DOCUMENTATION FIRST APIS

FIRST APIS

(WITH LUMEN)

ABOUT ME

▶ API Developer at Quartzy
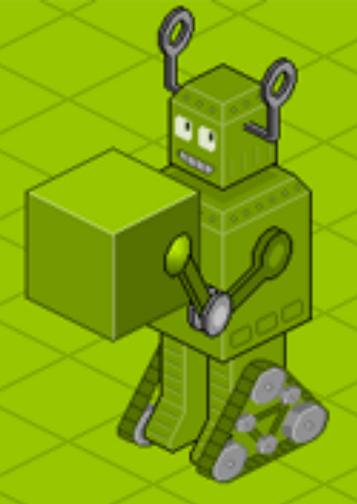
▶ 4 Laravel Apps (Mostly Lumen) & a Symfony App

▶ > 200 API endpoints

SWAGGER

The World's Most Popular Framework for APIs.

DOCUMENTATION |

▶ Documentation

▶ Postman/Paw Import

▶ Input Validation

▶ Test Assertions

▶ Client Libraries

- ▶ **Protocol Buffers**
  - ▶ **Mock Servers**
    - ▶ **Routing**
  - ▶ **API Gateways**

~~Test~~ Documentation Driven Development

```yaml
openapi: 3.0.0
paths:
  /work-orders:
    post:
      summary: Create a work order
      requestBody:
        description: Work order to create
        required: true
        content:
          application/json:
            schema:
              $ref: '#/components/schemas/NewWorkOrder'
      responses:
        201:
          description: The created work order
          content:
            application/json:
              schema:
                $ref: "#/components/responses/WorkOrder"
        default:
          description: Unexpected error
          content:
            application/json:
              schema:
                $ref: "#/components/responses/Error"
```

POST   Create a work order

Matt's Bicycle Shop API

Version   1.0.0
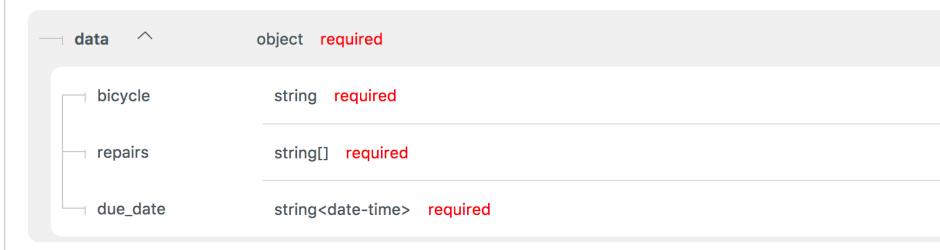
Download OpenAPI definition

Authentication

Create a work order

Create a work order **POST** `/work-orders`   ⌄

REQUEST BODY

data ⌃	object	required
bicycle	string	required
repairs	string[]	required
due_date	string<date-time>	required

RESPONSES

201   The Created Work Order

default   unexpected error   ⌄

```php
class WorkOrderTest extends TestCase
{
    function test_creates()
    {
        $this->json('POST', '/work-orders', [
            'data' => [
                'bicycle'  => 'Trek 520',
                'repairs'    => [
                    'BRK_FT_ADJUST'
                ],
                'due_date' => '2017-10-12T05:26:51+00:00'
            ],
        ])
        ->seeStatusCode(204)
        ->seeJsonValidatesAgainstSwagger();
    }
}
```

```php
class WorkOrdersController
{
  function create(Request $request)
  {
    $this->validateJson($request, '#/components/schemas/NewWorkOrder');

    return WorkOrder::create($request);
  }
}
```

{ JSON:SCHEMA }

```php
// Laravel
[
    'title' => 'required|string|max:50',
];
```

```json
// JSON Schema
{
  "properties": {
    "title": {
      "type": "string",
      "maxLength": 50
    }
  },
  "required": ["title"]
}
```

{ $REF }

```yaml
definitions:
  UUID:
    description: A RFC 4122 compliant universally unique identifier
    type: string
    pattern: "[A-Fa-f0-9]{8}-[A-Fa-f0-9]{4}-[A-Fa-f0-9]{4}-[A-Fa-f0-9]{4}-[A-Fa-f0-9]{12}"
  User:
    properties:
      id:
        $ref: "#/UUID"
      name:
        type: string
```

```
$ composer require league/json-guard
$ composer require league/json-reference
```

```php
$schema    = (new Dereferencer())->dereference('http://api.matts-bikes.dev/openapi#/components/schemas/NewWorkOrder');
$data      = json_decode($request->getContent());
$validator = new Validator($data, $schema);

if ($validator->fails()) {
  return new JsonResponse($validator->errors());
}
```

```json
[
    {
        "message": "Value \"null\" is not a(n) \"string\"",
        "keyword": "type",
        "parameter": "string",
        "data": null,
        "data_path": "/name",
        "schema": {
            "description": "Name of the product",
            "type": "string"
        },
        "schema_path": "/properties/name/type",
        "cause": null
    },
]
```

MAINTENANCE

```
~/code/quartzy/abe(master*) » php pls swagger:audit
Swagger Compiled ✓
2 routes found which are undocumented

+-------------------------------+
|                               |
|  route                        |
|                               |
+-------------------------------+
|                               |
| GET/surveys                   |
| GET/survey-questions/{id}     |
|                               |
+-------------------------------+
```

```
~/code/quartzy/api(swagger3) » wc -l ./resources/openapi/openapi.json
    3647 ./resources/openapi/openapi.json

--------------------------------------------------------------------

~/code/quartzy/api(swagger3) » tree -L 1 ./resources/openapi
./resources/openapi
├── definitions
├── openapi.json
├── parameters
└── responses

3 directories, 1 file

--------------------------------------------------------------------
```

```
➜ json-guard-cli php json-guard check ./tests/fixtures/bad-schema.json
✗ Invalid JSON Schema draft-04
+------+---------------------------------------+---------------------------------------+--------------------------+--------------+
| Code | Message                               | Pointer                               | Value                    | Constraints  |
+------+---------------------------------------+---------------------------------------+--------------------------+--------------+
| 49   | "json-guard.dev/schema#" is not a valid uri. | /id                             | json-guard.dev/schema#   |              |
| 30   | Number "-4" is not at least "0"       | /properties/product/maxLength         | -4                       | min:0        |
| 25   | Value "123" is not a(n) string.       | /properties/cost/pattern              | 123                      |              |
| 28   | Value "<ARRAY>" is not a(n) object.   | /properties/additionalProperties      | <ARRAY>                  |              |
+------+---------------------------------------+---------------------------------------+--------------------------+--------------+
```

ALTERNATIVES

▶ **RAML**

▶ **API Blueprint**

▶ **JSON Schema / JSON Hyper Schema**

LEARNING MORE

▸ swagger.io

▸ openapis.org

▸ json-schema.org