

APIs That Will Love You

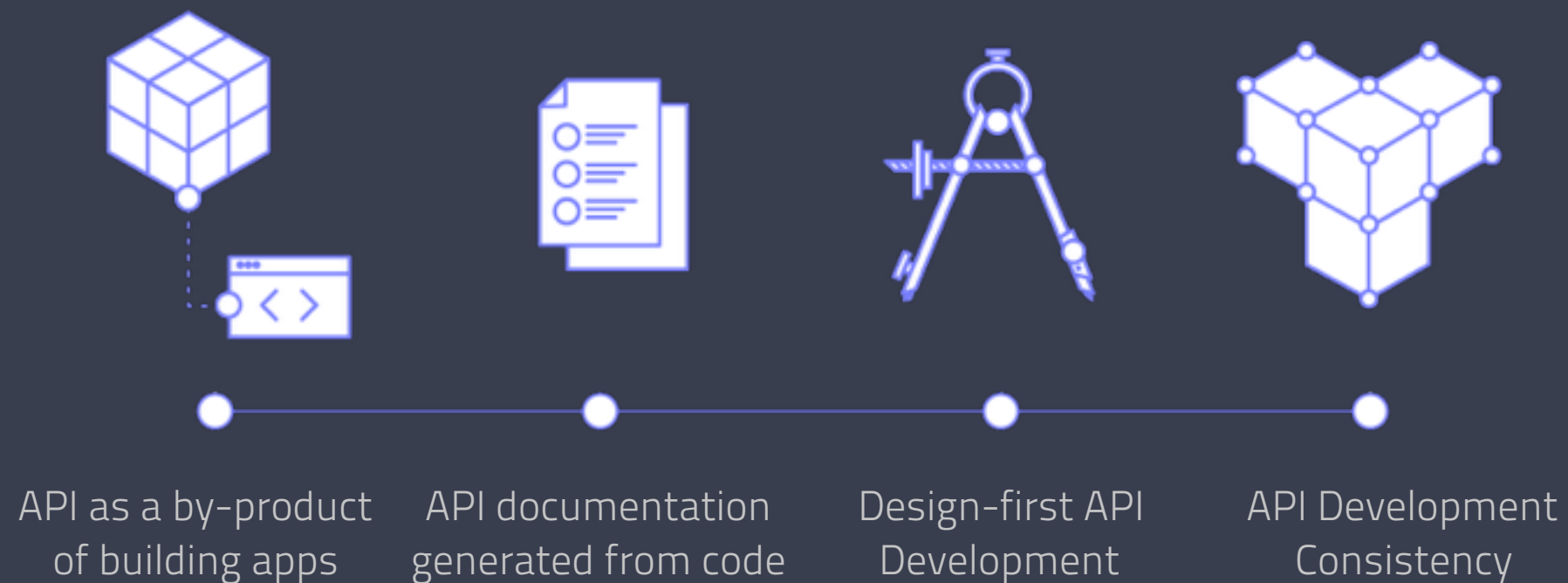


nada@apiary.io

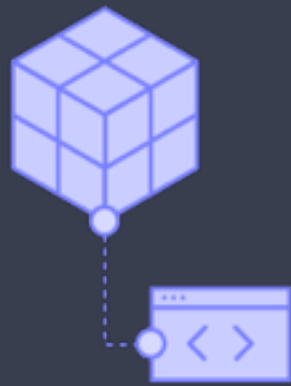
What is it about
APIs?



API evolution



API as a by-product



API as a by-product
of building apps



API documentation
generated from code



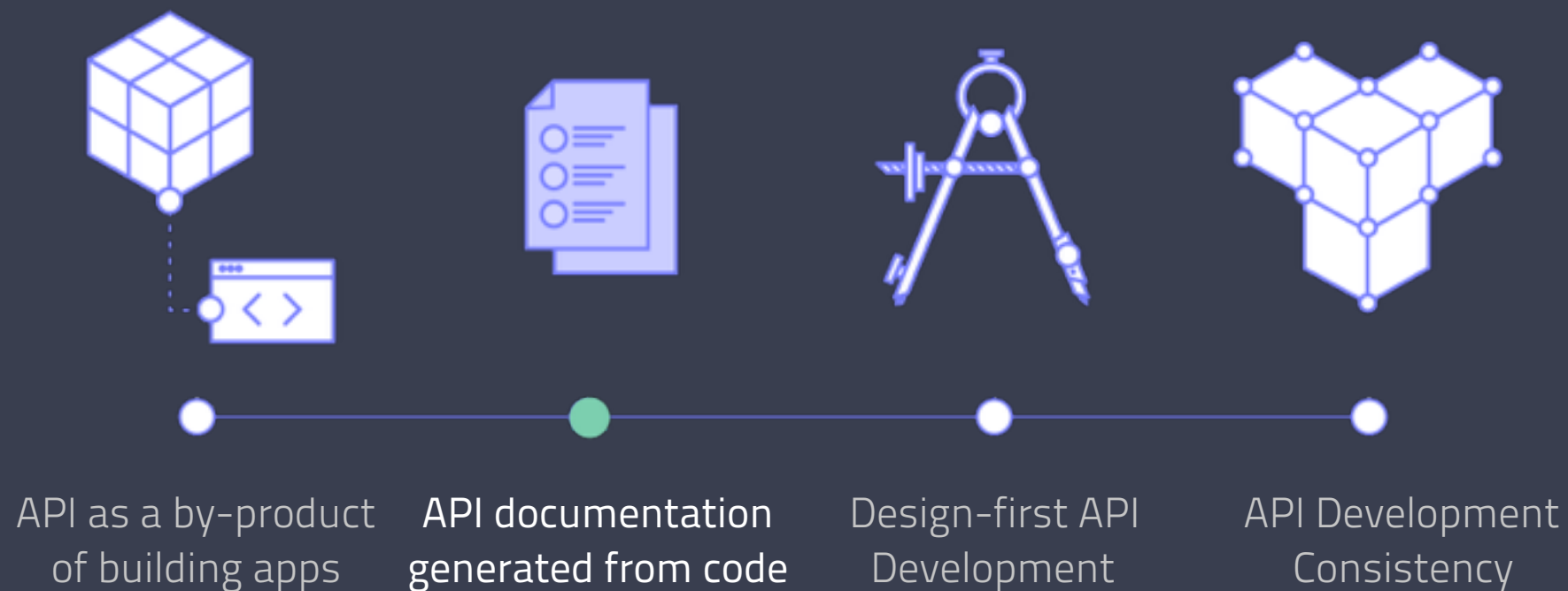
Design-first API
Development



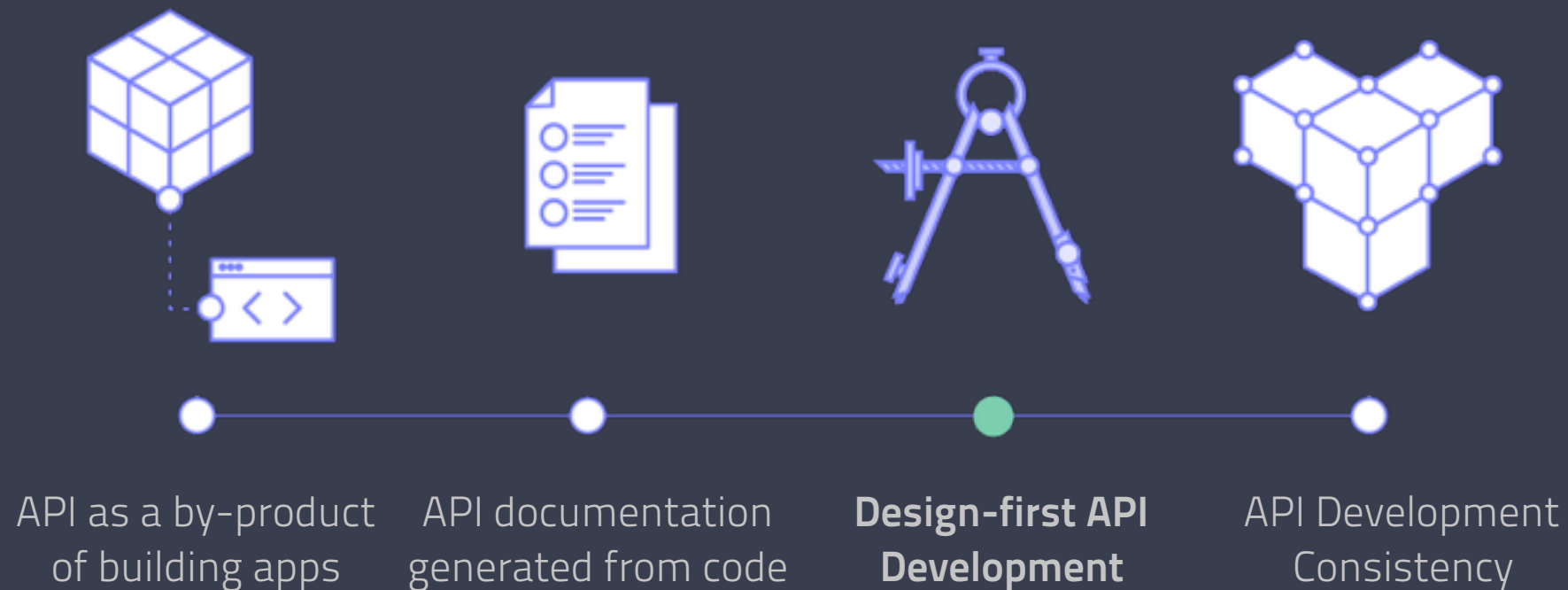
API Development
Consistency



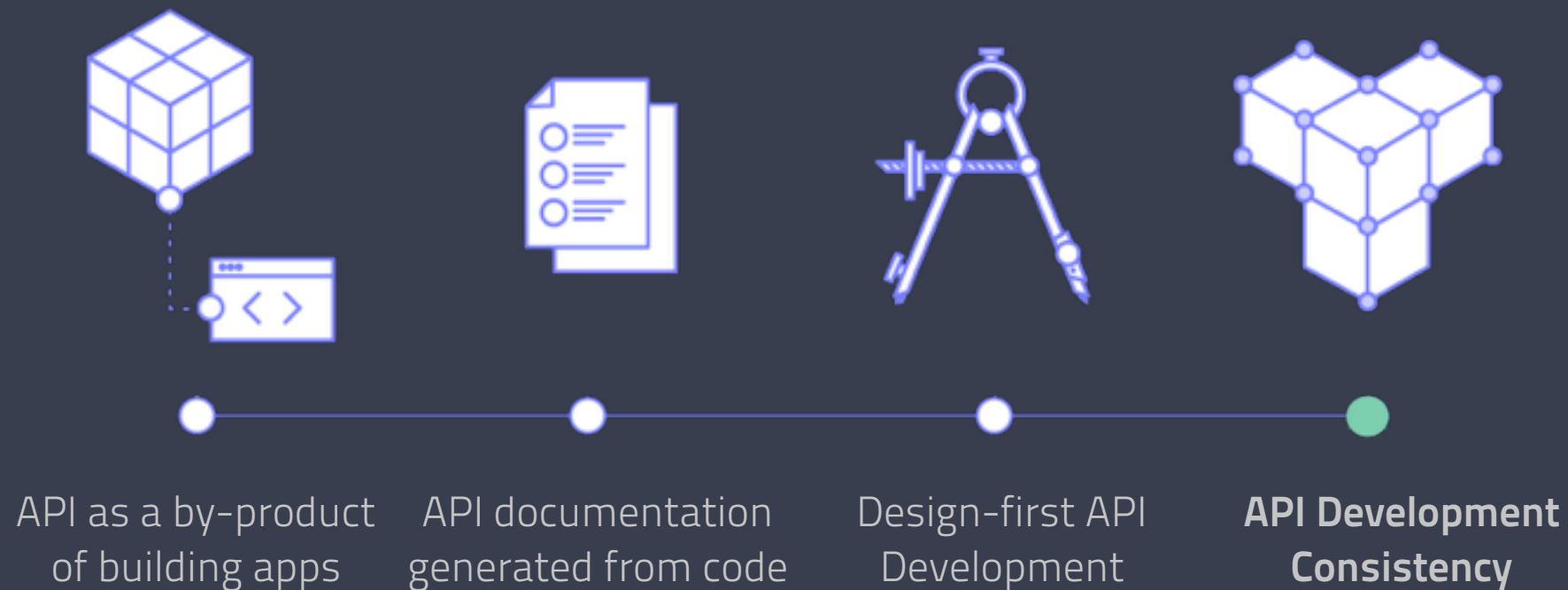
API documentation generated from code



Design-first API Development



API Development Consistency



API as a product

- customers
- scalability
- evolution



API life cycle



Preparation



Ground rules

- naming
- URL formatting
- media types
- authentication
- versioning



Iterate quickly

- Post
- Person
- Category



Iterate quickly

- Blog Post
- ~~Person~~ Author
- Category
- Tag



Design and Prototyping

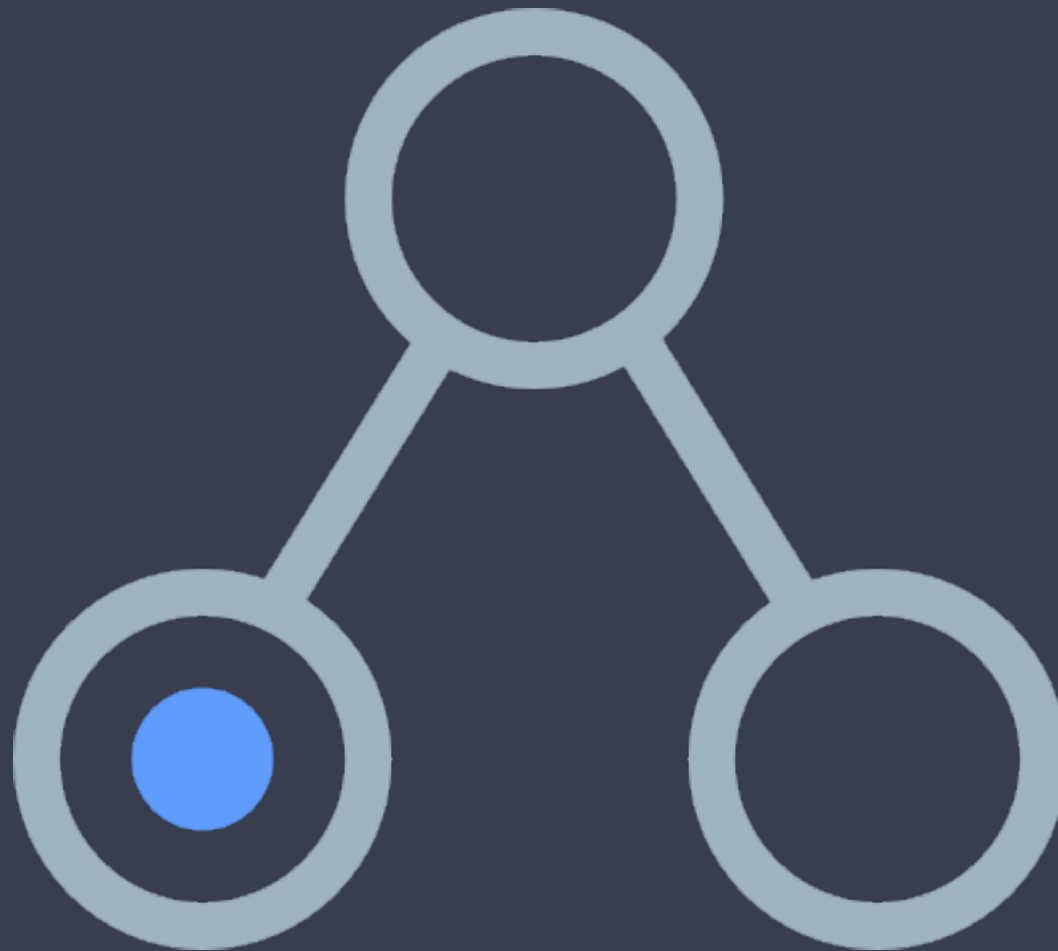


Write it Down

- Contract
- API Description Language
- Machine readable
- Human readable



API Blueprint



apiblueprint.org




```
1 # Blog API
2
3 ## Retrieve Blog Posts [GET /blog/posts/{?
4 category}]
5 Returns a list of blog posts in a given category
6
7 + Parameters
8     + category: API
9
10 + Response 200 (application/json)
11     + Attributes
12         + blog_posts (array[Blog Post])
```



With data in mind

- data matters
- understandable
- maintainable
- consistent



MSON - data for humans

```
1 # Blog Post (object)
2
3 + title: How to build good APIs
4 + content: Think first (string)
5 + created_date: `2016-05-12` (string, required)
6 + author (Person, required)
7 + category (Category, optional)
```



Collaborate

- involve API consumers
- discuss
- incorporate changes



Collaborating in Apiary

- API Project members
- GitHub issues and comments
- Version control via GitHub
- GitHub branches and pull requests



Mock Server

- engage API consumers early

Mock Server

cURL

Try

```
01 curl --include \  
02 'http://private-f771c-blogapiapiarydemo.apiary-mock.com/blog/posts/b5c23fa6-ba19-47eb-8d3c-fae77db1b3c3'
```



Repeat until
happy



Development



Time to code...

- develop
- test
- deploy



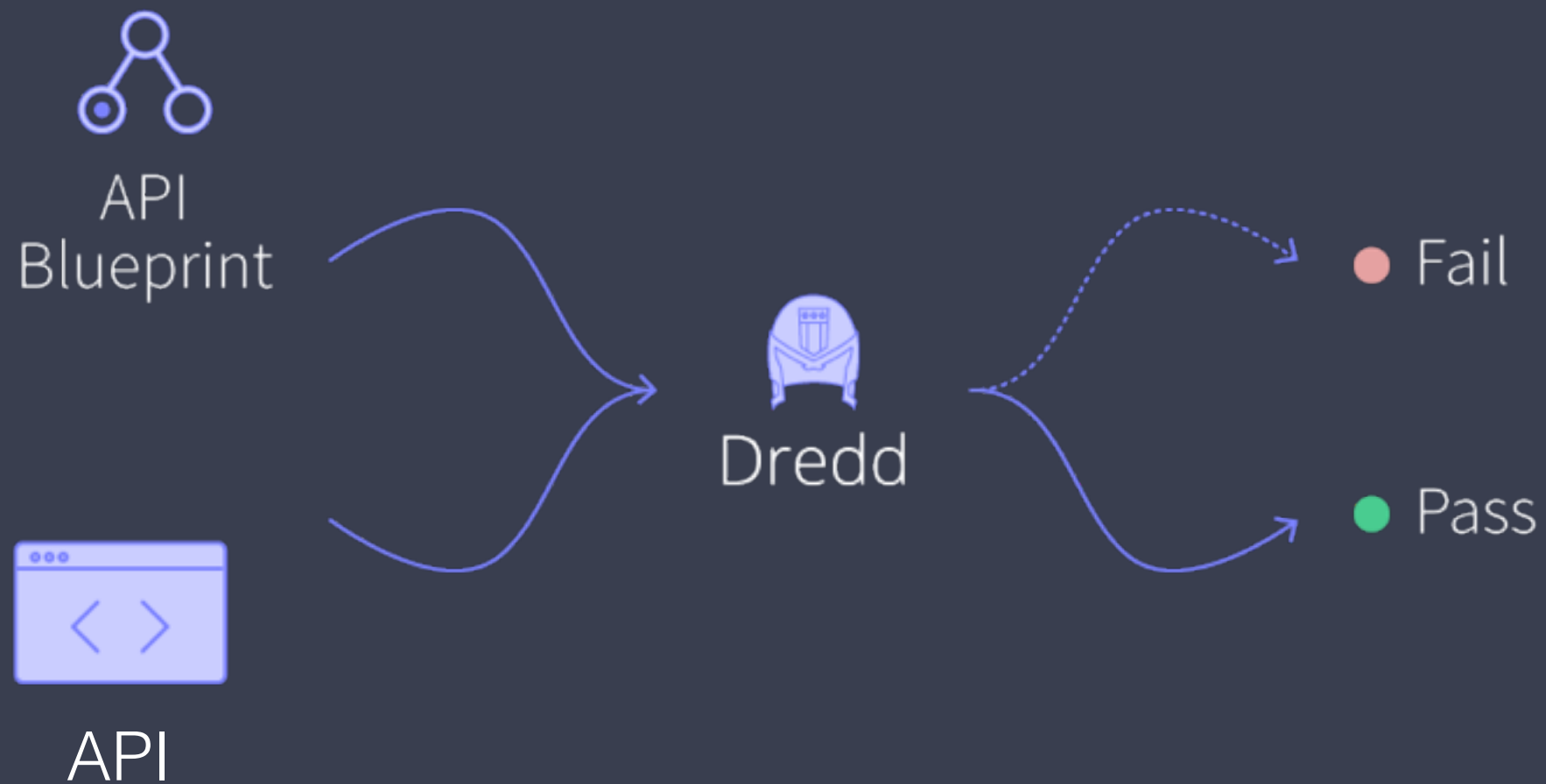
Dredd



dredd.readthedocs.io



Testing API with Dredd




Run Dredd locally

```
denada@thunder:~/projects/dredd-projects/blog_api_demo$ dredd
info: Configuration dredd.yml found, ignoring other arguments.
info: Using apiary reporter.
info: Beginning Dredd testing...
pass: POST /blog/posts duration: 583ms
pass: GET /blog/posts/b5c23fa6-ba19-47eb-8d3c-fae77db1b3c3 duration: 609ms
pass: DELETE /blog/posts/b5c23fa6-ba19-47eb-8d3c-fae77db1b3c3 duration: 400ms
pass: POST /blog/authors duration: 429ms
pass: GET /blog/authors/c4e517b4-74ca-446d-a1df-c254cbb5179d duration: 362ms
complete: 5 passing, 0 failing, 0 errors, 0 skipped, 5 total
complete: Tests took 3362ms
complete: See results in Apiary at: https://app.apiary.io/blogapiapiarydemo/tests/run
denada@thunder:~/projects/dredd-projects/blog_api_demo$
```
















Dredd results in Apiary

**Blog API**
Nada Demo • blogapiapiarydemo

DocumentationInspectorEditor**Tests**

Local DevelopmentContinuous IntegrationPost-DeploymentTutorial

	Apiary	Details
 denada@thunder 2310ms 🕒 a few seconds ago	Status  passed Hostname thunder Host http://private-f771c-blogapiapiarydemo.apiary-mock.com/ Duration 00:02.547 Results Passes: 5, Failures: 0	
 denada@thunder 2344ms 🕒 a few seconds ago		
 denada@thunder 2284ms 🕒 a few seconds ago		
 denada@thunder 2547ms 🕒 a few seconds ago	 POST /blog/posts 201 Create a Blog Post	Create a Blog Post POST http://private-f771c-blogapiapiarydemo.apiary-mock.com/blog/posts ∞ 376 ms  This is a valid API call. ▼ Request Content-Type: application/json User-Agent: Dredd/1.0.11 (Linux 3.16.0-67-generic; x64) Content-Length: 387 { "title": "How to build good APIs", "content": "Start with design and take it from there", }
 denada@thunder 2453ms 🕒 a minute ago	 GET /blog/posts/b5c23fa6-ba19-47eb-8d3c-fae77... 200 Retrieve a Blog Post	
 denada@thunder 2802ms 🕒 a minute ago	 DELETE /blog/posts/b5c23fa6-ba19-47eb-8d3c-fae... 200 Delete a Blog Post	
 denada@thunder 2849ms 🕒 2 minutes ago	 POST /blog/authors 201 Create an Author	



Delivery




Spread the word

- API description
- API documentation
- user support







API Documentation





Blog API
Nada Demo • blogapiarydemo


DocumentationInspectorEditorTests








A API Blueprint Syntax Tutorial 

 Valid documentPreview ☒ On

SaveSave & Commit

```
1 FORMAT: 1A
2
3 # Blog API
4
5 Simple API to create authored blog posts.
6
7 # Blog Posts [/blog/posts]
8
9 + Attributes (Blog Post)
10
11 ## Create a Blog Post [POST]
12
13 + Request (application/json)
14   + Attributes (Blog Post)
15
16 + Response 201
17
18 ## Retrieve a Blog Post [GET /blog/posts/{id}]
19
20 + Parameters
21   + id: 'b5c23fa6-ba19-47eb-8d3c-fae77db1b3c3' (string, required)
22
23 + Response 200 (application/json)
24   + Attributes (Blog Post)
25
26 ## Delete a Blog Post [DELETE /blog/posts/{id}]
27
28 + Parameters
29   + id: 'b5c23fa6-ba19-47eb-8d3c-fae77db1b3c3' (string, required)
30
31 + Response 200
32
33 # Authors [/blog/authors]
34
35 + Attributes (Person)
36
37 ## Create an Author [POST]
38
39 + Request (application/json)
```

 Introduction

Blog API

INTRODUCTION

Simple API to create authored blog posts.

REFERENCE

Blog Posts

Attributes

title required	string How to build good APIs
content required	string Start with design and take it from there

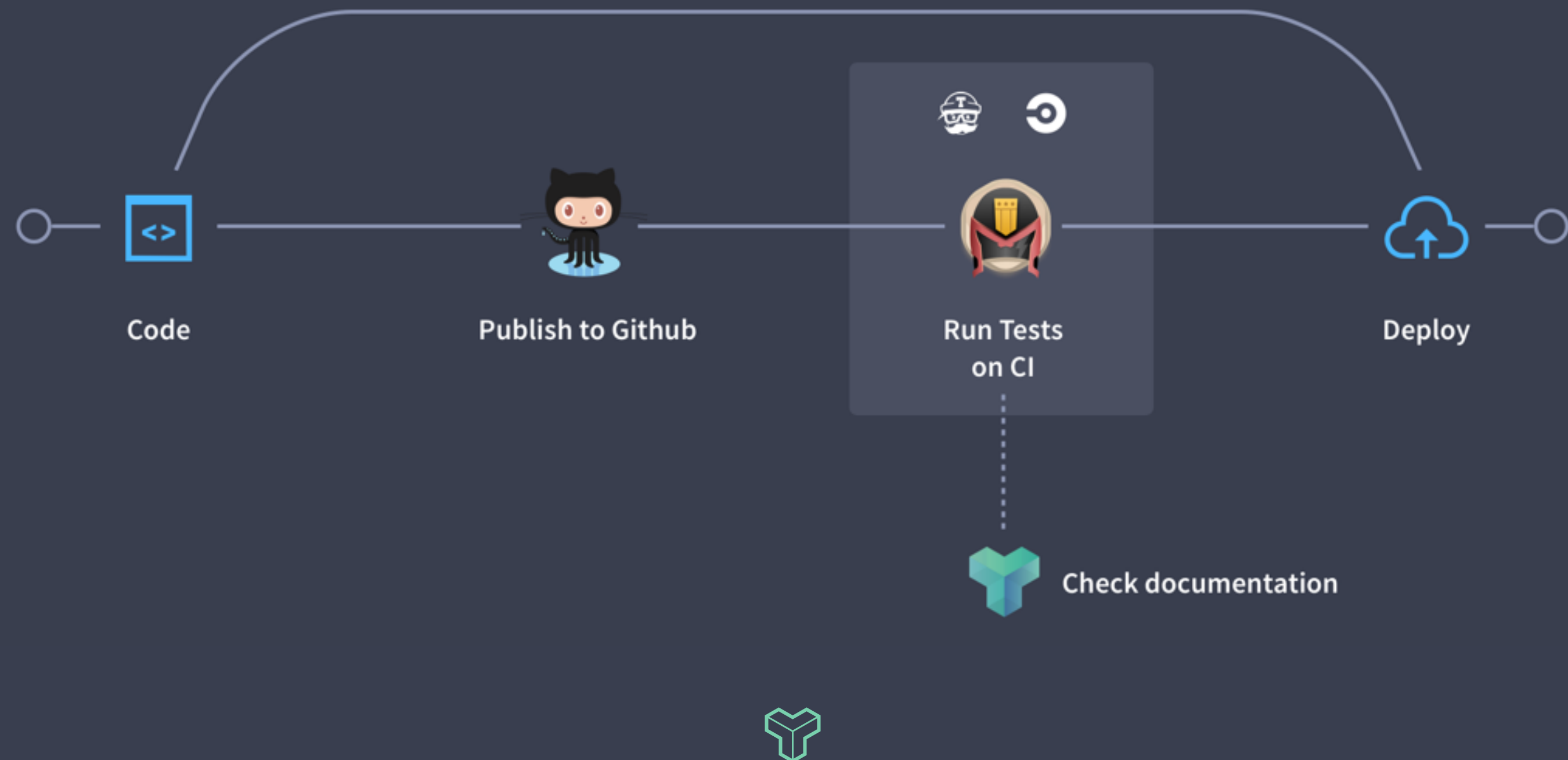


Don't break things

- continuous delivery
- version control
- test to verify changes



Continuous delivery



Consumption



Support your API users

- Documentation
- Code Samples
- Transaction Examples
- Mock Server
- Call Debugging



Documentation

> category object

- Create a Blog Post >
- Retrieve a Blog Post >
- Delete a Blog Post >
- Retrieve Blog Posts >

Authors

Attributes

id required	string c4e517b4-74ca-446d-a1df-c254cbb5179d
name	string Zaphod
surname	string Beeblebrox
email	string

ⓧ [Switch to Console](#)

Blog Posts / Retrieve Blog Posts

GET `http://private-f771c-blogapiapiarydemo.apiary-mock.com/blog/posts/?category=API`

Parameters

category ● Example: `API`

Request

Mock Server Python [Try](#)

```
01 from urllib2 import Request, urlopen
02
03 request = Request('http://private-f771c-blogapiapiarydemo.apiary
    -mock.com/blog/posts/?category=API')
04
05 response_body = urlopen(request).read()
06 print response_body
```



Data in Apiary Docs

ATTRIBUTES		
▼	blog_posts	array
▼	object	0
title	string	How to build good APIs
required		
content	string	Start with design and take it from there
required		
created_date	string	2016-05-12
required		
>	author	object
required		
▼	category	object
name	string	API
required		
description	string	posts on API Design and related

Payload examples

BODY

≡ SHOW JSON SCHEMA

```
01 {
02   "blog_posts": [
03     {
04       "title": "How to build good APIs",
05       "content": "Start with design and take it from there",
06       "created_date": "2016-05-12",
07       "author": {
08         "id": "c4e517b4-74ca-446d-a1df-c254cbb5179d",
09         "name": "Zaphod",
10         "surname": "Beeblebrox",
11         "email": "zaphod@beeblebrox.space"
12       },
13       "category": {
14         "name": "API",
15         "description": "posts on API Design and related"
16       }
17     }
18   ]
19 }
```



Code samples

Parameters

category ● Example: `API`

Request

Mock Server



Python



Try

```
01 from urllib2 import Request, urlopen
02
03 request = Request('http://private-f771c-blogapiapiarydemo.apiary
    -mock.com/blog/posts/?category=API')
04
05 response_body = urlopen(request).read()
06 print response_body
```





Interactive docs

Blog Posts / Retrieve Blog Posts

GET <http://private-f771c-blogapiapiarydemo.apiary-mock.com/blog/posts/?category=API>

URI Parameters Headers

category API 

Reset Values Mock Server  Call Resource

Sent Compare Code Example



Call debugging

Resource	Method
/blog/posts	POST

This API request was compared to a documented resource but was found invalid. Check your request headers and body below.

Call Header

+ host: private-f771c-blogapiapiarydemo.apiary-mock.com + connection: close content-type: text/plain + x-newrelic-id: UAMEUldSGwEHV1hUBQI= + x-newrelic-transaction: PxQFUQABClBUBVVUAAGPVkYdUFIOFQZOElAIBFoKV1ZSUQ9WCFkDQEGUBwVUUGEEVVxDpW== + x-request-id: 5394a8e9-2ac4-4037-b202-9f22f3a7c212 + via: 1.1 vegur + connect-time: 0 + x-request-start: 1463335272005 + total-route-time: 0 + content-length: 0	Content-Type: application/json
--	--------------------------------

Call Body

Can't validate real media type 'text/plain' against expected media type 'application/schema+json'.

<pre>{ "title": "How to build good APIs", "content": "Start with design and take it from there", "created_date": "2016-05-12", "author": { "id": "c4e517b4-74ca-446d-a1df-c254cbb5179d", "name": "Zaphod", "surname": "Beeblebrox", "email": "zaphod@beebblebrox.space" }, "category": { "name": "API Design", "description": "posts on API Design and related" } }</pre>	<pre>{ "title": "How to build good APIs", "content": "Start with design and take it from there", "created_date": "2016-05-12", "author": { "id": "c4e517b4-74ca-446d-a1df-c254cbb5179d", "name": "Zaphod", "surname": "Beeblebrox", "email": "zaphod@beebblebrox.space" }, "category": { "name": "API Design", "description": "posts on API Design and related" } }</pre>
---	---



Analysis



How are we driving?

- API monitoring
- feedback
- propose changes
- improve and iterate



Beautiful APIs

- Involve API consumers
- Contract is key
- No code before contract
- Enjoy the tooling



Links

- Check it out - <https://apiary.io>
- Building APIs - <https://apiary.io/how-to-build-api>
- API Blueprint - <https://apiblueprint.org>
- MSON - https://help.apiary.io/api_101/mson-tutorial/



Thank you!

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support@apiary.io
@apiaryio

