

Introduction to Hypermedia APIs

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What is a Hypermedia API?

REST

REpresentational State Transfer



Relies Heavily on HTTP

- Methods and URI
- Media Types
- Client Server

Relies Heavily on HTTP (Cont)

- Stateless
- Caching
- Uniform Interface (HATEOAS)

Methods and URIs

Five Routes

```
GET      /orders
POST     /orders
GET      /orders/:id
PUT      /orders/:id
DELETE   /orders/:id
```

GET /orders

List of orders

POST /orders

Create an order



GET /orders/:id

View a single order

PUT /orders/:id

Replace or create an order

DELETE /orders/:id

Delete an order



A bit about HTTP Verbs

GET

Retrieve a resource



POST

Most generic

PUT

Replace or Create
Not partial

DELETE

Delete a resource

PATCH

Update partially
Must be a diff

Media Types

Formats

- JSON
- XML
- XHTML

Setting the Media Type

- Accept Headers
- Rails way - `..:format`

Representational based

Models \neq Representations



Uniform Interface



Uniform Interface

- Identification of resources
- Manipulation of resources via representations
- Self descriptive messages
- Hypermedia as the engine of application state

Identification of resources

Manipulation of resources via representations

Self descriptive messages

Statelessness

Hypermedia as the engine of application state

HATEOAS



**Clients should not know
how to build routes**



Enter HAL

JSON cannot describe a link



HAL is a media type for defining links in JSON

application/hal+json

The Goal

GET /



**Great, now I know what a
Hypermedia API is.**



How do I make one?

Rails + Lots of Gems

Also monkey patching



Gems

- `ActiveModel::Serializer`
- `RspecApiDocumentation`
- `Raddocs`
- A few other handy ones

```
$ rails new hypermedia_api --skip-test-unit
```



\$ vim Gemfile

```
gem 'raddocs'
```

```
gem 'active_model_serializers'
```

\$ vim Gemfile

```
group :test, :development do
  gem 'rspec-rails'
  gem 'rspec_api_documentation'
end
```

Get rspec set up



Create our first acceptance test

**Generate models, index
action, serializers**



Show

Create



Update



Delete

Setup HAL

Let the monkey patching begin



**We're missing
something...**




```
$ curl http://localhost:3000/
```

```
'''
```



Root Resource

Questions?

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