PyFunceble Documentation

Release 4.0.0

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Welcome to PyFunceble!

PyFunceble is a tool that aims to provide an accurate availability check through the usage of multiple sources which are for example - to only list them:

- the WHOIS record(s).
- the DNS record(s).
- the HTTP status code.

PyFunceble can be included in your existing project through:

- its standard built-in CLI implementation.
- its Python API.
- the PyFunceble web-worker project that provides the core functionalities of PyFunceble behind a web API.

The PyFunceble CLI can test from a hosts file, a plain list of subjects, an AdBlock filter list or even an RPZ record.

As of today, PyFunceble is running actively - if not daily - within several servers, laptops, PCs, and Raspberry Pis. It is even used - thanks to our auto continue mechanism - with CI engines like GitHub Action, Travis CI, or GitLab CI.

Happy testing with PyFunceble!

CHAPTER 1

History of the project

PyFunceble is the little sister of Funceble which was archived on 13th March 2018. In March 2018, because Funceble was starting to become a huge unmanageable script, I - Nissar Chababy aka @funilrys - decided to make it a Python tool while extending my Python knowledge. It was meant for my own use case.

Back then, my problem was that I didn't want to download a huge hosts file knowing that most of the entries do not exist or are not reachable - anymore. That's how Py-Funceble started.

My objective - now - through this tool is to provide a tool and a Python API which helps the world test the availability of domains, IPs and URL through the gathering and interpretation of information from existing tools or protocols like WHOIS records, DNS lookup, or even HTTP status codes.

The base of this tool was my idea. But as with many Open Source projects, communities, or individuals, we evolve with the people we meet, exchange with or just discuss with privately. PyFunceble was and is still not an exception to that.

My main idea was to check the availability of domains in a hosts files. But 3 years later, PyFunceble is now capable of a lot including:

- The testing of domains, IPs, and URLs.
- The checking of the syntax or reputation of a domain, IP, and URL.
- The decoding of AdBlock filters, RPZ records, hosts or plain files before a test from the CLI.

PyFunceble evolved and will probably continue to evolve with the time and the people using it.

In June 2020, the PyFunceble-dev PyPI package - which gets everything as soon as possible compared to the PyFunceble (stable) package - reached 1 million total downloads. I never noticed it until I was reached by someone informing me of it. But, I was shocked.

I never thought that something I built from A to Z in my free time will ever reach that point. I was thankful to that nice person for informing me of it. But at the same time concerned about PyFunceble and how it will evolve. That's why I started the development of PyFunceble 4.0.0. My idea as I was refactoring it was to provide a better Python API and implementation of my core ideas along with a better incorporation and extension capability. Indeed, in the last few years, I was so much obsessed with the CLI that I really never wrote each component individually. They were all dependent - if not part of - the CLI. With 4.0.0, you can now import one of the components of PyFunceble and start

straight away. No real need to play with the configuration unless you want something very specific. That's how I see the future of PyFunceble.

As of today, PyFunceble is running actively - if not daily - within several servers, laptops, PCs, and Raspberry Pis. It is even used - thanks to our auto continue dataset and component - with CI engines like GitHub Action, Travis CI, and GitLab CI.

PyFunceble is my tool. But it is indirectly also become yours. Therefore, I invite you to let me know how you use PyFunceble or simply open a discussion - or join an existing one - about anything you do with PyFunceble. But also anything that you - would - like - or dislike - in PyFunceble.

Happy testing with PyFunceble!

CHAPTER 2

What can PyFunceble do?

- Test the availability of a domain.
- Test the availability of an IPv4.
- Test the availability of an IPv6.
- Test the availability of a URL.
- Test the availability of a domain/DNS name in a private or local network.
- Test the availability of an IPv4 in a private or local network.
- Test the availability of an IPv6 in a private or local network.
- Test the availability of a URL in a private or local network.
- Test the syntax of a domain.
- Test the syntax of an IPv4.
- Test the syntax of an IPv6.
- Test the syntax of a URL.
- Test against the AlienVault's reputation of an IPv4.
- Test of domain or IP which are present into an Adblock formatted file.
- Test from a given raw link.
- Test using multiprocessing (from CLI only).
- Save test result(s) in file(s) (hosts file, plain text and/or JSON format).
- Save test result(s) in a MySQL or MariaDB database.
- Show test result(s) on screen.
- Show percentage of each status (`ACTIVE`, `INACTIVE`, `INVALID`)
- Sort outputs hierarchically.
- "Mining" of domain or IP which are related to the tested element.

- Auto-continuation of tests in case of system crash or script stop.
- Filtering of a file content.
  - This feature will let us for example test all blogspot domain of the given file no matter the content of the file.
- Set the user-agent to use for the tests.
- Give some analytic depending of the HTTP status code (`ACTIVE`, `POTENTIALLY_ACTIVE`, `POTENTIALLY_INACTIVE`, `SUSPICIOUS`).
- Retest overtime of `INACTIVE` and `INVALID` domains.
- Print the execution time on screen and file.
- Customisation of the different option via command-line arguments or configuration file.
- Continuous tests under Travis CI or GitLab CI/CI
  - ... with the help of an auto saving and database system.
  - Set the branch to push the result to. For the autosaving system.
  - Set the minimal time before we autosave in order to avoid CI/CD limitation.
  - Set a command to execute at the end of the test.
  - Set the commit message for the autosaving system.
- ... and a lot more!

CHAPTER 3

Contributors

Thanks to those awesome peoples for their awesome and crazy idea(s), contribution(s) and or issue report which made or make PyFunceble a better tool.

```
 ________ _                    _            _                                  _
|__    __| |                  | |          | |                                | |
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   |_|   |_| |_|\__,_|_| |_|_|\_\___/   \__\___/    \__, |\___/ \__,_| (_)
                                                       __/ |
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CHAPTER 4

Special Thanks

Thanks to those awesome organization(s), tool(s) and or people(s) for

- Their awesome documentation
- Their awesome repository
- Their awesome tool/software/source code
- Their breaking reports
- Their contributions
- Their current work/purpose
- Their promotion of Py-Funceble
- Their support
- Their testings reports

which helped and/or still help me build, test and or make PyFunceble a better tool.

```
 ________ _                    _            _                                  _
|__    __| |                  | |          | |                               | |
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   |_|   |_| |_|\__,_|_| |_|_|\_\___/  \__\___/    \__, |\___/ \__,_| (_)
                                                     __/ |
                                                    |___/
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- Pi-Hole - @pi-hole
- Public Suffix List - @publicsuffix
- Reza Rizqullah - @ybreza
- Saurabh Kumar - @theskumar (python-dotenv)
- ScriptTiger - @ScriptTiger
- SMed79 - @SMed79
- spirillen - @spirillen
- The YAML Project - @yaml (pyyaml)
- yWorks - (yEd Graph Editor)

CHAPTER 5

Supporting the project

PyFunceble, Dead-Hosts, and all other analog projects are powered by free time and a lot of coffee!

This project helps you and/or you like it?

5.1 GitHub Sponsor

@funilrys is part of the GitHub Sponsor program!

Sponsor me!

5.2 Ko-Fi

Don't want to use the GitHub Sponsor program ? Single donations are welcome too!

Buy me a coffee!

CHAPTER 6

License

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CHAPTER 7

Code of Conduct

7.1 Our Pledge

In the interest of fostering an open and welcoming environment, we as contributors and maintainers pledge to making participation in our project and our community a harassment-free experience for everyone, regardless of age, body size, disability, ethnicity, gender identity and expression, level of e xperience, nationality, personal appearance, race, religion, or sexual identity and orientation.

7.2 Our Standards

Examples of behavior that contributes to creating a positive environment i nclude:

- Using welcoming and inclusive language
- Being respectful of differing viewpoints and experiences
- Gracefully accepting constructive criticism
- Focusing on what is best for the community
- Showing empathy towards other community members

Examples of unacceptable behavior by participants include:

- The use of sexualized language or imagery and unwelcome sexual attention or advances
- Trolling, insulting/derogatory comments, and personal or political attacks
- Public or private harassment
- Publishing others' private information, such as a physical or electronic address, without explicit permission
- Other conduct which could reasonably be considered inappropriate in a professional setting

7.3 Our Responsibilities

Project maintainers are responsible for clarifying the standards of acceptable behavior and are expected to take appropriate and fair corrective action in response to any instances of unacceptable behavior.

Project maintainers have the right and responsibility to remove, edit, or reject comments, commits, code, wiki edits, issues, and other contributions that are not aligned to this Code of Conduct, or to ban temporarily or permanently any contributor for other behaviors that they deem inappropriate, threatening, offensive, or harmful.

7.4 Scope

This Code of Conduct applies both within project spaces and in public spaces when an individual is representing the project or its community. Examples of representing a project or community include using an official project e-mail address, posting via an official social media account, or acting as an appointed representative at an online or offline event. Representation of a project may be further defined and clarified by project maintainers.

7.5 Enforcement

Instances of abusive, harassing, or otherwise unacceptable behavior may be reported by contacting the project team at contact@funilrys.com. The project team will review and investigate all complaints, and will respond in a way that it deems appropriate to the circumstances. The project team is obligated to maintain confidentiality with regard to the reporter of an incident. Further details of specific enforcement policies may be posted separately.

Project maintainers who do not follow or enforce the Code of Conduct in good faith may face temporary or permanent repercussions as determined by other members of the project's leadership.

7.6 Attribution

This Code of Conduct is adapted from the Contributor Covenant, version 1.4, available at http://contributor-covenant.org/version/1/4.

CHAPTER 8

Installation

8.1 Requirements

Here is the list of requirements:

- Python 3.7.0+
- `alembic`
- `colorama`
- `cryptography`
- `dnspython`
- `domain2idna`
- `inflection`
- `packaging`
- `PyMySQL`
- `python-box`
- `python-dotenv`
- `PyYAML`
- `requests`
- `setuptools`
- `sqlalchemy`

8.1.1 Python 3.7.0+

The specification `3.7.0+` is because we test PyFunceble (daily) in all (`3.x`) versions from `3.7.0`. Otherwise, more semantically, PyFunceble is written for all Python 3.7+ version.

8.1.2 alembic

As we want to automate database (MySQL/MariaDB) schema migration, we chose `alembic` for the job.

8.1.3 colorama

As we use some coloration, `colorama` is required.

8.1.4 cryptography

As we use some cryptography algorithm for message hashing as example, `cryptography` is required.

8.1.5 dnspython

As we use it to do the DNS lookups, `dnspython` is required.

8.1.6 domain2idna

As we propose the conversion of domains to IDNA, `domain2idna` is required.

Note: `domain2idna` is maintained and developed by Nissar Chababy (@funilrys), the developer of PyFunceble. The source code can be found on GitHub.

8.1.7 inflection

We don't necessarily want to reinvent the wheel while generating the (database) tables name from our schema descriptions. This tool is a relief!

8.1.8 packaging

we don't necessarily want to reinvent the wheel to compare the current with the latest (upstream) version. This module is a relief - too !

8.1.9 PyMySQL

As we propose the `MariaDB` or `MySQL` database types, `PyMySQL` is required.

8.1.10 python-box

As we use `python-box` for a better code access to the configuration, it is required.

8.1.11 python-dotenv

As we are able to load dotenv files, `python-dotenv` is required.

8.1.12 PyYAML

As our configuration file is written in `.yaml`, `PyYAML` is required.

8.1.13 requests

As we use `requests` multiple times to communicate with webservices, `requests` is required.

8.1.14 setuptools

As we use `install_requires=xx` inside our `setup.py`, `setuptools` is required.

8.1.15 sqlalchemy

As we don't want to maintain several RAW SQL files, we use `sqlalchemy` for the database communication and manipulation.

8.2 Stable version

8.2.1 Using pip

From PyPi

```
$ pip3 install --user PyFunceble
```

Note: We recommend the `--user` flag which installs the required dependencies at the user level. More information about it can be found on pip documentation.

Warning: We do not recommend the `--user` flag when using `PyFunceble` into containers or CI engines.

From GitHub

```
$ pip3 install --user git+https://github.com/funilrys/PyFunceble.git@master
↪#egg=PyFunceble
```

Note: We recommend the `--user` flag which installs the required dependencies at the user level. More information about it can be found on pip documentation.

Warning: We do not recommend the `--user` flag when using `PyFunceble` into containers or CI engines.

8.2.2 Using the AUR (for Arch Linux users)

The package can be found at https://aur.archlinux.org/packages/pyfunceble/.

With makepkg

```
$ curl https://aur.archlinux.org/cgit/aur.git/plain/PKGBUILD?h=pyfunceble -o PKGBUILD
$ makepkg
$ sudo pacman -U pyfunceble*.tar.xz
```

With your favorite AUR helper

Warning: We do not recommend any AUR helper but keep in mind that some AUR helpers are "better" than other. For more information about your current (or any other) AUR helper please report to the ArchWiki page.

```
$ yourFavoriteAurHelper -S pyfunceble
```

8.2.3 Using docker (hub)

The image description can be found at https://hub.docker.com/r/pyfunceble/pyfunceble

```
$ docker pull pyfunceble/pyfunceble
```

8.2.4 Pure Python method

Execute the following and enjoy PyFunceble!

```
$ git clone https://github.com/funilrys/PyFunceble.git
$ cd PyFunceble
$ python3 setup.py test
$ python3 setup.py install # Avoid this if you want to uninstall or update one day.
$ pip3 install --user -e . # Prefer this method.
```

Note: We recommend the `--user` flag which installs the required dependencies at the user level. More information about it can be found on pip documentation.

Warning: We do not recommend the `--user` flag when using `PyFunceble` into containers or CI engines.

8.3 Development version

The development version of PyFunceble represents the `dev` branch. It's intended for the development of next features but is always at a usable state.

Indeed, We should not push to the `dev` branch until we are sure that the new commit does not break or introduce critical issue under PyFunceble.

8.3.1 For development

Execute the following and let's hack PyFunceble!

Note: We highly recommend you to develop PyFunceble under a `virtualenv`.

```
$ git clone https://github.com/funilrys/PyFunceble.git
$ cd PyFunceble
$ git checkout dev
$ virtualenv -p python3 venv
$ source venv/bin/activate
$ pip3 install -e .
```

Note: After installing with:

```
$ source venv/bin/activate
$ pip3 install -e .
```

- you only need to update the repository.
- you don't have to rerun the `pip` command.

8.3.2 For usage

Using `pip`

Execute one of the following and enjoy PyFunceble!

From PyPi

```
$ pip3 install --user PyFunceble-dev
```

Note: We recommend the `--user` flag which installs the required dependencies at the user level. More information about it can be found on pip documentation.

Warning: We do not recommend the `--user` flag when using `PyFunceble` into containers or CI engines.

From GitHub

```
$ pip3 install --user git+https://github.com/funilrys/PyFunceble.git@dev
↪#egg=PyFunceble
```

Note: We recommend the `--user` flag which installs the required dependencies at the user level. More information about it can be found on pip documentation.

Warning: We do not recommend the `--user` flag when using `PyFunceble` into containers or CI engines.

Using the AUR (for Arch Linux users)

The package can be found at https://aur.archlinux.org/packages/pyfunceble-dev/.

With makepkg

```
$ curl https://aur.archlinux.org/cgit/aur.git/plain/PKGBUILD?h=pyfunceble-dev -o␣
↪PKGBUILD
$ makepkg
$ sudo pacman -U pyfunceble-dev*.tar.xz
```

With your favorite AUR helper

Warning: We do not recommend any AUR helper but keep in mind that some AUR helpers are "better" than other. For more information about your current (or any other) AUR helper please report to the ArchWiki page.

```
$ yourFavoriteAurHelper -S pyfunceble-dev
```

Using docker (hub)

The image description can be found at https://hub.docker.com/r/pyfunceble/pyfunceble-dev

```
$ docker pull pyfunceble/pyfunceble-dev
```

Pure Python method

Execute the following and enjoy PyFunceble!

```
$ git clone https://github.com/funilrys/PyFunceble.git
$ cd PyFunceble && git checkout dev
$ tox # Run tests
$ python3 setup.py install # Avoid this if you want to uninstall or update one day.
$ pip3 install --user -e . # Prefer this method.
```

Note: We recommend the `--user` flag which installs the required dependencies at the user level. More information about it can be found on pip documentation.

Warning: We do not recommend the `--user` flag when using `PyFunceble` into containers or CI engines.

8.4 First steps

Make sure that you can run

```
$ PyFunceble --version
```

and enjoy PyFunceble!!

CHAPTER 9

Update

9.1 Stable version

9.1.1 Using `pip`

From PyPi

```
$ pip3 install --user --upgrade PyFunceble
```

Note: We recommend the `--user` flag which installs the required dependencies at the user level. More information about it can be found on pip documentation.

Warning: We do not recommend the `--user` flag when using `PyFunceble` into containers or CI engines.

From GitHub

```
$ pip3 install --user --upgrade git+https://github.com/funilrys/PyFunceble.git@master
↪#egg=PyFunceble
```

Note: We recommend the `--user` flag which installs the required dependencies at the user level. More information about it can be found on pip documentation.

Warning: We do not recommend the `--user` flag when using `PyFunceble` into containers or CI engines.

9.1.2 Using the AUR (for Arch Linux users)

With makepkg

```
$ curl https://aur.archlinux.org/cgit/aur.git/plain/PKGBUILD?h=python-pyfunceble -o␣
↪PKGBUILD
$ makepkg
$ sudo pacman -U python-pyfunceble*.tar.xz
```

With your favorite AUR helper

Warning: We do not recommend any AUR helper but keep in mind that some AUR helpers are "better" than other. For more information about your current (or any other) AUR helper please report to the ArchWiki page.

```
$ yourFavoriteAurHelper -Syu python-pyfunceble
```

9.1.3 Using docker (hub)

The image description can be found at https://hub.docker.com/r/pyfunceble/pyfunceble

```
$ docker pull pyfunceble/pyfunceble
```

9.1.4 Pure Python method

Execute the following and enjoy PyFunceble!

```
$ cd PyFunceble
$ git checkout master && git fetch origin && git merge origin/master
$ python3 setup.py test
$ python3 setup.py install # Avoid this if you want to uninstall one day.
$ pip3 install --user --upgrade -e . # Prefer this method.
```

Note: We recommend the `--user` flag which installs the required dependencies at the user level. More information about it can be found on pip documentation.

Warning: We do not recommend the `--user` flag when using `PyFunceble` into containers or CI engines.

9.2 Development version

9.2.1 For development

```
$ cd PyFunceble && git checkout dev
$ git fetch origin && git merge origin/dev
```

Note: As you previously installed with

Only code/repository update is required.

9.2.2 For usage

Using `pip`

From PyPi

```
$ pip3 install --user --upgrade PyFunceble-dev
```

Note: We recommend the `--user` flag which installs the required dependencies at the user level. More information about it can be found on pip documentation.

Warning: We do not recommend the `--user` flag when using `PyFunceble` into containers or CI engines.

From GitHub

```
$ pip3 install --user --upgrade git+https://github.com/funilrys/PyFunceble.git@dev
↪#egg=PyFunceble
```

Note: We recommend the `--user` flag which installs the required dependencies at the user level. More information about it can be found on pip documentation.

Warning: We do not recommend the `--user` flag when using `PyFunceble` into containers or CI engines.

Using the AUR (for Arch Linux users)

With makepkg

```
$ curl https://aur.archlinux.org/cgit/aur.git/plain/PKGBUILD?h=python-pyfunceble-dev -
↪o PKGBUILD
$ makepkg
$ sudo pacman -U python-pyfunceble-dev*.tar.xz
```

With your favorite AUR helper

Warning: We do not recommend any AUR helper but keep in mind that some AUR helpers are "better" than other. For more information about your current (or any other) AUR helper please report to the ArchWiki page.

```
$ yourFavoriteAurHelper -Syu python-pyfunceble-dev
```

Using docker (hub)

The image description can be found at https://hub.docker.com/r/pyfunceble/pyfunceble-dev

```
$ docker pull pyfunceble/pyfunceble-dev
```

Pure Python method

Execute the following and enjoy PyFunceble!

```
$ cd PyFunceble && git checkout dev
$ git fetch origin && git merge origin/dev
$ python3 setup.py test
$ python3 setup.py install # Avoid this if you want to uninstall one day.
$ pip3 install --user --upgrade -e . # Prefer this method.
```

Note: We recommend the `--user` flag which installs the required dependencies at the user level. More information about it can be found on pip documentation.

Warning: We do not recommend the `--user` flag when using `PyFunceble` into containers or CI engines.

9.3 Important information for `pyfunceble >= 4.0.0`

When you upgrade PyFunceble from `<4.x` to any version `4.x` there will be:

- a SQL conversion if you use the `--database-type mysql` or `mariadb`.
- a JSON to CSV conversion if one of those files is found in your filesystem:
  - `inactive_db.json`
  - `whois_db.json`
- The conversion of both SQL and json to CSV will take a "bit" of time as, it is done in a single process mode, to avoid any hick-ups instead of loading the entire file into memory. Loading the entire `*.json` file into memory can have severe consequences depending on the size of the source file.

  Note: Once the job is done the `json2csv` shouldn't appear again for this or later `4.x` releases.

- A workaround for waiting on the rather slow `json2csv`, you can delete
  - `inactive_db.json`
  - `whois_db.json` (Very Very Very bad idea in the long run...)

  However you will probably not benefit for by deleting the `whois_db.json` as this is the definitive slowest lookup process in the test flow, do to the limitation in available API call you can do to `WHOIS` servers before getting banned. Therefore we **CAN NOT** recommend deleting this file, rather than waiting for the conversion to finish.
- The output directory structure have been altered to work with the ability to test more than one source at the time. Prior to version `4.0.0.ax` the output hierarchy looked like `output/domains/ACTIVE/list`. In Pyfunceble version >=`4.x` this have been altered to include the source name and append to the folder structure. From this version it will therefor looks like `output/{{ input_source_name }}/domains/ACTIVE list`.

Note: As consequence of the time consuming conversion, we will advise you to run a simple pyfunceble command like:

```
pyfunceble -d mypdns.org

pyfunceble --database-type mariadb -d mypdns.org
```

9.3.1 How long time does it take

A few numbers to help you schedule your upgrade process.

We have tested the SQL conversion with the following specifications

- 2 Xeon CPU x86_64 (8 cores) 2 GHz
- 48 GB ram.
- 1 SSD Kingston KC-600
- Mariadb 10.5, default config
- Non dedicated

The database contains

- Roughly `265.000` records in the test tables
- Approximately `1.000.000` records within the `pyfunceble_whois` table.

This process toke about 10 hours to complete.

9.4 Important information for >= `3.2.11`

When you update from dev@<=3.2.10 or master@<=3.2.2 to newer release, there will be made a SQL conversion of the databases table layout. This can take up a sagnificent amount of time based on the size of the database.

The table layout converion is being made to:

1. Minimize the total size
2. Optimize the sql flow and minimizing the read/write to save disk I/O.

3. Minimize the number of SQL queries being made

It have been seen taking days to convert these tables on very large installations.

CHAPTER 10

Configuration

10.1 Location

10.1.1 Problematics

- How can we create a more efficient way to work with configuration?
- How can we make the configuration file(s) available globally so that PyFunceble can be run everywhere in the user workspace?

To answer those problematics, we moved the configuration location elsewhere in the place where most users expect to have their configuration file(s).

10.1.2 Filename-s

At any of the listed configuration location, the following file will be read:

- **`.PyFunceble.yaml`**
  - This file is generated automatically if missing.
  - This file is automatically replaced if you choose to merge the upstream configuration when a features key is introduced or removed.

    This "new" behavior was introduced at the same time *.PyFunceble.overwrite.yaml* was. This is to ensure PyFunceble at all time is running on a fully compatible version of *.PyFunceble.yaml*
- **`.PyFunceble.overwrite.yaml`**
  - This is the project specific configuration file for PyFunceble. This file is now taking presedence over `.PyFunceble.yaml` which for sure previously was the file you used to alter for your pwn needs.
  - This file can only be maintained by a human-controlled process. PyFunceble will never write into and never owerwrite this file, once it is created.

10.1.3 Repository clone

If you cloned the repository and you're trying to test from a cloned directory (the one with for example `CONTRIBUTING.md`) we consider the configuration directory as the current one.

Note: This behavior allows us to not modify the way we develop PyFunceble.

10.1.4 Travis CI

Under Travis CI, we search or initiate the configuration at the directory we are currently located.

Warning: We don't care about the distribution, as long as the `TRAVIS_BUILD_DIR` environment variable is set, we search or initiate the configuration in the current directory.

Note: If you want to force the directory where we should work, you can initiate the `PYFUNCEBLE_CONFIG_DIR` environment variable with the path where we should work.

10.1.5 GitLab CI/CD

Under GitLab CI/CD, we search or initiate the configuration at the directory we are currently located.

Warning: We don't care about the distribution, as long as the `PROJECT_CI` and `GITLAB_CI` environment variables are set, we search or initiate the configuration in the current directory.

Note: If you want to force the directory where we should work, you can initiate the `PYFUNCEBLE_CONFIG_DIR` environment variable with the path where we should work.

10.1.6 GitHub Actions

Under GitHub Actions, we search or initiate the configuration at the directory we are currently located.

Warning: We don't care about the distribution, as long as the `GITHUB_ACTIONS` environment variable is set, we search or initiate the configuration in the current directory.

Note: If you want to force the directory where we should work, you can initiate the `PYFUNCEBLE_CONFIG_DIR` environment variable with the path where we should work.

10.1.7 Jenkins CI

Under Jenkins CI, we search or initiate the configuration at the directory we are currently located.

Warning: We don't care about the distribution, as long as the `JENKINS_URL` and `JENKINS_HOME` environment variables are set, we search or initiate the configuration in the current directory.

Note: If you want to force the directory where we should work, you can initiate the `PYFUNCEBLE_CONFIG_DIR` environment variable with the path where we should work.

10.1.8 Linux and MacOS (Darwin Kernel)

Under Linux and MacOS, we look for the following directories in their order. If any configuration directory is found, the system proposes you to install them automatically on the first configuration file.

1. `~/.config/PyFunceble`
2. `~/.PyFunceble`
3. `${PWD}`

Note: If the parent directory does not exist, we move to the next possible location in the given order.

This means that under most Linux distributions and MacOS versions, we consider `~/.config/PyFunceble` as the configuration location. But if the `~/.config` directory does not exist, we fallback to `~/.PyFunceble` as the configuration location.

10.1.9 Windows

As mentioned by Pat Altimore's Blog, we used the `Per user configuration files synchronized across domain joined machines via Active Directory Roaming` section to understand what we should do to find our configuration directory.

Under Windows, we look for the following directories in their order. If any configuration directory is found, the system proposes you to install them automatically on the first configuration file.

1. `%APPDATA%\PyFunceble` (environnement variable)
2. `%CD%`

Note: `%CD%` is explained by the set command (`set /?`):

```
%CD% - expands to the current directory string.
```

Note: If the parent directory does not exist, we move to the next possible location in the given order.

This means that under most Windows versions, we consider `%APPDATA%\PyFunceble` - also know as `C:\Users\userName\AppData\Roaming\PyFunceble`- as the configuration location. But if the `%APPDATA%` directory does not exist, we fall back to the current directory as the configuration location.

10.1.10 Custom location

Sometimes, you may find yourself in a position where you absolutely do not want PyFunceble to use its default configuration location.

For that reason, if you set your desired configuration location along with the `PYFUNCEBLE_CONFIG_DIR` environment variable, we take that location as the (default) configuration location.

10.2 Autoconfiguration

Sometimes, you may find yourself in a position that you do not or you can't answer the question which asks you if you would like to merge an upstream configuration file into your local one.

For that reason, if you can set the `PYFUNCEBLE_AUTO_CONFIGURATION` as an environment variable. Setting that environment variable will make PyFunceble merge the upstream configuration when a new key is available but not found into your configuration file.

> **Warning:** As of `4.0.0` the configuration file is automatically copied into your configuration directory - if it is not found.

10.3 Indexes

This page will try to detail each configuration available into `.PyFunceble.yaml` along with the location of where we are looking for the configuration file.

10.3.1 `share_logs`

Type: `boolean`

Default value: `False`

Description: Activates or disables the logs sharing.

> **Warning:** As the underlying API and infrastructure was not changed since 2017, I choosed to remove all source code related to logs sharing.
>
> Please consider this as reserved for future usages.

10.3.2 `verify_ssl_certificate`

Type: `boolean`

Default value: `False`

Description: Activates or disables the verification of the SSL/TLS certificate when testing for URL.

> **Warning:** If you set this index to `True`, you may get **false positive** result.
>
> Indeed if the certificate is not registered to the CA or is simply invalid and the domain is still alive, you will always get `INACTIVE` as output.

10.3.3 debug

Type: `dict`

Description: Configures the debug / logging.

debug[active]

Type: `boolean`

Default value: `False`

Description: Activate or deactivates the debug / logging.

debug[level]

Type: `string`

Default value: `info`

Available values: `INFO`, `DEBUG`, `WARNING`, `ERROR`, `CRITICAL`.

Description: Activate or deactivates the debug / logging.

10.3.4 cli_decoding

Type: `dict`

Description: Configures everything related to the decoding of the given input sources.

cli_decoding[adblock]

Type: `boolean`

Default value: `False`

Description: Activates or disables the adblock decoding.

Note: If this index is set to `True`, every time we read a given file, we try to extract the elements that are present.

We basically only decode the adblock format.

Note: If this index is set to `False`, every time we read a given file, we will consider one line as an element to test.

cli_decoding[adblock_aggressive]

Type: `boolean`

Default value: `False`

Description: Activates or disables disable some aggressive settings related to the adblock decoding.

> **Warning:** This option is available but please keep in mind that the underlying source code is still experimental.

cli_decoding[rpz]

Type: `boolean`

Default value: `False`

Description: Activates or disables the decoding of RPZ policies from each given input files.

cli_decoding[wildcard]

Type: `boolean`

Default value: `False`

Description: Activates or disables the decoding of wildcards for each given input files.

10.3.5 cli_testing

Type: `dict`

Description: Configures everything related to the CLI testing.

cli_testing[hosts_ip]

Type: `string`

Default value: `"0.0.0.0"`

Description: Sets the IP to prefix each lines of the hosts file.

cli_testing[max_workers]

Type: `integer`

Default value: `null`

Description: Sets the number of maximal processes workers that we are allowed to allocate for the testing.

> **Warning:** If set to `null`, we use the default value calculated from your machine ressources. Meaning:
>
> ```
> CPU cores - 2
> ```

cli_testing[autocontinue]

Type: `boolean`

Default value: `True`

Description: Activates or disables the automatic continuation subsystem.

cli_testing[inactive_db]

Type: `boolean`

Default value: `True`

Description: Activates or disables the usage of a "database" to store all `INVALID` and `INACTIVE` subject for continuous retest.

cli_testing[whois_db]

Type: `boolean`

Default value: `True`

Description: Activates or disables the uage of a "database" to store the expiration date of all domains with a valid expiration date.

> **Warning:** We do not recomend you to disable this. In fact, this is your safety against the rate limite imposed by most WHOIS servers.

cli_testing[cidr_expand]

Type: `boolean`

Default value: `False`

Description: Activates or disables the expansion of CIDR formatted addresses.

cli_testing[complements]

Type: `boolean`

Default value: `False`

Description: Activate or disables the generation and test of the complements of a given subject.

> **Note:** A complement is for example `example.org` if `www.example.org` is given and vice-versa.

cli_testing[cooldown_time]

Type:: `float`

Default value: `0.0`

Description: Sets the cooldown time to apply between each test.

cli_testing[db_type]

Type: `string`

Default value: `csv`

Available values: `csv`, `mariadb`, `mysql`.

Description: Sets the database type (or engine) to use everytime we create a database or a storage of a potentially huge dataset.

cli_testing[file_filter]

Type: `string`

Default value: `null`

Description: A regular expression which we use to filter the subjects to (actually) test.

cli_testing[mining]

Type: `boolean`

Default value: `True`

Description: Activates or disables the mining subsystem.

cli_testing[local_network]

Type: `boolean`

Default value: `False`

Description: Activates or disables the consideration of the test(s) in or for a local or private network context.

cli_testing[preload_file]

Type: `boolean`

Default value: `False`

Description: Activates or disables the preloading of the given input files. When this is activates, we preload the given files into the auto continue subsystem dataset in order to optimize some of our processes regarding the auto continue.

Note: This option does not have any effect if the auto continue subsystem is disabled.

---

cli_testing[ci]

Type: `dict`

Description: Configures everything related to the Continuous Integration.

cli_testing[ci][active]

Type: `boolean`

Default value: `False`

Description: Activates or disables the Continuous Integration mechanism.

cli_testing[ci][commit_message]

Type: `string`

Default value: `"PyFunceble - AutoSave"`

Description: Sets the commit message to apply everytime we have to apply a commit except for the really last one.

cli_testing[ci][end_commit_message]

Type: `string`

Default value: `"PyFunceble - Results"`

Description: Sets the commit message to apply at the really end.

cli_testing[ci][max_exec_minutes]

Type: `integer`

Default value: `15`

Description: Sets the number of minutes to wait before starting to stop a CI session.

Note: As many services are setting a rate limit per IP, it's a good idea to set this value between `1` and `15` minute(s).

---

cli_testing[ci][branch]

Type: `string`

Default value: `master`

Description: Sets our git working branch. This is the branch from where we are supposed to store the tests (excepts the final results).

cli_testing[ci][distribution_branch]

Type: `string`

Default value: `master`

Description: Sets our git distributions branch. This is the branch from where we are supposed to store and push the final results.

cli_testing[ci][command]

Type: `string`

Default value: `null`

Description: Sets the command to execute before each commit (except the final one).

cli_testing[ci][end_command]

Type: `string`

Default value: `null`

Description: Sets the command to execute before the final commit.

cli_testing[display_mode]

Type: `dict`

Description: Configures everything related to what is displayed.

cli_testing[display_mode][dots]

Type: `boolean`

Default value: `False`

Description: Activate or disables the printing of dots or other characters when we skip the test of a subjec.

cli_testing[display_mode][dots]

Type: `boolean`

Default value: `False`

Description: Activate or disables the display of dots or other characters when we skip the test of a subjec.

cli_testing[display_mode][execution_time]

Type: `boolean`

Default value: `False`

Description: Activates or disables the display of the execution time.

cli_testing[display_mode][percentage]

Type: `boolean`

Default value: `True`

Description: Activates or disables the display and generation of the percentage - file - of each status.

cli_testing[display_mode][quiet]

Type: `boolean`

Default value: `False`

Description: Activates or disables the display of output to the terminal.

> **Warning:** If the the dots mode is activate, this option will still allow them to work.

cli_testing[display_mode][less]

Type: `boolean`

Default value: `True`

Description: Activates or disables the display of the minimal information in the table we print to stdout.

cli_testing[display_mode][all]

Type: `boolean`

Default value: `True`

Description: Activates or disables the disply of the all information in the table we print to stdout.

cli_testing[display_mode][simple]

Type: `boolean`

Default value: `False`

Description: Activates or disables the simple output mode.

Note: When this mode is active, the system will only return the result in the following format: `example.org ACTIVE`.

---

cli_testing[display_mode][status]

Type: `string|list`

Default value: `all`

Available values: `all`, `ACTIVE`, `INACTIVE`, `INVALID`, `VALID`, `SANE`, `MALICIOUS`

Description: Sets the status that we are allowed to print to STDOUT.

Note: A list of status can be given if you want to filter multiple status at once.

---

cli_testing[display_mode][colour]

Type: `boolean`

Default value: `True`

Description: Activates or disables the coloration to STDOUT.

cli_testing[testing_mode]

Type: `dict`

Description: Configures the testing mode to apply.

> **Warning:** Only one of those is take in consideration.
>
> Here is the priority / checking order:
>
> 1. `syntax`
> 2. `reputation`
> 3. `availability`

cli_testing[testing_mode][availability]

Type: `boolean`

Default value: `True`

Description: Activates or disables the availability checker.

Note: This is the default mode.

cli_testing[testing_mode][syntax]

Type: `boolean`

Default value: `True`

Description: Activates or disables the syntax checker.

cli_testing[testing_mode][reputation]

Type: `boolean`

Default value: `True`

Description: Activates or disables the reputation checker.

cli_testing[days_between]

Type: `dict`

Description: Configures some days related events.

cli_testing[days_between][db_clean]

Type: `integer`

Default value: `28`

Description: Sets the numbers of days since the introduction of a subject into the inactive dataset before it gets deleted.

> **Warning:** As of PyFunceble `4.0.0` this is not actively implemented.

cli_testing[days_between][db_retest]

Type: `integer`

Default value: `28`

Description: Sets the numbers of days since the introduction of a subject into the inactive dataset before it gets retested.

cli_testing[sorting_mode]

Type: `dict`

Description: Configures the sorting mode to apply.

> **Warning:** Only one of those is take in consideration.
>
> Here is the priority / checking order:
>
> 1. `hierarchical`
> 2. `standard`

cli_testing[sorting_mode][hierarchical]

Type: `boolean`

Default value: `False`

Description: Activates or disables the sorting of the files content (output) in a hierarchical order.

cli_testing[sorting_mode][standard]

Type: `boolean`

Default value: `False`

Description: Activates or disables the sorting of the files content (output) in our standard order.

cli_testing[file_generation]

Type: `dict`

Description: Configures everything related to the file generation.

cli_testing[file_generation][no_file]

Type: `boolean`

Default value: `False`

Description: Activates or disables the generation of any non-logs file(s).

cli_testing[file_generation][no_file]

Type: `boolean`

Default value: `False`

Description: Activates or disables the generation of any non-logs file(s).

cli_testing[file_generation][hosts]

Type: `boolean`

Default value: `True`

Description: Activates or disables the generation of the hosts file(s).

cli_testing[file_generation][plain]

Type: `boolean`

Default value: `True`

Description: Activates or disables the generation of the RAW file(s). What is meant is a list with only a list of subject (one per line).

cli_testing[file_generation][analytic]

Type: `boolean`

Default value: `True`

Description: Activates or disables the generation of the analytic file(s).

cli_testing[file_generation][unified_results]

Type: `boolean`

Default value: `False`

Description: Activates or disables the generation of the unified results file instead of the splitted one.

cli_testing[file_generation][merge_output_dirs]

Type: `boolean`

Default value: `False`

Description: Activates or disables the merging of the outputs of all inputted files inside a single subdirectory as opposed to the normal behavior.

10.3.6 lookup

Type: `dict`

Description: Configures everything related to the lookup tools to use while testing a given subject.

lookup[dns]

Type: `boolean`

Default value: `True`

Description: Activates or disables the usage of the DNS lookup whether possible.

lookup[http_status_code]

Type: `boolean`

Default value: `True`

Description: Activates or disables the usage of the HTTP status code whether possible.

lookup[netinfo]

Type: `boolean`

Default value: `True`

Description: Activates or disables the usage of the network information (or network socket) whether possible.

lookup[special]

Type: `boolean`

Default value: `True`

Description: Activates or disables the usage of our SPECIAL and extra rules whether possible.

lookup[whois]

Type: `boolean`

Default value: `True`

Description: Activates or disables the usage of the WHOIS record (or better said the expiration date in it) whether possible.

lookup[reputation]

Type: `boolean`

Default value: `True`

Description: Activates or disables the usage of the reputation dataset whether possible.

lookup[timeout]

Type: `integer`

Default value: `5`

Description: Sets the default timeout to apply to each lookup utilities everytime it is possible to define a timeout.

10.3.7 dns

Type: `dict`

Description: Configures everything related to the DNS lookup.

dns[server]

Type: `list`

Default value: `null`

Description: Sets the DNS server(s) to work with.

Note: When a list is given the following format is expected.

```
dns_server:
  - dns1.example.org
  - dns2.example.org
```

Note: You can specify a port number to use to the DNS server if needed.

As example:

```
- 127.0.1.53:5353
```

Warning: Please be careful when you overwrite this option. If one is not correct, you can almost sure that all results are going to be flagged as `INACTIVE`.

dns[protocol]

Type: `string`

Default value: `UDP`

Available values: `UDP`, `TCP`, `HTTPS`, `TLS`.

Description: Sets the protocol to use for all DNS queries.

dns[follow_server_order]

Type: `boolean`

Default value: `True`

Description: Activates or disables the follow-up of the given order.

dns[trust_server]

Type: `boolean`

Default value: `False`

Description: Activates or disables the trust mode. When the trust mode is active and the first read DNS server gives us a negative response (without any error), we take it as it is.

Otherwise, when the trust mode is disabled, when the first read DNS server gives us a negative response (without any error), we still ask all other DNS servers that were given or found.

dns[delay]

Type: `float`

Default value: `0.0`

Description: Sets the delay to apply between each DNS query.

10.3.8 user_agent

Type: `dict`

Description: Configures the user agent.

user_agent[browser]

Type: `string`

Default value: `chrome`

Available values: `chrome`, `edge`, `firefox`, `ie`, `opera`, `safari`.

Description: Sets the browser to get the get the latest user agent from.

> **Warning:** This option is not taken in consideration if `user_agent[custom]` is not set to `null`.

user_agent[platform]

Type: `string`

Default value: `linux`

Available values: `linux`, `macosx`, `win10`

Description: Sets the platform to get the get the latest user agent for.

> **Warning:** This option is not taken in consideration if `user_agent[custom]` is not set to `null`.

user_agent[custom]

Type: `string`

Default value: `null`

Description: Sets the user agent to use.

> **Warning:** Setting this index will overwrite the choices made into `user_agent[platform]` and `user_agent[browser]`.

10.3.9 http_codes

Type: `dict`

Description: Configures everything related to the HTTP status code and the way PyFunceble handles them.

http_codes[self_managed]

Type: `bool`

Default value: `False`

Description: Informs PyFunceble that the status code list should not be managed automatically.

http_codes[list]

Type: dict

Description: Categorizes the HTTP status codes.

http_codes[list][up]

Type: list

Default value:

```
- 100
- 101
- 102
- 200
- 201
- 202
- 203
- 204
- 205
- 206
- 207
- 208
- 226
```

Description: List the HTTP status codes which are considered as ACTIVE.

http_codes[list][potentially_down]

Type: list

Default value:

```
- 400
- 402
- 404
- 409
- 410
- 412
- 414
- 415
- 416
- 451
```

Description: List the HTTP status code which are considered as INACTIVE or POTENTIALLY_INACTIVE.

http_codes[list][potentially_up]

Type: list

Default value:

```
- 000
- 300
- 301
- 302
- 303
- 304
- 305
- 307
- 308
- 403
- 405
- 406
- 407
- 408
- 411
- 413
- 417
- 418
- 421
- 422
- 423
- 424
- 426
- 428
- 429
- 431
- 500
- 501
- 502
- 503
- 504
- 505
- 506
- 507
- 508
- 510
- 511
```

Description: List the HTTP status code which are considered as `ACTIVE` or `POTENTIALLY_ACTIVE`.

10.3.10 `links`

Type: `dict`

Description: Sets the list of links which can be used/called by the system when needed.

`links[api_date_format]`

Type: `string`

Default value: `https://pyfunceble.funilrys.com/api/date-format`

Description: Sets the link to use when we share logs.

links[api_no_referrer]

Type: `string`

Default value: `https://pyfunceble.funilrys.com/api/no-referrer`

Description: Sets the link to use when we share logs.

CHAPTER 11

Usage

11.1 PyFunceble Python API

If you are working with a python script, module or even class, you can integrate **PyFunceble** to your main logic by importing it and using its API (cf: *API Documentation*).

This section will present some example of the way you can interact with PyFunceble from anything written in Python.

11.1.1 Check the availability of a domain

```
from PyFunceble import DomainAvailabilityChecker


checker = DomainAvailabilityChecker()
to_test = "github.com"

# You can do it this way.
status = checker.set_subject(to_test).get_status()

# Or this way.
checker.set_subject(to_test)
status = checker.get_status()

# We can convert the status to json.
status_json = status.to_json()

# We can convert the status to dict.
status_dict = status.to_dict()

# We can ask "questions".
print(f"Is {to_test} ACTIVE ?", status.is_active())
print(f"Is {to_test} INACTIVE ?", status.is_inactive())
print(f"Is {to_test} INVALID ?", status.is_invalid())
```

11.1.2 Check the availability of an IP

```
from PyFunceble import IPAvailabilityChecker


checker = IPAvailabilityChecker()

to_test = "192.0.2.1"

# You can do it this way.
status = checker.set_subject(to_test).get_status()

# Or this way.
checker.set_subject(to_test)
status = checker.get_status()

# We can convert the status to json.
status_json = status.to_json()

# We can convert the status to dict.
status_dict = status.to_dict()

# We can ask "questions".
print(f"Is {to_test} ACTIVE ?", status.is_active())
print(f"Is {to_test} INACTIVE ?", status.is_inactive())
print(f"Is {to_test} INVALID ?", status.is_invalid())
```

11.1.3 Check the availability of an IP or domain

```
from PyFunceble import DomainAndIPAvailabilityChecker


checker = DomainAndIPAvailabilityChecker()

to_test = "github.com"

# You can do it this way.
status = checker.set_subject(to_test).get_status()

# Or this way.
checker.set_subject(to_test)
status = checker.get_status()

# We can convert the status to json.
status_json = status.to_json()

# We can convert the status to dict.
status_dict = status.to_dict()

# We can ask "questions".
print(f"Is {to_test} ACTIVE ?", status.is_active())
print(f"Is {to_test} INACTIVE ?", status.is_inactive())
print(f"Is {to_test} INVALID ?", status.is_invalid())
```

11.1.4 Check the availability of URL

```
from PyFunceble import URLAvailabilityChecker


checker = URLAvailabilityChecker()

to_test = "http://github.com/PyFunceble"

# You can do it this way.
status = checker.set_subject(to_test).get_status()

# Or this way.
checker.set_subject(to_test)
status = checker.get_status()

# We can convert the status to json.
status_json = status.to_json()

# We can convert the status to dict.
status_dict = status.to_dict()

# We can ask "questions".
print(f"Is {to_test} ACTIVE ?", status.is_active())
print(f"Is {to_test} INACTIVE ?", status.is_inactive())
print(f"Is {to_test} INVALID ?", status.is_invalid())
```

11.1.5 Check the syntax of domains

```
from PyFunceble import DomainSyntaxChecker


checker = DomainSyntaxChecker()

to_test = "github.com"

# You can do it this way.
status = checker.set_subject(to_test).get_status()

# Or this way.
checker.set_subject(to_test)
status = checker.get_status()

# We can convert the status to json.
status_json = status.to_json()

# We can convert the status to dict.
status_dict = status.to_dict()

# We can ask "questions".
print(f"Is {to_test} VALID ?", status.is_valid())
print(f"Is {to_test} INVALID ?", status.is_invalid())
```

11.1.6 Check the syntax of IP (v4 or v6)

```
from PyFunceble import IPSyntaxChecker


checker = IPSyntaxChecker()

to_test = "192.0.2.1"

# You can do it this way.
status = checker.set_subject(to_test).get_status()

# Or this way.
checker.set_subject(to_test)
status = checker.get_status()

# We can convert the status to json.
status_json = status.to_json()

# We can convert the status to dict.
status_dict = status.to_dict()

# We can ask "questions".
print(f"Is {to_test} VALID ?", status.is_valid())
print(f"Is {to_test} INVALID ?", status.is_invalid())
```

11.1.7 Check the syntax of URLs

```
from PyFunceble import URLSyntaxChecker


checker = URLSyntaxChecker()

to_test = "https://github.com/PyFunceble"

# You can do it this way.
status = checker.set_subject(to_test).get_status()

# Or this way.
checker.set_subject(to_test)
status = checker.get_status()

# We can convert the status to json.
status_json = status.to_json()

# We can convert the status to dict.
status_dict = status.to_dict()

# We can ask "questions".
print(f"Is {to_test} VALID ?", status.is_valid())
print(f"Is {to_test} INVALID ?", status.is_invalid())
```

11.2 From a terminal

This chapter also relates to writing scripts in bash and PowerShell as the uses the same syntaxes.

11.2.1 `--help`

Show the help message and exit.

11.2.2 `-v | --version`

Show the version of PyFunceble and exit.

11.2.3 Test sources

`-d "$DOMAIN" | --domain "$DOMAIN"`

This argument takes one or more values separated by spaces.

Test one or more :code:‘$DOMAIN‘s,

```
$ PyFunceble -d example.org example.net
```

A domain is defined as it do NOT start with a `protocol://` and it do not contain a forward slash `/`

This is a domain: `example.org`

Note: When this option is used, no output files are generated.

`-u "$URI" | --url "$URI"`

Test one or more full URL, separated by spaces.

This argument takes one or more values.

```
$ PyFunceble -url https://example.org/AlIvE https://example.com/GoNe
```

Note: When we test the availability of a URL, we (only) check the HTTP status code of the given URL.

A URI or URL is defined by it is starting with a protocol.

This is a URL `http://example.org/?example=yes`

This is another URL `https://example.org`

This is another URL `ftp://ftp.example.org`

-f "$DOMAIN" | --file "$DOMAIN_FILE"

Read a local or remote (RAW link) file and test all domains inside it. If remote (RAW link) file is given, PyFunceble will download it, and test the content of the given RAW link as if it was a locally stored file.

```
$ PyFunceble -f "$DOMAIN"_1 "$DOMAIN"_2
$ PyFunceble -f "$DOMAIN_FILE"_1 "$DOMAIN_FILE"_2
$ PyFunceble --file "$DOMAIN_FILE"_1 "$DOMAIN_FILE"_2
```

Note:

- This argument takes one or more space separated values.
- You can combine `-f` and `-uf` in the same test.

Warning: You can not combine the usage of `-f`, `-uf` with `--adblock` at the same time

-uf "$URL_FILES" | --url-file "$URL_FILES"

Read a local or remote (RAW link) file and test all (full) URLs inside it. If remote (RAW link) file is given, PyFunceble will download it, and test the content of the given RAW link as if it was a locally stored file.

This argument test if a URL which is inside the given file is available. It ONLY tests full URLs.

```
$ PyFunceble -uf "$URI"_1 "$URI"_2
```

When a remote located source is provided, we will download the given URL and test its content assuming that each line represents a URL to test.

```
$ PyFunceble -uf "$URL_FILES"
```

Note:

- This argument takes one or more space separated values.
- You can combine `-f` and `-uf` in the same test.
- We consider one line as one URL to test.

Warning: A test with this argument consists of the comparison of the status code. No WHOIS record will be requested nor DNS Lookup will be done.

You can not combine the usage of `-f`, `-uf` and `--adblock` at the same time

11.2.4 Source filtering, decoding, conversion and expansion

--adblock

This feature is used to extract all domains, IPv4 and IPv6 addresses from a adblock formatted file and test the status and validate the extracted domains.

To use this feature you'll need to set the domain_source to tell PyFunceble from where to obtain the given list.

```
$ pyfunceble --adblock -f "$ADBLOCK_FILES"
```

Default value: `adblock: False`

> **Warning:** You can not combine the usage of `-f`, `-uf` and `--adblock` at the same time

---

--cidr

This feature will expand CIDR formatted addresses.

Default value: `cidr_expand: False`

--complements

A complement is for example `example.org` if `www.example.org` is given and vice-versa.

Default value: `complements: False`

--filter "RegEx"

A Regex string to match in order to test a given line.

Default value: `file_filter: null`

If you only want to test all `blogspot` URI or domains from your list, this argument allows you to do that!

```
$ pyfunceble --filter '^\.blogspot\.(com|net)$' -f $DOMAIN_FILE
```

--mining

> **Todo:** Find out more about how this actually works...

Want to find domain or URL linked to a domain in your list? This argument will exactly do that.

Default value: `mining: False`

--rpz

New in version 3.3.3.

Activates or disables the decoding of RPZ policies from each given input source (`-f`).

```
$ pyfunceble --rpz -f $RPZ_FILES
```

The `--rpz` is used to test domains from a fully functional and valid RPZ (Response Policy Zone). If you do provide the required zone `SOA` record it will extract the right domains to test.

Example of a fully functional RPZ zone

```
spyware.my-rpz.internal.   86400   IN      SOA     my.awesome.rps.zone. need.to.know.
↪only. 2021011401 300 60 604800 3600
*.360.com.spyware.my-rpz.internal. 86400   IN      CNAME   .
*.360safe.com.cn.spyware.my-rpz.internal.  86400   IN      CNAME   .
*.360totalsecurity.com.spyware.my-rpz.internal.    86400   IN      CNAME   .
360.com.spyware.mypdns.cloud.   86400   IN      CNAME   .
360safe.com.cn.spyware.mypdns.cloud.    86400   IN      CNAME   .
360totalsecurity.com.spyware.mypdns.cloud.      86400   IN      CNAME   .
```

(PS. RPZ zones does not requires the NS records **RFC 1034**)

From the example above PyFunceble will be testing the following domains.

You can make a simple test with the above zone example by copy/pasting.

In case your RPZ zone are missing the required `SOA` entry, you should consider combining the `--rpz` with –wildcard to avoid all your wildcard's domain becoming marked as `INVALID`

Default value: `rpz: False`

> **Warning:** You can currently not use the `--rpz` in combination with `--syntax` to validate or syntax test a rpz formatted file.

See also:

See discussions 149 for more information and participate in it's development.

--wildcard

New in version 3.3.0.

The flag to use when your source(`-f`) of domains starts with a wildcard.

This flag will subtract the `*.$DOMAIN` and test the `$DOMAIN` according to the test arguments given.

Default value: `wildcard: False`

As examples of when to use this argument. The first one will return INVALID if `--wildcard` is not set to true.

This feature is related to the –rpz

```
'*.example.org'
'example.org'
```

11.2.5 Test control

`--cooldown-time`

Sets a cooldown time (in second) to be applied between (sleep) before/between each test cycles is done.

Default value: `cooldown_time: 0.0`

`--local`

Activates or disables the consideration of the test(s) in or for a local or private network context.

Want to run a test over a local or private network? This argument will disable the limitation which does not apply to private networks.

Default value: `local_network: False`

`--dns-lookup`

Activates or disables the usage of the DNS lookup whether possible.

Default value: `dns: True`

Don't want to perform some DNS lookup? This argument is for you.

`--http-status-code-lookup` | `--http`

Don't want to take the result of the HTTP code execution into consideration?

This argument allows you to disable the HTTP status code checker!

Default value: `http_status_code: True`

`--netinfo-lookup`

Activates or disables the usage of the network information (or network socket) whether possible.

Don't want to perform some netinfo lookup ? This argument is for you.

Default value: `netinfo: True`

`--special-lookup`

Activates or disables the usage of our SPECIAL and extra rules whether possible.

Don't want to use/apply the Special Rules - which are explained in the source column section?

This argument disables them all.

Default value: `special: True`

`--whois-lookup`

New in version 4.0.0.

Activates or disables the usage of the WHOIS record (or better said the expiration date in it) when possible.

Don't want to use or take the `whois` date into consideration? This argument allows you to disable it!

Default value: `whois: True`

Note: When you use the `--syntax` no WHOIS data lookup will be performed In other words: `--syntax` overrules this argument

---

`--reputation-lookup`

Todo: Check which of the reputation is alive or the code difference

---

Want to take the reputation data into consideration?

Activates or disables the usage of the reputation dataset when possible.

Default value: `reputation: False`

`--reputation`

Activates or disables the reputation checker.

Default value: `False`

--syntax

This code is to check the syntax of domains when the -f and URI's when –url is used as source.

You should be able to use both `-f` and *code:*-uf' at the same time with `--syntax`

When you are using this flags there will not be performed any other test, such as the WHOIS or HTTP status code

Default value: `syntax: False`

Note: *TIP*: If you would like to gain some serious performance while testing with `--syntax`, We recommend you disable –auto-continue

See note for `--rpz`

-t "seconds" | --timeout "seconds"

Sets the default timeout to apply to each lookup utilities every time it is possible to define a timeout.

Default value: `timeout: 5` seconds

-ua "full string" | --user-agent "full string"

User defined user agent to use in the http status code lookup.

```
user_agent:
    browser: chrome
    platform: linux
```

> **Warning:** If not given, we try to get the latest (automatically) for you

Example of how to change the default from CLI.

```
$ pyfunceble --user-agent "Mozilla/5.0 (X11; U; Linux x86_64) AppleWebKit/537.36␣
↪(KHTML, like Gecko) Chrome/83.0.4103.97 Safari/537.36"
```

-vsc | --verify-ssl-certificate

Activates or disables the verification of the SSL/TLS certificate when testing for URL.

Default value: `verify_ssl_certificate: False`

> **Warning:** If you activate the verification of the SSL/TLS certificate, you may get **false-positive** results.
>
> Indeed if the certificate is not registered to the CA or is simply invalid and the domain is still alive, you will always get `INACTIVE` as output.

11.2.6 DNS control

--dns

By default, PyFunceble will use the system-wide DNS settings. This can be changed with the ability to configure which DNS-Servers you like PyFunceble to use during the test.

You set this up with the CLI command `--dns` **or** insert it into your personal `.PyFunceble.yaml`

You can add several separated by spaces and they will all be used in a order. (Kind of Round Robin style)

Default value: `Follow OS DNS` ==> `server: null`

```
$ pyfunceble -dns 127.0.1.53:5303 127.0.0.1 -f $DOMAIN_FILE
```

You can also set default DNS servers used for testing within the `my_project/.PyFunceble.yaml` file. (No secondary indent)

```
server:
- 1.2.3.4
- 5.6.7.8
- 9.10.11.12:5302
```

> **Warning:** We expect a DNS server(s). If you add this flag but no DNS server(s) is given. You'll almost for certain get all results as `INACTIVE`
>
> This could happen in case you use `--dns -f`

Note: You can specify the port number to be used on the DNS server if needed.

--dns-protocol

Sets the protocol to use for the DNS queries.

Default value: `protocol: UDP`

Available values: `UDP`, `TCP`, `HTTPS`, `TLS`. Case-Sensitive

```
$ pyfunceble --dns doh.powerdns.org --dns-protocol HTTPS -f $DOMAIN_FILE
```

```
$ pyfunceble --dns 192.0.2.2:53 --dns doh.powerdns.org --dns-protocol HTTPS
```

--follow-server-order

New in version 4.0.0.

Let us follow or mix the order of usage of the given or found DNS server(s).

Default value: `True`

`--trust-dns-server`

New in version 4.0.0.

Activates or disable the trust mode.

Default value: `False`

Note: When active, when the first read DNS server give us a negative response - without error - we take it as it it.

Otherwise, if not active, when the first read DNS server give us a negative response - without error - we still consolidate by checking all given/found server.

`--dns-delay`

New in version 4.0.0.

Sets the delay to apply between each DNS query.

Default value: `0.0`

Note: When greater that `0.0`, a delay will be applied between each DNS query.

Otherwise, if equal to *0.0*, no delay will be applied.

11.2.7 Databases

`--inactive-database`

Switch the value of the usage of a database to store inactive domains of the currently tested list.

Default value: `db_clean: 28` Day(s).

This argument will disable or enable the usage of a database which saves all `INACTIVE` and `INVALID` domain of the given file over time.

`--database-type`

Sets the database engine to use.

Default value: `db_type: csv`

Available values: `csv`, `mariadb`, `mysql`.

`--inactive-db`

Activates or disables the usage of a 'database' to store all 'INACTIVE' and 'INVALID' subject for continuous retest.

Configured value: `inactive_db: True`

`-dbr "time" | --days-between-db-retest "time"`

Sets the numbers of days since the introduction of a subject into the inactive dataset before it gets retested.

Default value: `db_retest: 1` Day(s)

Note: This argument is only used if `-db` or `inactive_database : true` (under `.PyFunceble.yaml`) are activated. See also –inactive-db

---

`-wdb | --whois-database`

Activates or disables the usage of a "database" to store the expiration date of all domains with a valid expiration date.

Default value: `whois_db: True`

11.2.8 Output control

`-a | --all`

Activates or disables the display of the all information in the table we print to stdout (screen).

Default value: `all: False`

Default:

```
Domain                        Status      Source
----------------------------- ----------- ----------
pyfunceble.readthedocs.io     ACTIVE      SYNTAX
```

When :code:'all: True':

```
Domain                        Status      Expiration Date    Source     HTTP Code ␣
↪Checker
----------------------------- ----------- ----------------- ---------- ---------- ----
↪---------
pyfunceble.readthedocs.io     ACTIVE      Unknown            NSLOOKUP   302       ␣
↪AVAILABILITY
```

`--color | --colour`

Activates or disables the coloration to STDOUT.

Default value: `colour: True`

Don't want any colour ? This argument is for you!

`--display-status`

New in version 4.0.0.

Sets the status that we are allowed to print to stdout.

Multiple space separated statuses can be given.

Default value: `status: all`

Available values: `all`, `ACTIVE`, `INACTIVE`, `INVALID`, `VALID`, `SANE`, `MALICIOUS`

Default response

```
$ pyfunceble -d google-analytics.com duckduckgo.com --whois-lookup

Subject                                                Status      Source
------------------------------------------------------ ----------- ----------
duckduckgo.com                                         ACTIVE      DNSLOOKUP
google-analytics.com                                   INACTIVE    STDLOOKUP
```

Show only active and inactive

```
$ pyfunceble -d google-analytics.com duckduckgo.com --whois-lookup \
--display-status INACTIVE ACTIVE

Subject                                                Status      Source
------------------------------------------------------ ----------- ----------
duckduckgo.com                                         ACTIVE      DNSLOOKUP
google-analytics.com                                   INACTIVE    STDLOOKUP
```

Show only inactive

```
$ pyfunceble -d google-analytics.com duckduckgo.com --whois-lookup \
  --display-status INACTIVE

Subject                                                Status      Source
------------------------------------------------------ ----------- ----------
google-analytics.com                                   INACTIVE    STDLOOKUP
```

Note: If you have provided more than one $DOMAIN_FILE as input source, then the printed status will be in same order as your $DOMAIN_FILE was given in the input.

For an example you can visit: github

`-ex` | `--execution`

Want to know the execution time of your test? Well, this argument will let you know!

Default value: `execution_time: False`

`--hierarchical`

Activates or disables the sorting of the files content (output) in a hierarchical order.

Default value: `hierarchical: False`

This argument will output the result listed in a hierarchical order.

`-h` | `--hosts`

This argument will let the system know if it want to generate a hosts formatted result file for each status.

Default value: `hosts: True`

See also:

–plain, –no-files

Note: There is an ongoing request to set the default value of `hosts: False` You should be following this issue as it might affect your setup/results later on. Flip defaults for host

---

`-ip "ip-address"` | `--hosts-ip` "ip-address"

Sets the IP to prefix each lines of the hosts file.

Default value: `0.0.0.0`

`--logging-level`

> New in version 4.0.0.

You can configure the logging level to be outputted in STDOUT (screen) when you uses `--no-files`. Default outputs to `output/*_logging_/**.log`

Optional values. (From less to more information)

- `--logging-level critical` ==> CRITICAL
- `--logging-level error` ==> ERROR
- `--logging-level info` ==> INFO **(default)**
- `--logging-level warning` ==> WARNING
- `--logging-level debug` ==> DEBUG

--merge-output

Activates or disables the merging of the outputs of all inputted files inside a single subdirectory as opposed to the normal behavior.

Default value: `merge_output_dirs: False`

--no-files

Activates or disables the generation of any non-logs and status file(s).

Default value: `no_file: False`

See also:

-h | *–host*, –plain

--output-location

> New in version 4.0.0.

This is used to direct the output location and matches *PYFUNCEBLE_OUTPUT_LOCATION*.

With this new option you no longer need to add the Global Variable but can append it directly to the CLI string.

```
$ pyfunceble --output-location /tmp/pyfunceble -f $DOMAIN_FILE
```

--unified-results

Activates or disables the generation of the unified results file instead of the divided output in individual subfolder under `output/`.

Default value: `unified_results: False`

This argument disables the generation of the `result.txt` file.

--percentage

Activates or disables the display and generation of the percentage - file - of each status.

Default value: `percentage: True`

This argument will disable or enable the generation of the percentage of each status.

`--plain`

Activates or disables the generation of the generation of clean file(s).

This will output a file per status only containing the subject(s). (One record per line)

Default value: `plain: True`

See also:

-h | *–host*, –no-files

`--dots`

CLI only: Activate or disables the display of dots or other characters when we **skip** the test of a subject.

CI only: If you combine the `--ci --dots` we display a dot for each record we tests.

Default value: `dots: False`

`-q | --quiet`

Activates or disables the display of output to the terminal.

Default value: `quiet: False`

`--share-logs`

Want to help make PyFunceble a better tool?

Then you can share your logs with our backend API which collect all logs!

Default value: `share_logs: False`

Changed in version 4.0.0.

See also:

Logs Sharing Component.

`-s | --simple`

Activates or disables the simple output mode.

Default value: `simple: False`

Want as less as possible data on screen? This argument returns as less as possible on screen!

11.2.9 Multiprocessing

`-w | --max-workers`

New in version 4.0.0.

Sets the number of maximal worker to use.

Keep in mind that the `--max-workers` mostly - if not only - affects the number of tester sub-processes. Because we want to safely write the files, we still need a single process which read the submitted results and generate the outputs.

The reason we added this to PyFunceble `4.0.0` is we don't want to have a wrongly formatted output file.

If you have more than 2 CPU cores/processes the default will be number of CPU - 2. Otherwise, it will 1.

Default value: `max_workers: null`

Note: If you have a CPU with 4 cores or Threads (depends on it's age) Then the number of workers will be 4 - 2 = 2 workers

---

Warning: This section about *max-workers* is still under construction, but it is close to how it is working.

- **This means you should be experimenting a bit your self.**

To follow the "behind the scene" talk about the subject, please take a look at issue

---

11.2.10 CI / CD

`--ci`

Activates or disables the Continuous Integration mechanism.

Default value: `active: False`

Note: If you combine this argument with the `--quiet` argument, the test will output a dotted line, where each dot (`.`) represent one test result or input which was skipped because it was previously tested.

Want to use PyFunceble under a supported CI infrastructure/network? This argument is suited for your needs!

`--ci-max-minutes`

Sets the number of minutes to wait before starting to stop a CI session.

Default value: `max_exec_minutes: 15`

--ci-branch

Sets our git working branch. This is the branch from where we are supposed to store the tests (excepts the final results).

Default value: `branch: master`

Note: Currently the branch need to exist, but there are being worked on a path to have PyFunceble to create the sub-branch and finally merge it into the `--ci-distribution-branch`

--ci-distribution-branch

Sets our git distributions branch. This is the branch from where we are supposed to store and push the final results.

Default value: `distribution_branch: master`

Note: The difference between this and `--ci-branch` is the fact that this branch will get the (final) result only when the test is finished under the given `--ci-branch`.

As an example, this allows us to have 2 branches:

```
--ci-branch processing # (CI branch), for the tests with PyFunceble.
--ci-distribution-branch master # (CI distribution branch), for the
                                # distribution of the results of PyFunceble.
```

--ci-command "something"

Changed in version 4.0.0.

Sets the command to execute before each commit (except the final one).

Default value: `command: null`

Note: In this example, `something` should be a script or a program which have to be executed when we reached the end of the given file.

Note: This argument is only used if `--ci` or `ci: true` (under `.PyFunceble.yaml`) are activated.

--ci-end-command "something"

Changed in version 4.0.0.

Sets the command to execute before the final commit.

Default value: `end_command: null`

Note: In this example, `something` should be a script or a program which have to be executed when we reached the end of the given file.

Note: This argument is only used if `--ci` or `ci: true` (under `.PyFunceble.yaml`) are activated.

`--ci-commit-message "message"`

Changed in version 4.0.0.

Sets the commit message to apply every time we have to apply a commit except for the really last one.

Default value: `commit_message: "PyFunceble - AutoSave"`

This argument allows us to set a custom commit message which is going to be used as a commit message when saving.

Note: This argument is only used if `--ci` or `ci: true` (under `.PyFunceble.yaml`) are used.

Note: This argument is only used if we have to split the work into multiple processes because a list is too long or the timeout is reached.

Warning: Please avoid the usage of `[ci skip]` here.

`--ci-end-commit-message`

Changed in version 4.0.0.

Sets the commit message to apply at the really end.

Default value: `end_commit_message: "PyFunceble - Results"`

Note: This argument is only used if `--ci` or `ci: true` (under `.PyFunceble.yaml`) are used.

Note: This argument is only used if we reached the end of the list we are or have to test.

`-c | --auto-continue | --continue`

This argument is to used for auto-continuing from a previously under CI

Default value: `autocontinue: False`

This argument activates or deactivates the auto-continue subsystem. Indeed, as we can automatically continue if the script has been stopped, this switch allows us to disable or enable the usage of that specific subsystem.

`--preload`

New in version 4.0.0.

Activates or disables the preloading of the input file(s) into the continue dataset before starting the tests.

The *–preload* argument - or its option counterpart - ping is given, we decode and load the given input files into the continue dataset before starting the test.

This reduces the waiting time while continuing a previous session.

Note: This argument is useless unless the auto continue subsystem is active.

The preloading may take some time depending of the size of the file to test, but this is the price for a smooth and better autocontinue. Especially under CI's.

11.2.11 Global Variables

Here is the list of environment variables we use and how we use them if they are set.

Note: If used in a script like bash or a terminal directly you have to use the `export` as PyFunceble is running as sub-processes

Environment Variable	How to use them?
PYFUNCEBLE_AUTO_CONFIGURATION	Tell us if we have to install/update the configuration file automatically.
PYFUNCEBLE_DB_CHARSET	Tell us the MariaDB charset to use.
PYFUNCEBLE_DB_HOST	Tell us the host or the Unix socket (absolute file path) of the MariaDB database.
PYFUNCEBLE_DB_NAME	Tell us the name of the MariaDB database to use.
PYFUNCEBLE_DB_PASSWORD	Tell us the MariaDB user password to use.
PYFUNCEBLE_DB_PORT	Tell us the MariaDB connection port to use.
PYFUNCEBLE_DB_USERNAME	Tell us the MariaDB user-name to use.
PYFUNCEBLE_DEBUG	Tell us to log everything into the `output/logs/*.log` files.
PYFUNCEBLE_DEBUG_LVL	Sets the logging level to use. logging-level
PYFUNCEBLE_LOGGING_LVL	Same as `PYFUNCEBLE_DEBUG_LVL`. logging-level
PYFUNCEBLE_DEBUG_ON_SCREEN	Tell us to log everything to `stdout` bool (true | false)
PYFUNCEBLE_CONFIG_DIR	Tell us the location of the directory to use as the configuration directory.
PYFUNCEBLE_OUTPUT_LOCATION	Tell us where we should generate the `output/` directory.
APPDATA	Used under Windows to construct/get the configuration directory if `PYFUNCEBLE_CONFIG_DIR` is not found.
GH_TOKEN	Tell us the GitHub token to set into the repository configuration when using PyFunceble under Travis CI.
GL_TOKEN	Tell us the GitLab token to set into the repository configuration when using PyFunceble under GitLab CI/CD.
GIT_EMAIL	Tell us the `git.email` configuration to set when using PyFunceble under any supported CI environment.
GIT_NAME	Tell us the `git.name` configuration to set when using PyFunceble under any supported CI environment.
TRAVIS_BUILD_DIR	Used to confirm that we are running under a Travis CI container.
GITLAB_CI	Used to confirm that we are running under a GitLab CI/CD environment.
GITLAB_USER_ID	Used to confirm that we are running under a GitLab CI/CD environment.

11.2.12 Global overview

```
usage: pyfunceble [-d DOMAINS [DOMAINS ...]] [-u URLS [URLS ...]] [-f FILES [FILES ...
↪]] [-uf URL_FILES [URL_FILES ...]] [--adblock] [--complements] [--preload] [--
↪filter CLI_TESTING__FILE_FILTER] [--mining]
                [--rpz] [--wildcard] [-c] [--cooldown-time CLI_TESTING__COOLDOWN_
↪TIME] [--local] [--dns-lookup] [--http] [--netinfo-lookup] [--special-lookup] [--
↪whois-lookup] [--reputation-lookup]
                [--reputation] [--syntax] [-t LOOKUP__TIMEOUT] [-ua USER_AGENT__
↪CUSTOM] [-vsc] [--dns DNS__SERVER [DNS__SERVER ...]] [--dns-protocol {UDP,TCP,HTTPS,
↪TLS}] [--follow-server-order]
                [--trust-dns-server] [--inactive-db] [--database-type {csv,mariadb,
↪mysql}] [-dbr CLI_TESTING__DAYS_BETWEEN__DB_RETEST] [-wdb] [-a] [-ex] [--colour]
                [--display-status {all,ACTIVE,INACTIVE,VALID,INVALID,MALICIOUS,SANE} [
↪{all,ACTIVE,INACTIVE,VALID,INVALID,MALICIOUS,SANE} ...]] [--hierarchical] [-h] [-ip␣
↪CLI_TESTING__HOSTS_IP] [--no-files]
                [--output-location OUTPUT_LOCATION] [--unified-results] [--
↪percentage] [--plain] [--dots] [-q] [-s] [-w CLI_TESTING__MAX_WORKERS] [--ci-max-
↪minutes CLI_TESTING__CI__MAX_EXEC_MINUTES] [--ci]
                [--ci-branch CLI_TESTING__CI__BRANCH] [--ci-distribution-branch CLI_
↪TESTING__CI__DISTRIBUTION_BRANCH] [--ci-command CLI_TESTING__CI__COMMAND] [--ci-end-
↪command CLI_TESTING__CI__END_COMMAND]
                [--ci-commit-message CLI_TESTING__CI__COMMIT_MESSAGE] [--ci-end-
↪commit-message CLI_TESTING__CI__END_COMMIT_MESSAGE] [--help] [-v]
```

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```
PyFunceble - The tool to check the availability or syntax of domain, IP or URL.

optional arguments:
    --help                Show this help message and exit.
    -v, --version         Show the version of PyFunceble and exit.

Test sources:
    -d DOMAINS [DOMAINS ...], --domain DOMAINS [DOMAINS ...]
                            Test one or more domains, separated by spaces.

                            When this option is used, no output files are generated.
    -u URLS [URLS ...], --url URLS [URLS ...]
                            Test one or more full URL, separated by spaces.
    -f FILES [FILES ...], --file FILES [FILES ...]
                            Read a local or remote (RAW link) file and test all␣
↪domains inside it.
                            If remote (RAW link) file is given, PyFunceble will␣
↪download it,
                            and test the content of the given RAW link as if it was a␣
↪locally stored file.
    -uf URL_FILES [URL_FILES ...], --url-file URL_FILES [URL_FILES ...]
                            Read a local or remote (RAW link) file and test all␣
↪(full) URLs inside it.
                            If remote (RAW link) file is given, PyFunceble will␣
↪download it,
                            and test the content of the given RAW link as if it was a␣
↪locally stored file.

                            This argument test if an URL is available. It ONLY test␣
↪full URLs.

Source filtering, decoding, conversion and expansion:
    --adblock             Activates or deactivates the decoding of the adblock format.
                            Configured value: False
    --cidr                Activates or disables the expansion of CIDR formatted
                            addresses.
                            Configured value: False
    --complements         Activates or disables the generation and test of the
                            complements.
                            A complement is for example `example.org` if 'www.example.
↪org'
                            is given and vice-versa.
                            Configured value: False
    --preload             Activates or disables the preloading of the input
                            file(s) into the continue dataset before starting the␣
↪tests.

                            This reduces the waiting time while continuing a previous
                            session.
                            Note: This is useless when the auto continue subsystem is␣
↪not active.
                            Configured value: False
    --filter CLI_TESTING__FILE_FILTER
                            Regex to match in order to test a given line.
                            Configured value: ''
    --mining              Activates or disables the mining subsystem.
```

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```
                            Configured value: False
    --rpz                  Activates or disables the decoding of RPZ policies
                             from each given input files.
                             Configured value: False
    --wildcard             Activates or disables the decoding of wildcards for
                         each given input files.
                         Configured value: False

Test control:
    -c, --auto-continue, --continue
                             Activates or disables the autocontinue subsystem.
                             Configured value: False
    --cooldown-time CLI_TESTING__COOLDOWN_TIME
                             Sets the cooldown time (in second) to apply between
                             each test.
                             Configured value: 0.0
    --local                Activates or disables the consideration of the test(s)
                             in or for a local or private network context.
                             Configured value: False
    --dns-lookup           Activates or disables the usage of the DNS lookup
                             whether possible.
                             Configured value: True
    --http, --http-status-code-lookup
                             Switch the value of the usage of HTTP code.
                             Configured value: True
    --netinfo-lookup       Activates or disables the usage of the network
                             information (or network socket) whether possible.
                             Configured value: True
    --special-lookup       Activates or disables the usage of our SPECIAL and
                             extra rules whether possible.
                             Configured value: True
    --whois-lookup         Activates or disables the usage of the WHOIS record
                              (or better said the expiration date in it) whether␣
↪possible.
                             Configured value: True
    --reputation-lookup    Activates or disables the usage of the reputation
                             dataset whether possible.
                             Configured value: False
    --reputation           Activates or disables the reputation checker.
                             Configured value: False
    --syntax               Activates or disables the syntax checker.
                             Configured value: False
    -t LOOKUP__TIMEOUT, --timeout LOOKUP__TIMEOUT
                             Sets the default timeout to apply to each lookup
                             utilities every time it is possible to define a timeout.
                             Configured value: 5
    -ua USER_AGENT__CUSTOM, --user-agent USER_AGENT__CUSTOM
                             Sets the user agent to use.

                             If not given, we try to get the latest (automatically)␣
↪for you.
    -vsc, --verify-ssl-certificate
                             Activates or disables the verification of the SSL/TLS
                             certificate when testing for URL.
                             Configured value: False

DNS control:
```

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```
    --dns DNS__SERVER [DNS__SERVER ...]
                            Sets one or more (space separated) DNS server(s) to use␣
↪during testing.

                            To specify a port number for the DNS server you append
                            it as :port [ip:port].

                            If no port is specified, the default DNS port (53) is␣
↪used.
                            Configured value: None
    --dns-protocol {UDP,TCP,HTTPS,TLS}
                            Sets the protocol to use for the DNS queries.
                            Configured value: 'UDP'
    --follow-server-order
                            Let us follow or mix the order of usage of the given DNS␣
↪server(s).
                            Configured value: True
    --trust-dns-server    Activates or disable the trust mode.

                            When active, when the first read DNS server give us a␣
↪negative response
                            - without error - we take it as it it.
                            Otherwise, if not active, when the first read DNS server␣
↪give us
                            a negative response - without error - we still␣
↪consolidate by
                            checking all given/found server.

                            Configured value: False
    --dns-delay DNS__DELAY
                            Sets the delay (in seconds) to apply between each DNS
                            queries.

                            Configured value: 0.0

Databases:
    --inactive-db         Activates or disables the usage of a 'database' to
                            store all 'INACTIVE' and 'INVALID'  subject for␣
↪continuous retest.
                            Configured value: True
    --database-type {csv,mariadb,mysql}
                            Sets the database engine to use.
                            You can choose between the following: `csv | mariadb |␣
↪mysql`
                            Configured value: 'csv'
    -dbr CLI_TESTING__DAYS_BETWEEN__DB_RETEST, --days-between-db-retest CLI_TESTING__
↪DAYS_BETWEEN__DB_RETEST
                            Sets the numbers of days since the introduction of
                            subject into the inactive dataset before it gets retested.
                            Configured value: 1
    -wdb, --whois-database
                            Activates or disables the usage of a 'database' to
                            store the expiration date of all domains with a valid
                            expiration date.
                            Configured value: True

Output control:
```

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```
    -a, --all             Activates or disables the display of the all
                            information in the table we print to stdout.
                            Configured value: False
    -ex, --execution      Activates or disables the display of the execution time.
                            Configured value: False
    --colour, --color     Activates or disables the coloration to STDOUT.
                            Configured value: True
    --display-status {all,ACTIVE,INACTIVE,VALID,INVALID,MALICIOUS,SANE} [{all,ACTIVE,
↪INACTIVE,VALID,INVALID,MALICIOUS,SANE} ...]
                            Sets the status that we are allowed to print to STDOUT.

                            Multiple space separated statuses can be given.
                            Configured value: 'all'
    --hierarchical        Activates or disables the sorting of the files
                            content (output) in a hierarchical order.
                            Configured value: False
    -h, --host            Activates or disables the generation of the
                            hosts file(s).
                            Configured value: True
    -ip CLI_TESTING__HOSTS_IP, --hosts-ip CLI_TESTING__HOSTS_IP
                            Sets the IP to prefix each lines of the hosts file.
                            Configured value: '0.0.0.0'
    --no-files            Activates or disables the generation of any non-logs
                            file(s).
                            Configured value: False
    --output-location OUTPUT_LOCATION
                            Sets the location where we are supposed to generation
                            the output directory from.
                            Configured value: '/home/funilrys/repositories/github/
↪source/PyFunceble'
    --unified-results     Activates or disables the generation of the unified
                            results file instead of the divided ones.
                            Configured value: False
    --percentage          Activates or disables the display and generation
                            of the percentage - file - of each status.
                            Configured value: True
    --plain               Activates or disables the generation of the
                            RAW file(s). What is meant is a list with only a list of
                            subject (one per line).
                            Configured value: False
    --dots                Activate or disables the display of dots or other
                            characters when we skip the test of a subject.
                            Configured value: False
    -q, --quiet           Activates or disables the display of output to the
                            terminal.
                            Configured value: False
    -s, --simple          Activates or disables the simple output mode.
                        Configured value: False

Multiprocessing:
    -w CLI_TESTING__MAX_WORKERS, --max-workers CLI_TESTING__MAX_WORKERS
                            Sets the number of maximal workers to use.
                            If not given, 40 (based on the current machine) will be␣
↪applied.
                            Configured value: None

CI / CD:
```

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```
    --ci-max-minutes CLI_TESTING__CI__MAX_EXEC_MINUTES
                            Sets the number of minutes to wait before starting
                            to stop a CI session.
                            Configured value: 15
    --ci                  Activates or disables the Continuous Integration
                            mechanism.
                            Configured value: False
    --ci-branch CLI_TESTING__CI__BRANCH
                            Sets our git working branch. This is the branch
                            from where we are supposed to store the tests
                            (excepts the final results).
                            Configured value: 'dev'
    --ci-distribution-branch CLI_TESTING__CI__DISTRIBUTION_BRANCH
                            Sets our git distributions branch. This is the
                            branch from where we are supposed to store and push
                            the final results.
                            Configured value: 'master'
    --ci-command CLI_TESTING__CI__COMMAND
                            Sets the command to execute before each commit
                            (except the final one).
                            Configured value: ''
    --ci-end-command CLI_TESTING__CI__END_COMMAND
                            Sets the command to execute before the final commit.
                            Configured value: ''
    --ci-commit-message CLI_TESTING__CI__COMMIT_MESSAGE
                            Sets the commit message to apply every time we have
                            to apply a commit except for the really last one.
                            Configured value: 'PyFunceble - AutoSave'
    --ci-end-commit-message CLI_TESTING__CI__END_COMMIT_MESSAGE
                            Sets the commit message to apply at the really end.
                            Configured value: 'PyFunceble - Results'

For an in-depth usage, explanation and examples of the arguments,
you should read the documentation at https://pyfunceble.readthedocs.io/en/latest/

Crafted with  by Nissar Chababy (@funilrys) with the help of
https://git.io/JkUPS && https://git.io/JkUPF
```

11.3 Github Actions CI/CD

Example of how you can run PyFunceble inside Github Actions.

Listing 1: main.yml

```yaml
name: PyFunceble CI tests
on:
push:
    branches:
    - "master"
pull_request:
    branches:
    - "master"
schedule:
    - cron: "0 * * * *"
```

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```
env:
PYFUNCEBLE_AUTO_CONFIGURATION: "YES"
GIT_NAME: "${{ secrets.GIT_BOT_NAME }}"
GIT_EMAIL: "${{ secrets.GIT_BOT_EMAIL }}"
PYFUNCEBLE_CONFIG_DIR: "${{ github.workspace }}/.pyfunceble"
GITHUB_TOKEN: "${{ secrets.BOT_REPO_PAT }}"

jobs:
single:
    name: Run PyFunceble with a single domain
    runs-on: "${{ matrix.os }}"

    strategy:
    fail-fast: false
    matrix:
        python_version:
        - "3.9.1"
        os:
        - ubuntu-latest

    steps:
    - uses: actions/checkout@v2
        name: Clone repository
        with:
        token: "${{ secrets.BOT_REPO_PAT }}"

    - name: Set up Python ${{ matrix.python_version }}
        uses: actions/setup-python@v2
        with:
        python-version: ${{ matrix.python_version }}

    - name: Install dependencies
        run: |
        pip install --pre PyFunceble-dev

    - name: Get PyFunceble version
        run: |
        PyFunceble --version

    - name: Run PyFunceble
        run: |
        PyFunceble -a --logging-level critical -d github.com

file_and_push:
    name: Run PyFunceble against a file and push result to repository
    runs-on: "${{ matrix.os }}"

    strategy:
    fail-fast: false
    matrix:
        python_version:
        - "3.9.1"
        os:
        - ubuntu-latest

    steps:
```

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```
    - uses: actions/checkout@v2
        name: Clone repository
        with:
        token: "${{ secrets.BOT_REPO_PAT }}"

    - name: Set up Python ${{ matrix.python_version }}
        uses: actions/setup-python@v2
        with:
        python-version: ${{ matrix.python_version }}

    - name: Install dependencies
        run: |
        pip install --pre PyFunceble-dev

    - name: Get PyFunceble version
        run: |
        PyFunceble --version

    - name: Run PyFunceble
        run: |
        PyFunceble -a --ci --logging-level critical -f test.list
```

11.4 GitLab Runner CI/CD

As we offer an argument named `--ci` which will autosave in a GitLab CI/CI environment, this document try to describe hot it works!

11.4.1 Configuration

Personal Access Token

A personal access token is needed in order for PyFunceble to automatically push the results.

You should get a personal GitLab access token with the `read_repository` and `write_repository` scopes.

Once created and copied in a safe place, create **a new masked variable** named `GL_TOKEN` inside the CI/CD settings of your project. The value of the variable should be the newly generated personal access token.

`.gitlab-ci.yml`

Note: This part only present a commented `.gitlab-ci.yml`. This is just an example do not take the following as necessarly true.

You're invited to submit changes if something stated in this document is wrong.

```
# Python needed, so we use the python image.
image: python:latest

variables:
    # This is the Git name we have to set. (git config user.name)
```

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```
    GIT_EMAIL: "dead-hosts@funilrys.com"
    # This is the Git Email we have to set. (git config user.email)
    GIT_NAME: "GitLab CI/CD"

before_script:
    # We install the development version of PyFunceble.
    # If you prefer the stable version replace `pyfunceble-dev`
    # with `pyfunceble`.
    - pip3 install PyFunceble-dev

run:
    script:
        # Let's say we want our results and our PyFunceble
        # infrastructure to be saved in a directory called `PyFunceble-tests`

        # We move inside it.
        - cd PyFunceble-tests
        # We test the file `my_awesome_list` which is located inside the current␣
↪directory.
        # Note: we precise the `--ci` argument here,
        #     but you work without it if you set `ci: true` inside your `.PyFunceble.
↪yaml`
        - PyFunceble --ci -f my_awesome_list --plain
```

11.5 Travis container CI/CD

As we offer an argument named `--ci` to activate the usage of PyFunceble in a Travis CI instance, we document here what you need to know!

11.5.1 Configuration

Note: This part only present a commented `.travis.yml` so that you can understand where to start.

If you need more practical examples, feel free to report to one of Dead-Hosts repositories which use PyFunceble with Travis CI.

```
env:
    global:
        # The following is your encrypted GitHub API key.
        # Indeed as we are going to push to the repository, this is needed.
        #- GH_TOKEN: # This can be set in the travis-ci https://travis-ci.com/repo/
↪settings as 'Environment Variables'
        # or as below: secure: encrypted code
        - secure: QQdKFquFFojFT9XJ1XZp4EMoDTVoXFgqZq8XU+sCVf+pJQR6d/
↪oKBp8rnSTCnZizWOQXUjGXUUxUpSG/
↪dYGyBLjo3rH3rsn9ciZHVfubxbwK860w4sqibl4DvhCv2rdsFtvzXnhm4P9OL3i+krKdewh9fxpNyUU58qOgfnS7mK9FcFhb8z5
↪dc0y36q6vjfgJR+QchetOtHgNbKYbLB8c26Di90OZCFJsxMNcl1Wct4qFPXkFGvjXrISW6pbdPL5Plto0Ig3iLiulhYOPVArysN
↪67d+F9ocQdIoFpDDTdgIjHerQnD2wRg1aKPzLDb4jJTpqgr5ssPrqUAKl3st7gyaAZzCEADPDnIBDjOJS+mFWbx9DKgc=
        # This is the Git name we have to set. (git config user.name)
        - GIT_NAME: Travis CI
        # This is the Git Email we have to set. (git config user.email)
```

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```
        - GIT_EMAIL: dead-hosts@funilrys.com

# This is the language we use.
language: python

# This is the python version we are going to use for the tests.
# Note: you can add any 3.x version to the list.
python:
- "3.8"

# The following will tell Travis CI to ends as fast as possible.
matrix:
    fast_finish: true

# Here we are setting what Travis CI have to cache.
cache:
    # We are caching pip3 as we use it to install PyFunceble
    - pip3

install:
    # We install the development version of PyFunceble. If you prefer the stable␣
↪version replace
    # `pyfunceble-dev` with `pyfunceble`.
    - pip3 install pyfunceble-dev

# Our tests start here.
script:
    # Let's say we want our results and our PyFunceble infrastructure to be saved in␣
↪a directory
    # called `PyFunceble-tests`

    # We move inside it.
    - cd PyFunceble-tests
    # We test the file `my_awesome_list` which is located inside the current␣
↪directory.
    # Note: we precise the `--ci` argument here,
    #     but you work without it if you set `travis: true` inside your `.PyFunceble.
↪yaml`
    - PyFunceble --ci -f my_awesome_list --plain

# The following initiate email notification logic.
notifications:
    # As we want to get a mail on failure and on status change, we set the following.
    on_success:   change
    on_failure:   always
```

11.5.2 Getting a GitHub token

For the `secure` index of the `.travis.yml` file, you have to generate a new GitHub token.

After you got your token, please write it or save it in a safe place as you're going to need it every time you're going to interact with Travis CI.

Note: The scope to set is `public_repo` but you can also set others depending on your needs.

11.5.3 Encrypting the token for future usage under the Travis CIs' containers

To encrypt the token simply replace and execute the following according to your personal case.

```
$ travis encrypt 'GH_TOKEN=theGeneratedToken' -r 'The content of TRAVIS_REPO_SLUG' --
↪add
```

Warning: Please do not execute the following explicitly without replacing `theGeneratedToken` with your previously generated GitHub token and `The content of TRAVIS_REPO_SLUG` with your repository slug.

Note: The usage of `--add` ensure that the `travis` program automatically add the `secure` index to the `.travis.yml` file.

11.6 Deprecated arguments

The following arguments have previous been in use by PyFunceble, these are now deprecated and should in some cases be replaced with alternative args.

In other cases the old feature have either been included into a other functional or simply been removed as it was obselete to keep the function within Pyfunceble v4.x.

This is happening because PyFunceble is evolving over time and features comes and goes.

11.6.1 `-ad`

Deprecated since version 4.0.0.

Replacement: –adblock

11.6.2 `-nw` | `--no-whois`

Deprecated since version 4.0.0.

Replacement: –whois-lookup

11.6.3 `--shadow-file` | `--shadow`

Deprecated since version 4.0.0.

Replacement: N/A

11.6.4 --use-reputation-data

Deprecated since version 4.0.0.

Replacement: reputation-lookup

11.6.5 --dns-lookup-over-tcp

Deprecated since version 4.0.0.

See: –dns-protocol

11.6.6 -db | --database

Deprecated since version 4.0.0.

Replacement: –inactive-db

11.6.7 -dbc "something" | --days-between-db-clean

Deprecated since version 4.0.0.

Replacement: N/A

11.6.8 -json

Deprecated since version 4.0.0.

Replacement: N/A

11.6.9 -less

Deprecated since version 4.0.0.

Replacement: -a | –all

11.6.10 -nf

Deprecated since version 4.0.0.

Replacement: –no-files

11.6.11 -nl | --no-logs

Deprecated since version 4.0.0.

Replacement: –no-files

11.6.12 -nu | --no-unified

Deprecated since version 4.0.0.

Replacement: –unified-results

-ns|--no-special Deprecated since version 4.0.0.

Replacement: –special-lookup

In the .code:.*PyFunceble_production.yaml* the value have changed from `no_special` to `special`

11.6.13 --split

Deprecated since version 4.0.0.

Replacement: –unified-results

11.6.14 --store-whois

Deprecated since version 4.0.0.

Replacement: N/A

11.6.15 -m | --multiprocess

Deprecated since version 4.0.0.

Integrated into -w | –max-workers

11.6.16 -p | --processes

Deprecated since version 4.0.0.

Replacement: -w | –max-workers

11.6.17 `--multiprocess-merging-mode`

Deprecated since version 4.0.0.

Replacement: N/A

11.6.18 `--autosave-minutes`

Deprecated since version 4.0.0.

Replacement: –ci-max-minutes

11.6.19 `--cmd`

Deprecated since version 4.0.0.

Replacement: –ci-command

11.6.20 `--cmd-before-end`

Deprecated since version 4.0.0.

Replacement: `--ci-end-command`

CHAPTER 12

Responses

12.1 API Responses

12.1.1 Syntax Checker

```
{
    "checker_type": "SYNTAX",
    "idna_subject": "example.com",
    "params": null,
    "status": "VALID",
    "status_source": "SYNTAX",
    "subject": "example.com",
    "tested_at": "2021-03-09T17:43:24.477977"
}
```

12.1.2 Availability Checker

```
{
    "checker_type": "AVAILABILITY",
    "dns_lookup": {
        "NS": [
            "a.iana-servers.net.",
            "b.iana-servers.net."
        ]
    },
    "dns_lookup_record": {
        "dns_name": "example.com.",
        "follow_nameserver_order": true,
        "nameserver": "9.9.9.9",
        "port": 53,
        "preferred_protocol": "UDP",
```

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```
        "query_record_type": "NS",
        "query_timeout": 5.0,
        "response": [
            "a.iana-servers.net.",
            "b.iana-servers.net."
        ],
        "subject": "example.com",
        "used_protocol": "UDP"
    },
    "domain_syntax": true,
    "expiration_date": null,
    "http_status_code": null,
    "idna_subject": "example.com",
    "ip_syntax": false,
    "ipv4_range_syntax": false,
    "ipv4_syntax": false,
    "ipv6_range_syntax": false,
    "ipv6_syntax": false,
    "netinfo": null,
    "params": {
        "do_syntax_check_first": false,
        "use_dns_lookup": true,
        "use_extra_rules": true,
        "use_http_code_lookup": true,
        "use_netinfo_lookup": true,
        "use_reputation_lookup": false,
        "use_whois_db": true,
        "use_whois_lookup": false
    },
    "second_level_domain_syntax": true,
    "status": "ACTIVE",
    "status_after_extra_rules": null,
    "status_before_extra_rules": null,
    "status_source": "DNSLOOKUP",
    "status_source_after_extra_rules": null,
    "status_source_before_extra_rules": null,
    "subdomain_syntax": false,
    "subject": "example.com",
    "tested_at": "2021-03-09T17:42:15.771647",
    "url_syntax": false,
    "whois_lookup_record": {
        "expiration_date": null,
        "port": 43,
        "query_timeout": 5.0,
        "record": null,
        "server": null,
        "subject": "example.com"
    },
    "whois_record": null
}
```


12.1.3 Reputation Checker


```
{
    "checker_type": "REPUTATION",
```


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```
    "dns_lookup": [
        "93.184.216.34"
    ],
    "dns_lookup_record": {
        "dns_name": "example.com.",
        "follow_nameserver_order": true,
        "nameserver": "9.9.9.9",
        "port": 53,
        "preferred_protocol": "UDP",
        "query_record_type": "A",
        "query_timeout": 5.0,
        "response": [
            "93.184.216.34"
        ],
        "subject": "example.com",
        "used_protocol": "UDP"
    },
    "domain_syntax": true,
    "idna_subject": "example.com",
    "ip_syntax": false,
    "ipv4_range_syntax": false,
    "ipv4_syntax": false,
    "ipv6_range_syntax": false,
    "ipv6_syntax": false,
    "params": {
        "do_syntax_check_first": false
    },
    "second_level_domain_syntax": true,
    "status": "SANE",
    "status_source": "REPUTATION",
    "subdomain_syntax": false,
    "subject": "example.com",
    "tested_at": "2021-03-09T17:44:02.908452",
    "url_syntax": false
}
```


12.2 API Responses (explained)

In this page, we intend to explain the most useful parts of the API responses.

12.2.1 `checker_type`

The checker type. It describes the checker which was used to provide the given response.

It should be one of the following:

- `SYNTAX`
- `AVAILABILITY`
- `REPUTATION`

12.2.2 idna_subject

The IDNA formatted subject. It is the subject that is internally exposed the all supported testing methods.

You should consider this as the subject and consider the `subject` key as a placeholder of what was given by you.

12.2.3 params

The parameters. It describes the parameter applied to the checker. In most case, if you are using the Python API, you should be able to control most of them through the **class constructor** or their **property setters** with the same name.

Syntax Checker

As of now, there is no known parameters.

Availability Checker

With the availability checker, the following is provided.

```
{
    "do_syntax_check_first": false,
    "use_dns_lookup": true,
    "use_extra_rules": true,
    "use_http_code_lookup": true,
    "use_netinfo_lookup": true,
    "use_reputation_lookup": false,
    "use_whois_db": true,
    "use_whois_lookup": false
}
```

do_syntax_check_first

This parameter lets the checker know that it has to do a syntax check before starting an extensive test. Meaning that the status strongly depends on the caught syntax.

use_dns_lookup

This parameter lets the checker know that it is allowed to perform some DNS lookup to determine the status of the given subject.

use_extra_rules

This parameter lets the checker know that it is allowed to check against our own sets of SPECIAL rules in order to escalate or deescalate the status of the given subject.

use_http_code_lookup

This parameter lets the checker know that it is allowed to gather and use the HTTP status code of the given subject to determine its status.

use_netinfo_lookup

This parameter lets the checker know that it is allowed to perform a network information lookup to determine the status of the given subject.

use_reputation_lookup

This parameter lets the checker know that is allowed to perform a reputation lookup to determine the status of the given subject.

use_whois_db

This parameter lets the checker know that it is allowed to look at the WHOIS local WHOIS database before even trying to perform a WHOIS lookup to determine the status of the given subject.

> **Warning:** If the `use_whois_lookup` parameter is deactivated, this parameter is ignored.

use_whois_lookup

This parameter lets the checker know that is it allowed to perform a WHOIS lookup to determine the status of the given subject.

Reputation Checker

With the availability checker, the following is provided.

```
{
    "do_syntax_check_first": false
}
```

do_syntax_check_first

This parameter lets the checker know that it has to do a syntax check before starting an extensive test. Meaning that the status strongly depends on the caught syntax.

12.2.4 status

The status. It describes the final status gathered by the checker.

Syntax Checker

With the syntax checker, it may be one of the following:

- `VALID`
- `INVALID`

Availability Checker

With the availability checker, it may be one of the following:

- `ACTIVE`
- `INACTIVE`
- `INVALID`

Reputation Checker

With the reputation checker, it may be one of the following:

- `SANE`
- `MALICIOUS`

12.2.5 `status_after_extra_rules`

The status after our extra rules lookup. It describes the status after the lookup against our own sets of rules.

If no rules were matched, `null` is provided.

> **Warning:** Beware, this is only provided by the **availability** checker.

12.2.6 `status_before_extra_rules`

The status before our extra rules lookup. It describes the status before the lookup against our own sets of rules. In other words, it is the status provided by our standard status lookup strategy.

If no rules were matched, `null` is provided.

> **Warning:** Beware, this is only provided by the **availability** checker.

12.2.7 `status_source`

The status source. It describes the test method that led to the given status.

It should be one of the following:

- `SYNTAX`
- `WHOIS`
- `DNSLOOKUP`
- `NETINFO`
- `HTTP CODE`
- `SPECIAL` (extra rules)

12.2.8 status_source_after_extra_rules

The status source after our extra rules lookup. It describes the status source after the lookup against our own sets of rules.

It should be `SPECIAL`.

If no rules were matched, `null` is provided.

> **Warning:** Beware, this is only provided by the **availability** checker.

12.2.9 status_source_before_extra_rules

The status source before our extra rules lookup. It describes the status source before the lookup against our own sets of rules.

In other words, it is the status source provided by our standard status lookup strategy.

It should be one of the following:

- `SYNTAX`
- `WHOIS`
- `DNSLOOKUP`
- `NETINFO`
- `HTTP CODE`

If no rules were matched, `null` is provided.

> **Warning:** Beware, this is only provided by the **availability** checker.

12.2.10 subject

The subject. It describes the subject that was given by you.

12.2.11 tested_at

The test date. It may not be useful to everyone, but it describes the date and time of the generation of the given output.

12.2.12 dns_lookup

The DNS lookup summary. It describes the summary of the DNS Lookup that was performed.

Syntax Checker

Non-existent.

Availability Checker

With the availability checker, the following format (or `null`) is provided:

```
{
    "QUERY TYPE": [
        "string",
        "string"
    ]
}
```

Where `QUERY TYPE` is one of the following:

- `NS`
- `A`
- `AAAA`
- `CNAME`
- `DNAME`

Reputation Checker

With the reputation checker, the following format (or `null`) is provided:

```
[
    "string",
    "string"
]
```

It is just a simple list of IPs that we check against. When the given subject is an IPv4, `null` is provided.

12.2.13 dns_lookup_record

The DNS lookup record. It describes the latest performed DNS lookup record.

Syntax Checker

Non-existent.

Availability and Reputation Checker

With the availability or reputation checker, the following is provided.

```
{
    "dns_name": "example.com.",
    "follow_nameserver_order": true,
    "nameserver": "9.9.9.9",
    "port": 53,
    "preferred_protocol": "UDP",
    "query_record_type": "NS",
    "query_timeout": 5.0,
    "response": [
```

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```
        "a.iana-servers.net.",
        "b.iana-servers.net."
    ],
    "subject": "example.com",
    "used_protocol": "UDP"
}
```

dns_name

The DNS name. It describes the DNS name that was queried.

follow_nameserver_order

It describes if we followed the nameserver order.

nameserver

The nameserver. It describes the nameserver that was queried last.

port

The port. It describes the port that was used to communicate with the nameserver.

query_record_type

The query record type. It describes the record type that was queried last.

query_timeout

The query timeout. It describes the query timeout that was used to perform the query.

response

The response. It describes a list of domains or IPs given by the nameserver as response.

subject

The subject. It describes the subject that was given to the query tool.

used_protocol

The used protocol. It describes the used protocol.

It should be one of the following:

- `UDP` (default)
- `TCP`
- `HTTPS`
- `TLS`

12.2.14 domain_syntax

The domain syntax. It describes through a boolean the state of the given subject.

In other words: `true` is provided when the given subject is a 2nd level domain or a subdomain.

> **Warning:** This key may give you a `null` if nothing was performed (yet).

> **Warning:** Beware, this is only provided by the **availability** and **reputation** checkers.

12.2.15 expiration_date

The expiration date. It describes the expiration date of the given subject as extracted from the WHOIS record.

If none is found, `null` will be provided.

> **Warning:** Beware, this is only provided by the **availability** checker.

12.2.16 http_status_code

The HTTP status code. It describes the HTTP status code which was discovered.

If none is found, `null` or `0` will be provided.

> **Warning:** Beware, this is only provided by the **availability** checker.

12.2.17 ip_syntax

The IP syntax. It describes through a boolean the state of the given subject.

In other words: `true` is provided when the given subject is an IPv4 or an IPv6 (range excluded).

Warning: This key may give you a `null` if nothing was performed (yet).

Warning: Beware, this is only provided by the **availability** and **reputation** checkers.

12.2.18 ipv4_range_syntax

The IPv4 range syntax. It describes through a boolean the state of the given subject.

In other words: `true` is provided when the given subject is an IPv4 range.

Warning: This key may give you a `null` if nothing was performed (yet).

Warning: Beware, this is only provided by the **availability** and **reputation** checkers.

12.2.19 ipv4_syntax

The IPv4 syntax. It describes through a boolean the state of the given subject.

In other words: `true` is provided when the given subject is an IPv4 (range excluded).

Warning: This key may give you a `null` if nothing was performed (yet).

Warning: Beware, this is only provided by the **availability** and **reputation** checkers.

12.2.20 ipv6_range_syntax

The IPv6 range syntax. It describes through a boolean the state of the given subject.

In other words: `true` is provided when the given subject is an IPv6 range.

Warning: This key may give you a `null` if nothing was performed (yet).

Warning: Beware, this is only provided by the **availability** and **reputation** checkers.

12.2.21 ipv6_syntax

The IPv6 syntax. It describes through a boolean the state of the given subject.

In other words: `true` is provided when the given subject is an IPv6 (range excluded).

> **Warning:** This key may give you a `null` if nothing was performed (yet).

> **Warning:** Beware, this is only provided by the **availability** and **reputation** checkers.

12.2.22 `second_level_domain_syntax`

The 2nd level domain syntax. It describes through a boolean the state of the given subject.

In other words: `true` is provided when the given subject is a 2nd level domain.

> **Warning:** This key may give you a `null` if nothing was performed (yet).

> **Warning:** Beware, this is only provided by the **availability** and **reputation** checkers.

12.2.23 `subdomain_syntax`

The subdomain syntax. It describes through a boolean the state of the given subject.

In other words: `true` is provided when the given subject is a subdomain.

> **Warning:** This key may give you a `null` if nothing was performed (yet).

> **Warning:** Beware, this is only provided by the **availability** and **reputation** checkers.

12.2.24 `url_syntax`

The subdomain syntax. It describes through a boolean the state of the given subject.

In other words: `true` is provided when the given subject is a URL.

> **Warning:** This key may give you a `null` if nothing was performed (yet).

> **Warning:** Beware, this is only provided by the **availability** and **reputation** checkers.

12.2.25 `netinfo`

The network information summary. It describes the summary of the network information lookup.

Syntax Checker

Non-existent.

Availability Checker

With the availability checker, the following format (or `null`) is provided:

```
[
    "string",
    "string"
]
```

It is just a simple list of IPs or domains that were found. Otherwise, `null` will be supplied.

Reputation Checker

Non-existent.

12.2.26 `whois_lookup_record`

The WHOIS lookup record. It describes the latest performed WHOIS lookup record.

Syntax Checker

Non-existent.

Availability Checker

With the availability checker, the following is provided.

```
{
    "expiration_date": null,
    "port": 43,
    "query_timeout": 5.0,
    "record": null,
    "server": null,
    "subject": "example.com"
}
```

`expiration_date`

The expiration date. It describes the extracted expiration date.

It should be a string if the format *09-oct-1970* or `null` otherwise.

`port`

The port. It describes the port used to communicate with the WHOIS server.

`query_timeout`

The query timeout. It describes the query timeout that was applied during the query.

`record`

The WHOIS record. It describes the record or response of the WHOIS server.

`subject`

The subject. It describes the subject which was queried.

Reputation Checker

Non-existent.

12.2.27 `whois_lookup`

The WHOIS record. It describes the WHOIS record as given by the (root) WHOIS server.

> **Warning:** Beware, this is only provided by the **availability** checker.

12.3 CLI Responses

From the CLI, there is a lot less information available to the end-user. This patch intend to shortly preset each column of the CLI stdout outputs.

12.3.1 Subject

The subject. It describes the given or decoded subject after conversion to IDNA.

12.3.2 Status

The status. It describes the official status of the tested subject.

12.3.3 Source

The status source. It describes the method that let to the given status.

12.3.4 Expiration Date

The expiration date. It describes the expiration date extracted from the WHOIS record - if found. Otherwise, `Unknown` is supplied.

12.3.5 HTTP Code

The HTTP status code. It describes the HTTP status code - if found. Otherwise, `Unknown` is supplied.

12.3.6 Checker

The checker. It describes the checker used to gather the status.

CHAPTER 13

API Documentation

13.1 Checkers

As of PyFunceble `4.0.0`, it is possible to use our checker without any configuration of initialization of any sort. Simply choose your checker, interact with it and get what you are looking for!

13.1.1 Getting started

Before starting to play with any checkers you need to understand 2 things:

- *`CheckerBase`*
- *`CheckerStatusBase`*

The first one is the base of all checkers, and the second is the base of all status you get when you call the *`get_status()`* method.

13.1.2 Interaction with checkers

Note: This method is the same for all available checkers.

Let's say we want to test the availability of `github.com`.

We first have to select and prepare the checker.

```
from PyFunceble import DomainAvailabilityChecker

# Here we take the default configuration.
checker = DomainAvailabilityChecker()
```

Then we just set the subject to work with.

```
checker.set_subject("github.com")
```

We can then get the status.

```
status = checker.get_status()

# Note: You can also do it in one shot.
status = checker.set_subject("github.com").get_status()
```

Once we have a status object, we can convert it to a different format.

```
# To dict.
status_dict = status.to_dict()

# To JSON.
status_json = status.to_json()
```

We can also interact with any of the attributes of the status object.

```
# This is the status.
print("GitHub is", status.status)
```

But finally, and probably most importantly, we can ask questions.

> **Warning:** Each checker have their own set of methods. Be sure to read them or follow the autocomplete of your editor.

```
# Is it active ?
print("Is GitHub active ?", status.is_active())

# Is it inactive ?
print("Is GitHub inactive ?", status.is_inactive())

# Is it invalid ?
print("Is github.com invalid ?", status.is_invalid())
```

13.1.3 Available Checkers

In this section you can find the list of available checkers and how to import them.

Availability checkers

- **Domain:**
  - *PyFunceble.checker.availability.domain.DomainAvailabilityChecker*

  or

  - `from PyFunceble import DomainAvailabilityChecker`
- **Domain and IP:**
  - *PyFunceble.checker.availability.domain_and_ip.DomainAndIPAvailabilityChecker*

or

- `from PyFunceble import DomainAndIPAvailabilityChecker`

- **URL:**
  - *PyFunceble.checker.availability.url.URLAvailabilityChecker*

  or
  - `from PyFunceble import URLAvailabilityChecker`
- **IP (v4 / v6):**
  - *PyFunceble.checker.availability.ip.IPAvailabilityChecker*

  or
  - `from PyFunceble import IPAvailabilityChecker`

13.1.4 Syntax checkers

- **Domain (Second level domain / Subdomain):**
  - *PyFunceble.checker.syntax.domain.DomainSyntaxChecker*

  or
  - `from PyFunceble import DomainAvailabilityChecker`
- **Second Level Domain:**
  - *PyFunceble.checker.syntax.second_lvl_domain.SecondLvlDomainSyntaxChecker*

  or
  - `from PyFunceble import SecondLvlDomainSyntaxChecker`
- **Subdomain:**
  - *PyFunceble.checker.syntax.subdomain.SubDomainSyntaxChecker*

  or
  - `from PyFunceble import SubDomainSyntaxChecker`
- **URL:**
  - *PyFunceble.checker.syntax.url.URLSyntaxChecker*

  or
  - `from PyFunceble import URLSyntaxChecker`
- **IP (v4 / v6):**
  - *PyFunceble.checker.syntax.ip.IPSyntaxChecker*

  or
  - `from PyFunceble import IPSyntaxChecker`
- **IPv4**
  - *PyFunceble.checker.syntax.ipv4.IPv4SyntaxChecker*

  or
  - `from PyFunceble import IPv4SyntaxChecker`

- **IPv6**
  - *PyFunceble.checker.syntax.ipv6.IPv6SyntaxChecker*

  or

  - `from PyFunceble import IPv6SyntaxChecker`

13.1.5 Reputation checkers

- **Domain:**
  - *PyFunceble.checker.reputation.domain.DomainReputationChecker*

  or

  - `from PyFunceble import DomainReputationChecker`
- **Domain and IP:**
  - *PyFunceble.checker.reputation.domain_and_ip.DomainAndIPReputationChecker*

  or

  - `from PyFunceble import DomainAndIPReputationChecker`
- **URL:**
  - *PyFunceble.checker.reputation.url.URLReputationChecker*

  or

  - `from PyFunceble import URLReputationChecker`
- **IP (v4 / v6):**
  - *PyFunceble.checker.reputation.ip.IPReputationChecker*

  or

  - `from PyFunceble import IPReputationChecker`

13.2 Endpoints

Note: This section document what you can call directly when you use PyFunceble as an imported module.

Warning: Some of those methods may be deprecated and removed in the future (open for discussion).

The tool to check the availability or syntax of domain, IP or URL.

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Special thanks: https://pyfunceble.github.io/#/special-thanks

Contributors: https://pyfunceble.github.io/#/contributors

Project link: https://github.com/funilrys/PyFunceble

Project documentation: https://pyfunceble.readthedocs.io/en/latest/

Project homepage: https://pyfunceble.github.io/

License:


```
Copyright 2017, 2018, 2019, 2020, 2021 Nissar Chababy

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distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.
```


`PyFunceble.`**`get_complements`**(*subject: str*, *include_given: bool = False*) → List[str]

Provides the complements of a given subject.

A complement is a for example `example.org` if `www.example.org` is given and vice-versa.

> **Warning:** This method may be removed in the future. It is still available for convenience.
>
> Please consider the following alternative example:
>
> ```
> from PyFunceble import Subject2Complements
>
> my_subject = "example.org"
> complements = Subject2Complements(
>  my_subject
> ).get_converted(include_given=True)
> ```

Parameters

- **`subject`** – The subject to work with.
- **`include_given`** – Include the given subject in the result.

`PyFunceble.`**`is_domain`**(*subject: str*, ***kwargs*) → bool

Checks if the given subject is a syntactically valid second level domain or subdomain.

> **Warning:** This method may be removed in the future. It is still available for convenience.
>
> Please consider the following alternative example:

```
from PyFunceble import DomainSyntaxChecker

my_subject = "example.org"
the_status = DomainSyntaxChecker(
    my_subject
).get_status()

# Get the status in dict format.
print(the_status.to_dict())

# Get the status in json format.
print(the_status.to_json())

# Check if it is a domain (2nd level or subdomain).
print(f"{my_subject} is domain ? {the_status.is_valid()}")
```

Parameters **subject** – The subject to work with.

PyFunceble.**is_domain_malicious**(*subject: str*, ***kwargs*) → bool

Checks if the given domain is malicious.

Warning: This method may be removed in the future. It is still available for convenience.

Please consider the following alternative example:

```
from PyFunceble import DomainReputationChecker

my_subject = "example.org"
the_status = DomainReputationChecker(
    my_subject
).get_status()

# Get the status in dict format.
print(the_status.to_dict())

# Get the status in json format.
print(the_status.to_json())

# Check if it is malicious.
print(f"{my_subject} is Malicious ? {the_status.is_malicious()}")
```

Parameters **subject** – The subject to work with.

PyFunceble.**is_ip**(*subject: str*, ***kwargs*) → bool

Checks if the given subject is a syntactically valid IP range.

Warning: This method may be removed in the future. It is still available for convenience.

Please consider the following alternative example:

```
from PyFunceble import IPSyntaxChecker

my_subject = "192.168.0.0"
the_status = IPSyntaxChecker(
    my_subject
).get_status()

# Get the status in dict format.
print(the_status.to_dict())

# Get the status in json format.
print(the_status.to_json())

# Check if it is an IP (v4 or v6).
print(f"{my_subject} is IP ? {the_status.is_valid()}")
```

Parameters **subject** – The subject to work with.

`PyFunceble.`**`is_ip_range`**(*subject: str*, ***kwargs*) → bool

Checks if the given subject is a syntactically valid IP range.

Warning: This method may be removed in the future. It is still available for convenience.

Please consider the following alternative example:

```
from PyFunceble import IPSyntaxChecker

my_subject = "192.168.0.0"
the_status = IPSyntaxChecker(
    my_subject
).get_status()

# Get the status in dict format.
print(the_status.to_dict())

# Get the status in json format.
print(the_status.to_json())

# Check if it is an IP range (v4 or v6).
print(f"{my_subject} is IP range ? {the_status.is_valid_range()}")
```

Parameters **subject** – The subject to work with.

`PyFunceble.`**`is_ipv4`**(*subject: str*, ***kwargs*) → bool

Checks if the given subject is a syntactically valid IPv4.

Warning: This method may be removed in the future. It is still available for convenience.

Please consider the following alternative example:

```
from PyFunceble import IPSyntaxChecker

my_subject = "192.168.0.0"
the_status = IPSyntaxChecker(
    my_subject
).get_status()

# Get the status in dict format.
print(the_status.to_dict())

# Get the status in json format.
print(the_status.to_json())

# Check if it is an IPv4.
print(f"{my_subject} is IPv4 ? {the_status.is_valid_v4()}")
```

Parameters **subject** – The subject to work with.

`PyFunceble.`**`is_ipv4_malicious`**(*subject: str*, ***kwargs*) → bool

Checks if the given IPv4 is malicious.

Warning: This method may be removed in the future. It is still available for convenience.

Please consider the following alternative example:

```
from PyFunceble import IPReputationChecker

my_subject = "192.168.0.1"
the_status = IPReputationChecker(
    my_subject
).get_status()

# Get the status in dict format.
print(the_status.to_dict())

# Get the status in json format.
print(the_status.to_json())

# Check if it is malicious.
print(f"{my_subject} is Malicious ? {the_status.is_malicious()}")
```

Parameters **subject** – The subject to work with.

`PyFunceble.`**`is_ipv4_range`**(*subject: str*, ***kwargs*) → bool

Checks if the given subject is a syntactically valid IPv4 range.

Warning: This method may be removed in the future. It is still available for convenience.

Please consider the following alternative example:

```
from PyFunceble import IPSyntaxChecker

my_subject = "192.168.0.0"
the_status = IPSyntaxChecker(
    my_subject
).get_status()

# Get the status in dict format.
print(the_status.to_dict())

# Get the status in json format.
print(the_status.to_json())

# Check if it is IPv4 range.
print(f"{my_subject} is IPv4 range ? {the_status.is_valid_v4_range()}")
```

Parameters **subject** – The subject to work with.

`PyFunceble.`**`is_ipv6`**(*subject: str*, ***kwargs*) → bool

Checks if the given subject is a syntactically valid IPv6.

Warning: This method may be removed in the future. It is still available for convenience.

Please consider the following alternative example:

```
from PyFunceble import IPSyntaxChecker

my_subject = "192.168.0.0"
the_status = IPSyntaxChecker(
    my_subject
).get_status()

# Get the status in dict format.
print(the_status.to_dict())

# Get the status in json format.
print(the_status.to_json())

# Check if it is an IPv6.
print(f"{my_subject} is IPv6 ? {the_status.is_valid_v6()}")
```

Parameters **subject** – The subject to work with.

`PyFunceble.`**`is_ipv6_range`**(*subject: str*, ***kwargs*) → bool

Checks if the given subject is a syntactically valid IPv6 range.

Warning: This method may be removed in the future. It is still available for convenience.

Please consider the following alternative example:

```
from PyFunceble import IPSyntaxChecker

my_subject = "::1"
the_status = IPSyntaxChecker(
    my_subject
).get_status()

# Get the status in dict format.
print(the_status.to_dict())

# Get the status in json format.
print(the_status.to_json())

# Check if it is IPv6 range.
print(f"{my_subject} is IPv6 range ? {the_status.is_valid_v6_range()}")
```

Parameters **subject** – The subject to work with.

PyFunceble.**is_second_level_domain**(*subject: str*, ***kwargs*) → bool

Checks if the given subject is a syntactically valid second level domain.

Warning: This method was added for retrocompatibility. It may be removed in the future and is still available for convenience.

Please consider the following alternative example:

```
from PyFunceble import SecondLvlDomainSyntaxChecker

my_subject = "example.org"
the_status = SecondLvlDomainSyntaxChecker(
    my_subject
).get_status()

# Get the status in dict format.
print(the_status.to_dict())

# Get the status in json format.
print(the_status.to_json())

# Check if it is a second level domain.
print(f"{my_subject} is 2nd level domain ? {the_status.is_valid()}")
```

Parameters **subject** – The subject to work with.

PyFunceble.**is_subdomain**(*subject: str*, ***kwargs*) → bool

Checks if the given subject is a syntactically valid subdomain.

Warning: This method may be removed in the future. It is still available for convenience.

Please consider the following alternative example:

```
from PyFunceble import SubDomainSyntaxChecker

my_subject = "hello.example.org"
the_status = SubDomainSyntaxChecker(
    my_subject
).get_status()

# Get the status in dict format.
print(the_status.to_dict())

# Get the status in json format.
print(the_status.to_json())

# Check if it is a subdomain.
print(f"{my_subject} is subdomain ? {the_status.is_valid()}")
```

Parameters **subject** – The subject to work with.

`PyFunceble.`**`is_url`**(*subject: str*, ***kwargs*) → bool

Checks if the given subject is syntactically a valid URL.

Warning: This method may be removed in the future. It is still available for convenience.

Please consider the following alternative example:

```
from PyFunceble import DomainReputationChecker

my_subject = "https://example.org"
the_status = URLSyntaxChecker(
    my_subject
).get_status()

# Get the status in dict format.
print(the_status.to_dict())

# Get the status in json format.
print(the_status.to_json())

# Check if it is a URL.
print(f"{my_subject} is URL ? {the_status.is_valid()}")
```

Parma subject The subject to check.

`PyFunceble.`**`is_url_malicious`**(*subject: str*, ***kwargs*) → bool

Checks if the given URL is malicious.

Warning: This method may be removed in the future. It is still available for convenience.

Please consider the following alternative example:

```
from PyFunceble import URLReputationChecker

my_subject = "https://example.org"
the_status = URLReputationChecker(
    my_subject
).get_status()

# Get the status in dict format.
print(the_status.to_dict())

# Get the status in json format.
print(the_status.to_json())

# Check if it is malicious.
print(f"{my_subject} is Malicious ? {the_status.is_malicious()}")
```

Parameters **subject** – The subject to work with.

PyFunceble.**load_config**(**args*, ***kwargs*) → None

Placeholder before deletion.

Since 4.0.0, you are not required to load the configuration before hand. If you still want too because you may want to use a special CLI related method, you can doing it so:

```
import PyFunceble.facility

PyFunceble.facility.ConfigLoader.start()
```

PyFunceble.**test**(*subject: str*, ***kwargs*) → PyFunceble.checker.availability.status.AvailabilityCheckerStatus

Checks the avaialbility of the given subject assuming that it is a domain or an IP.

Warning: This method may be removed in the future. It is still available for convenience.

Please consider the following alternative example:

```
from PyFunceble import DomainAndIPAvailabilityChecker

my_subject = "example.org"
the_status = DomainAndIPAvailabilityChecker(
    my_subject
).get_status()

# Get the status in dict format.
print(the_status.to_dict())

# Get the status in json format.
print(the_status.to_json())

# Check if it is available.
print(f"{my_subject} is available ? {the_status.is_available()}")
```

Parameters **subject** – The subject to work with.

`PyFunceble.url_test`(*subject: str*, ***kwargs*) → PyFunceble.checker.availability.status.AvailabilityCheckerStatus

Checks the availability of the given subject assuming that it is a URL.

Warning: This method may be removed in the future. It is still available for convenience.

Please consider the following alternative example:

```
from PyFunceble import URLAvailabilityChecker

my_subject = "http://example.org"
the_status = URLAvailabilityChecker(
    my_subject
).get_status()

# Get the status in dict format.
print(the_status.to_dict())

# Get the status in json format.
print(the_status.to_json())

# Check if it is available.
print(f"{my_subject} is available ? {the_status.is_available()}")
```

Parameters **subject** – The subject to work with.

13.3 File generation while using the API

You may want to test using the API but still want the result structured normally like a CLI usage. For that case simply add the following.

```
"""
This is an example which let us manipulate the data and also generate the files
as if it was the CLI.
"""

import copy

import colorama

import PyFunceble.facility
import PyFunceble.storage
from PyFunceble import DomainAvailabilityChecker
from PyFunceble.cli.filesystem.dir_structure.restore import (
    DirectoryStructureRestoration,
)
from PyFunceble.cli.processes.producer import ProducerProcessesManager
from PyFunceble.cli.utils import ascii_logo

# We initiate the coloration.
colorama.init(autoreset=True)


# We are in control, so we need to manually start the loading.
PyFunceble.facility.ConfigLoader.custom_config = {
```

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```
    "cli_testing": {"file_generation": {"plain": True}, "display_mode": {"quiet":␣
↪True, "color": True}}
}
PyFunceble.facility.ConfigLoader.start()

print(ascii_logo.get_home_representation())

# This is needed as our idea is to communicate with the producer process instead
# of trying to implement everything again.
# So, this describes the dataset as they are sent to the tester process
# (normally from the CLi).
STD_COMMUNICATION_DATASET = {
    "type": "single",
    "subject_type": "domain",
    # Destination inside the output directory.
    "destination": "my_awesome_pyfunceble_wrapper",
    "subject": None,
    "idna_subject": None,
    "source": "my_awesome_pyfunceble_wrapper",
    "output_dir": None,  # Will be handled automatically
    "checker_type": "AVAILABILITY",  # Must be one of our supported one!!
}

DOMAINS = ["github.com", "twitter.com"]

# In this example, we are cleaning up and regenerating the output directory
# at each run.
dir_structure_restoration = DirectoryStructureRestoration(
    parent_dirname=STD_COMMUNICATION_DATASET["destination"]
).restore_from_backup()

# We start the producer process.
producer_proc = ProducerProcessesManager()
# We start the process manager now that we are ready.
producer_proc.start()

# We start and configure our availability checker.
avail_checker = DomainAvailabilityChecker(use_whois_lookup=False)

for domain in DOMAINS:
    # We loop through our list of subject to test.

    # We parse the current subject to the availability checker.
    avail_checker.subject = domain

    # Now we fetch the status object.
    test_result = avail_checker.get_status()

    # We prepare our communication dataset.
    communication_dataset = copy.deepcopy(STD_COMMUNICATION_DATASET)
    communication_dataset["subject"] = test_result.subject
    communication_dataset["idna_subject"] = test_result.idna_subject

    # We print the result (for us as we call this script.)
    print(
        f"{test_result.idna_subject} (IDNA: {test_result.subject}) "
        f"is {test_result.status}"
```

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```
    )

    # We order the generation of the status file by putting our information
    # to the producer queue.
    producer_proc.add_to_input_queue(
        (communication_dataset, test_result), worker_name="main"
    )

# We are now done, it's time to send the stop signal.
# The stop signal will inform the producer process that it needs to stop
# listening to new order (from the time it reads the stop signal).
producer_proc.send_stop_signal()

# Now we wait until it's done.
producer_proc.wait()

# From here all files were generated we can do whatever we want with them.
```

CHAPTER 14

Components

14.1 AdBlock/Filter list decoding

Warning: This component is not activated by default.

14.1.1 Why do we need it?

As some people may want to test the content of their AdBlock/Filter list, we offer a way to decode them!

14.1.2 How does it work?

Note: Want to read the code ? It's here: `AdblockInputLine2Subject`!

We keep it simple by trying to comply with the Adblock Plus filters explained documentation. For us, the relevant parts are the one which defines/explains which domains are being blocked from a given rule.

Note: A more aggressive extraction might be planned in the future.

14.1.3 How to use it?

You can simply change

```
cli_decoding:
    adblock: False
```

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```
    # Activate this only if you want to get as much as possible.
    adblock_aggressive: False
```

to

```
cli_decoding:
    adblock: False

    # Activate this only if you want to get as much as possible.
    adblock_aggressive: False
```

into your personal `.PyFunceble.yaml` or use the `--adblock` argument from the CLI to activate it.

14.2 Autocontinue

14.2.1 Why do we need it?

The auto-continue logic was originaly created for one purpose: Testing long files inside Travis CI. As Travis CI session has a time limit of 45 minutes, it became vital for us to be able to stop and continue the test from where we were under those 45 minutes. This is how it started.

Today, - and it might be controversial - it is used by most people who aren't under a Travis CI container to continue when the machine or tool crashes.

14.2.2 How does it work?

Note: Want to read the code ? It's here: *`ContinueDatasetBase()`*!

We log every subject already tested previously and remove them completely when we are done with the test of the given file.

14.2.3 How to use it?

It is activated by default but you can simply change

```
cli_testing:
    autocontinue: False
```

to

```
cli_testing:
    autocontinue: True
```

into your personal `.PyFunceble.yaml` or use the `--continue` argument from the CLI to reactivate it.

14.3 Certificate verification

Warning: This component is not activated by default.

14.3.1 Why do we need it?

You might sometime be sure that every URL tested with PyFunceble have a valid certificate. This what it's all about!

14.3.2 How does it work?

By default we don't check the certificate, but if you choose to activate this, as soon as the verification is failed, an `INACTIVE` status will be returned while testing for URL.

14.3.3 How to use it?

Simply change

```
verify_ssl_certificate: False
```

to

```
verify_ssl_certificate: True
```

into your personal `.PyFunceble.yaml` or use the `--verify-ssl-certificate` argument from the CLI to activate it.

14.4 Cleaning

14.4.1 Why do we need it?

Because we constantly need to clean files which are not needed before starting a new test, we embedded our cleaning logic.

14.4.2 How does it work?

Note: Want to read the code ? It's here *`FilesystemCleanup`*!

It has an internal map of what has to be deleted and how.

14.4.3 How to clean?

For a simple clean, run PyFunceble with the `clean-pyfunceble` CLI tool.

For a complete cleaning, run PyFunceble with the `clean-pyfunceble` CLI tool along with the `--all` argument.

14.5 Complements Generation

Warning: This component is not activated by default.

14.5.1 Why do we need it?

Let's say we have `example.org` but `www.example.org` (or vice-versa) is not into my list. This component (if activated) let us test `www.example.org` (or vice-versa) even if it's not into the input list.

14.5.2 How does it work?

Note: Want to read the code ? It's here *`Subject2Complements`*!

At the end of the normal test process, we generate the list of complements and test them.

14.5.3 How to use it?

You can simply change

```
cli_testing:
    # Activates the generation of complements.
    complements: False
```

to

```
cli_testing:
    # Activates the generation of complements.
    complements: True
```

into your personal `.PyFunceble.yaml` or use the `--complements` argument from the CLI to activate it.

14.6 Configuration

14.6.1 Why do we need it?

As we wanted to be able to manage the options without having to always update the CLI call, we introduced the configuration logic and file.

14.6.2 How does it work?

Note: Want to read the configuration loader code ? It's here *`ConfigLoader`*!

When you are using an argument from the CLI, what we actually do is parse them into our configuration logic.

In the other side, if we first look for the `.PyFunceble.yaml` file. If not found, we get/generate it and then parse it to our system.

Note: We also wanted to get rid of the configuration for an end-user point of view, therefore almost all configuration indexed can be updated from the CLI.

In that case, we update the configuration with the different argument you gives us before parsing it to the system.

14.6.3 How to configure?

Update the `.PyFunceble.yaml` file or use the CLI.

14.7 Continuous Integration

Warning: This component is not activated by default.

14.7.1 Why do we need it?

The continuous integrations component is there to enable a continuous testing and integration in your workflow.

The idea is that: If you can use any of the supported Continuous Integration engine, use it, and use PyFunceble to work along your workflow.

14.7.2 How does it work?

Note: Want to read the code ? It's here *`ContinuousIntegrationBase`*!

After a given amount of minutes, we stop the tool, generate the percentage, run a given command (if found), commit all the changes we made to the repository and finally, push to the git repository.

14.7.3 How to use it?

As of today, PyFunceble should work under Travis CI and GitLab CI.

Warning: Along with the configuration file or the CLI setting, you are required to give the following environment variables:

- `GIT_EMAIL`: The email to use for the commit.
- `GIT_NAME`: The name to use for the commit.
- `GH_TOKEN`: The GitHub token if you use Travis CI.
- `GL_TOKEN`: The GitLab token if you use GitLab CI.

The following from the configuration (or their equivalent from the CLI) are available for usage.

```
cli_testing:
    ci:
        # Provides everything related to the continuous integration.

        # Activates the continuous integration mode.
        # WARNING: Do not activate without asking or knowing what you are doing.
        active: False

        # Sets the commit message to apply each time except for the last one.
        commit_message: "PyFunceble - AutoSave"

        # Sets the commit message to apply at the very end of the test.
        end_commit_message: "PyFunceble - Results"

        # Sets the number of minutes  to wait before sftarting to save and stop
        # a session.
        max_exec_minutes: 15

        # Sets the working branch. This is the branch from where we are testing.
        branch: master

        # Sets the distribution branch. This is the branch that is going to get
        # the (final) results.
        distribution_branch: master

        # Sets the command to execute before each commits except the last
        # one.
        command: null

        # Sets the command to execute before the last commit.
        end_command: null
```

14.8 Custom DNS Protocol

14.8.1 Why do we need it?

Sometimes, your firewall may block the UDP protocol over port 53 or you simply want to use DNS-Over-TLS or why not DNS-Over-HTTPS and why not DNS-Over-TCP.

Since PyFunceble 4.0.0, to simplify such situations, it is possible to define the protocol to use for the DNS queries.

14.8.2 How does it work?

Note: Want to read the DNS query tool source code ? It's here `DNSQueryTool`!

We read your preferred protocol and use it.

14.8.3 How to use it?

By default, PyFunceble will use the UDP protocol. This can be changed with the ability to configure which DNS-Servers you like PyFunceble to use during the test.

You set this up with the CLI command `--dns-protocol` **or** insert it into your personal `.PyFunceble.yaml`.

Note: As of today, here is the list of supported protocols.

- `UDP` (default)
- `TCP`
- `HTTPS`
- `TLS`

```
dns:
    # Sets the protocol to use.
    # Available: UDP | TCP | HTTPS | TLS
    protocol: UDP
```

to

```
dns:
    # Sets the protocol to use.
    # Available: UDP | TCP | HTTPS | TLS
    protocol: TCP
```

14.9 Custom DNS Server

New in version 3.3.0.

14.9.1 Why do we need it?

Our testing tool may sometime use a DNS-server which isn't suited for PyFunceble. This could by example be your own DNS-Firewall.

To avoid these situations, the program allows you to setup the DNS-Server that we need to use.

14.9.2 How does it work?

Note: Want to read the DNS query tool source code ? It's here *`DNSQueryTool`*!

What we do is that we parse and use your given server.

14.9.3 How to use it?

By default, PyFunceble will use the system-wide DNS settings. This can be changed with the ability to configure which DNS-Servers you like PyFunceble to use during the test.

You set this up with the CLI command `--dns` **or** insert it into your personal `.PyFunceble.yaml`

```
dns;
    server: null
```

to

```
dns:
    server:
        - 88.198.70.39
        - 95.216.209.53
        - 116.203.32.67
        - 88.198.70.38
```

Changed in version 3.0.0.

It is now possible to assign a specific port to use with the DNS-Server.

If you don't append a port number, the default DNS port (53) will be used.

```
$ pyfunceble --dns 88.198.70.38 95.216.209.53:53 116.203.32.67:853 \
    -f $DOMAIN_FILE
```

14.10 Custom User-Agent

14.10.1 Why do we need it?

As we need to be one in a middle of a connection to a webserver, the custom user agent is there for that!

14.10.2 How does it work?

We set the user-agent every time we request something with the `http` and `https` protocols.

If a custom user agent is given, it will be used.

Otherwise, every 24 hours, we update our user-agents.json file which will be fetched by your local version to determine the user-agent to use.

14.10.3 How to use it?

Simply choose your browser and platform or provide us your custom one!

```
user_agent:
    browser: chrome
    platform: linux
    custom: null
```

into your personal `.PyFunceble.yaml` or use the `--user-agent` (custom UA) argument from the CLI.

Available Browser

Here is a list of available and accepted browsers at this time.

- `chrome`
- `edge`
- `firefox`
- `ie`

- `opera`
- `safari`

Available Platform

Here is a list of available and accepted platform at this time.

- `linux`
- `macosx`
- `win10`

14.10.4 What if we don't give a custom User-Agent?

If you don't set a custom User-Agent, we will try to get the latest one for the chosen browser and platform.

14.11 Databases

14.11.1 Why do we use "databases"?

We use databases to store data while we run the tests. When globally talking about databases, we are indirectly talking about the following subsystems.

- Autocontinue
- InactiveDB
- WhoisDB

14.11.2 How do we manage them?

They consist of simple CSV files which are read and updated on the fly.

14.11.3 Warnings around Database (self) management

> **Warning:** If you plan to delete everything and still manage to use PyFunceble in the future, please use the `clean-pyfunceble` CLI.
>
> Indeed, it will delete everything that we generated, except the things like the WHOIS database file/table which saves (almost) static data which should be reused in the future.
>
> Deleting, for example, the WHOIS database file/table will just make your test run for a much longer time if you retest subject that used to be indexed into the whois database file/table.

14.11.4 Databases types

Since PyFunceble `2.0.0` (equivalent of `>=1.18.0.dev`), we offer multiple database types which are (as per configuration) `csv` (default since `4.0.0`), `mariadb` and `mysql`.

Why different database types?

With the introduction of the multiprocessing logic, it became natural to introduce other database formats.

How to use the `mysql` or `mariadb` format?

1. Create a new user, password and database (optional) for PyFunceble to work with.
2. Create a `.pyfunceble-env` file at the root of your configuration directory.
3. Complete it with the following content (example)

```
PYFUNCEBLE_DB_CHARSET=utf8mb4
PYFUNCEBLE_DB_HOST=localhost
PYFUNCEBLE_DB_NAME=PyFunceble
PYFUNCEBLE_DB_PASSWORD=Hello,World!
PYFUNCEBLE_DB_PORT=3306
PYFUNCEBLE_DB_USERNAME=pyfunceble
```

Note: Since version `2.4.3.dev` it is possible to use the UNIX socket for the `PYFUNCEBLE_DB_HOST` environment variable.

The typical location for `mysqld.sock` is `/var/run/mysqld/mysqld.sock`.

This have been done to make

1. It easier to use the `socket` in conjunction with a supported CI environment/platform.
2. Leaving more space on the IP-stack on local DB installations.
3. The `UNIX:SOCKET` is usually faster than the IP connection on local runs.

```
PYFUNCEBLE_DB_CHARSET=utf8mb4
PYFUNCEBLE_DB_HOST=/var/run/mysqld/mysqld.sock
PYFUNCEBLE_DB_NAME=PyFunceble
PYFUNCEBLE_DB_PASSWORD=Hello,World!
PYFUNCEBLE_DB_PORT=3306
PYFUNCEBLE_DB_USERNAME=pyfunceble
```

4. Switch the `db_type` index of your configuration file to `mysql` or `mariadb`.
5. Play with PyFunceble!

Note: If the environment variables are not found, you will be asked to prompt the information.

14.12 Directory Structure

14.12.1 Why do we need it?

As we wanted the end-user to be able to work from everywhere into the filesystem, we created a logic which will create and keep the `output/` directory which complies with our source code.

14.12.2 How does it work?

Note: Want to read the code ? It's here *PyFunceble.cli.filesystem.dir_structure.backup.DirectoryStructureBackup* and PyFunceble.cli.filesystem.dir_structure.backup.DirectoryStructureRestoration!

After each version, the maintainer run the `production-pyfunceble` CLI which will prepare the repository for production.

That has the side effect to map the maintainer's version of the `output/__pyfunceble_origin__` directory into a file called `dir_structure_production.json` which is then bundled into the PyPI package.

Once pushed, on the end-user side, when testing for file, that file is copied from the Python Package into a file called `dir_structure.json` which is then used to restore/create a a perfect copy of the output directory the maintainer had when pushing the new version.

14.13 DNS Lookup

14.13.1 Why do we need it?

As our main purpose is to check the availability of the given subjects, we make a DNS lookup to determine it.

14.13.2 How does it work?

For domains

In order:

1. Request the `NS` record.
2. If not found, request the `A` record.
3. If not found, request the `AAAA` record.
4. If not found, request the `CNAME` record.
5. If not found, request the `DNAME` record.

Warning: If none is found, we call the UNIX/C equivalent of `getaddrinfo()`.

For IP

We request the `PTR` record for the IP.

Warning: If none is found, we call the UNIX/C equivalent of `gethostbyaddr()` or `getaddrinfo()`.

14.13.3 How to use it?

It is activated by default but if not simply change

```
lookup:
    # Activates the usage of the DNS lookup.
    dns: False
```

to

```
lookup:
    # Activates the usage of the DNS lookup.
    dns: True
```

into your personal `.PyFunceble.yaml` or use the `--no-whois` argument from the CLI to reactivate it.

14.14 Environment variables

14.14.1 Dotenv files

Since PyFunceble `2.0.0` (equivalent of PyFunceble-dev `>=1.18.0`), we load (thanks to python-dotenv) the content of the following files into the (local) list of environment variables.

1. `.env` (current directory)
2. `.pyfunceble-env` (current directory)
3. `.env` (configuration directory)
4. `.pyfunceble-env` (configuration directory)

To quote the python-dotenv documentation, a `.env` should look like the following:

```
# a comment and that will be ignored.
REDIS_ADDRESS=localhost:6379
MEANING_OF_LIFE=42
MULTILINE_VAR="hello\nworld"
```

14.14.2 What do we use and why ?

Here is the list of environment variables we use and how we use them if they are set.

Environment Variable	How do we use it?
DEBUG_PYFUNCEBLE	Same as PYFUNCEBLE_DEBUG it's just present for retro-compatibility.
DEBUG_PYFUNCEBLE_ON_SCREEN	Same as PYFUNCEBLE_DEBUG_ON_SCREEN it's just present for retro-compatibility.
PYFUNCEBLE_AUTO_CONFIGURATION	Tell us if we have to install/update the configuration file automatically.
PYFUNCEBLE_DB_CHARSET	Tell us the MySQL charset to use.
PYFUNCEBLE_DB_HOST	Tell us the host or the Unix socket (absolute file path) of the MySQL database.
PYFUNCEBLE_DB_NAME	Tell us the name of the MySQL database to use.
PYFUNCEBLE_DB_PASSWORD	Tell us the MySQL user password to use.
PYFUNCEBLE_DB_PORT	Tell us the MySQL connection port to use.
PYFUNCEBLE_DB_USERNAME	Tell us the MySQL user-name to use.
PYFUNCEBLE_DEBUG	Tell us to log everything into the output/logs/*.log files.
PYFUNCEBLE_DEBUG_LVL	Sets the logging level to use.
PYFUNCEBLE_LOGGING_LVL	Same as PYFUNCEBLE_DEBUG_LVL.
PYFUNCEBLE_DEBUG_ON_SCREEN	Tell us to log everything to stdout
PYFUNCEBLE_CONFIG_DIR	Tell us the location of the directory to use as the configuration directory.
PYFUNCEBLE_OUTPUT_DIR	Same as PYFUNCEBLE_CONFIG_DIR it's just present for retro-compatibility.
PYFUNCEBLE_OUTPUT_LOCATION	Tell us where we should generate the output/ directory.
APPDATA	Used under Windows to construct/get the configuration directory if PYFUNCEBLE_CONFIG_DIR is not found.
GH_TOKEN	Tell us the GitHub token to set into the repository configuration when using PyFunceble under Travis CI.
GL_TOKEN	Tell us the GitLab token to set into the repository configuration when using PyFunceble under GitLab CI/CD.
GIT_EMAIL	Tell us the git.email configuration to set when using PyFunceble under any supported CI environment.
GIT_NAME	Tell us the git.name configuration to set when using PyFunceble under any supported CI environment.
TRAVIS_BUILD_DIR	Used to confirm that we are running under a Travis CI container.
GITLAB_CI	Used to confirm that we are running under a GitLab CI/CD environment.
GITLAB_USER_ID	Used to confirm that we are running under a GitLab CI/CD environment.

14.15 Execution time

Warning: This component is not activated by default.

14.15.1 Why do we need it?

As it is always nice to see how long we worked, we added this logic!

14.15.2 How does it work?

Note: Want to read the code ? It's here *PyFunceble.cli.execution_time.ExecutionTime*!

It shows the execution time on screen (stdout).

14.15.3 How to use it?

You can simply change

```
display_mode:
    # Activates the printing of the execution time.
    execution_time: False
```

to

```
display_mode:
    # Activates the printing of the execution time.
    execution_time: True
```

into your personal `.PyFunceble.yaml` or use the `--execution` argument from the CLI to activate it.

14.16 Expiration Date

14.16.1 Why do we need it?

As we want to determine the availability from the WHOIS record - if available, we need to extract and provide the expiration date.

14.16.2 How does it work?

After the query of the WHOIS record, it is parsed so that we can extract the expiration date.

When successful, a date in the format `09-oct-1970` is provided to the end-user. Otherwise, `null` is provided to those using the API and `Unknown` to those using the CLI.

14.16.3 How to use it?

You can simply allow the usage of the WHOIS lookup through:

- the (Python) API,
- the CLI argument,
- or, your configuration file.

14.17 List filtering

Warning: This component is not activated by default.

14.17.1 Why do we need it?

While testing for file, you may find yourself in a situation where you only want to test subject which matches a given pattern. That's what this component do.

14.17.2 How does it work?

We scan the list against the given pattern/regex and only test those who match it.

14.17.3 How to use it?

You can simply change

```
cli_testing:
    # Sets the filter to apply while reading the given input.
    # For example, if you give `\.info`, we will only test the subjects
    # who match `\.info`.
    file_filter: null
```

to

```
cli_testing:
    # Sets the filter to apply while reading the given input.
    # For example, if you give `\.info`, we will only test the subjects
    # who match `\.info`.
    file_filter: "\.org"
```

(for example)

into your personal `.PyFunceble.yaml` or use the `--filter` argument from the CLI.

14.18 HTTP Status Code

14.18.1 Why do we need it?

As we want to determine the availability of a domain, IP, or URL; one of our testing method is the gathering of the HTTP status code.

14.18.2 How does it work?

Note: We never send a generic User-Agent. You can define your own or let PyFunceble choose one of the latest one of one of the major browser for you.

When it is the turn of the HTTP status code lookup tool to try to gather a status for the given subject, an HTTP query is made to the given IP, domain or subject.

When testing for a domain, a successful HTTP response is considered as `ACTIVE`.

Otherwise, the following default classification applies.

Note: The classification can be changed by end-user through their configuration file.

As ACTIVE

Please note that the following HTTP status codes are considered as ACTIVE.

If you are using the CLI with the analytic files generated, you will get any matching subject flagged as ACTIVE officially and into your analytic files.

- `100`: Continue
- `101`: Switching Protocols
- `102`: Processing
- `200`: OK
- `201`: Created
- `202`: Accepted
- `203`: Non-Authoritative Information
- `204`: No Content
- `205`: Reset Content
- `206`: Partial Content
- `207`: Multi-Status
- `208`: Already Reported
- `226`: IM User
- `429`: Too Many Request.

As potentially ACTIVE

Please note that the following HTTP status codes are considered as potentially ACTIVE but still officially reported as ACTIVE when caught.

If you are using the CLI with the analytic files generated, you will get any matching subject flagged as ACTIVE officially and into your analytic files as potentially ACTIVE.

- `300`: Multiple Choices
- `301`: Moved Permanently
- `302`: Found
- `303`: See Other
- `304`: Not Modified
- `305`: Use Proxy
- `307`: Temporary Redirect
- `308`: Permanent Redirect
- `403`: Forbidden
- `405`: Method Not Allowed
- `406`: Not Acceptable
- `407`: Proxy Authentication Required
- `408`: Request Timeout

- `411`: Length Required
- `413`: Payload Too Large
- `417`: Expectation Failed
- `418`: I'm a teapot
- `421`: Misdirect Request
- `422`: Unprocessable Entity
- `423`: Locked
- `424`: Failed Dependency
- `426`: Upgrade Required
- `428`: Precondition Required
- `431`: Request Header Fields Too Large
- `500`: Internal Server Error
- `501`: Not Implemented
- `502`: Bad Gateway
- `503`: Service Unavailable
- `504`: Gateway Timeout
- `505`: HTTP Version Not Supported
- `506`: Variant Also Negotiates
- `507`: Insufficient Storage
- `508`: Loop Detected
- `510`: Not Extended
- `511`: Network Authentication Required

As INACTIVE or potentially INACTIVE

Please note that the following HTTP status codes are considered as INACTIVE or potentially INACTIVE. Therefore officially reported as INACTIVE when caught.

If you are using the CLI with the analytic files generated, you will get any matching subject flagged as INACTIVE officially and into your analytic files as potentially INACTIVE.

- `400`: Bad Request
- `402`: Payment Required
- `404`: Not Found
- `409`: Conflict
- `410`: Gone
- `412`: Precondition Failed
- `414`: Request-URI Too Long
- `415`: Unsupported Media Type
- `416`: Request Range Not Satisfiable

- `451`: Unavailable For Legal Reasons

14.18.3 How to use it?

You can simply allow the usage of the HTTP status code lookup through:

- the (Python) API,
- the CLI argument,
- or, your configuration file.

14.19 IANA Root Zone Database

14.19.1 Why do we need it?

We use it to check if an extension is valid/exists.

14.19.2 How does it work?

Note: Want to read the parser code ? It's here *`IanaDBGenerator`*!

The root zone database is saved into the `iana-domains-db.json` file. It is formatted like below and is automatically merged for the end-user before each test run.

```
{
    "extension": "whois_server"
}
```

In-app, while testing for a domain, we check if the extension is listed there before doing some extra verifications. If not, domain(s) will be flagged as `INVALID`.

14.19.3 How to generate it manually?

You can't and should not as we are automatically generating it every 24 hours. But using the `iana-pyfunceble` CLI will do the job on purpose.

14.20 Test in/for local hostnames, IPs, components

Warning: This component is not activated by default.

14.20.1 Why do we need it?

As we may need to test for local hostnames, IPs, components in a local network, this component allows a less aggressive way of syntax validation.

14.20.2 How does it work?

We simply use a less aggressive syntax validation so that everything you give us is being tested.

14.20.3 How to use it?

Simply change

```
cli_testing:
   # Acknowleadges that we may test for local network component.
   # NOTE: Activating this, will remove the syntax checker completely.
   local_network: False
```

to

```
cli_testing:
   # Acknowleadges that we may test for local network component.
   # NOTE: Activating this, will remove the syntax checker completely.
   local_network: True
```

into your personal `.PyFunceble.yaml` or use the `--local` argument from the CLI to activate it.

14.21 Logs Sharing

Note: This component is not activated by default.

14.21.1 Why do we need it?

We chose to initiate the logs sharing as some actions can really be random when working with millions of domains.

The idea and purpose of this feature are **ONLY** to make PyFunceble a better tool.

14.21.2 What is collected

Changed in version 4.0.0.

As of `4.0.0`, we temporarly disabled and removed all data collection.

Indeed, I need to rewrite the infrastructure behind it. Therefore, I refused to implement any of the data collection source code until the infrastructure behind it is ready.

Warning: The following table only represent the option as available in the `3.x` version of PyFunceble.

Event	Shared	URL
No WHOIS server (referrer) is found.	• The extension of the currently tested domain.	`https://pyfunceble.funilrys.com/api/no-referrer`
The expiration date is not correctly formatted.	• The extracted expiration date. • The currently tested domain. • The currently used WHOIS server (DNS) name.	`https://pyfunceble.funilrys.com/api/date-format`

14.21.3 How to share logs?

If you wish to share your logs simply change

```
share_logs:                    False
```

to

```
share_logs:                    True
```

into your personal `.PyFunceble.yaml` or use the `--share-logs` argument from the CLI to activate it.

14.22 Mining

Warning: This component is not activated by default.

14.22.1 Why do we need it?

Sometimes you might, for example, want to get the list of domain(s) / URL(s) in a redirecting loop. This feature reveals them.

14.22.2 How does it work?

Note: Want to read the code ? It's here *`MinerWorker`*!

We access the given domain/URL and get the redirection history which we then test once we finished the normal test.

Warning: This component might evolve with time.

14.22.3 How to use it?

You can simply change

```
cli_testing:
    # Activates the mining of data.
    mining: False
```

to

```
cli_testing:
    # Activates the mining of data.
    mining: True
```

into your personal `.PyFunceble.yaml` or use the `--mining` argument from the CLI to activate it.

14.23 Multiprocessing

14.23.1 Why do we need it?

Many people around the web who talked about PyFunceble were talking about one thing: We take time to run.

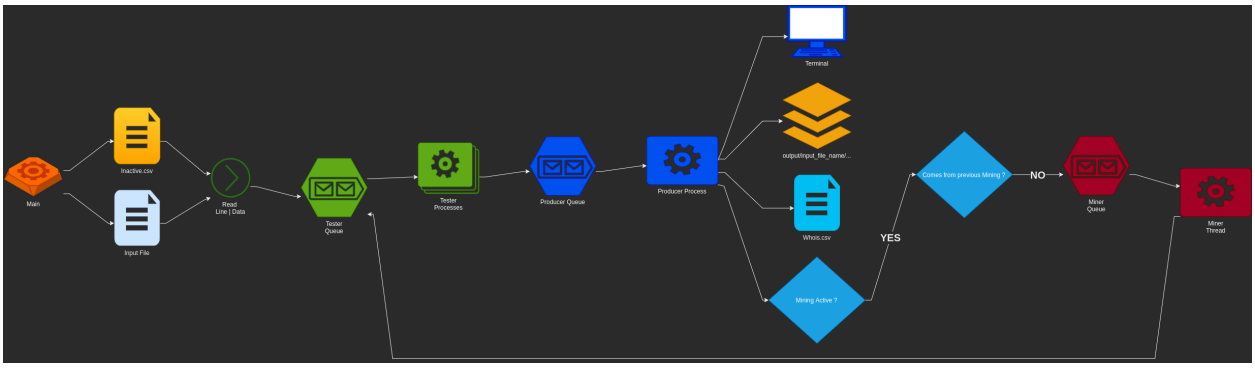
In the past, we implemented what was then called the "multiprocessing" method. As of `4.0.0`, we went away from the original multiprocessing logic. The reason behind it was that the multiprocessing method we developed at the time was becoming a nightmare to manage because we always had to take into consideration that a process does not have access to the memory space of the main process.

Therefore, we decided to rewrite it to be a bit more efficient. In the new layout, we work with queues to split the testing work through multiple test workers. That simplifies our data workflow and maintainability.

14.23.2 How does it work?

We read the given inputs, add them into some queues and generate some outputs through other queues or processes.

Here is a short representation of the process model behind the CLI testing:



14.23.3 How to use it?

As of `4.0.0`, you don't have the choice. It is available and is systematically used as soon as you use the *PyFunceble* CLI.

But, you can control the maximum about of test worker through the `--max-workers` argument or its configuration counterpart:

```
cli_testing:
    # Sets the number of maximal workers to use.
    # If set to null, the system use: CPU * Cores - 2
    max_workers: null
```

14.24 Outputted Files

Note: This section does not cover the log files.

14.24.1 Why do we need it?

We need a way to deliver our results.

14.24.2 How does it work?

After testing a given subject, we generate its output file based on what's needed.

Host format

This is the default output file.

A line is formatted like `0.0.0.0 example.org`.

Note: A custom IP can be set with the help of the `custom_ip` index or the `--hosts-ip` argument from the CLI.

Don't need it? Simply change

```
cli_testing:
    file_generation:
        # Activates the generation of the hosts file(s).
        hosts: False
```

to

```
cli_testing:
    file_generation:
        # Activates the generation of the hosts file(s).
        hosts: False
```

into your personal `.PyFunceble.yaml` or use the `--hosts` argument from the CLI to deactivate it.

Plain format

A line is formatted like `example.org`.

Need it? Simply change

```
cli_testing:
    file_generation:
        # Activates the generation of the plain (or raw) file(s).
        plain: False
```

to

```
cli_testing:
     file_generation:
         # Activates the generation of the plain (or raw) file(s).
         plain: True
```

into your personal `.PyFunceble.yaml` or use the `--plain` argument from the CLI to activate it.

14.25 Percentage

Warning: This component is activated by default while testing files.

Note: The percentage doesn't show up - by design - while testing for single subjects.

14.25.1 Why do we need it?

We need it in order to get information about the amount of data we just tested.

14.25.2 How does it work?

Note: Want to read the code ? It's here *`FilesystemCounter`*!

Regularly or at the very end of a test we get the number of subjects for each status along with the number of tested subjects. We then generate and print the percentage calculation on the screen (`stdout`) and into `output/${input_file_name}/logs/percentage/percentage.txt`

14.25.3 How to use it?

It is activated by default, but if not please update

```
cli_testing:
    display_mode:
        # Activates the output of the percentage information.
        percentage: False
```

to

```
cli_testing:
    display_mode:
        # Activates the output of the percentage information.
        percentage: True
```

into your personal `.PyFunceble.yaml` or use the `--percentage` argument from the CLI to reactivate it.

14.26 The Public Suffix List

14.26.1 Why do we need it?

We use it in the process of checking the validity of domains.

14.26.2 How does it work?

Note: Want to read the parser code ? It's here *PublicSuffixGenerator*!

The copy of the public suffix list we use is saved into the `public-suffix.json` file. It is formatted like below and is (periodically) automatically merged for the end-user before each test run.

```
{
    "extension": [
        "suffix1.extension",
        "suffix2.extension",
        "suffix3.extension"
    ]
}
```

In-app, while testing for domain(s), we use it to know if we are checking for a subdomain or not.

14.26.3 How to generate it manually?

You can't and should not as we are automatically generating it every 24 hours. But, using the `public-suffix-pyfunceble` CLI will do the job on purpose.

14.27 Sorting

Note: While using the multiprocessing option, the data are tested as given.

14.27.1 Why do we need it?

Because sorted is better, we sort by default!

14.27.2 How does it work?

Note: Want to read the code ? It's here: `standard()` and `hierarchical()`!

Alphabetically

This is the default one. The `standard()` function is used for that purpose.

Hierarchically

The objective of this is to provide sorting by service/domains.

The `hierarchical()` function is used for that purpose.

Note: This is a simplified version of what we do.

1. **Let's say we have `aaa.bbb.ccc.tdl`.**

   Note: The TDL part is determined. Indeed we first look at the IANA Root Zone database, then at the Public Suffix List.

2. Let's split the points. We then get a list `[aaa, bbb, ccc, tdl]`
3. Put the TDL first. It will gives us `[tdl, aaa, bbb, ccc]`
4. Reverse everything after the TDL. It will gives us `[tdl, ccc, bbb, aaa]`.
5. Get the string to use for sorting. It will gives us `tdl.ccc.bbb.aaa`.

14.27.3 How to activate the hierarchical sorting?

Simply change

```
cli_testing:
    sorting_mode:
        # Activates the hierarchical sorting.
        hierarchical: False
```

to

```
cli_testing:
    sorting_mode:
        # Activates the hierarchical sorting.
        hierarchical: True
```

into your personal `.PyFunceble.yaml` or use the `--hierarchical` argument from the CLI to activate it.

14.28 SPECIAL rules

14.28.1 Why do we need it?

As PyFunceble grew up, I thought that a bit of filtering for special cases would be great to introduce. That where the idea came from.

14.28.2 How does it work?

Note: For any new suggestion of domains where a special rule can enhance PyFunceble please either open a new issue or make your contribution directly into the project.

Note: Contribution to the SPECIAL rules

To add directly to the special rules please modify both the source code extra_rules.py and the documentation (here).

Below is the list of all special rules that are implemented into PyFunceble. Please keep in mind that you can disable the usage those rules at any time.

`*.000webhostapp.com`

Any subjects matching the given pattern and the `410` status code are supplied as `INACTIVE`.

`*.angelfire.com`

Any subjects matching the given pattern and the `404` status code are supplied as `INACTIVE`.

`*.blogspot.*`

Any subjects matching the given pattern and:

- the `404` status code
- the `301` status code that does not exists or are blocked by Google
- the `303` status code that are blocked by Google

are supplied as `INACTIVE`.

`*.canalblog.com`

Any subjects matching the given pattern and the `404` status code are supplied as `INACTIVE`.

`*.github.io`

Any subjects matching the given pattern and the `404` status code are supplied as `INACTIVE`.

`*.hpg.com.br`

Any subjects matching the given pattern and the `404` status code are supplied as `INACTIVE`.

`*.liveadvert.com`

Any subjects matching the given pattern and the `404` status code are supplied as `INACTIVE`.

`*.skyrock.com`

Any subjects matching the given pattern and the `404` status code are supplied as `INACTIVE`.

`*.tumblr.com`

Any subjects matching the given pattern and the `404` status code are supplied as `INACTIVE`.

`*.wix.com`

Any subjects matching the given pattern and the `404` status code are supplied as `INACTIVE`.

`*.wordpress.com`

Any subjects matching the given pattern and the `301` status code along with the pattern `doesn't exist` are supplied as `INACTIVE`.

IP range

Any IPv4 and IPv6 ranges are supplied as `ACTIVE`.

14.28.3 How to use it?

Special rules are activated by default, but you can switch its usage through:

- the (Python) API,
- the CLI argument,
- or, your configuration file.

14.29 Status

14.29.1 Why do we need it?

We use it to provide a representation of the availability, syntax, or reputation of a given subject.

14.29.2 How does it work?

Multiple statuses are available to each checker. Each has its meaning and root.

INVALID

This the status that is supplied by the **availability**, **syntax**, or **reputation** checkers when the given subject is INVALID.

It is provided the subject does not pass our internal syntax checker.

The internal syntax checker analyzes the following against the given subject:

- If you are testing for a domain, is the extension registered in the IANA Root Zone Database?
- If you are testing for an IP, is it a valid IP (v4 or v6)?
- If you are testing for a URL, is it a valid one?

> **Warning:** While using the CLI against a local network, this is ignored.

ACTIVE

This is the status that is supplied by the **availability** checker.

It is provided when one of the following is effective:

- We could query the WHOIS record and extract the expiration date out of it.
- We could query any of the `NS`, `A`, `AAAA`, `CNAME` or `DNAME` of the given subject.
- We could query the network information of the given subject.
- We could query the HTTP status code of the given subject.

VALID

This is the status that is supplied by the **syntax** checker.

It is provided when the syntax check of the given subject was successful.

Consider it as the equivalent of `ACTIVE` but for syntax checking.

MALICIOUS

This is the status that is supplied by the **reputation** checker.

It is provided when the following is effective:

- If you are testing for a domain, is its IPv4 known to be malicious?
- If you are testing for an IP, is its IPv4 known to be malicious?
- If you are testing for a URL, is the IPv4 of the hostname known to be malicious?

SANE

This is the status that is supplied by the **reputation** checker when the `MALICIOUS` status is not effective.

14.30 Status Source

14.30.1 Why do we need it?

We use it to provide a representation of the testing method that led to the status.

14.30.2 How does it work?

Multiple status sources are available. Each has its meaning and root.

SYNTAX

This is the status source that is supplied when the syntax is the reason behind the status. It is exclusively followed by the `INVALID` status.

You may find this status source behind the **availability**, **syntax**, or **reputation** checkers.

DNSLOOKUP

This is the status source that is supplied when the DNS lookup is the reason behind the status. It is generally followed by either the `ACTIVE` or `INACTIVE` status.

You will find this status source exclusively behind the **availability** checker.

NETINFO

This is the status source that is supplied when the Network Information is the reason behind the status. It is exclusively followed by the `ACTIVE` status.

You will find this status source exclusively behind the **availability** checker.

HTTP CODE

This is the status source that is supplied when the HTTP Status Code is the reason behind the status. It is generally followed by either the `ACTIVE`, or `INACTIVE` status.

You will find this status source exclusively behind the **availability** checker.

REPUTATION

This is the status source that is supplied when the reputation lookup is the reason behind the status. It is generally followed by either the `ACTIVE`, `SANE`, or `MALICIOUS` status.

You may find this status source behind the **availability** or **reputation** checkers.

SPECIAL

This is the status source that is supplied when our own sets of special rules are the reasons behind the status. It is generally followed by either the `ACTIVE`, or `INACTIVE` status.

You will find this status source exclusively behind the **availability** checker.

14.31 Whois Lookup

Note: While testing using PyFunceble, subdomains, IPv4 and IPv6 are not used against our whois lookup logic.

14.31.1 Why do we need it?

As our main purpose is to check the availability of the given subjects, we make a WHOIS lookup (if authorized) to determine it.

14.31.2 How does it work?

Note: Want to read the code ? It's here *`WhoisQueryTool`*!

For us the only relevant part is the extraction of the expiration date. Indeed, it's an indicator if a domains is still owned by someone, we use it first to get the availability of domains.

14.31.3 How to use it?

It is activated by default but if not simply change

```
lookup:
    # Activates the usage of the WHOIS record.
    whois: False
```

to

```
lookup:
    # Activates the usage of the WHOIS record.
    whois: True
```

into your personal `.PyFunceble.yaml` or use the `--no-whois` argument from the CLI to reactivate it.

CHAPTER 15

Contribute

15.1 Submit changes

Before anything, please keep in mind the following. If one or more of those conditions are not filled. Your Pull Request to PyFunceble may not be merged.

The `master` branch is used only for releasing a new or stable version of the code. That's why we require that all contributions/modifications must be done under the `dev` or a new branch.

In order to gain some time and also understand what you are working on, your pull requests submission as long as your commit descriptions should be clear and complete as much as possible. We do an exception to commit with minor changed but big changes should have a complete description.

Please ensure to use the following method when committing a big change.

15.2 Coding conventions

15.2.1 Format

1. We should format our code with Black, *The uncompromising Python code formatter*.
2. We should write **docstrings** for every public method, function and classes. It does not have to be elaborate. Just explain what it simply does!

```
$ black PyFunceble && black tests
```

Note: You can avoid this secion if you use the `production-pyfunceble` CLI which already handles as musch as possible.

15.2.2 Linting

Our code should pass a `pylint` check without any issue (exit 0).

```
$ pylint PyFunceble && pylint tests
```

15.2.3 Coverage

Our code should have at least 60% of coverage.

Note: Coverage unrelevant code/files can be muted.

```
$ coverage run setup.py test && coverage report -m
```

15.2.4 Distribution

Our code should be shipped (after each commit) with a new version and a new `version.yaml` file. That file should **ALWAYS** be generated with the following.

Note: An exception is granted for detached branch (not `dev` nor `master`) and no code changes.

```
$ # Prepare our files, :code:`version.yaml` and code for production/dev usage.
$ PyFunceble --production
```

15.2.5 Commit

All your commits should be - when possible - be signed with **PGP**. (More information can be found on GitHub documentation) Please note the usage of `-S` into the commit command which means that we sign the commit.

The commit message may be formatted like follow:

Note: An exception is granted for no code changes.

:: Short explanation (max 79 char).

Paragraphs with some details/context (if needed).

15.2.6 Git Hook

If one may want to automate the process.

Here is a git hook (as proposition) to be set into `.git/hooks/pre-commit`.

```
#!/usr/bin/env bash

# We print what's going on.
set -x
```

(continues on next page)

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```
# We stop on error.
set -e

# We get top level path.
rootDirectory="$(git rev-parse --show-toplevel)"
# We construct our list of directories.
ourDirectories="${rootDirectory}/PyFunceble ${rootDirectory}/tests"

if [[ ! -z "$(git status --porcelain | awk '{ if ($NF > 0 && substr($1,1,1) != "?" &&
↪$2 ~ '/\.py/' ) print $2}')" ]]
then
        hash find
        hash isort
        hash black
        hash pylint
        hash coverage

        for directory in $(echo ${ourDirectories})
        do
                # We sort the imports.
                find "${directory}" -name "*.py" -exec isort {} \;
                # We format the code.
                black "${directory}"
                # We lint the code.
                pylint "${directory}"
        done

        cd "${rootDirectory}"
        coverage run setup.py test
fi

set +e
set +x
exit 0
```

CHAPTER 16

Dead-Hosts

16.1 Why Dead-Hosts?

We are conscient that PyFunceble may run for days. We would therefore offer you, to have your list. Request for Dead-Hosts testing.

16.2 How do Dead-Hosts work?

Dead-Hosts is like a wrapper of PyFunceble. Indeed, we use Travis CI containers in order to test lists with PyFunceble.

Once a list is set up inside our infrastructure, PyFunceble will test the list regularly and the Dead-Hosts infrastructure will produce a `clean.list` file which represents the list of domains/IP/URL which remains or became `ACTIVE`.

In addition, if needed, we can set up a list of GitHub username to @ping once a new test is finished.

Do you want your list to be tested at Dead-Hosts ? You can request it !

16.3 History of Dead-Hosts

The project started on 3rd March 2017 at funilrys/dead-hosts.

The original idea was to test Funceble against hosts file in order to find bugs inside Funceble but also letting me (@funilrys) have a shorter hosts file.

On 23rd January 2018, I (@funilrys) decided to shut down funilrys/dead-hosts , as it became impossible to test all members of the project without having to wait for weeks. I then decided it was time to move on to another level.

That was the beginning of Dead-Hosts.

Today Dead-Hosts's is objective to provide project and lists to maintainers or individuals, with the help of PyFunceble, to provide more information about their favourite project/list or domains, IP or URL.

CHAPTER 17

They use-d PyFunceble!

Just a list of tool/repository/code/infrastructure which uses or used PyFunceble!

- .pl-host-file
- add.2o7Net
- add.Dead
- add.Risk
- add.Spam
- adfilt
- Asads-Hosts
- Badd-Boyz-Hosts
- Badger Sett
- blacklist
- CoinBlockerLists
- cookies_filters
- DNS test
- Facebook Zero Hosts Block
- finnish-easylist-addition
- Frellwits-filter-lists
- Google AdService and ID.Google tracking hosts
- KADhosts
- MobileAdTrackers
- My Privacy DNS
- Phishing-URL-Testing-Database-of-Link-Statuses

- Phishing.Database
- polish-adblock-filters
- polish-pihole-filters
- porn-records
- pornhosts
- Steven Black ad-hoc list
- Stop.Google.Analytics.Ghost.Spam.HOWTO
- The-Big-List-of-Hacked-Malware-Web-Sites
- Top-Attacking-IP-Addresses-Against-Wordpress-Sites
- ubo-filters
- Ultimate.Hosts.Blacklist // Ultimate-Hosts-Blacklist
- UncheckyAds
- Yuki2718 adblock

CHAPTER 18

Frequently Asked Questions

18.1 How to speed up the test process?

Warning: Beware, when talking about speed a lot of things have to be taken into consideration. Indeed here is a non-exhaustive list of things that fluctuate the testing speed.

- Bandwidth.
- DNS Server response time.
- CPU.
- ISP's who blocks a big amount of connection to the outside world.
- Our databases management (do not apply for MySQL and MariaDB format).
- Amount of data to test.
- Disk I/O in particular as PyFunceble is heavy on the I/O * RamDrives and NVME disks are very suitable for PyFunceble CSV db.
- ...

18.1.1 I have a dedicated server or machine just for PyFunceble

Simply increase the number of maximal workers PyFunceble is allowed to use through the –max-workers argument.

By default, the number of workers is equal to:

```
CPU CORES - 2
```

meaning that if you have `8` CPU threads, the value will be automatically set to `6`.

Warning: Keep in mind that the `--max-workers` (`-w`) mostly - if not only - affects the tester processes. Because we want to safely write the files(Disk I/O), we still need a single process that reads the submitted results and generates the outputs.

The reason we added this to PyFunceble `4.0.0` is we don't want to have a wrongly formatted file output.

18.2 Setup and use ramfs

What is a ramfs and why not use tmpfs?

`ramfs` is better than `tmpfs` when data needs to be secret, since `ramfs` data never gets swapped (saved to a physical storage drive), while tmpfs may get swapped. Third parties who later gain root or physical access to the machine then can inspect the swap space and extract sensitive data.

18.2.1 The HOWTO solution

You can prepare `ramfs` mount so any non-privileged user can mount/unmount it on-demand.

To do this, you will need root privilege, once. Ask the administrator of your system to set this up for you, if you lack root privileges.

At first, you need to add a line to the `/etc/fstab`. The line in fstab may look like this:

- `/mnt/ramfs` is a mount point, where the ramfs filesystem will be mounted. Directory **most** exist.
- `noauto` option prevents this from being mounted automatically (e.g. at system's boot-up).
- `user` makes this mountable by regular users.
- `size` sets this "ramdisk's" size (you can use `M` and `G` here)
- `mode` is very important, with the octal :code 0770 only root and user, who mounted this filesystem, will be able to read and write to it, not the others (you may use different :code of your choice as well, but be very sure about it!).

Note: We recommend you to set the file mode to `0777` in case you are using this in relation to any kind of scripting, to ensure subprocesses have access to the file(s). In all other cases, you should set the folder permision to `0770`.

Mount

```
$ mount /mnt/ramfs/
```

Unmount

```
$ umount /mnt/ramfs/
```

This chapter has practically been copied from https://unix.stackexchange.com/a/325421 creditted to Neurotransmitter as it is well written and cover our purpose for describing how to setup a ramFS to be used for testing with PyFunceble.

Next, we need to configure PyFunceble to use the newly created and mounted ramFS. This is done with the PYFUNCEBLE_OUTPUT_LOCATION ; now all outputs are stored in the ramFS, so remember to copy the results to a stationary file path when you are done.

Next time you are going to run a test with PyFunceble are will do:

1. Mount the ramFS

2. Copy the last test results to the ramFS
3. Run your test
4. Copy your results from ramFS to a stationary file path.

CHAPTER 19

Known issues

This is the list of issues which are not or will not be fixed (yet…).

- Under Travis CI the coloration may not be shown.
- Under GitLab CI/CD the coloration may not be shown.

19.1 Python < 3.7

Changed in version 4.0.0.

As of version 4 we no longer support python prior to version 3.7.

This means you actually are unable to run with any version below python 3.7 as a number of build-in features are missing and first introduced in 3.7

The error message you might experience can be:

This can typically happens if you are using Ubuntu 18.x or 19.x

19.2 Ubuntu 20.04.1 LTS Focal

New in version 3.2.0.

In Ubuntu release 20.04 they have removed a package name `libffi.so.6` and upgraded it with version `libffi.so.7`

This means PyFunceble will trow an error like:

```
ImportError: libffi.so.6: cannot open shared object file: No such file or directory
```

The fix for this issue is then rather simple, add a softlink between the versions with `ln -s`

The complete line in my case was:

```
sudo ln -s /usr/lib/x86_64-linux-gnu/libffi.so.7 /usr/lib/x86_64-linux-gnu/libffi.so.6
```

However, the right way to do this is by first locate where your `libffi.so.7` is with find

```
find /usr/lib/ -type f -iname 'libffi.so.*'
```

Then apply the softlink to `libffi.so.7`

19.3 Combination of `-f`, `-uf` and `--adblock`

You can not combine the usage of `-f`, `-uf` with `--adblock` simultaneously.

19.4 Sql Missing default data in `whois` table

New in version 4.0.0.

If you are trying to move or restore your SQL database from a dump, you will see an error message that is looking something like this

```
SQL Error [1364][HY000]: (conn=12345678) Field 'created_at' doesn't have a default␣
↪value
  (conn=12345678) Field 'created_at' doesn't have a default value
  (conn=12345678) Field 'created_at' doesn't have a default value
    Field 'created_at' doesn't have a default value
```

The issue arises from the way SQLAlchemy is creating the tables. The fact is PyFunceble is written to set a default `date` for the :code:'created_at'.

However, it isn't set in the database.

To solve this, you will have to manually set the default for *created_at* to for example `2020-12-22 09:09:50` in the `DB_name.pyfunceble_whois_record`. You can for example use dBeaver to do this or manually run this SQL code insode your database.

```
ALTER TABLE DB_name.pyfunceble_whois_record
    MODIFY COLUMN created_at datetime
    DEFAULT '2020-12-22 09:09:50'
    NOT NULL;
```

> **Warning:** These changes will be reset next time you are running PyFunceble.

19.5 Windows Powershell with Python or Cygwin

New in version all.

There are a number of well Known limitation by running or even installing Python on a closed source Windows computer.

Among these issues is the default settings for the installation programs, where we all know the users tend to just click next next next without reading the questions, and the path toward hell continues.

1. To have Python to become installed within the system `PATH:` by the installer, you are required to use the advanced install option. (spirillen Was told).
2. Cygwin do not INCLUDE- and therefore not exporting current `PATH` to running environment. Full path is always required, to be set by your scripts or command line.

Since any of these problems, ain't @PyFunceble related issues we have left a Cygwin related issue at github.

CHAPTER 20

Discovered an issue?

Want to talk with @funilrys about it? Contact @funilrys on Keybase.

Want to make it public? Fill out a new issue.

Don't want to fill out an issue on GitHub? Let's discuss it through a new discussion on GitHub.

CHAPTER 21

Need help?

Do you need help with the usage of PyFunceble? We can help!

Submit a new discussion (NOT ISSUE) on GitHub or contact one of our contributors directly.

CHAPTER 22

Need information?

You can get information and discuss about PyFunceble on our issue board (GitHub) or ask your question through a new discussion on GitHub. @Funilrys (me) will do his best to keep it up-to-date with some information about the development and other news about PyFunceble.

CHAPTER 23

Code Documentation

23.1 PyFunceble package

23.1.1 Subpackages

PyFunceble.checker package

Subpackages

PyFunceble.checker.availability package

Submodules

PyFunceble.checker.availability.base module

The tool to check the availability or syntax of domain, IP or URL.

Provides the base of all availability checker classes.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

Special thanks: https://pyfunceble.github.io/#/special-thanks

Contributors: https://pyfunceble.github.io/#/contributors

Project link: https://github.com/funilrys/PyFunceble

Project documentation: https://pyfunceble.readthedocs.io/en/latest/

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```

class PyFunceble.checker.availability.base.**AvailabilityCheckerBase**(*subject: Optional[str] = None, *, use_extra_rules: Optional[bool] = None, use_whois_lookup: Optional[bool] = None, use_dns_lookup: Optional[bool] = None, use_netinfo_lookup: Optional[bool] = None, use_http_code_lookup: Optional[bool] = None, use_reputation_lookup: Optional[bool] = None, do_syntax_check_first: Optional[bool] = None, db_session: Optional[sqlalchemy.orm.session.Sess = None, use_whois_db: Optional[bool] = None*)

Bases: *PyFunceble.checker.base.CheckerBase*

Provides the base of all our availability checker classes.

Parameters

- **subject** (*str*) – Optional, The subject to work with.
- **use_extra_rules** (*bool*) – Optional, Activates/Disables the usage of our own set of extra rules.
- **use_whois_lookup** (*bool*) – Optional, Activates/Disables the usage of the WHOIS lookup to gather the status of the given `subject`.
- **use_dns_lookup** (*bool*) – Optional, Activates/Disables the usage of the DNS lookup to gather the status of the given `subject`.
- **use_netinfo_lookup** (*bool*) – Optional, Activates/Disables the usage of the network

information lookup module to gather the status of the given `subject`.

- **use_http_code_lookup** (*bool*) – Optional, Activates/Disables the usage of the HTTP status code lookup to gather the status of the given `subject`.
- **use_reputation_lookup** (*bool*) – Optional, Activates/Disables the usage of the reputation dataset lookup to gather the status of the given `subject`.
- **do_syntax_check_first** (*bool*) – Optional, Activates/Disables the check of the status before the actual status gathering.
- **use_whois_db** (*bool*) – Optional, Activates/Disable the usage of a local database to store the WHOIS datasets.

STD_USE_DNS_LOOKUP = True

STD_USE_EXTRA_RULES = True

STD_USE_HTTP_CODE_LOOKUP = True

STD_USE_NETINFO_LOOKUP = True

STD_USE_REPUTATION_LOOKUP = False

STD_USE_WHOIS_DB = True

STD_USE_WHOIS_LOOKUP = True

addressinfo_query_tool = None

dns_query_tool = None

domain_syntax_checker = None

get_status() → Optional[PyFunceble.checker.availability.status.AvailabilityCheckerStatus]
Provides the current state of the status.

> **Note:** This method will automatically query status using the *PyFunceble.checker.base.CheckerBase.query_status()* if the *PyFunceble.checker.status_base.CheckerStatusBase.status* attribute is not set.

guess_all_settings() → PyFunceble.checker.availability.base.AvailabilityCheckerBase
Try to guess all settings.

guess_and_set_dns_lookup() → PyFunceble.checker.availability.base.AvailabilityCheckerBase
Try to guess and set the value of the `use_dns_lookup` attribute from the configuration file.

guess_and_set_use_extra_rules() → PyFunceble.checker.availability.base.AvailabilityCheckerBase
Try to guess and set the value of the `use_extra_rules` attribute from the configuration file.

guess_and_set_use_http_code_lookup() → PyFunceble.checker.availability.base.AvailabilityCheckerBase
Try to guess and set the value of the `use_http_code_lookup` attribute from the configuration file.

guess_and_set_use_netinfo_lookup() → PyFunceble.checker.availability.base.AvailabilityCheckerBase
Try to guess and set the value of the `use_netinfo_lookup` attribute from the configuration file.

guess_and_set_use_reputation_lookup() → PyFunceble.checker.availability.base.AvailabilityCheckerBase
Try to guess and set the value of the `use_reputation_lookup` attribute from the configuration file.

guess_and_set_use_whois_db() → PyFunceble.checker.availability.base.AvailabilityCheckerBase
Try to guess and set the value of the `use_whois_db` attribute.

guess_and_set_use_whois_lookup() → PyFunceble.checker.availability.base.AvailabilityCheckerBase
Try to guess and set the value of the `use_whois` attribute from the configuration file.

hostbyaddr_query_tool = None

http_status_code_query_tool = None

ip_syntax_checker = None

params = None

query_dns_record() → Optional[Dict[str, Optional[List[str]]]]
Tries to query the DNS record(s) of the given subject.

query_status() → PyFunceble.checker.availability.base.AvailabilityCheckerBase
Queries the status and for for more action.

query_syntax_checker() → PyFunceble.checker.availability.base.AvailabilityCheckerBase
Queries the syntax checker.

set_use_dns_lookup(*value: bool*) → PyFunceble.checker.availability.base.AvailabilityCheckerBase
Sets the value which authorizes the usage of the DNS Lookup.

Parameters **value** – The value to set.

set_use_extra_rules(*value: bool*) → PyFunceble.checker.availability.base.AvailabilityCheckerBase
Sets the value which authorizes the usage of the special rule.

Parameters **value** – The value to set.

set_use_http_code_lookup(*value: bool*) → PyFunceble.checker.availability.base.AvailabilityCheckerBase
Sets the value which authorizes the usage of the HTTP status code lookup.

Parameters **value** – The value to set.

set_use_netinfo_lookup(*value: bool*) → PyFunceble.checker.availability.base.AvailabilityCheckerBase
Sets the value which authorizes the usage of the network information lookup.

Parameters **value** – The value to set.

set_use_reputation_lookup(*value: bool*) → PyFunceble.checker.availability.base.AvailabilityCheckerBase
Sets the value which authorizes the usage of the reputation lookup.

Parameters **value** – The value to set.

set_use_whois_db(*value: bool*) → PyFunceble.checker.availability.base.AvailabilityCheckerBase
Sets the value which authorizes the usage of the WHOIS DB.

Parameters **value** – The value to set.

set_use_whois_lookup(*value: bool*) → PyFunceble.checker.availability.base.AvailabilityCheckerBase
Sets the value which authorizes the usage of the WHOIS lookup.

Parameters **value** – The value to set.

should_we_continue_test(*status_post_syntax_checker: str*) → bool
Checks if we are allowed to continue a standard testing.

status = None

subject_propagator() → PyFunceble.checker.base.CheckerBase
Propagate the currently set subject.

> **Warning:** You are not invited to run this method directly.

try_to_query_status_from_dns() → PyFunceble.checker.availability.base.AvailabilityCheckerBase
Tries to query the status from the DNS lookup.

try_to_query_status_from_http_status_code() → PyFunceble.checker.availability.base.AvailabilityCheckerBase
Tries to query the status from the HTTP status code.

try_to_query_status_from_netinfo() → PyFunceble.checker.availability.base.AvailabilityCheckerBase
Tries to query the status from the network information.

try_to_query_status_from_reputation() → PyFunceble.checker.availability.base.AvailabilityCheckerBase
Tries to query the status from the reputation lookup.

try_to_query_status_from_syntax_lookup() → PyFunceble.checker.availability.base.AvailabilityCheckerBase
Tries to query the status from the syntax.

try_to_query_status_from_whois() → PyFunceble.checker.availability.base.AvailabilityCheckerBase
Tries to get and the status from the WHOIS record.

> **Warning:** If the configuration is loaded, this method try to query from the best database first.
>
> If it's not found it will try to query it from the best WHOIS server then add it into the database (if the expiration date extraction is successful).

> **Note:** The addition into the WHOIS database is only done if this method is running in a process with a name that does not starts with `PyFunceble` (case sensitive).

url_syntax_checker = None

use_dns_lookup
Provides the current value of the `_use_dns_lookup` attribute.

use_extra_rules
Provides the current value of the `_use_extra_rules` attribute.

use_http_code_lookup
Provides the current value of the `_use_http_code_lookup` attribute.

use_netinfo_lookup
Provides the current value of the `_use_netinfo_lookup` attribute.

use_reputation_lookup
Provides the current value of the `_use_reputation_lookup` attribute.

use_whois_db
Provides the current value of the `_use_whois_db` attribute.

use_whois_lookup
Provides the current value of the `_use_whois_lookup` attribute.

whois_query_tool = None

PyFunceble.checker.availability.domain module

The tool to check the availability or syntax of domain, IP or URL.

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Provides the domains availability checker.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.checker.availability.domain.**DomainAvailabilityChecker**(*subject: Optional[str] = None*, **, use_extra_rules: Optional[bool] = None*, *use_whois_lookup: Optional[bool] = None*, *use_dns_lookup: Optional[bool] = None*, *use_netinfo_lookup: Optional[bool] = None*, *use_http_code_lookup: Optional[bool] = None*, *use_reputation_lookup: Optional[bool] = None*, *do_syntax_check_first: Optional[bool] = None*, *db_session: Optional[sqlalchemy.orm.sessio = None*, *use_whois_db: Optional[bool] = None*)

Bases: `PyFunceble.checker.availability.base.AvailabilityCheckerBase`

Provides the interface for checking the availability of a given domain.

Parameters

- **subject** (*str*) – Optional, The subject to work with.
- **use_extra_rules** (*bool*) – Optional, Activates/Disables the usage of our own set of extra rules.
- **use_whois_lookup** (*bool*) – Optional, Activates/Disables the usage of the WHOIS lookup to gather the status of the given `subject`.
- **use_dns_lookup** (*bool*) – Optional, Activates/Disables the usage of the DNS lookup to gather the status of the given `subject`.
- **use_netinfo_lookup** (*bool*) – Optional, Activates/Disables the usage of the network information lookup module to gather the status of the given `subject`.
- **use_http_code_lookup** (*bool*) – Optional, Activates/Disables the usage of the HTTP status code lookup to gather the status of the given `subject`.
- **use_reputation_lookup** (*bool*) – Optional, Activates/Disables the usage of the reputation dataset lookup to gather the status of the given `subject`.
- **do_syntax_check_first** (*bool*) – Optional, Activates/Disables the check of the status before the actual status gathering.
- **use_whois_db** (*bool*) – Optional, Activates/Disable the usage of a local database to store the WHOIS datasets.

static is_valid() → bool
Provides the result of the validation.

query_status() → PyFunceble.checker.availability.domain.DomainAvailabilityChecker
Queries the result without anything more.

try_to_query_status_from_reputation() → PyFunceble.checker.availability.domain.DomainAvailabilityChecker
Tries to query the status from the reputation lookup.

PyFunceble.checker.availability.domain_and_ip module

The tool to check the availability or syntax of domain, IP or URL.

Provides the domains and IP availability checker.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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Project link: https://github.com/funilrys/PyFunceble

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limitations under the License.
```

class PyFunceble.checker.availability.domain_and_ip.**DomainAndIPAvailabilityChecker**(*subject: Optional[str] = None*, **, use_extra_ Optional[bool = None*, *use_whois_ Optional[bool = None*, *use_dns_lo Optional[bool = None*, *use_netinfo Optional[bool = None*, *use_http_c Optional[bool = None*, *use_reputa Optional[bool = None*, *do_syntax_ Optional[bool = None*, *db_session Optional[sqla = None*, *use_whois_ Optional[bool = None*)

Bases: *PyFunceble.checker.availability.base.AvailabilityCheckerBase*

Provides the interface for checking the availability of a IP or domain.

Parameters

- **subject** (*str*) – Optional, The subject to work with.
- **use_extra_rules** (*bool*) – Optional, Activates/Disables the usage of our own set of extra rules.
- **use_whois_lookup** (*bool*) – Optional, Activates/Disables the usage of the WHOIS lookup to gather the status of the given `subject`.
- **use_dns_lookup** (*bool*) – Optional, Activates/Disables the usage of the DNS lookup to gather the status of the given `subject`.
- **use_netinfo_lookup** (*bool*) – Optional, Activates/Disables the usage of the network information lookup module to gather the status of the given `subject`.
- **use_http_code_lookup** (*bool*) – Optional, Activates/Disables the usage of the HTTP status code lookup to gather the status of the given `subject`.
- **use_reputation_lookup** (*bool*) – Optional, Activates/Disables the usage of the reputation dataset lookup to gather the status of the given `subject`.
- **do_syntax_check_first** (*bool*) – Optional, Activates/Disables the check of the status before the actual status gathering.
- **use_whois_db** (*bool*) – Optional, Activates/Disable the usage of a local database to store the WHOIS datasets.

static is_valid() → bool

Provides the result of the validation.

query_status() → PyFunceble.checker.availability.domain_and_ip.DomainAndIPAvailabilityChecker

Queries the result without anything more.

PyFunceble.checker.availability.extra_rules module

The tool to check the availability or syntax of domain, IP or URL.

Provides the domains availability checker.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

Special thanks: https://pyfunceble.github.io/#/special-thanks

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limitations under the License.
```

class PyFunceble.checker.availability.extra_rules.**ExtraRulesHandler**(*status: Optional[PyFunceble.checker.availa*

Bases: object

Provides our very own extra rules handler.

Parameters **status** (*AvailabilityCheckerStatus*) – The previously gathered status.

ensure_status_is_given()

Ensures that the status is given before running the decorated method.

Raises **TypeError** – If the subject is not a string.

http_codes_dataset = None

regex_active2inactive = {}

set_status(*value: PyFunceble.checker.availability.status.AvailabilityCheckerStatus*) → PyFunceble.checker.availability.extra_rules.ExtraRulesHandler

Sets the status to work with.

Parameters **value** – The status to work with.

start() → PyFunceble.checker.availability.extra_rules.ExtraRulesHandler

Starts the process.

status

Provides the current state of the _status attribute.

PyFunceble.checker.availability.ip module

The tool to check the availability or syntax of domain, IP or URL.

```
```

Provides the IP availability checker.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```


class PyFunceble.checker.availability.ip.**IPAvailabilityChecker**(*subject: Optional[str] = None, *, use_extra_rules: Optional[bool] = None, use_whois_lookup: Optional[bool] = None, use_dns_lookup: Optional[bool] = None, use_netinfo_lookup: Optional[bool] = None, use_http_code_lookup: Optional[bool] = None, use_reputation_lookup: Optional[bool] = None, do_syntax_check_first: Optional[bool] = None, db_session: Optional[sqlalchemy.orm.session.Session] = None, use_whois_db: Optional[bool] = None*)

Bases: *PyFunceble.checker.availability.base.AvailabilityCheckerBase*

Provides the interface for checking the availability of a given IP.

Parameters

- **subject** (*str*) – Optional, The subject to work with.
- **use_extra_rules** (*bool*) – Optional, Activates/Disables the usage of our own set of extra rules.
- **use_whois_lookup** (*bool*) – Optional, Activates/Disables the usage of the WHOIS lookup to gather the status of the given `subject`.
- **use_dns_lookup** (*bool*) – Optional, Activates/Disables the usage of the DNS lookup to gather the status of the given `subject`.
- **use_netinfo_lookup** (*bool*) – Optional, Activates/Disables the usage of the network information lookup module to gather the status of the given `subject`.
- **use_http_code_lookup** (*bool*) – Optional, Activates/Disables the usage of the HTTP status code lookup to gather the status of the given `subject`.
- **use_reputation_lookup** (*bool*) – Optional, Activates/Disables the usage of the reputation dataset lookup to gather the status of the given `subject`.
- **do_syntax_check_first** (*bool*) – Optional, Activates/Disables the check of the status before the actual status gathering.
- **use_whois_db** (*bool*) – Optional, Activates/Disable the usage of a local database to store the WHOIS datasets.

static is_valid() → bool
Provides the result of the validation.

query_status() → PyFunceble.checker.availability.ip.IPAvailabilityChecker
Queries the result without anything more.

try_to_query_status_from_reputation() → PyFunceble.checker.availability.ip.IPAvailabilityChecker
Tries to query the status from the reputation lookup.

PyFunceble.checker.availability.params module

The tool to check the availability or syntax of domain, IP or URL.

Provides our parameter class. The parameter class is the class that will be provided to end-user. It is only a placeholder and should only be taken as informative.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.checker.availability.params.**AvailabilityCheckerParams**(*do_syntax_check_first: Optional[bool] = None, use_extra_rules: Optional[bool] = None, use_whois_lookup: Optional[bool] = None, use_dns_lookup: Optional[bool] = None, use_netinfo_lookup: Optional[bool] = None, use_http_code_lookup: Optional[bool] = None, use_reputation_lookup: Optional[bool] = None, use_whois_db: Optional[bool] = None*)

Bases: *PyFunceble.checker.params_base.CheckerParamsBase*

Provides the description of an availability checker paramaters.

do_syntax_check_first = None

use_dns_lookup = None

use_extra_rules = None

use_http_code_lookup = None

use_netinfo_lookup = None

use_reputation_lookup = None

use_whois_db = None

use_whois_lookup = None

PyFunceble.checker.availability.status module

The tool to check the availability or syntax of domain, IP or URL.

Provides our status class. The status class is the class that will be provided to end-user.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.checker.availability.status.**AvailabilityCheckerStatus**(*subject: Optional[str] = None, idna_subject: Optional[str] = None, status: Optional[str] = None, status_source: Optional[str] = None, tested_at: Optional[datetime.datetime] = None, params: Optional[PyFunceble.checker.pa = None, checker_type: Optional[str] = 'AVAILABILITY', dns_lookup_record: Optional[PyFunceble.query.reco = None, whois_lookup_record: Optional[PyFunceble.query.reco = None, domain_syntax: Optional[bool] = None, second_level_domain_syntax: Optional[bool] =*

Bases: *PyFunceble.checker.status_base.CheckerStatusBase*

Provides the description of an availablity status.

checker_type = 'AVAILABILITY'

dns_lookup = None

dns_lookup_record = None

domain_syntax = None

expiration_date = None

http_status_code = None

ip_syntax = None

ipv4_range_syntax = None

ipv4_syntax = None

ipv6_range_syntax = None

ipv6_syntax = None

is_active() → bool
Checks if the current status is an ACTIVE one.

is_available() → bool
Checks if the current status represent an available subject.

is_inactive() → bool
Checks if the current status is an INACTIVE one.

is_invalid() → bool
Checks if the current status is an INVALID one.

is_special() → bool
Checks if the current status is a SPECIAL one. Meaning that we applied some of our own rules.

netinfo = None

second_level_domain_syntax = None

status_after_extra_rules = None

status_before_extra_rules = None

status_source_after_extra_rules = None

status_source_before_extra_rules = None

subdomain_syntax = None

url_syntax = None

whois_lookup_record = None

whois_record = None

PyFunceble.checker.availability.url module

The tool to check the availability or syntax of domain, IP or URL.

Provides the URL availability checker.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.checker.availability.url.**URLAvailabilityChecker**(*subject: Optional[str] = None, *, use_extra_rules: Optional[bool] = None, use_whois_lookup: Optional[bool] = None, use_dns_lookup: Optional[bool] = None, use_netinfo_lookup: Optional[bool] = None, use_http_code_lookup: Optional[bool] = None, use_reputation_lookup: Optional[bool] = None, do_syntax_check_first: Optional[bool] = None, db_session: Optional[sqlalchemy.orm.session.Session = None, use_whois_db: Optional[bool] = None*)

Bases: *PyFunceble.checker.availability.base.AvailabilityCheckerBase*

Provides the interface for checking the availability of a given URL.

Parameters

- **subject** (*str*) – Optional, The subject to work with.
- **use_extra_rules** (*bool*) – Optional, Activates/Disables the usage of our own set of extra rules.
- **use_whois_lookup** (*bool*) – Optional, Activates/Disables the usage of the WHOIS lookup to gather the status of the given `subject`.
- **use_dns_lookup** (*bool*) – Optional, Activates/Disables the usage of the DNS lookup to gather the status of the given `subject`.
- **use_netinfo_lookup** (*bool*) – Optional, Activates/Disables the usage of the network information lookup module to gather the status of the given `subject`.

- **use_http_code_lookup** (*bool*) – Optional, Activates/Disables the usage of the HTTP status code lookup to gather the status of the given `subject`.
- **use_reputation_lookup** (*bool*) – Optional, Activates/Disables the usage of the reputation dataset lookup to gather the status of the given `subject`.
- **do_syntax_check_first** (*bool*) – Optional, Activates/Disables the check of the status before the actual status gathering.
- **use_whois_db** (*bool*) – Optional, Activates/Disable the usage of a local database to store the WHOIS datasets.

static is_valid() → bool
Provides the result of the validation.

query_status() → PyFunceble.checker.availability.url.URLAvailabilityChecker
Queries the result without anything more.

subject_propagator() → PyFunceble.checker.availability.url.URLAvailabilityChecker
Propagate the currently set subject.

> **Warning:** You are not invited to run this method directly.

try_to_query_status_from_http_status_code() → PyFunceble.checker.availability.url.URLAvailabilityChecker
Tries to query the status from the network information.

try_to_query_status_from_reputation() → PyFunceble.checker.availability.url.URLAvailabilityChecker
Tries to query the status from the reputation lookup.

Module contents

The tool to check the availability or syntax of domain, IP or URL.

Provides everything related to the core of the availablity checker.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

Special thanks: https://pyfunceble.github.io/#/special-thanks

Contributors: https://pyfunceble.github.io/#/contributors

Project link: https://github.com/funilrys/PyFunceble

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PyFunceble.checker.reputation package

Submodules

PyFunceble.checker.reputation.base module

The tool to check the availability or syntax of domain, IP or URL.

Provides the base of all reputation checker classes.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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class PyFunceble.checker.reputation.base.**ReputationCheckerBase**(*subject: Optional[str] = None, do_syntax_check_first: Optional[bool] = None, db_session: Optional[sqlalchemy.orm.session.Session] = None*)

Bases: *PyFunceble.checker.base.CheckerBase*

Provides the base of all our reputation checker classes.

Parameters

- **subject** (*str*) – Optional, The subject to work with.
- **do_syntax_check_first** (*bool*) – Optional, Activates/Disables the check of the status before the actual status gathering.

dns_query_tool = None

domain_syntax_checker = None

get_status() → Optional[PyFunceble.checker.reputation.status.ReputationCheckerStatus]

Provides the current state of the status.

Note: This method will automatically query status using the *PyFunceble.checker.base.CheckerBase.query_status()* if the *PyFunceble.checker.status_base.CheckerStatusBase.status* attribute is not set.

ip_syntax_checker = None

ipv4_reputation_query_tool = None

static is_valid() → bool

Provides the result of the validation.

params = None

query_a_record() → Optional[List[str]]

Queries all the A record.

query_status() → PyFunceble.checker.reputation.base.ReputationCheckerBase

Queries the status and for for more action.

query_syntax_checker() → PyFunceble.checker.reputation.base.ReputationCheckerBase

Queries the syntax checker.

should_we_continue_test(*status_post_syntax_checker: str*) → bool

Checks if we are allowed to continue a standard testing.

status = None

subject_propagator() → PyFunceble.checker.base.CheckerBase

Propagate the currently set subject.

> **Warning:** You are not invited to run this method directly.

try_to_query_status_from_dns_lookup() → PyFunceble.checker.reputation.base.ReputationCheckerBase

Tries to query the status from the DNS lookup.

try_to_query_status_from_syntax_lookup() → PyFunceble.checker.reputation.base.ReputationCheckerBase

Tries to query the status from the syntax.

url_syntax_checker = None

PyFunceble.checker.reputation.domain module

The tool to check the availability or syntax of domain, IP or URL.

Provides domain reputation checker classes.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

Special thanks: https://pyfunceble.github.io/#/special-thanks

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```

class PyFunceble.checker.reputation.domain.**DomainReputationChecker**(*subject: Optional[str] = None, do_syntax_check_first: Optional[bool] = None, db_session: Optional[sqlalchemy.orm.session.Sess = None*)

Bases: *PyFunceble.checker.reputation.base.ReputationCheckerBase*

Provides the domain reputation checker classes.

Parameters

- **subject** (*str*) – Optional, The subject to work with.
- **do_syntax_check_first** (*bool*) – Optional, Activates/Disables the check of the status before the actual status gathering.

query_a_record() → Optional[List[str]]

Queries all the A record.

PyFunceble.checker.reputation.domain_and_ip module

The tool to check the availability or syntax of domain, IP or URL.

Provides the domains and IP reputation checker.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

Special thanks: https://pyfunceble.github.io/#/special-thanks

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class PyFunceble.checker.reputation.domain_and_ip.**DomainAndIPReputationChecker**(*subject: Optional[str] = None, do_syntax_check Optional[bool] = None, db_session: Optional[sqlalchem = None*)

Bases: *PyFunceble.checker.reputation.base.ReputationCheckerBase*

Provides the interface for checking the reputation of an IP or domain.

Parameters

- **subject** (*str*) – Optional, The subject to work with.
- **do_syntax_check_first** (*bool*) – Optional, Activates/Disables the check of the status before the actual status gathering.

query_status() → PyFunceble.checker.reputation.domain_and_ip.DomainAndIPReputationChecker

Queries the result without anything more.

PyFunceble.checker.reputation.ip module

The tool to check the availability or syntax of domain, IP or URL.

Provides domain reputation checker classes.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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class PyFunceble.checker.reputation.ip.**IPReputationChecker**(*subject: Optional[str] = None, do_syntax_check_first: Optional[bool] = None, db_session: Optional[sqlalchemy.orm.session.Session] = None*)

Bases: *PyFunceble.checker.reputation.base.ReputationCheckerBase*

Provides the IP reputation checker.

Parameters

- **subject** (*str*) – Optional, The subject to work with.
- **do_syntax_check_first** (*bool*) – Optional, Activates/Disables the check of the status before the actual status gathering.

query_a_record() → Optional[List[str]]

Queries all the A record.

PyFunceble.checker.reputation.params module

The tool to check the availability or syntax of domain, IP or URL.

Provides our parameter class. The parameter class is the class that will be provided to end-user. It is only a placeholder and should only be taken as informative.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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class PyFunceble.checker.reputation.params.**ReputationCheckerParams**(*do_syntax_check_first: Optional[bool] = None*)

Bases: *PyFunceble.checker.params_base.CheckerParamsBase*

Provides the description of a reputation checker paramaters.

PyFunceble.checker.reputation.status module

The tool to check the availability or syntax of domain, IP or URL.

Provides our status class. The status class is the class that will be provided to end-user.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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class PyFunceble.checker.reputation.status.**ReputationCheckerStatus**(*subject: Optional[str] = None, idna_subject: Optional[str] = None, status: Optional[str] = None, status_source: Optional[str] = None, tested_at: Optional[datetime.datetime] = None, params: Optional[PyFunceble.checker.params = None, checker_type: Optional[str] = 'REPUTATION', dns_lookup_record: Optional[PyFunceble.query.record.dn = None, domain_syntax: Optional[bool] = None, second_level_domain_syntax: Optional[bool] = None, subdomain_syntax: Optional[bool] = None, ip_syntax: Optional[bool] = None, ipv4_syntax: Optional[bool] = None, ipv6_syntax: Optional[bool]*

Bases: *PyFunceble.checker.status_base.CheckerStatusBase*

Provides the description of an availablity status.

checker_type = 'REPUTATION'

dns_lookup = None

dns_lookup_record = None

domain_syntax = None

has_bad_reputation() → bool
Checks if the current status represent an available subject.

ip_syntax = None

ipv4_range_syntax = None

ipv4_syntax = None

ipv6_range_syntax = None

ipv6_syntax = None

is_malicious() → bool
Checks if the current status is an MALICIOUS one.

is_sane() → bool
Checks if the current status is an SANE one.

second_level_domain_syntax = None

subdomain_syntax = None

url_syntax = None

PyFunceble.checker.reputation.url module

The tool to check the availability or syntax of domain, IP or URL.

Provides URL reputation checker classes.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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class PyFunceble.checker.reputation.url.**URLReputationChecker**(*subject: Optional[str] = None, do_syntax_check_first: Optional[bool] = None, db_session: Optional[sqlalchemy.orm.session.Session] = None*)

Bases: *PyFunceble.checker.reputation.base.ReputationCheckerBase*

Provides the URL reputation checker.

Parameters

- **subject** (*str*) – Optional, The subject to work with.
- **do_syntax_check_first** (*bool*) – Optional, Activates/Disables the check of the status before the actual status gathering.

query_a_record() → Optional[List[str]]

Queries all the A record.

Module contents

The tool to check the availability or syntax of domain, IP or URL.

```
```

Provides everything related to the core of the reputation checker.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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PyFunceble.checker.syntax package

Submodules

PyFunceble.checker.syntax.base module

The tool to check the availability or syntax of domain, IP or URL.

Provides the base of all syntax checker classes.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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class PyFunceble.checker.syntax.base.**SyntaxCheckerBase**(*subject: Optional[str] = None, db_session: Optional[sqlalchemy.orm.session.Session] = None*)

Bases: *PyFunceble.checker.base.CheckerBase*

Provides the base of all our syntax checker classes.

Parameters **subject** (*str*) – Optional, The subject to work with.

db_session = None

get_status() → Optional[PyFunceble.checker.syntax.status.SyntaxCheckerStatus]
Provides the current state of the status.

Note: This method will automatically query status using the *PyFunceble.checker.base.CheckerBase.query_status()* if the *PyFunceble.checker.status_base.CheckerStatusBase.status* attribute is not set.

is_valid() → bool
Provides the result of the validation.

params = None

query_status() → PyFunceble.checker.syntax.base.SyntaxCheckerBase
Queries the status.

status = None

subject_propagator() → PyFunceble.checker.base.CheckerBase
Propagate the currently set subject.

Warning: You are not invited to run this method directly.

PyFunceble.checker.syntax.domain module

The tool to check the availability or syntax of domain, IP or URL.

Provides the general domain syntax checker.

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class PyFunceble.checker.syntax.domain.**DomainSyntaxChecker**(*subject: Optional[str] = None, db_session: Optional[sqlalchemy.orm.session.Session] = None*)

Bases: *PyFunceble.checker.syntax.domain_base.DomainSyntaxCheckerBase*, *PyFunceble.checker.syntax.base.SyntaxCheckerBase*

Provides an interface to check the syntax of a domain.

Parameters **subject** (*str*) – Optional, The subject to work with.

is_valid() → bool
Validate the given subject if exists.

is_valid_second_level() → bool
Checks if the given subject is a valid second level demain.

is_valid_subdomain() → bool
Checks if the given subject is a valid subdomain

second_level_checker = None

subdomain_checker = None

subject_propagator() → PyFunceble.checker.syntax.domain.DomainSyntaxChecker
Propagate the currently set subject.

> **Warning:** You are not invited to run this method directly.

PyFunceble.checker.syntax.domain_base module

The tool to check the availability or syntax of domain, IP or URL.

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Provides the base of all domain syntax checker.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```


class PyFunceble.checker.syntax.domain_base.**DomainSyntaxCheckerBase**(*subject: Optional[str] = None*)

Bases: *PyFunceble.checker.base.CheckerBase*

Provides an interface to check the syntax of a second domain.

Parameters **subject** (*str*) – Optional, The subject to work with.

SPECIAL_USE_DOMAIN_NAMES_EXTENSIONS = ['onion']

Specifies the extension which are specified as "Special-Use Domain Names" and supported by our project.

Type list

See also:

- RFC6761
- IANA Special-Use Domain Names assignments.
- RFC7686

find_last_point_index()

Try to find the index of the last point after the execution of the decorated method.

get_extension() → Optional[str]
Provides the extension to work with (if exists).

static get_last_point_index(*subject: str*) → Optional[int]
Provides the index of the last point of the given subject.

get_subject_without_suffix(*subject: str*, *extension: str*) → Optional[Tuple[Optional[int], Optional[str]]]
Provides the given subject without the suffix.

Parameters

- **subject** – The subject to work with.
- **extension** – The extension previously extracted.

iana_dataset = None

is_valid() → bool
Validate the given subject.

last_point_index = None
Saves the index of the last point.

public_suffix_dataset = None

reset_last_point_index()
Resets the last point index before executing the decorated method.

subject
Provides the current state of the `_subject` attribute.

PyFunceble.checker.syntax.ip module

The tool to check the availability or syntax of domain, IP or URL.

Provides the IP (v4 + v6) syntax checker.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

Special thanks: https://pyfunceble.github.io/#/special-thanks

Contributors: https://pyfunceble.github.io/#/contributors

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class PyFunceble.checker.syntax.ip.**IPSyntaxChecker**(*subject: Optional[str] = None*)

Bases: *PyFunceble.checker.syntax.base.SyntaxCheckerBase*

Provides an interface to check the syntax of an IP (v6 or v4).

Parameters **subject** (*str*) – Optional, The subject to work with.

ipv4_checker = None

ipv6_checker = None

is_reserved() → bool
Checks if the given subject is a reserved IP.

is_reserved_v4() → bool
Checks if the given subject is a reserved IPv4.

is_reserved_v6() → bool
Checks if the given subject is a reserved IPv6.

is_valid() → bool
Validate the given subject.

is_valid_range() → bool
Checks if the given subject is an IP range.

is_valid_v4() → bool
Checks if the given subject is a valid IPv4.

is_valid_v4_range() → bool
Checks if the given subject is an IPv4 range.

is_valid_v6() → bool
Checks if the given subject is a valid IPv6.

is_valid_v6_range() → bool
Checks if the given subject is an IPv6 range.

subject_propagator() → PyFunceble.checker.syntax.ip.IPSyntaxChecker
Propagate the currently set subject.

> **Warning:** You are not invited to run this method directly.

PyFunceble.checker.syntax.ipv4 module

The tool to check the availability or syntax of domain, IP or URL.

Provides the IPv4 syntax checker.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```


class PyFunceble.checker.syntax.ipv4.**IPv4SyntaxChecker**(*subject: Optional[str] = None, *, do_syntax_check_first: Optional[bool] = None, db_session: Optional[sqlalchemy.orm.session.Session] = None*)

Bases: *PyFunceble.checker.base.CheckerBase*

Provides an interface to check the syntax of an IPv4.

Parameters **subject** (*str*) – Optional, The subject to work with.

is_reserved() → bool

Checks if the given subject is a reserved IPv4.

is_valid() → bool

Validate the given subject.

is_valid_range() → bool

Checks if the given subject is an IPv4 range

PyFunceble.checker.syntax.ipv6 module

The tool to check the availability or syntax of domain, IP or URL.

Provides the IPv6 syntax checker.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

Special thanks: https://pyfunceble.github.io/#/special-thanks

Contributors: https://pyfunceble.github.io/#/contributors

Project link: https://github.com/funilrys/PyFunceble

Project documentation: https://pyfunceble.readthedocs.io/en/latest/

Project homepage: https://pyfunceble.github.io/

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```

class PyFunceble.checker.syntax.ipv6.**IPv6SyntaxChecker**(*subject: Optional[str] = None, *, do_syntax_check_first: Optional[bool] = None, db_session: Optional[sqlalchemy.orm.session.Session] = None*)

Bases: *PyFunceble.checker.base.CheckerBase*

Provides an interface to check the syntax of an IPv6.

Parameters **subject** (*str*) – Optional, The subject to work with.

is_reserved() → bool
Checks if the given subject is a reserved IPv6.

is_valid() → bool
Validate the given subject.

is_valid_range() → bool
Checks if the given subject is an IPv6 range.

PyFunceble.checker.syntax.params module

The tool to check the availability or syntax of domain, IP or URL.

Provides our parameter class. The parameter class is the class that will be provided to end-user. It is only a placeholder and should only be taken as informative.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

Special thanks: https://pyfunceble.github.io/#/special-thanks

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```


class PyFunceble.checker.syntax.params.**SyntaxCheckerParams**(*do_syntax_check_first: Optional[bool] = None*)

Bases: *PyFunceble.checker.params_base.CheckerParamsBase*

Provides the description of a syntax checker paramaters.

PyFunceble.checker.syntax.second_lvl_domain module

The tool to check the availability or syntax of domain, IP or URL.

Provides the second level domain syntax checker.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```


class PyFunceble.checker.syntax.second_lvl_domain.**SecondLvlDomainSyntaxChecker**(*subject: Optional[str] = None*)

Bases: *PyFunceble.checker.syntax.domain_base.DomainSyntaxCheckerBase*

Provides an interface to check the syntax of a second domain.

Parameters **subject** (*str*) – Optional, The subject to work with.

REGEX_VALID_DOMAIN = '^(?=.{0,253}$)(([a-z0-9][a-z0-9-]{0,61}[a-z0-9]|[a-z0-9])\\.)+((

is_valid() → bool

Validate the given subject.

> **Warning:** A valid domain may also be a valid subdomain.
>
> If you precisely want to check a subdomain please refer to the right checker (not this one :-))!

last_point_index = None

Saves the index of the last point.

PyFunceble.checker.syntax.status module

The tool to check the availability or syntax of domain, IP or URL.

Provides our status class. The status class is the class that will be provided to end-user.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```


class PyFunceble.checker.syntax.status.**SyntaxCheckerStatus**(*subject: Optional[str] = None, idna_subject: Optional[str] = None, status: Optional[str] = None, status_source: Optional[str] = None, tested_at: Optional[datetime.datetime] = None, params: Optional[PyFunceble.checker.params_base.Check = None, checker_type: Optional[str] = 'SYNTAX'*)

Bases: *PyFunceble.checker.status_base.CheckerStatusBase*

Provides the description of a syntax check status.

checker_type = 'SYNTAX'

is_invalid() → bool

Checks if the current status is invalid.

is_valid() → bool
Checks if the current status is valid.

PyFunceble.checker.syntax.subdomain module

The tool to check the availability or syntax of domain, IP or URL.

Provides the subdomain syntax checker.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.checker.syntax.subdomain.**SubDomainSyntaxChecker**(*subject: Optional[str] = None*)

Bases: *PyFunceble.checker.syntax.domain_base.DomainSyntaxCheckerBase*

Provides an interface to check the syntax of a subdomain.

Parameters **subject** (*str*) – Optional, The subject to work with.

REGEX_VALID_SUBDOMAIN = '^(?=.{0,253}$)(([a-z0-9_][a-z0-9-_]{0,61}[a-z0-9_-]|[a-z0-9])

is_valid() → bool
Validate the given subject if exists.

PyFunceble.checker.syntax.url module

The tool to check the availability or syntax of domain, IP or URL.

Provides the URL syntax checker.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```


class PyFunceble.checker.syntax.url.**URLSyntaxChecker**(*subject: Optional[str] = None, db_session: Optional[sqlalchemy.orm.session.Session] = None*)

Bases: *PyFunceble.checker.syntax.base.SyntaxCheckerBase*

Provides an interface to check the syntax of a URL.

Parameters **subject** (*str*) – Optional, The subject to work with.

is_valid() → bool

Validate the given subject.

Module contents

The tool to check the availability or syntax of domain, IP or URL.

Provides everything related to the core of the syntax checker.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```


PyFunceble.checker.utils package

Submodules

PyFunceble.checker.utils.whois module

The tool to check the availability or syntax of domain, IP or URL.

Provides some utilities related to the WHOIS query.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

`PyFunceble.checker.utils.whois.`**`get_whois_dataset_object`**(*, *db_session: Optional[sqlalchemy.orm.session.Session] = None*) → Union[PyFunceble.dataset.base.DatasetBase, PyFunceble.dataset.csv_base.CSVDatasetBase, PyFunceble.dataset.db_base.DBDatasetBase]

Provides the whois dataset object to work with.

Parameters **db_session** – A database session to use.

Raises

- **ValueError** – When the given database type is unkown.
- **RuntimeError** – When the configuration was not loaded yet.

Module contents

The tool to check the availability or syntax of domain, IP or URL.

Provides some utilities related to the checkers.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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Submodules

PyFunceble.checker.base module

The tool to check the availability or syntax of domain, IP or URL.

Provides the base of all checker.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.checker.base.**CheckerBase**(*subject: Optional[str] = None, *, do_syntax_check_first: Optional[bool] = None, db_session: Optional[sqlalchemy.orm.session.Session] = None*)

Bases: object

Provides the base of all checker.

Parameters

- **subject** (*str*) – Optional, The subject to work with.
- **do_syntax_check_first** (*bool*) – Optional, Forces the checker to first perform a syntax check,

  Warning: This does not apply to the syntax checker - itself.

STD_DO_SYNTAX_CHECK_FIRST = False

db_session = None

do_syntax_check_first

Provides the current state of the do_syntax_check_first attribute.

ensure_subject_is_given()

Ensures that the subject is given before running the decorated method.

Raises **TypeError** – If the subject is not a string.

get_status() → Optional[PyFunceble.checker.status_base.CheckerStatusBase]

Provides the current state of the status.

Note: This method will automatically query status using the *PyFunceble.checker.base.CheckerBase.query_status()* if the *PyFunceble.checker.status_base.CheckerStatusBase.status* attribute is not set.

idna_subject

Provides the current state of the _idna_subject attribute.

is_valid() → bool

Provides the result of the validation.

params = None

propagate_subject()

Propagates the subject to the object that need it after launching the decorated method.

query_status() → PyFunceble.checker.base.CheckerBase

Queries the status.

query_status_if_missing()

Queries the status if it's missing.

set_do_syntax_check_first(*value: bool*) → PyFunceble.checker.base.CheckerBase
Sets the value which allow us to do a syntax check first.

Parameters **value** – The subject to set.

set_idna_subject(*value: str*) → PyFunceble.checker.base.CheckerBase
Sets the subject to work with.

Parameters **value** – The subject to set.

set_subject(*value: str*) → PyFunceble.checker.base.CheckerBase
Sets the subject to work with.

Parameters **value** – The subject to set.

status = None

subject
Provides the current state of the `_subject` attribute.

subject_propagator() → PyFunceble.checker.base.CheckerBase
Propagate the currently set subject.

> **Warning:** You are not invited to run this method directly.
>
> Only the `propagate_subject` decorator should call this method.

update_status_date_after_query()
Updates the status dates after running the decorated method.

PyFunceble.checker.complex_json_encoder module

The tool to check the availability or syntax of domain, IP or URL.

Provides our very own complex JSON encoder. The purpose of this encoder compared to others is that it was built for the conversion of records or statuses provided by the checker(s).

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.checker.complex_json_encoder.**ComplexJsonEncoder**(*, *skipkeys=False*, *ensure_ascii=True*, *check_circular=True*, *allow_nan=True*, *sort_keys=False*, *indent=None*, *separators=None*, *default=None*)

Bases: `json.encoder.JSONEncoder`

Provides our very own complex JSON encoder.

default(*o: Any*) → Any

Implements our very own conversion.

PyFunceble.checker.params_base module

The tool to check the availability or syntax of domain, IP or URL.

```
```

Provides the base of all our params classes.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.checker.params_base.**CheckerParamsBase**(*do_syntax_check_first: Optional[bool] = None*)

Bases: object

Provides the base of all parameters classes.

do_syntax_check_first = None

to_dict() → dict
Converts the current object to dict.

to_json() → str
Converts the current object to JSON.

PyFunceble.checker.status_base module

The tool to check the availability or syntax of domain, IP or URL.

Provides the base of all our status classes.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.checker.status_base.**CheckerStatusBase**(*subject: Optional[str] = None, idna_subject: Optional[str] = None, status: Optional[str] = None, status_source: Optional[str] = None, tested_at: Optional[datetime.datetime] = None, params: Optional[PyFunceble.checker.params_base.CheckerPar = None*)

Bases: object

Provides the base of all status classes.

idna_subject = None

params = None

status = None

status_source = None

subject = None

tested_at = None

to_dict() → dict

Converts the current object to dict.

to_json() → str

Converts the current object to JSON.

Module contents

The tool to check the availability or syntax of domain, IP or URL.

```
```

Provides the checkers.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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PyFunceble.cli package

Subpackages

PyFunceble.cli.continuous_integration package

Submodules

PyFunceble.cli.continuous_integration.base module

The tool to check the availability or syntax of domain, IP or URL.

Provides the base of all our CI classes.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.cli.continuous_integration.base.**ContinuousIntegrationBase**(*, *authorized: Optional[bool] = None*, *git_email: Optional[str] = None*, *git_name: Optional[str] = None*, *git_branch: Optional[str] = None*, *git_distribution_branch Optional[str] = None*, *token: Optional[str] = None*, *command: Optional[str] = None*, *end_command: Optional[str] = None*, *commit_message: Optional[str] = None*, *end_commit_message: Optional[str] = None*, *max_exec_minutes: Optional[int] =*

Bases: `object`

Provides the base of all continuous integration methods.

Parameters

- **`authorized`** – The authorization to run.
- **`git_email`** – The email to apply while initilizing the git repository for push.
- **`git_name`** – The name to apply while initilizing the git repository for push.
- **`git_branch`** – The branch to use while testing.
- **`git_distribution_branch`** – The branch to push the results into.
- **`token`** – The token to apply while initilizing the git repository for push.
- **`command`** – The command to execute before each push (except the latest one).
- **`end_command`** – The commant to execute at the very end.
- **`commit_message`** – The commit message to apply before each push (except the latest one).
- **`end_commit_message`** – The commit message to apply at the very end.
- **`max_exec_minutes`** – The maximum of minutes to apply before considering the current session as finished.

`STD_AUTHORIZED = False`

`STD_COMMAND = None`

`STD_COMMIT_MESSAGE = 'PyFunceble - AutoSave'`

`STD_END_COMMAND = None`

`STD_END_COMMIT_MESSAGE = 'PyFunceble - Results'`

`STD_GIT_BRANCH = 'master'`

`STD_GIT_DISTRIBUTION_BRANCH = 'master'`

`STD_GIT_EMAIL = None`

`STD_GIT_NAME = None`

`STD_MAX_EXEC_MINUTES = 15`

`apply_commit``()` → None

Apply the commit and push.

Side effect: It runs the declared command to execute.

`apply_end_commit``()` → None

Apply the "end" commit and push.

Side effect: It runs the declared command to execute.

`authorized`

Provides the currently state of the `_authorized` attribute.

`bypass``()` → None

Stops everything if the latest commit message match any of those:

- `[PyFunceble skip]` (case insensitive)
- `[PyFunceble-skip]` (case insensitive)

- `end_commit_marker`

command
Provides the current state of the `_command` attribute.

commit_message
Provides the current state of the `_commit_message` attribute.

end_command
Provides the current state of the `_end_command` attribute.

end_commit_marker = '[ci skip]'

end_commit_message
Provides the current state of the `_end_commit_message` attribute.

ensure_git_branch_is_given()
Ensures that the Git Branch is given before launching the decorated method.

Raises *PyFunceble.cli.continuous_integration.exceptions.GitBranchNotFound* – When the Git Branch is not found.

ensure_git_distribution_branch_is_given()
Ensures that the Git distribution Branch is given before launching the decorated method.

Raises *PyFunceble.cli.continuous_integration.exceptions.GitDistributionBranchNotFound* – When the Git distribution Branch is not found.

ensure_git_email_is_given()
Ensures that the Git Email is given before launching the decorated method.

Raises *PyFunceble.cli.continuous_integration.exceptions.GitEmailNotFound* – When the Git Email is not found.

ensure_git_name_is_given()
Ensures that the Git Name is given before launching the decorated method.

Raises *PyFunceble.cli.continuous_integration.exceptions.GitNameNotFound* – When the Git Name is not found.

ensure_start_time_is_given()
Ensures that the starting time is given before launching the decorated method.

Raises *PyFunceble.cli.continuous_integration.exceptions.StartTimeNotFound* – When the token is not found.

ensure_token_is_given()
Ensures that the token is given before launching the decorated method.

Raises *PyFunceble.cli.continuous_integration.exceptions.TokenNotFound* – When the token is not found.

static exec_command(*command: str*, *allow_stdout: bool*) → None
Exceutes the given command.

Parameters

- **command** – The command to execute.
- **allow_stdout** – Allows us to return the command output to stdout.

execute_if_authorized()
Executes the decorated method only if we are authorized to process. Otherwise, apply the given `default`.

expected_end_time = None

fix_permissions() → PyFunceble.cli.continuous_integration.base.ContinuousIntegrationBase
A method to overwrite when custom rules for permissions are needed.

Note: This method is automatically called by the methods who apply commits.

static get_remote_destination()
Provides the remote destination to use.

Raises *PyFunceble.cli.continuous_integration.exceptions.RemoteURLNotFound* – When we could not determine the remote destination.

git_branch
Provides the current state of the `_git_branch` attribute.

git_distribution_branch
Provides the current state of the `_git_distribution_branch` attribute.

git_email
Provides the currently state of the `_git_email` attribute.

git_initialized = False

git_name
Provides the current state of the `_git_name` attribute.

guess_all_settings() → PyFunceble.cli.continuous_integration.base.ContinuousIntegrationBase
Try to guess all settings.

guess_and_set_authorized() → PyFunceble.cli.continuous_integration.base.ContinuousIntegrationBase
Tries to guess the authorization.

guess_and_set_command() → PyFunceble.cli.continuous_integration.base.ContinuousIntegrationBase
Tries to guess and set the command to execute.

guess_and_set_commit_message() → PyFunceble.cli.continuous_integration.base.ContinuousIntegrationBase
Tries to guess and set the commit message to apply.

guess_and_set_end_command() → PyFunceble.cli.continuous_integration.base.ContinuousIntegrationBase
Tries to guess and set the command to execute at the very end.

guess_and_set_end_commit_message() → PyFunceble.cli.continuous_integration.base.ContinuousIntegrationBase
Tries to guess and set the commit message to apply at the very end.

guess_and_set_git_branch() → PyFunceble.cli.continuous_integration.base.ContinuousIntegrationBase
Tries to guess and set the Git Branch.

guess_and_set_git_distribution_branch() → PyFunceble.cli.continuous_integration.base.ContinuousIntegrationBase
Tries to guess and set the Git distribution Branch.

guess_and_set_git_email() → PyFunceble.cli.continuous_integration.base.ContinuousIntegrationBase
Tries to guess and set the Git Email.

guess_and_set_git_name() → PyFunceble.cli.continuous_integration.base.ContinuousIntegrationBase
Tries to guess and set the Git Name.

guess_and_set_max_exec_minutes() → PyFunceble.cli.continuous_integration.base.ContinuousIntegrationBase
Tries to guess and set the maximum execution time.

guess_and_set_token() → PyFunceble.cli.continuous_integration.base.ContinuousIntegrationBase
Tries to guess and set the token.

init() → PyFunceble.cli.continuous_integration.base.ContinuousIntegrationBase
Initiate our infrastructure for the current CI engine.

The purpose of this method is to be able to have some custom init based on the CI we are currently on.

The init method should be manually started before runing any further action.

> **Warning:** We assume that we are aware that you should run this method first.

init_git() → PyFunceble.cli.continuous_integration.base.ContinuousIntegrationBase
Initiate the git repository.

init_git_remote_with_token() → PyFunceble.cli.continuous_integration.base.ContinuousIntegrationBase
Initiates the git remote URL with the help of the given token.

is_authorized() → bool
Checks if the current object is authorized to run.

is_time_exceeded() → bool
Checks if we exceeded the allocated time we have.

max_exec_minutes
Provides the current state of the `_max_exec_minutes` attribute.

push_changes(*branch: str*, *, *exit_it: bool = True*) → None
Pushes the changes.

Parameters

- **branch** – The branch to push.
- **exit_it** – Exits after the push ?

Raises *PyFunceble.cli.continuous_integration.exceptions.StopExecution* – When the `exit_it` is set to `True`.

set_authorized(*value: bool*) → PyFunceble.cli.continuous_integration.base.ContinuousIntegrationBase
Sets the value of the `authorized` attribute.

Parameters **value** – The value to set.

set_command(*value: str*) → PyFunceble.cli.continuous_integration.base.ContinuousIntegrationBase
Sets the command to work with.

Parameters **value** – The command to set.

set_commit_message(*value: str*) → PyFunceble.cli.continuous_integration.base.ContinuousIntegrationBase
Sets the commit message to apply to all commits except the final one.

Parameters **value** – The message to set.

set_end_command(*value: str*) → PyFunceble.cli.continuous_integration.base.ContinuousIntegrationBase
Sets the command to execute at the really end of the process with.

Parameters **value** – The command to set.

set_end_commit_message(*value: str*) → PyFunceble.cli.continuous_integration.base.ContinuousIntegrationBase
Sets the commit message to apply to the final one.

Parameters **value** – The command to set.

set_git_branch(*value: str*) → PyFunceble.cli.continuous_integration.base.ContinuousIntegrationBase
Sets the Git Branch to use.

Parameters **value** – The value to set.

set_git_distribution_branch(*value: str*) → PyFunceble.cli.continuous_integration.base.ContinuousIntegrationBase
Sets the Git distribution Branch to use.

Parameters **value** – The value to set.

set_git_email(*value: str*) → PyFunceble.cli.continuous_integration.base.ContinuousIntegrationBase
Sets the Git Email to use.

Parameters **value** – The value to set.

set_git_name(*value: str*) → PyFunceble.cli.continuous_integration.base.ContinuousIntegrationBase
Sets the Git Name to use.

Parameters **value** – The value to set.

set_max_exec_minutes(*value: str*) → PyFunceble.cli.continuous_integration.base.ContinuousIntegrationBase
Sets the maximum waiting time before considering the time as exceeded.

Parameters **value** – The command to set.

set_start_time() → PyFunceble.cli.continuous_integration.base.ContinuousIntegrationBase
Sets the starting time to now.

set_token(*value: str*) → PyFunceble.cli.continuous_integration.base.ContinuousIntegrationBase
Sets the token to use.

Parameters **value** – The value to set.

start_time = None

token
Provides the current state of the `_token` attribute.

PyFunceble.cli.continuous_integration.exceptions module

The tool to check the availability or syntax of domain, IP or URL.

Provides the exception related to the CI integration.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

Special thanks: https://pyfunceble.github.io/#/special-thanks

Contributors: https://pyfunceble.github.io/#/contributors

Project link: https://github.com/funilrys/PyFunceble

Project documentation: https://pyfunceble.readthedocs.io/en/latest/

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exception PyFunceble.cli.continuous_integration.exceptions.**ContinuousIntegrationException**

Bases: *PyFunceble.exceptions.PyFuncebleException*

Describes an exception related to the continuous integration.

exception PyFunceble.cli.continuous_integration.exceptions.**GitBranchNotFound**

Bases: *PyFunceble.cli.continuous_integration.exceptions.ContinuousIntegrationException*

Describes a missing git branch.

exception PyFunceble.cli.continuous_integration.exceptions.**GitDistributionBranchNotFound**

Bases: *PyFunceble.cli.continuous_integration.exceptions.ContinuousIntegrationException*

Describes a missing git distribution branch.

exception PyFunceble.cli.continuous_integration.exceptions.**GitEmailNotFound**

Bases: *PyFunceble.cli.continuous_integration.exceptions.ContinuousIntegrationException*

Describes a missing Git Email.

exception PyFunceble.cli.continuous_integration.exceptions.**GitNameNotFound**

Bases: *PyFunceble.cli.continuous_integration.exceptions.ContinuousIntegrationException*

Describes a missing Git Name.

exception PyFunceble.cli.continuous_integration.exceptions.**RemoteURLNotFound**

Bases: *PyFunceble.cli.continuous_integration.exceptions.ContinuousIntegrationException*

Describes a missing or unknown remote URL.

exception PyFunceble.cli.continuous_integration.exceptions.**StartTimeNotFound**

Bases: *PyFunceble.cli.continuous_integration.exceptions.ContinuousIntegrationException*

Describes a missing start time.

exception PyFunceble.cli.continuous_integration.exceptions.**StopExecution**

Bases: *PyFunceble.cli.continuous_integration.exceptions.ContinuousIntegrationException*

Informs upstream - or interacting interface - that we pushed the changes and that they need stop everything they plan to do with PyFunceble.

exception PyFunceble.cli.continuous_integration.exceptions.**TokenNotFound**

Bases: *PyFunceble.cli.continuous_integration.exceptions.ContinuousIntegrationException*

Describes a missing (Git?(lab|hub)) Token.

PyFunceble.cli.continuous_integration.github_actions module

The tool to check the availability or syntax of domain, IP or URL.

Provides the CI engine and detection tool for the GitHub Actions.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

Special thanks: https://pyfunceble.github.io/#/special-thanks

Contributors: https://pyfunceble.github.io/#/contributors

Project link: https://github.com/funilrys/PyFunceble

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```

class PyFunceble.cli.continuous_integration.github_actions.**GitHubActions**(*, *authorized: Optional[bool] = None, git_email: Optional[str] = None, git_name: Optional[str] = None, git_branch: Optional[str] = None, git_distribution_branch: Optional[str] = None, token: Optional[str] = None, command: Optional[str] = None, end_command: Optional[str] = None, commit_message: Optional[str] = None, end_commit_message: Optional[str] = None, max_exec_minutes: Optional[int] =*

Bases: *PyFunceble.cli.continuous_integration.base.ContinuousIntegrationBase*

Provides the interface which detects and work under the GitHub Actions infrastructure.

end_commit_marker = '[GHA skip]'

guess_and_set_authorized() → PyFunceble.cli.continuous_integration.github_actions.GitHubActions
Tries to guess the authorization.

guess_and_set_token() → PyFunceble.cli.continuous_integration.github_actions.GitHubActions
Tries to guess and set the token.

PyFunceble.cli.continuous_integration.gitlab_ci module

The tool to check the availability or syntax of domain, IP or URL.

Provides the CI engine and detection tool for the GitLab CI.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.cli.continuous_integration.gitlab_ci.**GitLabCI**(*, *authorized: Optional[bool] = None*, *git_email: Optional[str] = None*, *git_name: Optional[str] = None*, *git_branch: Optional[str] = None*, *git_distribution_branch: Optional[str] = None*, *token: Optional[str] = None*, *command: Optional[str] = None*, *end_command: Optional[str] = None*, *commit_message: Optional[str] = None*, *end_commit_message: Optional[str] = None*, *max_exec_minutes: Optional[int] = None*)

Bases: *PyFunceble.cli.continuous_integration.base.ContinuousIntegrationBase*

Provides the interface which detects and work under the GitLab CI infrastructure.

guess_and_set_authorized() → PyFunceble.cli.continuous_integration.gitlab_ci.GitLabCI
Tries to guess the authorization.

guess_and_set_token() → PyFunceble.cli.continuous_integration.gitlab_ci.GitLabCI
Tries to guess and set the token.

init_git_remote_with_token() → PyFunceble.cli.continuous_integration.gitlab_ci.GitLabCI
Initiates the git remote URL with the help of the given token.

PyFunceble.cli.continuous_integration.jenkins module

The tool to check the availability or syntax of domain, IP or URL.

Provides the CI engine and detection tool for Jenkins.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.cli.continuous_integration.jenkins.**Jenkins**(*, *authorized: Optional[bool] = None*, *git_email: Optional[str] = None*, *git_name: Optional[str] = None*, *git_branch: Optional[str] = None*, *git_distribution_branch: Optional[str] = None*, *token: Optional[str] = None*, *command: Optional[str] = None*, *end_command: Optional[str] = None*, *commit_message: Optional[str] = None*, *end_commit_message: Optional[str] = None*, *max_exec_minutes: Optional[int] = None*)

Bases: *PyFunceble.cli.continuous_integration.base.ContinuousIntegrationBase*

Provides the interface which detects and work under several Jenkins infrastructure.

guess_and_set_authorized() → PyFunceble.cli.continuous_integration.jenkins.Jenkins

Tries to guess the authorization.

guess_and_set_token() → PyFunceble.cli.continuous_integration.jenkins.Jenkins
Tries to guess and set the token.

PyFunceble.cli.continuous_integration.travis_ci module

The tool to check the availability or syntax of domain, IP or URL.

Provides the CI engine and detection tool for the Travis CI.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.cli.continuous_integration.travis_ci.**TravisCI**(*, *authorized: Optional[bool] = None*, *git_email: Optional[str] = None*, *git_name: Optional[str] = None*, *git_branch: Optional[str] = None*, *git_distribution_branch: Optional[str] = None*, *token: Optional[str] = None*, *command: Optional[str] = None*, *end_command: Optional[str] = None*, *commit_message: Optional[str] = None*, *end_commit_message: Optional[str] = None*, *max_exec_minutes: Optional[int] = None*)

Bases: *PyFunceble.cli.continuous_integration.base.ContinuousIntegrationBase*

Provides the interface which detects and work under the Travis CI infrastructure.

guess_and_set_authorized() → PyFunceble.cli.continuous_integration.travis_ci.TravisCI

Tries to guess the authorization.

guess_and_set_token() → PyFunceble.cli.continuous_integration.travis_ci.TravisCI

Tries to guess and set the token.

PyFunceble.cli.continuous_integration.utils module

The tool to check the availability or syntax of domain, IP or URL.

Provides some utilities related to the CI.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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`PyFunceble.cli.continuous_integration.utils.ci_object`(**args*, ***kwargs*) → PyFunceble.cli.continuous_integration.base.ContinuousIntegrat

A placeholder which provides the CI object to use.

Module contents

The tool to check the availability or syntax of domain, IP or URL.

Provides everything we may need for continuous integration aka autosaving and auto commiting.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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PyFunceble.cli.entry_points package

Subpackages

PyFunceble.cli.entry_points.pyfunceble package

Submodules

PyFunceble.cli.entry_points.pyfunceble.argsparser module

The tool to check the availability or syntax of domain, IP or URL.

Provides our very own argument parser

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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class PyFunceble.cli.entry_points.pyfunceble.argsparser.**OurArgumentParser**(*prog=None, usage=None, description=None, epilog=None, parents=[], formatter_class=<class 'argparse.HelpFormatter'>, prefix_chars='-', fromfile_prefix_chars=None, argument_default=None, conflict_handler='error', add_help=True, allow_abbrev=True*)

Bases: argparse.ArgumentParser

Overwrites some behavior of the default argument parser.

parse_args(*args: Optional[Sequence[str]] = None, namespace: Optional[argparse.Namespace] = None*) → argparse.Namespace

PyFunceble.cli.entry_points.pyfunceble.cli module

The tool to check the availability or syntax of domain, IP or URL.

Provides the endpoint of the PyFunceble CLI tool

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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`PyFunceble.cli.entry_points.pyfunceble.cli.`**`add_arguments_to_parser`**(*parser: Union[argparse.ArgumentParser, argparse._ArgumentGroup], arguments: List[Tuple[List[str], dict]]*) → None

Adds the given argument into the given parser.

`PyFunceble.cli.entry_points.pyfunceble.cli.`**`ask_authorization_to_merge_config`**(*missing_key: Optional[str] = None*) → bool

Asks the end-user for the authorization to merge the upstream configuration and - finally - return the new authorization status.

Parameters **`missing_key`** – The name of a missing key. If not given, a more generic message will be given to end-user.

`PyFunceble.cli.entry_points.pyfunceble.cli.`**`get_ci_group_data`**() → List[Tuple[List[str], dict]]

Provides the argument of the CI group data.

`PyFunceble.cli.entry_points.pyfunceble.cli.`**`get_configured_value`**(*entry: str, *, negate=False*) → Any

Provides the currently configured value.

Parameters

- **`entry`** – An entry to check.

multilevel should be separated with a point.

- **negate** – Allows us to negate the result from the configuration.

Raises **ValueError** – When the given `entry` is not found.

`PyFunceble.cli.entry_points.pyfunceble.cli.`**`get_database_control_group_data`**`()` → List[Tuple[List[str], dict]]

Provides the arguments of the database group.

`PyFunceble.cli.entry_points.pyfunceble.cli.`**`get_default_group_data`**`()` → List[Tuple[List[str], dict]]

Provides the argument of the default group.

`PyFunceble.cli.entry_points.pyfunceble.cli.`**`get_dns_control_group_data`**`()` → List[Tuple[List[str], dict]]

Provides the argument of the DNS control group.

`PyFunceble.cli.entry_points.pyfunceble.cli.`**`get_filtering_group_data`**`()` → List[Tuple[List[str], dict]]

Provides the argument of the filtering group.

`PyFunceble.cli.entry_points.pyfunceble.cli.`**`get_multiprocessing_group_data`**`()` → List[Tuple[List[str], dict]]

Provides the argument of the multiprocessing group data.

`PyFunceble.cli.entry_points.pyfunceble.cli.`**`get_output_control_group_data`**`()` → List[Tuple[List[str], dict]]

Provides the argument of the output group.

`PyFunceble.cli.entry_points.pyfunceble.cli.`**`get_source_group_data`**`()` → List[Tuple[List[str], dict]]

Provides the arguments of the source group.

`PyFunceble.cli.entry_points.pyfunceble.cli.`**`get_test_control_group_data`**`()` → List[Tuple[List[str], dict]]

Provides the argument of the test control data group.

`PyFunceble.cli.entry_points.pyfunceble.cli.`**`tool`**`()` → None

Provides the CLI of PyFunceble.

Module contents

The tool to check the availability or syntax of domain, IP or URL.

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Provides (a bit more that "usual") what is needed by the PyFunceble CLI tool.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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Project link: https://github.com/funilrys/PyFunceble

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```


Submodules

PyFunceble.cli.entry_points.clean module

The tool to check the availability or syntax of domain, IP or URL.

Provides the endpoints related to the cleanup of the data we produce.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

`PyFunceble.cli.entry_points.clean.cleaner()` → None

Provides the CLI for the public file generation.

PyFunceble.cli.entry_points.iana module

The tool to check the availability or syntax of domain, IP or URL.

Provides the endpoints related to our own version of the iana database.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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`PyFunceble.cli.entry_points.iana.generator()` → None
Provides the CLI for the IANA file generation.

PyFunceble.cli.entry_points.production module

The tool to check the availability or syntax of domain, IP or URL.

Provides the endpoints related to our production preparation.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

`PyFunceble.cli.entry_points.production.producer()` → None
Provides the CLI for the production preparator.

PyFunceble.cli.entry_points.public_suffix module

The tool to check the availability or syntax of domain, IP or URL.

Provides the endpoints related to our own version of the public suffix file.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

`PyFunceble.cli.entry_points.public_suffix.generator()` → None

Provides the CLI for the public file generation.

Module contents

The tool to check the availability or syntax of domain, IP or URL.

Provides all our entry points.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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PyFunceble.cli.filesystem package

Subpackages

PyFunceble.cli.filesystem.dir_structure package

Submodules

PyFunceble.cli.filesystem.dir_structure.backup module

The tool to check the availability or syntax of domain, IP or URL.

Provides an interface for the backup of the directory structure.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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class PyFunceble.cli.filesystem.dir_structure.backup.**DirectoryStructureBackup**(*parent_dirname: Optional[str] = None, source_file: Optional[str] = None*)

Bases: *PyFunceble.cli.filesystem.dir_structure.base.DirectoryStructureBase*

Provides the base of all dir structure classes.

get_backup_data() → dict
Provides the data which acts as a backup.

start() → PyFunceble.cli.filesystem.dir_structure.backup.DirectoryStructureBackup
Starts the backup process.

store_backup() → PyFunceble.cli.filesystem.dir_structure.backup.DirectoryStructureBackup
Stores the backup at the current destination.

PyFunceble.cli.filesystem.dir_structure.base module

The tool to check the availability or syntax of domain, IP or URL.

Provides the base of all directory structure classes.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.cli.filesystem.dir_structure.base.**DirectoryStructureBase**(*parent_dirname: Optional[str] = None, source_file: Optional[str] = None*)

Bases: *PyFunceble.cli.filesystem.dir_base.FilesystemDirBase*

Provides the base of all dir structure classes.

cleanup() → PyFunceble.cli.filesystem.dir_structure.base.DirectoryStructureBase
Cleans the output directory.

get_backup_data() → dict
Provides the data to manipulate.

get_path_without_base_dir(*full_path: str*) → str
Given a full path, we remove the base dir.

set_source_file(*value: str*) → PyFunceble.cli.filesystem.dir_structure.base.DirectoryStructureBase
Sets the value of the source file to use.

Parameters **value** – The value to set.

source_file
Provides the current state of the `_source_file` attribute.

start() → PyFunceble.cli.filesystem.dir_structure.base.DirectoryStructureBase
Starts the whole process.

std_source_file = None

PyFunceble.cli.filesystem.dir_structure.restore module

The tool to check the availability or syntax of domain, IP or URL.

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Provides an interface for the backup of the directory structure.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```


class PyFunceble.cli.filesystem.dir_structure.restore.**DirectoryStructureRestoration**(*parent_di Optional[str = None, source_fil Optional[str = None*)

Bases: *PyFunceble.cli.filesystem.dir_structure.base.DirectoryStructureBase*

Provides the base of all dir structure classes.

get_backup_data() → dict
Stores the backup at the current destination.

restore_from_backup() → PyFunceble.cli.filesystem.dir_structure.restore.DirectoryStructureRestoration
Restores or reconstruct the output directory.

start() → PyFunceble.cli.filesystem.dir_structure.restore.DirectoryStructureRestoration
Starts the restoration process.

Module contents

The tool to check the availability or syntax of domain, IP or URL.

Provides everything related to the generation of backup of the directory structure.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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PyFunceble.cli.filesystem.printer package

Submodules

PyFunceble.cli.filesystem.printer.base module

The tool to check the availability or syntax of domain, IP or URL.

Provides the base of all our printers.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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class PyFunceble.cli.filesystem.printer.base.**PrinterBase**(*template_to_use: Optional[str] = None, *, dataset: Optional[Dict[str, str]] = None*)

Bases: object

Provides the base of all printer class.

Printer classes are classes which derivate from this class. their objectives should be the same: Unify and simplify the way to print something to a given destination.

HEADERS = {'amount': 'Amount', 'checker_type': 'Checker', 'days': 'Days', 'expiratio

STD_LENGTH = {'amount': 12, 'checker_type': 13, 'days': 2, 'expiration_date': 17,

STD_UNKNOWN = 'Unknown'

TEMPLATES = {'all': <string.Template object>, 'execution_time': <string.Template obj

dataset

Provides the current state of the _dataset attribute.

ensure_dataset_is_given()

Ensures that the dataset to write is given before launching the decorated method.

Raises **TypeError** – When the current self.template_to_use is not set.

ensure_template_to_use_is_given()

Ensures that the template to use is given before launching the decorated method.

Raises **TypeError** – When the current self.template_to_use is not set.

get_header_to_print() → str

Provides the template header to print.

get_line_to_print() → str

Provides the line to print.

print_header() → None

Prints the header.

print_interpolated_line() → None
Prints the line where we are suppose to write it.

set_dataset(*value: Dict[str, str]*) → PyFunceble.cli.filesystem.printer.base.PrinterBase
Sets the dataset to apply to the template.

Parameters **value** – The value to set.

set_template_to_use(*value: str*) → PyFunceble.cli.filesystem.printer.base.PrinterBase
Sets the template to use.

Parameters **value** – The value to set.

template_to_use
Provides the current state of the `_template_to_use` attribute.

PyFunceble.cli.filesystem.printer.file module

The tool to check the availability or syntax of domain, IP or URL.

Provides the file printer.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.cli.filesystem.printer.file.**FilePrinter**(*template_to_use: Optional[str] = None, *, dataset: Optional[Dict[str, str]] = None, destination: Optional[str] = None*)

Bases: *PyFunceble.cli.filesystem.printer.base.PrinterBase*

Provides the file printer.

STD_FILE_GENERATION = '# Generated by PyFunceble (v4.0.0.) / https://git.io/vpZoI\n'

allow_coloration = True

destination

Provides the current state of the `_destination` attribute.

ensure_destination_is_given()

Ensures that the destination is given before launching the decorated method.

Raises **TypeError** – When the current `self.template_to_use` is not set.

file_helper = <PyFunceble.helpers.file.FileHelper object>

static get_generation_date_line() → str

Provides the line which informs of the date a file was generated.

print_interpolated_line() → None

Prints the interpolated line into the destination.

propagate_destination()

Propagates the new value of the destination just after launching the decorated method.

set_destination(*value: str*) → PyFunceble.cli.filesystem.printer.file.FilePrinter

Sets the destination to use.

Parameters **value** – The value to set.

PyFunceble.cli.filesystem.printer.stdout module

The tool to check the availability or syntax of domain, IP or URL.

Provides the stdout printer.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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class PyFunceble.cli.filesystem.printer.stdout.**StdoutPrinter**(*template_to_use: Optional[str] = None, *, dataset: Optional[Dict[str, str]] = None, allow_coloration: Optional[bool] = None*)

Bases: *PyFunceble.cli.filesystem.printer.base.PrinterBase*

Provides the stdout printer.

BACKGROUND_COLORATED = ['all', 'less']

FOREGROUND_COLORATED = ['percentage', 'simple']

STATUS2BACKGROUND_COLOR = {'ACTIVE': '\x1b[30m\x1b[42m', 'INACTIVE': '\x1b[30m\x1b[41m

STATUS2FORGROUND_COLOR = {'ACTIVE': '\x1b[1m\x1b[32m', 'INACTIVE': '\x1b[1m\x1b[31m',

STD_ALLOW_COLORATION = True

STD_FILE_HEADER = '# Generated by PyFunceble (v4.0.0.) / https://git.io/vpZoI\n'

allow_coloration

Provides the current state of the `_allow_coloration` attribute.

guess_allow_coloration() → PyFunceble.cli.filesystem.printer.stdout.StdoutPrinter

Try to guess and set the `allow_coloration` attribute.

print_interpolated_line()

Prints the interpolated line into the destination.

set_allow_coloration(*value: bool*) → PyFunceble.cli.filesystem.printer.stdout.StdoutPrinter

Sets the authorization to use the coloration.

Parameters **value** – The value to set.

Module contents

The tool to check the availability or syntax of domain, IP or URL.

Provides everything related to what we actually print (output) or to a file.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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Submodules

PyFunceble.cli.filesystem.cleanup module

The tool to check the availability or syntax of domain, IP or URL.

Provides everything related to the cleanup of the filesystem.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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class PyFunceble.cli.filesystem.cleanup.**FilesystemCleanup**(*parent_dirname: Optional[str] = None, *, db_session: Optional[PyFunceble.database.session.DBSession] = None*)

Bases: *PyFunceble.cli.filesystem.dir_base.FilesystemDirBase*

Provides the interface for the cleanup of the filesystem.

clean_database() → PyFunceble.cli.filesystem.cleanup.FilesystemCleanup

Cleanups the uneeded data that were stored in the database.

> **Warning:** This method cleans everything except the WHOIS records.

clean_output_files() → PyFunceble.cli.filesystem.cleanup.FilesystemCleanup

Cleanups the unneeded files from the output directory.

file_helper = <PyFunceble.helpers.file.FileHelper object>

output_files_to_delete

Provides the list of output files to delete.

start() → PyFunceble.cli.filesystem.cleanup.FilesystemCleanup

Starts the cleanup of everything unneeded.

PyFunceble.cli.filesystem.counter module

The tool to check the availability or syntax of domain, IP or URL.

Provides everything related to our counter tracker.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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class PyFunceble.cli.filesystem.counter.**FilesystemCounter**(*parent_dirname: Optional[str] = None, *, db_session: Optional[PyFunceble.database.session.DBSession] = None*)

Bases: *PyFunceble.cli.filesystem.dir_base.FilesystemDirBase*

Provides our counter.

PERCENTAGE_STATUSES = {'AVAILABILITY': ['ACTIVE', 'INACTIVE', 'INVALID'], 'REPUTATION'

STD_DATASET = {'counter': {'ACTIVE': 0, 'INACTIVE': 0, 'INVALID': 0, 'MALICIOUS': 0,

count(*status: PyFunceble.checker.status_base.CheckerStatusBase*) → PyFunceble.cli.filesystem.counter.FilesystemCounter

Starts the counting process.

Parameters **status** – The status to count into our dataset.

dataset = {}

fetch_dataset() → PyFunceble.cli.filesystem.counter.FilesystemCounter

Fetches the source file into the current instance.

fetch_dataset_beforehand()

Updates the dataset to work with before launching the decorated method.

get_dataset_for_printer() → List[Dict[str, Union[str, int]]]

Provides the dataset that the printer may understand.

Raises **ValueError** – When the current testing mode is not supported (yet?).

save_dataset() → PyFunceble.cli.filesystem.counter.FilesystemCounter

Saves the current dataset into it's final destination.

save_dataset_afterwards()

Saves the dataset after launching the decorated method.

source_file = None

update_source_file_beforehand()
Updates the source file before launching the decorated method.

PyFunceble.cli.filesystem.dir_base module

The tool to check the availability or syntax of domain, IP or URL.

Provides a common base to the manipulation of the output directory.

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```

class PyFunceble.cli.filesystem.dir_base.**FilesystemDirBase**(*parent_dirname: Optional[str] = None, *, db_session: Optional[PyFunceble.database.session.DBSession = None*)

Bases: object

Provides a common base for the manipulation of our output directory.

db_session = None

get_output_basedir() → str
Provides the output base directory.

Parameters **create_if_missing** – Authorizes the creation of the directory if it's missing.

parent_dirname
Provides the current state of the `_parent_dirname` attribute.

set_parent_dirname(*value: str*) → PyFunceble.cli.filesystem.dir_base.FilesystemDirBase
Sets the parent dirname. The parent dirname is a directory which acts a parent into the output directory.

Parm value The value to set.

PyFunceble.cli.filesystem.status_file module

The tool to check the availability or syntax of domain, IP or URL.

Provides everything related to our status file generation.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.cli.filesystem.status_file.**StatusFileGenerator**(*status: Union[PyFunceble.checker.syntax.statu PyFunceble.checker.availability.status.Availabili PyFunceble.checker.reputation.status.Reputatior None] = None, *, allow_hosts_files: Optional[bool] = None, allow_plain_files: Optional[bool] = None, allow_analytic_files: Optional[bool] = None, hosts_ip: Optional[str] = None, allow_unified_file: Optional[bool] = None, parent_dirname: Optional[str] = None, test_dataset: Optional[dict] = None*)

Bases: *PyFunceble.cli.filesystem.dir_base.FilesystemDirBase*

Provides an interface for the generation of the status file from a given status.

STD_ALLOW_ANALYTIC_FILES = True

STD_ALLOW_HOSTS_FILES = True

STD_ALLOW_PLAIN_FILES = True

STD_ALLOW_UNIFIED_FILE = False

STD_HOSTS_IP = '0.0.0.0'

allow_analytic_files

Provides the current state of the `_allow_analytic_files` attribute.

allow_hosts_files

Provides the current state of the `_allow_hosts_files` attribute.

allow_plain_files

Provides the current state of the `_allow_plain_file` attribute.

allow_unified_file

Provides the current state of the `allow_unified_file` attribute.

ensure_status_is_given()
Ensures that the status is given before launching the decorated method.

Raises **TypeError** – When `self.status` is not set.

file_printer = <PyFunceble.cli.filesystem.printer.file.FilePrinter object>

generate_analytic_file() → PyFunceble.cli.filesystem.status_file.StatusFileGenerator
Generates the analytic files.

generate_hosts_file() → PyFunceble.cli.filesystem.status_file.StatusFileGenerator
Generates the hosts file.

generate_plain_file() → PyFunceble.cli.filesystem.status_file.StatusFileGenerator
Generates the plain file.

generate_splitted_status_file() → PyFunceble.cli.filesystem.status_file.StatusFileGenerator
Generates the splitted status file.

generate_unified_status_file() → PyFunceble.cli.filesystem.status_file.StatusFileGenerator
Generates the unified status file.

get_output_basedir() → str
Provides the output base directory.

Parameters **create_if_missing** – Authorizes the creation of the directory if it's missing.

guess_all_settings() → PyFunceble.cli.filesystem.status_file.StatusFileGenerator
Try to guess all settings.

guess_and_set_allow_analytic_files() → PyFunceble.cli.filesystem.status_file.StatusFileGenerator
Tries to guess the value of the `allow_analytic_files` from the configuration file.

guess_and_set_allow_hosts_files() → PyFunceble.cli.filesystem.status_file.StatusFileGenerator
Tries to guess the value of the `allow_hosts_files` from the configuration file.

guess_and_set_allow_plain_files() → PyFunceble.cli.filesystem.status_file.StatusFileGenerator
Tries to guess the value of the `allow_plain_files` from the configuration file.

guess_and_set_allow_unified_file() → PyFunceble.cli.filesystem.status_file.StatusFileGenerator
Tries to guess the value of the `allow_unified_file` from the configuration file.

guess_and_set_hosts_ip() → PyFunceble.cli.filesystem.status_file.StatusFileGenerator
Tries to guess the value of the `hosts_ip` from the configuration file.

hosts_ip
Provides the current state of the `_hosts_ip` attribute.

set_allow_analytic_files(*value: bool*) → PyFunceble.cli.filesystem.status_file.StatusFileGenerator
Sets the authorization to generation of analytic files.

Parameters **value** – The value to set.

set_allow_hosts_files(*value: bool*) → PyFunceble.cli.filesystem.status_file.StatusFileGenerator
Sets the authorization to generation of hosts files.

Parameters **value** – The value to set.

set_allow_plain_files(*value: bool*) → PyFunceble.cli.filesystem.status_file.StatusFileGenerator
Sets the authorization to generation of plain files.

Parameters **value** – The value to set.

set_allow_unified_file(*value: bool*) → PyFunceble.cli.filesystem.status_file.StatusFileGenerator
Sets the authorization to generation of the unified status file.

Parameters **value** – The value to set.

set_hosts_ip(*value: str*) → PyFunceble.cli.filesystem.status_file.StatusFileGenerator
Sets the hosts IP to use while generating the hosts files.

Parameters **value** – The value to set.

set_status(*value: PyFunceble.checker.status_base.CheckerStatusBase*) → PyFunceble.cli.filesystem.status_file.StatusFileGenerator
Sets the status to work with.

Parameters **value** – The value to set.

set_test_dataset(*value: dict*) → PyFunceble.cli.filesystem.status_file.StatusFileGenerator
Sets the test dataset which was given to the tester.

Parameters **value** – The value to set.

Raises **TypeError** – When the given `value` is not a :py:class‘dict‘.

start() → PyFunceble.cli.filesystem.status_file.StatusFileGenerator
Starts the generation of everything possible.

status
Provides the current state of the `_status` attribute.

test_dataset
Provides the current state of the `_test_dataset` attribute.

Module contents

The tool to check the availability or syntax of domain, IP or URL.

Provides everything related to our very own filesystem or output structure.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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PyFunceble.cli.migrators package

Subpackages

PyFunceble.cli.migrators.csv_file package

Submodules

PyFunceble.cli.migrators.csv_file.base module

The tool to check the availability or syntax of domain, IP or URL.

Provides the base of all CSV file-s migrators.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.cli.migrators.csv_file.base.**CSVFileMigratorBase**(*print_action_to_stdout: bool = False*)

Bases: *PyFunceble.cli.migrators.base.MigratorBase*

Provides the base of all CSV file migrator classes.

FIELDS = None

TO_DELETE = None

ensure_source_file_is_given()

Ensures that the source file is given before launching the decorated method.

Raises **RuntimeError** – When the:code:*self.source_file* is not given.

migrate() → PyFunceble.cli.migrators.base.MigratorBase

Provides the migrator (itself).

source_file = None

start() → PyFunceble.cli.migrators.base.MigratorBase

Starts the migration and everything related to it.

PyFunceble.cli.migrators.csv_file.inactive_source_delete module

The tool to check the availability or syntax of domain, IP or URL.

Provides the interface for the deletion of the 'source' column from the inactive dataset.

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class PyFunceble.cli.migrators.csv_file.inactive_source_delete.**InactiveDatasetDeleteSource(**

Bases: *PyFunceble.cli.migrators.csv_file.base.CSVFileMigratorBase*

Provides the interface for the deletion of the 'source' column.

FIELDS = ['idna_subject', 'checker_type', 'destination', 'source', 'tested_at']

TO_DELETE = ['source']

Module contents

The tool to check the availability or syntax of domain, IP or URL.

Provides the csv file(s) migrators.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

PyFunceble.cli.migrators.file_cleanup package

Submodules

PyFunceble.cli.migrators.file_cleanup.base module

The tool to check the availability or syntax of domain, IP or URL.

Provides the base of all cleanup migrators.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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class PyFunceble.cli.migrators.file_cleanup.base.**FileClenupMigratorBase**(*print_action_to_stdout: bool = False*)

Bases: *PyFunceble.cli.migrators.base.MigratorBase*

Provides the base of all file cleanup related migration classes.

ensure_source_file_is_given()

Ensures that the source file is given before launching the decorated method.

Raises **RuntimeError** – When the:code:*self.source_file* is not given.

migrate() → PyFunceble.cli.migrators.file_cleanup.base.FileClenupMigratorBase

Provides the migrator (itself)

source_file = None

start() → PyFunceble.cli.migrators.file_cleanup.base.FileClenupMigratorBase
Starts the migration and everything related to it.

PyFunceble.cli.migrators.file_cleanup.hashes_file module

The tool to check the availability or syntax of domain, IP or URL.

Provides the cleaner of the previous - unfamous - hashes file.

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class PyFunceble.cli.migrators.file_cleanup.hashes_file.**HashesFileCleanupMigrator**(*print_action_bool = False*)

Bases: *PyFunceble.cli.migrators.file_cleanup.base.FileClenupMigratorBase*

Provides the interface for the cleanup of the hashes file.

PyFunceble.cli.migrators.file_cleanup.mining_file module

The tool to check the availability or syntax of domain, IP or URL.

Provides the cleaner of the previous - unfamous - mining file.

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class PyFunceble.cli.migrators.file_cleanup.mining_file.**MiningFileCleanupMigrator**(*print_action_bool = False*)

Bases: *PyFunceble.cli.migrators.file_cleanup.base.FileClenupMigratorBase*

Provides the interface for the cleanup of the mining file.

PyFunceble.cli.migrators.file_cleanup.production_config_file module

The tool to check the availability or syntax of domain, IP or URL.

Provides the cleaner of the previous .PyFunceble_production.yaml file.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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class PyFunceble.cli.migrators.file_cleanup.production_config_file.**ProductionConfigFileClea**

Bases: *PyFunceble.cli.migrators.file_cleanup.base.FileClenupMigratorBase*

Provides the interface for the cleanup of the `.PyFunceble_production.yaml` file.

Module contents

The tool to check the availability or syntax of domain, IP or URL.

Provides the file cleanup migrators.

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PyFunceble.cli.migrators.json2csv package

Submodules

PyFunceble.cli.migrators.json2csv.base module

The tool to check the availability or syntax of domain, IP or URL.

Provides the base of all JSON 2 CSV migrators.

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class PyFunceble.cli.migrators.json2csv.base.**JSON2CSVMigratorBase**(*print_action_to_stdout: bool = False*)

Bases: *PyFunceble.cli.migrators.base.MigratorBase*

Provides the base of all JSON to CSV related classes.

dataset = None

ensure_dataset_is_given()

Ensures that the dataset is given before launching the decorated method.

Raises **RuntimeError** – When the:code:*self.source_file* is not given.

ensure_source_file_is_given()

Ensures that the source file is given before launching the decorated method.

Raises **RuntimeError** – When the:code:*self.source_file* is not given.

migrate() → PyFunceble.cli.migrators.json2csv.base.JSON2CSVMigratorBase

Provides the migrator (itself)

source_file = None

start() → PyFunceble.cli.migrators.json2csv.base.JSON2CSVMigratorBase

Starts the migration and everything related to it.

PyFunceble.cli.migrators.json2csv.inactive module

The tool to check the availability or syntax of domain, IP or URL.

Provides the our inactive DB migrator.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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class PyFunceble.cli.migrators.json2csv.inactive.**InactiveJSON2CSVMigrator**(*print_action_to_stdout: bool = False*)

Bases: *PyFunceble.cli.migrators.json2csv.base.JSON2CSVMigratorBase*

The migrator of the inactive database dile.

dataset = None

migrate() → PyFunceble.cli.migrators.json2csv.inactive.InactiveJSON2CSVMigrator

Starts the migration.

PyFunceble.cli.migrators.json2csv.whois module

The tool to check the availability or syntax of domain, IP or URL.

Provides the our whois DB migrator.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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class PyFunceble.cli.migrators.json2csv.whois.**WhoisJSON2CSVMigrator**(*print_action_to_stdout: bool = False*)

Bases: *PyFunceble.cli.migrators.json2csv.base.JSON2CSVMigratorBase*

The migrator of the inactive database dile.

dataset = <PyFunceble.dataset.whois.csv.CSVWhoisDataset object>

migrate() → PyFunceble.cli.migrators.json2csv.whois.WhoisJSON2CSVMigrator

Provides the migration logic.

Module contents

The tool to check the availability or syntax of domain, IP or URL.

Provides the JSON to CSV migrators.

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PyFunceble.cli.migrators.mariadb package

Submodules

PyFunceble.cli.migrators.mariadb.base module

The tool to check the availability or syntax of domain, IP or URL.

Provides the base of all mariadb related migrations.

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```


class PyFunceble.cli.migrators.mariadb.base.**MariaDBMigratorBase**(*print_action_to_stdout: bool = False*)

Bases: *PyFunceble.cli.migrators.base.MigratorBase*

Provides the base of all our mariadb migration.

authorized

Provides the authorization to process.

does_table_exists(*name: str*) → bool

Checks if the given table name exists.

execute_if_authorized()

Executes the decorated method only if we are authorized to process. Otherwise, apply the given `default`.

get_rows(*statement: str*, *limit: int = 20*) → Generator[Tuple[str, int], dict, None]
Run the given statement with a defined limit, and yield each row.

> **Warning:** If you don't delete the given rows, this method will be infinite.

migrate() → PyFunceble.cli.migrators.mariadb.base.MariaDBMigratorBase
Provides the migration (itself).

start() → PyFunceble.cli.migrators.mariadb.base.MariaDBMigratorBase
Starts the migration if wanted.

PyFunceble.cli.migrators.mariadb.file_and_status module

The tool to check the availability or syntax of domain, IP or URL.

Provides the migrator of the `pyfunceble_file` and *pyfunceble_status* tables.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.cli.migrators.mariadb.file_and_status.**FileAndStatusMigrator**(*print_action_to_std*
bool
=
False)

Bases: *PyFunceble.cli.migrators.mariadb.base.MariaDBMigratorBase*

Provides the interface which provides the migration of the `pyfunceble_file` and `pyfunceble_status`.

authorized
Provides the authorization to process.

migrate() → PyFunceble.cli.migrators.mariadb.file_and_status.FileAndStatusMigrator
Provides the migration (itself).

PyFunceble.cli.migrators.mariadb.whois_record_idna_subject module

The tool to check the availability or syntax of domain, IP or URL.

Provides our WHOIS record migrator.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```


class PyFunceble.cli.migrators.mariadb.whois_record_idna_subject.**WhoisRecordIDNASubjectMig**

Bases: *PyFunceble.cli.migrators.mariadb.base.MariaDBMigratorBase*

Provides the interface which provides the completion of the missing IDNA subject column.

authorized
Provides the authorization to process.

migrate() → PyFunceble.cli.migrators.mariadb.whois_record_idna_subject.WhoisRecordIDNASubjectMigrator
Provides the migration (itself).

Module contents

The tool to check the availability or syntax of domain, IP or URL.

Provides all our mariadb related migrations.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

Submodules

PyFunceble.cli.migrators.alembic module

The tool to check the availability or syntax of domain, IP or URL.

Provides our very own alembic interface.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

Special thanks: https://pyfunceble.github.io/special-thanks.html

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```

class PyFunceble.cli.migrators.alembic.**Alembic**(*db_session: sqlalchemy.orm.session.Session*)

Bases: object

Provides our very own alambic handler.

alembic_config = None

authorized

Provides the authorization to process.

configure() → PyFunceble.cli.migrators.alembic.Alembic

Configure our alembic configuration based on what we need.

db_session = None

downgrade(*revision: str = 'head'*) → PyFunceble.cli.migrators.alembic.Alembic

Upgrades the database structure.

Parameters **revision** – The revision to apply.

execute_if_authorized()

Executes the decorated method only if we are authorized to process. Otherwise, apply the given `default`.

is_revision_different(*revision: str*) → bool

Checks if the given revision is already set.

Parameters **revision** – The revision to check

migration_directory

Provides the location of our migration directory.

migrator_base = None

upgrade (*revision: str = 'head'*) → PyFunceble.cli.migrators.alembic.Alembic
Upgrades the database structure.

Parameters **revision** – The revision to apply.

PyFunceble.cli.migrators.base module

The tool to check the availability or syntax of domain, IP or URL.

Provides the base of our migrator classes.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```


class PyFunceble.cli.migrators.base.**MigratorBase** (*print_action_to_stdout: bool = False*)

Bases: object

Provides the base of all classes.

continuous_integration = None

db_session = None

done = False

print_action_to_stdout = False

start () → PyFunceble.cli.migrators.base.MigratorBase
Starts the migration.

PyFunceble.cli.migrators.db_base module

The tool to check the availability or syntax of domain, IP or URL.

Provides the base of all our database migration.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```


class PyFunceble.cli.migrators.db_base.**DBMigratorBase**(*print_action_to_stdout: bool = False*)

Bases: *PyFunceble.cli.migrators.base.MigratorBase*

Provides the base of all our database migration.

authorized

Provides the authorization to run.

does_table_exists(*table_name: str*) → bool

Checks if the table exists.

Parameters **table_name** – The name of the table to check.

execute_if_authorized()

Executes the decorated method only if we are authorized to process. Otherwise, apply the given `default`.

start() → PyFunceble.cli.migrators.base.MigratorBase

Starts the migration.

Module contents

The tool to check the availability or syntax of domain, IP or URL.

Provides our system migrators.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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PyFunceble.cli.processes package

Subpackages

PyFunceble.cli.processes.workers package

Submodules

PyFunceble.cli.processes.workers.base module

The tool to check the availability or syntax of domain, IP or URL.

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Provides the base of all our workers.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.cli.processes.workers.base.**WorkerBase**(*input_queue: Optional[queue.Queue], output_queue: Optional[queue.Queue] = None, global_exit_event: Optional[multiprocessing.context.BaseContext.Event] = None, *, name: Optional[str] = None, daemon: Optional[bool] = None, continuous_integration: Optional[PyFunceble.cli.continuous_integration.base.C = None, configuration: Optional[dict] = None*)

Bases: multiprocessing.context.Process

Provides the base of all our workers.

Parameters

- **input_queue** – The input queue to read.
- **output_queue** – The output queue to write.

BREAKOFF = 2.0

MINING_WAIT_TIME = 60

STD_NAME = 'pyfunceble_base_worker'

accept_waiting_delay = None

add_to_input_queue(*data: Any*, *, *worker_name: Optional[str] = None*, *destination_worker: Optional[str] = None*) → PyFunceble.cli.processes.workers.base.WorkerBase

Adds the given data to the current queue.

Parameters

- **data** – The data to add into the queue.
- **destination_worker** – The name of the worker which is supposed to read the message.

add_to_output_queue(*data: Any*, *, *worker_name: Optional[str] = None*, *destination_worker: Optional[str] = None*) → PyFunceble.cli.processes.workers.base.WorkerBase

Adds the given data to the output queue queue.

Parameters **data** – The data to add into the queue.

concurrent_worker_names = None

continuous_integration = None

db_session = None

exception

Provides the exception of the current worker.

exit_it = None

global_exit_event = None

input_queue = None

output_queue = None

run() → None

Method to be run in sub-process; can be overridden in sub-class

send_stop_message = None

share_waiting_message(*, *overall: bool = False*, *ignore_current_worker: bool = False*, *apply_breakoff: bool = False*) → PyFunceble.cli.processes.workers.base.WorkerBase

Shares a waiting message to both input and output queues. The idea is to keep our worker awake when necessary. This functionality is really important when running the mining worker because sometime the flow is so long, that we may need some time.

Parameters

- **overall** – Shares the message multiple time to specific destination in our current stack.
- **ignore_current_worker** – Doesn't share the message with ourself.
- **apply_breakoff** – Activates the breakoff (sleep) before starting to share the message.

target(*consumed: Any*) → Optional[Tuple[Any, ...]]

This the target that is run to process something. This method should return a result which will pu send to the output queue.

terminate() → None

Terminate our worker.

PyFunceble.cli.processes.workers.dir_files_sorter module

The tool to check the availability or syntax of domain, IP or URL.

Provides our directory files sorter worker. This is the description of a single directory file sorter worker.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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Contributors: https://pyfunceble.github.io/#/contributors

Project link: https://github.com/funilrys/PyFunceble

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```

class PyFunceble.cli.processes.workers.dir_files_sorter.**DireFileSorterWorker**(*input_queue: Optional[queue.Queue output_queue: Optional[queue.Queue = None, global_exit_event: Optional[multiprocessi = None, *, name: Optional[str] = None, daemon: Optional[bool] = None, continuous_integration: Optional[PyFunceble.c = None, configuration: Optional[dict] = None*)

Bases: *PyFunceble.cli.processes.workers.file_sorter_base.FileSorterWorkerBase*

Provides our directory files sorter worker. The objective of this worker is to provides a single worker (or process if you prefer) which will be used to handle the sorting of the content of a submitted directory.

Expected (input) message:

```
{
    "directory": str,
    "remove_duplicates": bool,
    "write_header": bool
```

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```
}
```

Expected (output) message:

```
None
```

STD_NAME = 'pyfunceble_dir_files_sorter_worker'

static get_files_to_sort(*directory: str*) → List[str]

Provides the list of files to sort.

Parameters directory – The directory to start from.

target(*consumed: Any*) → Optional[Tuple[Any, ...]]

This the target that is run to process something. This method should return a result which will pu send to the output queue.

PyFunceble.cli.processes.workers.file_sorter module

The tool to check the availability or syntax of domain, IP or URL.

Provides our file sorter worker. This is the description of a file sorter worker.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.cli.processes.workers.file_sorter.**FileSorterWorker**(*input_queue: Optional[queue.Queue], output_queue: Optional[queue.Queue] = None, global_exit_event: Optional[multiprocessing.context.Ba = None, *, name: Optional[str] = None, daemon: Optional[bool] = None, continuous_integration: Optional[PyFunceble.cli.continuous = None, configuration: Optional[dict] = None*)

Bases: *PyFunceble.cli.processes.workers.file_sorter_base.FileSorterWorkerBase*

Provides our file sorter worker. The objective of this worker is to provides a single worker (or process if you prefer) which will be used to handle the sorting of the content of a given file.

Expected (input) message:

```
{
    "file": str,
    "remove_duplicates": bool,
    "write_header": bool
}
```

Expected (output) message:

```
None
```

STD_NAME = 'pyfunceble_file_sorter_worker'

target(*consumed: Any*) → Optional[Tuple[Any, ...]]

This the target that is run to process something. This method should return a result which will pu send to the output queue.

PyFunceble.cli.processes.workers.file_sorter_base module

The tool to check the availability or syntax of domain, IP or URL.

Provides our file sorter worker base. This is the base of all our file sorter.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.cli.processes.workers.file_sorter_base.**FileSorterWorkerBase**(*input_queue: Optional[queue.Queue output_queue: Optional[queue.Queue = None, global_exit_event: Optional[multiprocessi = None, *, name: Optional[str] = None, daemon: Optional[bool] = None, continuous_integration: Optional[PyFunceble.c = None, configuration: Optional[dict] = None*)

Bases: *PyFunceble.cli.processes.workers.base.WorkerBase*

Provides our the base of all our file sorters.

FILE_BUFFER_SIZE = 65536

MAX_LINES = 32000

classmethod process_file_sorting(*file: str*, *remove_duplicates: bool = True*, *write_header: bool = True*, *sorting_key: Any = None*) → None

Process the sorting of the given file.

The idea is to split the file piece by piece and at the end join all sorted files. For that job, we create a temporary directory which will store the temporary files.

Parameters

- **file** – The file to sort.
- **remove_duplicates** – Activates the deletion of duplicates.
- **write_header** – Activates the writing of the PyFunceble related header.

  > **Warning:** When this is set to `True`, we assume that the header itself was already given. Meaning that the first 2 commented lines will be excluded from the sorting and regenerated.

- **sorting_key** – The sorting key to apply while sorting.

  This is the lambda/function that goes into the `key` argument of the `sorted` function.

PyFunceble.cli.processes.workers.migrator module

The tool to check the availability or syntax of domain, IP or URL.

Provides our migrator (base) worker.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.cli.processes.workers.migrator.**MigratorWorker**(*input_queue: Optional[queue.Queue], output_queue: Optional[queue.Queue] = None, global_exit_event: Optional[multiprocessing.context.BaseCont = None, *, name: Optional[str] = None, daemon: Optional[bool] = None, continuous_integration: Optional[PyFunceble.cli.continuous_integra = None, configuration: Optional[dict] = None*)

Bases: *PyFunceble.cli.processes.workers.base.WorkerBase*

Provides our migrator (base) worker. The objective of this worker is to provides a single worker (or process if you prefer) which will be used to handle the mining of dataset to test.

STD_NAME = 'pyfunceble_migrator_worker'

run() → None

Method to be run in sub-process; can be overridden in sub-class

PyFunceble.cli.processes.workers.miner module

The tool to check the availability or syntax of domain, IP or URL.

Provides our miner worker. This is the description of a single miner worker.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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Contributors: https://pyfunceble.github.io/#/contributors

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limitations under the License.
```

class PyFunceble.cli.processes.workers.miner.**MinerWorker**(*input_queue: Optional[queue.Queue], output_queue: Optional[queue.Queue] = None, global_exit_event: Optional[multiprocessing.context.BaseContext.Event = None, *, name: Optional[str] = None, daemon: Optional[bool] = None, continuous_integration: Optional[PyFunceble.cli.continuous_integration.base = None, configuration: Optional[dict] = None*)

Bases: *PyFunceble.cli.processes.workers.base.WorkerBase*

Provides our miner worker. The objective of this worker is to provides a single worker (or process if you prefer) which will be used to handle the mining of dataset to test.

INACTIVE_STATUSES = ('INACTIVE', 'INVALID')

STD_NAME = 'pyfunceble_miner_worker'

static mine_from(*subject: str*) → Optional[List[str]]

Given the subject to work from, try to get the related subjects.

Parameters **subject** – The URL to start from.

target(*consumed: Tuple[dict, PyFunceble.checker.status_base.CheckerStatusBase]*) → None

This the target that is run to process something. This method should return a result which will pu send to the output queue.

url2netloc = None

PyFunceble.cli.processes.workers.producer module

The tool to check the availability or syntax of domain, IP or URL.

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Provides our producer worker. This is the description of a single producer worker.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

Special thanks: https://pyfunceble.github.io/#/special-thanks

Contributors: https://pyfunceble.github.io/#/contributors

Project link: https://github.com/funilrys/PyFunceble

Project documentation: https://pyfunceble.readthedocs.io/en/latest/

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```

class PyFunceble.cli.processes.workers.producer.**ProducerWorker**(*input_queue: Optional[queue.Queue], output_queue: Optional[queue.Queue] = None, global_exit_event: Optional[multiprocessing.context.BaseCont = None, *, name: Optional[str] = None, daemon: Optional[bool] = None, continuous_integration: Optional[PyFunceble.cli.continuous_integra = None, configuration: Optional[dict] = None*)

Bases: `PyFunceble.cli.processes.workers.base.WorkerBase`

Provides our producer worker. The objective of this worker is to provides a single worker (or process if you prefer) which will be used to handle the production of output to stdout or files.

INACTIVE_STATUSES = ('INACTIVE', 'INVALID')

STD_NAME = 'pyfunceble_producer_worker'

continue_dataset = None

counter = None

file_printer = None

header_already_printed = None

inactive_dataset = None

run_continue_backup(*test_dataset: dict, test_result: PyFunceble.checker.status_base.CheckerStatusBase*) → None

Runs the backup or update of the auto-continue dataset storage.

run_counter(*test_dataset: dict, test_result: PyFunceble.checker.status_base.CheckerStatusBase*) → None

Runs the counter of the current file.

run_ignored_file_printer(*test_dataset: dict, test_result: str*) → None

Runs the analytic behind the file printer.

> **Warning:** Thie method assume that the givne dataset is ignored from the normal file printer.

run_inactive_backup(*test_dataset: dict, test_result: PyFunceble.checker.status_base.CheckerStatusBase*) → None

Runs the backup or update of the Inactive dataset storage.

The idea is that if the status is OK (active), we just remove it from the dataset storage. Otherwise, we just keep it in there :-)

run_status_file_printer(*test_dataset: dict, test_result: PyFunceble.checker.status_base.CheckerStatusBase*) → None

Runs the status file printer.

run_stdout_printer(*test_result: PyFunceble.checker.status_base.CheckerStatusBase*) → None

Runs the stdout printer (if necessary).

Parameters **test_result** – The rest result dataset.

run_whois_backup(*test_result: PyFunceble.checker.status_base.CheckerStatusBase*) → None

Runs the backup or update of the WHOIS record in our dataset storage.

Parameters **test_result** – The test result.

should_we_block_status_file_printer(*test_dataset: dict, test_result: PyFunceble.checker.status_base.CheckerStatusBase*) → bool

Checks if we should block the file printer.

The reason behindn this is that we don't want to generate an output when a subject was already into the inactive database.

static should_we_ignore(*test_result: PyFunceble.checker.status_base.CheckerStatusBase*) → bool

Checks if we should ignore the given datasets.

Parameters **test_result** – The test result to check.

static should_we_print_status_to_stdout (*status: str*) → bool
Checks if we are allows to print the given status (to stdout).

Parameters **status** – The status to check.

status_file_generator = None

stdout_printer = None

target (*consumed: Any*) → Optional[Tuple[Any, ...]]
This the target that is run to process something. This method should return a result which will pu send to the output queue.

whois_dataset = None

PyFunceble.cli.processes.workers.tester module

The tool to check the availability or syntax of domain, IP or URL.

Provides our tester worker. This is the description of a single tester worker.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.cli.processes.workers.tester.**TesterWorker**(*input_queue: Optional[queue.Queue], output_queue: Optional[queue.Queue] = None, global_exit_event: Optional[multiprocessing.context.BaseContext.Ev = None, *, name: Optional[str] = None, daemon: Optional[bool] = None, continuous_integration: Optional[PyFunceble.cli.continuous_integration.b = None, configuration: Optional[dict] = None*)

Bases: PyFunceble.cli.processes.workers.base.WorkerBase

Provides our tester worker. The objective of this worker is to provides a single worker (or process if you prefer) which will be used to handle the tests.

STD_NAME = 'pyfunceble_tester_worker'

continue_dataset = None

inactive_dataset = None

known_testing_objects = {}

static should_be_ignored(*subject: str*) → bool

Checks if the given subject should be ignored.

target(*consumed: dict*) → Optional[Tuple[Any, ...]]

This the target that is run to process something. This method should return a result which will pu send to the output queue.

testing_object = None

Module contents

The tool to check the availability or syntax of domain, IP or URL.

Provides all our standalone workers.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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Submodules

PyFunceble.cli.processes.base module

The tool to check the availability or syntax of domain, IP or URL.

Provides the base of all multiprocessing jobs.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.cli.processes.base.**ProcessesManagerBase**(*manager: Optional[multiprocessing.context.BaseContext.Mana = None, max_worker: Optional[int] = None, *, continuous_integration: Optional[PyFunceble.cli.continuous_integration.base = None, input_queue: Optional[queue.Queue] = None, output_queue: Optional[queue.Queue] = None, daemon: bool = False, generate_input_queue: bool = True, generate_output_queue: bool = True, output_queue_num: int = 1, output_workers_count: Optional[int] = None*)

Bases: object

Provides the base of all classes.

CPU_COUNT = 2

STD_MAX_WORKER = 1

WORKER_OBJ = None

add_to_all_input_queues(*data: Any, *, worker_name: Optional[str] = None, include_destination: bool = False*) → PyFunceble.cli.processes.base.ProcessesManagerBase

Adds the given data to the input queues.

Parameters

- **data** – The data to add into the queue.
- **include_destination** – Authorizes the addition of the destination into the message.

add_to_all_output_queues(*data: Any, *, worker_name: Optional[str] = None*) → PyFunceble.cli.processes.base.ProcessesManagerBase

Adds the given data to the output queues.

Parameters

- **data** – The data to add into the queue.
- **worker_name** – The name of the worker that is sending the message.

add_to_input_queue(*data: Any, *, worker_name: Optional[str] = None*) → PyFunceble.cli.processes.base.ProcessesManagerBase

Adds the given data to the current queue.

Parameters **data** – The data to add into the queue.

add_to_output_queue(*data: Any, *, worker_name: Optional[str] = None*) → PyFunceble.cli.processes.base.ProcessesManagerBase
Adds the given data to the output queue.

Parameters **data** – The data to add into the queue.

continuous_integration = None

create() → PyFunceble.cli.processes.base.ProcessesManagerBase
Creates the defined amount of worker.

create_workers_if_missing()
Creates the workers if they are missing before launching the decorated method.

daemon = None

ensure_worker_obj_is_given()
Ensures that the worker is properly declared before launching the decorated method.

global_exit_event = None

ignore_if_running()
Ignore the launching of the decorated method if the workers are running.

input_queue = None
The input queue. Dataset will be given through this.

is_running() → bool
Checks if a worker is running.

manager = None

max_worker
Provides the number of maximum worker we are allowed to generate.

output_queue = None
The output queue. This is where the result of a worker will be put.

send_stop_signal(*, *worker_name: Optional[str] = None*) → PyFunceble.cli.processes.base.ProcessesManagerBase
Sends a stop message to the input queue.

set_max_worker(*value: int*) → PyFunceble.cli.processes.base.ProcessesManagerBase
Sets the number of maximum worker we are authorized to generate.

Parameters **value** – The value to set.

start() → PyFunceble.cli.processes.base.ProcessesManagerBase
Starts all - previously - created workers.

terminate() → PyFunceble.cli.processes.base.ProcessesManagerBase
Terminates all workers and send a stop message to the declared output queues - which are implicitly dependend of this process "pool".

wait() → PyFunceble.cli.processes.base.ProcessesManagerBase
Wait until all workers are done.

PyFunceble.cli.processes.dir_files_sorter module

The tool to check the availability or syntax of domain, IP or URL.

Provides the directory files sorter manager.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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Contributors: https://pyfunceble.github.io/#/contributors

Project link: https://github.com/funilrys/PyFunceble

Project documentation: https://pyfunceble.readthedocs.io/en/latest/

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```

class PyFunceble.cli.processes.dir_files_sorter.**DirFileSorterProcessesManager**(*manager: Optional[multiprocess = None, max_worker: Optional[int] = None, *, continuous_integration: Optional[PyFunceble = None, input_queue: Optional[queue.Queu = None, output_queue: Optional[queue.Queu = None, daemon: bool = False, generate_input_queue: bool = True, generate_output_queue: bool = True, output_queue_num: int = 1, output_workers_coun Optional[int] = None*)

Bases: *PyFunceble.cli.processes.base.ProcessesManagerBase*

Provides the directory files sorter manager.

WORKER_OBJ
alias of *PyFunceble.cli.processes.workers.dir_files_sorter.DireFileSorterWorker*

PyFunceble.cli.processes.file_sorter module

The tool to check the availability or syntax of domain, IP or URL.

Provides the file sorter manager.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.cli.processes.file_sorter.**FileSorterProcessesManager**(*manager: Optional[multiprocessing.context = None, max_worker: Optional[int] = None, *, continuous_integration: Optional[PyFunceble.cli.continuo = None, input_queue: Optional[queue.Queue] = None, output_queue: Optional[queue.Queue] = None, daemon: bool = False, generate_input_queue: bool = True, generate_output_queue: bool = True, output_queue_num: int = 1, output_workers_count: Optional[int] = None*)

Bases: *PyFunceble.cli.processes.base.ProcessesManagerBase*

Provides the file sorter manager.

WORKER_OBJ
alias of *PyFunceble.cli.processes.workers.file_sorter.FileSorterWorker*

PyFunceble.cli.processes.migrator module

The tool to check the availability or syntax of domain, IP or URL.

Provides the migrator manager.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.cli.processes.migrator.**MigratorProcessesManager**(*manager: Optional[multiprocessing.context.BaseCo = None, max_worker: Optional[int] = None, *, continuous_integration: Optional[PyFunceble.cli.continuous_inte = None, input_queue: Optional[queue.Queue] = None, output_queue: Optional[queue.Queue] = None, daemon: bool = False, generate_input_queue: bool = True, generate_output_queue: bool = True, output_queue_num: int = 1, output_workers_count: Optional[int] = None*)

Bases: *PyFunceble.cli.processes.base.ProcessesManagerBase*

Provides the migrator manager.

WORKER_OBJ

alias of *PyFunceble.cli.processes.workers.migrator.MigratorWorker*

create() → PyFunceble.cli.processes.base.ProcessesManagerBase

Creates the defined amount of worker.

static csv_file_delete_source_column_target(*continuous_integration: PyFunceble.cli.continuous_integration.base.ContinuousIntegrationBase*) → None

Provides the target for the deletion of the source column.

static hashes_file_cleanup_target(*continuous_integration: PyFunceble.cli.continuous_integration.base.ContinuousIntegrationBase*) → None

Provides the target for the cleanup of the hashes file.

static json2csv_inactive_target(*continuous_integration: PyFunceble.cli.continuous_integration.base.ContinuousIntegrationBase*) → None

Provides the target for the inactive database migrator.

static json2csv_whois_target(*continuous_integration: PyFunceble.cli.continuous_integration.base.ContinuousIntegrationBase*) → None

Provides the target for the whois database migrator.

static mariadb_file_and_status_target(*continuous_integration: PyFunceble.cli.continuous_integration.base.ContinuousIntegrationBase*, *, *db_session: Optional[sqlalchemy.orm.session.Session] = None*) → None

Provides the target for the migration of the `pyfunceble_file` and `pyfunceble_status` tables.

static mariadb_whois_record_idna_subject_target(*continuous_integration: PyFunceble.cli.continuous_integration.base.ContinuousIntegratio*, *, *db_session: Optional[sqlalchemy.orm.session.Session] = None*) → None

Provides the target for the whois addition of the missing idna_subject column.

static mining_file_cleanup_target(*continuous_integration: PyFunceble.cli.continuous_integration.base.ContinuousIntegrationBase*) → None

Provides the target for the cleanup of the mining file.

static production_config_file_cleanup_target(*continuous_integration: PyFunceble.cli.continuous_integration.base.ContinuousIntegrationBas*) → None

Provides the target for the cleanup of the production configuration file.

start() → PyFunceble.cli.processes.base.ProcessesManagerBase

Starts all - previously - created workers.

PyFunceble.cli.processes.miner module

The tool to check the availability or syntax of domain, IP or URL.

Provides the miner manager.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.cli.processes.miner.**MinerProcessesManager**(*manager: Optional[multiprocessing.context.BaseContext.Ma = None, max_worker: Optional[int] = None, *, continuous_integration: Optional[PyFunceble.cli.continuous_integration.b = None, input_queue: Optional[queue.Queue] = None, output_queue: Optional[queue.Queue] = None, daemon: bool = False, generate_input_queue: bool = True, generate_output_queue: bool = True, output_queue_num: int = 1, output_workers_count: Optional[int] = None*)

Bases: *PyFunceble.cli.processes.base.ProcessesManagerBase*

Provides the miner manager.

WORKER_OBJ

alias of *PyFunceble.cli.processes.workers.miner.MinerWorker*

PyFunceble.cli.processes.producer module

The tool to check the availability or syntax of domain, IP or URL.

Provides the producer manager.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.cli.processes.producer.**ProducerProcessesManager**(*manager: Optional[multiprocessing.context.BaseCo = None, max_worker: Optional[int] = None, *, continuous_integration: Optional[PyFunceble.cli.continuous_inte = None, input_queue: Optional[queue.Queue] = None, output_queue: Optional[queue.Queue] = None, daemon: bool = False, generate_input_queue: bool = True, generate_output_queue: bool = True, output_queue_num: int = 1, output_workers_count: Optional[int] = None*)

Bases: *PyFunceble.cli.processes.base.ProcessesManagerBase*

Provides the producer manager.

WORKER_OBJ

alias of *PyFunceble.cli.processes.workers.producer.ProducerWorker*

PyFunceble.cli.processes.tester module

The tool to check the availability or syntax of domain, IP or URL.

Provides the tester manager.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```


class PyFunceble.cli.processes.tester.**TesterProcessesManager**(*manager: Optional[multiprocessing.context.BaseContext.* = *None*, *max_worker: Optional[int]* = *None*, *, *continuous_integration: Optional[PyFunceble.cli.continuous_integratio* = *None*, *input_queue: Optional[queue.Queue]* = *None*, *output_queue: Optional[queue.Queue]* = *None*, *daemon: bool* = *False*, *generate_input_queue: bool* = *True*, *generate_output_queue: bool* = *True*, *output_queue_num: int* = *1*, *output_workers_count: Optional[int]* = *None*)

Bases: *PyFunceble.cli.processes.base.ProcessesManagerBase*

Provides the tester manager.

WORKER_OBJ

alias of *PyFunceble.cli.processes.workers.tester.TesterWorker*

Module contents

The tool to check the availability or syntax of domain, IP or URL.

Provides all our the logic behind our multiprocessing mechanism.

Note: Our processes submodules or class does not extends the multiprocessing module. They are just there to clarify our workflow for future contributors :-)

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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PyFunceble.cli.scripts package

Submodules

PyFunceble.cli.scripts.iana module

The tool to check the availability or syntax of domain, IP or URL.

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Provides our iana file generator.

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```


class PyFunceble.cli.scripts.iana.**IanaDBGenerator**(*destination: Optional[str] = None*)

Bases: object

Provides an interface for the generation of the iana database file.

IANA_WHOIS_SERVER = 'whois.iana.org'

The WHOIS server provided by the IANA.

MANUAL_SERVER = {'bm': 'whois.afilias-srs.net', 'bz': 'whois.afilias-grs.net', 'cd':

UPSTREAM_LINK = 'https://www.iana.org/domains/root/db'

Provides the upstream link.

database = {}

An internal storage map.

destination

Provides the current state of the `_destination` attribute.

get_extension_and_referrer_from_block(*block: str*) → Tuple[Optional[str], Optional[str]]

Given an HTML block, we try to extract an extension and it's underlying referrer (WHOIS server).

The referrer is extracted from the official IANA page, and guessed if missing.

Parameters **block** – The block to parse.

get_referrer_from_extension(*extension: str*) → Optional[str]

Given an extension, tries to get or guess its extension.

set_destination(*value: str*) → PyFunceble.cli.scripts.iana.IanaDBGenerator
Sets the destination to write.

Parameters **value** – The value to set.

start(*max_workers: Optional[int] = None*) → PyFunceble.cli.scripts.iana.IanaDBGenerator
Starts the generation of the dataset file.

Parameters **max_workers** – The maximal number of workers we are allowed to use.

PyFunceble.cli.scripts.production module

The tool to check the availability or syntax of domain, IP or URL.

Provides some of our scripts.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

Special thanks: https://pyfunceble.github.io/#/special-thanks

Contributors: https://pyfunceble.github.io/#/contributors

Project link: https://github.com/funilrys/PyFunceble

Project documentation: https://pyfunceble.readthedocs.io/en/latest/

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```

class PyFunceble.cli.scripts.production.**ProductionPrep**(*branch: Optional[str] = None*)

Bases: object

Provides an interface for the production file modification. The idea is that we always have 2 branches: the *dev* and the *master* branch.

We want to fix all the URL to point to the right one, so this interface just provides everything needed for that job.

Another important part is the cleanup of the production environment. What is meant is the cleanup of the *output/* directory and the construction of the dir_structure file.

> **Warning:** This class assumes that you know what you are doing. Meaning that you should run this only if your are developing PyFunceble.

AVAILABLE_BRANCHES = ['dev', 'master']

VERSION_FILE_PATH = '/home/docs/./PyFunceble/version.yaml'

branch
Provides the current state of the `_branch` attribute.

dict_helper = <PyFunceble.helpers.dict.DictHelper object>

ensure_branch_is_given()
Ensures that the branch is given before running the decorated method.

Raises **TypeError** – When the `self.branch` is not set.

file_helper = <PyFunceble.helpers.file.FileHelper object>

previous_version = None
Provides the previous version (from `version_file_content`)

regex_helper = <PyFunceble.helpers.regex.RegexHelper object>

set_branch(*value: str*) → PyFunceble.cli.scripts.production.ProductionPrep
Sets the branch to act with.

Parameters **value** – The value to set.

should_be_deprecated(*previous_version: str*) → bool
Checks if we should deprecates the current version.

start() → PyFunceble.cli.scripts.production.ProductionPrep
Starts the production process.

static update_code_format() → PyFunceble.cli.scripts.production.ProductionPrep
Updates the format of the source code using black.

update_code_urls() → PyFunceble.cli.scripts.production.ProductionPrep
Updates all URL in the source code.

update_dir_structure_file() → PyFunceble.cli.scripts.production.ProductionPrep
Updates the directory structure.

update_docs_urls() → PyFunceble.cli.scripts.production.ProductionPrep
Updates all URL in the documentation files.

static update_documentation() → PyFunceble.cli.scripts.production.ProductionPrep
Updates the code documentation.

Raises **RuntimeError** – When one of the wanted directory is not found.

update_setup_py() → PyFunceble.cli.scripts.production.ProductionPrep
Updates content of `setup.py`.

Raises **FileNotFoundError** – When the `setup.py` file does not exists.

update_urls(*file: str*) → PyFunceble.cli.scripts.production.ProductionPrep
Updates the common URLS which are in the given file.

Parameters **file** – The file to work with.

Raises `FileNotFoundError` – When the given `file` is not found.

update_version_file() → PyFunceble.cli.scripts.production.ProductionPrep
Updates the version file.

version_file_content = None
A copy of the local version file.

version_utility = <PyFunceble.utils.version.VersionUtility object>

PyFunceble.cli.scripts.public_suffix module

The tool to check the availability or syntax of domain, IP or URL.

Provides our public suffix file generator.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

Special thanks: https://pyfunceble.github.io/#/special-thanks

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```

class PyFunceble.cli.scripts.public_suffix.**PublicSuffixGenerator**(*destination: Optional[str] = None*)

Bases: `object`

Provides an interface for the generation of the public suffix file.

COMMENT_SIGN = ['//', '!']
The sign which we should consider as comment.

UPSTREAM_LINK = 'https://raw.githubusercontent.com/publicsuffix/list/master/public_suf
Provides the upstream stream.

database = {}
An internal storage of our map.

destination
Provides the current state of the `_destination` attribute.

parse_line(*line: str*) → dict
Parses and provides the dataset to save.

set_destination(*value: str*) → PyFunceble.cli.scripts.public_suffix.PublicSuffixGenerator
Sets the destination to write.

Parameters **value** – The value to set.

start(*max_workers: Optional[int] = None*)
Starts the generation of the dataset file.

wildacrd2subject = <PyFunceble.converter.wildcard2subject.Wildcard2Subject object>

Module contents

The tool to check the availability or syntax of domain, IP or URL.

Provides some of our scripts.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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PyFunceble.cli.system package

Submodules

PyFunceble.cli.system.base module

The tool to check the availability or syntax of domain, IP or URL.

Provides the base of all our subclasses related to the system management.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.cli.system.base.**SystemBase**(*args: Optional[argparse.Namespace] = None*)

Bases: object

Provides the base of all system classes. The idea is that every system classes will have access to the argument given by end-user.

Each of them will have a start method which will run a set of predefined action. But the start method -in comparison to previous versions - starts on purpose.

Parameters **args** – The arguments from argparse.ArgumentParser.

args

Provides the current state of the _args attribute.

ensure_args_is_given()
Ensures that the `self.args` attribute is given before launching the decorated method.

set_args(*value: argparse.Namespace*) → PyFunceble.cli.system.base.SystemBase
Sets the given args.

Parameters **value** – The arguments to work with.

start() → PyFunceble.cli.system.base.SystemBase
Provides a launcher for a brunch of predefined actions defined by the current object.

PyFunceble.cli.system.integrator module

The tool to check the availability or syntax of domain, IP or URL.

Provides our very own argument parser. Take this as a splitter which runs some actions against other resource before returning the arguments.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.cli.system.integrator.**SystemIntegrator**(*args: Optional[argparse.Namespace] = None*)

Bases: *PyFunceble.cli.system.base.SystemBase*

Provides our system integrator. The idea is that we given an argparse Namespace, we should be able to parse it into our system.

To simplify the trick and headache in the CLI management, I explicitely mapped the `dest` argument to what we are supposed to have in the flatten version of the configuration. That way, we only need to compare against the flatten version instead of looping over all possible levels of the configuration tree.

init_logger() → PyFunceble.cli.system.integrator.SystemIntegrator
Initiate the loggers. In fact, before this moment, in a normal case the logger was not properly initiated. To avoid multiple management place, I took it to the essential.

> **Warning:** If you plan to play with the logger on your own, be sure to follow the same procedure.

inject_into_config() → PyFunceble.cli.system.integrator.SystemIntegrator
Injects the configuration variables into the configuration after comparing each value with the current one.

start() → PyFunceble.cli.system.integrator.SystemIntegrator
Starts a group of actions provided by this interface.

PyFunceble.cli.system.launcher module

The tool to check the availability or syntax of domain, IP or URL.

Provides the system launcher. From here, it's all about real testing.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.cli.system.launcher.**SystemLauncher**(*args: Optional[argparse.Namespace] = None*)

Bases: *PyFunceble.cli.system.base.SystemBase*

Provides the system tests launcher.

adblock_inputline2subject = <PyFunceble.converter.adblock_input_line2subject.AdblockIn

checker_type = None

ci_stop_in_the_middle_if_time_exceeded() → PyFunceble.cli.system.launcher.SystemLauncher

Stops our processes as soon as the time is exceeded.

cidr2subject = <PyFunceble.converter.cidr2subject.CIDR2Subject object>

continue_dataset = None

continuous_integration = None

counter = <PyFunceble.cli.filesystem.counter.FilesystemCounter object>

db_session = None

dir_files_sorter_process_manager = None

execution_time_holder = None

file_preloader = None

file_printer = <PyFunceble.cli.filesystem.printer.file.FilePrinter object>

fill_protocol() → PyFunceble.cli.system.launcher.SystemLauncher

Fills the protocol with the information about what we are supposed to test.

fill_to_test_queue_from_protocol() → PyFunceble.cli.system.launcher.SystemLauncher

Read the protocol and fill the testing queue.

generate_waiting_files() → PyFunceble.cli.system.launcher.SystemLauncher

Generates all the files that needs to be generated when all status are proceeses.

inactive_dataset = None

inputline2subject = <PyFunceble.converter.input_line2subject.InputLine2Subject object>

migrator_process_manager = None

miner_process_manager = None

static print_home_ascii() → None

Prints our ASCII home logo.

producer_process_manager = None

remove_unwanted_files() → PyFunceble.cli.system.launcher.SystemLauncher

Deletes some unwanted files that needs to be deleted when all status are processed.

rpz_inputline2subject = <PyFunceble.converter.rpz_input_line2subject.RPZInputLine2Subj

rpz_policy2subject = <PyFunceble.converter.rpz_policy2subject.RPZPolicy2Subject object

run_ci_end_saving_instructions() → PyFunceble.cli.system.launcher.SystemLauncher

Runns our CI END "saving" instructions.

The instructions executed by this method are the one we execute before ending a testing session under one of the supported CI engines.

The purpose of this method is to make our instructions available to everybody instead of hiding them into the `start` method. :-)

> **Warning:** This is the standard "end" instructions. Do not call this method if you are trying to run an action after the CI execution time exceeded.

run_ci_saving_instructions() → PyFunceble.cli.system.launcher.SystemLauncher
Runns our CI "saving" instructions.

The instructions executed by this method are the one we execute before ending a testing session under one of the supported CI engines.

The purpose of this method is to make our instructions available to everybody instead of hiding them into the `start` method. :-)

> **Warning:** This is the standard "end" instructions. Do not call this method if you are trying to run an action after the CI execution time exceeded.

run_standard_end_instructions() → PyFunceble.cli.system.launcher.SystemLauncher
Runns our standard "end" instructions.

The instructions executed by this method are the one we execute normally.

The purpose of this method is to make our standard end instructions available to everybody instead of hiding them into the `start` method. :-)

> **Warning:** This is the standard "end" instructions. Do not call this method if you are trying to run an action after the CI execution time exceeded.

sessions_id = {}

start() → PyFunceble.cli.system.launcher.SystemLauncher
Provides a launcher for a brunch of predefined actions defined by the current object.

stdout_printer = <PyFunceble.cli.filesystem.printer.stdout.StdoutPrinter object>

stop_and_wait_for_all_manager() → PyFunceble.cli.system.launcher.SystemLauncher
Sends our stop signal and wait until all managers are finished.

subject2complements = <PyFunceble.converter.subject2complements.Subject2Complements ob

tester_process_manager = None

testing_protocol = []
Saves the protocol which we are going to generate. The protocol will saves a set of information about what to test, what kind of output to produce and most importantly where.

url2netloc = <PyFunceble.converter.url2netloc.Url2Netloc object>

wildcard2subject = <PyFunceble.converter.wildcard2subject.Wildcard2Subject object>

Module contents

The tool to check the availability or syntax of domain, IP or URL.

Provides our system handlers. Actually, every success CLI parsing will ends in on of the submodules.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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PyFunceble.cli.utils package

Submodules

PyFunceble.cli.utils.ascii_logo module

The tool to check the availability or syntax of domain, IP or URL.

Provides some utilities related to the ascii logo.

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```


`PyFunceble.cli.utils.ascii_logo.`**`colorify`**(*color: str*) → str

Colorify the logo with the given color.

Parameters **`color`** – The name of the color to apply.

> **Warning:** The given color name must be one of the supported by colorama.

Raises **`ValueError`** – When the given `color` is unsupported.

`PyFunceble.cli.utils.ascii_logo.`**`get_home_representation`**() → str

Provides our home ASCII logo representation.

PyFunceble.cli.utils.sort module

The tool to check the availability or syntax of domain, IP or URL.

Provides some utilities related to the sorting mechanism.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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`PyFunceble.cli.utils.sort.`**`get_best_sorting_key`**`()` → Callable[[Any], List[Union[int, Any]]]

Provides the best sorting key from the configuration.

`PyFunceble.cli.utils.sort.`**`hierarchical`**`(`*element: Any*`)` → List[Union[int, Any]]

Provides the key to use for the hierarchical sorting.

Parameters **`element`** – The element to format.

`PyFunceble.cli.utils.sort.`**`standard`**`(`*element: Any*`)` → List[Union[int, Any]]

Provides the key to use for the standard sorting.

Parameters **`element`** – The element to format.

PyFunceble.cli.utils.stdout module

The tool to check the availability or syntax of domain, IP or URL.

Provides some utilities related to the CLI stdout.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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`PyFunceble.cli.utils.stdout.`**`get_template_to_use`**`()` → str

Provides the template to use.

`PyFunceble.cli.utils.stdout.`**`print_single_line`**`(`*value: str = '.', end: str = '', *, force: bool = False*`)` → None

Prints the given `value` in the current line.

Parameters

- **`value`** – The default value
- **`end`** – Same as the end argument of the built-in print function.
- **`force`** – Forces the printing.

`PyFunceble.cli.utils.stdout.`**`print_thanks`**`()` → None

Randomly prints our thanks message.

PyFunceble.cli.utils.testing module

The tool to check the availability or syntax of domain, IP or URL.

```
```

Provides some testing related utilities

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PyFunceble.cli.utils.testing.**get_continue_databaset_object**(*db_session: Optional[sqlalchemy.orm.session.Session] = None*) → Union[PyFunceble.dataset.base.DatasetBase, PyFunceble.dataset.csv_base.CSVDatasetBase, PyFunceble.dataset.db_base.DBDatasetBase]

Provides the continue object to work with.

Parameters **db_session** – A database session to use.

Raises **ValueError** – When the given database type is unkown.

PyFunceble.cli.utils.testing.**get_destination_from_origin**(*origin: str*) → str

Given the origin, we provides the destination.

PyFunceble.cli.utils.testing.**get_inactive_dataset_object**(*db_session: Optional[sqlalchemy.orm.session.Session] = None*) → Union[PyFunceble.dataset.base.DatasetBase, PyFunceble.dataset.csv_base.CSVDatasetBase, PyFunceble.dataset.db_base.DBDatasetBase]

Provides the inactive object to work with.

Parameters **db_session** – A database session to use.

Raises **ValueError** – When the given database type is unkown.

PyFunceble.cli.utils.testing.**get_subjects_from_line**(*line: str, checker_type: str, *, adblock_inputline2subject: Optional[PyFunceble.converter.adblock_input_line2subject.* = None, wildcard2subject: Optional[PyFunceble.converter.wildcard2subject.Wildcard2* = None, rpz_policy2subject: Optional[PyFunceble.converter.rpz_policy2subject.RPZPoli* = None, rpz_inputline2subject: Optional[PyFunceble.converter.rpz_input_line2subject.RPZ* = None, inputline2subject: Optional[PyFunceble.converter.input_line2subject.InputLine* = None, subject2complements: Optional[PyFunceble.converter.subject2complements.Subjec* = None, url2netloc: Optional[PyFunceble.converter.url2netloc.Url2Netloc] = None, cidr2subject: Optional[PyFunceble.converter.cidr2subject.CIDR2Subject] = None*) → List[str]

Provides the list of subject to test.

PyFunceble.cli.utils.testing.**get_testing_mode**() → str

Tries to provides the testing mode to apply to the CLI.

PyFunceble.cli.utils.version module

The tool to check the availability or syntax of domain, IP or URL.

Provides the version comparison tool.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

PyFunceble.cli.utils.version.**get_local_version**() → box.box.Box

Provides the state of the local version file.

PyFunceble.cli.utils.version.**get_upstream_version**() → box.box.Box

Provides the state of the upstream version.

PyFunceble.cli.utils.version.**handle_deprecated_version**(*upstream_version: box.box.Box*) → bool

Checks if the current version (local) is deprecated and provides a message to the end-user.

Returns `True` if local is deprecated. `False` otherwise.

PyFunceble.cli.utils.version.**handle_force_update**(*upstream_version: box.box.Box*) → None

Checks if we should force the end-user to update.

PyFunceble.cli.utils.version.**handle_greater_version**(*upstream_version: box.box.Box*) → None

Checks if the current version (local) is more recent than the upstream one and provides a message.

Returns `True` if local is greater. `False` otherwise.

PyFunceble.cli.utils.version.**handle_messages**(*upstream_version: box.box.Box*) → None

Handles and prints the upstream messages.

PyFunceble.cli.utils.version.**handle_older_version**(*upstream_version: box.box.Box*) → bool

Checks if the current version (local) is older than the upstream one and provides a message to the end-user.

Returns `True` if local is older. `False` otherwise.

PyFunceble.cli.utils.version.**print_central_messages**(*check_force_update: bool = False*) → None

Compares the version with the upstream one and handle the messages.

Module contents

The tool to check the availability or syntax of domain, IP or URL.

Provides some utilities related to the CLI.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

Submodules

PyFunceble.cli.credential_loader module

The tool to check the availability or syntax of domain, IP or URL.

Provides our credential loader.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.cli.credential_loader.**CredentialLoader**(*db_type: Optional[str] = None*)

Bases: object

Provides our creadential loader.

The idea is to have an interface which provides the credential to use but at the same time load and initiate the credential interface after loading it from the user input or the environment variables.

Parameters **db_type** – The database type to load the credential for.

DB_TYPE2OBJ = {'csv': None, 'mariadb': <class 'PyFunceble.database.credential.mariad

ask_for_info(*var_name: str*, *default: Any*) → str

Asks the credential to the end-user.

Parameters

- **var_name** – The name of the part to ask for example host or password.
- **default** – The default value to return if the user don't give us anything.

authorized

Provides the authorization to run.

credential = None

The credential (itself).

db_type

Provides the current state of the _db_type attribute.

ensure_db_type_is_given()

Ensure that the db type is given before launching the decorated method.

Raises **TypeError** – When the db type is not given.

execute_if_authorized()

Executes the decorated method only if we are authorized to process. Otherwise, apply the given default.

get_uri() → str

Provides the URI to use.

is_already_loaded() → bool

Checks if the credential was already loaded.

set_credential_var(*var_name: str*, *value: Any*) → PyFunceble.cli.credential_loader.CredentialLoader

Sets the given var_name of the credential object with the given value.

Parameters

- **var_name** – The name of the variable to set.
- **value** – The value of to set.

set_db_type(*value: str*) → PyFunceble.cli.credential_loader.CredentialLoader

Sets the database type to work with.

Parameters **value** – The value to set.

start(*, *ignore_cli: bool = True*) → PyFunceble.cli.credential_loader.CredentialLoader
Starts the loading of the credential.

Parameters **ignore_cli** – Ignore questions to end-user.

start_if_not_started()
Launches the start method before launching the decorated method.

PyFunceble.cli.execution_time module

The tool to check the availability or syntax of domain, IP or URL.

Provides the interface for the generation of the execution time.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.cli.execution_time.**ExecutionTime**(*authorized: Optional[bool] = None*)

Bases: object

Provides the interface for the execution time.

Parameters **authorized** – The authorization to run.

STD_AUTHORIZED = False

authorized
Provides the currently state of the _authorized attribute.

end_time = None

execute_if_authorized()
Executes the decorated method only if we are authorized to process. Otherwise, apply the given `default`.

get_info() → dict
Provides the information to work with.

guess_and_set_authorized() → PyFunceble.cli.execution_time.ExecutionTime
Try to guess and set the authorization from the configuration file.

set_authorized(*value: bool*) → PyFunceble.cli.execution_time.ExecutionTime
Sets the value of the `authorized` attribute.

Parameters **value** – The value to set.

set_end_time() → PyFunceble.cli.execution_time.ExecutionTime
Sets the starting time to now.

set_start_time() → PyFunceble.cli.execution_time.ExecutionTime
Sets the starting time to now.

static split_difference(*start: datetime.datetime*, *end: datetime.datetime*) → dict
Calculates the difference between the two datetime object.

Parameters

- **start** – The starting time.
- **end** – The ending time.

Raises **TypeError** – When the given `start` or `end` is not a `datetime.datetime`.

start_time = None

PyFunceble.cli.facility module

The tool to check the availability or syntax of domain, IP or URL.

Provides some loader that we may need later.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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PyFunceble.cli.factory module

The tool to check the availability or syntax of domain, IP or URL.

Provides everything which doesn't get through the door of the facility.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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PyFunceble.cli.file_preloader module

The tool to check the availability or syntax of domain, IP or URL.

Provides the interface for the preloading of a given file.

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```

class PyFunceble.cli.file_preloader.**FilePreloader**(*, *authorized: Optional[bool] = None*, *protocol: Optional[dict] = None*, *continuous_integration: Optional[PyFunceble.cli.continuous_integration.base.Continuo = None*, *checker_type: Optional[str] = None*, *adblock_inputline2subject: Optional[PyFunceble.converter.adblock_input_line2subject.Adl = None*, *wildcard2subject: Optional[PyFunceble.converter.wildcard2subject.Wildcard2Sub = None*, *rpz_policy2subject: Optional[PyFunceble.converter.rpz_policy2subject.RPZPolicy2 = None*, *rpz_inputline2subject: Optional[PyFunceble.converter.rpz_input_line2subject.RPZInp = None*, *inputline2subject: Optional[PyFunceble.converter.input_line2subject.InputLine2S = None*, *subject2complements: Optional[PyFunceble.converter.subject2complements.Subject2C = None*, *url2netloc: Optional[PyFunceble.converter.url2netloc.Url2Netloc] = None*, *continue_dataset: Optional[PyFunceble.dataset.autocontinue.base.ContinueDatas = None*, *inactive_dataset: Optional[PyFunceble.dataset.inactive.base.InactiveDatasetBas = None*, *cidr2subject: Optional[PyFunceble.converter.cidr2subject.CIDR2Subject] = None*)

Bases: object

Provides an interface for the file preloading. The main idea behind this interface is to read all lines of the given file parse each lines into something our autocontinue dataset understand.

Once everything preloaded in the autocontinue dataset, one can use the PyFunceble.dataset.autocontinue.base.ContinueDataset.get_to_test() to get the next subject to test.

By doing this, we don't have to re-read a file completely once we are sure that the hash of the file didn't changed.

Parameters

- **authorized** – The authorization to launch. If None is given, we will try to guess the best value.
- **protocol** – The protocol describing the file to test.

STD_AUTHORIZED = False

adblock_inputline2subject = None

authorized

Provides the current state of the _authorized attribute.

checker_type = None

cidr2subject = None

continue_dataset = None

continuous_integration = None

does_preloader_description_file_exists() → bool

Checks if our preloader file exists.

ensure_protocol_is_given()
Ensures that the protocol is given before launching the decorated method.

Raises **RuntimeError** – When the protocol is not declared yet.

execute_if_authorized()
Executes the decorated method only if we are authorized to process. Otherwise, apply the given `default`.

> **Warning:** If `None` is given as default value, this method will return the `self` object.

guess_and_set_authorized() → PyFunceble.cli.file_preloader.FilePreloader
Try to guess and set the value of the `_authorized` attribute.

inputline2subject = None

protocol
Provides the current state of the `_file_path` attribute.

rpz_inputline2subject = None

rpz_policy2subject = None

set_authorized(*value: bool*) → PyFunceble.cli.file_preloader.FilePreloader
Sets the value of the `_authorized` attribute.

Parameters **value** – The value to set.

set_protocol(*value: dict*) → PyFunceble.cli.file_preloader.FilePreloader
Sets the value of the `_protocol` attribute.

Parameters **value** – The value to set.

start(*print_dots: bool = False*) → PyFunceble.cli.file_preloader.FilePreloader
Starts the pre-loading of the currently set file path.

subject2complements = None

url2netloc = None

wildcard2subject = None

PyFunceble.cli.storage module

The tool to check the availability or syntax of domain, IP or URL.

Provides the common storage location for all entry points.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```


PyFunceble.cli.storage_facility module

The tool to check the availability or syntax of domain, IP or URL.

Provides some facilities for the storage module.

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`PyFunceble.cli.storage_facility.get_output_directory() → str`

Provides the location of the output directory.

Module contents

The tool to check the availability or syntax of domain, IP or URL.

Provides everything related to the CLI usage.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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PyFunceble.config package

Submodules

PyFunceble.config.compare module

The tool to check the availability or syntax of domain, IP or URL.

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Provides the configuration comparision interface.

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```

class PyFunceble.config.compare.**ConfigComparison**(*, *local_config: Optional[dict] = None*, *upstream_config: Optional[dict] = None*)

Bases: object

Provides an interface for comparing 2 configuration.

DELETED_CORE = ['dns_lookup_over_tcp', 'generate_json', 'header_printed', 'iana_whois_

DELETED_LINKS = ['config', 'dir_structure', 'iana', 'ipv4_reputation', 'mariadb', 'mys

NEW_STATUS_CODES = {'potentially_down': [451], 'potentially_up': [308, 403, 418, 421

OLD_TO_NEW = {'adblock': 'cli_decoding.adblock', 'aggressive': 'cli_decoding.adblock_

OLD_TO_NEW_NEGATE = {'no_special': 'lookup.special', 'no_whois': 'lookup.whois', 'sp

dict_helper = <PyFunceble.helpers.dict.DictHelper object>

get_merged() → dict

Provides the merged configuration.

is_local_identical() → bool

Checks if the local configuration is identical to the upstream one.

local_config

Provides the current state of the `_local_config`.

set_local_config(*value: dict*) → PyFunceble.config.compare.ConfigComparison

Sets the local configuration to work with.

set_upstream_config(*value: dict*) → PyFunceble.config.compare.ConfigComparison
Sets the upstram configuration to work with.

upstream_config
Provides the current state of the `_upstream_config`.

PyFunceble.config.loader module

The tool to check the availability or syntax of domain, IP or URL.

Provides the configuration loader.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.config.loader.**ConfigLoader**(*merge_upstream: Optional[bool] = None*)
Bases: `object`

Provides the interface which loads and updates the configuration (if needed).

Parameters **merge_upstream** – Authorizes the merging of the upstream configuration.

> **Note:** If value is set to `None` (default), we fallback to the `PYFUNCEBLE_AUTO_CONFIGURATION` environment variable.

static conditional_switch(*config: dict*) → dict
Given the configuration that we are going to load, switches some of setting.

Parameters **config** – The configuration we are going to load.

config_file_exist() → bool
Checks if the config file exists.

custom_config
Provides the current state of the `_custom_config` attribute.

default_config_file_exist() → bool
Checks if the default configuration file exists.

destroy() → PyFunceble.config.loader.ConfigLoader
Destroys everything loaded.

dict_helper = <PyFunceble.helpers.dict.DictHelper object>

classmethod download_dynamic_infrastructure_files() → PyFunceble.config.loader.ConfigLoader
Downloads all the dynamicly (generated) infrastructure files.

Note:

Downloaded if missing:

- The IANA dump file.
- The Public Suffix dump file.

---

file_helper = <PyFunceble.helpers.file.FileHelper object>

get_config_file_content() → dict
Provides the content of the configuration file or the one already loaded.

get_configured_value(*entry: str*) → Any
Provides the currently configured value.

Parameters **entry** – An entry to check.

multilevel should be separated with a point.

Raises

- **RuntimeError** – When the configuration is not loaded yet.
- **ValueError** – When the given `entry` is not found.

install_missing_infrastructure_files() → PyFunceble.config.loader.ConfigLoader
Installs the missing files (when needed).

Note:

Installed if missing:

- The configuration file.
- The directory structure file.

---

static is_already_loaded() → bool
Checks if the configuration was already loaded.

merge_upstream
Provides the current state of the `_merge_upstream` attribute.

path_to_config = None

path_to_default_config = None

path_to_overwrite_config = None

reload_config()
Reload the configuration (if it was already loaded) after launching the decorated method.

set_custom_config(*value: dict*) → PyFunceble.config.loader.ConfigLoader
Sets the custom configuration to set after loading.

Side Effect: Directly inject into the configuration variables if it was already loaded.

set_merge_upstream(*value: bool*) → PyFunceble.config.loader.ConfigLoader
Updates the value of `_merge_upstream` attribute.

start() → PyFunceble.config.loader.ConfigLoader
Starts the loading processIs.

Module contents

The tool to check the availability or syntax of domain, IP or URL.

Provides the configuration related submodules.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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PyFunceble.converter package

Submodules

PyFunceble.converter.adblock_input_line2subject module

The tool to check the availability or syntax of domain, IP or URL.

Provides the conversion of an AdBlock input line into testable subjests.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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class PyFunceble.converter.adblock_input_line2subject.**AdblockInputLine2Subject**(*data_to_convert: Optional[Any] = None, aggressive: bool = False*)

Bases: *PyFunceble.converter.base.ConverterBase*

Provides an interface for the conversion or extraction of valuable subjects from an inputted AdBlock line.

aggressive
Provides the state of the `_aggressive` attribute.

data_to_convert
Provides the current state of the `_data_to_convert` attribute.

static extract_base(*subject: Union[str, List[str]]*) → Union[str, List[str]]
Extracts the base of the given subject (supposely URL).

Parameters **subject** – The subject to work with.

Example:

Giving `"hello.world/?is=beautiful"` returns `"hello.world"`

get_converted() → List[str]
Provides the converted data.

set_aggressive(*value: bool*) → PyFunceble.converter.adblock_input_line2subject.AdblockInputLine2Subject
Provides a way to activate/deactivate the aggressive decoding.

static should_be_ignored(*line: str*) → bool
Checks if we should ignore the given line.

PyFunceble.converter.base module

The tool to check the availability or syntax of domain, IP or URL.

Provides the base of all our converter class.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

Special thanks: https://pyfunceble.github.io/#/special-thanks

Contributors: https://pyfunceble.github.io/#/contributors

Project link: https://github.com/funilrys/PyFunceble

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class PyFunceble.converter.base.**ConverterBase**(*data_to_convert: Optional[Any] = None*)

Bases: object

Provides the base of all converter class.

data_to_convert

Provides the current state of the _data_to_convert attribute.

get_converted() → Optional[Any]

Provides the converted data.

set_data_to_convert(*value: Any*) → PyFunceble.converter.base.ConverterBase

Sets the data to convert / to work with.

Parameters **value** – The value to set.

PyFunceble.converter.cidr2subject module

The tool to check the availability or syntax of domain, IP or URL.

Provides the converter of CIDR to subjects.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

Special thanks: https://pyfunceble.github.io/#/special-thanks

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```

class PyFunceble.converter.cidr2subject.**CIDR2Subject**(*data_to_convert: Optional[Any] = None*)

Bases: *PyFunceble.converter.base.ConverterBase*

Converts/Extracts the subjects of from the given CIDR.

data_to_convert
Provides the current state of the `_data_to_convert` attribute.

get_converted() → List[str]
Provides the subject-s to test.

ip_syntax_checker = None

PyFunceble.converter.input_line2subject module

The tool to check the availability or syntax of domain, IP or URL.

Provides the default input line converter.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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class PyFunceble.converter.input_line2subject.**InputLine2Subject**(*data_to_convert: Optional[Any] = None*)

Bases: *PyFunceble.converter.base.ConverterBase*

Converts/Extract the subjcts to test from an inputed line.

COMMENT = '#'

NSLOOKUP_SPACE = '\\032'

PARTICULAR_COMMENT = ['!']

SPACE = ' '

TAB = '\t'

data_to_convert
Provides the current state of the `_data_to_convert` attribute.

get_converted() → List[str]
Provides the subject to test.

PyFunceble.converter.internal_url module

The tool to check the availability or syntax of domain, IP or URL.

Provides a way to convert our internal URL.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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class PyFunceble.converter.internal_url.**InternalUrlConverter**(*data_to_convert: Optional[Any] = None*)

Bases: *PyFunceble.converter.base.ConverterBase*

Converter of the internal URLs.

Note: The internal URLs are actually the URL that has nothing to do with what we are going to test.

They are only relevant for the software itself.

data_to_convert
Provides the current state of the `_data_to_convert` attribute.

get_converted() → str
Provides the converted data (after conversion)

PyFunceble.converter.rpz_input_line2subject module

The tool to check the availability or syntax of domain, IP or URL.

Provides the conversion of the an RPZ input line into testable subjects.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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class PyFunceble.converter.rpz_input_line2subject.**RPZInputLine2Subject**(*data_to_convert: Optional[Any] = None*)

Bases: *PyFunceble.converter.input_line2subject.InputLine2Subject*

Converts/Extracts the subject from the given RPZ inputline.

COMMENT = [';', '//', '#']

SPECIAL = ['$', '@']

get_converted() → List[str]
Provides the converted data.

PyFunceble.converter.rpz_policy2subject module

The tool to check the availability or syntax of domain, IP or URL.

Provides the conversion of the an RPZ POlicy into testable subjects.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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class PyFunceble.converter.rpz_policy2subject.**RPZPolicy2Subject**(*data_to_convert: Optional[Any] = None, soas: Optional[List[str]] = None, soa: Optional[str] = None*)

Bases: *PyFunceble.converter.rpz_input_line2subject.RPZInputLine2Subject*

Converts/Extracts the subject from the given RPZ Policy into a subject.

CLEANUP_MARKERS = ['.rpz-nsdname']

IP_MARKERS = ['.rpz-client-ip', '.rpz-ip', '.rpz-nsip']

get_converted() → Optional[str]
Provides the converted data.

classmethod get_matching_cleanup_marker(*subject: str*) → Optional[str]
Checks if the given subject has a cleanup marker and provides it if found.

classmethod get_matching_ip_marker(*subject: str*) → Optional[str]
Checks if the given subject has an IP marker and provides it if found.

classmethod get_subject_from_ip_marker(*subject: str*, *marker: str*) → str
Removes the ip marker and converts the IP into a testable subject.

static remove_marker(*subject: str*, *marker: str*) → str
Removes the given marker from the given subject.

set_soa(*value: str*) → PyFunceble.converter.rpz_policy2subject.RPZPolicy2Subject
Sets the current SOA.

Parameters **value** – The value to set.

set_soas(*value: List[str]*) → PyFunceble.converter.rpz_policy2subject.RPZPolicy2Subject
Sets the current SOAs.

Parameters **value** – The value to set.

soa
Provides the currently set SOA.

soas
Provides the currently set SOAs.

PyFunceble.converter.subject2complements module

The tool to check the availability or syntax of domain, IP or URL.

Provides an easy way to convert and get the complements of a subject.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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class PyFunceble.converter.subject2complements.**Subject2Complements**(*data_to_convert: Optional[Any] = None, *, include_given: Optional[bool] = False*)

Bases: *PyFunceble.converter.base.ConverterBase*

Converts a given wildcard into a testable subject.

data_to_convert
Provides the current state of the `_data_to_convert` attribute.

get_converted() → List[str]
Provides the converted data.

include_given
Provides the state of the `_include_given` attribute.

set_include_given(*value: bool*) → PyFunceble.converter.subject2complements.Subject2Complements
Provides a way to activate/deactivate the inclusion of the given subject into the result.

PyFunceble.converter.url2netloc module

The tool to check the availability or syntax of domain, IP or URL.

Provides a way to convert/extract the network location of a given URL.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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class PyFunceble.converter.url2netloc.**Url2Netloc**(*data_to_convert: Optional[Any] = None*)

Bases: *PyFunceble.converter.base.ConverterBase*

Provides the interface for the conversion/extration of the network location of a given URL.

data_to_convert

Provides the current state of the `_data_to_convert` attribute.

get_converted() → str

Provides the converted data (after conversion)

PyFunceble.converter.wildcard2subject module

The tool to check the availability or syntax of domain, IP or URL.

Provides an easy way to convert wildcard subject into a testable subject.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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class PyFunceble.converter.wildcard2subject.**Wildcard2Subject**(*data_to_convert: Optional[Any] = None*)

Bases: *PyFunceble.converter.base.ConverterBase*

Converts a given wildcard into a testable subject.

WILDCARD = '*.'

data_to_convert

Provides the current state of the `_data_to_convert` attribute.

get_converted() → str

Provides the converted data.

Module contents

The tool to check the availability or syntax of domain, IP or URL.

Provides all the converters.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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PyFunceble.data package

Subpackages

PyFunceble.data.alembic package

Subpackages

PyFunceble.data.alembic.versions package

Submodules

PyFunceble.data.alembic.versions.35c79626ecb9_fix_some_columns module

Fix some columns

Revision ID: 35c79626ecb9 Revises: ade87195b0a0 Create Date: 2020-08-21 11:42:07.044762

`PyFunceble.data.alembic.versions.35c79626ecb9_fix_some_columns.`**`downgrade`**`()`

`PyFunceble.data.alembic.versions.35c79626ecb9_fix_some_columns.`**`upgrade`**`()`

PyFunceble.data.alembic.versions.3a4c55a9320d_add_continue_table module

Add continue table.

Revision ID: 3a4c55a9320d Revises: 3d6f4a33cdb2 Create Date: 2020-12-13 22:52:56.968513

`PyFunceble.data.alembic.versions.3a4c55a9320d_add_continue_table.`**`downgrade`**`()`

`PyFunceble.data.alembic.versions.3a4c55a9320d_add_continue_table.`**`upgrade`**`()`

PyFunceble.data.alembic.versions.3d6f4a33cdb2_add_inactive_table module

Add inactive table.

Revision ID: 3d6f4a33cdb2 Revises: 7bcf7fa64ba1 Create Date: 2020-12-13 19:45:41.893657

`PyFunceble.data.alembic.versions.3d6f4a33cdb2_add_inactive_table.`**`downgrade`**`()`

`PyFunceble.data.alembic.versions.3d6f4a33cdb2_add_inactive_table.`**`upgrade`**`()`

PyFunceble.data.alembic.versions.45713fea8097_deletion_uneeded_columns_from_whois_ module

Deletion uneeded columns from whois record

Revision ID: 45713fea8097 Revises: e04e8301d1a2 Create Date: 2020-12-07 12:36:04.818466

`PyFunceble.data.alembic.versions.45713fea8097_deletion_uneeded_columns_from_whois_.downgrad`

`PyFunceble.data.alembic.versions.45713fea8097_deletion_uneeded_columns_from_whois_.upgrade`

PyFunceble.data.alembic.versions.459a0d7b8f09_add_idna_subject_column_into_whois module

Add idna_subject column into whois record

Revision ID: 459a0d7b8f09 Revises: 45713fea8097 Create Date: 2020-12-07 12:37:52.018637

`PyFunceble.data.alembic.versions.459a0d7b8f09_add_idna_subject_column_into_whois.downgrade`

`PyFunceble.data.alembic.versions.459a0d7b8f09_add_idna_subject_column_into_whois.upgrade()`

PyFunceble.data.alembic.versions.6f4729deaf03_delete_inactive_source_column module

Delete inactive.source column

Revision ID: 6f4729deaf03 Revises: 95dc17ddd729 Create Date: 2021-02-13 12:21:00.493002

`PyFunceble.data.alembic.versions.6f4729deaf03_delete_inactive_source_column.downgrade()`

`PyFunceble.data.alembic.versions.6f4729deaf03_delete_inactive_source_column.upgrade()`

PyFunceble.data.alembic.versions.7bcf7fa64ba1_rename_created_to_created_at_and module

Rename created to created_at and modified_to_modified_at

Revision ID: 7bcf7fa64ba1 Revises: 83ada95132bf Create Date: 2020-12-08 17:34:59.349943

`PyFunceble.data.alembic.versions.7bcf7fa64ba1_rename_created_to_created_at_and.downgrade()`

`PyFunceble.data.alembic.versions.7bcf7fa64ba1_rename_created_to_created_at_and.upgrade()`

PyFunceble.data.alembic.versions.83ada95132bf_delete_the_file_table module

Delete the file table.

Revision ID: 83ada95132bf Revises: 459a0d7b8f09 Create Date: 2020-12-07 12:49:48.797794

`PyFunceble.data.alembic.versions.83ada95132bf_delete_the_file_table.downgrade()`

`PyFunceble.data.alembic.versions.83ada95132bf_delete_the_file_table.upgrade()`

PyFunceble.data.alembic.versions.95dc17ddd729_introduction_of_the_session_id_column module

Introduction of the session_id column

Revision ID: 95dc17ddd729 Revises: bef7bcaac3f2 Create Date: 2020-12-23 02:26:21.647125

PyFunceble.data.alembic.versions.95dc17ddd729_introduction_of_the_session_id_column.**downgra**

PyFunceble.data.alembic.versions.95dc17ddd729_introduction_of_the_session_id_column.**upgrade**

PyFunceble.data.alembic.versions.ade87195b0a0_base module

Base

Revision ID: ade87195b0a0 Revises: Create Date: 2020-08-15 20:12:26.768419

PyFunceble.data.alembic.versions.ade87195b0a0_base.**downgrade**()

PyFunceble.data.alembic.versions.ade87195b0a0_base.**upgrade**()

PyFunceble.data.alembic.versions.bef7bcaac3f2_make_id_a_bigint module

Make id a bigint.

Revision ID: bef7bcaac3f2 Revises: 3a4c55a9320d Create Date: 2020-12-16 19:09:41.212679

PyFunceble.data.alembic.versions.bef7bcaac3f2_make_id_a_bigint.**downgrade**()

PyFunceble.data.alembic.versions.bef7bcaac3f2_make_id_a_bigint.**upgrade**()

PyFunceble.data.alembic.versions.d8893cd406db_allow_whois_record_to_be_empty_null module

Allow whois record to be empty/NULL

Revision ID: d8893cd406db Revises: 35c79626ecb9 Create Date: 2020-08-22 17:27:52.087506

PyFunceble.data.alembic.versions.d8893cd406db_allow_whois_record_to_be_empty_null.**downgrade**

PyFunceble.data.alembic.versions.d8893cd406db_allow_whois_record_to_be_empty_null.**upgrade**()

PyFunceble.data.alembic.versions.e04e8301d1a2_deletion_of_the_mined_table module

Deletion of the mined table

Revision ID: e04e8301d1a2 Revises: d8893cd406db Create Date: 2020-12-07 12:33:43.650514

PyFunceble.data.alembic.versions.e04e8301d1a2_deletion_of_the_mined_table.**downgrade**()

PyFunceble.data.alembic.versions.e04e8301d1a2_deletion_of_the_mined_table.**upgrade**()

Module contents

The tool to check the availability or syntax of domain, IP or URL.

Provides the alembic migrations files.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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Submodules

PyFunceble.data.alembic.env module

Module contents

The tool to check the availability or syntax of domain, IP or URL.

Provides the alembic data.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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PyFunceble.data.infrastructure package

Module contents

Module contents

PyFunceble.database package

Subpackages

PyFunceble.database.credential package

Submodules

PyFunceble.database.credential.base module

The tool to check the availability or syntax of domain, IP or URL.

Provides the base of all our credential holders.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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class PyFunceble.database.credential.base.**CredentialBase**(*, *host: Optional[str] = None*, *port: Optional[int] = None*, *name: Optional[str] = None*, *username: Optional[str] = None*, *password: Optional[str] = None*, *charset: Optional[str] = None*)

Bases: object

Provides the base of all our credential holder.

STD_CHARSET = 'utf8mb4'

STD_HOST = 'localhost'

STD_NAME = 'pyfunceble'

STD_PASSWORD = 'PyFunceble:15_93le'

STD_PORT = 3306

STD_USERNAME = 'pyfunceble'

VAR2ENV = {'charset': 'PYFUNCEBLE_DB_CHARSET', 'host': 'PYFUNCEBLE_DB_HOST', 'name':

Maps our credential variable with environment variable.

charset

Provides the current state of the `_charset` attribute.

dotenv_locations = []

Provides the location of the dotenv to work with.

> **Warning:** The order is important. The last one in the list will be taken as default if everything else is not found in the filesystem.

ensure_protocol_is_given()

Ensures that the protocol is given before launching the decorated method.

Raises **ValueError** – When the `protocol` is not given.

get_dot_env_file() → str

Provides the dotenv file to work with.

get_uri() → str
Provides the SQLAlchemy URI.

host
Provides the current state of the `_host` attribute.

name
Provides the current state of the `_name` attribute.

password
Provides the current state of the `_password` attribute.

port
Provides the current state of the `_port` attribute.

protocol = None

set_charset(*value: str*) → PyFunceble.database.credential.base.CredentialBase
Sets the charset to use.

Parameters **value** – The value to set.

set_host(*value: str*) → PyFunceble.database.credential.base.CredentialBase
Sets the hosts to interact with.

Parameters **value** – The value to set.

set_name(*value: str*) → PyFunceble.database.credential.base.CredentialBase
Sets the name of the database to interact with.

Parameters **value** – The value to set.

set_password(*value: str*) → PyFunceble.database.credential.base.CredentialBase
Sets the password to use to authenticate ourselves.

Parameters **value** – The value to set.

set_port(*value: int*) → PyFunceble.database.credential.base.CredentialBase
Sets the port to interact with.

Parameters **value** – The value to set.

set_username(*value: str*) → PyFunceble.database.credential.base.CredentialBase
Sets the username to use to authenticate ourselves.

Parameters **value** – The value to set.

username
Provides the current state of the `_username` attribute.

PyFunceble.database.credential.mariadb module

The tool to check the availability or syntax of domain, IP or URL.

Provides our mariadb credential holder.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

Special thanks: https://pyfunceble.github.io/#/special-thanks

Contributors: https://pyfunceble.github.io/#/contributors

Project link: https://github.com/funilrys/PyFunceble

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class PyFunceble.database.credential.mariadb.**MariaDBCredential**(*, *host: Optional[str] = None, port: Optional[int] = None, name: Optional[str] = None, username: Optional[str] = None, password: Optional[str] = None, charset: Optional[str] = None*)

Bases: *PyFunceble.database.credential.base.CredentialBase*

Provides our MariaDB credential holder.

protocol = 'mysql+pymysql'

PyFunceble.database.credential.mysql module

The tool to check the availability or syntax of domain, IP or URL.

Provides our mysql credential holder.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```


class PyFunceble.database.credential.mysql.**MySQLCredential**(*, *host: Optional[str] = None*, *port: Optional[int] = None*, *name: Optional[str] = None*, *username: Optional[str] = None*, *password: Optional[str] = None*, *charset: Optional[str] = None*)

Bases: *PyFunceble.database.credential.base.CredentialBase*

Provides our MySQL credential holder.

protocol = 'mysql+pymysql'

Module contents

The tool to check the availability or syntax of domain, IP or URL.

Provides everything related to our credential holders.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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PyFunceble.database.schemas package

Submodules

PyFunceble.database.schemas.autocontinue module

The tool to check the availability or syntax of domain, IP or URL.

Provides the schema of our "whois_record" table.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

Special thanks: https://pyfunceble.github.io/special-thanks.html

Contributors: https://pyfunceble.github.io/contributors.html

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class PyFunceble.database.schemas.autocontinue.**Continue**(***kwargs*)

Bases: sqlalchemy.orm.decl_api.Base

Provides the schema of our continue table.

checker_type

created_at

destination

id

idna_subject

modified_at

session_id

source

tested_at

PyFunceble.database.schemas.inactive module

The tool to check the availability or syntax of domain, IP or URL.

Provides the schema of our "whois_record" table.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

Special thanks: https://pyfunceble.github.io/special-thanks.html

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```

class PyFunceble.database.schemas.inactive.**Inactive**(***kwargs*)

Bases: sqlalchemy.orm.decl_api.Base

Provides the schema of our inactive table.

checker_type

created_at

destination

id

idna_subject

modified_at

tested_at

PyFunceble.database.schemas.status module

The tool to check the availability or syntax of domain, IP or URL.

```

```

Provides the schema of our "status" table.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.database.schemas.status.**Status**(***kwargs*)

Bases: sqlalchemy.orm.decl_api.Base

Provides the schema our status table.

created_at

domain_syntax_validation

expiration_date

file_id

http_status_code

id

ipv4_range_syntax_validation

ipv4_syntax_validation

ipv6_range_syntax_validation

ipv6_syntax_validation

is_complement

modified_at

status

status_source

subdomain_syntax_validation

test_completed

tested

tested_at

url_syntax_validation

PyFunceble.database.schemas.whois_record module

The tool to check the availability or syntax of domain, IP or URL.

Provides the schema of our "whois_record" table.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```


class PyFunceble.database.schemas.whois_record.**WhoisRecord**(***kwargs*)

Bases: sqlalchemy.orm.decl_api.Base

Provides the schema of our whois_record table.

created_at

epoch

expiration_date

id

idna_subject

modified_at

subject

Module contents

The tool to check the availability or syntax of domain, IP or URL.

Provides all our schemas in one place!

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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PyFunceble.database.sqlalchemy package

Submodules

PyFunceble.database.sqlalchemy.all_schemas module

The tool to check the availability or syntax of domain, IP or URL.

Provides all our schemas.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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PyFunceble.database.sqlalchemy.base_schema module

The tool to check the availability or syntax of domain, IP or URL.

Provides the base of all our schemas.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.database.sqlalchemy.base_schema.**OurSchemaBase**

Bases: object

Provides the base of all our schema.

created_at = Column(None, DateTime(), table=None, nullable=False, default=ColumnDefaul

id = Column(None, BigInteger(), table=None, primary_key=True, nullable=False)

modified_at = Column(None, DateTime(), table=None, onupdate=ColumnDefault(<function da

to_dict() → dict

Converts the current object to dict.

Module contents

The tool to check the availability or syntax of domain, IP or URL.

Provides everything related to everything we do with SQLAlchemy.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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Submodules

PyFunceble.database.session module

The tool to check the availability or syntax of domain, IP or URL.

Provides our database session interface.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```


class PyFunceble.database.session.**DBSession**

Bases: object

Provides our very own database session interface and handler.

authorized

Provides the authorization to operate.

close() → PyFunceble.database.session.DBSession

Closes the session if exists.

credential = None

current_session = None

ensure_credential_is_given()

Ensures that a credential object is set before launching the decorated method.

Raises **TypeError** – When credential is not correct.

execute_if_authorized()
Executes the decorated method only if we are authorized to process. Otherwise, apply the given `default`.

get_db_session() → PyFunceble.database.session.DBSession
Provides a new session.

get_new_pool_session() → sqlalchemy.orm.session.sessionmaker
Create and return a new session.

get_new_session() → sqlalchemy.orm.session.sessionmaker
Creates and returns a new session.

> **Warning:** This method generate a new session without any pool of connections.

init_db_sessions() → PyFunceble.database.session.DBSession
Initiate the global session to work with.

query(**args*, ***kwargs*) → Any
Makes a query.

Module contents

The tool to check the availability or syntax of domain, IP or URL.

Provides everything related to the structure and connection with external databases.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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PyFunceble.dataset package

Subpackages

PyFunceble.dataset.autocontinue package

Submodules

PyFunceble.dataset.autocontinue.base module

The tool to check the availability or syntax of domain, IP or URL.

Provides the base of everything related to the continue logic(s).

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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class PyFunceble.dataset.autocontinue.base.**ContinueDatasetBase**(*, *authorized: Optional[bool] = None*, *remove_unneeded_fields: Optional[bool] = None*)

Bases: *PyFunceble.dataset.db_base.DBDatasetBase*

Provides the base of all continue related interface.

COMPARISON_FIELDS = ['idna_subject', 'checker_type', 'session_id']

FIELDS = ['idna_subject', 'checker_type', 'destination', 'source', 'tested_at', 'sessi

get_to_test(*session_id: str*) → Generator[Tuple[str], str, None]

Provides the next subject to test.

This method provides the dataset directly from the autocontinue dataset. This method only compare the *tested_at* field. If it older than 20 years, that means that we still have to test the subject.

Parameters **session_id** – The session ID to work with.

PyFunceble.dataset.autocontinue.csv module

The tool to check the availability or syntax of domain, IP or URL.

Provides the interface for the CSV management.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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class PyFunceble.dataset.autocontinue.csv.**CSVContinueDataset**(*, *authorized: Optional[bool] = None, remove_unneeded_fields: Optional[bool] = None, base_directory: Optional[str] = None*)

Bases: *PyFunceble.dataset.csv_base.CSVDatasetBase*, *PyFunceble.dataset.autocontinue.base.ContinueDatasetBase*

Provides the interface for the management of the continue CSV file.

base_directory

Provides the current state of the `_base_directory` attribute.

cleanup() → PyFunceble.dataset.autocontinue.csv.CSVContinueDataset

Deletes the source file (completely).

get_to_test(*session_id: str*) → Generator[Tuple[str], str, None]

Provides the next subject to test.

This method provides the dataset directly from the autocontinue dataset. This method only compare the *tested_at* field. If it older than 20 years, that means that we still have to test the subject.

Parameters **session_id** – The session ID to work with.

set_base_directory(*value: str*) → PyFunceble.dataset.autocontinue.csv.CSVContinueDataset

Sets the given base directory.

Parameters **value** – The value to set.

source_file = None

update_source_file_afterwards()

Updates the source file before launching the decorated method.

PyFunceble.dataset.autocontinue.mariadb module

The tool to check the availability or syntax of domain, IP or URL.

Provides the interface for the MariaDB management.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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class PyFunceble.dataset.autocontinue.mariadb.**MariaDBContinueDataset**(*, *authorized: Optional[bool] = None*, *remove_unneeded_fields: Optional[bool] = None*, *db_session: Optional[sqlalchemy.orm.session.S = None*)

Bases: *PyFunceble.dataset.mariadb_base.MariaDBDatasetBase*, *PyFunceble.dataset.autocontinue.base.ContinueDatasetBase*

Provides the interface for the management and the Continue dataset unser mariadb.

ORM_OBJ

alias of *PyFunceble.database.schemas.autocontinue.Continue*

cleanup(*, *session_id: str*) → PyFunceble.dataset.autocontinue.mariadb.MariaDBContinueDataset

Cleanups the dataset. Meaning that we delete every entries which are needed anymore.

Parameters

- **source** – The source to delete.
- **session_id** – The session ID to cleanup.

get_to_test(*session_id: str*) → Generator[Tuple[str], str, None]

Provides the next subject to test.

This method provides the dataset directly from the autocontinue dataset. This method only compare the *tested_at* field. If it older than 20 years, that means that we still have to test the subject.

Parameters **session_id** – The session ID to work with.

PyFunceble.dataset.autocontinue.mysql module

The tool to check the availability or syntax of domain, IP or URL.

Provides the interface for the continue MySQL management.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```


class PyFunceble.dataset.autocontinue.mysql.**MySQLContinueDataset**(*, *authorized: Optional[bool] = None, remove_unneeded_fields: Optional[bool] = None, db_session: Optional[sqlalchemy.orm.session.Session = None*)

Bases: *PyFunceble.dataset.autocontinue.mariadb.MariaDBContinueDataset*

Provides the interface for the management and the Continue dataset under mysql.

Module contents

The tool to check the availability or syntax of domain, IP or URL.

Provides everything related to the continue logic(s).

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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Project link: https://github.com/funilrys/PyFunceble

Project documentation: https://pyfunceble.readthedocs.io/en/latest/

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PyFunceble.dataset.inactive package

Submodules

PyFunceble.dataset.inactive.base module

The tool to check the availability or syntax of domain, IP or URL.

Provides the base of all Inactive related dataset.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.dataset.inactive.base.**InactiveDatasetBase**(*, *authorized: Optional[bool] = None*, *remove_unneeded_fields: Optional[bool] = None*)

Bases: *PyFunceble.dataset.db_base.DBDatasetBase*

Provides the base of all inactive related interface.

COMPARISON_FIELDS = ['idna_subject', 'checker_type', 'destination']

FIELDS = ['idna_subject', 'checker_type', 'destination', 'tested_at']

get_to_retest(*destination: str*, *checker_type: str*, *, *min_days: Optional[int] = 1*) → Generator[Tuple[str, str, Optional[int]], dict, None]

Provides the next row to restest.

PyFunceble.dataset.inactive.csv module

The tool to check the availability or syntax of domain, IP or URL.

Provides the interface for the inactive db CSV management.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.dataset.inactive.csv.**CSVInactiveDataset**(*, *authorized: Optional[bool] = None*, *remove_unneeded_fields: Optional[bool] = None*)

Bases: *PyFunceble.dataset.csv_base.CSVDatasetBase*, *PyFunceble.dataset.inactive.base.InactiveDatasetBase*

Provides the interface for the management of the inactive CSV file.

get_to_retest(*destination: str, checker_type: str, *, min_days: Optional[int]*) → Generator[Tuple[str, str, Optional[int]], dict, None]

Provides the next row to restest.

PyFunceble.dataset.inactive.mariadb module

The tool to check the availability or syntax of domain, IP or URL.

Provides the interface for the inactive DB (mariadb) management.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```


class PyFunceble.dataset.inactive.mariadb.**MariaDBInactiveDataset**(*, *authorized: Optional[bool] = None, remove_unneeded_fields: Optional[bool] = None, db_session: Optional[sqlalchemy.orm.session.Session = None)*

Bases: *PyFunceble.dataset.mariadb_base.MariaDBDatasetBase*, *PyFunceble.dataset.inactive.base.InactiveDatasetBase*

Provides tht interface for the management and the WHOIS dataset under mariadb.

ORM_OBJ

alias of *PyFunceble.database.schemas.inactive.Inactive*

get_to_retest(*destination: str, checker_type: str, *, min_days: Optional[int]*) → Generator[Tuple[str, str, Optional[int]], dict, None]

Provides the next row to restest.

PyFunceble.dataset.inactive.mysql module

The tool to check the availability or syntax of domain, IP or URL.

Provides the interface for the inactive DB (mysql) management.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.dataset.inactive.mysql.**MySQLInactiveDataset**(*, *authorized: Optional[bool] = None, remove_unneeded_fields: Optional[bool] = None, db_session: Optional[sqlalchemy.orm.session.Session] = None*)

Bases: *PyFunceble.dataset.inactive.mariadb.MariaDBInactiveDataset*

Provides tht interface for the management and the WHOIS dataset under mysql.

Module contents

The tool to check the availability or syntax of domain, IP or URL.

Provides everything related to the inactive database logic(s).

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

PyFunceble.dataset.whois package

Submodules

PyFunceble.dataset.whois.base module

The tool to check the availability or syntax of domain, IP or URL.

Provides the base of all WHOIS related dataset.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.dataset.whois.base.**WhoisDatasetBase**(*, *authorized: Optional[bool] = None*, *remove_unneeded_fields: Optional[bool] = None*)

Bases: *PyFunceble.dataset.db_base.DBDatasetBase*

Provides the base of all Whois related interface.

COMPARISON_FIELDS = ['subject', 'idna_subject']

FIELDS = ['subject', 'idna_subject', 'expiration_date', 'epoch']

get_filtered_row(*row: Union[dict, PyFunceble.database.schemas.whois_record.WhoisRecord]*) → dict

Removes all unkowns fields (not declared) from the given row.

Parameters **row** – The row to work with.

static is_expired(*row: Union[dict, PyFunceble.database.schemas.whois_record.WhoisRecord]*) → bool

Given a row, we look if the row is expired.

PyFunceble.dataset.whois.csv module

The tool to check the availability or syntax of domain, IP or URL.

Provides the interface for the WHOIS DB CSV management.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.dataset.whois.csv.**CSVWhoisDataset**(*, *authorized: Optional[bool] = None*, *remove_unneeded_fields: Optional[bool] = None*)

Bases: *PyFunceble.dataset.csv_base.CSVDatasetBase*, *PyFunceble.dataset.whois.base.WhoisDatasetBase*

Provides the interface for the management of the WHOIS (db) CSV file.

cleanup() → PyFunceble.dataset.whois.csv.CSVWhoisDataset

Cleanups the dataset. Meaning that we delete every entries which are in the past.

get_content() → Generator[Optional[dict], None, None]

Provides a generator which provides the next line to read.

remove(*row: dict*) → PyFunceble.dataset.csv_base.CSVDatasetBase

Removes the given dataset from the CSV file.

Parameters **row** – The row or dataset to add.

Raises **TypeError** – When the given `row` is not a :py:class‘dict‘.

update(*row: dict*, *, *ignore_if_exist: bool = False*) → PyFunceble.dataset.whois.csv.CSVWhoisDataset

Adds the given dataset into the database if it does not exists. Update otherwise.

..note:: This should be the prefered method for introduction of new dataset.

..warning:: This method do nothing if the row is expired.

Parameters

- **row** – The row or dataset to manipulate.
- **ignore_if_exist** – Ignores the insertion/update if the row already exists.

Raises **TypeError** – When the given `row` is not a :py:class‘dict‘.

PyFunceble.dataset.whois.mariadb module

The tool to check the availability or syntax of domain, IP or URL.

```
```

Provides the interface for the WHOIS DB (mariadb) management.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```


class PyFunceble.dataset.whois.mariadb.**MariaDBWhoisDataset**(*, *authorized: Optional[bool] = None, remove_unneeded_fields: Optional[bool] = None, db_session: Optional[sqlalchemy.orm.session.Session] = None*)

Bases: *PyFunceble.dataset.mariadb_base.MariaDBDatasetBase*, *PyFunceble.dataset.whois.base.WhoisDatasetBase*

Provides the interface for the management of the WHOIS database under (mariadb).

ORM_OBJ

alias of *PyFunceble.database.schemas.whois_record.WhoisRecord*

cleanup() → PyFunceble.dataset.whois.mariadb.MariaDBWhoisDataset

Cleanups the dataset. Meaning that we delete every entries which are in the past.

get_content() → Generator[dict, None, None]

Provides a generator which provides the next dataset to read.

update(*row: Union[dict, PyFunceble.database.schemas.whois_record.WhoisRecord], *, ignore_if_exist: bool = False*) → PyFunceble.dataset.whois.mariadb.MariaDBWhoisDataset

Adds the given dataset into the database if it does not exists. Update otherwise.

..note:: This should be the prefered method for introduction of new dataset.

..warning:: This method do nothing if the row is expired.

Parameters **row** – The row or dataset to manipulate.

Raises **TypeError** – When the given `row` is not a :py:class‘dict‘.

PyFunceble.dataset.whois.mysql module

The tool to check the availability or syntax of domain, IP or URL.

Provides the interface for the WHOIS DB (mysql) management.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```


class PyFunceble.dataset.whois.mysql.**MySQLWhoisDataset**(*, *authorized: Optional[bool] = None*, *remove_unneeded_fields: Optional[bool] = None*, *db_session: Optional[sqlalchemy.orm.session.Session] = None*)

Bases: *PyFunceble.dataset.whois.mariadb.MariaDBWhoisDataset*

Provides the interface for the management of the WHOIS database under mysql.

Module contents

The tool to check the availability or syntax of domain, IP or URL.

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Provides everything related to the whois database logic(s).

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Submodules

PyFunceble.dataset.base module

The tool to check the availability or syntax of domain, IP or URL.

Provides the base of all datasets classes.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```


class PyFunceble.dataset.base.**DatasetBase**

Bases: object

Provides the base of all dataset.

DOWNLOADER = None

STORAGE_INDEX = None

ensure_source_file_exists()

Ensures that the source file exists before running the decorated method.

Raises

- **TypeError** – When self.source_file is not a str.
- **ValueError** – When self.source_file is empty.

get_content() → Optional[dict]

Provides the cached or the real contend of the dataset (after caching)

Raises **FileNotFoundError** – When the declared file does not exists.

source_file = None

PyFunceble.dataset.csv_base module

The tool to check the availability or syntax of domain, IP or URL.

Provides the base of all CSV storeed datasets.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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class PyFunceble.dataset.csv_base.**CSVDatasetBase**(*, *authorized: Optional[bool] = None*, *remove_unneeded_fields: Optional[bool] = None*)

Bases: *PyFunceble.dataset.db_base.DBDatasetBase*

Provides the base of all CSV dataset.

add(*row: dict*) → PyFunceble.dataset.csv_base.CSVDatasetBase

Adds the given dataset into the CSV file.

Parameters **row** – The row or dataset to add.

Raises **TypeError** – When the given `row` is not a :py:class‘dict‘.

are_equal(*read_row: dict*, *row: dict*) → bool

Compares the given `read_row` to the *row*.

Parameters

- **read_row** – The row read from the dataset infrastructure.
- **row** – The row given by the testing infrastructure.

exists(*row: dict*) → bool

Checks if the given dataset exists in our dataset.

Parameters **row** – The row or dataset to check.

get_content() → Generator[Optional[dict], None, None]

Provides a generator which provides the next line to read.

get_csv_writer() → Tuple[csv.DictWriter, io.open]

Provides the standard and initiated CSV Dict writer along with the file that was open with it.

get_filtered_comparision_row(*row: dict*)

Makes the given row ready for comparison.

get_filtered_content(*filter_map: dict*) → Generator[Optional[dict], None, None]

Provides a generator which provides the next line to read.

Parameters **filter_map** – A dictionary representing what we need to filter.

Raises **TypeError** – When the given `filter_map` is not a `dict`.

remove(*row: dict*) → PyFunceble.dataset.csv_base.CSVDatasetBase
Removes the given dataset from the CSV file.

Parameters **row** – The row or dataset to add.

Raises **TypeError** – When the given `row` is not a :py:class‘dict‘.

update(*row: dict*, *, *ignore_if_exist: bool = False*) → PyFunceble.dataset.db_base.DBDatasetBase
Adds the given dataset into the database if it does not exists. Update otherwise.

Parameters

- **row** – The row or dataset to manipulate.
- **ignore_if_exist** – Ignore the insertion/update if the row already exists.

Raises **TypeError** – When the given `row` is not a :py:class‘dict‘.

PyFunceble.dataset.db_base module

The tool to check the availability or syntax of domain, IP or URL.

Provides the base of all datasets which acts as database interface.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.dataset.db_base.**DBDatasetBase**(*, *authorized: Optional[bool] = None*, *remove_unneeded_fields: Optional[bool] = None*)

Bases: *PyFunceble.dataset.base.DatasetBase*

Provides the base of all datasets which acts as database interface.

COMPARISON_FIELDS = []

FIELDS = []

STD_AUTHORIZED = False

STD_REMOVE_UNNEEDED_FIELDS = True

add(*row: dict*) → PyFunceble.dataset.db_base.DBDatasetBase

Adds the given dataset into the database.

Parameters **row** – The row or dataset to add.

Raises **TypeError** – When the given `row` is not a :py:class‘dict‘.

are_equal(*read_row: dict*, *row: dict*) → bool

Compares the given `read_row` to the *row*.

Parameters

- **read_row** – The row read from the dataset infrastructure.
- **row** – The row given by the testing infrastructure.

authorized

Provides the current state of the `_authorized` attribute.

cleanup() → PyFunceble.dataset.db_base.DBDatasetBase

Cleanups the dataset.

execute_if_authorized()

Executes the decorated method only if we are authorized to process. Otherwise, apply the given `default`.

exists(*row: dict*) → bool

Checks if the given dataset exists in our dataset.

Parameters **row** – The row or dataset to add.

get_content() → Generator[Optional[dict], None, None]

Provides a generator which provides the next line to read.

get_filtered_content(*filter_map: dict*) → Generator[Optional[dict], None, None]

Provides a generator which provides the next dataset. to read.

Parameters **filter_map** – A dictionary representing what we need to filter.

Raises **TypeError** – When the given `filter_map` is not a `dict`.

get_filtered_row(*row: dict*) → dict

Removes all unkowns fields (not declared) from the given row.

Parameters **row** – The row to work with.

remove(*row: dict*) → PyFunceble.dataset.db_base.DBDatasetBase

Removes the given dataset from the database.

Parameters **row** – The row or dataset to remove.

Raises **TypeError** – When the given `row` is not a :py:class‘dict‘.

remove_unneeded_fields
Provides the current state of the `_remove_unneeded_fields`.

set_authorized(*value: bool*) → PyFunceble.dataset.db_base.DBDatasetBase
Sets the value of the `_authorized` attribute.

Parameters **value** – The value to set.

set_remove_unneeded_fields(*value: bool*) → PyFunceble.dataset.db_base.DBDatasetBase
Sets the value of the `_remove_unneeded_fields` attribute.

Parameters **value** – The value to set.

source_file = None

update(*row: dict*, *, *ignore_if_exist: bool = False*) → PyFunceble.dataset.db_base.DBDatasetBase
Adds the given dataset into the database if it does not exists. Update otherwise.

Parameters

- **row** – The row or dataset to manipulate.
- **ignore_if_exist** – Ignores the insertion/update if the row already exists.

Raises **TypeError** – When the given `row` is not a :py:class‘dict‘.

PyFunceble.dataset.iana module

The tool to check the availability or syntax of domain, IP or URL.

Provides an interface which let us interact with the IANA database.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.dataset.iana.**IanaDataset**

Bases: *PyFunceble.dataset.base.DatasetBase*

Provides the dataset handler for the IANA dataset.

DOWNLOADER = <PyFunceble.downloader.iana.IANADownloader object>

STORAGE_INDEX = 'IANA'

get_whois_server(*extension: str*) → Optional[str]

Provides the WHOIS server of the given dataset.

is_extension(*extension: str*) → bool

Checks if the given extension is registered.

Raises **TypeError** – When `extension` is not a `str`.

PyFunceble.dataset.ipv4_reputation module

The tool to check the availability or syntax of domain, IP or URL.

Provides an interface which let us interact with the IPv4 reputation database.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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class PyFunceble.dataset.ipv4_reputation.**IPV4ReputationDataset**

Bases: *PyFunceble.dataset.base.DatasetBase*

Provides the interface for the lookup of the IPv4 reputation.

DOWNLOADER = <PyFunceble.downloader.ipv4_reputation.IPV4ReputationDownloader object>

STORAGE_INDEX = None

get_content() → io.open

Provides a file handler which does let you read the content line by line.

Raises **FileNotFoundError** – When the declared file does not exists.

PyFunceble.dataset.mariadb_base module

The tool to check the availability or syntax of domain, IP or URL.

Provides the base of all Mariadb stored datasets.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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class PyFunceble.dataset.mariadb_base.**MariaDBDatasetBase**(*, *authorized: Optional[bool] = None*, *remove_unneeded_fields: Optional[bool] = None*, *db_session: Optional[sqlalchemy.orm.session.Session] = None*)

Bases: *PyFunceble.dataset.db_base.DBDatasetBase*

Provides the base of all MariaDB stored dataset.

ORM_OBJ = None

STD_KEEP_SESSION_OPEN = False

add(*row*) → PyFunceble.dataset.mariadb_base.MariaDBDatasetBase

Adds the given dataset into the database.

Parameters **row** – The row or dataset to add.

Raises **TypeError** – When the given `row` is not a `dict` or sqlalchemy schema.

db_session = None

ensure_orm_obj_is_given()

Ensures that the ORM object is given before launching the decorated method.

Raises **RuntimeError** – When `ORM_OBJ` is not declared.

exists(*row*) → bool

Checks if the given dataset exists in our dataset.

Parameters **row** – The row or dataset to check.

Raises **TypeError** – When the given `row` is not a `dict` or sqlalchemy schema.

get_content() → Generator[dict, None, None]

Provides a generator which provides the next dataset to read.

get_existing_row(*row*)

Returns the matching row.

Parameters **row** – The row or dataset to check,

get_existing_row_id(*row*)

Returns the ID of the existing row.

Parameters **row** – The row or dataset to check,

remove(*row*) → PyFunceble.dataset.mariadb_base.MariaDBDatasetBase

Removes the given dataset from the database.

Parameters **row** – The row or dataset to check.

Raises **TypeError** – When the given `row` is not a `dict` or sqlalchemy schema.

update(*row*, *, *ignore_if_exist: bool = False*) → PyFunceble.dataset.mariadb_base.MariaDBDatasetBase

Adds the given dataset into the database if it does not exists. Update otherwise.

Note: This should be the preferred method for introduction of new dataset.

Raises **TypeError** – When the given `row` is not a `dict` or sqlalchemy schema.

PyFunceble.dataset.public_suffix module

The tool to check the availability or syntax of domain, IP or URL.

Provides an interface which let us interact with the Public Suffix List.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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class PyFunceble.dataset.public_suffix.**PublicSuffixDataset**

Bases: *PyFunceble.dataset.base.DatasetBase*

Provides the dataset handler for the Public Suffix List dataset.

DOWNLOADER = <PyFunceble.downloader.public_suffix.PublicSuffixDownloader object>

STORAGE_INDEX = 'PUBLIC_SUFFIX'

get_available_suffix(*extension: str*) → List[str]

Provides the available suffix for the extension.

is_extension(*extension: str*) → bool

Checks if the given extension is registered.

Raises **TypeError** – When `extension` is not a `str`.

PyFunceble.dataset.user_agent module

The tool to check the availability or syntax of domain, IP or URL.

Provides an interface which let us interact with the Public Suffix List.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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class PyFunceble.dataset.user_agent.**UserAgentDataset**

Bases: *PyFunceble.dataset.base.DatasetBase*

Provides the dataset and infrastructure for the User Agent navigation

DOWNLOADER = <PyFunceble.downloader.user_agents.UserAgentsDownloader object>

STORAGE_INDEX = 'USER_AGENTS'

get_latest() → str

Provides the latest user agent for the given platform.

Side Effect: It tries to get the platform and browser from the configuration (if exists).

is_supported(*browser_short_name: str*, *platform: str*) → bool

Checks if the given browser and platform is supported.

Parameters

- **browser_short_name** – The short name of the browser.
- **platform** – The platform name.

Raises **TypeError** – When `browser_short_name` or `platform` are not `str`.

is_supported_browser(*browser_short_name: str*) → bool

Checks if the given browser is supported.

Raises **TypeError** – When `browser_short_name` is not a `str`.

prefered_browser = 'chrome'

prefered_platform = 'linux'

set_prefered(*browser_short_name: str, platform: str*) → PyFunceble.dataset.user_agent.UserAgentDataset

Sets the prefered browser to work with.

Parameters **browser_short_name** – The name of the browser to select.

Pram platform The name of the platform to select.

Raises

- **TypeError** – When the given `name` is not a `str`.
- **ValueError** – When the given `value` is not supported.

Module contents

The tool to check the availability or syntax of domain, IP or URL.

Provides all the dataset interaction submodules

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PyFunceble.downloader package

Submodules

PyFunceble.downloader.base module

The tool to check the availability or syntax of domain, IP or URL.

Provides the base of all our downloader.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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class PyFunceble.downloader.base.**DownloaderBase**

Bases: object

Provides the base of all downloader classes.

The interface is actually simple, but the part which may be hard to understand is the "downtime" part. What we do, is that we save the download time inside a JSON file, so this class provides the base around the download mechanism but also the generation or update of that JSON file.

DOWNLOAD_FREQUENCY = 1

The download frequency (in day).

Example: if 1 is given, it's once every 24 hours.

> **Warning:** A frequency of `0` or a negative number will force the download every hour.

DOWNTIME_INDEX = None
Used to set/track the download time of the current file.

all_downtimes = {'iana': {'iso': '2021-10-02T20:55:56.507109', 'timestamp': 1633208
Stores the download time of all files (self managed).

authorized
Provides the authorization to start the download.

destination
Provides the current state of the `_destination` attribute.

dict_helper = <PyFunceble.helpers.dict.DictHelper object>

download_link
Provides the current state of the `_download_link` attribute.

get_all_downtimes() → dict
Provides the downloadtime of all files.

get_current_downtime()
Provides the download times of the current `DOWN_TIME_INDEX`.

is_downtime_set() → bool
Checks if the download time of the current object exists.

is_last_download_expired() → bool
Checks if the last downloaded file is expired (if exists).

save_all_downtimes() → None
Saves the current state of the all downtimes.

set_current_downtime() → PyFunceble.downloader.base.DownloaderBase
Sets the current datetime into our registry.

set_destination(*value: str*) → PyFunceble.downloader.base.DownloaderBase
Sets the destination.

Parameters **value** – The value to set.

set_download_link(*value: str*) → PyFunceble.downloader.base.DownloaderBase
Sets the link to download.

Parameters **value** – The value to set.

start() → None
Starts the download process.

PyFunceble.downloader.exceptions module

The tool to check the availability or syntax of domain, IP or URL.

Provides the exceptions related to the downloader.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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exception PyFunceble.downloader.exceptions.**NoDownloadDestinationGiven**

Bases: *PyFunceble.downloader.exceptions.PyFuncebleDownloaderException*

Describes the fact that the download destination was not declared.

exception PyFunceble.downloader.exceptions.**NoDownloadLinkGiven**

Bases: *PyFunceble.downloader.exceptions.PyFuncebleDownloaderException*

Describes the fact that no download link was declared.

exception PyFunceble.downloader.exceptions.**PyFuncebleDownloaderException**

Bases: *PyFunceble.exceptions.PyFuncebleException*

Describes the downloader (related) exceptions.

PyFunceble.downloader.iana module

The tool to check the availability or syntax of domain, IP or URL.

Provides the downloader of the latest iana database file.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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class PyFunceble.downloader.iana.**IANADownloader**

Bases: *PyFunceble.downloader.base.DownloaderBase*

Provides the downloader of our iana file.

DOWNLOAD_FREQUENCY = 1

DOWNTIME_INDEX = 'iana'

authorized

Provides the authorization to start the download.

PyFunceble.downloader.ipv4_reputation module

The tool to check the availability or syntax of domain, IP or URL.

Provides the downloader of the latest user agents database file.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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class PyFunceble.downloader.ipv4_reputation.**IPV4ReputationDownloader**

Bases: *PyFunceble.downloader.base.DownloaderBase*

Provides the downloader of our user agent file.

DOWNLOAD_FREQUENCY = 1

DOWNTIME_INDEX = 'ipv4_reputation'

authorized

Provides the authorization to start the download.

PyFunceble.downloader.public_suffix module

The tool to check the availability or syntax of domain, IP or URL.

Provides the downloader of the latest iana database file.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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class PyFunceble.downloader.public_suffix.**PublicSuffixDownloader**

Bases: *PyFunceble.downloader.base.DownloaderBase*

Provides the downloader of our public suffix file.

DOWNLOAD_FREQUENCY = 1

DOWNTIME_INDEX = 'psl'

authorized

Provides the authorization to start the download.

PyFunceble.downloader.user_agents module

The tool to check the availability or syntax of domain, IP or URL.

Provides the downloader of the latest user agents database file.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.downloader.user_agents.**UserAgentsDownloader**

Bases: *PyFunceble.downloader.base.DownloaderBase*

Provides the downloader of our user agent file.

DOWNLOAD_FREQUENCY = 1

DOWNTIME_INDEX = 'user_agents'

authorized

Provides the authorization to start the download.

Module contents

The tool to check the availability or syntax of domain, IP or URL.

Provides all downloaders.

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PyFunceble.helpers package

Submodules

PyFunceble.helpers.command module

The tool to check the availability or syntax of domain, IP or URL.

Provides the command helpers. This helpers let us run Shell commands.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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class PyFunceble.helpers.command.**CommandHelper**(*command: Union[str, list, None] = None, *, encoding: Optional[str] = None*)

Bases: object

Shell command execution.

Parameters

- **command** (*str*) – The command to execute.
- **encoding** (*str*) – The encoding to use to decode the shell output.

command

Provides the current state of the _command attribute.

encoding

Provides the current state of the _encoding attribute.

execute(*, *raise_on_error: bool = False*) → str

Execute the given command.

Parma raise_on_error Raises on error if set to `True`.

Returns The output of the command.

Raises **`RuntimeError`** – When the exit code is not equal to 0.

`run`(*rstrip: bool = True*) → Generator[str, None, None]
Run the given command and yield each line(s) one by one.

Note: The difference between this method and `execute()` is that `execute()` wait for the process to end in order to return its output while this method return each line one by one - as they are outputed.

Parameters **`rstrip`** (*bool*) – Deactivates the rstrip of the output.

`run_to_stdout`() → None
Run the given command and print each line(s) to stdout.

`set_command`(*value: Union[str, list]*) → PyFunceble.helpers.command.CommandHelper
Sets the command to use.

Parameters **`value`** – The command to use/execute.

`set_encoding`(*value: str*) → PyFunceble.helpers.command.CommandHelper
Sets the encoding to use.

Parameters **`value`** – The value to set.

PyFunceble.helpers.dict module

The tool to check the availability or syntax of domain, IP or URL.

Provides the dict helpers.

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```

class PyFunceble.helpers.dict.**DictHelper**(*subject: Union[Any, dict, None] = None*)

Bases: object

Simplify some dict manipulation.

Parameters **main** (*dict*) – The main dict to work with.

Raises **TypeError** – When main is not a dict nor a list (tolarated).

flatten(*, *separator: str = '.'*, *previous: Optional[str] = None*, *data: Optional[Any] = None*) → dict

Flatten the current dictionnary.

Parameters

- **separator** – The separator to apply.
- **previous** – The previous key we are working with.
- **data** – The data to work with. If not given, we fallback to self.subject.

static from_json(*json_str: str*, *return_dict_on_error: bool = True*) → Union[List[Any], dict, None]

Converts a given JSON string to dict/list.

Parameters

- **json_str** – The JSON string ot convert.
- **return_dict_on_error** – Returns a dict instead of a None.

static from_json_file(*file_path: str*, *encoding: str = 'utf-8'*, *return_dict_on_error: bool = True*) → Union[List[Any], dict, None]

Reads the given file path and convert it's content to dict/list (tolarated).

Parameters

- **file_path** – The file path.
- **return_dict_on_error** – Return a dict instead of a NoneType.

Parma encoding The encoding to use.

static from_yaml(*yaml_str*) → Union[List[Any], dict]

Converts the given YAML string to dict/list.

Parameters **yaml_str** (*str*) – The YAML string to convert.

static from_yaml_file(*file_path: str*, *encoding: str = 'utf-8'*) → Union[List[Any], dict]

Converts a given YAML formatted file, into dict/list.

Parameters

- **file_path** – The file path.
- **encoding** – The encoding to use.

has_same_keys_as(*to_check: dict*, *loop: bool = False*) → bool
Checks if keys are presents in both given `dict`.

Parameters

- **to_check** – The dict to compare with.
- **loop** – DO NOT USE, only used to tell us wen to return the list of dataset or the final result.

remove_key(*key_to_remove: Union[str, List[str]]*) → Union[Any, dict, None]
Remove a given key from a given dictionary.

Parameters **key_to_remove** – The key(s) to delete.

Returns The dict without the given key(s).

rename_key(*key_to_rename: dict*, *strict: bool = True*) → dict
Rename the given keys from the given dictionary.

Parameters

- **key_to_rename** – The key(s) to rename.

  Expected format: `{old:new}`
- **strict** – Tell us if we have to rename the exact index or the index which looks like the given key(s)

Returns The well formatted dict.

set_subject(*value: Any*) → PyFunceble.helpers.dict.DictHelper
Sets the subject to work with.

Parameters **value** – The value to set.

subject
Provides the current state of the `_subject` attribute.

to_json(*ensure_ascii: bool = False*, *indent: int = 4*, *sort_keys: bool = True*, *own_class: Optional[json.encoder.JSONEncoder] = None*) → str
Converts a given dict to JSON and return the json string.

Parameters

- **ensure_ascii** – Avoids unicode.
- **indent** – The indentation to apply.
- **sort_keys** – Sort the keys.
- **own_class** – A class to use for the conversion to json.

to_json_file(*file_path: str*, *ensure_ascii: bool = False*, *indent: int = 4*, *sort_keys: bool = True*, *encoding: str = 'utf-8'*, *own_class: Optional[json.encoder.JSONEncoder] = None*) → None
Converts the given `dict` to JSON and save the result into a given file path.

Parameters

- **file_path** – The file path.
- **ensure_ascii** – Avoids unicode.
- **indent** – The indentation to apply.
- **sortkeys** – Sorts the keys.

- **encoding** – The encoding to apply.
- **own_class** – A class to use for the conversion to json.

to_yaml(*encoding: str = 'utf-8', default_flow_style: bool = False, indent: int = 4, allow_unicode: bool = True, sort_keys: bool = True*) → str

Converts the given dict/list to the YAML format and return the result.

Parameters

- **encoding** (*str*) – The encoding to use.
- **default_flow_style** (*bool*) – Uses the default flow style.
- **indent** (*int*) – The indentation to apply.
- **allow_unicode** (*bool*) – Allows the decoding of unicode chars.
- **sort_keys** (*bool*) – Sors the keys.

Return type dict|list

to_yaml_file(*file_path: str, encoding: str = 'utf-8', default_flow_style: bool = False, indent: int = 4, allow_unicode: bool = True, sort_keys: bool = True*) → None

Converts the given dict/list to YAML and save the result into a file.

Parameters

- **file_path** – The file path.
- **encoding** – The encoding.
- **default_flow_style** – Uses the default flow style.
- **indent** – The indentation to apply.
- **allow_unicode** – Allows the decoding of unicode chars.
- **sort_keys** – Sorts the keys.

unflatten(*, *separator: str = '.', data: Optional[Any] = None*)

Unflatten a previously flatten dictionnary.

Parameters **separator** – The separator to split.

PyFunceble.helpers.directory module

The tool to check the availability or syntax of domain, IP or URL.

Provides the directory helpers.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```


class PyFunceble.helpers.directory.**DirectoryHelper**(*path: Optional[str] = None*)

Bases: object

Simplify the directories manipulation.

:param str dir_path the path to work with.

create() → PyFunceble.helpers.directory.DirectoryHelper

Creates the given directory path.

Returns The output of `self.exists` after the directory creation.

delete() → PyFunceble.helpers.directory.DirectoryHelper

Deletes the given directory path.

Returns `not self.exists` after the directory deletion.

exists() → bool

Checks if the given directory exists.

static get_current(*, *with_end_sep: bool = False*) → str

Returns the current directory path.

Parameters **with_end_sep** (*bool*) – Add a directory separator at the end.

join_path(**args*) → str

Joins the given arguments with the given path.

list_all_files() → List[str]

Lists all files of the current path.

list_all_subdirectories() → List[str]

Provides the list of all subdirectories of the current path.

path

Provides the current state of the `_path` attribute.

realpath

Returns the real path of the current path.

set_path(*value: str*) → PyFunceble.helpers.directory.DirectoryHelper

Sets the directory path to work with.

Parameters **value** – The path to set.

PyFunceble.helpers.download module

The tool to check the availability or syntax of domain, IP or URL.

Provides the download helpers.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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class PyFunceble.helpers.download.**DownloadHelper**(*url: Optional[str] = None, *, certificate_validation: bool = True, retries: int = 3*)

Bases: object

Simplification of the downloads.

Parameters

- **url** (*str*) –
- **retry** (*int*) – The number of time we have to retry before raising an exception.

certificate_validation

Provides the current state of the certificate_validation attribute.

download_text(*, *destination: Optional[str] = None*) → str

Download the body of the set url.

Note: if destination is set to None, we only return the output.

Otherwise, we save the output into the given destination, but we also return the output.

Parameters **destination** – The download destination.

Raises *UnableToDownload* – When could not unable to download the URL.

retries
Provides the current state of the `_retries` attributes.

set_certificate_validation(*value: bool*) → PyFunceble.helpers.download.DownloadHelper
Sets the value of the certificate validation.

Parameters **value** – The value to set.

set_retries(*value: int*) → PyFunceble.helpers.download.DownloadHelper
Sets the number of retries we are allowed to perform before raising an exception.

Parameters **value** – The number of retry to apply.i

set_url(*value: str*) → PyFunceble.helpers.download.DownloadHelper
Sets the url to work with.

Parameters **value** – The URL to set.

url
Provides the current state of the `_url` attribute.

PyFunceble.helpers.environment_variable module

The tool to check the availability or syntax of domain, IP or URL.

Provides the environment variable helpers.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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class PyFunceble.helpers.environment_variable.**EnvironmentVariableHelper**(*name: Optional[str] = None, env_file_path: Optional[str] = None*)

Bases: object

Simplify the way we work with environment variable.

Parameters **name** (*str*) – The name of the environment variable to work with.

delete() → PyFunceble.helpers.environment_variable.EnvironmentVariableHelper
Deletes the given environment variable if exists.

delete_from_env_file() → PyFunceble.helpers.environment_variable.EnvironmentVariableHelper
Deletes the given environment file from the given dotenv file.

> **Warning:** This method also delete the environment variable from the current environment.

env_file_path
Provides the current state of the _env_file_path attribute.

exists() → bool
Checks if the given environment variable name exists.

get_value(*, *default: Optional[Any] = None*) → Union[Any, str]
Returns the value of the given environment variable name (if exists.)

Parameters **default** – The default value to return.

get_value_from_env_file(*, *default: Optional[Any] = None*) → Union[Any, str]
Returns the value of the given environment variable if it exists in the given file path.

name
Provides the current state of the _name attribute.

set_env_file_path(*value: str*) → PyFunceble.helpers.environment_variable.EnvironmentVariableHelper
Sets the location of the environment file to work with.

Parameters **value** – The name to set.

set_name(*value: str*) → PyFunceble.helpers.environment_variable.EnvironmentVariableHelper
Sets the name of the environment variable to work with.

Parameters **value** – The name to set.

set_value(*value: str*) → PyFunceble.helpers.environment_variable.EnvironmentVariableHelper
Sets the given value into the given environment variable name.

Parameters **value** (*str*) – The value to set.

Raises **TypeError** – When `value` is not a `value`.

set_value_in_env_file(*value: str*) → PyFunceble.helpers.environment_variable.EnvironmentVariableHelper
Sets the given value and save it into the given dotenv file.

> **Warning:** This method also set the environment variable from the current environment.

Parameters **value** – The value to set.

PyFunceble.helpers.exceptions module

The tool to check the availability or syntax of domain, IP or URL.

Provides the exceptions related to the helpers.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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exception PyFunceble.helpers.exceptions.**PyFuncebleHelperException**
Bases: *PyFunceble.exceptions.PyFuncebleException*

Describes the helper (related) exceptions.

exception PyFunceble.helpers.exceptions.**UnableToDownload**

Bases: *PyFunceble.helpers.exceptions.PyFuncebleHelperException*

Describes a failing download.

PyFunceble.helpers.file module

The tool to check the availability or syntax of domain, IP or URL.

Provides the file helpers.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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class PyFunceble.helpers.file.**FileHelper**(*path: Optional[str] = None*)

Bases: object

Simplify the file manipulations.

Parameters **path** (*str*) – The file path to work with.

copy(*destination: str*) → PyFunceble.helpers.file.FileHelper

Copy the globaly given file path to the given destination.

Parameters **destination** (*str*) – The destination of the copy.

delete() → PyFunceble.helpers.file.FileHelper

Deletes the given file path if it exists.

exists() → bool
Checks if the given file path exists.

get_size() → int
Provides the size (in bytes) of the given file path.

is_empty() → bool
Checks if the given file path is empty.

join_path(**args*) → str
Joins the given arguments with the given path.

move(*destination*) → PyFunceble.helpers.file.FileHelper
Move the globally given file path to the given destination.

Parameters **destination** (*str*) – The destination of the file.

open(**args*, ***kwargs*) → io.open
A wrapper for the built-in *open* function.

path
Provides the current state of the `_path` attribute.

read(**, encoding: str = 'utf-8'*) → Optional[str]
Read the given file path and return it's content.

Parameters **encoding** (*str*) – The encoding to use.

read_bytes() → Optional[bytes]
Read the given file ath and returns it's bytes contetn.

set_path(*value: str*) → PyFunceble.helpers.file.FileHelper
Sets the path to work with.

Parameters **value** – The path to work with.

write(*data: Any, *, overwrite: bool = False, encoding: str = 'utf-8'*) → PyFunceble.helpers.file.FileHelper
Write the given data into the given file path.

Parameters

- **data** – The data to write.
- **encoding** – The encoding to use while opening the file.

PyFunceble.helpers.hash module

The tool to check the availability or syntax of domain, IP or URL.

Provides the hashing helpers.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```


class `PyFunceble.helpers.hash.`**`HashHelper`**(*algo: Optional[str] = None*)

Bases: `object`

Simplify the hashing of data or file content.

Parameters **`algo`** (*`str`*) – The algorithm to use for hashing.

Raises **`ValueError`** – When the given algo is not known.

`algo`

Provides the current state fo the `_algo` attribute.

`hash_data`(*data: Union[str, bytes]*) → str

Hashes the given data.

Parameters **`data`** – The data to hash.

Raises **`TypeError`** – When `data` is not `str` or `bytes`.

`hash_file`(*file_path: str*) → str

Hashes the content of the given file.

Parameters **`file_path`** – The path of the file to read.

`set_algo`(*value: str*) → PyFunceble.helpers.hash.HashHelper

Sets the algorithm to work with.

Parameters **`value`** – The name of the hash to use.

PyFunceble.helpers.list module

The tool to check the availability or syntax of domain, IP or URL.

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Provides the list helpers

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```


class PyFunceble.helpers.list.**ListHelper**(*subject: Optional[List[Any]] = None*)

Bases: object

Simplify the list manipulation.

Parameters

- **subject** – The list to work with.
- **remove_empty** (*bool*) – Process the deletion of empty strings.

custom_sort(*key_method: Any, *, reverse: bool = False*) → PyFunceble.helpers.list.ListHelper

Sorts the list with the given key method.

Parameters

- **key_method** (*function|method*) – A function or method to use to format the readed element before sorting.
- **reverse** (*bool*) – Tell us if we have to reverse the list.

remove_duplicates() → PyFunceble.helpers.list.ListHelper

Removes the duplicates of the current list.

remove_empty() → PyFunceble.helpers.list.ListHelper

Removes the empty entries of the given list.

set_subject(*value: List[Any]*) → PyFunceble.helpers.list.ListHelper

Sets the subject to work with.

Parameters **value** – The subject to work with.

sort (*, *reverse: bool = False*) → PyFunceble.helpers.list.ListHelper
Sorts the given list (of string preferably).

param bool reverse Tell us if we have to reverse the list.

subject
Provides the current state of the `_subject` attribute.

PyFunceble.helpers.merge module

The tool to check the availability or syntax of dosubject, IP or URL.

Provides the merging helpers.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.helpers.merge.**Merge** (*subject: Optional[Any] = None*)
Bases: object

Simplify the merging of dict and list.

Parameters **subject** – The subject to work with.

into (*origin: Any*, *strict: bool = True*) → Any
Process the mergin.

Parameters

- **origin** – The original data.

- **strict** – Activates the strict mode.

set_subject(*value: Any*) → PyFunceble.helpers.merge.Merge

Sets the subject to work with.

Parameters **value** – The subject to work with.

Raises **TypeError** – When `value` is not a `list`.

subject

Provides the current state of the `_subject` attribute.

PyFunceble.helpers.regex module

The tool to check the availability or syntax of domain, IP or URL.

Provides the regular expressions helpers.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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class PyFunceble.helpers.regex.**RegexHelper**(*regex: Optional[str] = None, escape_regex: bool = False*)

Bases: `object`

Simplify the regex matching and usage.

Parameters

- **regex** (*str*) – The regex to use.

- **escape_regex** – Escapes the given regex.

escape_regex = False

get_matching_list (*data: List[str]*) → List[str]
Returns the strings which does the match the regex in the given data.

get_not_matching_list (*data: List[str]*) → List[str]
Returns the strings which does not the match the regex in the given data.

match (*data: str*, *, *rematch: bool = False*, *group: int = 0*, *return_match: bool = True*) → Union[bool, str, List[str]]
Checks if the given data match the given regex string.

Parameters

- **data** – The data to work with.
- **rematch** – The equivalent of the $BASH_REMATCH but in Python.

  It's basically a list of all groups.
- **group** – The group to return when return_match is set to `True`.
- **return_match** – Return the part that match the given regex string.

regex
Provides the current state of the `_regex` attribute.

replace_match (*data: str*, *replacement: str*, *, *occurences: int = 0*, *multiline: bool = False*) → str
Replaces the string which match the regex string with the given replacement.

Parameters

- **data** – The data to work with.
- **replacement** – The replacement of the matched regex.
- **occurences** – The number of occurences to replace.

  Note: `0` means all occurences.

set_regex (*value: str*) → PyFunceble.helpers.regex.RegexHelper
Sets the regex to work with.

Parameters **value** – The regex to work with.

Raises **TypeError** – When `value` is not `str`.

split (*data: str*) → List[str]
Split the reference of the given regex.

Parameters **data** (*str*) – The data to work with.

Return type list

Module contents

The tool to check the availability or syntax of domain, IP or URL.

Provides the helpers.

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PyFunceble.query package

Subpackages

PyFunceble.query.dns package

Submodules

PyFunceble.query.dns.nameserver module

The tool to check the availability or syntax of domain, IP or URL.

Provides a way to get or guess the nameserver to use.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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Project link: https://github.com/funilrys/PyFunceble

Project documentation: https://pyfunceble.readthedocs.io/en/latest/

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```


class PyFunceble.query.dns.nameserver.**Nameservers**(*nameserver: Optional[List[str]] = None, protocol: str = 'TCP'*)

Bases: object

Provides an interface to get the right nameserver to communicate with.

domain_syntax_checker = <PyFunceble.checker.syntax.domain.DomainSyntaxChecker object>

classmethod get_ip_from_nameserver(*nameserver: str*) → List[str]

Given a nameserver, this method resolve it in order to get the IP to contact.

Parameters **nameserver** – The name to resolve.

get_nameserver_ports() → Optional[dict]

Provides the currently set nameserver_ports.

get_nameservers() → Optional[List[str]]

Provides the currently set nameservers.

guess_all_settings() → PyFunceble.query.dns.nameserver.Nameservers

Try to guess all settings.

guess_and_set_nameservers() → PyFunceble.query.dns.nameserver.Nameservers

Try to guess and set the nameserver to use.

nameserver_ports = None

nameservers = None

protocol = None

set_nameservers(*value: List[str]*) → PyFunceble.query.dns.nameserver.Nameservers

Sets the nameserver to use.

Side Effect: Also updates the `nameserver_ports` variable.

Raises

- **TypeError** – When the given `value` is not a `list`.
- **ValueError** – When the given `value` is emtpy.

static split_nameserver_from_port(*nameserver: str, *, default_port: int = 53*) → Tuple[str, int]

Splits the nameserver from its port.re

Parameters

- **nameserver** – The nameserver to work with.
- **default_port** – The default port to apply, if none is found.

url2netloc = <PyFunceble.converter.url2netloc.Url2Netloc object>

url_syntax_checker = <PyFunceble.checker.syntax.url.URLSyntaxChecker object>

PyFunceble.query.dns.query_tool module

The tool to check the availability or syntax of domain, IP or URL.

Provides an interface for the query.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.query.dns.query_tool.**DNSQueryTool**(*, *nameservers: Optional[List[str]] = None, follow_nameserver_order: Optional[bool] = None, preferred_protocol: Optional[str] = None, trust_server: Optional[bool] = None, delay: Optional[bool] = None*)

Bases: object

Provides our query tool.

STD_DELAY = 0.0

STD_FOLLOW_NAMESERVER_ORDER = True

STD_PROTOCOL = 'UDP'

STD_TIMEOUT = 5.0

STD_TRUST_SERVER = False

SUPPORTED_PROTOCOL = ['TCP', 'UDP', 'HTTPS', 'TLS']

delay

Provides the current state of the _delay attribute.

dns_name = None

ensure_subject_is_given()

Ensures that the subject to work with is given before running the decorated method.

Raises **TypeError** – If self.subject is not a str.

follow_nameserver_order

Provides the current state of the _follow_nameserver_order attribute.

get_dns_name_from_subject_and_query_type()

Provides the dns name based on the current subject and query type.

get_human_query_record_type() → str

Provides the currently set record type.

get_lookup_record() → Optional[PyFunceble.query.record.dns.DNSQueryToolRecord]

Provides the current query record.

guess_all_settings() → PyFunceble.query.dns.query_tool.DNSQueryTool

Try to guess all settings.

guess_and_set_delay() → PyFunceble.query.dns.query_tool.DNSQueryTool

Try to guess and set the delay to apply.

guess_and_set_follow_nameserver_order() → PyFunceble.query.dns.query_tool.DNSQueryTool

Try to guess and authorize the mix of the nameserver before each query.

guess_and_set_preferred_protocol() → PyFunceble.query.dns.query_tool.DNSQueryTool

Try to guess and set the preferred procol.

guess_and_set_timeout() → PyFunceble.query.dns.query_tool.DNSQueryTool

Try to guess and set the timeout.

guess_and_set_trust_server() → PyFunceble.query.dns.query_tool.DNSQueryTool

Try to guess and set the trust flag.

https() → Optional[List[str]]
Request the chosen record through the https protocol.

ignore_if_query_message_is_missing()
Ignores the call to the decorated method if the query message is missing. Otherwise, return an empty list.

lookup_record = None

nameservers = <PyFunceble.query.dns.nameserver.Nameservers object>

preferred_protocol
Provides the current state of the `_preferred_protocol` attribute.

prepare_query()
Prepare the query after running the decorated method.

query() → Optional[List[str]]
Process the query based on the preferred protocol.

query_message = None

query_record_type
Provides the current state of the `_query_record_type` attribute.

query_timeout
Provides the current state of the `_query_timeout` attribute.

rdata_type2value = {'A': 1, 'A6': 38, 'AAAA': 28, 'AFSDB': 18, 'AMTRELAY': 259, 'ANY'

set_delay(*value: Union[int, float]*) → PyFunceble.query.dns.query_tool.DNSQueryTool
Sets the delay to apply.

Parameters **value** – The delay to apply.

set_follow_nameserver_order(*value: bool*) → PyFunceble.query.dns.query_tool.DNSQueryTool
Updates the `follow_nameserver_order` variable.

Parameters **value** – The value to set.

set_nameservers(*value: List[str]*) → PyFunceble.query.dns.query_tool.DNSQueryTool
Sets the nameservers to work with.

Raises

- **TypeError** – When the given `value` is not a list of `str`.
- **ValueError** – When the given `value` is empty.

set_preferred_protocol(*value: str*) → PyFunceble.query.dns.query_tool.DNSQueryTool
Sets the preferred protocol.

Parameters **value** – The protocol to use.

set_query_record_type(*value: Union[str, int]*) → PyFunceble.query.dns.query_tool.DNSQueryTool
Sets the DNS record type to query.

Parameters **value** – The value to set. It can be the human version (e.g AAAA) or an integer as registered in the `value2rdata_type` attribute.

set_subject(*value: str*) → PyFunceble.query.dns.query_tool.DNSQueryTool
Sets the subject to work with.

Parameters **value** – The subject to set.

set_timeout(*value: Union[int, float]*) → PyFunceble.query.dns.query_tool.DNSQueryTool
Sets the timeout to apply.

Parameters **value** – The timeout to apply.

set_trust_server(*value: bool*) → PyFunceble.query.dns.query_tool.DNSQueryTool
Sets the value to apply.

Parameters **value** – The value to apply.

subject
Provides the current state of the `_subject` attribute.

tcp() → Optional[List[str]]
Request the chosen record through the TCP protocol.

tls() → Optional[List[str]]
Request the chosen record through the TLS protocol.

trust_server
Provides the current state of the `trust_server` attribute.

udp() → Optional[List[str]]
Request the chosen record through the UTP protocol.

update_lookup_record()
Ensures that a clean record is generated after the execution of the decorated method.

update_lookup_record_response()
Ensures that the response of the decorated method is set as response in our record.

value2rdata_type = {0: 'TYPE0', 1: 'A', 2: 'NS', 3: 'MD', 4: 'MF', 5: 'CNAME', 6

PyFunceble.query.dns.resolver module

The tool to check the availability or syntax of domain, IP or URL.

Provides a way to provides the nameserver to use.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.query.dns.resolver.**Resolver**(*nameservers: Optional[List[str]] = None, timeout: Optional[float] = None*)

Bases: object

Provides the right resolver.

Parameters **nameservers** – The list of nameservers to communicate with.

STD_TIMEOUT = 5.0

configure_resolver()
Configures the resolvers after calling the decorated method.

get_nameserver_ports() → Optional[dict]
Provides the currently set list of nameserver ports.

get_nameservers() → Optional[List[str]]
Provides the currently set list of nameserver.

get_resolver() → dns.resolver.Resolver
Provides the resolver to work with.

get_timeout() → Optional[float]
Provides the currently set query timeout.

guess_all_settings() → PyFunceble.query.dns.resolver.Resolver
Try to guess all settings.

guess_and_set_timeout() → PyFunceble.query.dns.resolver.Resolver
Tries to guess the the timeout from the configuration.

internal_resolver = None

nameservers = <PyFunceble.query.dns.nameserver.Nameservers object>

set_nameservers(*value: List[str]*) → PyFunceble.query.dns.resolver.Resolver
Sets the given nameserver.

set_timeout(*value: Union[float, int]*) → PyFunceble.query.dns.resolver.Resolver
Sets the timeout of a query.

timeout = 3.0

Module contents

The tool to check the availability or syntax of domain, IP or URL.

Provides everything related to our very own dns resolver.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```


PyFunceble.query.netinfo package

Submodules

PyFunceble.query.netinfo.address module

The tool to check the availability or syntax of domain, IP or URL.

Provides an interface to get the information of a given address.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```


class PyFunceble.query.netinfo.address.**AddressInfo**(*subject: Optional[str] = None*)

Bases: *PyFunceble.query.netinfo.base.NetInfoBase*

Provides the information of a given address.

get_info() → Optional[List[str]]

Fetch and provides the information of the given hosts.

Returns A list of of IP related to the given host.

PyFunceble.query.netinfo.base module

The tool to check the availability or syntax of domain, IP or URL.

Provides the base of all checker.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.query.netinfo.base.**NetInfoBase**(*subject: Optional[str] = None*)

Bases: object

Provides the base of network information classes.

base = None

ensure_subject_is_given()

Ensures that the subject is given before running the decorated method.

Raises **TypeError** – If the subject is not a string.

get_info() → Any

Provides the wanted network information.

set_subject(*value: str*) → PyFunceble.query.netinfo.base.NetInfoBase

Sets the subject to work with.

Parameters **value** – The subject to set.

subject

Provides the current state of the _subject attribute.

PyFunceble.query.netinfo.hostbyaddr module

The tool to check the availability or syntax of domain, IP or URL.

```
```

Provides an interface to get the information of a given host.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.query.netinfo.hostbyaddr.**HostByAddrInfo**(*subject: Optional[str] = None*)

Bases: *PyFunceble.query.netinfo.base.NetInfoBase*

Provides the information of a given address/IP.

get_info() → Optional[dict]

Fetch and provides the information of the given hosts.

Returns

A dictionnary with the following format or `None` if nothing was found.

```
{
    "hostname": "",
    "aliases": [],
    "ips": []
}
```

Module contents

The tool to check the availability or syntax of domain, IP or URL.

Provides all our network info related subdmodules.

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```

PyFunceble.query.record package

Submodules

PyFunceble.query.record.base module

The tool to check the availability or syntax of domain, IP or URL.

Provides the base of all our record classes.

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```

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```

class PyFunceble.query.record.base.**RecordBase**

Bases: object

Provides the base of all query record classes.

to_dict() → dict

Provides the dict representation of the current object.

PyFunceble.query.record.dns module

The tool to check the availability or syntax of domain, IP or URL.

Provides the record class of the dns query tool.

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```

class PyFunceble.query.record.dns.**DNSQueryToolRecord**(*nameserver: Optional[str] = None, port: Optional[int] = None, follow_nameserver_order: Optional[bool] = None, preferred_protocol: Optional[str] = None, used_protocol: Optional[str] = None, query_record_type: Optional[str] = None, query_timeout: Optional[float] = None, subject: Optional[str] = None, dns_name: Optional[str] = None, response: Optional[List[str]] = None*)

Bases: *PyFunceble.query.record.base.RecordBase*

Provides a record of an executed request.

dns_name = None

follow_nameserver_order = None

nameserver = None

port = None

preferred_protocol = None

query_record_type = None

query_timeout = None

response = None

subject = None

used_protocol = None

PyFunceble.query.record.whois module

The tool to check the availability or syntax of domain, IP or URL.

Provides the record class of the whois query tool.

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```


class PyFunceble.query.record.whois.**WhoisQueryToolRecord**(*server: Optional[str] = None, port: Optional[str] = None, query_timeout: Optional[float] = None, subject: Optional[str] = None, record: Optional[str] = None, expiration_date: Optional[str] = None*)

Bases: *PyFunceble.query.record.base.RecordBase*

Provides a record of an executed request.

expiration_date = None

port = None

query_timeout = None

record = None

server = None

subject = None

Module contents

The tool to check the availability or syntax of domain, IP or URL.

Provides all records classes.

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PyFunceble.query.requests package

Subpackages

PyFunceble.query.requests.adapter package

Submodules

PyFunceble.query.requests.adapter.base module

The tool to check the availability or syntax of domain, IP or URL.

Provides the base of all our adapter.

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```

class PyFunceble.query.requests.adapter.base.**RequestAdapterBase**(**args*, ***kwargs*)

Bases: requests.adapters.HTTPAdapter

Extends the built-in HTTP adapater and acts as a base for all our own adapter.

static fake_response() → requests.models.Response

Provides the fake response that is provided when we couldn't resolve the given domain.

resolve(*hostname: str*) → Optional[str]

Resolves with the prefered method.

resolve_with_cache(*hostname: str*) → Optional[str]

Try to resolve using an internal cache.

resolve_without_cache(*hostname: str*) → Optional[str]

Resolves the IP of the given hostname.

Parameters **hostname** – The hostname to get resolve.

resolving_cache = {}

resolving_use_cache = False

timeout = 5.0

PyFunceble.query.requests.adapter.http module

The tool to check the availability or syntax of domain, IP or URL.

```
```

Provides the our HTTP adapter.

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```


class PyFunceble.query.requests.adapter.http.**RequestHTTPAdapter**(**args*, ***kwargs*)

Bases: *PyFunceble.query.requests.adapter.base.RequestAdapterBase*

Provides our HTTP adapter.

send(*request*, ***kwargs*) → requests.models.Response

Overwrite the upstream `send` method.

We basically do the same. We only ensure that we request the IP from the chosen DNS record.

Parameters

- **request** – The `PreparedRequest` being sent.
- **stream** – (optional) Whether to stream the request content.
- **timeout** (*float or tuple or urllib3 Timeout object*) – (optional) How long to wait for the server to send data before giving up, as a float, or a (connect timeout, read timeout) tuple.
- **verify** – (optional) Either a boolean, in which case it controls whether we verify the server's TLS certificate, or a string, in which case it must be a path to a CA bundle to use
- **cert** – (optional) Any user-provided SSL certificate to be trusted.
- **proxies** – (optional) The proxies dictionary to apply to the request.

Return type requests.Response

PyFunceble.query.requests.adapter.https module

The tool to check the availability or syntax of domain, IP or URL.

Provides the our HTTPS adapter.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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Project link: https://github.com/funilrys/PyFunceble

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```


class PyFunceble.query.requests.adapter.https.**RequestHTTPSAdapter**(**args*, ***kwargs*)

Bases: *PyFunceble.query.requests.adapter.base.RequestAdapterBase*

Provides our HTTP adapter.

send(*request*, ***kwargs*) → requests.models.Response

Overwrite the upstream `send` method.

We basically do the same. We only ensure that we request the IP from the chosen DNS record.

Parameters

- **request** – The `PreparedRequest` being sent.
- **stream** – (optional) Whether to stream the request content.
- **timeout** (*float or tuple or urllib3 Timeout object*) – (optional) How long to wait for the server to send data before giving up, as a float, or a (connect timeout, read timeout) tuple.
- **verify** – (optional) Either a boolean, in which case it controls whether we verify the server's TLS certificate, or a string, in which case it must be a path to a CA bundle to use
- **cert** – (optional) Any user-provided SSL certificate to be trusted.
- **proxies** – (optional) The proxies dictionary to apply to the request.

Return type requests.Response

Module contents

The tool to check the availability or syntax of domain, IP or URL.

Provides everything related to our request adapters.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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Submodules

PyFunceble.query.requests.requester module

The tool to check the availability or syntax of domain, IP or URL.

Provides our own requests handler

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```

class PyFunceble.query.requests.requester.**Requester**(*, *max_retries: Optional[int] = None, verify_certificate: Optional[bool] = None, timeout: Optional[float] = None, max_redirects: Optional[int] = None*)

Bases: object

Provides our very own requests handler.

Parameters

- **max_retries** (*int*) – Optional, The maximum number of retries to perform.
- **verify_certificate** (*bool*) – Optional, Should we verify and validate the SSL/TLS certificate ?
- **timeout** (*float*) – Optional, The timeout to apply to the query.
- **max_redirects** (*int*) – Optional, The maximum number of redirects to allow.

STD_TIMEOUT = 3.0

STD_VERIFY_CERTIFICATE = False

delete(**args*, ***kwargs*) → requests.models.Response

Sends a DELETE request and get its response.

exceptions = <module 'requests.exceptions' from '/home/docs/checkouts/readthedocs.org/

get(**args*, ***kwargs*) → requests.models.Response

Sends a GET request and get its response.

get_session() → requests.sessions.Session

Provides a new session.

get_timeout() → float

Provides the currently set timetout.

get_verify_certificate() → bool

Provides the current value of the certificate validation.

guess_all_settings() → PyFunceble.query.requests.requester.Requester

Try to guess all settings.

guess_and_set_timeout() → PyFunceble.query.requests.requester.Requester
Try to guess the value from the configuration and set it.

guess_and_set_verify_certificate() → PyFunceble.query.requests.requester.Requester
Try to guess the value from the configuration and set it.

head(**args*, ***kwargs*) → requests.models.Response
Sends a HEAD request and get its response.

max_redirects
Provides the current state of the `_max_redirects` attribute.

max_retries
Provides the current state of the `_max_retries` attribute.

options(**args*, ***kwargs*) → requests.models.Response
Sends am OPTIONS request and get its response.

patch(**args*, ***kwargs*) → requests.models.Response
Sends a PATCH request and get its response.

post(**args*, ***kwargs*) → requests.models.Response
Sends a POST request and get its response.

put(**args*, ***kwargs*) → requests.models.Response
Sends a PUT request and get its response.

recreate_session()
Recreate a new session after executing the decorated method.

request_factory()
Provides a universal request factory.

Parameters **verb** – The HTTP Verb to apply.

session = None

set_max_redirects(*value: int*) → PyFunceble.query.requests.requester.Requester
Sets the max redirects value to apply to all subsequent requests.

Parameters **value** – The value to set.

set_max_retries(*value: int*) → PyFunceble.query.requests.requester.Requester
Sets the max retries value to apply to all subsequent requests.

Parameters **value** – The value to set.

set_timeout(*value: Union[int, float]*) → PyFunceble.query.requests.requester.Requester
Enable or disables the certificate validation.

Parameters **value** – The value to set.

set_verify_certificate(*value: bool*) → PyFunceble.query.requests.requester.Requester
Enable or disables the certificate validation.

Parameters **value** – The value to set.

timeout
Provides the current state of the `_timeout` attribute.

urllib3_exceptions = <module 'urllib3.exceptions' from '/home/docs/checkouts/readthedo

verify_certificate
Provides the current state of the `_verify_certificate` attribute.

Module contents

The tool to check the availability or syntax of domain, IP or URL.

Provides everything related to our very own request handler.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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PyFunceble.query.whois package

Subpackages

PyFunceble.query.whois.converter package

Submodules

PyFunceble.query.whois.converter.base module

The tool to check the availability or syntax of domain, IP or URL.

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Provides the base of all WHOIS converter/extracter class.

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```


class PyFunceble.query.whois.converter.base.**ConverterBase**(*data_to_convert: Optional[Any] = None*)

Bases: object

Provides the base of all converter class.

data_to_convert

Provides the current state of the _data_to_convert attribute.

ensure_data_to_convert_is_given()

Ensures that the data to convert is given before running the decorated method.

Raises **TypeError** – If the subject is not a string.

get_converted() → Optional[Any]

Provides the converted data.

set_data_to_convert(*value: Any*) → PyFunceble.query.whois.converter.base.ConverterBase

Sets the data to convert / to work with.

Parameters **value** – The data to convert

PyFunceble.query.whois.converter.digit2digits module

The tool to check the availability or syntax of domain, IP or URL.

Provides an easy way to convert a digit string to 2 digits.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```


class PyFunceble.query.whois.converter.digit2digits.**Digit2Digits**(*data_to_convert: Optional[Any] = None*)

Bases: *PyFunceble.query.whois.converter.base.ConverterBase*

Converts a given digit to a 2 digits string.

data_to_convert

Provides the current state of the `_data_to_convert` attribute.

get_converted() → str

Provides the converted data (after conversion)

PyFunceble.query.whois.converter.expiration_date module

The tool to check the availability or syntax of domain, IP or URL.

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Provides our expiration date extracter.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```


class PyFunceble.query.whois.converter.expiration_date.**ExpirationDateExtractor**(*data_to_convert: Optional[Any] = None*)

Bases: *PyFunceble.query.whois.converter.base.ConverterBase*

Provides an interface for the extraction of the expiration date.

MARKER2DATE_REGEX = {'1': '([0-9]{2})-([a-z]{3})-([0-9]{4})', '10': '([0-9]{2})\\.([

Provides all the known regex to extract the date.

Note: The index (or key) will be used to map or group some of them later.

PATTERNS = ['expire:(.*)', 'expire on:(.*)', 'Expiry Date:(.*)', 'free-date(.*)', 'exp

Provides all our known patterns.

REGEX_DIGITS = '[0-9]'

Provides the regex to match in order to extract the digits.

REGEX_PARSE_MAP = [{'regex_keys': [1, 2, 3, 10, 11, 22, 26, 27, 28, 29, 32, 34, 38],

Our parsing map. Indeed, we hava a list of regex, but no way to know how to parse them. Especially when the order (month, day, year) are different from a format to another.

This variable solve that problem by interpreting all regex we previously created.

data_to_convert
Provides the current state of the `_data_to_convert` attribute.

get_converted() → Optional[str]
Provides the expiration date of the record (if found).

PyFunceble.query.whois.converter.month2unified module

The tool to check the availability or syntax of domain, IP or URL.

Provides a way to convert a given month to our unified format.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.query.whois.converter.month2unified.**Month2Unified**(*data_to_convert: Optional[Any] = None*)

Bases: *PyFunceble.query.whois.converter.base.ConverterBase*

Converts the given month into our unified format.

MAP = {'apr': ['4', '04', 'apr', 'april', 'apr.'], 'aug': ['8', '08', 'aug', 'august

data_to_convert
Provides the current state of the `_data_to_convert` attribute.

get_converted() → str
Provides the converted data (after conversion)

> **Warning:** If no month is found, the given data is given as response.

Module contents

The tool to check the availability or syntax of domain, IP or URL.

Provides the converter or extractor around the WHOIS query logic.

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```

Submodules

PyFunceble.query.whois.query_tool module

The tool to check the availability or syntax of domain, IP or URL.

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Provides our interface for quering the WHOIS Record of a given subject.

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```


class PyFunceble.query.whois.query_tool.**WhoisQueryTool**(*subject: Optional[str] = None, *, server: Optional[str] = None, query_timeout: Optional[float] = None*)

Bases: object

Provides the interface to get the WHOIS record of a given subject.

BUFFER_SIZE = 4096

STD_PORT = 43

ensure_subject_is_given()

Ensures that the subject is given before running the decorated method.

Raises **TypeError** – If the subject is not a string.

expiration_date_extractor = None

get_expiration_date() → Optional[str]

Provides the expiration date of the record.

Side Effect: The record will be queried if it is non existent.

get_lookup_record() → Optional[PyFunceble.query.record.whois.WhoisQueryToolRecord]

Provides the current query record.

get_record() → Optional[str]
Provides the current record.

Side Effect: The record will be queried if it is non existent.

get_whois_server() → Optional[str]
Provides the whois server to work with.

iana_dataset = None

lookup_record = None

query() → str
Queries the WHOIS record and return the current object.

query_record()
Queries the record before executing the decorated method.

query_timeout
Provides the current state of the `_query_timeout` attribute.

reset_record()
Resets the record before executing the decorated method.

server
Provides the current state of the `_server` attribute.

set_query_timeout(*value: Union[float, int]*) → PyFunceble.query.whois.query_tool.WhoisQueryTool
Sets the query_timeout to apply.

Parameters **value** – The query_timeout to apply.

set_server(*value: str*) → PyFunceble.query.whois.query_tool.WhoisQueryTool
Sets the server to communicate with.

Parameters **value** – The server to work with.

set_subject(*value: str*) → PyFunceble.query.whois.query_tool.WhoisQueryTool
Sets the subject to work with.

Parameters **value** – The subject to set.

subject
Provides the current state of the `_subject` attribute.

update_lookup_record()
Ensures that a clean record is generated after the execution of the decorated method.

update_lookup_record_expiration_date()
Ensures that the record of the decorated method is set as response in our record.

Module contents

The tool to check the availability or syntax of domain, IP or URL.

Provides everything related to the way we get or manipulate WHOIS record.

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Submodules

PyFunceble.query.http_status_code module

The tool to check the availability or syntax of domain, IP or URL.

Provides our interface for getting the status code of a given subject.

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```

class PyFunceble.query.http_status_code.**HTTPStatusCode**(*subject: Optional[str] = None, *, timeout: Optional[float] = None, verify_certificate: Optional[bool] = None, allow_redirects: Optional[bool] = None*)

Bases: object

Provides an interface for the extration of the HTTP status code.

STD_ALLOW_REDIRECTS = False

STD_TIMEOUT = 5.0

STD_UNKNOWN_STATUS_CODE = 99999999

STD_VERIFY_CERTIFICATE = True

allow_redirects

Provides the current state of the `_allow_redirects` attribute.

ensure_subject_is_given()

Ensures that the subject is given before running the decorated method.

Raises **TypeError** – If the subject is not a string.

get_status_code() → int

Provides the status code.

Note: The HTTP status code provided will differs regarding the following conditions.

Assuming, that `allow_redirects` is set to `False`, you will be provided the following:

- `http://example.org (302) -> https://example.org (200) ===> 200`
- `http://example.org (302) -> https://test.example.rog (200) ===> 302`
- :code:‘http://example.org (302) -> https://test.example.org (301) -> https://example.org (200) ===> 302

On the other site if the `allow_redirects` property is set to `True`, this method will provide the status of the last one in the redirection order.

In case of any error, this method will provide the default one.

---

guess_and_set_timeout() → PyFunceble.query.http_status_code.HTTPStatusCode
Tries to guess and set the timeout from the configuration.

guess_and_set_verify_certificate() → PyFunceble.query.http_status_code.HTTPStatusCode
Tries to guess and set the `verify_certificate` attribute.

set_allow_redirects(*value: bool*) → PyFunceble.query.http_status_code.HTTPStatusCode
Sets the value of the `verify_certificate` variable.

Parameters **value** – The value to set.

set_subject(*value: str*) → PyFunceble.query.http_status_code.HTTPStatusCode
Sets the subject to work with.

Parameters **value** – The subject to set.

set_timeout(*value: Union[float, int]*) → PyFunceble.query.http_status_code.HTTPStatusCode
Sets the timeout to apply.

Parameters **value** – The timeout to apply.

set_verify_certificate(*value: bool*) → PyFunceble.query.http_status_code.HTTPStatusCode
Sets the value of the `verify_certificate` variable.

Parameters **value** – The value to set.

subject
Provides the current state of the `_subject` attribute.

timeout
Provides the current state of the `_timeout` attribute.

verify_certificate
Provides the current state of the `verify_certificate` attribute.

Module contents

The tool to check the availability or syntax of domain, IP or URL.

Provides everything related queries and communication with target resources and information.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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PyFunceble.utils package

Submodules

PyFunceble.utils.platform module

The tool to check the availability or syntax of domain, IP or URL.

Provides a simple way to get the current platform.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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Project link: https://github.com/funilrys/PyFunceble

Project documentation: https://pyfunceble.readthedocs.io/en/latest/

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```

class PyFunceble.utils.platform.**PlatformUtility**

Bases: object

Provides an easy way to get the current platform.

CYGWIN = ['cygwin', 'cygwin_nt-10.0']

Provides the list of supporter cygwin platform.

MAC = ['darwin']

Provides the list of supported MAC platform.

UNIX = ['linux', 'darwin']

Provides the list of supported unix platform.

WINDOWS = ['windows']

Provides the list of supported windows platform.

static get() → str

Returns the current platform.

classmethod is_cygwin() → bool

Checks if the current platform is in our cygwin list.

classmethod is_mac_os() → bool

Checks if the current platform is in our OSX list.

classmethod is_unix() → bool

Checks if the current platform is in our unix list.

classmethod is_windows() → bool

Checks if the current platform is in our windows list.

PyFunceble.utils.profile module

The tool to check the availability or syntax of domain, IP or URL.

Provides some global utilities.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

`PyFunceble.utils.profile.profile_it`(*, *sort_stats: str = 'cumulative'*, *show_callers: bool = False*)

Provides a context manager which will activates the profiling of our source code.

Parameters

- **sort_starts** – The column to sort.
- **show_callers** – Authorizes the output of the callers.

PyFunceble.utils.version module

The tool to check the availability or syntax of domain, IP or URL.

Provides an interface for version comparison or manipulation.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

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```

class PyFunceble.utils.version.**VersionUtility**(*local_version: Optional[str] = None*)

Bases: object

Provides an interface to compare or manipulate a version.

Parameters **local_version** – The local version to work with.

Variables ***local_version*** – The version we are currently working with.

get_real_parsed_version(*version: str*) → str

Provides the real version to work with.

Parameters **version** – The version to parse.

static get_splitted(*version: str*) → Tuple[List[str], str]

Splits the version from its code name.

Parameters **version** – The version to split.

Returns

A tuple. The first index is the digit part of the version, when the second one is the the non-digit part of the version.

As example if `1.0.0. Hello World` is given, this method will output:

```
([1,0,0], " Hello World")
```

static is_cloned() → bool

Checks if the local version is a cloned (from git) one.

is_dev() → bool

Checks if the local version is the dev one.

is_equal_to(*upstream_version: str*) → bool

Compares if the local version is equal the given one.

is_master() → bool

Checks if the local version is the master one.

is_older_than(*upstream_version: str*) → bool

Compares if the local version is older that the given one.

is_recent(*upstream_version: str*) → bool

Compares if the upstream version is older that the given one.

literally_compare(*upstream_version: str*) → bool

Compares `new_version` with the given base version.

Parameters **new_version** – The new version to compare with.

Returns

- `True`: base version == upstream version
- `False`: base version != upstream version

local_version

Provides the current state of the `_local_version` attribute.

real_local_version
Provides the real local version.

set_local_version(*value: str*) → PyFunceble.utils.version.VersionUtility
Sets the local version to work with.

Parameters **value** – The local version to work with.

Module contents

The tool to check the availability or syntax of domain, IP or URL.

Provides some global utilities.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```


23.1.2 Submodules

23.1.3 PyFunceble.exceptions module

The tool to check the availability or syntax of domain, IP or URL.

Provides our exceptions.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```


exception PyFunceble.exceptions.**NoInternetConnection**

Bases: *PyFunceble.exceptions.PyFuncebleException*

Describes a missing connection.

exception PyFunceble.exceptions.**PleaseUpdatePyFunceble**

Bases: *PyFunceble.exceptions.PyFuncebleException*

Describes the impossiblity to continue with an older version.

exception PyFunceble.exceptions.**PyFuncebleException**

Bases: Exception

Describes our own exceptions.

23.1.4 PyFunceble.facility module

The tool to check the availability or syntax of domain, IP or URL.

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Provides everything which we may need while running.

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```

23.1.5 PyFunceble.factory module

The tool to check the availability or syntax of domain, IP or URL.

Provides everything which doesn't get through the door of the facility.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

23.1.6 PyFunceble.logger module

The tool to check the availability or syntax of domain, IP or URL.

Provides our logger.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

class PyFunceble.logger.**Logger**(*, *activated: Optional[bool] = None*, *min_level: Optional[int] = None*, *output_dir: Optional[str] = None*)

Bases: object

Provides our logging logic.

> **Warning:** There is several way to activate the logging.
>
> 1. Through the `PYFUNCEBLE_DEBUG_ON_SCREEN` environment variable.
> 2. Through the `DEBUG_PYFUNCEBLE_ON_SCREEN` environment variable.
> 3. Through the `PYFUNCEBLE_DEBUG` environment variable.
> 4. Through the `DEBUG_PYFUNCEBLE` environment variable.
> 5. Through the *`PyFunceble.logger.Logger.set_activated()`* method.

OWN_FORMAT = '[%(asctime)s | %(levelname)s | %(origin_path)s:%(origin_line)s@%(origin_
Our very own format.

ROOT_FORMAT = '[%(asctime)s::%(levelname)s](PID%(process)s:%(processName)s): %(messag
The format of the root loggy.

STD_MIN_LEVEL = 20

activated
Provides the current state of the `_activated` attribute.

authorized
Provides the authorization to actually log.

critical(**args*, ***kwargs*)
Logs to the PyFunceble.critical logger.

critical_logger = None

debug(**args*, ***kwargs*)
Logs to the PyFunceble.debug logger.

debug_logger = None

destroy_loggers() → PyFunceble.logger.Logger
Destroyes all existing loggers.

env_var_helper = <PyFunceble.helpers.environment_variable.EnvironmentVariableHelper ob

error(**args*, ***kwargs*)
Logs to the PyFunceble.error logger.

error_logger = None

exception(**args*, ***kwargs*)
Logs to the PyFunceble.exception logger.

fatal(**args*, ***kwargs*)
Logs to the PyFunceble.fatal logger.

fatal_logger = None

get_handler(*level_name: str*) → Union[logging.StreamHandler, logging.handlers.RotatingFileHandler, None]
Given a level name, this method provides the right handler for it!

get_next_logger() → Generator[None, Tuple[logging.Logger, str], None]
Provides the next logger.

static get_origin() → dict
Provides the informatioon about where the logger was triggered.

Returns

A tuple, which is composed of the following.

(trigger file path, trigger line, trigger function/method name)

guess_all_settings() → PyFunceble.logger.Logger
Try to guess all settings.

guess_and_set_min_level() → PyFunceble.logger.Logger
Tries to guess the min level from the configuration.

info(**args*, ***kwargs*)
Logs to the PyFunceble.info logger.

info_logger = None

init_loggers() → PyFunceble.logger.Logger
Init all our logger.

min_level
Provides the current state of the `_min_level` attribute.

on_file
Provides the authorization to log on file.

on_screen
Provides the authorization to log on screen.

output_directory
Provides the current state of the `_output_directory` attribute.

own_formatter = <logging.Formatter object>

root_formatter = <logging.Formatter object>

set_activated(*value: bool*) → PyFunceble.logger.Logger
Sets the value of the activated attribute.

Parameters **value** – The value to set.

set_min_level(*value: Union[int, str]*) → PyFunceble.logger.Logger
Sets the minimum level to log.

Parameters **value** – The value to set.

set_output_directory(*value: str*) → PyFunceble.logger.Logger
Sets the directory to write.

Parameters **value** – The value to set.

single_logger_factory()
Provides the general factory.

Parameters **level_name** – The level to log.

sqlalchemy_logger = None

warning(**args*, ***kwargs*)
Logs to the PyFunceble.warning logger.

warning_logger = None

23.1.7 PyFunceble.sessions module

The tool to check the availability or syntax of domain, IP or URL.

Provides the location of all our sessions

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

23.1.8 PyFunceble.storage module

The tool to check the availability or syntax of domain, IP or URL.

Provides a central storage place.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

23.1.9 PyFunceble.storage_facility module

The tool to check the availability or syntax of domain, IP or URL.

Provides some facilities for the storage module.

Author: Nissar Chababy, @funilrys, contactTATAfunilrysTODTODcom

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```

`PyFunceble.storage_facility.get_config_directory`(*, *project_name: str*, *project_version: str*) → str

Provides the location of the configuration directory.

23.1.10 Module contents

The tool to check the availability or syntax of domain, IP or URL.

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```

`PyFunceble.get_complements`(*subject: str*, *include_given: bool = False*) → List[str]

Provides the complements of a given subject.

A complement is a for example `example.org` if `www.example.org` is given and vice-versa.

> **Warning:** This method may be removed in the future. It is still available for convenience.
>
> Please consider the following alternative example:
>
> ```
> from PyFunceble import Subject2Complements
>
> my_subject = "example.org"
> complements = Subject2Complements(
>  my_subject
> ).get_converted(include_given=True)
> ```

Parameters

- **subject** – The subject to work with.
- **include_given** – Include the given subject in the result.

PyFunceble.**is_domain**(*subject: str*, ***kwargs*) → bool

Checks if the given subject is a syntactically valid second level domain or subdomain.

Warning: This method may be removed in the future. It is still available for convenience.

Please consider the following alternative example:

```
from PyFunceble import DomainSyntaxChecker

my_subject = "example.org"
the_status = DomainSyntaxChecker(
    my_subject
).get_status()

# Get the status in dict format.
print(the_status.to_dict())

# Get the status in json format.
print(the_status.to_json())

# Check if it is a domain (2nd level or subdomain).
print(f"{my_subject} is domain ? {the_status.is_valid()}")
```

Parameters **subject** – The subject to work with.

PyFunceble.**is_domain_malicious**(*subject: str*, ***kwargs*) → bool

Checks if the given domain is malicious.

Warning: This method may be removed in the future. It is still available for convenience.

Please consider the following alternative example:

```
from PyFunceble import DomainReputationChecker

my_subject = "example.org"
the_status = DomainReputationChecker(
    my_subject
).get_status()

# Get the status in dict format.
print(the_status.to_dict())

# Get the status in json format.
print(the_status.to_json())

# Check if it is malicious.
print(f"{my_subject} is Malicious ? {the_status.is_malicious()}")
```

Parameters **subject** – The subject to work with.

PyFunceble.**is_ip**(*subject: str*, ***kwargs*) → bool

Checks if the given subject is a syntactically valid IP range.

Warning: This method may be removed in the future. It is still available for convenience.

Please consider the following alternative example:

```
from PyFunceble import IPSyntaxChecker

my_subject = "192.168.0.0"
the_status = IPSyntaxChecker(
    my_subject
).get_status()

# Get the status in dict format.
print(the_status.to_dict())

# Get the status in json format.
print(the_status.to_json())

# Check if it is an IP (v4 or v6).
print(f"{my_subject} is IP ? {the_status.is_valid()}")
```

Parameters **subject** – The subject to work with.

PyFunceble.**is_ip_range**(*subject: str*, ***kwargs*) → bool

Checks if the given subject is a syntactically valid IP range.

Warning: This method may be removed in the future. It is still available for convenience.

Please consider the following alternative example:

```
from PyFunceble import IPSyntaxChecker

my_subject = "192.168.0.0"
the_status = IPSyntaxChecker(
    my_subject
).get_status()

# Get the status in dict format.
print(the_status.to_dict())

# Get the status in json format.
print(the_status.to_json())

# Check if it is an IP range (v4 or v6).
print(f"{my_subject} is IP range ? {the_status.is_valid_range()}")
```

Parameters **subject** – The subject to work with.

PyFunceble.**is_ipv4**(*subject: str*, ***kwargs*) → bool

Checks if the given subject is a syntactically valid IPv4.

Warning: This method may be removed in the future. It is still available for convenience.

Please consider the following alternative example:

```
from PyFunceble import IPSyntaxChecker

my_subject = "192.168.0.0"
the_status = IPSyntaxChecker(
    my_subject
).get_status()

# Get the status in dict format.
print(the_status.to_dict())

# Get the status in json format.
print(the_status.to_json())

# Check if it is an IPv4.
print(f"{my_subject} is IPv4 ? {the_status.is_valid_v4()}")
```

Parameters **subject** – The subject to work with.

`PyFunceble.`**`is_ipv4_malicious`**(*subject: str*, ***kwargs*) → bool

Checks if the given IPv4 is malicious.

Warning: This method may be removed in the future. It is still available for convenience.

Please consider the following alternative example:

```
from PyFunceble import IPReputationChecker

my_subject = "192.168.0.1"
the_status = IPReputationChecker(
    my_subject
).get_status()

# Get the status in dict format.
print(the_status.to_dict())

# Get the status in json format.
print(the_status.to_json())

# Check if it is malicious.
print(f"{my_subject} is Malicious ? {the_status.is_malicious()}")
```

Parameters **subject** – The subject to work with.

`PyFunceble.`**`is_ipv4_range`**(*subject: str*, ***kwargs*) → bool

Checks if the given subject is a syntactically valid IPv4 range.

Warning: This method may be removed in the future. It is still available for convenience.

Please consider the following alternative example:

```
from PyFunceble import IPSyntaxChecker

my_subject = "192.168.0.0"
the_status = IPSyntaxChecker(
    my_subject
).get_status()

# Get the status in dict format.
print(the_status.to_dict())

# Get the status in json format.
print(the_status.to_json())

# Check if it is IPv4 range.
print(f"{my_subject} is IPv4 range ? {the_status.is_valid_v4_range()}")
```

Parameters **subject** – The subject to work with.

`PyFunceble.`**`is_ipv6`**(*subject: str*, ***kwargs*) → bool

Checks if the given subject is a syntactically valid IPv6.

Warning: This method may be removed in the future. It is still available for convenience.

Please consider the following alternative example:

```
from PyFunceble import IPSyntaxChecker

my_subject = "192.168.0.0"
the_status = IPSyntaxChecker(
    my_subject
).get_status()

# Get the status in dict format.
print(the_status.to_dict())

# Get the status in json format.
print(the_status.to_json())

# Check if it is an IPv6.
print(f"{my_subject} is IPv6 ? {the_status.is_valid_v6()}")
```

Parameters **subject** – The subject to work with.

`PyFunceble.`**`is_ipv6_range`**(*subject: str*, ***kwargs*) → bool

Checks if the given subject is a syntactically valid IPv6 range.

Warning: This method may be removed in the future. It is still available for convenience.

Please consider the following alternative example:

```
from PyFunceble import IPSyntaxChecker

my_subject = "::1"
the_status = IPSyntaxChecker(
    my_subject
).get_status()

# Get the status in dict format.
print(the_status.to_dict())

# Get the status in json format.
print(the_status.to_json())

# Check if it is IPv6 range.
print(f"{my_subject} is IPv6 range ? {the_status.is_valid_v6_range()}")
```

Parameters **subject** – The subject to work with.

`PyFunceble.`**`is_second_level_domain`**(*subject: str*, ***kwargs*) → bool

Checks if the given subject is a syntactically valid second level domain.

Warning: This method was added for retrocompatibility. It may be removed in the future and is still available for convenience.

Please consider the following alternative example:

```
from PyFunceble import SecondLvlDomainSyntaxChecker

my_subject = "example.org"
the_status = SecondLvlDomainSyntaxChecker(
    my_subject
).get_status()

# Get the status in dict format.
print(the_status.to_dict())

# Get the status in json format.
print(the_status.to_json())

# Check if it is a second level domain.
print(f"{my_subject} is 2nd level domain ? {the_status.is_valid()}")
```

Parameters **subject** – The subject to work with.

`PyFunceble.`**`is_subdomain`**(*subject: str*, ***kwargs*) → bool

Checks if the given subject is a syntactically valid subdomain.

Warning: This method may be removed in the future. It is still available for convenience.

Please consider the following alternative example:

```
from PyFunceble import SubDomainSyntaxChecker

my_subject = "hello.example.org"
the_status = SubDomainSyntaxChecker(
    my_subject
).get_status()

# Get the status in dict format.
print(the_status.to_dict())

# Get the status in json format.
print(the_status.to_json())

# Check if it is a subdomain.
print(f"{my_subject} is subdomain ? {the_status.is_valid()}")
```

Parameters **subject** – The subject to work with.

`PyFunceble.`**`is_url`**(*subject: str*, ***kwargs*) → bool

Checks if the given subject is syntactically a valid URL.

Warning: This method may be removed in the future. It is still available for convenience.

Please consider the following alternative example:

```
from PyFunceble import DomainReputationChecker

my_subject = "https://example.org"
the_status = URLSyntaxChecker(
    my_subject
).get_status()

# Get the status in dict format.
print(the_status.to_dict())

# Get the status in json format.
print(the_status.to_json())

# Check if it is a URL.
print(f"{my_subject} is URL ? {the_status.is_valid()}")
```

Parma subject The subject to check.

`PyFunceble.`**`is_url_malicious`**(*subject: str*, ***kwargs*) → bool

Checks if the given URL is malicious.

Warning: This method may be removed in the future. It is still available for convenience.

Please consider the following alternative example:

```
from PyFunceble import URLReputationChecker

my_subject = "https://example.org"
the_status = URLReputationChecker(
    my_subject
).get_status()

# Get the status in dict format.
print(the_status.to_dict())

# Get the status in json format.
print(the_status.to_json())

# Check if it is malicious.
print(f"{my_subject} is Malicious ? {the_status.is_malicious()}")
```

Parameters **subject** – The subject to work with.

PyFunceble.**load_config**(**args*, ***kwargs*) → None

Placeholder before deletion.

Since 4.0.0, you are not required to load the configuration before hand. If you still want too because you may want to use a special CLI related method, you can doing it so:

```
import PyFunceble.facility

PyFunceble.facility.ConfigLoader.start()
```

PyFunceble.**test**(*subject: str*, ***kwargs*) → PyFunceble.checker.availability.status.AvailabilityCheckerStatus

Checks the avaialbility of the given subject assuming that it is a domain or an IP.

Warning: This method may be removed in the future. It is still available for convenience.

Please consider the following alternative example:

```
from PyFunceble import DomainAndIPAvailabilityChecker

my_subject = "example.org"
the_status = DomainAndIPAvailabilityChecker(
    my_subject
).get_status()

# Get the status in dict format.
print(the_status.to_dict())

# Get the status in json format.
print(the_status.to_json())

# Check if it is available.
print(f"{my_subject} is available ? {the_status.is_available()}")
```

Parameters **subject** – The subject to work with.

`PyFunceble.url_test`(*subject: str*, ***kwargs*) → PyFunceble.checker.availability.status.AvailabilityCheckerStatus

Checks the availability of the given subject assuming that it is a URL.

Warning: This method may be removed in the future. It is still available for convenience.

Please consider the following alternative example:

```
from PyFunceble import URLAvailabilityChecker

my_subject = "http://example.org"
the_status = URLAvailabilityChecker(
    my_subject
).get_status()

# Get the status in dict format.
print(the_status.to_dict())

# Get the status in json format.
print(the_status.to_json())

# Check if it is available.
print(f"{my_subject} is available ? {the_status.is_available()}")
```

Parameters **subject** – The subject to work with.

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