Яндекс

Swagger/OpenAPI specification как основа для ваших тестов

Виктор Орловский

Инженер по автоматизации тестирования

Виктор

Орловский

OpenAPI-generator

OpenAPITools / openapi-generator

Sponsor | Used by 115 | Unwatch releases 131 | Unstar 4.6k | Fork 1.7k

4.6k

Code | Issues 1,209 | Pull requests 148 | Actions | Projects 6 | Wiki | Security | Ins

OpenAPI Generator allows generation of API client libraries (SDK generation), server stubs, documentation an
automatically given an OpenAPI Spec (v2, v3) https://openapi-generator.tech

rest-api rest-client sdk generator restful-api api api-client api-server openapi3 openapi rest openapi-generator

13,638 commits | 48 branches | 0 packages | 53 releases | 1,402 contributors | Apache-2.0

Branch: master | New pull request | Create new file | Upload files | Find file | Clone or download

wing328 update jackson dependency to newer version (#5527) — Latest commit 0ffcbfe 6 hours ago

.github	Update sonar.yml	last month
.mvn/wrapper	#7093 - Add maven wrapper (#7356)	2 years ago
CI	[csharp-netcore] Remove unnecessary legacy project definitions (#5108)	last month
bin	Hide timestamp in Scala Play server samples (#5495)	4 days ago

Swagger-coverage

viclovsky / swagger-coverage

Unwatch 7 | Unstar 53 | Fork 6

Code | Issues 8 | Pull requests 0 | Actions | Projects 0 | Wiki | Security 0 | Insights | Settings

Tool which generates full picture of coverage of API tests based on OAS 2 (Swagger)

Edit

Manage topics

169 commits | 1 branch | 0 packages | 8 releases | 4 contributors | Apache-2.0

Branch: master | New pull request | Create new file | Upload files | Find file | Clone or download

viclovsky Merge pull request #51 from viclovsky/up_readme ... Latest commit a1f8442 on 3 May

.github	up image	last month
gradle	add gradle.properties, change packages, fix issueTrackerUrl	6 months ago
swagger-coverage-commandline	update README.md, add custom filename for configuration.json	last month
swagger-coverage-commons	fix rename "branchs" to "conditions"	last month
swagger-coverage-rest-assured	fix typo in "partial" coverage	3 months ago
.gitignore	bump gradle version (via #3)	6 months ago

Allure-java

allure-framework / allure-java

Unwatch releases 34 | Unstar 151 | Fork 113

Code | Issues 37 | Pull requests 5 | Actions | Security 0 | Insights

Allure integrations for Java test frameworks

allure | reporting | reporting-engine | testng | junit4 | junit5 | cucumber-jvm | spock

328 commits | 2 branches | 0 packages | 35 releases | 45 contributors | Apache-2.0

Branch: master | New pull request | Create new file | Upload files | Find file | Clone or download

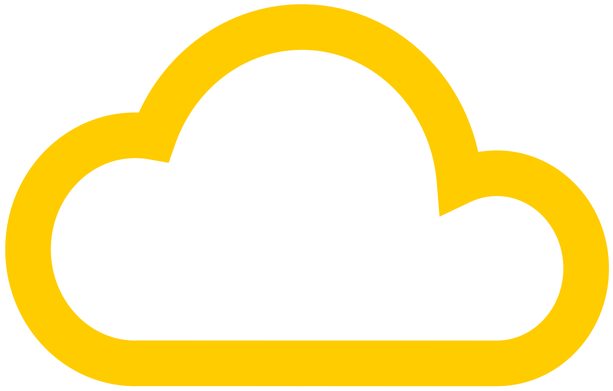
qameta-ci [Gradle Release Plugin] - new version commit: '2.14-SNAPSHOT'. Latest commit 111378a 6 days ago

.github	update pull request template	11 months ago
allure-assertj	fix assertj soft assertions and binary data processing (fixes #347, via	8 months ago
allure-attachments	fix common code problems (via #410)	3 months ago
allure-citrus	clean up build file and more deprecations (via #328)	15 months ago
allure-cucumber-jvm	fix common code problems (via #410)	3 months ago

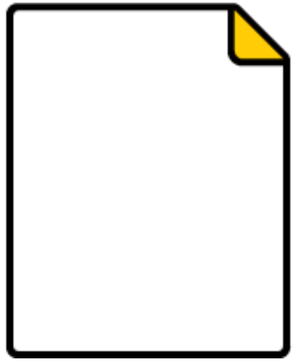
viclovsky

@vicdev

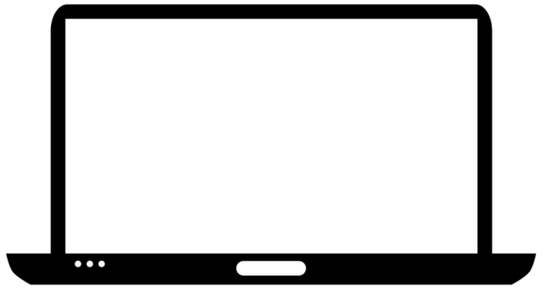
viclovsky@gmail.com



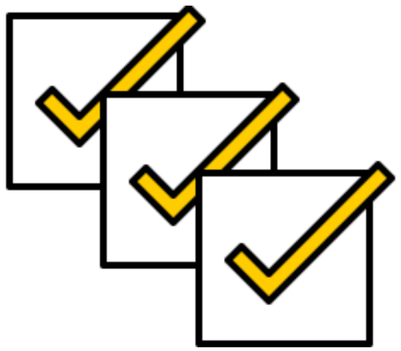
REST API



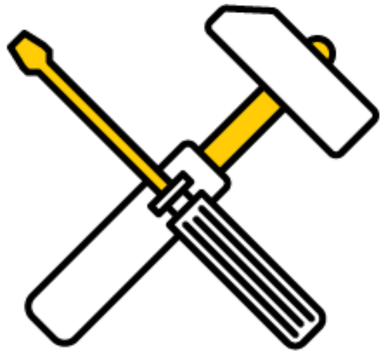
OAS



CLIENT



AUTOTESTS



TOOLS

PROCESS

Яндекс.Вертикали

REST API

Яндекс.Недвижимость

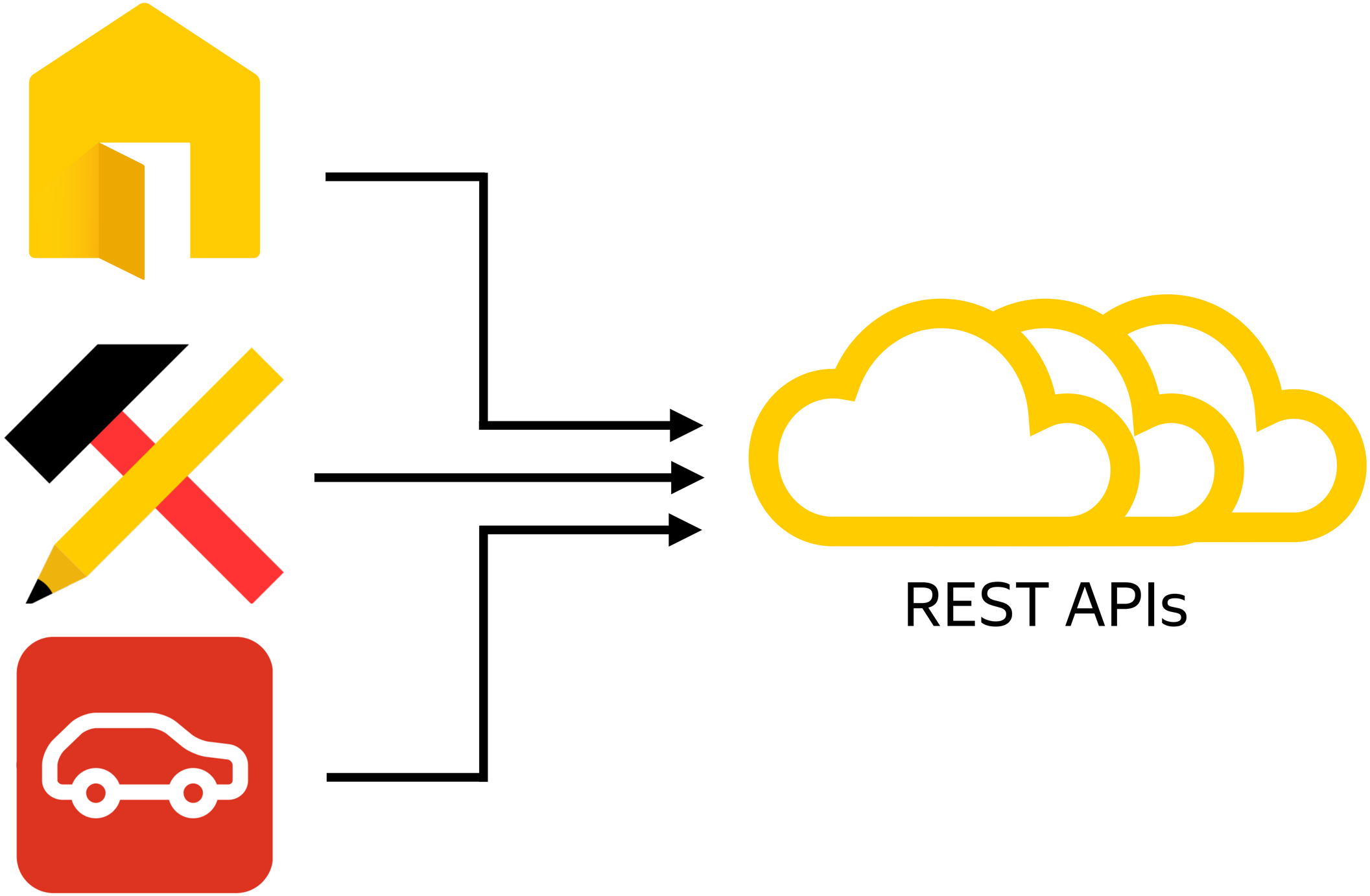
Яндекс.Работа

auto.ru

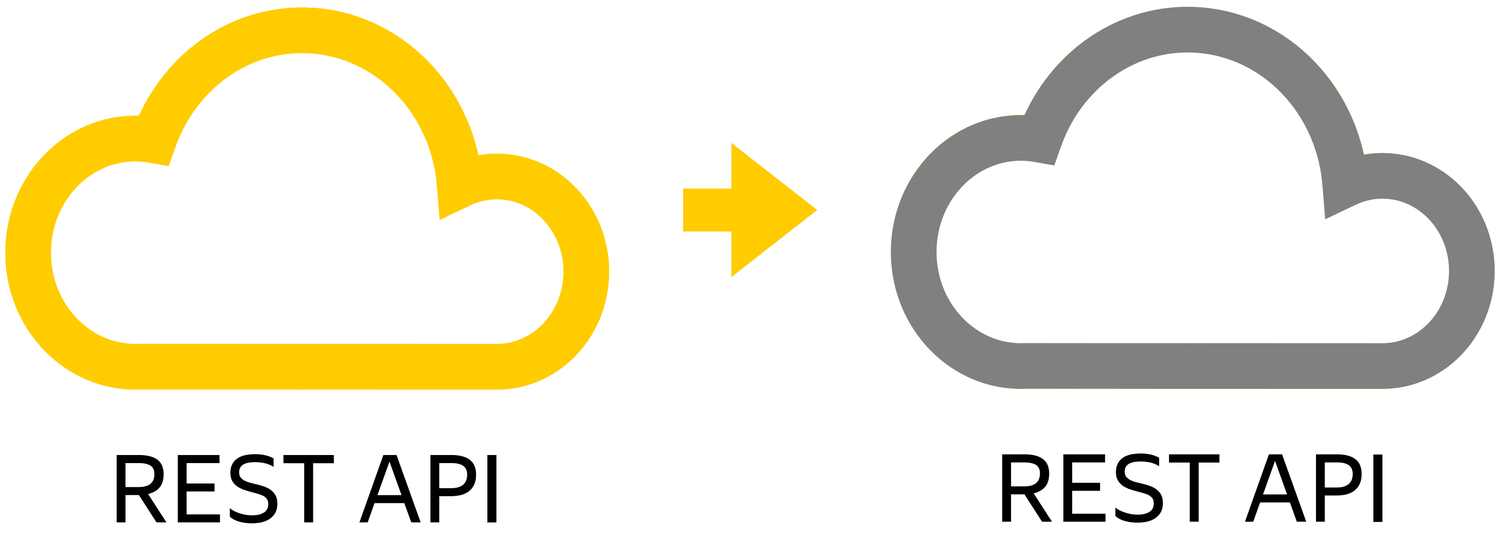
2010

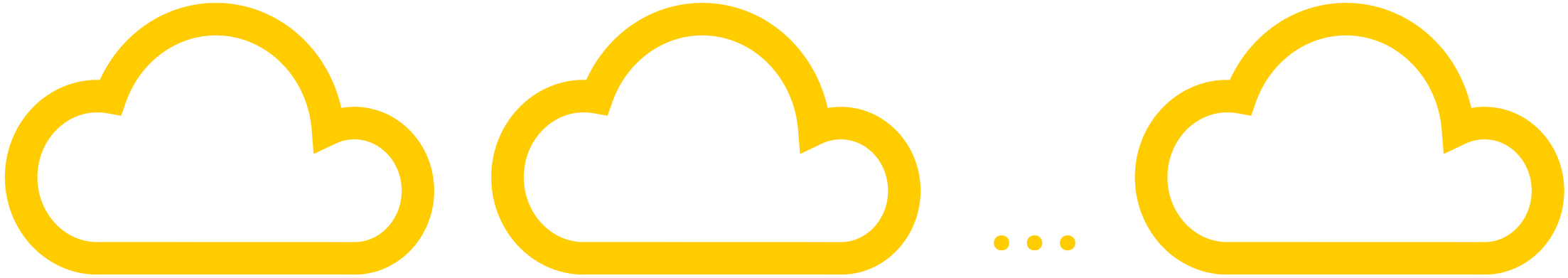
2014

?


REST APIs

REST APIs
Java
Scala
php


REST API
REST API

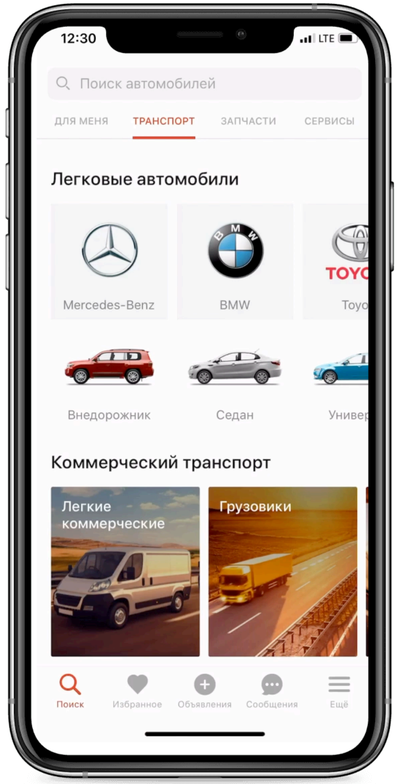

REST API 1.x
REST API 2.x
...
REST API N.x

Несколько десятков backend-ов с разной
кодовой базой, которые активно развиваются
pikabu.ru

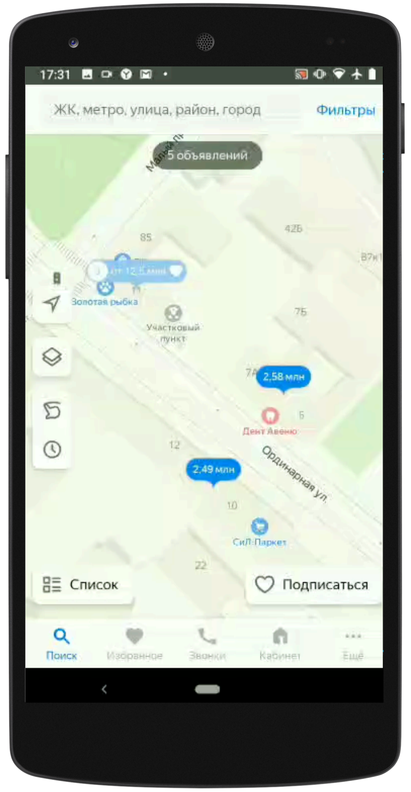
~~Яндекс.Вертикали~~

Наша команда

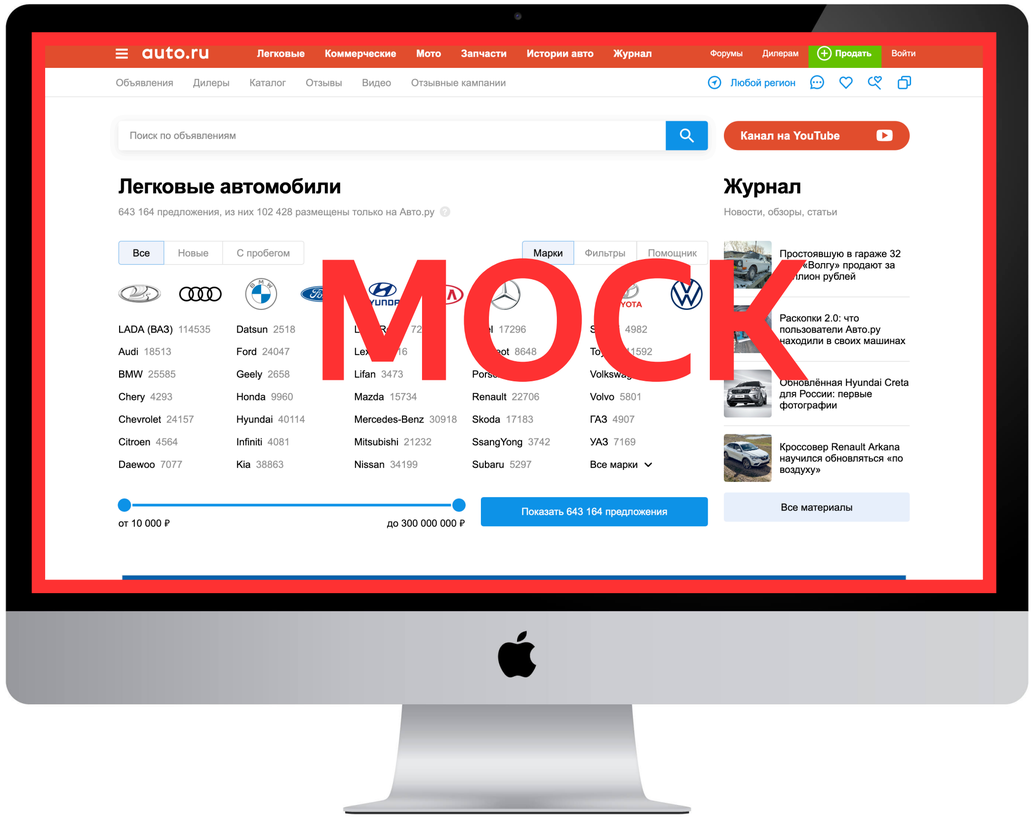
REST API


12:30
Поиск автомобилей
ДЛЯ МЕНЯ
ТРАНСПОРТ
ЗАПЧАСТИ
СЕРВИСЫ
Легковые автомобили
Mercedes-Benz
BMW
Внедорожник
Седан
Коммерческий транспорт
Легкие коммерческие
Грузовики
Поиск
Избранное
Объявления
Сообщения
Ещё

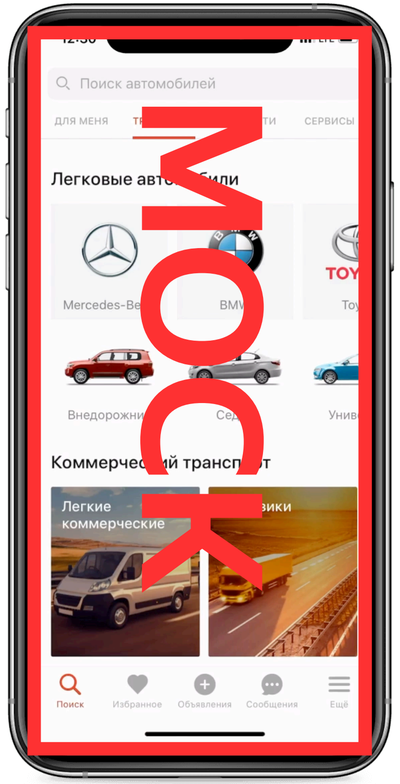
IOS


17:31
ЖК, метро, улица, район, город
Фильтры
5 объявлений
2,58 млн
2,49 млн
Список
Подписаться
Поиск

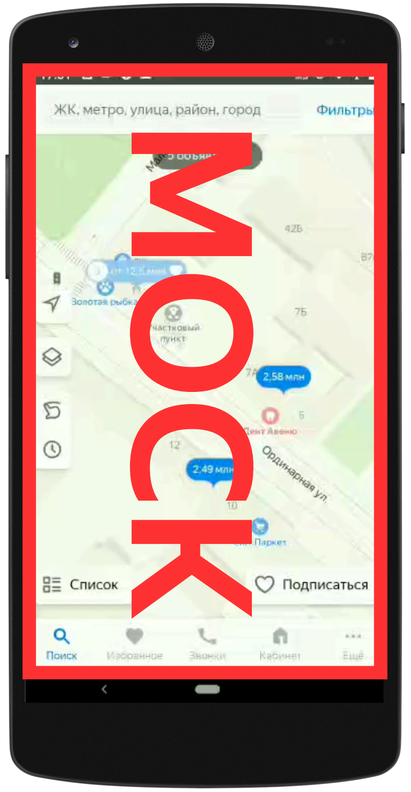
Android



Web



IOS



Android

Особенности

- Несколько десятков backend-ов с разной кодовой базой, которые активно развиваются

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Особенности

- Несколько десятков backend-ов с разной кодовой базой, которые активно развиваются
- Маленькая команда автоматизации, всего 4-5 человек
- Активное использование mock-ов в тестировании

~~Наша команда~~

Что было?

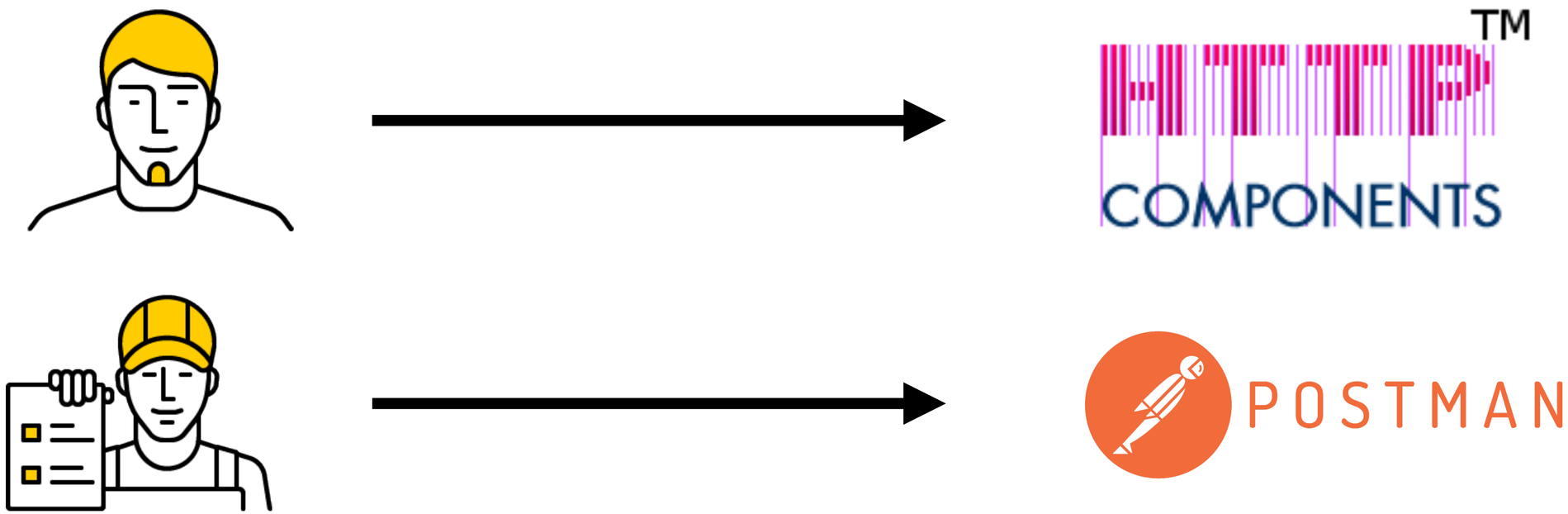
REST API

Автоматизаторы тестирования

COMPONENTS
TM

Ручные тестировщики

POSTMAN


COMPONENTS
POSTMAN

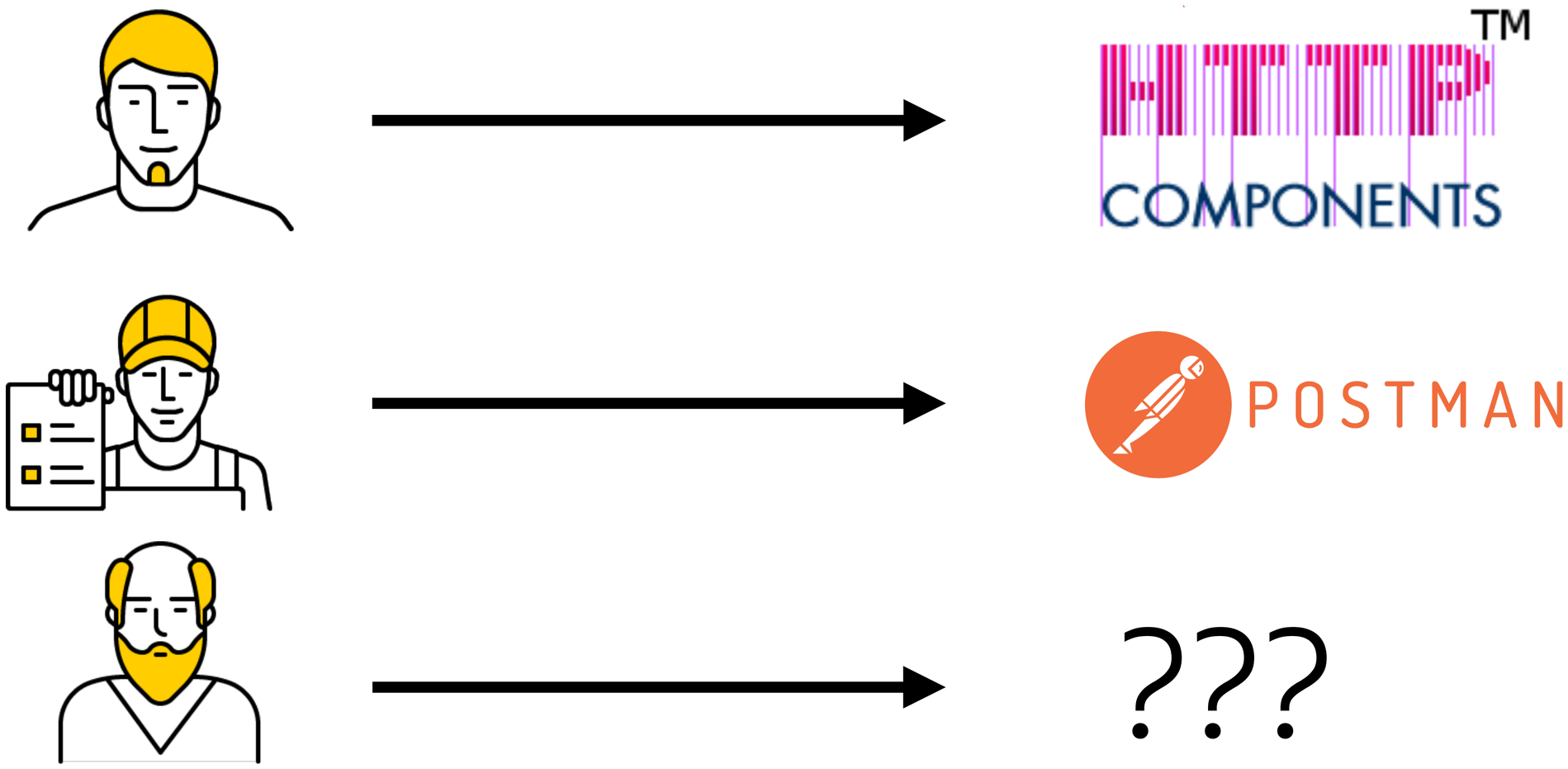
Разработчики

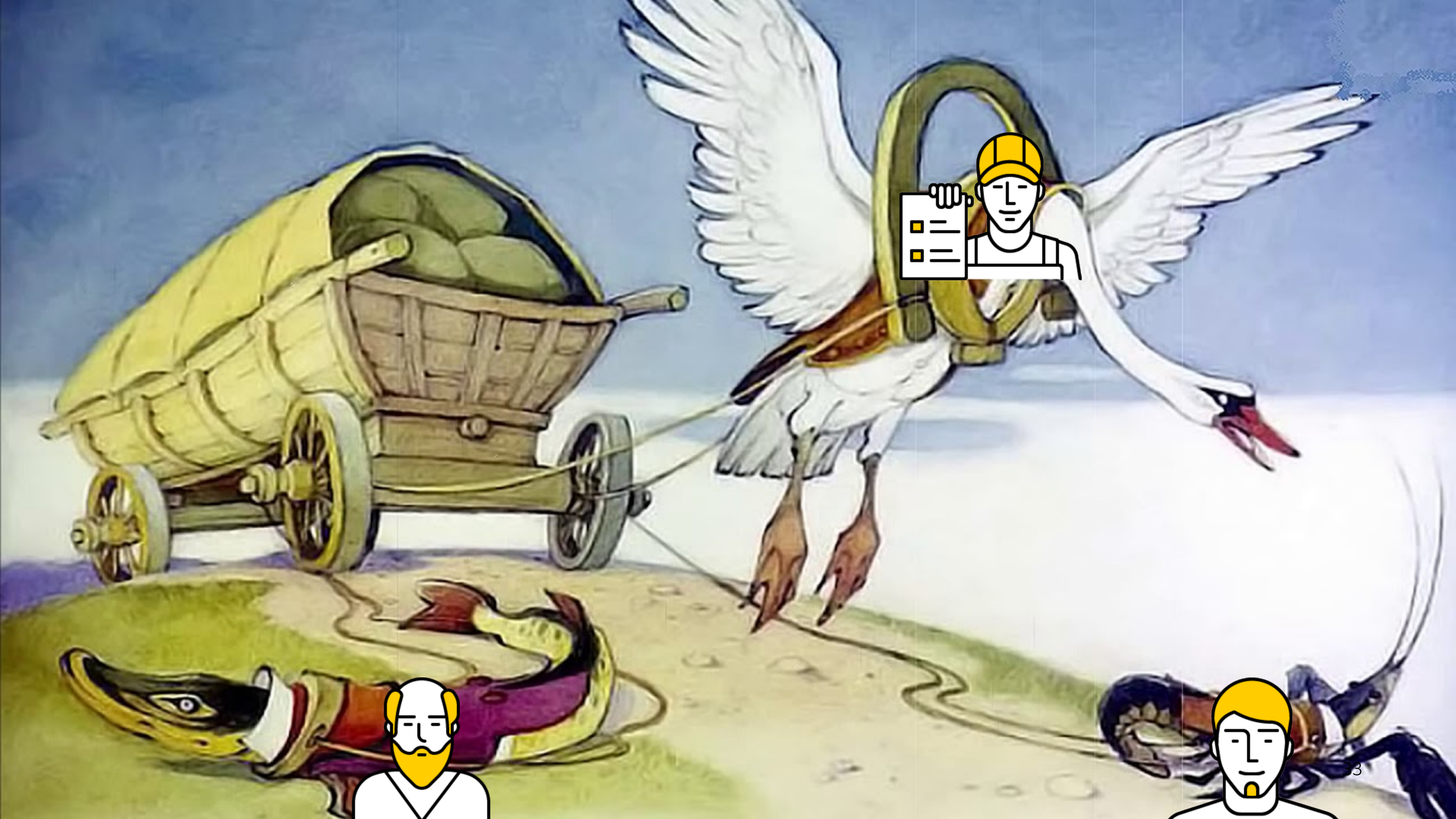
???

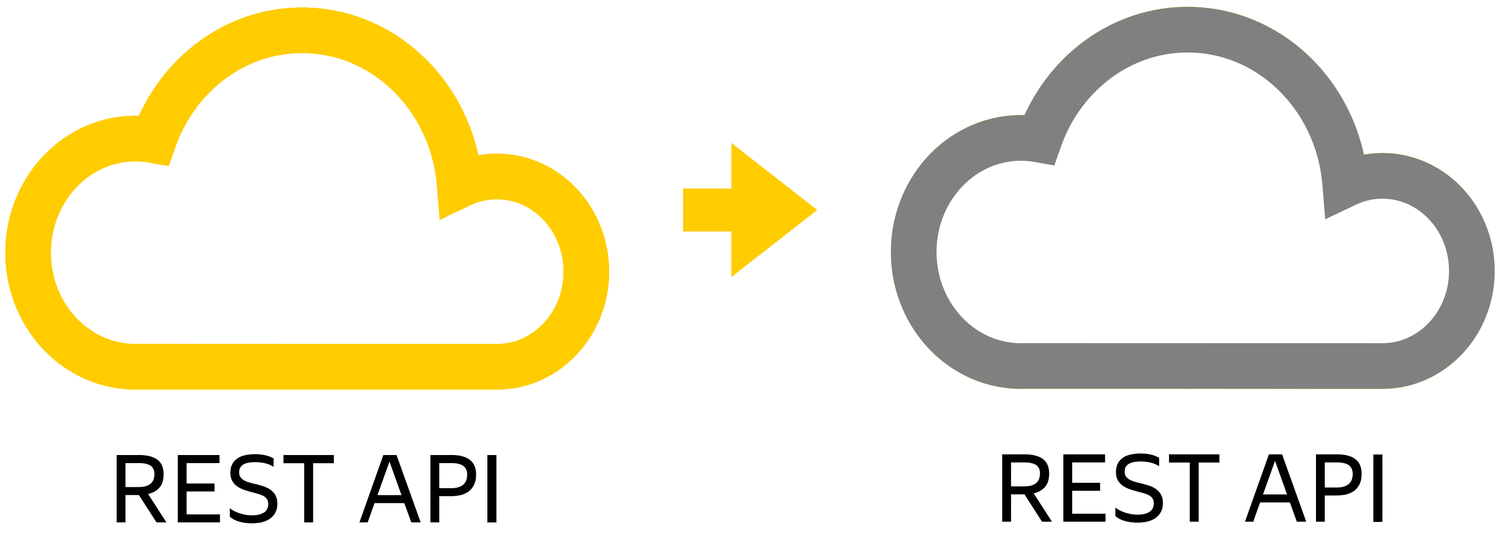
Разработчики

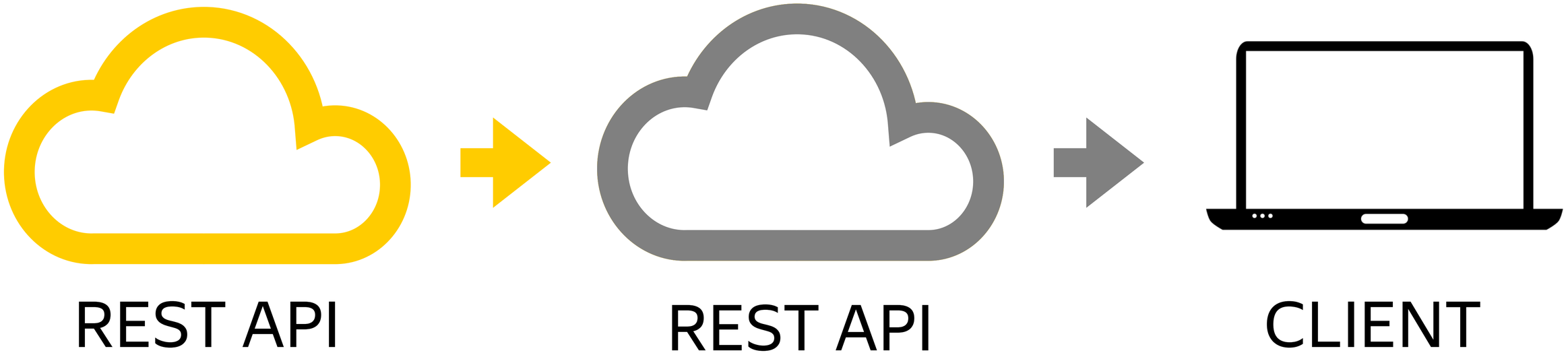
Зачем вообще нужны автотесты?

Ничего не сломается!

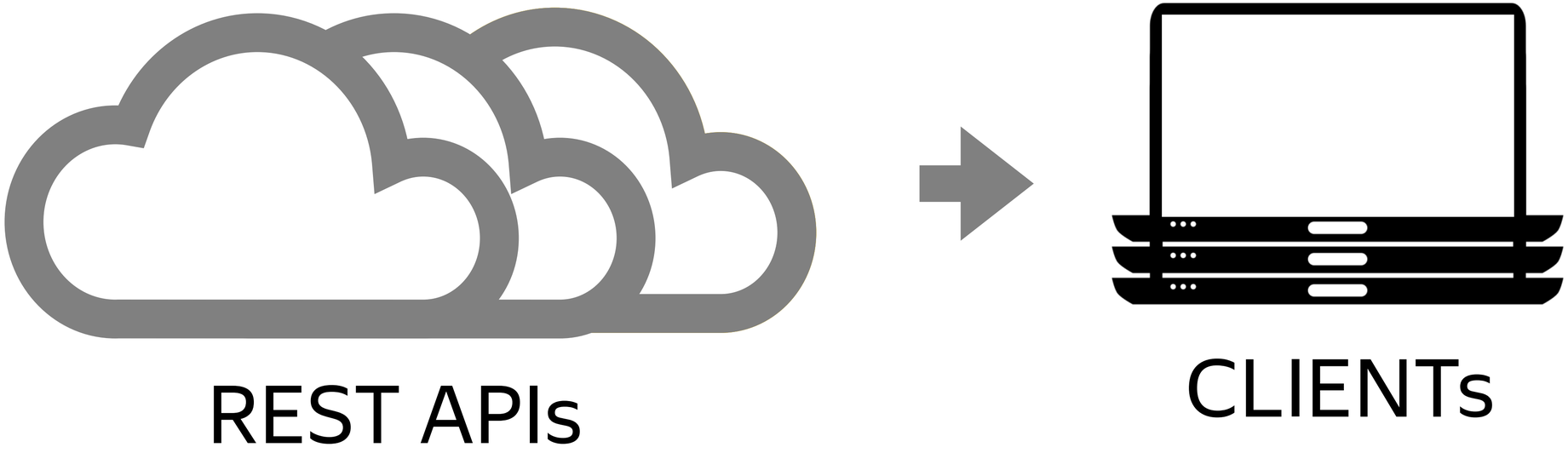

TM
COMPONENTS
POSTMAN
???

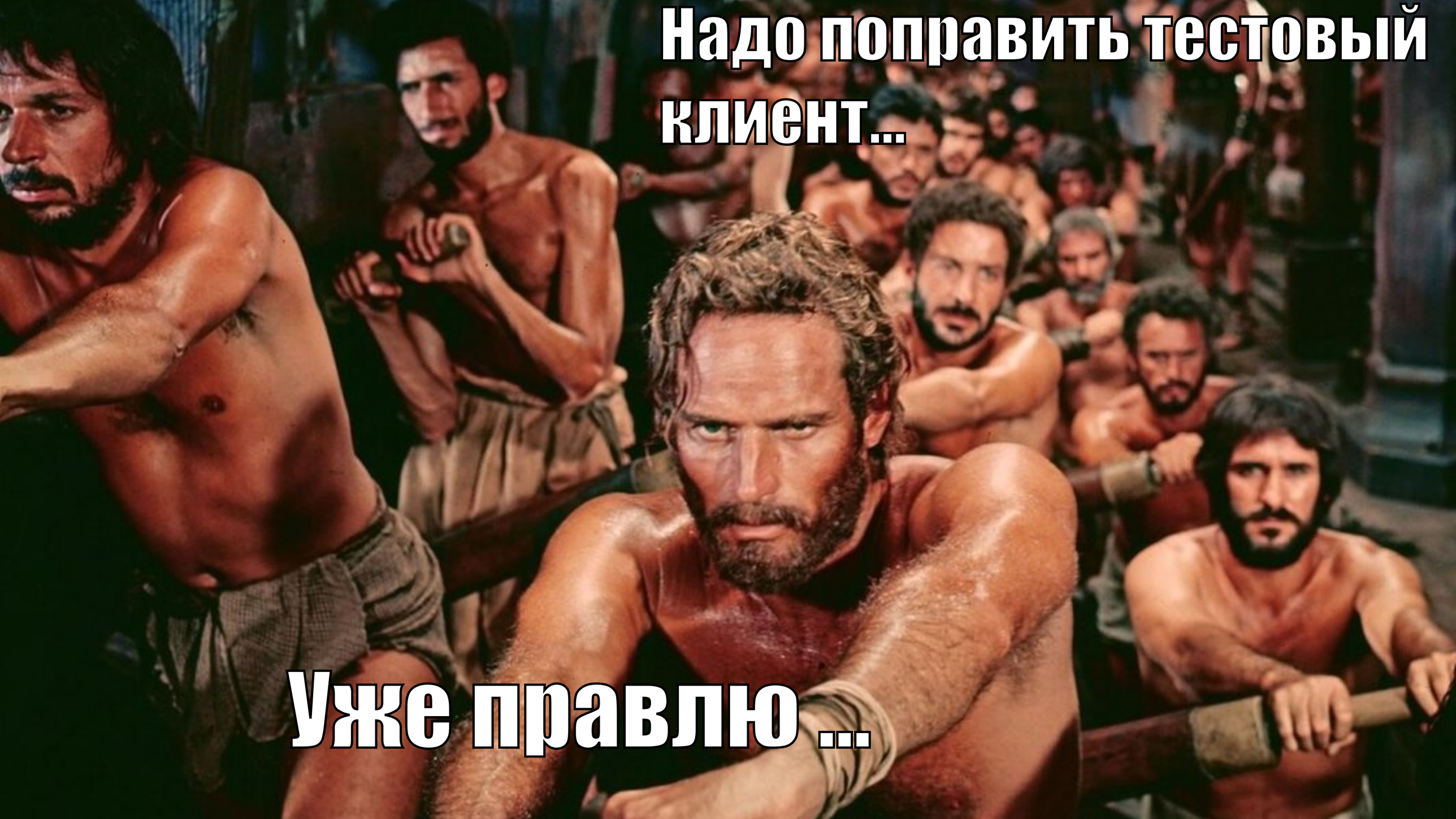



REST API
REST API


REST API
REST API
CLIENT

CLIENT
REST-API


REST APIs
CLIENTs


Надо поправить тестовый клиент...
Уже правлю ...

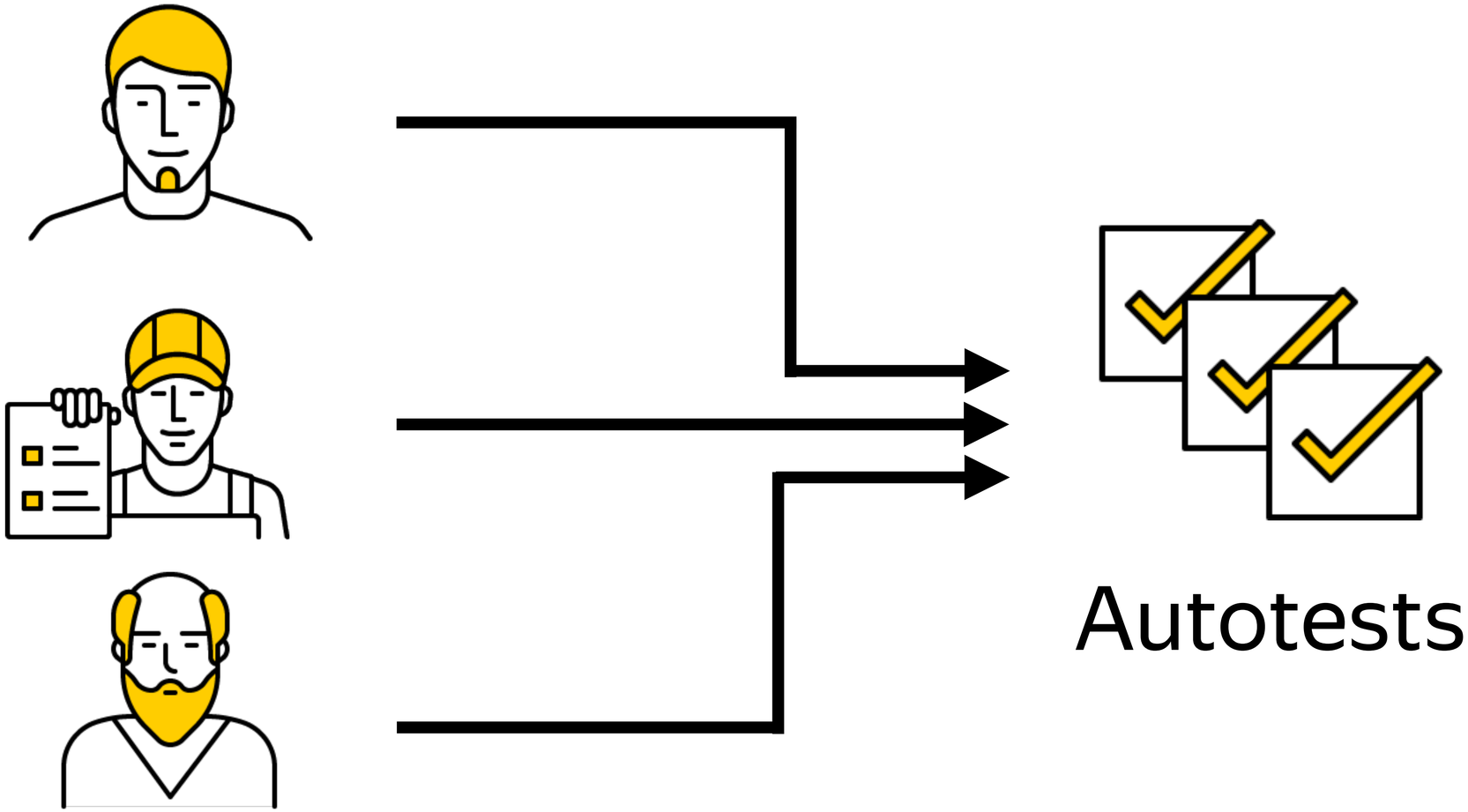
Очень много автотестов сомнительного качества

- Понятны только тем, кто их пишет
- Клиенты моментально устаревали, а поддерживать их некому
- Разработка не участвовала в тестировании

~~Что было~~

Требования к автотестам

REST API


Autotests

Autotests for project#1

Autotests for project#2

...

Autotests for project#N

Change
Business
Logic

Change
Autotests

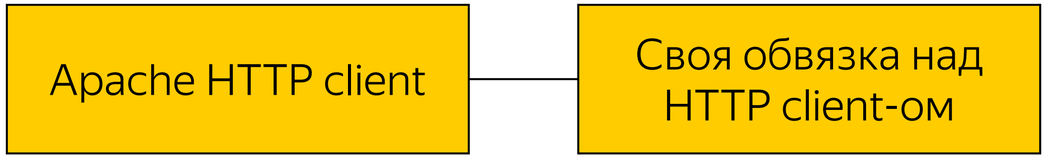
~~Требования к автотестам~~

Что делать

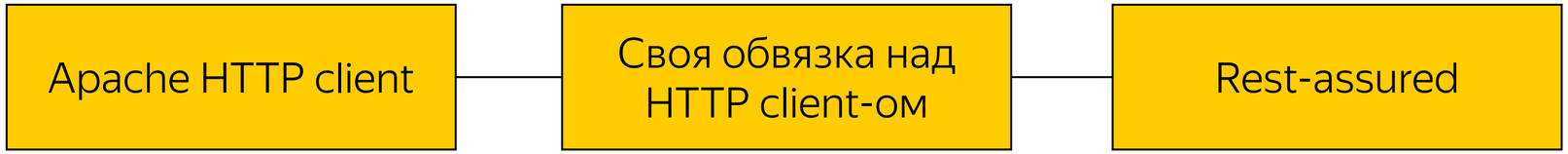
Об эволюции автотестов на REST API

Apache HTTP client

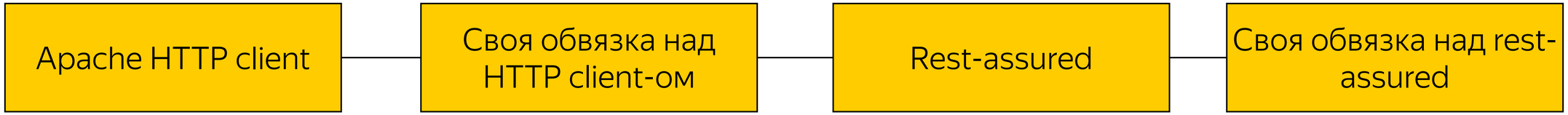
Об эволюции автотестов на REST API



Об эволюции автотестов на REST API

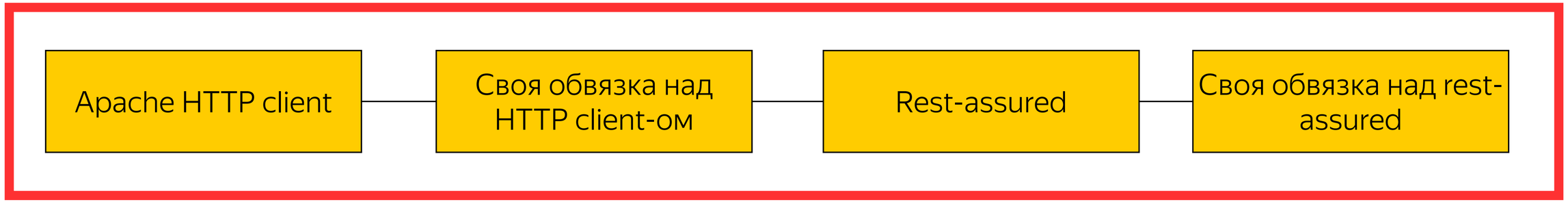


Об эволюции автотестов на REST API



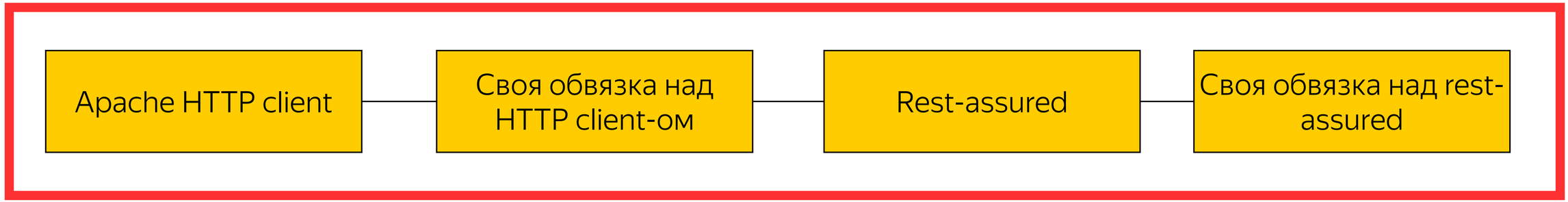
Об эволюции автотестов на REST API

Эра клиента



Об эволюции автотестов на REST API

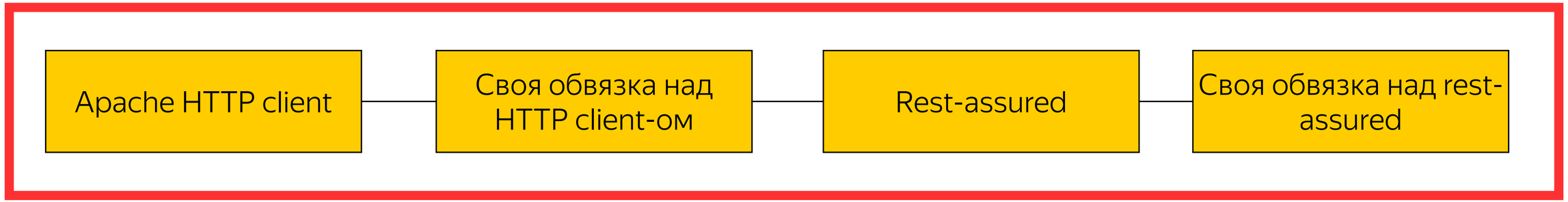
Эра клиента

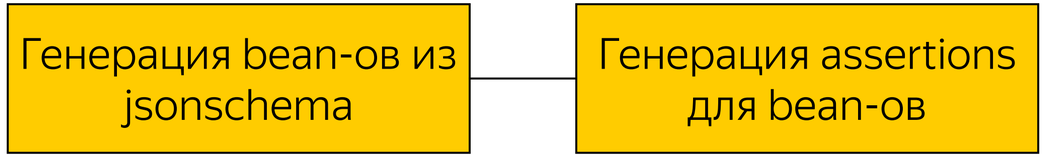


Генерация bean-ов из jsonschema

Об эволюции автотестов на REST API

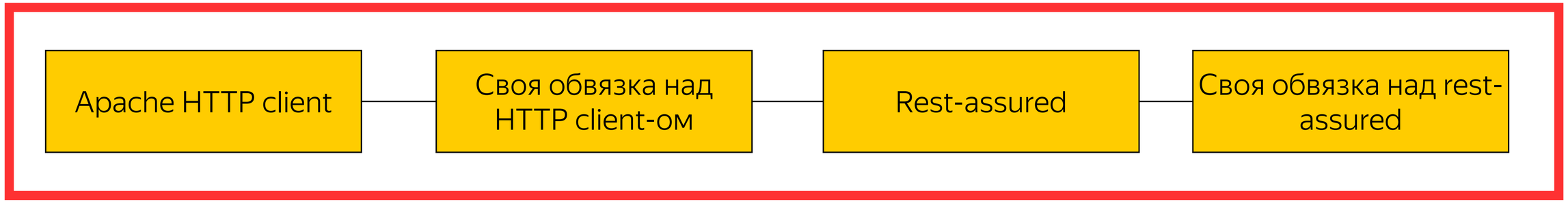
Эра клиента

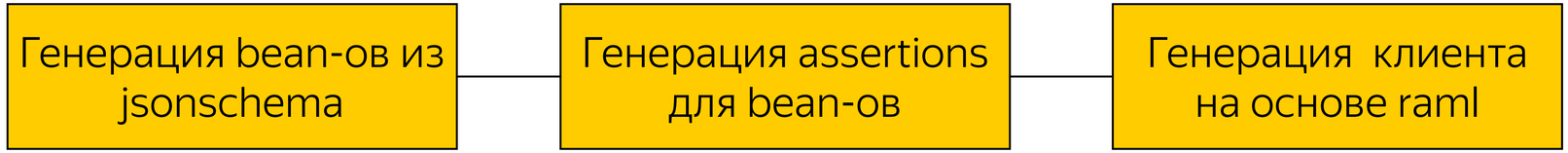




Об эволюции автотестов на REST API

Эра клиента





Об эволюции автотестов на REST API

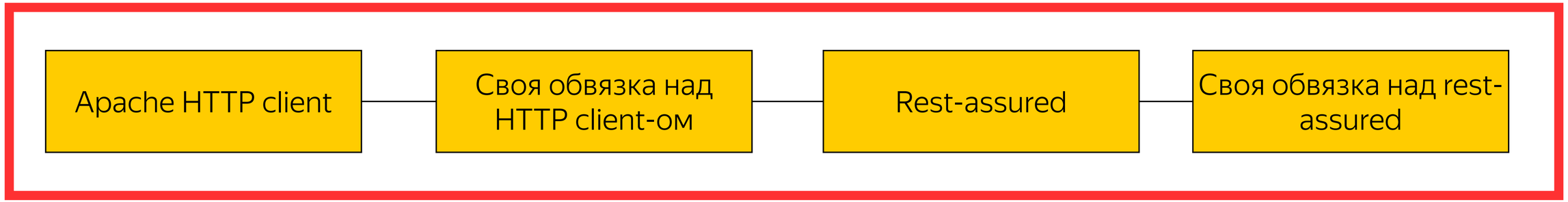
Эра клиента

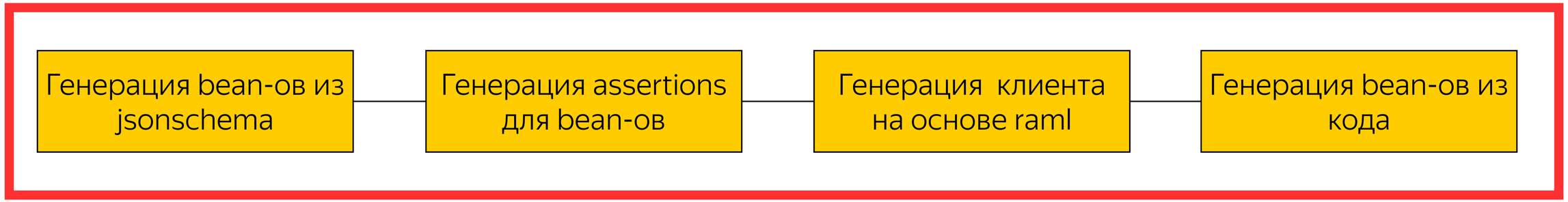
Apache HTTP client — Своя обвязка над HTTP client-ом — Rest-assured — Своя обвязка над rest-assured

Генерация bean-ов из jsonschema — Генерация assertions для bean-ов — Генерация клиента на основе raml — Генерация bean-ов из кода

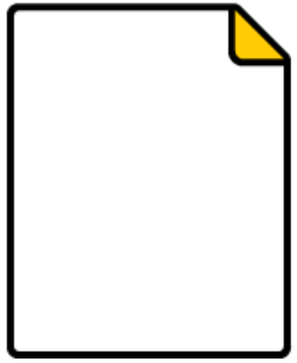
Об эволюции автотестов на REST API

Эра клиента

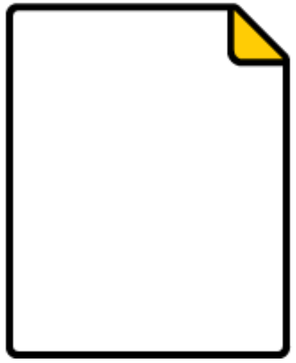




Эра кодогенерации



OAS v1.0



OAS v2.0

Swagger-ui

Swagger
Supported by SMARTBEAR

https://petstore.swagger.io/v2/swagger.json

Explore

Swagger Petstore 1.0.3

[Base URL: petstore.swagger.io/v2]
https://petstore.swagger.io/v2/swagger.json

This is a sample server Petstore server. You can find out more about Swagger at http://swagger.io or on irc.freenode.net, #swagger. For this sample, you can use the api key `special-key` to test the authorization filters.

Terms of service
Contact the developer
Apache 2.0
Find out more about Swagger

Schemes
HTTPS

Authorize

pet Everything about your Pets

Find out more: http://swagger.io

GET	/pet/{petId}	Find pet by ID
POST	/pet/{petId}	Updates a pet in the store with form data
DELETE	/pet/{petId}	Deletes a pet
POST	/pet/{petId}/uploadImage	uploads an image
POST	/pet	Add a new pet to the store
PUT	/pet	Update an existing pet
GET	/pet/findByStatus	Finds Pets by status

pet Everything about your Pets

Find out more: http://swagger.io

GET `/pet/{petId}` Find pet by ID

Returns a single pet

Parameters

Name	Description
petId * required `integer($int64)` *(path)*	ID of pet to return 1

Execute

Responses

Response content type: application/json

Code	Description
200	successful operation **Example Value** | Model

```
{
  "id": 0,
  "category": {
    "id": 0,
    "name": "string"
  },
  "name": "doggie",
  "photoUrls": [
    "string"
  ],
  "tags": [
    {
      "id": 0,
      "name": "string"
    }
  ],
  "status": "available"
}
```

400	Invalid ID supplied
404	Pet not found

Понятно как использовать и что вернется

pet Everything about your Pets

Find out more: http://swagger.io

GET /pet/{petId} Find pet by ID

Returns a single pet

Parameters

Name	Description
petId * required integer($int64) (path)	ID of pet to return 1

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Response content type application/json

Code	Description
200	successful operation Example Value | Model { "id": 0, "categ "id" "n }, "na "ph "], "tag { }], "statu }
400	Invalid ID s
404	

Понятно как использовать и что вернется

Name	Description
petId * required integer($int64) (path)	ID of pet to return 1

Execute | Clear

Responses

Response content type: application/json

Curl

```
curl -X GET "https://petstore.swagger.io/v2/pet/1" -H "accept: application/json"
```

Request URL

```
https://petstore.swagger.io/v2/pet/1
```

Server response

Code	Details
200	Response body


```
{
  "id": 1,
  "category": {
    "id": 1,
    "name": "string"
  },
  "name": "Gato",
  "photoUrls": [
    "string"
  ],
  "tags": [
    {
      "id": 1,
      "name": "string"
    }
  ],
  "status": "sleep"
}
```


Download

Response headers

```
access-control-allow-headers: Content-Type, api_key, Authorization
access-control-allow-methods: GET, POST, DELETE, PUT
access-control-allow-origin: *
connection: close
content-type: application/json
date: Wed, 12 Feb 2020 13:09:39 GMT
server: Jetty(9.2.9.v20150224)
```

Responses

Code	Description

Можно делать запросы и получать ответы

Name Description

petId * required
integer($int64) ID of pet to return
(path)

1

Execute Clear

Responses Response content type application/json

Curl

```
curl -X GET "https://petstore.swagger.io/v2/pet/1" -H "accept: application/json"
```

Request URL

```
https://petstore.swagger.io/v2/pet/1
```

Server response

Code Details

200 Response body

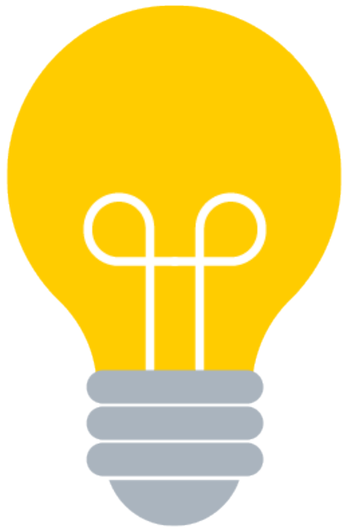
```
{
  "id": 1,
  "category": {
    "id": 1,
    "name": "string"
  },
  "name": "Gato",
  "photoUrls": [
    "string"
  ],
  "tags": [
    {
      "id": 1,
```

```
l-allow-
l-allow-
l-allow
```

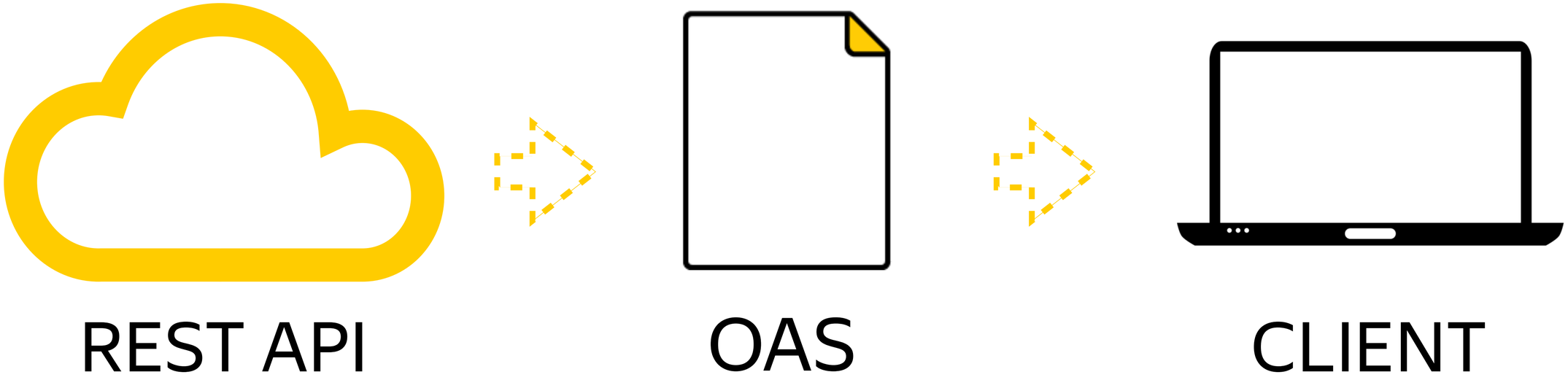
```
ype, api_key, Authorization
, DELETE, PUT
```

Можно делать запросы и получать ответы

Автотесты на основе кодогенерации

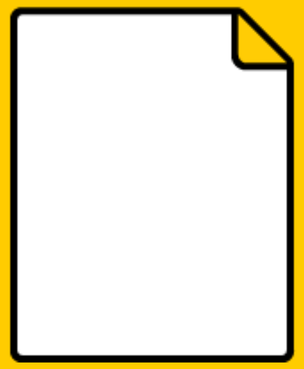


В качестве основы Swagger/OAS


REST API
OAS
CLIENT

~~Что делать~~

Что такое OAS



OAS

OpenAPI Specification это opensource проект, описывающий спецификацию и поддерживаемый Linux сообществом (Linux Foundation Collaborative Project).

https://github.com/OAI/OpenAPI-Specification

OpenAPI-specification

OAI / OpenAPI-Specification

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Code | Issues 439 | Pull requests 40 | Actions | Projects 1 | Wiki | Security | Insights

16.7k

The OpenAPI Specification Repository https://openapis.org

openapi | openapi-specification | apis | rest | oas | webapi

1,835 commits | 14 branches | 0 packages | 6 releases | 158 contributors | Apache-2.0

Branch: master | New pull request | Create new file | Upload files | Find file | Clone or download

webron Merge pull request #2080 from philsturgeon/openapi-not-open-api ... Latest commit 2d6a180 29 days ago

examples	remove redundant whitespace (#1834)	2 months ago
guidelines	Add EXTENSIONS.md file at the root of the guidelines folder to avoid ...	3 years ago
proposals	Fixed indent of value (#2086)	last month
schemas	Merge pull request #1897 from OAI/oas3-schema	10 months ago
versions	Update release date	17 months ago
.gitignore	gitignore updates	6 years ago

The OpenAPI Specification (OAS) определяет стандартизированное описание для REST API сервисов, не зависимо от того, на каком языке программирования они написаны, удобна для использования, как человеком, так и компьютерной программой не требуя доступа к коду...

https://github.com/OAI/OpenAPI-Specification

JSON

{"swagger":"2.0","info":{"description":"This is a sample server Petstore server. You can find out more about Swagger at http://swagger.io or on [irc.freenode.net, #swagger](http://swagger.io/irc/). For this sample, you can use the api key `special-key` to test the authorization filters.","version":"1.0.
2.0","url":"http://www.apache.org/licenses/LICENSE-2.0.html"}},"host":"petstore.swagg
swagger.io"}},{"name":"store","description":"Access to Petstore orders"},{"name":"use
["https","http"],"paths":{"/pet/{petId}":{"get":{"tags":["pet"],"summary":"Find pet b
[{"name":"petId","in":"path","description":"ID of pet to return","required":true,"typ
ID supplied"},"404":{"description":"Pet not found"}},"security":[{"api_key":[]}]},"po
form-urlencoded"],"produces":["application/json","application/xml"],"parameters":[{"n
{"name":"name","in":"formData","description":"Updated name of the pet","required":fal
{"description":"Invalid input"}},"security":[{"petstore_auth":["write:pets","read:pet
xml"],"parameters":[{"name":"api_key","in":"header","required":false,"type":"string"}
supplied"},"404":{"description":"Pet not found"}},"security":[{"petstore_auth":["writ
image","description":"","operationId":"uploadFile","consumes":["multipart/form-data"]
update","required":true,"type":"integer","format":"int64"},{"name":"additionalMetadat
upload","required":false,"type":"file"}],"responses":{"200":{"description":"successful operation","schema":{"$ref":"#/definitions/ApiResponse"}}},"security":[{"petstore_auth":["write:pets","read:pets"]}]}},"/pet":{"post":{"tags":
["pet"],"summary":"Add a new pet to the store","description":"","operationId":"addPet","consumes":["application/json","application/xml"],"produces":["application/json","application/xml"],"parameters":
[{"in":"body","name":"body","description":"Pet object that needs to be added to the store","required":true,"schema":{"$ref":"#/definitions/Pet"}}],"responses":{"405":{"description":"Invalid input"}},"security":[{"petstore_auth":
["write:pets","read:pets"]}]},"put":{"tags":["pet"],"summary":"Update an existing pet","description":"","operationId":"updatePet","consumes":["application/json","application/xml"],"produces":["application/json","application/xml"],"parameters":
[{"in":"body","name":"body","description":"Pet object that needs to be added to the store","required":true,"schema":{"$ref":"#/definitions/Pet"}}],"responses":{"400":{"description":"Invalid ID supplied"},"404":{"description":"Pet not
found"},"405":{"description":"Validation exception"}},"security":[{"petstore_auth":["write:pets","read:pets"]}]}},"/pet/findByStatus":{"get":{"tags":["pet"],"summary":"Finds Pets by status","description":"Multiple status values can be provided
with comma separated strings","operationId":"findPetsByStatus","produces":["application/json","application/xml"],"parameters":[{"name":"status","in":"query","description":"Status values that need to be considered for
filter","required":true,"type":"array","items":{"type":"string","enum":["available","pending","sold"],"default":"available"},"collectionFormat":"multi"}],"responses":{"200":{"description":"successful operation","schema":{"type":"array","items":
{"$ref":"#/definitions/Pet"}}},"400":{"description":"Invalid status value"}},"security":[{"petstore_auth":["write:pets","read:pets"]}]}},"/pet/findByTags":{"get":{"tags":["pet"],"summary":"Finds Pets by tags","description":"Multiple tags can be
provided with comma separated strings. Use tag1, tag2, tag3 for testing.","operationId":"findPetsByTags","produces":["application/json","application/xml"],"parameters":[{"name":"tags","in":"query","description":"Tags to filter
by","required":true,"type":"array","items":{"type":"string"},"collectionFormat":"multi"}],"responses":{"200":{"description":"successful operation","schema":{"type":"array","items":{"$ref":"#/definitions/Pet"}}},"400":{"description":"Invalid tag
value"}},"security":[{"petstore_auth":["write:pets","read:pets"]}],"deprecated":true}},"/store/inventory":{"get":{"tags":["store"],"summary":"Returns pet inventories by status","description":"Returns a map of status codes to
quantities","operationId":"getInventory","produces":["application/json"],"parameters":[],"responses":{"200":{"description":"successful operation","schema":{"type":"object","additionalProperties":
{"type":"integer","format":"int32"}}}},"security":[{"api_key":[]}]}},"/store/order/{orderId}":{"get":{"tags":["store"],"summary":"Find purchase order by ID","description":"For valid response try integer IDs with value >= 1 and <= 10. Other
values will generated exceptions","operationId":"getOrderById","produces":["application/json","application/xml"],"parameters":[{"name":"orderId","in":"path","description":"ID of pet that needs to be
fetched","required":true,"type":"integer","maximum":10,"minimum":1,"format":"int64"}],"responses":{"200":{"description":"successful operation","schema":{"$ref":"#/definitions/Order"}},"400":{"description":"Invalid ID supplied"},"404":
{"description":"Order not found"}}},"delete":{"tags":["store"],"summary":"Delete purchase order by ID","description":"For valid response try integer IDs with positive integer value. Negative or non-integer values will generate API
errors","operationId":"deleteOrder","produces":["application/json","application/xml"],"parameters":[{"name":"orderId","in":"path","description":"ID of the order that needs to be
deleted","required":true,"type":"integer","minimum":1,"format":"int64"}],"responses":{"400":{"description":"Invalid ID supplied"},"404":{"description":"Order not found"}}}},"/store/order":{"post":{"tags":["store"],"summary":"Place an order for
a pet","description":"","operationId":"placeOrder","consumes":["application/json"],"produces":["application/json","application/xml"],"parameters":[{"in":"body","name":"body","description":"order placed for purchasing the
pet","required":true,"schema":{"$ref":"#/definitions/Order"}}],"responses":{"200":{"description":"successful operation","schema":{"$ref":"#/definitions/Order"}},"400":{"description":"Invalid Order"}}}},"/user/{username}":{"get":{"tags":
["user"],"summary":"Get user by user name","description":"","operationId":"getUserByName","produces":["application/json","application/xml"],"parameters":[{"name":"username","in":"path","description":"The name that needs to be fetched. Use user1
for testing. ","required":true,"type":"string"}],"responses":{"200":{"description":"successful operation","schema":{"$ref":"#/definitions/User"}},"400":{"description":"Invalid username supplied"},"404":{"description":"User not found"}}},"put":
{"tags":["user"],"summary":"Updated user","description":"This can only be done by the logged in user.","operationId":"updateUser","consumes":["application/json"],"produces":["application/json","application/xml"],"parameters":
[{"name":"username","in":"path","description":"name that need to be updated","required":true,"type":"string"},{"in":"body","name":"body","description":"Updated user object","required":true,"schema":{"$ref":"#/definitions/User"}}],"responses":
{"400":{"description":"Invalid user supplied"},"404":{"description":"User not found"}}},"delete":{"tags":["user"],"summary":"Delete user","description":"This can only be done by the logged in user.","operationId":"deleteUser","produces":
["application/json","application/xml"],"parameters":[{"name":"username","in":"path","description":"The name that needs to be deleted","required":true,"type":"string"}],"responses":{"400":{"description":"Invalid username supplied"},"404":
{"description":"User not found"}}}},"/user/login":{"get":{"tags":["user"],"summary":"Logs user into the system","description":"","operationId":"loginUser","produces":["application/json","application/xml"],"parameters":
[{"name":"username","in":"query","description":"The user name for login","required":true,"type":"string"},{"name":"password","in":"query","description":"The password for login in clear text","required":true,"type":"string"}],"responses":{"200":
{"description":"successful operation","headers":{"X-Expires-After":{"type":"string","format":"date-time","description":"date in UTC when token expires"},"X-Rate-Limit":{"type":"integer","format":"int32","description":"calls per hour allowed by
the user"}},"schema":{"type":"string"}},"400":{"description":"Invalid username/password supplied"}}}},"/user/logout":{"get":{"tags":["user"],"summary":"Logs out current logged in user
session","description":"","operationId":"logoutUser","produces":["application/json","application/xml"],"parameters":[],"responses":{"default":{"description":"successful operation"}}}},"/user":{"post":{"tags":["user"],"summary":"Create
user","description":"This can only be done by the logged in user.","operationId":"createUser","consumes":["application/json"],"produces":["application/json","application/xml"],"parameters":[{"in":"body","name":"body","description":"Created user
object","required":true,"schema":{"$ref":"#/definitions/User"}}],"responses":{"default":{"description":"successful operation"}}}},"/user/createWithArray":{"post":{"tags":["user"],"summary":"Creates list of users with given input
array","description":"","operationId":"createUsersWithArrayInput","consumes":["application/json"],"produces":["application/json","application/xml"],"parameters":[{"in":"body","name":"body","description":"List of user
object","required":true,"schema":{"type":"array","items":{"$ref":"#/definitions/User"}}}],"responses":{"default":{"description":"successful operation"}}}},"/user/createWithList":{"post":{"tags":["user"],"summary":"Creates list of users with
given input array","description":"","operationId":"createUsersWithListInput","consumes":["application/json"],"produces":["application/json","application/xml"],"parameters":[{"in":"body","name":"body","description":"List of user
object","required":true,"schema":{"type":"array","items":{"$ref":"#/definitions/User"}}}],"responses":{"default":{"description":"successful operation"}}}}},"securityDefinitions":{"api_key":
{"type":"apiKey","name":"api_key","in":"header"},"petstore_auth":{"type":"oauth2","authorizationUrl":"https://petstore.swagger.io/oauth/authorize","flow":"implicit","scopes":{"read:pets":"read your pets","write:pets":"modify pets in your
account"}}},"definitions":{"Category":{"type":"object","properties":{"id":{"type":"integer","format":"int64"},"name":{"type":"string"}},"xml":{"name":"Category"}},"Pet":{"type":"object","required":["name","photoUrls"],"properties":{"id":
{"type":"integer","format":"int64"},"category":{"$ref":"#/definitions/Category"},"name":{"type":"string","example":"doggie"},"photoUrls":{"type":"array","xml":{"wrapped":true},"items":{"type":"string","xml":{"name":"photoUrl"}}},"tags":
{"type":"array","xml":{"wrapped":true},"items":{"xml":{"name":"tag"},"$ref":"#/definitions/Tag"}},"status":{"type":"string","description":"pet status in the store","enum":["available","pending","sold"]}},"xml":{"name":"Pet"}},"Tag":
{"type":"object","properties":{"id":{"type":"integer","format":"int64"},"name":{"type":"string"}},"xml":{"name":"Tag"}},"ApiResponse":{"type":"object","properties":{"code":{"type":"integer","format":"int32"},"type":{"type":"string"},"message":
{"type":"string"}}},"Order":{"type":"object","properties":{"id":{"type":"integer","format":"int64"},"petId":{"type":"integer","format":"int64"},"quantity":{"type":"integer","format":"int32"},"shipDate":{"type":"string","format":"date-
time"},"status":{"type":"string","description":"Order Status","enum":["placed","approved","delivered"]},"complete":{"type":"boolean"}},"xml":{"name":"Order"}},"User":{"type":"object","properties":{"id":
{"type":"integer","format":"int64"},"username":{"type":"string"},"firstName":{"type":"string"},"lastName":{"type":"string"},"email":{"type":"string"},"password":{"type":"string"},"phone":{"type":"string"},"userStatus":
{"type":"integer","format":"int32","description":"User Status"}},"xml":{"name":"User"}}},"externalDocs":{"description":"Find out more about Swagger","url":"http://swagger.io"}}

https://petstore.swagger.io/v2/swagger.json

YAML


```yaml
swagger: "2.0"
info:
  version: 1.0.0
  title: Swagger Petstore
  license:
    name: MIT
host: petstore.swagger.io
basePath: /v1
schemes:
  - http
consumes:
  - application/json
produces:
  - application/json
paths:
  /pets:
    get:
      summary: List all pets
      operationId: listPets
      tags:
        - pets
      parameters:
        - name: limit
          in: query
          description: How many items to return at one time (max 100)
          required: false
          type: integer
          format: int32
      responses:
        "200":
          description: A paged array of pets
          headers:
            x-next:
              type: string
              description: A link to the next page of responses
          schema:
            $ref: '#/definitions/Pets'
        default:
          description: unexpected error
          schema:
            $ref: '#/definitions/Error'
    post:
      summary: Create a pet
      operationId: createPets
      tags:
        - pets
      responses:
        "201":
          description: Null response
        default:
          description: unexpected error
          schema:
            $ref: '#/definitions/Error'
  /pets/{petId}:
    get:
      summary: Info for a specific pet
      operationId: showPetById
      tags:
        - pets
      parameters:
        - name: petId
          in: path
          required: true
          description: The id of the pet to retrieve
          type: string
      responses:
        "200":
          description: Expected response to a valid request
          schema:
            $ref: '#/definitions/Pets'
```


https://petstore.swagger.io/v2/swagger.json

```yaml
swagger: "2.0"
info:
  version: 1.0.0
  title: Swagger Petstore
  license:
    name: MIT
host: petstore.swagger.io
basePath: /v1
schemes:
  - http
consumes:
  - application/json
produces:
  - application/json
paths:
  /pets:
    get:
      summary: List all pets
      operationId: listPets
      tags:
        - pets
      parameters:
        - name: limit
          in: query
          description: How many items to return at one time (max 100)
          required: false
          type: integer
          format: int32
      responses:
        "200":
          description: A paged array of pets
          headers:
            x-next:
              type: string
              description: A link to the next page of responses
          schema:
            $ref: '#/definitions/Pets'
        default:
          description: unexpected error
          schema:
            $ref: '#/definitions/Error'
```

Общее описание REST API

```yaml
swagger: "2.0"
info:
  version: 1.0.0
  title: Swagger Petstore
  license:
    name: MIT
host: petstore.swagger.io
basePath: /v1
schemes:
  - http
consumes:
  - application/json
produces:
  - application/json
paths:
  /pets:
    get:
      summary: List all pets
      operationId: listPets
      tags:
        - pets
      parameters:
        - name: limit
          in: query
          description: How many items to return at one time (max 100)
          required: false
          type: integer
          format: int32
      responses:
        "200":
          description: A paged array of pets
          headers:
            x-next:
              type: string
              description: A link to the next page of responses
          schema:
            $ref: '#/definitions/Pets'
        default:
          description: unexpected error
          schema:
            $ref: '#/definitions/Error'
```

Общее описание REST API

Все возможные операции

```yaml
swagger: "2.0"
info:
  version: 1.0.0
  title: Swagger Petstore
  license:
    name: MIT
host: petstore.swagger.io
basePath: /v1
schemes:
  - http
consumes:
  - application/json
produces:
  - application/json
paths:
  /pets:
    get:
      summary: List all pets
      operationId: listPets
      tags:
        - pets
      parameters:
        - name: limit
          in: query
          description: How many items to return at one time (max 100)
          required: false
          type: integer
          format: int32
      responses:
        "200":
          description: A paged array of pets
          headers:
            x-next:
              type: string
              description: A link to the next page of responses
          schema:
            $ref: '#/definitions/Pets'
        default:
          description: unexpected error
          schema:
            $ref: '#/definitions/Error'
```

Общее описание REST API

Все возможные операции

Все возможные параметры

```yaml
swagger: "2.0"
info:
  version: 1.0.0
  title: Swagger Petstore
  license:
    name: MIT
host: petstore.swagger.io
basePath: /v1
schemes:
  - http
consumes:
  - application/json
produces:
  - application/json
paths:
  /pets:
    get:
      summary: List all pets
      operationId: listPets
      tags:
        - pets
      parameters:
        - name: limit
          in: query
          description: How many items to return at one time (max 100)
          required: false
          type: integer
          format: int32
      responses:
        "200":
          description: A paged array of pets
          headers:
            x-next:
              type: string
              description: A link to the next page of responses
          schema:
            $ref: '#/definitions/Pets'
        default:
          description: unexpected error
          schema:
            $ref: '#/definitions/Error'
```

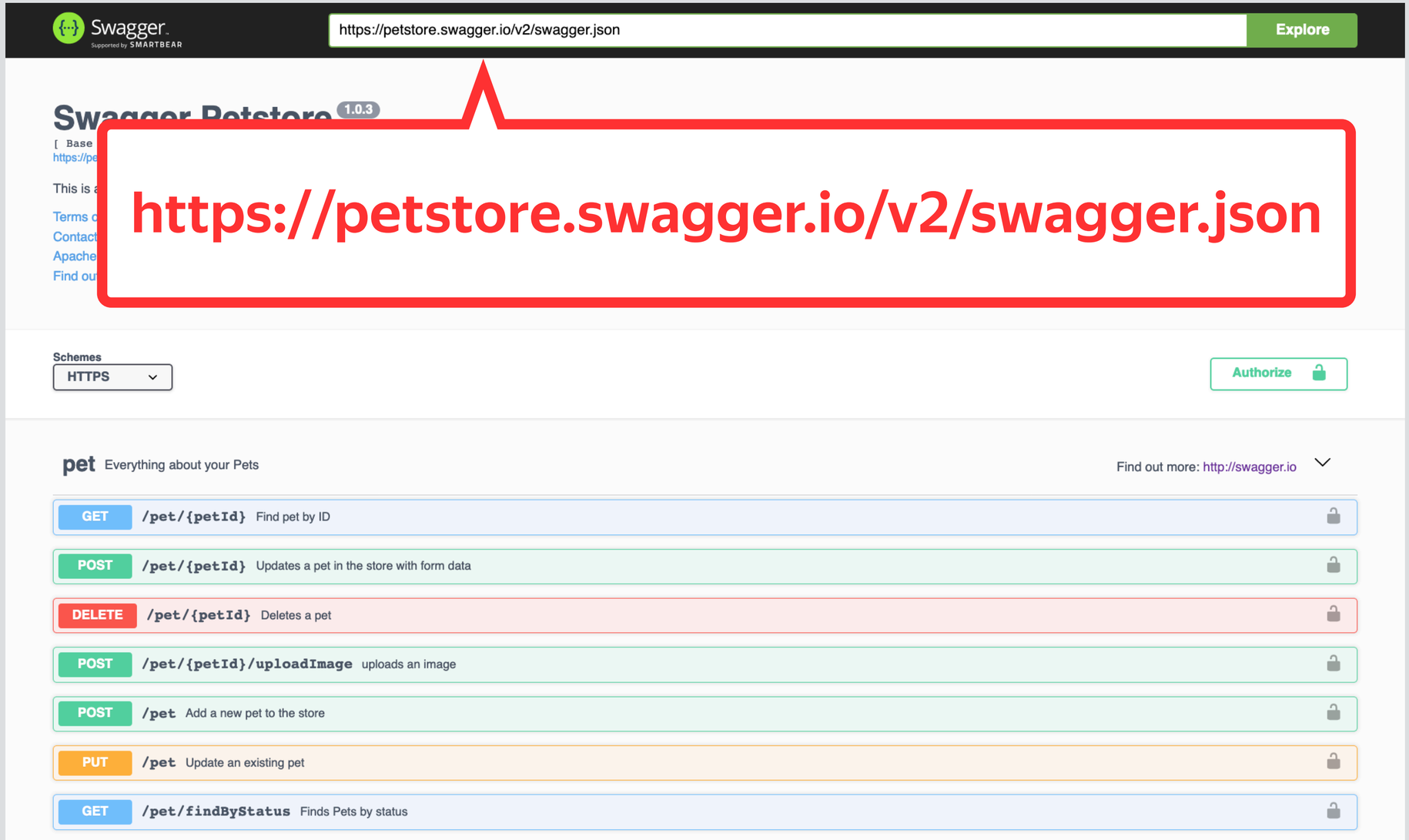
Общее описание REST API

Все возможные операции

Все возможные параметры

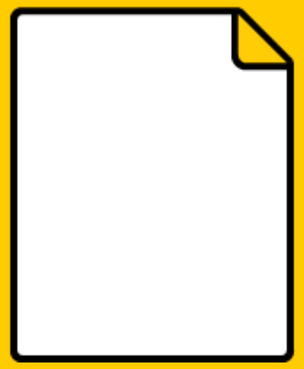
Все возможные ответы

Swagger-ui


Swagger
Supported by SMARTBEAR
https://petstore.swagger.io/v2/swagger.json
Explore
1.0.3
https://petstore.swagger.io/v2/swagger.json
Schemes
HTTPS
Authorize
pet Everything about your Pets
Find out more: http://swagger.io
GET /pet/{petId} Find pet by ID
POST /pet/{petId} Updates a pet in the store with form data
DELETE /pet/{petId} Deletes a pet
POST /pet/{petId}/uploadImage uploads an image
POST /pet Add a new pet to the store
PUT /pet Update an existing pet
GET /pet/findByStatus Finds Pets by status

~~Что такое OAS~~

Как получить OAS

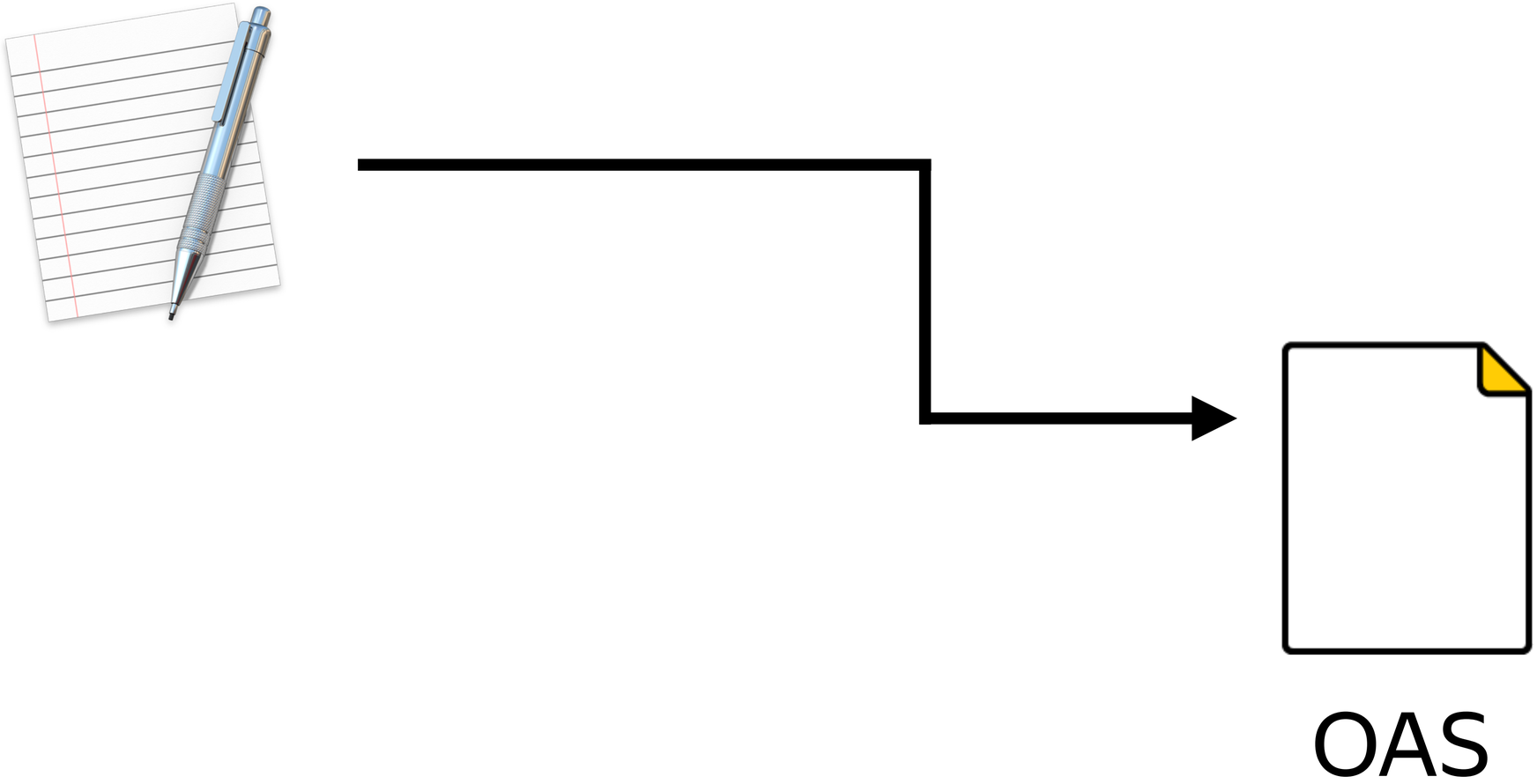


OAS

Text Edit

swagger.json — Edited

```
swagger: "2.0"
info:
  description: "This is a sample server Petstore server.  You can find out more about     Swagger at [http://swagger.io]
(http://swagger.io) or on [irc.freenode.net, #swagger](http://swagger.io/irc/).      For this sample, you can use the api key
`special-key` to test the authorization     filters."
  version: "1.0.0"
  title: "Swagger Petstore"
  termsOfService: "http://swagger.io/terms/"
  contact:
    email: "apiteam@swagger.io"
  license:
    name: "Apache 2.0"
    url: "http://www.apache.org/licenses/LICENSE-2.0.html"
host: "petstore.swagger.io"
basePath: "/v2"
tags:
- name: "pet"
  description: "Everything about your Pets"
  externalDocs:
    description: "Find out more"
    url: "http://swagger.io"
- name: "store"
  description: "Access to Petstore orders"
- name: "user"
  description: "Operations about user"
  externalDocs:
    description: "Find out more about our store"
    url: "http://swagger.io"
schemes:
- "https"
- "http"
paths:
  /pet:
    post:
      tags:
      - "pet"
      summary: "Add a new pet to the store"
      description: ""
      operationId: "addPet"
```


OAS

Swagger Editor

Swagger Editor
Supported by SMARTBEAR

File ▾ Edit ▾ Generate Server ▾ Generate Client ▾

```yaml
swagger: "2.0"
info:
  description: "This is a sample server Petstore server.  You can find out more about     Swagger at [http://swagger.io](http://swagger.io) or on [irc.freenode.net, #swagger](http://swagger.io/irc/).      For this sample, you can use the api key `special-key` to test the authorization filters."
  version: "1.0.0"
  title: "Swagger Petstore"
  termsOfService: "http://swagger.io/terms/"
  contact:
    email: "apiteam@swagger.io"
  license:
    name: "Apache 2.0"
    url: "http://www.apache.org/licenses/LICENSE-2.0.html"
host: "petstore.swagger.io"
basePath: "/v2"
tags:
- name: "pet"
  description: "Everything about your Pets"
  externalDocs:
    description: "Find out more"
    url: "http://swagger.io"
- name: "store"
  description: "Access to Petstore orders"
- name: "user"
  description: "Operations about user"
  externalDocs:
    description: "Find out more about our store"
    url: "http://swagger.io"
schemes:
- "https"
- "http"
paths:
  /pet:
```

Swagger Petstore 1.0.0

[Base URL: petstore.swagger.io/v2]

This is a sample server Petstore server. You can find out more about Swagger at http://swagger.io or on irc.freenode.net, #swagger. For this sample, you can use the api key `special-key` to test the authorization filters.

Terms of service
Contact the developer
Apache 2.0
Find out more about Swagger

Schemes
HTTPS

Authorize

pet Everything about your Pets — Find out more: http://swagger.io

POST /pet Add a new pet to the store

PUT /pet Update an existing pet

Swagger Editor

OAS

Swagger-annotations

swagger-api / swagger-core

Used by 605 | Watch 340 | Unstar 6.2k | Fork 1.9k

Code | Issues 438 | Pull requests 48 | Actions | Projects 1 | Wiki | Security | Insights

Annotations

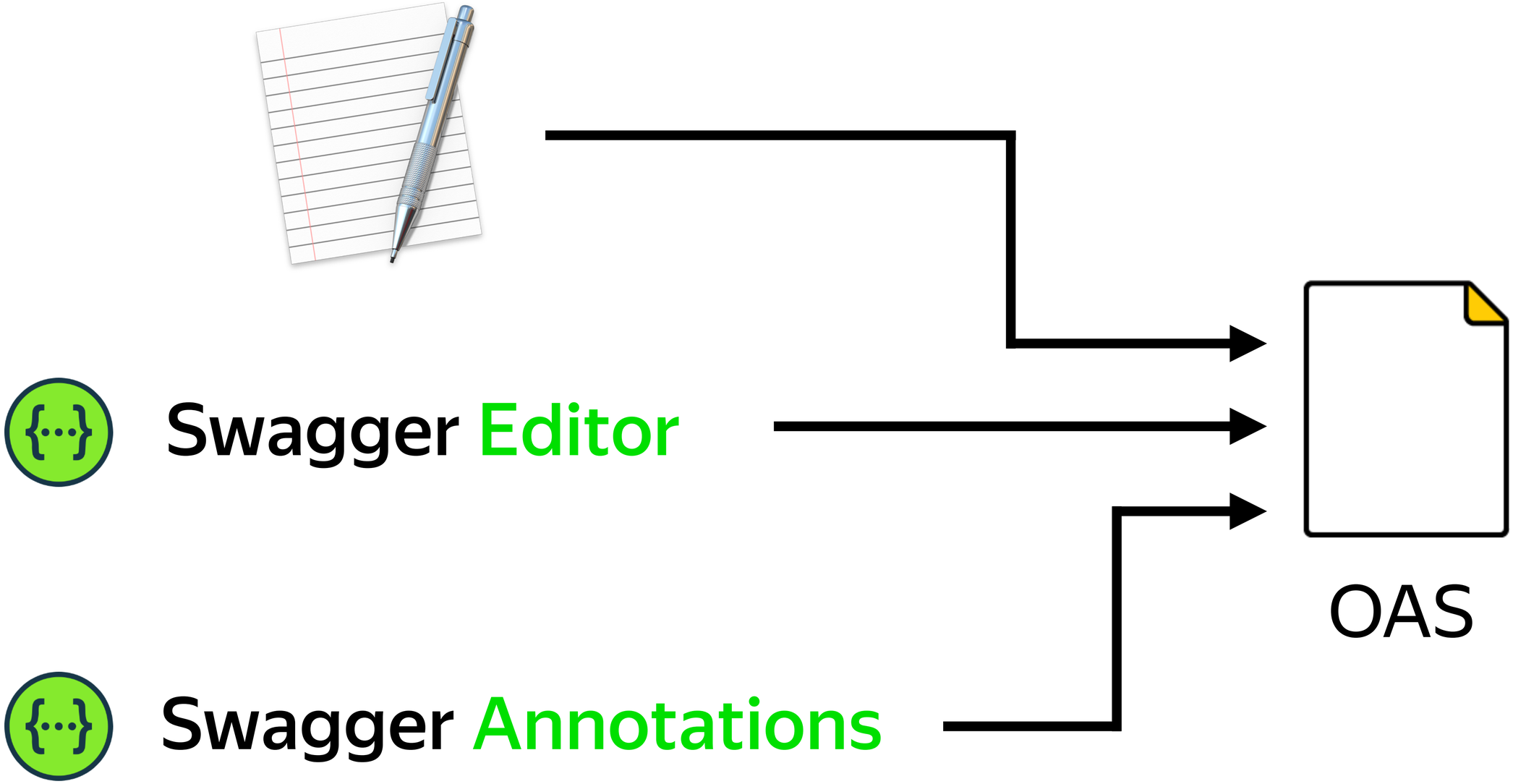
frantuma edited this page on 20 Mar 2018 · 11 revisions

This document is here for legacy information and refers to an old version of swagger-core. To use the latest, please refer to the new guide.

Pages 25

Swagger 2.X

- Getting started
  - What is it about?
  - Where to start
  - Quick start
  - Your own configuration
  - Full control of your API definition
  - Visualize and interact
- Integration and Configuration
  - Dependencies


Swagger Editor
Swagger Annotations
OAS

```java
public class FullyAnnotatedOperationResource {

    @GET
    @Path("/fullyannotatedoperation/{petId}")
    @Operation(summary = "Find pet by ID",
            description = "Returns a pet when 0 < ID <= 10.  ID > 10 or non integers " +
                    "will simulate API error conditions",
            operationId = "petId",
            responses = {
                    @ApiResponse(
                            description = "The pet", content = @Content(
                            schema = @Schema(implementation = Pet.class)
                    )),
                    @ApiResponse(responseCode = "400", description = "Invalid ID supplied"),
                    @ApiResponse(responseCode = "404", description = "Pet not found")
            })
    public Response getPetById(
            @Parameter(description = "ID of pet that needs to be fetched", required = true)
            @PathParam("petId")final Long petId) throws NotFoundException {
        return Response.ok().entity(new Pet()).build();
    }
}
```

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                    @ApiResponse(
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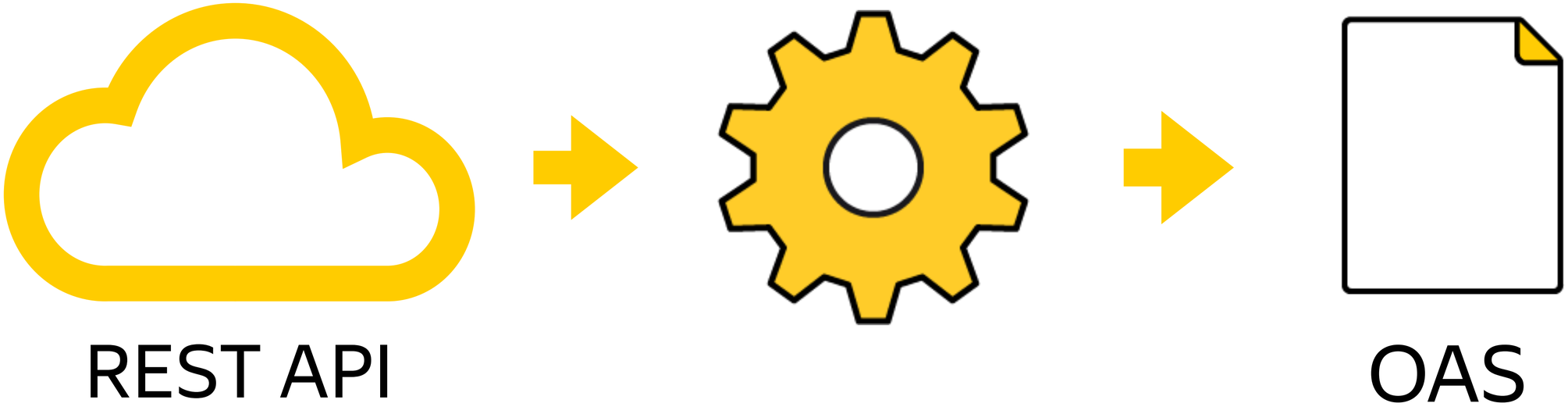
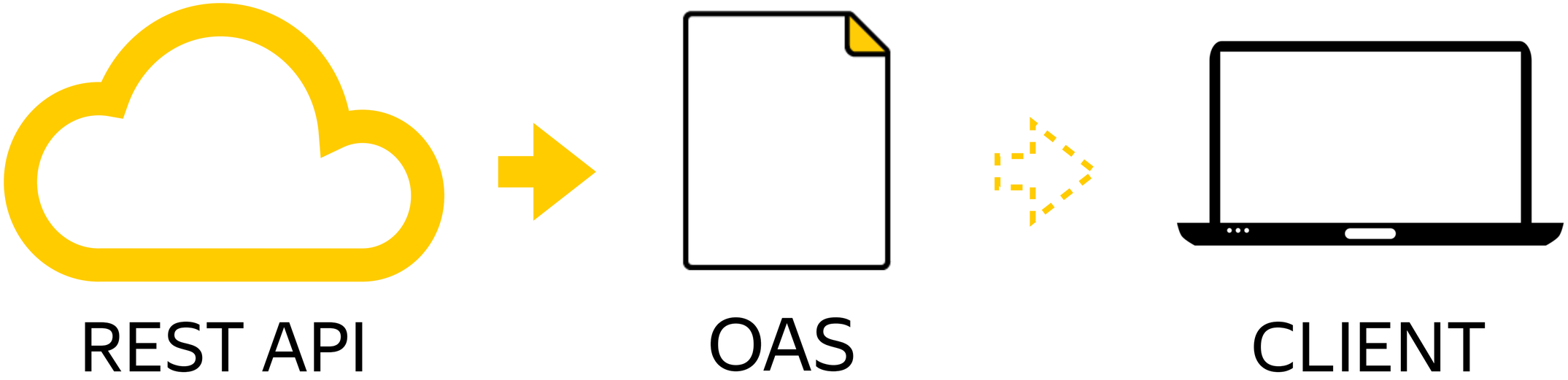
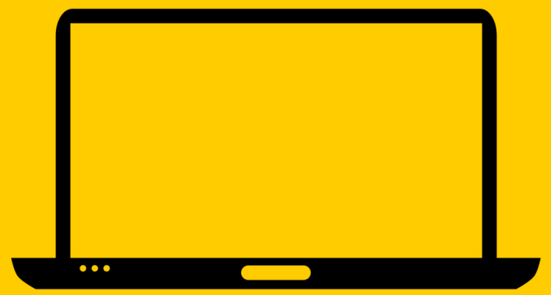
```


REST API
OAS


REST API
OAS
CLIENT

~~Как получить OAS~~

Генерация клиента



CLIENT

Swagger Codegen

- Opensource
- Supported by SMARTBEAR

https://swagger.io/tools/swagger-codegen/

Swagger-codegen

swagger-api / swagger-codegen

Used by 362 | Watch 441 | Unstar 11k | Fork 5.1k

Code | Issues 2,211 | Pull requests 336 | Actions | Projects 0 | Wiki | Security | Insig

11k

swagger-codegen contains a template-driven engine to generate documentation, API clients and server stubs by parsing your OpenAPI / Swagger definition. http://swagger.io

swagger | swagger-codegen | rest | rest-api | openapi-specification | openapi3

10,939 commits | 69 branches | 0 packages | 55 releases | 949 contributors | Apache-2.0

Branch: master | New pull request | Create new file | Upload files | Find file | Clone or download

HugoMario Merge pull request #9908 from usertesting/ruby-multipart-content-type ... Latest commit a9f00d3 2 days ago

.github	minor typo fix	2 years ago
.mvn/wrapper	#7093 - Add maven wrapper (#7356)	2 years ago
.travis	enabled push to sonatype	3 years ago
bin	Merge branch 'master' into issue-9386	4 months ago
modules	Merge branch 'master' into ruby-multipart-content-type	2 days ago

Swagger Codegen
CLIENT

OpenAPI generator

- Opensource
- Supported by community

https://openapi-generator.tech

OpenAPI-generator

OpenAPITools / openapi-generator

Sponsor | Used by 115 | Unwatch releases 131 | Unstar 4.6k | Fork 1.7k

4.6k

Code | Issues 1,209 | Pull requests 148 | Actions | Projects 6 | Wiki | Security | Ins

OpenAPI Generator allows generation of API client libraries (SDK generation), server stubs, documentation an
automatically given an OpenAPI Spec (v2, v3) https://openapi-generator.tech

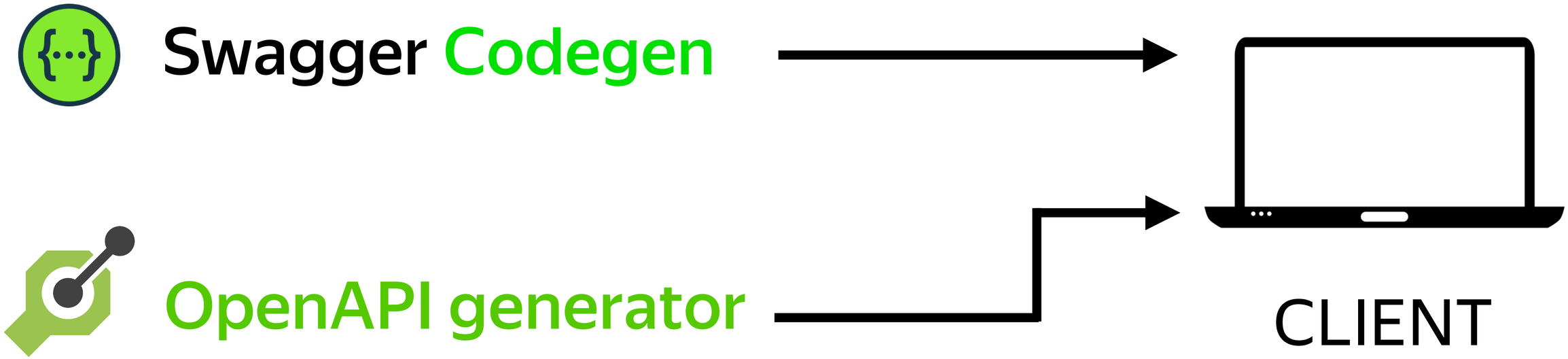
rest-api rest-client sdk generator restful-api api api-client api-server openapi3 openapi rest openapi-generator

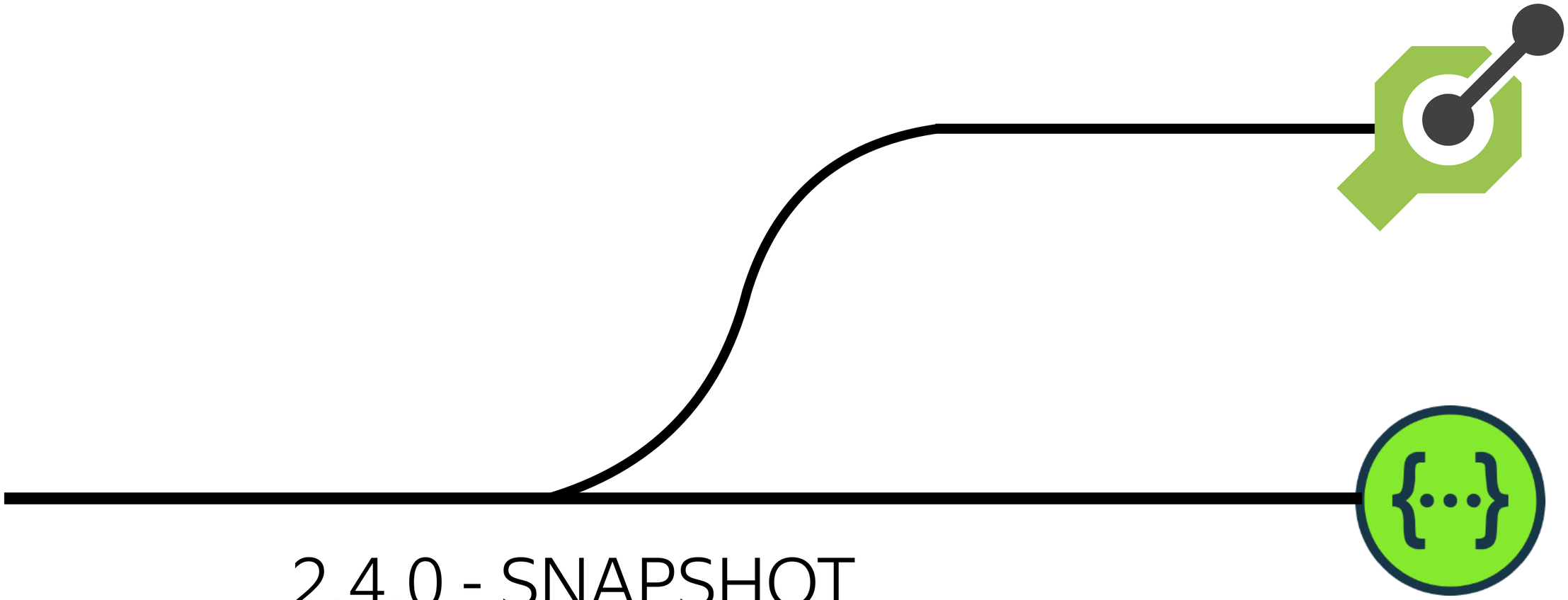
13,638 commits | 48 branches | 0 packages | 53 releases | 1,402 contributors | Apache-2.0

Branch: master | New pull request | Create new file | Upload files | Find file | Clone or download

wing328 update jackson dependency to newer version (#5527) — Latest commit 0ffcbfe 6 hours ago

.github	Update sonar.yml	last month
.mvn/wrapper	#7093 - Add maven wrapper (#7356)	2 years ago
CI	[csharp-netcore] Remove unnecessary legacy project definitions (#5108)	last month
bin	Hide timestamp in Scala Play server samples (#5495)	4 days ago


Swagger Codegen
OpenAPI generator
CLIENT



2.4.0 - SNAPSHOT

Почему появился fork?

- Независимое развитие Swagger Codegen 3.x от Swagger Codegen 2.x

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- Независимое развитие Swagger Codegen 3.x от Swagger Codegen 2.x
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Почему появился fork?

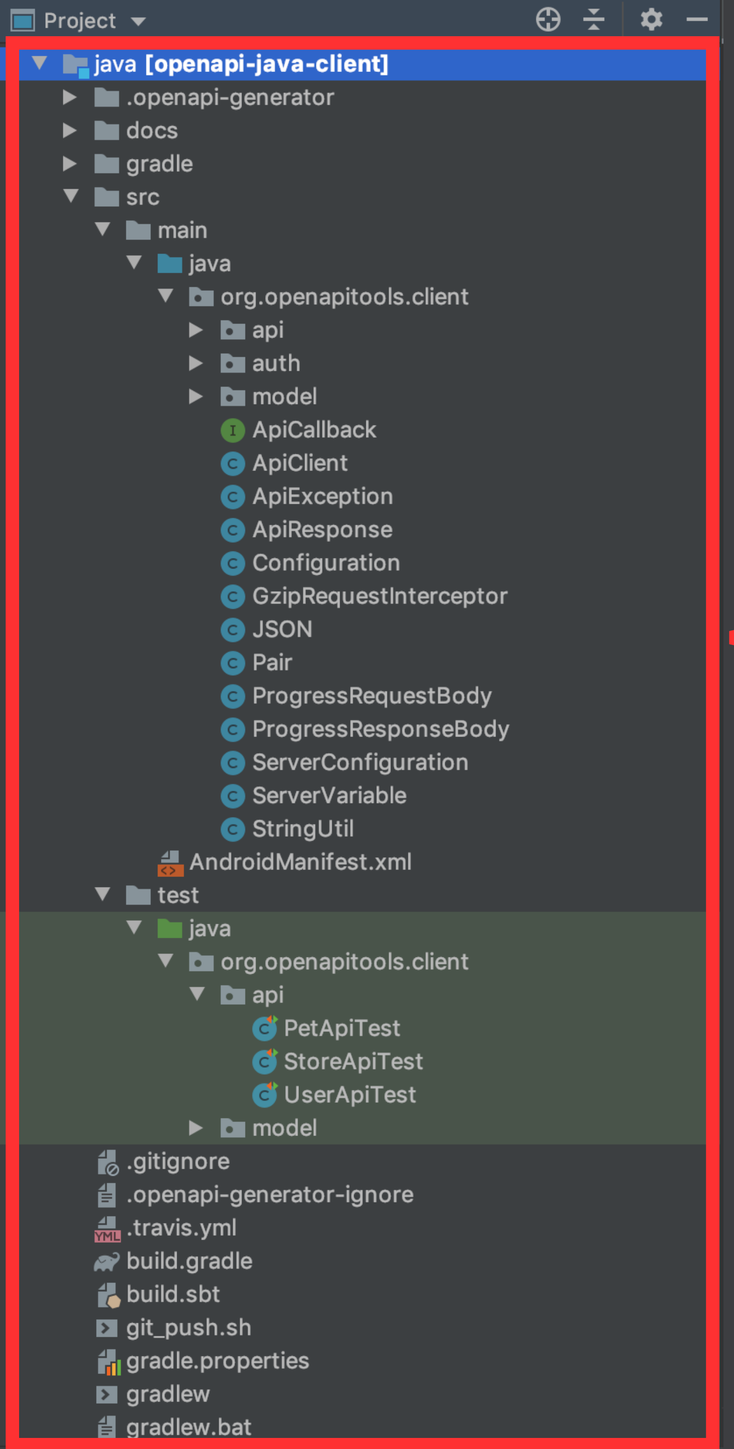
- Независимое развитие Swagger Codegen 3.x от Swagger Codegen 2.x
- Отсутствие обратной совместимости (многие клиенты не были поддержаны)
- Нестабильность релизного цикла

```
docker run --rm \
    -v $PWD:/local openapitools/openapi-
generator-cli generate \
    -i /local/petstore.yaml \
    -g java \
    -o /local/out/java
```

https://openapi-generator.tech/#try

```
openapi-generator generate -i petstore.yaml -g java -o /tmp/test/
```

https://openapi-generator.tech/#try



Можно использовать!

```
/** Update an existing pet ...*/
@Headers({
  "Content-Type:application/json"
})
@PUT("pet")
Call<Void> route(
  @retrofit2.http.Body Pet body
);

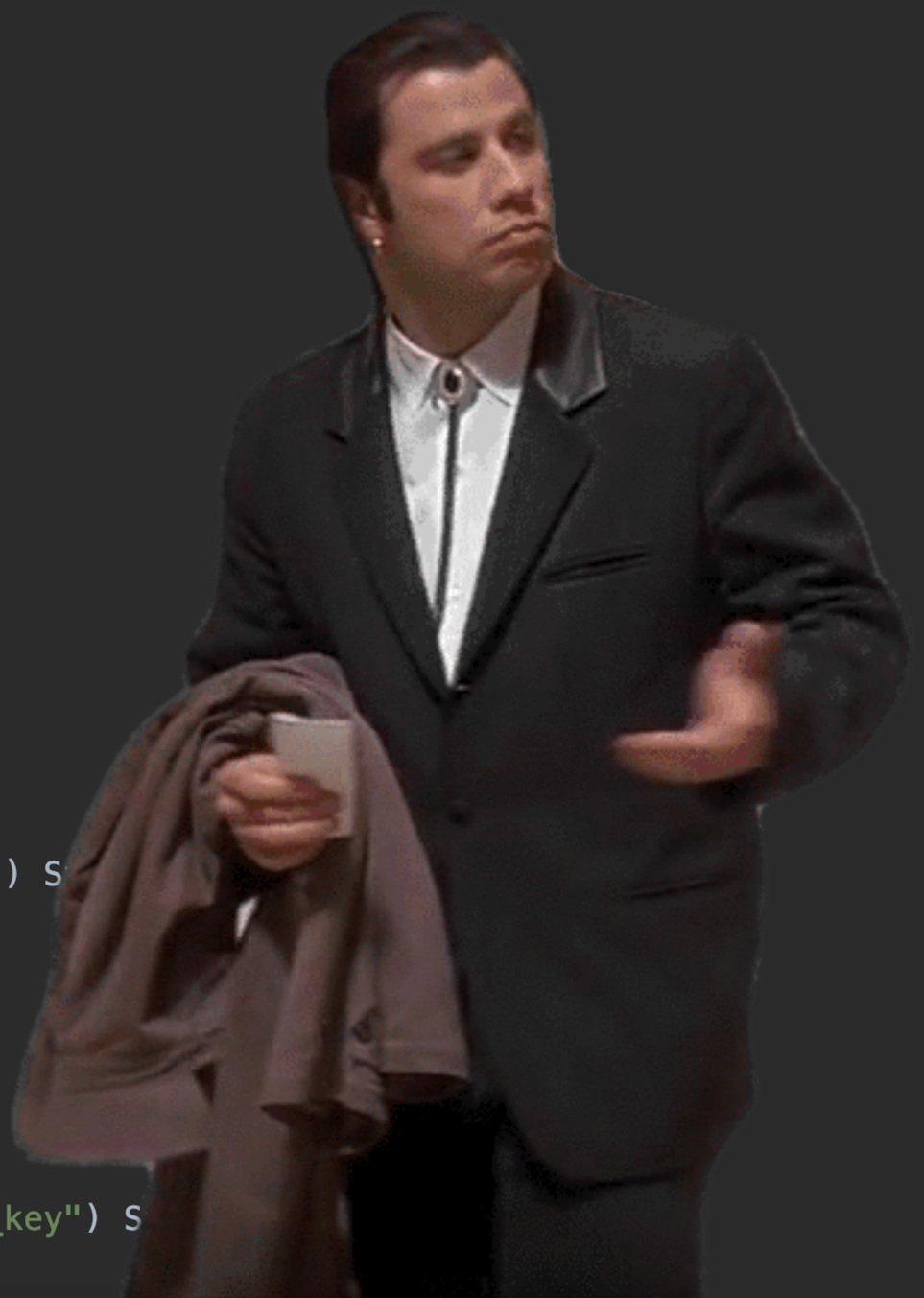
/** Find pet by ID ...*/
@GET("pet/{petId}")
Call<Pet> route15(
  @retrofit2.http.Path("pe
);

/** Updates a pet in the s
@retrofit2.http.FormUrlEn
@POST("pet/{petId}")
Call<Void> route16(
  @retrofit2.http.Path("petId") Long petId, @retrofit2.http.Field("name") S
  @retrofit2.http.Field("status") String status
);

/** Deletes a pet ...*/
@DELETE("pet/{petId}")
Call<Void> route17(
  @retrofit2.http.Path("petId") Long petId, @retrofit2.http.Header("api_key") S
);
```

route???

route16???



Проблемы, с которыми мы столкнулись при генерации клиента

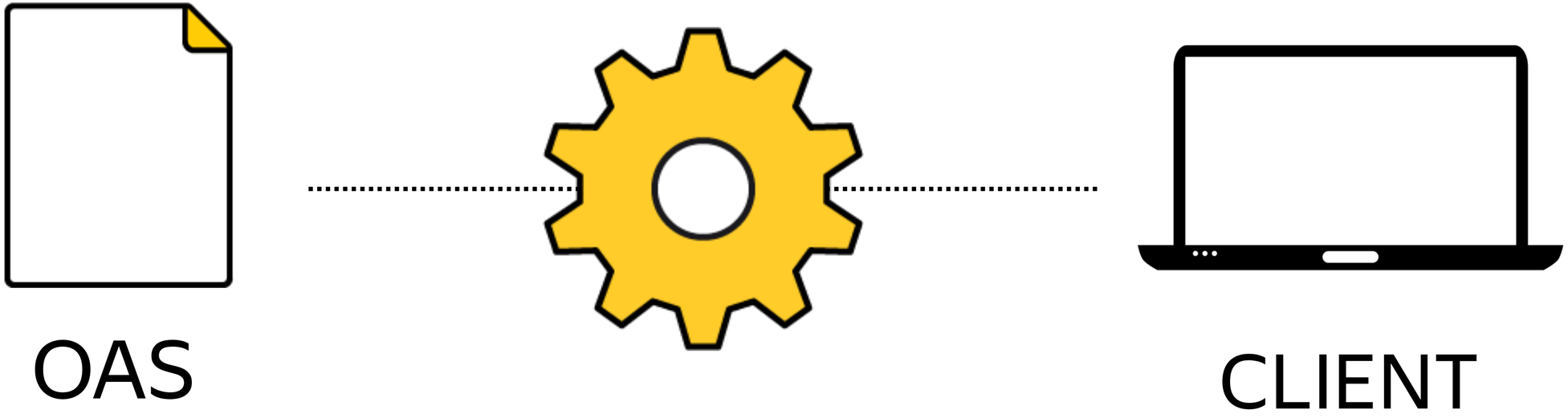
- Опечатки, например, в типах параметров

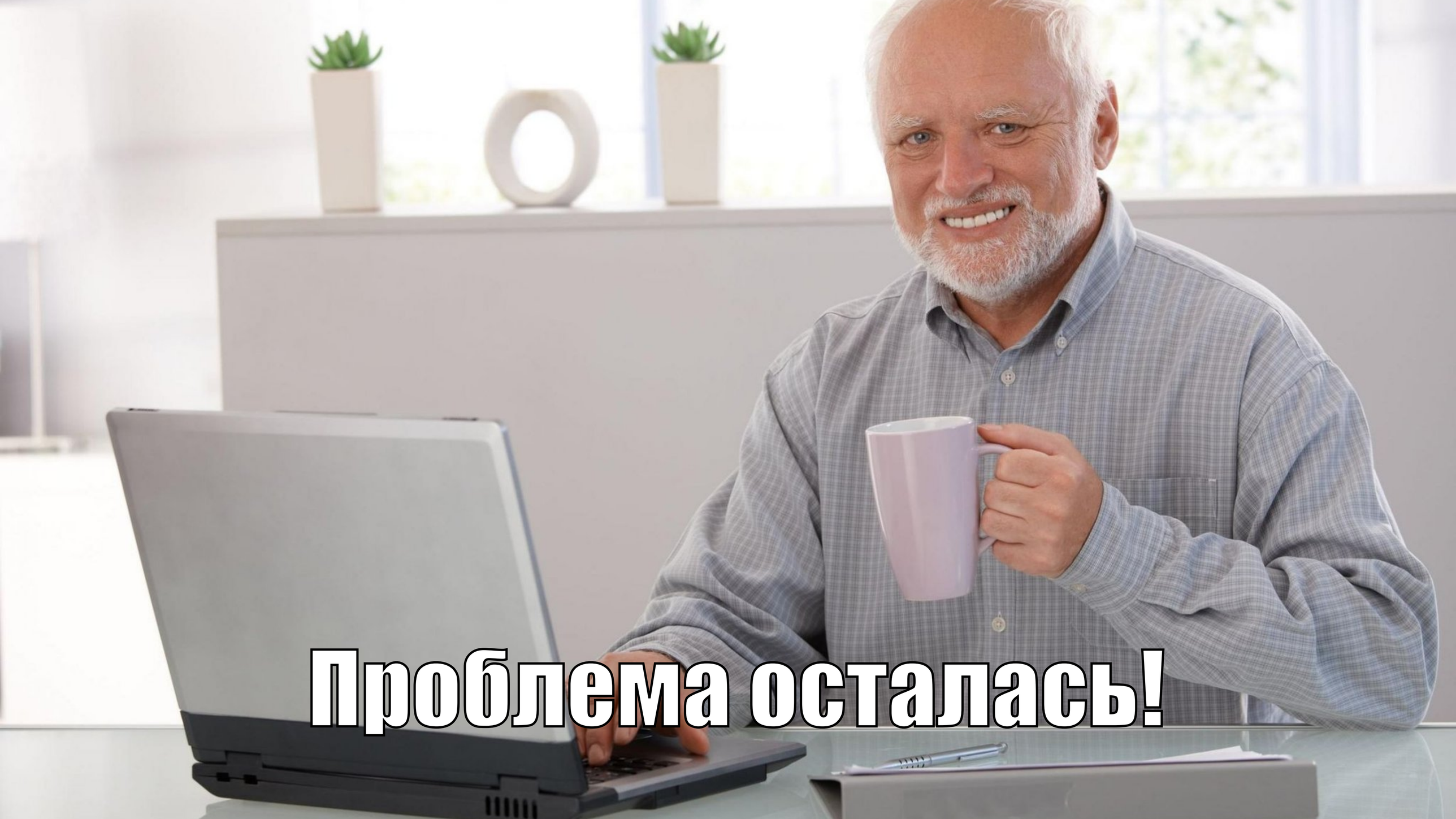
Проблемы, с которыми мы столкнулись при генерации клиента

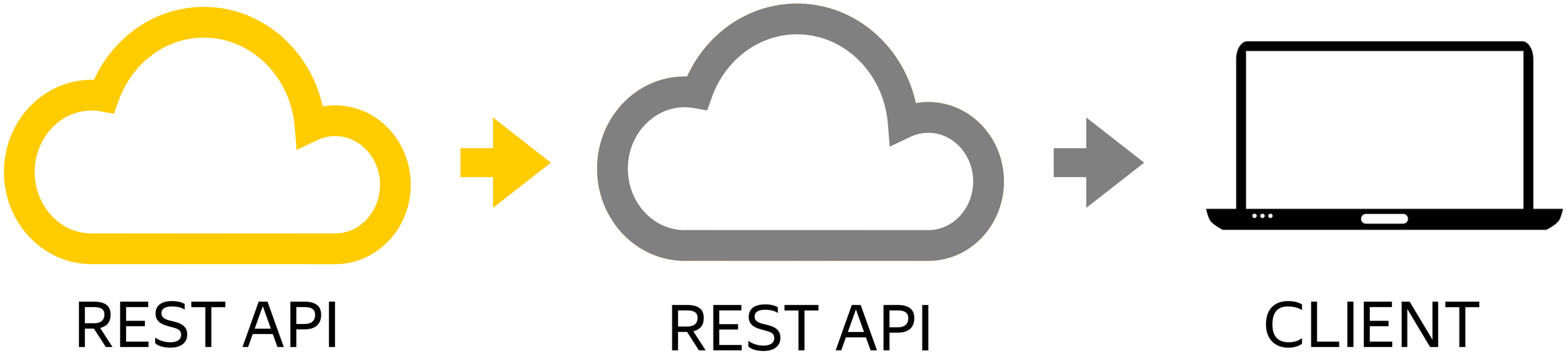
- Опечатки, например, в типах параметров
- Повторение моделей

Проблемы, с которыми мы столкнулись при генерации клиента

- Опечатки, например, в типах параметров
- Повторение моделей
- Неполната спецификации


OAS
CLIENT


Проблема осталась!


REST API
REST API
CLIENT

Генерация клиента до запуска тестов

С помощью плагина

- openapi-generator-maven-plugin
- openapi-generator-gradle-plugin
- sbt-openapi-generator
- openapi-generator-bazel

OpenAPI-generator-maven-plugin

OpenAPITools / openapi-generator

Sponsor | Used by 115 | Unwatch releases 128 | Unstar 4.6k | Fork 1.6k

Code | Issues 1,195 | Pull requests 153 | Actions | Projects 6 | Wiki | Security | Insights

Branch: master | openapi-generator / modules / openapi-generator-maven-plugin / | Create new file | Upload files | Find file | History

PeterUstinox fix typo in maven sample script comment (#5354) — Latest commit 9c28f68 11 days ago

..		
examples	fix typo in maven sample script comment (#5354)	11 days ago
src/main	Java importmapping 3589 (#4350)	15 days ago
README.md	[maven] Docs and minor refactoring (#5251)	20 days ago
pom.xml	Merge remote-tracking branch 'origin/4.3.x'	28 days ago

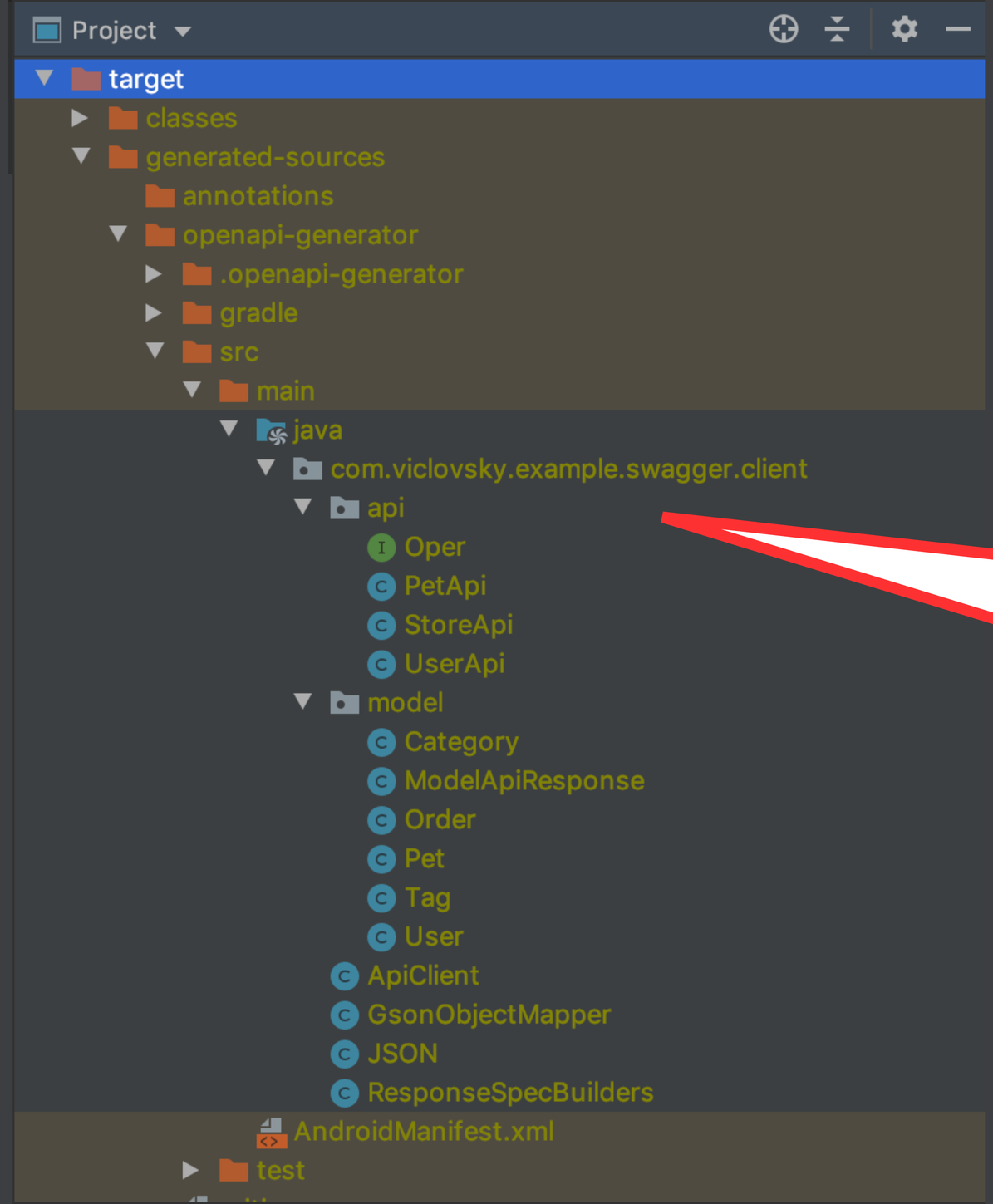
README.md

openapi-generator-maven-plugin

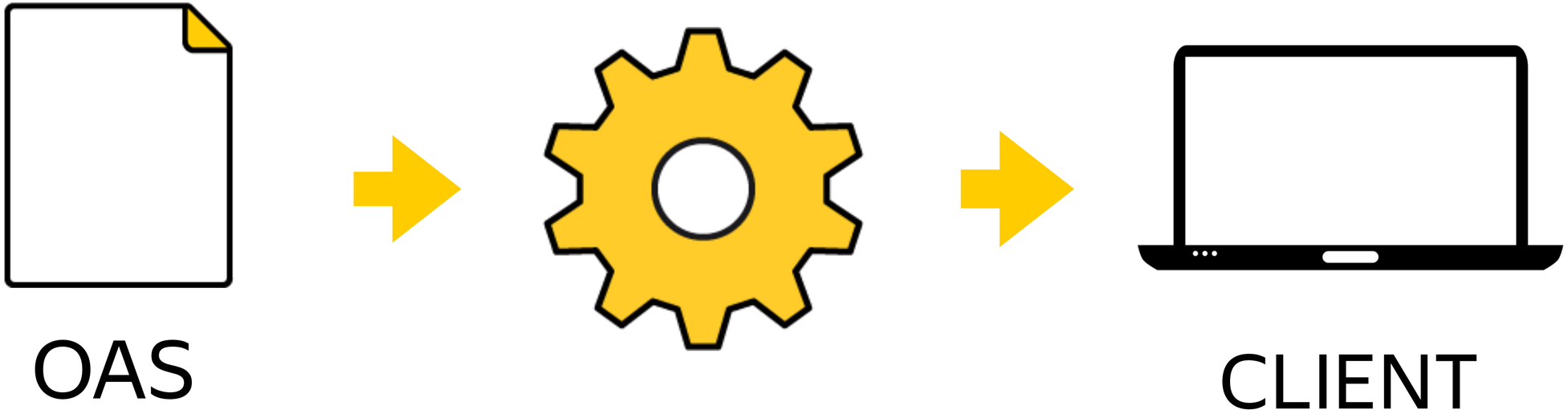
A Maven plugin to support the OpenAPI generator project

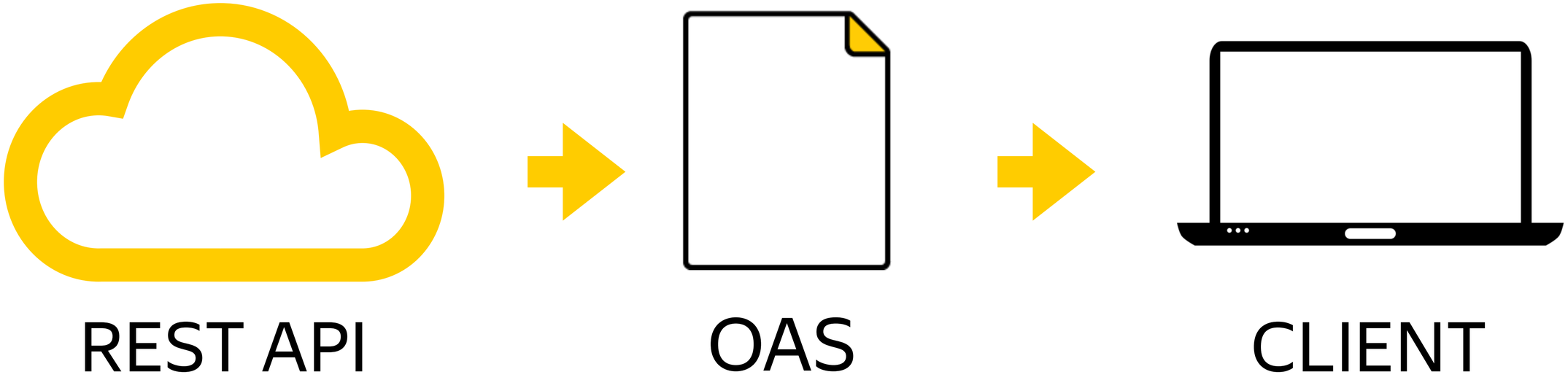
```
<plugin>
    <groupId>org.openapitools</groupId>
    <artifactId>openapi-generator-maven-plugin</artifactId>
    <version>4.1.1</version>
    <executions>
        <execution>
            <goals>
                <goal>generate</goal>
            </goals>
            <configuration>
                <inputSpec>${project.build.directory}/swagger.json</inputSpec>
                <output>${project.build.directory}/generated-sources/openapi-generator</output>
                <language>java</language>
                <configOptions>
                    <dateLibrary>java8</dateLibrary>
                </configOptions>
                <library>rest-assured</library>
                <skipIfSpecIsUnchanged>true</skipIfSpecIsUnchanged>
                <skipValidateSpec>true</skipValidateSpec>
                <generateApiDocumentation>false</generateApiDocumentation>
                <generateModelDocumentation>false</generateModelDocumentation>
                <generateApiTests>true</generateApiTests>
                <generateModelTests>false</generateModelTests>
                <apiPackage>${default.package}.api</apiPackage>
                <modelPackage>${default.package}.model</modelPackage>
                <invokerPackage>${default.package}</invokerPackage>
                <templateDirectory>${project.basedir}/src/main/resources/templates</templateDirectory>
            </configuration>
        </execution>
    </executions>
</plugin>
```

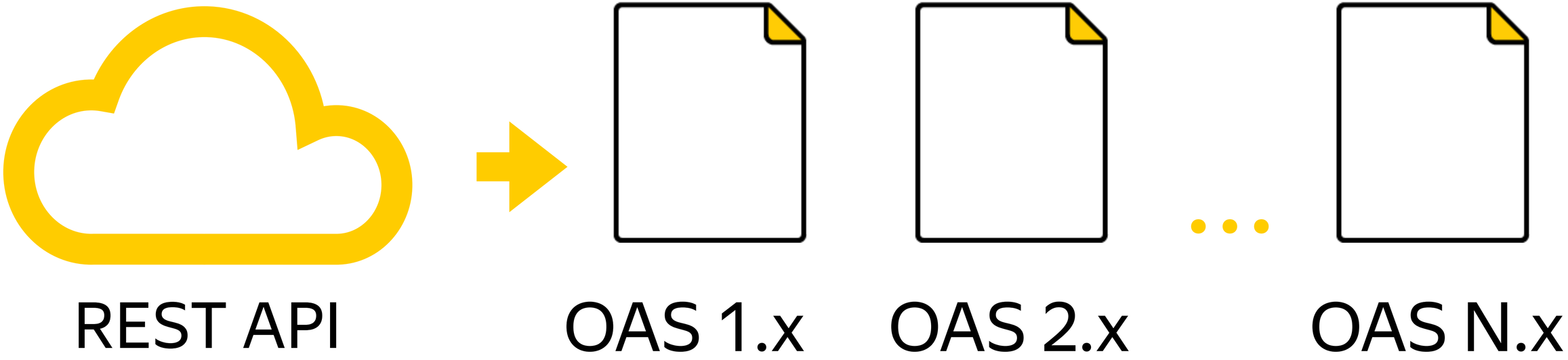
```
mvn clean compile
```

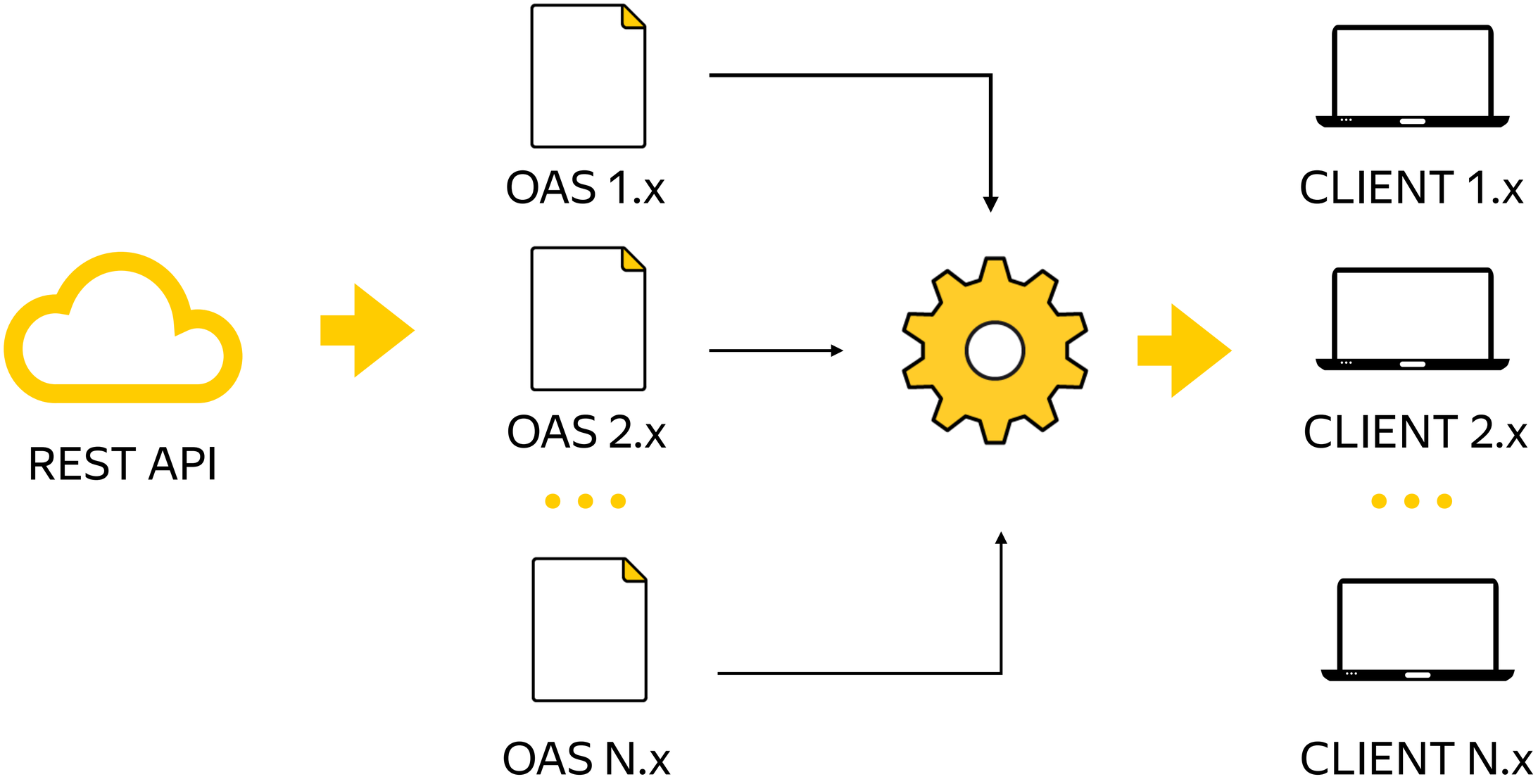


Получившийся клиент в target


OAS
CLIENT


REST API
OAS
CLIENT


REST API
OAS 1.x
OAS 2.x
OAS N.x


REST API
OAS 1.x
OAS 2.x
OAS N.x
CLIENT 1.x
CLIENT 2.x
CLIENT N.x

```
<plugin>
    <groupId>org.openapitools</groupId>
    <artifactId>openapi-generator-maven-plugin</artifactId>
    <version>4.1.1</version>
    <executions>
        <execution>
            <id>v1</id>
            <goals>
                <goal>generate</goal>
            </goals>
            <configuration>
                <inputSpec>${project.build.directory}/swagger
                <output>${project.build.directory}/generated-
                <language>java</language>
                <configOptions>
                    <dateLibrary>java8</dateLibrary>
                </configOptions>
                <library>rest-assured</library>
                <skipIfSpecIsUnchanged>true</skipIfSpecIsUnch
                <skipValidateSpec>true</skipValidateSpec>
                <generateApiDocumentation>false</generateApiD
                <generateModelDocumentation>false</generateMo
                <generateApiTests>true</generateApiTests>
                <generateModelTests>false</generateModelTests>
                <apiPackage>${default.package}.v1.api</apiPackage>
                <modelPackage>${default.package}.v1.model</modelPackage>
                <invokerPackage>${default.package}.v1</invokerPackage>
                <templateDirectory>${project.basedir}/src/main/resources/templates</templateDirectory>
            </configuration>
        </execution>
        <execution>
            <id>v2</id>
            <goals>
                <goal>generate</goal>
            </goals>
            <configuration>
                <inputSpec>${project.build.directory}/swagger-v2.json</inputSpec>
                <output>${project.build.directory}/generated-sources/openapi-generator</output>
                <language>java</language>
                <configOptions>
                    <dateLibrary>java8</dateLibrary>
                </configOptions>
                <library>rest-assured</library>
                <generateApiDocumentation>false</generateApiDocumentation>
                <generateModelDocumentation>false</generateModelDocumentation>
                <generateApiTests>true</generateApiTests>
                <generateModelTests>false</generateModelTests>
                <apiPackage>${default.package}.v2.api</apiPackage>
                <modelPackage>${default.package}.v2.model</modelPackage>
                <invokerPackage>${default.package}.v2</invokerPackage>
                <templateDirectory>${project.basedir}/src/main/resources/templates</templateDirectory>
            </configuration>
        </execution>
    </executions>
</plugin>
```

<execution> для версии v1

```
<plugin>
    <groupId>org.openapitools</groupId>
    <artifactId>openapi-generator-maven-plugin</artifactId>
    <version>4.1.1</version>
    <executions>
        <execution>
            <id>v1</id>
            <goals>
                <goal>generate</goal>
            </goals>
            <configuration>
                <inputSpec>${project.build.directory}/swagger
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                <language>java</language>
                <configOptions>
                    <dateLibrary>java8</dateLibrary>
                </configOptions>
                <library>rest-assured</library>
                <skipIfSpecIsUnchanged>true</skipIfSpecIsUnch
                <skipValidateSpec>true</skipValidateSpec>
                <generateApiDocumentation>false</generateApiD
                <generateModelDocumentation>false</generateMo
                <generateApiTests>true</generateApiTests>
                <generateModelTests>false</generateModelTests>
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                <modelPackage>${default.package}.v1.model</modelPackage>
                <invokerPackage>${default.package}.v1</invokerPackage>
                <templateDirectory>${project.basedir}/src/main/resources/templates</templateDirectory>
            </configuration>
        </execution>
        <execution>
            <id>v2</id>
            <goals>
                <goal>generate</goal>
            </goals>
            <configuration>
                <inputSpec>${project.build.directory}/swagger
                <output>${project.build.directory}/generated-
                <language>java</language>
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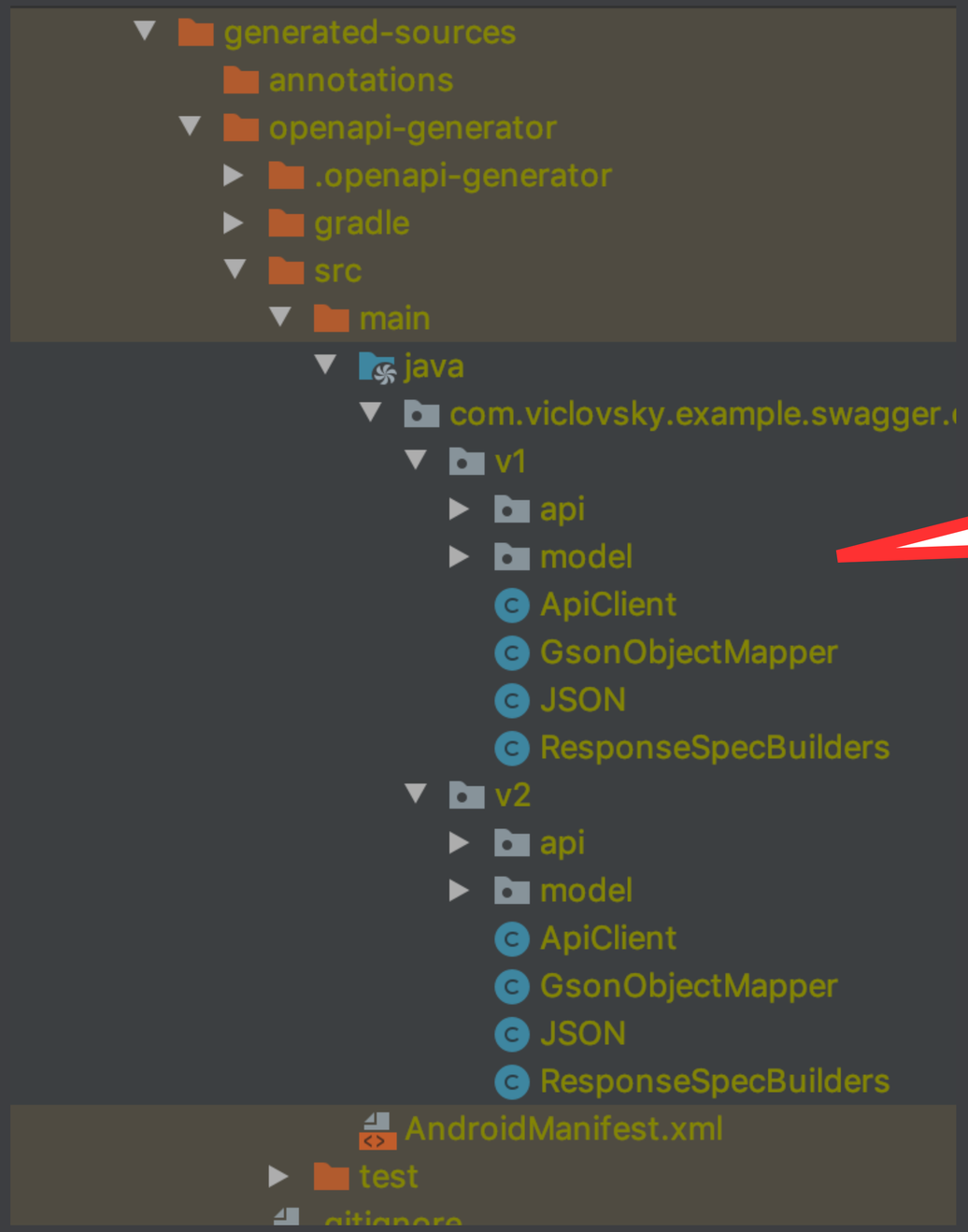
                <generateApiDocumentation>false</generateApiD
                <generateModelDocumentation>false</generateMo
                <generateApiTests>true</generateApiTests>
                <generateModelTests>false</generateModelTests
                <apiPackage>${default.package}.v2.api</apiPac
                <modelPackage>${default.package}.v2.model</mod
                <invokerPackage>${default.package}.v2</invokerPackage>
                <templateDirectory>${project.basedir}/src/main/resources/templates</templateDirectory>
            </configuration>
        </execution>
    </executions>
</plugin>
```

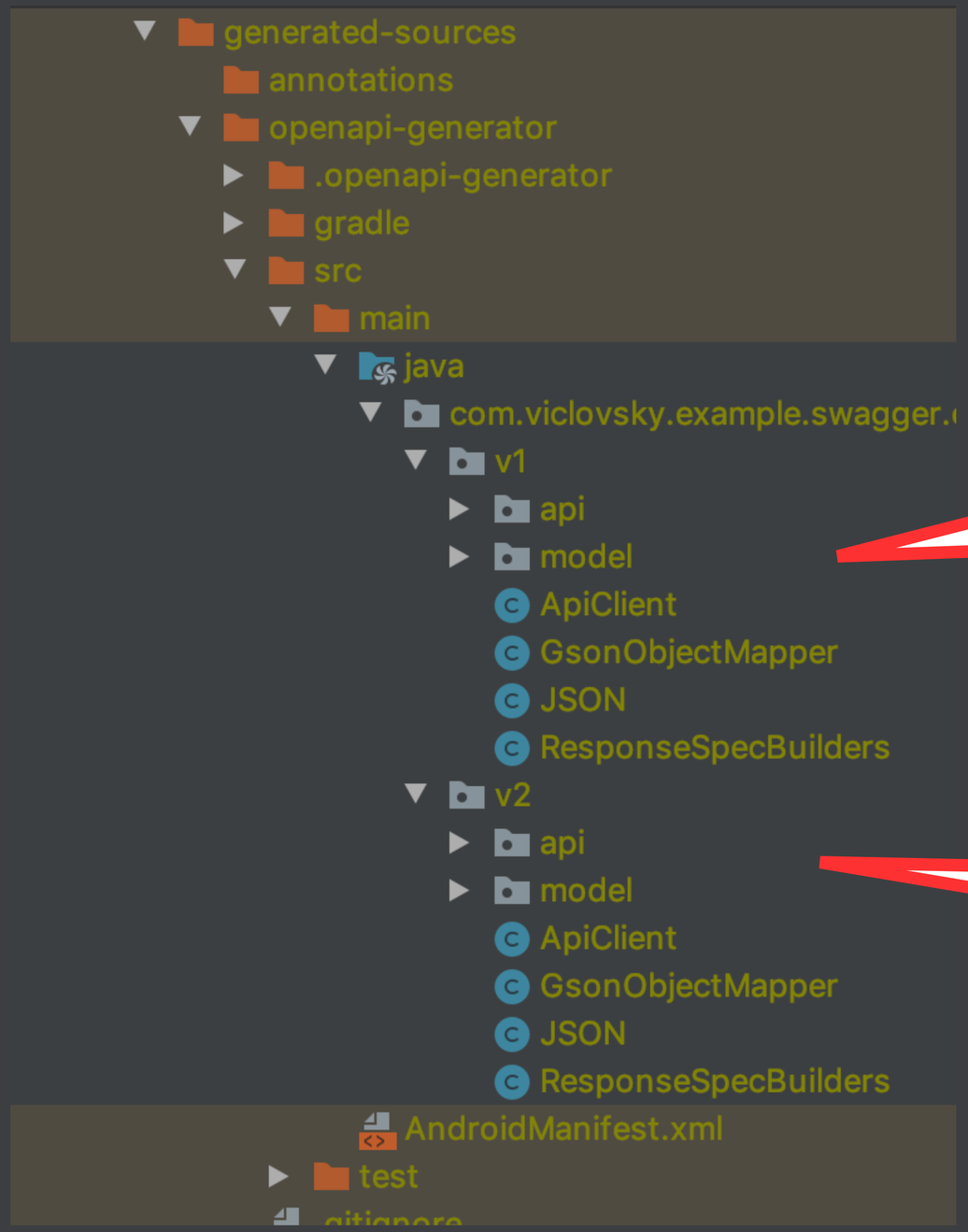
<execution> для версии v1

<execution> для версии v2

```
mvn clean compile
```



Клиент для версии v1

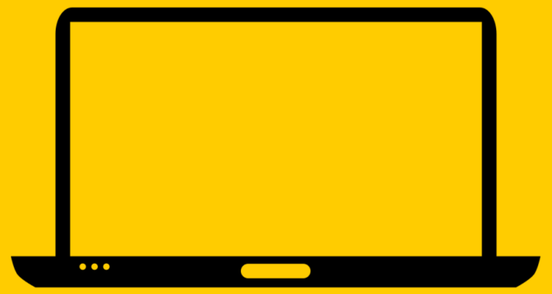


Клиент для версии v1

Клиент для версии v2

~~Генерация клиента~~

Как добавляли клиент



CLIENT

В 2018 год

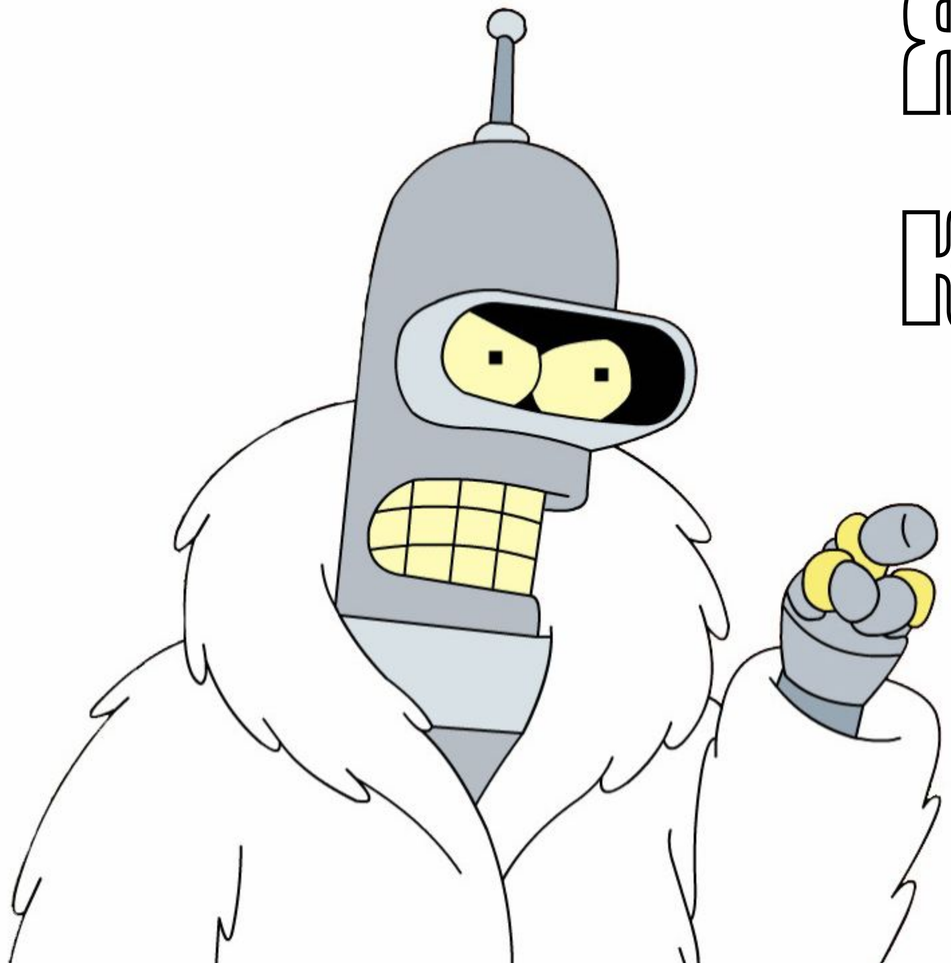
Overview

OpenAPI Generator allows generation of API client libraries (SDK generation), server stubs, documentation and configuration automatically given an OpenAPI Spec (both 2.0 and 3.0 are supported). Currently, the following languages/frameworks are supported:

	Languages/Frameworks
API clients	**ActionScript**, **Ada**, **Apex**, **Bash**, **C**, **C#** (.net 2.0, 3.5 or later, .NET Standard 1.3 - 2.0, .NET Core 2.0), **C++** (cpp-restsdk, Qt5, Tizen), **Clojure**, **Dart (1.x, 2.x)**, **Elixir**, **Elm**, **Eiffel**, **Erlang**, **Go**, **Groovy**, **Haskell** (http-client, Servant), **Java** (Jersey1.x, Jersey2.x, OkHttp, Retrofit1.x, Retrofit2.x, Feign, RestTemplate, RESTEasy, Vertx, Google API Client Library for Java, Rest-assured, Spring 5 Web Client, MicroProfile Rest Client), **Kotlin**, **Lua**, **Nim**, **Node.js/JavaScript** (ES5, ES6, AngularJS with Google Closure Compiler annotations, Flow types), **Objective-C**, **OCaml**, **Perl**, **PHP**, **PowerShell**, **Python**, **R**, **Ruby**, **Rust** (rust, rust-server), **Scala** (akka, http4s, scalaz, swagger-async-httpclient), **Swift** (2.x, 3.x, 4.x, 5.x), **Typescript** (AngularJS, Angular (2.x - 8.x), Aurelia, Axios, Fetch, Inversify, jQuery, Node, Rxjs)
Server stubs	NET Core, NancyFx), **C++** (Pistache, Restbed, Qt5 QHTTPEngine), **Erlang**, **F#** (Giraffe), CXF, Inflector, Jersey, Vertx), **PHP** (Laravel, Lum **Ruby** (Sinatra, Rails5), **Ru**
API documentation generators	**HTML**, **Confluence Wiki**,
Configuration files	Apache2
Others	**GraphQL**, **JMeter**, **MySQL Schema**, **Protocol Buffer**

Множество клиентов, но ни один нас не устроил

Гибкий клиент
Негибкий клиент



Я напишу свой API клиент...

REST-assured

http://rest-assured.io

Почему выбрали rest-assured

Fluent из коробки

Предназначен для тестирования

- Request specification
- Response specification

Есть опыт использования

Mustache

Logic-less templates.

Available in Ruby, JavaScript, Python, Erlang, Elixir, PHP, Perl, Perl6, Objective-C, Java, C#/.NET, Android, C++, CFEngine, Go, Lua, ooc, ActionScript, ColdFusion, Scala, Clojure[Script], Fantom, CoffeeScript, D, Haskell, XQuery, ASP, Io, Dart, Haxe, Delphi, Racket, Rust, OCaml, Swift, Bash, Julia, R, Crystal, Common Lisp, Nim, Pharo, Tcl, C, ABAP, and for Elm

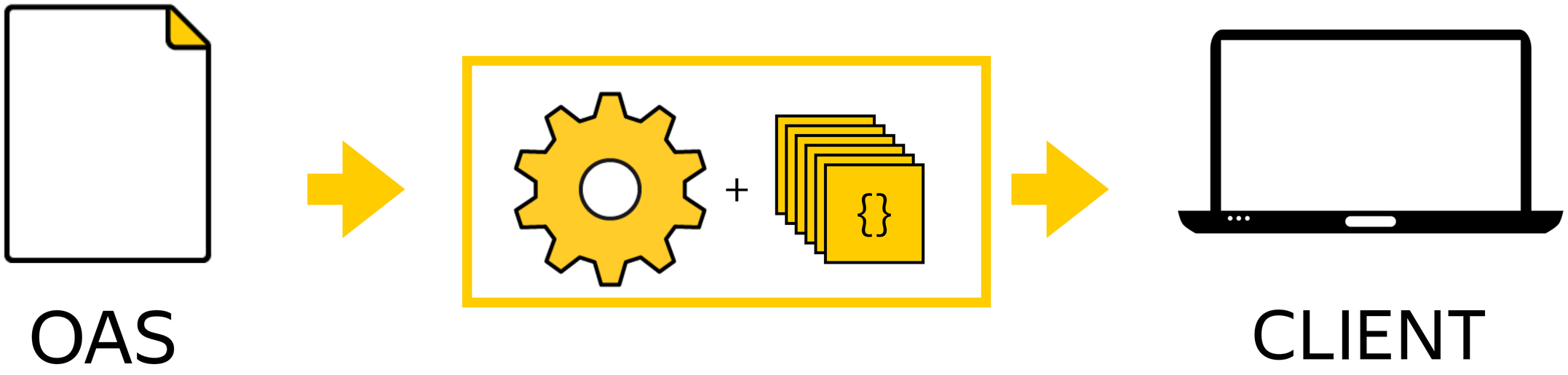
Works great with TextMate, Vim, Emacs, Coda, and Atom

The Manual: mustache(5) and mustache(1)

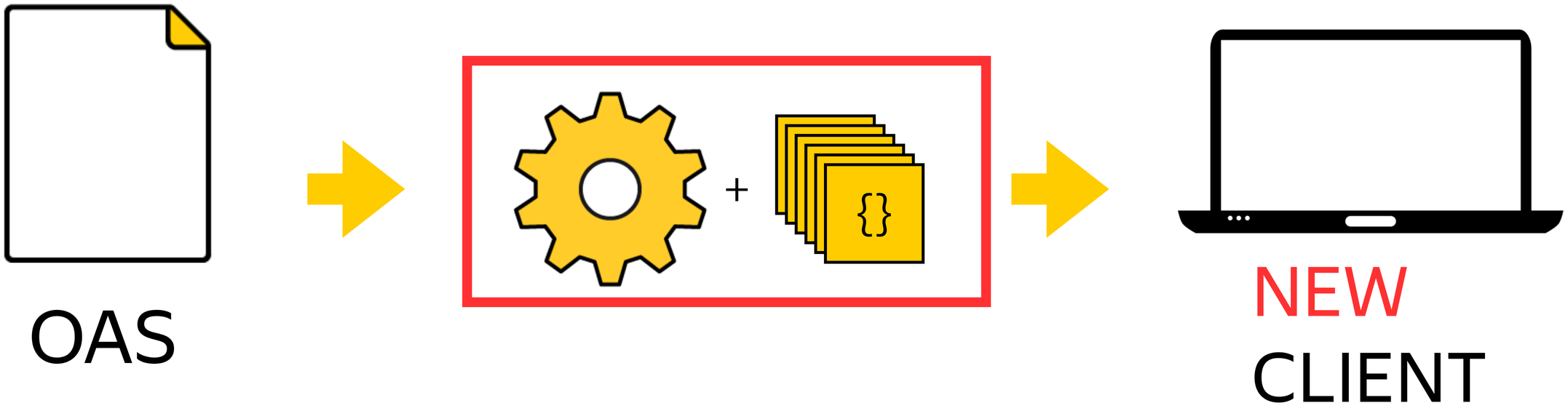
Demo

https://mustache.github.io

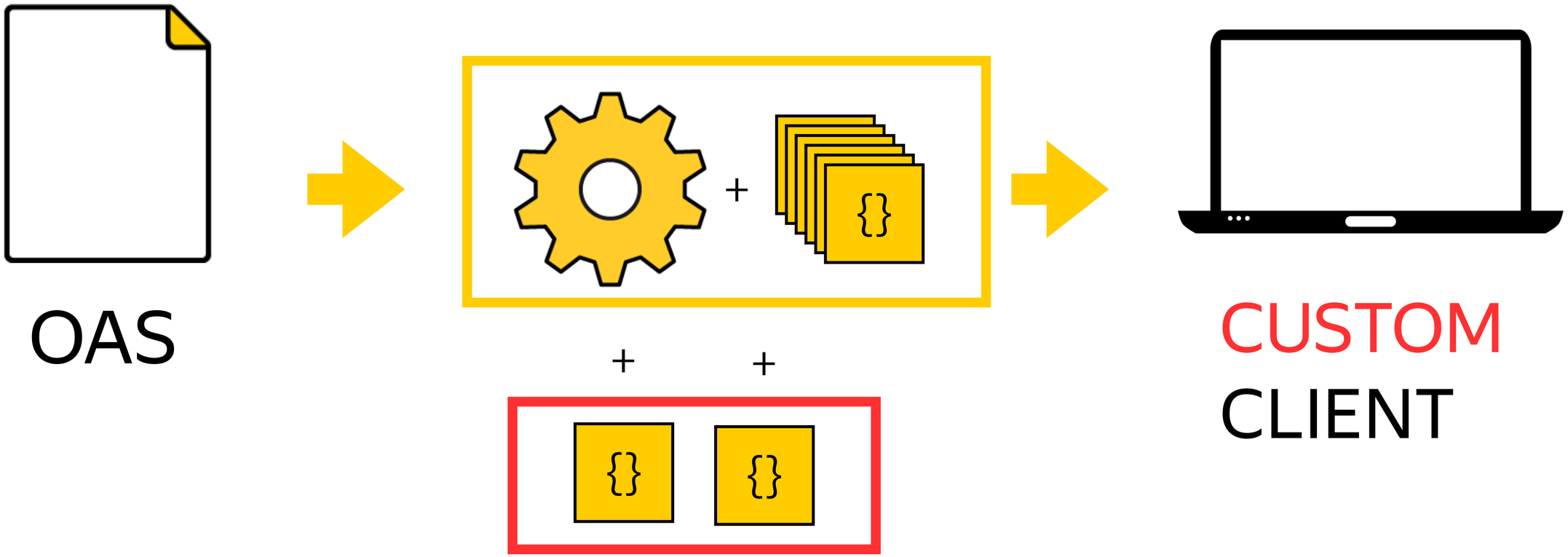
Генерация не зависит от языка программирования



Легко добавлять новые клиенты



Просто кастомизировать



```
public class {{classname}} {

    private Supplier<RequestSpecBuilder> reqSpecSupplier;
    private Consumer<RequestSpecBuilder> reqSpecCustomizer;

    private {{classname}}(Supplier<RequestSpecBuilder> reqSpecSupplier) {
        this.reqSpecSupplier = reqSpecSupplier;
    }

    public static {{classname}} {{classVarName}}(Supplier<Request
        return new {{classname}}(reqSpecSupplier);
    }

    private RequestSpecBuilder createReqSpec() {
        RequestSpecBuilder reqSpec = reqSpecSupplier.get();
        if(reqSpecCustomizer != null) {
            reqSpecCustomizer.accept(reqSpec);
        }
        return reqSpec;
    }

    public List<Oper> getAllOperations() {
        return Arrays.asList(
{{#operations}}
{{#operation}}
                {{operationId}}(){{^-last}},{{/-last}}
{{/operation}}
{{/operations}}
        );
    }
{{#operations}}
{{#operation}}
```

Для того что написать шаблоны, нам нужны переменные

```
java -DdebugOperations -jar modules/openapi-generator-
cli/target/openapi-generator-cli.jar generate \
  -i http://petstore.swagger.io/v2/swagger.json \
  -g java \
```

https://github.com/openapitools/openapi-generator/wiki/Mustache-Template-Variables

```
############ Operation info ############
[ {
  "packageName" : "Org.OpenAPITools",
  "hasImport" : true,
  "modelPackage" : "Org.OpenAPITools.Model",
  "package" : "Org.OpenAPITools.Api",
  "clientPackage" : "Org.OpenAPITools.Client",
  "version" : "1.0.0",
  "classVarName" : "user",
  "basePath" : "http://petstore.swagger.io/v2",
  "packageVersion" : "1.0.0",
  "infoEmail" : "some@email.com",
  "importPath" : "Org.OpenAPITools.Api.User",
  "licenseInfo" : "Apache 2.0",
  "hasMore" : "true",
  "generatedDate" : "2015-10-06T12:20:11.434+08:00",
  "classname" : "UserApi",
  "imports" : [ {
    "import" : "Org.OpenAPITools.Model.User"
  } ],
  "appName" : "Swagger Petstore",
  "appVersion" : "1.0.0",
  "generatorClass" : "class io.swagger.codegen.languages.CSharpClientCodegen",
  "baseName" : "User",
  "contextPath" : "/v2",
  "operations" : {
    "operation" : [ {
      "responseHeaders" : [ ],
      "hasProduces" : true,
      "hasParams" : true,
      "hasMore" : true,
      "isResponseBinary" : false,
      "path" : "/user",
      "operationId" : "CreateUser",
      "httpMethod" : "POST",
      "summary" : "Create user",
      "notes" : "This can only be done by the logged in user.",
      "baseName" : "User",
      "produces" : [ {
        "hasMore" : "true",
        "mediaType" : "application/xml"
      }, {
        "hasMore" : null,
        "mediaType" : "application/json"
      } ],
      "bodyParam" : {
        "isBodyParam" : true,
        "baseName" : "body",
        "paramName" : "body",
        "dataType" : "User",
        "description" : "Created user object",
        "jsonSchema" : "{\n  \"in\" : \"body\",\n  \"name\" : \"body\",\n  \"description\" : \"Created user object\",\n  \"required\" : true,\n  \"schema\" : {\n    \"$ref\" : \"#/definitions/User\"\n  }
\n}",
        "isEnum" : false,
        "vendorExtensions" : { },
        "required" : true
      },
      "allParams" : [ {
        "isBodyParam" : true,
```


Переменные для операций

```
java -DdebugModels -jar modules/openapi-generator-cli/
target/openapi-generator-cli.jar generate \
  -i http://petstore.swagger.io/v2/swagger.json \
  -g java \
```

https://github.com/openapitools/openapi-generator/wiki/Mustache-Template-Variables

```
########### Model info ###########
[ {
  "model" : {
    "name" : "Order",
    "classname" : "Order",
    "classVarName" : "Order",
    "modelJson" : "{\n  \"type\" : \"object\",\n
\"properties\" : {\n    \"id\" : {\n
\"type\" : \"integer\",\n      \"format\" :
\"int64\"\n    },\n    \"petId\" : {\n
\"type\" : \"integer\",\n      \"format\" :
\"int64\"\n    },\n    \"quantity\" : {\n
\"type\" : \"integer\",\n      \"format\" :
\"int32\"\n    },\n    \"shipDate\" : {\n
\"type\" : \"string\",\n      \"format\" :
\"date-time\"\n    },\n    \"status\" : {\n
\"type\" : \"string\",\n      \"description\" :
\"Order Status\",\n      \"enum\" : [ \"placed\",
\"approved\", \"delivered\" ]\n    },\n
\"complete\" : {\n      \"type\" : \"boolean\",\n
\"default\" : false\n    }\n  },\n  \"xml\" : {\n
\"name\" : \"Order\"\n  }\n}",
    "vars" : [ {
      "baseName" : "id",
      "getter" : "getId",
      "setter" : "setId",
      "datatype" : "long?",
      "datatypeWithEnum" : "long?",
      "name" : "Id",
      "defaultValue" : "null",
      "baseType" : "long?",
      "jsonSchema" : "{\n  \"type\" :
\"integer\",\n  \"format\" : \"int64\"\n}",
      "hasMore" : true,
      "isPrimitiveType" : true,
      "isNotContainer" : true,
      "isEnum" : false
    }, {
```


Переменные для моделей

- ApiClient.mustache
- GsonObjectMapper.mustache
- JacksonObjectMapper.mustache
- Oper.mustache
- README.mustache
- ResponseSpecBuilders.mustache
- api.mustache
- api_doc.mustache
- api_test.mustache
- build.gradle.mustache
- build.sbt.mustache
- pom.mustache

Mustache шаблоны для rest-assured

swagger-api / swagger-codegen

Used by 362 | Watch 440 | Unstar 11k | Fork 5.1k

Code | Issues 2,211 | Pull requests 335 | Actions | Projects 0 | Wiki | Security | Insigh

[NEW API CLIENT] Java Rest-assured #7492

Merged wing328 merged 3 commits into `swagger-api:master` from `viclovsky:rest-assured` on 28 Jan 2018

Conversation 13 | Commits 3 | Checks 0 | Files changed 119

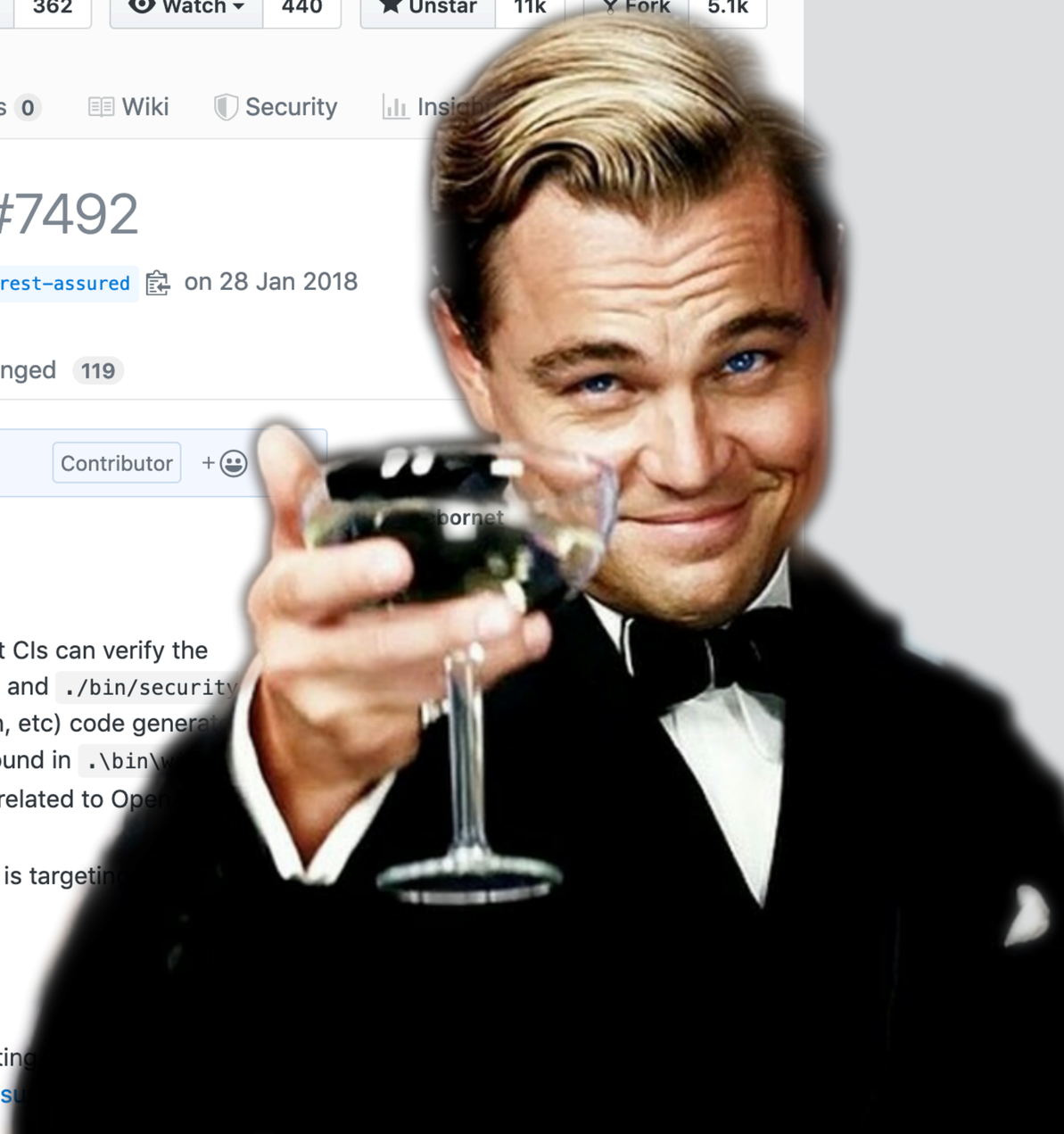
viclovsky commented on 24 Jan 2018 • edited | Contributor | +

PR checklist

- [x] Read the contribution guidelines.
- [x] Ran the shell script under `./bin/` to update Petstore sample so that CIs can verify the change. (For instance, only need to run `./bin/{LANG}-petstore.sh` and `./bin/security/{LANG}-petstore.sh` if updating the {LANG} (e.g. php, ruby, python, etc) code generat {LANG} client's mustache templates). Windows batch files can be found in `.\bin\w`
- [ ] Filed the PR against the correct branch: `3.0.0` branch for changes related to Open 3.0. Default: `master`.
- [ ] Copied the technical committee to review the pull request if your PR is targetin programming language.

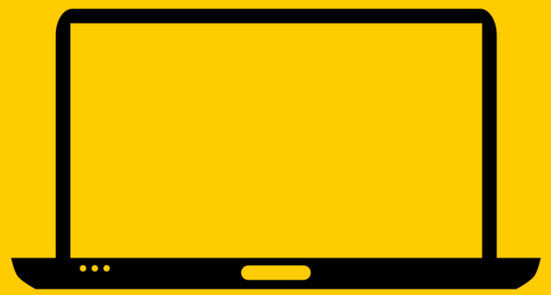
Description of the PR

There is a new API client. It can be used, for instance, for regression testing
It based on rest-assured library: https://github.com/rest-assured/rest-assu
It is good for positive tests as well as negative



~~Как добавляли клиент~~

REST-assured клиент



CLIENT

store Access to Petstore orders

GET `/store/inventory` Returns pet inventories by status

Returns a map of status codes to quantities

Parameters Try it out

No parameters

Responses Response content type application/json

Code	Description
200	successful operation **Example Value** | Model

```
{
  "additionalProp1": 0,
  "additionalProp2": 0,
  "additionalProp3": 0
}
```

store Access to Petstore orders

GET `/store/inventory` Returns pet inventories by status

Returns a map of status codes to quantities

Parameters

No parameters

Responses

application/json

Code	Description
200	successful operation

Example Value | Model

```
{
  "additionalProp1": 0,
  "additionalProp2": 0,
  "additionalProp3": 0
}
```

Story API

Method GET /story/inventory

store Access to Petstore orders

GET `/store/inventory` Returns pet inventories by status

Returns a map of status codes to quantities

Parameters Cancel

No parameters

Execute Clear

Responses

Curl

```
curl -X GET "https://petstore.swagger.io/v2/store/inventory" -H "accept: application/json"
```

Request URL

```
https://petstore.swagger.io/v2/store/inventory
```

Server response

Code	Details
200	Response body


```
{
  "UniquesStatusForPetBDDTest": 1,
  "Done": 6,
  "DoneStatus": 1,
  "string": 1731,
  "pending": 11,
  "ckebdtou": 1,
  "available": 2764,
  "DoneAfterTest": 1,
  "asdasdasdasd": 1,
  "Open": 70,
  "Unavailable": 21,
  "Sold": 1,
  "avaliable": 1,
  "Available": 58,
  "ReadyToTest": 1,
  "iegggtuju": 1,
  "notCasual": 1,
  "sold": 47,
  "PendingWhileTesting": 1,
  "UniquesStatusForPetAPITest": 1,
  "Nonavailable": 1,
  "tinotzsm": 1,
  "PendingStatus": 1,
  "Ready": 6,
  "djbmgeic": 1,
  "Pending": 6
}
```


Download

Response headers

```
access-control-allow-headers: Content-Type, api_key, Authorization
access-control-allow-methods: GET, POST, DELETE, PUT
access-control-allow-origin: *
```

Ответ, который будем проверять

Retrofit

https://square.github.io/retrofit/

Retrofit

```java
public class GetInventoryTest {

    private ApiClient api;

    @Before
    public void createApi() {
        final OkHttpClient client = new OkHttpClient().newBuilder().build();
        api = new ApiClient();
        Retrofit.Builder builder = new ApiClient().getAdapterBuilder()
                .baseUrl("http://petstore.swagger.io:80/v2/");
        api.setAdapterBuilder(builder).configureFromOkclient(client);
    }

    @Test
    public void shouldGetInventoryTest() throws IOException {
        Response<Map<String, Integer>> inventory =
                api.createService(StoreApi.class).getInventory().execute();
        assertThat(inventory.code(), equalTo(SC_OK));
        assertThat(inventory.body().keySet().size(), greaterThan(0));
    }
}
```

Retrofit

```
public class GetInventoryTest {

    private ApiClient api;

    @Before
    public void createApi() {
        final OkHttpClient client = new OkHttpClient().newBuilder().build();
        api = new ApiClient();
        Retrofit.Builder builder = new ApiClient().getAdapterBuilder()
                .baseUrl("http://petstore.swagger.io:80/v2/");
        api.setAdapterBuilder(builder).configureFromOkclient(client);
    }

    @Test
    public void shouldGetInventoryTest(
        Response<Map<String, Integer>>
                api.createService(Store                                ute();
        assertThat(inventory.code(), eq
        assertThat(inventory.body().key
    }
}
```

Создание клиента

Retrofit

```
public class GetInventoryTest {

    private ApiClient api;

    @Before
    public void createApi() {
        final OkHttpClient client = n                                   .build();
        api = new ApiClient();
        Retrofit.Builder builder = ne                                   r()
                .baseUrl("http://pet
        api.setAdapterBuilder(build .configureFromOkclient(client);
    }

    @Test
    public void shouldGetInventoryTest() throws IOException {
        Response<Map<String, Integer>> inventory =
                api.createService(StoreApi.class).getInventory().execute();
        assertThat(inventory.code(), equalTo(SC_OK));
        assertThat(inventory.body().keySet().size(), greaterThan(0));
    }
}
```

Простой тест

Retrofit

```
@Test
public void shouldGetInventoryTest() throws IOException {
    Response<Map<String, Integer>> inventory =
            api.createService(StoreApi.class).getInventory().execute();
    assertThat(inventory.code(), equalTo(SC_OK));
    assertThat(inventory.body().keySet().size(), greaterThan(0));
}
```

Retrofit

```
@Test
public void shouldGetInventoryTest() throws IOException {
    Response<Map<String, Integer>> inventory =
            api.createService(StoreApi.class).getInventory().execute();
    assertThat(inventory.code(), equalTo(SC_OK));
    assertThat(inventory.body().keySet().size(), greaterThan(0));
}
```

API CLIENT

Retrofit

```
@Test
public void shouldGetInventoryTest() throws IOException {
    Response<Map<String, Integer>> inventory =
            api.createService(StoreApi.class).getInventory().execute();
    assertThat(inventory.code(), equalTo(SC_OK));
    assertThat(inventory.body().keySet().size(), greaterThan(0));
}
```

Story API

```
@Test
public void shouldGetInventoryTest() throws IOException {
    Response<Map<String, Integer>> inventory =
            api.createService(StoreApi.class).getInventory().execute();
    assertThat(inventory.code(), equalTo(SC_OK));
    assertThat(inventory.body().keySet().size(), greaterThan(0));
}
```

Method GET /story/inventory

```
@Test
public void shouldGetInventoryTest() throws IOException {
    Response<Map<String, Integer>> inventory =
            api.createService(StoreApi.class).getInventory().execute();
    assertThat(inventory.code(), equalTo(SC_OK));
    assertThat(inventory.body().keySet().size(), greaterThan(0));
}
```

Валидация кода ответа

REST-assured

```
public class GetInventoryTest {

    private ApiClient api;

    @Before
    public void createApi() {
        api = ApiClient.api(ApiClient.Config.apiConfig()
                .reqSpecSupplier(() -> new RequestSpecBuilder()
                        .setConfig(config()
                                .objectMapperConfig(objectMapperConfig()
                                        .defaultObjectMapper(gson())))
                        .addFilter(new ErrorLoggingFilter())
                        .setBaseUri("http://petstore.swagger.io:80/v2")));
    }

    @Test
    public void shouldGetInventoryTest() {
        Map<String, Integer> inventory =
api.store().getInventory().executeAs(validatedWith(shouldBeCode(SC_OK)));
        assertThat(inventory.keySet().size(), greaterThan(0));
    }
}
```

REST-assured

```
public class GetInventoryTest {

    private ApiClient api;

    @Before
    public void createApi() {
        api = ApiClient.api(ApiClient.Config.apiConfig()
                .reqSpecSupplier(() -> new RequestSpecBuilder()
                        .setConfig(config()
                                .objectMapperConfig(objectMapperConfig()
                                        .defaultObjectMapper(gson())))
                        .addFilter(new ErrorLoggingFilter())
                        .setBaseUri("http://petstore.swagger.io:80/v2")))
    }

    @Test
    public void shouldGetInventoryTest(
        Map<String, Integer> inventory =
api.store().getInventory().executeAs(va
        assertThat(inventory.keySet().s
    }
}
```

Создание клиента

REST-assured

```
public class GetInventoryTest {

    private ApiClient api;

    @Before
    public void createApi() {
        api = ApiClient.api(ApiClient.Config.apiConfig()
                .reqSpecSupplier(() -> new RequestSpecBuilder()
                        .setConfig(co
                                .obje                                   fig()
                                                                        )))
                        .addFilter(ne
                        .setBaseUri("                                   v2")));
    }

    @Test
    public void shouldGetInventoryTest() {
        Map<String, Integer> inventory =
api.store().getInventory().executeAs(validatedWith(shouldBeCode(SC_OK)));
        assertThat(inventory.keySet().size(), greaterThan(0));
    }
}
```

Простой тест

REST-assured

```
    @Test
    public void shouldGetInventoryTest() {
        Map<String, Integer> inventory =
api.store().getInventory().executeAs(validatedWith(shouldBeCode(SC_OK)));
        assertThat(inventory.keySet().size(), greaterThan(0));
    }
}
```

REST-assured

```
    @Test
    public void shouldGetInventoryTest() {
        Map<String, Integer> inventory =
api.store().getInventory().executeAs(validatedWith(shouldBeCode(SC_OK)));
        assertThat(inventory.keySet().size(), greaterThan(0));
    }
}
```

API CLIENT

REST-assured

```
    @Test
    public void shouldGetInventoryTest() {
        Map<String, Integer> inventory =
api.store().getInventory().executeAs(validatedWith(shouldBeCode(SC_OK)));
        assertThat(inventory.keySet().size(), greaterThan(0));
    }
}
```

Story API

REST-assured

```
    @Test
    public void shouldGetInventoryTest() {
        Map<String, Integer> inventory =
api.store().getInventory().executeAs(validatedWith(shouldBeCode(SC_OK)));
        assertThat(inventory.keySet().size(), greaterThan(0));
    }
}
```

Method GET /story/inventory

REST-assured

```
    @Test
    public void shouldGetInventoryTest() {
        Map<String, Integer> inventory =
api.store().getInventory().executeAs(validatedWith(shouldBeCode(SC_OK)));
        assertThat(inventory.keySet().size(), greaterThan(0));
    }
}
```

Валидация кода ответа

```
'/pet/search/": {
  "get": {
    "tags": [
      "pet"
    ],
    "summary": "Search pets by ID",
    "description": "Search pets",
    "operationId": "getPetSearch",
    "produces": [
      "application/json",
      "application/xml"
    ],
    "parameters": [
      {
        "name": "status",
        "in": "query",
        "description": "Status of pet",
        "required": false,
        "type": "string"
      },
      {
        "name": "age",
        "in": "query",
        "description": "Age of pet",
        "required": false,
        "type": "integer"
```

search

```
"/pet/search/": {
  "get": {
    "tags": [
      "pet"
    ],
    "summary": "Search pets by ID",
    "description": "Search pets",
    "operationId": "getPetSearch",
    "produces": [
      "application/json",
      "application/xml"
    ],
    "parameters": [
      {
        "name": "status",
        "in": "query",
        "description": "Status of pet",
        "required": false,
        "type": "string"
      },
      {
        "name": "age",
        "in": "query",
        "description": "Age of pet",
        "required": false,
        "type": "integer"
      },
      {
        "name": "breed",
        "in": "query",
        "description": "Breed of pet",
        "required": false,
        "type": "string"
      },
      {
        "name": "color",
        "in": "query",
        "description": "Color of pet",
        "required": false,
        "type": "string"
      },
      {
        "name": "owner",
        "in": "query",
        "description": "Owner of pet",
        "required": false,
        "type": "string"
      },
      {
        "name": "id",
        "in": "query",
        "description": "Id of pet",
        "required": false,
        "type": "string"
      },
      {
        "name": "sex",
        "in": "query",
        "description": "Sex of pet",
        "required": false,
        "type": "string"
      },
      {
        "name": "type",
        "in": "query",
        "description": "Type of pet",
        "required": false,
        "type": "string"
      },
      {
        "name": "class",
        "in": "query",
        "description": "Class of pet",
        "required": false,
        "type": "string"
      }
```

search

Множество параметров

Retrofit

```
@GET("pet/search/")
Call<Pet> getPetSearch(
  @retrofit2.http.Query("status") String status,
  @retrofit2.http.Query("age") Integer age,
  @retrofit2.http.Query("breed") String breed,
  @retrofit2.http.Query("color") String color,
  @retrofit2.http.Query("owner") String owner,
  @retrofit2.http.Query("id") String id,
  @retrofit2.http.Query("sex") String sex,
  @retrofit2.http.Query("type") String type,
  @retrofit2.http.Query("class") String propertyClass,
  @retrofit2.http.Query("school") String school,
  @retrofit2.http.Query("a") Boolean a,
  @retrofit2.http.Query("b") Boolean b,
  @retrofit2.http.Query("c") Boolean c,
  @retrofit2.http.Query("d") Boolean d,
  @retrofit2.http.Query("f") Boolean f,
  @retrofit2.http.Query("g") Boolean g,
  @retrofit2.http.Header("x-token") String xToken,
  @retrofit2.http.Header("x-exp") String xExp,
  @retrofit2.http.Header("x-geo") String xGeo
);
```

Retrofit

```
@Test
public void shouldSearchPet() throws IOException {
    Response res = api.createService(PetApi.class)
            .getPetSearch("ok", null, null, null, null,
                    null, null, null, null, null,
                    null, null, null, null, null, null, null,
                    null, null).execute();
    assertThat(res.code(), equalTo(SC_OK));
}
```

REST-assured

```
/**
 * @param status (String) Status of pet (optional)
 * @return operation
 */
public GetPetSearchOper statusQuery(Object... status) {
    reqSpec.addQueryParam(STATUS_QUERY, status);
    return this;
}
```

REST-assured

```
@Test
void shouldSearchPet() {
    api.pet().getPetSearch().statusQuery("ok")
            .executeAs(validatedWith(shouldBeCode(SC_OK)));
    /*tests logic*/
}
```

Все понятно

```
"/pet/search/": {
  "get": {
    "tags": [
      "pet"
    ],
    "summary": "Search pets by ID",
    "description": "Search pets",
    "operationId": "getPetSearch",
    "produces": [
      "application/json",
      "application/xml"
    ],
    "parameters": [
      {
        "name": "status",
        "in": "query",
        "description": "Status of pet",
        "required": false,
        "type": "string"
      },
      {
        "name": "age",
        "in": "query",
        "description": “Age of pet",
        "required": false,
        "type": "integer"
      },
      {
        "name": "breed",
        "in": "query",
        "description": "Breed of pet",
        "required": false,
        "type": "string"
      },
      {
        "name": "color",
        "in": "query",
        "description": "Color of pet",
        "required": false,
        "type": "string"
      },
      {
        "name": "owner",
        "in": "query",
        "description": "Owner of pet",
        "required": false,
        "type": "string"
      },
      {
        "name": "id",
        "in": "query",
        "description": "Id of pet",
        "required": false,
        "type": "string"
      },
      {
        "name": "sex",
        "in": "query",
        "description": "Sex of pet",
        "required": false,
        "type": "string"
      },
      {
        "name": "type",
        "in": "query",
        "description": "Type of pet",
        "required": false,
        "type": "string"
      },
      {
        "name": "class",
        "in": "query",
        "description": "Class of pet",
        "required": false,
        "type": "string"
      }
```

Добавим еще один параметр

```
@Test
public void shouldSearchPet() throws IOException {
    Response res = api.createService(PetApi.class)
            .getPetSearch("ok", null, null, null, null,
                    null, null, null, null, null,
                    null, null, null, null, null, null, null,
                    null, null).execute();
    assertThat(res.code(), equalTo(SC_OK));
}
```

Ошибка компиляции!

REST-assured

```
@Test
void shouldSearchPet() {
    api.pet().getPetSearch().statusQuery("ok")
            .executeAs(validatedWith(shouldBeCode(SC_OK)));
    /*tests logic*/
}
```

Ошибки компиляции нет

```
@GET("pet/search/")
Call<Pet> getPetSearch(
  @retrofit2.http.Query("status") String status,
  @retrofit2.http.Query("age") String age,
  @retrofit2.http.Query("breed") String breed,
  @retrofit2.http.Query("color") String color,
  @retrofit2.http.Query("owner") String owner,
  @retrofit2.http.Query("id") String id,
  @retrofit2.http.Query("sex") String sex,
  @retrofit2.http.Query("type") String type,
  @retrofit2.http.Query("class") String prop
  @retrofit2.http.Query("school") String s
  @retrofit2.http.Query("a") Boolean a,
  @retrofit2.http.Query("b") Boolean b,
  @retrofit2.http.Query("c") Boolean c,
  @retrofit2.http.Query("d") Boolean d,
  @retrofit2.http.Query("f") Boolean f,
  @retrofit2.http.Query("g") Boolean g,
  @retrofit2.http.Header("x-token") String xToken,
  @retrofit2.http.Header("x-exp") String xExp,
  @retrofit2.http.Header("x-geo") String xGeo
);
```

Параметры типизированы

```
/**
 * @param status (String) Status of pet (optional)
 * @return operation
 */
public GetPetSearchOper statusQuery(Object... status) {
    reqSpec.addQueryParam(STATUS_QUERY, status);
    return this;
}
```

Параметры не типизированы

REST-assured

```
@Test
void shouldSearchPet() {
    api.pet().getPetSearch().statusQuery(1L)
            .executeAs(validatedWith(shouldBeCode(SC_OK)));
    /*tests logic*/
}
```

Retrofit

```
@GET("pet/search/")
Call<Pet> getPetSearch(
  @retrofit2.http.Query("status") String status,
  @retrofit2.http.Query("age") String age,
  @retrofit2.http.Query("school") String school,
  @retrofit2.http.Query("a") Boolean a,
  @retrofit2.http.Query("b") Boolean b,
  @retrofit2.http.Query("c") Boolean c,
  @retrofit2.http.Query("d") Boolean d,
  @retrofit2.http.Query("f") Boolean f,
  @retrofit2.http.Query("g") Boolean g,
  @retrofit2.http.Header("x-token") String xToken,
  @retrofit2.http.Header("x-exp") String xExp,
  @retrofit2.http.Header("x-geo") String xGeo
);
```

Ответ “мапится” на ответ из спецификации

REST-assured

```
    @Test
    public void shouldGetInventoryTest() {
        Map<String, Integer> inventory =
api.store().getInventory().executeAs(validatedWith(shouldBeCode(SC_OK)));
        assertThat(inventory.keySet().size(), greaterThan(0));
    }
}
```

Ответ “мапится” на ответ из спецификации

REST-assured

```
@Test
void shouldSee404WithStatusBad() {
    ModelApiResponse error =
    api.pet().getPetSearch().statusQuery(BAD_STATUS)
            .execute(validatedWith(shouldBeCode(SC_NOT_FOUND)))
            .as(ModelApiResponse.class);
    assertThat(error.getC  ().  equalTo(1));
    assertThat(error.getTyp
    assertThat(error.getMess                                  ));

}
```

Кастомизация мапинга ответа

Retrofit

```
public class GetInventoryTest {

    private ApiClient api;

    @Before
    public void createApi() {
        final OkHttpClient client = new OkHttpClient().newBuilder().build();
        api = new ApiClient();
        Retrofit.Builder build                                          der()
                .baseUrl("http
        api.setAdapterBuilder(
        api.configureFromOkcli
        api.createService(Stor
    }

    @Test
    public void shouldGetInventoryTest() throws IOException {
        StoreApi storeApi = api.createService(StoreApi.class);
        Response<Map<String, Integer>> inventory = storeApi.getInventory().execute();
        assertThat(inventory.code(), equalTo(SC_OK));
        assertThat(inventory.body().keySet().size(), greaterThan(0));
    }
}
```

Неудобно кастомизировать!

REST-assured

```
@Test
void shouldSearchPet() {
    api.pet().getPetSearch().statusQuery("ok")
            .reqSpec(r -> r.addHeader("x-real-ip", "0:0:0:0:0:0:0:1"))
            .executeAs(validatedWith(shouldBeCode(SC_OK)));
    /*tests logic*/
}
```

Кастомизация запроса!

Для любого тестового клиента полезно иметь

- Builder клиента

Для любого тестового клиента полезно иметь

- Builder клиента
- Нетипизированные параметры

Для любого тестового клиента полезно иметь

- Builder клиента
- Нетипизированные параметры
- Кастомизация мапинга ответа

Для любого тестового клиента полезно иметь

- Builder клиента
- Нетипизированные параметры
- Кастомизация мапинга ответа
- Кастомизация запроса

Есть и REST-assured и Retrofit

OpenAPI Generator

Generate clients, servers, and documentation from OpenAPI 2.0/3.x documents

Try It Out | Install

Generators | Customization | Integrations

Sponsors

If you find OpenAPI Generator useful, please consider asking your company to become a sponsor.

You can also individually sponsor the project by becoming a backer.

Thank you to our bronze sponsors!

Есть только Retrofit

Swagger Codegen

Swagger Codegen can simplify your build process by generating server stubs and client SDKs for any API, defined with the OpenAPI (formerly known as Swagger) specification, so your team can focus better on your API's implementation and adoption.

Download

```
12 Available Clients: [ akka-scala,
11   android, async-scala,clojure,cpprest,csharp,CsharpDotNet2,
10   cwiki,dart,dynamic-html,flash,go,groovy,html,
 9   html2,java,javascript,javascript-closure-angular,
 8   jaxrs-cxf-client,jmeter,objc,perl,php,python,
 7   qt5cpp,ruby,scala,swagger,swagger-yaml,swift,
 6   swift3,tizen,typescript-angular,typescript-angular2,
 5   typescript-fetch,typescript-node],
 4
 3 Available Servers: [ aspnet5,aspnetcore,
 2   erlang-server,go-server,haskell,inflector,
 1   jaxrs,jaxrs-cxf,jaxrs-cxf-cdi,jaxrs-resteasy,
13   "jaxrs-spec","lumen","msf4j","nancyfx","nodejs-server",
 1   python-flask,rails5,scalatra,silex-PHP, sinatra,
```

Search or jump to... / Pull requests Issues Marketplace Explore

swagger-api / swagger-codegen

Used by 358 | Watch 434 | Unstar 10.9k | Fork 5.1k

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[JAVA] Rest-assured library not found in versions 3.0.x #9252

New issue

Open cnhe opened this issue on 8 Mar 2019 · 6 comments

cnhe commented on 8 Mar 2019 • edited

Description

I want to generate my Java sdk using the rest-assured library. This wa
seems to have disappeared in 3.0.x.

Error:

```
[ERROR] Failed to execute goal io.swagger.codegen.v3:swagger-codegen-maven-plugin:3.0.5
[ERROR] Available libraries:
[ERROR] jersey1
[ERROR] feign
[ERROR] jersey2
[ERROR] okhttp-gson
[ERROR] retrofit
[ERROR] retrofit2
[ERROR] resttemplate
[ERROR] resteasy
```

None yet

Milestone

No milestone

Linked pull requests

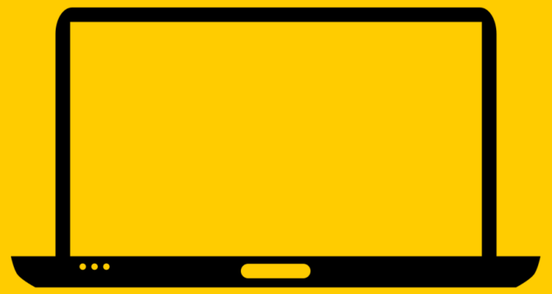
Successfully merging a pull request

Rest-assured клиента нет!

https://github.com/swagger-api/swagger-codegen/issues/9252

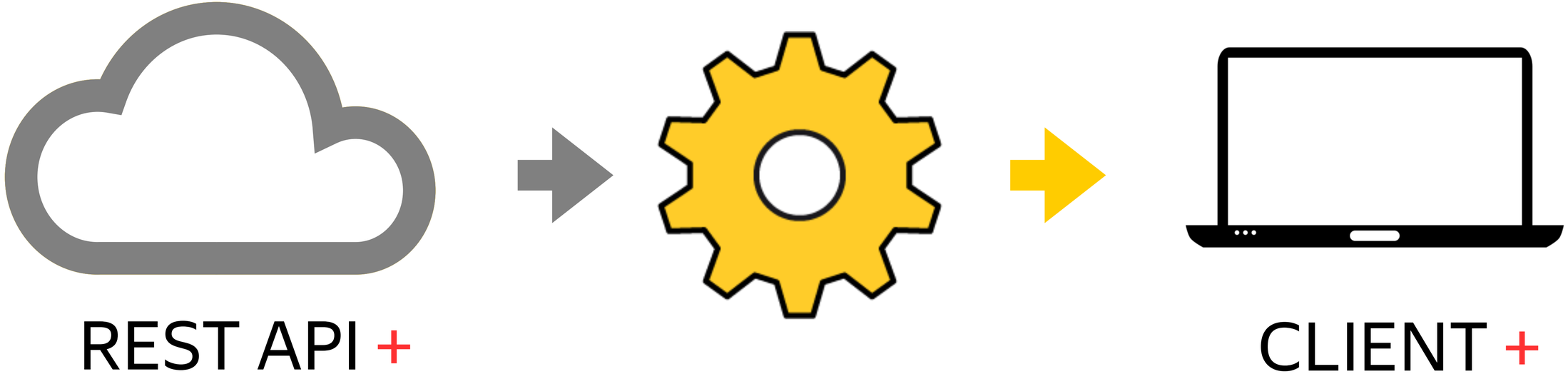
~~REST-assured клиент~~

Тяжело ли поддерживать клиент



CLIENT

Добавление нового в спецификацию почти никогда не ломает компиляцию клиента



Редкий случай, когда это может произойти

PREFIX_SOLD

PREFIX_AVAIBLE

PREFIX_PENDING

Генератор вырезает общий префикс у enum'ов

PREFIX_SOLD		SOLD
PREFIX_AVAIBLE		AVAIBLE
PREFIX_PENDING		PENDING

Что будет, если добавить ENUM без префикса?

PREFIX_SOLD

PREFIX_AVAIBLE

PREFIX_PENDING

+

RETURNED

?

Ошибка компиляции, если использовали ENUM без префикса!

PREFIX_SOLD

PREFIX_AVAIBLE

PREFIX_PENDING

+

RETURNED

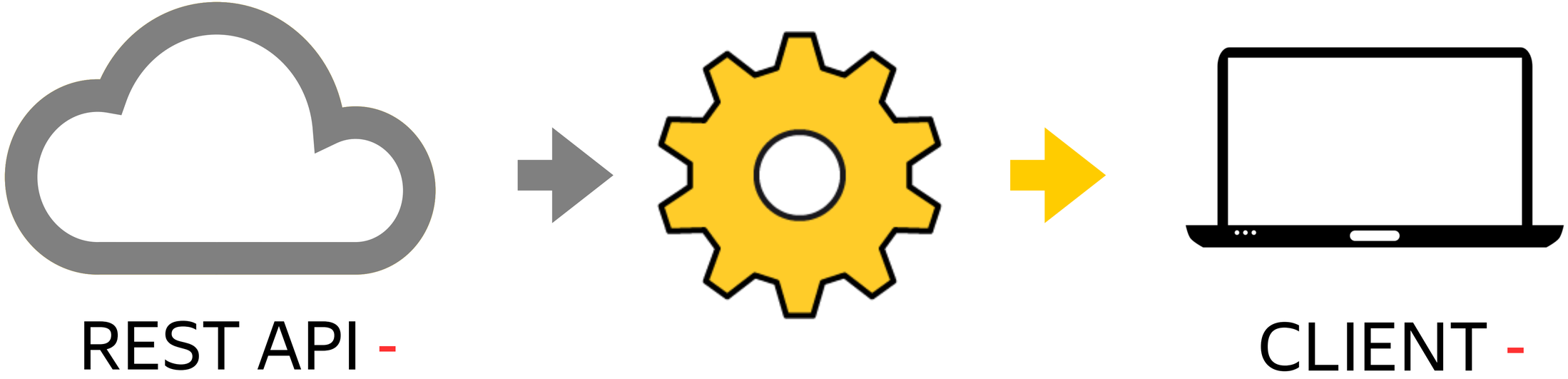
PREFIX_SOLD

PREFIX_AVAIBLE

PREFIX_PENDING

RETURNED

Удаление/изменение в спецификации может сломать компиляцию клиента



```
"/pet/search/": {
  "get": {
    "tags": [
      "pet"
    ],
    "summary": "Search pets by ID",
    "description": "Search pets",
    "operationId": "getPetSearch",
    "produces": [
      "application/json",
      "application/xml"
    ],
    "parameters": [
      {
        "name": "status",
        "in": "query",
        "description": "Status of pet",
        "required": false,
        "type": "string"
      },
      {
        "name": "age",
        "in": "query",
        "description": "Age of pet",
        "required": false,
        "type": "integer"
      }
```

```
"/pet/search/": {
  "get": {
    "tags": [
      "pet"
    ],
    "summary": "Search pets
    "description": "Search
    "operationId": "getPetS
    "produces": [
      "application/json",
      "application/xml"
    ],
    "parameters": [
      {
        "name": "status",
        "in": "query",
        "description": "Status of pet",
        "required": false,
        "type": "string"
      },
      {
        "name": "age",
        "in": "query",
        "description": "Age of pet",
        "required": false,
        "type": "integer"
      }
```

Удалим параметр status

```
@Test
void shouldSearchPet() {
    api.pet().getPetSearch().statusQuery("ok")
            .executeAs(validatedWith(shouldBeCode(SC_OK)));
    /*tests logic*/
}
```

Этого параметра нет, а тесты есть! Ошибка компиляции!

```
"/pet/search/": {
  "get": {
    "tags": [
      "pet"
    ],
    "summary": "Search pets by ID",
    "description": "Search pets",
    "operationId": "getPetSearch",
    "produces": [
      "application/json",
      "application/xml"
    ],
    "parameters": [
      {
        "name": "status",
        "in": "query",
        "description": "Status of pet",
        "required": false,
        "type": "string"
      },
      {
        "name": "age",
        "in": "query",
        "description": "Age of pet",
        "required": false,
        "type": "integer"
      }
```

Поиск с множеством параметров, перенесем в API SEARCH

```
@Test
void shouldSearchPet() {
    api.pet().getPetSearch().statusQuery("ok")
            .executeAs validatedWith(shouldBeCode(SC_OK)));
    /*t
}
```

В этом API уже нет этого метода! Ошибка компиляции!

```
"/pet/search/": {
  "get": {
    "tags": [
      "pet"
    ],
    "summary": "Search pets by ID",
    "description": "Search pets",
    "operationId": "getPetSearch",
    "produces": [
      "application/json",
      "application/xml"
    ],
    "parameters": [
      {
        "name": "status",
        "in": "query",
        "description": "Status of pet",
        "required": false,
        "type": "string"
      },
      {
        "name": "age",
        "in": "query",
        "description": "Age of pet",
        "required": false,
        "type": "integer"
      }
```

Меняем /pet/search/ на например /search/pet

```
public static class GetPetSearchOper implements Oper {

    public static final Method REQ_METHOD = GET;
    public static final String REQ_URI = "/pet/search/";

    private RequestSpecBuilder reqSpec;
    private ResponseSpecBuilder respSpe

    public GetPetSearchOper(Req
        this.reqSpec = reqSpec;
        reqSpec.setAccept("appl
        this.respSpec = new Res
    }
```

Тут будет /search/pet

```
@Test
void shouldSearchPet() {
    api.pet().getPetSearch().statusQuery("ok")
            .executeAs(validatedWith(shouldBeCode(SC_OK)));
    /*tests logic*/
}
```

Ошибок компиляции нет!

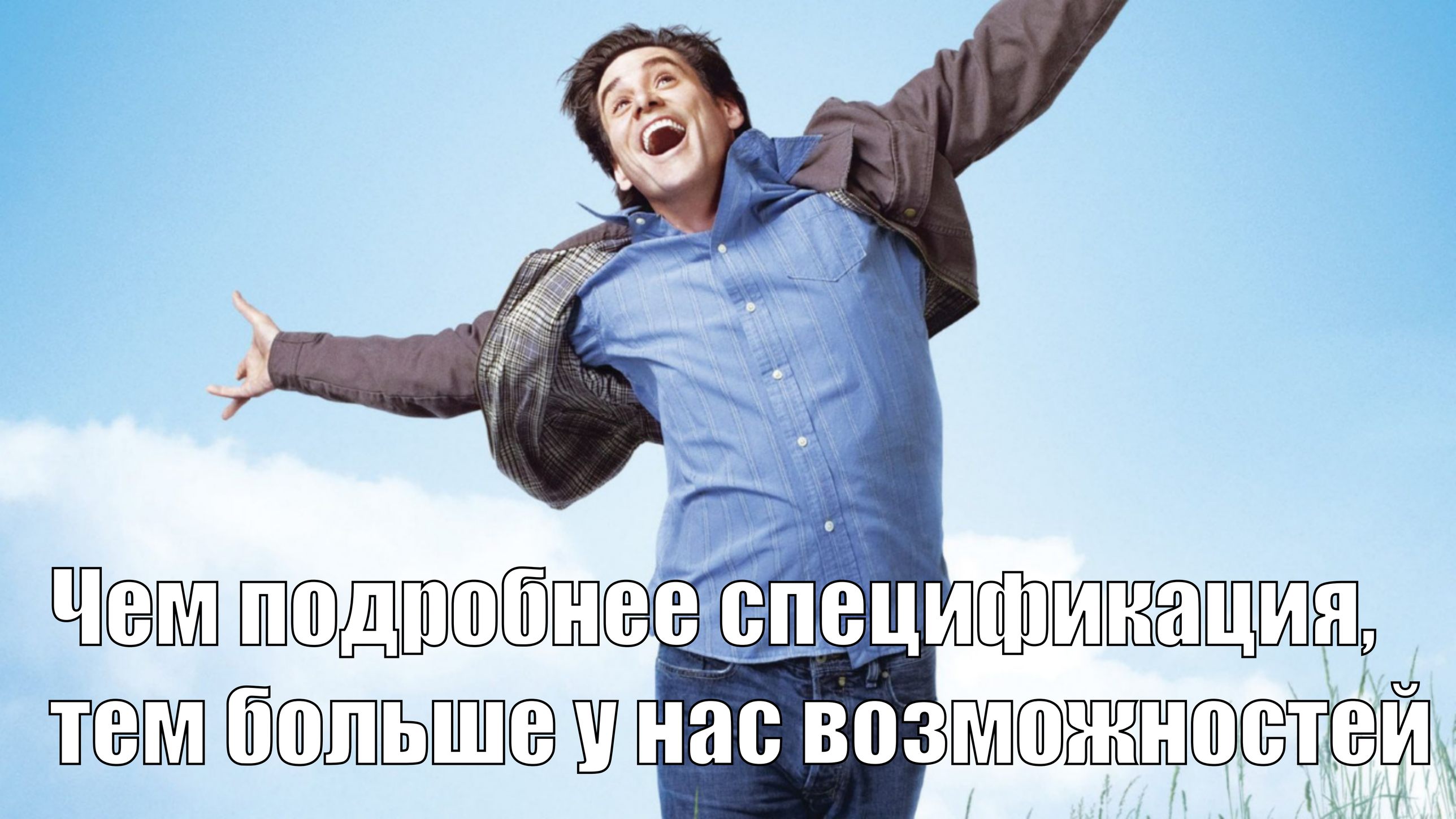
Change
Business
Logic

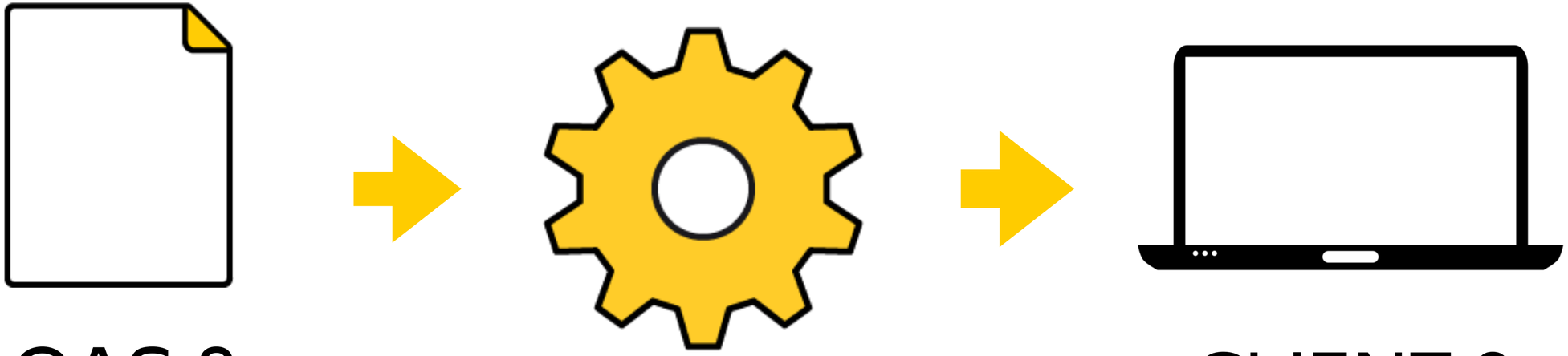
Change
Autotests

~~Как тяжело поддерживать клиент~~

Про тесты и другие возможности

Autotests


Чем подробнее спецификация,
тем больше у нас возможностей



OAS &
Models

CLIENT &
Models

Генерация assertions на модели ответов

С помощью плагина

AssertJ

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   2.3. Contributing to this guide
   2.4. AssertJ Core quick start
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4. AssertJ Guava
   4.1. Release Notes
5. AssertJ Joda
6. AssertJ Neo4j
7. AssertJ Swing

AssertJ - fluent assertions java library

Version 0.9.9

1. AssertJ Overview

AssertJ is composed of several modules:

- A core module (this one) to provide assertions for JDK types (String, Iterable, Stream, Path, File, Map...)
- A Guava module to provide assertions for Guava types (Multimap, Optional...)
- A Joda Time module to provide assertions for Joda Time types (DateTime, LocalDateTime)
- A Neo4J module to provide assertions for Neo4J types (Path, Node, Relationship...)
- A DB module to provide assertions for relational database types (Table, Row, Column...)
- A Swing module provides a simple and intuitive API for functional testing of Swing user interfaces

2. AssertJ Core

The goal of this document is to provide comprehensive reference documentation for programmers writing tests assertions with AssertJ.

https://assertj.github.io/doc

assertJ-assertions-generator-maven-plugin

assertJ-generator-gradle-plugin

Models
Assertions

```
<plugin>
    <groupId>org.assertj</groupId>
    <artifactId>assertj-assertions-generator-maven-plugin</artifactId>
    <executions>
        <execution>
            <id>assertj</id>
            <goals>
                <goal>generate-assertions</goal>
            </goals>
            <phase>generate-sources</phase>
        </execution>
    </executions>
    <configuration>
        <packages>
            <param>${default.package}.model</param>
        </packages>
        <hierarchical>true</hierarchical>
        <entryPointClassPackage>org.assertj</entryPointClassPackage>
        <targetDir>${project.basedir}/target/generated-sources/assertj</
targetDir>
        <generateSoftAssertions>true</generateSoftAssertions>
    </configuration>
</plugin>
```

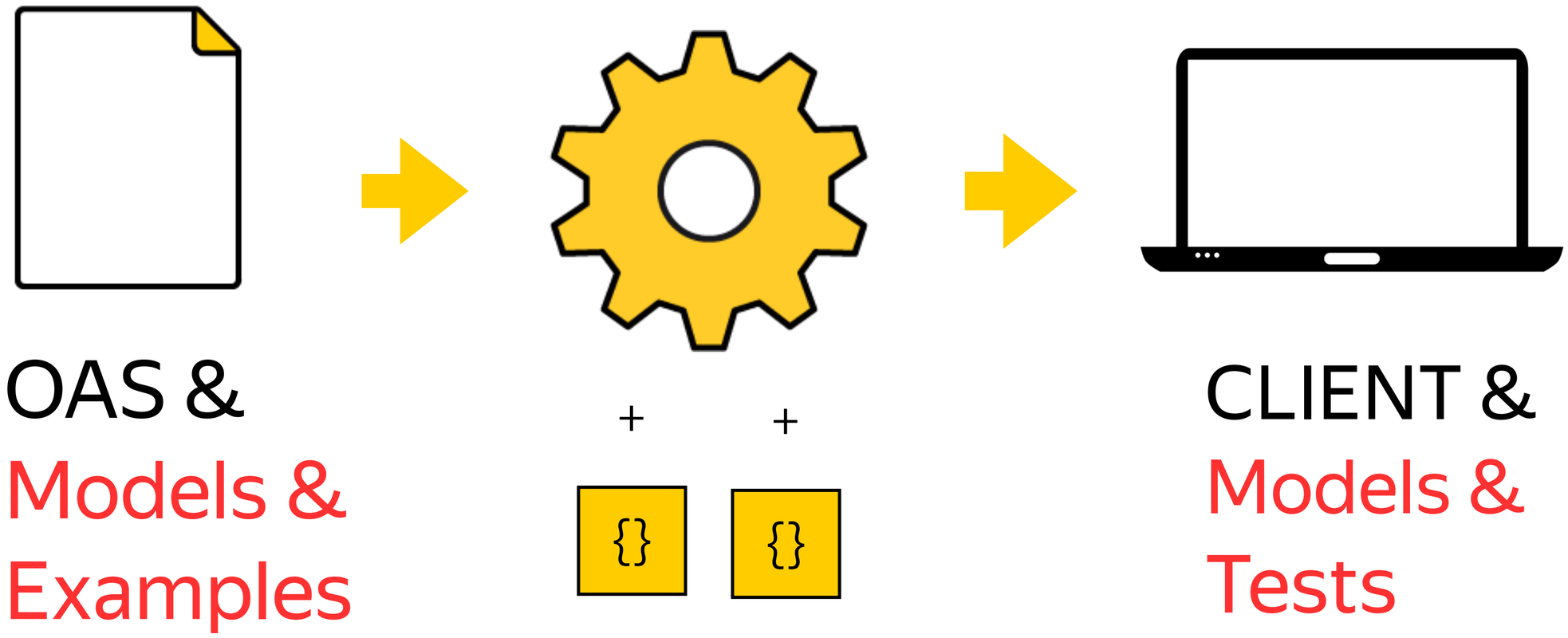
```
@Test
void shouldSee404WithStatusBad() {
    ModelApiResponse error =
    api.pet().getPetSearch().statusQuery(BAD_STATUS)
            .execute(validatedWith(shouldBeCode(SC_NOT_FOUND)))
            .as(ModelApiResponse.class);
    assertThat(error.getCode(), equalTo(1));
    assertThat(error.getType(), equalTo("error"));
    assertThat(error.getMessage(), equalTo("Pet not found"));

}
```

```
@Test
void shouldSee404WithStatusBad() {
    ModelApiResponse error =
    api.pet().getPetSearch().statusQuery(BAD_STATUS)
            .execute(validatedWith(shouldBeCode(SC_NOT_FOUND)))
            .as(ModelApiResponse.class);
    assertThat(error).hasCode(1)
                     .hasType("error")
                     .hasMessage("Pet not found");


}
```

Типизированный assertions


OAS &
Models &
Examples
+
+
{}
{}
CLIENT &
Models &
Tests

Генерация шаблонов тестов

```
"/pet/search/": {
  "get": {
    "tags": [
      "pet"
    ],
    "summary": "Search pets by ID",
    "description": "Search pets",
    "operationId": "getPetSearch",
    "produces": [
      "application/json",
      "application/xml"
    ],
    "parameters": [
      {
        "name": "status",
        "in": "query",
        "description": "Status of pet
        "required": false,
        "type": "string",
        "x-example": "\"ok\""
      },
      {
        "name": "age",
        "in": "query",
        "description": "Age of pet",
        "required": false,
        "type": "integer",
        "x-example": 1
      },
```

Примеры значений

```
<plugin>
    <groupId>org.openapitools</groupId>
    <artifactId>openapi-generator-maven-plugin</artifactId>
    <version>4.1.1</version>
    <executions>
        <execution>
            <goals>
                <goal>generate</goal>
            </goals>
            <configuration>
                <inputSpec>${project.build.directory}/swagger.json</inputSpec>
                <output>${project.build.directory}/generated-sources/openapi-generator</output>
                <language>java</language>
                <configOptions>
                    <dateLibrary>java8</dateLibrary>
                </configOptions>
                <library>rest-assured</library>
                <skipIfSpecIsUnchanged>tru
                <skipValidateSpec>true</sk
                <generateApiDocumentation>
                <generateModelDocumentatio
                <generateApiTests>true</ge
                <generateModelTests>false</generateModelTests>
                <apiPackage>${default.package}.api</apiPackage
                <modelPackage>${default.package}.model</modelPa kage>
                <invokerPackage>${default.package}</invokerPack ge>
                <templateDirectory>${project.basedir}/src/main/resources/templates</templateDirectory>
            </configuration>
        </execution>
    </executions>
</plugin>
```

tempateDirectory

openapi-generator-rest-assured-example ~/IdeaProjects/openapi-gene
.idea
api-client
src
main
java
resources
templates
api_test.mustache
swagger.json
target
api-client.iml
pom.xml
api-tests
src
test
Шаблон для тестов

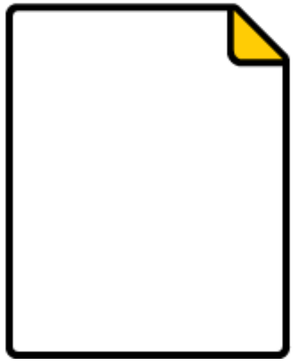
Какие тесты можно генерировать?

- Контрактные тесты

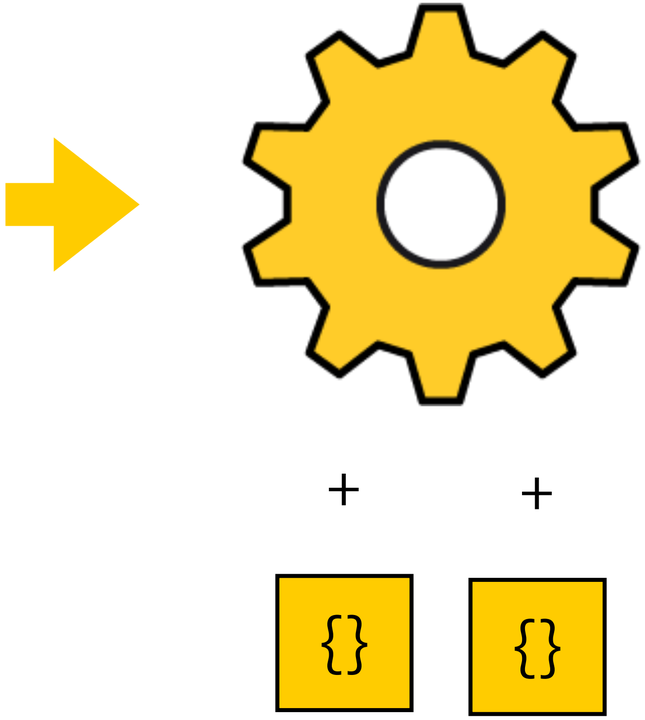
Какие тесты можно генерировать?

- Контрактные тесты
- Тесты на сравнения

Контрактные тесты



OAS &
Models &
Examples



Tests on **status codes**

Tests on **models**

Tests on **parameters**

```
  {{#responses}}
    @Test
    @Owner("generated")
    @Description("Check status code {{code}} and response for {{httpMethod}} {{path}} ({{message}})")
    public void shouldSee{{code}}{{operationIdCamelCase}}() {
    {{#allParams}}{{^isHeaderParam}}
        //{{{dataType}}} {{paramName}} = {{example}};
        {{{dataType}}} {{paramName}} = null;{{/isHeaderParam}}{{/allParams}}
        api.{{classVarName}}().{{operationId}}().reqSpec(defaultSpec()){{#allParams}}{{#required}}
{{#isPathParam}}
            .{{paramName}}Path({{paramName}}){{/isPathParam}}{{#isQueryParam}}
            .{{paramName}}Query({{paramName}}){{/isQueryParam}}{{#isFormParam}}{{^isFile}}
            .{{paramName}}Form({{paramName}}){{/isFile}}{{/isFormParam}}{{#isFormParam}}{{#isFile}}
            .{{paramName}}MultiPart({{paramName}}){{/isFile}}{{/isFormParam}}{{#isBodyParam}}
            .body({{paramName}}){{/isBodyParam}}{{/required}}{{/allParams}}
            .execute(validatedWith(shouldBeCode({{code}})));
    }
{{/responses}}
```

```
  {{#responses}}
    @Test
    @Owner("generated")
    @Description("Check status code {{code}} and response for {{httpMethod}} {{path}} ({{message}})")
    public void shouldSee{{code}}{{operationIdCamelCase}}() {
    {{#allParams}}{{^isHeaderParam}}
        //{{{dataType}}} {{paramName}} = {{example}};
        {{{dataType}}} {{paramName}} = null;{{/isHeaderParam}}{{/allParams}}
        api.{{classVarName}}().{{operationId}}().reqSpec(defaultSpec()){{#allParams}}{{#required}}
{{#isPathParam}}
            .{{paramName}}Path({{paramName}}){{/isPathParam}}{{#isQueryParam}}
            .{{paramName}}Query({{paramName}}){{/isQueryParam}}{{#isFormParam}}{{^isFile}}
            .{{paramName}}Form({{paramName}}){{/isFile}}{{/isFormParam}}{{#isFormParam}}{{#isFile}}
            .{{paramName}}MultiPart({{paramName}}){{/isFile}}{{/isFormParam}}{{#isBodyParam}}
            .body({{paramName}}){{/isBodyParam}}{{/required}}{{/allParams}}
            .execute(validatedWith(shouldBeCode({{code}})));
    }
{{/responses}}
```

```
  {{#responses}}
    @Test
    @Owner("generated")
    @Description("Check status code {{code}} and response for {{httpMethod}} {{path}} ({{message}})")
    public void shouldSee{{code}}{{operationIdCamelCase}}() {
    {{#allParams}}{{^isHeaderParam}}
        //{{{dataType}}} {{paramName}} = {{example}};
        {{{dataType}}} {{paramName}} = null;{{/isHeaderParam}}{{/allParams}}
        api.{{classVarName}}().{{operationId}}().reqSpec(defaultSpec()){{#allParams}}{{#required}}
{{#isPathParam}}
            .{{paramName}}Path({{paramName}}){{/isPathParam}}{{#isQueryParam}}
            .{{paramName}}Query({{paramName}}){{/isQueryParam}}{{#isFormParam}}{{^isFile}}
            .{{paramName}}Form({{paramName}}){{/isFile}}{{/isFormParam}}{{#isFormParam}}{{#isFile}}
            .{{paramName}}MultiPart({{paramName}}){{/isFile}}{{/isFormParam}}{{#isBodyParam}}
            .body({{paramName}}){{/isBodyParam}}{{/required}}{{/allParams}}
            .execute(validatedWith(shouldBeCode({{code}})));
    }
{{/responses}}
```

```
  {{#responses}}
    @Test
    @Owner("generated")
    @Description("Check status code {{code}} and response for {{httpMethod}} {{path}} ({{message}})")
    public void shouldSee{{code}}{{operationIdCamelCase}}() {
    {{#allParams}}{{^isHeaderParam}}
        //{{{dataType}}} {{paramName}} = {{example}};
        {{{dataType}}} {{paramName}} = null;{{/isHeaderParam}}{{/allParams}}
        api.{{classVarName}}().{{operationId}}().reqSpec(defaultSpec()){{#allParams}}{{#required}}
{{#isPathParam}}
            .{{paramName}}Path({{paramName}}){{/isPathParam}}{{#isQueryParam}}
            .{{paramName}}Query({{paramName}}){{/isQueryParam}}{{#isFormParam}}{{^isFile}}
            .{{paramName}}Form({{paramName}}){{/isFile}}{{/isFormParam}}{{#isFormParam}}{{#isFile}}
            .{{paramName}}MultiPart({{paramName}}){{/isFile}}{{/isFormParam}}{{#isBodyParam}}
            .body({{paramName}}){{/isBodyParam}}{{/required}}{{/allParams}}
            .execute(validatedWith(shouldBeCode({{code}})));
    }
{{/responses}}
```

```
    @Test
    @Owner("generated")
    @Description("Check status code 200 and response for GET /store/inventory
(successful operation)")
    public void shouldSee200GetInventory() {
        api.store().getInventory().reqSpec(defaultSpec())
            .execute(validatedWith(shouldBeCode(200)));
    }
```

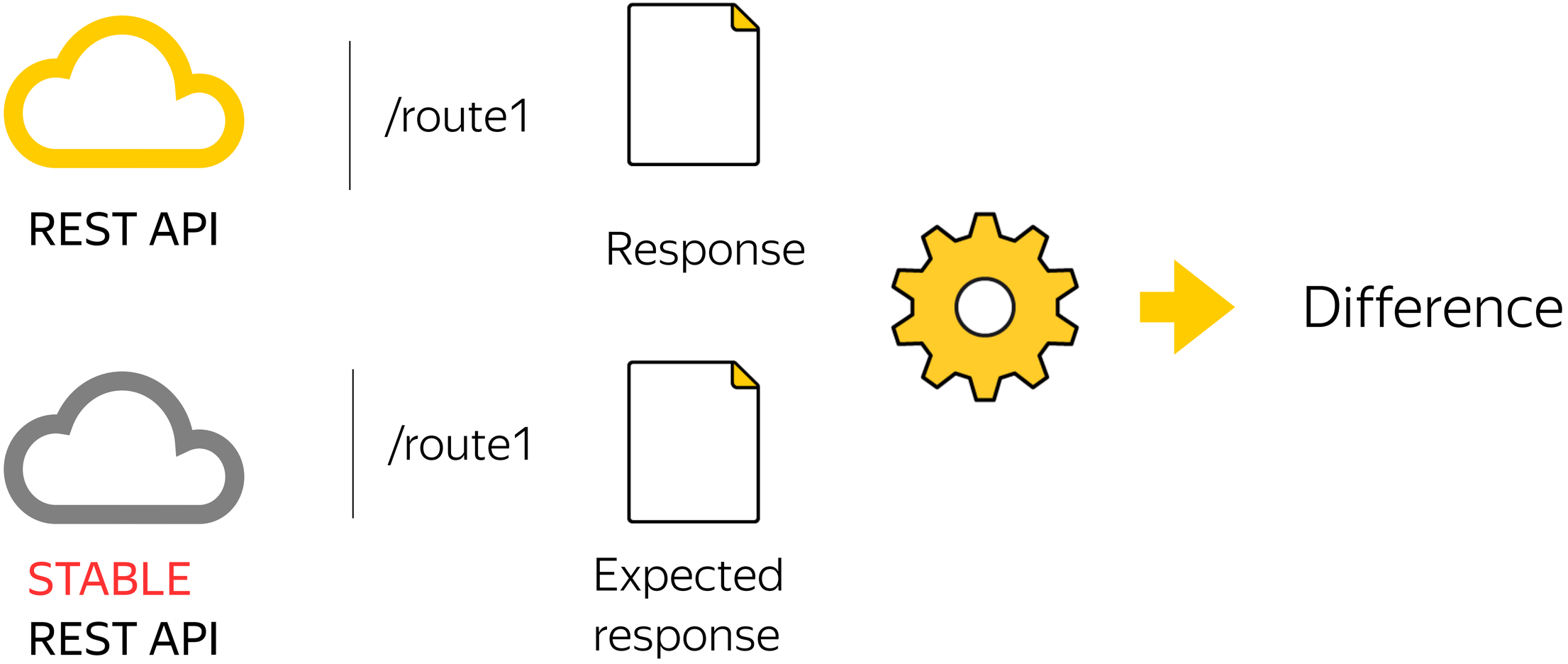
```
    @Test
    @Owner("generated")
    @Description("Check status code 200 and response for GET /store/inventory
(successful operation)")
    public void shouldSee200GetInventory() {
        api.store().getInventory().reqSpec(defaultSpec())
            .execute(validatedWith(shouldBeCode(200)));
    }
```

```
    @Test
    @Owner("generated")
    @Description("Check status code 404 and response for GET /store/inventory
(not found)")
    public void shouldSee404GetInventory() {
        /*tests logic?*/
        api.store().getInventory().reqSpec(defaultSpec())
            .execute(validatedWith(shouldBeCode(404)));
    }
```

Тестовую логику пока сгенерировать не получилось

Аналогично можно сгенерировать тесты для параметров и моделей

Тесты на сравнение



```
    @Parameterized.Parameter
    public Consumer<RequestSpecBuilder> reqSpec;

    @Parameterized.Parameters
    public static Collection<Consumer<RequestSpecBuilder>> getParameters() {
    return newArrayList(req -> req.and()
    {{#hasParams}}
    {{#allParams}}
       {{#isPathParam}}
        //   .addPathParam({{operationIdCamelCase}}Oper.{{#convert}}{{paramName}}{{/convert}}_PATH,
{{{example}}})
       {{/isPathParam}}
       {{#isQueryParam}}
        //   .addQueryParam({{operationIdCamelCase}}Oper.{{#convert}}{{paramName}}{{/convert}}_QUERY,
{{{example}}})
       {{/isQueryParam}}
        {{#isFormParam}}
         //  .addFormParam({{operationIdCamelCase}}Oper.{{#convert}}{{paramName}}{{/convert}}_FORM,
{{{example}}})
        {{/isFormParam}}{{/allParams}}{{/hasParams}}
    );
    }
```

```
@Test
@Owner("generated")
@Description("Compare json response for {{httpMethod}} {{path}}")
public void should{{operationIdCamelCase}}HasNoDiffWithProduction() {
    Function<ApiClient, JsonObject> req = apiClient -> apiClient.{{classVarName}}().{{operationId}}()
        .reqSpec(defaultSpec())
        .reqSpec(reqSpec).execute(validatedWith(shouldBe200OkJSON())).as(JsonObject.class);
    MatcherAssert.assertThat(req.apply(api), jsonEquals(req.apply(prodApi)));
}
```

```java
    @Parameterized.Parameter
    public Consumer<RequestSpecBuilder> reqSpec;

    @Parameterized.Parameters
    public static Collection<Consumer<RequestSpecBuilder>> getParameters() {
    return newArrayList(req -> req.and()
           .addQueryParam(GetPetSearchOper.STATUS_QUERY, "ok")
           .addQueryParam(GetPetSearchOper.AGE_QUERY, 1)
           .addQueryParam(GetPetSearchOper.BREED_QUERY, "breed")
           .addQueryParam(GetPetSearchOper.COLOR_QUERY, "red")
           .addQueryParam(GetPetSearchOper.OWNER_QUERY, "Victor")
           .addQueryParam(GetPetSearchOper.ID_QUERY, "pet-123")
           .addQueryParam(GetPetSearchOper.SEX_QUERY, "w")
           .addQueryParam(GetPetSearchOper.TYPE_QUERY, "type1")
           .addQueryParam(GetPetSearchOper.PROPERTY_CLASS_QUERY, "class1")
           .addQueryParam(GetPetSearchOper.SCHOOL_QUERY, "393")
           .addQueryParam(GetPetSearchOper.A_QUERY, true)
           .addQueryParam(GetPetSearchOper.B_QUERY, true)
           .addQueryParam(GetPetSearchOper.C_QUERY, true)
           .addQueryParam(GetPetSearchOper.D_QUERY, true)
           .addQueryParam(GetPetSearchOper.F_QUERY, true)
           .addQueryParam(GetPetSearchOper.G_QUERY, true)

    );
    }

    @Test
    @Owner("generated")
    @Description("Compare json response for GET /pet/search/")
    public void shouldGetPetSearchHasNoDiffWithProduction() {
        Function<ApiClient, JsonObject> req = apiClient -> apiClient.pet().getPetSearch()
            .reqSpec(defaultSpec())
            .reqSpec(reqSpec).execute(validatedWith(shouldBe200OkJSON())).as(JsonObject.class);
        MatcherAssert.assertThat(req.apply(api), jsonEquals(req.apply(prodApi)));
    }
}
```

```java
    @Parameterized.Parameter
    public Consumer<RequestSpecBuilder> reqSpec;

    @Parameterized.Parameters
    public static Collection<Consumer<RequestSpecBuilder>> getParameters() {
    return newArrayList(req -> req.and()
            .addQueryParam(GetPetSearchOper.STATUS_QUERY, "ok")
            .addQueryParam(GetPetSearchOper.AGE_QUERY, 1)
            .addQueryParam(GetPetSearchOper.BREED_QUERY, "breed")
            .addQueryParam(GetPetSearchOper.COLOR_QUERY, "red")
            .addQueryParam(GetPetSearchOper.OWNER_QUERY, "Victor")
            .addQueryParam(GetPetSearchOper.ID_QUERY, "pet-123")
            .addQueryParam(GetPetSearchOper.SEX_QUERY, "w")
            .addQueryParam(GetPetSearchOper.TYPE_QUERY, "type1")
            .addQueryParam(GetPetSearchOper.PROPERTY_CLASS_QUERY, "class1")
            .addQueryParam(GetPetSearchOper.SCHOOL_QUERY, "393")
            .addQueryParam(GetPetSearchOper.A_QUERY, true)
            .addQueryParam(GetPetSearchOper.B_QUERY, true)
            .addQueryParam(GetPetSearchOper.C_QUERY, true)
            .addQueryParam(GetPetSearchOper.D_QUERY, true)
            .addQueryParam(GetPetSearchOper.F_QUERY, true)
            .addQueryParam(GetPetSearchOper.G_QUERY, true)

    );
    }

    @Test
    @Owner("generated")
    @Description("Compare json response for GET /pet/search/")
    public void shouldGetPetSearchHasNoDiffWithProduction() {
        Function<ApiClient, JsonObject> req = apiClient -> apiClient.pet().getPetSearch()
            .reqSpec(defaultSpec())
            .reqSpec(reqSpec).execute(validatedWith(shouldBe200OkJSON())).as(JsonObject.class);
        MatcherAssert.assertThat(req.apply(api), jsonEquals(req.apply(prodApi)));
    }
}
```

Значения x-example

Как в итоге мы стали
писать тесты?

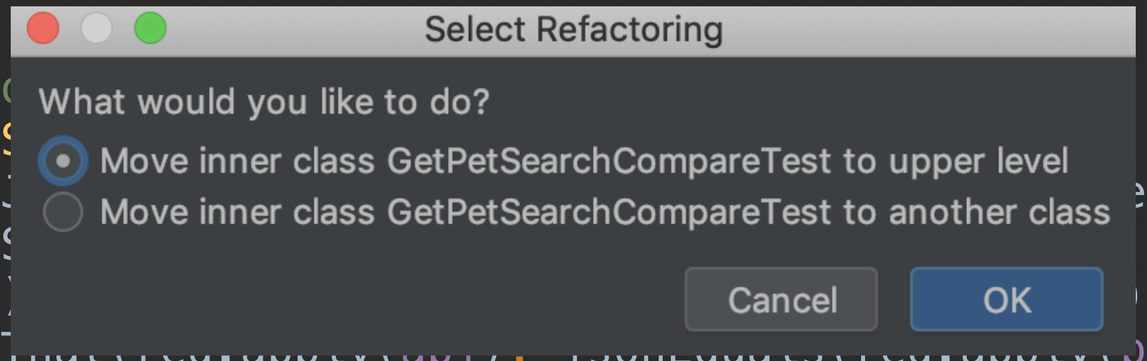
Через IDE копируем сгенерированные тестовые классы в тесты

```
@Test
@Owner("generated")
@Description("Compare json respon                    rch/")
public void shouldGetPetSearchHas                    n() {
    Function<ApiClient, JsonObjec                    -> apiClient.pet().getPetSearch()
        .reqSpec(defaultSpec())
        .reqSpec(reqSpec).execute                    ldBe200OkJSON())).as(JsonObject.class);
    MatcherAssert.assertThat(req.apply(api), jsonEquals(req.apply(prodApi)));
}
```

F6

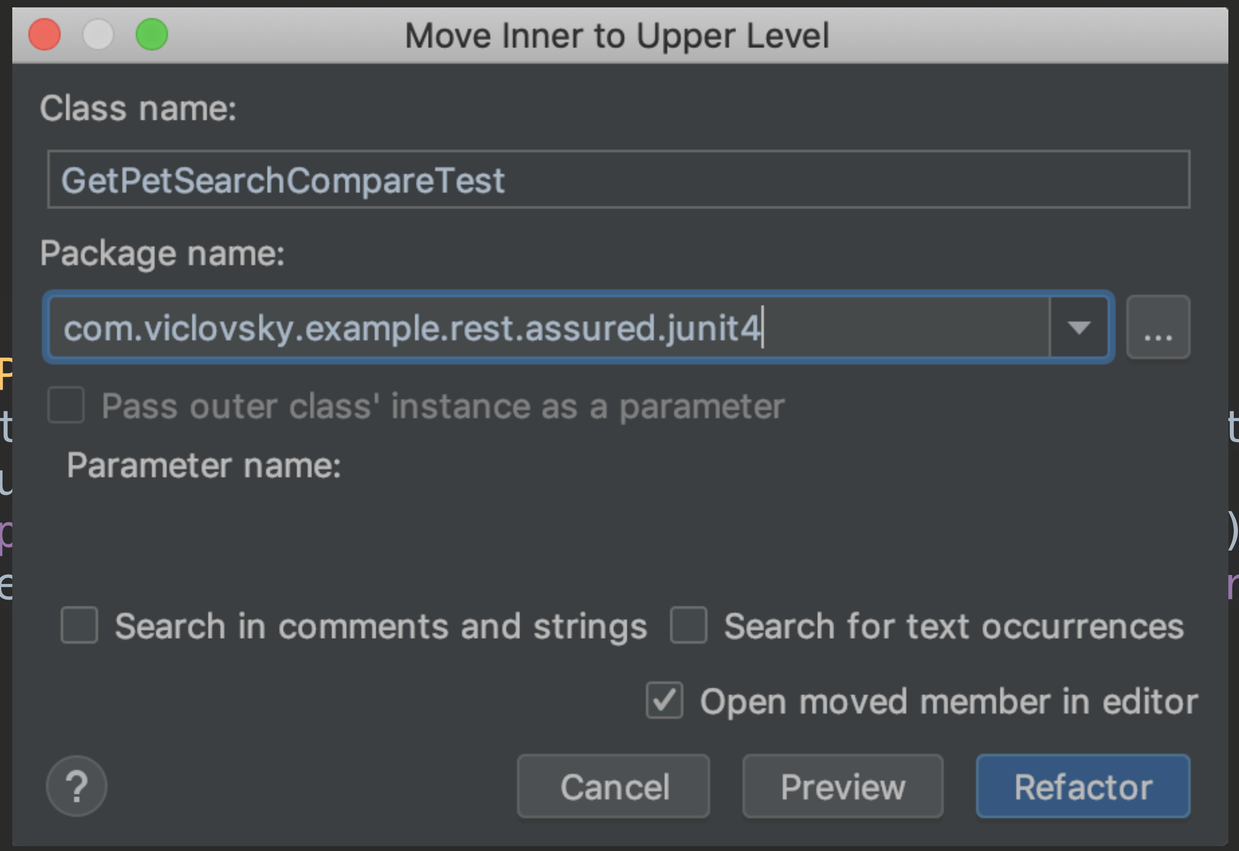
Выбери пункт to “upper level”

```
@Test
@Owner("generated")
@Description("Compare jso
public void shouldGetPetS
    Function<ApiClient, J                                   et().getPetSearch()
        .reqSpec(defaultS
        .reqSpec(reqSpec)                                   )).as(JsonObject.class);
    MatcherAssert.assertThat(req.apply(api), jsonEquals(req.apply(prodApi)));
}
```



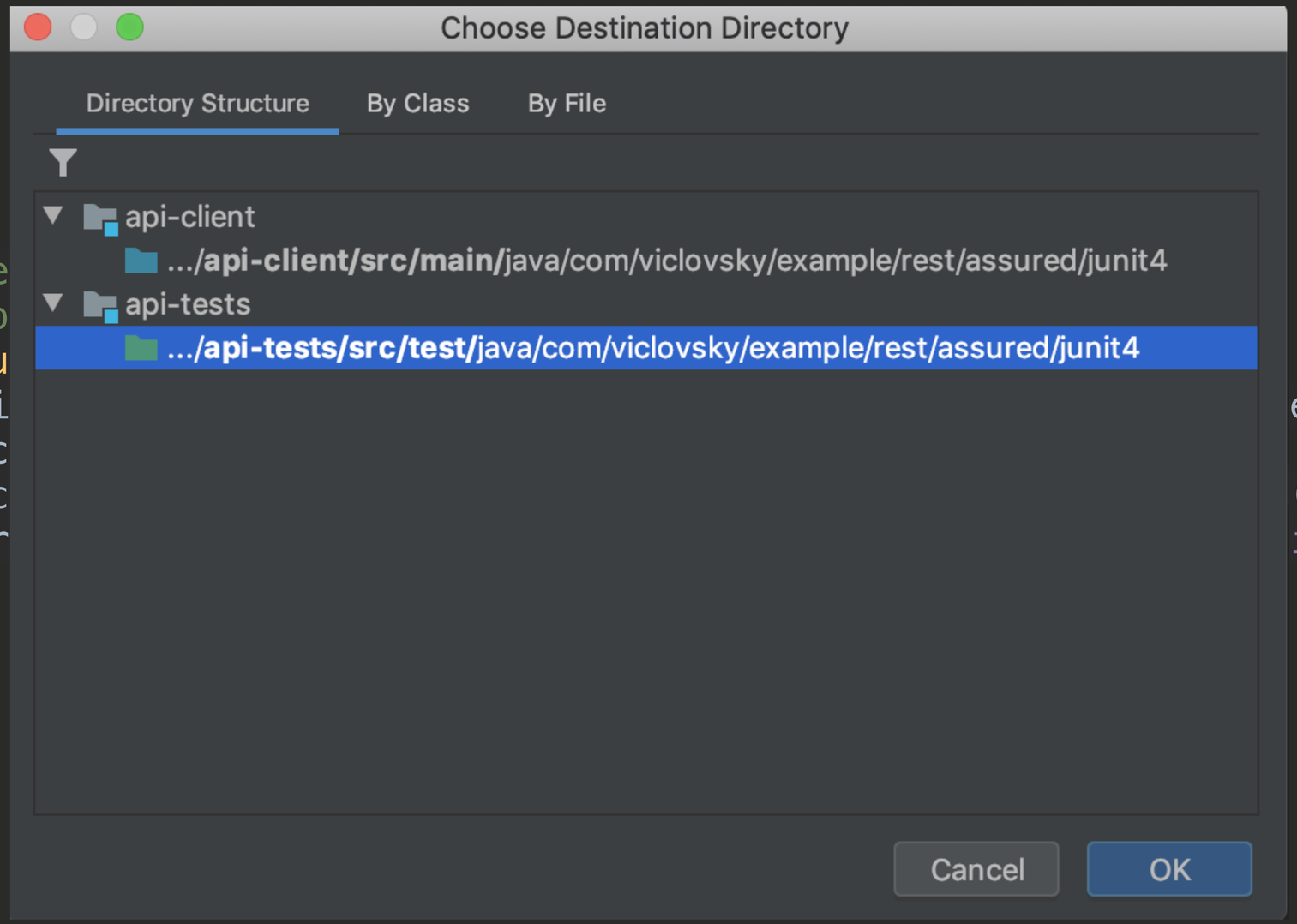
Указываем package name

```
@Test
@Owner("generated")
@Description("Compare
public void shouldGetP
    Function<ApiClient                                  t().getPetSearch()
        .reqSpec(defau
        .reqSpec(reqSp                                  )).as(JsonObject.class);
    MatcherAssert.asse                                  rodApi)));
}
```

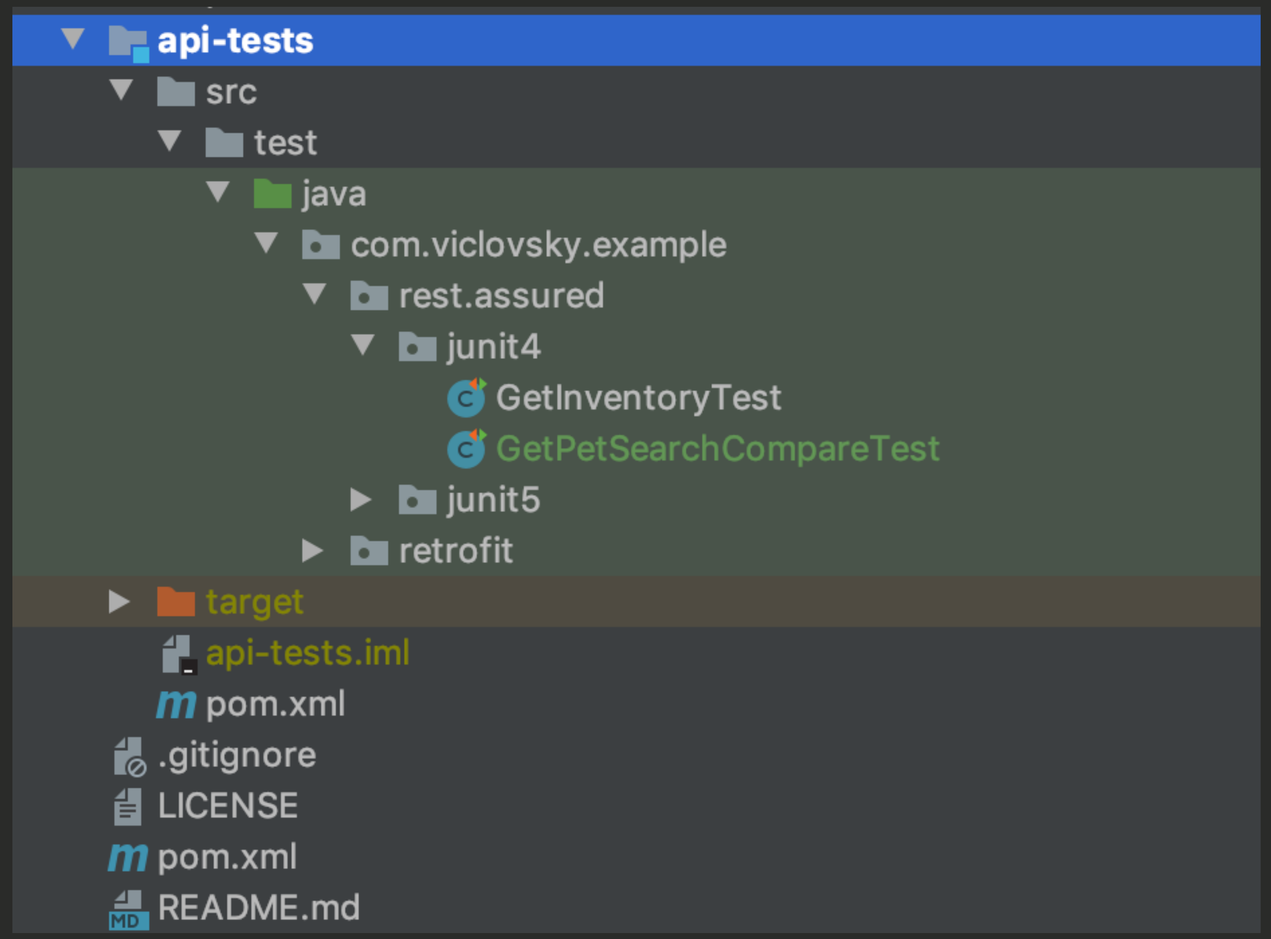


Выбери нужный модуль, если их несколько

```
@Test
@Owner("generate
@Description("Co
public void shou
    Function<Api                                    etPetSearch()
        .reqSpec
        .reqSpec                                    (JsonObject.class);
    MatcherAsser                                    i)));
}
```



Тест готов, повторить N раз



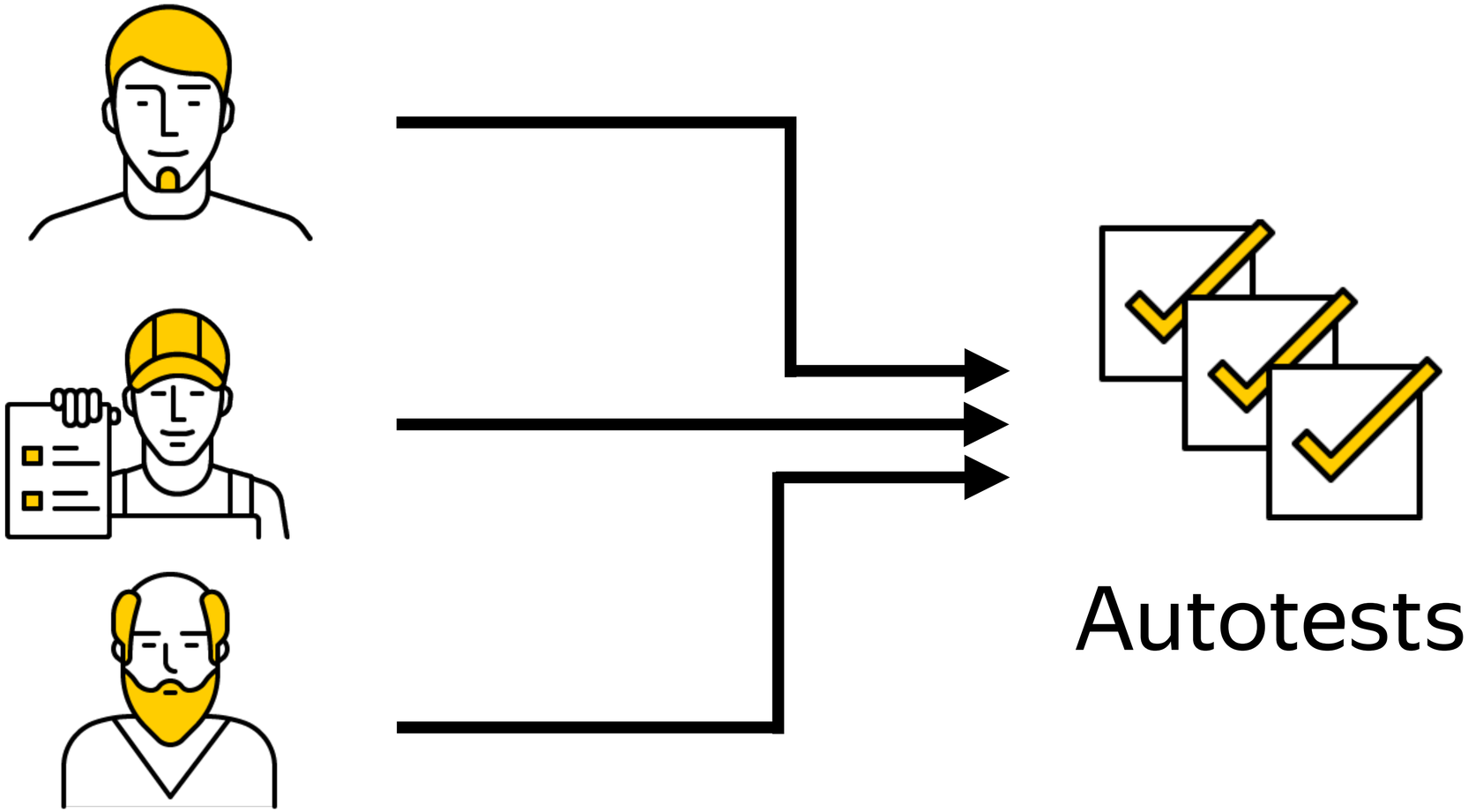
Что получили?

- Простота добавления новых тестовых классов

Что получили?

- Простота добавления новых тестовых классов
- Единое именование тестовых методов и классов

Наши тесты


Autotests

Шаблон проекта с автотестами

Template for autotests

YandexClassifieds / **apitests-template** Private template

Watch 20 | Star 0 | Fork 0

Code | Issues 0 | Pull requests 0 | Actions | Projects 0 | Wiki | Security | Insights | Settings

No description, website, or topics provided. Edit

Manage topics

23 commits | 2 branches | 0 packages | 0 releases | 2 contributors

Branch: master | New pull request | Create new file | Upload files | Find file | Use this template | Clone or download

viclovsky Merge pull request #2 from YandexClassifieds/test_template ... Latest commit 788d95d on 23 Dec 2019

api-client	add api_test.mustache	last month
api-tests	add api_test.mustache	last month
.gitignore	add template for api regressions tests	5 months ago
README.md	Update README.md	5 months ago
pom.xml	rm deploy, repositories and allure-maven	5 months ago

README.md

GitHub

Autotests for project#1

Autotests for project#2

...

Autotests for project#N

```java
@Config.Sources("classpath:testing.properties")
public interface ApiConfig extends Accessible {

    @Key("api.testing.uri")
    @DefaultValue("http://petstore.swagger.io:80")
    URI getApiTestingURI();

    @Key("api.release.uri")
    @DefaultValue("http://petstore.swagger.io:80")
    URI getApiReleaseURI();

    @Key("api.version")
    @DefaultValue("v2")
    String getApiVersion();
}
```

Меняем значения двух property

Autotests for project#1

Autotests for project#2

...

Autotests for project#N

~~Про тесты и другие возможности~~

Об инструментах

TOOLS

Run: openapi-generator-rest-assured [clean...]

- **openapi-generator-rest-assured [clean...]:** at 2/29/20, 10:01 PM with 2 errors, 6 warnings — 5 s 79 ms
  - Some problems were encountered while building the effective model for com.viclovsky.example:api-client:jar:1.0-SNAPSHOT
  - com.viclovsky.example:api-client:jar:1.0-SNAPSHOT 5 warnings — 3 s 555 ms
    - generate 4 warnings — 1 s 614 ms
      - Output directory does not exist, or is inaccessible. No file (.openapi-generator-ignore) will be evaluated.
      - Multiple schemas found in content, returning only the first one
      - ApiResponse (reserved word) cannot be used as model name. Renamed to ModelApiResponse
      - Multiple MediaTypes found, using only the first one
    - compile 1 warning — 1 s 96 ms
      - /Users/vicdev/IdeaProjects/openapi-generator-rest-assured-example/api-client/target/generated-sources/openapi-generator/src/main/java/com/viclovsky/example/swagger/client/v2/ApiClient.java: /Users/vic
  - com.viclovsky.example:api-tests:jar:1.0-SNAPSHOT 2 errors — 177 ms
    - testCompile 2 errors — 123 ms
      - api-tests/src/test/java/com/viclovsky/example/retrofit/SearchPet.java 1 error
        - Error:(40,17) java: cannot find symbol
      - api-tests/src/test/java/com/viclovsky/example/rest/assured/junit5/SearchPet.java 1 error
        - Error:(27,18) java: cannot find symbol

???

Run: openapi-generator-rest-assured [clean...]

openapi-generator-rest-assured [clean...]: at 2/29/20, 10:01 PM with 2 errors, 6 warnings — 5 s 79 ms
- Some problems were encountered while building the effective model for com.viclovsky.example:api-client:jar:1.0-SNAPSHOT
- com.viclovsky.example:api-client:jar:1.0-SNAPSHOT 5 warnings — 3 s 555 ms
  - generate 4 warnings — 1 s 614 ms
    - Output directory does not exist, or is inaccessible. No file (.openapi-generator-ignore) will be eval
    - Multiple schemas found in content, returning only the first one
    - ApiResponse (reserved word) cannot be used as model name. Renamed to ModelApiRespon
    - Multiple MediaTypes found, using only the first one
  - compile 1 warning
    - /Users/vicdev/IdeaProjects/openapi-generator-rest-assured-example/api-client/target/g
- com.viclovsky.example:api-tests:jar:1.0-SNAPSHOT 2 errors
  - testCompile 2 errors
    - api-tests/src/test/java/com/viclovsky/example/retrofit/SearchPet.java 1 error
      - Error:(40,17) java: cannot find symbol
    - api-tests/src/test/java/com/viclovsky/example/rest/assured/junit5/SearchPet.java 1 error
      - Error:(27,18) java: cannot find symbol

Почему автотесты не компилируются!

Нужна разница в документации

Например swagger-diff

Swagger-diff

Sayi / swagger-diff

Unwatch releases 14 | Unstar 107 | Fork 48

Code | Issues 8 | Pull requests 6 | Actions | Projects 0 | Wiki | Security 0 | Insights

Compare two swagger API specifications(1.x or v2.0) http://deepoove.com/swagger-diff/

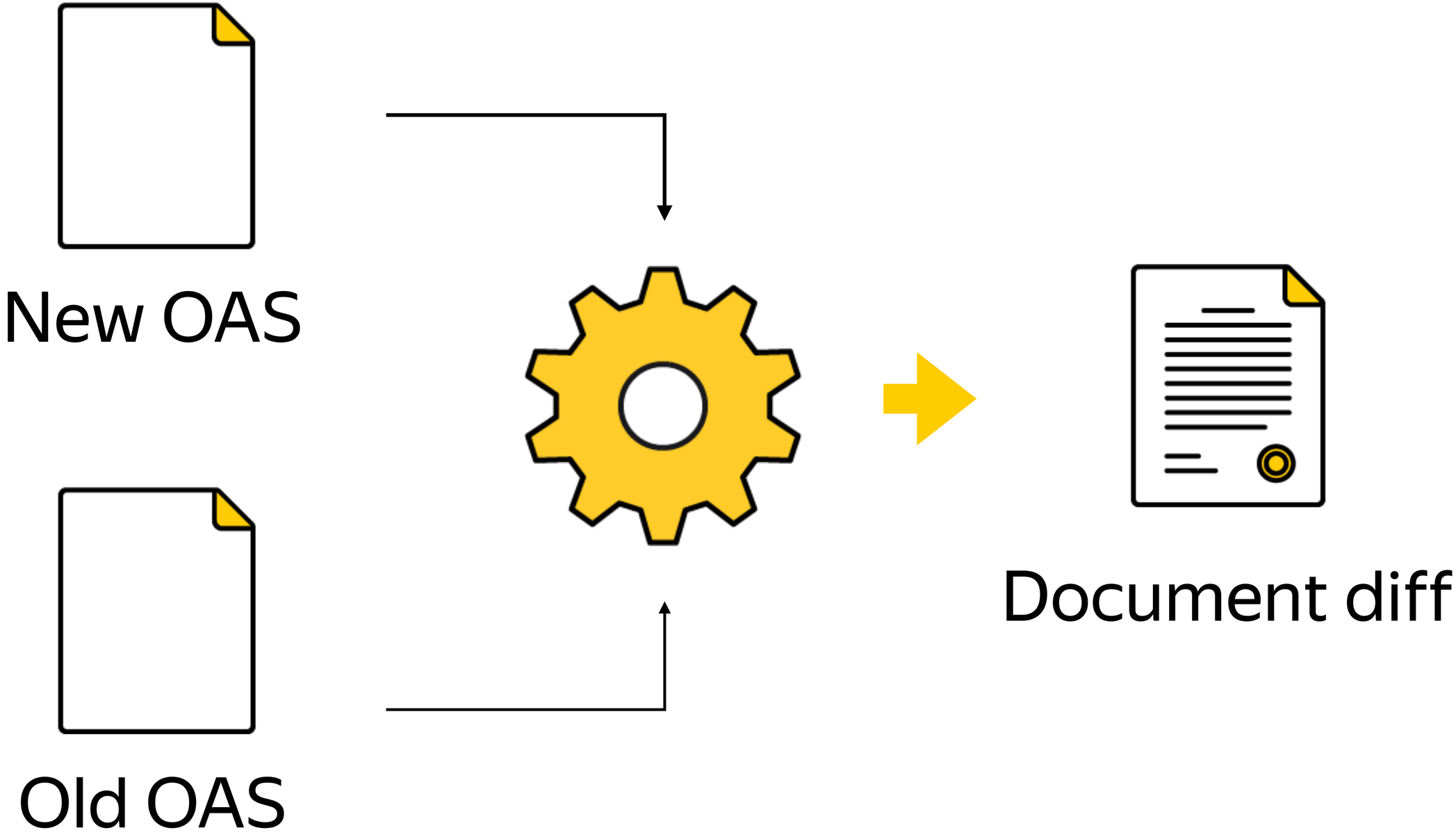
swagger diff compare swagger-diff

68 commits | 4 branches | 0 packages | 2 releases | 6 contributors | Apache-2.0

Branch: master | New pull request | Create new file | Upload files | Find file | Clone or download

Sayi Merge pull request #27 from viclovsky/json_output ... Latest commit b4ea0b5 on 18 Sep 2019

src	add JsonRender	7 months ago
.gitignore	Add version numbers to output	2 years ago
.travis.yml	Update .travis.yml	2 years ago
LICENSE	Apache License 2.0	4 years ago
README.md	v1.2.1	2 years ago
changelog.png	html png	3 years ago


New OAS
Old OAS
Document diff

```
swagger-diff-cli -old swagger-old.json -new swagger-new.json -v 2.0
-output-mode html > diff.html
```

Changelog

Versions

Changes from 1.0.3 to 1.0.3.

What's New

What's Deprecated

GET ~~/pet/search/~~ Search pets by ID

What's Changed

POST /pet/{petId} Updates a pet in the store with form data

Parameter

Delete status //Updated status of the pet

POST /pet/{petId}/uploadImage uploads an image

Parameter

Add x-geo //Geo header

Changelog

Versions

Changes from 1.0.3 to 1.0.3.

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Удалили seach

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Удалили параметр status

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Parameter

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Changelog

Versions

Changes from 1.0.3 to 1.0.3.

What's New

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Удалили seach

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Parameter

Delete status //Updated status of the pet

Удалили параметр status

POST /pet/{petId}/uploadImage uploads an image

Parameter

Add x-geo //Geo header

Добавили header x-geo

Как использовать?

- Понятно, что изменилось

Как использовать?

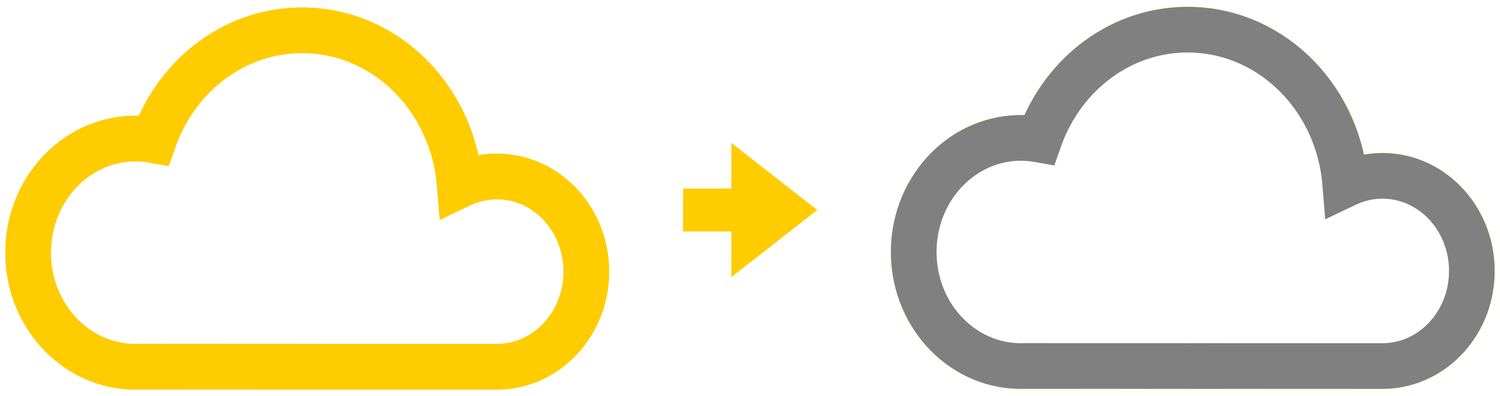
- Понятно, что изменилось
- Анализ обратной совместимости

Autotests for project#1

Autotests for project#2

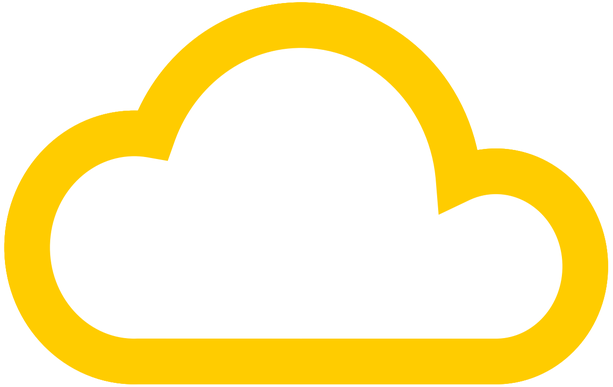
...

Autotests for project#N



REST API

REST API +



REST API

/route1

/route2

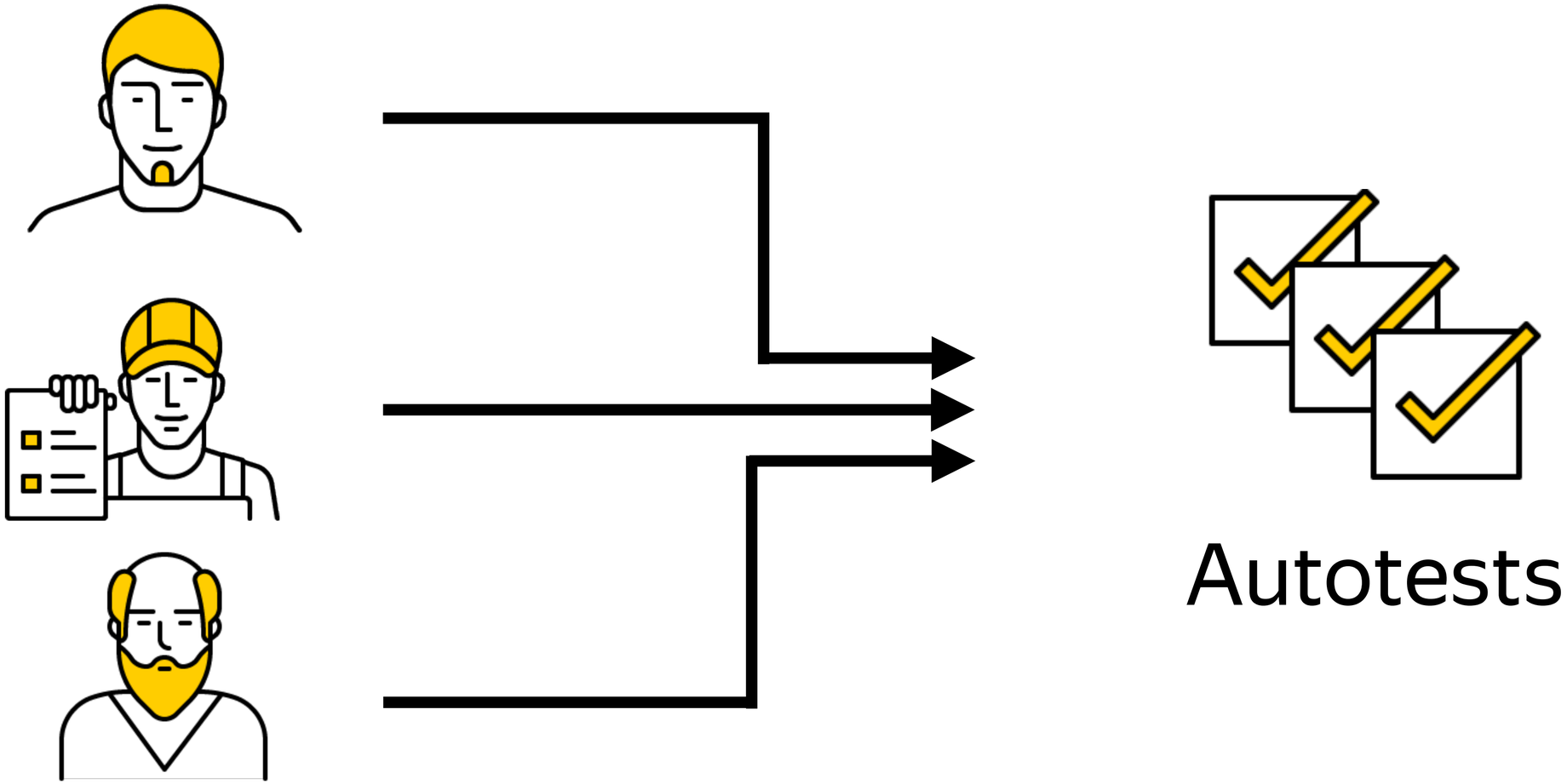
/route3

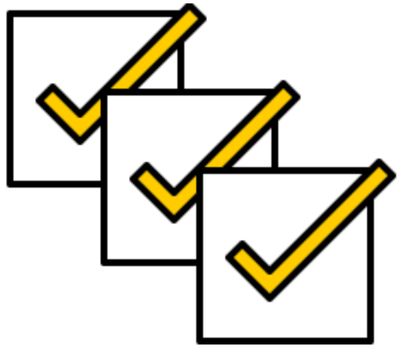
/route4

/route5

...

/routeN


Autotests



Autotests

N-стажеров

Как понять что покрыто автотестами, а что нет?

Измерение покрытия автотестами на основе OAS

Swagger-coverage

viclovsky / swagger-coverage

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Tool which generates full picture of coverage of API tests based on OAS 2 (Swagger)

Edit

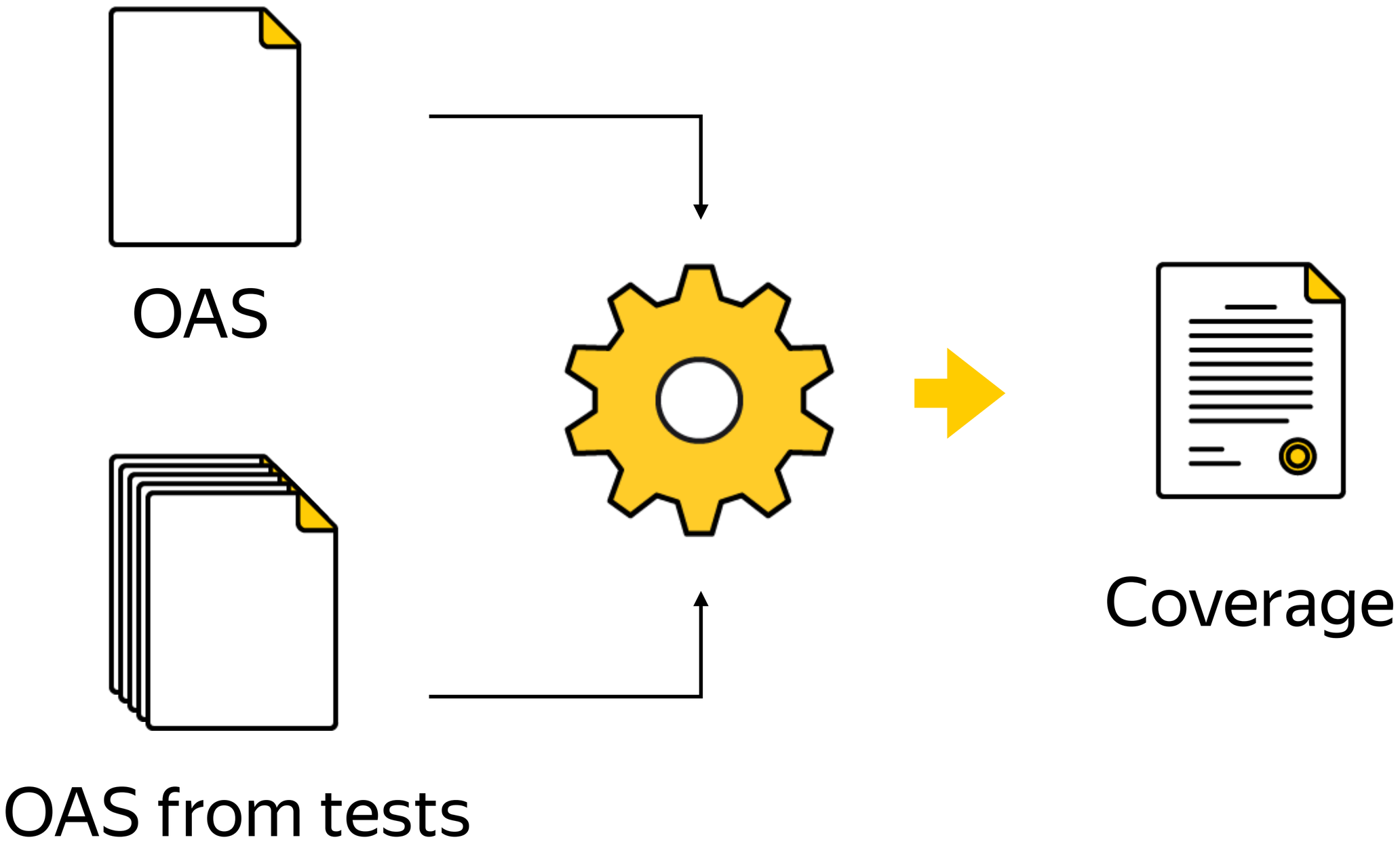
Manage topics

169 commits | 1 branch | 0 packages | 8 releases | 4 contributors | Apache-2.0

Branch: master | New pull request | Create new file | Upload files | Find file | Clone or download

viclovsky Merge pull request #51 from viclovsky/up_readme ... Latest commit a1f8442 on 3 May

.github	up image	last month
gradle	add gradle.properties, change packages, fix issueTrackerUrl	6 months ago
swagger-coverage-commandline	update README.md, add custom filename for configuration.json	last month
swagger-coverage-commons	fix rename "branchs" to "conditions"	last month
swagger-coverage-rest-assured	fix typo in "partial" coverage	3 months ago
.gitignore	bump gradle version (via #3)	6 months ago


OAS
OAS from tests
Coverage

```
swagger-coverage-commandline -s petstory.json -i swagger-coverage-output -c configuration.json
```

Summary

Operations coverage summary

Full coverage: 5%

Partial coverage: 30%

Empty coverage: 65%

All operations: 20

Operations without calls: 12

Missed request: 1

Tags coverage summary

Full coverage: 0%

Partial coverage: 66.667%

Empty coverage: 33.333%

All tags: 3

Tags without calls: 0

Conditions coverage summary

Total: 84

Covered: 23.81% (20/84)

Uncovered: 76.19% (64/84)

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Operations details

All: 20 | Full: 1 | Partial: 6 | Empty: 13 | No call: 12 | Missed: 1

Full	GET	/pet/{petId}	2 calls	5/5 (100%) condition covered
Partial	GET	/pet/findByStatus	2 calls	3/6 (50%) condition covered

Condition name	Details
✔ HTTP status 200	
HTTP status 400	
✔ query «status» is not empty	
query «status» contains all values from enum [available, pending, sold]	Missed values [sold]
✔ only declared status	
query «status» contains values not only from enum	Checked values: [pending, available]

Partial	GET	/pet/findByTags	1 calls	3/4 (75%) condition covered
Partial	POST	/pet/{petId}/uploadImage	1 calls	1/5 (20%) condition covered
Partial	GET	/user/{username}	1 calls	3/5 (60%) condition covered
Partial	PUT	/user/{username}	1 calls	1/5 (20%) condition covered

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Tags details

store: Access to Petstore orders	4 operations	1 calls	0/15 (0%) condition covered
user: Operations about user	8 operations	2 calls	4/30 (13.333%) condition covered
pet: Everything about your Pets	8 operations	7 calls	16/39 (41.026%) condition covered

Full coverage: 12.5%

Partial coverage: 50%

Empty coverage: 37.5%

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No call	POST	/pet/{petId}	0 calls	0/5 (0%) condition covered

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Partial	GET	/pet/findByStatus	2 calls	3/6 (50%) condition covered
No call	POST	/pet/{petId}	0 calls	0/5 (0%) condition covered

Conditions details

Response Status

7/36 (19.444%) condition covered

Check that there is an answer with the http status described in responses

All parameter values

0/1 (0%) condition covered

Verification that the method is called with all parameters described in the enum

Covered: 0

Uncovered: 1

Operation name	Condition namee	Details
/pet/findByStatus GET	query «status» contains all values from enum [available, pending, sold]	Missed values [sold]

Check parameter value

8/19 (42.105%) condition covered

Check that the parameter is empty or not empty

Only the described statuses

5/20 (25%) condition covered

Check that no status was received that was not described

Values not only from the list

0/1 (0%) condition covered

Verify that the method was called with a value that is not described in the parameter enum

Request Body Availability

0/7 (0%) condition covered

Verify that the request body was not empty

Conditions details

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7/36 (19.444%) condition covered

Check that there is an answer with the http status described in responses

All parameter values

0/1 (0%) condition covered

Verification that the method is called with all parameters described in the enum

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Verify that the request body was not empty

Как использовать?

- Анализ прогресса автоматизации

Как использовать?

- Анализ прогресса автоматизации
- Выбор стратегии автоматизации

Как использовать?

- Анализ прогресса автоматизации
- Выбор стратегии автоматизации
- Отслеживание добавление новых сущностей без тестов

~~О инструментах~~

Как построить процесс

PROCESS

swagger-diff

diff.json

Deleted

Changed

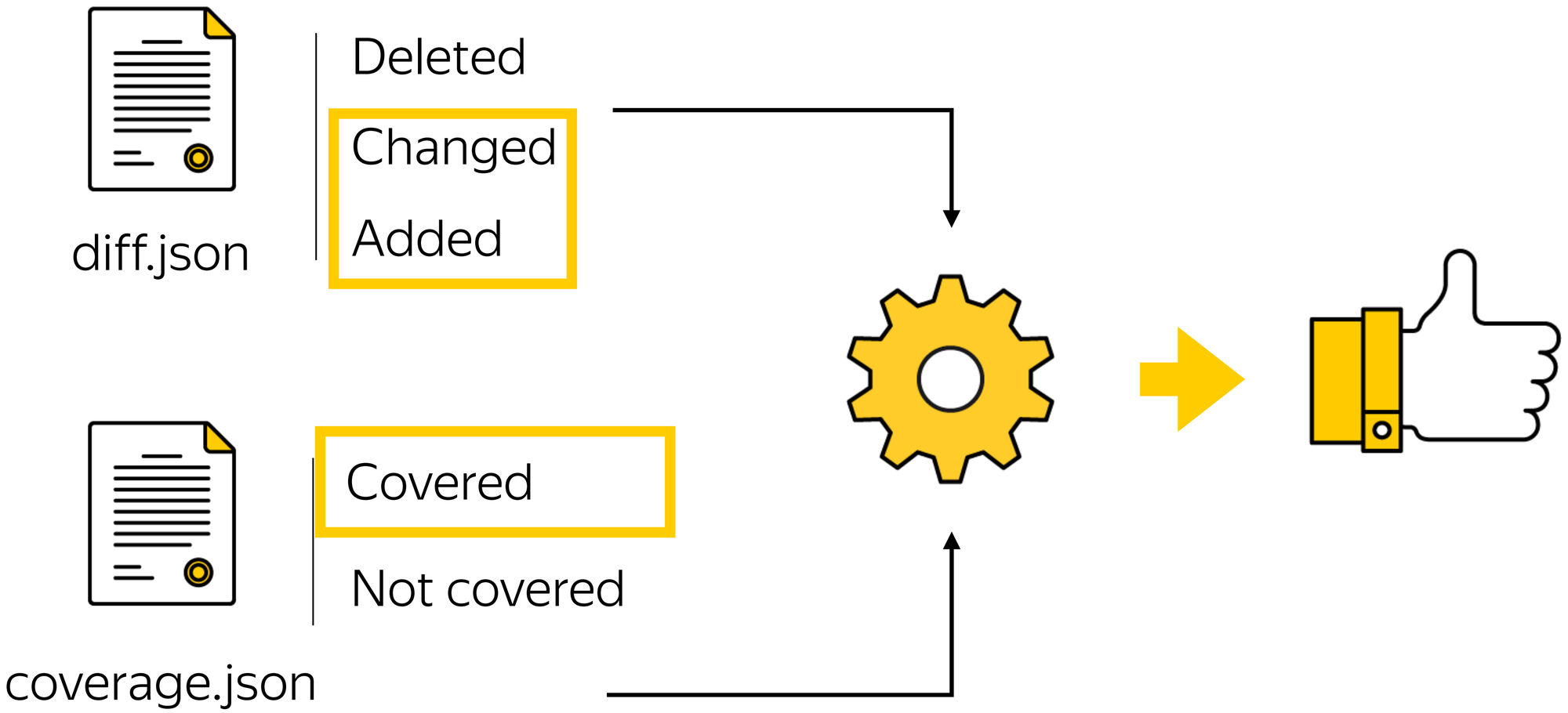
Added

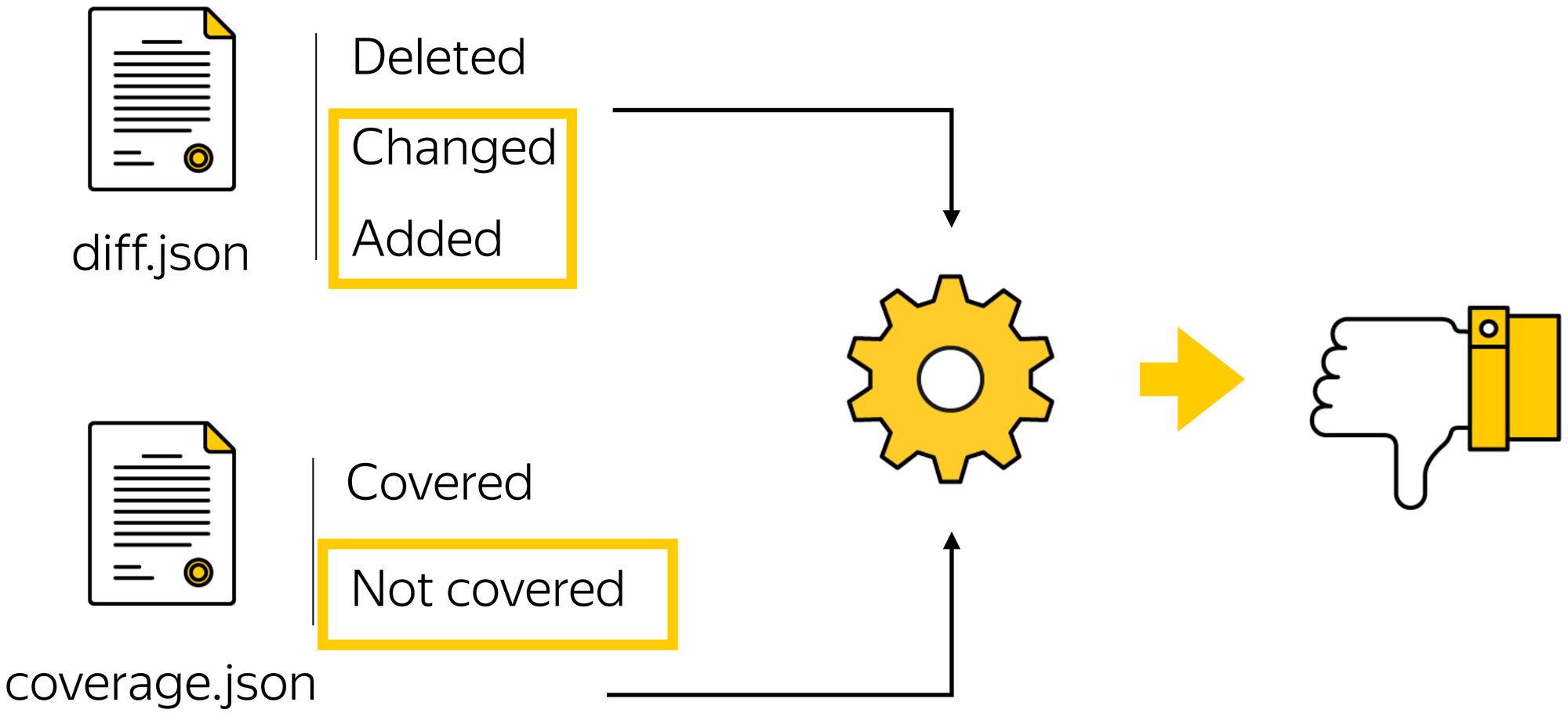
swagger-coverage

coverage.json

Covered

Not covered


Deleted
Changed
Added
diff.json
Covered
Not covered
coverage.json


diff.json
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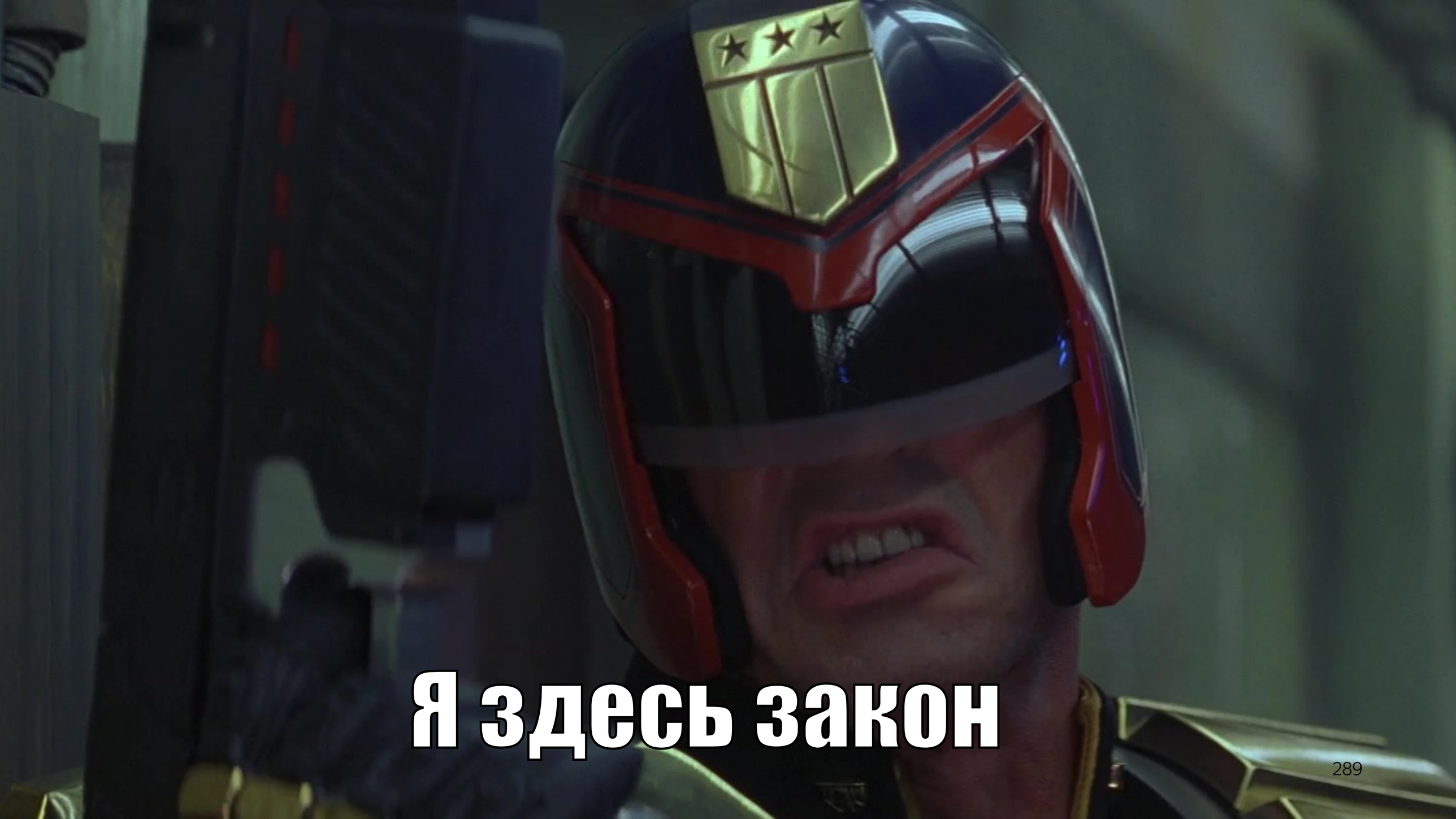
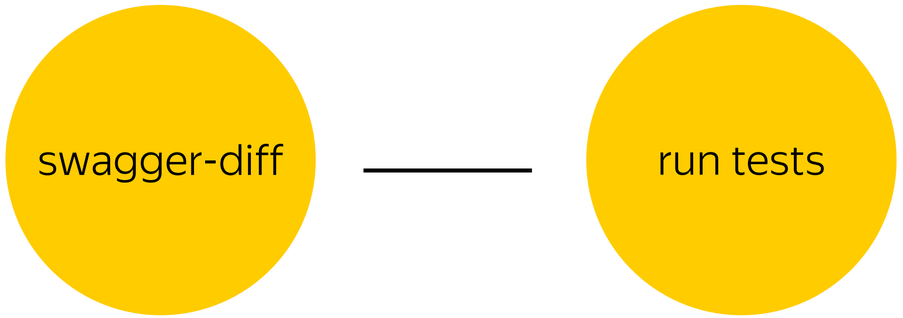

Я здесь закон

Как построить процесс

› Diff

Как построить процесс

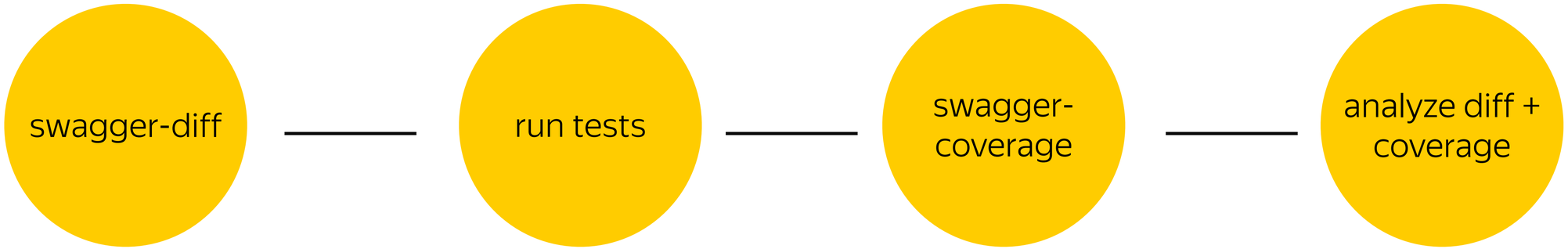


- Diff
- Test report

Как построить процесс

- Diff
- Test report
- Coverage

Как построить процесс



- Diff
- Test report
- Coverage
- Analyze

Выводы

Swagger/OAS как основа приемочных тестов

- Всегда актуальный тестовый клиент понятный для всех членов команды

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- Всегда актуальный тестовый клиент понятный для всех членов команды
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- Всегда актуальный тестовый клиент понятный для всех членов команды
- Сгенерированные тесты и шаблоны тестов
- Легко добавлять автотесты на новые проекты, вне зависимости от языка программирования

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- Всегда актуальный тестовый клиент понятный для всех членов команды
- Сгенерированные тесты и шаблоны тестов
- Легко добавлять автотесты на новые проекты, вне зависимости от языка программирования
- Прозрачность покрытия и изменений REST-API через инструментарий

Спасибо

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