What API Descriptions Are Missing

Adam DuVander, EveryDeveloper

Tweet, tweet: @adamd apistrat
Developer Dashboard

Recent Developer Contacts

<table>
<thead>
<tr>
<th>NAME</th>
<th>EMAIL</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cecilia Welch</td>
<td><a href="mailto:heather_keeling@gottlieb.ca">heather_keeling@gottlieb.ca</a></td>
<td>Today</td>
</tr>
<tr>
<td>Sara Glover</td>
<td><a href="mailto:lloyd_brakus@lindgren.com">lloyd_brakus@lindgren.com</a></td>
<td>Today</td>
</tr>
<tr>
<td>Harriet Morgan</td>
<td><a href="mailto:jabari.kilback@nelson.tv">jabari.kilback@nelson.tv</a></td>
<td>Yesterday</td>
</tr>
<tr>
<td>Susie Curry</td>
<td><a href="mailto:theo_gleichner@kaia.org">theo_gleichner@kaia.org</a></td>
<td>Yesterday</td>
</tr>
<tr>
<td>Edgar Greer</td>
<td><a href="mailto:ankunding_ralph@gmail.com">ankunding_ralph@gmail.com</a></td>
<td>Yesterday</td>
</tr>
<tr>
<td>Minerva Massey</td>
<td><a href="mailto:lia_purdy@yahoo.com">lia_purdy@yahoo.com</a></td>
<td>Yesterday</td>
</tr>
</tbody>
</table>

Showing 1 to 20 of 2,503 contacts

Usage by Developer

<table>
<thead>
<tr>
<th></th>
<th>TERM 1</th>
<th>TERM 2</th>
<th>TERM 3</th>
<th>TERM 4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>85.08</td>
<td>1.76</td>
<td>33.42</td>
<td>75.11</td>
</tr>
</tbody>
</table>

Tweet, tweet: @adamd #apistrat
## GET /contact

List contacts

Returns a paged list of contacts

### Parameters

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>page</td>
<td>Results page</td>
</tr>
<tr>
<td>limit</td>
<td>Results per page</td>
</tr>
<tr>
<td></td>
<td>Default value: 1</td>
</tr>
<tr>
<td></td>
<td>Default value: 100</td>
</tr>
</tbody>
</table>

Tweet, tweet: @adamd #apistrat
<table>
<thead>
<tr>
<th>Product</th>
<th>Category</th>
<th>Qty/Unit</th>
<th>Price</th>
<th>Discontinued</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alice Mutton</td>
<td>Meat/Poultry</td>
<td>20 - 1 kg tins</td>
<td>$39.00</td>
<td></td>
</tr>
<tr>
<td>Aniseed Syrup</td>
<td>Condiments</td>
<td>12 - 550 ml bottles</td>
<td>$10.00</td>
<td></td>
</tr>
<tr>
<td>Boston Crab Meat</td>
<td>Seafood</td>
<td>24 - 4 oz tins</td>
<td>$18.40</td>
<td></td>
</tr>
<tr>
<td>Camembert Pierrot</td>
<td>Dairy Products</td>
<td>15 - 300 g rounds</td>
<td>$34.00</td>
<td></td>
</tr>
<tr>
<td>Carnarvon Tigers</td>
<td>Seafood</td>
<td>16 kg pkg.</td>
<td>$62.50</td>
<td></td>
</tr>
<tr>
<td>Chai!</td>
<td>Beverages</td>
<td>10 boxes x 20 bags</td>
<td>$18.00</td>
<td></td>
</tr>
<tr>
<td>Chang</td>
<td>Beverages</td>
<td>24 - 12 oz bottles</td>
<td>$19.00</td>
<td></td>
</tr>
<tr>
<td>Chartreuse verte</td>
<td>Beverages</td>
<td>750 cc per bottle</td>
<td>$18.00</td>
<td></td>
</tr>
<tr>
<td>Chef Anton's Cajun Seasoning</td>
<td>Condiments</td>
<td>48 - 6 oz jars</td>
<td>$22.00</td>
<td></td>
</tr>
<tr>
<td>Chef Anton's Gumbo Mix</td>
<td>Condiments</td>
<td>36 boxes</td>
<td>$21.35</td>
<td></td>
</tr>
</tbody>
</table>
**GET /contact**  List contacts

Returns a paged list of contacts

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>page</td>
<td>Results page</td>
</tr>
<tr>
<td></td>
<td>Default value: 1</td>
</tr>
<tr>
<td>limit</td>
<td>Results per page</td>
</tr>
<tr>
<td></td>
<td>Default value: 100</td>
</tr>
</tbody>
</table>

**Sort**: date desc
Tweet, tweet: @adamd #apistrat
Remember the API Consumer

Tweet, tweet: @adamd #apistrat
Remember the API Consumer
API descriptions have come a long way
Let's make API descriptions better

Tweet, tweet: @adamd apistrat
Who is an API provider?
Who is an API consumer?
def get_latest_contacts():
    pg = 1
    all_contacts = []
    url = "https://api.example.com/contacts/?page=

    while pg > 0:
        onepage = requests.get(url + str(pg))
        pg = append_page(all_contacts, onepage)

    sort_contacts(all_contacts)
    return all_contacts
```python
def get_latest_contacts():
    pg = 1
    all_contacts = []
    url = "https://api.example.com/contacts/?page=

    while pg > 0:
        onepage = requests.get(url + str(pg))
        pg = append_page(all_contacts, onepage)

    sort_contacts(all_contacts)
    return all_contacts
```
Tweet, tweet: @adamd #apistrat
Twitter blocks Instagram from using its API for friend-finding feature
https://api.twitter.com/1.1/friends/list.json
Endpoints ≠ Use cases
Important factors (rated 1-4)

- Complete and accurate documentation
- Service availability/uptime
- Service responsiveness/performance
- API or Documentation change log
- Active developer community
- Customer service responsiveness
- Price
- Language-specific code examples
- Service-level agreements
- Language-specific SDKs/helper libraries/
- Service status dashboard
- API console or explorer
- Customer service options (email, phone, etc.)
- User forums
- Service-specific blog
- Service-specific Twitter account

Tweet, tweet: @adamd #apistrat
HTTP/1.1 400 Bad Request
Date: Wed, 31 May 2017 19:01:41 GMT
Server: Apache/2.4.25 (Ubuntu)
Connection: close
Transfer-Encoding: chunked
Content-Type: application/json

"error": "Bad Request - Your request is missing parameters. Please verify and resubmit."
/contact:
  get:
    tags:
      - "contact"
    summary: "List contacts"
    description: "Returns a paged list of contacts"
    operationId: "listContacts"
    produces:
      - "application/xml"
      - "application/json"
    parameters:
      - name: "page"
        in: "query"
        description: "Results page"
        default: 1
        required: false
        type: "integer"
      - name: "limit"
        in: "query"
        description: "Results per page"
        default: 100
        required: false
        type: "integer"
API descriptions have come a long way
Using APIs The Old Way
API Reference

This API reference is organized by resource type. Each resource type has one or more data representations and one or more methods.

Resource types

Users

For Users Resource details, see the resource representation page.

<table>
<thead>
<tr>
<th>Method</th>
<th>HTTP request</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>getProfile</td>
<td>GET /user.id/profile</td>
<td>Gets the current user's Gmail profile.</td>
</tr>
<tr>
<td>stop</td>
<td>POST /user.id/stop</td>
<td>Stop receiving push notifications for the given user mailbox.</td>
</tr>
<tr>
<td>watch</td>
<td>POST /user.id/watch</td>
<td>Set up or update a push notification watch on the given user mailbox.</td>
</tr>
</tbody>
</table>

Users.drafts

For Users.drafts Resource details, see the resource representation page.

Tweet, tweet: @adamd #apistrat
SOAP and WSDL

Tweet, tweet: @adamd #apistrat
WADL
XML vs JSON as Percentage of Programmable/Web Directory

XML vs JSON as Percentage of New APIs (2013)

Tweet, tweet: @adamd #apistrat
Tweet, tweet: @adamd #apistrat
Open API 3.0, RAML, Postman collections, API Blueprint, Open API 2.0, ...

Tweet, tweet: @adamd #apistrat
Transform API Descriptions to formats of your choice

Convert Now  Supported Formats

260466
APIs Transformed and counting...

Tweet, tweet: @adamd #apistrat
OAS Subscription Example

callback:

onData:

$onRequest.query.callbackUrl/data:

post:

requestBody:

description: subscription payload

content:

text/plain

schema:

properties:

timestamp:

type: string

format: date-time

userDate:

$ref: '#/components/schemas/UserLogData'

responses:

202:

description: data received successfully

204:

description: no longer interested in further updates

Subscription Example

Server A

Subscribe

Create client subscription

201 Created

Send Event

204 received

Send Event

204 unsubscription

Server A

Server B

Unsubscribe client
I'M SORRY

langfordw on Flickr
I’m sorry
Let's make API descriptions better
Zapier combines Triggers (like "New Contact") and Actions (like "Create Contact") to complete an action in one app when a trigger occurs in another app. These combos—called "Zaps"—complete your tasks automatically.

The following Triggers, Searches, and Actions are supported by Zapier:

<table>
<thead>
<tr>
<th>Actions (9)</th>
<th>Triggers (7)</th>
<th>Searches (6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Contact</td>
<td>New Task</td>
<td></td>
</tr>
<tr>
<td>A new contact was created in your account.</td>
<td>A new task was created in your account.</td>
<td></td>
</tr>
<tr>
<td>New Project</td>
<td>New Organization</td>
<td></td>
</tr>
<tr>
<td>Triggers when a new project is created within your account.</td>
<td>A new organization was created in your account.</td>
<td></td>
</tr>
<tr>
<td>Updated Contact</td>
<td>New Opportunity</td>
<td></td>
</tr>
<tr>
<td>Triggers when a contact is updated.</td>
<td>Triggers when a new opportunity is created.</td>
<td></td>
</tr>
<tr>
<td>New Lead</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Triggers when a new lead is created in your account.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Mail Send
Elements that can be shared among more than one endpoint definition.

v3 Mail Send
/tp-mail/send

This endpoint allows you to send email over SendGrid’s v3 Web API, the most recent version of our API. If you are looking for documentation about the v2 Mail Send endpoint, please see our v2 API Reference.

- Top level parameters are referred to as "global".
- Individual fields within the personalizations array will override any other global, or “message level”, parameters that are defined outside of personalizations.

SendGrid provides libraries to help you quickly and easily integrate with the v3 Web API in 7 different languages: C#, Go, Java, NodeJS, PHP, Python, and Ruby.

For more detailed information about how to use the v3 Mail Send endpoint, please visit our Classroom.

Authentication

API Key
**POST /api_keys**

This endpoint allows you to create a new random API Key for the user.

A JSON request body containing a "name" property is required. If number of maximum keys is reached, HTTP 403 will be returned.

There is a limit of 100 API Keys on your account.

The API Keys feature allows customers to be able to generate an API Key credential which can be used for authentication with the SendGrid v3 Web API or the Mail API Endpoint.

See the API Key Permissions List for a list of all available scopes.

---

**Variables**

- **YOUR_API_KEY**
  - Your SendGrid API Key.
**POST** /contactdb/lists/{list_id}/recipients/{recipient_id}

This endpoint allows you to add a single recipient to a list.

The Contacts API helps you manage your Marketing Campaigns recipients.

### Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>YOUR_API_KEY</td>
<td>Your SendGrid API Key.</td>
<td>optional</td>
</tr>
</tbody>
</table>

### Path Params

<table>
<thead>
<tr>
<th>Param</th>
<th>Type</th>
<th>Optional</th>
</tr>
</thead>
<tbody>
<tr>
<td>list_id</td>
<td>Integer</td>
<td>optional</td>
</tr>
<tr>
<td>recipient_id</td>
<td>String</td>
<td>optional</td>
</tr>
</tbody>
</table>
Endpoint ⟷ Use Case

Endpoints ⟷ Use Case

Endpoint ≠ Use Case

Tweet, tweet: @adamd apistrat
Getting Started on Heroku with Node.js

Introduction

This tutorial will have you deploying a Node.js app to Heroku in minutes.

Hang on for a few more minutes to learn how to get the most out of the Heroku platform.

The tutorial assumes that you have a free Heroku account, and that you have Node.js and npm installed locally.
Machines ❤ Endpoints
Humans ❤ Use Cases

Tweet, tweet: @adamd apistrat
APIs are Software

Super complex software diagram on Wikipedia
Tweet, tweet. @adamd #apistrat
Thank you!
Adam Duvander
EveryDeveloper

Tweet, tweet: @adamd apistrat