Laboratorio de Computación IV

Clase 16

Andrés Fortier

Repaso

- Roles
  - Definición y asignación.
  - Control antes de llevar adelante una acción (hoy).
  - Gemas
    - rolify - https://github.com/RolifyCommunity/rolify
    - pundit - https://github.com/elabs/pundit
- Bootstrap y layouts

Roles

- Requerimientos:
  - Página de listado de posts público.
    - Los últimos 10 posts (por fecha de creación).
    - Sólo pueden crear posts los usuarios logueados.
  - Contenido de un post público.
    - Sólo lo puede editar/borrar el autor.

Listado de posts público

- Modificar el seed para que nos genere mas de 10 posts

db/seeds.rb

```
for i in 0..15
  Article.create!({
   title: "Post number #{i}",
   text: "My #{i} post!",
   author: joeUser
  });
end

Article.create!(title: 'Hi everybody!', text: "This is
Jane's fist post", author: janeUser);
```

Listado de posts público

- Modificar el controller

/app/controllers/articles_controller.rb

```
class ArticlesController < ApplicationController
  skip_before_action :authenticate_user!, only: [:index]

    def index
      @articles = Article
        .all
        .limit(10)
        .order(created_at: :desc)
    end
    ...
end
```

Listado de posts público

- Sólo mostrar el link de crear post si el usuario está logueado.

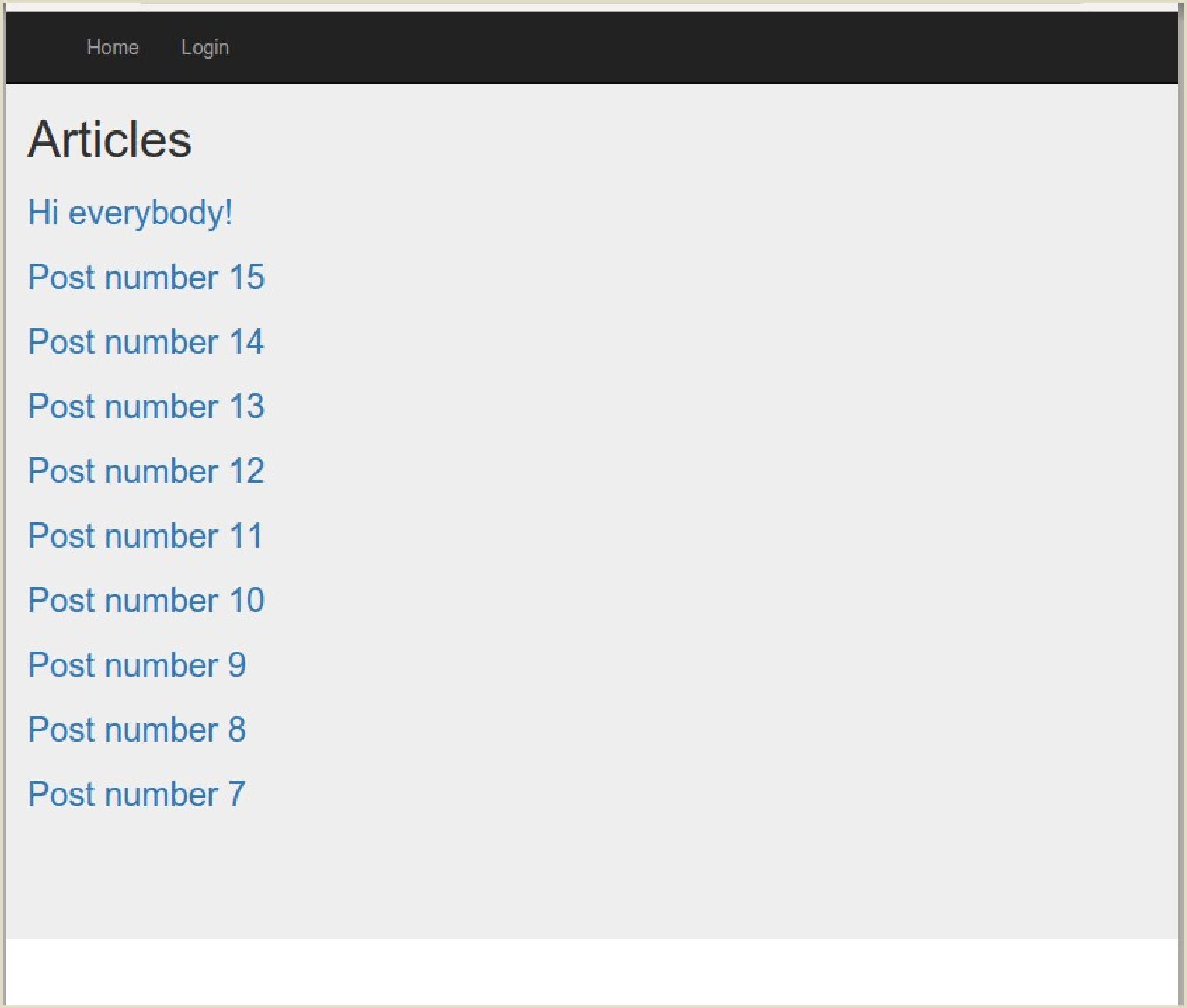
/app/views/articles/index.html.erb

```
...

<% if current_user.present? %>
  <%= link_to 'New article', new_article_path %>
<% end %>
```

- Prueben ir al index con usuario logueado y sin loguear.

Listado de posts público



Articles

Hi everybody!

Post number 15

Post number 14

Post number 13

Post number 12

Post number 11

Post number 10

Post number 9

Post number 8

Post number 7

Listado de posts público

- ¿Es necesario chequear algo mas?

Contenido de un post público

- Eliminar la autenticación del show.
- Validar el usuario para mostrar los links
  - Si no hay usuario, sólo el “Back to index”.
  - Si es el autor, mostramos el borrar y elimiar.

Contenido de un post público

/app/controllers/articles_controller.rb

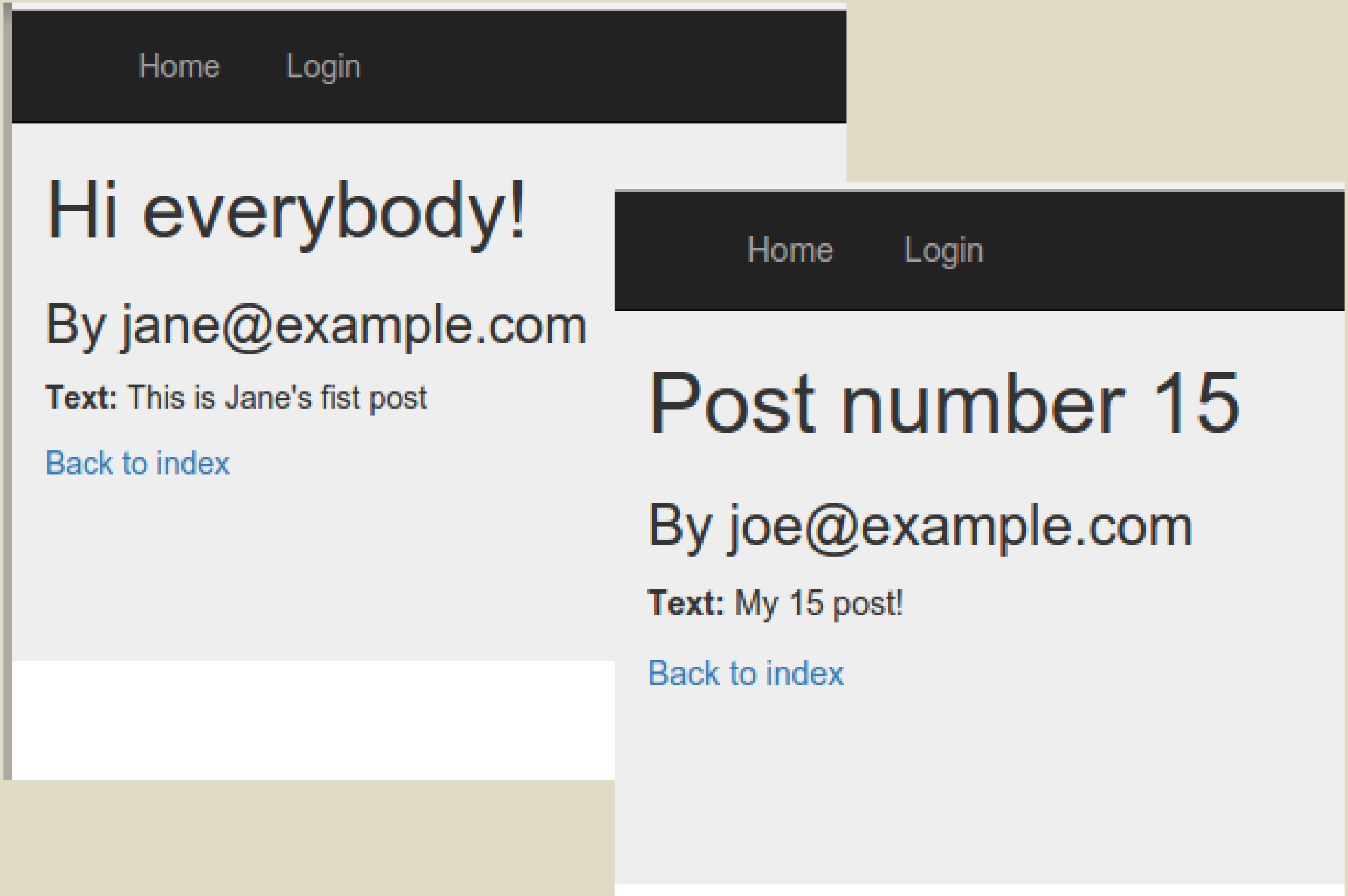
```
class ArticlesController < ApplicationController
  skip_before_action :authenticate_user!,
   only: [:index, :show]
  ...
end
```

/app/views/articles/show.html.erb

```
<% if current_user.present? && current_user ==
@article.author%>
  <%= link_to 'Edit', edit_article_path(@article) %>
  <%= link_to 'Delete', article_path(@article), method:
:delete %>
<% end %>
```

Contenido de un post público

- Usuario no logueado



Hi everybody!

By jane@example.com

Text: This is Jane's fist post

Back to index

Post number 15

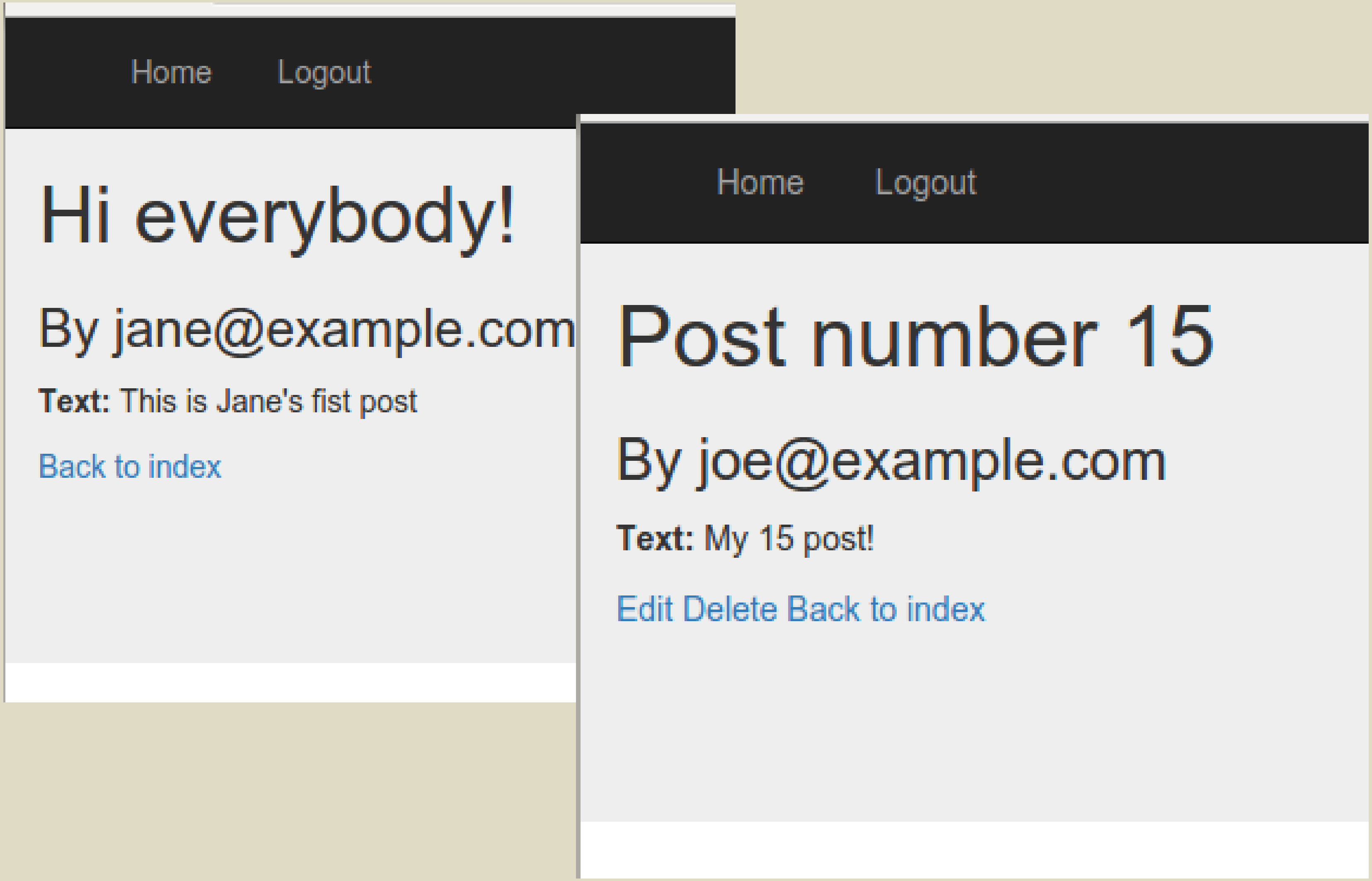
By joe@example.com

Text: My 15 post!

Back to index

Contenido de un post público

- Logueado como joe@example.com



Hi everybody!

By jane@example.com

Text: This is Jane's fist post

Back to index

Post number 15

By joe@example.com

Text: My 15 post!

Edit Delete Back to index

Contenido de un post público

- ¿Es necesario chequear algo mas?
  - http://localhost:3000/articles/17/edit

```
$ bin/rake routes | grep articles
GET    /                                articles#index
GET    /articles(.:format)              articles#index
POST   /articles(.:format)              articles#create
GET    /articles/new(.:format)          articles#new
GET    /articles/:id/edit(.:format)     articles#edit
GET    /articles/:id(.:format)          articles#show
PATCH  /articles/:id(.:format)          articles#update
DELETE /articles/:id(.:format)          articles#destroy
```

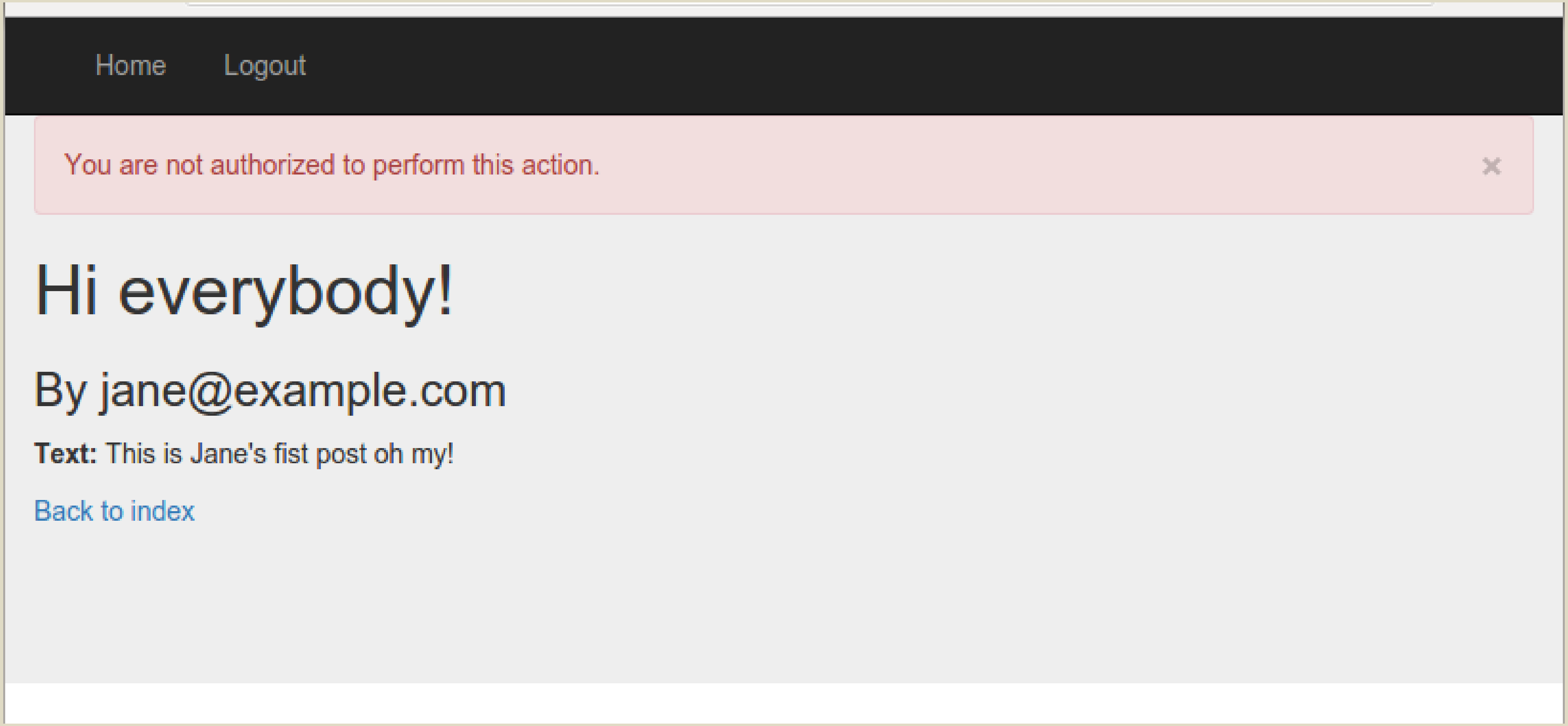
Contenido de un post público

```
/app/controllers/articles_controller.rb
```

```
class ArticlesController < ApplicationController
    ...
    def edit
      @article = Article.find(params[:id])
      if @article.author != current_user
        flash[:alert] = 'You are not authorized to perform
this action.'
        redirect_to @article
      end
    end
    ...
end
```

Contenido de un post público

- Intentemos nuevamente http://localhost:3000/articles/17/edit



You are not authorized to perform this action. ×

Hi everybody!

By jane@example.com

Text: This is Jane's fist post oh my!

Back to index

Contenido de un post público

- Factoricemos el código

```
/app/controllers/articles_controller.rb
```

```
  private

    def redirect_if_not_author(article)
      if article.author != current_user
        flash[:alert] = 'You are not authorized to perform
this action.'
        redirect_to @article
      end
    end

    ...
```

Contenido de un post público

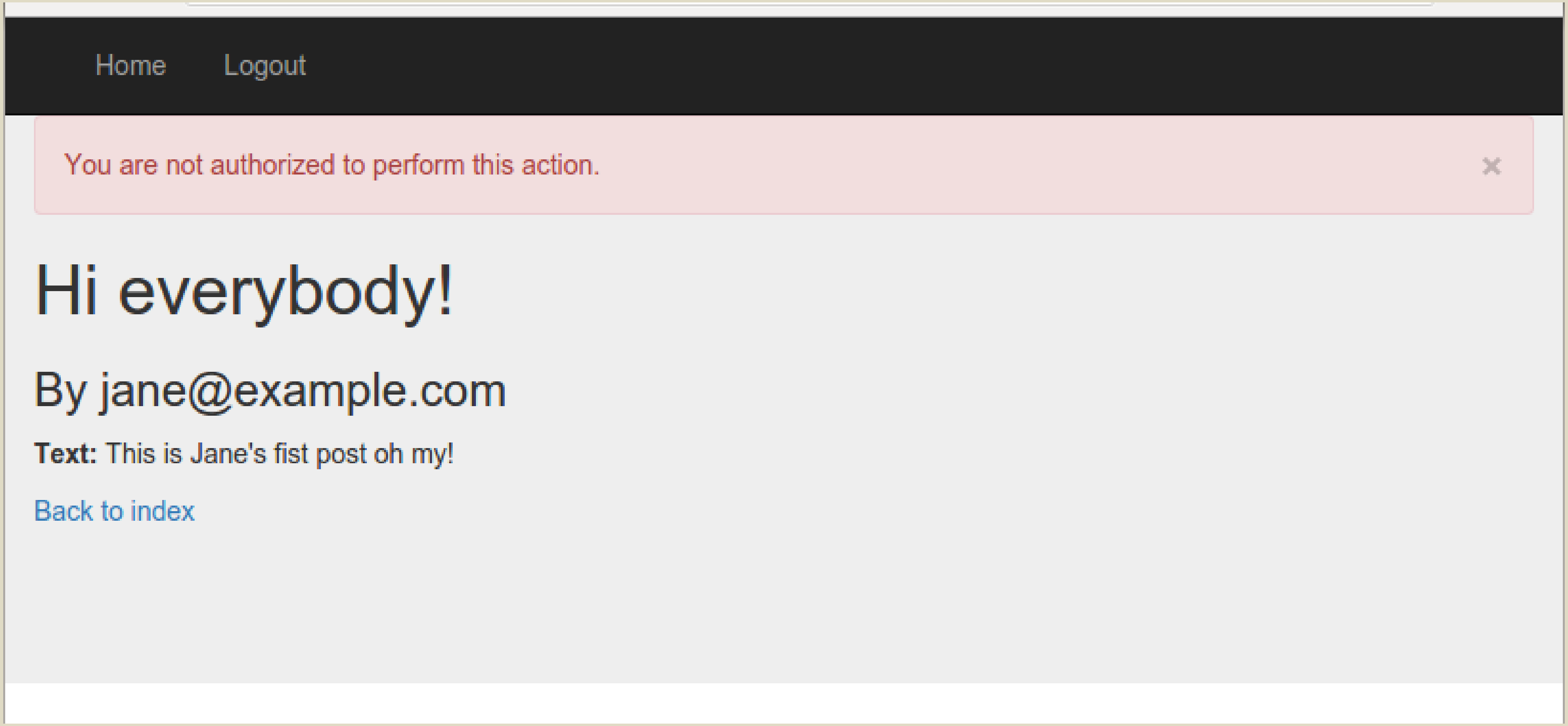
```
/app/controllers/articles_controller.rb
    def edit
      @article = Article.find(params[:id])
      redirect_if_not_author(@article)
    end

    def destroy
      @article = Article.find(params[:id])
      redirect_if_not_author(@article)
      ...
    end

    def update
      @article = Article.find(params[:id])
      redirect_if_not_author(@article)
      ...
```

Contenido de un post público

- Verifiquemos http://localhost:3000/articles/17/edit



You are not authorized to perform this action.

Hi everybody!

By jane@example.com

Text: This is Jane's fist post oh my!

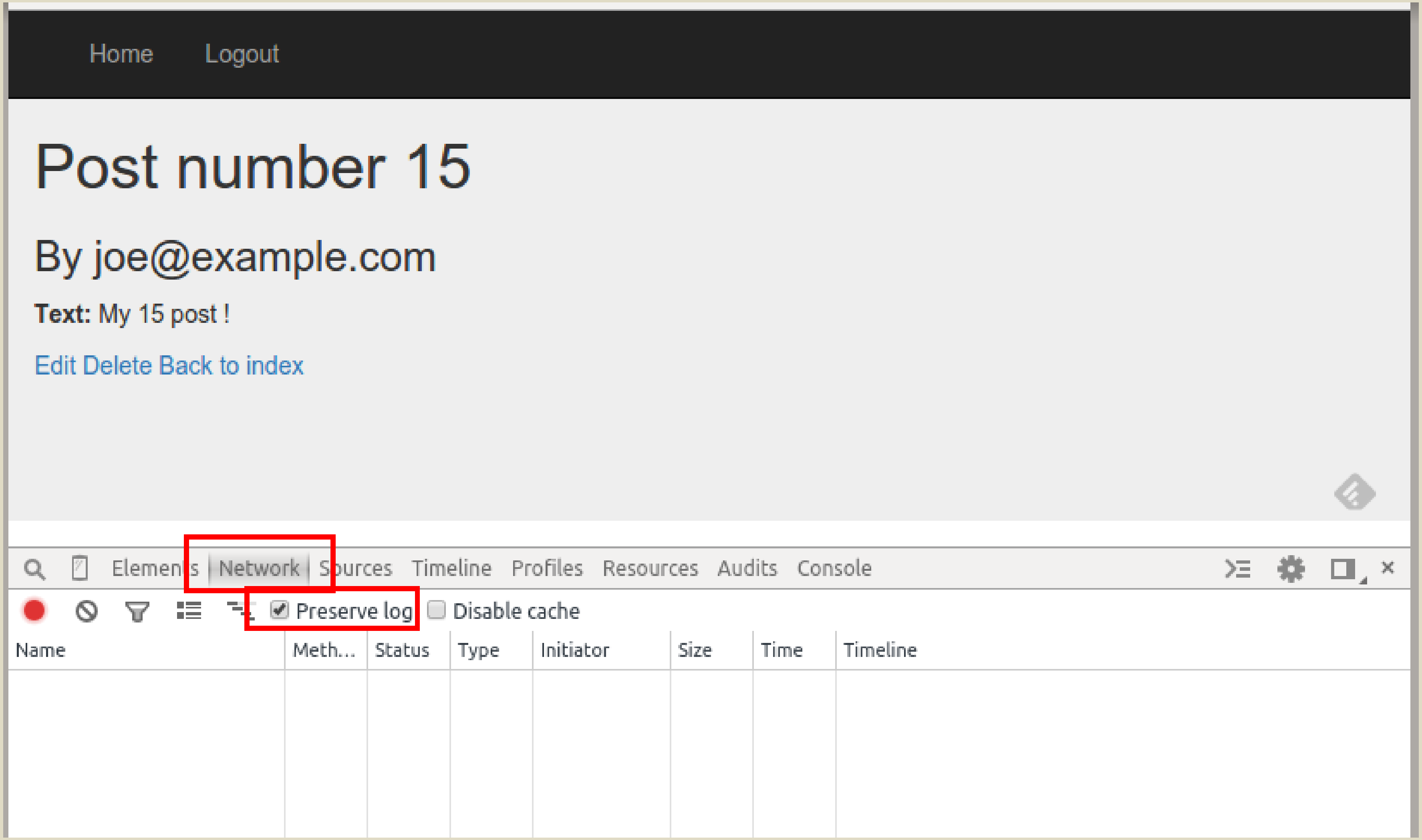
Back to index

Contenido de un post público

- ¿Cómo verificamos el borrado o edición de un artículo?
- Idea
  - Borrar un post al que tenemos acceso para generar un request válido.
  - Modificar el request para que borre otro post.
  - Validar que no tenemos acceso.

Contenido de un post público

- Herramientas del navegador



Post number 15

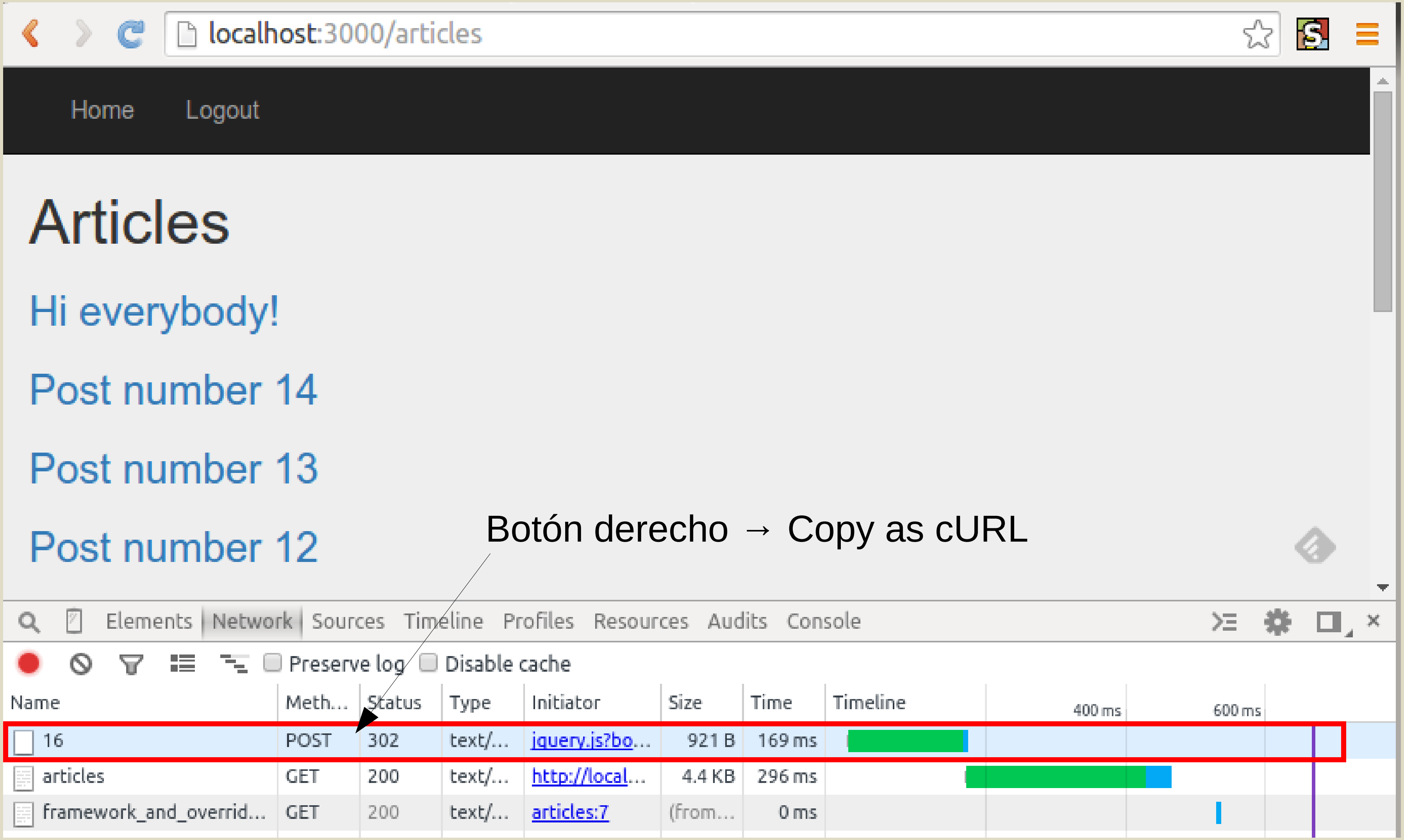
By joe@example.com

Text: My 15 post !

Edit Delete Back to index

Contenido de un post público

- Borremos el post



localhost:3000/articles

Articles

Hi everybody!

Post number 14

Post number 13

Post number 12

Botón derecho → Copy as cURL

Name	Meth...	Status	Type	Initiator	Size	Time	Timeline
16	POST	302	text/...	jquery.js?bo...	921 B	169 ms	
articles	GET	200	text/...	http://local...	4.4 KB	296 ms	
framework_and_overrid...	GET	200	text/...	articles:7	(from...	0 ms	

Contenido de un post público

- En una consola
  - Peguen el contenido
  - Cambien el 16 por 17

```
$ curl 'http://localhost:3000/articles/17' -H 'Cookie:
_ejemplorails_session= ... --compressed
```

Contenido de un post público

- Veamos el log del servidor

```
Started DELETE "/articles/17" for 127.0.0.1 at 2015-05-17
16:54:13 -0300
Processing by ArticlesController#destroy as HTML
  Parameters:
{"authenticity_token"=>"qvu9qGw36Nl+0LVBFX2p3TBzhVirGfsmNkLIK
73KSuU=", "id"=>"17"}
  User Load (0.2ms)  SELECT  "users".* FROM "users"  WHERE
"users"."id" = 1  ORDER BY "users"."id" ASC LIMIT 1
  Article Load (0.1ms)  SELECT  "articles".* FROM "articles"
WHERE "articles"."id" = ? LIMIT 1  [["id", 17]]
  User Load (0.1ms)  SELECT  "users".* FROM "users"  WHERE
"users"."id" = ? LIMIT 1  [["id", 2]]
Redirected to http://localhost:3000/articles/17
   (0.1ms)  begin transaction
  SQL (0.4ms)  DELETE FROM "articles" WHERE "articles"."id" =
?  [["id", 17]]
   (150.1ms)  commit transaction
```

Contenido de un post público

```
...
Redirected to
Completed 500 Internal Server Error in 159ms

AbstractController::DoubleRenderError (Render and/or redirect
were called multiple times in this action. Please note that
you may only call render OR redirect, and at most once per
action. Also note that neither redirect nor render terminate
execution of the action, so if you want to exit an action
after redirecting, you need to do something like
"redirect_to(...) and return".):
  app/controllers/articles_controller.rb:46:in `destroy'
...
```

- ¿Qué sucedió?

Contenido de un post público

/app/controllers/articles_controller.rb

```
    def destroy
      @article = Article.find(params[:id])
      redirect_if_not_author(@article)
        return if performed?

      @article.destroy
      redirect_to articles_path
    end

    def update
      @article = Article.find(params[:id])
      redirect_if_not_author(@article)
        return if performed?
      ...
    end
```

Contenido de un post público

- db:reset.
- Reiniciar rails server.
- Borrar el post con id 16 de joe.
- Copiar la acción como cURL.
- Pegar en terminal y cambiar por id 17.
- Ver la consola del servidor

Contenido de un post público

- Veamos el log del servidor

```
Started DELETE "/articles/17" for 127.0.0.1 at 2015-05-17
17:02:40 -0300
Processing by ArticlesController#destroy as HTML
  Parameters:
{"authenticity_token"=>"nkSZMZQchevk9rk8z70l7RS+2gbOvJqgctaHa
G5ocdQ=", "id"=>"17"}
  User Load (0.2ms)  SELECT  "users".* FROM "users"  WHERE
"users"."id" = 1  ORDER BY "users"."id" ASC LIMIT 1
  Article Load (0.1ms)  SELECT  "articles".* FROM "articles"
WHERE "articles"."id" = ? LIMIT 1  [["id", 17]]
  User Load (0.1ms)  SELECT  "users".* FROM "users"  WHERE
"users"."id" = ? LIMIT 1  [["id", 2]]
Redirected to http://localhost:3000/articles/17
Completed 302 Found in 5ms (ActiveRecord: 0.4ms)
```

Problemas con el enfoque

- Estamos definiendo la política de acceso a un recurso en el controller.
  - Complejidad y SRP.
  - Reutilización.
  - Tests.
- Fácil de introducir bugs de seguridad
  - `return if performed?`

pundit

- https://github.com/elabs/pundit
- Modela los permisos de acceso a los recursos en clases
  - SRP.
  - Reutilización.
  - Tests.
- Provee helpers para integrar los chequeos con los controllers y vistas

pundit

/Gemfile

```
..
gem 'pundit', '~> 1.0.0'
...
```

```
$ bundle install
```

/app/controllers/application_controller.rb

```
class ApplicationController < ActionController::Base
  # Prevent CSRF attacks by raising an exception.
  # For APIs, you may want to use :null_session instead.
  protect_from_forgery with: :exception
  before_action :authenticate_user!
  include Pundit
end
```

pundit

```
$ rails g pundit:install
      create  app/policies/application_policy.rb
$ cat app/policies/application_policy.rb
class ApplicationPolicy
  attr_reader :user, :record

  def initialize(user, record)
    @user = user
    @record = record
  end

  def index?
    false
  end

  ...

end
```

pundit

- Definamos una política para los artículos

/app/policies/article_policy.rb

```
class ArticlePolicy < ApplicationPolicy

  def index?
    true
  end

  def create?
    record.author == user
  end

  def new?
    user.present?
  end

...
```

pundit

- Definamos una política para los artículos

```
/app/policies/article_policy.rb
```

```
  ...

  def update?
    record.author == user
  end

  def destroy?
    record.author == user
  end

end
```

pundit

- Utilicemos la política para autorizar
  - Borrar el código viejo

```
/app/controllers/articles_controller.rb
```

```
    def edit
      @article = Article.find(params[:id])
      authorize @article
    end
```

pundit

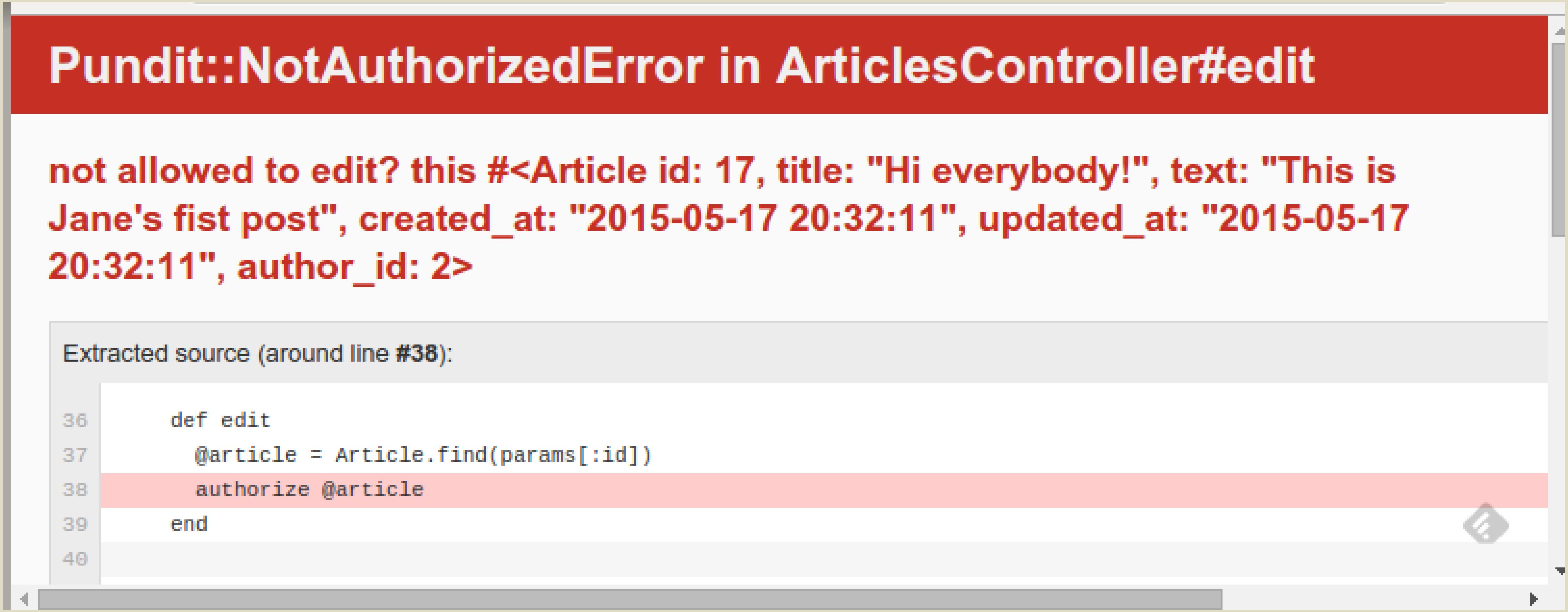
- Saquemos por un momento el `if` de los links

```
/app/views/articles/show.html.erb
```

```
...
<%= link_to 'Edit', edit_article_path(@article) %>
<%= link_to 'Delete', article_path(@article), method:
:delete %>
...
```

- Intenten editar el post 17

pundit



Pundit::NotAuthorizedError in ArticlesController#edit

not allowed to edit? this #<Article id: 17, title: "Hi everybody!", text: "This is Jane's fist post", created_at: "2015-05-17 20:32:11", updated_at: "2015-05-17 20:32:11", author_id: 2>

Extracted source (around line **#38**):

```
36      def edit
37        @article = Article.find(params[:id])
38        authorize @article
39      end
40
```

pundit

- Modifiquemos el application controller

```
/app/controllers/application_controller.rb
```

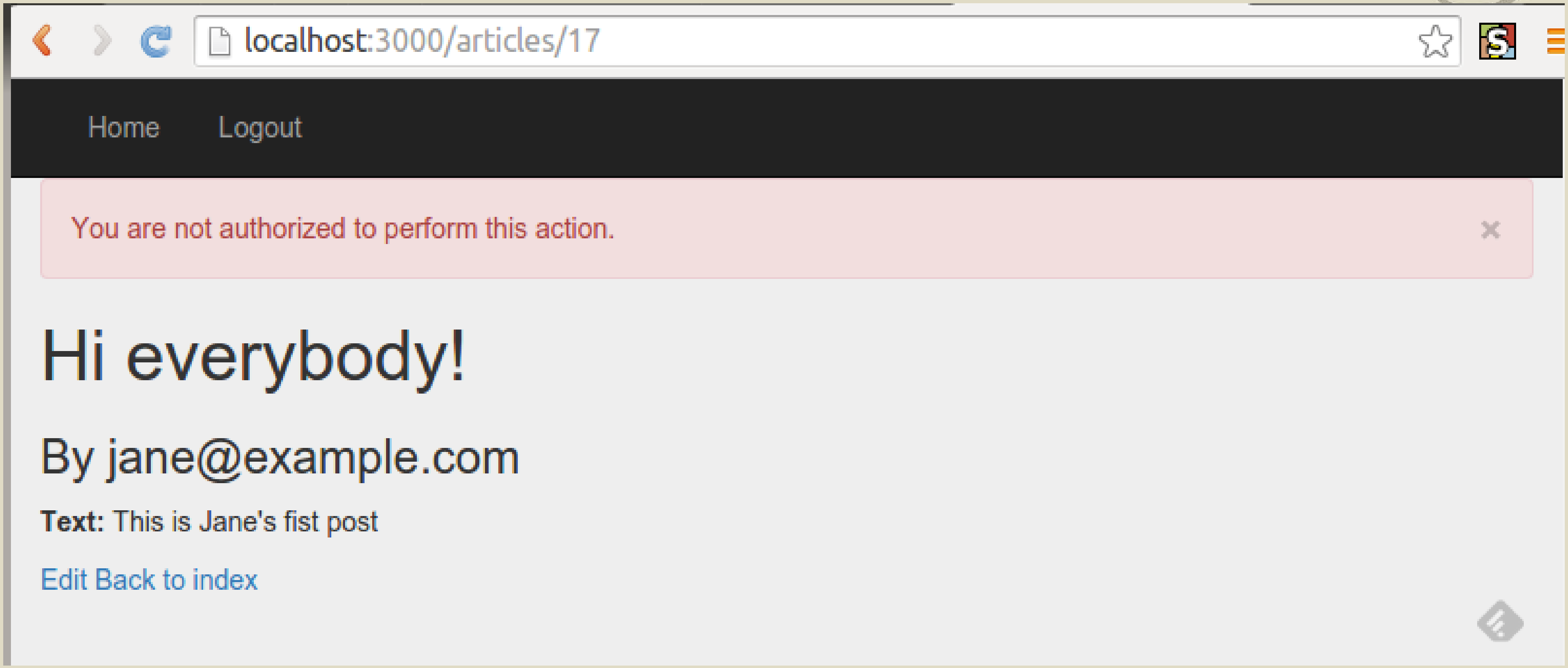
```
class ApplicationController < ActionController::Base
  ...
  include Pundit

  rescue_from Pundit::NotAuthorizedError, with:
:user_not_authorized

  private

  def user_not_authorized
    flash[:alert] = "You are not authorized to perform
this action."
    redirect_to(request.referrer || root_path)
  end
end
```

pundit



You are not authorized to perform this action.

Hi everybody!

By jane@example.com

Text: This is Jane's fist post

Edit Back to index

pundit

- Volvamos a nuestra vista del artículo

/app/views/articles/show.html.erb

```
...
<% if policy(@article).edit? %>
  <%= link_to 'Edit', edit_article_path(@article) %>
<% end %>
<% if policy(@article).destroy? %>
  <%= link_to 'Delete', article_path(@article), method:
:delete %>
<% end %>
<%= link_to 'Back to index', articles_path %>
```

pundit

- Pequeña modificación al índice

```
/app/views/articles/index.html.erb
```

```
...
<% if policy(Article).new? %>
  <%= link_to 'New article', new_article_path %>
<% end %>
```

pundit

- Resumen

/app/controllers/articles_controller.rb

```
class ArticlesController < ApplicationController
  skip_before_action :authenticate_user!, only:
[:index, :show]

    def index
      authorize Article
      @articles = Article
        .all
        .limit(10)
        .order(created_at: :desc)
    end

    ...
```

pundit

/app/controllers/articles_controller.rb

```
...

def show
  @article = Article.find(params[:id])
  authorize @article
end

def new
  authorize Article
  @article = Article.new
end

...
```

pundit

/app/controllers/articles_controller.rb

```
    ...

    def create
      @article = Article.new(article_params)
      @article.author = current_user
      authorize @article
    ...

    def edit
      @article = Article.find(params[:id])
      authorize @article
    end

    ...
```

pundit

```
/app/controllers/articles_controller.rb
    def destroy
      @article = Article.find(params[:id])
      authorize @article

      @article.destroy
      redirect_to articles_path
    end

    def update
      @article = Article.find(params[:id])
      authorize @article
      ...
    end
...
```

pundit

- Permitamos que un admin pueda modificar artículos de otros autores

```
/app/policies/article_policy.rb
```

```
class ArticlePolicy < ApplicationPolicy

  ...

  def update?
    (record.author == user) || (user.has_role? :admin)
  end

  def destroy?
    (record.author == user) || (user.has_role? :admin)
  end

...
```

pundit

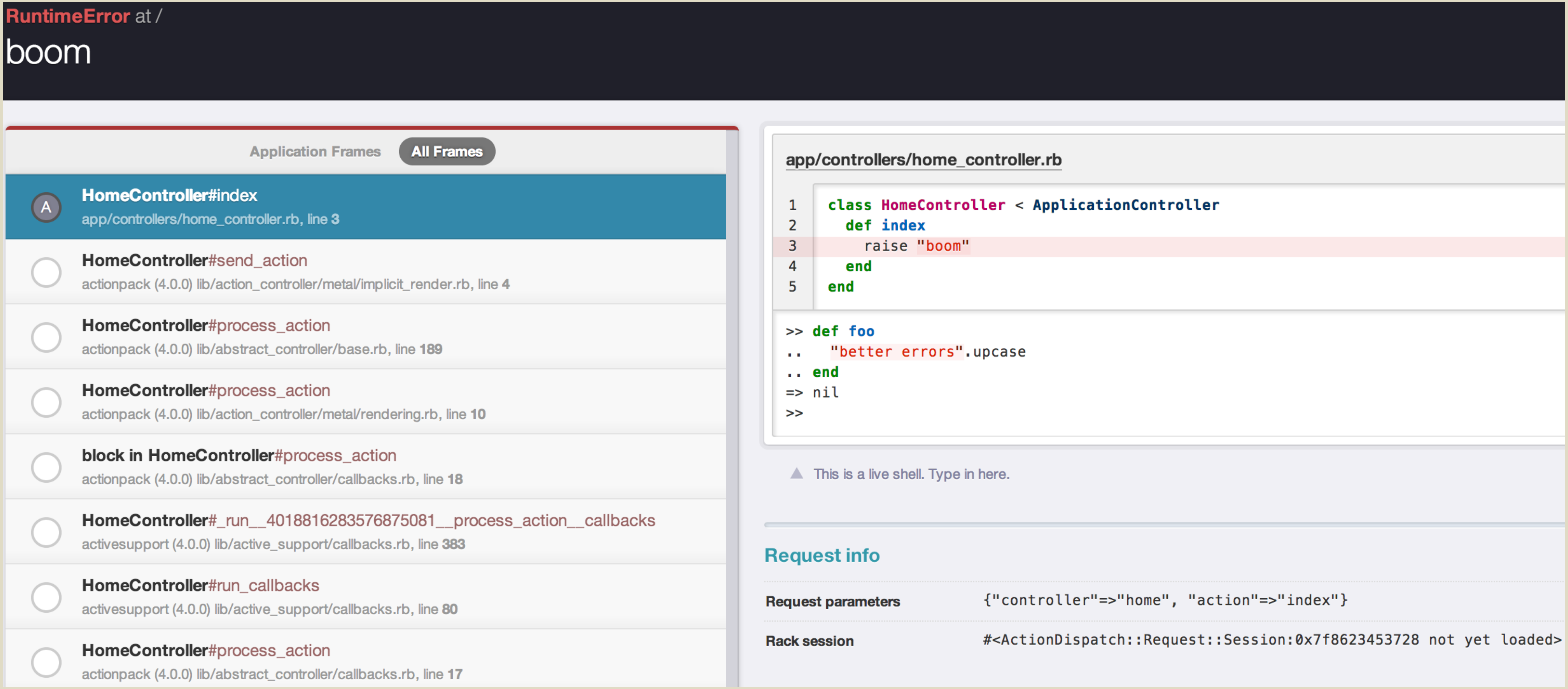
- Intenten ahora editar el post con id 17.

pundit

- Considerar
  - Solapamiento entre Autenticación y Autorización.
  - Solapamiento entre roles y atributos
    - ¿Rol “autor”?
  - ¿Cómo sabemos que estamos autorizando todas las rutas?

better_errors

- https://github.com/charliesome/better_errors
- Página de error mejorada para debuggear.



RuntimeError at /

boom

HomeController#index
app/controllers/home_controller.rb, line 3

HomeController#send_action
actionpack (4.0.0) lib/action_controller/metal/implicit_render.rb, line 4

HomeController#process_action
actionpack (4.0.0) lib/abstract_controller/base.rb, line 189

HomeController#process_action
actionpack (4.0.0) lib/action_controller/metal/rendering.rb, line 10

block in HomeController#process_action
actionpack (4.0.0) lib/abstract_controller/callbacks.rb, line 18

HomeController#_run__4018816283576875081__process_action__callbacks
activesupport (4.0.0) lib/active_support/callbacks.rb, line 383

HomeController#run_callbacks
activesupport (4.0.0) lib/active_support/callbacks.rb, line 80

HomeController#process_action
actionpack (4.0.0) lib/abstract_controller/callbacks.rb, line 17

app/controllers/home_controller.rb

```
class HomeController < ApplicationController
  def index
    raise "boom"
  end
end
```

```
>> def foo
..   "better errors".upcase
.. end
=> nil
>>
```

This is a live shell. Type in here.

Request info

Request parameters	{"controller"=>"home", "action"=>"index"}
Rack session	#<ActionDispatch::Request::Session:0x7f8623453728 not yet loaded>

better_errors

- Soporta
  - Stack trace
  - Código fuente con syntax-highlighting.
  - Inspeccionar variables
  - Un shell para evaluar código.

Importante!

/Gemfile

```
..
group :development do
  gem "better_errors"
end
...
```

Tarea para el hogar

- Instalar better_errors
- Ver http://blog.arkency.com/2014/07/4-ways-to-early-return-from-a-rails-controller/
- ¿Cómo sabemos que estamos autorizando todas las rutas?
  - https://github.com/elabs/pundit#ensuring-policies-are-used