progress engine
we will develop it
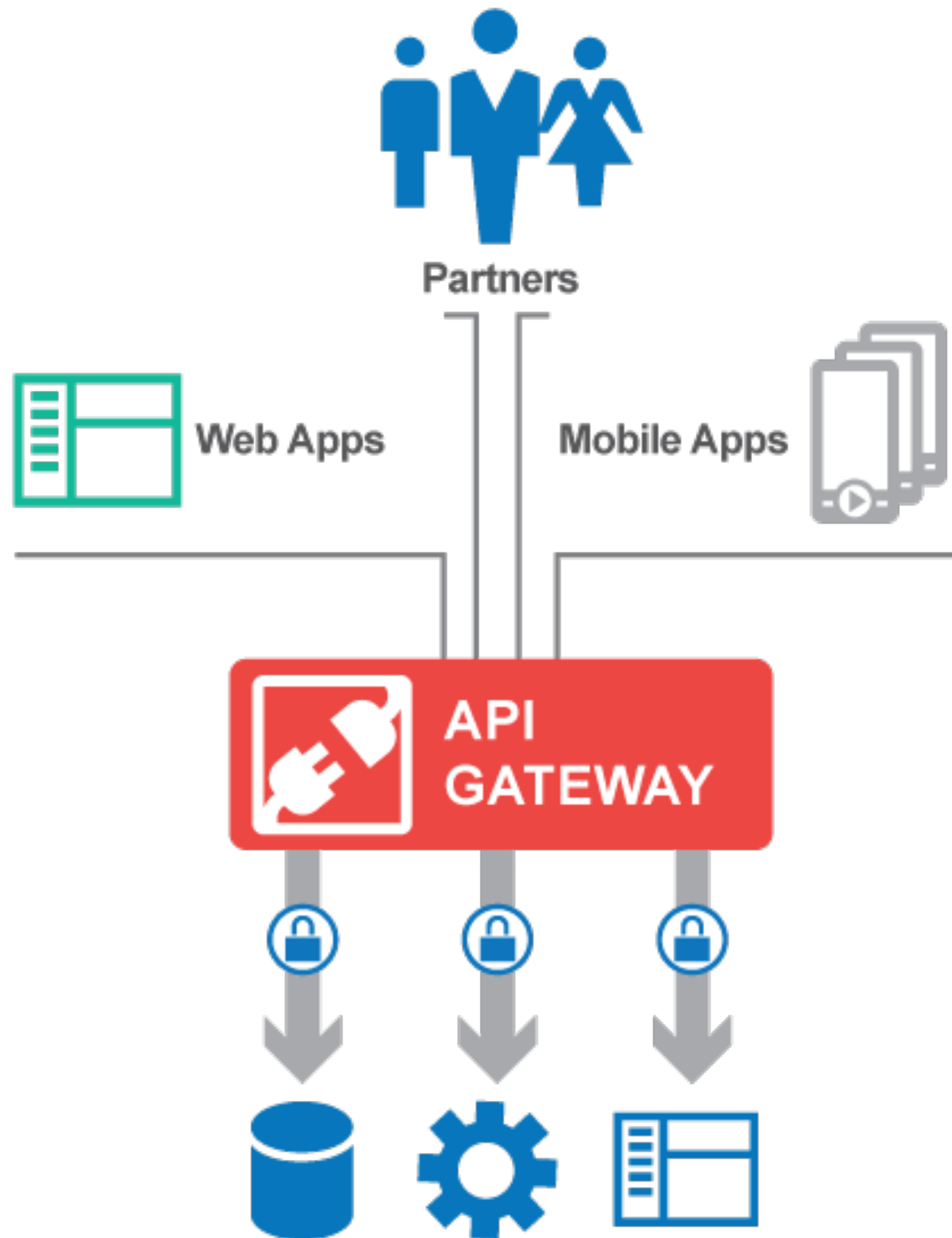
#tceh

2016

Врубиться в Ruby

Лекция 21

Лекция 21

- Что такое API
- Какие существуют форматы данных?
- action controller, rails api или grape?
- Инструменты для тестирования API

API

API = Application Programming Interface

Форматы данных

XML

```xml
<Cars>
        <Car Make="Ford" Model="Fiesta">
                <Seats>4</Seats>
                <Interior>Cloth</Interior>
        </Car>
        <Car Make="Porsche" Model="911">
                <Seats>2</Seats>
                <Interior>Leather</Interior>
        </Car>
        <Car Make="Toyota" Model="Sienna">
                <Seats>8</Seats>
                <Interior>Cloth</Interior>
        </Car>
</Cars>
```

JSON

```json
{ "users":[
        {
                "firstName":"Ray",
                "lastName":"Villalobos",
                "joined": {
                    "month":"January",
                    "day":12,
                    "year":2012
                }
        },
        {
                "firstName":"John",
                "lastName":"Jones",
                "joined": {
                    "month":"April",
                    "day":28,
                    "year":2010
                }
        }
    ]}
```
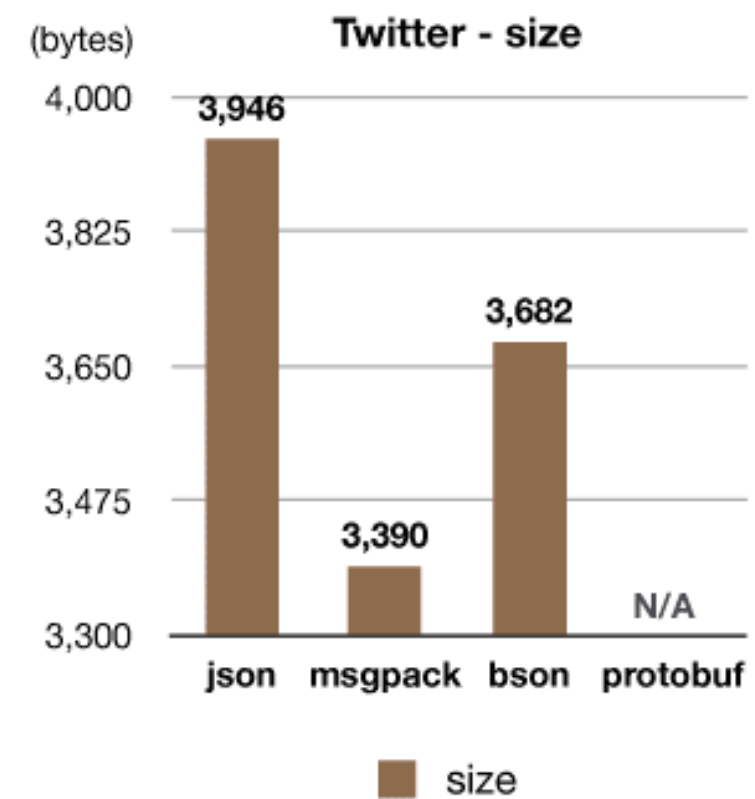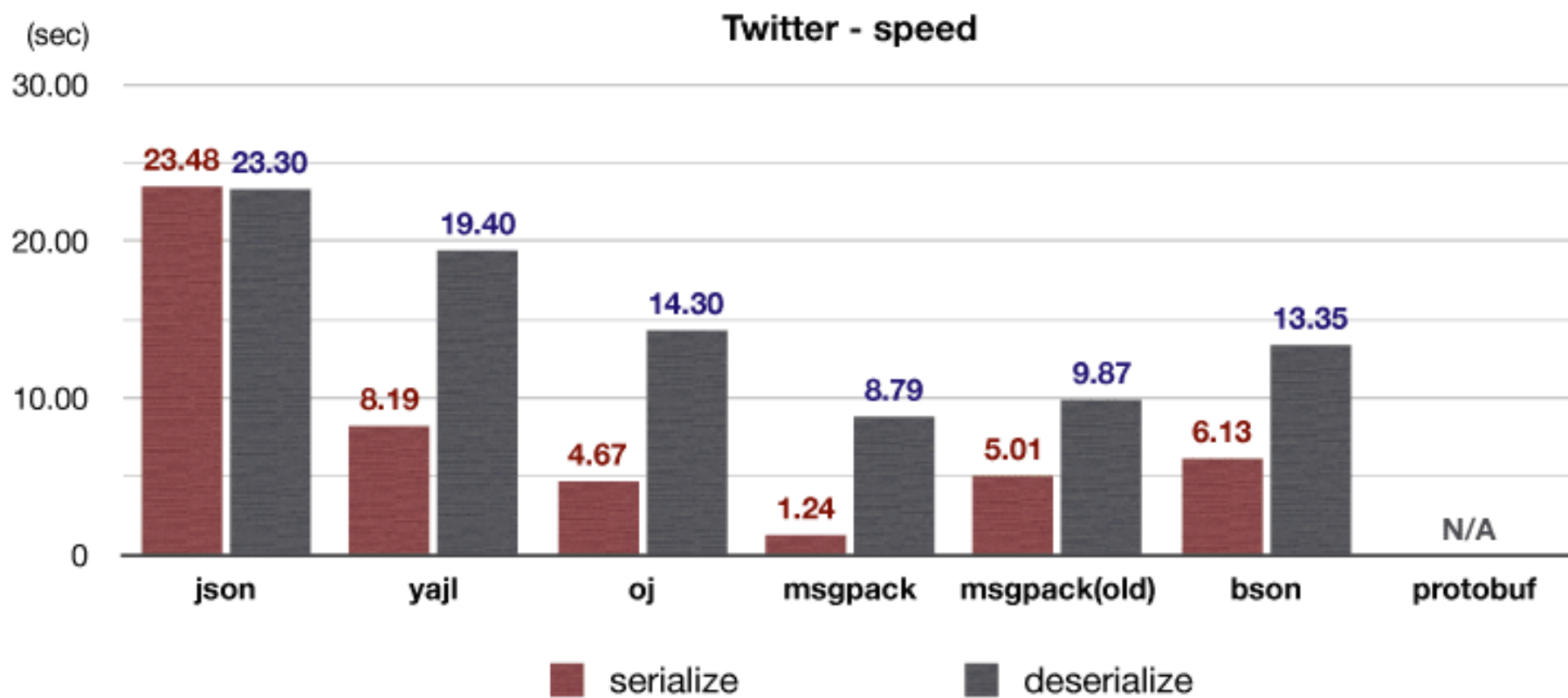
MsgPack

JSON 27 bytes

{ "compact": true, "schema": 0 }

MessagePack 18 bytes

`82` `A7` compact `C3` `A6` schema `00`

2-element map

7-byte string

true

6-byte string

integer 0

Twitter - speed

	json	yajl	oj	msgpack	msgpack(old)	bson	protobuf
serialize	23.48	8.19	4.67	1.24	5.01	6.13	N/A
deserialize	23.30	19.40	14.30	8.79	9.87	13.35	

Twitter - size

	json	msgpack	bson	protobuf
size	3,946	3,390	3,682	N/A

Action Controller, Rails API или Grape

Action Controller

Rails API

```
$ rails new my_api --api
```

Grape

gem 'grape'

```
config.paths.add File.join('app', 'api'), glob: File.join('**', '*.rb')
config.autoload_paths += Dir[Rails.root.join('app', 'api', '*')]
```

routes.rb

```ruby
mount SuperApplication::API => '/'
```

```ruby
module SuperApplication
  class API < Grape::API
    version 'v1', using: :header, vendor: 'twitter'
    format :json
    prefix :api

    helpers do
      def current_user
        @current_user ||= User.authorize!(env)
      end

      def authenticate!
        error!('401 Unauthorized', 401) unless current_user
      end
    end
```

```ruby
resource :statuses do
  desc 'Return a public timeline.'
  get :public_timeline do
    Status.limit(20)
  end

  desc 'Return a personal timeline.'
  get :home_timeline do
    authenticate!
    current_user.statuses.limit(20)
  end
```

```ruby
desc 'Update a status.'
params do
  requires :id, type: String, desc: 'Status ID.'
  requires :status, type: String, desc: 'Your status.'
end
put ':id' do
  authenticate!
  current_user.statuses.find(params[:id]).update({
    user: current_user,
    text: params[:status]
  })
end
```

Версионирование API

Path

version 'v1', using: :path

curl http://localhost:9292/v1/statuses/public_timeline

Header

version 'v1', using: :header, vendor: 'twitter'

формат - vnd.vendor-and-or-resource-v1234+format

curl -H Accept:application/vnd.twitter-v1+json
http://localhost:9292/statuses/public_timeline

Accept-Version Header

version 'v1', using: :accept_version_header

curl -H "Accept-Version:v1" http://localhost:9292/statuses/public_timeline

Parameter

version 'v1', using: :param, parameter: 'v'

curl http://localhost:9292/statuses/public_timeline?v=v1

Документация

Swagger

http://swagger.io/

Blueprint

https://apiblueprint.org/

RAML

http://raml.org/

Тестирование API

https://github.com/brooklynDev/airborne

Утилиты

https://curl.haxx.se

https://github.com/jkbrzt/httpie

https://luckymarmot.com/paw

Прочитать

http://www.datto.com/blog/a-framework-comparison-of-grape-vs-railsapi-part-1-performance

https://www.toptal.com/ruby/grape-gem-tutorial-how-to-build-a-rest-like-api-in-ruby

https://blog.codeship.com/building-a-json-api-with-rails-5/

https://blog.pivotal.io/pivotal-labs/labs/api-versioning

https://habrahabr.ru/company/geekfamily/blog/256495/

Практика

Вопросы?

+7 (926) 889-16-32

alec@alec-c4.com

http://alec-c4.com/