

Intro to Rails

#NICAR16

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<http://j.mp/nicar16-rails>

```
> rails new nicar16
```

Do you need a web framework?

1. You have too much data to bake
2. You need user input
3. You need dynamic processing that can't be done in the browser

Do you need Rails?

1. Your app is bigger than a couple of pages
2. You have a big or complicated database
3. You need users and sessions
4. Or, you just want a place to organize your work

Sinatra

```
get '/' do  
  "hello world"  
end
```



Rails

Controller
ORM
Views
Assets
Authentication
Migrations
Email
JS
...



OK fine let's install it

```
> gem install rails
```

```
Fetching: activesupport-4.2.6.gem (100%)  
Successfully installed activesupport-4.2.6  
Fetching: actionview-4.2.6.gem (100%)  
Successfully installed actionview-4.2.6  
Fetching: actionpack-4.2.6.gem (100%)  
Successfully installed actionpack-4.2.6  
Fetching: activejob-4.2.6.gem (100%)  
Successfully installed activejob-4.2.6  
Fetching: actionmailer-4.2.6.gem (100%)  
Successfully installed actionmailer-4.2.6  
Fetching: activemodel-4.2.6.gem (100%)  
Successfully installed activemodel-4.2.6  
Fetching: activerecord-4.2.6.gem (100%)  
Successfully installed activerecord-4.2.6  
Fetching: railties-4.2.6.gem (100%)  
Successfully installed railties-4.2.6  
Fetching: rails-4.2.6.gem (100%)  
Successfully installed rails-4.2.6  
9 gems installed
```

whuu? I said I wanted rails

> rails new nicar16

```
create
create README.rdoc
create Rakefile
create config.ru
create .gitignore
create Gemfile
create app
create app/assets/javascripts/application.js
create app/assets/stylesheets/application.css
create app/controllers/application_controller.rb
create app/helpers/application_helper.rb
create app/views/layouts/application.html.erb
create app/assets/images/.keep
create app/mailers/.keep
create app/models/.keep
create app/controllers/concerns/.keep
create app/models/concerns/.keep
create bin
create bin/bundle
create bin/rails
create bin/rake
create bin/setup
create config
create config/routes.rb
create config/application.rb
create config/environment.rb
create config/secrets.yml
create config/environments
create config/environments/development.rb
create config/environments/production.rb
create config/environments/test.rb
create config/initializers
create config/initializers/assets.rb
create config/initializers/backtrace_silencers.rb
create config/initializers/cookies_serializer.rb
create config/initializers/filter_parameter_logging.rb
```

```
create config/initializers/filter_parameter_logging.rb
create config/initializers/inflections.rb
create config/initializers/mime_types.rb
create config/initializers/session_store.rb
create config/initializers/wrap_parameters.rb
create config/locales
create config/locales/en.yml
create config/boot.rb
create config/database.yml
create db
create db/seeds.rb
create lib
create lib/tasks
create lib/tasks/.keep
create lib/assets
create lib/assets/.keep
create log
create log/.keep
create public
create public/404.html
create public/422.html
create public/500.html
create public/favicon.ico
create public/robots.txt
create test/fixtures
create test/fixtures/.keep
create test/controllers
create test/controllers/.keep
create test/mailers
create test/mailers/.keep
create test/models
create test/models/.keep
create test/helpers
create test/helpers/.keep
create test/integration
create test/integration/.keep
create test/test_helper.rb
create tmp/cache
create tmp/cache/assets
create vendor/assets/javascripts
create vendor/assets/javascripts/.keep
create vendor/assets/stylesheets
create vendor/assets/stylesheets/.keep
run bundle install
```



What is all this stuff?

Gemfile
Gemfile.lock
README.rdoc
Rakefile

app ← **90% of your time**

bin
config
config.ru
db
lib
log
public
test
tmp
vendor

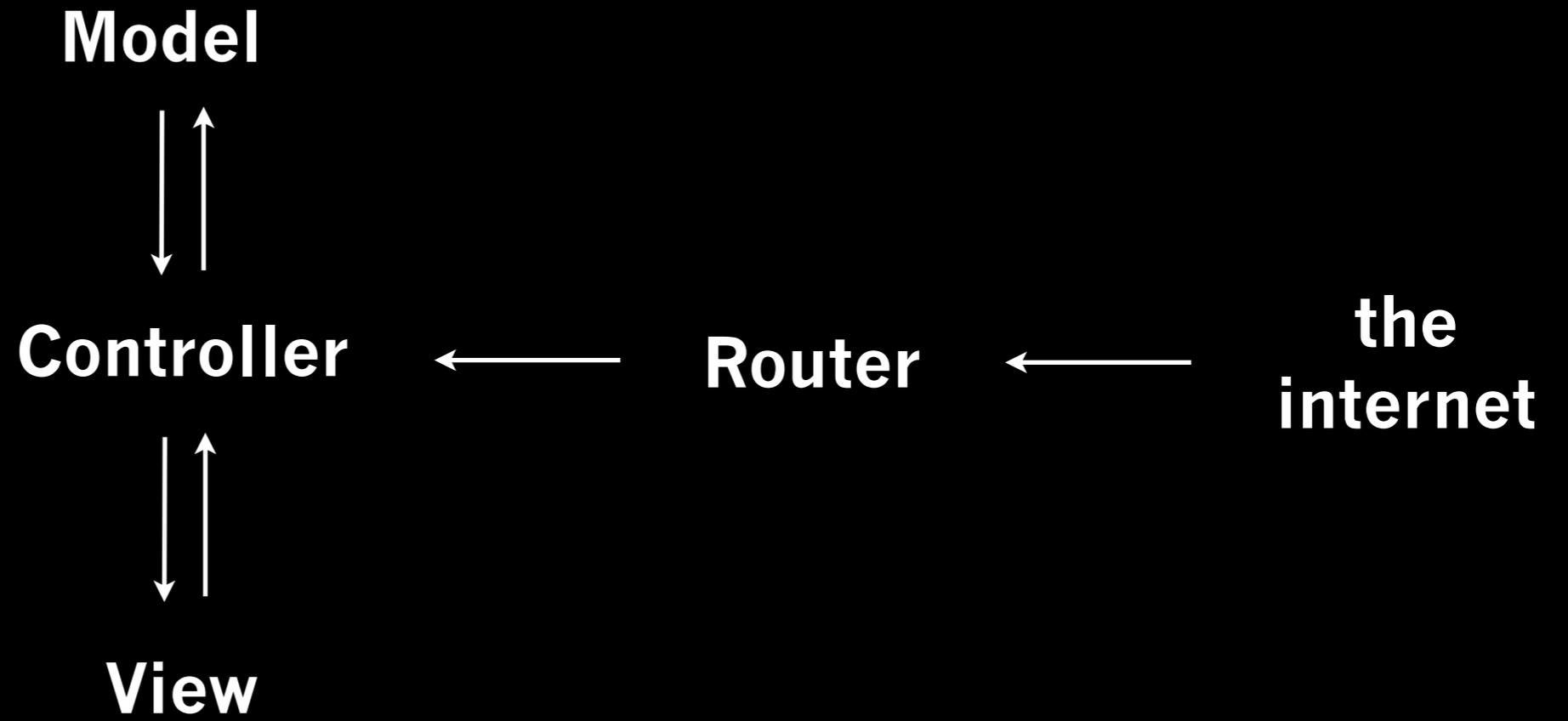
assets
controllers
helpers
mailers
models
views

Sublime Text

```
▼ nicar16
  ▶ app
  ▶ bin
  ▶ config
  ▶ db
  ▶ lib
  ▶ log
  ▶ public
  ▶ test
  ▶ tmp
  ▶ vendor
  .gitignore
  config.ru
  Gemfile
  Gemfile.lock
  Rakefile
  README.rdoc
```

MVC

assets
controllers
helpers
mailers
models
views



Stay on the path!

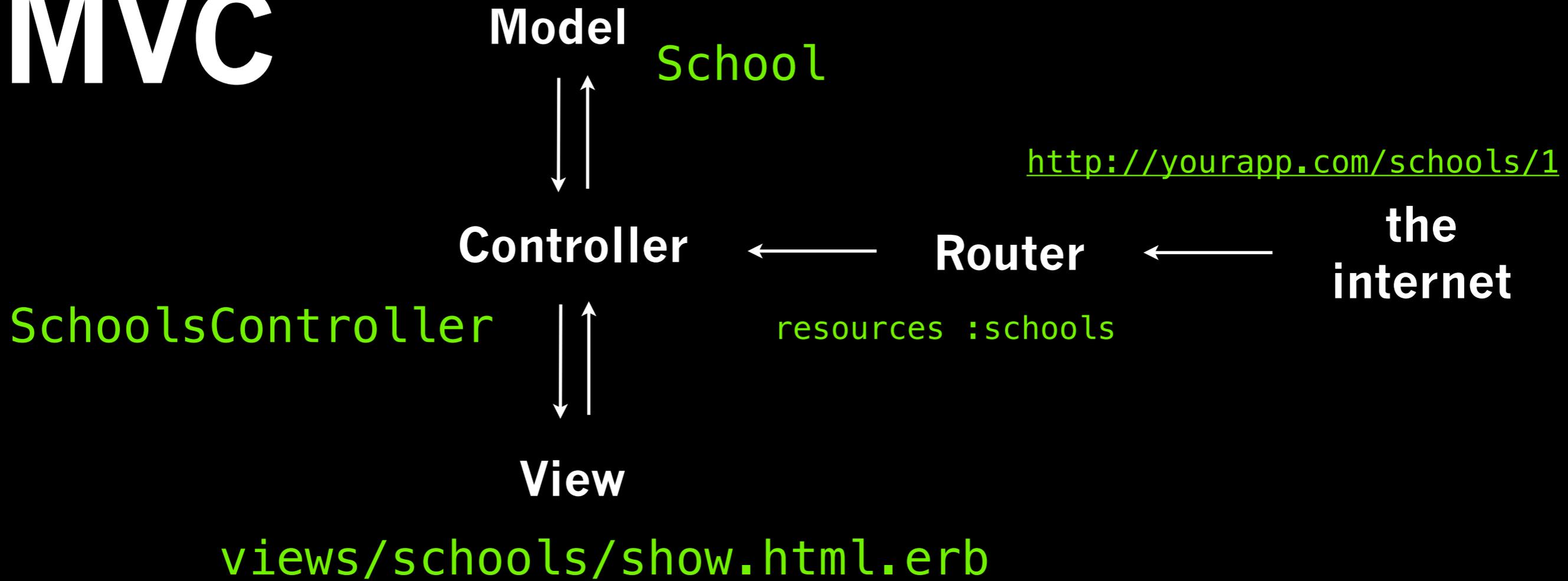
“convention over configuration”



Flickr: wetwebwork

<http://guides.rubyonrails.org/>

MVC



1. Migrations

```
> cd nicar16
```

```
> rails generate migration AddSchoolsTable
```

```
  invoke  active_record
```

```
  create  db/migrate/20160308170855_add_schools_table.rb
```

1. Migrations

db/migrate/20160308170855_add_schools_table.rb

```
class AddSchoolsTable < ActiveRecord::Migration
  def change
  end
end
```



1. Migrations

db/migrate/20160308170855_add_schools_table.rb

```
class AddSchoolsTable < ActiveRecord::Migration
  def change
    create_table :schools do |t|
      t.string :name
      t.string :kind
      t.integer :students
      t.integer :teachers
    end
  end
end
```



1. Migrations

```
> rake db:migrate
```

```
== 20160308170855 AddSchoolsTable: migrating =====  
-- create_table(:schools)  
   -> 0.0009s  
== 20160308170855 AddSchoolsTable: migrated (0.0009s) =====
```

OK, where is this database?

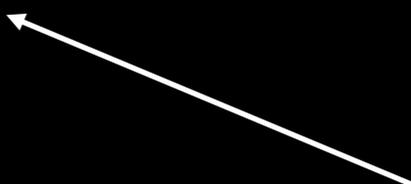
config/database.yml

```
default: &default
  adapter: sqlite3
  pool: 5
  timeout: 5000
```

```
development:
  <<: *default
  database: db/development.sqlite3
```

```
production:
  <<: *default
  database: db/production.sqlite3
```

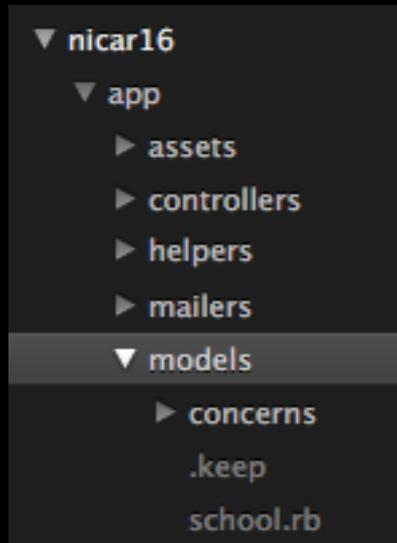
You can use Postgres or MySQL too!



Or, mix n match between development and production

2. Add a model

app/models/school.rb



```
class School < ActiveRecord::Base  
end
```



3. Add some data

```
> rails console
```

```
Loading development environment (Rails 4.2.6)
```

```
irb(main):001:0>
```

3. Add some data

```
irb(main):002:0> s = School.new  
=> #<School id: nil, name: nil, kind: nil,  
students: nil, teachers: nil>
```



3. Add some data

```
irb(main):003:0> s.name = "Acme High School"  
=> "Acme High School"  
irb(main):004:0> s.kind = "high"  
=> "high"  
irb(main):005:0> s.students = 500  
=> 500  
irb(main):007:0> s.teachers = 80  
=> 80
```

3. Add some data

```
irb(main):008:0> s.save
```

```
  (0.2ms) begin transaction
  SQL (1.5ms) INSERT INTO "schools" ("name", "kind",
"students", "teachers") VALUES (?, ?, ?, ?) [{"name", "Acme
High School"}, {"kind", "high"}, {"students", 500},
{"teachers", 80}]
  (1.6ms) commit transaction
=> true
```

Another way

```
irb(main):009:0> School.create({:name => "Magic High School",  
:kind => "high", :students => 100, :teachers => 10})
```

```
  (1.1ms)  begin transaction
```

```
  SQL (0.3ms)  INSERT INTO "schools" ("name", "kind",  
"students", "teachers") VALUES (?, ?, ?, ?) [{"name", "Magic  
High School"}, {"kind", "high"}, {"students", 100},  
{"teachers", 10}]
```

```
  (1.4ms)  commit transaction
```

```
=> #<School id: 2, name: "Magic High School", kind: "high",  
students: 100, teachers: 10>
```

ActiveRecord magic

```
irb(main):010:0> schools = School.all
```

```
  School Load (0.1ms)  SELECT "schools".* FROM "schools"  
=> #<ActiveRecord::Relation [#<School id: 1, name: "Acme High School", kind: "high",  
students: 500, teachers: 80>, #<School id: 2, name: "Magic High School", kind: "high",  
students: 100, teachers: 10>]>
```

```
irb(main):011:0> schools = School.where(:kind => "high")
```

```
  School Load (0.1ms)  SELECT "schools".* FROM "schools" WHERE "schools"."kind" = ?  
[["kind", "high"]]  
=> #<ActiveRecord::Relation [#<School id: 1, name: "Acme High School", kind: "high",  
students: 500, teachers: 80>, #<School id: 2, name: "Magic High School", kind: "high",  
students: 100, teachers: 10>]>
```

```
irb(main):013:0> schools = School.where("students > ?", 100)
```

```
  School Load (0.1ms)  SELECT "schools".* FROM "schools" WHERE (students > 100)  
=> #<ActiveRecord::Relation [#<School id: 1, name: "Acme High School", kind: "high",  
students: 500, teachers: 80>]>
```

ActiveRecord magic

```
> School.find(1)
> School.first
> School.last
> School.find_by(:name => "Acme High School")
> School.where.not(:kind => "high")
> School.select("name").where(:kind => "high")
```

http://guides.rubyonrails.org/active_record_querying.html

Let's get it on a web page

app/controllers/schools_controller.rb

app/views/schools/index.html.erb

app/views/schools/show.html.erb

4. Controllers

app/controllers/schools_controller.rb

```
class SchoolsController < ApplicationController  
end
```

4. Controllers

app/controllers/schools_controller.rb

```
class SchoolsController < ApplicationController
  def index
  end

  def show
  end
end
```

4. Controllers

app/controllers/schools_controller.rb

```
class SchoolsController < ApplicationController
  def index
    @schools = School.all
  end
```

```
  def show
    @school = School.find(params[:id])
  end
end
```



5. Views

app/views/schools/index.html.erb

```
<ul>
  <% @schools.each do |s| %>
    <li><%= link_to s do %><%= s.name %><% end %></li>
  <% end %>
</ul>
```



5. Views

app/views/schools/show.html.erb

```
<h1><%= @school.name %></h1>  
<p>Students: <%= @school.students %></p>  
<p>Teachers: <%= @school.teachers %></p>
```



5. Routes: wire it together

config/routes.rb

```
Rails.application.routes.draw do  
  resources :schools  
end
```

Did it work?

```
> rails server
```

```
=> Booting WEBrick
```

```
=> Rails 4.2.6 application starting in development on http://localhost:3000
```

```
=> Run `rails server -h` for more startup options
```

```
=> Ctrl-C to shutdown server
```

```
[2016-03-08 13:47:25] INFO WEBrick 1.3.1
```

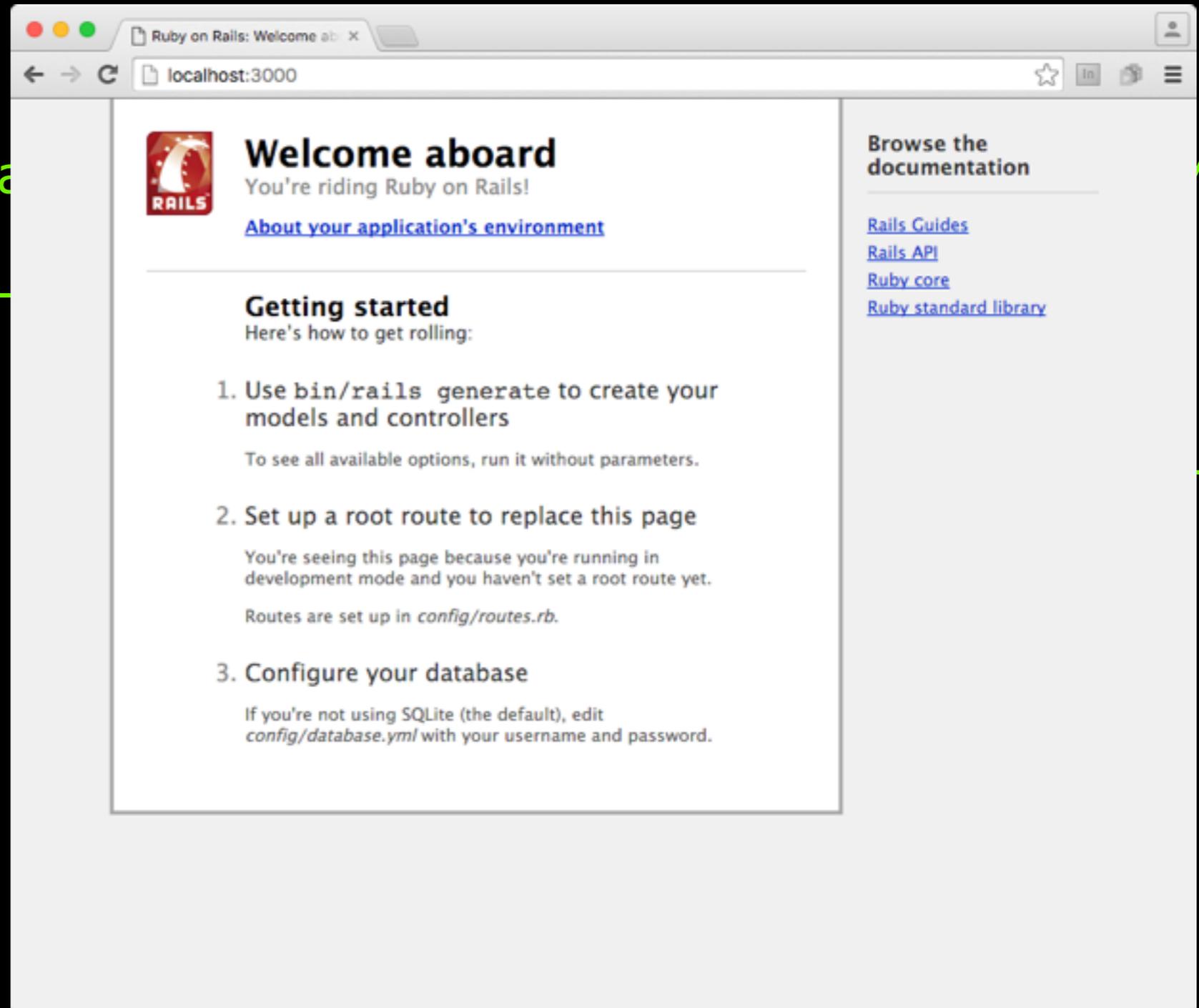
```
[2016-03-08 13:47:25] INFO ruby 2.2.2 (2015-04-13) [x86_64-darwin14]
```

```
[2016-03-08 13:47:25] INFO WEBrick::HTTPServer#start:  
pid=3172 port=3000
```

Did it work?

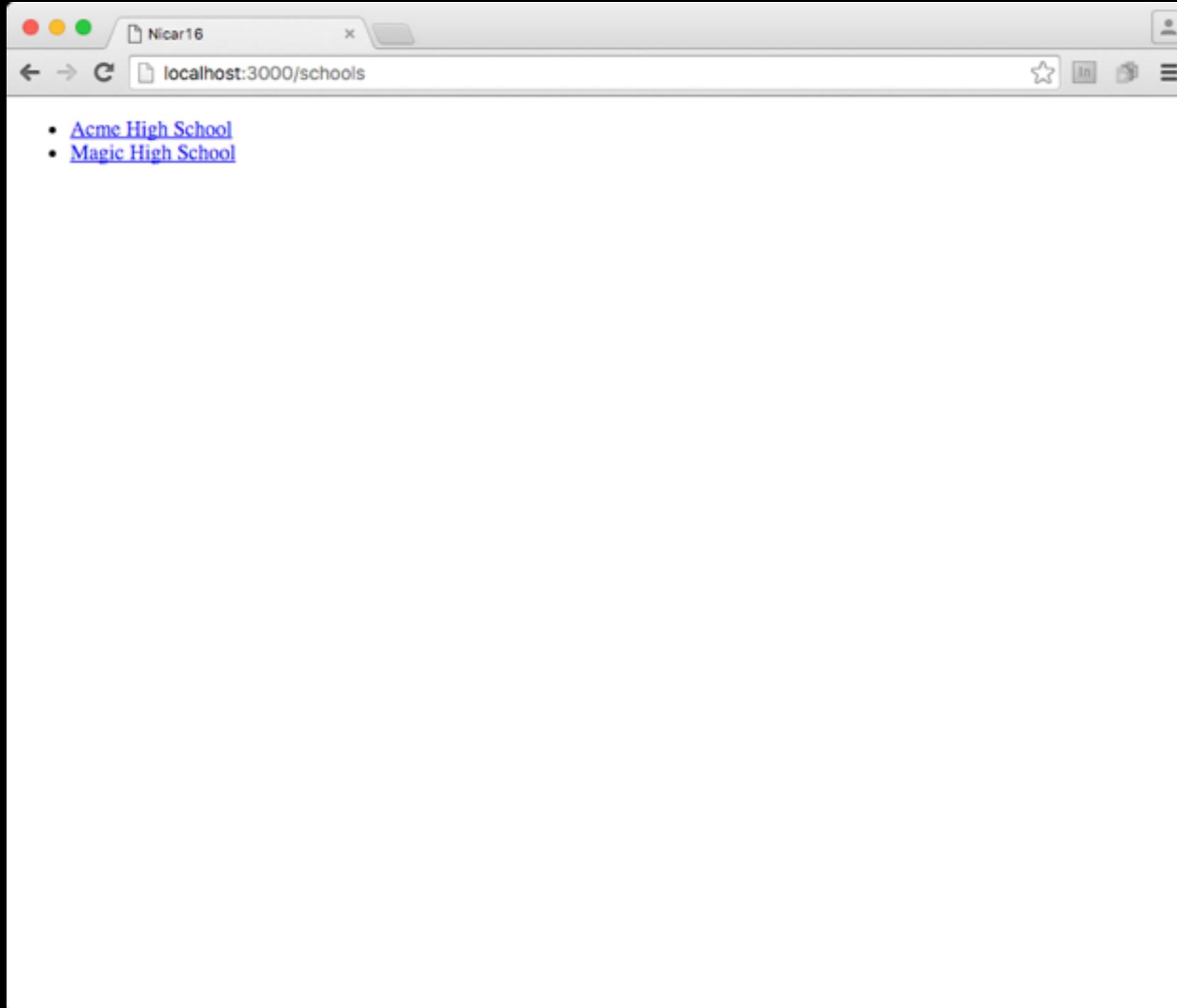
```
> rails server
```

```
=> Booting WEBrick  
=> Rails 4.2.6 application  
localhost:3000  
=> Run `rails server`  
=> Ctrl-C to shutdown  
[2016-03-08 13:47:25]  
[2016-03-08 13:47:25]  
darwin14]  
[2016-03-08 13:47:25]  
pid=3172 port=3000
```



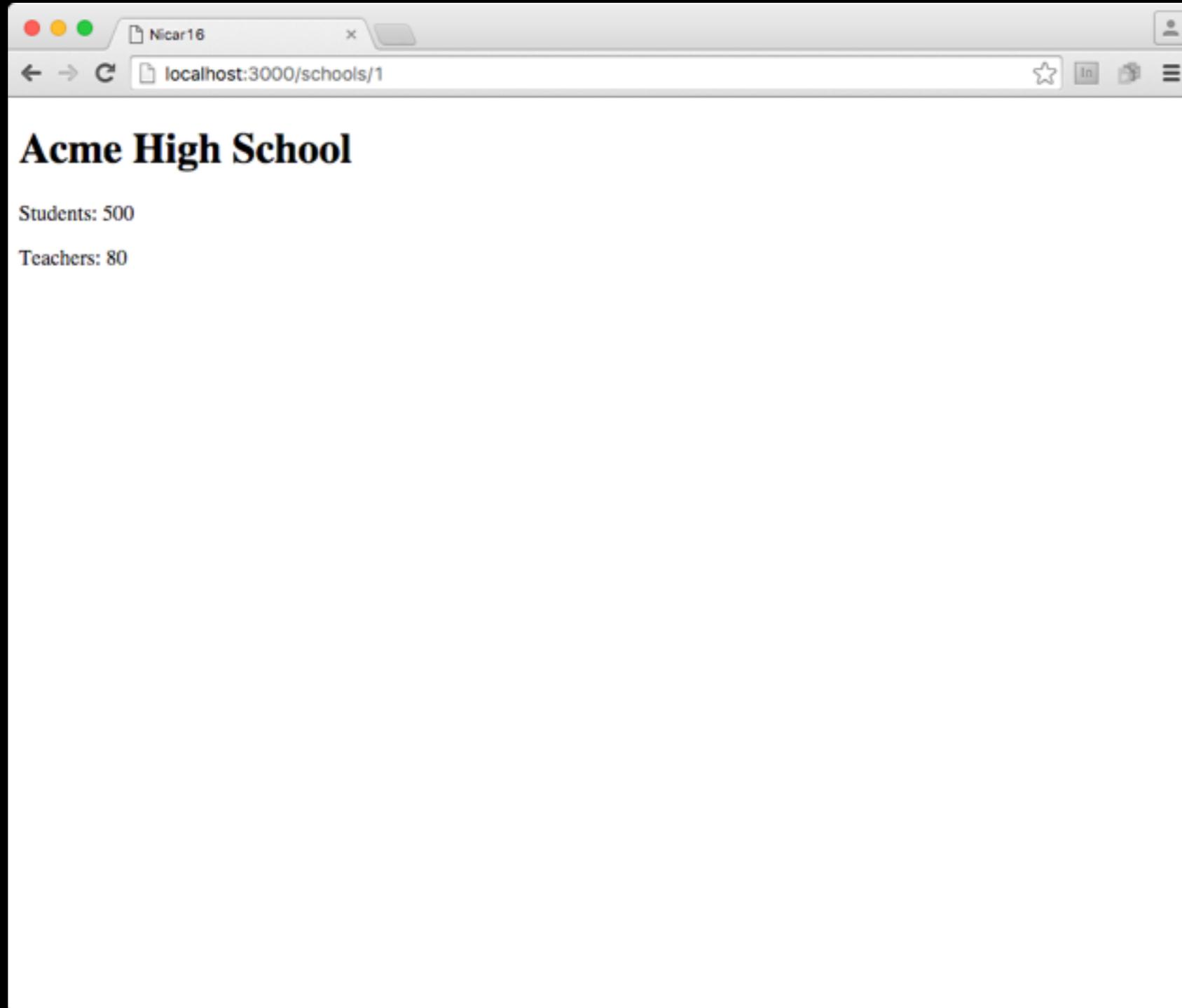
Did it work?

<http://localhost:3000/schools>



Did it work?

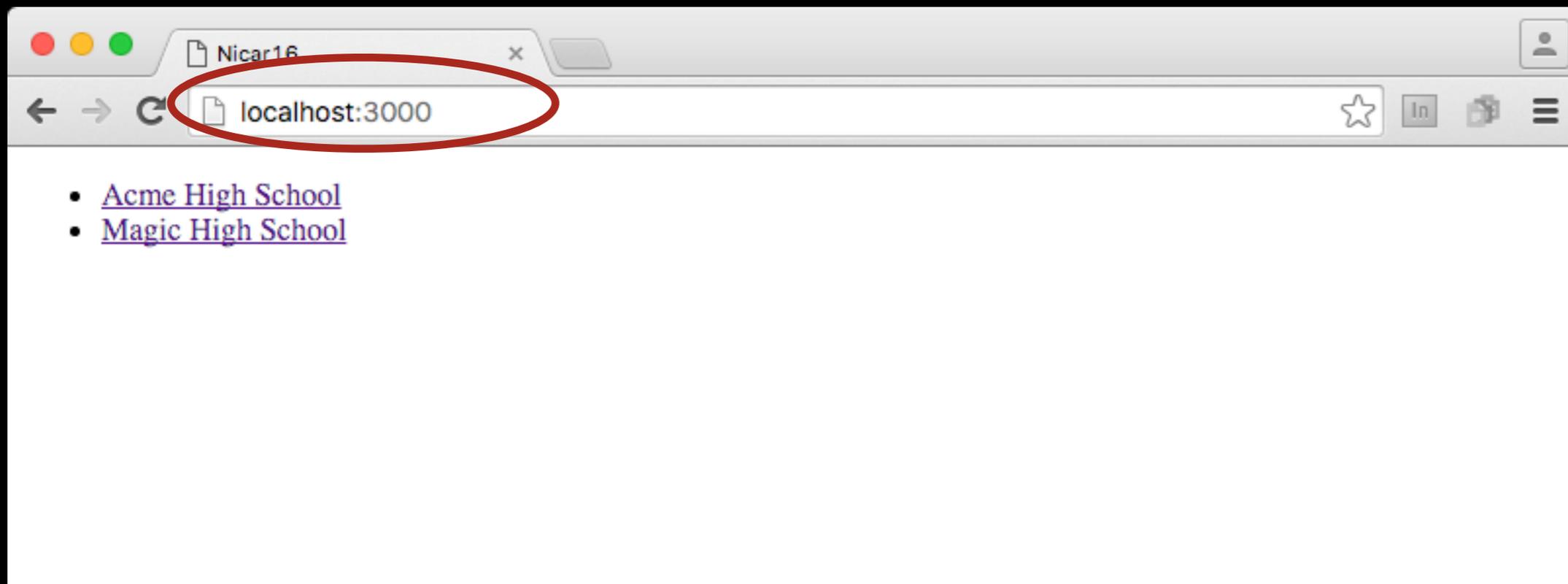
<http://localhost:3000/schools/1>



Route the homepage to schools#index

config/routes.rb

```
Rails.application.routes.draw do
  root :to => "schools#index"
  resources :schools
end
```



Now you know Rails!



Flickr: Wally Gobetz

**What if I want to load an
entire dataset at once?**

rake

Rake for data loading

<http://j.mp/nicar-rails-csv> → db/initial/schools.csv

	A	B	C	D
1	name	kind	students	teachers
2	Kozey	elementary	500	120
3	Stoltenberg	high	2500	500
4	Sipes	middle	1000	200
5	Gottlieb	elementary	500	120
6	Boehm	elementary	500	120

Rake for data loading

lib/tasks/load.rake

```
desc "load the data"  
task :csv => :environment do  
  # load code here  
end
```

Rake for data loading

```
> rake -T csv
```

```
rake csv # load the data
```

Remember our migration?

```
> rake -T migrate
```

```
rake db:migrate # Migrate the database (options: VERSION=x, VERBOSE=false, SCOPE=blog)  
rake db:migrate:status # Display status of migrations
```

Rake for data loading

lib/tasks/load.rake

```
desc "load the data"
task :csv => :environment do
  require 'csv'
  csv = "#{Rails.root.to_s}/db/initial/schools.csv"
  CSV.foreach(csv, :headers => true) do |row|
    s = School.new
    row.each do |key, val|
      s[key] = val
    end
    p s
    s.save
  end
end
```

Rake for data loading

lib/tasks/load.rake

```
> rake csv
```

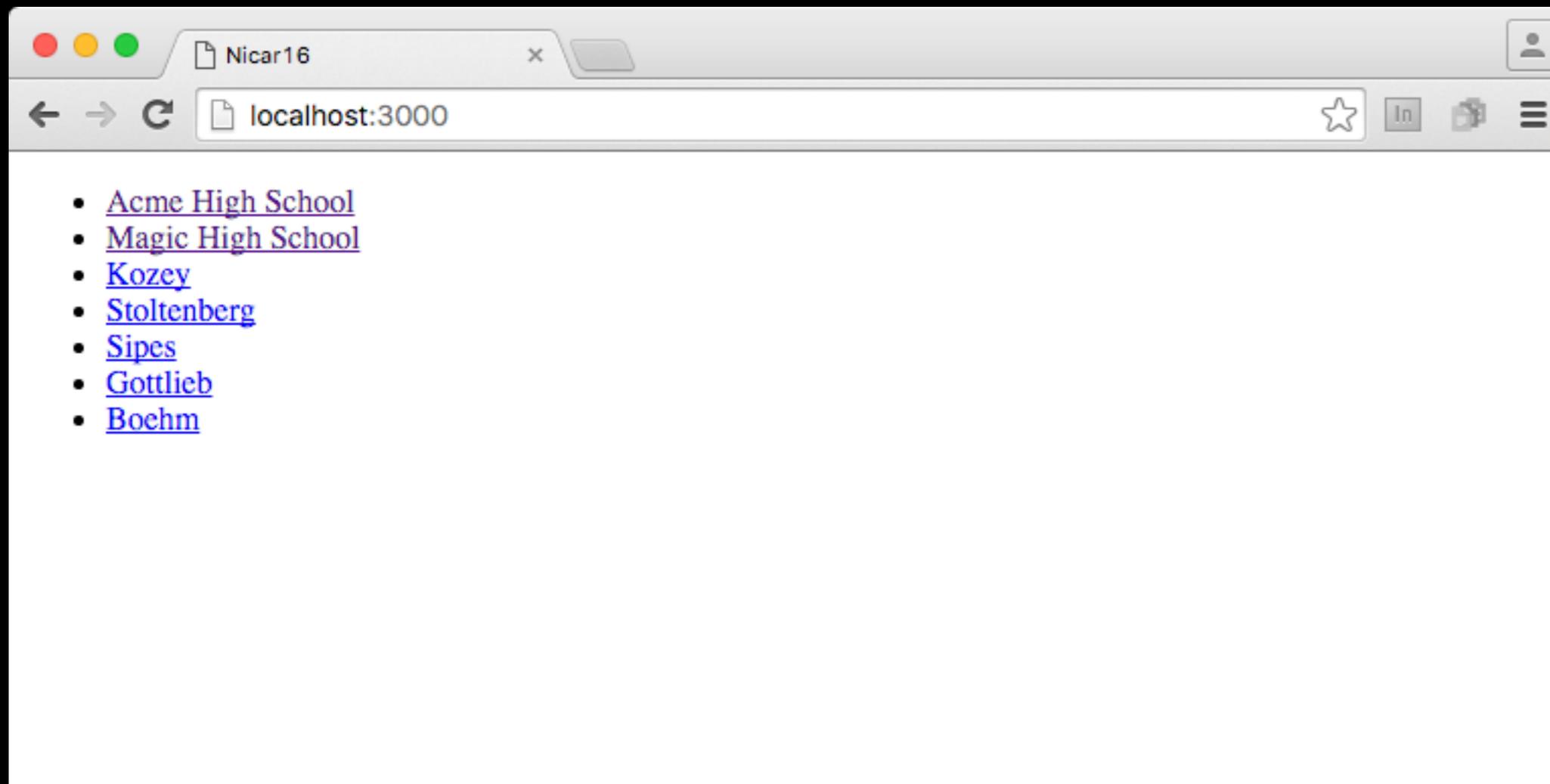
```
#<School id: nil, name: "Kozey", kind: "elementary", students: 500, teachers: 120>  
#<School id: nil, name: "Stoltenberg", kind: "high", students: 2500, teachers: 500>  
#<School id: nil, name: "Sipes", kind: "middle", students: 1000, teachers: 200>  
#<School id: nil, name: "Gottlieb", kind: "elementary", students: 500, teachers: 120>  
#<School id: nil, name: "Boehm", kind: "elementary", students: 500, teachers: 120>
```

Rake for data loading

lib/tasks/load.rake

> rake csv

```
#<School id: nil, name: "Kozey", kind: "elementary", students: 500, teachers: 120>  
#<School id: nil, name: "Stoltenberg", kind: "high", students: 2500, teachers: 500>  
#<School id: nil, name: "Sipes", kind: "middle", students: 1000, teachers: 200>  
#<School id: nil, name: "Gottlieb", kind: "elementary", students: 500, teachers: 120>  
#<School id: nil, name: "Boehm", kind: "elementary", students: 500, teachers: 120>
```



Getting a little fancier

What if we want pages for school kind?

app/controllers/schools_controller.rb

```
class SchoolsController < ApplicationController
  def index
    @schools = School.all
  end
```

```
  def show
    @school = School.find(params[:id])
  end
```

```
  def kind
    @schools = School.where(:kind => params[:kind])
  end
end
```



app/views/schools/kind.html.erb

```
<ul>
  <% @schools.each do |s| %>
    <li><%= link_to s do %><%= s.name %><% end %></li>
  <% end %>
</ul>
```

Look familiar?

Route it up

config/routes.rb

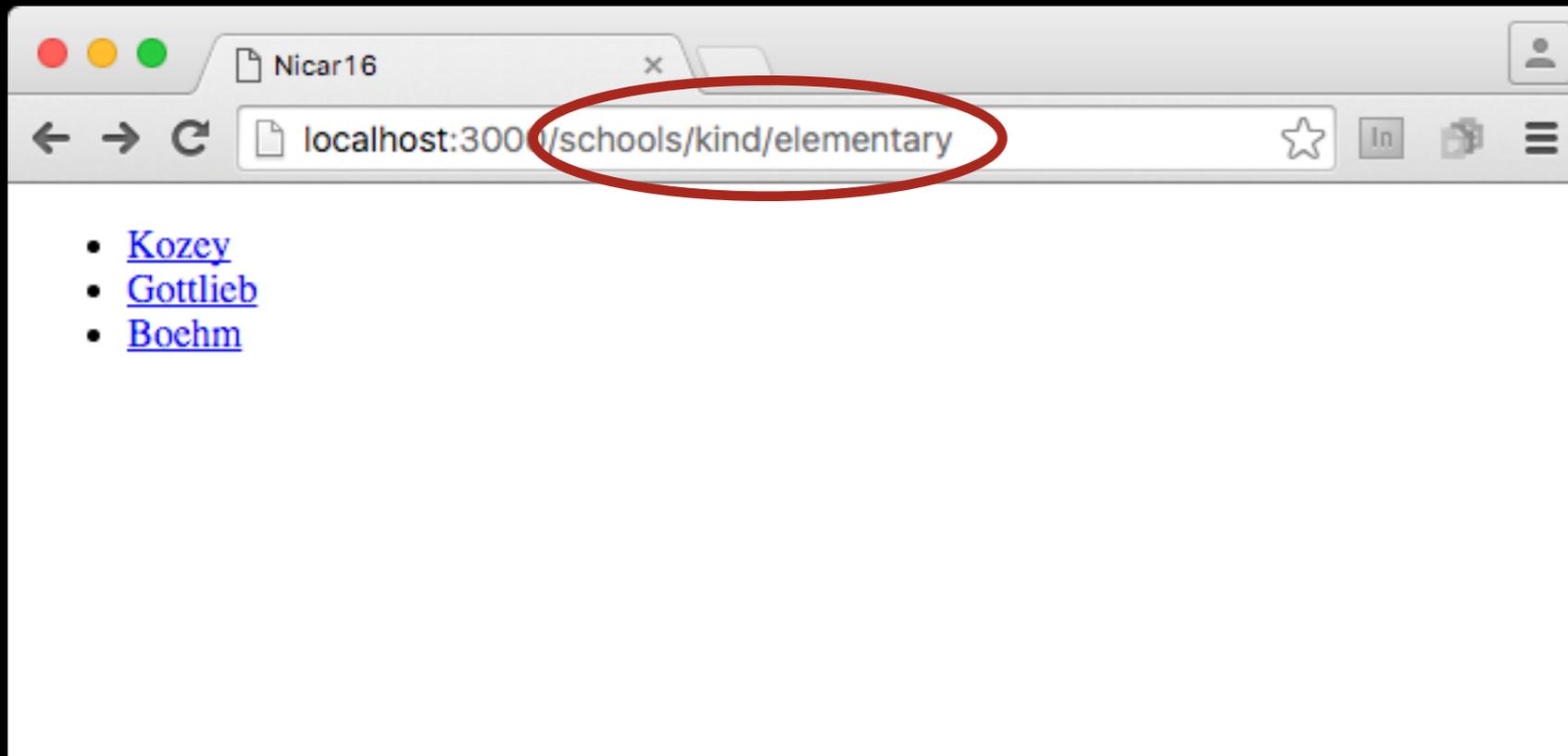
```
Rails.application.routes.draw do  
  match "/schools/kind/:kind", => "schools#kind", :via => "get"  
  root :to => "schools#index"  
  resources :schools  
end
```



Route it up

config/routes.rb

```
Rails.application.routes.draw do
  match "/schools/kind/:kind", => "schools#kind", :via => "get"
  root :to => "schools#index"
  resources :schools
end
```



DRY it up with partials

views/schools/_school_list.html.erb

```
<ul>
  <% @schools.each do |s| %>
    <li><%= link_to s do %><%= s.name %><% end %></li>
  <% end %>
</ul>
```



DRY it up with partials

views/schools/index.html.erb

views/schools/kind.html.erb

```
<%= render :partial => "school_list" %>
```

Link /kind/ pages to the homepage

views/schools/index.html.erb

```
<p>See all <%= link_to kind_path("elementary") do %>Elementary<% end %>,
  <%= link_to kind_path("middle") do %>Middle<% end %> and
  <%= link_to kind_path("high") do %>High<% end %> schools.</p>
<%= render :partial => "school_list" %>
```

Agh!

Action Controller: Exception x

localhost:3000/schools

NoMethodError in Schools#index

Showing `/Users/ashaw/nicar16/app/views/schools/index.html.erb` where line #1 raised:

```
undefined method `kind_path' for #<#<Class:0x007fb942002c30>:0x007fb93c7e9418>
```

Extracted source (around line #1):

```
1 <p>See all <%= link_to kind_path("elementary") do %>Elementary<% end %>,  
2   <%= link_to kind_path("middle") do %>Middle<% end %> and  
3   <%= link_to kind_path("high") do %>High<% end %> schools.</p>  
4 <%= render :partial => "school_list" %>
```

Rails.root: `/Users/ashaw/nicar16`

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

`app/views/schools/index.html.erb:1:in `__app_views_schools_index_html_erb_2958218504780603495_70216780288900'`

Request

Parameters:

None

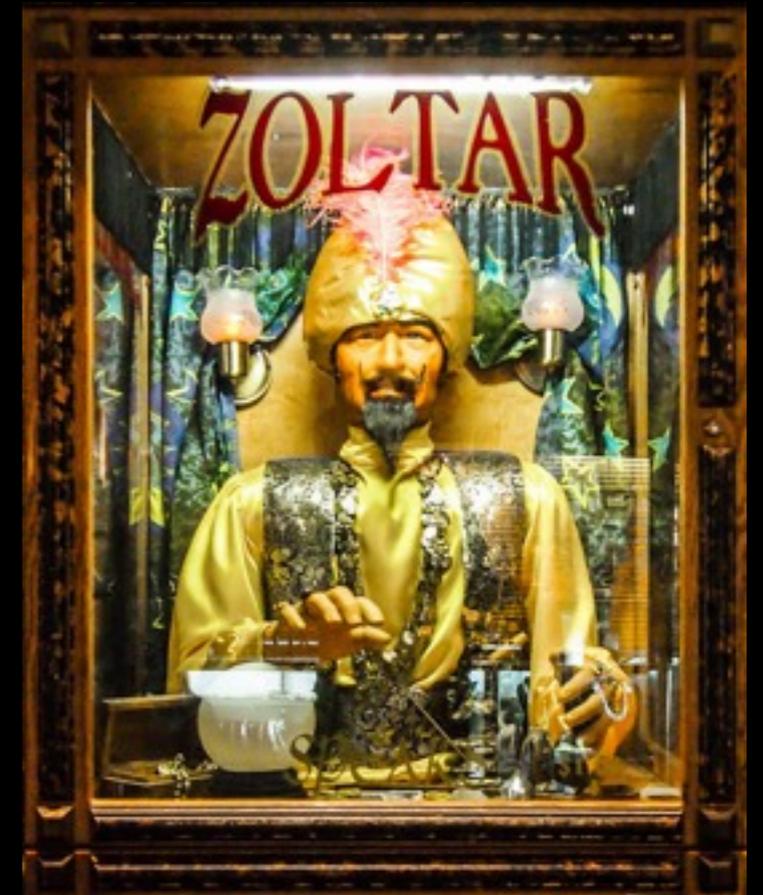
>>

x

Sometimes you have to add the magic yourself

config/routes.rb

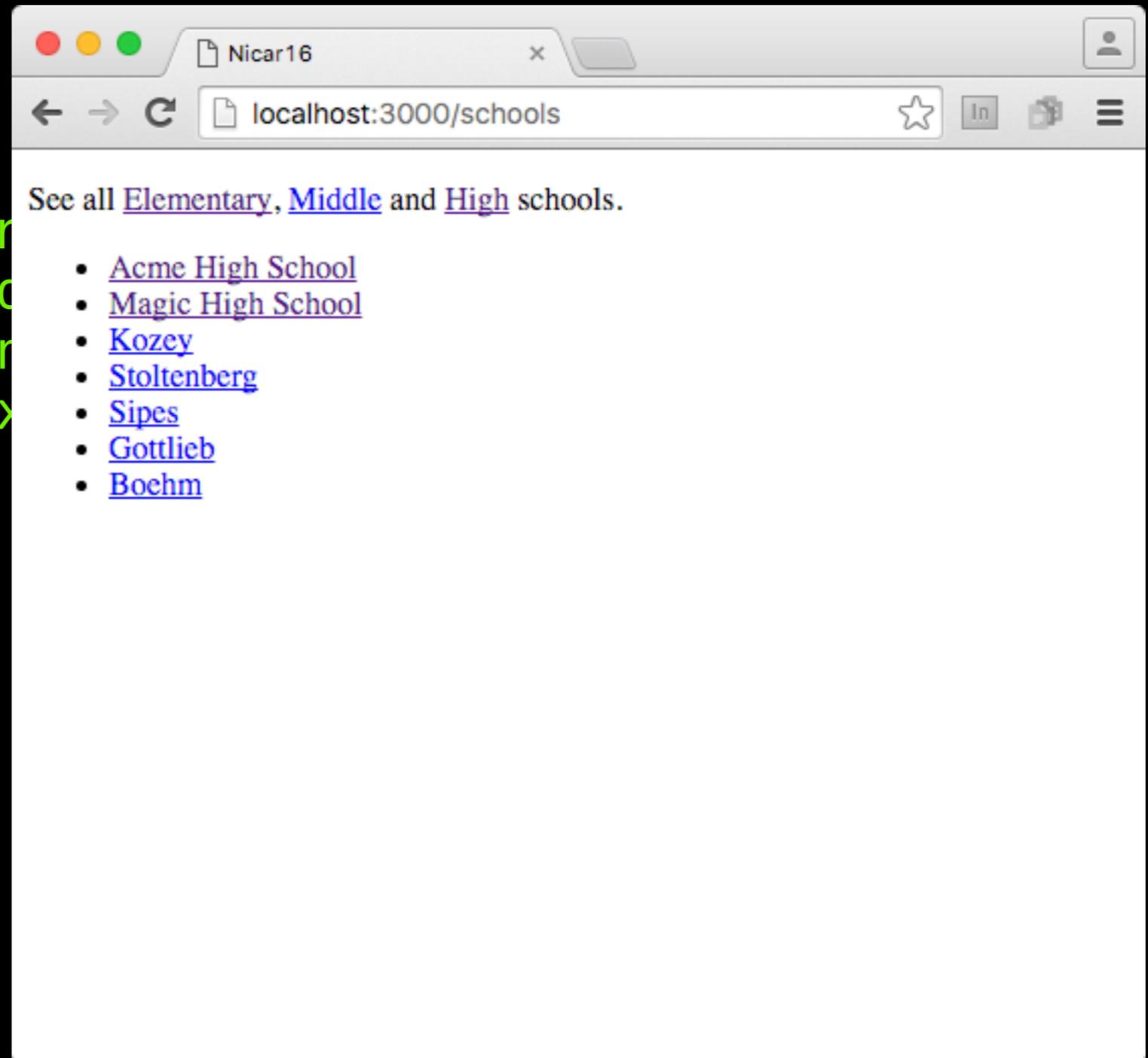
```
Rails.application.routes.draw do
  match "/schools/kind/:kind", => "schools#kind",
  :via => "get", :as => "kind"
  root :to => "schools#index"
  resources :schools
end
```



Sometimes you have to add the magic yourself

config/routes.rb

```
Rails.application.routes.draw do
  match "/schools/kind/:kind"
  :via => "get", :as => "kind"
  root :to => "schools#index"
  resources :schools
end
```



Joins!

Schools have districts, right?

Joins!

Schools have districts, right?

```
> rails generate migration AddDistrictsTable
```

```
invoke active_record  
create db/migrate/20160309183752_add_districts_table.rb
```

db/migrate/20160309183752_add_districts_table.rb

```
class AddDistrictsTable < ActiveRecord::Migration
  def change
    create_table :districts do |t|
      t.string :name
    end

    add_column :schools, :district_id, :integer
  end
end
```



app/models/**district.rb**

```
class District < ActiveRecord::Base  
end
```



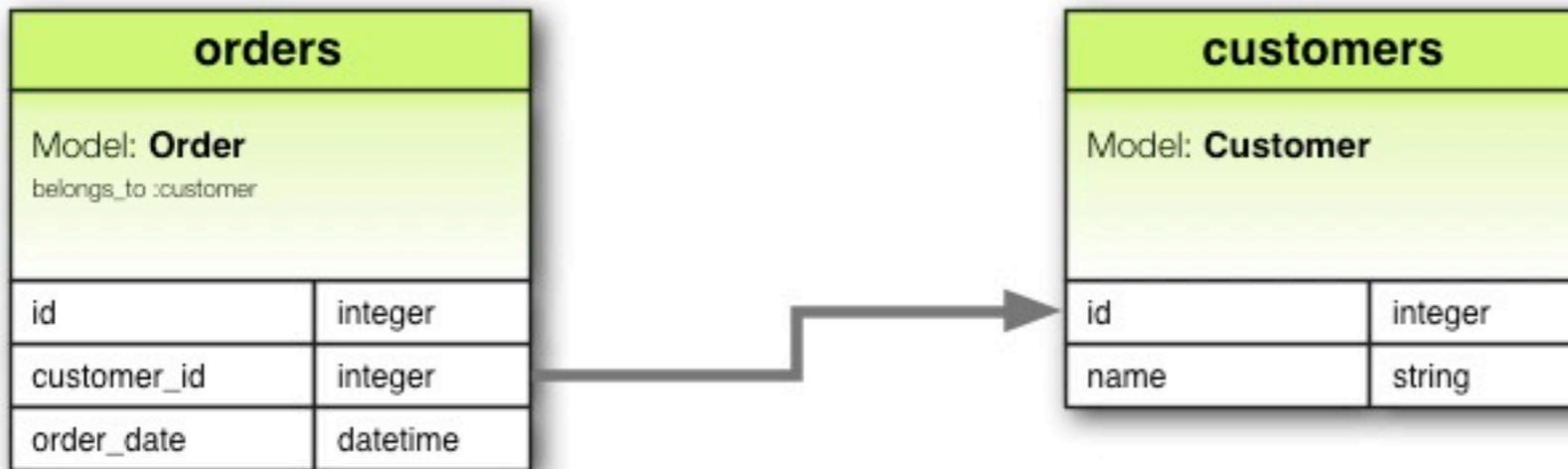
app/models/district.rb

```
class District < ActiveRecord::Base
  has_many :schools
end
```

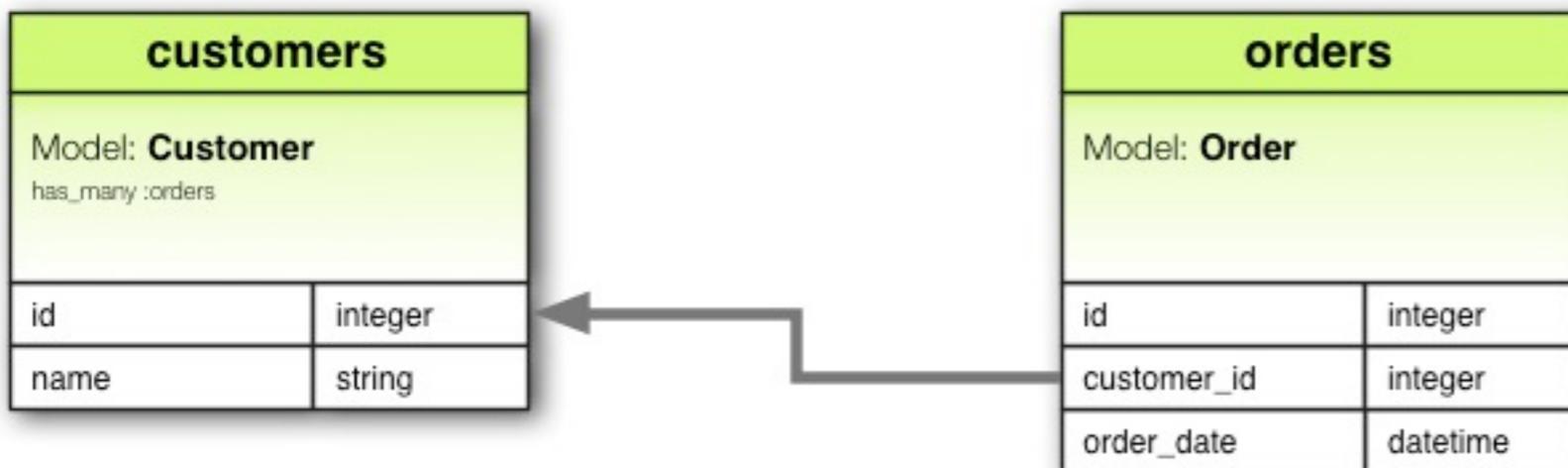
app/models/school.rb

```
class District < ActiveRecord::Base
  belongs_to :district
end
```





```
class Order < ActiveRecord::Base
  belongs_to :customer
end
```



```
class Customer < ActiveRecord::Base
  has_many :orders
end
```

Create a district

```
irb(main):002:0> d = District.create({:name  
=> "Denver Schools"})  
  (0.2ms) begin transaction  
  SQL (0.4ms) INSERT INTO  
"districts" ("name") VALUES (?) [{"name",  
"Denver Schools"}]  
  (0.7ms) commit transaction  
=> #<District id: 1, name: "Denver Schools">
```



Add a school to our new district

```
irb(main):002:0> s = School.find(1)
irb(main):003:0> s.district = d
irb(main):004:0> s.save
irb(main):005:0> s
=> #<School id: 1, name: "Acme High School",
kind: "high", students: 500, teachers: 80,
district_id: 1>
```



Under the hood:

```
SQL (0.4ms) UPDATE "schools" SET
"district_id" = ? WHERE "schools"."id"
= ? [{"district_id", 1}, {"id", 1}]
```

Get all the schools in a district

```
irb(main):001:0> District.first.schools
```

```
=>
```

```
#<ActiveRecord::Associations::CollectionProxy  
[#<School id: 1, name: "Acme High School",  
kind: "high", students: 500, teachers: 80,  
district_id: 1>]>
```

Under the hood:

```
District Load (0.7ms)  SELECT "districts".* FROM "districts"  
ORDER BY "districts"."id" ASC LIMIT 1
```

```
School Load (0.6ms)  SELECT "schools".* FROM "schools" WHERE  
"schools"."district_id" = ?  [["district_id", 1]]
```

Watch out, joins can get expensive!

**You can figure out how to add controllers
and views for districts, right?**

app/controllers/districts_controller.rb

app/views/districts/index.html.erb

app/views/districts/show.html.erb

config/routes.rb

app/controllers/districts_controller.rb

```
class DistrictsController < ApplicationController
  def show
    @district = District.find(params[:id])
    @schools = @district.schools
  end
end
```

We basically just made this

The Opportunity Gap - N.Y. - New York City Public Schools

New York City Public Schools (district)

Districts with 3,000 or more students

	Students	Inexp. Teachers	Avg. AP Courses	Schools offering Gifted/Talented Education
This District	959K	21%	2	218
State	2.07M	14%	7	631

Percentage of relevant students who...

- Get Free/Reduced Price Lunch: 72%
- Take at Least One AP Course: 9%
- Take Advanced Math: 15%
- Are in a Gifted/Talented Program: 26%
- Take Chemistry: 15%
- Take Physics: 8%

Demographics:

- 0% Am Indian
- 15% Asian
- 30% Black
- 40% Hispanic
- 14% White

District Schools:

- 51 Avenue Academy
- A Philip Randolph Campus High School
- Abraham Lincoln High School
- Academy For Careers In Television And Film
- Academy For College Preparation And Career Explora
- Academy For Conservation And The Environment
- Academy For Environmental Leadership
- Academy For Language And

Share: 1 SHARES

Post here and to Facebook

Use this hashtag to share your insights on Twitter: #myschoolyourschool

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Districts with 3,000 or more students

	Inexp. Teachers	AP Courses
This School	0%	2
District	21%	2
State	14%	7

Legend: State Average (yellow), District Average (green)

Brooklyn Technical High School, part of the New York City Public Schools district, is located in Brooklyn, New York. The school reports an enrollment number of 4,935 students in grades nine through 12, and it has two teachers on staff.

Brooklyn Technical High School is above the state average but below the district average in terms of the percentage of students eligible for free or reduced-price lunches. On average, 49 percent of students in New York are eligible for free or reduced-price lunch programs, whereas 53 percent of Brooklyn Technical High School students do. At the district level, 72 percent of students are eligible.

ProPublica's analysis found that all too often, states and schools provide poor students fewer educational programs like Advanced Placement, gifted and talented programs, and advanced math and science classes. Studies have linked participation in these programs with better outcomes later in life. Our analysis uses free and reduced-price lunch to estimate poverty at schools. We based our findings on the most comprehensive data set of access to advanced classes and special programs in U.S. public schools — known as the Civil Rights Data Set — released by the U.S. Department of Education

Share: Share your observations (optional):

Post here and to Facebook

Use this hashtag to share your insights on Twitter: #myschoolyourschool

- Take at Least One AP Course: 5%
- Take Advanced Math: 36%
- Take Chemistry: 38%
- Take Physics: 33%
- Participate in sports: 17%

We basically just made this

The Opportunity Gap - N.Y. - New York City Public Schools

New York City Public Schools (district)

Districts with 3,000 or more students

	Students	Inexp. Teachers	Avg. AP Courses	Schools offering Gifted/Talented Education
This District	959K	21%	2	218
State	2.07M	14%	7	631

Percentage of relevant students who...
Get Free/Reduced Price Lunch: 72%
Take at Least One AP Course: 9%

State Average

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The Opportunity Gap - N.Y. - New York City Public Schools - Brooklyn Technical High School

Brooklyn Technical High School

29 FORT GREENE PLACE, BROOKLYN, N.Y., 11217 | Grades 9-12

Districts with 3,000 or more students

	Students	Total Teachers	Inexp. Teachers	AP Courses
This School	4,935	2	0%	2
District	959K	83,265	21%	2
State	2.07M	171,244	14%	7

State Average District Average

Percentage of relevant students who...
Get Free/Reduced Price Lunch: 53%
Take at Least One AP Course: 5%
Take Advanced Math: 36%
Take Chemistry: 38%
Take Physics: 33%
Participate in sports: 17%

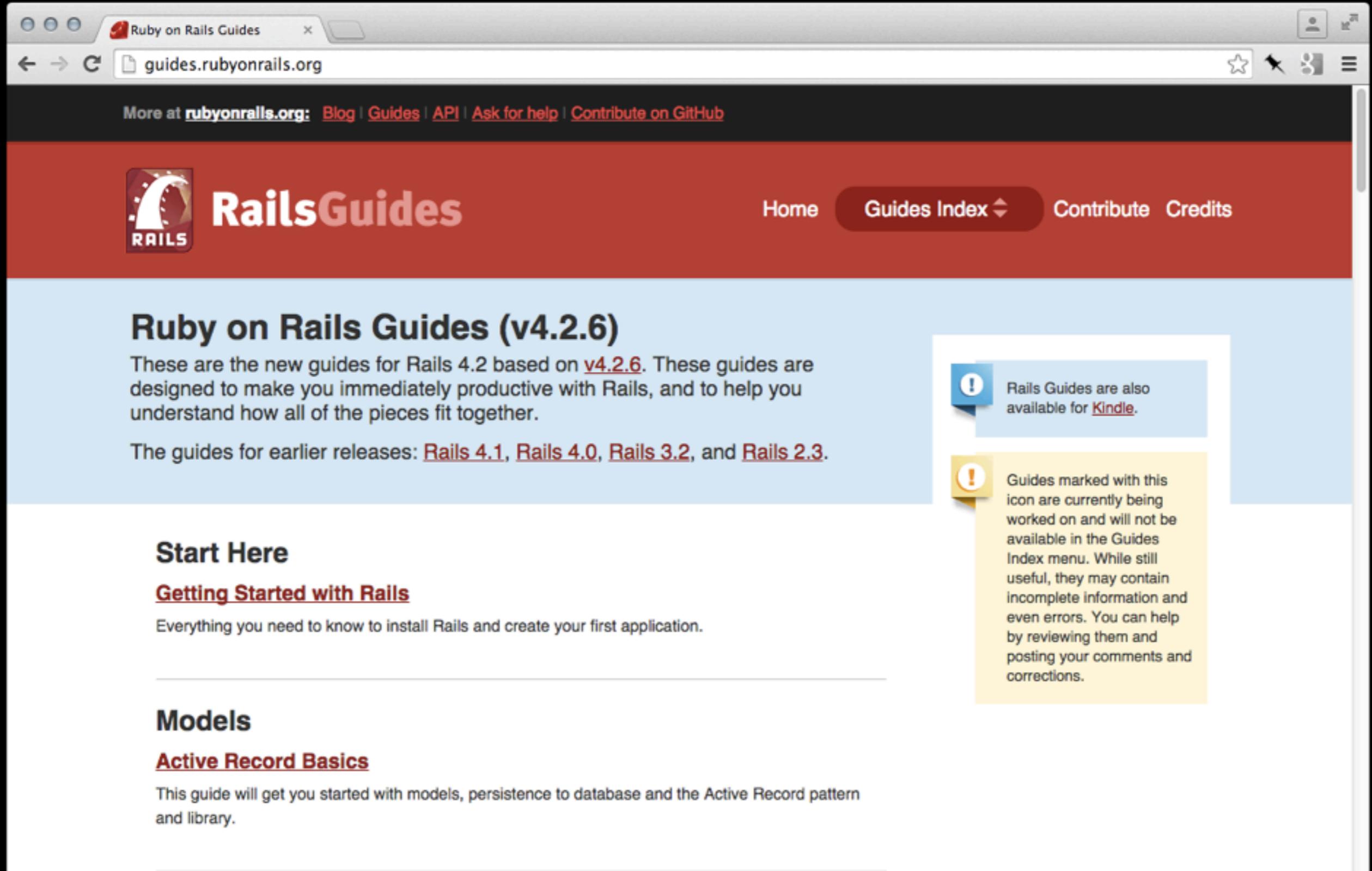
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Next steps...

guides.rubyonrails.org



The screenshot shows a web browser window with the address bar displaying `guides.rubyonrails.org`. The page features a red header with the Rails logo and navigation links: Home, Guides Index (highlighted), Contribute, and Credits. Below the header, the main content area is light blue and contains the following text:

Ruby on Rails Guides (v4.2.6)

These are the new guides for Rails 4.2 based on [v4.2.6](#). These guides are designed to make you immediately productive with Rails, and to help you understand how all of the pieces fit together.

The guides for earlier releases: [Rails 4.1](#), [Rails 4.0](#), [Rails 3.2](#), and [Rails 2.3](#).

Start Here

[Getting Started with Rails](#)
Everything you need to know to install Rails and create your first application.

Models

[Active Record Basics](#)
This guide will get you started with models, persistence to database and the Active Record pattern and library.

On the right side of the page, there are two callout boxes:

- A blue box with an exclamation mark icon: "Rails Guides are also available for [Kindle](#)."
- A yellow box with an exclamation mark icon: "Guides marked with this icon are currently being worked on and will not be available in the Guides Index menu. While still useful, they may contain incomplete information and even errors. You can help by reviewing them and posting your comments and corrections."

Next steps...

Pluralsight screencasts (formerly PeepCode)

The screenshot shows a web browser window with the URL <https://www.pluralsight.com/courses/ruby-on-rails3-fundamentals>. The page features a dark blue header with the Pluralsight logo and navigation links: Library, Business, Learn, Teach, Sign in, and a prominent Sign up button. The main content area has a dark blue background with a group of people working at computers. The course title 'Introduction to Ruby on Rails 3 and 4' is displayed in large white text, followed by the author's name 'By Dan Bunker'. A description states: 'This course will cover all of the basics of working with the Ruby on Rails 3 and 4 frameworks.' A 'Start free trial now' button is positioned below the description. To the right, a 'Course info' sidebar lists: Level: Intermediate, Rating: ★★★★★ (200), Duration: 3h 56m, and Released: 23 May 2013. Below this is the 'Course authors' section, featuring a profile picture of Dan Bunker and his name. A bio for Dan Bunker follows: 'Dan is the Scripted Practice Manger for Software Technology Group. Dan also works with the Java Practice Team and specializes in Spring, Ruby, Python, Groovy, JavaScript, and PHP. In his free time, Dan provides Jazz Guitar lessons.' At the bottom of the page, a 'Table of contents' section is visible, with 'Introduction to Ruby on Rails 3' (15m 26s) and 'Installing Rails and Setting up your Development Environment' (16m 39s) listed. An 'Expand all' link is located to the right of the table of contents. A second 'Start free trial now' button is located at the bottom right of the page.

Introduction to Ruby on Rails 3 and 4

By Dan Bunker

This course will cover all of the basics of working with the Ruby on Rails 3 and 4 frameworks.

[Start free trial now](#)

Course info

Level Intermediate

Rating ★★★★★ (200)

Duration 3h 56m

Released 23 May 2013

Course authors

 Dan Bunker

Dan is the Scripted Practice Manger for Software Technology Group. Dan also works with the Java Practice Team and specializes in Spring, Ruby, Python, Groovy, JavaScript, and PHP. In his free time, Dan provides Jazz Guitar lessons.

[Start free trial now](#)

Table of contents

Description Exercise files Transcript Discussion Learning check

[Expand all](#)

 Introduction to Ruby on Rails 3 15m 26s

 Installing Rails and Setting up your Development Environment 16m 39s

Thank you!

@A_L

al.shaw@propublica.org