RAML - **R**ESTful **A**PI **M**odeling **L**anguage

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du Canton de Vaud

API Documentation

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- When you are designing and implementing a REST API, you are most often doing it for **third-party developers**:
  - Think about Twitter, Instagram or Amazon exposing services to external developers.
  - Think about an enterprise (e.g. car manufacturer) exposing services to business partners (e.g. suppliers, subcontractors, distributors).
- The documentation of your API is the first thing that third-party developers (your **customers**) will see. You want to **seduce** them.
- The documentation of your API will have a big impact on its **learnability** and **ease of use**.
- **Best practices** and **tools** have emerged. **Evaluate and apply them!**

RAML by their authors

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RAML (Mulesoft but not only - OpenSource - Apache License v2)

RESTful API Modeling Language (RAML) is a simple and succinct way of describing practically-RESTful APIs. It encourages reuse, enables discovery and pattern-sharing, and aims for merit-based emergence of best practices. The goal is to help our current API ecosystem by solving immediate problems and then encourage ever-better API patterns. RAML is built on broadly-used standards such as YAML and JSON and is a non-proprietary, vendor-neutral open spec.

What it looks like

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```
#%RAML 0.8

title: World Music API
baseUri: http://example.api.com/{version}
version: v1
traits:
  - paged:
      queryParameters:
        pages:
          description: The number of pages to return
          type: number
  - secured: !include http://raml-example.com/secured.yml
/songs:
  is: [ paged, secured ]
  get:
    queryParameters:
      genre:
        description: filter the songs by genre
  post:
  /{songId}:
    get:
      responses:
        200:
          body:
            application/json:
              schema: |
                { "$schema": "http://json-schema.org/schema",
                  "type": "object",
                  "description": "A canonical song",
                  "properties": {
                    "title":  { "type": "string" },
                    "artist": { "type": "string" }
                  },
                  "required": [ "title", "artist" ]
                }
            application/xml:
    delete:
      description: |
        This method will *delete* an **individual song**
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(reusability)

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(different format)

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Markdown

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RAML

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- RAML is pretty straightforward to use:
  - You describe the list of resources managed by your application, document the support HTTP verbs, enlist the query parameters, etc.
  - Most of modern IDE and text editors supports YAML syntax highlighting. As RAML is based on YAML.
  - If you use **Sublime Text**, you can take advantage of an extension that provides **syntax highlighting** specifically designed for RAML.
  - See **RAML 100 tutorial** (http://raml.org/docs.html)
- RAML has advanced features that can make your specifications less verbose (by abstracting and reusing common elements):
  - includes
  - resource types and schemas
  - traits
  - See **RAML 200 tutorial** (http://raml.org/docs-200.html)

RAML Alternatives

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- Swagger (Reverb - Open Source - Apache License v2)
  - Swagger is a simple yet powerful representation of your RESTful API. With the largest ecosystem of API tooling on the planet, thousands of developers are supporting Swagger in almost every modern programming language and deployment environment. With a Swagger-enabled API, you get interactive documentation, client SDK generation and discoverability.

- API Blueprint (APIary - Open Source - MIT)
  - Connecting the dots in API development
    - Web API Language - Pure Markdown - Designed for Humans - Understandable by Machines - Powerful Tooling - Easy Lifecycle

apidoc-seed

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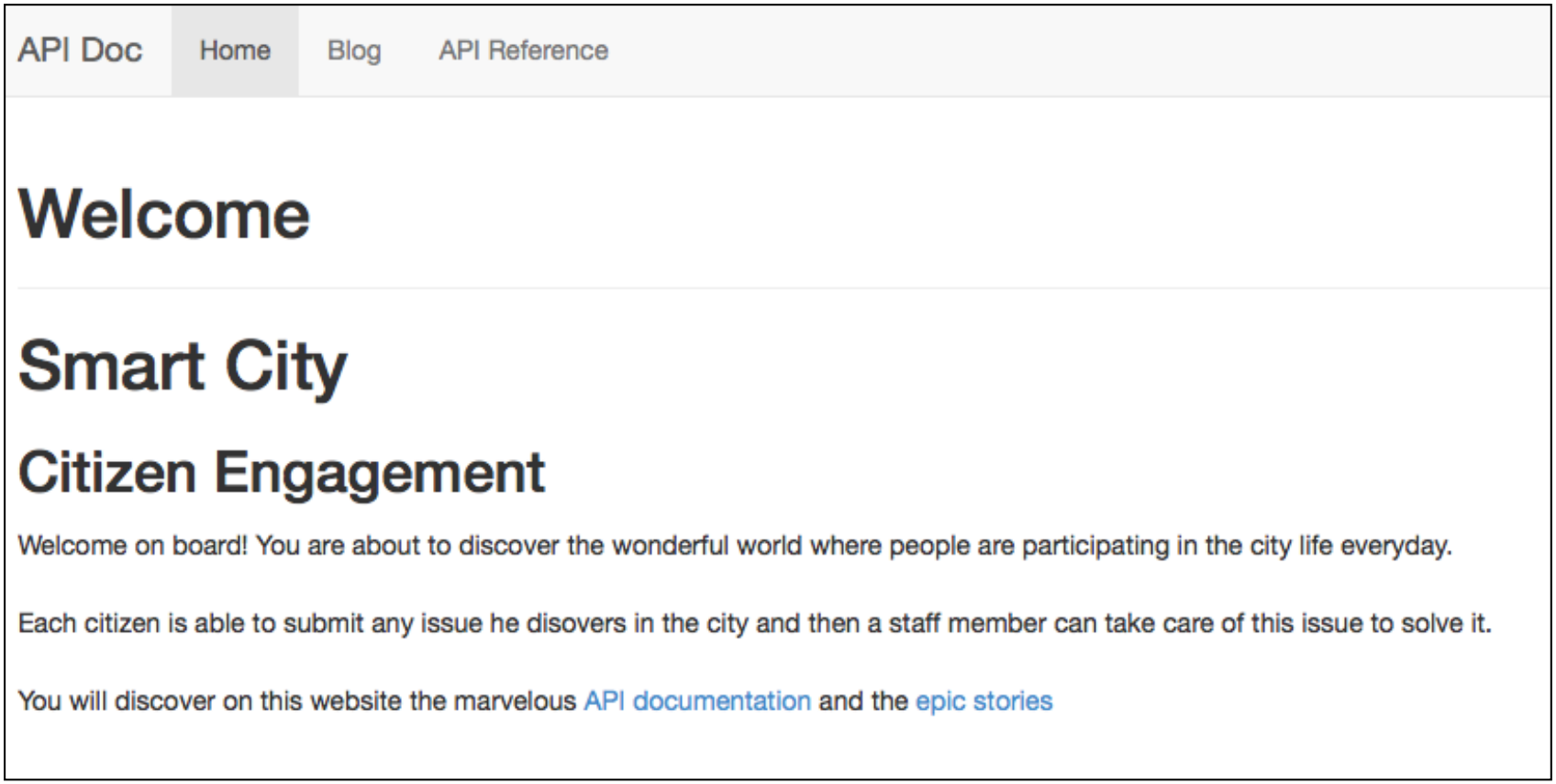

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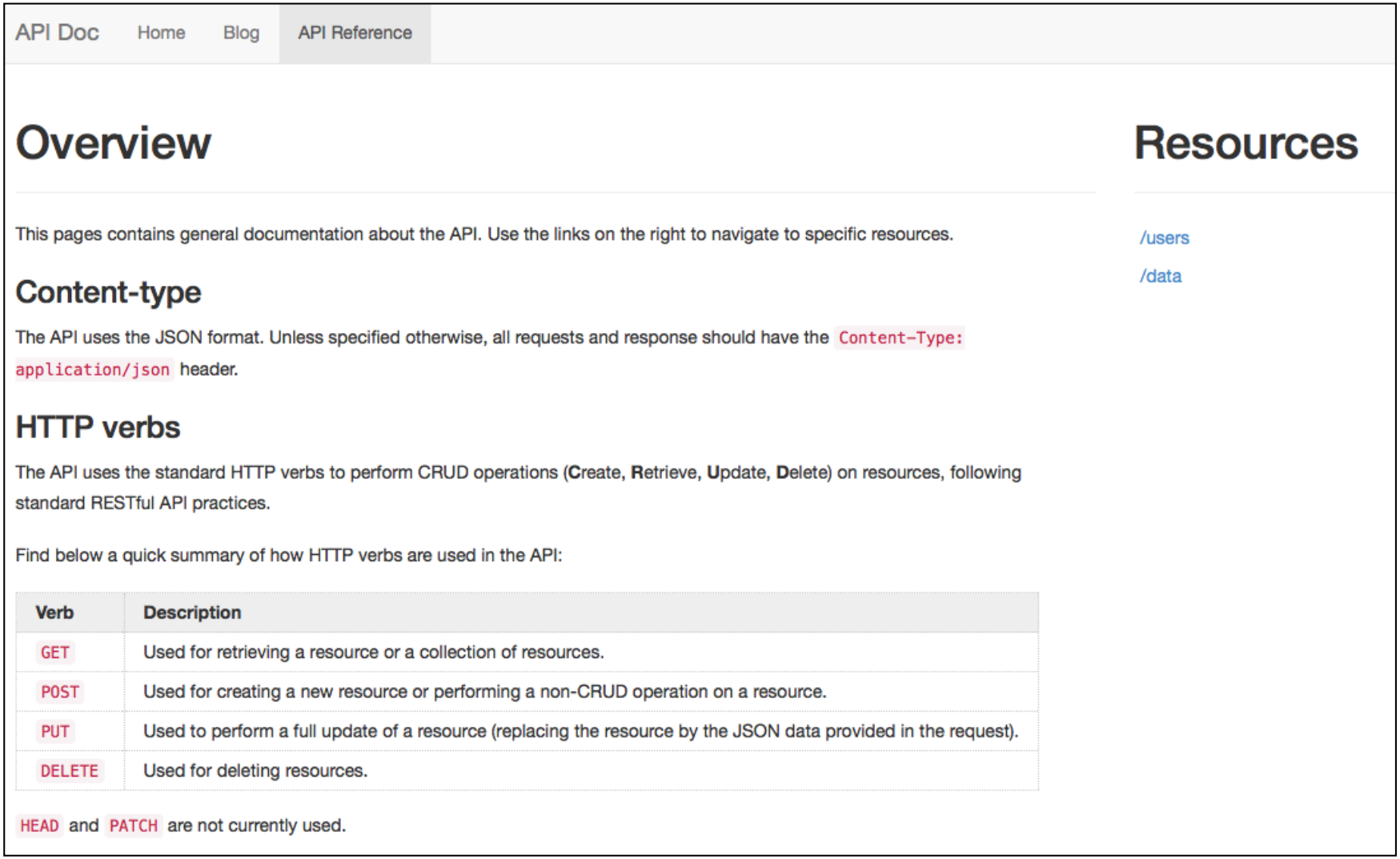

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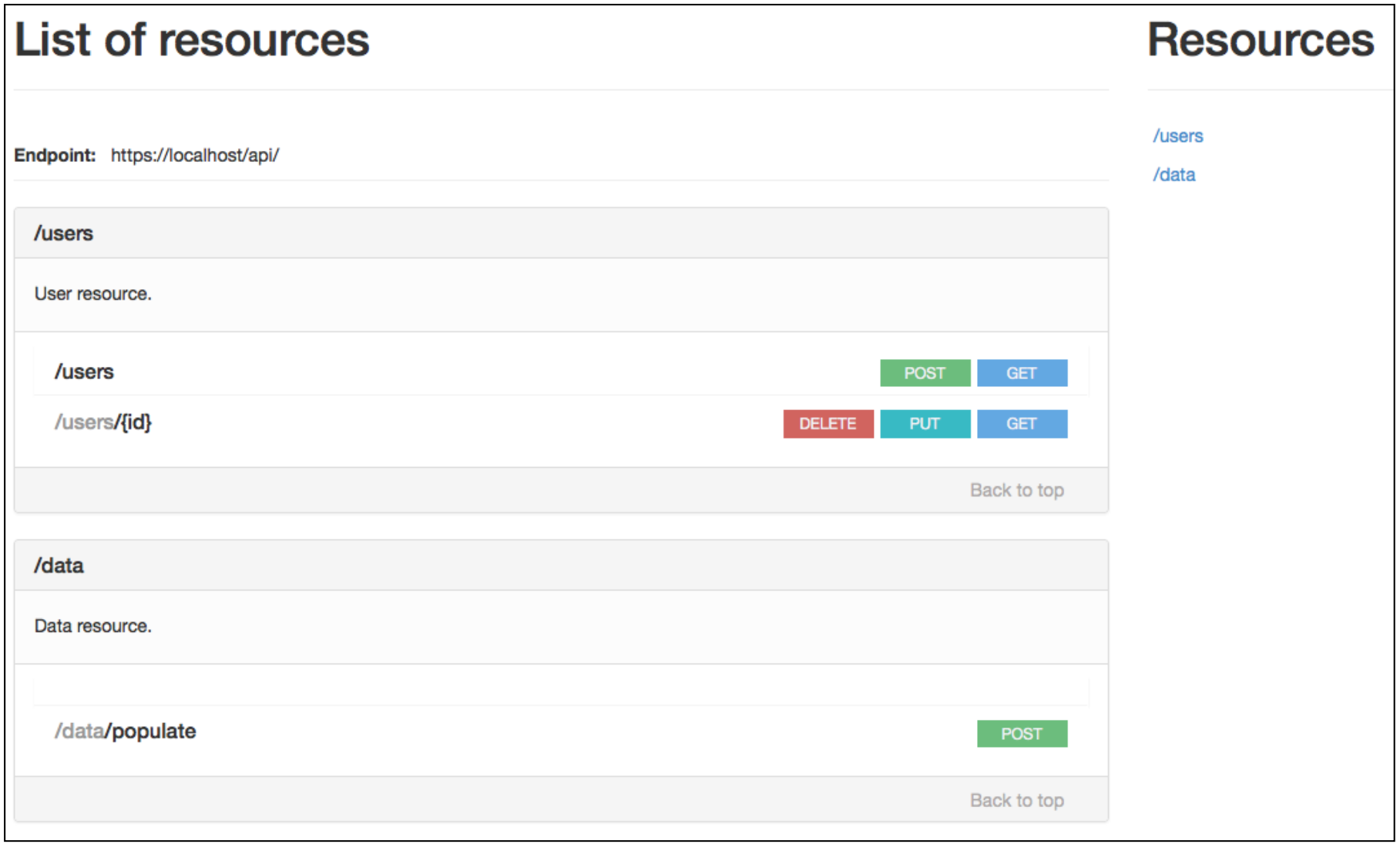

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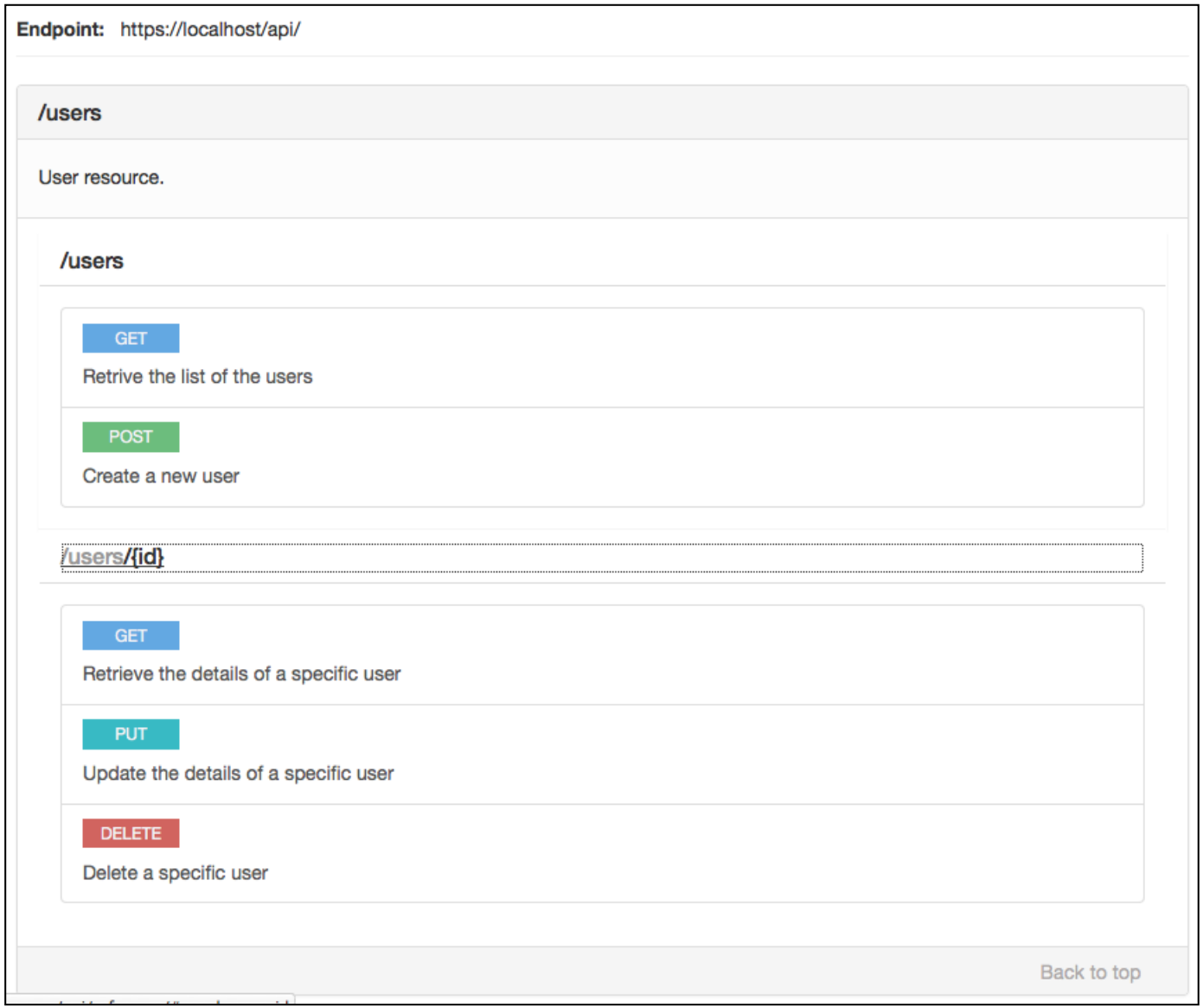

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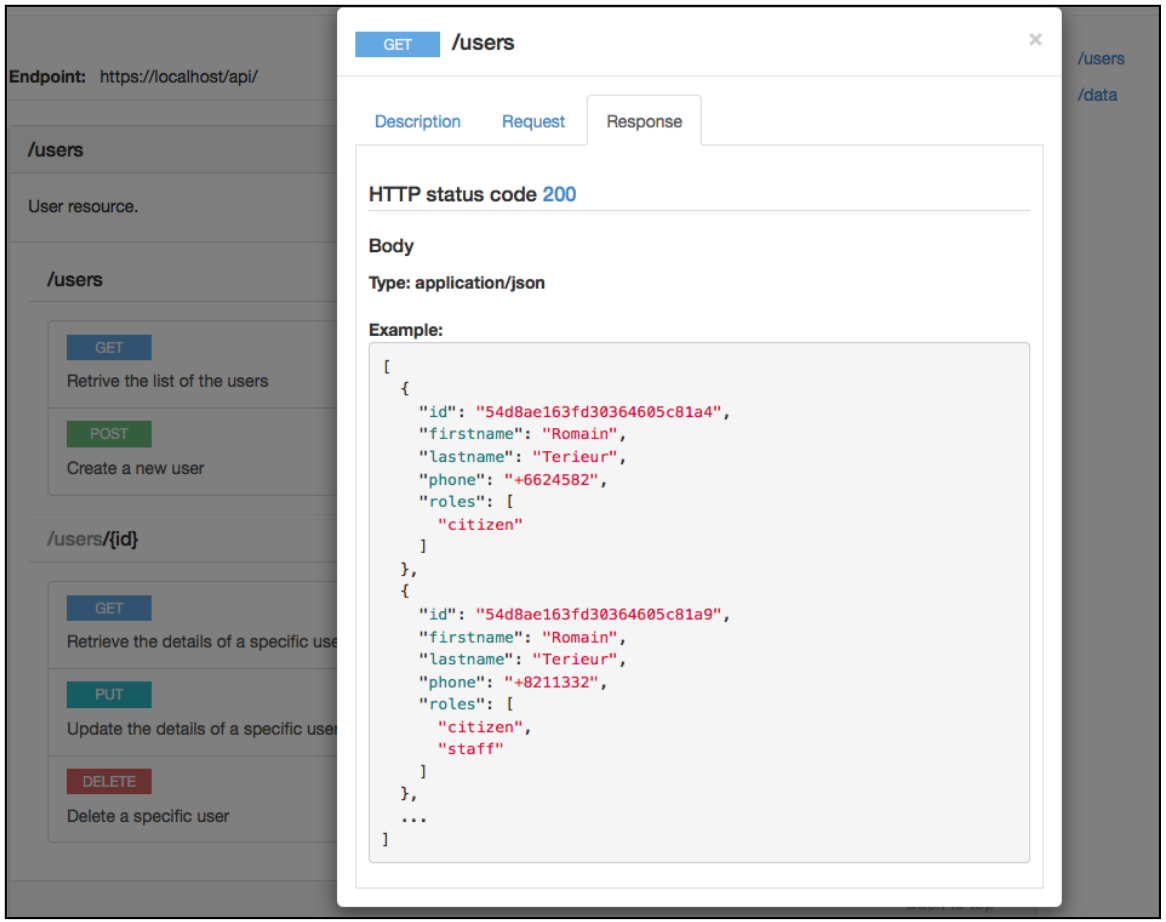

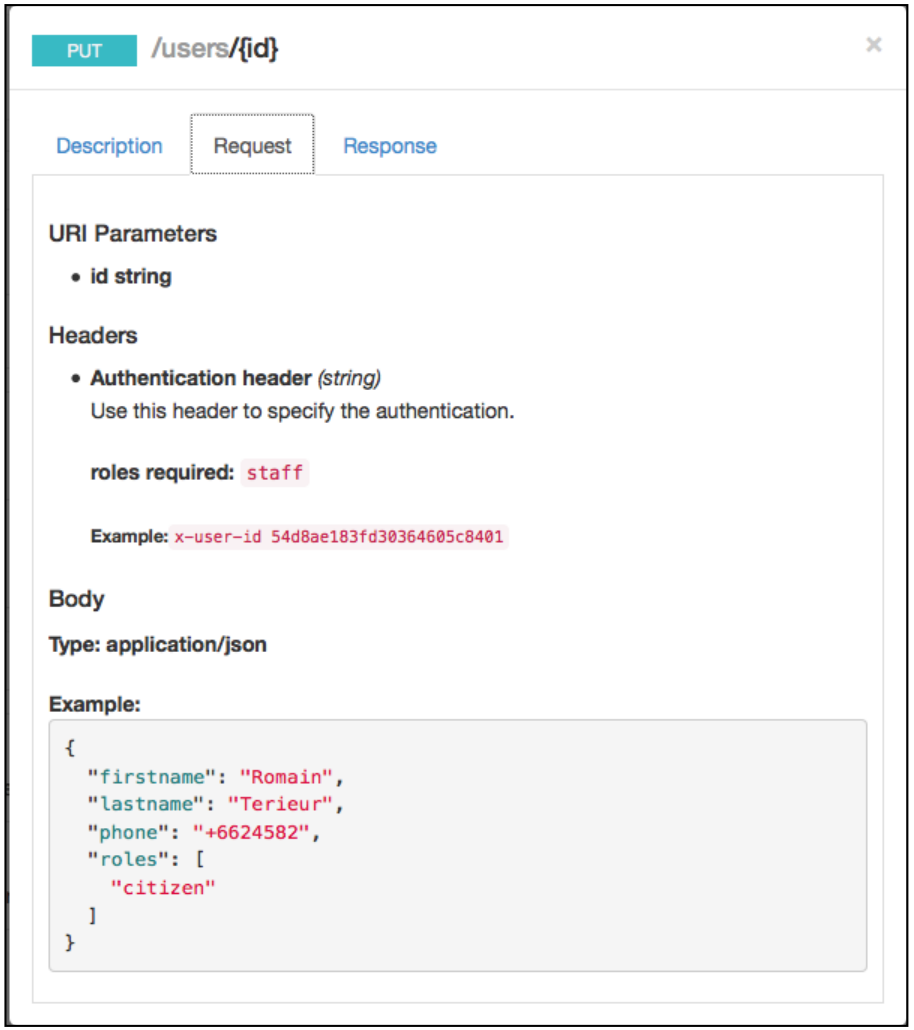

apidoc-seed

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- **apidoc-seed** is an open source tool, which makes it easy to generate a complete HTML site for documenting your REST API.
- To use the tool, **clone the GitHub repo** (https://github.com/lotaris/apidoc-seed) and follow the readme instructions.
  - **edit/create jade templates and markdown documents** to provide documentation for your service (general service information, usage guides, support information, etc.).
  - **edit/create RAML files to document your REST APIs**. Depending on the complexity of your APIs, you can **split** the documentation into several files.
- The tool supports a notion of "**private**" API elements. This is used if your API has resources, methods or parameters that you don't want to publicly expose yet (note that this is documentation level only, nothing will prevent a user to send a request!).

Individual work

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- Clone the **repo**, build and test it in your browser.
  - https://github.com/lotaris/apidoc-seed
- Follow the instructions in the **RAML 100 tutorial** (http://raml.org/docs.html), but do it in the `/src/api/raml/index.raml` file (keep a copy of the original file).
- Modify the **Welcome page** in the documentation site (when you deliver your project, I expect to find a description of your platform here).
- Add an article in the blog that describe, if any, your difficulties to setup the project.
- Customize the **page footer**.

Resources

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- http://control.laneworks.net/admin/project/jobs/api-design/white-paper.php?Project_ID=17
- http://swagger.io/
- https://apiblueprint.org/
- http://raml.org/licensing.html
- https://github.com/SoftEng-HEIGVD/Teaching-HEIGVD-CM_WEBS-2015-Labo-Doc
- https://github.com/lotaris/apidoc-seed