edeposit.amqp.storage

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Contents

1 Package structure **3**
1.1 File relations 4
1.2 API 4

2 Installation **7**
2.1 Installation notes 7
2.2 Source code 8
2.3 Unittests 8

3 Indices and tables **9**

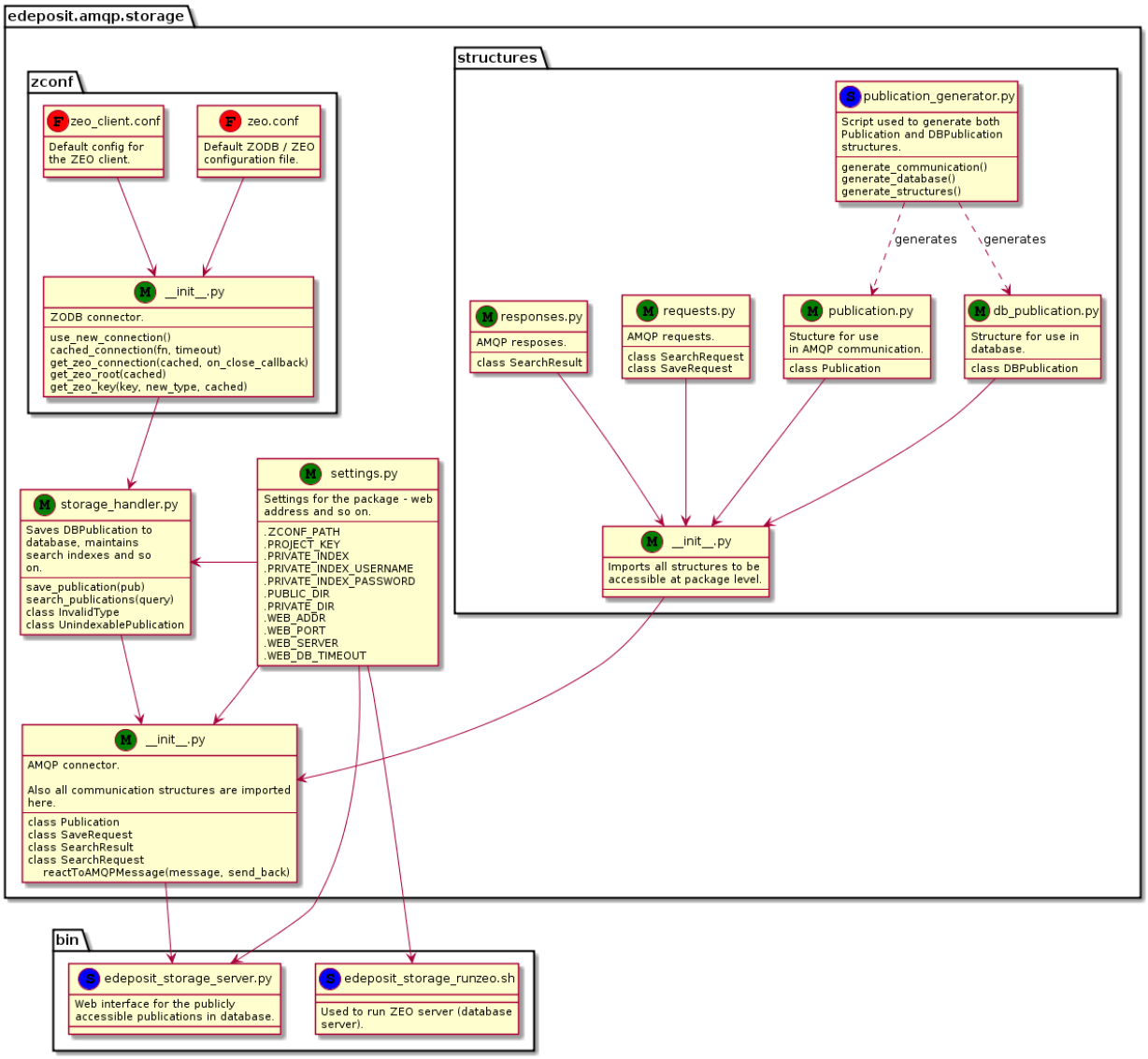
Long term storage subsystem for the E-deposit project.

This project allows to store and retreive publications over AMQP and also to optionally access accessible publications via HTTP using builtin webserver written in bottle.py.

CHAPTER 1

Package structure

1.1 File relations



1.2 API

/api/storage:

1.2.1 storage_handler module

This module handles the database, maintains indexes and provides search function over this indexes.

1.2.2 zconf submodule

ZEO and ZODB configuration and access functions.

API

1.2.3 settings submodule

`/api/structures/structures`:

1.2.4 publication structure

Communication structure used by AMQP.

1.2.5 db_publication structure

Structure used in ZODB (database).

1.2.6 requests submodule

Structures used for AMQP communication requests.

1.2.7 responses submodule

Structures used for AMQP responses.

1.2.8 publication_generator script

This script is used to generate `Publication` and `DBPublication` structures from common data.

CHAPTER 2

Installation

Installation of this project is little bit more complicated. Please read installation notes:

2.1 Installation notes

Module itself can be installed using PIP:

sudo pip install edeposit.amqp.storage

2.1.1 Configuration

After the installation, some configuration is required. Configuration is done using `settings.py` script, which reads data from configuration path `~/edeposit/storage.json`.

Each uppercase attribute defined in `settings` can be reconfigured using the `storage.json` configuration file.

Required configuration options is:

- `PUBLIC_DIR`
- `PRIVATE_DIR`

Highly recommended options:

- `PRIVATE_INDEX`
- `PRIVATE_INDEX_USERNAME`
- `PRIVATE_INDEX_PASSWORD`
- `WEB_ADDR`
- `WEB_PORT`
- `WEB_SERVER`

You should definitelly change the `WEB_SERVER` to `paste`. By default, the *wsgiref* backend is used, but that is only single-thread server. Paste will allow multithread access of users to your server.

2.1.2 Example of the configuration

```
{
    "PUBLIC_DIR": "/var/edeposit_storage/public",
    "PRIVATE_DIR": "/var/edeposit_storage/private",
    "PRIVATE_INDEX": true,
    "PRIVATE_INDEX_PASSWORD": "secret password",
    "WEB_SERVER": "paste"
}
```

2.2 Source code

Project is released under MIT license. Source code can be found at GitHub:

- https://github.com/edeposit/edeposit.amqp.storage

2.3 Unittests

Almost every feature of the project is tested by unittests. You can run those tests using provided `run_tests.sh` script, which can be found in the root of the project.

If you have any trouble, just add `--pdb` switch at the end of your `run_tests.sh` command like this: `./run_tests.sh --pdb`. This will drop you to PDB shell.

2.3.1 Requirements

This script expects that packages pytest, fake-factory and sh is installed. In case you don't have it yet, it can be easily installed using following command:

```
pip install --user pytest fake-factory sh
```

or for all users:

```
sudo pip install pytest fake-factory sh
```

2.3.2 Example

```
./run_tests.sh
============================= test session starts ==============================
platform linux2 -- Python 2.7.6 -- py-1.4.26 -- pytest-2.6.4
plugins: cov
collected 15 items

tests/test_amqp_chain.py ..
tests/test_storage_handler.py .........
tests/structures/test_db_publication.py ...
tests/structures/test_publication.py .

========================== 15 passed in 11.20 seconds ==========================
```

CHAPTER 3

Indices and tables

- *genindex*
- *modindex*
- *search*