48:  'Incorrect server salt (in this case, the bad_server_salt response
is received with the correct salt, and the message is to be re-sent with it).', 64:
'Invalid container.'}
```

__weakref__
> list of weak references to the object (if defined)

exception telethon.errors.common.**CdnFileTamperedError**

> Bases: *SecurityError*

> Occurs when there's a hash mismatch between the decrypted CDN file and its expected hash.

exception telethon.errors.common.**InvalidBufferError**(*payload*)

> Bases: BufferError

> Occurs when the buffer is invalid, and may contain an HTTP error code. For instance, 404 means "forgotten/broken authorization key", while

__weakref__
> list of weak references to the object (if defined)

exception telethon.errors.common.**InvalidChecksumError**(*checksum*, *valid_checksum*)

> Bases: Exception

> Occurs when using the TCP full mode and the checksum of a received packet doesn't match the expected checksum.

__weakref__
> list of weak references to the object (if defined)

exception telethon.errors.common.**MultiError**(*exceptions*, *result*, *requests*)

> Bases: Exception

> Exception container for multiple TLRequest's.

static __new__(*cls*, *exceptions*, *result*, *requests*)

__weakref__
> list of weak references to the object (if defined)

exception telethon.errors.common.**ReadCancelledError**

> Bases: Exception

> Occurs when a read operation was cancelled.

__weakref__

list of weak references to the object (if defined)

exception telethon.errors.common.**SecurityError**(**args*)

Bases: Exception

Generic security error, mostly used when generating a new AuthKey.

__annotations__ = {}

__weakref__

list of weak references to the object (if defined)

exception telethon.errors.common.**TypeNotFoundError**(*invalid_constructor_id*, *remaining*)

Bases: Exception

Occurs when a type is not found, for example, when trying to read a TLObject with an invalid constructor code.

__weakref__

list of weak references to the object (if defined)

exception telethon.errors.rpcbaseerrors.**AuthKeyError**(*request*, *message*, *code=None*)

Bases: *RPCError*

Errors related to invalid authorization key, like AUTH_KEY_DUPLICATED which can cause the connection to fail.

code = 406

message = 'AUTH_KEY'

exception telethon.errors.rpcbaseerrors.**BadRequestError**(*request*, *message*, *code=None*)

Bases: *RPCError*

The query contains errors. In the event that a request was created using a form and contains user generated data, the user should be notified that the data must be corrected before the query is repeated.

__annotations__ = {}

code = 400

message = 'BAD_REQUEST'

telethon.errors.rpcbaseerrors.**BotTimeout**

alias of *TimedOutError*

exception telethon.errors.rpcbaseerrors.**FloodError**(*request*, *message*, *code=None*)

Bases: *RPCError*

The maximum allowed number of attempts to invoke the given method with the given input parameters has been exceeded. For example, in an attempt to request a large number of text messages (SMS) for the same phone number.

__annotations__ = {}

code = 420

message = 'FLOOD'

exception telethon.errors.rpcbaseerrors.**ForbiddenError**(*request*, *message*, *code=None*)

    Bases: *RPCError*

    Privacy violation. For example, an attempt to write a message to someone who has blacklisted the current user.

    __annotations__ = {}

    code = 403

    message = 'FORBIDDEN'

exception telethon.errors.rpcbaseerrors.**InvalidDCError**(*request*, *message*, *code=None*)

    Bases: *RPCError*

    The request must be repeated, but directed to a different data center.

    __annotations__ = {}

    code = 303

    message = 'ERROR_SEE_OTHER'

exception telethon.errors.rpcbaseerrors.**NotFoundError**(*request*, *message*, *code=None*)

    Bases: *RPCError*

    An attempt to invoke a non-existent object, such as a method.

    __annotations__ = {}

    code = 404

    message = 'NOT_FOUND'

exception telethon.errors.rpcbaseerrors.**RPCError**(*request*, *message*, *code=None*)

    Bases: Exception

    Base class for all Remote Procedure Call errors.

    __annotations__ = {}

    __reduce__()

        Helper for pickle.

    __weakref__

        list of weak references to the object (if defined)

    code = None

    message = None

exception telethon.errors.rpcbaseerrors.**ServerError**(*request*, *message*, *code=None*)

    Bases: *RPCError*

    An internal server error occurred while a request was being processed for example, there was a disruption while accessing a database or file storage.

    __annotations__ = {}

    code = 500

    message = 'INTERNAL'

exception `telethon.errors.rpcbaseerrors.`**`TimedOutError`**(*request*, *message*, *code=None*)

    Bases: *RPCError*

    Clicking the inline buttons of bots that never (or take to long to) call `answerCallbackQuery` will result in this "special" RPCError.

    `__annotations__` **= {}**

    `code` **= 503**

    `message` **= 'Timeout'**

exception `telethon.errors.rpcbaseerrors.`**`UnauthorizedError`**(*request*, *message*, *code=None*)

    Bases: *RPCError*

    There was an unauthorized attempt to use functionality available only to authorized users.

    `__annotations__` **= {}**

    `code` **= 401**

    `message` **= 'UNAUTHORIZED'**

2.39 Sessions

These are the different built-in session storage that you may subclass.

class `telethon.sessions.abstract.`**`Session`**

    Bases: `ABC`

    `__annotations__` **= {}**

    `__weakref__`

        list of weak references to the object (if defined)

    abstract property `auth_key`

        Returns an `AuthKey` instance associated with the saved data center, or `None` if a new one should be generated.

    abstract `cache_file`(*md5_digest*, *file_size*, *instance*)

        Caches the given file information persistently, so that it doesn't need to be re-uploaded in case the file is used again.

        The `instance` will be either an `InputPhoto` or `InputDocument`, both with an `.id` and `.access_hash` attributes.

    `clone`(*to_instance=None*)

        Creates a clone of this session file.

    `close`()

        Called on client disconnection. Should be used to free any used resources. Can be left empty if none.

    abstract property `dc_id`

        Returns the currently-used data center ID.

    abstract `delete`()

        Called upon client.log_out(). Should delete the stored information from disk since it's not valid anymore.

abstract **get_file**(*md5_digest*, *file_size*, *cls*)

> Returns an instance of `cls` if the `md5_digest` and `file_size` match an existing saved record. The class will either be an `InputPhoto` or `InputDocument`, both with two parameters `id` and `access_hash` in that order.

abstract **get_input_entity**(*key*)

> Turns the given key into an `InputPeer` (e.g. `InputPeerUser`). The library uses this method whenever an `InputPeer` is needed to suit several purposes (e.g. user only provided its ID or wishes to use a cached username to avoid extra RPC).

abstract **get_update_state**(*entity_id*)

> Returns the `UpdateState` associated with the given `entity_id`. If the `entity_id` is 0, it should return the `UpdateState` for no specific channel (the "general" state). If no state is known it should `return None`.

abstract **get_update_states**()

> Returns an iterable over all known pairs of `(entity ID, update state)`.

classmethod **list_sessions**()

> Lists available sessions. Not used by the library itself.

abstract property **port**

> Returns the port to which the library should connect to.

abstract **process_entities**(*tlo*)

> Processes the input `TLObject` or `list` and saves whatever information is relevant (e.g., ID or access hash).

abstract **save**()

> Called whenever important properties change. It should make persist the relevant session information to disk.

abstract property **server_address**

> Returns the server address where the library should connect to.

abstract **set_dc**(*dc_id*, *server_address*, *port*)

> Sets the information of the data center address and port that the library should connect to, as well as the data center ID, which is currently unused.

abstract **set_update_state**(*entity_id*, *state*)

> Sets the given `UpdateState` for the specified `entity_id`, which should be 0 if the `UpdateState` is the "general" state (and not for any specific channel).

abstract property **takeout_id**

> Returns an ID of the takeout process initialized for this session, or None if there's no were any unfinished takeout requests.

class telethon.sessions.memory.**MemorySession**

> Bases: *Session*

> **__annotations__** = {}

> property **auth_key**

> > Returns an `AuthKey` instance associated with the saved data center, or None if a new one should be generated.

> **cache_file**(*md5_digest*, *file_size*, *instance*)

> > Caches the given file information persistently, so that it doesn't need to be re-uploaded in case the file is used again.

The `instance` will be either an `InputPhoto` or `InputDocument`, both with an `.id` and `.access_hash` attributes.

close()

Called on client disconnection. Should be used to free any used resources. Can be left empty if none.

property dc_id

Returns the currently-used data center ID.

delete()

Called upon client.log_out(). Should delete the stored information from disk since it's not valid anymore.

get_entity_rows_by_id(*id*, *exact=True*)

get_entity_rows_by_name(*name*)

get_entity_rows_by_phone(*phone*)

get_entity_rows_by_username(*username*)

get_file(*md5_digest*, *file_size*, *cls*)

Returns an instance of `cls` if the `md5_digest` and `file_size` match an existing saved record. The class will either be an `InputPhoto` or `InputDocument`, both with two parameters id and `access_hash` in that order.

get_input_entity(*key*)

Turns the given key into an `InputPeer` (e.g. `InputPeerUser`). The library uses this method whenever an `InputPeer` is needed to suit several purposes (e.g. user only provided its ID or wishes to use a cached username to avoid extra RPC).

get_update_state(*entity_id*)

Returns the `UpdateState` associated with the given `entity_id`. If the `entity_id` is 0, it should return the `UpdateState` for no specific channel (the "general" state). If no state is known it should `return None`.

get_update_states()

Returns an iterable over all known pairs of (`entity ID`, `update state`).

property port

Returns the port to which the library should connect to.

process_entities(*tlo*)

Processes the input `TLObject` or `list` and saves whatever information is relevant (e.g., ID or access hash).

save()

Called whenever important properties change. It should make persist the relevant session information to disk.

property server_address

Returns the server address where the library should connect to.

set_dc(*dc_id*, *server_address*, *port*)

Sets the information of the data center address and port that the library should connect to, as well as the data center ID, which is currently unused.

set_update_state(*entity_id*, *state*)

Sets the given `UpdateState` for the specified `entity_id`, which should be 0 if the `UpdateState` is the "general" state (and not for any specific channel).

property takeout_id

> Returns an ID of the takeout process initialized for this session, or None if there's no were any unfinished takeout requests.

class telethon.sessions.sqlite.**SQLiteSession**(*session_id=None*)

Bases: *MemorySession*

This session contains the required information to login into your Telegram account. NEVER give the saved session file to anyone, since they would gain instant access to all your messages and contacts.

If you think the session has been compromised, close all the sessions through an official Telegram client to revoke the authorization.

__annotations__ = {}

property auth_key

> Returns an AuthKey instance associated with the saved data center, or None if a new one should be generated.

cache_file(*md5_digest*, *file_size*, *instance*)

> Caches the given file information persistently, so that it doesn't need to be re-uploaded in case the file is used again.
>
> The instance will be either an InputPhoto or InputDocument, both with an .id and .access_hash attributes.

clone(*to_instance=None*)

> Creates a clone of this session file.

close()

> Closes the connection unless we're working in-memory

delete()

> Deletes the current session file

get_entity_rows_by_id(*id*, *exact=True*)

get_entity_rows_by_name(*name*)

get_entity_rows_by_phone(*phone*)

get_entity_rows_by_username(*username*)

get_file(*md5_digest*, *file_size*, *cls*)

> Returns an instance of cls if the md5_digest and file_size match an existing saved record. The class will either be an InputPhoto or InputDocument, both with two parameters id and access_hash in that order.

get_update_state(*entity_id*)

> Returns the UpdateState associated with the given entity_id. If the entity_id is 0, it should return the UpdateState for no specific channel (the "general" state). If no state is known it should return None.

get_update_states()

> Returns an iterable over all known pairs of (entity ID, update state).

classmethod list_sessions()

> Lists all the sessions of the users who have ever connected using this client and never logged out

process_entities(*tlo*)

> Processes all the found entities on the given TLObject, unless .save_entities is False.

save()

> Saves the current session object as session_user_id.session

set_dc(*dc_id*, *server_address*, *port*)

> Sets the information of the data center address and port that the library should connect to, as well as the data center ID, which is currently unused.

set_update_state(*entity_id*, *state*)

> Sets the given UpdateState for the specified `entity_id`, which should be 0 if the UpdateState is the "general" state (and not for any specific channel).

property takeout_id

> Returns an ID of the takeout process initialized for this session, or None if there's no were any unfinished takeout requests.

class telethon.sessions.string.**StringSession**(*string: str = None*)

Bases: *MemorySession*

This session file can be easily saved and loaded as a string. According to the initial design, it contains only the data that is necessary for successful connection and authentication, so takeout ID is not stored.

It is thought to be used where you don't want to create any on-disk files but would still like to be able to save and load existing sessions by other means.

You can use custom *encode* and *decode* functions, if present:

- *encode* definition must be `def encode(value:  bytes) -> str:`.
- *decode* definition must be `def decode(value:  str) -> bytes:`.

__annotations__ = {}

static decode(*x: str*) → bytes

static encode(*x: bytes*) → str

save()

> Called whenever important properties change. It should make persist the relevant session information to disk.

2.40 Connection Modes

The only part about network that you should worry about are the different connection modes, which are the following:

class telethon.network.connection.tcpfull.**ConnectionTcpFull**(*ip*, *port*, *dc_id*, ***, *loggers*, *proxy=None*, *local_addr=None*)

Bases: Connection

Default Telegram mode. Sends 12 additional bytes and needs to calculate the CRC value of the packet itself.

__annotations__ = {}

packet_codec

> alias of *FullPacketCodec*

class telethon.network.connection.tcpfull.**FullPacketCodec**(*connection*)

    Bases: PacketCodec

    __annotations__ = {}

    encode_packet(*data*)

        Encodes single packet and returns encoded bytes.

    async read_packet(*reader*)

        Reads single packet from `reader` object that should have `readexactly(n)` method.

    tag = None

class telethon.network.connection.tcpabridged.**AbridgedPacketCodec**(*connection*)

    Bases: PacketCodec

    __annotations__ = {}

    encode_packet(*data*)

        Encodes single packet and returns encoded bytes.

    obfuscate_tag = b'\xef\xef\xef\xef'

    async read_packet(*reader*)

        Reads single packet from `reader` object that should have `readexactly(n)` method.

    tag = b'\xef'

class telethon.network.connection.tcpabridged.**ConnectionTcpAbridged**(*ip*, *port*, *dc_id*, ***, *loggers*, *proxy=None*, *local_addr=None*)

    Bases: Connection

    This is the mode with the lowest overhead, as it will only require 1 byte if the packet length is less than 508 bytes (127 << 2, which is very common).

    __annotations__ = {}

    packet_codec

        alias of *AbridgedPacketCodec*

class telethon.network.connection.tcpintermediate.**ConnectionTcpIntermediate**(*ip*, *port*, *dc_id*, ***, *loggers*, *proxy=None*, *local_addr=None*)

    Bases: Connection

    Intermediate mode between `ConnectionTcpFull` and `ConnectionTcpAbridged`. Always sends 4 extra bytes for the packet length.

    __annotations__ = {}

    packet_codec

        alias of *IntermediatePacketCodec*

class telethon.network.connection.tcpintermediate.**IntermediatePacketCodec**(*connection*)

    Bases: PacketCodec

    __annotations__ = {}

encode_packet(*data*)

>   Encodes single packet and returns encoded bytes.

obfuscate_tag = b'\xee\xee\xee\xee'

async read_packet(*reader*)

>   Reads single packet from `reader` object that should have `readexactly(n)` method.

tag = b'\xee\xee\xee\xee'

class telethon.network.connection.tcpintermediate.**RandomizedIntermediatePacketCodec**(*connection*)

>   Bases: *IntermediatePacketCodec*

Data packets are aligned to 4bytes. This codec adds random bytes of size from 0 to 3 bytes, which are ignored by decoder.

__annotations__ = {}

encode_packet(*data*)

>   Encodes single packet and returns encoded bytes.

obfuscate_tag = b'\xdd\xdd\xdd\xdd'

async read_packet(*reader*)

>   Reads single packet from `reader` object that should have `readexactly(n)` method.

tag = None

class telethon.network.connection.tcpobfuscated.**ConnectionTcpObfuscated**(*ip*, *port*, *dc_id*, *,
                                                                                    loggers, *proxy=None*,
                                                                                    local_addr=None)

>   Bases: `ObfuscatedConnection`

Mode that Telegram defines as "obfuscated2". Encodes the packet just like `ConnectionTcpAbridged`, but encrypts every message with a randomly generated key using the AES-CTR mode so the packets are harder to discern.

__annotations__ = {}

obfuscated_io

>   alias of *ObfuscatedIO*

packet_codec

>   alias of *AbridgedPacketCodec*

class telethon.network.connection.tcpobfuscated.**ObfuscatedIO**(*connection*)

>   Bases: *object*

__weakref__

>   list of weak references to the object (if defined)

header = None

static init_header(*packet_codec*)

async readexactly(*n*)

write(*data*)

class `telethon.network.connection.http.`**`ConnectionHttp`**(*ip*, *port*, *dc_id*, ***, *loggers*, *proxy=None*, *local_addr=None*)

> Bases: `Connection`
>
> **`__annotations__`** `= {}`
>
> **async** **`connect`**(*timeout=None*, *ssl=None*)
>> Establishes a connection with the server.
>
> **`packet_codec`**
>> alias of *`HttpPacketCodec`*

class `telethon.network.connection.http.`**`HttpPacketCodec`**(*connection*)

> Bases: `PacketCodec`
>
> **`__annotations__`** `= {}`
>
> **`encode_packet`**(*data*)
>> Encodes single packet and returns encoded bytes.
>
> **`obfuscate_tag`** `= None`
>
> **async** **`read_packet`**(*reader*)
>> Reads single packet from `reader` object that should have `readexactly(n)` method.
>
> **`tag`** `= None`

2.41 Helpers

Various helpers not related to the Telegram API itself

class `telethon.helpers.`**`TotalList`**(**args*, ***kwargs*)

> Bases: `list`
>
> A list with an extra `total` property, which may not match its `len` since the total represents the total amount of items *available* somewhere else, not the items *in this list*.
>
> Examples:

```python
# Telethon returns these lists in some cases (for example,
# only when a chunk is returned, but the "total" count
# is available).
result = await client.get_messages(chat, limit=10)

print(result.total)  # large number
print(len(result))  # 10
print(result[0])  # latest message

for x in result:  # show the 10 messages
    print(x.text)
```

> **`__repr__`**()
>> Return repr(self).
>
> **`__str__`**()
>> Return str(self).

__weakref__
> list of weak references to the object (if defined)

telethon.helpers.**add_surrogate**(*text*)

telethon.helpers.**del_surrogate**(*text*)

telethon.helpers.**ensure_parent_dir_exists**(*file_path*)
> Ensures that the parent directory exists

telethon.helpers.**generate_key_data_from_nonce**(*server_nonce*, *new_nonce*)
> Generates the key data corresponding to the given nonce

telethon.helpers.**generate_random_long**(*signed=True*)
> Generates a random long integer (8 bytes), which is optionally signed

telethon.helpers.**get_running_loop**()

telethon.helpers.**retry_range**(*retries*, *force_retry=True*)
> Generates an integer sequence starting from 1. If `retries` is not a zero or a positive integer value, the sequence will be infinite, otherwise it will end at `retries + 1`.

telethon.helpers.**strip_text**(*text*, *entities*)
> Strips whitespace from the given surrogated text modifying the provided entities, also removing any empty (0-length) entities.
>
> This assumes that the length of entities is greater or equal to 0, and that no entity is out of bounds.

telethon.helpers.**within_surrogate**(*text*, *index*, ***, *length=None*)
> True if `index` is within a surrogate (before and after it, not at!).

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