Power Your API Workflow With OpenAPI

Lorna Mitchell
Nexmo, the Vonage API Platform

What is OpenAPI?

An API description standard, in YAML/JSON

- https://openapis.org
- Text-based works well with source control
- Formerly known as "Swagger"

We LOVE OpenAPI!

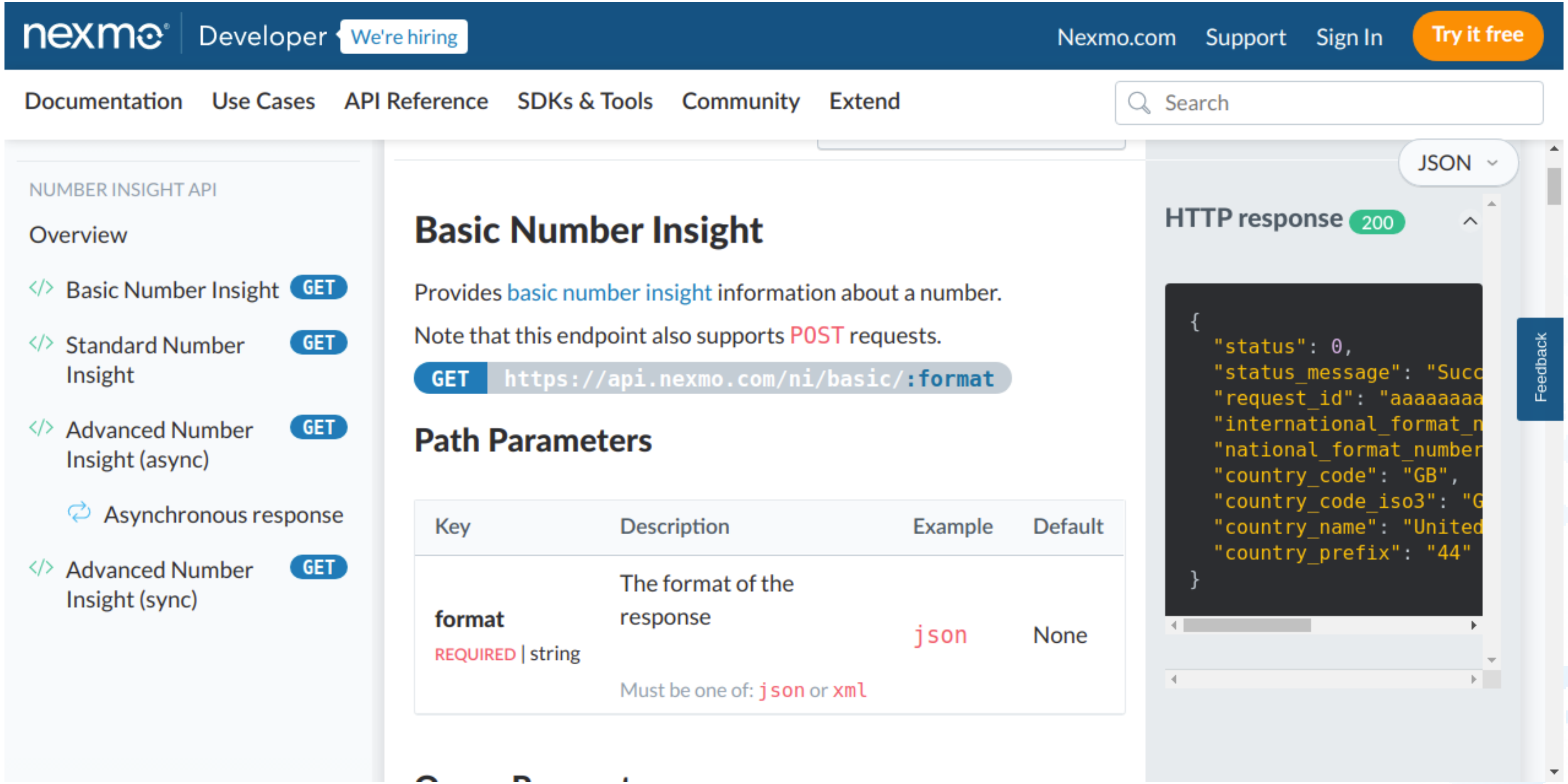
Explore New APIs

Get started more quickly by using OpenAPI with your existing tools:

- Import your OpenAPI spec into Postman https://getpostman.com
- Also try this trick with: Paw, Insomnia, maybe your IDE?

Great Resources

OpenAPI is a great basis for excellent documentation.



nexmo Developer We're hiring

Nexmo.com Support Sign In Try it free

Documentation Use Cases API Reference SDKs & Tools Community Extend

Search

NUMBER INSIGHT API

Overview

- Basic Number Insight GET
- Standard Number Insight GET
- Advanced Number Insight (async) GET
  - Asynchronous response
- Advanced Number Insight (sync) GET

Basic Number Insight

Provides basic number insight information about a number.

Note that this endpoint also supports POST requests.

GET `https://api.nexmo.com/ni/basic/:format`

Path Parameters

Key	Description	Example	Default
format REQUIRED | string	The format of the response Must be one of: `json` or `xml`	`json`	None

JSON

HTTP response 200

```
{
  "status": 0,
  "status_message": "Succ
  "request_id": "aaaaaaaa
  "international_format_n
  "national_format_number
  "country_code": "GB",
  "country_code_iso3": "G
  "country_name": "United
  "country_prefix": "44"
}
```

Feedback

Open Standard: Open Tools

https://developer.nexmo.com uses `nexmo_oas_renderer`

```
gem install nexmo-oas-renderer
export OAS_PATH=specs
nexmo-oas-renderer
```

The spec(s) can be found at `https://localhost:4567`

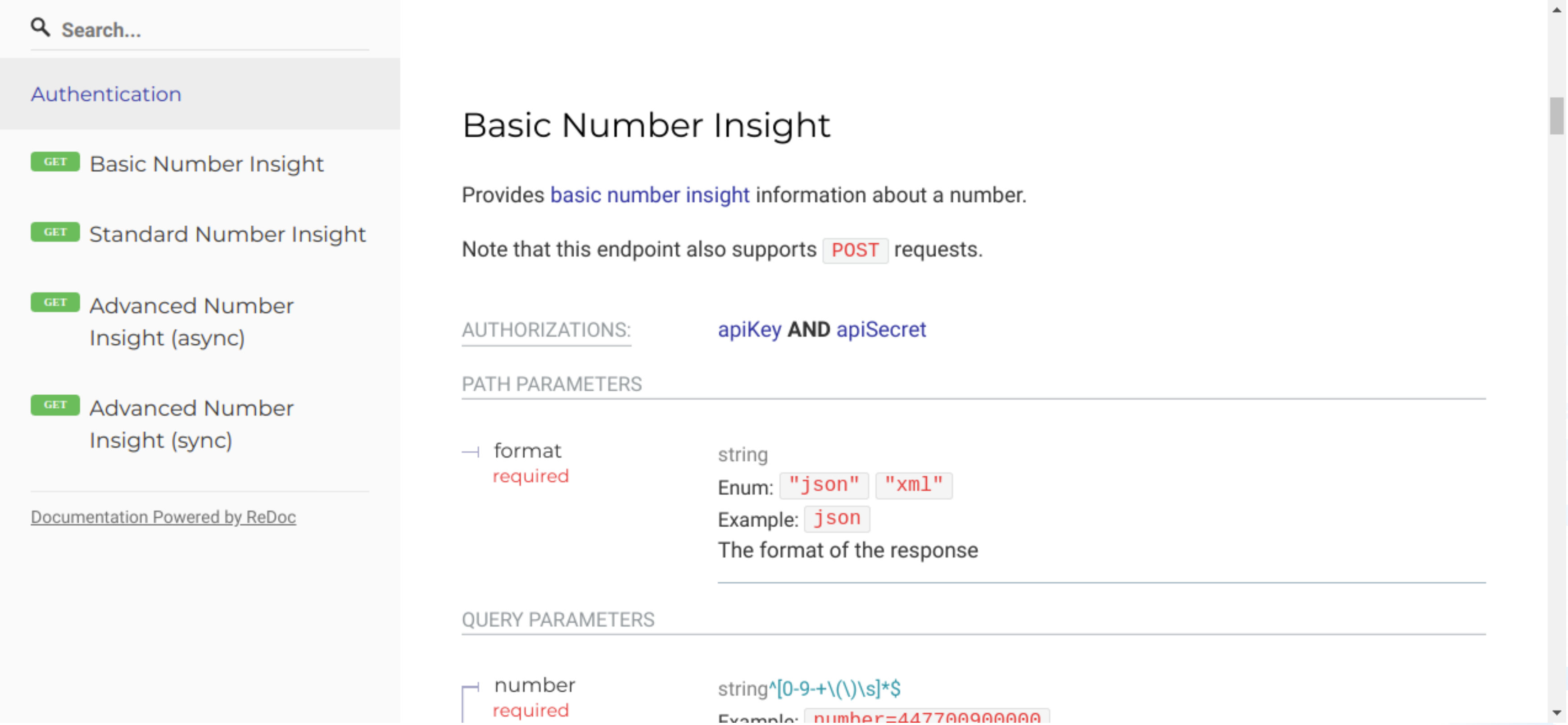
GitHub: https://github.com/Nexmo/nexmo-oas-renderer

Or try ReDoc https://github.com/Redocly/redoc

```
npm install -g redoc-cli
redoc-cli serve specs/openapi.yml
```

Single Source, Many Outputs

Content and presentation are separate, here's ReDoc rendering:



Search...

Authentication

GET Basic Number Insight

GET Standard Number Insight

GET Advanced Number Insight (async)

GET Advanced Number Insight (sync)

Documentation Powered by ReDoc

Basic Number Insight

Provides basic number insight information about a number.

Note that this endpoint also supports `POST` requests.

AUTHORIZATIONS: apiKey **AND** apiSecret

PATH PARAMETERS

format
required

string
Enum: `"json"` `"xml"`
Example: `json`
The format of the response

QUERY PARAMETERS

number
required

string^[0-9-+\(\)\s]*$
Example: `number=447700900000`

Easy Integrations

- **First Choice:** API provider's SDKs
  - Nexmo publishes SDKs for 7 tech stacks
- **Backup Plan:** Generate a local code wrapper to access an API

Generated Code Libraries

This example uses OpenAPI Generator
https://github.com/OpenAPITools/openapi-generator

```
docker run --rm -v ${PWD}:/local \
openapitools/openapi-generator-cli generate
-i number-insight.yml -g php -o /local/out/php
```

Generated Code Libraries

To use it:

```php
require_once('out/php/vendor/autoload.php');
// copy code from README, set API key and secret

$apiInstance = new OpenAPI\Client\Api\DefaultApi(
    new GuzzleHttp\Client(), $config);
$format = "json";
$number = "447700900000";
try {
    $result = $apiInstance->getNumberInsightBasic($format, $number);
    print_r($result);
} catch (Exception $e) {
    echo 'Exception when calling DefaultApi->getNumberInsightBasic';
}
```

Inside an OpenAPI Spec

Warning: may contain YAML

Anatomy of OpenAPI Spec

Top-level elements:

- `openapi`
- `info`
- `servers`
- `paths`
- `components`
- `security`
- `tags`

OpenAPI Spec Example

A JSON or YAML file holds the description (this is YAML)

```yaml
openapi: 3.0.0
servers:
  - url: 'https://api.nexmo.com/ni'
info:
  title: Number Insight API
  version: 1.0.4
  description: Nexmo's Number Insight API delivers real-time intelligence ...
  contact:
    name: Nexmo DevRel
    email: devrel@nexmo.com
  license:
    url: 'https://opensource.org/licenses/MIT'

... a few hundred more lines here
```

OpenAPI Spec Example

Here's an endpoint, in paths

```
paths:
  '/basic/{format}':
    parameters:
      - $ref: '#/components/parameters/format'
    get:
      operationId: getNumberInsightBasic
      summary: Basic Number Insight
      description: |
        Provides [basic number insight](/number-insight/overview#basic-standard-a
        information about a number.
      parameters:
        - $ref: '#/components/parameters/number'
        - $ref: '#/components/parameters/country'
```

OpenAPI Spec Example

We can $ref to elements that are reused, like this format parameter that is in the path of every request for this API:

```
format:
  name: format
  in: path
  required: true
  description: 'The format of the response'
  example: json
  schema:
    type: string
    enum:
      - 'json'
      - 'xml'
```

OpenAPI Spec Example

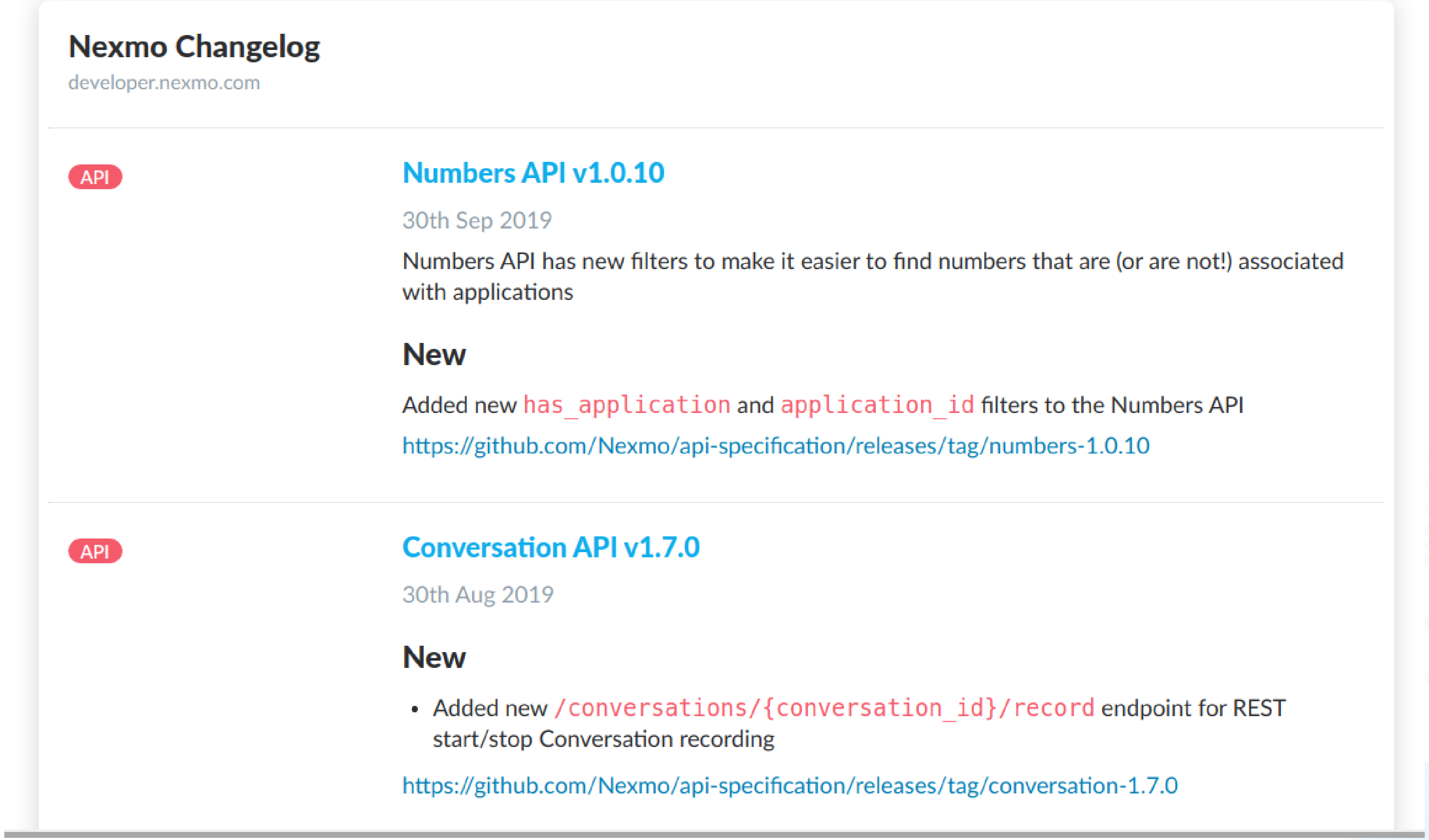
Responses are organised by status code:

```
responses:
  '200':
    description: OK
    content:
      application/json:
        schema:
          $ref: '#/components/schemas/niResponseJsonBasic'
      text/xml:
        schema:
          $ref: '#/components/schemas/niResponseXmlBasic'
```

Text-based Specifications

- Work brilliantly with source control
- We keep our API specs publicly: in GitHub https://github.com/nexmo/api-specification
- Brought into https://developer.nexmo.com as a dependency
- Enables our other workflows - and yours!

changelog.nexmo.com



Nexmo Changelog

developer.nexmo.com

API

Numbers API v1.0.10

30th Sep 2019

Numbers API has new filters to make it easier to find numbers that are (or are not!) associated with applications

New

Added new `has_application` and `application_id` filters to the Numbers API

https://github.com/Nexmo/api-specification/releases/tag/numbers-1.0.10

API

Conversation API v1.7.0

30th Aug 2019

New

- Added new `/conversations/{conversation_id}/record` endpoint for REST start/stop Conversation recording

https://github.com/Nexmo/api-specification/releases/tag/conversation-1.7.0

OpenAPI Brings Power to Your API Workflow

Resources

- Get in touch! `@lornajane` or `@NexmoDev` on Twitter
- https://developer.nexmo.com
- https://changelog.nexmo.com
- https://github.com/nexmo
- https://openapis.org