
coltrane

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coltrane is a *Dynamic Site Generator*. It can be used as a self-contained app for content sites, as a third-party app in a Django project to render markdown files, or to build a static HTML website.

FEATURES

- Render markdown files as HTML with automatic URL routing based on the filesystem
- Local development server with live re-rendering of markdown and data
- Use JSON files as a data source
- Automatic generation of `sitemap.xml` and `rss.xml`
- Can also serve non-markdown files, e.g. `robots.txt`
- Site-wide redirects
- Deployment best practices with Docker, `whitenoise`, and `gunicorn` already pre-configured
- Leverage built-in or custom Django template tags and filters
- Include any third-party [Django app](#) for additional functionality
- Optional building of static HTML files

WHAT IS A DYNAMIC SITE GENERATOR?

`coltrane` is similar to a static site generator – it takes `markdown` content and renders it as HTML. However, it also provides an opinionated framework for building dynamic websites.

2.1 Examples in the wild

- [GitEgo](#): An egocentric view of GitHub (uses the GitHub GraphQL endpoints)
- [python-utils](#): Interactive Python playground (uses `django-unicorn` component library)
- [unsuckjs.com](#): Libraries to progressively enhance HTML with minimal amounts of JavaScript (uses GitHub REST API)
- [djangobrew.com](#): Website for the Django Brew podcast (uses the Buzzsprout API)

Note: Please [let me know](#) if you use `coltrane` and would like to add it to this list!

WHAT'S WITH THE NAME?

`coltrane` is built on top of the Django web framework, which is named after [Django Reinhardt](#). This framework is named after [John Coltrane](#), another (more avant-garde) jazz musician.

CHAPTER
FOUR

INSPIRATION

<https://twitter.com/willmcgugan/status/1477283879841157123> for the initial inspiration and my reaction <https://twitter.com/adamghill/status/1477414858396164096>.

DEPENDENCIES

- <https://github.com/adamchainz/django-browser-reload> for development server live reloads
- <https://github.com/boxed/django-fastdev> to ensure template variables are available
- <https://github.com/lepture/mistune> for doing the hard work of rendering the markdown
- <https://www.djangoproject.com> for doing the hard work of everything else

OTHER MINIMAL DJANGO PROJECTS

- <https://github.com/wsvincent/django-microframework> for the `app.py` idea
- <https://olifante.blogs.com/covil/2010/04/minimal-django.html>
- <https://simonwillison.net/2009/May/19/djng/>
- <https://stackoverflow.com/questions/1297873/how-do-i-write-a-single-file-django-application>
- <https://github.com/pauloxnet/uDjango>

RELATED PROJECTS

`yamdl` is another approach which lets you store instances of Django models as flat YAML files. It also supports storing markdown.

Here are a few Python static site generators:

- **Pelican**: Pelican is a static site generator that requires no database or server-side logic.
- **Combine**: Build a straightforward marketing or documentation website with the power of Jinja.
- **Nikola**: In goes content, out comes a website, ready to deploy.
- **Lektor**: A flexible and powerful static content management system for building complex and beautiful websites out of flat files.
- **corvid**: An opinionated simple static site generator.
- **jamstack**: The easiest way to create jamstack sites, as simple or as complex as you like.

7.1 Installation

1. `mkdir new-site && cd new-site` to create a new folder
2. `poetry init --no-interaction --dependency 'coltrane:<1' && poetry install` to create a new virtual environment and install the `coltrane` package
3. Optional: `brew install watchman` on MacOS for less resource-intensive local development server

7.1.1 Extras

`coltrane` has some additional functionality that is not enabled by default. To add an extra to an existing Poetry project use square brackets, e.g. `poetry add coltrane[json5]`. To install multiple extras separate them with commas, e.g. `poetry add coltrane[deploy,json5]`

json5

Adds support for using [JSON5](#) for *data* files. This allows trailing commas and comments in JSON, so it can be useful for making JSON a little more readable.

```
poetry add coltrane -E json5
```

django-compressor

Adds support for using [django-compressor](#) in templates.

```
poetry add coltrane -E compressor
```

Then, use the `compress` templatetag like normally.

```
<head>
  {% compress css %}
  <link href="{% static 'css/styles.css' %}" rel="stylesheet" type="text/css">
  {% endcompress %}
</head>
```

deploy

Adds support for deploying `coltrane` to a production server with `gunicorn` and `whitenoise` pre-configured. More details at [deployment.md](#).

7.2 Local Development

markdown files are rendered into HTML dynamically based on the URL that is requested.

7.2.1 Create a new site

```
poetry run coltrane create
```

 creates the folder structure for a new site.

Note: More details about the `create` options and the files that are generated are in [CLI](#).

7.2.2 Development server

```
poetry run coltrane play
```

 serves the content for local development.

Warning: `poetry run coltrane play` is fine for development, but should never be used in production.

7.3 Content

coltrane is designed around content. There are no URL routes to configure or views (if you are used to Django) or controllers (if you are used to other MVC frameworks) to create. coltrane automatically routes URLs to the correct content based on where the files exist on the filesystem. markdown files will get converted to HTML for rendering. HTML template files can also be served directly for more control.

7.3.1 Markdown

Add markdown files (or sub-directories with markdown files) to the content directory and rendered HTML will be accessible via auto-generated routes. `index.md` would be used similarly to `index.html`.

- `/` would convert the markdown in `content/index.md` and render it as HTML
- `/about/` would convert the markdown in `content/about.md` and render it as HTML
- `/articles/` would convert the markdown in `/content/articles/index.md` and render it as HTML
- `/articles/this-is-the-first-article/` would convert the markdown in `/content/articles/this-is-the-first-article.md` and render it as HTML
- `/not-there/` would 404

Frontmatter

YAML before the actual markdown content is supported. Any keys and their values will be added to the context variable that is used when rendering the HTML. The default `base.html` template will use `lang` (to specify the HTML language; defaults to “en”), and `title` variables if they are specified in the frontmatter.

template

Used to specify a custom template that Django will use to render the markdown.

`content/index.md`

```
---
lang: en
title: This is a good title
template: another_app/new-template.html
adjective: perfect
---

This is sample text
```

`another_app/new-template.html`

```
<title>{{ title }}</title>

{{ content }} and it's {{ adjective }}
```

Generated HTML

```
<title>This is a good title</title>

<p>This is sample text and it's perfect</p>
```

7.3.2 HTML

If a markdown file can not be found for the based on the URL's slug, but there is an HTML file with the same slug in the `templates` directory the HTML template will be rendered.

- `/app/` would render the HTML in `/templates/app.html` or `/templates/app/index.html`

Wildcards

A filename with an asterisk can be used as a “wildcard” and will be served for any slug that does not have a matching markdown or specific HTML template file.

- `/app/some-user` would render the HTML from `/templates/app/*.html`

Directories can also be a wildcard to handle a specific part of a slug.

- `/app/some-user` would render the HTML from (in priority order) `/templates/app/some-user.html` or `/templates/app/*.html` or `/templates/*/some-user.html` or `/templates/**/*.html`
- `/app/another-user` would render the HTML from (in priority order) `/templates/app/another-user.html` or `/templates/app/*.html` or `/templates/*/another-user.html` or `/templates/**/*.html`

7.4 Templates

coltrane comes with two minimal templates that get used by default: `coltrane/base.html` and `coltrane/content.html`. Overriding those templates works just like in Django.

7.4.1 Override included templates

coltrane/base.html

Create a file named `templates/coltrane/base.html` in your app to override the base template. By default, it needs to include a content block.

```
{% block content %}{% endblock content %}
```

coltrane/content.html

Create a file named `templates/coltrane/content.html` in your app to override the content template. By default, it needs to include a content block for the base template and `{{ content }}` to render the markdown.

Note: The content template variable is already marked “safe” so you do not need to use the `safe` filter.

```
{% block content %}{{ content }}{% endblock content %}
```

7.4.2 Custom template

Specify a custom template with a `template` variable in the markdown frontmatter.

`content/index.md`

```
---
title: This is good content
template: sample_app/new-template.html
---

# Heading 1

This will use sample_app/new-template.html to render content.
```

`sample_app/new-template.html`

```
<title>{{ title }}</title>

{{ content }}
```

Generated HTML

```
<title>This is good content</title>

<h1 id="heading-1">Heading 1</h1>

<p>This will use sample_app/new-template.html to render content.</p>
```

7.5 Template tags

Template tags are the way for Django templates to use Python code. Django has a [large list of built-in template tags](#) for everything from looping over objects, date formatting, boolean logic with `if/else` blocks, or getting the length of an object. By default, all template tags in Django are available in markdown content files.

7.5.1 Humanize template tags

`django.contrib.humanize` includes a [useful template tags](#) to format numbers and dates in human-friendly ways. Normally it needs to be enabled and loaded in templates manually, but `coltrane` enables it by default so it is available to use in markdown content files automatically.

7.5.2 Coltrane template tags

`directory_contents`

A list of the content at a particular directory.

List markdown files based on the request path

If the request url is <https://localhost:8000/> and there are these files:

- `content/test1.md`

- content/test2.md

Contents

```
{% directory_contents as directory_contents %}

{% for content in directory_contents %}

- {{ content.slug }}

{% endfor %}
```

```
<h1 id="contents">Contents</h1>
```

```
<ul>
  <li>test1</li>
  <li>test2</li>
</ul>
```

List markdown files based on a particular directory

If the request url is <https://localhost:8000/> and there are these files:

- content/articles/article1.md
- content/articles/article2.md

Articles

```
{% directory_contents 'articles' as directory_contents %}

{% for content in directory_contents %}

- {{ content.slug }}

{% endfor %}
```

```
<h1 id='articles'>Articles</h1>
```

```
<ul>
  <li>article1</li>
  <li>article2</li>
</ul>
```

Exclude a slug from being included

If the request url is <https://localhost:8000/> and there are these files:

- content/articles/article1.md
- content/articles/article2.md

Articles

```
{% directory_contents 'articles' exclude='article1' as directory_contents %}
```

(continues on next page)

(continued from previous page)

```
{% for content in directory_contents %}

- {{ content.slug }}

{% endfor %}
```

```
<h1 id="articles">Articles</h1>

<ul>
  <li>article2</li>
</ul>
```

Sort the results of the directory

The `order_by` kwarg will sort the results by a particular key. Available keys are `slug`, `now`, and anything in the YAML frontmatter. All keys will be coerced to strings and if a key is missing an empty string will be used by default.

If the request url is <https://localhost:8000/> and these files are present in the content directory:

- content/article1.md
- content/article2.md

Sorted Articles

```
{% directory_contents order_by='slug' as directory_contents %}

{% for content in directory_contents %}

- {{ content.slug }}

{% endfor %}
```

```
<h1 id="sorted-articles">Sorted Articles</h1>

<ul>
  <li>article1</li>
  <li>article2</li>
</ul>
```

Reverse Sorted Articles

```
{% directory_contents order_by='-slug' as directory_contents %}

{% for content in directory_contents %}

- {{ content.slug }}

{% endfor %}
```

```
<h1 id="reverse-sorted-articles">Reverse Sorted Articles</h1>

<ul>
```

(continues on next page)

(continued from previous page)

```
<li>article2</li>
<li>article1</li>
</ul>
```

include_md

Similar to the `include` template tag, but can be used to include a markdown file and have it render correctly into HTML. It can be used in markdown files or in HTML templates.

include_md

```
{% include_md '_partial.md' %}
```

```
<h1>include_md</h1>
```

```
{% include_md '_partial.md' %}
```

parent

A filter that returns the parent directory for a particular path. Can be passed a `request` or a `string`.

```
<!-- request of http://localhost/articles/some-article -->
{{ request|parent }} == '/articles'
```

```
{{ 'http://localhost/articles/some-article'|parent|parent }} == ''
```

to_html

Convert raw markdown text to html. This is probably the most useful when using coltrane as a Django app.

views.py

```
def my_view(request):
    markdown_text = """---
title: Article 1
---

# {{ title }}
"""
    ...
```

my_template.html

```
<main>
    {{ markdown_text|to_html }}
</main>
```

Rendered html content

```
<main>
  <h1>Article 1</h1>
</main>
```

raise_404

Raises a 404 from template. Can be useful when using wildcard HTML templates.

last_path

Gets the last portion the URL path, e.g. the last path of `/app/user/123` would be `"123"`.

paths

Gets all parts of the path as a list of strings, e.g. the paths of `/app/user/123` would be `["app", "user", "123"]`.

7.5.3 Custom template tags

coltrane will automatically enable any template tags it finds in the `templatetags` directory to be used in markdown or HTML templates.

templatetags/custom_tags.py

```
from django import template

register = template.Library()

@register.filter(name="test")
def test(value, arg):
    return value + " is a test"
```

content/index.md

```
{{ 'This'|test }}
```

Generated index.html

```
This is a test
```

7.6 Context

The template context for each markdown file includes:

- all key/value pairs in the markdown frontmatter
- rendered markdown HTML in content
- JSON data from the data directory
- coltrane which includes a dictionary of the *coltrane settings*

- `now` which provides the current `datetime` (would be the time of HTML rendering for when generating a static site)
- `request` which provides the current request
- `debug` which contains the `DEBUG` setting (or if `INTERNAL_IPS` has the current request's IP)
- `slug` which contains the current file's "slug" (e.g. `articles/some-new-article` if there was a markdown file at `content/articles/some-new-article.md`)
- `toc` which is an automatically generated table of contents rendered as HTML
- if `publish_date` is found, it is converted to a Python `datetime` instance using the excellent [dateparser](#) library

7.6.1 Example context

`data/index.json`

```
{ "test": "Great" }
```

`content/index.md`

```
---
this_is_a_variable: This is a good test
template: some_app/custom-template.html
publish_date: 2022-02-26 10:26:02
---

{{ this_is_a_variable }}

Data from JSON files: {{ data.index.test }}

Current datetime: {{ now }}

Publish date: {{ publish_date|naturalday }}
```

`some_app/templates/some_app/custom-template.html`

```
{{ content }}
```

Generated `index.html`

```
<p>This is a good test</p>

<p>Data from JSON files: Great</p>

<p>Current datetime: 8 Jan. 11, 2022, 10:02 p.m.</p>

<p>Publish date: Feb. 26, 2022</p>
```

7.7 Data

coltrane is designed to be used without a database, however, sometimes it's useful to have access to data inside your templates.

7.7.1 JSON data directory

Create a directory named `data` in your project folder (if it doesn't already exist) and add JSON files. The name of the file (without the `json` extension) will be used as the key in the context data.

If there are JSON files in sub-directories, the directory names will be included in the dictionary hierarchy.

data/author.json

```
{
  {"name": "Douglas Adams"}
}
```

data/books/book.json

```
{
  {"title": "The Hitchhiker's Guide to the Galaxy"}
}
```

content/index.md

```
# index

{{ data.author.name }} is the author.

{{ data.books.book.title }} is the book title.
```

Generated index.html

```
<h1 id="index">index</h1>

<p>Douglas Adams is the author.</p>

<p>The Hitchhiker's Guide to the Galaxy is the book title.</p>
```

7.7.2 JSON5 support

JSON5 data files are supported if the *json5 extra* is installed and the *COLTRANE_JSON5_DATA environment setting* is set to `True`.

7.8 Static Files

Django handles static files (e.g. CSS, JavaScript, and images) already which coltrane leverages as part of the *record* command. The `collectstatic` management command is used to copy all static files to the `output/static` directory.

7.8.1 Referring to static assets

Instead of hardcoding the URL path to static assets, the `static` template tag should be used in either markdown or HTML templates.

Note: Using the `static` template tag might feel unnecessary for simpler sites, but it will automatically use hashed file names that `whitenoise` provides for efficient serving and caching of static files.

`content/index.md`

```
![[music note]]({% static 'images/music-note.svg' %})
```

Generated `index.html`

```

```

`templates/custom/custom-template.html`

```
<link src="{% static 'css/styles.css' %}" />
```

Generated HTML

```
<link src="/static/css/styles.wxyz789.css" />
```

7.9 Sitemap

`sitemap.xml` is a standard for search engines to find content on your site. coltrane automatically provides a URL route for `sitemap.xml` and will create the file when building a static site.

7.9.1 Django app configuration

When using coltrane as a Django app, the sitemap will *need to be configured*.

7.10 Redirects

The `redirects.json` file can be used to redirect a user from a certain URL to another URL.

Note: Redirects are not supported when building a static site.

The `redirects.json` file is a dictionary where the key is a string of the URL that will get redirected *away* from.

The value is either:

- a string of the URL to temporarily redirect *to*, i.e. it redirects with a 302 status code
- a dictionary with a `url` and `permanent` keys; if `permanent` is set to `false` or is missing, the status code will be a 302; if it is set to `true`, the status code will be a 301

```
{
  "/current-url": "/new-url",
  "/another-url": { "url": "/new-url", "permanent": false },
}
```

7.11 RSS

coltrane automatically creates an `rss.xml` file containing all markdown content. It will be served from the `/rss.xml` URL or output into the `output` directory for static sites.

7.11.1 Required setting

RSS requires an absolute URL so coltrane needs to know the domain for the site.

`COLTRANE_SITE_URL` needs to be set in the `.env` file.

7.11.2 Django app configuration

When using coltrane as a Django app, RSS will *need to be configured*.

7.12 Deployment

coltrane can be installed with deployment features for production by installing the `deploy` extras.

```
poetry add coltrane -E deploy
```

Note: If using `pip` you can do something like: `pip install coltrane[deploy]`.

7.12.1 Required settings

- `DEBUG` should be `False` (more details in [Django docs](#)).
- `ALLOWED_HOSTS` must be set to the acceptable host or domain names (more details in [Django docs](#)).

```
DEBUG=False
ALLOWED_HOSTS=coltrane.com,www.coltrane.com
```

7.12.2 Gunicorn

`gunicorn` is a production WSGI server and is perfect for serving coltrane apps.

An example command for using `gunicorn` in production: `poetry run gunicorn -b localhost:8000 app:wsgi`.

7.12.3 Whitenoise

`whitenoise` allows regular WSGI servers to serve static files without needing to move assets to S3 or another hosted file platform. It will be configured automatically when `DEBUG` is set to `False`.

7.12.4 Hosting

Docker

A sample `Dockerfile` is created for new Coltrane projects. It can be used along with `gunicorn.conf.py` for any hosting platform that supports Docker.

Heroku

Heroku will run the `collectstatic` management command by default for Django projects, but this should be disabled by setting the `DISABLE_COLLECTSTATIC` environment variable to 1. Add the `nginx` buildpack from <https://buildpack-registry.s3.amazonaws.com/buildpacks/heroku-community/nginx.tgz>.

Then, add the following files so that `nginx` will serve the static files efficiently.

`gunicorn.conf.py`

```
def when_ready(server):
    # touch app-initialized when ready
    open("/tmp/app-initialized", "w").close()

bind = "unix:///tmp/nginx.socket"
workers = 3
```

Procfile

```
web: python app.py collectstatic --noinput && bin/start-nginx gunicorn -c gunicorn.conf.
    ↪ py app:wsgi
```

render.com

- Set the `PYTHON_VERSION` environment variable to the desired Python version (must be at least 3.8)

Events Environment Redirects/Rewrites Headers PRs Sharir

Environment Variables

Use environment variables to store API keys and other configuration values variables, for example with `os.getenv()` in Python or `process.env` in Node.

Key

Value

PYTHON_VERSION

3.9.7|

- Go to settings and use `pip install poetry && poetry install && poetry run coltrane build` for the Build Command

Build Command

This command runs in the root directory of your repository when a new version of your code is pushed, or when you deploy manually. It is typically a script that installs libraries, runs migrations, or compiles resources needed by your app.

`pip install poetry && poetry install && poetry run`

Cancel

Save

7.13 CLI

7.13.1 Create

`poetry run coltrane create` sets up a default coltrane project.

Generated files

```
.
├── .env
├── .gitignore
├── .watchmanconfig
├── __init__.py
├── app.py
├── content
│   └── index.md
├── data
├── Dockerfile
├── gunicorn.conf.py
└── templates
```

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```
├─ poetry.lock
├─ pyproject.toml
```

.env

Example environment variables.

.gitignore

Prevent committing certain files.

.watchmanconfig

Prevent `node_modules` directory from triggering excessive restarts of the development server.

__init__.py

Denote the folder is a Python module.

app.py

The entry point for coltrane apps. Similar to a standard `manage.py` file in Django.

content

Standard directory for markdown files.

data

Standard directory for JSON files.

Dockerfile

Example Dockerfile for deployment.

unicorn.conf.py

Example `unicorn.conf.py` for deployment.

templates

Standard directory for HTML template files.

poetry.lock

Lock file for dependencies.

pyproject.toml

Lists dependencies. More details in the [Poetry documentation](#).

redirects.json

Redirects for the site.

Force creation

```
poetry run coltrane create --force
```

Force the creation of a new coltrane site even if there is an existing one.

7.13.2 Play

```
poetry run coltrane play
```

Starts a development webserver to render the markdown files into HTML. Defaults to `127.0.0.1:8000`.

Port

The port to use rather than the default `8000`.

```
poetry run coltrane play --port 8001
```

 would start the development server at `127.0.0.1:8001`.

7.13.3 Record

```
poetry run coltrane record
```

Builds the static site from `markdown` content and stores the HTML in the `output` directory. Stores static files in the `output/static/` directory.

Incremental builds

By default, coltrane will only build markdown files that have changed since the last build. To force re-building all files use `--force`.

```
poetry run coltrane record --force
```

Output directory

By default coltrane will write all files to a directory named `output`. But, that can be overridden with `--output`.

```
poetry run coltrane record --output public
```

Multithreaded

By default coltrane tries to use the optimal number of threads. But, the number of threads to use can be overridden with `--threads`.

```
poetry run coltrane record --threads 2
```

Ignore errors

By default coltrane will exit with a status code of 1 if there is an error while rendering the markdown into HTML. Those errors can be ignore with `--ignore`.

```
poetry run coltrane record --ignore
```

7.14 Environment

For local web development coltrane uses an `.env` file in the base directory for potentially sensitive settings. When deployed to production, those settings would be retrieved from environment variables (following the [12-factor app](#) method).

7.14.1 Example `.env` file

```
DEBUG=True
INTERNAL_IPS=127.0.0.1
ALLOWED_HOSTS=example.com
COLTRANE_SITE_URL=https://example.com
SECRET_KEY=this-should-be-lots-of-random-characters
```

7.14.2 Keys

DEBUG

Whether the server is in debug mode or not. Error tracebacks, context, and sensitive information is displayed on the error page when this is set to `True`, so it should always be set to `False` when the app is deployed to production. Defaults to `True` for local development purposes.

INTERNAL_IPS

Used to determine if the current request is internal or not. Must be set for the debug template variable to be populated (more information in the [Django documentation](#)). Defaults to `127.0.0.1`. If more than one IP is required, separate them by commas.

```
INTERNAL_IPS=127.0.0.1,localhost,192.168.0.1
```

SECRET_KEY

A random string of letters, numbers, and characters. (More information in the [Django documentation](#). Generated automatically when the `.env` file is created. Required.

ALLOWED_HOSTS

The acceptable host or domain names when the site is deployed to production. Required when `DEBUG` is set to `False`. Defaults to `""`. If more than one host name is required, separate them by commas.

```
ALLOWED_HOSTS=coltrane.com
```

COLTRANE_SITE_URL

The hosting domain's scheme and domain. Required.

```
COLTRANE_SITE_URL=https://coltrane.com
```

COLTRANE_TITLE

The title of the website. Required for generating `rss.xml`.

```
COLTRANE_TITLE=Coltrane
```

COLTRANE_DESCRIPTION

The description of the website. Required for generating `rss.xml`.

`COLTRANE_DESCRIPTION=A minimal app framework for content sites.`

COLTRANE_IS_SECURE

Informs coltrane that it is served securely, i.e. with SSL with an `https` protocol. This needs to be set to `True` if SSL is provided by a proxy server (for example, Cloudflare). If the site is only served by `https` and you see errors like “403 forbidden CSRF origin didn’t match” set this to `True`. Defaults to `False`.

COLTRANE_CONTENT_DIRECTORY

The directory that should be used for markdown content. Relative to the base directory. Defaults to “content”.

COLTRANE_DATA_DIRECTORY

The directory that should be used for data. Relative to the base directory. Defaults to “data”.

COLTRANE_DATA_JSON5

Whether or not data files should be parsed as `JSON5`. Also requires installing with the `json5` extras (e.g. `poetry add coltrane -E json5` or `pip install coltrane[json5]`). Defaults to `False`.

COLTRANE_DISABLE_WILDCARD_TEMPLATES

To prevent *wildcard templates* from being served, set this to `True`. Defaults to `False`.

CACHE

The type of cache to use for coltrane. Acceptable options are: `dummy`, `memory`, `filesystem`, `memcache`, or `redis`. The default is `dummy`.

Note: `filesystem`, `memcache`, and `redis` options require `CACHE_LOCATION` to also be set.

CACHE_LOCATION

The location of the cache. Required for `filesystem`, `memcache`, and `redis` cache options. The `filesystem` cache requires an absolute path. The `memcache` and `redis` cache options include multiple cache servers in a comma-delimited list.

TIME_ZONE

The timezone of the server. Defaults to “UTC”.

7.15 Settings

Settings for coltrane are specified in a COLTRANE dictionary in the `settings.py` file. All *env settings* are available in the COLTRANE dictionary sans the leading “COLTRANE_”, e.g. COLTRANE_TITLE in the `.env` file would be COLTRANE.TITLE in `settings.COLTRANE`.

```
# settings.py

...

# Sample `coltrane` settings
COLTRANE = {
    "MISTUNE_PLUGINS": [
        "strikethrough",
        "footnotes",
        "table",
        "task_lists",
        "def_list",
        "abbr",
        "mark",
        "insert",
        "superscript",
        "subscript",
    ],
}

...
```

Note: coltrane settings can be passed into the `initialize()` method in `app.py` as `kwargs`.

```
# existing app.py file
wsgi = initialize(MARKDOWN_EXTRAS=["metadata",], MISTUNE_PLUGINS=["table",])
# rest of the app.py file
```

7.15.1 Keys

The keys below are specific to the COLTRANE dictionary `settings.py`. But, all *env settings* can be used.

MISTUNE_PLUGINS

The features that should be enabled when rendering markdown with `mistune`. A list of all available features: <https://mistune.lepture.com/en/latest/plugins.html>. The default extras are:

```
[
    "strikethrough",
    "footnotes",
    "table",
    "task_lists",
    "def_list",
    "abbr",
    "mark",
    "insert",
    "superscript",
    "subscript",
]
```

VIEW_CACHE

Caches the rendered HTML when dynamically rendering. Enabled by adding the `SECONDS` key to a `VIEW_CACHE` dictionary. Not used for static sites.

SECONDS

Specifies how long the markdown should be cached when Django is dynamically serving the markdown.

```
COLTRANE = {
    # other settings
    "VIEW_CACHE": {"SECONDS": 60 * 15},
}
```

CACHE_NAME

Specifies a name for the cache to use. Defaults to “default”.

```
COLTRANE = {
    # other settings
    "VIEW_CACHE": {"SECONDS": 60 * 15, "CACHE_NAME": "coltrane-view-cache"},
}
```


7.16 Build

coltrane will render the markdown files into HTML and stored the generated file in an output folder. This is similar to other static site generators like Jekyll or Hugo.

7.16.1 Record

The static site is built with the *record command*.

7.17 Installation

1. poetry add coltrane or pip install coltrane
2. Add coltrane to the list of INSTALLED_APPS in Django settings file
3. Add path("", include("coltrane.urls")), to the bottom of the urlpatterns in the root urls.py (i.e. the urls.py specified by ROOT_URLCONF)

```
# urls.py
from django.urls import include, path

urlpatterns = [
    ...
    path("", include("coltrane.urls")),
]
```

7.18 Integration

7.18.1 Linking

Django templates can link to coltrane markdown content with the url template tag and the slug of the markdown file.

```
<!-- this will link to a route which renders the /content/about.md markdown file -->
<a href="{% url 'coltrane:content' 'about' %}">About</a>
```

7.18.2 Sitemap

1. Add "django.contrib.sitemaps", to INSTALLED_APPS in the settings file
2. Make sure your TEMPLATES setting contains a DjangoTemplates backend whose APP_DIRS options is set to True.
3. Add the following to urls.py

```
from django.contrib.sitemaps.views import sitemap
from coltrane.sitemaps import ContentSitemap

# Make sure that the protocol is https
```

(continues on next page)

(continued from previous page)

```
ContentSitemap.protocol = "https"

sitemaps = {
    "content": ContentSitemap,
}

urlpatterns = [
    # other URL paths here
    path(
        "sitemap.xml",
        sitemap,
        {"sitemaps": sitemaps},
        name="django.contrib.sitemaps.views.sitemap",
    ),
    # other URL paths here
]
```

More details are in the [Django documentation](#) for sitemaps.

7.18.3 RSS

RSS requires an absolute URL so coltrane needs to know the domain for the site. The settings file needs to include something similar to the following.

```
COLTRANE = {
    "SITE_URL": "https://example.com",
}
```

URL Routing

1. Add the following to `urls.py`

```
from django.urls import path
from coltrane.feeds import ContentFeed

urlpatterns = [
    path("rss.xml", ContentFeed()),
]
```

7.19 Changelog

7.19.1 0.34.0

- Add coltrane context template variable to expose the coltrane settings.
- Add support for *django-compressor*.
- Add support for *redirects*.

7.19.2 0.33.0

- Bump rich-click dependency and slightly better command aliases support.

7.19.3 0.32.1

- Parse JSON5 data as UTF-8.

7.19.4 0.32.0

- Add pubdate to RSS feed #61 by [Tobi-De](#).
- Support setting a custom TIME_ZONE.

7.19.5 0.31.0

- Create example Dockerfile and gunicorn.conf.py files for easier deployments of coltrane apps.
- *Add the ability* to use [JSON5](#) for data files.

Breaking changes

- Remove loading data.json. All data should be in JSON files in the data directory.
- The default markdown renderer is now mistune instead of markdown2. The next version of coltrane will remove the option to use markdown2.

7.19.6 0.30.0

- Add COLTRANE_IS_SECURE *env variable*.
- Add `django.middleware.gzip.GZipMiddleware`, `django.middleware.http.ConditionalGetMiddleware`, `django.middleware.csrf.CsrfViewMiddleware` middlewares.

7.19.7 0.29.0

- `django-unicorn` integration.
- Fix: Passing INSTALLED_APPS into init now does not override the default apps.

7.19.8 0.28.0

- Add DISABLE_WILDCARD_TEMPLATES setting.
- Add data, slug, template, and now to direct HTML template for as much parity to markdown content as possible.

7.19.9 0.27.0

- Support directory wildcards.
- Add paths template tag.

7.19.10 0.26.0

- Ability to *configure cache*.
- Allow content or data directory to be specified [#48](#).
- Fix: Handle invalid JSON data [#48](#).

7.19.11 0.25.0

- If a markdown file with a slug cannot be found, look for a template with the same slug. Special case for *.html which can be a fall-back option to render for any slug.
- Add `raise_404` template tag.
- Add `last_path` template tag.

7.19.12 0.24.0

- Support Django template tags with the `mistune` markdown renderer.

7.19.13 0.23.1

- Include extra files when building the static site.

7.19.14 0.23.0

- Add `EXTRA_FILE_NAMES` setting to support serving static files like `robots.txt`.

7.19.15 0.22.0

- Add support for rendering markdown with `mistune`. See [MARKDOWN_RENDERED](#) for how to enable. `mistune` will be the default renderer after 0.22.0 because it is 1) faster rendering markdown than `markdown2`, 2) enables new functionality like `abbr`, 3) fixed a bug in the generation of the tables of contents HTML, and 4) has a plugin architecture to add new features.
- Improve table of contents rendering for `mistune`.

7.19.16 0.21.0

- Add `order_by` to `directory_contents` templatetag.
- Fix TOC outputting 'None' when it should be None.

7.19.17 0.20.0

- Add `to_html` template tag. [#37](#) by [Tobi-De](#)
- Breaking change: change `date` to `publish_date` in metadata. [#39](#) by [Tobi-De](#)
- Breaking change: change `SITE` setting to `SITE_URL`.
- Automatically add `verbatim` templatetag around code fences.

7.19.18 0.19.0

- Update project name to `coltrane`.

7.19.19 0.18.3

- Fix bug where templatetags could not be loaded when the base directory was ".".

7.19.20 0.18.2

- Add `request` to the template context when building static sites.

7.19.21 0.18.1

- Fix bug where static site path was incorrect.

7.19.22 0.18.0

- Add `toc` to the template context which provides a table of contents for the markdown.

7.19.23 0.17.0

- Fix bug with relative URLs when generating `sitemap.xml`
- Automatic generation of `rss.xml` file

7.19.24 0.16.1

- Create COLTRANE_SITE setting in .env file during create command

7.19.25 0.16.0

- Output an error if rendering fails during record command
- include_md template tag
- parent filter
- Serving of /sitemap.xml for standalone
- Automatic creation of sitemap.xml during record command

Breaking changes

- COLTRANE_SITE is required in .env file

7.19.26 0.15.1

- Include all frontmatter metadata in directory_contents template tag output
- Parse date frontmatter into datetime
- Parse draft frontmatter into boolean

7.19.27 0.15.0

- *directory_contents* template tag
- Add *django-fastdev* for more immediate feedback when an invalid template variable is used
- Show error message if a markdown file cannot be output to HTML
- Fix bug where index.md files in a sub-directory were not output correctly

7.19.28 0.14.0

- Add --output option to record command #19 by *stlk*
- Nicer help output for CLI

7.19.29 0.13.1

- Add --threads option to record command

7.19.30 0.13.0

- Multithread `record` command
- Better console output for `record` command

7.19.31 0.12.0

- Fix elapsed time for `record` command
- More performant collection of markdown content files
- Don't include markdown or data when collecting static files while running `record`

7.19.32 0.11.0

- Add `--force` option to `create` command
- Automatically refresh the browser when markdown content or data is saved

7.19.33 0.10.0

- Fix generating root `index.md`

7.19.34 0.9.0

- Add support for static files
- Add `watchman` support
- Add `whitenoise` for static handling
- Add `--force` option to `record` command

7.19.35 0.8.0

- Read `INTERNAL_IPS` from `.env` file
- Add `now` to template variables
- Include found template tags in built-ins
- Include `humanize` template tags in built-ins

7.19.36 0.7.0

- Support nested directories for content and data
- Update default markdown extras

7.19.37 0.6.0

- Add support for markdown frontmatter
- Support custom templates specified in markdown frontmatter

7.19.38 0.5.0

- Add build management command
- Store build manifest so that HTML doesn't re-render if possible
- Loosen dependencies

7.19.39 0.4.0

- Unit tests, coverage, and fixes for mypy

7.19.40 0.3.0

- Bug fixes

7.19.41 0.2.0

- Bug fixes

7.19.42 0.1.0

- Basic Django app which renders markdown files at a URL
- Basic script