Python Django Tutorials

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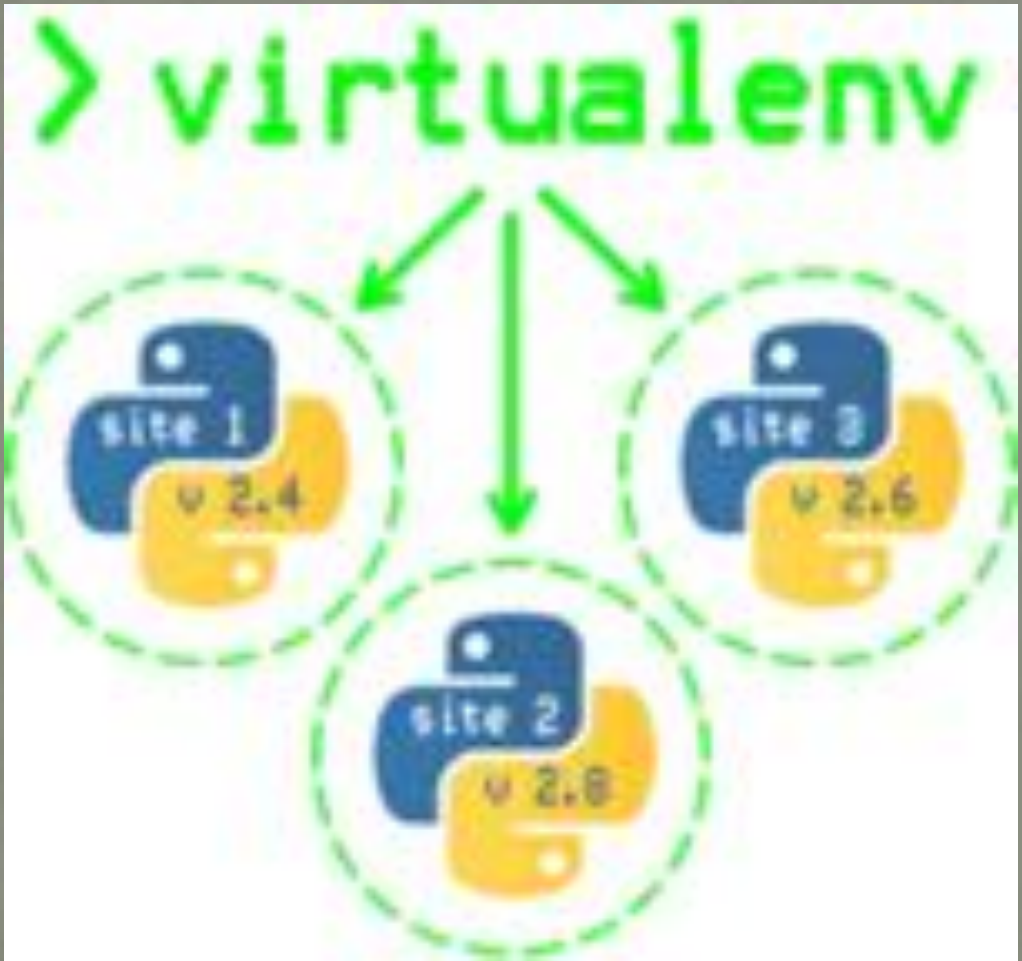
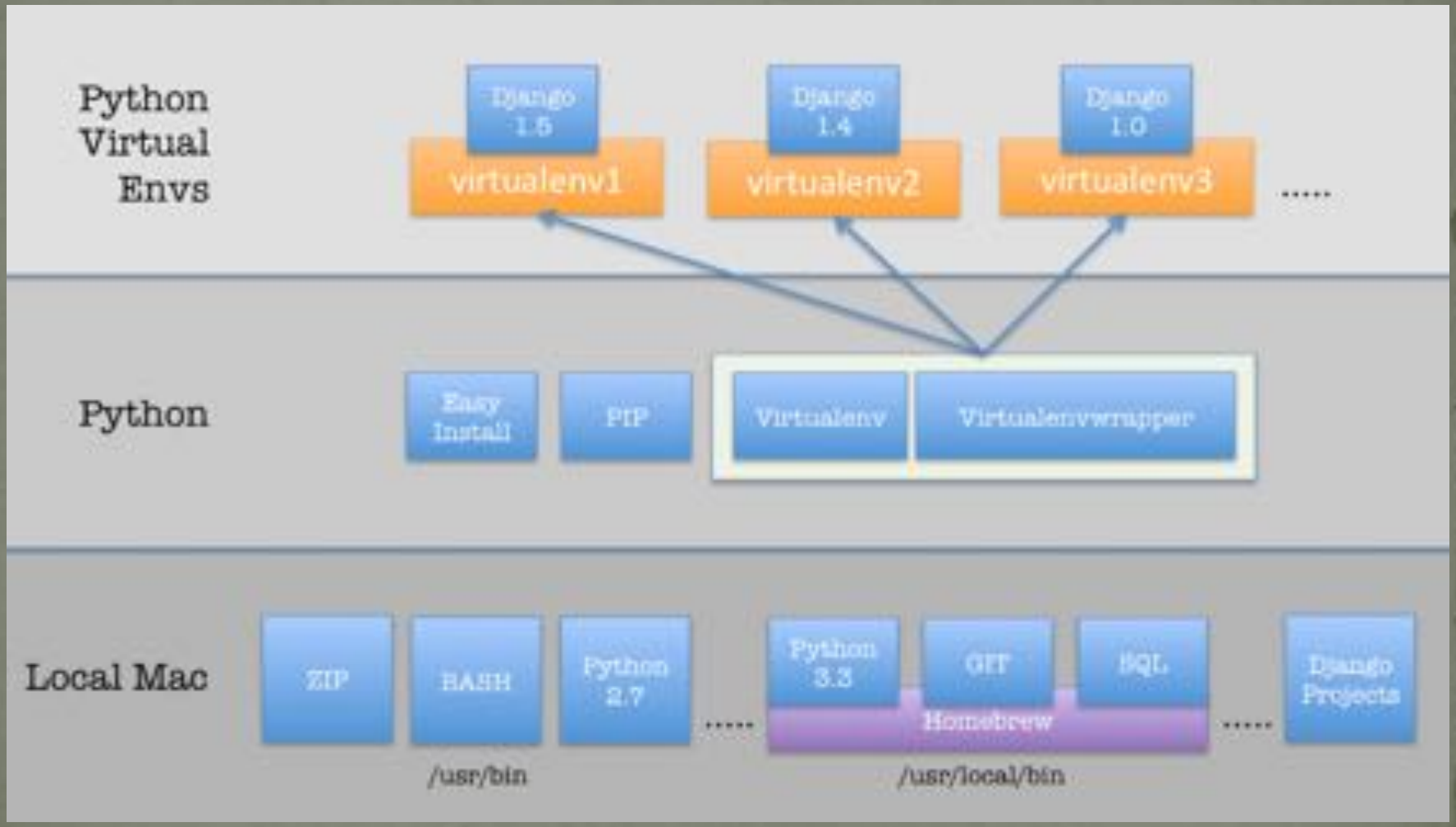
Vitrualenv



Vitrualenv


Python Virtual Envs
Django 1.5
virtualenv1
Django 1.4
virtualenv2
Django 1.0
virtualenv3
.....
Python
Easy Install
PIP
Virtualenv
Virtualenvwrapper
Local Mac
ZIP
BASH
Python 2.7
.....
Python 3.3
GIT
SQL
Homebrew
.....
Django Projects
/usr/bin
/usr/local/bin

Vitrualenv

- pip install virtualenv
- pip3 install virtualenv
- easy_install virtualenv

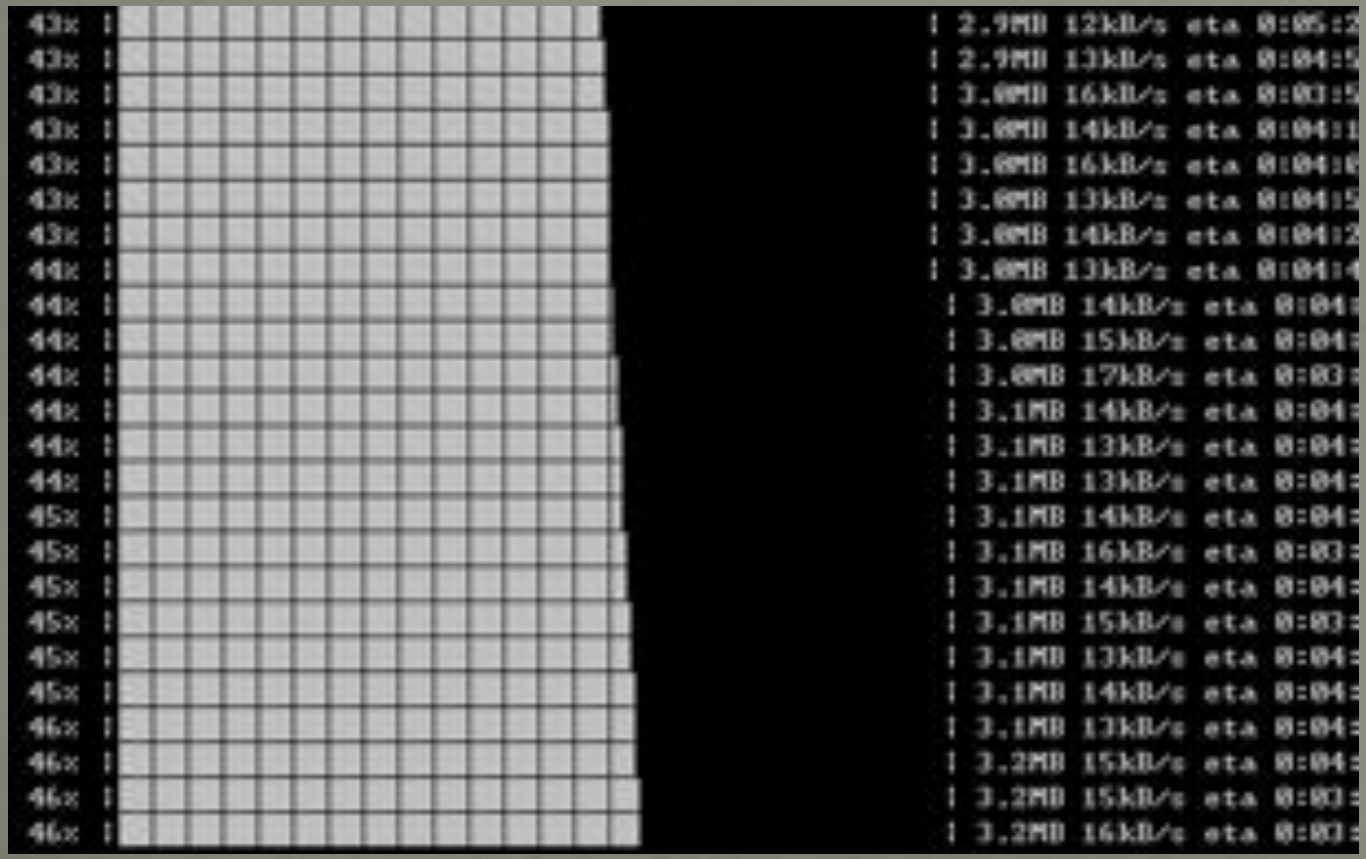
- virtualenv
- virtualenv project

- WIN Scripts\activate.bat
- MAC
  - source ./bin/activate
  - Deactivate

```
(m_django) c:\GitHub\mandarinx_django\m_django>
```

Install Django

pip install django==1.11rc1



Install Django - Verifying

python -m django --version

```
(mywebsite) c:\GitHub\Django_new\mysite>python -m django --version
1.11rc1
```

Part 1: Requests and responses

Creating a project

- django-admin startproject mysite
- python manage.py runserver

```
mysite/
    manage.py
    mysite/
        __init__.py
        settings.py
        urls.py
        wsgi.py
```

Creating a project

- manage.py: A command-line utility that lets you interact with this Django project in various ways.
- mysite/__init__.py: An empty file that tells Python that this directory should be considered a Python package.
- mysite/settings.py: Settings/configuration for this Django project.
- mysite/urls.py: The URL declarations for this Django project.
- mysite/wsgi.py: An entry-point for WSGI-compatible web servers to serve your project.

Creating app

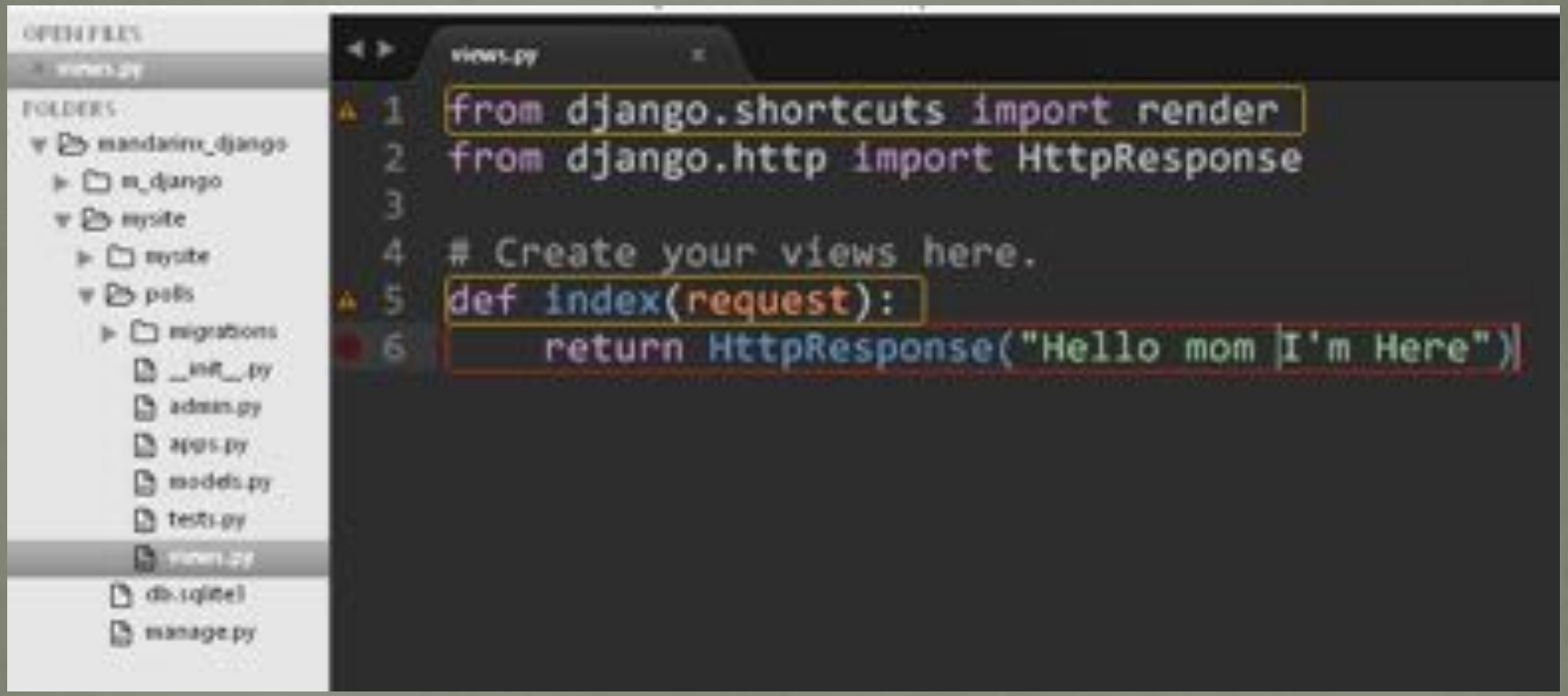
- What's the difference between a project and an app?
- An app is a Web application that does something – e.g., a Weblog system, a database of public records or a simple poll app.
- A project is a collection of configuration and apps for a particular website. A project can contain multiple apps. An app can be in multiple projects.

Creating app

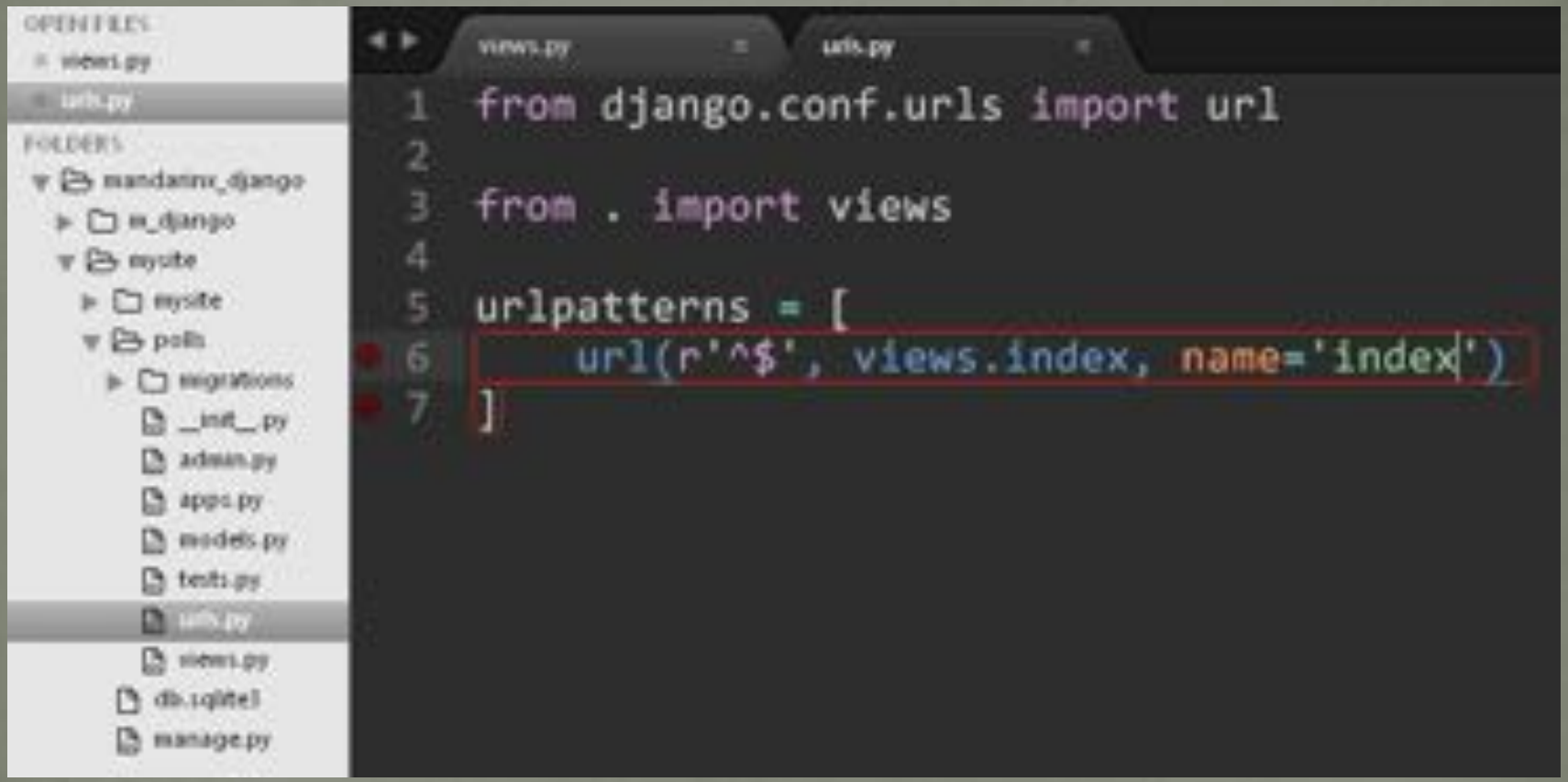
- python manage.py startapp jerry

```
polls/
    __init__.py
    admin.py
    apps.py
    migrations/
        __init__.py
    models.py
    tests.py
    views.py
```

Write your first view



Write your first view



Write your first view

```
The `urlpatterns` list routes URLs to views. For more information please see:
    https://docs.djangoproject.com/en/dev/topics/http/urls/
Examples:
Function views
    1. Add an import:  from my_app import views
    2. Add a URL to urlpatterns:  url(r'^$', views.home, name='home')
Class-based views
    1. Add an import:  from other_app.views import Home
    2. Add a URL to urlpatterns:  url(r'^$', Home.as_view(), name='home')
Including another URLconf
    1. Import the include() function: from django.conf.urls import url, include
    2. Add a URL to urlpatterns:  url(r'^blog/', include('blog.urls'))
"""
from django.conf.urls import include, url
from django.contrib import admin

urlpatterns = [
    url(r'^polls/', include('polls.urls')),
    url(r'^admin/', admin.site.urls),
]
```

Part 2: Models and the admin site

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Part 2: Models and the admin site

```
$ python manage.py migrate
```

- The migrate command looks at the INSTALLED_APPS setting and creates any necessary database tables according to the database settings in your mysite/settings.py file and the database migrations shipped with the app (we'll cover those later).

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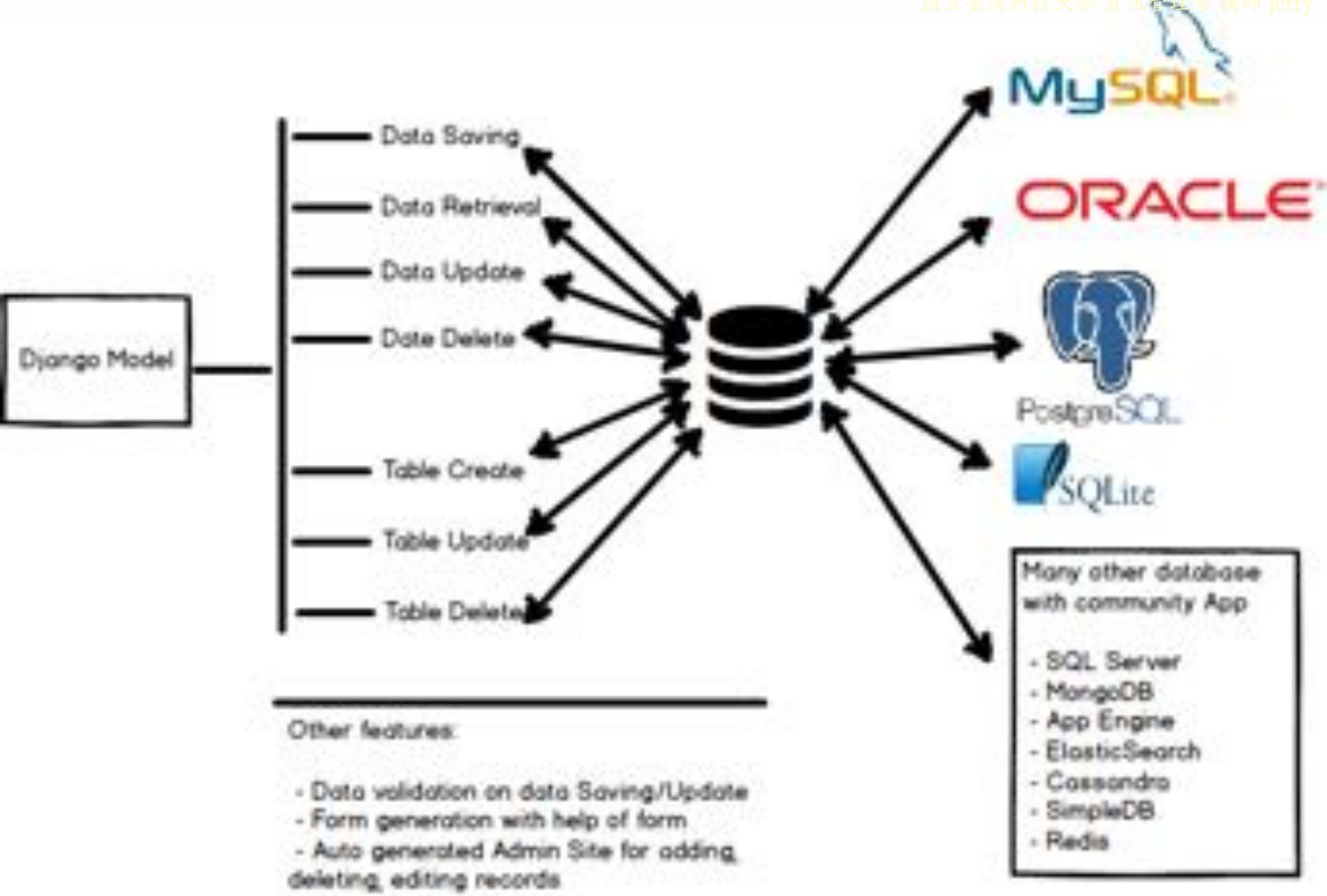


File Edit Selection Find View Goto Tools Project Preferences Help Corona Editor

OPEN FILES
- views.py
- urls.py — polls
- urls.py — mysite
- settings.py
- models.py

FOLDERS
- Django_new
  - chapter1
  - mysite
    - mysite
      - __pycache__
      - __init__.py
      - settings.py
      - urls.py
      - wsgi.py
    - polls
      - __pycache__
      - migrations
      - __init__.py
      - admin.py
      - apps.py
      - models.py
      - tests.py
      - urls.py
      - views.py
    - db.sqlite3
    - manage.py
  - mywebsite

views.py | urls.py — polls | urls.py — mysite | settings.py | models.py

```python
from django.db import models

# Create your models here.
class Question(models.Model):
    question_text = models.CharField(max_length=200)
    pub_date = models.DateTimeField('date published')


class Choice(models.Model):
    question = models.ForeignKey(Question, on_delete=models.CASCADE)
    choice_text = models.CharField(max_length=200)
    votes = models.IntegerField(default=0)
```

- Django_new
  - chapter1
  - mysite
    - mysite
      - __pycache__
      - __init__.py
      - settings.py
      - urls.py
      - wsgi.py
    - polls
      - __pycache__
      - migrations
      - __init__.py
      - admin.py
      - apps.py
      - models.py
      - tests.py
      - urls.py
      - views.py
    - db.sqlite3
    - manage.py
  - mywebsite

```python
INSTALLED_APPS = [
    'polls.apps.PollsConfig',
    'django.contrib.admin',
    'django.contrib.auth',
    'django.contrib.contenttypes',
    'django.contrib.sessions',
    'django.contrib.messages',
    'django.contrib.staticfiles',
]

# Internationalization
# https://docs.djangoproject.com/en/dev/topics/i18n/

LANGUAGE_CODE = 'en-us'

TIME_ZONE = 'Asia/Taipei'

USE_I18N = True

USE_L10N = True

USE_TZ = True
```

- python manage.py makemigrations polls
- python manage.py sqlmigrate polls 0001
- python manage.py migrate

```
--
-- Create model Choice
--
CREATE TABLE "polls_choice" ("id" integer NOT NULL PRIMARY KEY AUTOINCREMENT, "c
hoice_text" varchar(200) NOT NULL, "votes" integer NOT NULL);
--
-- Create model Question
--
CREATE TABLE "polls_question" ("id" integer NOT NULL PRIMARY KEY AUTOINCREMENT,
"question_text" varchar(200) NOT NULL, "pub_date" datetime NOT NULL);
--
-- Add field question to choice
--
ALTER TABLE "polls_choice" RENAME TO "polls_choice__old";
CREATE TABLE "polls_choice" ("id" integer NOT NULL PRIMARY KEY AUTOINCREMENT, "c
hoice_text" varchar(200) NOT NULL, "votes" integer NOT NULL, "question_id" integ
er NOT NULL REFERENCES "polls_question" ("id"));
INSERT INTO "polls_choice" ("question_id", "id", "choice_text", "votes") SELECT
NULL, "id", "choice_text", "votes" FROM "polls_choice__old";
DROP TABLE "polls_choice__old";
CREATE INDEX "polls_choice_question_id_c5b4b260" ON "polls_choice" ("question_id
");
COMMIT;
```

Playing with the API

- python manage.py shell
- **from** polls.models **import** Question, Choice
- Question.objects.all()
- **from** django.utils **import** timezone
- q = Question(question_text="What's new?", pub_date=timezone.now())
- q.save()
- q.id
- q.question_text
- q.pub_date

Playing with the API

- q.question_text = "What's up?“
- q.save()
- Question.objects.all()

```
>>> Question.objects.all()
<QuerySet [<Question: Question object>]>
>>>
```

Playing with the API

```
from django.db import models

# Create your models here.
class Question(models.Model):
    question_text = models.CharField(max_length=200)
    pub_date = models.DateTimeField('date published')

    def __str__(self):
        return self.question_text


class Choice(models.Model):
    question = models.ForeignKey(Question, on_delete=models.CASCADE)
    choice_text = models.CharField(max_length=200)
    votes = models.IntegerField(default=0)

    def __str__(self):
        return self.choice_text
```

Playing with the API

- python manage.py makemigrations polls
- python manage.py migrate
- python manage.py shell

- **from** polls.models **import** Question, Choice
- Question.objects.all()

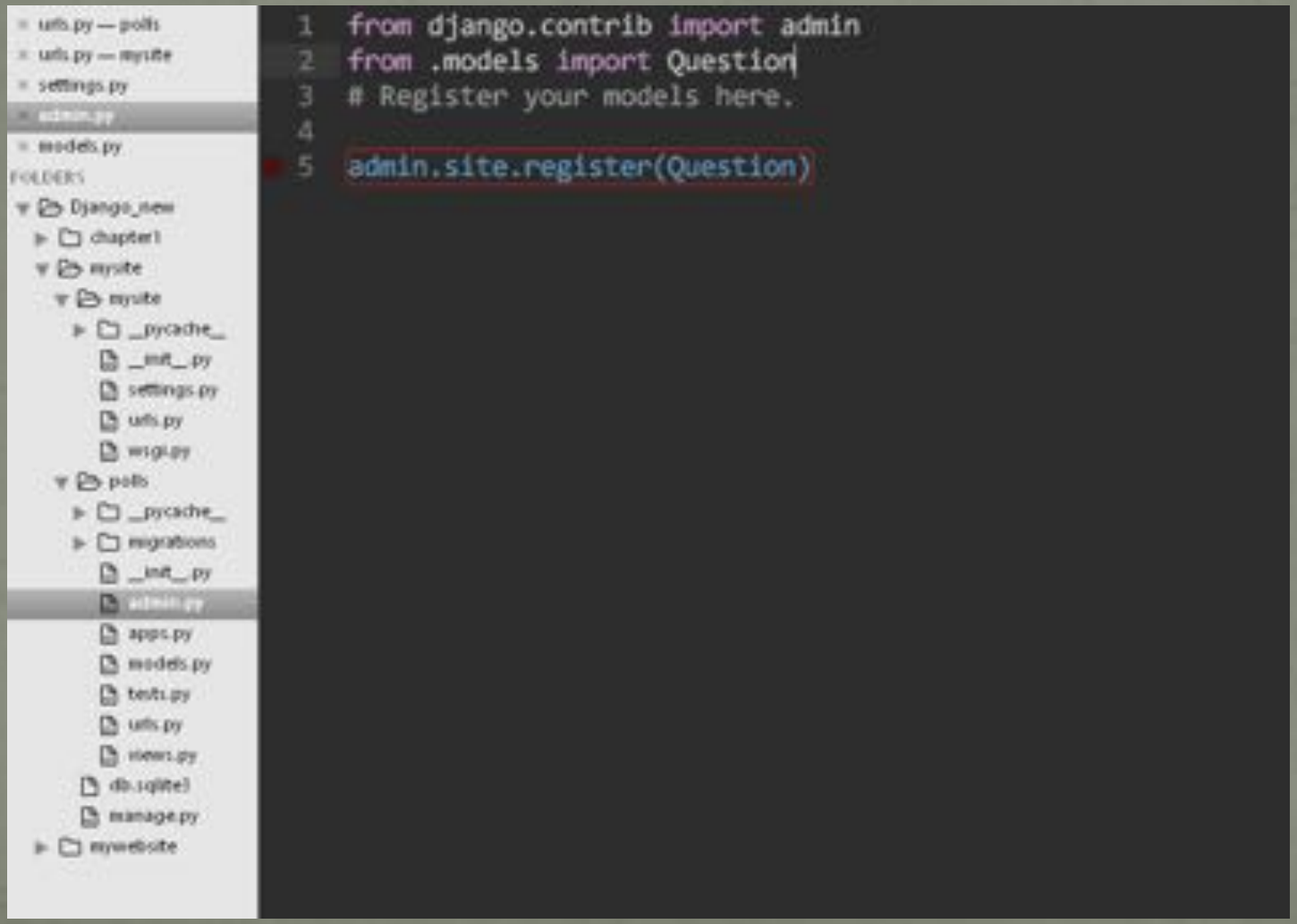
```
>>> from polls.models import Question, Choice
>>> Question.objects.all()
<QuerySet [<Question: What's up>]>
```

Creating an admin user

- python manage.py createsuperuser
- Username: admin
- Email address: admin@example.com
- Password: &1234567
- python manage.py runserver

Django administration
WELCOME, ADMIN. VIEW SITE / CHANGE PASSWORD / LOG OUT
Site administration
AUTHENTICATION AND AUTHORIZATION
Groups
Add
Change
Users
Add
Change
Recent actions
My actions
None available

Make the poll app modifiable in the admin



Django administration
WELCOME, ADMIN. VIEW SITE / CHANGE PASSWORD / LOG OUT
Site administration
AUTHENTICATION AND AUTHORIZATION
Groups
Add
Change
Users
Add
Change
POLLS
Questions
Add
Change
Recent actions
My actions
None available

Django administration

WELCOME, ADMIN. VIEW SITE / CHANGE PASSWORD / LOG OUT

Home › Polls › Questions › Add question

Add question

Question text: What's up?

Date published: Date: 2017-03-25 Today | Time: 13:51:15 Now |

Save and add another | Save and continue editing | SAVE

Django administration

WELCOME, ADMIN. VIEW SITE / CHANGE PASSWORD / LOG OUT

Home › Polls › Questions › What's up? › History

Change history: What's up?

DATE/TIME	USER	ACTION
March 25, 2017, 1:52 p.m.	admin	Added.
March 25, 2017, 1:53 p.m.	admin	No fields changed.
March 25, 2017, 1:53 p.m.	admin	No fields changed.

Part 3: Views and templates

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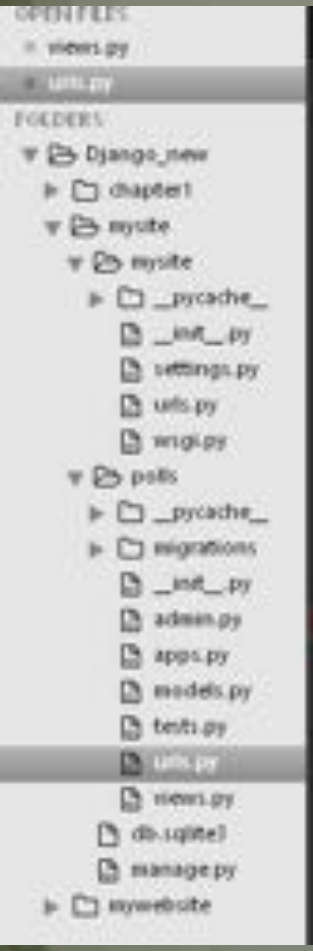
Functions

- Question “index” page – displays the latest few questions.
- Question “detail” page – displays a question text, with no results but with a form to vote.
- Question “results” page – displays results for a particular question.
- Vote action – handles voting for a particular choice in a particular question.

polls/urls.py



views.py urls.py

```
from django.conf.urls import url

from . import views

urlpatterns = [
    # ex: /polls/
    url(r'^$', views.index, name='index'),
    # ex: /polls/5/
    url(r'^(?P<question_id>[0-9]+)/$', views.detail, name='detail'),
    # ex: /polls/5/results/
    url(r'^(?P<question_id>[0-9]+)/results/$', views.results, name='results'),
    # ex: /polls/5/vote/
    url(r'^(?P<question_id>[0-9]+)/vote/$', views.vote, name='vote'),
]
```

^ 表示開始

$ 表示結束

+ 表示前面的元素至少重複一次

() 用表示一部分模式

?P代表匹配某個模式

```
from django.db import models

# Create your models here.
class Question(models.Model):
    question_text = models.CharField(max_length=200)
    pub_date = models.DateTimeField('date published')

```

polls/views.py

```python
from django.http import HttpResponse

# Create your views here.

def index(request):
    return HttpResponse("Hello!")

def detail(request, question_id):
    return HttpResponse("You're looking at question %s." % question_id)

def results(request, question_id):
    response = "You're looking at the results of question %s."
    return HttpResponse(response % question_id)

def vote(request, question_id):
    return HttpResponse("You're voting on question %s." % question_id)
```

常見錯誤

```
6   # Create your views here.
7   def index(request):
8       return HttpResponse("Hello, Polls. 你好 投票系統")
9
10          def detail(request, question_id):
11              return HttpResponse("You're looking at ques
```

1. python3 manage.py runserver (Python)

```
kages/django/conf/urls/__init__.py", line 50, in include
    urlconf_module = import_module(urlconf_module)
  File "/Library/Frameworks/Python.framework/Versions/3.6/lib/python3.6/importli
b/__init__.py", line 126, in import_module
    return _bootstrap._gcd_import(name[level:], package, level)
  File "<frozen importlib._bootstrap>", line 978, in _gcd_import
  File "<frozen importlib._bootstrap>", line 961, in _find_and_load
  File "<frozen importlib._bootstrap>", line 950, in _find_and_load_unlocked
  File "<frozen importlib._bootstrap>", line 655, in _load_unlocked
  File "<frozen importlib._bootstrap_external>", line 678, in exec_module
  File "<frozen importlib._bootstrap>", line 205, in _call_with_frames_removed
  File "/Users/jerry/Documents/git/class2/mysite/polls/urls.py", line 3, in <mod
ule>
    from . import views
  File "/Users/jerry/Documents/git/class2/mysite/polls/views.py", line 10
    def detail(request, question_id):
                                     ^
TabError: inconsistent use of tabs and spaces in indentation
```

常見錯誤

```
6   # Create your views here.
7   def index(request):
8       return HttpResponse("Hello, Polls. 你好 投票系統")
9
10  def detail(request, question_id):
11  return HttpResponse("You're looking at question %s." %
```

1. python3 manage.py runserver (Python)

```
kages/django/conf/urls/__init__.py", line 50, in include
    urlconf_module = import_module(urlconf_module)
  File "/Library/Frameworks/Python.framework/Versions/3.6/lib/python3.6/importli
b/__init__.py", line 126, in import_module
    return _bootstrap._gcd_import(name[level:], package, level)
  File "<frozen importlib._bootstrap>", line 978, in _gcd_import
  File "<frozen importlib._bootstrap>", line 961, in _find_and_load
  File "<frozen importlib._bootstrap>", line 950, in _find_and_load_unlocked
  File "<frozen importlib._bootstrap>", line 655, in _load_unlocked
  File "<frozen importlib._bootstrap_external>", line 678, in exec_module
  File "<frozen importlib._bootstrap>", line 205, in _call_with_frames_removed
  File "/Users/jerry/Documents/git/class2/mysite/polls/urls.py", line 3, in <mod
ule>
    from . import views
  File "/Users/jerry/Documents/git/class2/mysite/polls/views.py", line 11
    return HttpResponse("You're looking at question %s." % question_id)
        ^
IndentationError: expected an indented block
```

常見錯誤

```
6  # Create your views here.
7  def index(request):
8      return HttpResponse("Hello, Polls. 你好 投票系統")
9
10 def detail(request, question_id):
11             return HttpResponse("You're looking at ques
```

1. python3 manage.py runserver (Python)

```
odule>
    url(r'^', include('polls.urls')),
  File "/Library/Frameworks/Python.framework/Versions/3.6/lib/python3.6/site-pac
kages/django/conf/urls/__init__.py", line 50, in include
    urlconf_module = import_module(urlconf_module)
  File "/Library/Frameworks/Python.framework/Versions/3.6/lib/python3.6/importli
b/__init__.py", line 126, in import_module
    return _bootstrap._gcd_import(name[level:], package, level)
  File "<frozen importlib._bootstrap>", line 978, in _gcd_import
  File "<frozen importlib._bootstrap>", line 961, in _find_and_load
  File "<frozen importlib._bootstrap>", line 950, in _find_and_load_unlocked
  File "<frozen importlib._bootstrap>", line 655, in _load_unlocked
  File "<frozen importlib._bootstrap_external>", line 678, in exec_module
  File "<frozen importlib._bootstrap>", line 205, in _call_with_frames_removed
  File "/Users/jerry/Documents/git/class2/mysite/polls/urls.py", line 8, in <mod
ule>
    url(r'^(?P<question_id>[0-9]+)/results/$', views.results, name='results'),
AttributeError: module 'polls.views' has no attribute 'results'
```

```python
from django.conf.urls import url

from . import views

urlpatterns = [
    url(r'^$', views.index, name='index'),
    url(r'^(?P<question_id>[0-9]+)/$', views.detail, name='detail'),
    url(r'^(?P<question_id>[0-9]+)/results/$', views.results, name='results'),
    url(r'^(?P<question_id>[0-9]+)/vote/$', views.vote, name='vote'),
]
```

http://127.0.0.1:8000/polls/22/

127.0.0.1:8000/polls/22/

You're looking at question 22.

```python
from django.conf.urls import url

from . import views

urlpatterns = [
    url(r'^$', views.index, name='index'),
    url(r'^(?P<question_id>[0-9]+)/$', views.detail, name='detail'),
    url(r'^(?P<question_id>[0-9]+)/results/$', views.results, name='results')
    url(r'^(?P<question_id>[0-9]+)/vote/$', views.vote, name='vote'),
]
```

http://127.0.0.1:8000/polls/1/results/

127.0.0.1:8000/polls/1/results/

You're looking at the results of question 1.

```python
from django.conf.urls import url

from . import views

urlpatterns = [
    url(r'^$', views.index, name='index'),
    url(r'^(?P<question_id>[0-9]+)/$', views.detail, name='detail'),
    url(r'^(?P<question_id>[0-9]+)/results/$', views.results, name='results'),
    url(r'^(?P<question_id>[0-9]+)/vote/$', views.vote, name='vote'),
]
```

http://127.0.0.1:8000/polls/1/results/

127.0.0.1:8000/polls/1/vote/

You're voting on question 1.

Write views that actually do something

- Each view is responsible for doing one of two things: returning an HttpResponse object containing the content for the requested page, or raising an exception such as Http404.

polls/views.py

```python
from django.http import HttpResponse

# Create your views here.
from .models import Question

def index(request):
    return HttpResponse("Hello!")

def detail(request, question_id):
    return HttpResponse("You're looking at question %s." % question_id)

def results(request, question_id):
    response = "You're looking at the results of question %s."
    return HttpResponse(response % question_id)

def vote(request, question_id):
    return HttpResponse("You're voting on question %s." % question_id)

def index(request):
    latest_question_list = Question.objects.order_by('-pub_date')[:5]
    output = ', '.join([q.question_text for q in latest_question_list])
    return HttpResponse(output)
```

Python Shell

views.py
db.sqlite3
manage.py
mywebsite

```
18
19 def index(request):
20     latest_question_list = Question.objects.order_by('-pub_date')[:5]
21     output = ', '.join([q.question_text for q in latest_question_list])
22     return HttpResponse(output)
```

```
In [1]: from polls.models import Question, Choice

In [2]: Question.objects.all()
Out[2]: <QuerySet [<Question: 這是問題1>, <Question: 問題2>]>

In [3]: Question.objects.order_by('-pub_date')[:5]
Out[3]: <QuerySet [<Question: 問題2>, <Question: 這是問題1>]>

In [4]: Question.objects.order_by('pub_date')[:5]
Out[4]: <QuerySet [<Question: 這是問題1>, <Question: 問題2>]>

In [5]:
```

Python Shell

```
views.py
db.sqlite3
manage.py
mywebsite
```

```
18
19 def index(request):
20     latest_question_list = Question.objects.order_by('-pub_date')[:5]
21     output = ', '.join([q.question_text for q in latest_question_list])
22     return HttpResponse(output)
```

```
In [30]: x = ['my','name','is','bob']

In [31]: ', '.join(x)
Out[31]: 'my, name, is, bob'

In [32]:
```

```
In [41]: for i in x:
    ...:     print(i)
    ...:
my
name
is
bob
```

```
In [44]: x_list = [i for i in x]

In [45]: print(x_list)
['my', 'name', 'is', 'bob']
```

Python Shell

views.py
db.sqlite3
manage.py
mywebsite

```
18
19 def index(request):
20     latest_question_list = Question.objects.order_by('-pub_date')[:5]
21     output = ', '.join([q.question_text for q in latest_question_list])
22     return HttpResponse(output)
```

```
In [46]: ', '.join( [i for i in x] )
Out[46]: 'my, name, is, bob'

In [47]: join_list = ', '.join( [i for i in x] )

In [48]: type(join_list)
Out[48]: str

In [49]:
```

Python Shell

views.py
db.sqlite3
manage.py
mywebsite

```
18
19 def index(request):
20     latest_question_list = Question.objects.order_by('-pub_date')[:5]
21     output = ', '.join([q.question_text for q in latest_question_list])
22     return HttpResponse(output)
```

```
In [63]: latest_question_list = Question.objects.order_by('-pub_date')[:5]

In [64]: ', '.join([q.question_text for q in latest_question_list])
Out[64]: '問題2, 這是問題1'

In [65]: [q.question_text for q in latest_question_list]
Out[65]: ['問題2', '這是問題1']

In [66]: output = ', '.join([q.question_text for q in latest_question_list])

In [67]: HttpResponse(output)
Out[67]: <HttpResponse status_code=200, "text/html; charset=utf-8">

In [68]: print(output)
問題2, 這是問題1

In [69]:
```

把問題標題，轉成字串輸出。

常見錯誤

NameError at /polls/

name 'Question' is not defined

Request Method:	GET
Request URL:	http://127.0.0.1:8000/polls/
Django Version:	1.11rc1
Exception Type:	NameError
Exception Value:	name 'Question' is not defined
Exception Location:	/Users/jerry/Documents/git/class2/Chapter1_test/polls/views.py in index, line 6
Python Executable:	/usr/local/bin/python3
Python Version:	3.6.0
Python Path:	['/Users/jerry/Documents/git/class2/Chapter1_test', '/Library/Frameworks/Python.framework/Versions/3.6/lib/python36.zip', '/Library/Frameworks/Python.framework/Versions/3.6/lib/python3.6', '/Library/Frameworks/Python.framework/Versions/3.6/lib/python3.6/lib-dynload', '/Library/Frameworks/Python.framework/Versions/3.6/lib/python3.6/site-packages']
Server time:	Wed, 10 May 2017 23:48:46 +000

models.py | views.py | urls.py | settings.py | admin.py

```python
from django.shortcuts import render
from django.http import HttpResponse
from .models import Question
# Create your views here.
def index(request):
    latest_question_list = Question.objects.order_by('-pub_date')[:5]
    output = ', '.join([q.question_text for q in latest_question_list])
    return HttpResponse(output)
```

Home › Polls › Questions

The question "五月天厲害嗎?" was added successfully.

Select question to change

ADD QUESTION +

Action --------- Go 0 of 3 selected

	QUESTION
	五月天厲害嗎?
	What's up?
	What's up

3 questions

127.0.0.1:8000/polls/

應用程式 多个地点Ping服务器 Quarca - Responsive

五月天厲害嗎?, What's up?, What's up

如果要編輯頁面的內容，要如何做？

第一步驟 加上Templates

第二步驟 加上Render

127.0.0.1:8000/polls/
應用程式
多个地点Ping服务器
Quarca - Responsive
五月天厲害嗎?, What's up?, What's up

應用程式
多个地点Ping服务器
Quarca - Responsive
投票網站
五月天厲害嗎?
What's up?
What's up

polls/templates/polls/index.html

```
{% if latest_question_list %}
    <ul>
    {% for question in latest_question_list %}
        <li><a href="/polls/{{ question.id }}/">{{ question.question_text }}</a>
        </li>
    {% endfor %}
    </ul>
{% else %}
    <p>No polls are available.</p>
{% endif %}
```

polls/views.py

```python
from django.http import HttpResponse
from django.template import loader

# Create your views here.
from .models import Question

def index(request):
    return HttpResponse("Hello!")

def detail(request, question_id):
    return HttpResponse("You're looking at question %s." % question_id)

def results(request, question_id):
    response = "You're looking at the results of question %s."
    return HttpResponse(response % question_id)

def vote(request, question_id):
    return HttpResponse("You're voting on question %s." % question_id)

def index(request):
    latest_question_list = Question.objects.order_by('-pub_date')[:5]
    template = loader.get_template('polls/index.html')
    context = {
        'latest_question_list': latest_question_list,
    }
    return HttpResponse(template.render(context, request))
```

```
views.py    index.html    urls.py
<h1>投票網站</h1>
{% if latest_question_list %}
    <ul>
    {% for question in latest_question_list %}
        <li><a href="/polls/{{ question.id }}/">{{ question.
        question_text }}</a></li>
    {% endfor %}
    </ul>
{% else %}
    <p>No polls are available.</p>
{% endif %}
```

A shortcut: render()

```
def index(request):
    latest_question_list = Question.objects.order_by('-pub_date')[:5]
    template = loader.get_template('polls/index.html')
    context = {
        'latest_question_list': latest_question_list,
    }
    return HttpResponse(template.render(context, request))
```

設定Templates的位置

```
def index(request):
    latest_question_list = Question.objects.order_by('-pub_date')[:5]
    context = {'latest_question_list': latest_question_list}
    return render(request, 'polls/index.html', context)
```

A shortcut: render()

```
views.py   index.html   urls.py

from django.template import loader
from django.shortcuts import render

# Create your views here.
from .models import Question

def index(request):
    return HttpResponse("Hello!")

def detail(request, question_id):
    return HttpResponse("You're looking at question %s." % question_id)

def results(request, question_id):
    response = "You're looking at the results of question %s."
    return HttpResponse(response % question_id)

def vote(request, question_id):
    return HttpResponse("You're voting on question %s." % question_id)


def index(request):
    latest_question_list = Question.objects.order_by('-pub_date')[:5]
    context = {'latest_question_list': latest_question_list}
    return render(request, 'polls/index.html', context)
```

A shortcut: get_object_or_404()

```
views.py
from django.http import HttpResponse
from django.template import loader
from django.shortcuts import get_object_or_404, render
from django.http import Http404

# Create your views here.
from .models import Question
```

Page not found (404)

Request Method: GET
Request URL: http://127.0.0.1:8000/polls/11/
Raised by: polls.views.detail

No Question matches the given query.

You're seeing this error because you have `DEBUG = True` in your Django settings file. Change that to `False`, and Django will display a standard 404 page.

```
def index(request):
    latest_question_list = Question.objects.order_by('-pub_date')[:5]
    context = {'latest_question_list': latest_question_list}
    return render(request, 'polls/index.html', context)

def detail(request, question_id):
    question = get_object_or_404(Question, pk=question_id)
    return render(request, 'polls/detail.html', {'question': question})
```

務必記得加上detail.html

polls/templates/polls/detail.html

```
{{ question }}
```

3

蔡英文總統如何？

OPEN FILES
- views.py
- detail.html
- index.html
- urls.py

FOLDERS

views.py | detail.html | index.html

```
1 <h1>{{ question.id }}</h1>
2 <h1>{{ question.question_text }}</h1>
3
```

Namespacing URL names

- How does one make it so that Django knows which app view to create for a url when using the {% url %} template tag? (方便識別自己用的APP)

polls/urls.py

```
from django.conf.urls import url

from . import views

app_name = 'polls'
urlpatterns = [
    url(r'^$', views.index, name='index'),
    url(r'^(?P<question_id>[0-9]+)/$', views.detail, name='detail'),
    url(r'^(?P<question_id>[0-9]+)/results/$', views.results, name='results'),
    url(r'^(?P<question_id>[0-9]+)/vote/$', views.vote, name='vote'),
]
```

polls/templates/polls/index.html

```
<li><a href="{% url 'polls:detail' question.id %}">{{ question.question_text }}</a></li>
```

Part 4: Forms and generic views

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HTML Forms

- **action** :The **action** attribute defines the action to be performed when the form is submitted.
  Normally, the form data is sent to a web page on the server when the user clicks on the submit button.

```
<h1>{{ question.question_text }}</h1>

{% if error_message %}<p><strong>{{ error_message }}</strong></p>{% endif %}

<form action="{% url 'polls:vote' question.id %}" method="post">
{% csrf_token %}
{% for choice in question.choice_set.all %}
    <input type="radio" name="choice" id="choice{{ forloop.counter }}" value="{{ choice.id }}" />
    <label for="choice{{ forloop.counter }}">{{ choice.choice_text }}</label><br />
{% endfor %}
<input type="submit" value="Vote" />
</form>
```

HTML Forms

- The **method** attribute specifies the HTTP method (**GET** or **POST**) to be used when submitting the form data

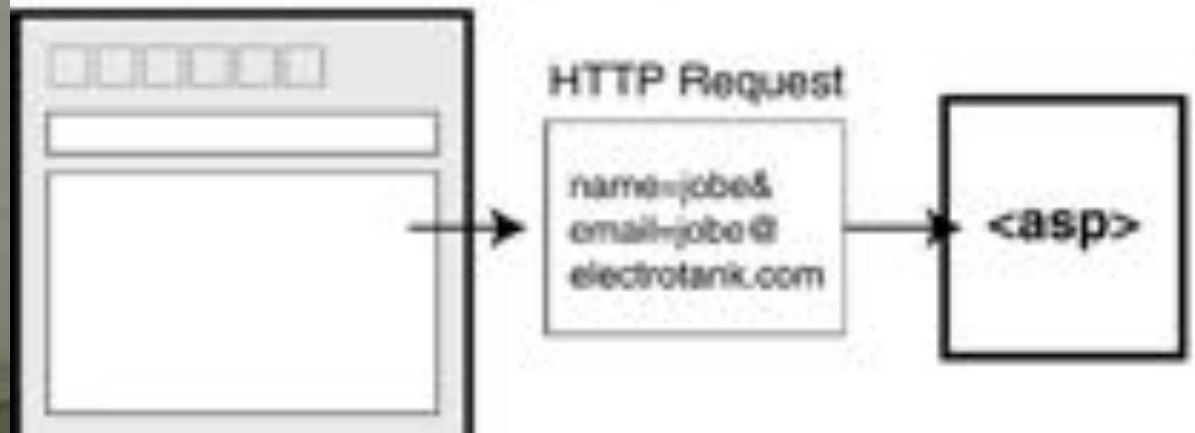
```
<h1>{{ question.question_text }}</h1>

{% if error_message %}<p><strong>{{ error_message }}</strong></p>{% endif %}

<form action="{% url 'polls:vote' question.id %}" method="post">
{% csrf_token %}
{% for choice in question.choice_set.all %}
    <input type="radio" name="choice" id="choice{{ forloop.counter }}" value="{{ choice.id }}" />
    <label for="choice{{ forloop.counter }}">{{ choice.choice_text }}</label><br />
{% endfor %}
<input type="submit" value="Vote" />
</form>
```

Using GET

http://www.somedomain.com/register.asp?name=jobe&email=jobe@electrotank.com

Using POST

http://www.somedomain.com/register.asp



HTML Forms

- **<input type="radio">** defines a **radio button**.
- Radio buttons let a user select ONLY ONE of a limited number of choices:

```
<h1>{{ question.question_text }}</h1>

{% if error_message %}<p><strong>{{ error_message }}</strong></p>{% endif %}

<form action="{% url 'polls:vote' question.id %}" method="post">
{% csrf_token %}
{% for choice in question.choice_set.all %}
    <input type="radio" name="choice" id="choice{{ forloop.counter }}" value="{{ choice.id }}" />
    <label for="choice{{ forloop.counter }}">{{ choice.choice_text }}</label><br />
{% endfor %}
<input type="submit" value="Vote" />
</form>
```

```
<!DOCTYPE html>
<html>
<body>

<form action="/action_page.php">
  <input type="radio" name="gender" value="male"> Male<br>
  <input type="radio" name="gender" value="female"> Female<br>
  <input type="radio" name="gender" value="other"> Other<br><br>
  <input type="submit">
</form>
```

Male
Female
Other

提交

```python
from django.http import HttpResponseRedirect, HttpResponse
from django.template import loader
from django.shortcuts import get_object_or_404, render
from django.http import Http404
from django.urls import reverse
```

```python
def vote(request, question_id):
    question = get_object_or_404(Question, pk=question_id)
    try:
        selected_choice = question.choice_set.get(pk=request.POST['choice'])
    except (KeyError, Choice.DoesNotExist):
        # Redisplay the question voting form.
        return render(request, 'polls/detail.html', {
            'question': question,
            'error_message': "You didn't select a choice.",
        })
    else:
        selected_choice.votes += 1
        selected_choice.save()
        # Always return an HttpResponseRedirect after successfully dealing
        # with POST data. This prevents data from being posted twice if a
        # user hits the Back button.
        return HttpResponseRedirect(reverse('polls:results', args=(question.id,)))
```

加入選項

```
1  from django.contrib import admin
2
3  # Register your models here.
4  from .models import Choice, Question
5
6  class ChoiceInline(admin.TabularInline):
7      model = Choice
8      extra = 3
9
10 class QuestionAdmin(admin.ModelAdmin):
11     fieldsets = [
12         (None,               {'fields': ['question_text']}),
13         ('Date information', {'fields': ['pub_date'], 'classes': ['collapse']}),
14     ]
15     inlines = [ChoiceInline]
16     list_display = ('question_text', 'pub_date')
17     list_filter = ['pub_date']
18     search_fields = ['question_text']
19
20
21 admin.site.register(Question, QuestionAdmin)
```

誰是校花

- A
- B
- C

Vote

CMS APP - Initial

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First Step

- mysite
  - settings.py
  - urls.py
- cms
  - urls.py
  - views.py

mysite/settings.py

```
# Application definition

INSTALLED_APPS = [
    'cms.apps.CmsConfig'
    'polls.apps.PollsConfig',
    'django.contrib.admin',
    'django.contrib.auth',
    'django.contrib.contenttypes',
    'django.contrib.sessions',
    'django.contrib.messages',
    'django.contrib.staticfiles',
```

mysite/urls.py

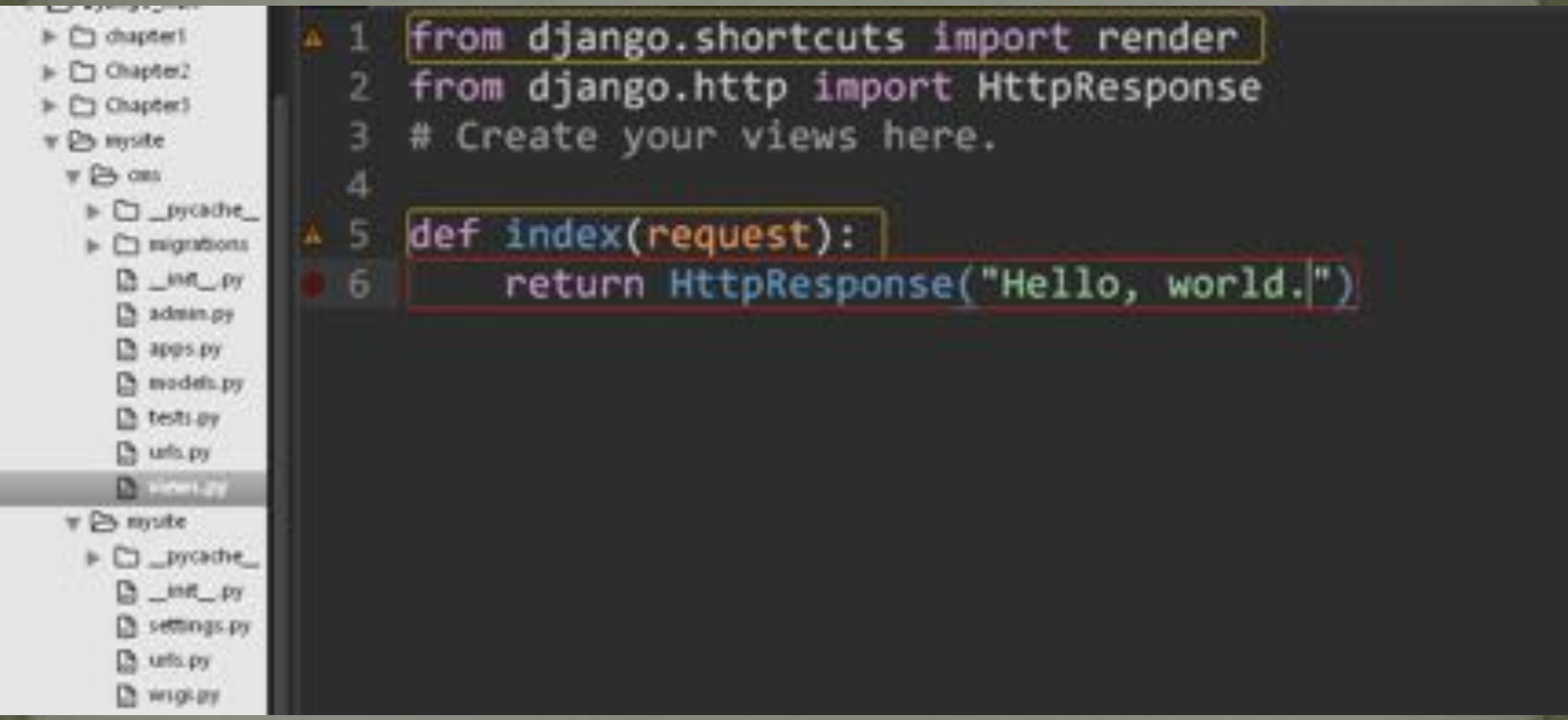
```
urls.py — mysite    views.py    urls.py — cms    settings.py
Function views
    1. Add an import:  from my_app import views
    2. Add a URL to urlpatterns:  url(r'^$', views.h
Class-based views
    1. Add an import:  from other_app.views import H
    2. Add a URL to urlpatterns:  url(r'^$', Home.as
Including another URLconf
    1. Import the include() function: from django.co
    2. Add a URL to urlpatterns:  url(r'^blog/', inc
"""
from django.conf.urls import include, url
from django.contrib import admin

urlpatterns = [
    url(r'^cms/', include('cms.urls')),
    #url(r'^polls/', include('polls.urls')),
    url(r'^admin/', admin.site.urls),
]
```

cms/urls.py

chapter1
Chapter2
Chapter3
mysite
cms
__pycache__
migrations
__init__.py
admin.py
apps.py
models.py
tests.py
urls.py
views.py
1 from django.conf.urls import url
2
3 from . import views
4
5 urlpatterns = [
6 url(r'^$', views.index, name='index'),
7]

cms/views.py


chapter1
Chapter2
Chapter3
mysite
cms
__pycache__
migrations
__init__.py
admin.py
apps.py
models.py
tests.py
urls.py
views.py
mysite
__pycache__
__init__.py
settings.py
urls.py
wsgi.py
1 from django.shortcuts import render
2 from django.http import HttpResponse
3 # Create your views here.
4
5 def index(request):
6 return HttpResponse("Hello, world.")

CMS APP - Model

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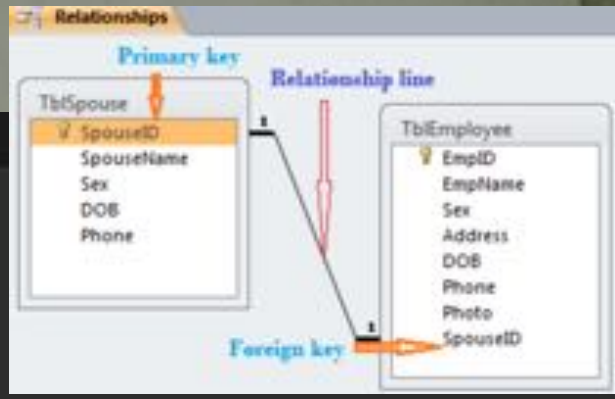
- python manage.py migrate



models.py

```python
from django.db import models

# Create your models here.
class Restaurant(models.Model):
    name = models.CharField(max_length=20)
    phone_number = models.CharField(max_length=15)
    address = models.CharField(max_length=50, blank=True)


class Food(models.Model):
    name = models.CharField(max_length=20)
    price = models.DecimalField(max_digits=3, decimal_places=0)
    comment = models.CharField(max_length=50, blank=True)
    is_spicy = models.BooleanField(default=False)
    restaurant = models.ForeignKey(Restaurant)
```

Activating models

```
31  # Application definition
32
33  INSTALLED APPS = [
34      'cms.apps.CmsConfig',
35      #'polls.apps.PollsConfig',
36      'django.contrib.admin',
37      'django.contrib.auth',
38      'django.contrib.contenttypes',
39      'django.contrib.sessions',
40      'django.contrib.messages',
41      'django.contrib.staticfiles',
42  ]
```

Activating models

- python manage.py makemigrations cms
- python manage.py sqlmigrate cms 0001
- python manage.py migrate

```
ALTER TABLE "cms_food" RENAME TO "cms_food__old";
CREATE TABLE "cms_food" ("id" integer NOT NULL PRIMARY KEY AUTOINCREMENT, "name
varchar(20) NOT NULL, "price" decimal NOT NULL, "comment" varchar(50) NOT NULL
"is_spicy" bool NOT NULL, "restaurant_id" integer NOT NULL REFERENCES "cms_res
urant" ("id"));
INSERT INTO "cms_food" ("price", "name", "id", "is_spicy", "restaurant_id", "co
ment") SELECT "price", "name", "id", "is_spicy", NULL, "comment" FROM "cms_food
_old";
DROP TABLE "cms_food__old";
CREATE INDEX "cms_food_restaurant_id_8d7c2f2f" ON "cms_food" ("restaurant_id");
COMMIT;

(mywebsite) c:\GitHub\Django_new\mysite>python manage.py migrate
perations to perform:
 Apply all migrations: admin, auth, cms, contenttypes, sessions
unning migrations:
 Applying cms.0001_initial... OK
```

admin.py

```
1  from django.contrib import admin
2
3  # Register your models here.
4  from .models import Restaurant,Food
5
6  admin.site.register(Food)
7  admin.site.register(Restaurant)
```

Django administration

Home › Cms › Foods › Add food

Add food

Name:

Price:

Comment:

Is spicy

Restaurant: ---------

Save and add another | Save and continue editing | SAVE

Select food to change

ADD FOOD +

Action: --------- Go 0 of 1 selected

NAME	PRICE
辣味義大利麵	100

1 food

settings.py admin.py models.py

```python
from django.db import models

# Create your models here.
class Restaurant(models.Model):
    name = models.CharField(max_length=20)
    phone_number = models.CharField(max_length=15)
    address = models.CharField(max_length=50, blank=True)

    def __str__(self):
        return self.name

class Food(models.Model):
    name = models.CharField(max_length=20)
    price = models.DecimalField(max_digits=3, decimal_places=0)
    comment = models.CharField(max_length=50, blank=True)
    is_spicy = models.BooleanField(default=False)
    restaurant = models.ForeignKey(Restaurant)

    def __str__(self):
        return self.name
```

Home › Cms › Foods › 特別義大利麵

Change food

HISTORY

Name: 特別義大利麵

Price: 100

Comment: 特別美食

Is spicy

Restaurant: 意美家

Delete

Save and add another | Save and continue editing | SAVE

CMS APP - Shell

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Display

- python manage.py shell
- from cms.models import Restaurant, Food
- restaurants=Restaurant.objects.all()
- restaurants

Create

- from cms.models import Restaurant, Food
- r1 = Restaurant.objects.create(name='台科小炒', phone_number ='02-88888', address='台北市基隆路')
- r1
- Restaurant.objects.all()

```
>>> Restaurant.objects.all()
<QuerySet [<Restaurant: 意素家>, <Restaurant: 中文小館>, <Restaurant: 台科小炒>
>
```

Update

- from cms.models import Restaurant, Food
- Food.objects.all()[0].price
- Food.objects.filter(name='辣味義大利麵').update(price=200)

```
>>> Food.objects.all()[0].price
Decimal('100')
```

```
>>> Food.objects.all()[0].price
Decimal('200')
>>>
```

Delete

- from cms.models import Restaurant, Food
- Restaurant.objects.all()

- f = Restaurant.objects.get(name='台科小炒')
- f.delete()

```
<QuerySet [<Restaurant: 意素家>, <Restaurant: 中文小館>, <Restaurant: 台科小炒>]
>
>>>
```

```
<QuerySet [<Restaurant: 意素家>, <Restaurant: 中文小館>]>
>>>
```

CMS APP - Views

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```
1  from django.shortcuts import render_to_response
2  # Create your views here.
3  from .models import Restaurant, Food
4
5  def index(request):
6      restaurants = Restaurant.objects.all()
7      return render_to_response('cms/menu.html',locals())
```

```
<h1 class="text-center">美食菜單</h1>
<div class="container-fluid">
{% for r in restaurants %}
<h2>{{ r.name }}</h2>
{% if r.food_set.all %}
<p>本餐廳共有{{ r.food_set.all|length }}道菜</p>
<table class="table">
    <tr>
        <th>菜名</th>
        <th>價格</th>
        <th>辣不辣</th>
        <th>註解</th>
    </tr>
    {% for food in r.food_set.all %}
    <tr>
        <td>{{ food.name }}</td>
        <td>{{ food.price }}</td>
        <td>{% if food.is_spicy %} 辣 {% else %} 不辣 {% endif %}</td>
        <td>{{ food.comment }}</td>
    </tr>
    {% endfor %}
</table>
    {% else %}
    <p>本餐廳啥都沒賣</p>
    {% endif %}
    {% endfor %}
```

美食菜單

意素家

本餐廳共有1道菜

菜名	價格	辣不辣	註解
辣味義大利麵	200	辣	特別美食

中文小館

本餐廳沒新設菜

Blog APP

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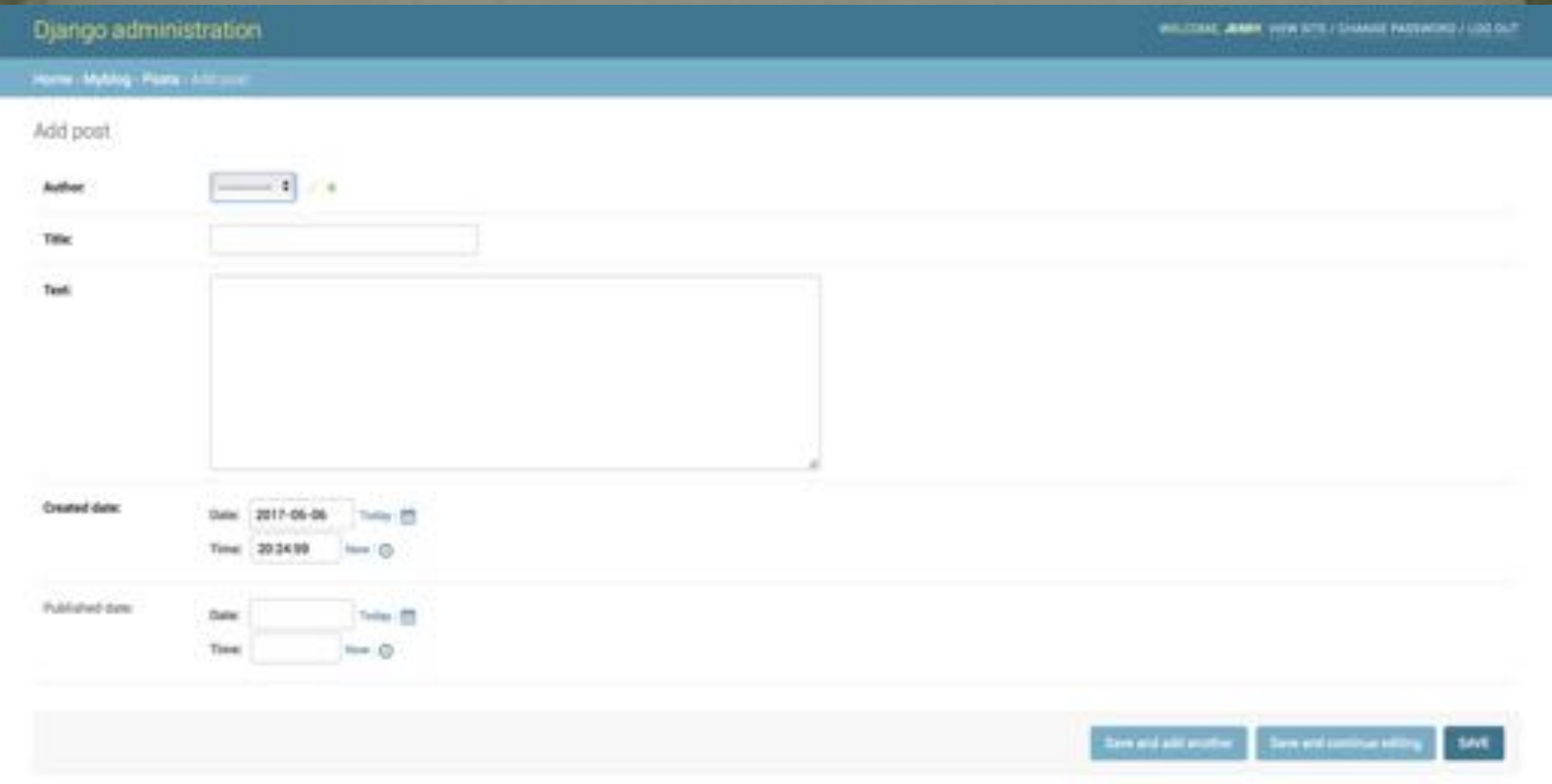
設定APP跟時區

```
33  INSTALLED_APPS = [
34      'django.contrib.admin',
35      'django.contrib.auth',
36      'django.contrib.contenttypes',
37      'django.contrib.sessions',
38      'django.contrib.messages',
39      'django.contrib.staticfiles',
40      'myblog'
41  ]
42
```

建立Model

```
# -*- coding: utf-8 -*-
from __future__ import unicode_literals

from django.db import models
from django.utils import timezone


class Post(models.Model):
    author = models.ForeignKey('auth.User')
    title = models.CharField(max_length=200)
    text = models.TextField()
    created_date = models.DateTimeField(
            default=timezone.now)
    published_date = models.DateTimeField(
            blank=True, null=True)

    def publish(self):
        self.published_date = timezone.now()
        self.save()

    def __str__(self):
        return self.title

```

建立後台


Django administration
Add post
Author
Title:
Text:
Created date:
Date:
Time:
Published date:
Date:
Time:
Save and add another
Save and continue editing
Save

Project 的 urls

```
Class-based views
    1. Add an import:  from other_app.views import Home
    2. Add a URL to urlpatterns:  url(r'^$', Home.as_view(), name='home')
Including another URLconf
    1. Import the include() function: from django.conf.urls import url, include
    2. Add a URL to urlpatterns:  url(r'^blog/', include('blog.urls'))
"""
from django.conf.urls import url, include
from django.contrib import admin

urlpatterns = [
    url(r'^', include('myblog.urls')),
    url(r'^admin/', admin.site.urls),
]
```

APP的urls, views

urls

```
from django.conf.urls import url
from . import views

urlpatterns = [
    url(r'^$', views.post_list, name='post_list'),
]
```

views

```
# -*- coding: utf-8 -*-
from __future__ import unicode_literals
from django.utils import timezone
from django.shortcuts import render
from .models import Post

# Create your views here.
def post_list(request):
    posts = Post.objects.filter(published_date__lte=timezone.now()).order_by('published_date')
    return render(request, 'blog/post_list.html', {'posts': posts})
```

建立Templates

```
1
2   {% for post in posts %}
3       <div>
4           <p>published: {{ post.published_date }}</p>
5           <h1><a href="">{{ post.title }}</a></h1>
6           <p>{{ post.text|linebreaksbr }}</p>
7       </div>
8   {% endfor %}
```

簡易Blog APP完成

published: May 6, 2017, 8:43 p.m.

將屆齡退休領18%？林萬億：一切按照制度

主導年金改革的行政院政委林萬億日前也是台大社工系教授，引有專業資訊指出，今年年滿65歲的林萬億已取得退休資格，將能享18%優惠存款利息，因而引發外界議論，林萬億對此回應，「我是屆齡被強迫退休，也不是我自己要退的」，規定怎麼做就怎麼做。<

published: May 6, 2017, 8:43 p.m.

肚子餓了！5歲童深夜抱玩偶逛超商

新北市1名5歲的歲秩男童日前趁父母照顧弟弟睡著，深夜11時許偷偷出門，跑到住家附近的超商逛街，店員都覺有異狀來，新莊所光華所員警接報趕抵，安撫詢問後，帶男童買了優酪乳與餅乾，將他帶回警局，通知父母帶回。

Album APP

國立臺灣科技大學 資訊管理系 講師 Jerry

設定APP與位置

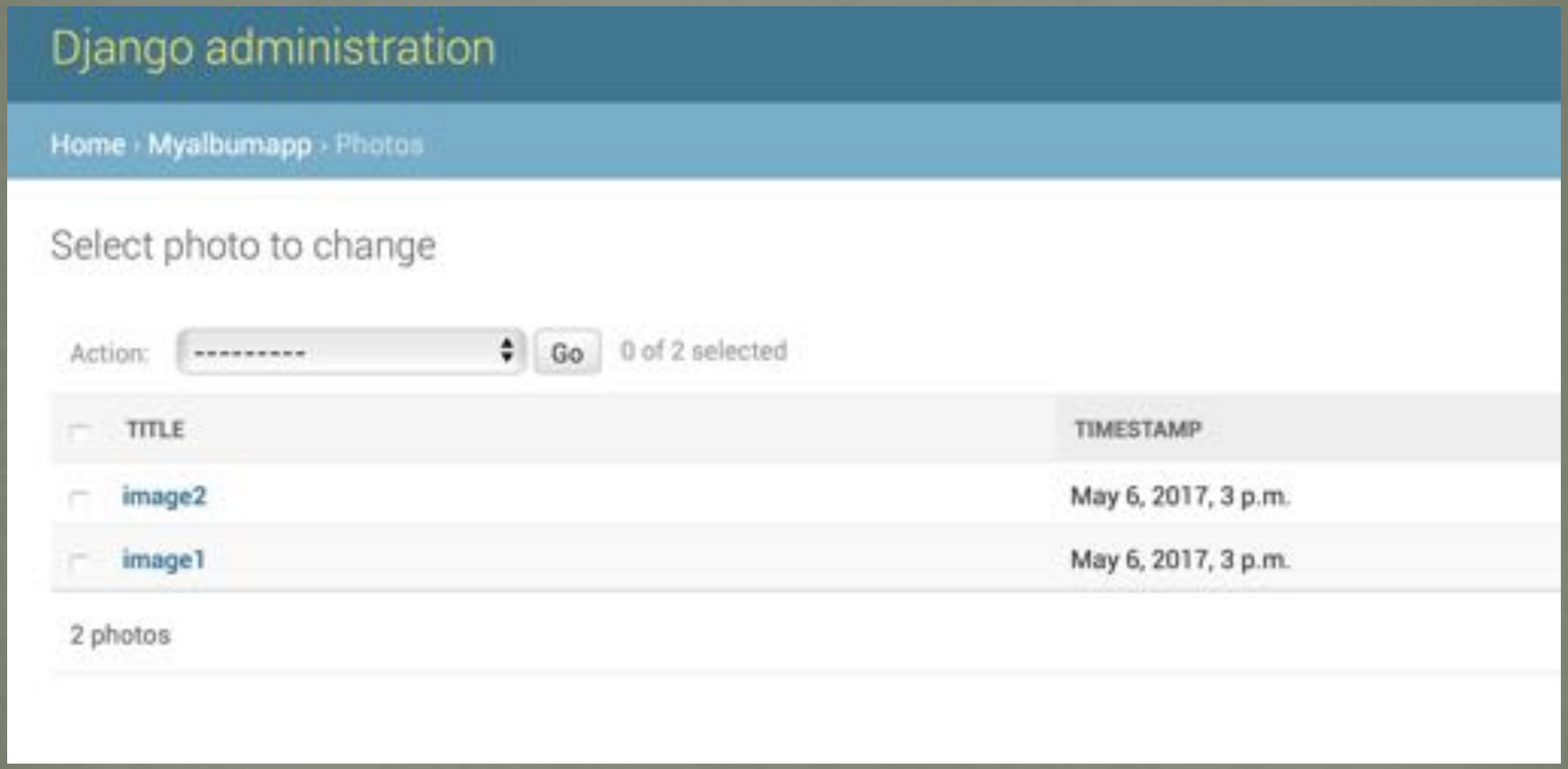
```
INSTALLED_APPS = [
    'django.contrib.admin',
    'django.contrib.auth',
    'django.contrib.contenttypes',
    'django.contrib.sessions',
    'django.contrib.messages',
    'django.contrib.staticfiles',
    'myalbumapp'
]
```

```
MEDIA_URL = '/media/'
MIDIA_ROOT = os.path.join(os.path.dirname(BASE_DIR), "mideafiles")
```

建立Model

```
# -*- coding: utf-8 -*-
from __future__ import unicode_literals
from django.db import models

class Photo(models.Model):
    title = models.CharField(max_length=200)
    width = models.IntegerField(default=0)
    height = models.IntegerField(default=0)
    image = models.ImageField(null=False, blank=False, width_field="width", height_field="height")
    timestamp = models.DateTimeField(auto_now_add=True, auto_now=False)

    def __str__(self):
        return self.title

    class Meta:
        ordering = ["-timestamp"]
```

建立後台


Django administration
Home › Myalbumapp › Photos
Select photo to change
Action:

Go
0 of 2 selected
TITLE
TIMESTAMP
image2
May 6, 2017, 3 p.m.
image1
May 6, 2017, 3 p.m.
2 photos

安裝Python 圖片工具

- 安裝pip3 install Pillow

```
(class2)  ⊙  jerry  album  pip3 install Pillow
Collecting Pillow
  Downloading Pillow-4.1.1-cp36-cp36m-macosx_10_6_intel.ma
4.whl (3.5MB)
    100% |                                        | 3.5MB 289kB/s
Collecting olefile (from Pillow)
  Using cached olefile-0.44.zip
Installing collected packages: olefile, Pillow
  Running setup.py install for olefile ... done
Successfully installed Pillow-4.1.1 olefile-0.44
```

Project 的 urls

```
from django.conf import settings
from django.conf.urls.static import static
from django.conf.urls import url, include
from django.contrib import admin


urlpatterns = [
    url(r'^admin/', admin.site.urls),
    url(r'^', include('myalbumapp.urls')),
]

if settings.DEBUG:
    urlpatterns += static(settings.MEDIA_URL, document_root=settings.MEDIA_ROOT)
```

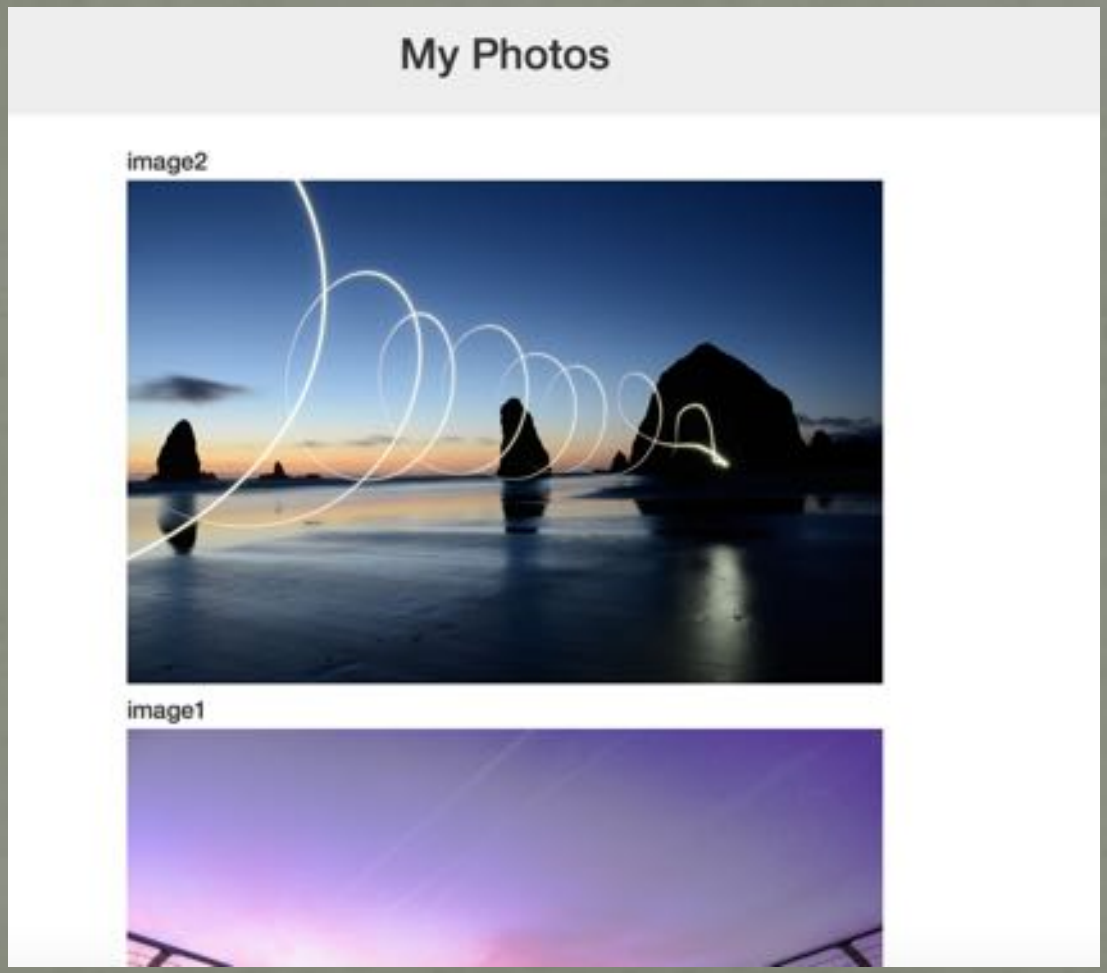
APP的urls, views

urls

```
from django.conf.urls import url

from . import views

urlpatterns = [
    url(r'^$', views.photo_list, name='photo_list'),
]
```

views

```
from __future__ import unicode_literals

from django.shortcuts import render
from .models import Photo
# Create your views here.

def photo_list(request):
    queryset = Photo.objects.all()
    context = {
        "photos": queryset,
    }
    return render(request, "photo.html", context)
```

建立Templates

成果