Tools for Handling Complexity of API Landscapes

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Insight

API Servers
x API Clients
x API Designs
x API Design Versions
x API Server Runtime Environments
x API Client Runtime Environments
= **API Landscape Complexity**

API Landscape Maturity

Proof-of-concept

- API Description document
- API Server Contract testing

This is the very beginning of your API journey

- 1 API Server
- 1 API Client
- 1 API Server Runtime environment

Proof-of-concept

- API Description document
- API Server Contract Testing
- Environment Configuration

This is the very beginning of your API journey

- 1 API Server
- 1 API Client
- **2** API Server Runtime Environments

API Landscape Complexity **2**

Pilot

- API Description document
- API Server Contract Testing
- Environment Configuration
- Identity Management

First state-of-the-art API live internally

- 1 API Server
- 3 API Clients
- **4** API Server Runtime Environments

API Landscape Complexity **12**

Takeoff

- API Description document
- API Server Contract Testing
- Environment Configuration
- Identity Management
- Mocking
- Component Release Mgmt

API Program internal success

- 1 API Server
- **30** API Clients
- **4** API Server Runtime Environments
- **5** API Designs

API Landscape Complexity **600**

Airborne

- API Description document
- API Server Contract Testing
- Environment Configuration
- Identity Management
- **Programmatic Mocking**
- Release **Automation**
- **API Landscape Virtualization**
- **Programmatic Subscription to API Design lifecycle**

API Program proven and growing

- 1 API Server
- **30** API Clients
- **50** API Server Runtime Environments
- **6** API Client Runtime Environments
- **100** API Designs
- **70** API Design Versions

API Landscape Complexity **63000000**

Airborne

- API Description document
- API Server Contract Testing
- Environment Configuration
- Identity Management
- **Programmatic Mocking**
- Release **Automation**
- **API Landscape Virtualization**
- **Programmatic Subscription to API Design lifecycle**

API Program proven and growing

- **50** API Servers
- **3000** API Clients
- **50** API Server Runtime Environments
- **6** API Client Runtime Environments
- **100** API Designs
- **70** API Design Versions

API Landscape Complexity **315000000000**

Airborne

- API Description document
- API Server Contract Testing
- Environment Configuration
- Identity Management
- **Programmatic Mocking**
- Release **Automation**
- **API Landscape Virtualization**
- **Programmatic Subscription to API Design lifecycle**

API Program proven and growing

- **50** API Servers
- **3000** API Clients
- **50** API Server Runtime Environments
- ∞ API Client Runtime Environments
- **100** API Designs
- **70** API Design Versions

API Landscape Complexity ∞

Airborne

- API Description document
- API Server Contract Testing
- Environment Configuration
- Identity Management
- **Programmatic Mocking**
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API Program proven and growing

- **50** API Servers
- **3000** API Clients
- ∞ API Server Runtime Environments
- ∞ API Client Runtime Environments
- **100** API Designs
- **70** API Design Versions

API Landscape Complexity ∞

Idea

Avoid distributed monolith.

Move fast,
break nothing.

Know the exact price and risk of making changes in an API Landscape.

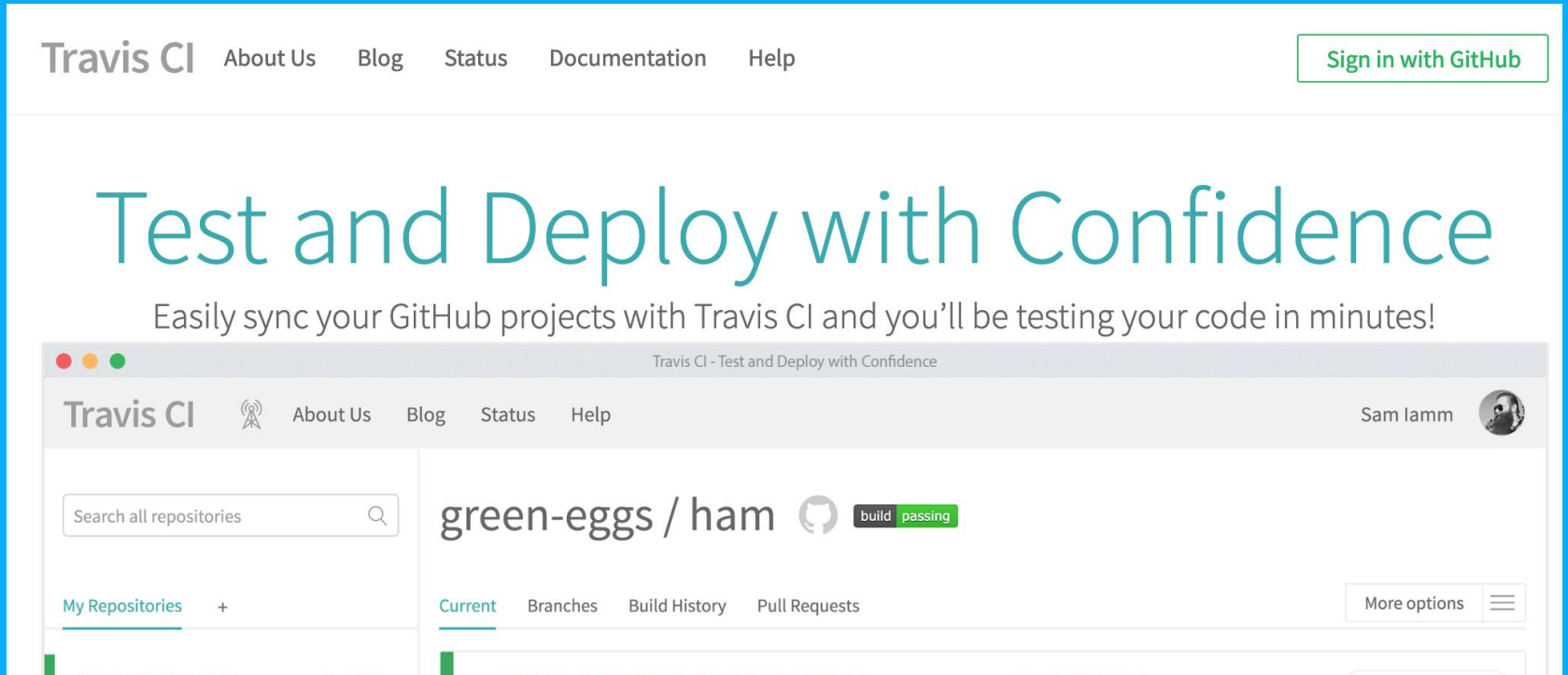
Your API Landscape, totally organized.

Implementation

Do you CI?

Do you even CD?

https://greenkeeper.io



Break the builds!

C:\>

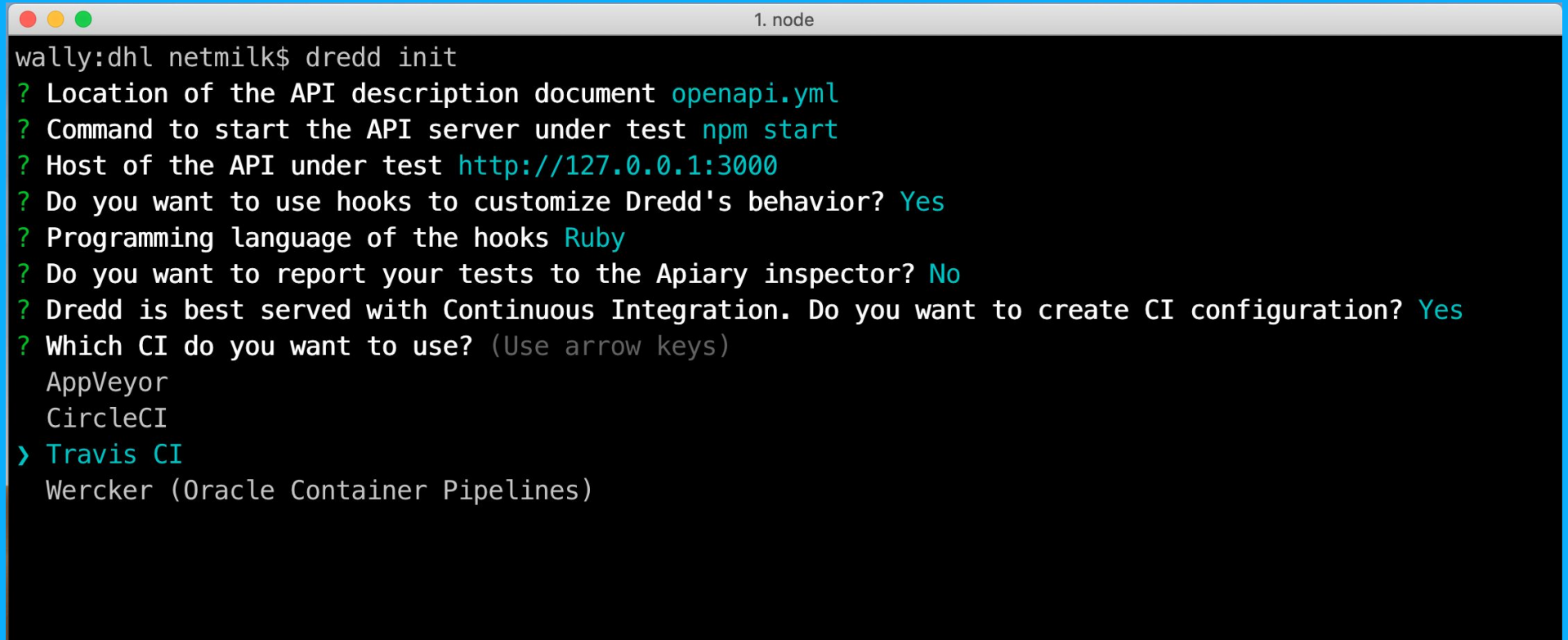
https://github.com/apiaryio/dredd

Automatic **API server contract validation**

DREDD

No more outdated API Documentation

https://github.com/apiaryio/dredd



https://github.com/stoplightio/prism

Automatic **API Consumer Contract Validation**

README.md

Prism API Server by Stoplight

maintainability A test coverage ?

Current Prism Version: 2.0.17

The perfect OpenAPI Specification (formerly known as Swagger) companion. Turn any OpenAPI Specification document

https://github.com/apiaryio/gavel.js/

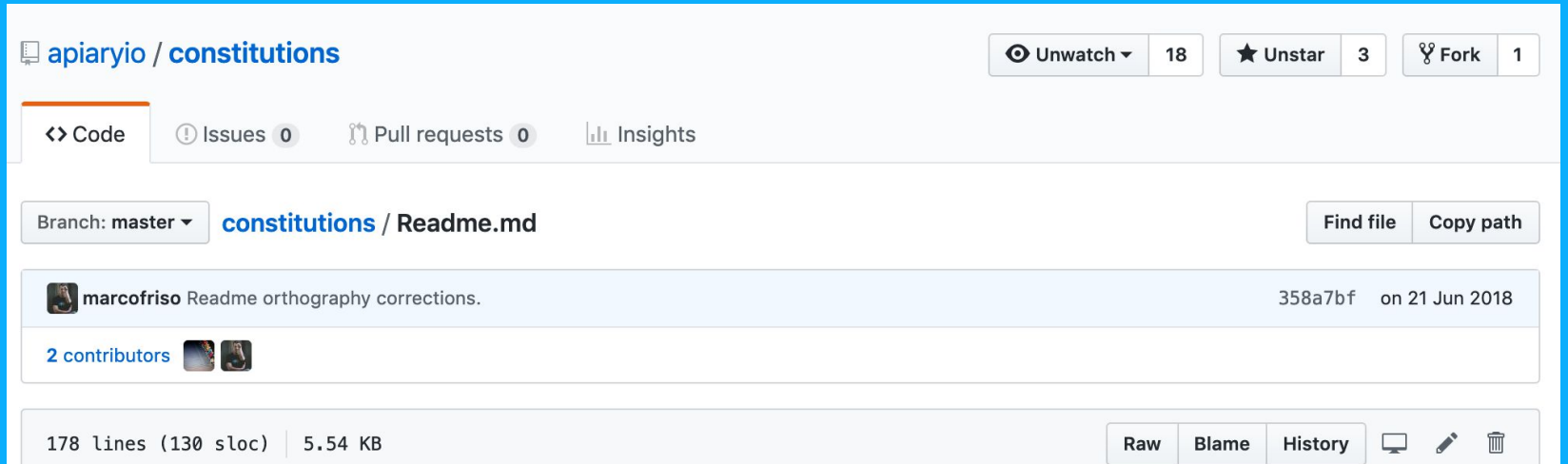
Automatic **API traffic contract validation**

README.md

Gavel.js — Validator of HTTP Transactions

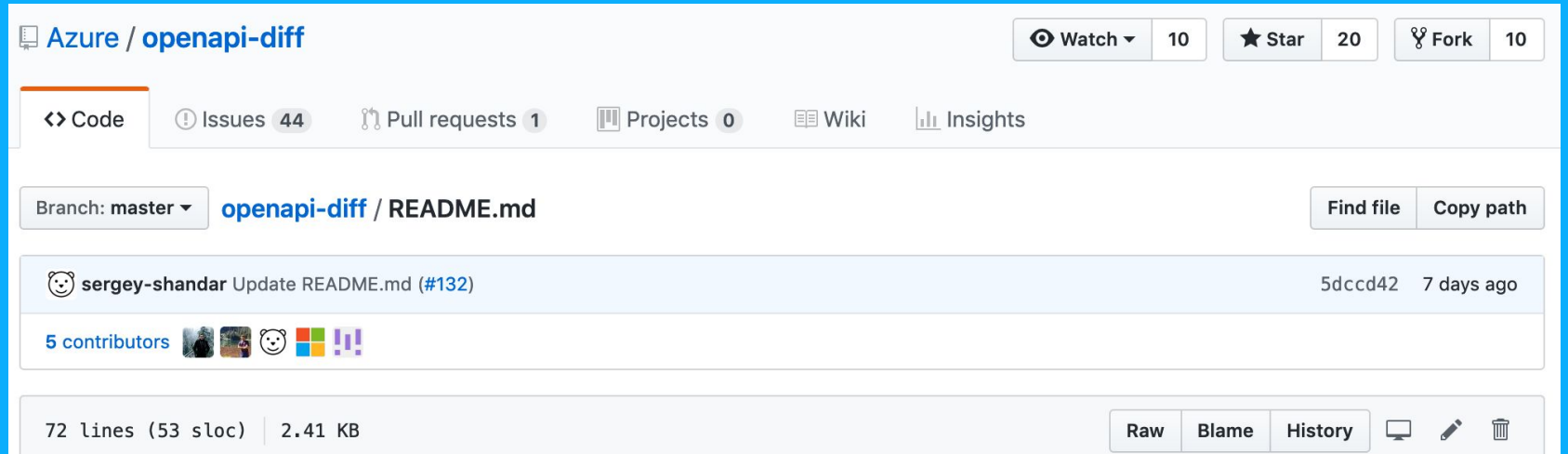
https://github.com/apiaryio/dredd

Automatic **Style Guide Validation**



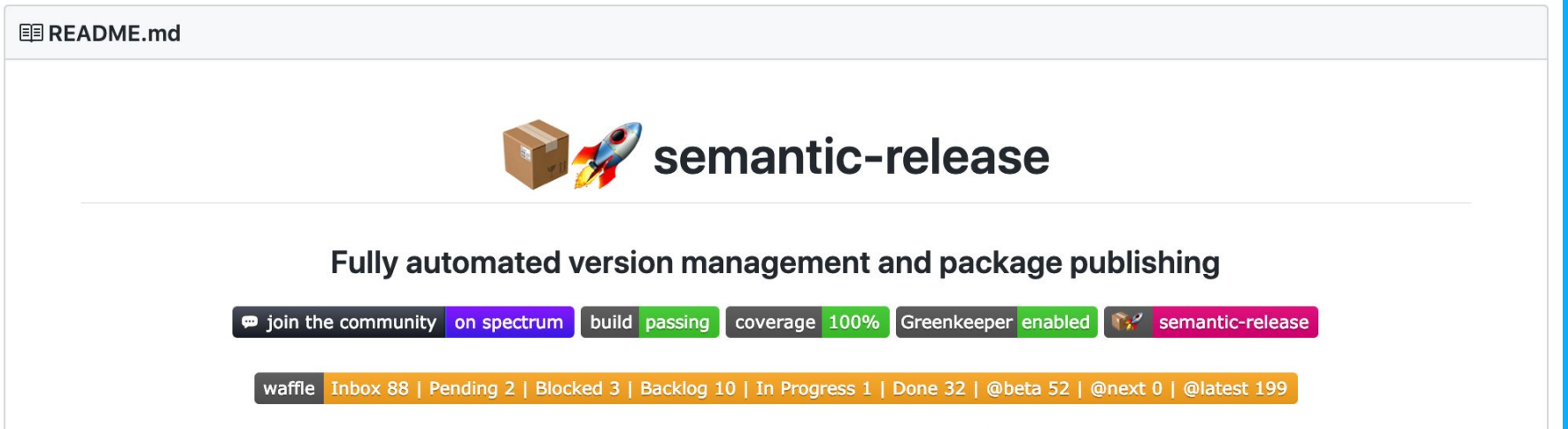
https://github.com/Azure/openapi-diff

Automatic **Breaking Change Detection**



https://github.com/semantic-release/semantic-release

Automatic **Component Versioning**



https://greenkeeper.io

Programmatic **Subscription to the API Design Lifecycle**

https://greenkeeper.io

Programmatic **Subscription to the API Design Lifecycle**

What’s outside?

Hic sunt leones.

Reverse documentation of external API Landscape contracts

Enable culture change and support conventions

Impact

High velocity delivery of high level user-stories

Radical Agility for the engineering teams

https://jobs.zalando.com/tech/blog/radical-agility-study-notes/

Automate everything.

Independent API Consulting

http://bit.do/goodapi-complexity-tools