

Introduction to Ruby on Rails

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June 2014

- Why learn Rails?
- The Ruby language
- Create a Rails application
- Practice



Rotem Harel

Freelance web developer

- JavaScript
- HTML/CSS
- Ruby
- Ruby on Rails

Co-organizer of Rails Girls TLV

Director of web development, WWC TLV

@rotev

<http://rotemharel.com>

Why Learn Rails?

- Open source
- Web development framework
- Programmer happiness
- Sustainable productivity
- Convention over configuration

Why Learn Rails?

- Database layer abstraction
- Well documented
- Community gems
- Rails jobs
- Ruby



CrunchBase



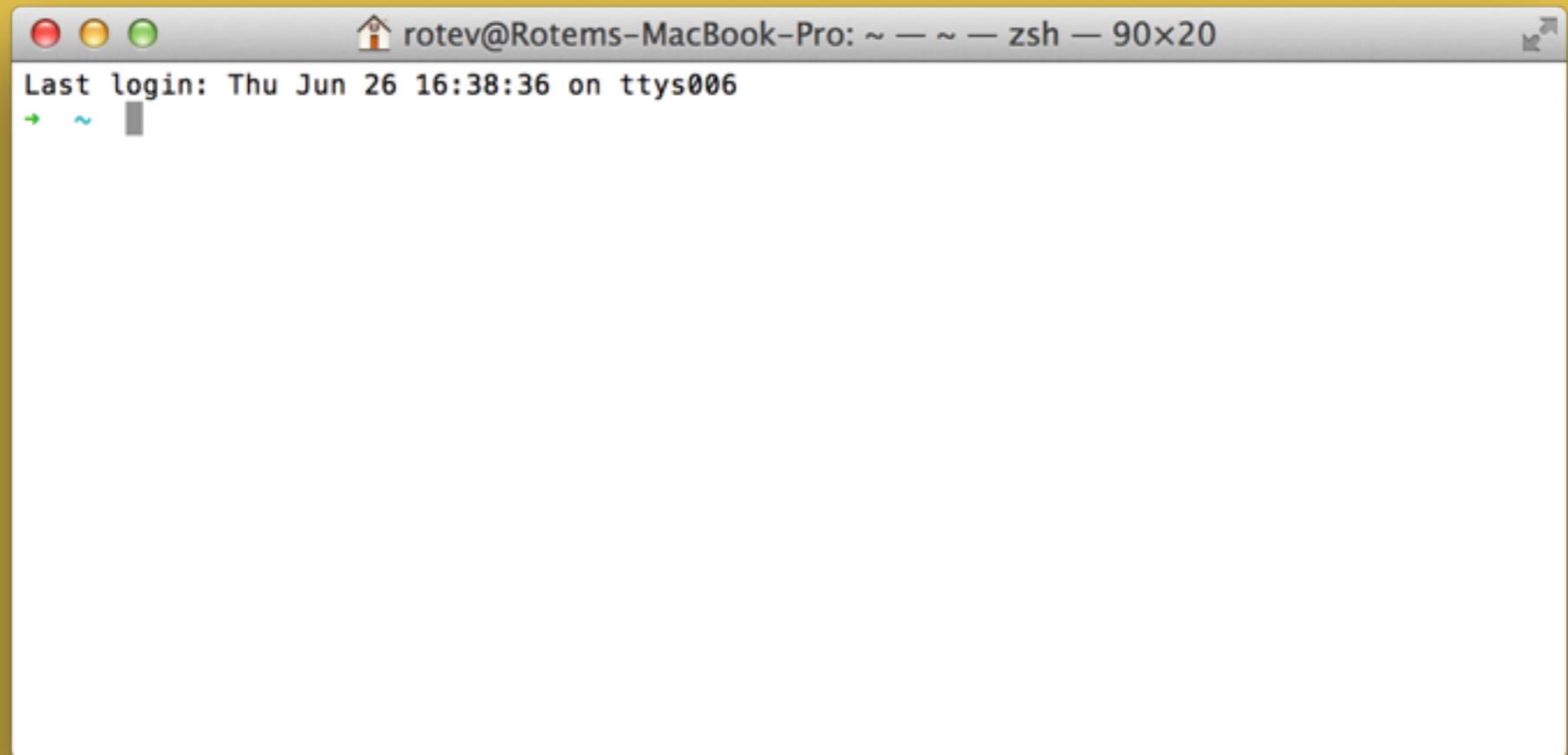
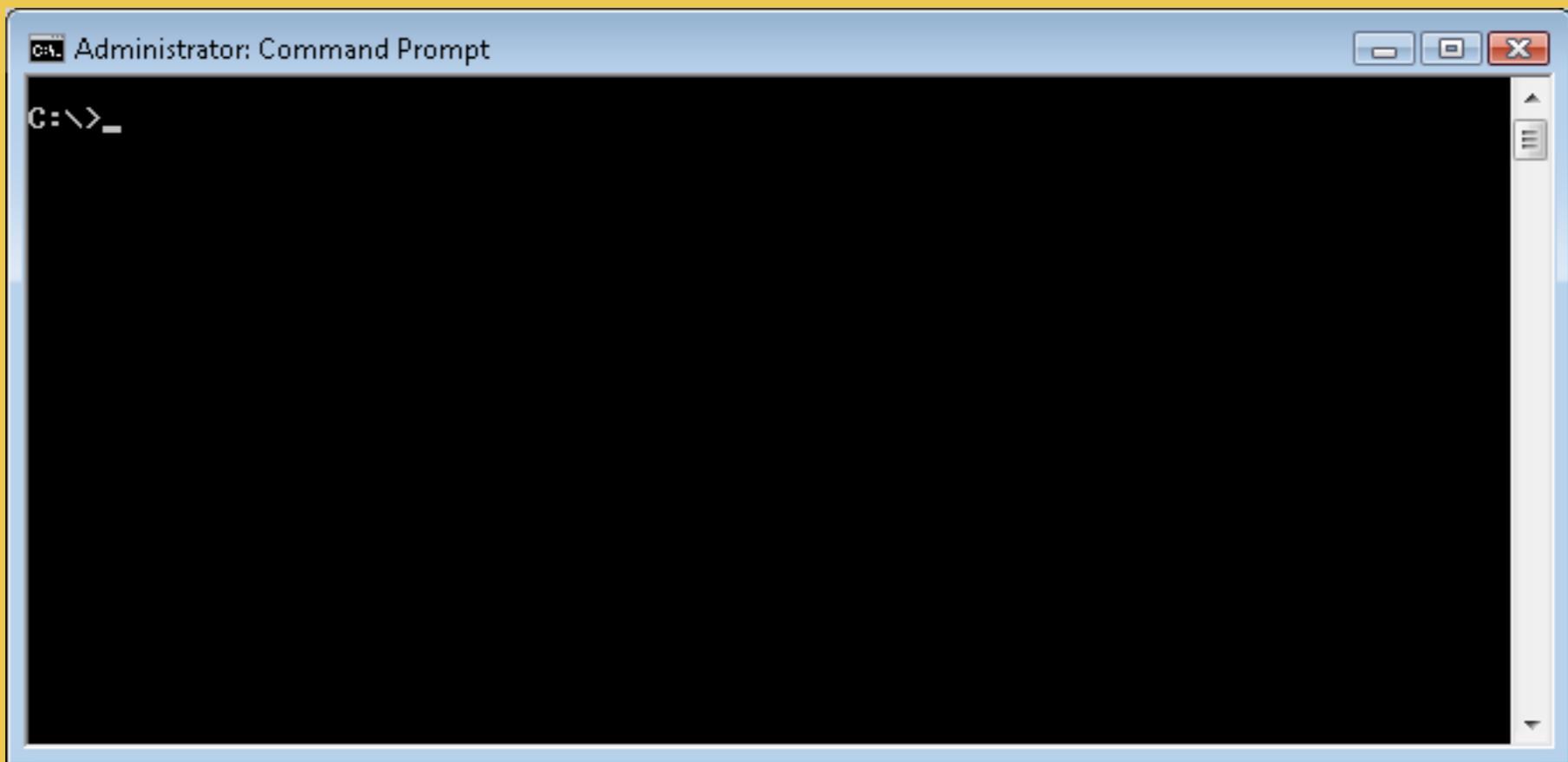


Matz

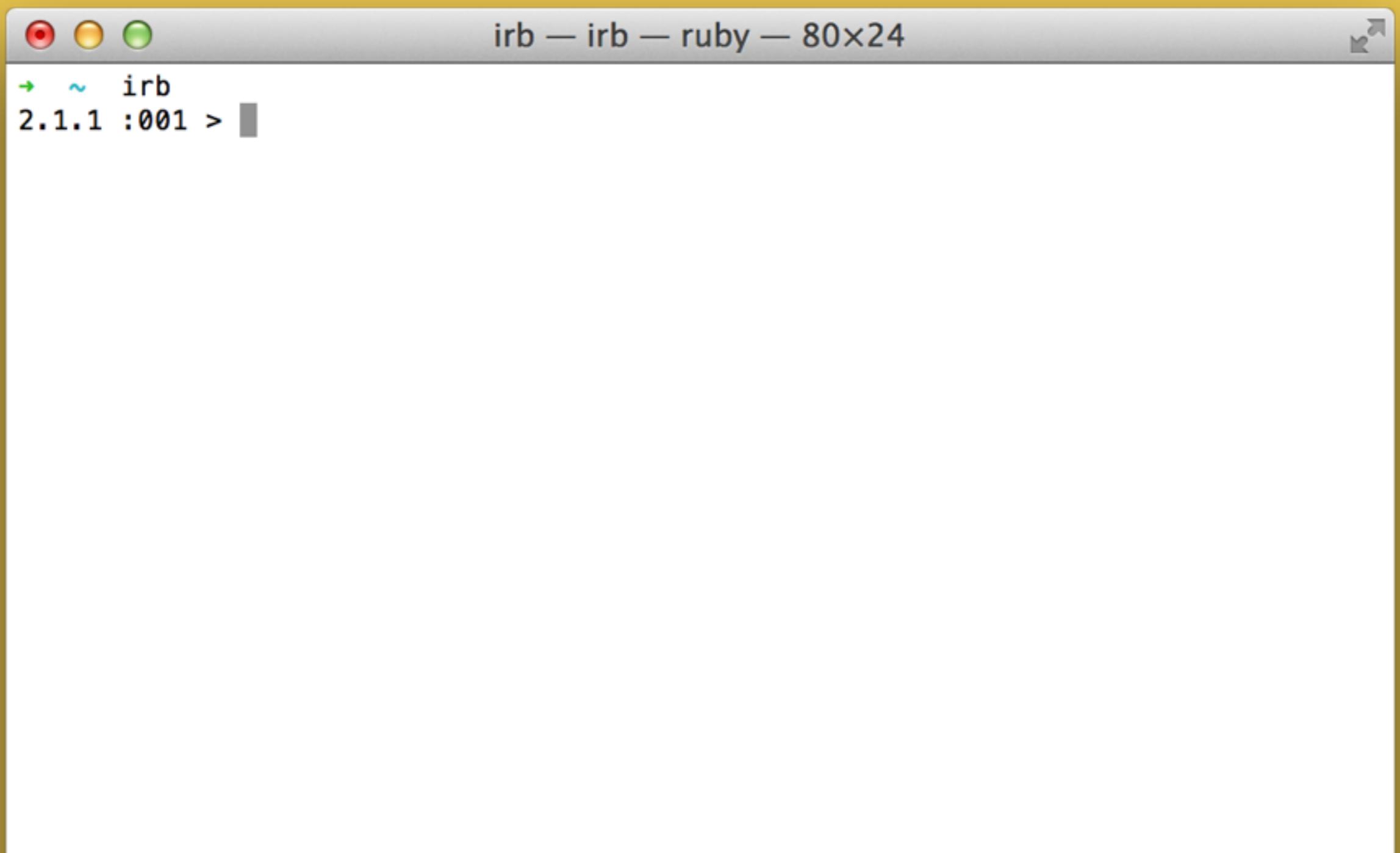
Photo by Marcin Bajer



- Higher level of abstraction
- Getting things done
- Simple
- Dynamic
- Fully object oriented
- General purpose



IRB - Interactive RuBy



A screenshot of a terminal window titled "irb — irb — ruby — 80x24". The window shows the command line prompt "irb" followed by the Ruby version "2.1.1" and the current time "001". The terminal has a standard OS X-style interface with red, yellow, and green window control buttons.

```
irb — irb — ruby — 80x24
~  irb
2.1.1 :001 > 
```

Numbers, strings and Arrays

```
> 2
```

```
=> 2
```

```
> "Lucy"
```

```
=> "Lucy"
```

```
> ["Lucy", "Yana", "Sasson"]
```

```
=> ["Lucy", "Yana", "Sasson"]
```

>
_

Calculations

```
> 2 + 5
```

```
=> 7
```

>
_

```
> 2 * (8 + 3)
```

```
=> 22
```

Variables

>_

```
> x = 2
```

```
=> 2
```

```
> y = 5
```

```
=> 5
```

```
> x + y
```

```
=> 7
```

```
> x = "This is"
```

```
=> "This is"
```

```
> y = "a test"
```

```
=> "a test"
```

```
> x + " " + y
```

```
=> "This is a test"
```

String methods

```
> name = "Rotem"  
=> "Rotem"  
> name.length  
=> 5  
> name.reverse  
=> "metoR"  
> name.upcase  
=> "ROTEM"  
> name.class  
=> String  
> name.reverse.class  
=> String  
> name.reverse.upcase  
=> "METOR"
```

>_

Hashes

>_

```
> lucy = { :name => "Lucy", :age => 3, :weight => 32 }  
=> { :name=>"Lucy", :age=>3, :weight=>32}
```

```
> lucy[:name]  
=> "Lucy"
```

```
> lucy[:age]  
=> 3
```

```
> lucy = {name: "Lucy", age: 3, weight: 32 }  
=> { :name=>"Lucy", :age=>3, :weight=>32}
```

Hashes

>_

```
> dogs = [ { name: "Lucy", age: 3, weight: 32 },
>           { name: "Yana", age: 2, weight: 25 },
>           { name: "Sasson", age: 8, weight: 35 } ]

> dogs.size
=> 3

> dogs[1]
=> { name: "Yana", age: 2, weight: 25 }
```

Blocks

>_

```
> dogs = ["Lucy", "Sasson", "Yana"]
=> ["Lucy", "Sasson", "Yana"]
> dogs.each { |dog| puts dog }
Lucy
Yana
Sasson
=> ["Lucy", "Sasson", "Yana"]

> dogs.each do |dog|
>   puts dog
> end
```

Blocks

```
> 1.upto(6) do |n|
>   puts n*n
> end
1
4
9
16
25
36
=> 1
```

>_

Classes

>_

```
> v class Dog
> v end

> v dog = Dog.new
> v dog.class
=> Dog

> v class Dog
> v     attr_accessor :name, :age, :weight
> v end

> v dog = Dog.new
> v dog.name = "Lucy"
> v dog.age = 3
> v dog.weight = 32

> v dog
=> #<Dog:0x1011da180 @name="Lucy", @age=3, @weight=32>
```

Methods

>_

```
> v class Dog
>       attr_accessor :name, :age, :weight
>
>       def bark
>           puts "Woof!"
>       end
>   end

> dog = Dog.new(name: "Lucy", age: 3, weight: 32)
=> #<Dog:0x1011da180 @name="Lucy", @age=3, @weight=32>

> dog.bark
Woof!
=> nil
```



try ruby ❤

Counting the Letters

You have used the `reverse` method on your name!

By enclosing your name in quotes, you made a string. Then you called the `reverse` method, which works on strings to flip all the letters backwards.

Now, let's see how many letters are in your name: `"Jimmy".length`

tryruby.org



Enter / Return → Submit code
Up → Cycle through submitted code
`clear` → Clear the editor window
`back` → Return to the previous lesson
`next` → Move to the next lesson

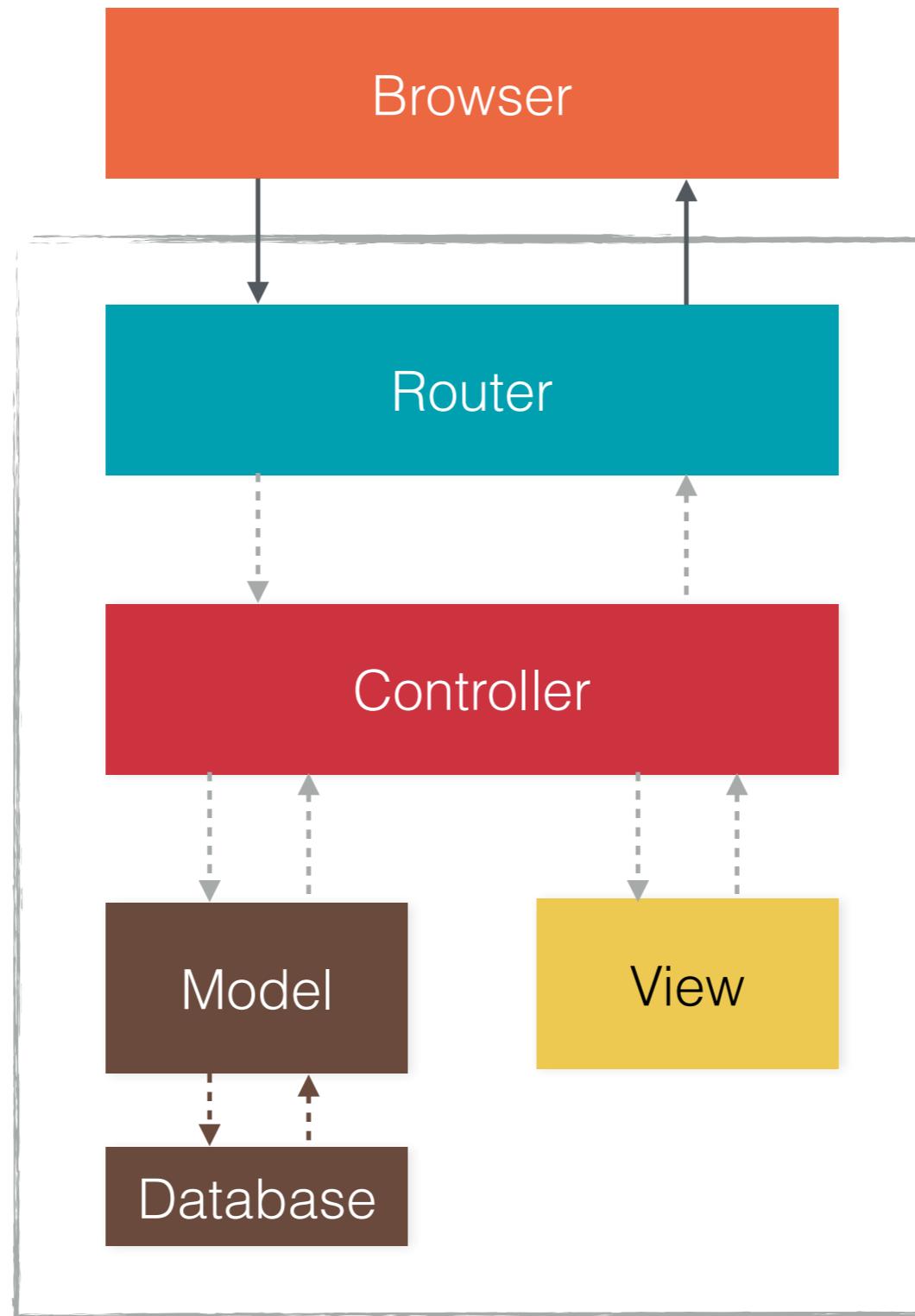
credits ↗

a tribute to [why's \(poignant\) guide to ruby](#).

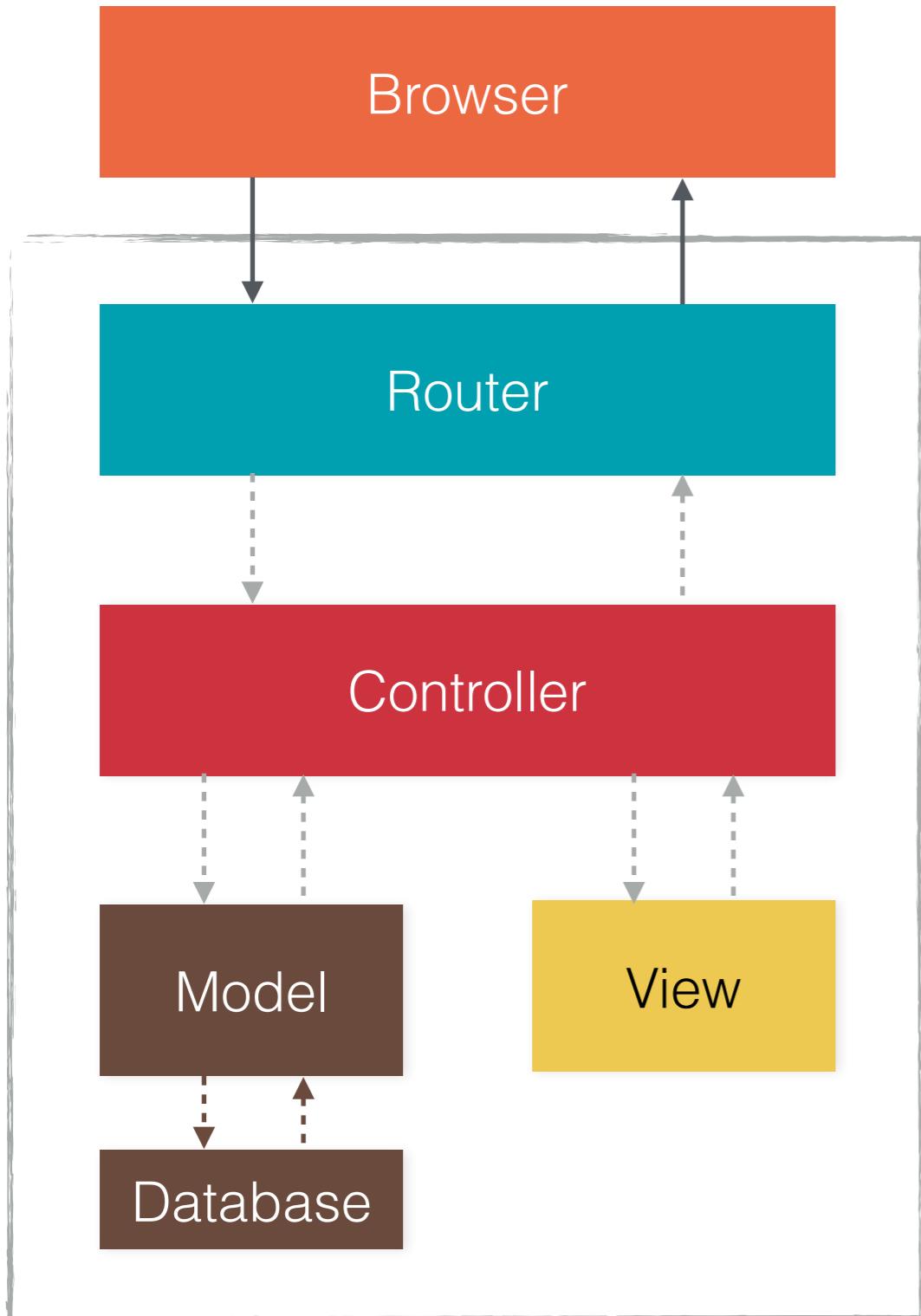


Save your progress by [creating](#) a Code School account. ([hide](#))

Request lifecycle



Request lifecycle



GET /posts

get "posts" => "posts#index"

@posts = Post.all

<p>
There are <%= @posts.count %> posts
</p>

Create a new Rails application

```
→ dev rails new my_first_app >_  
  
create Gemfile  
create app  
create app/assets/images/rails.png  
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 config  
create config/routes.rb  
create config/database.yml  
create db  
create public  
create public/404.html  
create public/422.html  
create public/500.html  
create public/favicon.ico  
create public/index.html  
create public/robots.txt
```

Create a new Rails application

```
→ dev cd my_first_app
```

```
→ my_first_app cd app
```

```
→ app ls
```

assets

controllers

models

views

...



Generate a Model

```
→ my_first_app rails generate model breed name:string  
invoke active_record  
  create db/migrate/20140621195618_create_breeds.rb  
  create app/models/breed.rb  
invoke test_unit  
  create test/unit/breed_test.rb  
  create test/fixtures/breeds.yml
```

>_

breed.rb

```
class Breed < ActiveRecord::Base  
  attr_accessible :name  
end
```

</>

Migrate the Database

20140621195618_create_breeds.rb

```
class CreateBreeds < ActiveRecord::Migration
  def change
    create_table :breeds do |t|
      t.string :name

      t.timestamps
    end
  end
end
```

>_

```
→ my_first_app rake db:migrate
```

```
== CreateBreeds: migrating =====
--- create_table(:breeds)
  -> 0.0010s
== CreateBreeds: migrated (0.0011s) =====
```

</>

Generate a Controller

```
→ my_first_app rails generate controller breeds index  
create app/controllers/breeds_controller.rb  
route get "breeds/index"  
invoke erb  
create app/views/breeds  
create app/views/breeds/index.html.erb  
invoke test_unit  
create test/functional/breeds_controller_test.rb  
invoke helper  
create app/helpers/breeds_helper.rb  
invoke test_unit  
create test/unit/helpers/breeds_helper_test.rb  
invoke assets  
invoke coffee  
create app/assets/javascripts/breeds.js.coffee  
invoke scss  
create app/assets/stylesheets/breeds.css.scss
```



Create the Index Action

breeds_controller.rb

```
class BreedsController < ApplicationController
  def index
  end
end
```

</>



```
class BreedsController < ApplicationController
  def index
    @breeds = Breed.all
  end
end
```

Tweak the Route

`config/routes.rb`

```
MyFirstApp::Application.routes.draw do
  get "breeds/index"
end
```

</>



```
MyFirstApp::Application.routes.draw do
  get "breeds" => "breeds#index"
end
```

Create the View

views/breeds/index.html.erb

```
<h1>Breeds#index</h1>
<p>Find me in app/views/breeds/index.html.erb</p>
```

</>



```
<h1>Breeds</h1>
<p>This is my awesome list of breeds!</p>

<% @breeds.each do |breed| %>
  <%= breed.name %><br>
<% end %>
```

GET /breeds

config/routes.rb

```
get "breeds" => "breeds#index" Router
```

controllers/breeds_controller.rb

```
class BreedsController < ApplicationController
  def index
    @breeds = Breed.all
  end
end
```

Controller

models/breed.rb

```
class Breed < ActiveRecord::Base
  attr_accessible :name
end
```

Model

views/breeds/index.html.erb

```
<h1>Breeds</h1>

```

View

Start the Rails Server

```
→ my_first_app rails server
```

>_

```
=> Booting WEBrick
=> Rails 3.2.11 application starting in development on http://0.0.0.0:3000
=> Call with -d to detach
=> Ctrl-C to shutdown server
[2014-06-22 01:34:01] INFO  WEBrick 1.3.1
[2014-06-22 01:34:01] INFO  ruby 2.1.1 (2014-02-24) [x86_64-darwin12.0]
[2014-06-22 01:34:01] INFO  WEBrick::HTTPServer#start: pid=1365 port=3000
```

```
localhost:3000/breeds
```

www

Breeds

This is my awesome list of breeds!

Using the Console

```
→ my_first_app rails console >_  
Loading development environment (Rails 3.2.11)  
2.1.1 :001 > Breed.create(name: "Labrador")  
  
(0.2ms) begin transaction  
SQL (8.6ms) INSERT INTO "breeds" ("created_at", "name",  
"updated_at") VALUES (?, ?, ?) [[{"created_at": Sat, 21 Jun 2014  
22:47:55 UTC +00:00}, {"name": "Labrador"}, {"updated_at": Sat, 21  
Jun 2014 22:47:55 UTC +00:00}]  
(0.5ms) commit transaction  
=> #<Breed id: 1, name: "Labrador", created_at: "2014-06-21  
22:47:55", updated_at: "2014-06-21 22:47:55">
```

localhost:3000/breeds

www

Breeds

This is my awesome list of breeds!

Labrador
Beagle
Poodle
Boxer

RESTful API HTTP methods

Resource	GET	PUT	POST	DELETE
Collection <u>http://example.com/posts</u>	✓	✓	✓	✓
Element <u>http://example.com/posts/17</u>	✓	✓	✗	✓

Generate a scaffold

```
→ my_first_app rails generate scaffold Dog name:string  
age:integer breed:references >_
```

```
invoke active_record  
create db/migrate/20140628145950_create_dogs.rb  
create app/models/dog.rb  
invoke resource_route  
  route resources :dogs  
invoke scaffold_controller  
  create app/controllers/dogs_controller.rb  
invoke erb  
  create app/views/dogs  
  create app/views/dogs/index.html.erb  
  create app/views/dogs/edit.html.erb  
  create app/views/dogs/show.html.erb  
  create app/views/dogs/new.html.erb  
  create app/views/dogs/_form.html.erb
```

Migrate the Database

`20140628145950_create_dogs.rb`

```
class CreateDogs < ActiveRecord::Migration
  def change
    create_table :dogs do |t|
      t.string :name
      t.integer :age
      t.references :breed

      t.timestamps
    end
  end
end
```

>-

```
→ my_first_app rake db:migrate
```

</>

```
== CreateDogs: migrating =====
-- create_table(:dogs)
  -> 0.0041s
== CreateDogs: migrated (0.0042s) =====
```

Listing dogs

Name Age Breed

[New Dog](#)

</dogs>

Dog was successfully created.

Name: Lucy

Age: 3

Breed: Labrador

[Edit](#) | [Back](#)

</dogs/1>

New dog

Name

Age

Breed

[Create Dog](#)

[Back](#)

</dogs/new>

New dog

Name

Age

Breed

[Create Dog](#)

[Back](#)

</dogs/new>

Editing dog

Name

Age

[Update Dog](#)

[Show](#) | [Back](#)

</dogs/1/edit>

Dog was successfully updated.

Name: Yana

Age: 3

Breed: Poodle

[Edit](#) | [Back](#)

</dogs/1>

Listing dogs

Name Age Breed

Lucy 3 Labrador [Show](#) [Edit](#) [Destroy](#)

Yana 2 Poodle [Show](#) [Edit](#) [Destroy](#)

Sasson 8 Beagle [Show](#) [Edit](#) [Destroy](#)

[New Dog](#)

</dogs>

Listing dogs

Name Age Breed

Lucy 3 Labrador [Show](#) [Edit](#) [Destroy](#)

Yana 3 Poodle [Show](#) [Edit](#) [Destroy](#)

Sasson 8 Beagle [Show](#) [Edit](#) [Destroy](#)

[New Dog](#)

</dogs>

The End



Your code anywhere, anytime...

Write, run, and debug your code with our powerful and flexible cloud IDE. Collaborate on your workspaces publicly, or keep them private. The choice is yours!

[Sign me up!](#)

Or login instantly with
GitHub or BitBucket:



And yes, there is a free plan!

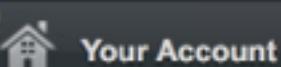


NEW & IMPROVED!

NOW WITH REAL TIME GROUP EDITING!

Code smarter. Code together.

No bug is too great when you've got someone to help you out. Cloud9 IDE now enables developers around the world to edit the same code and chat together in realtime. Your team and peers share in incredible productivity and higher quality code – no matter where they are. [See what's new!](#)



Your Account

CREATE NEW WORKSPACE

Quick Search

▼ MY PROJECTS

angular-phonecat
1 workspace member**demo-project**
1 workspace member**learn_german2**
1 workspace member**lyricator**
1 workspace member**walkiedoggie**
1 workspace member

▼ SHARED WITH ME

test
Shared by shoosh

▼ RECENTLY VISITED

angularjs
Created by mcnostrill**pinteresting3**
Created by noagin

▼ PROJECTS ON GITHUB

appleseeds**BarcodeDemo**

Rotem Harel

Your username: rotev

ACCOUNT SETTINGS

- Change your password
- Show your SSH key
- **UPGRADE TO PREMIUM**
- Delete your Account

GETTING STARTED

Welcome to Cloud9 IDE!

Here are some common tasks to get started:

- › Create a new workspace
- › Open the demonstration workspace
- › Check out the user documentation

YOUR RECENT ACTIVITY

No recent activities

ADD-ON SERVICES

Add services you use a lot to login instantly to Cloud9 or access your Github and Bitbucket projects.



Github (rotev)

deactivate



Bitbucket

activate

Create a New Workspace

Name your workspace: Workspace Privacy: Open and Discoverable Private to the people I invite (Get More Workspaces)Hosting: Hosted FTP SSH

Node.js



HTML5



Wordpress



PHP



Python / Django



Ruby on Rails



C/C++



StrongLoop



Custom

CANCEL

CREATE

Fine choice!

The best things in
life are free!Used Public Workspaces:
4 out of Unlimited

Create a New Workspace

Name your workspace: my_first_app

Workspace Privacy: Open and Discoverable Private to the people I invite (Get More Workspaces)Hosting: Hosted FTP SSH

Node.js



HTML5



Wordpress



PHP



Python / Django



Ruby on Rails



C/C++



StrongLoop



Custom

CANCEL

CREATE

Fine choice!

The best things in
life are free!Used Public Workspaces:
4 out of Unlimited

 Your Account 

 CREATE NEW WORKSPACE

▼ MY PROJECTS

- angular-phonecat 
1 workspace member
- demo-project 
1 workspace member
- learn_german2 
1 workspace member
- lyricator 
1 workspace member
- my_first_app **
1 workspace member
- walkiedoggie 

1 workspace member

► SHARED WITH ME

► RECENTLY VISITED

▼ PROJECTS ON GITHUB

- appleseeds
- BarcodeDemo
- bootstrap
- DropKick



rotev / my_first_app

Click here to write a short tagline for this workspace.

 START EDITING

 Delete

Workspace administrator:  Rotem Harel

Created June 27, 2014

Workspace description

Workspace description (max 450 characters).

MOST RECENT ACTIVITY

rotev started this workspace

16 seconds ago

Team members (1)





WORKSPACE FILES

- my_first_app
 - app
 - bin
 - config
 - db
 - lib
 - log
 - public
 - test
 - tmp
 - vendor
 - config.ru
 - Gemfile
 - Rakefile
 - README.md
 - README.rdo

Invite people to this project by sharing the URL with them.

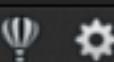
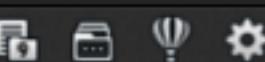
Open a file or create a new one to get started

Terminal

Output

```
rotev@my_first_app:~/898076 $
```





WORKSPACE FILES

- ▼ my_first_app
 - ▶ app
 - ▶ bin
 - ▶ config
 - ▶ db
 - ▶ lib
 - ▶ log
 - ▶ public
 - ▶ test
 - ▶ tmp
 - ▶ vendor
- config.ru
- Gemfile
- Rakefile
- README.md
- README.rdoc

Invite people to this project by sharing the URL with them.



↗ Open a file or create a new one to get started

Terminal

Output



```
rotev@my_first_app:~/898076 $ ls
Gemfile README.md* README.rdoc Rakefile app/ bin/ config/ config.ru db/ lib/ log/ public/ test/ tmp/ vendor/
rotev@my_first_app:~/898076 $
```



The End

<http://rotemharel.com/intro-to-rails>