Lab#1: Django網頁—可以呈現伺服器端傳送的數據

Show current time on the web page.

1.產生你的專案目錄

Create a new project

mkdir my\_django\_demo\_v1 🡨名稱隨意取，中文名稱也可以，有空格也可以!

2.產生你的專案設置相關檔案

Create project configuration files

Inside the project folder, create the project configuration files.

Change directory to the project folder:

cd my\_django\_demo\_v1

django-admin startproject website\_configs  **.** 🡨最後有一個英文句點A period on the end of line

3.創建自己的APP

Create your app

For example, creating an app\_bmi to calculate the body BMI, we may name the app as app\_bmi. Here, we create an app named “app\_hello”. Use the following command to create our app:

django-admin startapp app\_current\_time

or

python manage.py startapp app\_current\_time

4.基本環境設定settings.py

settings.py

|  |
| --- |
| ALLOWED\_HOSTS = ['\*']  INSTALLED\_APPS = [  …..  'app\_current\_time',  ] |

6.寫好伺服端的函數views.py

伺服器端準備甚麼資料傳送給網頁去呈現?

views.py

|  |
| --- |
| from django.shortcuts import render  from datetime import datetime  def show\_time( request ):  dt\_now = str(datetime.now())  print(dt\_now)  return render(request, 'app\_current\_time/home.html',{'current\_time': dt\_now } ) |

程式碼只有簡單的兩行:

顯示目前時間： 為了顯示動態內容，我們 import datetime 時間模組，並

用 datetime.now() 取得現在的時間。

render(渲染)： 用 render 這個 function 渲染產生要回傳的 HttpResponse 物件。

render(request, template\_name, dictionary)

render的參數有3個：

* request -- HttpRequest 物件
* template name -- 欲渲染的 template網頁
* dictionary data – 傳至 template 的變數

5.寫好url路徑urls.py

開放哪一支網頁程式?名稱是甚麼?

urls.py

|  |
| --- |
| from django.contrib import admin  from django.urls import path  from app\_current\_time import views as views\_app\_current\_time  #from app\_current\_time import views  urlpatterns = [  ~~path('admin/', admin.site.urls),~~  path('show\_time/', views.show\_time),  ] |

7.寫好網頁程式home.html

你的動態網頁程式home.html要如何寫?

home.html要置放在哪個目錄?

* site網站底下的app目錄底下的 templates

djagngo\_demo\_v1/app\_current\_time/templates/app\_current\_time/home.html

(通常一個網站是由多個app組成，若app有相同的網頁名稱home.html，則需要把home.html置放於以app為名稱的子目錄位置下就可以解決。)

home.html 要置放在哪個目錄?

通常有以下兩種做法。

* site網站根目錄底下的templates (Not recommended when we have several apps當有多個app時，必須分開置放)

djagngo\_demo\_v1/templates/home.html

* site網站底下的個別app目錄底下的 templates

djagngo\_demo\_v1/app\_hello/templates/app\_hello/home.html

djagngo\_demo\_v1/app\_current\_time/templates/app\_current\_time/home.html

通常一個網站是由多個app組成，若app有相同的網頁名稱home.html，則需要把home.html置放於以app為名稱的子目錄位置下。

|  |
| --- |
| <!-- home.html -->  <!DOCTYPE html>  <html lang="en">  <meta charset="utf-8">  <head>  <title>This is my django site.</title>  <style>  body {  background-color: lightyellow;  }  em {  color: LightSeaGreen;  }  </style>  </head>  <body>  <h1>後端送過來的現在時間Current time from backend</h1>  <em>{{ current\_time }}</em>  </body>  </html> |

<style> 自訂css格式

<em> Renders as emphasized text

How to get variables from backend server?

Use double curly brackets as follows.

{{ current\_time }}

Django’s template language: Variables

Variables look like this: {{ variable }}.

8. Start Server啟動專案

python manage.py runserver

現在啟動 web server ，連至 http://127.0.0.1:8000/current\_time/ 後，會發現網頁不再是純文字。

http://localhost:8000/current\_time/

看到畫面的內容了嗎?

除了加上了一些樣式外，也會顯示當下的時間。

Lab#2: Django網頁—Bootstrap網頁

Now we make the page more beautiful using bootstrap.

home.html

版型如下:

|  |
| --- |
| <!DOCTYPE html>  <html lang="en">  <meta charset="utf-8">  <meta name="viewport" content="width=device-width, initial-scale=1">  <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/4.3.1/css/bootstrap.min.css">  <script src="https://ajax.googleapis.com/ajax/libs/jquery/3.3.1/jquery.min.js"></script>  <script src="https://cdnjs.cloudflare.com/ajax/libs/popper.js/1.14.7/umd/popper.min.js"></script>  <script src="https://maxcdn.bootstrapcdn.com/bootstrap/4.3.1/js/bootstrap.min.js"></script>  <head>  <title>This is my django site.</title>  </head>  <body>  <div class="container">  <h1>Bootstrap4 Page</h1>  <p>This is a bootstrap page.</p>  <div class="row">  </div><!-- row -->  </div> <!-- container -->  </body>  </html> |

|  |
| --- |
| <!DOCTYPE html>  <html lang="en">  <meta charset="utf-8">  <meta name="viewport" content="width=device-width, initial-scale=1">  <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/4.3.1/css/bootstrap.min.css">  <script src="https://ajax.googleapis.com/ajax/libs/jquery/3.3.1/jquery.min.js"></script>  <script src="https://cdnjs.cloudflare.com/ajax/libs/popper.js/1.14.7/umd/popper.min.js"></script>  <script src="https://maxcdn.bootstrapcdn.com/bootstrap/4.3.1/js/bootstrap.min.js"></script>  <head>  <title>This is my django site.</title>  </head>  <body>  <div class="container">  <h1>Bootstrap4 Page</h1>  <p>This is a bootstrap page.</p>  <div class="row">  <!-- row .. col-lg-6 .. card -->  <div class="col-lg-6 mb-5">  <div class="card">  <div class="card-header">  <h3 class="h6 text-uppercase mb-0">Current Time</h3>  </div>  <div class="card-body">  <h2>Current time from backend</h2>  <em>{{ current\_time }}</em>  </div>  </div>  </div><!-- end of card -->  <!-- row .. col-lg-6 .. card -->  <div class="col-lg-4 mb-5">  <div class="card">  <div class="card-header">  <h3 class="h6 text-uppercase mb-0">Messages</h3>  </div>  <div class="card-body">  <!-- Message 顯示訊息 -->  <ul id="message">  <li>Message 1</li>  <li>Message 2</li>  <li>Message 3</li>  </ul>  </div>  </div>  </div><!-- 區塊結束-->  </div><!-- row -->  </div> <!-- container -->  </body>  </html> |

To make boostrap work, we need the following files:

css

jquery.min.js

bootstrap.min.js

Get css and js files from the internet using the following lines:

<link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/4.3.1/css/bootstrap.min.css">

<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.3.1/jquery.min.js"></script>

<script src="https://cdnjs.cloudflare.com/ajax/libs/popper.js/1.14.7/umd/popper.min.js"></script>

<script src="https://maxcdn.bootstrapcdn.com/bootstrap/4.3.1/js/bootstrap.min.js"></script>

Some basic HTML tags we need to know:

HTML tags

|  |  |  |
| --- | --- | --- |
| **HTML 碼** | **英文單字** | **說明** |
| <html>...</html> | HTML | 這是 HTML 文件。 |
| <head>...<head> | head | HTML 程式碼的頭，它負責傳遞資訊給瀏覽器，和瀏覽器溝通。 |
| <body>...</body> | body | body 就是 HTML 的身體或主體啦。 |
| <p>...</p> | paragraph | paragraph 就是段落的意思，所以，要表示一段文字為一個段落用<p>...</p>即可。 |
| <strong>...</strong> | strong | 加強語氣，所以用 strong 來表示加強的意思。 |
| <em>...</em> | emphasize | 強調語氣，所以用 emphasize 來表示強調的意思。 |
| <ul>...</ul> | Unordered List | Unordered List 的縮寫就是 ul，**沒有**標上序號的列表。 |
| <ol>...</ol> | Ordered List | Ordered List 的縮寫就是 ol，**有**標上序號的列表。 |
| <li>...</li> | List Item | List Item 的縮寫就是 li，是 "列表項目"，只能放在 <ul> 或 <ol> |

<ul id="message">

<li>Message 1</li>

<li>Message 2</li>

<li>Message 3</li>

</ul>

Bootstrap tags

|  |  |  |
| --- | --- | --- |
| < div class="container">...</div> | container | 容器 |
| <div class="row">...</div> | row | 列 |
| <div class="col-lg-12">...</div> | 行 | 行 |

<div class="container"> There is a container

<div class="row"> There is a row in the container

<div class="col-lg-12 mb-5"> There is a full column in the row

col-lg-12 a full-size-page

a full-size-page is divided into 12 columns

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |

col-12 full page

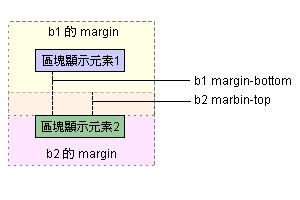
col-6 means half page

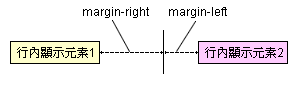
col-4 1/3 page

<div class="col-lg-4 mb-5">

col-lg-4 4 large columns 1/3 of a full-size-column

mb-5 5 pixels margin-bottom





<https://sites.google.com/site/coolteazhuanti/css/padding>

CSS 排版定義了元素之間的彼鄰關係，每一個元素我們都可視它為一個 Box方塊，由以下四個屬性組成

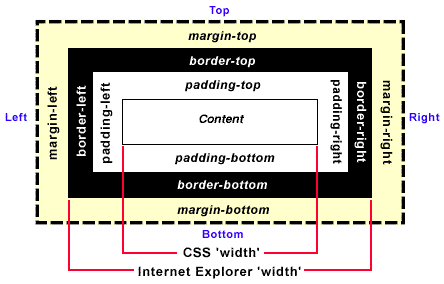
margin(邊界)

border(邊框)

padding(邊距)

content元素內容

[上面留白值] [右邊留白值] [下面留白值] [左邊留白值]



Some useful bootstrap elements

<input class="form-control" id="height" name="height" value="180" placeholder="Height(cm)">

More Bootstrap tutorials: <https://www.w3schools.com/bootstrap4/>

Django’s template language

Django’s template language is designed to strike a balance between power and ease. It’s designed to feel comfortable to those used to working with HTML. If you have any exposure to other text-based template languages, such as [Smarty](https://www.smarty.net/) or [Jinja2](https://palletsprojects.com/p/jinja/), you should feel right at home with Django’s templates.

|  |
| --- |
| {% **extends** "base\_generic.html" %}  {% **block** title %}{{ section.title }}{% **endblock** %}  {% **block** content %}  <**h1**>{{ section.title }}</**h1**>  {% **for** story **in** story\_list %}  <**h2**>  <**a** href="{{ story.get\_absolute\_url }}">  {{ story.headline|upper }}  </**a**>  </**h2**>  <**p**>{{ story.tease|truncatewords:"100" }}</**p**>  {% **endfor** %}  {% **endblock** %}  {% if yourbmi %}  <h3>Your BMI is {{ yourbmi }}.</h3>  {% endif %} |

<https://docs.djangoproject.com/en/3.1/ref/templates/language/>