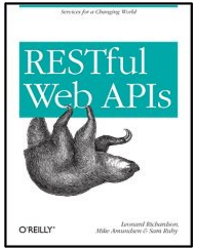
Prototyping

Mike Amundsen
@mamund

Designing and Building Great APIs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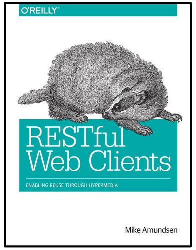
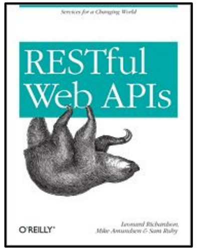


Prototyping Great APIs

- What is a Prototype?
- OpenAPI Spec/Swagger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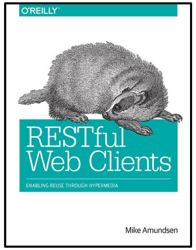
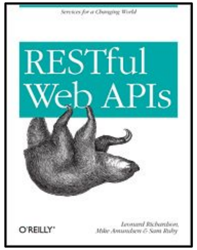


What is a Prototype?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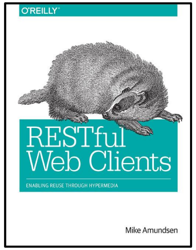
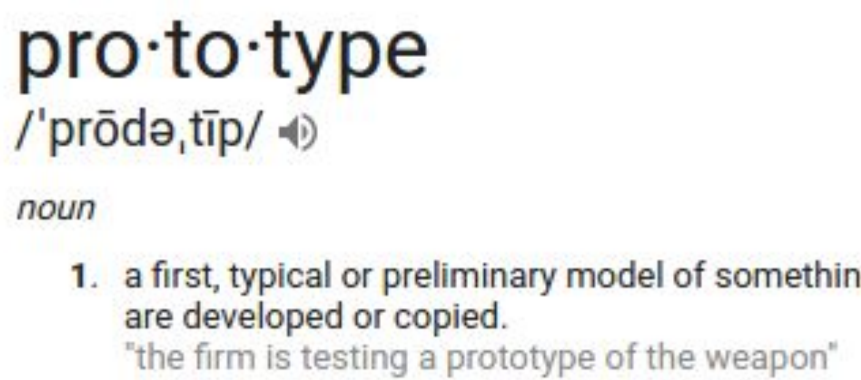




pro·to·type

/ˈprōdəˌtīp/

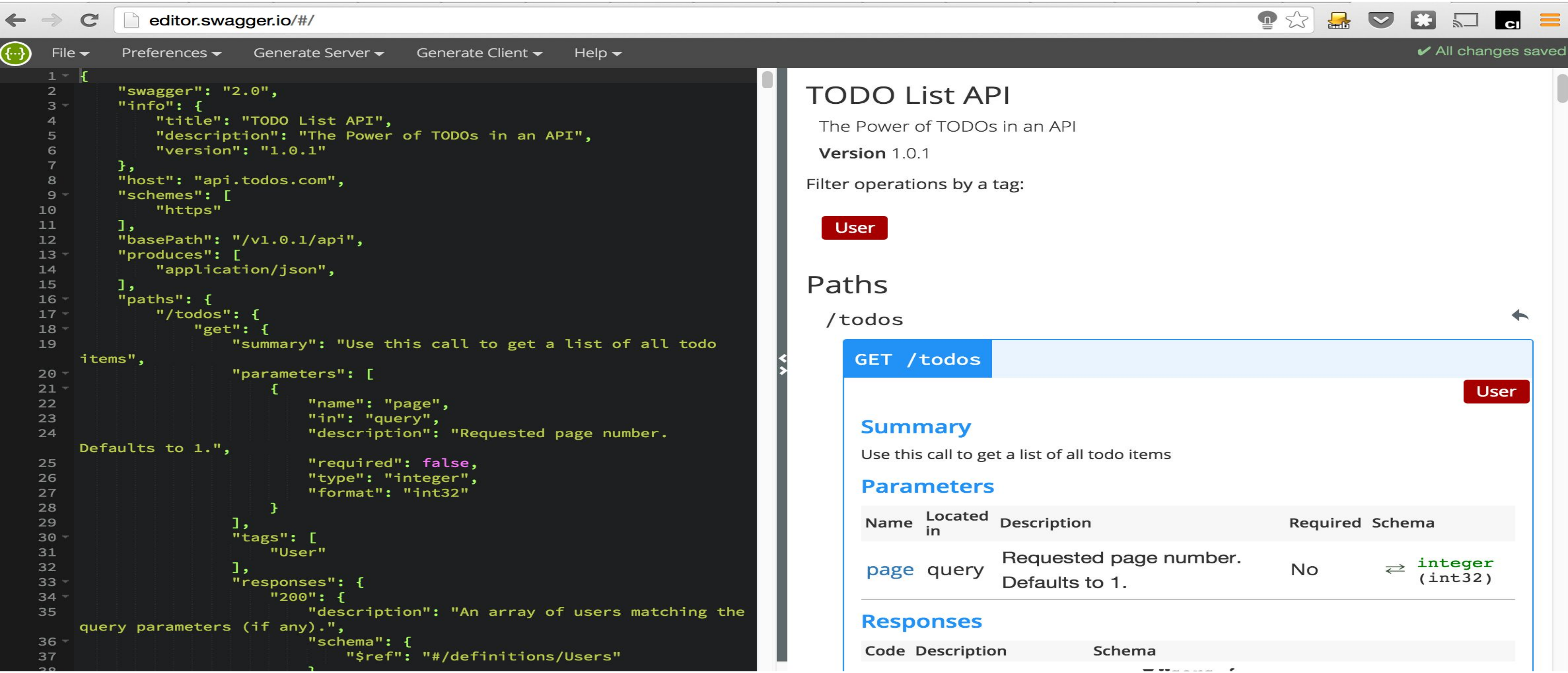
noun

1. a first, typical or preliminary model of something, especially a machine, from which other forms are developed or copied.
   "the firm is testing a prototype of the weapon"

Prototyping APIs

- Prototypes look like the real thing, but are not. They’re "fakes."
- They let you work up something with all the details of a real API, but without the actual functionality behind it.
- They’re an inexpensive way to work out the details
- Use them to discover challenges before you go into production.

Swagger Editor



```
{
    "swagger": "2.0",
    "info": {
        "title": "TODO List API",
        "description": "The Power of TODOs in an API",
        "version": "1.0.1"
    },
    "host": "api.todos.com",
    "schemes": [
        "https"
    ],
    "basePath": "/v1.0.1/api",
    "produces": [
        "application/json",
    ],
    "paths": {
        "/todos": {
            "get": {
                "summary": "Use this call to get a list of all todo items",
                "parameters": [
                    {
                        "name": "page",
                        "in": "query",
                        "description": "Requested page number. Defaults to 1.",
                        "required": false,
                        "type": "integer",
                        "format": "int32"
                    }
                ],
                "tags": [
                    "User"
                ],
                "responses": {
                    "200": {
                        "description": "An array of users matching the query parameters (if any).",
                        "schema": {
                            "$ref": "#/definitions/Users"
```

TODO List API

The Power of TODOs in an API

Version 1.0.1

Filter operations by a tag:

User

Paths

/todos

GET /todos

User

Summary

Use this call to get a list of all todo items

Parameters

Name	Located in	Description	Required	Schema
page	query	Requested page number. Defaults to 1.	No	⇄ integer (int32)

Responses

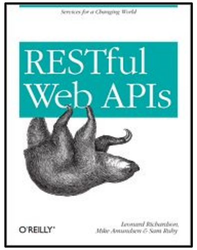
Code	Description	Schema

Prototyping APIs

- Use tools like Live API Creator, NodeJS express, or other code-generating platforms.
- It’s also a good idea to use service-virtualization frameworks to mock up the response data.
- If possible, include access-control checking when running tests against the prototype.
- If possible use existing production-level API consumers to test out the prototype.

Prototypes are made to be tested.

So...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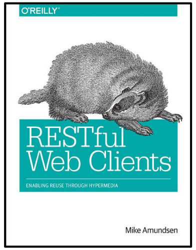
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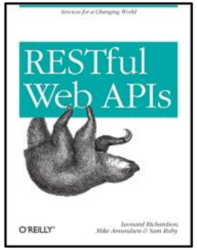
Prototyping Great APIs

- Prototypes are for testing
- Use OpenAPI Spec/Swagger for prototyping



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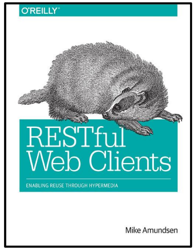
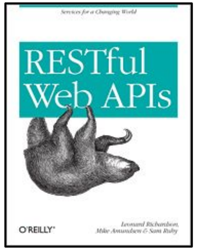


Exercise

http://g.mamund.com/todo-list-swagger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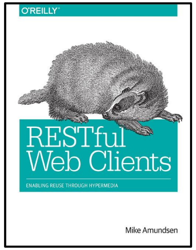
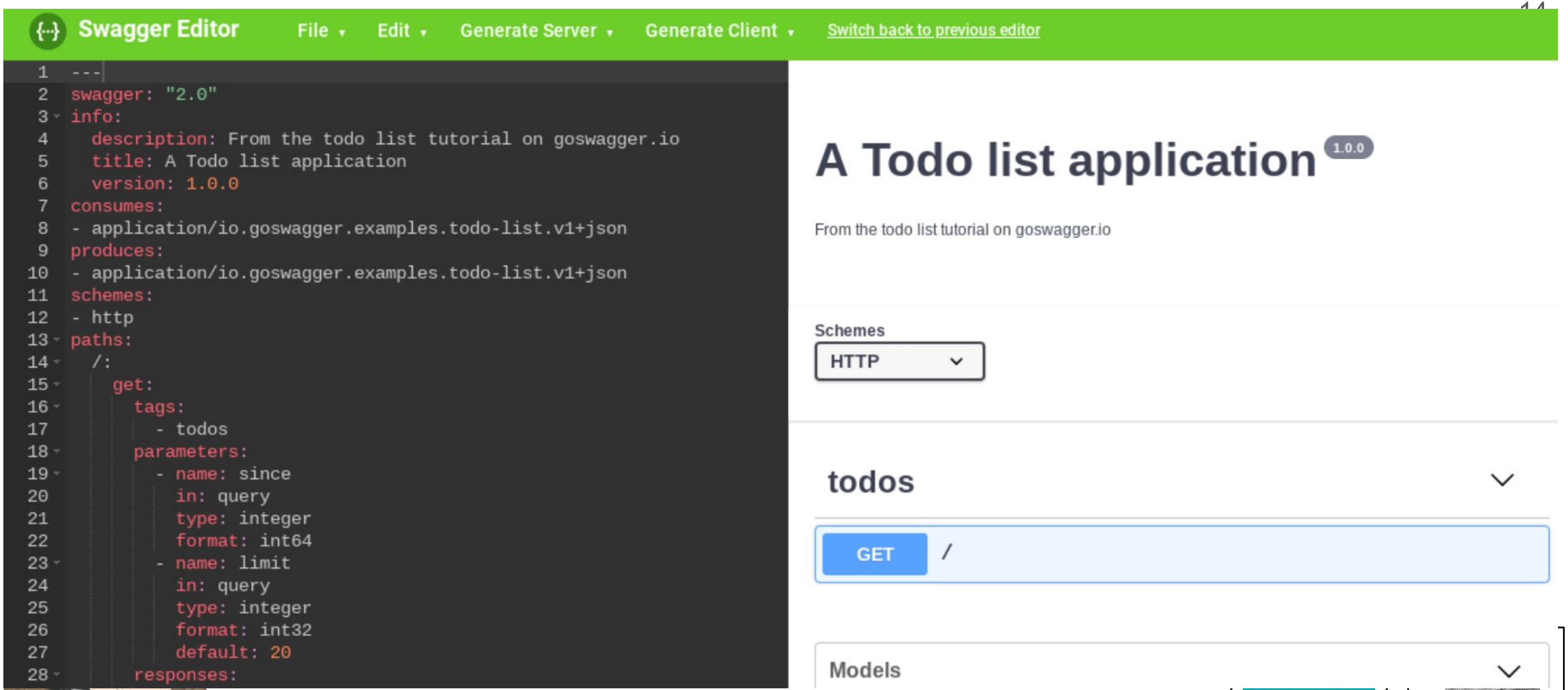


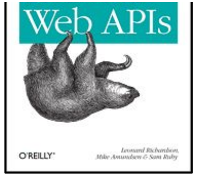


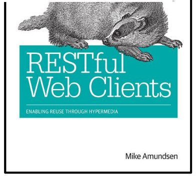
```yaml
---
swagger: "2.0"
info:
  description: From the todo list tutorial on goswagger.io
  title: A Todo list application
  version: 1.0.0
consumes:
- application/io.goswagger.examples.todo-list.v1+json
produces:
- application/io.goswagger.examples.todo-list.v1+json
schemes:
- http
paths:
  /:
    get:
      tags:
        - todos
      parameters:
        - name: since
          in: query
          type: integer
          format: int64
        - name: limit
          in: query
          type: integer
          format: int32
          default: 20
      responses:
```

A Todo list application 1.0.0

From the todo list tutorial on goswagger.io

Schemes: HTTP





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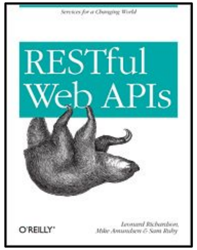
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