

Chapter 1: Introduction to the Ruby Programming Language

The screenshot shows the Ruby Programming Language website homepage. The browser address bar displays `https://www.ruby-lang.org/en/`. The page features the Ruby logo and the tagline "A PROGRAMMER'S BEST FRIEND". A navigation menu includes links for Downloads, Documentation, Libraries, Community, News, Security, and About Ruby. A search bar is located in the top right corner.

The main content area is titled "Ruby is..." and describes Ruby as a dynamic, open source programming language with a focus on simplicity and productivity. It includes a "Download Ruby" button and a "Read More..." link.

```
# The Greeter class
class Greeter
  def initialize(name)
    @name = name.capitalize
  end

  def salute
    puts "Hello #{@name}!"
  end
end

# Create a new object
g = Greeter.new("world")

# Output "Hello World!"
g.salute
```

Below the main content, there is a section for "ConFoo Montreal 2017 is looking for Ruby speakers" with a "Continue Reading..." link. To the right, there is a "Get Started, it's easy!" section with links for "Try Ruby! (in your browser)", "Ruby in Twenty Minutes", "Ruby from Other Languages", and "Explore a new world..." with a "Documentation" link.

Posted by affilina on 26 Aug 2016

Download Ruby

https://www.ruby-lang.org/en/downloads/

Ruby
A PROGRAMMER'S BEST FRIEND

Google Custom Search Search

Downloads Documentation Libraries Community News Security About Ruby

Download Ruby

Here you can get the latest Ruby distributions in your favorite flavor. The current stable version is 2.3.1. Please be sure to read [Ruby's License](#).

Ways of Installing Ruby

We have several tools on each major platform to install Ruby:

- On Linux/UNIX, you can use the package management system of your distribution or third-party tools (rbenv and RVM).
- On OS X machines, you can use third-party tools (rbenv and RVM).
- On Windows machines, you can use RubyInstaller.

See the [Installation](#) page for details on using package management systems or third-party tools.

Of course, you can also install Ruby from source on all major platforms.

Compiling Ruby — Source Code

Installing from the source code is a great solution for when you are comfortable enough with your platform and perhaps need specific settings for your environment. It's also a good solution in the event that there are no other premade packages for your platform.

Get Started, it's easy!

[Try Ruby! \(in your browser\)](#)
[Ruby in Twenty Minutes](#)
[Ruby from Other Languages](#)

Explore a new world...

[Documentation](#)
[Academic Research](#)
[Libraries](#)
[Success Stories](#)

Participate in a friendly and growing community.

[Mailing Lists](#): Talk about Ruby with programmers from all around the world.
[User Groups](#): Get in contact with Rubysts in your area.
[Weblogs](#): Read about what's happening right now in the Ruby community.

RubyInstaller for Windows

rubyinstaller.org

RubyInstaller
for Windows

About Download Help Contribute

The easy way to install Ruby on Windows

This is a **self-contained Windows-based installer** that includes the **Ruby language**, an execution environment, important **documentation**, and more.

Download **Add-ons**



Latest News

RubyInstaller 2.1.9, 2.2.5, and 2.3.1 released

Sorry it has taken so long to get these releases out. You can find links to download these versions in the Downloads section of this site or on Bintray.

July 18, 2016 [Read full article](#)

RubyInstaller 2.0.0-p648, 2.1.8 and 2.2.4 released

These new releases of Ruby address a security issue (CVE-2015-7551). 2.1.8 and 2.2.4 also address some bugs and fixes. Upgrading to those versions is recommended. You can find the links to those archives in the download section.

February 04, 2016 [Read full article](#)

RubyInstaller 2.0.0-p645, 2.1.6 and 2.2.2 released

These new releases of Ruby address a security issue (CVE-2015-1855). 2.1.6 and 2.2.2 also address some bugs and fixes. Upgrading to those versions is recommended. You can find the links to those archives in the download section.

Extras

Online Ruby Programming Course

If you're new to Ruby, check out this online course from The Pragmatic Studio to learn all the fundamentals of object-oriented programming with Ruby.

Online Rails Programming Course

If you're looking to create Ruby on Rails web apps, you'll learn how to build a complete Rails 4 app step-by-step in this online course also from The Pragmatic Studio.

```
Desktop -- -bash -- 80x24
~/Desktop -- -bash
MacBook-Pro-3:Desktop admin$ ruby do_i_have_ruby.rb ← Command
Yes, you have Ruby! Output
MacBook-Pro-3:Desktop admin$
```

Ruby Version Manager (RVM)

RVM is a command-line tool which allows you to easily install, manage, and work with multiple ruby environments from interpreters to sets of gems.

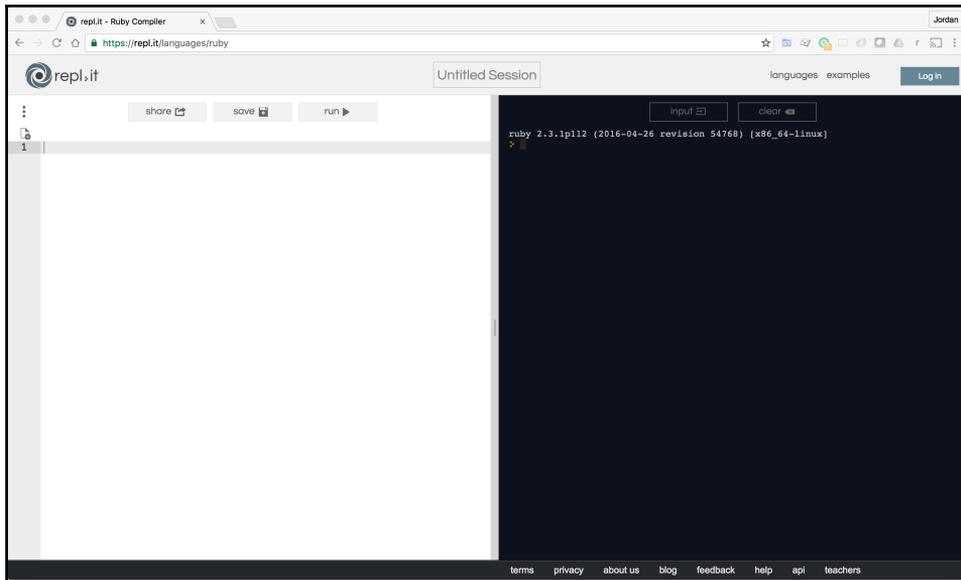
Copy + Paste Into Your Terminal

```
Install RVM:
$ gpg --keyserver hkp://keys.gnupg.net --recv-keys 409B6B1796C275462A170311380
$ curl -sS https://get.rvm.io | bash -s stable
```

For all in one installation append `--rails` or `--ruby` or `--ruby-1.9.3`

RVM Documentation Index | RVM Blog

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```
Desktop --bash -- 80x24
~/Desktop --bash
MacBook-Pro-3:Desktop admin$ rvm list

rvm rubies

  ruby-2.0.0-p247 [ x86_64 ]
  ruby-2.0.0-p643 [ x86_64 ]
  ruby-2.1.1 [ x86_64 ]
=* ruby-2.1.2 [ x86_64 ]
  ruby-2.1.4 [ x86_64 ]
  ruby-2.1.5 [ x86_64 ]
  ruby-2.1.7 [ x86_64 ]
  ruby-2.2.0 [ x86_64 ]
  ruby-2.2.1 [ x86_64 ]
  ruby-2.2.3 [ x86_64 ]
  ruby-2.2.4 [ x86_64 ]
  ruby-2.3.0 [ x86_64 ]

# => - current
# =* - current && default
# * - default

MacBook-Pro-3:Desktop admin$
```

```
Desktop -- -bash -- 80x24
~/Desktop -- -bash
MacBook-Pro-3:Desktop admin$ rvm list

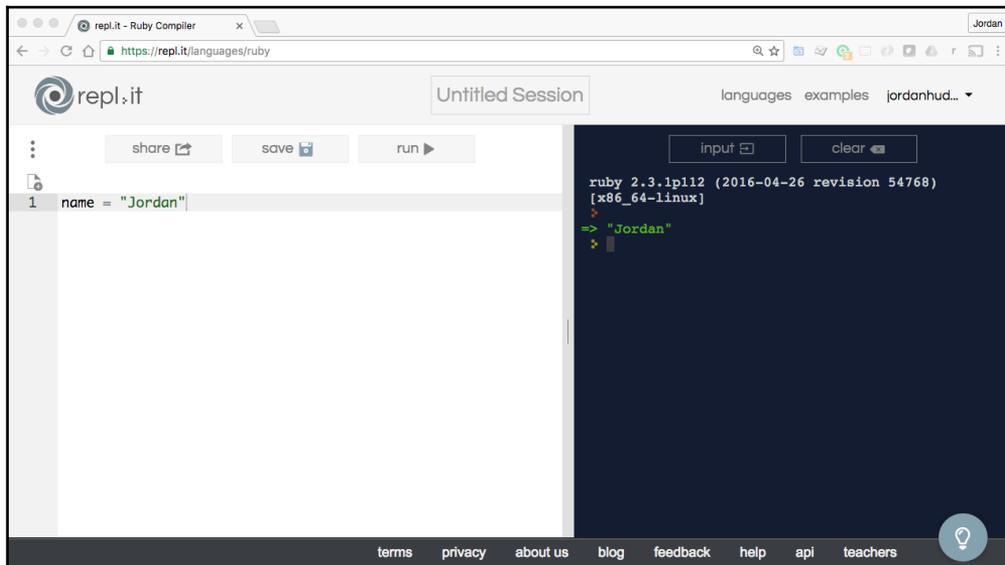
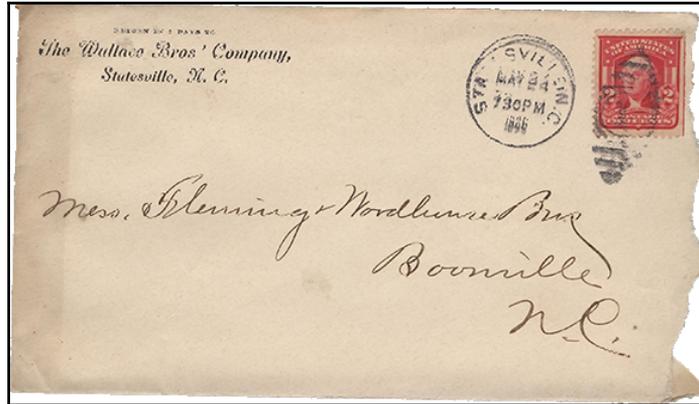
rvm rubies

  ruby-2.0.0-p247 [ x86_64 ]
  ruby-2.0.0-p643 [ x86_64 ]
  ruby-2.1.1 [ x86_64 ]
=* ruby-2.1.2 [ x86_64 ]
  ruby-2.1.4 [ x86_64 ]
  ruby-2.1.5 [ x86_64 ]
  ruby-2.1.7 [ x86_64 ]
  ruby-2.2.0 [ x86_64 ]
  ruby-2.2.1 [ x86_64 ]
  ruby-2.2.3 [ x86_64 ]
  ruby-2.2.4 [ x86_64 ]
  ruby-2.3.0 [ x86_64 ]

# => - current
# =* - current && default
# * - default

MacBook-Pro-3:Desktop admin$ rvm use ruby-2.3.0
Using /Users/admin/.rvm/gems/ruby-2.3.0
MacBook-Pro-3:Desktop admin$
```

Chapter 2: Ruby Variables



The screenshot shows the repl.it Ruby compiler interface. The browser address bar displays `https://repl.it/languages/ruby`. The page title is "repl.it" and the session name is "Untitled Session". The user's name "Jordan" is visible in the top right corner. The interface includes a "share" button, a "save" button, and a "run" button. The code editor on the left contains the following Ruby code:

```
1 name = "Jordan"
2
3 address = ["123", "Anystreet", "Anytown", "TX"]
```

The output console on the right shows the following output:

```
ruby 2.3.1p112 (2016-04-26 revision 54768)
[x86_64-linux]
=> ["123", "Anystreet", "Anytown", "TX"]
```

The footer of the page contains links for "terms", "privacy", "about us", "blog", "feedback", "help", "api", and "teachers".

The screenshot shows the repl.it Ruby compiler interface with the session name "Ruby Programming". The browser address bar displays `https://repl.it/languages/ruby`. The user's name "Jordan" is visible in the top right corner. The interface includes a "share" button, a "save" button, and a "run" button. The code editor on the left contains the following Ruby code:

```
1 puts "A string"
2 p "B string"
```

The output console on the right shows the following output:

```
ruby 2.3.1p112 (2016-04-26 revision 54768)
[x86_64-linux]
A string
"B string"
=> "B string"
```

Red arrows and text annotations explain the output:

- A red arrow points from the text "simply prints out" to the output "A string".
- A red arrow points from the text "prints and returns a value" to the output "=> 'B string'".

The footer of the page contains links for "terms", "privacy", "about us", "blog", "feedback", "help", "api", and "teachers".

The screenshot shows the repl.it Ruby compiler interface. The editor on the left contains a single line of code: `puts "A string"`. The terminal on the right shows the output: `A string` followed by `=> nil`. The interface includes a header with the repl.it logo, the text "Ruby Programming", and navigation links for "languages", "examples", and "jordanhud...". Below the editor are buttons for "share", "save", and "run". The footer contains links for "terms", "privacy", "about us", "blog", "feedback", "help", "api", and "teachers", along with a lightbulb icon.

```
repl.it - Ruby Compiler
https://repl.it/languages/ruby

repl.it Ruby Programming languages examples jordanhud...

share save run

1 puts "A string"

input clear

ruby 2.3.1p112 (2016-04-26 revision 54768)
[x86_64-linux]
A string
=> nil

terms privacy about us blog feedback help api teachers
```

The screenshot shows the repl.it Ruby compiler interface. The editor on the left contains three lines of code: `arr = [1, 2, 3, 4, 5]`, a blank line, and `p arr`. The terminal on the right shows the output: `[1, 2, 3, 4, 5]` followed by `=> [1, 2, 3, 4, 5]`. The interface includes a header with the repl.it logo, the text "Ruby Programming", and navigation links for "languages", "examples", and "jordanhud...". Below the editor are buttons for "share", "save", and "run". The footer contains links for "terms", "privacy", "about us", "blog", "feedback", "help", "api", and "teachers", along with a lightbulb icon.

```
repl.it - Ruby Compiler
https://repl.it/languages/ruby

repl.it Ruby Programming languages examples jordanhud...

share save run

1 arr = [1, 2, 3, 4, 5]
2
3 p arr

input clear

ruby 2.3.1p112 (2016-04-26 revision 54768)
[x86_64-linux]
[1, 2, 3, 4, 5]
=> [1, 2, 3, 4, 5]

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```

The screenshot shows the repl.it Ruby Compiler interface. The browser address bar displays `https://repl.it/languages/ruby`. The page title is "Ruby Programming". The left sidebar contains a code editor with the following Ruby code:

```
1 arr = [1, 2, 3, 4, 5]
2
3 puts arr
```

The right sidebar shows the terminal output:

```
ruby 2.3.1p112 (2016-04-26 revision 54768)
[x86_64-linux]
>
1
2
3
4
5
=> nil
```

The footer contains links for terms, privacy, about us, blog, feedback, help, api, and teachers, along with a lightbulb icon.

The screenshot shows the repl.it Ruby Compiler interface. The browser address bar displays `https://repl.it/languages/ruby`. The page title is "Ruby Programming". The left sidebar contains a code editor with the following Ruby code:

```
1 puts "What is your name?"
2 name = gets
```

The right sidebar shows the terminal output:

```
ruby 2.3.1p112 (2016-04-26 revision 54768)
[x86_64-linux]
>
What is your name?
Jordan
=> "Jordan\n"
```

The footer contains links for terms, privacy, about us, blog, feedback, help, api, and teachers, along with a lightbulb icon.

repl.it - Ruby Compiler x Jordan

https://repl.it/languages/ruby

repl.it Ruby Programming languages examples jordanhud...

share save run

```
1 puts "Please enter your password:"
2 password = gets
3
4 if password == "asdfasdf"
5   true
6 else
7   false
8 end
```

input clear

```
ruby 2.3.1p112 (2016-04-26 revision 54768)
[x86_64-linux]
>
Please enter your password:
asdfasdf
=> false
>
```

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repl.it - Ruby Compiler x Jordan

https://repl.it/languages/ruby

repl.it Ruby Programming languages examples jordanhud...

share save run

```
1 puts "Please enter your password:"
2 password = gets.chomp
3
4 if password == "asdfasdf"
5   true
6 else
7   false
8 end
```

input clear

```
ruby 2.3.1p112 (2016-04-26 revision 54768)
[x86_64-linux]
>
Please enter your password:
asdfasdf
=> true
>
```

terms privacy about us blog feedback help api teachers

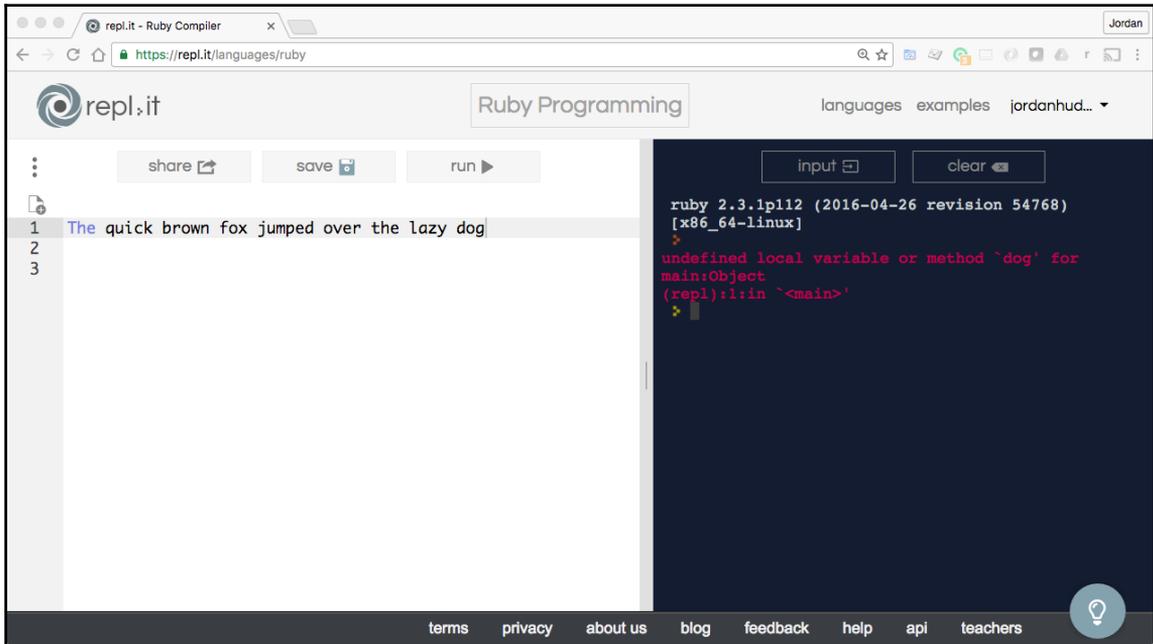
```
MacBook-Pro:edutechional-ruby admin$ ruby variable_types.rb
variable_types.rb:6:in `<main>': undefined local variable or method `x' for main:Object (NameError)
MacBook-Pro:edutechional-ruby admin$
```

>

```
variable_types.rb x File 1 File 2 jobs_controller.rb x index.html.erb x
1 class JobsController < ApplicationController
2   before_action :set_job, only: [:show, :edit, :update, :destroy]
3   before_action :authenticate_user!, only: [:edit, :new, :destroy]
4
5   # GET /jobs
6   # GET /jobs.json
7   def index
8     @jobs = Job.paginate(page: params[:page], per_page: 10)
9   end
```

```
44 <% @jobs.each do |job| %>
45   <tr style="font-size:1.2em;">
46     <td><%= job.created_at.strftime("%m/%d/%y") %></td>
47     <td><%= job.req_number %></td>
48     <td><%= link_to job.title, job %></td>
49     <td><%= job.city %>, <%= job.state %></td>
```

Chapter 3: Ruby Strings



The screenshot shows the repl.it Ruby Compiler interface. The browser address bar displays `https://repl.it/languages/ruby`. The page title is "Ruby Programming". The interface includes a "share" button, a "save" button, and a "run" button. The code editor contains three lines of text:

```
1 The quick brown fox jumped over the lazy dog
2
3
```

The output console shows the following error message:

```
ruby 2.3.1p112 (2016-04-26 revision 54768)
[x86_64-linux]
>
undefined local variable or method `dog' for
main:Object
(repl):1:in `'
>
```

The footer of the page contains links for "terms", "privacy", "about us", "blog", "feedback", "help", "api", and "teachers", along with a lightbulb icon.

The screenshot shows the repl.it Ruby Compiler interface. The browser address bar displays `https://repl.it/languages/ruby`. The page title is "Ruby Programming". The interface includes a code editor on the left with three lines of code: `1 p 'The quick brown fox jumped over the lazy dog'`, `2`, and `3`. Above the editor are buttons for "share", "save", and "run". The right-hand console shows the output of the code: `ruby 2.3.1p112 (2016-04-26 revision 54768)`, `[x86_64-linux]`, `>`, `"The quick brown fox jumped over the lazy dog"`, `=> "The quick brown fox jumped over the lazy dog"`, and `>`. The footer contains links for "terms", "privacy", "about us", "blog", "feedback", "help", "api", and "teachers", along with a help icon.

This screenshot is identical to the one above, showing the repl.it Ruby Compiler interface. The browser address bar displays `https://repl.it/languages/ruby`. The page title is "Ruby Programming". The interface includes a code editor on the left with three lines of code: `1 p 'The quick brown fox jumped over the lazy dog'`, `2`, and `3`. Above the editor are buttons for "share", "save", and "run". The right-hand console shows the output of the code: `ruby 2.3.1p112 (2016-04-26 revision 54768)`, `[x86_64-linux]`, `>`, `"The quick brown fox jumped over the lazy dog"`, `=> "The quick brown fox jumped over the lazy dog"`, and `>`. The footer contains links for "terms", "privacy", "about us", "blog", "feedback", "help", "api", and "teachers", along with a help icon.

repl.it - Ruby Compiler x Jordan

https://repl.it/languages/ruby

repl.it Ruby Programming languages examples jordanhud...

share save run

```
1 puts "Name an animal"
2 animal = gets.chomp
3
4 puts "Name a noun"
5 noun = gets.chomp
6
7 p "The quick brown #{animal} jumped over the lazy #{noun}"
```

input clear

```
ruby 2.3.1p112 (2016-04-26 revision 54768)
[x86_64-linux]
>
Name an animal
Monkey
Name a noun
Chair
"The quick brown Monkey jumped over the lazy
Chair"
=> "The quick brown Monkey jumped over the lazy
Chair"
>
```

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repl.it - Ruby Compiler x Jordan

https://repl.it/languages/ruby

repl.it Ruby Programming languages examples jordanhud...

share save run

```
1 puts "Name an animal"
2 animal = gets.chomp
3
4 puts "Name a noun"
5 noun = gets.chomp
6
7 p 'The quick brown #{animal} jumped over the lazy #{noun}'
```

input clear

```
ruby 2.3.1p112 (2016-04-26 revision 54768)
[x86_64-linux]
>
Name an animal
Dragon
Name a noun
Bike
"The quick brown \#{animal} jumped over the lazy
\#{noun}"
=> "The quick brown \#{animal} jumped over the
lazy \#{noun}"
>
```

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repl.it - Ruby Compiler x Jordan

https://repl.it/languages/ruby

repl.it Ruby Programming languages examples jordanhud...

share save run

```
1 "My Favorite number is: #{ 40 + 2 }"
```

input clear

```
ruby 2.3.1p112 (2016-04-26 revision 54768)
[x86_64-linux]
=> "My Favorite number is: 42"
```

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repl.it - Ruby Compiler x Jordan

https://repl.it/languages/ruby

repl.it Ruby Programming languages examples jordanhud...

share save run

```
1 str = "The quick brown fox jumped over the quick dog"
2 str.sub "quick", "slow"
```

input clear

```
ruby 2.3.1p112 (2016-04-26 revision 54768)
[x86_64-linux]
=> "The slow brown fox jumped over the quick dog"
```

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repl.it - Ruby Compiler x Jordan

https://repl.it/languages/ruby

repl.it Ruby Programming languages examples jordanhud...

share save run

```
1 str = "The quick brown fox jumped over the quick dog"
2 p str.gsub! "quick", "slow"
3 p str
```

input clear

```
ruby 2.3.1p112 (2016-04-26 revision 54768)
[x86_64-linux]
>
"The slow brown fox jumped over the slow dog"
"The slow brown fox jumped over the slow dog"
=> "The slow brown fox jumped over the slow dog"
>
```

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repl.it - Ruby Compiler x Jordan

https://repl.it/languages/ruby

repl.it Ruby Programming languages examples jordanhud...

share save run

```
1 str = " The quick brown fox jumped over the quick dog "
2 p str.strip
```

input clear

```
ruby 2.3.1p112 (2016-04-26 revision 54768)
[x86_64-linux]
>
"The quick brown fox jumped over the quick dog"
=> "The quick brown fox jumped over the quick
dog"
>
```

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repl.it - Ruby Compiler x Jordan

https://repl.it/languages/ruby

repl.it Ruby Programming languages examples jordanhud...

share save run

```
1 str = "The quick brown fox jumped over the quick dog"
2 p str.split
```

```
ruby 2.3.1p112 (2016-04-26 revision 54768)
[x86_64-linux]
>
["The", "quick", "brown", "fox", "jumped",
"over", "the", "quick", "dog"]
=> ["The", "quick", "brown", "fox", "jumped",
"over", "the", "quick", "dog"]
>
```

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repl.it - Ruby Compiler x Jordan

https://repl.it/languages/ruby

repl.it Ruby Programming languages examples jordanhud...

share save run

```
1 str = "The quick brown fox jumped over the quick dog"
2 p str.split.size
```

```
ruby 2.3.1p112 (2016-04-26 revision 54768)
[x86_64-linux]
>
9
=> 9
>
```

terms privacy about us blog feedback help api teachers

repl.it - Ruby Compiler x Jordan

https://repl.it/languages/ruby

repl.it Ruby Programming languages examples jordanhud...

share save run

```
1 str = "The quick brown fox jumped over the quick dog"
2 p str.split(//).size
```

input clear

```
ruby 2.3.1p112 (2016-04-26 revision 54768)
[x86_64-linux]
>
45
=> 45
>
```

terms privacy about us blog feedback help api teachers

repl.it - Ruby Compiler x Jordan

https://repl.it/languages/ruby

repl.it Ruby Programming languages examples jordanhud...

share save run

```
1 str = "The quick brown fox jumped over the quick dog"
2 p str.split(//)
```

input clear

```
ruby 2.3.1p112 (2016-04-26 revision 54768)
[x86_64-linux]
>
["T", "h", "e", " ", "q", "u", "i", "c", "k", " ",
 "b", "r", "o", "w", "n", " ", "f", "o", "x", " ",
 "j", "u", "m", "p", "e", "d", " ", "o", "v", "e", "r",
 "e", "r", " ", "t", "h", "e", " ", "q", "u", "i",
 "c", "k", " ", "d", "o", "g"]
=> ["T", "h", "e", " ", "q", "u", "i", "c", "k", " ",
 "b", "r", "o", "w", "n", " ", "f", "o", "x", " ",
 "j", "u", "m", "p", "e", "d", " ", "o", "v", "e",
 "r", " ", "t", "h", "e", " ", "q", "u", "i",
 "c", "k", " ", "d", "o", "g"]
>
```

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Chapter 5: Ruby Methods

```
File 1 | File 2 | jobs_controller.rb | index.html.erb | x
1 class JobsController < ApplicationController
2   before_action :set_job, only: [:show, :edit, :update, :destroy]
3   before_action :authenticate_user!, only: [:edit, :new, :destroy]
4
5   # GET /jobs
6   # GET /jobs.json
7   def index
8     @jobs = Job.paginate(page: params[:page], per_page: 10)
9   end
10
11  # GET /jobs/1
12  # GET /jobs/1.json
13  def show
14    @job_applications = JobApplication.where(job_id: @job.id)
15  end
16
17  # GET /jobs/new
18  def new
19    @job = Job.new
20  end
21
22  # GET /jobs/1/edit
23  def edit
24  end
25
26  # POST /jobs
27  # POST /jobs.json
28  def create
29    @job = Job.new(job_params)
30  end
31 end
```

repl.it - Ruby Compiler x

https://repl.it/languages/ruby

repl.it Ruby Programming languages examples jordanhud...

share save run

```
1- def baseball_team_list
2-   p ["A's", "Angels", "Astros"]
3- end
4
5- baseball_team_list
```

input clear

```
ruby 2.3.1p112 (2016-04-26 revision 54768)
[x86_64-linux]
>
["A's", "Angels", "Astros"]
=> ["A's", "Angels", "Astros"]
>
```

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repl.it - Ruby Compiler x

https://repl.it/languages/ruby

repl.it Ruby Programming languages examples jordanhud...

share save run

```
1- def baseball_team_list
2-   p ["A's", "Angels", "Astros"]
3- end
```

input clear

```
ruby 2.3.1p112 (2016-04-26 revision 54768)
[x86_64-linux]
>
=> :baseball_team_list
>
```

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repl.it - Ruby Compiler x Jordan

https://repl.it/languages/ruby

repl.it Ruby Programming languages examples jordanhud...

share save run

```
1- class Invoice
2- # Class method
3- def self.print_out
4-   "Printed out invoice"
5- end
6-
7- # Instance method
8- def convert_to_pdf
9-   "Converted to PDF"
10- end
11- end
12-
13- Invoice.print_out
```

input clear

```
ruby 2.3.1p112 (2016-04-26 revision 54768)
[x86_64-linux]
=> "Printed out invoice"
>
```

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repl.it - Ruby Compiler x Jordan

https://repl.it/languages/ruby

repl.it Ruby Programming languages examples jordanhud...

share save run

```
1- class Invoice
2- # Class method
3- def self.print_out
4-   "Printed out invoice"
5- end
6-
7- # Instance method
8- def convert_to_pdf
9-   "Converted to PDF"
10- end
11- end
12-
13- Invoice.convert_to_pdf
```

input clear

```
ruby 2.3.1p112 (2016-04-26 revision 54768)
[x86_64-linux]
>
undefined method `convert_to_pdf' for
Invoice:Class
(repl):13:in `<main>'
>
```

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The screenshot shows the repl.it Ruby compiler interface. The code editor on the left contains the following Ruby code:

```
1 class Invoice
2   # Class method
3   def self.print_out
4     "Printed out invoice"
5   end
6
7   # Instance method
8   def convert_to_pdf
9     "Converted to PDF"
10  end
11 end
12
13 i = Invoice.new
14 i.convert_to_pdf
```

The output console on the right shows the following output:

```
ruby 2.3.1p112 (2016-04-26 revision 54768)
[x86_64-linux]
=> "Converted to PDF"
```

The interface includes a navigation bar with links for terms, privacy, about us, blog, feedback, help, api, and teachers. The user's name "Jordan" is visible in the top right corner.

The screenshot shows the repl.it Ruby compiler interface. The code editor on the left contains the following Ruby code:

```
1 class Invoice
2   # Class method
3   def self.print_out
4     "Printed out invoice"
5   end
6
7   # Instance method
8   def convert_to_pdf
9     "Converted to PDF"
10  end
11 end
12
13 i = Invoice.new
14 i.print_out
```

The output console on the right shows the following error message:

```
ruby 2.3.1p112 (2016-04-26 revision 54768)
[x86_64-linux]
>
undefined method `print_out' for #
<Invoice:0x00556ee5825bf0>
(repl):14:in `<main>'
```

The interface includes a navigation bar with links for terms, privacy, about us, blog, feedback, help, api, and teachers. The user's name "Jordan" is visible in the top right corner.

The screenshot shows the repl.it Ruby compiler interface. The browser address bar displays `https://repl.it/languages/ruby`. The page title is "Ruby Programming". The left sidebar contains a code editor with the following code:

```
1 full_name = Proc.new { |first, last| first + " " + last}
2
3 p full_name["Jordan", "Hudgens"]
4 p full_name.call("Jordan", "Hudgens")
```

The right sidebar shows the output of the code execution:

```
ruby 2.3.1p112 (2016-04-26 revision 54768)
[x86_64-linux]
>
"Jordan Hudgens"
"Jordan Hudgens"
=> "Jordan Hudgens"
```

The bottom navigation bar includes links for terms, privacy, about us, blog, feedback, help, api, and teachers.

The screenshot shows the repl.it Ruby compiler interface. The browser address bar displays `https://repl.it/languages/ruby`. The page title is "Ruby Programming". The left sidebar contains a code editor with the following code:

```
1 full_name = Proc.new { |first| first * 5}
2
3 p full_name["Jordan", "Hudgens"]
4 p full_name.call("Jordan", "Hudgens")
```

The right sidebar shows the output of the code execution:

```
ruby 2.3.1p112 (2016-04-26 revision 54768)
[x86_64-linux]
>
"JordanJordanJordanJordanJordan"
"JordanJordanJordanJordanJordan"
=> "JordanJordanJordanJordanJordan"
```

The bottom navigation bar includes links for terms, privacy, about us, blog, feedback, help, api, and teachers.

repl.it - Ruby Compiler

https://repl.it/languages/ruby

repl.it Ruby Programming languages examples jordanhud...

share save run

```
1 full_name = Proc.new do |first|
2   first * 5
3 end
4
5 p full_name["Jordan", "Hudgens"]
6 p full_name.call("Jordan", "Hudgens")
```

input clear

```
ruby 2.3.1p112 (2016-04-26 revision 54768)
[x86_64-linux]
>
"JordanJordanJordanJordanJordan"
"JordanJordanJordanJordanJordan"
=> "JordanJordanJordanJordanJordan"
```

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repl.it - Ruby Compiler

https://repl.it/languages/ruby

repl.it Ruby Programming languages examples jordanhud...

share save run

```
1 full_name = lambda { |first, last| first + " " + last}
2 p full_name.call("Jordan", "David", "Hudgens")
```

input clear

```
ruby 2.3.1p112 (2016-04-26 revision 54768)
[x86_64-linux]
>
wrong number of arguments (given 3, expected 2)
(repl):1:in `block in <main>'
(repl):2:in `<main>'
```

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The screenshot shows the repl.it Ruby Compiler interface. The browser address bar displays `https://repl.it/languages/ruby`. The page title is "Ruby Programming". The user's name "Jordan" is visible in the top right corner. The interface includes a "share" button, a "save" button, and a "run" button. The code editor contains the following Ruby code:

```
1 full_name = Proc.new{ |first, last| first + " " + last}
2 p full_name.call("Jordan", "David", "Hudgens")
```

The output console shows the following output:

```
ruby 2.3.1p112 (2016-04-26 revision 54768)
[x86_64-linux]
>
"Jordan David"
=> "Jordan David"
>
```

The footer contains links for "terms", "privacy", "about us", "blog", "feedback", "help", "api", and "teachers".

The screenshot shows the repl.it Ruby Compiler interface. The browser address bar displays `https://repl.it/languages/ruby`. The page title is "Ruby Programming". The user's name "Jordan" is visible in the top right corner. The interface includes a "share" button, a "save" button, and a "run" button. The code editor contains the following Ruby code:

```
1- def my_method
2   x = lambda {return}
3   x.call
4   p "Text within the method"
5 end
6
7 my_method
```

The output console shows the following output:

```
ruby 2.3.1p112 (2016-04-26 revision 54768)
[x86_64-linux]
>
"Text within the method"
=> "Text within the method"
>
```

The footer contains links for "terms", "privacy", "about us", "blog", "feedback", "help", "api", and "teachers".

repl.it - Ruby Compiler

https://repl.it/languages/ruby

repl.it Ruby Programming languages examples jordanhud...

```
1- def my_method
2  x = Proc.new {return}
3  x.call
4  p "Text within the method"
5  end
6
7 my_method
```

ruby 2.3.1p112 (2016-04-26 revision 54768)
[x86_64-linux]
=> nil

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```
repl.it - Ruby Compiler x Jordan
https://repl.it/languages/ruby

repl.it Ruby Programming languages examples jordanhud...

: share save run
1- def full_name(first_name, last_name)
2-   first_name + " " + last_name
3- end
4
5- puts full_name("Jordan", "Hudgens")

input clear

ruby 2.3.1p112 (2016-04-26 revision 54768)
[x86_64-linux]
> Jordan Hudgens
=> nil
>
```

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repl.it - Ruby Compiler

https://repl.it/languages/ruby

repl.it Ruby Programming languages examples jordanhud...

share save run

```
1- def print_address city:, state:, zip:
2   puts city
3   puts state
4   puts zip
5 end
6
7 print_address city: "Scottsdale", state: "AZ", zip: "85251"
```

input clear

```
ruby 2.3.1p112 (2016-04-26 revision 54768)
[x86_64-linux]
>
Scottsdale
AZ
85251
=> nil
>
```

terms privacy about us blog feedback help api teachers

repl.it - Ruby Compiler

https://repl.it/languages/ruby

repl.it Ruby Programming languages examples jordanhud...

share save run

```
1- def print_address city, state, zip
2   puts city
3   puts state
4   puts zip
5 end
6
7 print_address "Scottsdale", "AZ", "85251"
```

input clear

```
ruby 2.3.1p112 (2016-04-26 revision 54768)
[x86_64-linux]
>
Scottsdale
AZ
85251
=> nil
>
```

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repl.it - Ruby Compiler x Jordan

https://repl.it/languages/ruby

repl.it Ruby Programming languages examples jordanhud...

share save run

```
1- def stream_movie title:, lang: lang = 'English'
2-   puts title
3-   puts lang
4- end
5
6- stream_movie title: 'The Fountainhead'
```

input clear

```
ruby 2.3.1p112 (2016-04-26 revision 54768)
[x86_64-linux]
>
The Fountainhead
English
=> nil
>
```

terms privacy about us blog feedback help api teachers

repl.it - Ruby Compiler x Jordan

https://repl.it/DKJ6

repl.it Ruby Programming languages examples jordanhud...

share save run

```
1- def roster *players
2-   puts players
3- end
4
5- roster 'Altuve', 'Gattis', 'Springer'
```

input clear

```
ruby 2.3.1p112 (2016-04-26 revision 54768)
[x86_64-linux]
>
Altuve
Gattis
Springer
=> nil
>
```

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The screenshot shows the repl.it Ruby Compiler interface. The left pane contains the following Ruby code:

```
1- def roster **players_with_positions
2-   players_with_positions.each do |player, position|
3-     puts "Player: #{player}"
4-     puts "Position: #{position}"
5-     puts "\n"
6-   end
7- end
8-
9- data = {
10-   "Altuve": "2nd Base",
11-   "Alex Bregman": "3rd Base",
12-   "Evan Gattis": "Catcher",
13-   "George Springer": "OF"
14- }
15-
16- roster data
```

The right pane shows the output of the code:

```
ruby 2.3.1p112 (2016-04-26 revision 54768)
[x86_64-linux]
>
Player: Altuve
Position: 2nd Base

Player: Alex Bregman
Position: 3rd Base

Player: Evan Gattis
Position: Catcher

Player: George Springer
Position: OF

=> {:Altuve=>"2nd Base", :Alex
Bregman=>"3rd Base", :Evan
Gattis=>"Catcher", :George Springer=>"OF"}
>
```

Navigation links at the bottom include: terms, privacy, about us, blog, feedback, help, api, teachers.

The screenshot shows the repl.it Ruby Compiler interface. The left pane contains the following Ruby code:

```
1- def invoice options={}
2-   puts options[:company]
3-   puts options[:total]
4-   puts options[:something_else]
5- end
6-
7- invoice company: "Google", total: 123, state: "AZ"
```

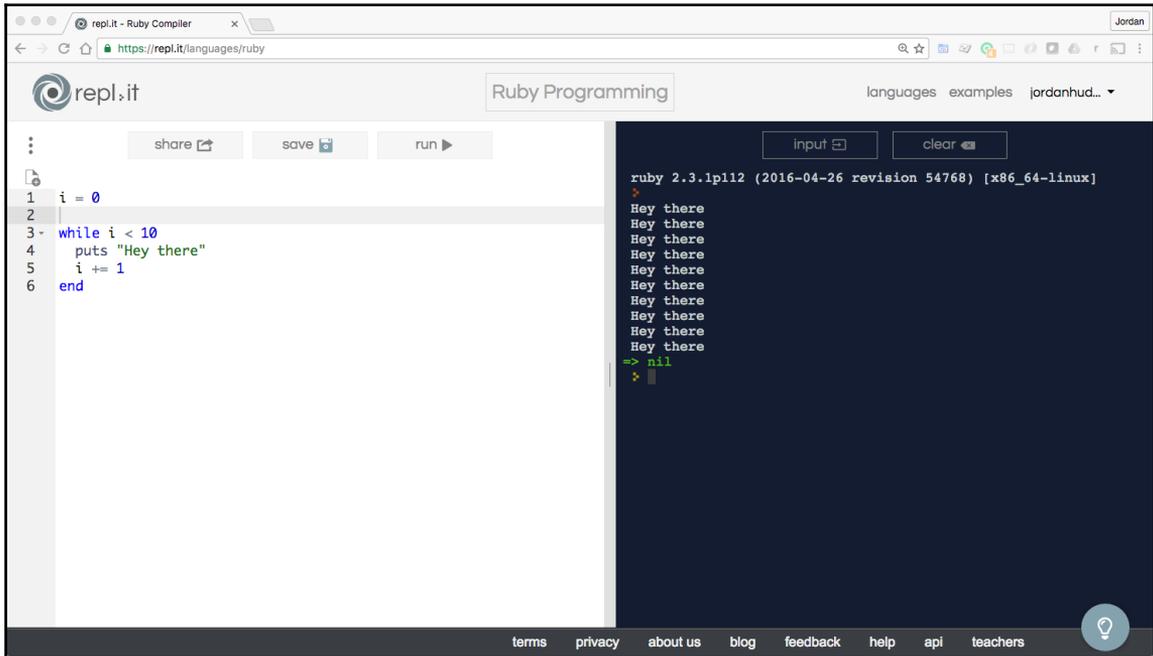
The right pane shows the output of the code:

```
ruby 2.3.1p112 (2016-04-26 revision 54768)
[x86_64-linux]
>
Google
123

=> nil
>
```

Navigation links at the bottom include: terms, privacy, about us, blog, feedback, help, api, teachers.

Chapter 6: Ruby Iterators and Loops



The screenshot shows a web browser window with the URL `https://repl.it/languages/ruby`. The page title is "Ruby Programming" and the user is logged in as "jordanhud...". The REPL interface includes a "share" button, a "save" button, and a "run" button. The code editor contains the following Ruby code:

```
1 i = 0
2
3 while i < 10
4   puts "Hey there"
5   i += 1
6 end
```

The output window shows the execution of the code, displaying "Hey there" on ten separate lines, followed by `=> nil`. The output window also includes "input" and "clear" buttons. At the bottom of the page, there are links for "terms", "privacy", "about us", "blog", "feedback", "help", "api", and "teachers", along with a lightbulb icon.

repl.it - Ruby Compiler x

https://repl.it/languages/ruby

repl.it Ruby Programming languages examples jordanhud...

```
1 i = 0
2
3 while i <= 10
4   puts "Hey there"
5   i += 1
6 end
```

input clear

```
ruby 2.3.1p112 (2016-04-26 revision 54768) [x86_64-linux]
>
Hey there
=> nil
>
```

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repl.it - Ruby Compiler x

https://repl.it/languages/ruby

repl.it Ruby Programming languages examples jordanhud...

```
1 arr = [23, 2343, 454, 123, 345345, 1232]
2
3 arr.each do |i|
4   p i
5 end
```

input clear

```
ruby 2.3.1p112 (2016-04-26 revision 54768) [x86_64-linux]
>
23
2343
454
123
345345
1232
=> [23, 2343, 454, 123, 345345, 1232]
>
```

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```
44 <% @jobs.each do |job| %>
45 <tr style="font-size:1.2em;">
46 <td><%= job.created_at.strftime("%m/%d/%y") %></td>
47 <td><%= job.req_number %></td>
48 <td><%= link_to job.title, job %></td>
49 <td><%= job.city %>, <%= job.state %></td>
50
51 <% if current_user && current_user.role == "Admin" %>
52 <td><%= job.job_applications.count if job.job_applications %
53 ></td>
54 <td><%= link_to '<i class="fa fa-pencil-square"></i>'.
html_safe, edit_job_path(job) %></td>
55 <td><%= link_to '<i class="fa fa-minus-square"></i>'.
html_safe, job, method: :delete, data: { confirm: 'Are
you sure?' } %></td>
56 <% end %>
57 </tr>
<% end %>
```

The screenshot shows the repl.it Ruby Compiler interface. The browser address bar displays `https://repl.it/languages/ruby`. The page title is "Ruby Programming". The interface includes a code editor on the left with the following code:

```
1- for i in 0...42
2  pi
3  end
```

Buttons for "share", "save", and "run" are visible above the code editor. The right side of the interface shows the execution output, which is a list of numbers from 0 to 42, with the last line being `> 0...42`. The footer contains links for "terms", "privacy", "about us", "blog", "feedback", "help", "api", and "teachers".

repl.it - Ruby Compiler

https://repl.it/languages/ruby

repl.it Ruby Programming languages examples jordanhud...

```

1- teams = {
2-   "Houston Astros" => {
3-     "first base" => "AJ Reed",
4-     "second base" => "Jose Altuve",
5-     "shortstop" => "Carlos Correa"
6-   },
7-   "Texas Rangers" => {
8-     "first base" => "Prince Fielder",
9-     "second base" => "R. Odor",
10-    "shortstop" => "Elvis Andrus"
11-  }
12- }
13-
14- teams.each do |team|
15-   p team
16- end

```

```

ruby 2.3.1p112 (2016-04-26 revision 54768) [x86_64-linux]
>
["Houston Astros", {"first base"=>"AJ Reed", "second
base"=>"Jose Altuve", "shortstop"=>"Carlos Correa"}]
["Texas Rangers", {"first base"=>"Prince Fielder", "second
base"=>"R. Odor", "shortstop"=>"Elvis Andrus"}]
=> {"Houston Astros"=>{"first base"=>"AJ Reed", "second
base"=>"Jose Altuve", "shortstop"=>"Carlos Correa"}, "Texas
Rangers"=>{"first base"=>"Prince Fielder", "second base"=>"R.
Odor", "shortstop"=>"Elvis Andrus"}}

```

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repl.it - Ruby Compiler

https://repl.it/languages/ruby

repl.it Ruby Programming languages examples jordanhud...

```

1- teams = {
2-   "Houston Astros" => {
3-     "first base" => "AJ Reed",
4-     "second base" => "Jose Altuve",
5-     "shortstop" => "Carlos Correa"
6-   },
7-   "Texas Rangers" => {
8-     "first base" => "Prince Fielder",
9-     "second base" => "R. Odor",
10-    "shortstop" => "Elvis Andrus"
11-  }
12- }
13-
14- teams.each do |team, players|
15-   puts team
16-   players.each do |position, player|
17-     p "#{player} starts at #{position}"
18-   end
19- end

```

```

ruby 2.3.1p112 (2016-04-26 revision 54768) [x86_64-linux]
>
Houston Astros
AJ Reed starts at first base
Jose Altuve starts at second base
Carlos Correa starts at shortstop
Texas Rangers
Prince Fielder starts at first base
R. Odor starts at second base
Elvis Andrus starts at shortstop
=> {"Houston Astros"=>{"first base"=>"AJ Reed", "second
base"=>"Jose Altuve", "shortstop"=>"Carlos Correa"}, "Texas
Rangers"=>{"first base"=>"Prince Fielder", "second base"=>"R.
Odor", "shortstop"=>"Elvis Andrus"}}

```

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The screenshot shows the repl.it Ruby compiler interface. The browser address bar displays `https://repl.it/languages/ruby`. The page title is "Ruby Programming". The left sidebar contains the Ruby code:

```
1- (1..10).to_a.select do |x|
2-   x.even?
3- end
```

The right pane shows the execution output:

```
ruby 2.3.1p112 (2016-04-26 revision 54768) [x86_64-linux]
=> [2, 4, 6, 8]
```

The footer includes links for terms, privacy, about us, blog, feedback, help, api, and teachers, along with a user profile icon for "Jordan".

The screenshot shows the repl.it Ruby compiler interface. The browser address bar displays `https://repl.it/languages/ruby`. The page title is "Ruby Programming". The left sidebar contains the Ruby code:

```
1 arr = %w(The quick brown fox jumped over the lazy dog)
2 arr.select { |x| x.length > 5}
```

The right pane shows the execution output:

```
ruby 2.3.1p112 (2016-04-26 revision 54768) [x86_64-linux]
=> ["jumped"]
```

The footer includes links for terms, privacy, about us, blog, feedback, help, api, and teachers, along with a user profile icon for "Jordan".

The screenshot shows the repl.it website interface for Ruby programming. The browser address bar displays `https://repl.it/languages/ruby`. The page title is "Ruby Programming". The code editor on the left contains the following Ruby code:

```
1 %w(a b c d e f g).select { |v| v =~ /[aeiou]/ }
```

The output console on the right shows the execution result:

```
ruby 2.3.1p112 (2016-04-26 revision 54768) [x86_64-linux]  
>  
=> ["a", "e"]  
>
```

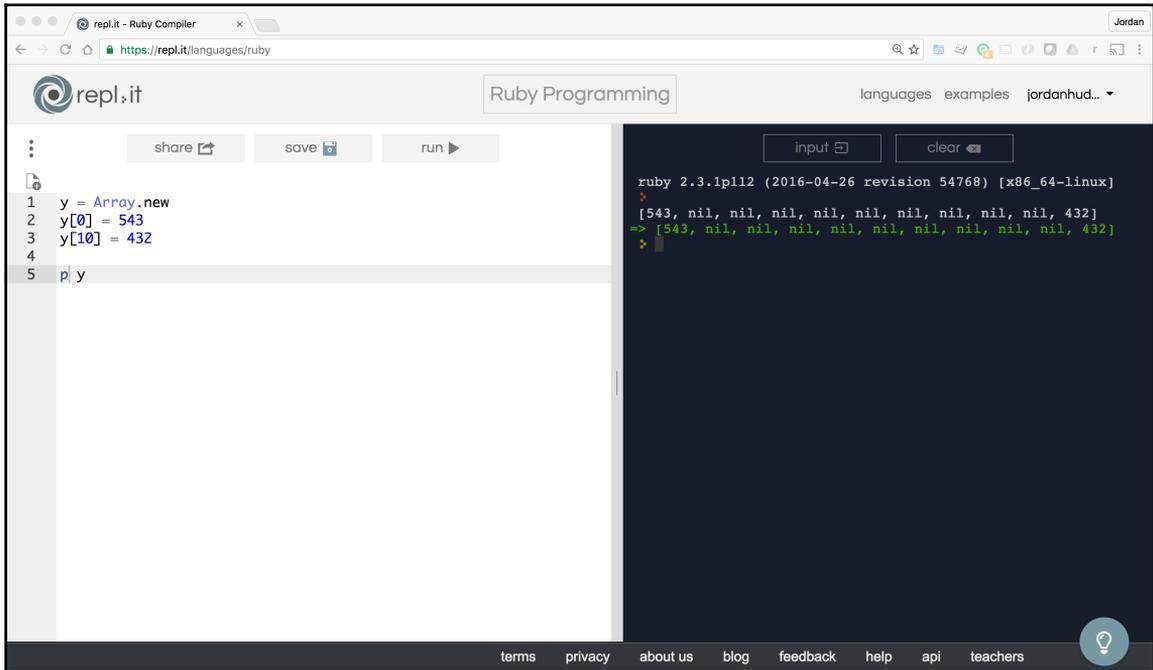
At the bottom of the page, there are navigation links: terms, privacy, about us, blog, feedback, help, api, teachers.

The screenshot shows a terminal window titled "code — irb rvm_bin_path=/Users/admin/.rvm/bin — 80x24". The terminal prompt is `MacBook-Pro-3:code admin$`. The command `irb` has been entered, and the prompt has changed to `2.1.2 :001 >`. A red arrow points from the text "Type irb" to the `irb` command. A blue arrow points from the text "Starts irb session" to the prompt `2.1.2 :001 >`.

```
code — irb rvm_bin_path=/Users/admin/.rvm/bin — 80x24
~/code — irb rvm_bin_path=/Users/admin/.rvm/bin
MacBook-Pro-3:code admin$ irb
2.1.2 :001 > ["1", "23.0'", "0", "4"].map {|x| x.to_i}
=> [1, 23, 0, 4]
2.1.2 :002 > █
```

```
code — irb rvm_bin_path=/Users/admin/.rvm/bin — 80x24
~/code — irb rvm_bin_path=/Users/admin/.rvm/bin
MacBook-Pro-3:code admin$ irb
2.1.2 :001 > ["1", "23.0'", "0", "4"].map {|x| x.to_i}
=> [1, 23, 0, 4]
2.1.2 :002 > ["1", "23.0'", "0", "4"].map(&:to_i)
=> [1, 23, 0, 4]
2.1.2 :003 > █
```

Chapter 7: Ruby Collections



The screenshot shows the repl.it Ruby compiler interface. The browser address bar displays `https://repl.it/languages/ruby`. The page title is "Ruby Programming". The user's name is "jordanhud...". The code editor contains the following Ruby code:

```
1 y = Array.new
2 y[0] = 543
3 y[10] = 432
4
5 p y
```

The output console shows the following output:

```
ruby 2.3.1p112 (2016-04-26 revision 54768) [x86_64-linux]
=> [543, nil, nil, nil, nil, nil, nil, nil, nil, nil, 432]
```

The footer of the page contains links for [terms](#), [privacy](#), [about us](#), [blog](#), [feedback](#), [help](#), [api](#), and [teachers](#).

repl.it - Ruby Compiler x Jordan

https://repl.it/languages/ruby

repl.it Ruby Programming languages examples jordanhud...

share save run

```
1 y = Array.new
2 y[0] = 543
3 y[10] = 432
4
5 y.each do |i|
6   puts i
7 end
```

input clear

```
ruby 2.3.1p112 (2016-04-26 revision 54768) [x86_64-linux]
543

432
=> [543, nil, nil, nil, nil, nil, nil, nil, nil, nil, 432]
```

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repl.it - Ruby Compiler

https://repl.it/languages/ruby

repl.it Ruby Programming languages examples jordanhud...

share save run

```
1 teams = ["astros", "yankees", "rangers", "mets", "cardinals"]
2 teams.push("marlins")
3 teams.push("red sox", "blue jays")
```

input clear

```
ruby 2.3.1p112 (2016-04-26 revision 54768) [x86_64-linux]
=> ["astros", "yankees", "rangers", "mets", "cardinals",
    "marlins", "red sox", "blue jays"]
```

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repl.it - Ruby Compiler x Jordan

https://repl.it/languages/ruby

repl.it Ruby Programming languages examples jordanhud...

share save run

```
1 teams = ["astros", "yankees", "rangers", "mets", "cardinals"]
2 teams.push("marlins")
3 teams.push("red sox", "blue jays")
4 teams.pop
5 z = teams.pop
```

input clear

```
ruby 2.3.1p112 (2016-04-26 revision 54768) [x86_64-linux]
=> "red sox"
```

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repl.it - Ruby Compiler x Jordan

https://repl.it/languages/ruby

repl.it Ruby Programming languages examples jordanhud...

share save run

```
1 positions = {
2   first_base: "Chris Carter",
3   second_base: "Jose Altuve",
4   short_stop: "Carlos Correa"
5 }
```

input clear

```
ruby 2.3.1p112 (2016-04-26 revision 54768) [x86_64-linux]
=> {:first_base=>"Chris Carter", :second_base=>"Jose
Altuve", :short_stop=>"Carlos Correa"}
```

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The screenshot shows the repl.it Ruby compiler interface. The left pane contains the following code:

```
1 positions = {
2   first_base: "Chris Carter",
3   second_base: "Jose Altuve",
4   short_stop: "Carlos Correa"
5 }
6
7 positions[:second_base]
```

The right pane shows the execution output:

```
ruby 2.3.1p112 (2016-04-26 revision 54768) [x86_64-linux]
=> "Jose Altuve"
```

The interface includes a 'run' button and a 'clear' button. The bottom navigation bar contains links for terms, privacy, about us, blog, feedback, help, api, and teachers.

```
1 class JobsController < ApplicationController
2   before_action :set_job, only: [:show, :edit, :update, :destroy]
3   before_action :authenticate_user!, only: [:edit, :new, :destroy]
4
5   # GET /jobs
6   # GET /jobs.json
7   def index
8     @jobs = Job.paginate(page: params[:page], per_page: 10)
9   end
10
```

repl.it - Ruby Compiler x Jordan

https://repl.it/languages/ruby

repl.it Ruby Programming languages examples jordanhud...

share save run

```
1 people = { jordan: 32, tiffany: 27, kristine: 10, heather: 29 }
2 people[:tiffany]
3 people.delete(:kristine)
4 people
```

input clear

```
ruby 2.3.1p112 (2016-04-26 revision 54768) [x86_64-linux]
=> {:jordan=>32, :tiffany=>27, :heather=>29}
*
```

terms privacy about us blog feedback help api teachers

repl.it - Ruby Compiler x Jordan

https://repl.it/languages/ruby

repl.it Ruby Programming languages examples jordanhud...

share save run

```
1 people = { jordan: 32, tiffany: 27, kristine: 10, heather: 29 }
2
3 people.each_key do |key|
4   puts key
5 end
```

input clear

```
ruby 2.3.1p112 (2016-04-26 revision 54768) [x86_64-linux]
>
jordan
tiffany
kristine
heather
=> {:jordan=>32, :tiffany=>27, :kristine=>10, :heather=>29}
>
```

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repl.it - Ruby Compiler

https://repl.it/languages/ruby

repl.it Ruby Programming languages examples jordanhud...

share save run

```
1 people = { jordan: 32, tiffany: 27, kristine: 10, heather: 29 }
2
3 people.each_key do |key|
4   puts key
5 end
6
7 people.each_value do |value|
8   puts value
9 end
```

input clear

```
ruby 2.3.1p112 (2016-04-26 revision 54768) [x86_64-linux]
>
jordan
tiffany
kristine
heather
32
27
10
29
=> {:jordan=>32, :tiffany=>27, :kristine=>10, :heather=>29}
*
```

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repl.it - Ruby Compiler x Jordan

https://repl.it/languages/ruby

repl.it Ruby Programming languages examples jordanhud...

share save run

```
1 people = {jordan: 32, tiffany: 27, kristine: 10, heather: 29}
2 people[:leann] = 42
3 people
```

input clear

```
ruby 2.3.1p112 (2016-04-26 revision 54768) [x86_64-linux]
=> {:jordan=>32, :tiffany=>27, :kristine=>10, :heather=>29, :leann=>42}
```

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repl.it - Ruby Compiler x Jordan

https://repl.it/languages/ruby

repl.it Ruby Programming languages examples jordanhud...

share save run

```
1 people = {jordan: 32, tiffany: 27, kristine: 10, heather: 29}
2 people[:leann] = 42
3
4 people_2 = people.invert
5
6 people.merge(people_2)
```

input clear

```
ruby 2.3.1p112 (2016-04-26 revision 54768) [x86_64-linux]
=> {:jordan=>32, :tiffany=>27, :kristine=>10, :heather=>29,
:leann=>42, 32=>:jordan, 27=>:tiffany, 10=>:kristine,
29=>:heather, 42=>:leann}
```

terms privacy about us blog feedback help api teachers

repl.it - Ruby Compiler x Jordan

← → ↻ 🏠 <https://repl.it/languages/ruby> 🔍 ☆ 📧 📄 📁 📌 📎 📏 📐 📑 📔 📕 📖 📗 📘 📙 📚 📛 📜 📝 📞 📟 📠 📡 📢 📣 📤 📥 📦 📧 📨 📩 📪 📫 📬 📭 📮 📯 📰 📱 📲 📳 📴 📵 📶 📷 📸 📹 📺 📻 📼 📽 📾 📿 📠 📡 📢 📣 📤 📥 📦 📧 📨 📩 📪 📫 📬 📭 📮 📯 📰 📱 📲 📳 📴 📵 📶 📷 📸 📹 📺 📻 📼 📿

repl.it Ruby Programming languages examples jordanhud...

⋮ share save run

```
1 people = {jordan: 32, tiffany: 27, kristine: 10, heather: 29}
2 people[:leann] = 42
3
4 people_2 = people.invert
5
6 people.merge(people_2)
7
8 Array(people)
```

input clear

```
ruby 2.3.1p112 (2016-04-26 revision 54768) [x86_64-linux]
=> [[{:jordan, 32}, {:tiffany, 27}, {:kristine, 10},
{:heather, 29}, {:leann, 42}]
```

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Chapter 8: Ruby Conditionals

```
ruby-dev -- -bash -- 80x24
~/code/devcamp-tutorials/ruby-dev -- -bash
MacBook-Pro-3:ruby-dev admin$ ruby unless_syntax.rb
Correa
Carter
Altuve
MacBook-Pro-3:ruby-dev admin$
```

```
ruby-dev -- -bash -- 80x24
~/code/devcamp-tutorials/ruby-dev -- -bash
MacBook-Pro-3:ruby-dev admin$ ruby unless_syntax.rb
Correa
Carter
Altuve
MacBook-Pro-3:ruby-dev admin$ ruby unless_syntax.rb
MacBook-Pro-3:ruby-dev admin$
```



A terminal window titled "ruby-dev -- -bash -- 80x24" with a path of "~/code/devcamp-tutorials/ruby-dev -- -bash". The terminal shows the following interaction:

```
MacBook-Pro-3:ruby-dev admin$ ruby if_elsif.rb
from the if statement
MacBook-Pro-3:ruby-dev admin$ █
```

Chapter 9: Object-Oriented Programming in Ruby

```
1 class ApplicationController < ActionController::Base
2
3
4   protect_from_forgery unless: -> { request.format.json? }
5
6   # include DixieUtils::Authentication
7
8
9   rescue_from CanCan::AccessDenied do |exception|
10    redirect_to :controller =>:pages, :action =>'unauthorised', :alert => except
11  end
12
13  # Prevent CSRF attacks by raising an exception.
14  # For APIs, you may want to use :null_session instead.
15  #protect_from_forgery with: :exception
16
17
18  skip_before_action :verify_authenticity_token
19
20
21 end
22
```

```

1 class BranchesController < ApplicationController
2
3   before_action :set_branch, only: [:show, :edit, :update, :destroy]
4
5   #load_and_authorize_resource
6
7   def index
8     @branches = Branch.all
9     @branch_categories = BranchCategory.all
10    respond_to do |format|
11      format.html
12      format.json { render json: @branches }
13    end
14  end
15
16  def new
17    @branch = Branch.new
18    @branch_categories = BranchCategory.all
19    @managers = Manager.all
20
21    respond_to do |format|
22      format.html { render 'branches/html/new' }
23    end
24  end

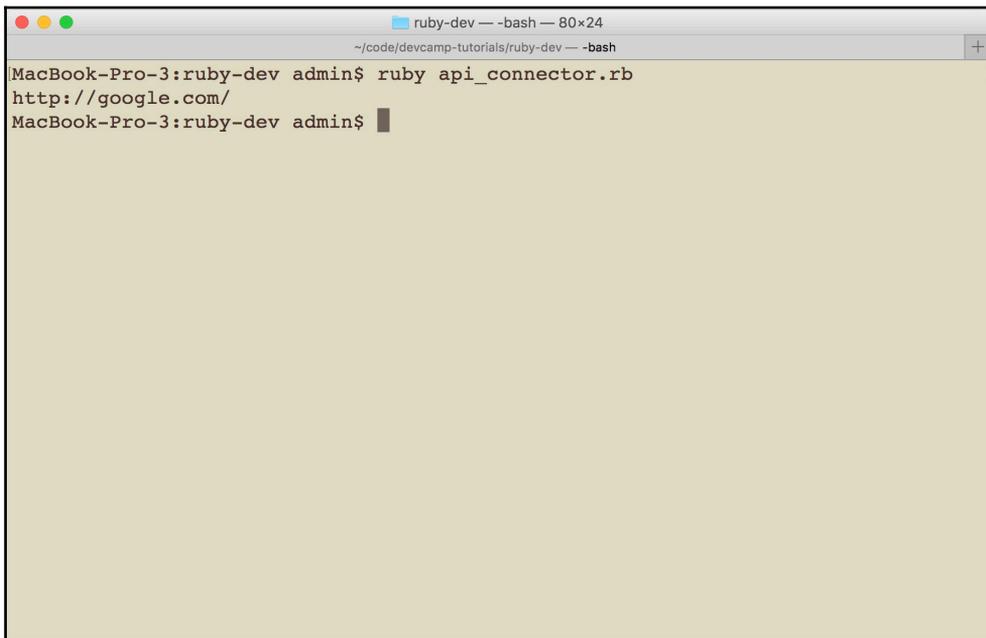
```

```

26  def create
27    @branch = Branch.new(branch_params)
28    @managers = Manager.all
29    @branch_categories = BranchCategory.all
30
31    respond_to do |format|
32      if @branch.save
33
34        format.html { redirect_to @branch, notice: 'Branch was successfully gen
35        format.json { render :show, status: :created}
36      else
37        format.html { render 'branches/html/new' }
38        format.json { render json: @branch.errors, status: :unprocessable_entit
39      end
40    end
41  end
42  end

```

```
1 class Branch < ActiveRecord::Base
2   belongs_to :brach_categories, dependent: :destroy
3   belongs_to :manager, foreign_key: :manager_id
4   has_many :business_cards
5   has_many :vender_requests
6   mount_uploader :logo, CorpFileUploader
7   mount_uploader :bg_template, CorpFileUploader
8   mount_uploader :footer_img, CorpFileUploader
9   validates_presence_of :name, :address_one, :city, :state, :zip_code, :logo, :f
10
11
12
13
14   def self.first_approver(branch)
15     branch.manager
16   end
17
18   def self.secnd_approver(branch)
19     branch.manager.name
20   end
21
22 end
```



The image shows a terminal window titled "ruby-dev -- -bash -- 80x24" with the path "~/code/devcamp-tutorials/ruby-dev -- -bash". The prompt is "MacBook-Pro-3:ruby-dev admin\$". The user has entered the command "ruby api_connector.rb", which has resulted in the output "http://google.com/". The prompt is now "MacBook-Pro-3:ruby-dev admin\$".

```
MacBook-Pro-3:ruby-dev admin$ ruby api_connector.rb
http://google.com/
MacBook-Pro-3:ruby-dev admin$
```



```
ruby-dev -- -bash -- 80x24
~/code/devcamp-tutorials/ruby-dev -- -bash
MacBook-Pro-3:ruby-dev admin$ ruby api_connector.rb
My title
My cool description
google.com
MacBook-Pro-3:ruby-dev admin$
```

Single Responsibility Principle



Each class and module in a program
should focus on a single task

Open/Closed Principle

Liskov Substitution Principle

Interface Segregation Principle

Dependency Inversion Principle



Single Responsibility Principle

Open/Closed Principle

Software elements (classes, modules, functions, etc.) should be open for extension, but closed for modification

Liskov Substitution Principle

Interface Segregation Principle

Dependency Inversion Principle

Single Responsibility Principle

Open/Closed Principle

Liskov Substitution Principle

Ability to replace any instance of a parent class with an instance of one of its child classes without negative side effects

Interface Segregation Principle

Dependency Inversion Principle

Single Responsibility Principle

Open/Closed Principle

Liskov Substitution Principle

Interface Segregation Principle

code should not be forced to depend on methods that it doesn't use

Dependency Inversion Principle

Single Responsibility Principle

Open/Closed Principle

Liskov Substitution Principle

Interface Segregation Principle

Dependency Inversion Principle

High level objects should not depend
on low level implementations

Chapter 12: Regular Expressions in Ruby

```
1 class Job < ActiveRecord::Base
2   validates_presence_of :req_number, :title, :city, :state, :description, :requi
3   has_many :job_applications
4
5   validate :has_valid_email?
6
7   VALID_EMAIL_REGEX = /\A([\w+\-].?)+@[a-z\d\-]+(\.[a-z]+)*\.[a-z]+\z/i
8
9   def has_valid_email?
10    self.email =~ VALID_EMAIL_REGEX
11  end
12 end
```

Rubular
a Ruby regular expression editor

Your regular expression:
/ ^((?:(?:\A|\.)|(?:\d|[1-9]\d|1\d{2}|2[0-4]\d|25[0-5])){4})\$ /

Your test string:
172.16.0.0

Match result:
172.16.0.0

Match groups:
1. 172.16.0.0

Wrap words Show invisibles Ruby version 2.1.5

[make permalink](#) [clear fields](#)

Rubular

a Ruby regular expression editor

Your regular expression:

```
^(?:(?:^|\.)|(?:\d|[1-9]\d|1\d{2}|2[0-4]\d|25[0-5])){4}$
```

Your test string:

```
999.16.0.0
```

No matches.

Wrap words Show invisibles Ruby version 2.1.5

[make permalink](#) [clear fields](#)

Your regular expression:

```
^(?:(?:^|\.)|(?:\d|[1-9]\d|1\d{2}|2[0-4]\d|25[0-5])){4}$
```

Your test string:

```
172.16.0.0
```

Match result:

```
172.16.0.0
```

Match groups:

```
1. 172.16.0.0
```

Wrap words Show invisibles Ruby version 2.1.5

[make permalink](#) [clear fields](#)

Regex quick reference

[abc]	A single character of: a, b, or c	.	Any single character	(...)	Capture everything enclosed
[^abc]	Any single character except: a, b, or c	\s	Any whitespace character	(alb)	a or b
[a-z]	Any single character in the range a-z	\S	Any non-whitespace character	a?	Zero or one of a
[a-zA-Z]	Any single character in the range a-z or A-Z	\d	Any digit	a*	Zero or more of a
^	Start of line	\D	Any non-digit	a+	One or more of a
\$	End of line	\w	Any word character (letter, number, underscore)	a{3}	Exactly 3 of a
\A	Start of string	\W	Any non-word character	a{3,}	3 or more of a
\z	End of string	\b	Any word boundary	a{3,6}	Between 3 and 6 of a

options: i case insensitive m make dot match newlines x ignore whitespace in regex o perform #[...] substitutions only once

Chapter 13: Searching with grep in Ruby

```
Overtime -- -bash -- 128x37
~/code/devcamp-tutorials/Overtime -- -bash
admin_admin_users DELETE /admin/posts/:id(.:format) admin/posts#destroy
admin_admin_users GET /admin/admin_users(.:format) admin/admin_users#index
admin_admin_users POST /admin/admin_users(.:format) admin/admin_users#create
new_admin_admin_user GET /admin/admin_users/new(.:format) admin/admin_users#new
edit_admin_admin_user GET /admin/admin_users/:id/edit(.:format) admin/admin_users#edit
admin_admin_user GET /admin/admin_users/:id(.:format) admin/admin_users#show
admin_admin_user PATCH /admin/admin_users/:id(.:format) admin/admin_users#update
admin_admin_user PUT /admin/admin_users/:id(.:format) admin/admin_users#update
admin_admin_user DELETE /admin/admin_users/:id(.:format) admin/admin_users#destroy
admin_employees GET /admin/employees(.:format) admin/employees#index
admin_employees POST /admin/employees(.:format) admin/employees#create
new_admin_employee GET /admin/employees/new(.:format) admin/employees#new
edit_admin_employee GET /admin/employees/:id/edit(.:format) admin/employees#edit
admin_employee GET /admin/employees/:id(.:format) admin/employees#show
admin_employee PATCH /admin/employees/:id(.:format) admin/employees#update
admin_employee PUT /admin/employees/:id(.:format) admin/employees#update
admin_employee DELETE /admin/employees/:id(.:format) admin/employees#destroy
admin_root GET /admin(.:format) admin/users#index
approve_post GET /posts/:id/approve(.:format) posts#approve
posts GET /posts(.:format) posts#index
posts POST /posts(.:format) posts#create
new_post GET /posts/new(.:format) posts#new
edit_post GET /posts/:id/edit(.:format) posts#edit
post GET /posts/:id(.:format) posts#show
post PATCH /posts/:id(.:format) posts#update
post PUT /posts/:id(.:format) posts#update
post DELETE /posts/:id(.:format) posts#destroy
new_user_session GET /users/sign_in(.:format) devise/sessions#new
user_session POST /users/sign_in(.:format) devise/sessions#create
destroy_user_session DELETE /users/sign_out(.:format) devise/sessions#destroy
user_password POST /users/password(.:format) devise/passwords#create
new_user_password GET /users/password/new(.:format) devise/passwords#new
edit_user_password GET /users/password/edit(.:format) devise/passwords#edit
edit_user_password PATCH /users/password(.:format) devise/passwords#update
edit_user_password PUT /users/password(.:format) devise/passwords#update
root GET / static#homepage
MacBook-Pro-3:Overtime admin$
```

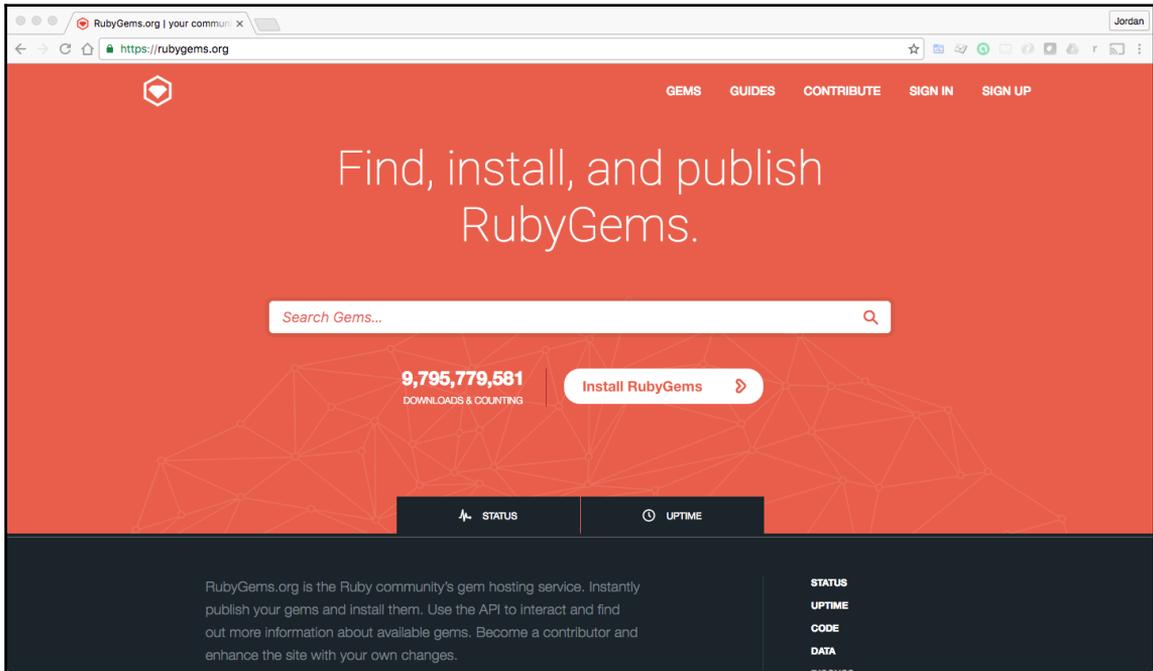
```
Overtime -- -bash -- 128x39
~/code/devcamp-tutorials/Overtime -- -bash

  user_session POST /users/sign_in(:.format) devise/sessions#create
destroy_user_session DELETE /users/sign_out(:.format) devise/sessions#destroy
  user_password POST /users/password(:.format) devise/passwords#create
  new_user_password GET /users/password/new(:.format) devise/passwords#new
  edit_user_password GET /users/password/edit(:.format) devise/passwords#edit
  PATCH /users/password(:.format) devise/passwords#update
  PUT /users/password(:.format) devise/passwords#update
  root GET / static#homepage

MacBook-Pro-3:Overtime admin$ rake routes | grep posts
DEPRECATION WARNING: Sprockets method `register_engine` is deprecated.
Please register a mime type using `register_mime_type` then
use `register_compressor` or `register_transformer`.
https://github.com/rails/sprockets/blob/master/guides/extending_sprockets.md#supporting-all-versions-of-sprockets-in-processors
(called from block (2 levels) in <class:Railtie> at /Users/admin/.rvm/gems/ruby-2.3.0/gems/sass-rails-5.0.5/lib/sass/rails/rail
tie.rb:57)
DEPRECATION WARNING: Sprockets method `register_engine` is deprecated.
Please register a mime type using `register_mime_type` then
use `register_compressor` or `register_transformer`.
https://github.com/rails/sprockets/blob/master/guides/extending_sprockets.md#supporting-all-versions-of-sprockets-in-processors
(called from block (2 levels) in <class:Railtie> at /Users/admin/.rvm/gems/ruby-2.3.0/gems/sass-rails-5.0.5/lib/sass/rails/rail
tie.rb:58)
  admin_posts GET /admin/posts(:.format) admin/posts#index
  POST /admin/posts(:.format) admin/posts#create
  new_admin_post GET /admin/posts/new(:.format) admin/posts#new
  edit_admin_post GET /admin/posts/:id/edit(:.format) admin/posts#edit
  admin_post GET /admin/posts/:id(:.format) admin/posts#show
  PATCH /admin/posts/:id(:.format) admin/posts#update
  PUT /admin/posts/:id(:.format) admin/posts#update
  DELETE /admin/posts/:id(:.format) admin/posts#destroy
  approve_post GET /posts/:id/approve(:.format) posts#approve
  posts GET /posts(:.format) posts#index
  POST /posts(:.format) posts#create
  new_post GET /posts/new(:.format) posts#new
  edit_post GET /posts/:id/edit(:.format) posts#edit
  post GET /posts/:id(:.format) posts#show
  PATCH /posts/:id(:.format) posts#update
  PUT /posts/:id(:.format) posts#update
  DELETE /posts/:id(:.format) posts#destroy

MacBook-Pro-3:Overtime admin$
```

Chapter 14: Ruby Gems



Chapter 15: Ruby Metaprogramming

DevCamp x Jordan

https://rails.devcamp.com/profile

RailsCamp Search Camp Files

Welcome Jordan Hudgens Profile Edit

NAVIGATE

- Syllabus
- Trails **new**
- Org Dashboard
- Revenue Dashboard
- Latest Lesson
- Subscription
- Schedule

Subscribe to our Rails Newsletter

email address

Camper Dashboard for Jordan Hudgens

Summary

Total Campers	96
Total Revenue	143

List of Trails

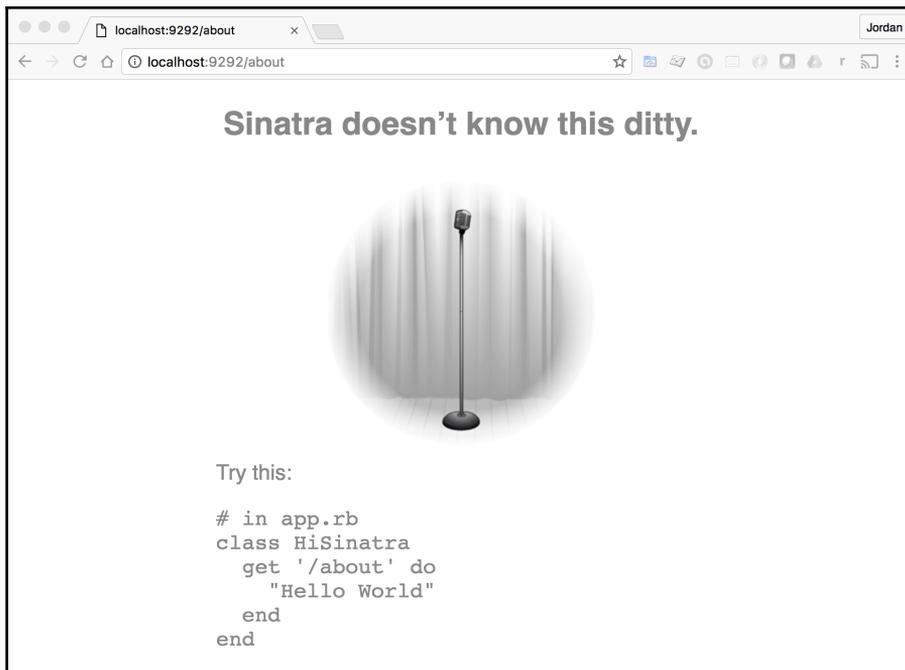
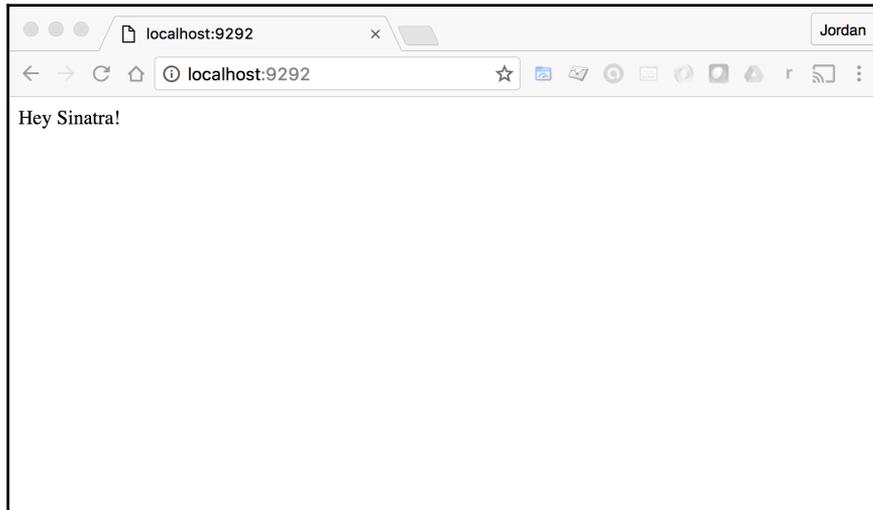
LIST OF TRAILS	PROGRESS FOR EACH TRAIL
Ruby Gem Walkthroughs	<div style="width: 70%;"></div>
Professional Rails Development	<div style="width: 40%;"></div>
Learn Ruby on Rails from Scratch	<div style="width: 85%;"></div>
Rails Project Course: Build a Photo Blog	<div style="width: 95%;"></div>
Ruby Programming	<div style="width: 65%;"></div>
Advanced ROR: REST and Microservices	<div style="width: 20%;"></div>

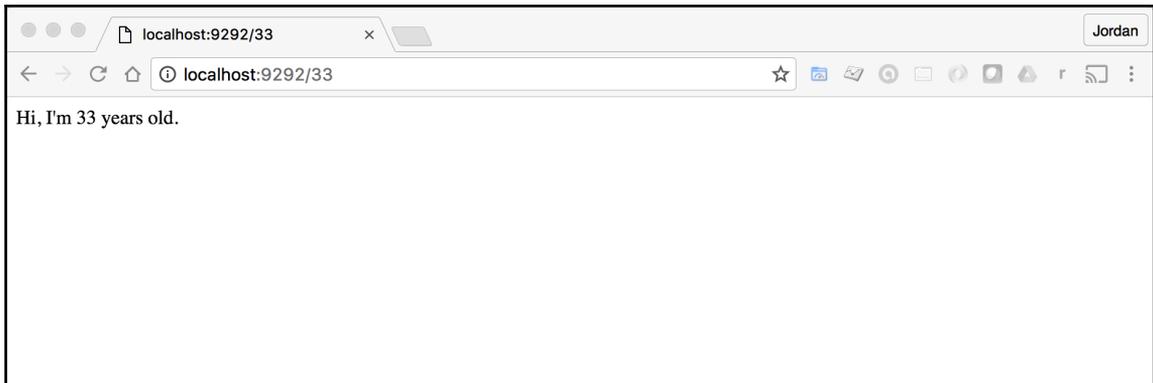
Certificates

```
MacBook-Pro-3:crudelist admin$ heroku run rails c
Running rails c on crudelist... up, run.9368
Loading production environment (Rails 4.0.2)
irb(main):001:0> Customer.last
=> #<Customer id: 7, name: "Warren Cat", created_at: "2015-04-10 20:05:29", updated_at: "2015-04-10 20:05:29", email: "yadeco2@yahoo.com">
irb(main):002:0>
```

```
crudelist — node • heroku run rails c — 80x24
~/code/crudelist — node • heroku run rails c
Loading production environment (Rails 4.0.2)
irb(main):001:0> Customer.last
=> #<Customer id: 7, name: "Warren Cat", created_at: "2015-04-10 20:05:29", updated_at: "2015-04-10 20:05:29", email: "yadeco2@yahoo.com">
irb(main):002:0> Customer.find_by_name("Warren Cat")
=> #<Customer id: 7, name: "Warren Cat", created_at: "2015-04-10 20:05:29", updated_at: "2015-04-10 20:05:29", email: "yadeco2@yahoo.com">
irb(main):003:0> Customer.find_by_email("yadeco2@yahoo.com")
=> #<Customer id: 7, name: "Warren Cat", created_at: "2015-04-10 20:05:29", updated_at: "2015-04-10 20:05:29", email: "yadeco2@yahoo.com">
irb(main):004:0> Location.find_by_name("Midland")
NoMethodError: undefined method `find_by_name' for #<Class:0x007fcc65555968>
  from /app/vendor/bundle/ruby/2.0.0/gems/activerecord-4.0.2/lib/active_record/dynamic_matchers.rb:22:in `method_missing'
  from (irb):4
  from /app/vendor/bundle/ruby/2.0.0/gems/railties-4.0.2/lib/rails/commands/console.rb:90:in `start'
  from /app/vendor/bundle/ruby/2.0.0/gems/railties-4.0.2/lib/rails/commands/console.rb:9:in `start'
  from /app/vendor/bundle/ruby/2.0.0/gems/railties-4.0.2/lib/rails/commands/s.rb:62:in `<top (required)>'
  from /app/bin/rails:4:in `require'
  from /app/bin/rails:4:in `<main>'
irb(main):005:0> █
```

Chapter 16: Ruby Web Frameworks





```
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
Fetching gem metadata from https://rubygems.org/.....
Fetching additional metadata from https://rubygems.org/..
Resolving dependencies...
Using rake 10.5.0
Using i18n 0.7.0
Using json 1.8.3
Using minitest 5.8.3
Using thread_safe 0.3.5
Using tzinfo 1.2.2
Using activesupport 4.2.5
Using builder 3.2.2
Using erubis 2.7.0
Using mini_portile2 2.0.0
```

Ruby on Rails: Welcome aboard x Jordan

localhost:3000



Welcome aboard

You're riding Ruby on Rails!

[About your application's environment](#)

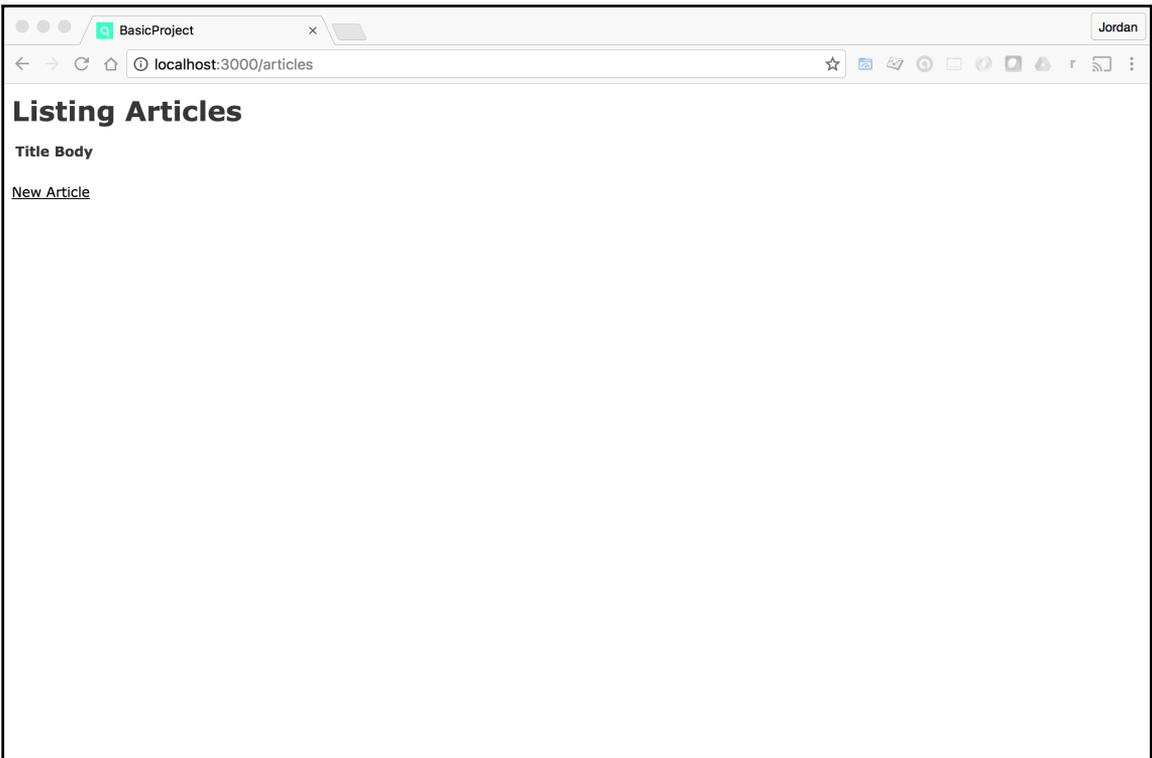
Getting started

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](#)



BasicProject x Jordan

localhost:3000/articles/new

New Article

Title

Body

Create Article

[Back](#)

Chapter 17: Working with APIs in Ruby

```
edutechional-restore.herokuapp.com/posts.json

[
  - {
    id: 1,
    title: "Test Blog Post",
    description: "Here is the content",
    url: "http://edutechional-restore.herokuapp.com/posts/1.json"
  },
  - {
    id: 2,
    title: "Testing production SMS sending",
    description: "Content for post.",
    url: "http://edutechional-restore.herokuapp.com/posts/2.json"
  }
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```

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ruby-dev -- -bash -- 130x37
~/code/devcamp-tutorials/ruby-dev -- -bash
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MacBook-Pro-3:ruby-dev admin$
```

```
ruby-dev -- bash -- 130x37
~/code/devcamp-tutorials/ruby-dev -- bash
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MacBook-Pro-3:ruby-dev admin$
```

node.js - How do I integrate chat with nodejs and xmpp into my existing web application

stackoverflow.com/questions/32283035/how-do-i-integrate-chat-with-nodejs-and-xmpp-into-my-existing-web-application

How do I integrate chat with nodejs and xmpp into my existing web application?



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asked 1 year ago
viewed 481 times

I have read a lot of questions relating this, but none of them are satisfying.

5 Existing App

A minimalist social network implemented using Expressjs as an API.Using MySQL as DB.socket.io for notifications and ember.js as a frontend framework.

1 What I want to integrate

I want to implements only a few features of XMPP such as

- Peer 2 Peer Messaging
- Presence and Last Seen
- Group Chat
- Read Receipts

A basic idea I got from reading similar questions.

- Need a client library (Strophe.js, Converse.js)
- Need a XMPP server (ejabberd, Openfire, Prosody)

Questions

- How do I integrate chat here ?
- How do I authenticate XMPP users (FYI, I have JWT Authentication implemented currently) ?
- Suggestions on using redis(pub/sub) with socket.io or mqtt pub/sub for implementing the chat.Is it scalable ? / What about performance ?

What I asked might be too broad.But still don't have any idea on using which set technologies to use.

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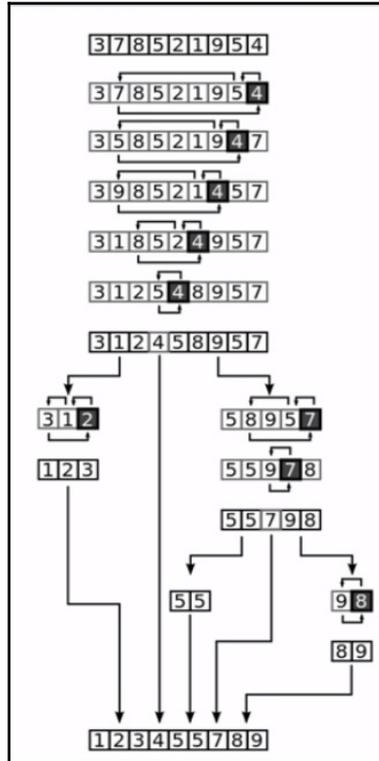
Senior Rails Developer
Spreemo New York, NY
REMOTE
ruby-on-rails ruby

Related

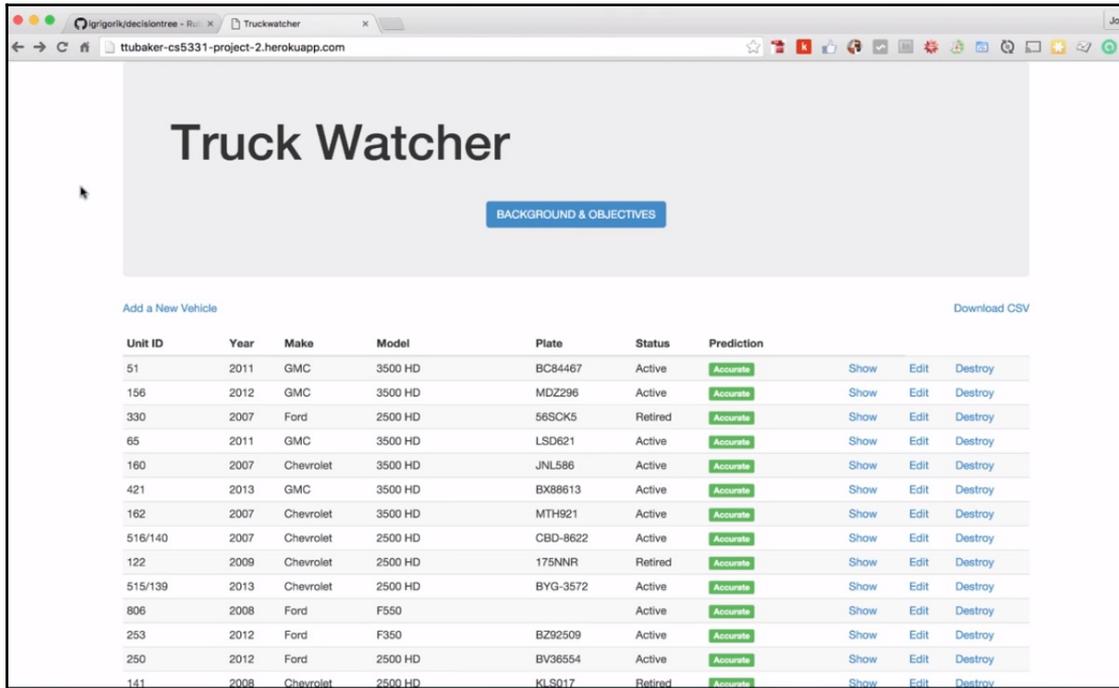
- 14 How to fully integrate XMPP on a web site with registered users
- 2 Integrating a XMPP server into existing Rails web application

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```

Chapter 18: Ruby Algorithms



Chapter 19: Machine Learning



The screenshot shows a web browser window with the URL `ttubaker-cs5331-project-2.herokuapp.com`. The page title is "Truck Watcher" and there is a button labeled "BACKGROUND & OBJECTIVES". Below the header, there are links for "Add a New Vehicle" and "Download CSV". The main content is a table with 10 columns: Unit ID, Year, Make, Model, Plate, Status, Prediction, and three action buttons (Show, Edit, Destroy). The table contains 15 rows of data, all with a "Accurate" prediction.

Unit ID	Year	Make	Model	Plate	Status	Prediction	Show	Edit	Destroy
51	2011	GMC	3500 HD	BC84467	Active	Accurate			
156	2012	GMC	3500 HD	MDZ296	Active	Accurate			
330	2007	Ford	2500 HD	56SCK5	Retired	Accurate			
65	2011	GMC	3500 HD	LSD621	Active	Accurate			
160	2007	Chevrolet	3500 HD	JNL586	Active	Accurate			
421	2013	GMC	3500 HD	BX88613	Active	Accurate			
162	2007	Chevrolet	3500 HD	MTH921	Active	Accurate			
516/140	2007	Chevrolet	2500 HD	GBD-8622	Active	Accurate			
122	2009	Chevrolet	2500 HD	175NNR	Retired	Accurate			
515/139	2013	Chevrolet	2500 HD	BYG-3572	Active	Accurate			
806	2008	Ford	F550		Active	Accurate			
253	2012	Ford	F350	BZ92509	Active	Accurate			
250	2012	Ford	2500 HD	BV36554	Active	Accurate			
141	2008	Chevrolet	2500 HD	KL8017	Retired	Accurate			

ID	Year	Make	Model	Plate	Status	Accuracy	Show	Edit	Destroy
86	2008	Chevrolet	2500 HD	30GPP7	Active	Accurate	Show	Edit	Destroy
308	2010	Chevrolet	1500	76D6301	Active	Accurate	Show	Edit	Destroy
235	2012	GMC	3500 HD	BX48969	Active	Accurate	Show	Edit	Destroy
317	2008	Chevrolet	2500 HD	07YHZ6	Active	Accurate	Show	Edit	Destroy
76	2006	Chevrolet	1500	29CBR4	Active	Accurate	Show	Edit	Destroy
61	2009	Chevrolet	3500 HD	5786AP	Active	Accurate	Show	Edit	Destroy
80	2009	Chevrolet	2500 HD	AJ47557	Retired	Accurate	Show	Edit	Destroy
151	2007	Chevrolet	1500	JJ929	Retired	Accurate	Show	Edit	Destroy
23	2008	Chevrolet	3500 HD	28PDS8	Retired	Accurate	Show	Edit	Destroy
101	2011	Chevrolet	2500 HD	BB80856	Active	Accurate	Show	Edit	Destroy
278	2010	Ford	2500 HD	AK71548	Active	Accurate	Show	Edit	Destroy
21	2007	Chevrolet	1500	09LBP7	Active	Accurate	Show	Edit	Destroy
228	2012	Chevrolet	2500 HD	MDZ298	Active	Accurate	Show	Edit	Destroy
342	2008	Ford	F-250 Super Duty	88ZHD8	Active	Accurate	Show	Edit	Destroy
138	2008	Chevrolet	2500 HD	KJB451	Retired	Accurate	Show	Edit	Destroy
20	2010	Chevrolet	2500 HD	AJ62783	Active	Needs Attention	Show	Edit	Destroy
345	2008	Chevrolet	1500	MSA944	Retired	Accurate	Show	Edit	Destroy
334	2008	Ford	2500 HD	947RLR	Active	Accurate	Show	Edit	Destroy
198	2008	Chevrolet	1500	KJK061	Active	Accurate	Show	Edit	Destroy
359	2008	Ford	2500 HD	11LDK7	Retired	Accurate	Show	Edit	Destroy

Unit: 20

Year: 2010

Make: Chevrolet

Model: 2500 HD

Plate: AJ62783

Mileage: 121056

Vin: 1GC5KVBG6AZ247592

Category: Service

Color: White

Status: Active

Equipment: 20 - 2010 Chevrolet 2500

Fuel: Gasoline

Weight:

Transmission: Automatic

Custom: 14ST20

Purchase code:

Purchase price: 30899.0

Start cost: 30899.0

Virtual meter: 121056

Repairs: 3

Services: 13