

菩萨相谈

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菩

It's the Data Model, Friend

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Swagger (<http://swagger.io>)

- Open Source
- YAML/JSON
- Tools
 - Editors
 - Generators
 - Services

Swagger Info Object

```
title: Swagger Sample App
description: This is a sample server Petstore server.
termsOfService: http://swagger.io/terms/
contact:
  name: API Support
  url: http://www.swagger.io/support
  email: support@swagger.io
license:
  name: Apache 2.0
  url: http://www.apache.org/licenses/LICENSE-2.0.html
version: 1.0.1
```

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Swagger Paths Object

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

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<http://petstore.swagger.io>

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RAML

- Open Source
- YAML/JSON
- Markdown documentation
- Reusable API Patterns:
 - Traits
 - ResourceTypes
 - SecuritySchemes

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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
  ...
```

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```
...
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:
  ...
```

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```
...
delete:
  description: |
    This method will *delete* an **individual song**
```

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Apiary.io

- Collaborative
- Markdown
- Mocked APIs
- Generated documentation
- Usage examples

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FORMAT: 1A

Message of the Day API

A simple [MOTD](<http://en.wikipedia.org/wiki/motd>) API.

Message [/messages/{id}]

This resource represents one particular message identified by its **id**.

Retrieve Message [GET]

Retrieve a message by its **id**.

+ Response 200 (text/plain)

Hello World!

Delete Message [DELETE]

Delete a message.

****Warning:**** This action ****permanently**** removes the message from the database.

+ Response 204

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<http://app.apiary.io>

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```
GET /notes HTTP/1.1
Host: private-fa384-rwe.apiary-mock.com

Access-Control-Allow-Methods: OPTIONS,GET,HEAD,POST,PUT,DELETE
Access-Control-Allow-Origin: *
Content-Type: application/json
Date: Wed, 22 Apr 2015 19:24:54 GMT
X-APIary-Ratelimit-Limit: 120
X-APIary-Ratelimit-Remaining: 119
X-APIary-Transaction-Id: 5537f586eb262f030043cdcd
[
  {
    "id": 1,
    "title": "Jogging in park"
  },
  {
    "id": 2,
    "title": "Pick-up posters from post-office"
  }
]
```

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<http://restlet.com/products/restlet-studio/>

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Hydra + JSON-LD

<http://www.hydra-cg.com>

- Standard format
- Hypermedia-aware
- Arbitrary domains
- Extensible
- Interoperable w/ RDF and Linked Data

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<http://www.hydra-cg.com/>

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Fetching JSON-LD

```
> http get http://bosatsu.net/jsonld/basic.jsonld
```

```
HTTP/1.1 200 OK
Content-Length: 224
Content-Type: application/ld+json
Date: Fri, 16 Sep 2016 14:01:47 GMT
ETag: "1049db-e0-50f27d168c9c0"
Last-Modified: Sun, 15 Feb 2015 22:16:15 GMT
```

```
{
  "@context": {
    "birthday": "http://xmlns.com/foaf/0.1/birthday",
    "name": "http://xmlns.com/foaf/0.1/name"
  },
  "@id": "https://w3id.org/people/bsletten",
  "birthday": "05-26",
  "name": "Brian Sletten"
}
```

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Fetching Turtle

```
> http get http://bosatsu.net/turtle/brian.ttl
```

```
HTTP/1.1 200 OK
Accept-Ranges: bytes
Access-Control-Allow-Origin: *
Content-Length: 124
Content-Type: text/turtle
Date: Sun, 15 Feb 2015 22:58:49 GMT
ETag: "1049e7-7c-50f27daf231c0"
Last-Modified: Sun, 15 Feb 2015 22:18:55 GMT
Server: Apache/2.2.16 (Debian)
<https://w3id.org/people/bsletten>
  <http://xmlns.com/foaf/0.1/depiction>
    "http://bosatsu.net/images/briansletten.jpg" .
```

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Merging JSON-LD and Turtle

```
> rdfcat --out ttl http://bosatsu.net/jsonld/basic.jsonld
http://bosatsu.net/turtle/brian.ttl

<https://w3id.org/people/bsletten>
  <http://xmlns.com/foaf/0.1/birthday> "05-26" ;
  <http://xmlns.com/foaf/0.1/depiction>
    <http://bosatsu.net/images/briansletten.jpg> ;
  <http://xmlns.com/foaf/0.1/name> "Brian Sletten" .
```

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Demo

Credit: Stefan Rüdiger
License: CC BY 2.0

```

// http://bosatsu.net/moarfacts.ttl

<https://w3id.org/people/bsletten>
  <http://xmlns.com/foaf/0.1/knows>
    <http://uberconf.com/conference/speaker/stuart_halloway#stu>,
    <http://uberconf.com/conference/speaker/dave_klein#dave>,
    <http://uberconf.com/conference/speaker/michael_nygaard#mike> .

// who-created.rq

PREFIX foaf: <http://xmlns.com/foaf/0.1/>
PREFIX dc: <http://purl.org/dc/terms/>
SELECT ?name ?what ?title
WHERE {
  <https://w3id.org/people/bsletten> foaf:knows ?whom .
  ?whom foaf:name ?name .
  ?what dc:creator ?whom ;
        dc:title ?title .
}

```

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```

> sparql --query who-created.rq
--data https://w3id.org/people/bsletten
--data http://bosatsu.net/moarfacts.ttl
--data http://tinyurl.com/hwo7aya

```

// SPARQL Results

```

-----
| name                | what                | title                |
=====
| "Dave Klein"@en    | <urn:ISBN:1934356468> | "Grails: A Quick-Start Guide"@en |
| "Michael Nygaard"@en | <urn:ISBN:0978739213> | "Release It!"@en    |
| "Stu Halloway"@en  | <urn:ISBN:1934356336> | "Programming Clojure"@en    |
-----

```

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http://open-services.net

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```
> http get http://localhost:8080/oslc3/r/bugs
HTTP/1.1 200 OK
Accept-Post: text/turtle,application/json,application/json
Allow: GET,HEAD,POST,OPTIONS
Content-Type: text/turtle
Date: Sat, 15 Aug 2015 02:53:32 GMT
Link: <http://www.w3.org/ns/ldp#Resource>; rel="type"
Link: <http://www.w3.org/ns/ldp#BasicContainer>; rel="type"
Link: <http://open-services.net/ns/cm#Defect>;
    rel="http://open-services.net/ns/core#creationType"
Link: <http://localhost:8080/oslc3/Defect-shape.ttl>;
    rel="http://www.w3.org/ns/ldp#constrainedBy"
Link: <http://localhost:8080/oslc3/r/bugs/creationDialog>;
    rel="http://open-services.net/ns/core#creationDialog"
Vary: Accept,Prefer

@base <http://localhost:8080/oslc3/r/bugs> .
<a <http://www.w3.org/ns/ldp#BasicContainer> ;
  <http://purl.org/dc/terms/title> "Bug Container" .
```

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<http://localhost:9000/oslc3/Defect-shape.ttl>

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<http://localhost:9000/oslc3/r/bugs/creationDialog>

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<http://localhost:9000/oslc3/creationDialog.html>

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<http://localhost:9000/oslc3/>

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> http get <http://localhost:8080/oslc3/r/bugs>

HTTP/1.1 200 OK

Accept-Post: text/turtle,application/json,application/json

Allow: GET,HEAD,POST,OPTIONS

Content-Type: text/turtle

Date: Mon, 17 Aug 2015 01:42:21 GMT

...

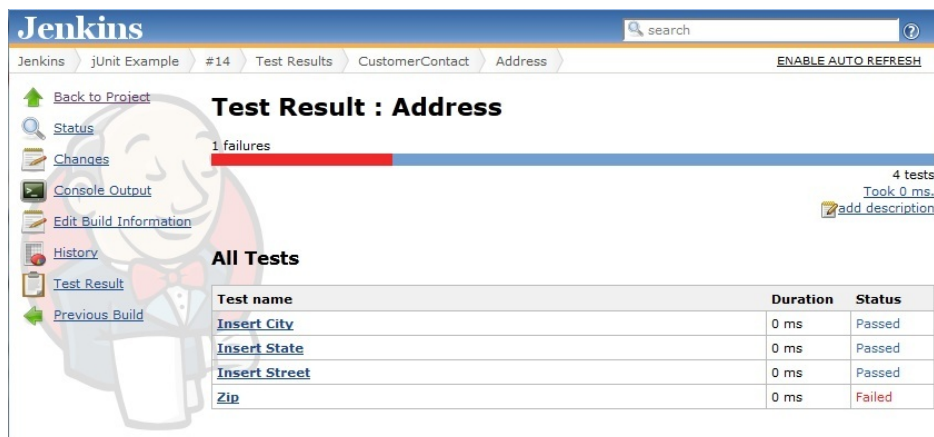
Link: <<http://localhost:8080/oslc3/r/bugs/creationDialog>>;
rel="http://open-services.net/ns/core#creationDialog"

Vary: Accept,Prefer

@base <<http://localhost:8080/oslc3/r/bugs>> .

<a <<http://www.w3.org/ns/ldp#BasicContainer>> ;
<<http://purl.org/dc/terms/title>> "Bug Container" ;
<<http://www.w3.org/ns/ldp#contains>>
<bugs/4> , <bugs/3> , <bugs/2> , <bugs/1> .

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The screenshot shows the Jenkins web interface for a test result. The breadcrumb trail is: Jenkins > jUnit Example > #14 > Test Results > CustomerContact > Address. The page title is "Test Result : Address". A progress bar indicates "1 failures" (red) and "4 tests" (blue). The tests are listed in a table below.

Test name	Duration	Status
Insert City	0 ms	Passed
Insert State	0 ms	Passed
Insert Street	0 ms	Passed
Zip	0 ms	Failed

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Questions?

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🍷 <http://tinyurl.com/bjs-gplus>

🌐 [bsletten](https://bsletten.com)