Automatic testing of (RESTful) API documentation

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A content management developer platform with an API at its core.

Run your content as a service

A collection of APIs helps developers manage, integrate, and deliver digital content across all types of clients, devices, and platforms.

What do you do?

Download
API Blueprint

INTRODUCTION

Authentication

Resource IDs

Updating resources

Updating and
version locking

API rate limits

Common Resource
Attributes

Collection resources
and pagination

Errors

Entry

Create/update an entry >

This endpoint can be used to create a new entry with an ID specified by the user, or to update a specific entry via its ID.

Note that when updating an existing entry, you always need to specify the last version you got of the entry you are updating with `X-Contentful-Version`.

Before you can create an entry you need to create and activate a content type.

When creating a new entry you need to pass the ID of the entry's desired content type as the `X-Contentful-Content-Type` header.

Entries / Entry / Create/update an entry

`PUT` https://**api.contentful.com**/spaces/space_id/entries/entry_id

Parameters

space_id ● ID of the space in form of a string   String
Example: `fp91oelsziea` .

entry_id ● ID of the entry in form of a string   String
Example: `helloworld` .

Request

Powered by

apiary

Documentation will be wrong

error in documentation

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Users hate that

Johnno Nolan @JohnnoNolan 16 Feb 15

incomplete or wrong documentation is the bane of my existence.

Lee Behrens @leebehrens

.@JohnnoNolan I'd much rather have incomplete than wrong. Nothing breaks trust in another team's work like their incorrect API docs.

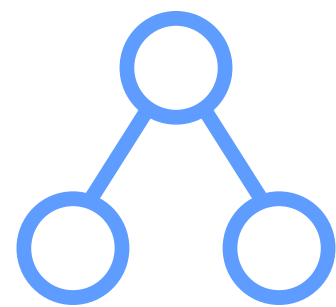11:53 AM - 16 Feb 2015

Jesse 🎃☕ BATkinson @jsatk

I'm working with an incredibly well presented and documented API who's documentation is deeply wrong.

I'd rather have no docs.

7:54 PM - 15 Sep 2016 · SoMa, San Francisco, United States

It's all in the spec

api blueprint

A powerful high-level API description language for web APIs.

```
## Questions Collection [/questions]

### Create a New Question [POST]

You may create your own question using this action. It takes a JSON
object containing a question and a collection of answers in the
form of choices.

+ Request (application/json)
        {
            "question": "Favourite programming language?",
            "choices": [
                "Swift",
                "Python",
                "Objective-C",
                "Ruby"
            ]
        }

+ Response 201 (application/json)
    + Headers
            Location: /questions/2
    + Body
            {
                "question": "Favourite programming language?",
                "published_at": "2015-08-05T08:40:51.620Z",
                "choices": [
                    {
```

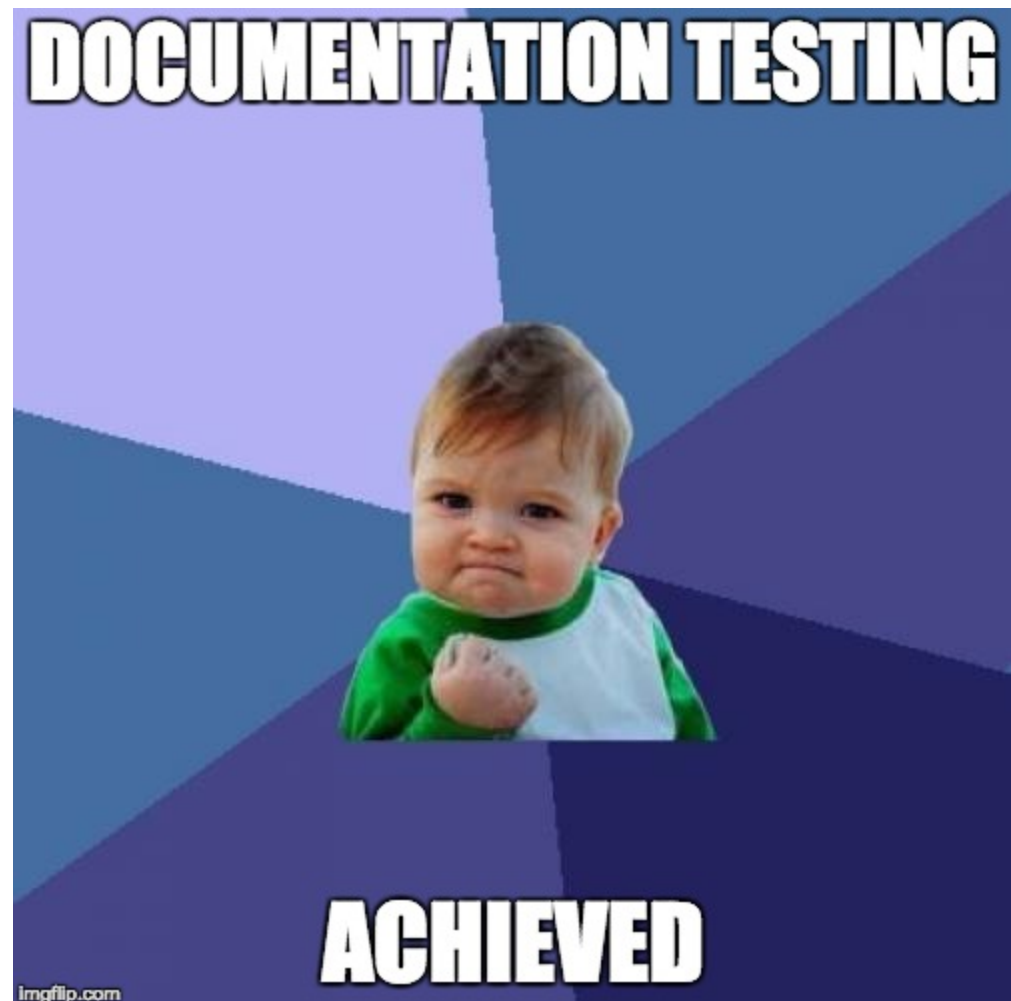# Let's get testing

DREDD

No more outdated API documentation.

Testing read-only

```
node_modules/.bin/dredd cma.apib https://api.contentful.com \
                -m GET
```

```
info: Beginning Dredd testing...
info: Found Hookfiles: ./test-hooks-cma.js
skip: POST /spaces
pass: GET /spaces duration: 1377ms
skip: PUT /spaces/fp91oelsziea
pass: GET /spaces/fp91oelsziea duration: 972ms
skip: DELETE /spaces/fp91oelsziea
pass: GET /spaces/fp91oelsziea/content_types duration: 1649ms
skip: POST /spaces/fp91oelsziea/content_types
skip: PUT /spaces/fp91oelsziea/content_types/3ORKIAOaJqQWWg86MWkyOs
skip: PUT /spaces/fp91oelsziea/content_types/3ORKIAOaJqQWWg86MWkyOs
skip: PUT /spaces/fp91oelsziea/content_types/3ORKIAOaJqQWWg86MWkyOs
skip: PUT /spaces/fp91oelsziea/content_types/3ORKIAOaJqQWWg86MWkyOs
pass: GET /spaces/fp91oelsziea/content_types/3ORKIAOaJqQWWg86MWkyOs duration: 812ms
skip: DELETE /spaces/fp91oelsziea/content_types/3ORKIAOaJqQWWg86MWkyOs
skip: PUT /spaces/fp91oelsziea/content_types/3ORKIAOaJqQWWg86MWkyOs/published
skip: DELETE /spaces/fp91oelsziea/content_types/3ORKIAOaJqQWWg86MWkyOs/published
pass: GET /spaces/fp91oelsziea/public/content_types duration: 805ms
pass: GET /spaces/fp91oelsziea/content_types/hfM9RCJIk0wIm06WkEOQY/editor_interface duration: 835ms
fail: GET /spaces/fp91oelsziea/content_types/hfM9RCJIk0wIm06WkEOQY/editor_interface duration: 1392ms
skip: PUT /spaces/fp91oelsziea/content_types/hfM9RCJIk0wIm06WkEOQY/editor_interface
pass: GET /spaces/fp91oelsziea/entries duration: 2122ms
skip: POST /spaces/fp91oelsziea/entries
skip: PUT /spaces/fp91oelsziea/entries/helloworld
skip: PUT /spaces/fp91oelsziea/entries/helloworld
pass: GET /spaces/fp91oelsziea/entries/helloworld duration: 818ms
skip: DELETE /spaces/fp91oelsziea/entries/helloworld
skip: PUT /spaces/fp91oelsziea/entries/helloworld/published
skip: DELETE /spaces/fp91oelsziea/entries/helloworld/published
skip: PUT /spaces/fp91oelsziea/entries/helloworld/archived
skip: DELETE /spaces/fp91oelsziea/entries/helloworld/archived
pass: GET /spaces/fp91oelsziea/assets duration: 831ms
skip: POST /spaces/fp91oelsziea/assets
pass: GET /spaces/fp91oelsziea/public/assets duration: 781ms
```

DOCUMENTATION TESTING

ACHIEVED

imgflip.com

Hooks

- `beforeAll` called at the beginning of the whole test run

- `beforeEach` called before each HTTP transaction

- `before` called before some specific HTTP transaction

- `beforeEachValidation` called before each HTTP transaction is validated

- `beforeValidation` called before some specific HTTP transaction is validated

- `after` called after some specific HTTP transaction regardless its result

- `afterEach` called after each HTTP transaction

- `afterAll` called after whole test run

Hooks

```
node_modules/.bin/dredd cma.apib https://api.contentful.com \
                                  --hookfiles=./test-hooks.js \
                                  -m GET
```

Skipping Tests

```javascript
var hooks = require('hooks');

hooks.before(
  "Webhook calls > Webhook call details > Get the webhook call details",
  function (transaction) {
    transaction.skip = true;
  });
```

Mutating data

```javascript
var hooks = require('hooks');

hooks.before(
  "Entries > Delete an Entry",
  function (transaction) {
    client.createEntry(entry, "1234")
  });
```

Rate limiting

```javascript
var hooks = require('hooks');
const DELAY = 1000/6.0;

hooks.afterEach(function(transaction, done) {
  setTimeout(done, DELAY);
});
```

Changing request data

```javascript
var hooks = require('hooks');

hooks.beforeEach(function (transaction, done) {
  transaction.fullPath = transaction.fullPath.replace('fp91oelsziea', 'gbkxklvmolc1');

  done();
});
```

Chai assertions

```
var hooks = require('hooks');
var assert = require('chai').assert;

hooks.afterEach(function(transaction, done) {
  if (!transaction.skip) {
    assert.match(transaction.real.headers['x-contentful-request-id'], /^content-api:[a-zA-Z
  }

  done();
});
```

Security

```
995  node_modules/.bin/dredd out/cma.apib https://api.contentful.com \
996                --hookfiles=./test-hooks.js \
997                -h "Authorization: Bearer 4a634d9b40467dd76f91607d07fc299e7d7fca8f699f73d1d3783f50c5167672" \
998                -m GET #-m PUT -m POST #-m DELETE
```

Censor private data

```javascript
var hooks = require('hooks');
const SECRET_HEADERS = ['Authorization'].map(header => header.toLowerCase());

hooks.afterEachValidation(function(transaction, done) {
  Object.keys(transaction.request.headers).forEach(function(key) {
    if (SECRET_HEADERS.indexOf(key.toLowerCase()) > -1) {
      transaction.request.headers[key] = "***HIDDEN SECRET DATA***";
    }
  });

  done();
});
```

CI the beast

Local Development   Continuous Integration   Post-Deployment   Tutorial

contentful/slash-developers
snapshots
fa6f2bb87221ba6d60dc9…
17794ms   ⏱ 5 days ago

⌄ @Travis CI
contentful/slash-developers
master
107c8cdbd3da4a155b96…
17854ms   ⏱ 5 days ago

⚠ @Travis CI
contentful/slash-developers
master
85246552b15a9cae75af…
16983ms   ⏱ 6 days ago

⚠ @Travis CI
contentful/slash-developers
snapshots
82a2e6c7e4cc3c5126eb…
16547ms   ⏱ 6 days ago

⚠ @Travis CI
contentful/slash-developers

Apiary   Details

Status   ⚠ failed
Hostname   testing-gce-b316cf68-306f-457c-a7a7-31f94
            d691f5f
Host   https://api.contentful.com
Duration   00:16.983
Results   Passes: 22, Failures: 2, Skipped: 46

⌄ **GET** **/spaces**   200
   Get all spaces an account has access to

⚠ Create a space

⌄ **GET** **/spaces/cfexampleapi**   200
   Get a space

⚠ Update a space name

Conclusion

- Base your documentation on an API spec
- Test that spec
- Make it part of your CI
- Don't substitute your integration tests
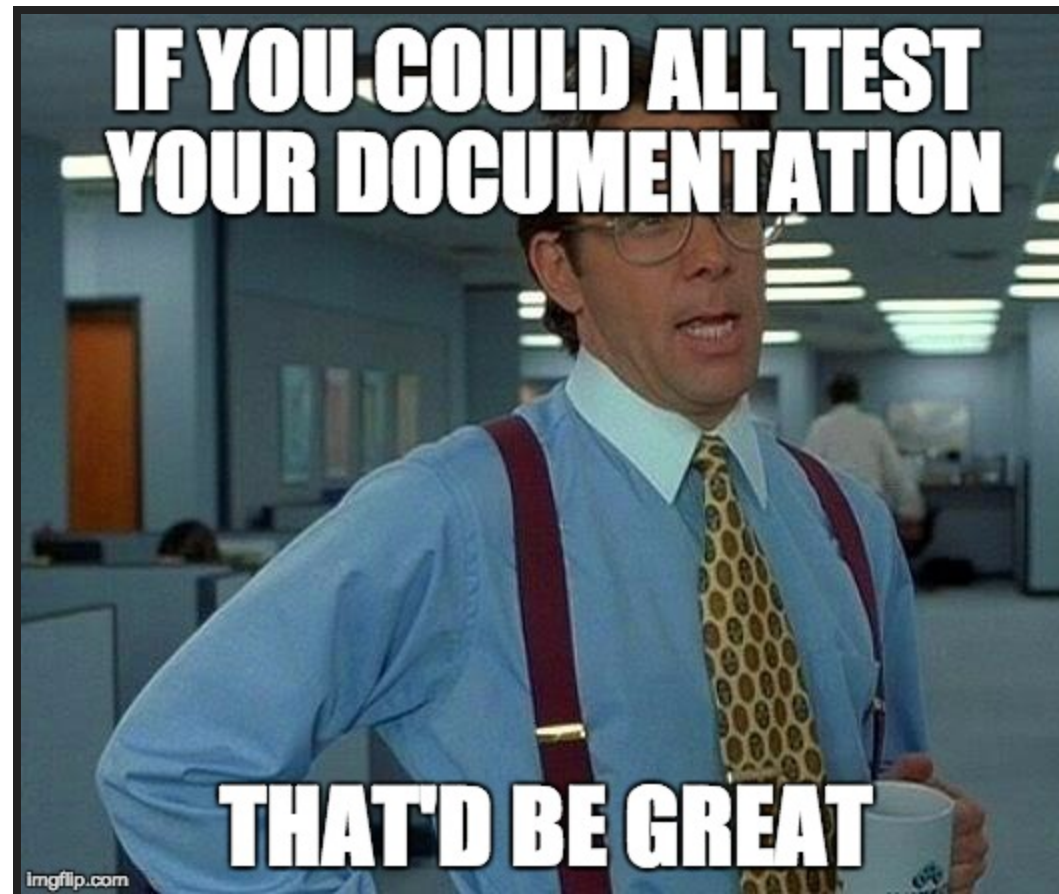
Slides available on Slideshare: http://www.slideshare.net/rwessling/nordic-apis-automatic-testing-of-restful-api-documentation

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