Bazy Danych 2014/15
Django

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Django

- biblioteka Pythonowa,
- model MTV - Model Template View,
- abstrakcyjny dostęp do baz danych (Django QuerySet),
- migracje bazy danych,
- system szablonów,

Python

- `http://python.org/`
- iterpretowany język programowania,
- bardzo duża liczba bibliotek,
- `http://learnpythonthehardway.org/book/`

Szybki start

```
git clone https://bitbucket.org/walen/django-example-app.git
cd django-example-app
./_create_virtualenv
./m.sh syncdb ; ./m.sh loaddata example_data
./m.sh runserver_plus
```

Polecam również tutorial:

- `https://docs.djangoproject.com/en/1.7/intro/tutorial01/`

Pliki

```
myapp/
  urls.py
  settings.py
  entrances/
    models.py
    views.py
  library
     admin.py
     models.py
     urls.py
     views.py
     fixtures/
       example_data.json
  static/
     ...
  templates
     base.html
```

Modele

Przykład:

```
class Person(models.Model):
  pesel = models.CharField(unique=True,max_length=11)
  first_name = models.CharField(max_length=30)
  last_name = models.CharField(max_length=30)
```

- https://docs.djangoproject.com/en/1.7/topics/db/models/
- definicje danych,
- klasy definiujące zachowanie obiektów (np. operacje, atrybuty wyliczeniowe)

Widoki

https://docs.djangoproject.com/en/1.7/topics/http/views/

```
def hello(request):
  return HttpResponse("Hello world", content_type="text/
      plain")

def persons_list_json(request):
  qs = Person.objects.all()
  qs = qs.order_by('id')
  res = _qs_to_dict(qs, ['id', 'pesel', 'first_name', '
      last_name'])
  return HttpResponse(simplejson.dumps(res),
    content_type="text/plain")
```

Widoki parametryzowane

```
...
url(r'^book/info/(?P<id>[0-9]+)/$', views.book_info,
    name='book_info'),
...
```

Dekorator with_template

Przykład:

```
from django.shortcuts import get_object_or_404

@with_template
def books_info(request, id):
    book = get_object_or_404(Book.objects.all(), id=id)
    in_library = True
    return locals()
```

Szablony

https://docs.djangoproject.com/en/1.7/ref/templates/

```
{% extends "base.html" %}
{% block content %}
<h1>Book {{book.id}}</h1>

<div>
    <div class="row">
        <label class="col-sm-1 control-label">Title</label>
        <span class="col-sm-11">{{book.title}}</span>
    </div>
    ...
    <div class="row">
        <label class="col-sm-1 control-label">Status</label>
        <span class="col-sm-11">
            {% if book.available %}AVAILABLE{% else %}
                BORROWED{% endif %}
        </span>
    </div>
</div>
{% endblock %}
```

Formularze

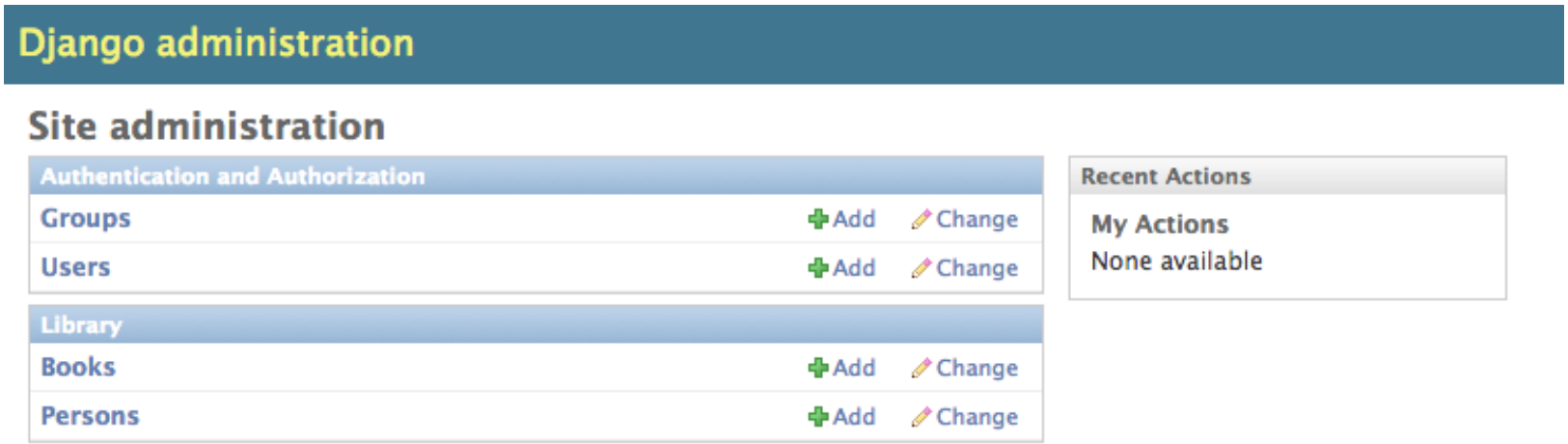
https://docs.djangoproject.com/en/1.7/topics/forms/

```
@with_template
def book_create(request):
    if request.method == 'POST':
        form = BookForm(request.POST)
        if form.is_valid():
            book = form.save()
            return HttpResponseRedirect(urlresolvers.reverse
                ("book_info", kwargs={"id": book.id}))
    else:
        form = BookForm()
    in_library = True
    return locals()
```

```
<h1>Create Book</h1>

<form action="." method="post">
    {% csrf_token %}
    {{ form }}
    <input type="submit" value="Submit" />
</form>
```

Interfejs administracyjny

`https://docs.djangoproject.com/en/1.7/ref/contrib/admin/`



Testy

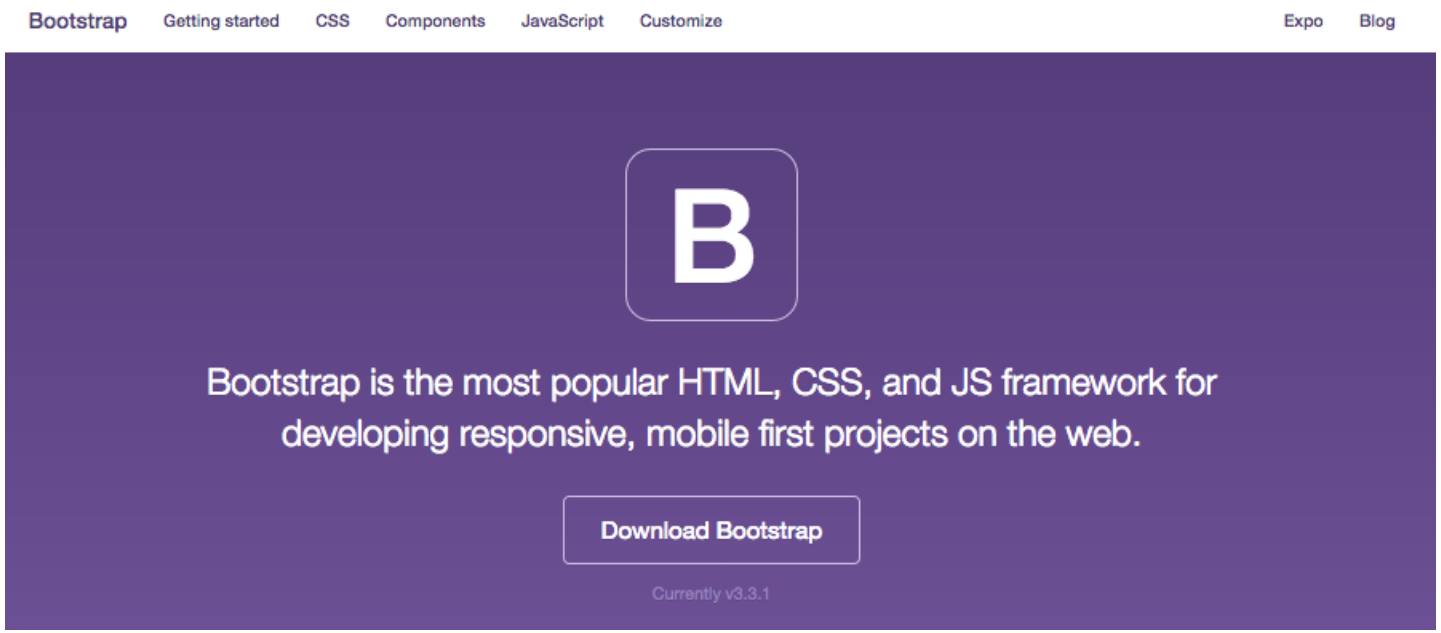
https://docs.djangoproject.com/en/1.7/topics/testing/

```
  class LibraryTestCase(TestCase):

    def setUp(self):
        self.client = Client()

    def test_library_home(self):
        response = self.client.get(reverse('library_home'))
        self.assertEqual(response.status_code, 200)
```

```
$ ./m.sh test
Creating test database for alias 'default'...
..
----------------------------------------------------------------
Ran 2 tests in 0.026s

OK
```

Bootstrap

`http://getbootstrap.com/`



Odnośniki - dokumentacja, tutoriale

- `https://docs.djangoproject.com/`
- `https://docs.djangoproject.com/en/1.7/intro/tutorial01/`
- `http://www.python.rk.edu.pl/w/p/djangoindex/`

Odnośniki - prezentacje

- `http://www.slideshare.net/marconijr/django-quickstart`
- `http://www.ii.uni.wroc.pl/~marcinm/dyd/python/django1.pdf`

- https://djangosnippets.org/
- http://django-skel.readthedocs.org/en/latest/ (uwaga! Django 1.5)
- https://pypi.python.org/pypi/django-frontend-skeleton/
- https://github.com/Keats/django-drf-template