Ruby Explorations X

Mark Keane...CSI...UCD

Rails Basics

Ruby on Rails I:

A: the design theory behind Rails framework

B: walk-thru' of simple Rails system

C: other Rails functionality...neat stuff

D: now for models in Hello

E: some residual things to know...

F: fixing the db problem in Hello

My New Puppy

- this is my second puppy
- her name is ...

Part A:

practical and theoretical background

What is Rails...

- software framework, a set of libraries to support rapid web-site development
- when you type ***rails new sitename***, a folder is opened up with bags and bags of sub-folders and files
- these sub-folders contain file templates for coding and ready-made methods, a web server (WEBrick) and a database (SQLite3); related by ***conventions***
- the thing is a monster...ALSO...with Rails 4.1.6

newsite – [~/Desktop/X_Teaching/Ruby:2011-14/Lects&Pracs.2014/RubyWeek10 (Nov 15th).13/RubyLect10.progs/newsite] – .../app/controllers/test_controller.rb – JetBrain...

Development: newsite

Project /Users/user/Desktop/X_Teachin...

Project

- newsite (~/Desktop/X_Teaching/Ruby:2011-14/Le
  - app
    - assets
    - controllers
      - concerns
      - application_controller.rb
      - test_controller.rb
    - helpers
      - application_helper.rb
      - test_helper.rb
    - mailers
    - models
    - views
      - layouts
      - test
        - hello.html.erb
  - bin
  - config
    - environments
    - initializers
    - locales
    - application.rb
    - boot.rb
    - database.yml
    - environment.rb
    - routes.rb
    - secrets.yml
  - db

test_controller.rb | test/hello.html.erb

```
class TestController < ApplicationController
  def hello
    @message = "hello"
  end
end
```

1: Project | 7: Structure | Data Sources | 6: TODO

6:7 UTF-8

What is Rails...

- originally, web-pages were static html but this was very inflexible and hard to maintain
- then...they became more dynamic with databases behind them...then people started putting code in so that the page was created on the fly (e.g., personalised)
- this improved flexibility and maintenance but introduced complexity and security issues
- **Rails** is a response to these issues...

What is Rails...MVC

- complexity is handled by dividing task into model (db setup), view (screens) and controller (code to do things)
- in simple terms, what was a single html file with code, gets broken up into 3-4 files, which combine to create a file that is sent to browser to be rendered
- its secure ‘cos website users can only see the views and user have no sight of code for views or models
- the model/controller bit just separates db issues from code that modifies objects (sort of)

MVC framework

- ***model-view-controller*** is a software architecture/ architectural pattern (used in Rails)
- ***model*** is domain-specific rep of the data used by the application; manages data and informs of changes
- ***view*** renders model into suitable form for interactions (ie, at interface); may be multiple views of same model
- ***controller*** receives input and initiates response, making calls to model data (sort-of guts of app)

Rails...runs off...

- Rails is backed by libraries, (some) we have seen:
  - ActionMailer: for mailing
  - ActiveRecord: for interface to db
  - Rake: for setting up, updating and clearing out db
  - Erb: for writing embedded ruby commands in docs
- we will adopt a hide-the-db approach

Controller

Model

Views

MVC flow of control

1. ***user*** interacts with interface (mouse-click)
2. ***controller*** receives input event and converts it to suitable user action, understandable for model
3. ***controller*** notifies ***model*** of user action, poss. changing model's state (e.g., update shopping cart)
4. once **controller** does actions, based on **model** data, flow of control may pass back to **view** to render output (or move on to next page/action)
5. ***user*** interface may await further user input, cycle re-starts

Controller

Model

Views

Practical Issues

Or Xcode…if you know/prefer it

- we will work with four windows: Rubymine, 2 command-line windows and a browser
  - Rubymine helps us navigate folders and edits files
  - TerminalWindow1 will run the server
  - TerminalWindow2 will run external scripts (e.g. rake)
  - Browser will look at web-site pages running
- get used to moving between all four windows

Grab File Edit Capture Window Help 100% Sun 19:57

newsite – [~/Desktop/X_Teaching/Ruby:2011-14/Lects&Pracs.2014/RubyWeek10 (Nov 15th).13/RubyLect10.progs/newsite] – ....

Development: newsite

Project /Users/user/Desktop/X_Teachin...

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  - bin
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    - initializers
    - locales
    - application.rb
    - boot.rb
    - database.yml
    - environment.rb
    - routes.rb
    - secrets.yml
  - db

test_controller.rb | test/hello.html.erb

```
class TestController < ApplicationController
  def hello
    @message = "hello"
  end
end
```

6:47 UTF-8

6: TODO

Data Sources

1: Project

7: Structure

newsite — ruby — 73×47

```
Started GET "/assets/test.css?body=1" for 127.0.0.1 at 2014-10-05 19:48:3
7 +0100


Started GET "/assets/jquery_ujs.js?body=1" for 127.0.0.1 at 2014-10-05 19
:48:37 +0100


Started GET "/assets/jquery.js?body=1" for 127.0.0.1 at 2014-10-05 19:48:
37 +0100


Started GET "/assets/test.js?body=1" for 127.0.0.1 at 2014-10-05 19:48:37
 +0100


Started GET "/assets/application.js?body=1" for 127.0.0.1 at 2014-10-05 1
9:48:37 +0100


Started GET "/assets/turbolinks.js?body=1" for 127.0.0.1 at 2014-10-05 19
:48:37 +0100
^C[2014-10-05 19:49:21] INFO  going to shutdown ...
[2014-10-05 19:49:21] INFO  WEBrick::HTTPServer#start done.
Exiting
MobileMac:newsite user$ ls
Gemfile         Rakefile        config          lib             test
Gemfile.lock    app             config.ru       log             tmp
README.rdoc     bin             db              public          vendor
MobileMac:newsite user$ rail server
-bash: rail: command not found
MobileMac:newsite user$ rails server
Warning: Running `gem pristine --all` to regenerate your installed gemspe
cs (and deleting then reinstalling your bundle if you use bundle --path)
will improve the startup performance of Spring.
=> Booting WEBrick
=> Rails 4.1.6 application starting in development on http://0.0.0.0:3000
=> Run `rails server -h` for more startup options
=> Notice: server is listening on all interfaces (0.0.0.0). Consider usin
g 127.0.0.1 (--binding option)
=> Ctrl-C to shutdown server
[2014-10-05 19:56:34] INFO  WEBrick 1.3.1
[2014-10-05 19:56:34] INFO  ruby 2.0.0 (2014-05-08) [universal.x86_64-dar
win13]
[2014-10-05 19:56:34] INFO  WEBrick::HTTPServer#start: pid=89634 port=300
0
```

Window-2

user — bash — 150×10

```
Last login: Sun Oct  5 13:14:36 on ttys000
MobileMac:~ user$ ls
Applications        Downloads           Movies              Pictures            nltk_data
Desktop             Dropbox             Music               Public
Documents           Google Drive        Mystuff             ROS
DocumentsMY         Library             Papers              RubymineProjects
MobileMac:~ user$
```

Window-1

X Admin

X Odds

Ruby on Rails: Welcome abo

localhost:3000

Home&Abroad | Finance | Net&Functions | MyCal | Google Scholar | ISI | Health&Exer | Popular | Hacking | Wikis

Welcome aboard

You're riding Ruby on Rails!

About your application's environment

Getting started

Here's how to get rolling:

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

   To see all available options, run it without parameters.

2. Set up a default route and remove *public/index.html*

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

3. Create your database

   Run `rake db:create` to create 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

Part B(i):

simplest possible 7-step recipe to use Rails...

Controller

Model

Views

Controller

Model

$ rake db:migrate

Views

$ rails server

Before Cookbook Run

1. Please re-adjust your trousers...
2. Make sure your gems are in place...run any or all of dese

   $ gem install rails (make sure **rake** is there)

   $ gem update --system

   $ gems install a_gem (if **a_gem** is missing)

   $ gem install bundle

   $ bundle install

   $ bundle update **a_particular_gem** (to get latest v)

Cookbook Run

1. $ rails new newsite
2. $ cd newsite
3. $ rails generate controller test hello
4. look at /newsite/app/controllers/
   test_controller.rb
   add **@message = “hello”** to hello method
5. look at newsite/app/views/test/hello.html.erb
   add ** <%= @message %> ** to file
6. $ rails server
7. load page in browser:
   http://localhost:3000/test/hello

first time may pause at “run bundle”
if impatient use this... -- skip-bundle
Mac issues on privileges...

Cookbook Run:Terminal Win1

```
markkean% rails new newsite
    create  ...a whole bunch of crap....
markkean% cd newsite
markkean% ls
README        config        lib        script        vendor
Rakefile    db        log        test
markkean% rails generate controller test hello
    create  app/controllers/test_controller.rb
     route  get "test/hello"
    invoke  erb
    create    app/views/test
    create    app/views/test/hello.html.erb
    invoke  test_unit
    create    test/functional/test_controller_test.rb
.....
 markkean% rails server
=> Booting WEBrick
=> Rails 3.1.0 application starting in development on http://0.0.0.0:3000
=> Call with -d to detach
=> Ctrl-C to shutdown server
[2011-10-11 18:56:20] INFO  WEBrick 1.3.1
[2011-10-11 18:56:20] INFO  ruby 1.9.2 (2011-07-09) [x86_64-darwin11]
[2011-10-11 18:56:20] INFO  WEBrick::HTTPServer#start: pid=1581
port=3000
Started GET "/test/hello" for 127.0.0.1 at 2011-10-11 19:09:48 +0100
 Processing by TestController#hello as HTML
Rendered test/hello.html.erb within layouts/application (25.4ms)
Compiled application.css  (28ms)  (pid 1581)
```

Cookbook Run

1. $ rails new newsite
2. $ cd newsite
3. $ rails generate controller test hello
4. look at /newsite/app/controllers/
   test_controller.rb
   add **@message = “hello”** to hello method
5. look at newsite/app/views/test/hello.html.erb
   add ** <%= @message %> ** to file
6. $ rails server
7. load page in browser:

Cookbook Run

1. $ rails new newsite
2. $ cd newsite
3. $ rails generate controller test hello
4. look at /newsite/app/controllers/
   test_controller.rb
   add
5. look at newsite/app/views/test/hello.html.erb
   add
6. $ rails server
7. load page in browser:

$ rake db:create
is done first time you use db

$ rake db:migrate
is also done when you have defined model

Cookbook Run: Rubymine I

newsite – [~/Desktop/X_Teaching/Ruby:2011-14/Lects&Pracs.2014/RubyWeek10 (Nov 15th).13/RubyLect10.progs/newsite] – .../app/controllers/test_controller.rb – JetBrain...

Development: newsite

Project /Users/user/Desktop/X_Teachin...

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    - locales
    - application.rb
    - boot.rb
    - database.yml
    - environment.rb
    - routes.rb
    - secrets.yml
  - db

free empty controller

test_controller.rb | test/hello.html.erb

```
class TestController < ApplicationController
  def hello
    @message = "hello"
  end
end
```

1: Project | 7: Structure | Data Sources | 6: TODO

6:7 UTF-8

Cookbook Run:Xcode II

newsite – [~/Desktop/X_Teaching/Ruby:2011-14/Lects&Pracs.2014/RubyWeek10 (Nov 15th).13/RubyLect10.progs/newsite] – .../app/views/test/hello.html.erb – JetBrai...

Development: newsite

Project /Users/user/Desktop/X_Teachin...

Project

- newsite (~/Desktop/X_Teaching/Ruby:2011-14/Le
  - app
    - assets
    - controllers
      - concerns
      - application_controller.rb
      - test_controller.rb
    - helpers
      - application_helper.rb
      - test_helper.rb
    - mailers
    - models
    - views
      - layouts
      - test
        - hello.html.erb
  - bin
  - config
    - environments
    - initializers
    - locales
    - application.rb
    - boot.rb
    - database.yml
    - environment.rb
    - routes.rb
    - secrets.yml
  - db

test_controller.rb | test/hello.html.erb

```
<h1>Test#hello</h1>
<p>Find me in app/views/test/hello.html.erb</p>

<p> <%= @message %></p>
```

1: Project | 7: Structure | 6: TODO

4:24 UTF-8

Cookbook Run: Browser

Controller

localhost/test/hello

where is the ?

Model

render
hello.html.erb
with @message

Views

Caveats

- generally, each controller-method maps to a view file
- we have not defined a layout (general frame of page)
- we have not defined models
- we have not looked at stylesheets
- we have not looked at routing
- but...we will

Part B2(i):

Walk-through of (less) simple Rails: The screens

A Banking Site

- takes you through mortgage application
- uses forms to take inputs
- re-presents that information
- does some minimal computation behind scenes
- uses a db to store the interaction; that persists over different sessions with user

The Site: Screen I (start)

M&L Bank

localhost:3000/main/welcome

Apps | Home | AIB Internet Banking | Home&Abroad | Finance | Net&Functions | Google Scholar | ISI | Health&Exer | Popular | Hacking

Welcome to Monster & Leinster's

Home Page

[click logo to enter]

Monster & Leinster Inc. © 2011

The Site: Screen IIa

Ruby on Rails Guides: Layout | Google Image Result for http | localhost:3000/other/name

localhost:3000/other/name

Home&Abroad | Finance | Net&Functions | MyCal | Google Scholar | ISI | Health&Exer | Popular | Hacking | Wikis | Other Bookmarks

The Monster & Leinster Bank

We are very pleased to welcome you our home mortgage page.

Please enter your first and last name below:

First Name: Mark

Last Name: Keane send

Monster & Leinster Inc. accept no responsibility if you fall into arrears on your loan and are not responsible for the thugs that will call around to your house with baseball bats to help you with your repayment schedule.

The Site: Screen IIb

Ruby on Rails Guides: Layout | Google Image Result for http | localhost:3000/other/name?

localhost:3000/other/name?utf8=✓&fst_name=Mark&lst_name=Keane&commit=send

Home&Abroad | Finance | Net&Functions | MyCal | Google Scholar | ISI | Health&Exer | Popular | Hacking | Wikis | Other Bookmarks

The Monster & Leinster Bank

We are very pleased to welcome you our home mortgage page.

Please enter your first and last name below:

First Name: Mark

Last Name: Keane send

Welcome Mark, let's go to the next page.

Monster & Leinster Inc. accept no responsibility if you fall into arrears on your loan and are not responsible for the thugs that will call around to your house with baseball bats to help you with your repayment schedule.

The Site: Screen III

Ruby on Rails Guides: Layout | Google Image Result for http | localhost:3000/other/index

localhost:3000/other/index

Home&Abroad | Finance | Net&Functions | MyCal | Google Scholar | ISI | Health&Exer | Popular | Hacking | Wikis | Other Bookmarks

The Monster & Leinster Bank

Your Mortgage Details

So, Mark, let us get some more of your details:

First Name: Mark

Last Name: Keane

Address: 15 Flitwick Close

Salary: 5000

Loan Amount: 100000

Loan Reason: I'm broke send

Monster & Leinster Inc. accept no responsibility if you fall into arrears on your loan and are not responsible for the thugs that will call around to your house with baseball bats to help you with your repayment schedule.

The Site: Screen IV

Ruby on Rails Guides: Layout | Google Image Result for http | localhost:3000/other/index?

localhost:3000/other/index?utf8=✓&st_name=15+Flitwick+Close&salary=5000&loan=100000&reason=I%27m+broke&c...

Home&Abroad | Finance | Net&Functions | MyCal | Google Scholar | ISI | Health&Exer | Popular | Hacking | Wikis | Other Bookmarks

The Monster & Leinster Bank

Your Mortgage Details

So, we have your details as:

First Name: Mark

Last Name: Keane

Address: 15 Flitwick Close

Salary:5000

Loan: 100000

Reason: I'm broke

Your ID: 27

Do you want to Ask For Quote or Go Back .

Monster & Leinster Inc. accept no responsibility if you fall into arrears on your loan and are not responsible for the thugs that will call around to your house with baseball bats to help you with your repayment schedule.

The Site: Screen V

The Site: Screen VI (end)

M&L Bank

localhost:3000/main/goodbye

Apps | Home | AIB Internet Banking | Home&Abroad | Finance | Net&Functions | Google Scholar | ISI | Health&Exer | Popular

Goodbye to Monster & Leinster's

End Page

[click logo to re-enter site]

- , , , 1
- mark, keane , , 2
- mark , keane , 2000, 3122 3
- mark , keane , , 4
- mark , keane , 12, 2000000 5
- , , , 6
- Mark, Keane , 5000, 100000 7
- , , , 8
- , , , 9
- Mark, Keane , 5000, 100000 10

Monster & Leinster Inc. © 2011

Part B2(ii):

Walk-through of simple Rails: The Setup

Steps

1. $ rails new banko
2. $ cd banko
3. $ rails generate controller main welcome goodbye
4. $ rails generate controller other name index show change quote
5. $ rails generate model Entry
6. lets...edit a whole bunch of files...
7. $ rails server
8. load page in browser: http://localhost:3000/main/welcome/

$ rake db:create
is done first time you use db

$ rake db:migrate
is also done when you have defined model

Steps

1. $ rails new bank

   set up dir

2. $ cd bank

   go to dir

3. $ rails generate controller main welcome goodbye

   create controller **main** with method **welcome**

4. $ rails generate controller other name index show change quote

   create controller **other** with method **name**

5. $ rails generate model Entry

   create model called **entry**

6. lets...edit a whole bunch of files...

7. $ rails server

   start server; you must be in the hello directory

8. load page in browser: http://localhost:3000/main/welcome/

   call first page

Controller

Model

$ rake db:migrate

Views

$ rails server

What you get...

banko – [~/Desktop/X_Teaching/Ruby:2011-14/Lects&Pracs.2014/RubyWeek10 (Nov 15th).13/RubyLect10.progs/banko] – .../app/controllers/main_controller.rb – JetBrains RubyMine 3.2.4

Development: banko

Project /Users/user/Desktop/X_Teachin...

Project

- banko (~/Desktop/X_Teaching/Ruby:2011-14/Lec
  - app
    - assets
      - images
      - javascripts
      - stylesheets
    - controllers
      - concerns
      - application_controller.rb
      - main_controller.rb
      - other_controller.rb
    - helpers
    - mailers
    - models
    - views
      - layouts
        - application.html.erb
        - start_to_end.erb
      - main
        - goodbye.html.erb
        - welcome.html.erb
      - other
  - bin
  - config
  - db
  - lib
  - log
  - public
  - test
  - vendor
  - .gitignore
  - config.ru
  - Gemfile
  - Gemfile.lock

main_controller.rb | application.html.erb | application_controller.rb | application.css

```
class MainController < ApplicationController
  layout 'start_to_end'

  def welcome
  @message = "Welcome"
  end

  def goodbye
    @message = "Goodbye"
  @entries = Entry.all
  end
end
```

1: Project | Data Sources | 7: Structure | 6: TODO

11:6 UTF-8

What you get...

banko – [~/Desktop/X_Teaching/Ruby:2011-14/Lects&Pracs.2014/RubyWeek10 (Nov 15th).13/RubyLect10.progs/banko] – .../app/controllers/main_controller.rb – JetBrains RubyMine 3.2.4

Development: banko

Project /Users/user/Desktop/X_Teachin...

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- Gemfile.lock

main_controller.rb | application.html.erb | application_controller.rb | application.css

```
class MainController < ApplicationController
  layout 'start_to_end'

  def welcome
  @message = "Welcome"
  end

  def goodbye
    @message = "Goodbye"
  @entries = Entry.all
  end
end
```

for **welcome** method in **main**

6: TODO

11:6 UTF-8

What you get...

banko – [~/Desktop/X_Teaching/Ruby:2011-14/Lects&Pracs.2014/RubyWeek10 (Nov 15th).13/RubyLect10.progs/banko] – .../app/views/main/welcome.html.erb – JetBrains RubyMine 3.2.4

Development: banko

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- vendor
- .gitignore
- config.ru
- Gemfile
- Gemfile.lock

main_controller.rb | main/welcome.html.erb | application.html.erb | application_controller.rb | application.css

```
<h1><p align="center"> <%= h @message %> to Monster & Leinster's</h1>

<h1><p align="center"> Home Page</h1>

<p align="center"><%= link_to image_tag("monster.jpg"),
                :controller => "other", :action => "name" %> </p>

<h5>                        ck logo to enter] </p></h5>
```

the **main/welcome** view

6: TODO

8:57 UTF-8

What you get...

banko – [~/Desktop/X_Teaching/Ruby:2011-14/Lects&Pracs.2014/RubyWeek10 (Nov 15th).13/RubyLect10.progs/banko] – .../app/controllers/main_controller.rb – JetBrains RubyMine 3.2.4

Development: banko

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- .gitignore
- config.ru
- Gemfile
- Gemfile.lock

main_controller.rb | application.html.erb | application_controller.rb | application.css

```
class MainController < ApplicationController
  layout 'start_to_end'

  def welcome
  @message = "Welcome"
  end

  def goodbye
    @message = "Goodbye"
  @entries = Entry.all
  end
end
```

main layout

6: TODO

11:6 UTF-8

What you get...

banko – [~/Desktop/X_Teaching/Ruby:2011-14/Lects&Pracs.2014/RubyWeek10 (Nov 15th).13/RubyLect10.progs/banko] – .../app/views/layouts/start_to_end.erb – JetBrains RubyMine 3.2.4

Development: banko

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- db
- lib
- log
- public
- test
- vendor
- .gitignore
- config.ru
- Gemfile
- Gemfile.lock

application_controller.rb | application.css | main_controller.rb | main/welcome.html.erb | start_to_end.erb | application.html.erb

```
<!DOCTYPE html>
<html>
<head>
  <title> M&L Bank </title>
</head>
<body

<%= yield %>
<p align="center"> <font size="1"> Monster & Leinster Inc. &copy 2011 </font> </p>

</body>
</html>
```

start_to_end layout

6: TODO

1:1 UTF-8

The Site: Screen I

M&L Bank

localhost:3000/main/welcome

Apps | Home | AIB Internet Banking | Home&Abroad | Finance | Net&Functions | Google Scholar | ISI | Health&Exer | Popular | Hacking

Welcome to Monster & Leinster's

Home Page

[click logo to enter]

Monster & Leinster Inc. © 2011

REM

in simple terms, what was a single html file with code, gets broken up into 3-4 files, which combine to create a file that is sent to browser to be rendered

main/welcome.html.erb | start_to_end.erb | main_co

```
<!DOCTYPE html>
<html>
<head>
  <title> M&L Bank </title>
</head>
<body>

<%= yield %>
<p align="center"> <font size="1"> Monster & Leinster Inc. &copy 2011 </font> </p>

</body>
</html>
```

start_to_end layout

main/welcome.html.erb | main_controller.rb

```
<h1><p align="center"> <%= h @message %> to Monster & Leinster's</h1>

<h1><p align="center"> Home Page</h1>

<p align="center"><%= link_to image_tag("monster.jpg"),
                  :controller => "other", :action => "name" %> </p>

<h5> <p align="center"> [click logo to enter] </p></h5>
```

welcome content

main_controller.rb | main/w

```
class MainController < ApplicationController
  layout 'start_to_end'

  def welcome
  @message = "Welcome"
  end

  def goodbye
  @message = "Goodbye"
  @entries = Entry.all
```

welcome method

...if you understand this you know how controllers work with views

The Site: Screen I

The Site: Screen Begin

view bits

The Site: Screen Begin

M&L Bank

localhost:3000/main/welcome

Apps | Home | AIB Internet Banking | Home&Abroad | Finance | Net&Functions | Google Scholar | ISI | Health&Exer | Popular | Hacking

Welcome to Monster & Leinster's

Home Page

[click logo to enter]

Monster & Leinster Inc. © 2011

@message bit

Part B2(iii):

Walk-through: Screen II-IV ~ Application Layout

Application Controller

localhost/any/action

Model

render
application.html.erb
with application
speadsheet

Views

Layouts: Application

Layouts: Application

Layouts: Frame

Set Up Layout

1. for layout we edit:

   app/controllers/ application_controller.rb
   app/views/layout/application.html.erb
   app/assets/stylesheets/application.css

2. for specific content, we edit:

   app/controllers/other#name
   app/views/other/name.html.erb
   …

Set Up Layout

1. for frame we edit:

   app/controllers/ application_controller.rb

   app/views/layout/application.html.erb

   app/assets/stylesheets/application.css

   which we can leave

   where we add the layout

   where we define style

2. for specific content, we edit:

   app/controllers/other#name

   app/views/other/name.html.erb

   ....

   just to show something

Steps to Set Up Layout

banko - [~/Desktop/X_Teaching/Ruby:2011-14/Lects&Pracs.2014/RubyWeek10 (Nov 15th).13/RubyLect10.progs/banko] - .../app/views/layouts/application.html.erb - JetBrains RubyMine 3.2.4

Development: banko

Project /Users/user/Desktop/X_Teaching/Ruby...

Project

- banko (~/Desktop/X_Teaching/Ruby:2011-14/Lects&Pra
  - app
    - assets
      - images
      - javascripts
      - stylesheets
        - application.css
        - main.css.scss
        - other.css.scss
    - controllers
      - concerns
      - application_controller.rb
      - main_controller.rb
      - other_controller.rb
    - helpers
    - mailers
    - models
    - views
      - layouts
        - application.html.erb
        - start_to_end.erb
      - main
        - goodbye.html.erb
        - welcome.html.erb
      - other
  - bin
  - config
  - db
  - lib
  - log
  - public
  - test
  - vendor
  - .gitignore
  - config.ru
  - Gemfile
  - Gemfile.lock
  - Rakefile

application_controller.rb | application.css | main/welcome.html.erb | start_to_end.erb | main_controller.rb | application.html.erb

```
<html>
<head><title><%= @message %> </title>
    <%= stylesheet_link_tag 'application' %>
    </head>
<body>
<p align="center">  <font size="7">The Monster & Leinster Bank </font></p>
<p align="center"> <%= image_tag("monster.jpg") %> </p>

<%= yield %>

<p> <font size="1"> Monster & Leinster Inc. accept no responsibility if
you fall into arrears on your loan and are not responsible for the thugs that will call around
to your house with baseball bats to help you with your repayment schedule. </font> </p>
</body>
</html>
```

edit

6: TODO

15:20 UTF-8

Mozilla Firefox

http://localhost:3000/other/name

Most Visited Finance Home&Abroad Hacking Net&Functions News Wikis Latest Headlines NYT > Home Page

We're sorry, but something we... | http://localho...000/other/name

The Monster & Leinster Bank

Monster & Leinster Inc. accept no responsibility if you fall into arrears on your loan and areresponsible for the thugs that will call around to your house with baseball bats to help you with your repayment schedule.

Done

application_controller.rb:2 class ApplicationController < ActionControlle

```
class ApplicationController < ActionController::Base
  #protect_from_forgery
end
```

controller is empty

Mozilla Firefox

http://localhost:3000/other/name

Most Visited Finance Home&Abroad Hacking Net&Functions News Wikis Latest Headlines NYT > Home Page

We're sorry, but something we... http://localho...000/other/name

The Monster & Leinster Bank

application.html.erb:17

```
<html>
<head><title><%= @message %> </title>
    <%= stylesheet_link_tag 'application' %>
    </head>
<body>
<p align="center">  <font size="7">The Monster & Leinster Bank </font></p>
<p align="center"> <%= image_tag("monster.jpg") %> </p>

<%= yield %>


<p> <font size="1"> Monster & Leinster Inc. accept no responsibility if
you fall into arrears on your loan and are not responsible for the thugs that will call around
to your house with baseball bats to help you with your repayment schedule. </font> </p>
</body>
</html>
```

layout has this

Mozilla Firefox

http://localhost:3000/other/name

Most Visited Finance Home&Abroad Hacking Net&Functions News Wikis Latest Headlines NYT > Home Page

We're sorry, but something we... | http://localho...000/other/name

The Monster & Leinster Bank

Monster & Leinster Inc.

Done

application.css:16 h1

```
/*
 * This is a manifest file that'll automatically include all the stylesheets available in this
 * and any sub-directories. You're free to add application-wide styles to this file and they'l
 * the top of the compiled file, but it's generally better to create a new file per style scop
 *= require_self
 *= require_tree .
*/

body {font-family:sans-serif;
    }

h1 {font-family:times;
    font-size: 24pt;
    font-weight: bold;
    color:#F00 ;
    }
```

stylesheet has this

Steps to Set Up Layout

banko - [~/Desktop/X_Teaching/Ruby:2011-14/Lects&Pracs.2014/RubyWeek10 (Nov 15th).13/RubyLect10.progs/banko] - .../app/views/layouts/application.html.erb - JetBrains RubyMine 3.2.4

Development: banko

Project /Users/user/Desktop/X_Teaching/Ruby...

Project

- banko (~/Desktop/X_Teaching/Ruby:2011-14/Lects&Pra
  - app
    - assets
      - images
      - javascripts
      - stylesheets
        - application.css
        - main.css.scss
        - other.css.scss
    - controllers
      - concerns
      - application_controller.rb
      - main_controller.rb
      - other_controller.rb
    - helpers
    - mailers
    - models
    - views
      - layouts
        - application.html.erb
        - start_to_end.erb
      - main
        - goodbye.html.erb
        - welcome.html.erb
      - other
  - bin
  - config
  - db
  - lib
  - log
  - public
  - test
  - vendor
  - .gitignore
  - config.ru
  - Gemfile
  - Gemfile.lock
  - Rakefile

application_controller.rb | application.css | main/welcome.html.erb | start_to_end.erb | main_controller.rb | application.html.erb

```
<html>
<head><title><%= @message %> </title>
    <%= stylesheet_link_tag 'application' %>
    </head>
<body>
<p align="center">  <font size="7">The Monster & Leinster Bank </font></p>
<p align="center"> <%= image_tag("monster.jpg") %> </p>

<%= yield %>

<p> <font size="1"> Monster & Leinster Inc. accept no responsibility if
you fall into arrears on your loan and are not responsible for the thugs that will call around
to your house with baseball bats to help you with your repayment schedule. </font> </p>
</body>
</html>
```

edit

6: TODO

15:20 UTF-8

Specific Content

Steps to Set Up Layout

banko – [~/Desktop/X_Teaching/Ruby:2011-14/Lects&Pracs.2014/RubyWeek10 (Nov 15th).13/RubyLect10.progs/banko] – .../app/views/other/name.html.erb – JetBrains RubyMine

Development: banko

Project /Users/user/Desktop/X_Teaching/Ruby...

Project

- banko (~/Desktop/X_Teaching/Ruby:2011-14/Lects&Pra
  - app
    - assets
      - images
      - javascripts
      - stylesheets
        - application.css
        - main.css.scss
        - other.css.scss
    - controllers
      - concerns
      - application_controller.rb
      - main_controller.rb
      - other_controller.rb
    - helpers
    - mailers
    - models
    - views
      - layouts
        - application.html.erb
        - start_to_end.erb
      - main
        - goodbye.html.erb
        - welcome.html.erb
      - other
        - change.html.erb
        - index.html.erb
        - name.html.erb
        - quote.html.erb
        - show.html.erb
  - bin
  - config
  - db

other/index.html.erb | main_controller.rb | application.html.erb | application_controller.rb | app
main/welcome.html.erb | other_controller.rb | other/name.html.erb | other/quote.html.erb | other/sh

```
<p> We are very pleased to welcome you our home mortgage page. </p>
<p> Please enter your first and last name below: </p>

<%= form_tag("name", :method => 'get') do %>
  <p> First Name:
    <%= text_field_tag 'fst_name' %>
  <p> Last Name:
    <%= text_field_tag 'lst_name' %>
    <%= submit_tag 'send' %>
<% end %>

<% if @fname then %>
    <p> Welcome <%= h @entry.first_name %>, let's go to the
    <%= link_to 'next page', :controller => "other", :action => "index"  %>.</p>
<% end %>
```

this goes into the yield part of the layout

6: TODO

15:10 UTF-8

Part B3:

Looking at what is behind Screen II

The Site: Screen IIa

Ruby on Rails Guides: Layout | Google Image Result for http | localhost:3000/other/name

localhost:3000/other/name

Home&Abroad | Finance | Net&Functions | MyCal | Google Scholar | ISI | Health&Exer | Popular | Hacking | Wikis | Other Bookmarks

The Monster & Leinster Bank

We are very pleased to welcome you our home mortgage page.

Please enter your first and last name below:

First Name: Mark

Last Name: Keane send

Monster & Leinster Inc. accept no responsibility if you fall into arrears on your loan and are not responsible for the thugs that will call around to your house with baseball bats to help you with your repayment schedule.

Other Controller...

banko – [~/Desktop/X_Teaching/Ruby:2011-14/Lects&Pracs.2014/RubyWeek10 (Nov 15th).13/RubyLect10.progs/banko] – .../app/controllers/other_controller.rb – JetBrains RubyMine 3.2.4

Development: banko

Project /Users/user/Desktop/X_Teachi...

Project

banko (~/Desktop/X_Teaching/Ruby:2011-14/Le

- app
  - assets
  - controllers
    - concerns
    - application_controller.rb
    - main_controller.rb
    - other_controller.rb
  - helpers
  - mailers
  - models
  - views
    - layouts
    - main
      - goodbye.html.erb
      - welcome.html.erb
    - other
      - change.html.erb
      - index.html.erb
      - name.html.erb
      - quote.html.erb
      - show.html.erb
- bin
- config
- db
- lib
- log
- public
- test
- vendor
- .gitignore
- config.ru
- Gemfile
- Gemfile.lock
- Rakefile

entry.rb | schema.rb | seeds.rb | main/goodbye.html.erb | other/name.html.erb | other_controller.rb | 20141005153499_create_entries.rb | database.yml

```
  def name
   @fname = params[:fst_name]
   @lname = params[:lst_name]
   @entry = Entry.create({:first_name => @fname, :last_name =>  @lname})
  end

  def index
   @person = Entry.last
   @fname = @person.first_name
   @lname = @person.last_name
   @person.update_attributes({:address => params[:st_name],
       :salary => params[:salary], :loan => params[:loan],
     :loan_reason => params[:reason]})
   if !@person.address.nil? then render "show" end
  end

  def show
    @person = Entry.find(:last)
  end

   def change
    @person = Entry.last
    @fname = @person.first_name
     @lname = @person.last_name
    @entry = Entry.create({:first_name => @fname, :last_name =>  @lname,:salary => params[:salary], :loan => params[:loan]})
   end

  def quote
    @person = Entry.last
    if !@person.salary.nil? then
      if (@person.salary *  3) < @person.loan
       then @message = "You goddam pauper, you asked us for a loan that is:
                more than three times your salary. \n Please go back
               and re-enter your correct salary."
      else  @message = "Sure thing baby..."
      end
   else @message = "Seem to have an empty record??"
   end
  end


end
```

Data Sources

6: TODO

13:65 UTF-8

Other Controller...

banko – [~/Desktop/X_Teaching/Ruby:2011-14/Lects&Pracs.2014/RubyWeek10 (Nov 15th).13/RubyLect10.progs/banko] – .../app/views/other/name.html.erb – JetBrains Ru...

Development: banko

Project /Users/user/Desktop/X_Teachi...

Project

banko (~/Desktop/X_Teaching/Ruby:2011-14/Le

- app
  - assets
  - controllers
    - concerns
    - application_controller.rb
    - main_controller.rb
    - other_controller.rb
  - helpers
  - mailers
  - models
  - views
    - layouts
    - main
    - other
      - change.html.erb
      - index.html.erb
      - name.html.erb
      - quote.html.erb
      - show.html.erb
- bin
- config
  - environments
  - initializers
  - locales
  - application.rb
  - boot.rb
  - database.yml
  - environment.rb
  - routes.rb
  - secrets.yml
- db
- lib
- log
- public

database.yml | main_controller.rb | 20141005133409_create_entries.rb | schema.rb | seeds.rb | main/goodbye.html.erb | start_to_end.erb | other/name.html.erb | other_controller.rb | routes.rb

```
<p> We are very pleased to welcome you our home mortgage page. </p>
<p> Please enter your first and last name below: </p>

<%= form_tag("name", :method => 'get') do %>
  <p> First Name:
    <%= text_field_tag 'fst_name' %>
   <p> Last Name:
    <%= text_field_tag 'lst_name' %>
    <%= submit_tag 'send' %>
<% end %>

<% if @fname then %>
    <p> Welcome <%= h @entry.first_name %>, let's go to the
   <%= link_to 'next page', :controller => "other", :action => "index"  %>.</p>
<% end %>
```

1: Project | Data Sources | 7: Structure | 6: TODO

REM

in simple terms, what was a single html file with code, gets broken up into 3 files, which combine to create a file that is sent to browser to be rendered

application.html.erb:17

```
<html>
<head><title><%= @message %> </title>
    <%= stylesheet_link_tag 'application' %>
    </head>
<body>
<p align="center">  <font size="7">The Monster & Leinster Bank </font></p>
<p align="center"> <%= image_tag("monster.jpg") %> </p>

<%= yield %>


<p> <font size="1"> Monster & Leinster Inc. accept no responsibility if
you fall into arrears on your loan and are not responsible for the thugs that will call around
to your house with baseball bats to help you with your repayment schedule. </font> </p>
</body>
</html>
```

application layout

name.html.erb:8

```
<p> We are very pleased to welcome you our home mortgage page. </p>
<p> Please enter your first and last name below: </p>

<%= form_tag("name", :method => 'get') do %>
  <p> First Name:
    <%= text_field_tag 'fst_name' %>
   <p> Last Name:
    <%= text_field_tag 'lst_name' %>
    <%= submit_tag 'send' %>
<% end %>

<% if @fname then %>
     <p> Welcome <%= h @entry.first_name %>, let's go to the
    <%= link_to 'next page', :controller => "other", :action => "index"  %>.</p>
<% end %>
```

name content

other_controller.rb:1 class OtherControl

```
class OtherController < ApplicationController

  def name
     @fname = params[:fst_name]
     @lname = params[:lst_name]
     @entry = Entry.create({:first_name => @fname, :l
  end
```

name method

The Site: Screen IIa

Ruby on Rails Guides: Layout | Google Image Result for http | localhost:3000/other/name

localhost:3000/other/name

Home&Abroad | Finance | Net&Functions | MyCal | Google Scholar | ISI | Health&Exer | Popular | Hacking | Wikis | Other Bookmarks

The Monster & Leinster Bank

We are very pleased to welcome you our home mortgage page.

Please enter your first and last name below:

First Name: Mark

Last Name: Keane send

Monster & Leinster Inc. accept no responsibility if you fall into arrears on your loan and are not responsible for the thugs that will call around to your house with baseball bats to help you with your repayment schedule.

The Site: Screen IIb

Ruby on Rails Guides: Layout | Google Image Result for http | localhost:3000/other/name?

localhost:3000/other/name?utf8=✓&fst_name=Mark&lst_name=Keane&commit=send

Home&Abroad | Finance | Net&Functions | MyCal | Google Scholar | ISI | Health&Exer | Popular | Hacking | Wikis | Other Bookmarks

The Monster & Leinster Bank

We are very pleased to welcome you our home mortgage page.

Please enter your first and last name below:

First Name: Mark

Last Name: Keane send

Welcome Mark, let's go to the next page.

Monster & Leinster Inc. accept no responsibility if you fall into arrears on your loan and are not responsib

name.html.erb:8

```
<p> We are very pleased to welcome you our home mortgage page. </p>
<p> Please enter your first and last name below: </p>

<%= form_tag("name", :method => 'get') do %>
  <p> First Name:
    <%= text_field_tag 'fst_name' %>
   <p> Last Name:
    <%= text_field_tag 'lst_name' %>
    <%= submit_tag 'send' %>
<% end %>

<% if @fname then %>
     <p> Welcome <%= h @entry.first_name %>, let's go to the
    <%= link_to 'next page', :controller => "other", :action => "index"  %>.</p>
<% end %>
```

Pause...Paws...Pose...

- Ok, so, you need to digest all of this
- we have covered how you set up the initial files
- how you edit those files, how controllers, layouts and views combine to produce the final page
- ...the one remaining big thing is to talk about models
- but...before we do that we'll back up into layouts...

REM:

MVC framework

- ***model-view-controller*** is a software architecture/ architectural pattern used in Rails
- ***model*** is domain-specified rep of the data used by the application; manages data and informs of changes
- ***view*** renders model into suitable form for interactions (at interface); may have multiple views of same model
- ***controller*** receives input and initiates responds making calls to model data (operational guts of the app)

Controller

Model

$ rake db:migrate

Views

$ rails server

Part C:

A note Rails on functionality...in the foregoing...

Neat Stuff Ia

- Controllers are just Ruby:
  - layout is a new primitive
  - nb inheritance from libraries

other_controller.rb:13 class OtherController < ApplicationController

```
class OtherController < ApplicationController


  def name
      @fname = params[:fst_name]
      @lname = params[:lst_name]
      @entry = Entry.create({:first_name => @fname, :last_name =>  @lname})
  end


end
```

Neat Stuff lb

other_controller.rb:13 class OtherController < ApplicationController

```
class OtherController < ApplicationController


  def name
    @entries = Entry.find(:all)
    @entries.each {|entry| entry.destroy}
    @fname = params[:fst_name]
    @lname = params[:lst_name]
    @entry = Entry.create({:first_name => @fname, :last_name => @lname})
    @entries = Entry.find(:all)
  end

end
```

db access

db change

db item create

form variables

db access

oval refers to access to tags in the form used; need to look in views

Embedded Ruby

We are very pleased to welcome you our home mortgage page.

Please enter your first and last name below:

First Name:

Last Name: send

name.html.erb:8

```
<p> We are very pleased to welcome you our home mortgage page. </p>
<p> Please enter your first and last name below: </p>

<%= form_tag("name", :method => 'get') do %>
  <p> First Name:
    <%= text_field_tag 'fst_name' %>
   <p> Last Name:
    <%= text_field_tag 'lst_name' %>
    <%= submit_tag 'send' %>
<% end %>

<% if @fname then %>
     <p> Welcome <%= h @entry.first_name %>, let's go to the
    <%= link_to 'next page', :controller => "other", :action => "index"  %>.</p>
<% end %>
```

sets up form

ERb is inside **<%** or **<%=** and **%>**

ERb stuff

ERb arbitarily embdedded within html

Part D:

But, Mark, what about de models...

Recall Banko...

- we just discussed controllers, views and layouts
- but, we said nothing about models
- yet, we did issue a command originally...
- and, performed some edits...

Controller

Model

$ rake db:migrate

Views

$ rails server

Steps

REM:

set up dir

1. $ rails new banko

go to dir

2. $ cd bank

$ rake db:migrate:reset
clears out all records

3. $ rails generate controller main welcome

4. $ rails generate controller other name

5. $ rails generate model Entry first_name:string ...

create model called **entry** **with field:type**

6. lets...edit a whole bunch of files...

7. $ rake db:migrate

set up tables

$ rake db:rollback

rollback to early migration of db

Countries: Define tables

REM:

```
ActiveRecord::Schema.define do
    create_table :countries do |table|
        table.column :name, :string
        table.column :continent, :string
        table.column :size, :integer
    end

    create_table :regions do |table|
        table.column :country_id, :integer
        table.column :region_size, :integer
        table.column :name, :string
    end
end
...
```

neatdb.rb

- two tables
- region references the country it is part of

Countries: Create associations **REM:**

```
class Country < ActiveRecord::Base
    has_many :regions
end

class Region < ActiveRecord::Base
    belongs_to :country
end
...
```

neatdb.rb

- **Country** and **Region** are subclasses of ActiveRecord
- describes relationships between models (tables)
- here, **has_many** and **belongs_to** define a 1:n

http://en.wikibooks.org/wiki/Ruby_on_Rails/ActiveRecord/Associations

generate model Entry...does

generate model Entry...does

banko - [~/Desktop/X_Teaching/Ruby:2011-14/Lects&Pracs.2014/RubyWeek10 (Nov 15th).13/RubyLect10.progs/banko] - .../app/models/entry.rb - JetBrains RubyMine 3.2.4

Development: banko

Project /Users/user/Desktop/X_Teaching/Ruby...

Project

banko (~/Desktop/X_Teaching/Ruby:2011-14/Lects&Pra

- app
  - assets
  - controllers
  - helpers
  - mailers
  - models
    - concerns
    - .keep
    - entry.rb
  - views
- bin
- config
  - environments
  - initializers
  - locales
  - application.rb
  - boot.rb
  - database.yml
  - environment.rb
  - routes.rb
  - secrets.yml
- db
  - migrate
    - 20141005133409_create_entries.rb
  - development.sqlite3
  - schema.rb
  - seeds.rb
  - test.sqlite3
- lib
- log
- public

database.yml | other/name.html.erb

entry.rb | schema.rb | seeds.rb | 20141005133409_create_entries.rb

```
class Entry < ActiveRecord::Base
end
```

model **Entry**
where you put the
has_many and
belongs_to stuff

1: Project | Z: Structure | Data Sources | 6: TODO

generate model Entry...does

banko - [~/Desktop/X_Teaching/Ruby:2011-14/Lects&Pracs.2014/RubyWeek10 (Nov 15th).13/RubyLect10.progs/banko] - .../db/migrate/20141005133409_create_entri...

Development: banko

Project /Users/user/Desktop/X_Teaching/Ruby...

Project

- banko (~/Desktop/X_Teaching/Ruby:2011-14/Lects&Pra
  - app
    - assets
    - controllers
    - helpers
    - mailers
    - models
      - concerns
      - .keep
      - entry.rb
    - views
  - bin
  - config
    - environments
    - initializers
    - locales
    - application.rb
    - boot.rb
    - database.yml
    - environment.rb
    - routes.rb
    - secrets.yml
  - db
    - migrate
      - 20141005133409_create_entries.rb
    - development.sqlite3
    - schema.rb
    - seeds.rb
    - test.sqlite3
  - lib
  - log
  - public

database.yml | other/name.html.erb | entry.rb | schema.rb | seeds.rb | 20141005133409_create_entries.rb

```
class CreateEntries < ActiveRecord::Migration
  def change
    create_table :entries do |t|
      t.string :first_name
      t.string :last_name
      t.string :address
      t.integer :loan
      t.string :loan_reason
      t.integer :salary
      t.timestamps
    end
  end
end
```

$ rails generate model Entry first_name:string last_name:string address:string loan:integer...

OR

you can write it directly into the migrate file

generate model Entry...does

banko - [~/Desktop/X_Teaching/Ruby:2011-14/Lects&Pracs.2014/RubyWeek10 (Nov 15th).13/RubyLect10.progs/ba...

Development: banko

Project /Users/user/Desktop/X_Teaching/Ruby...

Project

- banko (~/Desktop/X_Teaching/Ruby:2011-14/Lects&Pra
  - app
    - assets
    - controllers
    - helpers
    - mailers
    - models
      - concerns
      - .keep
      - entry.rb
    - views
  - bin
  - config
    - environments
    - initializers
    - locales
    - application.rb
    - boot.rb
    - database.yml
    - environment.rb
    - routes.rb
    - secrets.yml
  - db
    - migrate
      - 20141005133409_create_entries.rb
    - development.sqlite3
    - schema.rb
    - seeds.rb
    - test.sqlite3
  - lib
  - log
  - public

database.yml | entry.rb | schema.rb | seeds.rb | create_entries.rb

```
class CreateEntries < ActiveRecord::Migration
  def change
    create_table :entries do |t|
      t.string :first_name
      t.string :last_name
      t.string :address
      t.integer :loan
      t.string :loan_reason
      t.integer :salary
      t.timestamps
    end
  end
end
```

add a bunch of fields, specifying their type; nb db gives :id for primary key

class to create entries, Entry.up sets up tables and Entry.down gets rid of them

$ rails generate model Entry first_name:string last_name:string address:string loan:integer...
OR
you can write it directly into the migrate file

banko – [~/Desktop/X_Teaching/Ruby:2011-14/Lects&Pracs.2014/RubyWeek10 (Nov 15th).13/RubyLect10.progs/banko] – .../db/schema.rb – JetBrains RubyMine 3.2.

Development: banko

Project

banko (~/Desktop/X_Teaching/Ruby:2011-14/Lects&Pra

- app
  - assets
  - controllers
  - helpers
  - mailers
  - models
    - concerns
    - .keep
    - entry.rb
  - views
- bin
- config
  - environments
  - initializers
  - locales
  - application.rb
  - boot.rb
  - database.yml
  - environment.rb
  - routes.rb
  - secrets.yml
- db
  - migrate
    - 20141005133409_create_entries.rb
  - development.sqlite3
  - schema.rb
  - seeds.rb
  - test.sqlite3
- lib
- log
- public

entry.rb | schema.rb | seeds.rb | 20141005133409_create_entries.rb | database.yml

```ruby
# encoding: UTF-8
# This file is auto-generated from the current state of the database. Instead
# of editing this file, please use the migrations feature of Active Record to
# incrementally modify your database, and then regenerate this schema definition.
#
# Note that this schema.rb definition is the authoritative source for your
# database schema. If you need to create the application database on another
# system, you should be using db:schema:load, not running all the migrations
# from scratch. The latter is a flawed and unsustainable approach (the more migrations
# you'll amass, the slower it'll run and the greater likelihood for issues).
#
# It's strongly recommended that you check this file into your version control system.

ActiveRecord::Schema.define(version: 20141005133409) do

  create_table "entries", force: true do |t|
    t.string   "first_name"
    t.string   "last_name"
    t.string   "address"
    t.integer  "loan"
    t.string   "loan_reason"
    t.integer  "salary"
    t.datetime "created_at"
    t.datetime "updated_at"
  end

end
```

schema produced automatically by rake when you do **$ rake db:migrate**

$rake db:rollback steps back 'tru earlier migrations

6: TODO

1:1 UTF-8

banko – [~/Desktop/X_Teaching/Ruby:2011-14/Lects&Pracs.2014/RubyWeek10 (Nov 15th).13/RubyLect10.progs/banko] – .../config/database.yml – JetBrains RubyMine 3.2

Development: banko

Project /Users/user/Desktop/X_Teaching/Ruby...

Project

- banko (~/Desktop/X_Teaching/Ruby:2011-14/Lects&Pra
  - app
    - assets
    - controllers
    - helpers
    - mailers
    - models
      - concerns
      - .keep
      - entry.rb
    - views
  - bin
  - config
    - environments
    - initializers
    - locales
    - application.rb
    - boot.rb
    - database.yml
    - environment.rb
    - routes.rb
    - secrets.yml
  - db
    - migrate
      - 20141005133409_create_entries.rb
    - development.sqlite3
    - schema.rb
    - seeds.rb
    - test.sqlite3
  - lib
  - log
  - public

entry.rb | schema.rb | seeds.rb | 20141005133409_create_entries.rb | database.yml

```
# SQLite version 3.x
#   gem install sqlite3
#
#   Ensure the SQLite 3 gem is defined in your Gemfile
#   gem 'sqlite3'
#
default: &default
  adapter: sqlite3
  pool: 5
  timeout: 5000

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

# Warning: The database defined as "test" will be erased and
# re-generated from your development database when you run "rake".
# Do not set this db to the same as development or production.
test:
  <<: *default
  database: db/test.sqlite3

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

config file for database

6: TODO

1:1 UTF-8

banko – [~/Desktop/X_Teaching/Ruby:2011-14/Lects&Pracs.2014/RubyWeek10 (Nov 15th).13/RubyLect10.progs/banko] – .../db/seeds.rb – JetBrains RubyMine 3.2.4

Development: banko

Project /Users/user/Desktop/X_Teaching/Ruby...

Project

- banko (~/Desktop/X_Teaching/Ruby:2011-14/Lects&Pra
  - app
    - assets
    - controllers
    - helpers
    - mailers
    - models
      - concerns
      - .keep
      - entry.rb
    - views
  - bin
  - config
    - environments
    - initializers
    - locales
    - application.rb
    - boot.rb
    - database.yml
    - environment.rb
    - routes.rb
    - secrets.yml
  - db
    - migrate
      - 20141005133409_create_entries.rb
    - development.sqlite3
    - schema.rb
    - seeds.rb
    - test.sqlite3
  - lib
  - log
  - public

entry.rb | schema.rb | seeds.rb | 20141005133409_create_entries.rb | database.yml

```
# This file should contain all the record creation needed to seed the database with its default value
# The data can then be loaded with the rake db:seed (or created alongside the db with db:setup).
#
# Examples:
#
#   cities = City.create([{ name: 'Chicago' }, { name: 'Copenhagen' }])
#   Mayor.create(name: 'Emanuel', city: cities.first)
```

can introduce seed records here

6: TODO

1:1 UTF-8

Steps

REM:

set up dir

1. $ rails new bank

go to dir

2. $ cd banko

$ rake db:migrate:reset
clears out all records

3. $ rails generate controller main welcome

4. $ rails generate controller other name

5. $ rails generate model Entry first_name:string ...

create model called **entry** **with field:type**

6. lets...edit a whole bunch of files...

7. $ rake db:migrate

set up tables

$ rake db:rollback

rollback to early stage of db

The Site: Screen VI

REM:

M&L Bank

localhost:3000/main/goodbye

Apps | Home | AIB Internet Banking | Home&Abroad | Finance | Net&Functions | Google Scholar | ISI | Health&Exer | Popular

what's this !

Goodbye to Monster & Leinster's

End Page

[click logo to re-enter site]

- , , , 1
- mark, keane , , 2
- mark , keane , 2000, 3122 3
- mark , keane , , 4
- mark , keane , 12, 2000000 5
- , , , 6
- Mark, Keane , 5000, 100000 7
- , , , 8
- , , , 9
- Mark, Keane , 5000, 100000 10

Monster & Leinster Inc. © 2011

banko – [~/Desktop/X_Teaching/Ruby:2011-14/Lects&Pracs.2014/RubyWeek10 (Nov 15th).13/RubyLect10.progs/banko] – .../app/views/main/goodbye.html.erb – Jet

Development: banko

20141005133409_create_entries.rb | database.yml | entry.rb | schema.rb | seeds.rb | main/goodbye.html.erb

Project

- banko (~/Desktop/X_Teaching/Ruby:
  - app
    - assets
    - controllers
      - concerns
      - application_controller.rb
      - main_controller.rb
      - other_controller.rb
    - helpers
    - mailers
    - models
    - views
      - layouts
      - main
        - goodbye.html.erb
        - welcome.html.erb
      - other
  - bin
  - config
  - db
  - lib
  - log
  - public
  - test
  - vendor
  - .gitignore
  - config.ru
  - Gemfile
  - Gemfile.lock
  - Rakefile
  - README.rdoc
  - External Libraries

```
<h1><p align="center"> <%= h @message %> to Monster & Leinster's</h1>

<h1><p align="center"> End Page</h1>

<p align="center"><%= link_to image_tag("monster.jpg"),
                :controller => "main", :action => "welcome" %> </p>

<h5> <p align="center"> [click logo to re-enter site] </p></h5>

<ul>
<% @entries.each do |entry| %>
    <li> <%=h entry.first_name %>, <%=h entry.last_name %> , <%=h entry.salary %>, <%=h entry.loan %> <%=h entry.id
<% end %>
</ul>
```

6: TODO

1:1 UTF-8

Problem Banko...

- this, finallly, clears up the mystery of what all the crap on the goodbye page is about...
- however, it also shows that something odd is going on in our db
- why are there two entries, some of which have no values? What's the other crap about ?
- ...a question not to be asked...

Part E:

Some Residuals in Banko...
controllers, routing & images

Basic Banko Functionality...

- note, that each screen has an associated, controller-method, view and layout
- controllers/main_controller.rb has two methods **welcome** and **goodbye**
- controllers/other_controller.rb has four methods **index**, **name, show, change,** and **quote**
- there are all fairly simple...its the co-ordination that is complicated

The Main Controller

banko – [~/Desktop/X_Teaching/Ruby:2011-14/Lects&Pracs.2014/RubyWeek10 (Nov 15th).13/RubyLect10.progs/bankodb] – .../app/controllers/main_controller.rb – JetB...

Development: banko

Project /Users/user/Desktop/X_Teac...

Project

- bankodb [banko] (~/Desktop/X_Teaching/Ruby:20
  - app
    - assets
    - controllers
      - concerns
      - application_controller.rb
      - main_controller.rb
      - other_controller.rb
    - helpers
    - mailers
    - models
    - views
  - bin
  - config
  - db
  - lib
  - log
  - public
  - test
  - vendor
  - .gitignore
  - config.ru
  - Gemfile
  - Gemfile.lock
  - Rakefile
  - README.rdoc
- External Libraries

entry.rb | schema.rb | seeds.rb | main/goodbye.html.erb | other/name.html.erb | other_controller.rb | main_controller.rb | 20141005133409_create_entries.rb | database.yml

```
class MainController < ApplicationController
  layout 'start_to_end'

  def welcome
  @message = "Welcome to DB version"
  @entries = Entry.all
  @entries.each {|entry| entry.destroy}
  end

  def goodbye
    @message = "Goodbye to the Db version"
  @entries = Entry.all
  end

end
```

The Other Controller

Organizer

Build Clean Run Action

PROJECTS & SOURCES

- hellodb
  - app
    - assets
    - controllers
      - application_controller.rb
      - main_controller.rb
      - other_controller.rb
    - helpers
    - mailers
    - models
    - views
  - config
  - config.ru
  - db
  - doc
  - Gemfile
  - Gemfile.lock
  - lib
  - log
  - public
  - Rakefile
  - README
  - script
  - test
  - tmp
  - vendor

other_controller.rb:42 — class OtherController < ApplicationController

```ruby
class OtherController < ApplicationController

  def name
     @fname = params[:fst_name]
     @lname = params[:lst_name]
     @entry = Entry.create({:first_name => @fname, :last_name =>  @lname})
  end

  def index
     @person = Entry.find(:last)
     @fname = @person.first_name
     @lname = @person.last_name
     @person.update_attributes({:address => params[:st_name],
         :salary => params[:salary], :loan => params[:loan],
         :loan_reason => params[:reason]})
     if !@person.address.nil? then render "show" end
  end

  def show
     @person = Entry.find(:last)
  end

  def change
     @person = Entry.find(:last)
     @fname = @person.first_name
     @lname = @person.last_name
     @entry = Entry.create({:first_name => @fname, :last_name =>  @lname,
                            :salary => params[:salary], :loan => params[:loan]})
  end

  def quote
     @person = Entry.find(:last)
     if !@person.salary.nil? then
       if (@person.salary *  3) < @person.loan
            then @message = "You goddam pauper, you asked us for a loan that is:
                             more than three times your salary. \n Please go back
                            and re-enter your correct salary."
       else  @message = "Sure thing baby..."
       end
    else @message = "Seem to have an empty record??"
    end
  end

end
```

Banko Routing...

- **Rails** style is sort-of weird in the way it creates objects and calls methods
- essentially, methods run by linking to pages with uri-s; when a page is entered the method runs
- action tags in forms also call methods (e.g., **submit_tag**; they are usually helper methods)
- obviously, methods call other methods too (more conventionally)

Banko Routing...

- this means that routing becomes very important, as it is a sort-of shorthand for calling methods
- will return to it in detail, but just note it here
- btw, its is often a source of error in the browser, as you fail to address the page with the right uri
- what is the “right uri” will be set by stuff in banko/config/routes.rb

routes.rb on setup...

banko - [~/Desktop/X_Teaching/Ruby:2011-14/Lects&Pracs.2014/RubyWeek10 (Nov 15th).13/RubyLect10.progs/banko] - .../config/routes.rb - JetBrains RubyMine 3.2.4

Development: banko

Project /Users/user/Desktop/X_Teachi...

Project

- banko (~/Desktop/X_Teaching/Ruby:2011-14/Le
  - app
    - assets
    - controllers
      - concerns
      - application_controller.rb
      - main_controller.rb
      - other_controller.rb
    - helpers
    - mailers
    - models
    - views
      - layouts
      - main
        - goodbye.html.erb
        - welcome.html.erb
      - other
        - change.html.erb
        - index.html.erb
        - name.html.erb
        - quote.html.erb
        - show.html.erb
  - bin
  - config
    - environments
    - initializers
    - locales
    - application.rb
    - boot.rb
    - database.yml
    - environment.rb
    - routes.rb
    - secrets.yml
  - db
  - lib

entry.rb | schema.rb | seeds.rb | main/goodbye.html.erb | other/name.html.erb | other_controller.rb | routes.rb | 20141005133409_create_entries.rb | database.yml

```
Rails.application.routes.draw do
  get 'other/name'

  get 'other/index'

  get 'other/show'

  get 'other/change'

  get 'other/quote'

  get 'main/welcome'

  get 'main/goodbye'

  # The priority is based upon order of creation: first created -> highest priority.
  # See how all your routes lay out with "rake routes".

  # You can have the root of your site routed with "root"
  # root 'welcome#index'

  # Example of regular route:
  #   get 'products/:id' => 'catalog#view'

  # Example of named route that can be invoked with purchase_url(id: product.id)
  #   get 'products/:id/purchase' => 'catalog#purchase', as: :purchase


end
```

these were created automatically

6: TODO

28:1 UTF-8

Banko Routing...

- one of the things you can do is change the routing statements in this routes.rb file
- often people want to have the browser default connect to the first page in your site

not like this...

ActionView::Helpers::FormTa | TeachingPipe | Ruby on Rails: Welcome abo

localhost:3000

Home&Abroad | Finance | Net&Functions | MyCal | Google Scholar | ISI | Health&Exer | Popular | Hacking | Wikis

Welcome aboard

You're riding Ruby on Rails!

About your application's environment

Getting started

Here's how to get rolling:

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

   To see all available options, run it without parameters.

2. Set up a default route and remove *public/index.html*

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

3. Create your database

   Run `rake db:create` to create 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

routes.rb...what we do

banko – [~/Desktop/X_Teaching/Ruby:2011-14/Lects&Pracs.2014/RubyWeek10 (Nov 15th).13/RubyLect10.progs/bankodb] – .../config/routes.rb – JetBrains RubyMine 3.2.4

Development: banko

Project /Users/user/Desktop/X_Teac...

Project

- bankodb [banko] (~/Desktop/X_Teaching/Ruby:20
  - app
    - assets
    - controllers
      - concerns
      - application_controller.rb
      - main_controller.rb
      - other_controller.rb
    - helpers
    - mailers
    - models
    - views
  - bin
  - config
    - environments
    - initializers
    - locales
    - application.rb
    - boot.rb
    - database.yml
    - environment.rb
    - routes.rb
    - secrets.yml
  - db
  - lib
  - log
  - public
  - test
  - vendor
  - .gitignore
  - config.ru
  - Gemfile
  - Gemfile.lock
  - Rakefile
  - README.rdoc
- External Libraries

entry.rb | schema.rb | seeds.rb | main/goodbye.html.erb | other/name.html.erb | other_controller.rb | main_controller.rb | routes.rb | 20141005133409_create_entries.rb | database.yml

```
Rails.application.routes.draw do
  get 'other/name'

  get 'other/index'

  get 'other/show'

  get 'other/change'

  get 'other/quote'

  get 'main/welcome'

  get 'main/goodbye'

  # The priority is based upon order of cre[illegible] hest priority.
  # See how all your routes lay out with "rake routes".

  # You can have the root of your site routed with "root"
  root 'main#welcome'

  # Example of regular route:
  #   get 'products/:id' => 'catalog#view'

  # Example of named route that can be invoked with purchase_url(id: product.id)
  #   get 'products/:id/purchase' => 'catalog#purchase', as: :purchase

  # Example resource route (maps HTTP verbs to controller actions automatically):
  #   resources :products

  # Example resource route with options:
  #   resources :products do
  #     member do
  #       get 'short'
  #       post 'toggle'
  #     end
  #
  #     collection do
  #       get 'sold'
  #     end
  #   end

  # Example resource route with sub-resources:
  #   resources :products do
  #     resources :comments, :sales
```

uncomment this line and refer it to the controller#method of the first page

so, we now get this...

Instead of this...

ActionView::Helpers::FormTa | TeachingPipe | Ruby on Rails: Welcome abo

localhost:3000

Home&Abroad | Finance | Net&Functions | MyCal | Google Scholar | ISI | Health&Exer | Popular | Hacking | Wikis

Welcome aboard

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About your application's environment

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   To see all available options, run it without parameters.

2. Set up a default route and remove *public/index.html*

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

3. Create your database

   Run `rake db:create` to create 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

BY THE WAY..

user$ rake routes

```
  Prefix     Verb URI Pattern                 Controller#Action
other_name GET  /other/name(.:format)    other#name
other_index GET  /other/index(.:format)  other#index
other_show GET  /other/show(.:format)    other#show
other_change GET  /other/change(.:format) other#change
other_quote GET  /other/quote(.:format)  other#quote
main_welcome GET  /main/welcome(.:format) main#welcome
main_goodbye GET  /main/goodbye(.:format) main#goodbye
root GET  /                              main#welcome

user$
```

Where are Images ?

- **Rails** stores images in bankodb/app/assets/images
- they are then referenced in various view and layout files

Where are images...

banko – [~/Desktop/X_Teaching/Ruby:2011-14/Lects&Pracs.2014/RubyWeek10 (Nov 15th).13/RubyLect10.progs/bankodb] – .../app/assets/images/monster.jpg – JetBrai...

Development: banko

Project /Users/user/Desktop/X_Teac...

Project

- bankodb [banko] (~/Desktop/X_Teaching/Ruby:20
  - app
    - assets
      - images
        - .keep
        - face.jpg
        - monster.jpg
      - javascripts
      - stylesheets
    - controllers
      - concerns
        - application_controller.rb
        - main_controller.rb
        - other_controller.rb
    - helpers
    - mailers
    - models
    - views
  - bin
  - config
  - db
  - lib
  - log
  - public
  - test
  - vendor
  - .gitignore
  - config.ru
  - Gemfile
  - Gemfile.lock
  - Rakefile
  - README.rdoc
- External Libraries

face.jpg | routes.rb | monster.jpg | environment.rb

143x107 JPEG (24-bit color) 2.54Kb

1: Project | 7: Structure | Data Sources

Layouts: Frame

Where are images...ref'ed

application.html.erb:17

```
<html>
<head><title><%= @message %> </title>
    <%= stylesheet_link_tag 'application' %>
    </head>
<body>
<p align="center">  <font size="7">The Monster & Leinster Bank </font></p>
<p align="center"> <%= image_tag("monster.jpg") %> </p>

<%= yield %>


<p> <font size="1"> Monster & Leinster Inc. accept no responsibility if
you fall into arrears on your loan and are not responsible for the thugs that will call around
to your house with baseball bats to help you with your repayment schedule. </font> </p>
</body>
</html>
```

Part F:

Fixing Banko's Problems...

Problem Banko...

REM:

- if you look at the goodbye page, which prints out the state of the db at the end; it progressively seems to spit out loads of crap
- why do we have these odd entries...

The Problem

ActionView::Helpers::FormTa | TeachingPipe | M&L Bank

localhost:3000/main/goodbye

Home&Abroad | Finance | Net&Functions | MyCal | Google Scholar | ISI | Health&Exer | Popular | Hacking | Wikis | Other Bookmarks

Goodbye to Monster & Leinster's

End Page

[click logo to re-enter site]

- , , , 1
- Mark, Keane , 2000, 1000000 2
- , , , 3
- mark, keane , 1000, 100000 4
- , , , 5
- Sal, Paradiso , 30000, 1000 6

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The Problem starts here...

Ruby on Rails Guides: Layout | Google Image Result for http | localhost:3000/other/name

localhost:3000/other/name

Home&Abroad | Finance | Net&Functions | MyCal | Google Scholar | ISI | Health&Exer | Popular | Hacking | Wikis | Other Bookmarks

The Monster & Leinster Bank

We are very pleased to welcome you our home mortgage page.

Please enter your first and last name below:

First Name: Mark

Last Name: Keane send

Monster & Leinster Inc. accept no responsibility if you fall into arrears on your loan and are not responsible for the thugs that will call around to your house with baseball bats to help you with your repayment schedule.

...look at the web server logs...

Log...

```
Started GET "/other/name" for 127.0.0.1 at 2011-10-18 12:36:09 +0100
  Processing by OtherController#name as HTML
  SQL (139.9ms)  INSERT INTO "entries" ("address", "created_at", "first_name", "last_name", "loan"
"loan_reason", "salary", "updated_at") VALUES (?, ?, ?, ?, ?, ?, ?, ?)  [["address", nil], ["created_at",
Tue, 18 Oct 2011 11:36:10 UTC +00:00], ["first_name", nil], ["last_name", nil], ["loan", nil],
["loan_reason", nil], ["salary", nil], ["updated_at", Tue, 18 Oct 2011 11:36:10 UTC +00:00]]
Rendered other/name.html.erb within layouts/application (20.0ms)
Completed 200 OK in 445ms (Views: 159.8ms | ActiveRecord: 140.9ms)

...
Started GET "/other/name?utf8=%E2%9C%93&fst_name=Mark&lst_name=Keane&commit=send"
127.0.0.1 at 2011-10-18 12:36:21 +0100
  Processing by OtherController#name as HTML
  Parameters: {"utf8"=>"✓", "fst_name"=>"Mark", "lst_name"=>"Keane", "commit"=>"send"}
  SQL (1.5ms)  INSERT INTO "entries" ("address", "created_at", "first_name", "last_name", "loan",
"loan_reason", "salary", "updated_at") VALUES (?, ?, ?, ?, ?, ?, ?, ?)  [["address", nil], ["created_at",
Tue, 18 Oct 2011 11:36:21 UTC +00:00], ["first_name", "Mark"], ["last_name", "Keane"], ["loan", nil]
["loan_reason", nil], ["salary", nil], ["updated_at", Tue, 18 Oct 2011 11:36:21 UTC +00:00]]
Rendered other/name.html.erb within layouts/application (1.3ms)
Completed 200 OK in 66ms (Views: 7.4ms | ActiveRecord: 2.2ms)
```

What’s the problem...

- Well, remember what I said about the way Rails works by calling methods when you move pages
- If you look at the log, you can see that it creates one entry when you enter the name-page and another when you press the **send** tag
- So, how can we fix this ?

other/name View...

banko – [~/Desktop/X_Teaching/Ruby:2011-14/Lects&Pracs.2014/RubyWeek10 (Nov 15th).13/RubyLect10.progs/banko] – .../app/views/other/name.html.erb – JetBrains Ru...

Development: banko

Project /Users/user/Desktop/X_Teachi...

Project

banko (~/Desktop/X_Teaching/Ruby:2011-14/Le

- app
  - assets
  - controllers
    - concerns
    - application_controller.rb
    - main_controller.rb
    - other_controller.rb
  - helpers
  - mailers
  - models
  - views
    - layouts
    - main
    - other
      - change.html.erb
      - index.html.erb
      - name.html.erb
      - quote.html.erb
      - show.html.erb
- bin
- config
  - environments
  - initializers
  - locales
  - application.rb
  - boot.rb
  - database.yml
  - environment.rb
  - routes.rb
  - secrets.yml
- db
- lib
- log
- public

database.yml | main_controller.rb | 20141005133409_create_entries.rb | schema.rb | seeds.rb | main/goodbye.html.erb | start_to_end.erb | other/name.html.erb | other_controller.rb | routes.rb

```
<p> We are very pleased to welcome you our home mortgage page. </p>
<p> Please enter your first and last name below: </p>

<%= form_tag("name", :method => 'get') do %>
  <p> First Name:
    <%= text_field_tag 'fst_name' %>
   <p> Last Name:
    <%= text_field_tag 'lst_name' %>
    <%= submit_tag 'send' %>
<% end %>

<% if @fname then %>
     <p> Welcome <%= h @entry.first_name %>, let's go to the
    <%= link_to 'next page', :controller => "other", :action => "index"  %>.</p>
<% end %>
```

1: Project | Data Sources | 7: Structure | 6: TODO

What’s the problem...

- Well, remember what I said about the way Rails works by calling methods when you move pages
- If you look at the log, you can see that it create one entry when you enter the name-page and another when you press the **send** tag
- So, how can we fix this ?

The Change...

banko – [~/Desktop/X_Teaching/Ruby:2011-14/Lects&Pracs.2014/RubyWeek10 (Nov 15th).13/RubyLect10.progs/bankodb] – .../app/controllers/other_controller.rb – JetB...

Development: banko

Project /Users/user/Desktop/X_Teac...

Project

- bankodb [banko] (~/Desktop/X_Teaching/Ruby:
  - app
    - assets
      - images
      - javascripts
      - stylesheets
    - controllers
      - concerns
      - application_controller.rb
      - main_controller.rb
      - other_controller.rb
    - helpers
    - mailers
    - models
    - views
      - layouts
      - main
      - other
        - change.html.erb
        - index.html.erb
        - name.html.erb
        - quote.html.erb
        - show.html.erb
  - bin
  - config
  - db
  - lib
  - log
  - public
  - test
  - vendor
  - .gitignore
  - config.ru
  - Gemfile
  - Gemfile.lock

other/name.html.erb | main_controller.rb | environment.rb | face.jpg | routes.rb | monster.jpg | other_controller.rb

```
class OtherController < ApplicationController

  def name
   @fname = params[:fst_name]
   @lname = params[:lst_name]
   if @fname then @entry = Entry.create({:first_name => @fname, :last_name =>  @lname}) end
  end

  def index
   @person = Entry.last
   @fname = @person.first_name
   @lname = @person.last_name
   @person.update_attributes({:address => params[:st_name],
      :salary => params[:salary], :loan => params[:loan],
     :loan_reason => params[:reason]})
   if !@person.address.nil? then render "show" end
  end

 def show
   @person = Entry.find(:last)
 end

  def change
   @person = Entry.last
   @fname = @person.first_name
    @lname = @person.last_name
   @entry = Entry.create({:first_name => @fname, :last_name =>  @lname,:salary => params[:salary], :loan =>
  end

 def quote
   @person = Entry.last
   if !@person.salary.nil? then
     if (@person.salary *  3) < @person.loan
      then @message = "You goddam pauper, you asked us for a loan that is:
               more than three times your salary. \n Please go back
              and re-enter your correct salary."
     else  @message = "Sure thing baby..."
     end
  else @message = "Seem to have an empty record??"
  end
 end


end
```

Data Sources

1: Project

Z: Structure

...also should change Main

banko – [~/Desktop/X_Teaching/Ruby:2011-14/Lects&Pracs.2014/RubyWeek10 (Nov 15th).13/RubyLect10.progs/bankodb] – .../app/controllers/main_controller.rb – JetB...

Development: banko

Project /Users/user/Desktop/X_Teac...

Project

- bankodb [banko] (~/Desktop/X_Teaching/Ruby:20
  - app
    - assets
    - controllers
      - concerns
      - application_controller.rb
      - main_controller.rb
      - other_controller.rb
    - helpers
    - mailers
    - models
    - views
  - bin
  - config
  - db
  - lib
  - log
  - public
  - test
  - vendor
  - .gitignore
  - config.ru
  - Gemfile
  - Gemfile.lock
  - Rakefile
  - README.rdoc
- External Libraries

entry.rb | schema.rb | seeds.rb | main/goodbye.html.erb | other/name.html.erb | other_controller.rb | main_controller.rb | 20141005133409_create_entries.rb | database.yml

```
class MainController < ApplicationController
  layout 'start_to_end'

  def welcome
  @message = "Welcome to DB version"
  @entries = Entry.all
  @entries.each {|entry| entry.destroy}
  end

  def goodbye
    @message = "Goodbye to the Db version"
  @entries = Entry.all
  end

end
```

here we clear the db records;
nb table structure still there

Last Screen...BANG !

ActionView::Helpers::FormTa | TeachingPipe | M&L Bank

localhost:3000/main/goodbye

Home&Abroad | Finance | Net&Functions | MyCal | Google Scholar | ISI | Health&Exer | Popular | Hacking | Wikis

Goodbye to Monster & Leinster's

End Page

[click logo to re-enter site]

- mark, keane , 2000, 100000 9

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PC Problems: Path Var

To create a new rails website in Windows 8 follow the lecture instructions below:

1. Run command prompt
2. **gem install rails**
3. **gem update --system**
4. **gem install bundle**
5. **bundle install**
6. Go to your Ruby Project directory: **cd C:\RubyMine**
7. Make a new directory: **mkdir temp**
8. **cd temp**
9. **rails new newsite**
10. **cd newsite**
11. **rails generate controller test hello**
12. look at /newsite/app/controllers/test_controller.rb
13. add @message = "hello" to hello method
14. look at newsite/app/views/test/hello.html.erb
15. add <%= @message %> to file
16. **rails server**
17. load page in browser: http://localhost:3000/test/hello

An error page occurs (sorry I have no screenshot - post it if you can). I think it has to do with a missing system path variable - but I am not entirely sure. To fix this:

1. Install NodeJs from http://nodejs.org/dist/v0.10.22/node-v0.10.22-x86.msi
2. Restart your computer.

To run the example code RubyLect10.progs in Windows 8:

1. Download the RubyLect10.progs from Moodle (https://csimoodle.ucd.ie/moodle/mod/resource/view.php?id=20485)
2. Extract the zip to your Ruby Project folder (e.g. C:\RubyMine\temp)
3. Run command prompt
4. Navigate to the extracted zip
5.

```
C:\RubyMine\temp>cd RubyLect10.progs

C:\RubyMine\temp\RubyLect10.progs>cd hello

C:\RubyMine\temp\RubyLect10.progs\hello>rails server
C:/Ruby200/lib/ruby/gems/2.0.0/gems/sqlite3-1.3.4-x86-mingw32/lib/sqlite
n `require': cannot load such file -- sqlite3/sqlite3_native (LoadError)
        from C:/Ruby200/lib/ruby/gems/2.0.0/gems/sqlite3-1.3.4-x86-ming
qlite3.rb:6:in `rescue in <top (required)>'
        from C:/Ruby200/lib/ruby/gems/2.0.0/gems/sqlite3-1.3.4-x86-ming
qlite3.rb:2:in `<top (required)>'
        from C:/Ruby200/lib/ruby/gems/2.0.0/gems/bundler-1.3.5/lib/bundl
me.rb:72:in `require'
        from C:/Ruby200/lib/ruby/gems/2.0.0/gems/bundler-1.3.5/lib/bundl
me.rb:72:in `block (2 levels) in require'
        from C:/Ruby200/lib/ruby/gems/2.0.0/gems/bundler-1.3.5/lib/bundl
me.rb:70:in `each'
        from C:/Ruby200/lib/ruby/gems/2.0.0/gems/bundler-1.3.5/lib/bundl
me.rb:70:in `block in require'
        from C:/Ruby200/lib/ruby/gems/2.0.0/gems/bundler-1.3.5/lib/bundl
me.rb:59:in `each'
        from C:/Ruby200/lib/ruby/gems/2.0.0/gems/bundler-1.3.5/lib/bundl
me.rb:59:in `require'
        from C:/Ruby200/lib/ruby/gems/2.0.0/gems/bundler-1.3.5/lib/bundl
2:in `require'
        from C:/RubyMine/temp/RubyLect10.progs/hello/config/application
`<top (required)>'
        from C:/Ruby200/lib/ruby/gems/2.0.0/gems/railties-3.1.0/lib/rail
ds.rb:52:in `require'
        from C:/Ruby200/lib/ruby/gems/2.0.0/gems/railties-3.1.0/lib/rail
ds.rb:52:in `block in <top (required)>'
        from C:/Ruby200/lib/ruby/gems/2.0.0/gems/railties-3.1.0/lib/rail
ds.rb:49:in `tap'
        from C:/Ruby200/lib/ruby/gems/2.0.0/gems/railties-3.1.0/lib/rail
ds.rb:49:in `<top (required)>'
        from script/rails:6:in `require'
        from script/rails:6:in `<main>'
```

6.

```
C:\RubyMine\temp\RubyLect10.progs\hello>bundle update sqlite3
Fetching gem metadata from http://rubygems.org/.........
Fetching gem metadata from http://rubygems.org/..
Resolving dependencies...
Using rake (0.9.2)
Using multi_json (1.0.3)
Using activesupport (3.1.0)
Installing bcrypt-ruby (3.0.1)
Using builder (3.0.0)
Using i18n (0.6.0)
Using activemodel (3.1.0)
Using erubis (2.7.0)
Using rack (1.3.4)
Using rack-cache (1.0.3)
Using rack-mount (0.8.3)
Using rack-test (0.6.1)
Using hike (1.2.1)
Using tilt (1.3.3)
Using sprockets (2.0.2)
Using actionpack (3.1.0)
Using mime-types (1.16)
Using polyglot (0.3.2)
Using treetop (1.4.10)
Using mail (2.3.0)
Using actionmailer (3.1.0)
Using arel (2.2.1)
Using tzinfo (0.3.30)
Using activerecord (3.1.0)
Using activeresource (3.1.0)
Using ansi (1.3.0)
Using bundler (1.3.5)
Using coffee-script-source (1.1.2)
Using execjs (1.2.9)
Using coffee-script (2.2.0)
Using rack-ssl (1.3.2)
Using json (1.6.1)
Using rdoc (3.10)
Using thor (0.14.6)
Using railties (3.1.0)
Using coffee-rails (3.1.1)
Using jquery-rails (1.0.14)
Using rails (3.1.0)
Using sass (3.1.10)
Using sass-rails (3.1.4)
Using sqlite3 (1.3.8)
Using turn (0.8.3)
Using uglifier (1.0.3)
Your bundle is updated!
```

7.

```
C:\RubyMine\temp\RubyLect10.progs\hello>rails server
=> Booting WEBrick
=> Rails 3.1.0 application starting in development on http://0.0.0.0:30
=> Call with -d to detach
=> Ctrl-C to shutdown server
[2013-11-15 04:28:27] INFO  WEBrick 1.3.1
[2013-11-15 04:28:27] INFO  ruby 2.0.0 (2013-06-27) [i386-mingw32]
[2013-11-15 04:28:27] INFO  WEBrick::HTTPServer#start: pid=124 port=300
```

8. Now the server runs. Request the page in a browser: http://localhost:3000/other/name
9. When you request the page in a browser you get an error because of a missing or incompatible version of the bcrypt-ruby gem (see screenshots below)
10.

```
[2013-11-15 04:28:44] ERROR LoadError: cannot load such file -- 2.0/bcr
        C:/Ruby200/lib/ruby/gems/2.0.0/gems/activesupport-3.1.0/lib/act
rt/dependencies.rb:240:in `require'
        C:/Ruby200/lib/ruby/gems/2.0.0/gems/activesupport-3.1.0/lib/act
rt/dependencies.rb:240:in `block in require'
        C:/Ruby200/lib/ruby/gems/2.0.0/gems/activesupport-3.1.0/lib/act
rt/dependencies.rb:223:in `block in load_dependency'
        C:/Ruby200/lib/ruby/gems/2.0.0/gems/activesupport-3.1.0/lib/act
rt/dependencies.rb:640:in `new_constants_in'
        C:/Ruby200/lib/ruby/gems/2.0.0/gems/activesupport-3.1.0/lib/act
rt/dependencies.rb:223:in `load_dependency'
        C:/Ruby200/lib/ruby/gems/2.0.0/gems/activesupport-3.1.0/lib/act
rt/dependencies.rb:240:in `require'
        C:/Ruby200/lib/ruby/gems/2.0.0/gems/bcrypt-ruby-3.0.1-x86-mingw
rypt_ext.rb:2:in `<top (required)>'
        C:/Ruby200/lib/ruby/gems/2.0.0/gems/activesupport-3.1.0/lib/act
rt/dependencies.rb:240:in `require'
        C:/Ruby200/lib/ruby/gems/2.0.0/gems/activesupport-3.1.0/lib/act
rt/dependencies.rb:240:in `block in require'
        C:/Ruby200/lib/ruby/gems/2.0.0/gems/activesupport-3.1.0/lib/act
rt/dependencies.rb:223:in `block in load_dependency'
        C:/Ruby200/lib/ruby/gems/2.0.0/gems/activesupport-3.1.0/lib/act
rt/dependencies.rb:640:in `new_constants_in'
        C:/Ruby200/lib/ruby/gems/2.0.0/gems/activesupport-3.1.0/lib/act
rt/dependencies.rb:223:in `load_dependency'
        C:/Ruby200/lib/ruby/gems/2.0.0/gems/activesupport-3.1.0/lib/act
rt/dependencies.rb:240:in `require'
        C:/Ruby200/lib/ruby/gems/2.0.0/gems/bcrypt-ruby-3.0.1-x86-mingw
rypt.rb:12:in `<top (required)>'
        C:/Ruby200/lib/ruby/gems/2.0.0/gems/activesupport-3.1.0/lib/act
rt/dependencies.rb:240:in `require'
```

```
        C:/Ruby200/lib/ruby/gems/2.0.0/gems/rack-1.3.4/lib/rack/lock.rb
all'
        C:/Ruby200/lib/ruby/gems/2.0.0/gems/actionpack-3.1.0/lib/action_
/middleware/static.rb:53:in `call'
        C:/Ruby200/lib/ruby/gems/2.0.0/gems/railties-3.1.0/lib/rails/eng
55:in `call'
```

11. Press CTRL-C in the terminal to shut down the server. Press y and enter. (see screenshot below)
12.

```
[2013-11-15 04:33:45] INFO  going to shutdown ...
[2013-11-15 04:33:45] INFO  WEBrick::HTTPServer#start done.
Exiting
Terminate batch job (Y/N)? y
```

13. The following step is not necessary but will make you understand the problem. Notice the **ruby x86-mingw32** post-fix to the gem.
14.

```
C:\RubyMine\temp\RubyLect10.progs\hello>gem list bcrypt-ruby

*** LOCAL GEMS ***

bcrypt-ruby (3.0.1 ruby x86-mingw32)
```

15.

```
C:\RubyMine\temp\RubyLect10.progs\hello>gem uninstall bcrypt-ruby

You have requested to uninstall the gem:
        bcrypt-ruby-3.0.1-x86-mingw32

activemodel-3.1.0 depends on bcrypt-ruby (~> 3.0.0)
If you remove this gem, these dependencies will not be met.
Continue with Uninstall? [yN]  y
Successfully uninstalled bcrypt-ruby-3.0.1-x86-mingw32
```

16. Make sure you type the next command correctly, its: **gem install bcrypt-ruby --version=3.0.1 --platform=ruby**

17.

```
C:\RubyMine\temp\RubyLect10.progs\hello>gem install bcrypt-ruby --versi
--platform=ruby
Fetching: bcrypt-ruby-3.0.1.gem (100%)
Temporarily enhancing PATH to include DevKit...
Building native extensions.  This could take a while...
Successfully installed bcrypt-ruby-3.0.1
Parsing documentation for bcrypt-ruby-3.0.1
unable to convert "\x90" from ASCII-8BIT to UTF-8 for lib/bcrypt_ext.so,
g
Installing ri documentation for bcrypt-ruby-3.0.1
1 gem installed
```

18. Again the following step is not necessary, compare the bcrypt-ruby gem description to the one in step 13. See the difference :)

19.

```
C:\RubyMine\temp\RubyLect10.progs\hello>gem list bcrypt-ruby

*** LOCAL GEMS ***

bcrypt-ruby (3.0.1)
```

20. Execute the server again: **rails server** and request the page in the browser. (http://localhost:3000/other/name)

21.

22. If you see an error page (sry I have no screenshot - post it if you can) you might be missing a system path variable - but I am not entirely sure. To fix this:
23. Install NodeJs from http://nodejs.org/dist/v0.10.22/node-v0.10.22-x86.msi
24. Restart your computer.
25. Run command prompt, navigate to the hello folder, execute the **rails server**, and request the page.