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# Quetzal Python Client Documentation

*Release 0.0.0*

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Python client for the Quetzal API.

If you are not familiar with the Quetzal API, read its [documentation](#) first. This Python package provides a command-line and helper functions to interact with the Quetzal API.

Note that this package depends on an auto-generated package `quetzal.openapi_client`, which is also a client to this API. You can use the latter as a pure Python client, but `quetzal.client` provides some helpers and small fixes.



# CHAPTER 1

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## Installation

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You can install *quetzal-client*, with `pip`:

```
pip install quetzal-client
```

Alternatively, add this line to your `requirements.txt`:

```
quetzal-client
```

and then do `pip install -r requirements.txt`.

If you are using `conda`, add the following structure to your `environment.yaml`:

```
...
dependencies:
  - pip
  - pip:
    - quetzal-client
```

and create or update your environment with `conda env create -f environment.yaml` or `conda env update -f environment.yaml`, respectively.





## CHAPTER 2

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### Getting started

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In order to use *quetzal.client*, you need to know the URL of the API server, your username and password. You can set these on the command-line interface, through a configuration object, or using environment variables:

Table 1: Environment variables considered by *quetzal-client*.

Variable	Description	Default if not set
QUETZAL_URL	Complete URL of the Quetzal server + API version.	'https://api.quetzal.al/api/v1'
QUETZAL_USER	Quetzal username.	' '
QUETZAL_PASSWORD	Quetzal password.	' '
QUETZAL_API_KEY	Quetzal API key.	' '



There are two ways this package helps you: with a command-line interface or by providing some helper modules that you can use in Python.

### 3.1 Command-line interface

The command-line interface is available through the `quetzal-client` command. Use the `--help` or `--help-all` options to get a detailed description of each command.

```
$ quetzal-client --help

Usage: quetzal-client [GLOBAL OPTIONS] COMMAND [ARGS]...

    Command-line utility for the Quetzal API client.

Options:
  --url TEXT           Quetzal URL. If not set, uses environment variable
                       QUETZAL_URL if this variable is defined. [default:
                       https://api.quetz.al/api/v1]
  --username TEXT     Quetzal username. If not set, uses environment variable
                       QUETZAL_USER. Option is mutually exclusive with token,
                       api_key.
  --password TEXT     Quetzal password. If not set, uses environment variable
                       QUETZAL_PASSWORD. Option is mutually exclusive with token,
                       api_key.
  --token TEXT        Quetzal bearer token. If not set, uses environment variable
                       QUETZAL_TOKEN. Option is mutually exclusive with username,
                       password, api_key.
  --api-key TEXT      Quetzal API key. If not set, uses environment variable
                       QUETZAL_API_KEY. Option is mutually exclusive with username,
                       password, token.
  --insecure          Do not verify HTTPS certificates.
  -v, --verbose       Verbosity level. Use -v for verbose, -vv for even more
```

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```

verbosity
--help-all      Show a detailed help message with all options and exit.
--help          Show help message for this command and exit.
--version       Show the version and exit.

Commands:
  auth          Authentication operations.
  file          File operations.
  query         Query metadata.
  workspace     Workspace operations.
    
```

## 3.2 Python

To start using *quetzal.client* on Python code, use the following template:

```

from quetzal.client import Client, Configuration, QuetzalAPIException
from quetzal.client import helpers

config = Configuration()
# ... change config as needed or fallback to the environment variables ...
# config.verify_ssl = False # Use this for servers without certificates (dev servers)
client = Client(config)

# A simple test using the helpers to verify that we can login to Quetzal
try:
    helpers.auth.login(client)
    print('Logged in successfully!')
except QuetzalAPIException as ex:
    print(f'Operation failed. {ex.title} - {ex.detail}')
    
```

## CHAPTER 4

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### Documentation

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There are more details on *quetzal.client* on its official documentation at [readthedocs](#).



## CHAPTER 5

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### Contribute

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- Issue Tracker: <https://github.com/quetz-al/quetzal-client/issues>
- Source Code: <https://github.com/quetz-al/quetzal-client>





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## Note to package maintainer

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To build and send this package to PyPI:

```
# Clean previous builds!
rm -rf dist/
# Build
python setup.py sdist bdist_wheel

# Install helper module for uploading to PyPI
pip install twine
# First, send to test PyPI
twine upload --repository-url https://test.pypi.org/legacy/ dist/*
# If that works ok, then send to PyPI
python -m twine upload dist/*
```



The project is under the BSD 3-clause license.

## 7.1 Examples

### 7.1.1 Command-line examples

- example 1
- example 2

### 7.1.2 Python examples

- example 1
- example 2

## 7.2 Changelog

This document list all important changes to quetzal-client.

Quetzal-client version numbers follow [semantic versioning](#).

### 7.2.1 0.5.2 (2020-03-13)

This is just a re-release of 0.5.1 code due to problem when uploading to PyPI.

### 7.2.2 0.5.1 (2020-03-13)

- Add `data_url` to workspace details on the CLI
- Fix permission error when using query history on the CLI
- Update backoff requirement to avoid problems when used by dask

### 7.2.3 0.5.1-rc3 (2020-03-04)

- Fix incorrect management of auto retry backoff for 503 errors and a recursive auto-login that was also incorrect

### 7.2.4 0.5.1-rc2 (2020-02-28)

- Fix incorrect management of output and `output_dir` in download helper.

### 7.2.5 0.5.1-rc1 (2020-02-27)

- Fix problem with API key authentication when requesting file details.
- Fix API key management on configuration object.
- Fix lack of default format on CLI for file metadata.
- Add file delete CLI.

### 7.2.6 0.5.0 (2019-10-17)

- Update to API version 0.5.0.
- Add API key authentication.

### 7.2.7 0.3.0 (2019-07-02)

- Update to API version 0.3.0.
- Add more helper functions (query and client).
- Fix incorrect call to derived configuration object.
- Fix unpickeable exception types.
- Fix bugs on file download checksum verification and file upload parameters.

### 7.2.8 0.2.0 (2019-03-21)

- Update dependency *quetzal-openapi-client* to match Quetzal API version 0.2.0.
- Fix `dependency_links` to correctly link to *quetzal-openapi-client*.

### 7.2.9 0.1.1 (2019-03-08)

- `quetzal.client.api` has been renamed to `quetzal.client.helpers`.
- File download, with verification of known files, added to helpers.
- File download falls back to user data directory if output not set.
- Config default to environment variable values when created.
- Initial structure of Sphinx documentation.

### 7.2.10 0.1.0 (2019-03-05)

- First iteration of the Quetzal Python client.
- Delegates the *automatic* code to `quetzal-openapi-client`.
- Command-line interface implemented with `Click` for most operations available on the Quetzal API.
- Incomplete implementation of a helper module `quetzal.client.api` that encapsulates the usage of the auto-generated client.

## 7.3 Modules

### 7.3.1 quetzal.client package

#### 7.3.1.1 Subpackages

##### 7.3.1.1.1 quetzal.client.cli package

###### 7.3.1.1.1.1 Submodules

###### 7.3.1.1.1.2 quetzal.client.cli.auth module

###### 7.3.1.1.1.3 quetzal.client.cli.file module

###### 7.3.1.1.1.4 quetzal.client.cli.main module

###### 7.3.1.1.1.5 quetzal.client.cli.query module

###### 7.3.1.1.1.6 quetzal.client.cli.workspace module

##### 7.3.1.1.2 quetzal.client.helpers package

###### 7.3.1.1.2.1 Submodules

###### 7.3.1.1.2.2 quetzal.client.helpers.auth module

###### 7.3.1.1.2.3 quetzal.client.helpers.file module

###### 7.3.1.1.2.4 quetzal.client.helpers.query module

###### 7.3.1.1.2.5 quetzal.client.helpers.workspace module

#### 7.3.1.2 Submodules

##### 7.3.1.3 quetzal.client.base module

##### 7.3.1.4 quetzal.client.config module

##### 7.3.1.5 quetzal.client.exceptions module

##### 7.3.1.6 quetzal.client.utils module