



Q&A

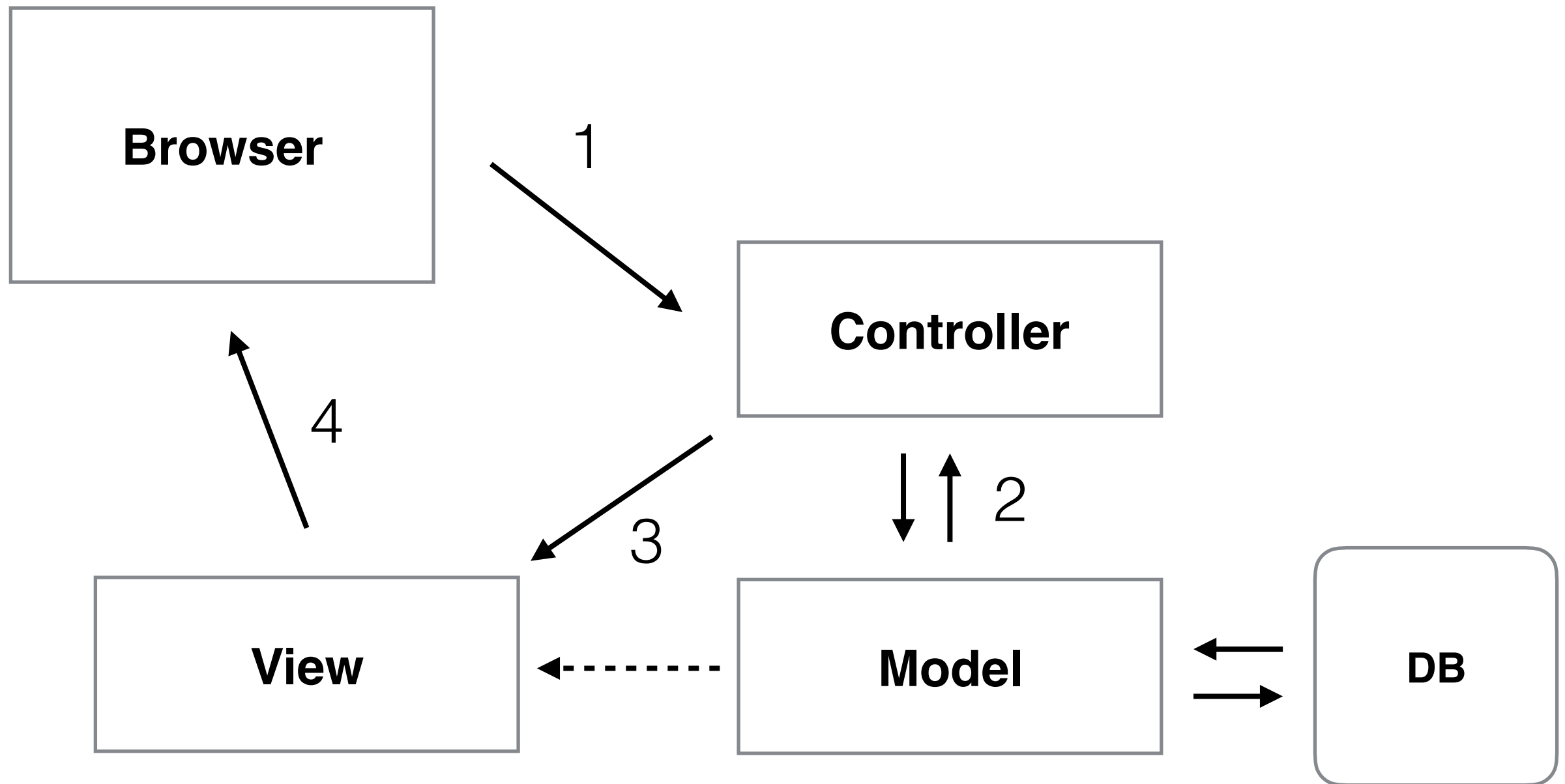
Bank Account Review

Ruby on Rails

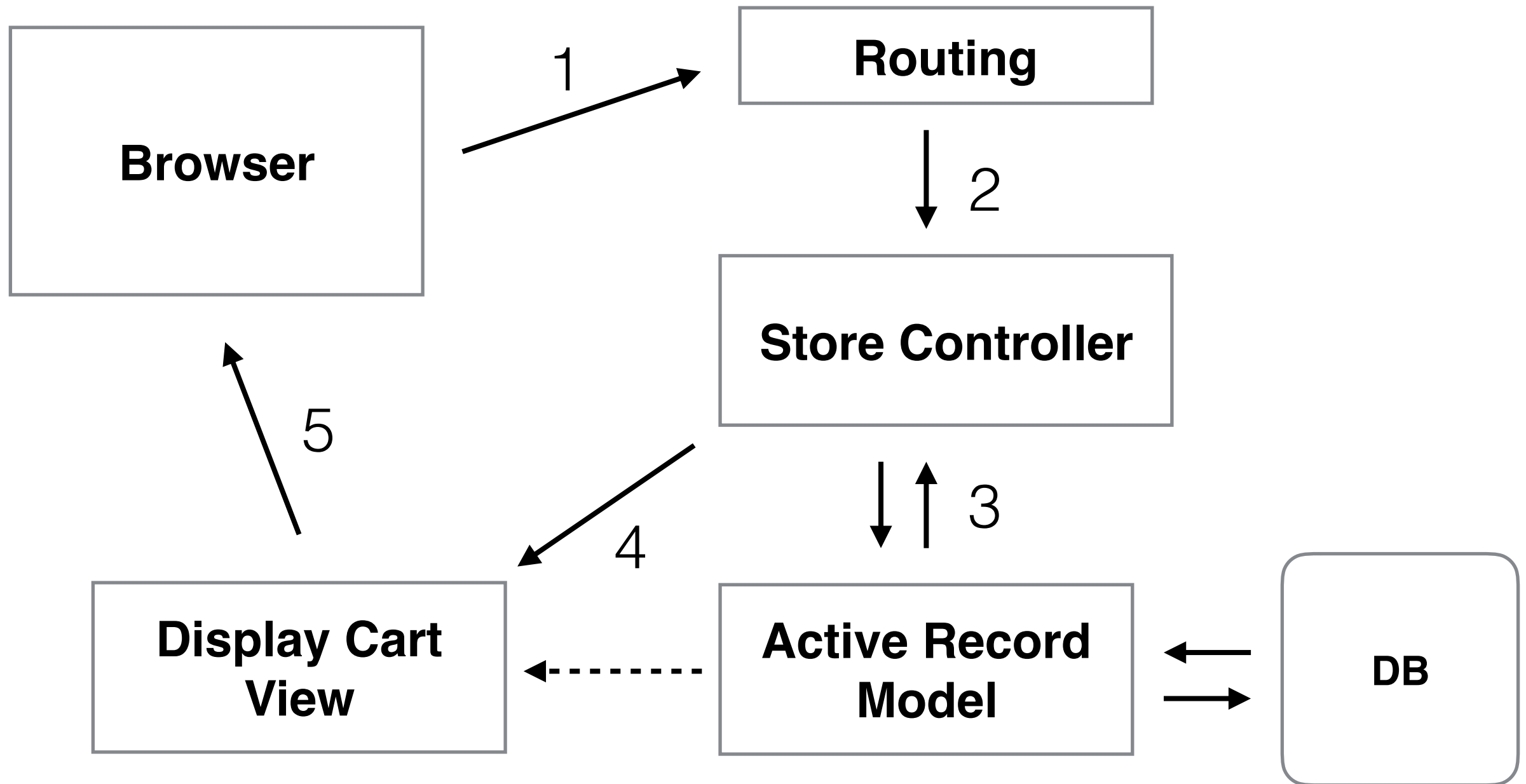
MVC

model, view, controller

MVC Architecture



Rails and MVC



Model

Object/Relational Mapping (ORM)

Common Model Actions

Find

All

Save

Destroy

Update

Active Record

Active Record

A few Active Record features:

Extract form data into model objects

Validations

Relationships

View

Controller

Creating our initial app

```
$ rails new app_name
```

Creating a blog app

```
$ rails new blog
```


Start the server

```
$ rails server
```

PC:

```
$ bin/rails server
```

```
$ ruby bin/rails server
```

```
shortcut: $ rails s
```

WEBrick is now running at

`http://localhost:3000`



Welcome aboard

You're riding Ruby on Rails!

[About your application's environment](#)

Getting started

Here's how to get rolling:

1. Use `bin/rails generate` to create your models and controllers

To see all available options, run it without parameters.

2. Set up a root route to replace this page

You're seeing this page because you're running in development mode and you haven't set a root route yet.

Routes are set up in `config/routes.rb`.

3. Configure your database

If you're not using SQLite (the default), edit `config/database.yml` with your username and password.

Browse the
documentation

[Rails Guides](#)

[Rails API](#)

[Ruby core](#)

[Ruby standard library](#)

Our first controller

```
rails generate controller name action
```

So let's create a "welcome" controller with an action called "index"

```
rails generate controller welcome index
```

```
rails generate controller welcome index
```

Running via Spring preloader in process 32321

```
  create  app/controllers/welcome_controller.rb
    route  get 'welcome/index'
  invoke  erb
  create  app/views/welcome
  create  app/views/welcome/index.html.erb
  invoke  test_unit
  create  test/controllers/welcome_controller_test.rb
  invoke  helper
  create  app/helpers/welcome_helper.rb
  invoke  test_unit
  invoke  assets
  invoke  coffee
  create  app/assets/javascripts/welcome.coffee
  invoke  scss
  create  app/assets/stylesheets/welcome.scss
```

Edit our view

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

```
<h1>Hello World</h1>
```

Update our routes

`config/routes.rb`

```
Rails.application.routes.draw do  
  get 'welcome/index'  
  
end
```

Setup a root route

`config/routes.rb`

```
Rails.application.routes.draw do
  #get 'welcome/index'
  root 'welcome#index'
end
```


Make sure the server is still running and navigate to the server to see our changes

<http://localhost:3000>

Adding more routes

Add a resources route

`config/routes.rb`

```
Rails.application.routes.draw do
```

```
  root 'welcome#index'
```

```
  resources :articles
```

```
end
```

rake

Run rake routes

```
$ rake routes
```

Prefix	Verb	URI Pattern	Controller#Action
root	GET	/	welcome#index
articles	GET	/articles(.:format)	articles#index
	POST	/articles(.:format)	articles#create
new_article	GET	/articles/new(.:format)	articles#new
edit_article	GET	/articles/:id/edit(.:format)	articles#edit
article	GET	/articles/:id(.:format)	articles#show
	PATCH	/articles/:id(.:format)	articles#update
	PUT	/articles/:id(.:format)	articles#update
	DELETE	/articles/:id(.:format)	articles#destroy

Let's try one of these

`http://localhost:3000/articles/new`

Routing Error

uninitialized constant ApplicationController

Rails.root: /Users/colinloretz/Projects/academy/blog

[Application Trace](#) | [Framework Trace](#) | [Full Trace](#)

Routes

Routes match in priority from top to bottom

Helper	HTTP Verb	Path	Controller#Action
<u>Path</u> / <u>Url</u>		<div>Path Match</div>	
root_path	GET	/	welcome#index
articles_path	GET	/articles(.:format)	articles#index
	POST	/articles(.:format)	articles#create
new_article_path	GET	/articles/new(.:format)	articles#new
edit_article_path	GET	/articles/:id/edit(.:format)	articles#edit
article_path	GET	/articles/:id(.:format)	articles#show
	PATCH	/articles/:id(.:format)	articles#update

Let's create our controller


```
$ rails generate controller articles
```

Running via Spring preloader in process 33574

```
  create  app/controllers/articles_controller.rb
  invoke  erb
  exist   app/views/articles
  invoke  test_unit
  identical test/controllers/articles_controller_test.rb
  invoke  helper
  identical app/helpers/articles_helper.rb
  invoke  test_unit
  invoke  assets
  invoke  coffee
  identical app/assets/javascripts/articles.coffee
  invoke  scss
  identical app/assets/stylesheets/articles.scss
```

Let's look at the new files

`/app/controllers/articles_controller.rb`

`/app/views/articles`

Add actions to the controller

```
class ArticlesController < ApplicationController  
  
  def new  
  end  
  
end
```

Let's try it again

`http://localhost:3000/articles/new`

Template is missing

Missing template articles/new, application/new with {:locale=>[:en], :formats=>[:html], :vars=>{:ruby, :coffee, :jbuilder}}. Searched in: * "/Users/colinloretz/Projects/academy/blog/app/view

Extracted source (around line #46):

```
44
45   def find(*args)
46     find_all(*args).first || raise(MissingTemplate.new(self, *args))
47   end
48
49   def find_file(path, prefixes = [], *args)
```

Rails.root: /Users/colinloretz/Projects/academy/blog

[Application Trace](#) | [Framework Trace](#) | [Full Trace](#)

actionview (4.2.6) lib/action_view/path_set.rb:46:in `find'

actionview (4.2.6) lib/action_view/lookup_context.rb:121:in `find'

actionview (4.2.6) lib/action_view/renderer/abstract_renderer.rb:18:in `find_template'

actionview (4.2.6) lib/action_view/renderer/template_renderer.rb:40:in `determine_template'

actionview (4.2.6) lib/action_view/renderer/template_renderer.rb:8:in `render'

actionview (4.2.6) lib/action_view/renderer/renderer.rb:46:in `render_template'

>>

Create a new view

Add `new.index.html.erb` to

`app/views/articles`

and add some HTML to it

what is erb?

embedded ruby (erb)

```
<% @articles.each do |article| %>  
  <p><%= article.title %></p>  
<% end %>
```

```
<% code %>
```

vs

```
<%= code %>
```

Let's try it again

`http://localhost:3000/articles/new`

success!



Let's try passing data to
the controller

Add the following form to our view
for creating new articles

```
<%= form_for :article do |f|
%>
  <p>
    <%= f.label :title %><br>
    <%= f.text_field :title %>
  </p>

  <p>
    <%= f.label :text %><br>
    <%= f.text_area :text %>
  </p>

  <p>
    <%= f.submit %>
  </p>
<% end %>
```

```
<%= form_for :article, url: articles_path do |f| %>
  <p>
    <%= f.label :title %><br>
    <%= f.text_field :title %>
  </p>

  <p>
    <%= f.label :text %><br>
    <%= f.text_area :text %>
  </p>

  <p>
    <%= f.submit %>
  </p>
<% end %>
```

Form POST

```
articles_path = '/articles'
```

Prefix	Verb	URI Pattern	Controller#Action
root	GET	/	welcome#index
articles	GET	/articles(.:format)	articles#index
	POST	/articles(.:format)	articles#create
new_article	GET	/articles/new(.:format)	articles#new
edit_article	GET	/articles/:id/edit(.:format)	articles#edit
article	GET	/articles/:id(.:format)	articles#show
	PATCH	/articles/:id(.:format)	articles#update
	PUT	/articles/:id(.:format)	articles#update
	DELETE	/articles/:id(.:format)	articles#destroy

articles#create

```
class ArticlesController < ApplicationController

  def new
  end

  def create
    render plain: params[:article].inspect
  end

end
```

Create a new article

```
{"title"=>"test 1", "text"=>"test"}
```


Let's create a model

```
$ rails generate model article  
  title:string text:text
```

Running via Spring preloader in process 33574

```
  create app/controllers/articles_controller.rb  
  invoke erb  
  exist app/views/articles  
  invoke test_unit  
  identical test/controllers/articles_controller_test.rb  
  invoke helper  
  identical app/helpers/articles_helper.rb  
  invoke test_unit  
  invoke assets  
  invoke coffee  
  identical app/assets/javascripts/articles.coffee  
  invoke scss  
  identical app/assets/stylesheets/articles.scss
```

Run the database migration

```
$ rake db:migrate
```

```
== 20160511154305 CreateArticles: migrating =====  
-- create_table(:articles)  
   -> 0.0012s  
== 20160511154305 CreateArticles: migrated (0.0012s) =====
```

articles table

id	title	text
1	Blog post 1	Blah blah
2	Blog post 2	Blah blah
3	Blog post 3	Blah blah
...

Saving our articles

```
class ArticlesController < ApplicationController

  def create
    # render plain: params[:article].inspect
    @article = Article.new(params[:article])

    @article.save
    redirect_to @article
  end

end
```

Try to create an article

ActiveModel::ForbiddenAttributesError

ActiveModel::ForbiddenAttributesError

Extracted source (around line #6):

```
4  
5   def create  
6     @article = Article.new(params[:article])  
7
```

another error! :(

Saving our articles

```
@article = Article.new(params[:article])
```

```
# refactor to
```

```
@article =  
Article.new(params.require(:article).permit(  
:title, :text))
```

Refactoring Strong Params

```
class ArticlesController < ApplicationController

  def create
    # render plain: params[:article].inspect
    @article = Article.new(article_params)

    @article.save
    redirect_to @article
  end

  private
  def article_params
    params.require(:article).permit(:title, :text)
  end

end
```


Try to create an article again

NoMethodError in Articles#show

Showing `/Users/colinloretz/Projects/academy/blog/app/views/articles/show.html.erb` where line **#3** raised:

undefined method ``title'` for `nil:NilClass`

Extracted source (around line **#3**):

```
1 <p>
2   <strong>Title:</strong>
3   <%= @article.title %>
4 </p>
5
6 <p>
```

Rails.root: `/Users/colinloretz/Projects/academy/blog`

[Application Trace](#) | [Framework Trace](#) | [Full Trace](#)

`app/views/articles/show.html.erb:3:in `_app_views_articles_show_html_erb_2442819414964233869_70191173416160'`

Showing our article

```
class ArticlesController < ApplicationController

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

end
```

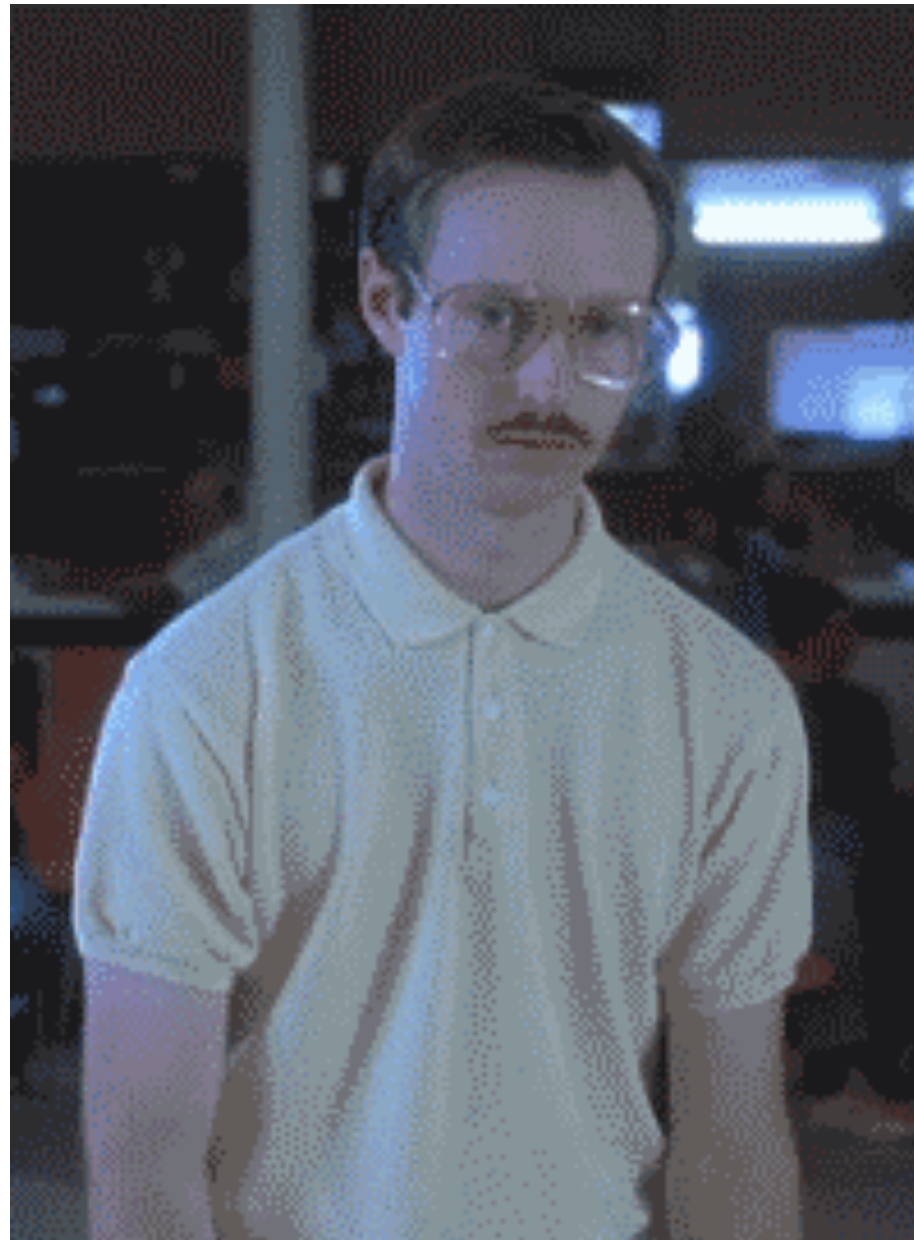
And create a view in app/views/article/show.html.erb

article#show view

```
<p>  
  <strong>Title:</strong>  
  <%= @article.title %>  
</p>
```

```
<p>  
  <strong>Text:</strong>  
  <%= @article.text %>  
</p>
```

And one more time...
create an article



Installing Rails

Installing Rails

```
$ gem install rails
```

Install sqlite3

PC only

<https://www.sqlite.org/>

Backup Install Methods

Mac OSX

<https://github.com/tokaido/tokaidoapp>

PC

<http://railsinstaller.org>

Check Installation

```
$ rails --version
```