中華電信學院
Ruby on Rails

前端之旅
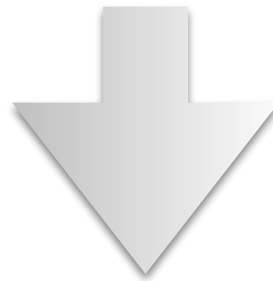簡煒航（大兜）@tonytonyjan

ERB

Ruby 內建樣板引擎

config/routes.rb

```ruby
# config/routes.rb
Rails.application.routes.draw do
  root 'pages#home'
  get 'about', 'math', controller: :pages
end
```
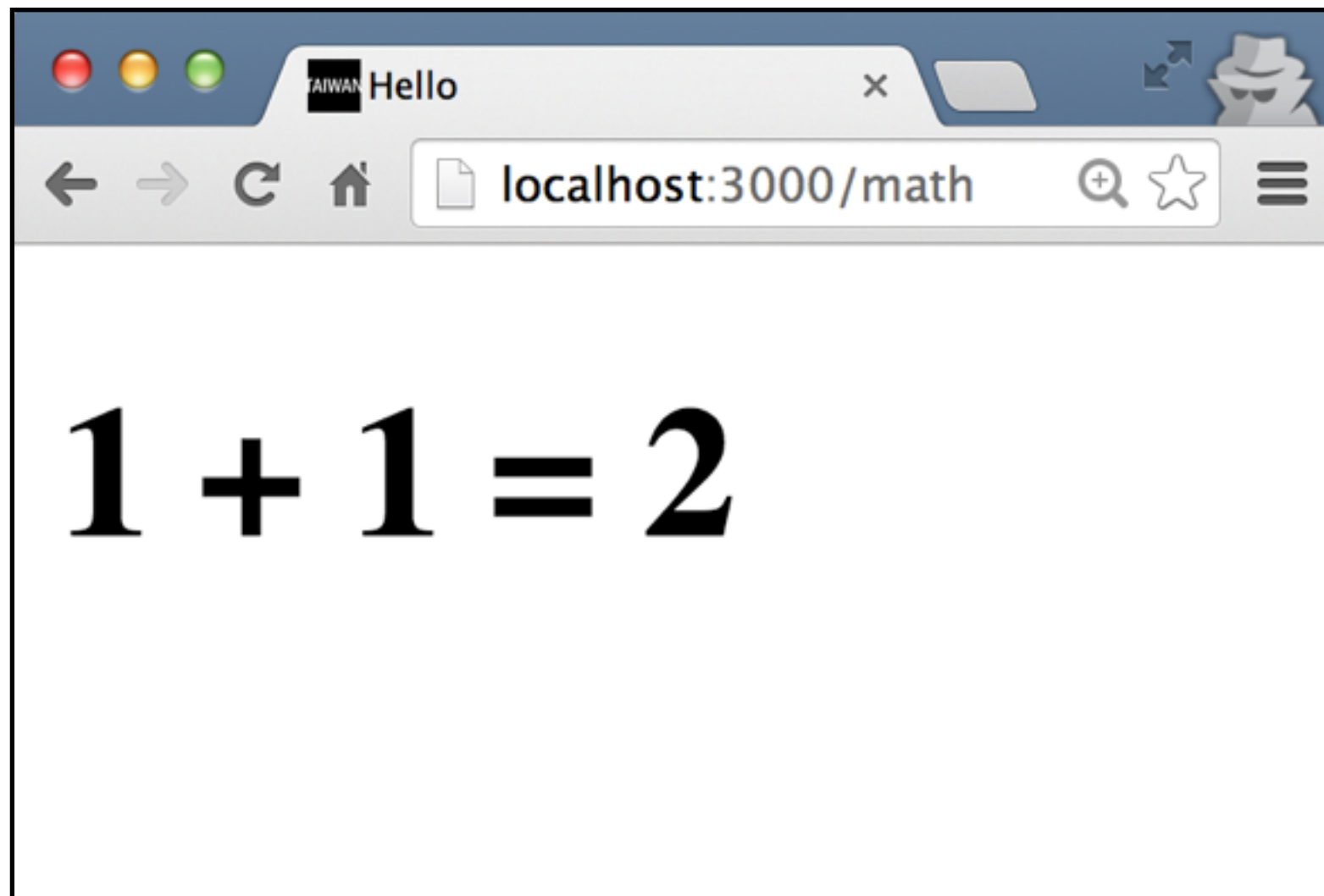
```
hello $ rake routes
Prefix Verb URI Pattern         Controller#Action
  root GET  /                   pages#home
 about GET  /about(.:format)    pages#about
  math GET  /math(.:format)     pages#math
```
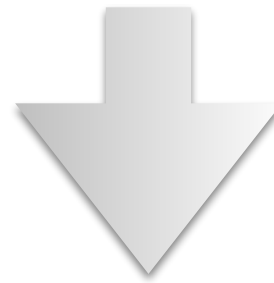
app/views/pages/math.html.erb

```erb
<!-- app/views/pages/math.html.erb -->
<h1> 1 + 1 = <%= 1 + 1 %></h1>
```

http://localhost:3000/math

<%= %>

```erb
<!-- app/views/pages/math.html.erb -->
<h1> 1 + 1 = <%= 1 + 1 %></h1>
```

⬇

```erb
<!-- app/views/pages/math.html.erb -->
<h1> 1 + 1 = 2</h1>
```

<% %>
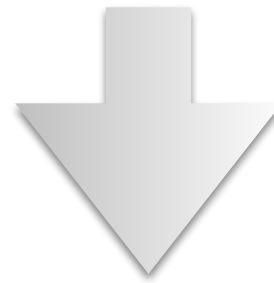
```erb
<!-- app/views/pages/math.html.erb -->
<h1> 1 + 1 = <% 1 + 1 %></h1>
```
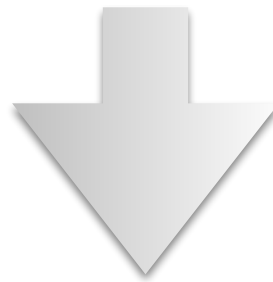
⬇

```erb
<!-- app/views/pages/math.html.erb -->
<h1> 1 + 1 = </h1>
```

區域變數

```erb
<!-- app/views/pages/math.html.erb -->
<%
  a = 699
  b = 609
%>
<h1> 一共是 <%= a + b %></h1>
```

⬇

```erb
<!-- app/views/pages/math.html.erb -->
<h1> 一共是 1308</h1>
```

<%# %>

```erb
<!-- app/views/pages/math.html.erb -->
<%#
  a = 699
  b = 609
%>
<h1> 一共是 <%= a + b %></h1>
```
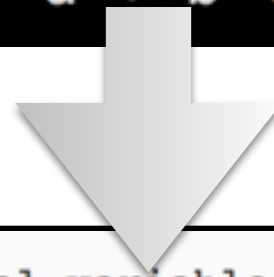
undefined local variable or method `a'

Extracted source (around line #6):

```
3       a = 699
4       b = 609
5    %>
6    <h1> 一共是 <%= a + b %></h1>
```

Block

```erb
<!-- app/views/pages/math.html.erb -->
<ul>
<% [1, 1, 2, 3, 5, 8, 13].each do |fab| %>
  <li><%= fab %></li>
<% end %>
</ul>
```

```erb
<!-- app/views/pages/math.html.erb -->
<ul>
  <li>1</li>
  <li>1</li>
  <li>2</li>
  <li>3</li>
  <li>5</li>
  <li>8</li>
  <li>13</li>
</ul>
```
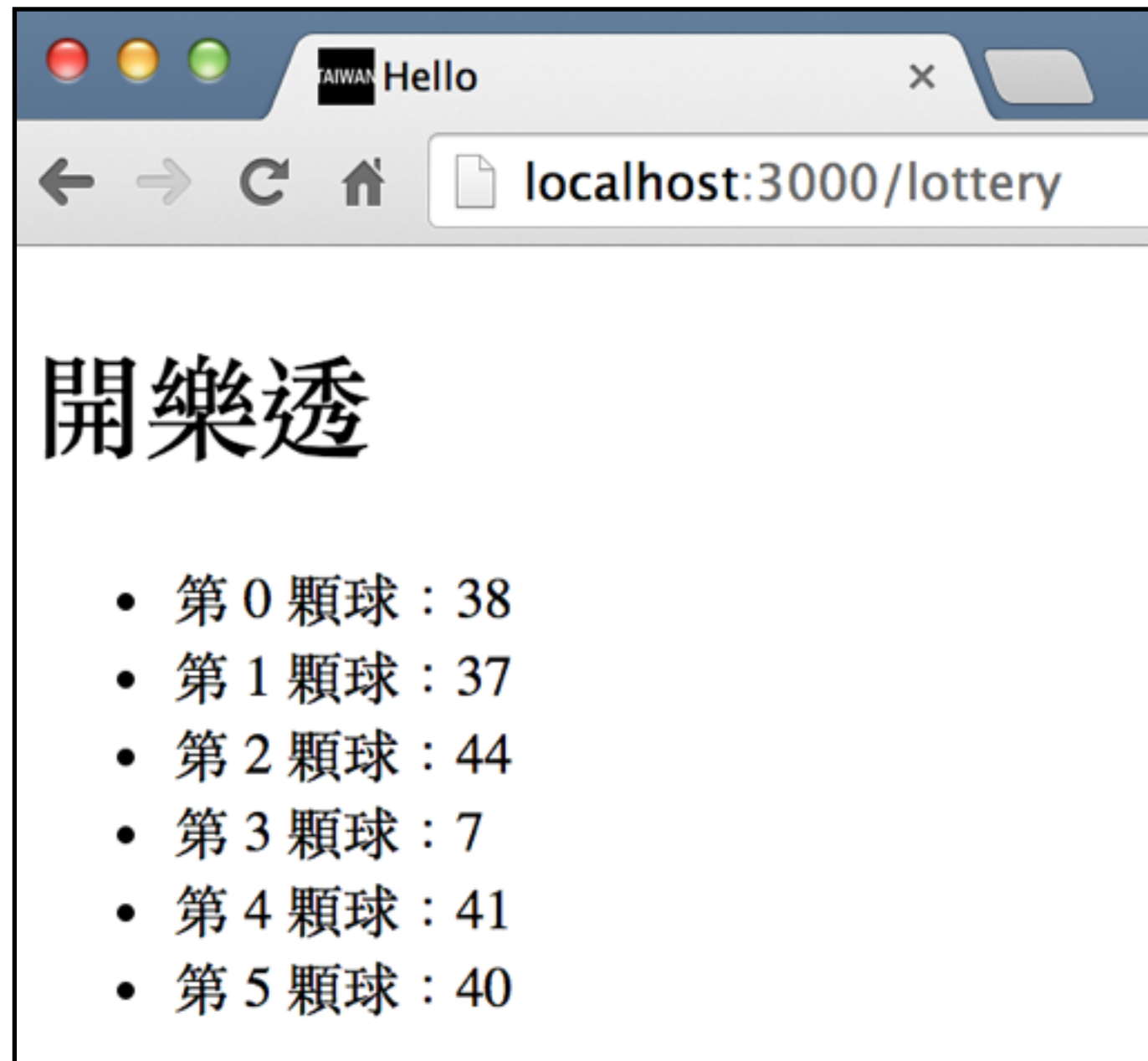
Q. 在 /lottery 下實作樂透程式，重新整理會重開號碼

變數傳遞

View 負責呈現

Model 負責邏輯

Controller 負責傳資料
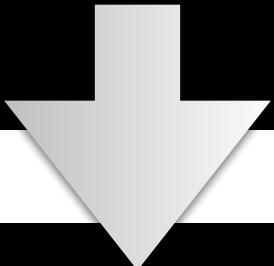
app/controllers/pages_controller.rb

```ruby
# app/controllers/pages_controller.rb
class PagesController < ApplicationController
  def lottery
    @balls = (1..48).to_a.sample(6)
  end
end
```

app/views/pages/lottery.html.erb

```erb
<h1>開樂透</h1>
<ul>
<% (1..48).to_a.sample(6).each_with_index do |ball, i| %>
  <li>第 <%= i %> 顆球：<%= ball %></li>
<% end %>
</ul>
```



```erb
<h1>開樂透</h1>
<ul>
<% @balls.each_with_index do |ball, i| %>
  <li>第 <%= i %> 顆球：<%= ball %></li>
<% end %>
</ul>
```

Q. 差異？

```ruby
# app/controllers/pages_controller.rb
class PagesController < ApplicationController
  def lottery
    @balls = (1..48).to_a.sample(6)
  end
end
```

```ruby
# app/controllers/pages_controller.rb
class PagesController < ApplicationController
  def lottery
    balls = (1..48).to_a.sample(6)
  end
end
```

HTTP 請求變數

app/views/pages/form.html

```html
<!-- app/views/pages/form.html -->
<form action="/about">
  <input type="text" name="nickname">
  <input type="submit">
</form>
```

app/views/pages/about.html.erb

```erb
<!-- app/views/pages/about.html.erb -->
<h1>關於 <%= params[:nickname] %></h1>
```

config/routes.rb

```ruby
# config/routes.rb
Rails.application.routes.draw do
  root 'pages#home'
  get 'about', 'form', controller: :pages
end
```

http://localhost:3000/about?nickname=大兜
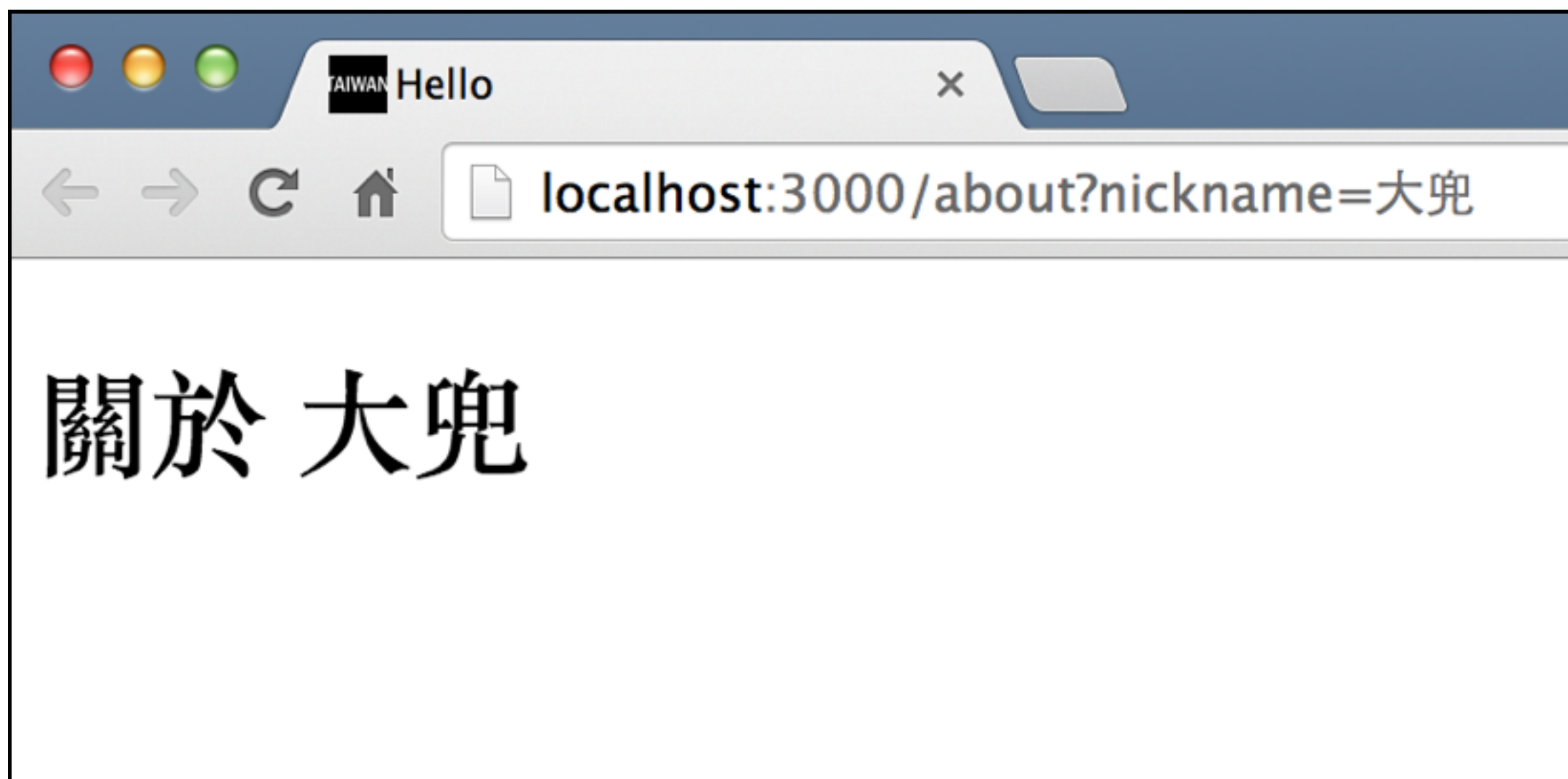
Server Log

```
Started GET "/about?nickname=%E5%A4%A7%E5%85%9C" for 127.0.0.1 at 2
Processing by PagesController#about as HTML
  Parameters: {"nickname"=>"大兜"}
  Rendered pages/about.html.erb within layouts/application (0.5ms)
Completed 200 OK in 25ms (Views: 24.1ms | ActiveRecord: 0.0ms)
```

params

params 方法

- 可用在 view 和 controller

- Symbol 與 String Key 共用

- ex. params[:name] 與 params["name"] 一樣

params.is_a? Hash

Q. 使用實體變數

```erb
<!-- app/views/pages/about.html.erb -->
<h1>關於 <%= @name %></h1>
```

Layout

様板

Layout

- 全部都放在 app/views/layouts

- Rails 預設 layout 是 application.html.erb

- 可在 controller 設定其他 layout

Server Log

```
Started GET "/about" for 127.0.0.1 at 2014-10-17 00:29:18 +0800
Processing by PagesController#about as HTML
  Rendered pages/about.html.erb within layouts/application (0.3ms)
Completed 200 OK in 20ms (Views: 19.6ms | ActiveRecord: 0.0ms)
```

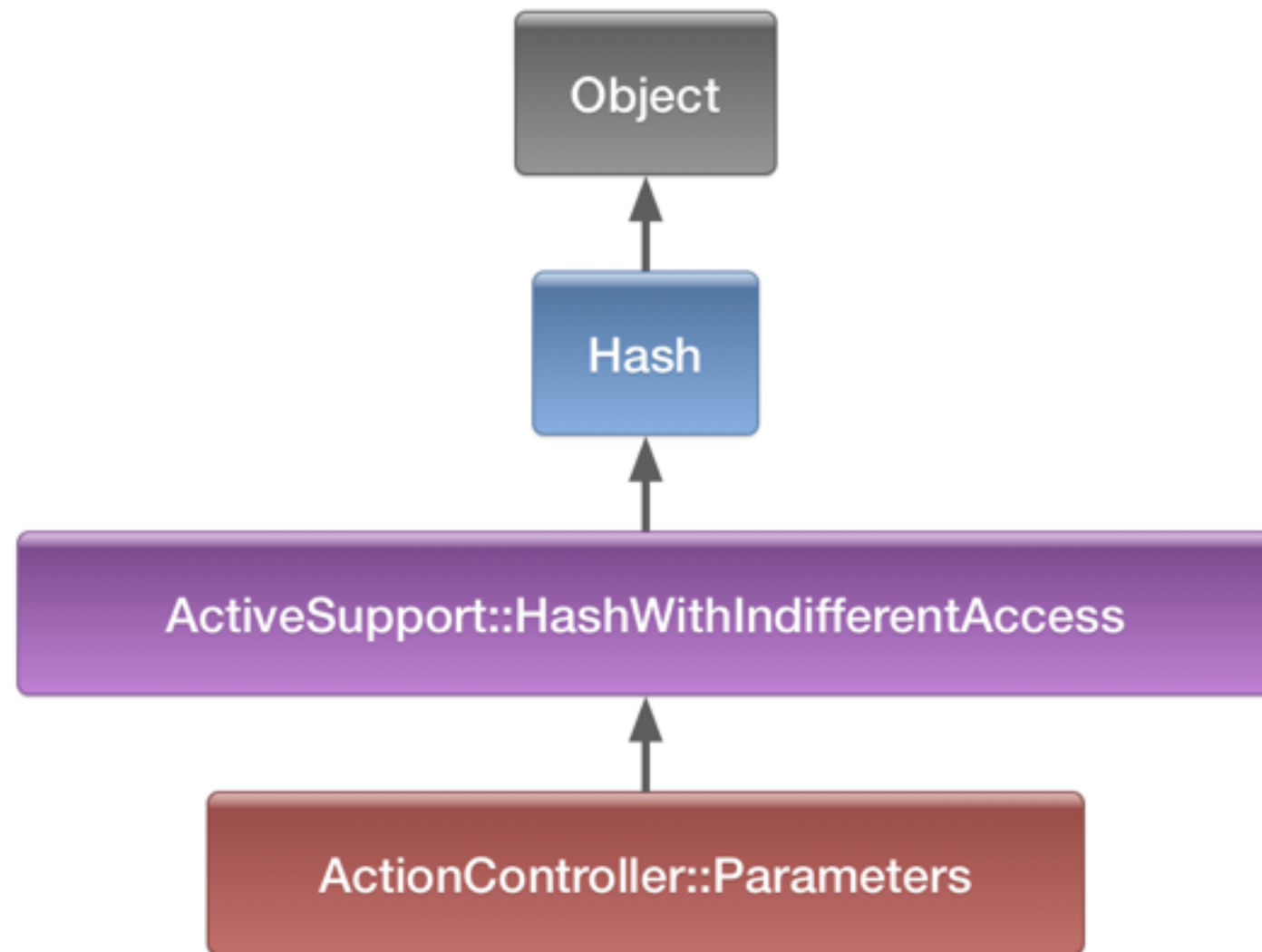# app/views/layouts/application.html.erb

```erb
<!DOCTYPE html>
<html>
<head>
  <title>Hello</title>
  <%= stylesheet_link_tag 'application',
      media: 'all', 'data-turbolinks-track' => true %>
  <%= javascript_include_tag 'application',
      'data-turbolinks-track' => true %>
  <%= csrf_meta_tags %>
</head>
<body>

<%= yield %>

</body>
</html>
```
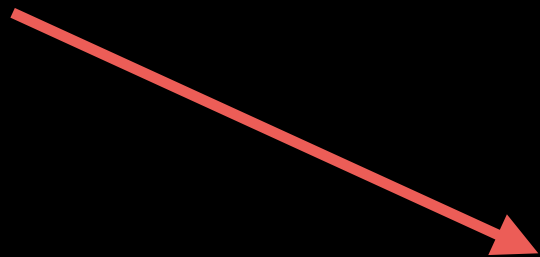
view 的內容會在
<%= yield %> 處展開

app/views/layouts/application.html.erb

```erb
<!DOCTYPE html>
<html>
<head>
  <title>Hello</title>
  <%= stylesheet_link_tag 'application',
      media: 'all', 'data-turbolinks-track' => true %>
  <%= javascript_include_tag 'application',
      'data-turbolinks-track' => true %>
  <%= csrf_meta_tags %>
</head>
<body>

<%= yield %>

</body>
</html>
```

```html
<!DOCTYPE html>
<html>
<head>
  <title>Hello</title>
  <link data-turbolinks-track="true" href="/assets/application.css?body=1" media="a
  <script data-turbolinks-track="true" src="/assets/jquery.js?body=1"></script>
<script data-turbolinks-track="true" src="/assets/jquery_ujs.js?body=1"></script>
<script data-turbolinks-track="true" src="/assets/turbolinks.js?body=1"></script>
<script data-turbolinks-track="true" src="/assets/application.js?body=1"></script>
  <meta content="authenticity_token" name="csrf-param" />
<meta content="Ceq7egmfZWx/j5FyAPbvwMZ7ZcbpGYIOAp9GfI92+RM=" name="csrf-token" />
</head>
<body>

<!-- app/views/pages/about.html.erb -->
<h1>關於 </h1>

</body>
</html>
```

DRY 原則

純 HTML

頁面 1 　頁面 2 　頁面 3

重複的 HTML

使用版型

頁面 1 　頁面 2 　頁面 3 　版型

無重複的 HTML

這 3 個頁面共用同了一個版型

Q. 幫網站加上導覽列

指定 layout (1/2)

```ruby
def about
  @name = params[:nickname]
  render layout: 'admin'
end
```

指定 layout (2/2)

```ruby
# app/controllers/pages_controller.rb
class PagesController < ApplicationController
  layout 'admin'
  def lottery
    @balls = (1..48).to_a.sample(6)
  end

  def about
    @name = params[:nickname]
  end
end
```

Partial

HTML 片段

檔案命名以底線開頭
ex. _navbar.html.erb

render "shared/navbar"

render "navbar"

會在與 controller 同名的資料夾下尋找 _navbar.html

Controller 的 render 與 View 的 render 不同

Q. 將導覽列改成 partial

Assets Pipeline

Assets

指 JS、CSS 字型與圖片等資源

Assets Helper

View Helper	搜尋路徑
stylesheet_link_tag	app/assets/stylesheets lib/assets/stylesheets vendor/assets/stylesheets
javascript_include_tag	app/assets/javascripts lib/assets/javascripts vendor/assets/javascripts
image_tag	app/assets/images lib/assets/images vendor/assets/images

Sprockets

```
//= require jquery
//= require jquery_ujs
//= require turbolinks
//= require_tree .
```

Sprockets 利用註解將多個檔案打成一個檔案，以減少 HTTP 請求次數

require_tree
使用相對路徑

$ rails g assets NAME

CSRF

Cross-site request forgery
跨站請求偽造

Q. 改用 POST

```erb
<!-- app/views/pages/form.html.erb -->
<form action="/about" method="post">
  <input type="text" name="nickname">
  <input type="submit">
</form>
```

```ruby
Rails.application.routes.draw do
  get 'home', 'about', 'form', controller: 'pages'
  post 'about', controller: 'pages'
end
```

ActionController::InvalidAuthenticityToken in PagesController#about

ActionController::InvalidAuthenticityToken

```
Rails.root: /private/tmp/hello
```

Application Trace | Framework Trace | Full Trace

Request

Parameters:

```
{"nickname"=>"Tony Jian"}
```

Toggle session dump

Toggle env dump

Response

Headers:

```
None
```

Q. GET /posts/1/delete
此設計會有什麼問題？

http://5xruby.tw/posts/9527/delete

這是一個刪除編號為 9527 的文章的網址

簡煒航 <tonytonyjan@gmail.com>

to me ▾

你的帳號疑似被盜用，請點我重設密碼。

⬚⬚⬚

你的帳號疑似被盜用，`<a href="http://5xruby.tw/posts/9527/delete">`請點我`</a>`重設密碼。

```
<head>

  <title>Hello</title>

  <%= stylesheet_link_tag    'application',

  <%= javascript_include_tag 'application',

  <%= csrf_meta_tags %>

</head>
```

```
<!DOCTYPE html>
<html>
<head>
  <title>Hello</title>
  <link data-turbolinks-track="true" href="/assets/pages.css?body=1" media="all" r
<link data-turbolinks-track="true" href="/assets/application.css?body=1" media="al
  <script data-turbolinks-track="true" src="/assets/jquery.js?body=1"></script>
<script data-turbolinks-track="true" src="/assets/jquery_ujs.js?body=1"></script>
<script data-turbolinks-track="true" src="/assets/turbolinks.js?body=1"></script>
<script data-turbolinks-track="true" src="/assets/pages.js?body=1"></script>
<script data-turbolinks-track="true" src="/assets/application.js?body=1"></script>
  <meta content="authenticity_token" name="csrf-param" />
<meta content="YmQ3he4xBNAkCYSzNWkOZHbUj5QCM8SltPf2YgAJ9DM=" name="csrf-token" />
</head>
<body>

<h1>Pages#home</h1>
<p>Find me in app/views/pages/home.html.erb</p>


</body>
</html>
```

app/views/pages/form.html.erb

```erb
<!-- app/views/pages/form.html.erb -->
<form action="/about" method="post">
  <input type="text" name="nickname">
  <input type="hidden" name="authenticity_token" value="YmQ3he4xBNAkCYSzNWkOZHbUj5QCM8SltPf2YgAJ9DM=">
  <input type="submit">
</form>
```

app/views/pages/form.html.erb

```erb
<!-- app/views/pages/form.html.erb -->
<form action="/about" method="post">
  <input type="text" name="nickname">
  <input type="hidden" name="authenticity_token" value="<%= form_authenticity_token %>">
  <input type="submit">
</form>
```

app/views/pages/form.html.erb

```erb
<!-- app/views/pages/form.html.erb -->
<form action="/about" method="post">
  <input type="text" name="nickname">
  <%= token_tag %>
  <input type="submit">
</form>
```

app/views/pages/form.html.erb

```erb
<!-- app/views/pages/form.html.erb -->
<%= form_tag '/about', method: :post do %>
  <input type="text" name="nickname">
  <input type="submit">
<% end %>
```

app/views/pages/form.html.erb

```erb
<!-- app/views/pages/form.html.erb -->
<%= form_tag '/about', method: :post do %>
  <%= text_field_tag :nickname %>
  <%= submit_tag %>
<% end %>
```

各種 Form Helper

button_tag, check_box_tag, color_field_tag, date_field_tag, datetime_field_tag, datetime_local_field_tag, email_field_tag, field_set_tag, file_field_tag, form_tag, hidden_field_tag, image_submit_tag, label_tag, month_field_tag, number_field_tag, password_field_tag, phone_field_tag, radio_button_tag, range_field_tag, search_field_tag, select_tag, submit_tag, telephone_field_tag, text_area_tag, text_field_tag, time_field_tag, url_field_tag, utf8_enforcer_tag, week_field_tag,

定義在 ActionView::Helpers::FormTagHelper

Q. 改用發送 PUT 請求

Rack::MethodOverride
利用 _method HTTP 變數
改寫請求方法

Q. 在 form 新增身高體重，並在 about 呈現 BMI

http://localhost:3000/form

名字 _____

身高 _____

體重 _____

送出

http://localhost:3000/about

關於 大兜

我的 **BMI** 是 **18.94**

URL Helper

URL helper
由 routes prefix 產生

```
hello $ rake routes
Prefix Verb URI Pattern          Controller#Action
  root GET  /                    pages#home
  home GET  /home(.:format)      pages#home
 about GET  /about(.:format)     pages#about
  form GET  /form(.:format)      pages#form
       POST /about(.:format)     pages#about
```

Prefix	path helper	url helper	path
root	root_path	root_url	/
home	home_path	home_url	/home
about	about_path	about_url	/about
form	form_path	form_url	/form

Q. 後者可能有什麼好處？

```html
<ul>
  <li><a href="/">首頁</a></li>
  <li><a href="/posts">文章列表</a></li>
  <li><a href="/posts/new">新增文章</a></li>
</ul>
```

```html
<ul>
  <li><a href="<%= root_path %>">首頁</a></li>
  <li><a href="<%= posts_path %>">文章列表</a></li>
  <li><a href="<%= new_post_path %>">新增文章</a></li>
</ul>
```

URL Helper 優點

- 避免打錯字，可先預防失效連結

- 容易重構網站的網址路徑命名

常用 View Helper

link_to

```
<ul>
  <li><%= link_to '首頁', root_path %></li>
  <li><%= link_to '文章列表', posts_path %></li>
  <li><%= link_to '新增文章', new_post_path %></li>
</ul>
```

image_tag

```erb
<h1>關於 <%= @name %></h1>
<%= image_tag 'http://tonytonyjan.net/images/tony.jpg' %>
<h2>我的 BMI 是 <%= @bmi.round(2) %></h2>
```

tag

```
tag("br")
# => <br />

tag("input", type: 'text', disabled: true)
# => <input type="text" disabled="disabled" />
```

content_tag

```
content_tag(:p, "Hello world!")
 # => <p>Hello world!</p>
content_tag(:div, content_tag(:p, "Hello world!"), class: "strong")
 # => <div class="strong"><p>Hello world!</p></div>
content_tag("select", options, multiple: true)
 # => <select multiple="multiple">...options...</select>
```

jquery_ujs

定義了 HTML data attribute 許多功能

data-method

```
<a href="/about" data-method="post">關於</a>
<%= link_to '關於', about_path, method: :post %>
```

會以 POST 方式送出

data-remote

```html
<a href="/about"
   data-method="post"
   data-remote="true">關於</a>
```

以 ajax 方式送出

```javascript
$('a').on('ajax:success', function(data, status, xhr){
  // ...
})
```

常用的事件：ajax:success, ajax:error, ajax:complete

data-confirm

```
<a href="/about" data-method="post" data-confirm="你確定？">關於</a>
<%= link_to '關於', about_path, method: :post, data: {confirm: '你確定？'} %>
```

跳出確認視窗

自訂 Helper

Rails Helper 全放在 app/helpers

app/helpers 下所有方法都可在任何 view 中使用

app/views/shared/_navbar.html.erb

```erb
<%= nav_li '首頁', root_path %>
<%= nav_li '文章列表', posts_path %>
<%= nav_li '新增文章', new_post_path %>
```

app/helpers/application_helper.rb

```ruby
module ApplicationHelper
  def nav_li name, url
    content_tag :li, link_to(name, url)
  end
end
```

Q. 以下怎麼使用 nav_li？

```erb
<%=
  nav_li '關於我',
          about_path(nickname: '大兜', weight: 60, height: 1.78),
          method: :post,
          data: {confirm: '你確定？'}
%>
```

$ rails g helper NAME

指令整理

- rails generate assets NAME

- rails generate helper NAME