



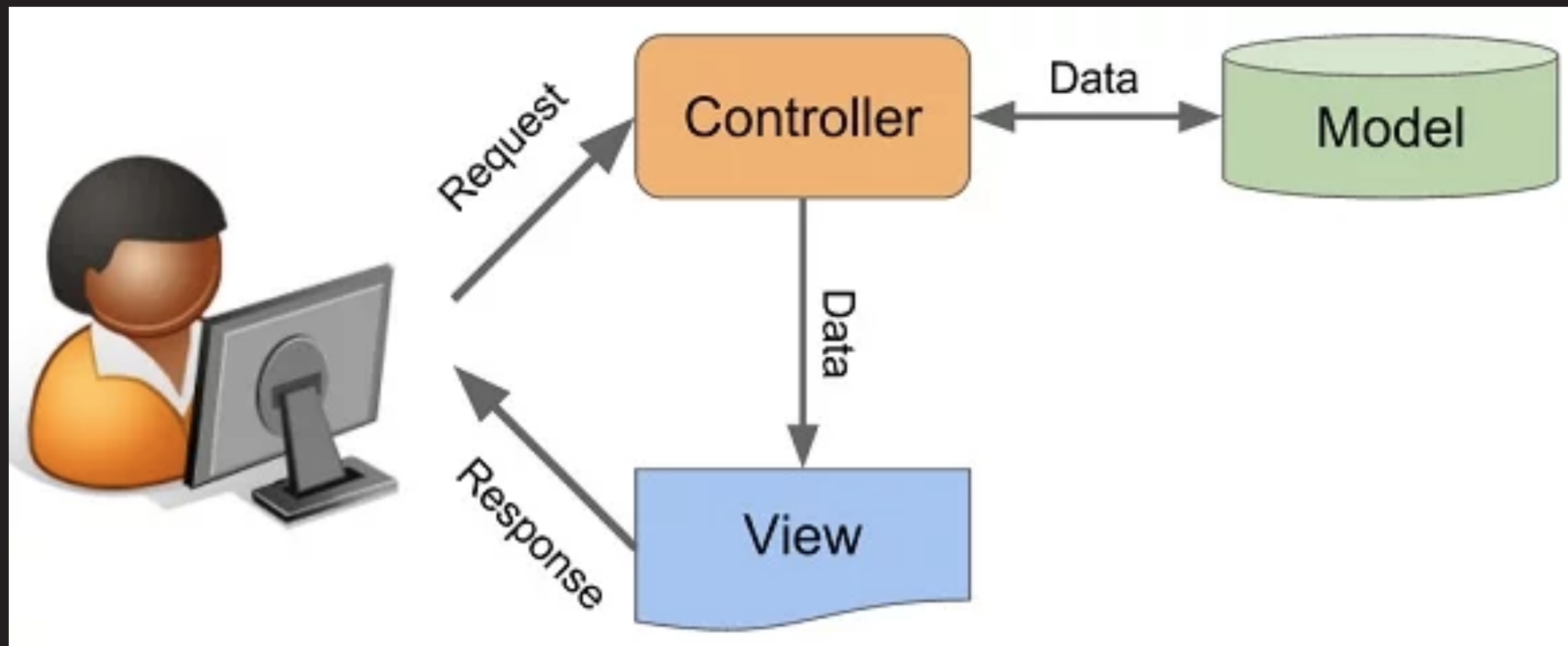
RUBY ON RAILS Level UP ↗

1. Czym jest api?

Przypomnienie podstaw Rails

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Level **UP** ↗

MVC



Tworzenie tabeli w bazie

```
class CreateHordeAndOrcs < ActiveRecord::Migration[5.2]
  def change
    create_table :hordes do |t|
      t.string :name, null: false, limit: 256
    end

    create_table :orcs do |t|
      t.string :name, null: false, limit: 256
      t.boolean :lord, default: false
      t.integer :power, null: false
      t.references :horde, foreign_key: true, index: true
    end
  end
end
```

Model

```
class Horde < ApplicationRecord
  has_many :orcs, dependent: :destroy

  validates :name, presence: true, length: { maximum: 256 }
end
```

```
class Orc < ApplicationRecord
  belongs_to :horde

  validates :name, presence: true, length: { maximum: 256 }
  validates :power, presence: true, numericality: { greater_than: 0, less_than: 100 }
  validate :lord_power

  def lord_power
    return if lord || power < 51

    errors.add(:power, :invalid)
  end
end
```

```
> horde = Horde.create(name: 'Primary one')  
  (0.1ms) begin transaction  
Horde Create (0.7ms) INSERT INTO "hordes" ("name") VALUES (?) [["name", "Primary one"]]  
  (3.0ms) commit transaction  
=> #<Horde id: 3, name: "Primary one">
```



```
> Horde.where(name: 'Primary one')  
  Horde Load (0.2ms)  SELECT "hordes".* FROM "hordes" WHERE "hordes"."name" = ? LIMIT ?  
[["name", "Primary one"], ["LIMIT", 11]]  
=> #<ActiveRecord::Relation [#<Horde id: 3, name: "Primary one">]>
```

```
> horde.orcs.create!(name: 'Khabun', power: 20)
(0.1ms) begin transaction
Orc Create (3.1ms) INSERT INTO "orcs" ("name", "power", "horde_id") VALUES (?, ?, ?)
[["name", "Khabun"], ["power", 20], ["horde_id", 3]]
(3.3ms) commit transaction
=> #<Orc id: 5, name: "Khabun", lord: false, power: 20, horde_id: 3>
```

```
> horde.orcs.create!(name: nil, power: 20)
(0.1ms) begin transaction
(0.1ms) rollback transaction
ActiveRecord::RecordInvalid: Validation failed: Name can't be blank
from (irb):12
```

```
> horde.destroy!  
  (0.1ms)  begin transaction  
Orc Load (0.2ms)  SELECT "orcs".* FROM "orcs" WHERE "orcs"."horde_id" = ?  [["horde_id", 3]]  
Orc Destroy (3.2ms)  DELETE FROM "orcs" WHERE "orcs"."id" = ?  [["id", 5]]  
Horde Destroy (0.2ms)  DELETE FROM "hordes" WHERE "hordes"."id" = ?  [["id", 3]]  
  (2.9ms)  commit transaction  
=> #<Horde id: 3, name: "Primary one">
```

Kontroler

```
class OrcsController < ApplicationController
  def index
    @orcs = Orc.first(20)
  end
end
```

Routing

```
Rails.application.routes.draw do
  get '/orcs', to: 'orcs#index'
  put '/orcs/:id', to: 'orcs#update'
  resources :hordes do
    resources :orcs, only: %i[index create update destroy]
  end
end
```

	Prefix	Verb	URI Pattern	Controller#Action
	orcs	GET	/orcs(:format)	orcs#index
		PUT	/orcs/:id(:format)	orcs#update
hordes_horde_orcs		GET	/hordes/:horde_id/orcs(:format)	hordes/orcs#index
		POST	/hordes/:horde_id/orcs(:format)	hordes/orcs#create
hordes_horde_orc		PATCH	/hordes/:horde_id/orcs/:id(:format)	hordes/orcs#update
		PUT	/hordes/:horde_id/orcs/:id(:format)	hordes/orcs#update
		DELETE	/hordes/:horde_id/orcs/:id(:format)	hordes/orcs#destroy
	hordes	GET	/hordes(:format)	hordes#index
		POST	/hordes(:format)	hordes#create
new_horde		GET	/hordes/new(:format)	hordes#new
edit_horde		GET	/hordes/:id/edit(:format)	hordes#edit
	horde	GET	/hordes/:id(:format)	hordes#show
		PATCH	/hordes/:id(:format)	hordes#update
		PUT	/hordes/:id(:format)	hordes#update
		DELETE	/hordes/:id(:format)	hordes#destroy

Widok

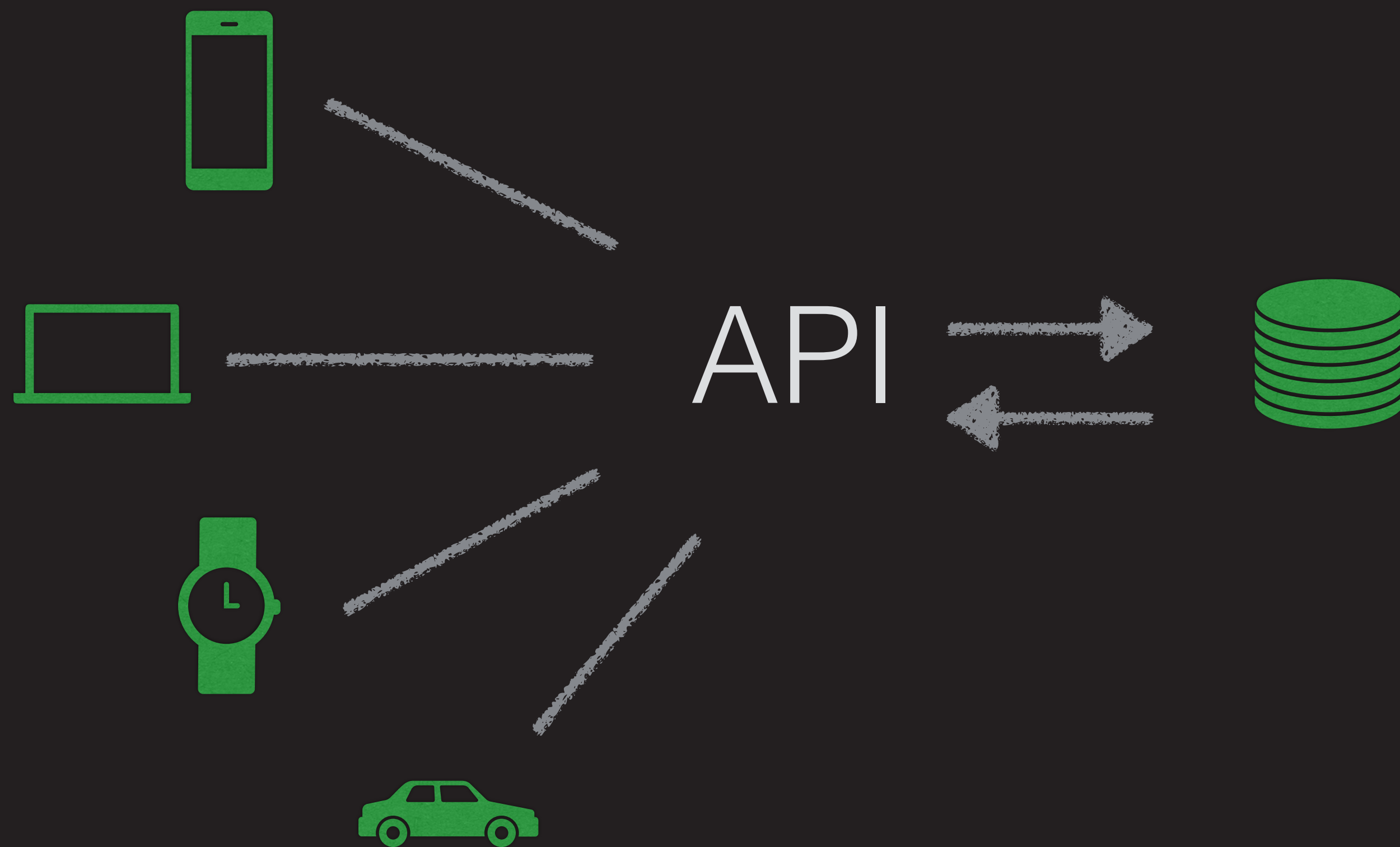
```
<h2> Orcs: </h2>
<ul>
  <% @orcs.each do |orc| %>
    <li> <b><%= orc.name %></b></li>
  <% end %>
</ul>
```


REST API

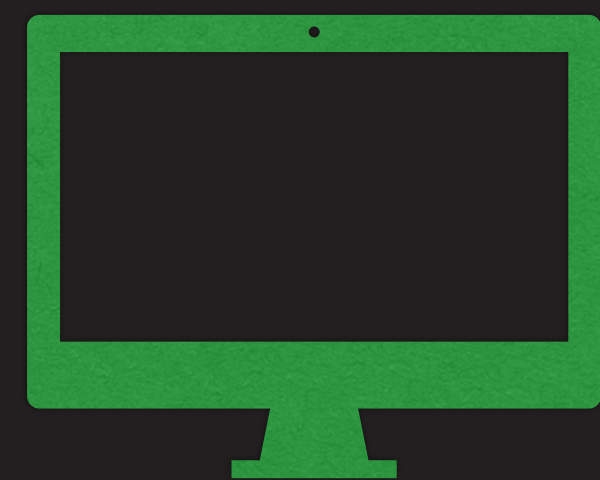
RUBY ON RAILS
Level UP 

Najważniejsze zasady REST

#1 Uniform Interface



#2 Client - Server

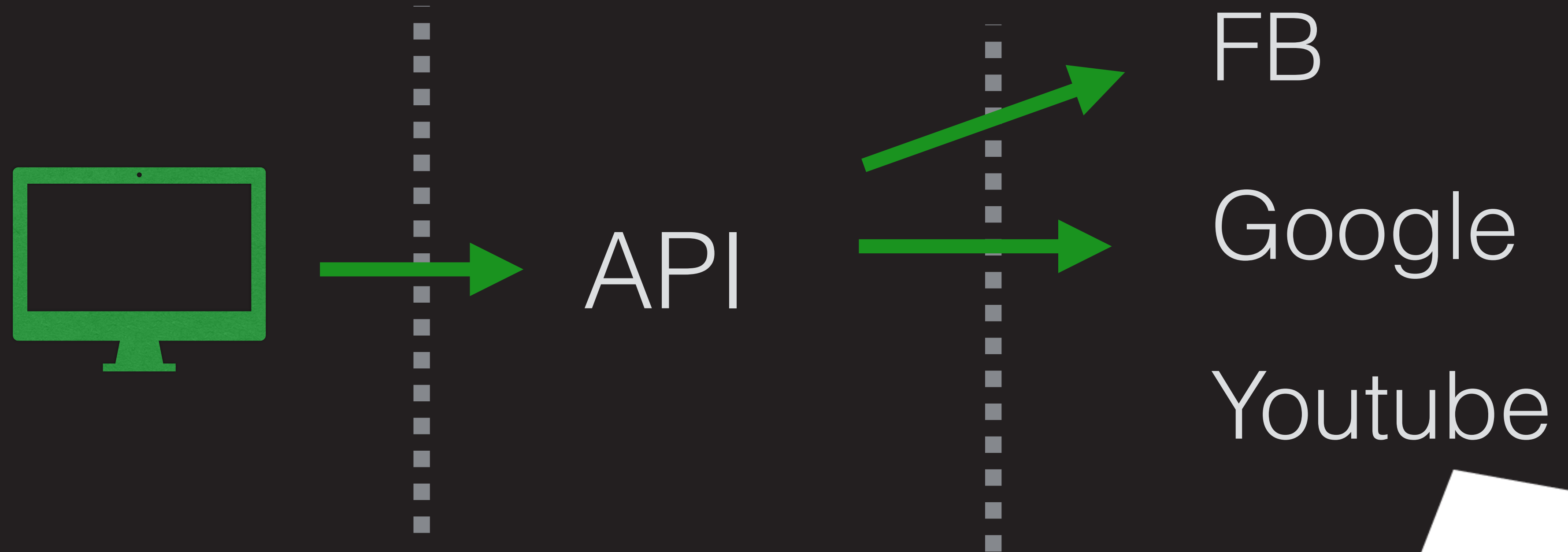


API

#3 Stateless



#4 Layered System



Metody HTTP

- GET
- POST
- PUT
- PATCH
- DELETE

Przykładowe ścieżki do aplikacji

- /hordes/all
- /hordes?all=true
- /getallhordes

Restowe URI

- /hordes
- /hordes/:horde_id
- /hordes/:horde_id/orcs
- /hordes/:horde_id/orcs/:orc_id
- /hordes/:horde_id/orc_lord

Format zwracanych danych

XML

```
<employees>
  <employee>
    <firstName>John</firstName> <lastName>Doe</lastName>
  </employee>
  <employee>
    <firstName>Anna</firstName> <lastName>Smith</lastName>
  </employee>
  <employee>
    <firstName>Peter</firstName> <lastName>Jones</lastName>
  </employee>
</employees>
```

JSON

```
{"employees": [  
  { "firstName": "John", "lastName": "Doe" },  
  { "firstName": "Anna", "lastName": "Smith" },  
  { "firstName": "Peter", "lastName": "Jones" }  
]}
```

Z czego składa się zapytanie

GET localhost:3000/api/orcs?limit=2

+ body i header

Popularne Headery

- Content-Type
- Authorization
- Set-Cookie
- Status

Komunikowanie się z API

Postman

New

Import

Runner

My Workspace

Invite

No Environment

Sign In

Filter

History

Clear all

Save Responses

Today

GET localhost:3000/orcs?limit=2

GET localhost:3000/orcs

GET localhost:3000//orcs

POST localhost:3000/hordes/1/orcs

POST localhost:3000/hordes/1/orcs

POST localhost:3000/hordes/1/orcs

POST localhost:3000/hordes/1/orcs

POST localhost:3000/hordes/1/orcs

GET localhost:3000/orcs?limit=5

GET localhost:3000/orcs

GET localhost:3000/orcs?limit=2

localhost:3000/orcs?limit=2

GET

localhost:3000/orcs?limit=2

Send

Save

Params

Authorization

Headers (1)

Body

Pre-request Script

Tests

Cookies

Code

Comments (0)

Query Params

	KEY	VALUE	DESCRIPTION		Bulk Edit
<input checked="" type="checkbox"/>	limit	2			
	Key	Value	Description		

Body

Cookies

Headers (6)

Test Results

Status: 200 OK

Time: 30 ms

Size: 341 B

Download

Pretty

Raw

Preview

JSON

1 [

2 {

3 "id": 6,

4 "name": "Moandor",

5 "horde_id": 2

6 },

7 {

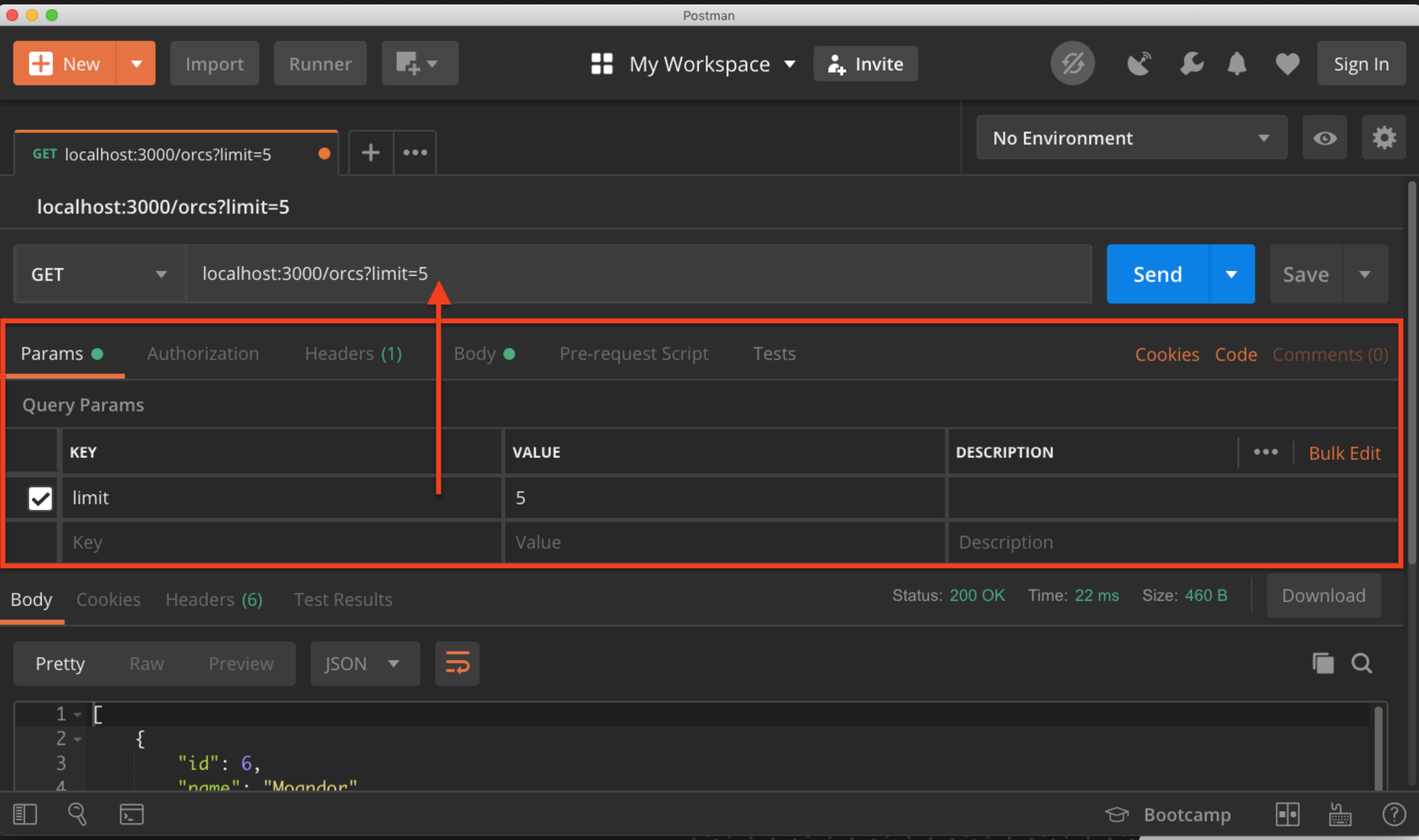
8 "id": 7,

9 "name": "Korbac",

10 "horde_id": 2

11 }

12]



New

Import

Runner



My Workspace

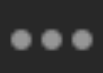


Invite



Sign In

GET localhost:3000/orcs?limit=5



No Environment



localhost:3000/orcs?limit=5

GET

localhost:3000/orcs?limit=5

Send

Save

Params

Authorization

Headers (1)

Body

Pre-request Script

Tests

Cookies

Code

Comments (0)

Query Params

KEY

VALUE

DESCRIPTION



Bulk Edit



limit

5

Key

Value

Description

Body

Cookies

Headers (6)

Test Results

Status: 200 OK

Time: 22 ms

Size: 460 B

Download

Pretty

Raw

Preview

JSON



1



[

2



{

3

"id": 6,

4

"name": "Moander"



Bootcamp



POST localhost:3000/hordes/1/orcs No Environment

POST localhost:3000/hordes/1/orcs Send Save

Params Authorization Headers (1) Body Pre-request Script Tests Cookies Code Comments (0)

none form-data x-www-form-urlencoded raw binary JSON (application/json) Beautify

```
1 {  
2   "name": "Horc",  
3   "power": 20  
4 }
```

Body Cookies Headers (6) Test Results Status: 201 Created Time: 27 ms Size: 302 B Download

Pretty Raw Preview JSON

```
1 {  
2   "id": 28,  
3   "name": "Horc",  
4   "power": 20  
5 }
```

NewImportRunner

My WorkspaceInvite

Sign In

POST localhost:3000/hordes/1/orcs

No Environment

POST localhost:3000/hordes/1/orcs

Send

Save

ParamsAuthorizationHeaders (1)BodyPre-request ScriptTests

CookiesCodeComments (0)

	KEY	VALUE	DESCRIPTION		Bulk Edit	Presets
<input checked="" type="checkbox"/>	Content-Type	application/json				
	Key	Value	Description			

BodyCookiesHeaders (6)Test Results

Status: 201 CreatedTime: 27 msSize: 302 BDownload

PrettyRawPreviewJSON

```
1 {
2   "id": 28,
3   "name": "Horc",
4   "power": 20
5 }
```

Bootcamp

Status HTTP

- **200** OK
- **201** Created
- **204** No Content
- **400** Bad Request
- **401** Unauthorized
- **403** Forbidden
- **404** Not Found
- **422** Unprocessable Entity
- **500** Internal Server Error

Tworzenie API w Rails

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

Różnice w strukturze

app/
channels/
controllers/
jobs/
mailers/
models/
views/

```
class OrcsController < ApplicationController
  def index
    orcs = Orc.first(params[:limit].to_i)
    render json: orcs.to_json(only: %w[id name horde_id])
  end
end
```


Routing

```
Rails.application.routes.draw do
  get '/orcs', to: 'orcs#index'
  put '/orcs/:id', to: 'orcs#update'
  resources :hordes do
    resources :orcs
  end
end
```

Prefix	Verb	URI Pattern	Controller#Action
orcs	GET	/orcs(:format)	orcs#index
	PUT	/orcs/:id(:format)	orcs#update
hordes_horde_orcs	GET	/hordes/:horde_id/orcs(:format)	hordes/orcs#index
	POST	/hordes/:horde_id/orcs(:format)	hordes/orcs#create
hordes_horde_orc	PATCH	/hordes/:horde_id/orcs/:id(:format)	hordes/orcs#update
	PUT	/hordes/:horde_id/orcs/:id(:format)	hordes/orcs#update
	DELETE	/hordes/:horde_id/orcs/:id(:format)	hordes/orcs#destroy
hordes	GET	/hordes(:format)	hordes#index
	POST	/hordes(:format)	hordes#create
horde	GET	/hordes/:id(:format)	hordes#show
	PATCH	/hordes/:id(:format)	hordes#update
	PUT	/hordes/:id(:format)	hordes#update
	DELETE	/hordes/:id(:format)	hordes#destroy

SHOW

```
module Hordes
  class OrcsController < ApplicationController
    def show
      render json: orc.to_json(only: %w[id name power])
    end

    private

    def orc
      horde.orcs.find(params[:id])
    end

    def horde
      Horde.find(params[:horde_id])
    end
  end
end
```

INDEX

```
module Hordes
  class OrcsController < ApplicationController
    def index
      orcs = horde.orcs.first(params[:limit].to_i)

      render json: orcs.to_json(only: %w[id name power])
    end

    private

    def horde
      Horde.find(params[:horde_id])
    end
  end
end
```

CREATE

```
module Hordes
  class OrcsController < ApplicationController
    def create
      orc = horde.orcs.create!(orc_params)

      render json: orc.to_json(only: %w[id name power]), status: 201
    end

    private

    def horde
      Horde.find(params[:horde_id])
    end

    def orc_params
      params.permit(:name, :power)
    end
  end
end
```

UPDATE

```
module Hordes
  class OrcsController < ApplicationController
    def update
      orc.update!(orc_params)

      render json: orc.to_json(only: %w[id name power])
    end

    private

    def horde
      Horde.find(params[:horde_id])
    end

    def orc_params
      params.permit(:name, :power)
    end
  end
end
```

DESTROY

```
module Hordes
  class OrcsController < ApplicationController
    def destroy
      orc.destroy!

      head 204
    end

    private

    def orc
      horde.orcs.find(params[:id])
    end

    def horde
      Horde.find(params[:horde_id])
    end
  end
end
```




Thanks!