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**FLISOL 2014 -CABA-**

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# **Introducción a Ruby on Rails**

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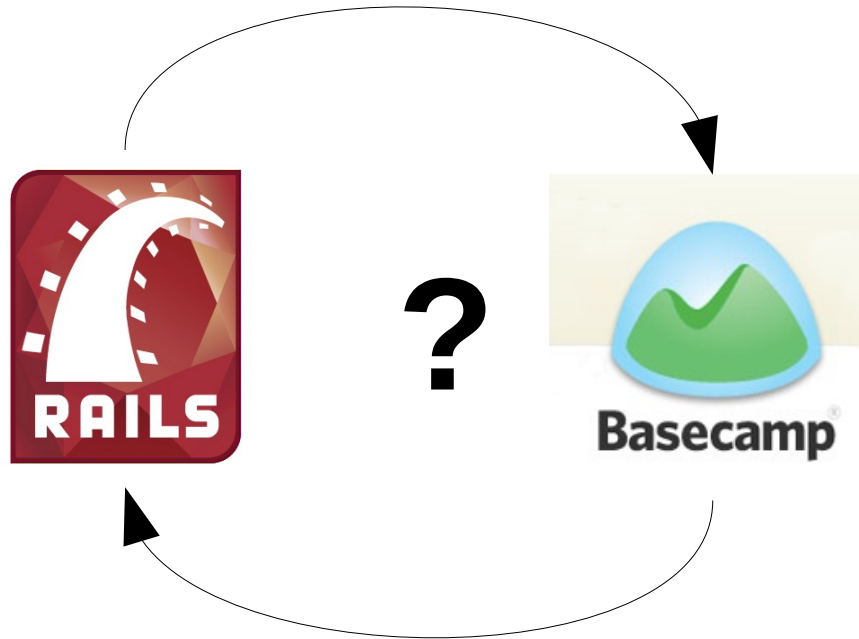
Diego Gomez – [diego@dgomez.com.ar](mailto:diego@dgomez.com.ar)

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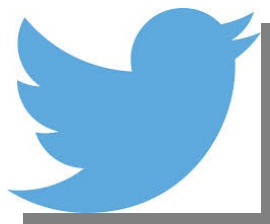
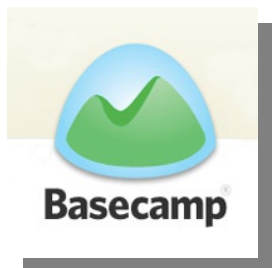
# En el principio...

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# Da vida a

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# Framework

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- Marco de trabajo
- Estructura conceptual
- Arquitectura



# Rails

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***Framework*** escrito en *Ruby* para desarrollar aplicaciones web en *Ruby*.



# Ruby

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- Multiplataforma
- Dinámico / Interpretado
- Buenas influencias (SmallTalk, Lisp, Eiffel, Java)
- Orientado a objetos (100%)
- Introspección, reflexión y metaprogramación
- Expresiones Regulares (simil Perl)
- Extensiones, librerías, soporte



# Ruby (Objetos)



```
class MyPerson

  current_time = Time.now

  def name
    @name
  end

  def name=(name)
    @name = name
  end

  def is_married
    ...
  end
end
```

```
Irb>p = MyPerson.new
Irb>p.name = 'Alice'
Irb>puts p.name
=> "Alice"
```



# Ruby (Objetos)

---



```
class Person
  attr_accessor :name, :lastname
end
```

```
Irb>p = Person.new
Irb>p.name = 'Bob'
Irb>p.lastname = 'Hartman'
Irb>puts p.name
=>"Bob"
```





# Ruby (Objetos)

---



```
class Person
  attr_accessor :name, :lastname
  attr_reader :age
  attr_writer :secrets
end
```

```
Irb>p.age = '34'
NoMethodError: undefined method `age=' for
#<Person:0x000000001b1ad68>
```



# Ruby (Objetos)

---



```
class MyPerson
  def m1 #this method is public
    ...
  end

  protected
  def m2 #this methos is protected
    ...
  end

  private
  def m3 #this methos is private
    ...
  end
end
```



# Ruby (Introspección)



```
irb>saludo = "hola mundo!"
irb>puts saludo
=> "hola mundo!"
irb>saludo.is_a? Object
=> true
irb>saludo.is_a? String
=> true
irb>saludo.is_a? Integer
=> false
irb>saludo.capitalize
=> "Hola mundo!"
irb>saludo.length
=> 11
```



# Ruby (arrays)



```
irb>a = [1, 'cat', 2, 3.1416]
irb>a
=> [1, "cat", 2, 3.1416]
irb>a[1]
=> "cat"
irb>a.reverse
=> [3.1416, 2, "cat", 1]
irb>a.length
=> 4
irb>a[5]
=> nil
irb>a[2] = nil
=> [1, "cat", nil, 3.1416]
```





# Ruby (hashes)

---

```
tipo_instrumento = {  
  cello: 'cuerdas',  
  clarinete: 'viento',  
  piano: 'cuerdas'  
}
```

```
irb>tipo_instrumento[:cello]  
=> "cuerdas"  
irb>tipo_instrumento[:clarinete] = 'bronce'  
{:cello=>"cuerdas", :clarinete=>"bronce",  
:piano=>"cuerdas"}
```

## NOTA

```
redirect_to action: 'edit', id: user.id
```



# Ruby (control)

---



```
if count > 10
  puts "Try again"
elsif tries == 3
  puts "You lose"
else
  puts "Enter a number"
end
```

```
while weight < 100 and num_pallets <= 30
  pallet = next_pallet()
  weight += pallet.weight
  num_pallets += 1
end
```



# Ruby (control 2)

---



```
puts "Alert!" if radiation > 3000
```

```
distance = distance * 1.2 while distance < 100
```

```
3.times {print "jo! "}  
=> jo! jo! jo!
```





# Ruby (Closures)

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- Funciones lambda, agentes
- Permiten paso de funciones o *bloques* como parámetro
- Naturales y transparentes
- Code Blocks: Código delimitados por `{ }` o por *do end*.

```
{ puts "hola mundo!" } # Code block
```

```
do  
  user.name = "Alice"  
  user.save  
end
```

```
saludo("Bob", "estimado usuario") {puts "Hola"}
```





# Ruby (Closures)



Imprimir elementos de un arreglo

```
animales = %w(perro gato hormiga paloma)
animales.each {|animal| puts animal}
```

Multiplicar por 2 los elementos de una lista

```
def double(a)
  a.map {|e| e*2}
end
```

Calcular la edad promedio de las personas mayores de edad

```
adults = people.select{|p| p.age > 18}
sum = 0
adults.each {|p| sum += p.age }
puts sum.to_f/adults.size if adults.size > 0
```



# Rails

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- Ruby
- Arquitectura MVC
- DRY (Don't repeat yourself)
- Convention over Configuration
- Extensiones (gemas)
- Ambiente de trabajo completo



# Rails

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- Versión actual 4.1
- Ruby > 1.9 (2.1 recomendado)

```
#gem install rails
```



# Rails (Componentes)

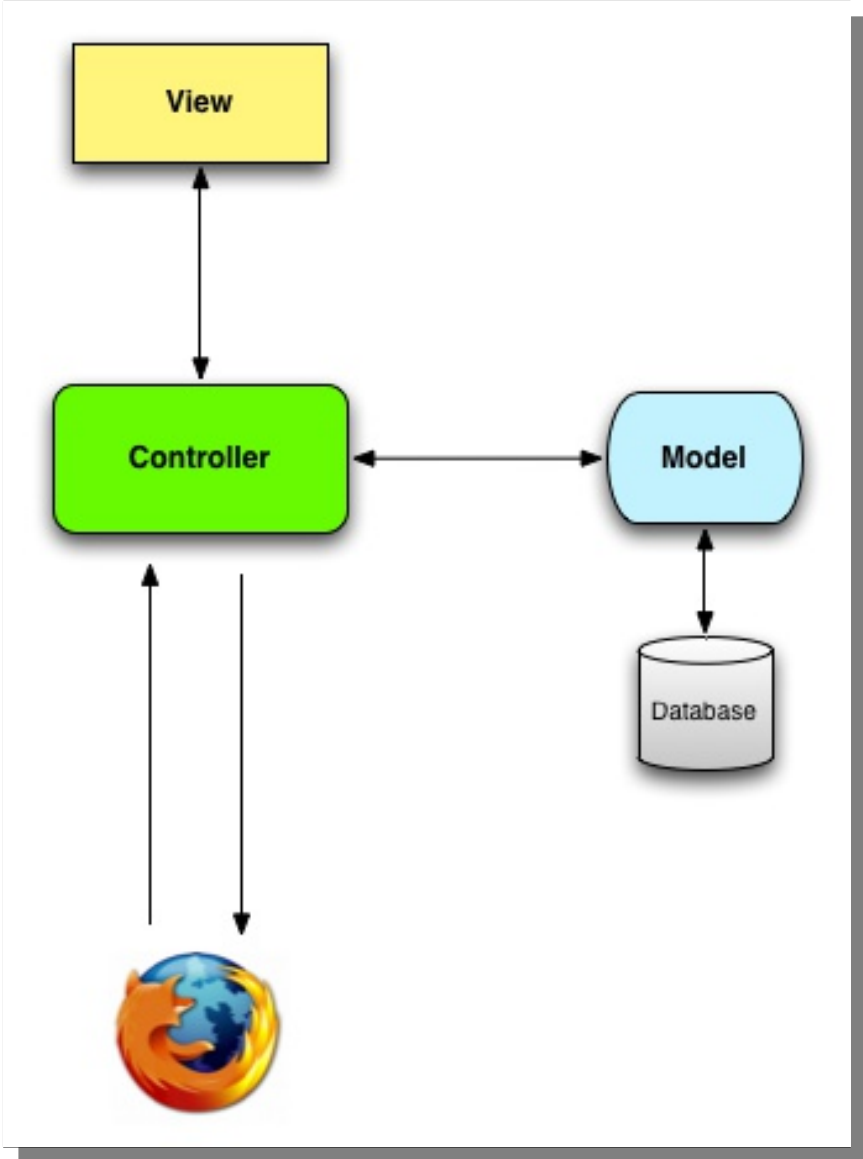
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- Active Record (M)
- Active View (V)
- Active Controller (C)



# Rails (MVC)

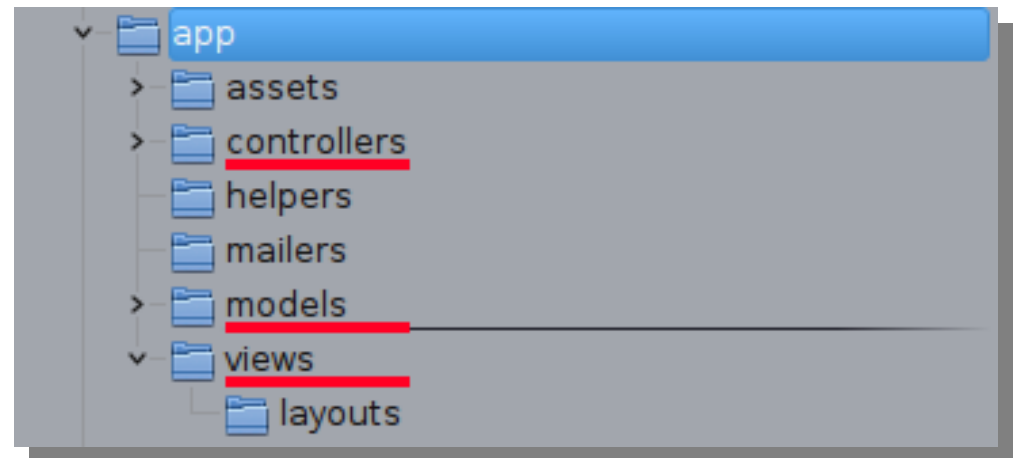
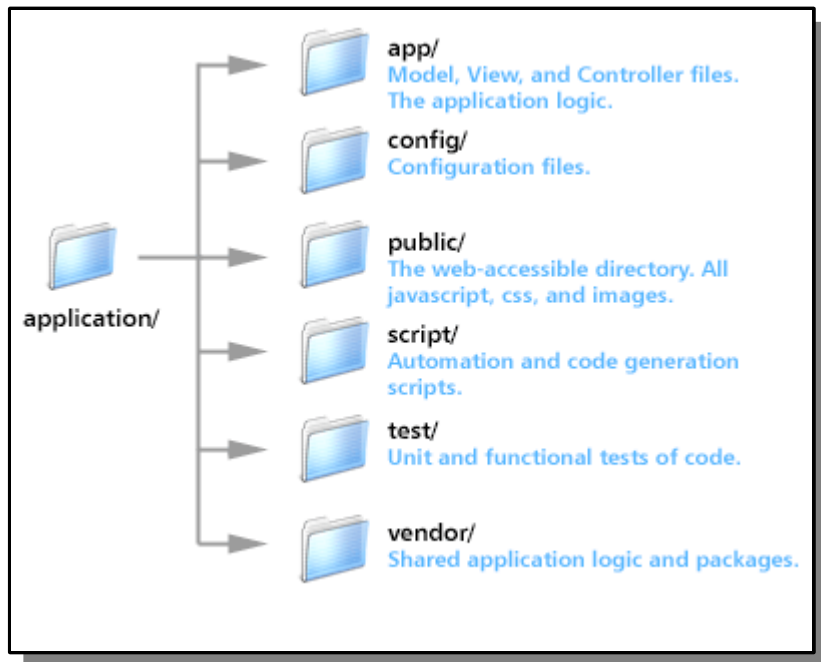


# Rails



## Creación proyecto

```
$rails new nombre_app
```



# Rails (Modelos)



- Active Record
- ORM
- Responsabilidad sobre los datos
- CoC
- Nombre de clase (en singular)
- Filas => Instancias
- Columnas => atributos

Tabla People

id	name	lastname	age
1	Johon	Benn	25
2	Bob	Schiff	15
3	Alice	Tylor	32

Modelo (app/model/person.rb)

```
class Person < ActiveRecord::Base  
end
```



# Rails (Modelos)



Tabla People

id	name	lastname	age
1	John	Benn	25
2	Bob	Schiff	15
3	Alice	Tylor	32

Modelo (app/model/person.rb)

```
class Person < ActiveRecord::Base  
end
```

## CRUD

```
p = Person.new  
p.name = 'Pepe'  
p.lastname = 'Pepe'  
p.age = '26'  
p.save
```

```
p = Person.find(1)  
puts p.name #John
```

```
p = Person.find(2)  
p.age = 45  
p.save
```

```
p = Person.find(3)  
p.destroy
```





# Rails (Modelos)



Tabla People

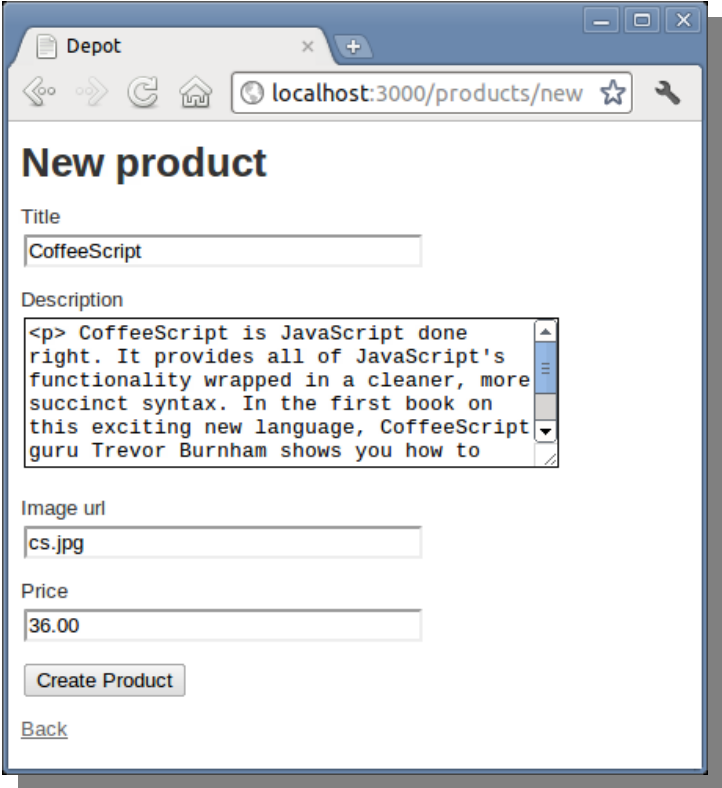
id	name	lastname	age
1	John	Benn	25
2	Bob	Schiff	15
3	Alice	Tylor	32

Modelo (app/model/person.rb)

```
class Person < ActiveRecord::Base
  validates :name, :lastname, :age, presence: true
  validates :age, numericality: {greater_or_equal_to: 1}
  validates :id, uniqueness: true
end
```



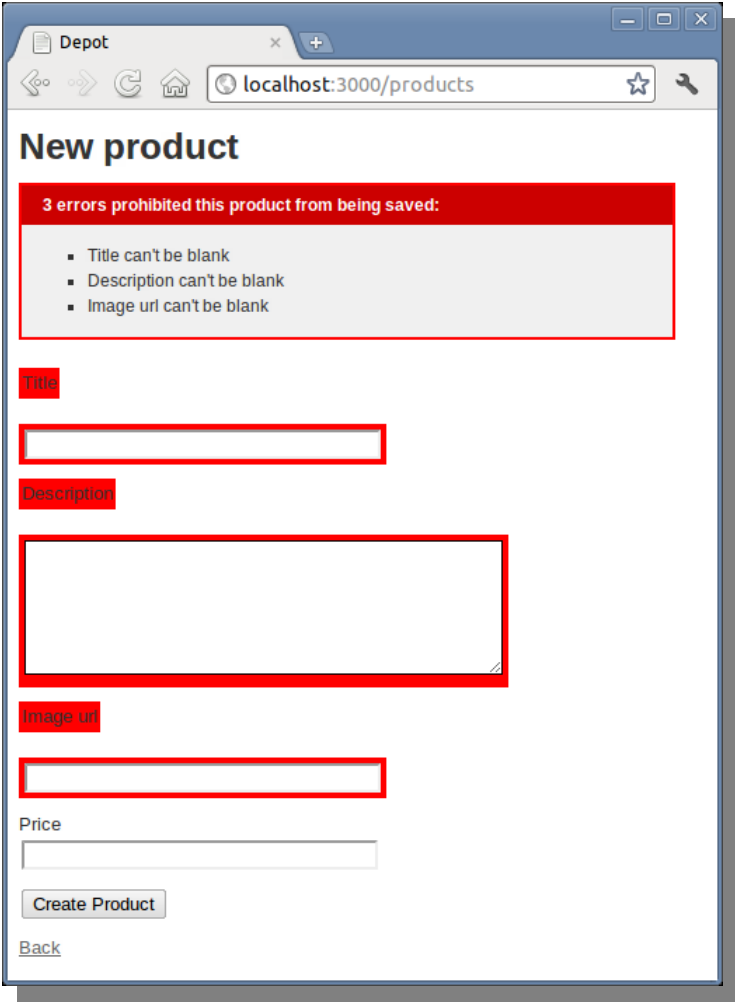
# Rails (Modelos)



A screenshot of a web browser window showing a successful form submission. The browser address bar is `localhost:3000/products/new`. The page title is "New product". The form fields are filled with the following data:

- Title:
- Description:
- Image url:
- Price:

A "Create Product" button is visible at the bottom of the form, and a "Back" link is located below it.



A screenshot of a web browser window showing a failed form submission. The browser address bar is `localhost:3000/products`. The page title is "New product". A red error message box at the top states: "3 errors prohibited this product from being saved:"

- Title can't be blank
- Description can't be blank
- Image url can't be blank

The form fields are empty and highlighted with red boxes, indicating validation errors:

- Title:
- Description:
- Image url:
- Price:

A "Create Product" button is visible at the bottom of the form, and a "Back" link is located below it.



# Rails (Controladores)



app/controllers/people\_controller.rb

```
class PeopleController < ApplicationController
  def index
    @people = Person.all
    respond_to do |format|
      format.html #index.html.erb
      format.xml {render :xml => @people}
    end
  end

  def show
    @person = Person.find(params[:id])
    respond_to do |format|
      format.html #show.html.erb
      format.xml {render :xml => @person}
    end
  end
end
```

<http://localhost/people/index>  
<http://localhost/people/show/1>

# Rails (Vistas -Layout-)



app/views/layouts/application.html.erb

```
<!DOCTYPE html>
<html> <head> <title>Users</title>
  <%= stylesheet_link_tag "scaffold" %>
  <%= csrf_meta_tag %>
</head>
<body id="store">
  <%= image_tag("logo.png") %>
  </div>
  <div id="side">
    <% if session[:user_id] %>
      <%= link_to 'Users', users_path %><br />
      <%= button_to 'Logout', logout_path, :method => :delete%>
    <% end %>
  </div>
  <div id="main">
    <%= yield %>
  </div>
</div>
</body>
</html>
```

# Rails (Vistas)



app/views/people/index.html.erb)

```
<table>
  <% @people.each do |person| %>
    <tr>
      <td>
        <dl>
          <dt><%= person.name %></dt>
          <dd><%= truncate(strip_tags(person.lastname),
                          :length => 80) %></dd>
        </dl>
      </td>
      <td class="list_actions">
        <%= link_to 'Show', person %><br/>
        <%= link_to 'Destroy', person,
                  :confirm => 'Are you sure?',
                  :method => :delete %>
      </td>
    </tr>
  <% end %>
</table>
```

# Rails (Vistas)



app/views/people/show.html.erb)

```
<p>
  <b> Name:</b>
  <%= @person.name %>
</p>

<p>
  <b>Lastname:</b>
  <%= @person.lastname %>
</p>

<p>
  <b>Age:</b>
  <%= @person.age %>
</p>

<%= link_to 'Edit', edit_person_path(@person) %> |
<%= link_to 'Back', people_path %>
```

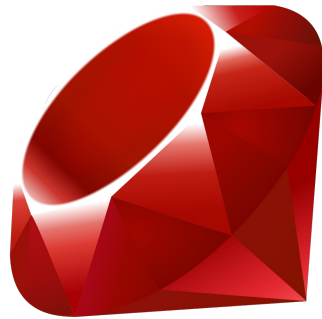


# Ruby on Rails

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## ¿Preguntas?



# Ruby on Rails

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**¡Gracias!**

