

Good API Testing

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github.com/apiaryio/dredd



DREDD

No more outdated API Documentation





















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Motivation

Prevent defects!

Are you delivering the right thing?

Will the thing work in the surrounding environment?

Is the thing still doing the expected?

I have no idea what's the thing even supposed to do.

Massive automation!

Actors

- Server Implementation
- Client Implementation
- API Design Specification
- API Style Guide

Environments

Local > CI/CD >
Staging >
Production

Environments

- Local development
- Continuous Integration and Delivery
- Runtime Staging, Producton, On-Prem

Strategies and tools

Traffic debugging and logging

Servers

- curl -vvv
- Postman
- Insomnia
- <u>Fiddler</u>
- Paw

Clients

- RequestBin
- Runscope buckets
- Apigee Console

Man In The Middle interception

- VCR
- <u>Intercept.rest</u>
- Charles Proxy
- Logging API Gateways

Traffic (request) generation and replay

- <u>Dredd</u>
- Newman The postman CLI
- VCR
- Ready API

API Design validation of traffic

- Dredd API Testing framework
- Gavel HTTP Example Validation tool
- <u>Element HAR validator</u>

API Design component testing

- Breaking changes testing
 - Swagger-diff
 - Open-diff
- API Design Style validation
 - Apiary Style guide engine
 - Stoplight Spectral
- API Style Guide Testing Framework
 - Apiary Constitutions

Workflow validation, integration testing

- Gherkin, Cucumber
- Cucumber Apickli
- <u>Stacker</u>, <u>Enqueuer</u>

Mocking

- Apiary Validating Mock
- Stoplight Prism
- Language Level (<u>ruby</u> webmock)
- ApiSprout

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Sandboxing, Disposable Environments

- Docker
- Infrastructure-as-code provisioning
 - Puppet
 - Cheef
 - Ansible
 - Terraform
- Vagrant
- Dotenv (.env)

Service & Environment Virtualization

- <u>Docker Compose</u>
- <u>Foreman</u>, Puppet Master
- <u>ServiceV</u>
- Wiremock
- DIY

Contract testing

- <u>Dredd</u> & <u>Apiary Validation Mock CLI</u>
- Pact
- <u>Cucumber</u>
- <u>GetGauge</u>

Runtime (active) monitoring

- Runscope
- API Fortress
- API Science
- Postman Cloud Monitoring

Passive monitoring

- Elastic.co Beats http packetbeat
- <u>Wireshark</u>
- log collection aggregation and auditing

Load and Performance Testing

- Loader.io
- Flood.io
- Apache JMeter

Legal and security compliance testing

- <u>Snyk</u>
- <u>Metasploit Framework</u>

Architectural smoke tests, chaos testing

- <u>Twilio API Client best practices</u>
- Dret's Future-proofing of API Clients <u>blogpost</u>
- Netflix Chaos engineering



Independent API Consulting