OAS-Tools/Generator
Construcción automatizada de APIs RESTful con gestión de la seguridad

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OPENAPI INITIATIVE

ISA

OpenAPI Initiative

De Swagger a OpenAPI

Swagger 1.0 (2011)

Swagger 2.0 (2014)
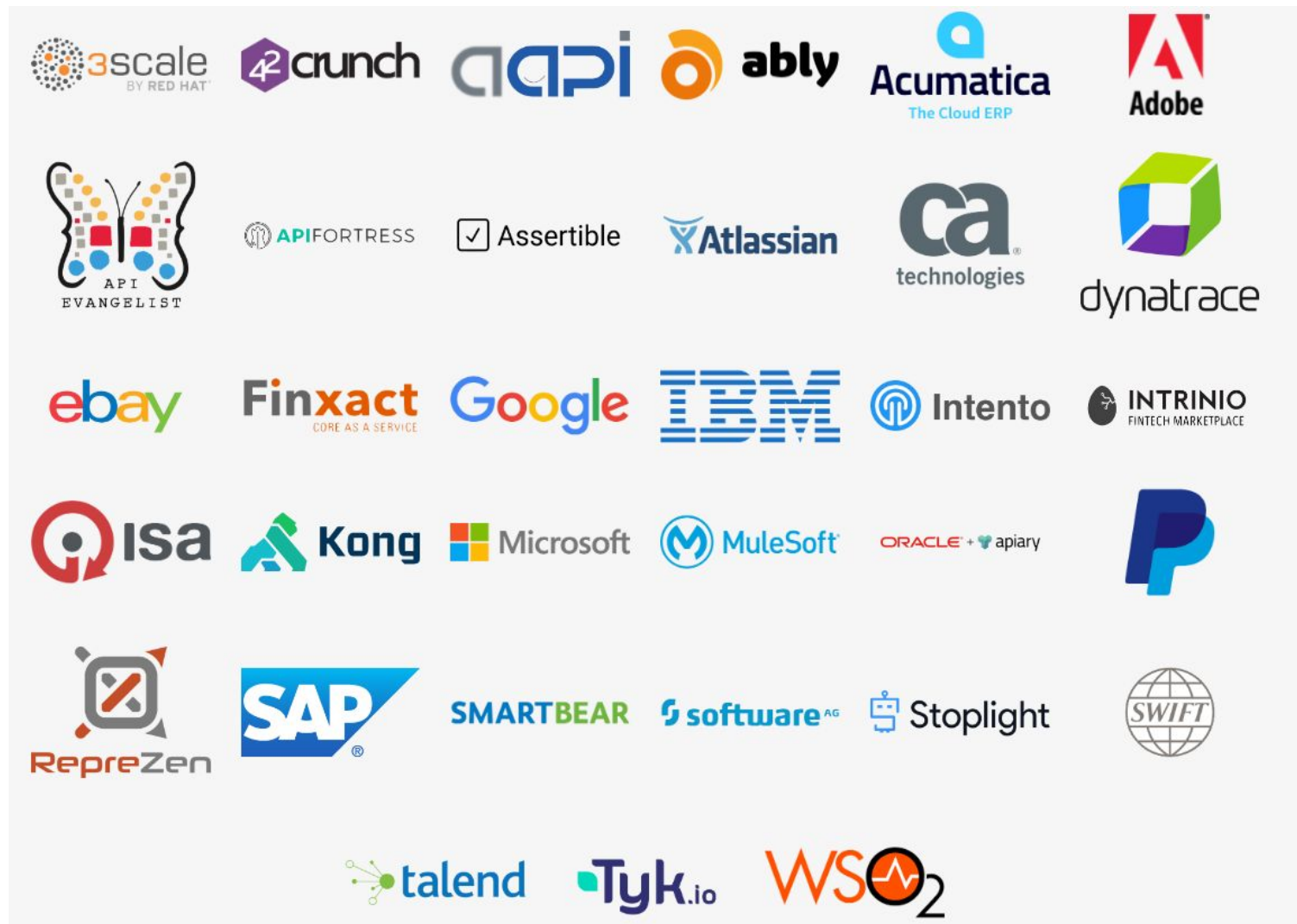
OpenAPI 2.0 (2016)

OpenAPI 3.0 (2017)

Miembros de OpenAPI Initiative
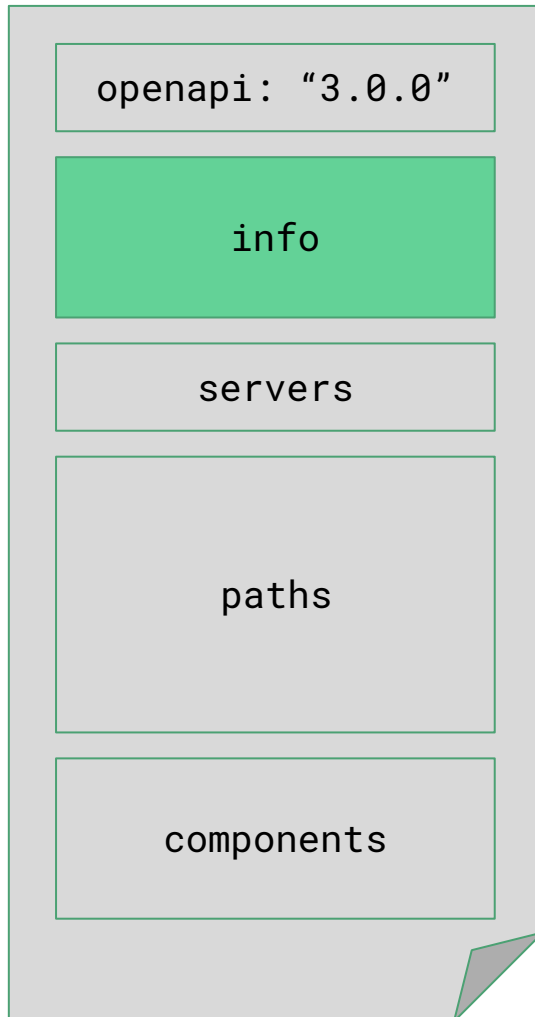
Estructura de OpenAPI

Estructura de OpenAPI

```
openapi: "3.0.0"
```

```
info
```

```
servers
```

```
paths
```

```
components
```

```
title: Sample Pet Store App
description: This is a sample server for a pet store.
termsOfService: http://example.com/terms/
contact:
  name: API Support
  url: http://www.example.com/support
  email: support@example.com
license:
  name: Apache 2.0
  url: http://www.apache.org/licenses/LICENSE-2.0.html
version: 1.0.1
```

Estructura de OpenAPI


```
openapi: "3.0.0"

info

servers

paths

components
```

```yaml
servers:
- url: https://development.gigantic-server.com/v1
  description: Development server
- url: https://staging.gigantic-server.com/v1
  description: Staging server
- url: https://api.gigantic-server.com/v1
  description: Production server
```

Estructura de OpenAPI
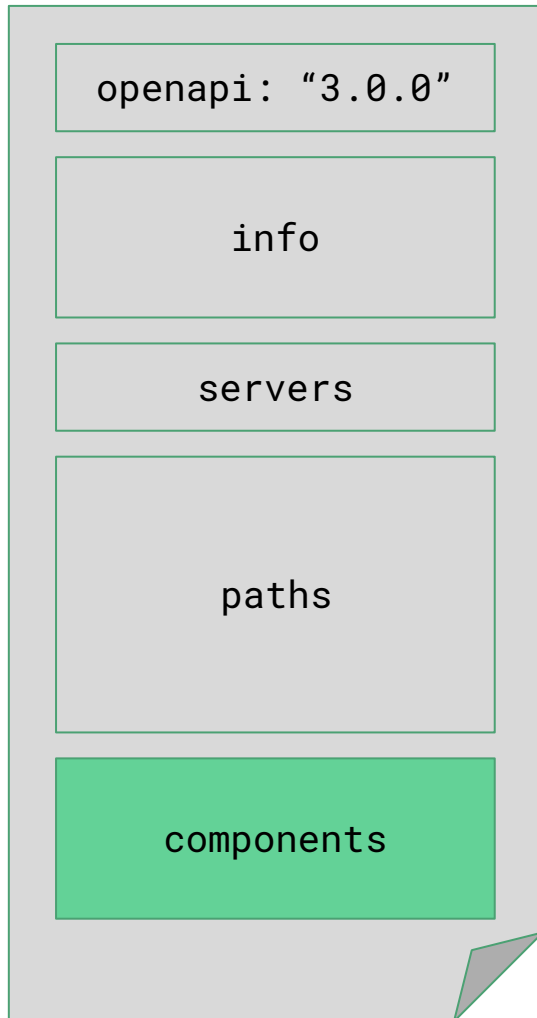
openapi: "3.0.0"

info

servers

paths

components

```
/pets:
  get:
    description: Returns all pets from the system that the user has access to
    responses:
      '200':
        description: A list of pets.
        content:
          application/json:
            schema:
              type: array
              items:
                $ref: '#/components/schemas/pet'
```

Estructura de OpenAPI


```
openapi: "3.0.0"

info

servers

paths

components
```

```yaml
components:
  schemas:
    Category:
      type: object
      properties:
        id:
          type: integer
          format: int64
        name:
          type: string
    Tag:
      type: object
      properties:
        id:
          type: integer
          format: int64
        name:
          type: string
```

OAS-Tools/Generator

Repositorios:

- https://github.com/isa-group/oas-tools
- https://github.com/isa-group/oas-generator

NPM:

- https://www.npmjs.com/package/oas-tools
- https://www.npmjs.com/package/oas-generator

¡Abiertos a issues y pull requests!

OAS-Generator: uso

```
$ oas-generator --help

Usage:  oas-generator <OAS v3 file in YAML or JSON>

  Options:

    -n, --projectName <projectName>  Name for the generated folder
    -z, --generateZip                Indicate whether the generated folder must be deleted after
    -h, --help                       output usage information
```

```
$ oas-generator specs/docker-engine.yaml -n generatedServer
```

OAS-Tools: uso

```
npm install oas-tools --save
```

```
var oasTools = require('oas-tools');
```

```
var jsyaml = require('js-yaml');
var fs = require('fs');

var spec = fs.readFileSync(path.join('path/to/spec/file'), 'utf8');
var oasDoc = jsyaml.safeLoad(spec);
```

OAS-Tools: configuración

```javascript
var options_object = {
  controllers: '/path/to/controllers'
  loglevel: 'info',
  logfile: '/path/to/logs/file',
  // customLogger: myLogger,
  strict: false,
  router: true,
  validator: true,
  docs: true,
  oasSecurity: true,
  securityFile: {
    // your security settings
  },
  oasAuth: true,
  grantsFile: {
    // your authorization settings
  },
  ignoreUnknownFormats: true
};

oasTools.configure(options_object);
```

OAS-Tools: inicialización

```javascript
oasTools.initialize(oasDoc, app, function() {
  http.createServer(app).listen(8080, function() {
    console.log("App up and running!");
  });
});
```

OAS-Tools: autenticación

```yaml
components:
  securitySchemes:
    Bearer:
      type: http
      scheme: bearer
      bearerFormat: JWT
```

```javascript
oasTools.configure({
  // other configuration variables
  oasSecurity: true,
  securityFile: {
    Bearer: verifyToken
  }
});
```

OAS-Tools: validación automática de JWT

```
oasTools.configure({
  // other configuration variables
  oasSecurity: true,
  securityFile: {
    Bearer: {
      issuer: 'ISA Auth',
      algorithms: ['HS256'],
      key: 'secretKey'
    }
  }
});
```

```
oasTools.configure({
  // other configuration variables
  oasSecurity: true,
  securityFile: {
    Bearer: 'path/to/grants.json'
  }
});
```

```yaml
components:
  securitySchemes:
    Bearer:
      type: http
      scheme: bearer
      bearerFormat: JWT
      x-bearer-config:
        issuer: ISA Auth
        algorithms:
          - HS256
        key: secretKey
```

OAS-Tools: autorización

```javascript
var grants = {
  user: {
    "$extend": ["anonymous"],
    "pets/cats": {
      "update:own": ["*"]
    },
    "users": {
      "read:any": ["*"]
    }
  },
  anonymous: {
    "pets/cats": {
      "read:any": ["*"]
    }
  }
};
```

OAS-Tools: autorización

```
oasTools.configure({
  // other configuration variables
  oasAuth: true,
  grantsFile: {
    Bearer: grants
  }
});
```

```
components:
  securitySchemes:
    Bearer:
      type: http
      scheme: bearer
      bearerFormat: JWT
      x-acl-config:
        anonymous:
          pets:
            "read:any":
              - "*"
```

SLA4OAI

	FREE	PRO
	0 € / month	**50** € / month
	Quotas	Quotas
PETS		
GET requests by account	**5** minutely	**20** minutely
GET requests by tenant	**40** hourly	**100** hourly
POST requests by account	**3** minutely	**100** minutely
Maximun resourceInstances by account	**5**	**500**
Maximun animalTypes by account	**2**	**5**
	Rates	Rates
PETS		
GET requests by account	**1** secondly	**3** secondly
	GET APIKEY	**BUY**

SLA4OAI

```yaml
quotas:
  /pets:
    get:
      requests:
        - max: 5
          period: minutely
          scope: account
        - max: 40
          period: hourly
          scope: tenant
    post:
      requests:
        - max: 3
          period: minutely
      resourceInstances:
        - max: 5
      animalTypes:
        - max: 2
```

SLA4OAI

```javascript
var sla4oaiTools = require('sla4oai-tools'); //import
var slaManager = new sla4oaiTools(); //create a instance of slaManager
var app = express();

var configObj = {
    sla4oai: __dirname + "/petstore-plans.yaml"
};

slaManager.initialize(app, configObj, function(slaManager, error){
    //any callback actions
    if(!error){
        app.listen(9000);
    }else{
        console.log(error.toString());
    }
});
```

OAS-Tools en acción

https://innosoft-talkvotes.herokuapp.com/docs/

Dudas, sugerencias...

Contacto

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¡Gracias por su atención!