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Algolia docsearch crawler

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This tutorial shows you how to use Modal to run the [Algolia docsearch crawler](#) to index your website and make it searchable. This is not just example code - we run the same code in production to power search on this page (`Ctrl+K` to try it out!).

Basic setup

Let's get the imports out of the way.

```
import json
import os
import subprocess

from modal import App, Image, Secret, web_endpoint
```

Modal lets you [use and extend existing Docker images](#), as long as they have `python` and `pip` available. We'll use the official crawler image built by Algolia, with a small adjustment: since this image has `python` symlinked to `python3.6` and Modal is not compatible with Python 3.6, we install Python 3.11 and symlink that as the `python` executable instead.

```
algolia_image = Image.from_registry(
    "algolia/docsearch-scraper:v1.16.0",
    add_python="3.11",
    setup_dockerfile_commands=["ENTRYPOINT []"],
)
```

```
app = App("example-algolia-indexer")
```

Configure the crawler

Now, let's configure the crawler with the website we want to index, and which CSS selectors we want to scrape. Complete documentation for crawler configuration is available [here](#).

```
CONFIG = {
    "index_name": "modal_docs",
    "start_urls": [
        {"url": "https://modal.com/docs/guide", "page_rank": 2},
        {"url": "https://modal.com/docs/examples", "page_rank": 1},
        {"url": "https://modal.com/docs/reference", "page_rank": 1},
    ],
    "selectors": {
        "lvl0": {
            "selector": ".sidebar .active",
            "default_value": "Documentation",
            "global": True,
        },
        "lvl1": "article h1",
        "lvl2": "article h2",
        "lvl3": "article h3",
        "lvl4": "article h4",
        "text": "article p,article ol,article ul,article pre",
    },
}
```

Create an API key

If you don't already have one, sign up for an account on [Algolia](#). Set up a project and create an API key with `write` access to your index, and with the ACL permissions `addObject`, `editSettings` and `deleteIndex`. Now, create a secret on the Modal [Secrets](#) page with the `API_KEY` and `APPLICATION_ID` you just created. You can name this anything you want, we named it `algolia-secret`.

The actual function

We want to trigger our crawler from our CI/CD pipeline, so we're serving it as a [web endpoint](#) that can be triggered by a `GET` request during deploy. You could also consider running the crawler on a [schedule](#).

The Algolia crawler is written for Python 3.6 and needs to run in the `pipenv` created for it, so we're invoking it using a subprocess.

```
@app.function(
    image=algolia_image,
    secrets=[Secret.from_name("algolia-secret")],
)
def crawl():
    # Installed with a 3.6 venv; Python 3.6 is unsupported by Modal, so use a subprocess i
    subprocess.run(
        ["pipenv", "run", "python", "-m", "src.index"],
        env={**os.environ, "CONFIG": json.dumps(CONFIG)},
    )
```

We want to be able to trigger this function through a webhook.

```
@app.function()
@web_endpoint()
def crawl_webhook():
    crawl.remote()
    return "Finished indexing docs"
```

Deploy the indexer

That's all the code we need! To deploy your application, run

```
modal deploy algolia_indexer.py
```

If successful, this will print a URL for your new webhook, that you can hit using `curl` or a browser. Logs from webhook invocations can be found from the [apps](#) page.

The indexed contents can be found at https://www.algolia.com/apps/APP_ID/explorer/browse/, for your APP_ID. Once you're happy with the results, you can [set up the docsearch package with your website](#), and create a search component that uses this index.

Entrypoint for development

To make it easier to test this, we also have an entrypoint for when you run `modal run algolia_indexer.py`

```
@app.local_entrypoint()
def run():
    crawl.remote()
```



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