feed2exec Documentation

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Contents

`feed2exec` is a simple program that runs custom actions on new RSS feed items (or whatever feedparser can read). It currently has support for writing into mailboxes (Maildir folders) or executing commands, but more actions can be easily implemented through plugins. Email are saved as multipart plain/HTML and can be sent to arbitrary folders.

CHAPTER 1

Examples

Saving feed items to a Maildir folder:

```
feed2exec add "NASA breaking news" https://www.nasa.gov/rss/dyn/breaking_news.rss --
↪folder nasa
feed2exec fetch
```

This creates the equivalent of this configuration file in `~/.config/feed2exec/feed2exec.ini`:

```
[DEFAULT]
output = feed2exec.plugins.maildir
mailbox = '~/Maildir'

[NASA breaking news]
folder = nasa
url = https://www.nasa.gov/rss/dyn/breaking_news.rss
```

Send new feed items to Transmission:

```
feed2exec add "Example torrent list" http://example.com/torrents/feed --output␣
↪feed2exec.plugins.exec --args 'transmission-remote marcos.anarc.at -a '{item.link}'␣
↪-w /srv/incoming'
```

Send new feed items to Mastodon, using the toot commandline client:

```
feed2exec add "My torrent" http://example.com/blog/feed --output feed2exec.plugins.
↪exec --args 'toot post "{item.title} {item.link}"'
```

Send new feed items to Twitter, using the tweet commandline client from python-twitter:

```
feed2exec add "My torrent" http://example.com/blog/feed --output feed2exec.plugins.
↪exec --args 'tweet "{item.title:40s} {item.link:100s}"'
```

Show feed contents:

```
feed2exec add "NASA breaking news" https://www.nasa.gov/rss/dyn/breaking_news.rss --
↪output feed2exec.plugins.echo --args "{item.title} {item.link}"
feed2exec fetch
```

Multiple feeds can also be added with the OPML import command. See the *feed2exec manual page* document for more information.

CHAPTER 2

Installation

This can be installed using the normal Python procedures:

```
pip install feed2exec
```

It can also be installed from source, using:

```
pip install .
```

It can also be ran straight from the source, using:

```
python -m feed2exec
```

Important: feed2exec is explicitly written for Python 3. It may be possible to backport it to Python 2 if there is sufficient demand, but there are too many convenient Python3 constructs to make this useful. Furthermore, all dependencies are well-packaged for Py3 and the platform is widely available. Upgrade already.

The program may also be available as an official package from your Linux distribution.

Source, documentation and issues are available on GitLab.

CHAPTER 3

Why the name?

There are already feed2tweet and feed2imap out there so I figured I would just reuse the prefix and extend *both* programs at once.

Contents:

3.1 feed2exec manual page

3.1.1 Synopsis

feed2exec {add,ls,rm,fetch,import,export}

3.1.2 Description

This command will take a configured set of feeds and fire specific plugin for every new item found in the feed.

3.1.3 Options

--version	Show the version and exit.
--loglevel	choose specific log level [default: WARNING]
-v, --verbose	show what is happening (loglevel: VERBOSE)
-d, --debug	show debugging information (loglevel: DEBUG)
--syslog LEVEL	send LEVEL logs to syslog
--config TEXT	configuration directory
-h, --help	Show this message and exit.

3.1.4 Examples

Saving feed items to a Maildir folder:

```
feed2exec add "NASA breaking news" https://www.nasa.gov/rss/dyn/breaking_news.rss --
↪folder nasa
feed2exec fetch
```

This creates the equivalent of this configuration file in `~/.config/feed2exec/feed2exec.ini`:

```
[DEFAULT]
output = feed2exec.plugins.maildir
mailbox = '~/Maildir'

[NASA breaking news]
folder = nasa
url = https://www.nasa.gov/rss/dyn/breaking_news.rss
```

Send new feed items to Transmission:

```
feed2exec add "Example torrent list" http://example.com/torrents/feed --output␣
↪feed2exec.plugins.exec --args 'transmission-remote marcos.anarc.at -a '{item.link}'␣
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Send new feed items to Mastodon, using the toot commandline client:

```
feed2exec add "My torrent" http://example.com/blog/feed --output feed2exec.plugins.
↪exec --args 'toot post "{item.title} {item.link}"'
```

Send new feed items to Twitter, using the tweet commandline client from python-twitter:

```
feed2exec add "My torrent" http://example.com/blog/feed --output feed2exec.plugins.
↪exec --args 'tweet "{item.title:40s} {item.link:100s}"'
```

Show feed contents:

```
feed2exec add "NASA breaking news" https://www.nasa.gov/rss/dyn/breaking_news.rss --
↪output feed2exec.plugins.echo --args "{item.title} {item.link}"
feed2exec fetch
```

3.1.5 Commands

- fetch:

  ```
  fetch [--parallel | -p | --jobs N | -j N] [--force | -f] [pattern]
  ```

  The fetch command iterates through all the configured feeds or those matching the `pattern` substring if provided.

--force	skip reading and writing the cache and will consider all entries as new
--catchup	do not run output plugins, equivalent of setting the output plugin to `feed2exec.plugins.null`
--parallel	run parsing in the background to improve performance

--jobs N run N tasks in parallel maximum. implies `--parallel` which defaults to the number of CPUs detected on the machine

- add:

```
add [--output PLUGIN [--args ARG [ARG [...]]] [--filter PLUGIN] NAME URL
```

The add command adds the given feed `NAME` that will be fetched from the provided `URL`.

--output PLUGIN use PLUGIN as an output module. defaults to `feed2exec.plugins.maildir` to store in a mailbox. use `feed2exec.plugins.null` to just fetch the feed without fetching anything.

--args ARGS pass arguments ARGS to the output module. supports interpolation of feed parameters using, for example `{title}`

--filter PLUGIN filter feed items through the PLUGIN filter plugin

--mailbox PATH folder to store email into, defaults to `~/Maildir`.

--folder PATH subfolder to store the email into

Those parameters are documented more extensively in their equivalent settings in the configuration file, see below.

- ls:

The `ls` command lists all configured feeds as JSON packets.

- rm:

```
rm NAME
```

Remove the feed named `NAME` from the configuration.

- import:

```
import PATH
```

Import feeds from the file named PATH. The file is expected to have `outline` elements and only the `title` and `xmlUrl` elements are imported, as `NAME` and `URL` parameters, respectively.

- export:

```
export PATH
```

Export feeds into the file named PATH. The file will use the feed NAME elements as `title` and the URL as `xmlUrl`.

3.1.6 Files

Configuration file

Any files used by feed2exec is stored in the config directory, in `~/.config/feed2exec/` or `$XDG_CONFIG_HOME/feed2exec`. It can also be specified with the `--config` commandline parameter. The main configuration file is in called `feed2exec.ini`. The above commandline will yield the following configuration:

```
[NASA breaking news]
url = https://www.nasa.gov/rss/dyn/breaking_news.rss
output = feed2exec.plugins.echo
args = {title} {link}
```

Naturally, those settings can be changed directly in the config file. Note that there is a `[DEFAULT]` section that can be used to apply settings to all feeds. For example, this will make all feeds store new items in a maildir subfolder:

```
[DEFAULT]
output = feed2exec.plugins.maildir
folder = feeds
```

This way individual feeds do not need to be individually configured.

Note: feed2exec does not take care of adding the folder to "subscriptions" in the mailbox. it is assumed that folders are auto-susbcribed or the user ignores subscription. if that is a problem, you should subscribe to the folder by hand in your email client when you add a new config. you can also subscribe to a folder (say `feeds` above) directly using the `doveadm mailbox subscribe feeds` command in Dovecot, for example.

The following configuration parameters are supported:

name Human readable name for the feed. Equivalent to the `NAME` argument in the `add` command.

url Address to fetch the feed from. Can be HTTP or HTTPS, but also `file://` resources for test purposes.

output Output plugin to use. Equivalent to the `--output` option in the `add` command.

args Arguments to pass to the output plugin. Equivalent to the `--args` option in the `add` command.

filter Filter plugin to use. Equivalent to the `--filter` option in the `add` command.

mailbox Store emails in that mailbox prefix. Defaults to `~/Maildir`.

folder Subfolder to use when writing to a mailbox. By default, a *slugified* version of the feed name (where spaces and special character are replaced by -) is used. For example, the feed named "NASA breaking news" would be stored in `~/Maildir/nasa-breaking-news/`.

catchup Disable output plugin execution. In this mode, the feed is still read and parsed, but new entries are not added to the database.

pause Completely skip feed during fetch. Similar to catchup, but doesn't fetch the feed at all and doesn't touch the cache.

Here is a more complete example configuration with all the settings used:

```
# this section will apply to all feeds
[DEFAULT]
# special folder location for maildir. I use this when I have multiple
# accounts synchronized with Offlineimap
mailbox = ~/Maildir/Remote/

# a feed to store NASA breaking news entry in a "nasa" subfolder
# this also demonstrates the droptitle filter
[NASA breaking news]
url = https://www.nasa.gov/rss/dyn/breaking_news.rss
folder = nasa
filter = feed2exec.plugins.droptitle
filter_args = trump
```

```
# some maildir storage require dots to get subfolders. for example,
# this will store messages in INBOX/feeds/images/ on Dovecot
[NASA image of the day]
url = https://www.nasa.gov/rss/dyn/lg_image_of_the_day.rss
folder = .feeds.images

# this demonstrates the emptysummary filter, which fixes GitHub feeds
# that lack a proper summary
[restic]
url = https://github.com/restic/restic/tags.atom
filter = feed2exec.plugins.emptysummary

# saving to a mbox folder, one file per feed instead of one file per item
[International Space Station Reports]
url = http://blogs.nasa.gov/stationreport/feed/
mailbox = ~/Mail/
folder = stationreport.mbx

# retweet hurricane news
[NASA Hurricane breaking news]
url = https://www.nasa.gov/rss/dyn/hurricaneupdate.rss
output = feed2exec.plugins.exec
args = tweet "{item.title:.40s} {item.link:.100s}"

# same, but on the mastodon network
#
# we can have multiple entries with the same URL without problems, as
# long as the feed name is different. it does mean that the feed will
# be fetched and parsed multiple times, unfortunately.
#
# this could be improved to include the '{item.summary}' and extra markup,
# for example.
[NASA Hurricane breaking news - Mastodon]
url = https://www.nasa.gov/rss/dyn/hurricaneupdate.rss
output = feed2exec.plugins.exec
args = toot "{item.title} {item.link}"
# output is disabled here. feed will be fetched and parsed, but no
# toot will be sent
catchup = True

# same, but on the Pump.io network
[NASA Hurricane breaking news - Pump]
url = https://www.nasa.gov/rss/dyn/hurricaneupdate.rss
output = feed2exec.plugins.exec
args = p post note "{item.title} {item.link}"

# crude podcast client
[NASA Whats up?]
url = https://www.nasa.gov/rss/dyn/whats_up.rss
output = feed2exec.plugins.exec
# XXX: this doesn't handle errors properly: if there is a feed without
# enclosures, the whole thing will crash.
args = wget -P /srv/podcasts/nasa/ "{item.enclosures[0].href}"
# feed is paused here. feed will not be fetched and parsed at all and
# no post will be sent.
pause = True
```

```
# download torrents linked from a RSS feed
[torrents]
url = http://example.com/torrents.rss
output = feed2exec.plugins.exec
args = transmission-remote localhost -a '{item.link}' -w '/srv/incoming'
```

Cache database

The feeds cache is stored in a `feed2exec.sqlite` file. It is a normal SQLite database and can be inspected using the normal sqlite tools. It is used to keep track of which feed items have been processed. To clear the cache, you can simply remove the file, which will make the program process all feeds items from scratch again. In this case, you may want to use the `null` output plugin to avoid doing any sort of processing to catchup with the feeds.

3.1.7 See also

feed2imap(1), *rss2email(1)*

3.2 Design

This is a quick prototype that turned out to be quite usable. The design is minimal: some home-made ORM for the feed storage, crude parallelism with the `multiprocessing` module and a simple plugin API using `importlib`.

The threading design, in particular, may be a little clunky and is certainly less tested, which is why it is disabled by default (use `--parallel` to use it). I had multiple design in minds: the current one (`multiprocessing.Pool` and `pool.apply_async`) vs `aiohttp` (on the `asyncio` branch) vs `pool.map` (on the `threadpoolmap` branch). The `aiohttp` design was very hard to diagnose and debug, which made me abandon the whole thing. After reading up on Curio and Trio, I'm tempted to give async/await a try again, but that would mean completely dropping 2.7 compatibility. The `pool.map` design is just badly adapted, as it would load all the feed's datastructure in memory before processing them.

3.2.1 Comparison

`feed2exec` is a fairly new and minimal program, so features you may expect from another feed reader may not be present. I chose to write a new program because, when I started, both existing alternatives were in a questionable state: feed2imap was mostly abandoned and rss2email's maintainer was also unresponsive. Both were missing the features I was looking for, which was to unify my feed parsers in a single program: i needed something that could deliver mail, run commands and send tweets. The latter isn't done yet, but I am hoping to complete this eventually.

The program may not be for everyone, however, so I made those comparison tables to clarify what feed2exec does compared to the alternatives.

General information:

Program	Version	Date	SLOC	Language
feed2exec	0.5	2017	1417	Python
feed2imap	1.2.5	2015	3249	Ruby
rss2email	3.9	2014	1986	Python

- version: the version analysed
- date: the date of that release

- SLOC: Source Lines of Codes as counted by sloccount, only counting dominant language (e.g. excluding XML from test feeds)
- Language: primary programming language

Delivery options:

Program	Maildir	Mbox	IMAP	SMTP	sendmail	exec
feed2exec	✓	✓				✓
feed2imap	✓		✓			
rss2email			✓	✓	✓	

- maildir: writing to Maildir folders. r2e has a pull request to implement maildir support, but it's not merged at the time of writing
- IMAP: sending emails to IMAP servers
- SMTP: delivering emails over the SMTP protocol, with authentication
- sendmail: delivering local using the local MTA
- exec: run arbitrary comands to run on new entries. feed2imap has a `execurl` parameter to execute commands, but it receives an unparsed dump of the feed instead of individual entries. rss2email has a postprocess filter that is a Python plugin that can act on indiviual (or digest) messages which could possibly be extended to support arbitrary commands, but that is rather difficult to implement for normal users.

Features:

Program	Pause	OPML	Retry	Images	Filter	Reply	Digest
feed2exec	✓	✓			✓	✓	
feed2imap		✓	✓	✓	✓		
rss2email	✓	✓	✓		✓	✓	✓

- pause: feed reading can be disabled temporarily by user. in feed2exec, this is implemented with the `pause` configuration setting. the `catchup` option can also be used to catchup with feed entries.
- retry: tolerate temporary errors. For example, `feed2imap` will report errors only after 10 failures.
- images: download images found in feed. `feed2imap` can download images and attach them to the email.
- filter: if we can apply arbitrary filters to the feed output. feed2imap can apply filters to the unparsed dump of the feed.
- reply: if the generated email 'from' header is usable to make a reply. `rss2email` has a `use-publisher-email` setting (off by default) for this, for example. feed2exec does this by default.
- digest: possibility of sending a single email per run instead of one per entry

Note: `feed2imap` supports only importing OPML feeds, exporting is supported by a third-party plugin.

3.2.2 Known issues

This is an early prototype and may break in your setup, as the `feedparser` library isn't as solid as I expected. In particular, I had issues with feeds without dates and without guid.

Unit test coverage is incomplete, but still pretty decent, above 80%.

The `exec` plugin itself is not well tested and may have serious security issues.

API, commandline interface, configuration file syntax and database format can be changed at any moment.

The program is written mainly targeting Python 3.5 and should work in 3.6 but hasn't been explicitly tested there. Tests fail on Python 2.7 and the maildir handler may specifically be vulnerable to header injections.

The SQL storage layer is badly written and is known to trigger locking issues with SQLite when doing multiprocessing. The global LOCK object could be used to work around this issue but that could mean pretty bad coupling. A good inspiration may be the beets story about this problem. And of course, another alternative would be to considering something like SQLalchemy instead of rolling our own ORM.

3.3 API documentation

This is the API documentation of the program. It should explain how to create new plugins and navigate the code.

3.3.1 Feeds module

This is the core modules that processes all feeds and takes care of the storage. It's where most of the logic lies. fast feed parser that offloads tasks to plugins and commands

`feed2exec.feeds.`**`default_config_dir`**`()`
the default configuration directory

this is conforming to the XDG base directory specification

..todo:: this more or less conforms: the feed database is also stored in this directory, whereas the database may be better stored in XDG_CACHE_HOME or XDG_RUNTIME_DIR.

`feed2exec.feeds.`**`fetch`**`(`*`url`*`)`
fetch the given URL

this is a simple wrapper around the `requests` module.

exceptions should be handled by the caller.

Todo this could be moved to a plugin so it can be overridden, but so far I haven't found a use case for this.

Parameters **`url`** (*`str`*) – the URL to fetch

Return bytes, tuple the body of the URL and the modification timestamp

`feed2exec.feeds.`**`normalize_item`**`(`*`feed=None`*`, `*`item=None`*`)`
normalize feeds a little more than what feedparser provides.

we do the following operation:

1. add more defaults to item dates (issue #113):
   - created_parsed of the item
   - updated_parsed of the feed
2. missing GUID in some feeds (issue #112)
3. link normalization fails on some feeds, particilarly GitHub, where feeds are /foo instead of https://github.com/foo. unreported for now.

`feed2exec.feeds.`**`parse`**`(`*`body`*`, `*`feed`*`, `*`lock=None`*`, `*`force=False`*`)`
parse the body of the feed

this parses the given body using `feedparser` and calls the plugins configured in the `feed` (using *`feed2exec.plugins.output()`* and *`feed2exec.plugins.filter()`*). updates the cache with the found items if the `output` plugin succeeds (returns True) and if the `filter` plugin doesn't set the `skip` element in the feed item.

Todo this could be moved to a plugin, but then we'd need to take out the cache checking logic, which would remove most of the code here...

Parameters

- **body** (*bytes*) – the body of the feed, as returned by :func:fetch
- **feed** (*dict*) – a feed object used to pass to plugins and debugging
- **lock** (*object*) – a `multiprocessing.Lock` object previously initialized. if None, the global *LOCK* variable will be used: this is used in the test suite to avoid having to pass locks all the way through the API. this lock is in turn passed to plugin calls.
- **force** (*bool*) – force plugin execution even if entry was already seen. passed to *`feed2exec.feeds.parse`* as is

Return dict the parsed data

`feed2exec.feeds.`**`fetch_feeds`**(*pattern=None*, *parallel=False*, *force=False*, *catchup=False*)

main entry point for the feed fetch routines.

this iterates through all feeds configured in the *`feed2exec.feeds.FeedStorage`* that match the given `pattern`.

This will call `logging.warning()` for exceptions **:exception:'requests.exceptions.Timeout'** and **:exception:'requests.exceptions.ConnectionError'** as they are transient errors and the user may want to ignore those.

Other exceptions raised from `requests.exceptions` (like TooManyRedirects or HTTPError but basically any other exception) may be a configuration error or a more permanent failure so will be signaled with `logging.error()`.

Parameters

- **pattern** (*str*) – restrict operations to feeds named `pattern`. passed to *`feed2exec.feeds.FeedStorage`* as is
- **parallel** (*bool*) – parse feeds in parallel, using `multiprocessing`
- **force** (*bool*) – force plugin execution even if entry was already seen. passed to *`feed2exec.feeds.parse`* as is
- **catchup** (*bool*) – disables the output plugin by setting the `output` field to None in the `feed` argument passed to *`feed2exec.feeds.parse()`*, used to catchup on feed entries without firing plugins.

class `feed2exec.feeds.`**`ConfFeedStorage`**(*pattern=None*)

Feed configuration stored in a config file.

This derives from `configparser.RawConfigParser` and uses the `.ini` file set in the `path` member to read and write settings.

Changes are committed immediately, and no locking is performed so loading here should be safe but not editing.

The particular thing about this configuration is that there is an iterator that will yield entries matching the `pattern` substring provided in the constructor.

`path` = **'~/.config/feed2exec/feed2exec.ini'**

default ConfFeedStorage path

add(*name*, *url*, *output=None*, *args=None*, *filter=None*, *filter_args=None*, *folder=None*, *mailbox=None*)
add the designated feed to the configuration

this is not thread-safe.

set(*section*, *option*, *value=None*)
override parent to make sure we immediately write changes

not thread-safe

remove_option(*section*, *option*)
override parent to make sure we immediately write changes

not thread-safe

remove(*name*)
convenient alias for `configparser.RawConfigParser.remove_section()`

not thread-safe

commit()
write the feed configuration

see `configparser.RawConfigParser.write()`

`feed2exec.feeds.`**FeedStorage**
Feed storage used.

An alias to *feed2exec.feeds.ConfFeedStorage*, but can be overridden by plugins

alias of *ConfFeedStorage*

3.3.2 Main entry point

The main entry point of the program is in the *feed2exec.__main__* module. This is to make it possible to call the program directly from the source code through the Python interpreter with:

```
python -m feed2exec
```

All this code is here rather than in `__init__.py` to avoid requiring too many dependencies in the base module, which contains useful metadata for `setup.py`.

This uses the `click` module to define the base command and options. fast feed parser that offloads tasks to plugins and commands

`feed2exec.__main__.`**main**()

3.3.3 Plugins

Plugin interface

In this context, a "plugin" is simply a Python module with a defined interface.

`feed2exec.plugins.`**output**(*feed*, *item*, *lock=None*)
load and run the given plugin with the given arguments

an "output plugin" is a simple Python module with an `output` callable defined which will process arguments and should output them somewhere, for example by email or through another command. the plugin is called (from *feed2exec.feeds.parse()*) when a new item is found, unless cache is flushed or ignored.

The "callable" can be a class, in which case only the constructor is called or a function. The `*args` and `**kwargs` parameter SHOULD be used in the function definition for forward-compatibility (ie. to make sure new parameters added do not cause a regression).

Plugins should also expect to be called in parallel and should use the provided `lock` (a multiprocessor.Lock object) to acquire and release locks around contentious resources.

The following keywords are usually replaced in the arguments:

- {item.link}
- {item.title}
- {item.description}
- {item.published}
- {item.updated}
- {item.guid}

The full list of such parameters is determined by the :module:feedparser module.

Similarly, feed parameters from the configuration file are accessible.

Caution: None of those parameters are sanitized in any way other than what feedparser does, so plugins writing files, executing code or talking to the network should be careful to sanitize the input appropriately.

The feed and items are also passed to the plugin as keyword arguments.

Parameters

- **feed** (*dict*) – the feed metadata
- **item** (*dict*) – the updated item

Return object the loaded plugin

`feed2exec.plugins.`**`filter`**(*feed*, *item*, *lock=None*)
call filter plugins.

very similar to the output plugin, but just calls the `filter` module member instead of `output`

Todo

common code with output() should be factored out, but output() takes arguments...

Echo

class `feed2exec.plugins.echo.`**`output`**(**args*, ***kwargs*)
This plugin outputs, to standard output, the arguments it receives. It can be useful to test your configuration. It also creates a side effect for the test suite to determine if the plugin was called.

This plugin does a similar thing when acting as a filter.

`feed2exec.plugins.echo.`**`filter`**
This filter just keeps the feed unmodified. It is just there for testing purposes.

alias of *output*

Error

feed2exec.plugins.error.**output**(**args*, ***kwargs*)
The error plugin is a simple plugin which raises an exception when called. It is designed for use in the test suite and should generally not be used elsewhere.

Exec

feed2exec.plugins.exec.**output**(*command*, **args*, ***kwargs*)
The exec plugin is the ultimate security disaster. It simply executes whatever you feed it without any sort of sanitization. It does avoid to call to the shell and executes the command directly, however. Feed contents are also somewhat sanitized by the feedparser module, see the Sanitization documentation for more information in that regard. That is limited to stripping out hostile HTML tags, however.

You should be careful when sending arbitrary parameters to other programs. Even if we do not use the shell to execute the program, an hostile feed could still inject commandline flags to change the program behavior without injecting shell commands themselves.

For example, if a program can write files with the `-o` option, a feed could set their title to `-oevil` to overwrite the `evil` file. The only way to workaround that issue is to carefully craft the commandline so that this cannot happen.

Alternatively, writing a Python plugin is much safer as you can sanitize the arguments yourself.

Html2text

class feed2exec.plugins.html2text.**filter**(**args*, *feed=None*, *item=None*, ***kwargs*)
This filter plugin takes a given feed item and replaces the `content` with its HTML parsed as text.

static parse(*html=None*)
parse html to text according to our preferences. this is where subclasses can override the HTML2Text settings or use a completely different parser

Maildir

class feed2exec.plugins.maildir.**output**(*to_addr=None*, *feed=None*, *item=None*, *lock=None*, **args*, ***kwargs*)
The maildir plugin will save a feed item into a Maildir folder.

The configuration is a little clunky, but it should be safe against hostile feeds.

Parameters

- **to_addr** (*str*) – the email to use as "to" (defaults to USER@localdomain)
- **feed** (*dict*) – the feed
- **item** (*dict*) – the updated item

Null

feed2exec.plugins.null.**output**(**args*, ***kwargs*)
This plugin does nothing. It can be useful in cases where you want to catchup with imported feeds.

feed2exec.plugins.null.**filter**(*item=None*, **args*, ***kwargs*)
The null filter removes all elements from a feed item

3.3.4 Utilities

Those are various utilities reused in multiple modules that did not fit anywhere else. various reusable utilities

feed2exec.utils.**slug**(*text*)

Make a URL-safe, human-readable version of the given text

This will do the following:

1. decode unicode characters into ASCII
2. shift everything to lowercase
3. strip whitespace
4. replace other non-word characters with dashes
5. strip extra dashes

This somewhat duplicates the `Google.slugify()` function but slugify is not as generic as this one, which can be reused elsewhere.

```
>>> slug('test')
'test'
>>> slug('Mørdag')
'mordag'
>>> slug("l'été c'est fait pour jouer")
'l-ete-c-est-fait-pour-jouer'
>>> slug(u"çafe au lait (boisson)")
'cafe-au-lait-boisson'
>>> slug(u"Multiple  spaces -- and symbols! -- merged")
'multiple-spaces-and-symbols-merged'
```

This is a simpler, one-liner version of the slugify module.

taken from ecdysis

feed2exec.utils.**make_dirs_helper**(*path*)

Create the directory if it does not exist

Return True if the directory was created, false if it was already present, throw an OSError exception if it cannot be created

```
>>> import tempfile
>>> import os
>>> import os.path as p
>>> d = tempfile.mkdtemp()
>>> make_dirs_helper(p.join(d, 'foo'))
True
>>> make_dirs_helper(p.join(d, 'foo'))
False
>>> make_dirs_helper(p.join('/dev/null', 'foo'))
Traceback (most recent call last):
    ...
NotADirectoryError: [Errno 20] Not a directory: ...
>>> os.rmdir(p.join(d, 'foo'))
>>> os.rmdir(d)
>>>
```

feed2exec.utils.**find_test_file**(*name*)

need to be updated from ecdysis

feed2exec.utils.**find_parent_module**()
find the name of a the first module calling this module

if we cannot find it, we return the current module's name (__name__) instead.

taken from ecdysis

3.4 Contributor's guide

This document outlines how to contribute to this project. It details a code of conduct, how to submit issues, bug reports and patches.

3.4.1 Contributor Covenant Code of Conduct

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 experience, nationality, personal appearance, race, religion, or sexual identity and orientation.

Our Standards

Examples of behavior that contributes to creating a positive environment include:

- 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

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.

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.

Enforcement

Instances of abusive, harassing, or otherwise unacceptable behavior may be reported by contacting one of the persons listed below. All complaints will be reviewed and investigated and will result in a response that is deemed necessary and appropriate to the circumstances. The project maintainers 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.

Project maintainers are encouraged to follow the spirit of the Django Code of Conduct Enforcement Manual when receiving reports.

Contacts

The following people have volunteered to be available to respond to Code of Conduct reports. They have reviewed existing literature and agree to follow the aforementioned process in good faith. They also accept OpenPGP-encrypted email:

- Antoine Beaupré anarcat@debian.org

Attribution

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

Changes

The Code of Conduct was modified to refer to *project maintainers* instead of *project team* and small paragraph was added to refer to the Django enforcement manual.

> Note: We have so far determined that writing an explicit enforcement policy is not necessary, considering the available literature already available online and the relatively small size of the community. This may change in the future if the community grows larger.

3.4.2 Patches

Patches can be submitted through merge requests on the GitLab project.

Some guidelines for patches:

- A patch should be a minimal and accurate answer to exactly one identified and agreed problem.
- A patch must compile cleanly and pass project self-tests on all target platforms.

- A patch commit message must consist of a single short (less than 50 characters) line stating a summary of the change, followed by a blank line and then a description of the problem being solved and its solution, or a reason for the change. Write more information, not less, in the commit log.
- Patches should be reviewed by at least one maintainer before being merged.

Project maintainers should merge their own patches only when they have been approved by other maintainers, unless there is no response within a reasonable timeframe (roughly one week) or there is an urgent change to be done (e.g. security or data loss issue).

As an exception to this rule, this specific document cannot be changed without the consensus of all administrators of the project.

> Note: Those guidelines were inspired by the Collective Code Construct Contract. The document was found to be a little too complex and hard to read and wasn't adopted in its entirety. See this discussion for more information.

Patch triage

You can also review existing pull requests, by cloning the contributor's repository and testing it. If the tests do not pass (either locally or in the online Continuous Integration (CI) system), if the patch is incomplete or otherwise does not respect the above guidelines, submit a review with "changes requested" with reasoning.

3.4.3 Documentation

We love documentation!

The documentation mostly in the README file and can be edited online once you register.

3.4.4 Issues and bug reports

We want you to report issuess you find in the software. It is a recognized and important part of contributing to this project. All issues will be read and replied to politely and professionnally. Issues and bug reports should be filed on the issue tracker.

Issue triage

Issue triage is a useful contribution as well. You can review the issues in the GitLab project and, for each issue:

- try to reproduce the issue, if it is not reproducible, label it with `more-info` and explain the steps taken to reproduce
- if information is missing, label it with `more-info` and request specific information
- if the feature request is not within the scope of the project or should be refused for other reasons, use the `wontfix` label and close the issue
- mark feature requests with the `enhancement` label, bugs with `bug`, duplicates with `duplicate` and so on...

Note that some of those operations are available only to project maintainers, see below for the different statuses.

3.4.5 Test suite

The test suite is in `feed2exec/tests` but also as doctest comments in some functions imported from the ecdysis project. You can run all the tests with pytest, using, for example:

```
pytest feed2exec
```

This is also hooked into the `setup.py` command, so this also works:

```
python3 setup.py test
```

Note that some tests will fail in Python 2, as the code is written and tested in Python3. Furthermore, the feed output is taken from an up to date (5.2.1) feedparser version, so the tests are marked as expected to fail for lower versions. You should, naturally, run tests before submitting patches.

3.4.6 Membership

There are three levels of membership in the project, Administrator (also known as "Owner" in GitHub or GitLab), Maintainer (also known as "Member" on GitHub or "Developer" on GitLab), or regular users (everyone with or without an account). Anyone is welcome to contribute to the project within the guidelines outlined in this document, regardless of their status, and that includes regular users.

Maintainers can:

- do everything regular users can
- review, push and merge pull requests
- edit and close issues

Administrators can:

- do everything maintainers can
- add new maintainers
- promote maintainers to administrators

Regular users can be promoted to maintainers if they contribute to the project, either by participating in issues, documentation or pull requests.

Maintainers can be promoted to administrators when they have given significant contributions for a sustained timeframe, by consensus of the current administrators. This process should be open and decided as any other issue.

3.4.7 Release process

To make a release:

1. make sure tests pass:

   ```
   tox
   ```

2. generate release notes with:

   ```
   gbp dch
   ```

the file header will need to be moved back up to the beginning of the file. also make sure to add a summary and choose a proper version according to Semantic Versioning

3. tag the release according to Semantic Versioning rules:

```
git tag -s x.y.z
```

4. build and test the Python package:

```
python3 setup.py bdist_wheel
sudo pip3 install dist/*.whl
feed2exec --version
sudo pip3 uninstall feed2exec
```

5. build and test the debian package:

```
gbp buildpackage
sudo dpkg -i ../feed2exec_*.deb
feed2exec --version
sudo dpkg --remove feed2exec
```

6. push changes:

```
git push
twine upload dist/*
dput ../feed2exec*.changes
```

7. edit the tag on Gitlab and copy-paste the changelog entry

3.5 Changelog

```
feed2exec (0.6.0) unstable; urgency=medium

  * API-breaking changes:
    * use 'item' vocabulary consistently in API
    * allow filters to skip entry by setting the "skip" field
    * separate filter arguments (`filter_args`) from output arguments
      (`args`)
    * officially drop support for Python 2
  * features
    * add sample plugin to drop feed items matching a certain title
      (`droptitle`)
    * fix sample tweet to avoid extraneous padding
    * add transmission exec to sample config
    * do *not* wrap links even in references
    * add some limited parallelism tests
    * handle http errors more gracefully
  * bugfixes
    * html2text got a new release which broke tests, update tests and skip
      older releases
  * documentation fixes
    * clarify error message from plugin exceptions
    * expand API documentation
    * note that feed2exec doesn't take care of IMAP folder subscriptions:
      you'll need to subscribe to new feeds by hand if you use that feature
      for now.
```

```
    * use tox in the release process, slower but more reliable
    * mark this as beta

 -- Antoine Beaupré <anarcat@debian.org>  Thu, 05 Oct 2017 14:04:16 -0400

feed2exec (0.5.1) unstable; urgency=medium

  * regenerate planet test output based on new feed
  * fix release process to workaround recent issues
  * update test suite results with feedparser 5.2.1
  * add minimal test suite documentation
  * fix typo in gbp.conf

 -- Antoine Beaupré <anarcat@debian.org>  Thu, 21 Sep 2017 18:50:54 -0400

feed2exec (0.5) unstable; urgency=medium

  * add mbox output format
  * switch to 8-bit email encodings, drop QP
  * remove useless platforms tag
  * fix tests on gitlab, no chmod allowed there
  * add fancy badges for pipeline and coverage status
  * add more generic feed test procedures
  * refactor email generation to move to its own module
  * correction: rss2email has filters
  * make sure github filter actually works
  * add example for the emptysummary filter

 -- Antoine Beaupré <anarcat@debian.org>  Thu, 21 Sep 2017 11:17:28 -0400

feed2exec (0.4) unstable; urgency=medium

  * switch to Python 3 style format strings: you need to switch from
    %(link) to {item.link}. feed parameter are also available, for example
    {feed.name} or {feed.url}. see this document for details on the syntax:
    https://docs.python.org/3/library/string.html#format-string-syntax
  * this allows more fancy formatting which gives us, for example,
    podcasting capabilities.
  * a sample config file documenting all parameters
  * add syslog support through advanced logging module from ecdysis
  * show message when done, useful for syslog
  * add sample config file
  * fix feedparser URL sanitization
  * fix issues with empty github feeds
  * note issue with SQLite locking
  * refactor test suite to regroup normalization tests
  * fix displayed path for maildir messages
  * simplify test by not running plugins twice
  * push test coverage from 87 to 90%

 -- Antoine Beaupré <anarcat@debian.org>  Thu, 14 Sep 2017 17:20:57 -0400

feed2exec (0.3) unstable; urgency=medium

  * pause and catchup support
  * PyPI release
  * add examples to implement Twitter and Mastodon output
```

```
 -- Antoine Beaupré <anarcat@debian.org>  Tue, 12 Sep 2017 13:35:38 -0400

feed2exec (0.2) unstable; urgency=medium

  * multipart HTML support
  * improved plain text rendering
  * custom folder support
  * documentation fixes
  * expanded email headers
  * the ``output_args`` argument is renamed to ``args``
  * the ``maildir`` plugin has now a sane default, and uses the
    ``mailbox`` parameter instead of the first argument of ``output_args``
  * add ``--force`` parameter
  * make the html2text filter enabled by default in maildir

 -- Antoine Beaupré <anarcat@debian.org>  Mon, 11 Sep 2017 21:06:10 -0400

feed2exec (0.1) unstable; urgency=medium

  * first alpha release: maildir, exec support, parallelism

 -- Antoine Beaupré <anarcat@debian.org>  Mon, 11 Sep 2017 21:05:13 -0400
```

3.6 License

3.6.1 GNU AFFERO GENERAL PUBLIC LICENSE

Version 3, 19 November 2007

3.6.2 Preamble

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The precise terms and conditions for copying, distribution and modification follow.

3.6.3 TERMS AND CONDITIONS

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- 2. Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.
- 3. Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.
- 4. Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

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Python Module Index

f

Index