Московский государственный университет им. Н. Э. Баумана

Факультет «Информатика и системы управления»

Кафедра «Системы обработки информации и управления»

Лабораторные работы по курсу:

«Разработка Интернет Приложений»

ЛР7. Авторизация, работа с формами и Django Admin.

Исполнитель:

Студент группы РТ5-51

Житенев В.Г.

Преподаватель:

Гапанюк Ю. Е.

«___»____________________________

Москва 2017 г.

Задание и порядок выполнения

Основная цель данной лабораторной работы – научиться обрабатывать веб-формы на стороне приложения, освоить инструменты, которые предоставляет Django, по работе с формами. Также в этой лабораторной работе вы освоите инструменты Django по работе с авторизацией и реализуете простейшую авторизацию. Напоследок, вы познакомитесь с инструментом администрирования Django – как в несколько строчек кода сделать панель администратора сайта.

Исходный код:

settings.py:

```
"""
Django settings for lab5 project.

Generated by 'django-admin startproject' using Django 1.11.6.

For more information on this file, see
https://docs.djangoproject.com/en/1.11/topics/settings/

For the full list of settings and their values, see
https://docs.djangoproject.com/en/1.11/ref/settings/
"""

import os

# Build paths inside the project like this: os.path.join(BASE_DIR, ...)
BASE_DIR = os.path.dirname(os.path.dirname(os.path.abspath(__file__)))


# Quick-start development settings - unsuitable for production
# See https://docs.djangoproject.com/en/1.11/howto/deployment/checklist/

# SECURITY WARNING: keep the secret key used in production secret!
SECRET_KEY = '49!#b03k-$776(y!yk)1i==$de40779llydo(okzdn3($ca!c7'

# SECURITY WARNING: don't run with debug turned on in production!
DEBUG = True

ALLOWED_HOSTS = []


# Application definition

INSTALLED_APPS = [
    'django.contrib.admin',
    'django.contrib.auth',
    'django.contrib.contenttypes',
    'django.contrib.sessions',
    'django.contrib.messages',
    'django.contrib.staticfiles',
    'my_app.apps.MyAppConfig',
]

MIDDLEWARE = [
    'django.middleware.security.SecurityMiddleware',
    'django.contrib.sessions.middleware.SessionMiddleware',
    'django.middleware.common.CommonMiddleware',
    'django.middleware.csrf.CsrfViewMiddleware',
    'django.contrib.auth.middleware.AuthenticationMiddleware',
    'django.contrib.messages.middleware.MessageMiddleware',
    'django.middleware.clickjacking.XFrameOptionsMiddleware',
]
```

```
ROOT_URLCONF = 'lab5.urls'

TEMPLATES = [
    {
        'BACKEND': 'django.template.backends.django.DjangoTemplates',
        'DIRS': [os.path.join(BASE_DIR, 'templates')]
        ,
        'APP_DIRS': True,
        'OPTIONS': {
            'context_processors': [
                'django.template.context_processors.debug',
                'django.template.context_processors.request',
                'django.contrib.auth.context_processors.auth',
                'django.contrib.messages.context_processors.messages',
            ],
        },
    },
]

WSGI_APPLICATION = 'lab5.wsgi.application'


# Database
# https://docs.djangoproject.com/en/1.11/ref/settings/#databases

DATABASES = {
    'default': {
        'ENGINE': 'django.db.backends.sqlite3',
        'NAME': os.path.join(BASE_DIR, 'db.sqlite3'),
    }
}


# Password validation
# https://docs.djangoproject.com/en/1.11/ref/settings/#auth-password-validators

AUTH_PASSWORD_VALIDATORS = [
    {
        'NAME':
'django.contrib.auth.password_validation.UserAttributeSimilarityValidator',
    },
    {
        'NAME':
'django.contrib.auth.password_validation.MinimumLengthValidator',
    },
    {
        'NAME':
'django.contrib.auth.password_validation.CommonPasswordValidator',
    },
    {
        'NAME':
'django.contrib.auth.password_validation.NumericPasswordValidator',
    },
]


# Internationalization
# https://docs.djangoproject.com/en/1.11/topics/i18n/

LANGUAGE_CODE = 'en-us'

TIME_ZONE = 'UTC'

USE_I18N = True
```

```
USE_L10N = True

USE_TZ = True


# Static files (CSS, JavaScript, Images)
# https://docs.djangoproject.com/en/1.11/howto/static-files/

STATIC_URL = '/static/'
```

urls.py

```
"""lab5 URL Configuration

The `urlpatterns` list routes URLs to views. For more information please see:
    https://docs.djangoproject.com/en/1.11/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 url, include
from django.contrib import admin
from my_app.views import *
from django.conf.urls.static import static
from django.conf import settings


urlpatterns = [

    url(r'^admin', admin.site.urls),
    url(r'', include('my_app.urls')),
    url(r'^orders', OrdersView.as_view(), name='orders_url'),
    url(r'^bd', bd, name='bd'),
    url(r'^tovar', TovarList.as_view(), name='tovar'),
    url(r'^shop1', ShopList1.as_view(), name='shop1'),
    url(r'^shop', ShopList.as_view(), name='shop'),
    url(r'^workers', WorkerList.as_view(), name='workers'),
    url(r'^main', main, name='main'),
    url(r'^login', login, name='login'),
    url(r'^success', success, name='success'),
    url(r'^registration2', registration2, name='registration2'),
    url(r'^registration', registration, name='registration'),
    url(r'^$', main, name='main'),
]
if settings.DEBUG:
    urlpatterns += static(settings.STATIC_URL,
document_root=settings.STATIC_URL)
```

views.py

```
from django.shortcuts import render, HttpResponseRedirect
from django.views.generic import View,ListView
from datetime import datetime
from .models import *
from .registration import *
from django.contrib.auth.models import User
from django.contrib import auth
from django.contrib.auth import authenticate
from django.contrib.auth.decorators import login_required



class OrdersView(View):
    def get(self, request):
        variable = 'Django'
        today_date = datetime.now()
        data = {
            'orders': [
                {'title': 'Первый заказ', 'id': 1},
                {'title': 'Второй заказ', 'id': 2},
                {'title': 'Третий заказ', 'id': 3}
            ]
        }
        return render(request, 'orders.html', locals())


class OrderView(View):
    def get(self, request, id):
        variable = 'Django'
        today_date = datetime.now()
        data = {
            'order': {
                'id': id
            }
        }
        return render(request,'order.html', locals())


def main(request):
    return render(request, 'main.html', locals())
def bd(request):
    return render(request, 'bd.html', locals())

class TovarList(ListView):
    model = Tovar
    template_name = "tovar.html"

class ShopList(ListView):
    model = Shop
    template_name = "shop.html"

class ShopList1(ListView):
    model = Shop
    template_name = "assort.html"


    def get(self, request, *args, **kwargs):
        self.id = request.GET.get('id')
        return super(ShopList1, self).get(request, *args, **kwargs)
    def get_queryset(self):
        if self.id:
            return Shop.objects.filter(id=self.id)
```

```
class WorkerList(ListView):
    model = Worker
    template_name = "workers.html"


def registration(request):
    errors = {'username': '', 'password': '', 'password2': '', 'email': '',
'firstname': '', 'surname': ''}
    error_flag = False
    if request.method == 'POST':
        username = request.POST.get('username')
        if not username:
            errors['username'] = 'Введите логин'
            error_flag = True
        elif len(username) < 5:
            errors['username'] = 'Логин должен превышать 5 символов'
            error_flag = True
        elif User.objects.filter(username=username).exists():
            errors['username'] = 'Такой логин уже существует'
            error_flag = True
        password = request.POST.get('password')
        if not password:
            errors['password'] = 'Введите пароль'
            error_flag = True
        elif len(password) < 8:
            errors['password'] = 'Длина пароля должна превышать 8 символов'
        password_repeat = request.POST.get('password2')
        if password != password_repeat:
            errors['password2'] = 'Пароли должны совпадать'
            error_flag = True
        email = request.POST.get('email')
        if not email:
            errors['email'] = 'Введите e-mail'
        firstname = request.POST.get('firstname')
        if not firstname:
            errors['firstname'] = 'Введите имя'
        surname = request.POST.get('surname')
        if not surname:
            errors['surname'] = 'Введите фамилию'
        if not error_flag:
            user = User.objects.create_user(username=username,
password=password, email=email, first_name=firstname, last_name=surname)
            return HttpResponseRedirect('/login')
    return render(request, 'registration.html', locals())


def registration2(request):
    form = RegistrationForm(request.POST or None)
    if request.method == 'POST':
        if form.is_valid():
            user =
User.objects.create_user(username=request.POST.get('username'),
                                            email=request.POST.get('email'),

password=request.POST.get('password'),

first_name=request.POST.get('firstname'),

last_name=request.POST.get('surname'))
            return HttpResponseRedirect('/login')
    return render(request, 'registration2.html', {'form': form})


def login(request):
    error = ""
    username = None
    password = None
    if request.method == 'POST':
        username = request.POST.get('username')
        password = request.POST.get('password')
        user = authenticate(username=username, password=password)
        if user:
            auth.login(request, user)
            return HttpResponseRedirect('/success')
        else:
            error = "Попробуй ещё раз"
    return render(request, 'login.html', locals())


@login_required()
def success(request):
    return render(request,'success.html', locals())


def logout(request):
    auth.logout(request)
    return HttpResponseRedirect('/main/')
```

admin.py

```
from django.contrib import admin
from .models import *


class ShopAdmin(admin.ModelAdmin):
    fields =('name_shop', 'adr_shop')
    list_display = [ "name_shop", "adr_shop"]  # Выводит 3 поля
    search_fields = ( 'name_shop', 'adr_shop')
    list_filter = ["id_shop"]
# Фильтр по поляи
    class Meta:
        model = Shop

class TovarAdmin(admin.ModelAdmin):
    fields = ('name_tovar', 'type_tovar')
    list_display = [ "name_tovar", "type_tovar"]  # Выводит 3 поля
    search_fields = ('name_tovar', 'type_tovar')
    list_filter = ["id_tovar"]
    class Meta:
        model = Tovar

class WorkerAdmin(admin.ModelAdmin):
    fields = ('name_worker', 'lastname_worker', 'email_worker',
'workplace_worker')
    list_display = ["name_worker", "lastname_worker", "email_worker"]  #
Выводит 3 поля
    search_fields = ('name_worker', 'lastname_worker', 'email_worker',
'workplace_worker')
    list_filter = ["id_worker"]
    class Meta:
        model = Worker


admin.site.register(Shop, ShopAdmin)
admin.site.register(Tovar, TovarAdmin)
admin.site.register(Worker, WorkerAdmin)
```

registration.py

```
from django import forms
from django.contrib.auth.forms import UserCreationForm


class RegistrationForm(forms.Form):
    username = forms.CharField(min_length=5, label='Логин')
    password = forms.CharField(min_length=6, widget=forms.PasswordInput,
label='Пароль')
    password2 = forms.CharField(min_length=6, widget=forms.PasswordInput,
label='Повторите пароль')
    email = forms.EmailField(widget=forms.EmailInput, label='E-mail')
    firstname = forms.CharField(label='Имя')
    surname = forms.CharField(label='Фамилия')
```

base.html

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Мой сайт</title>
    {% load static %}
    <link rel="stylesheet" href="static/Bootstrap/css/bootstrap.css">
    <link rel="stylesheet" href="static/Bootstrap/css/main.css">
    <link rel="stylesheet" href="static/Bootstrap/css/font-awesome.min.css">
</head>
    <body>
    <div class="navbar navbar-inverse navbar-fixed-top">
        <div class="container">
            <div class="navbar-header">
                <button type="button" class="navbar-toggle" data-
toggle="collapse" data-target=".navbar-collapse">
                </button>
                <a class="navbar-brand" href="{%url 'main'  %}">Welcome!</a>
            </div>
            <div class="navbar-collapse collapse">
                <ul class="nav navbar-nav navbar-right">
                    {% block body1 %} <!-- Блок для кнопок -->

                    {% endblock %}
                </ul>
            </div>
        </div>
    </div>
<div id="headerwrap">
    {% block body2 %}<!--Блок для заголовков-->


    {% endblock %}
</div>
    {% block body3 %}<!--Блок для всего остального-->


    {% endblock %}
</body>
</html>
```

login.html

```
<!DOCTYPE html>
{% extends 'base.html' %}
{% load static %}
                {% block body1 %}
                    <li><a href="{%url 'bd'  %}">DataBase</a></li>
                    <li><a href="{%url 'orders_url'  %}">Orders</a></li>
                    <li  class="active" ><a href="{%url 'login'
%}">Login</a></li>
                    <li ><a href="{%url 'registration'
%}">registration</a></li>
                    <li><a href="{%url 'admin:index'  %}"><i class="fa fa-bomb
fa-invert" aria-hidden="true"></i></a></li>
                {% endblock %}
{% block body2 %}
    <div id="body1">
        <div class="container">
            <div class="row centered">
                <div class="col-lg-8 col-lg-offset-2">
                    <h1><br>Авторизация<br><br></h1>
                </div>
            <form method="POST">
            <div class="auth_block"style="width: 352px">
                {% csrf_token %}
                <div class="auth_blank">
                    <label class="login" style="width: 60px">
                        Логин
                    </label>
                    <div class="form-block">
                        <input type="text" name="username">
                    </div>
                </div>
                <div class="auth_blank">
                    <label class="login" style="width: 70px">
                        Пароль
                    </label>
                    <div class="form-block">
                        <input type="password" name="password">
                    </div>
                </div>
                {% if error != "" %}
                    <p>{{ error }}</p>
                {% endif %}
                <br>
                <button type="submit">Войти</button>
            </div>
            </form>
            </div>
        </div>
    </div>
{% endblock %}
```

registration.html

```
<!DOCTYPE html>
{% extends 'base.html' %}
{% load static %}
                {% block body1 %}
                 <li><a href="{%url 'bd'  %}">DataBase</a></li>
                    <li><a href="{%url 'orders_url'  %}">Orders</a></li>
                    <li ><a href="{%url 'login'  %}">Login</a></li>
                    <li class="active" ><a href="{%url 'registration'
%}">registration</a></li>
                    <li><a href="{%url 'admin:index'  %}"><i class="fa fa-bomb
fa-invert" aria-hidden="true"></i></a></li>
                {% endblock %}
{% block body2 %}
 <div id="body1">
        <div class="container">
            <div class="row centered">
                <div class="col-lg-8 col-lg-offset-2">
                    <h5><br>Регистрация<br><br></h5>
                </div>
            <form method="POST">
            <div class="auth_block" style="width: 452px">
                {% csrf_token %}
                <div class="auth_blank">
                    <label>
                        Логин
                    </label>
                    <div class="form-block">
                        <input type="text" name="username" value="{{ username
}}">
                        {% if errors.username != '' %}
                            <div class="form-error">{{ errors.username
}}</div>
                        {% endif %}
                    </div>
                </div>
                <div class="auth_blank">
                    <label>
                        Пароль
                    </label>
                    <div class="form-block">
                        <input type="password" name="password">
                        {% if errors.password != '' %}
                            <div class="form-error">{{ errors.password
}}</div>
                        {% endif %}
                    </div>
                </div>
                <div class="auth_blank">
                    <label>
                        Повторите пароль
                    </label>
                    <div class="form-block">
                        <input type="password" name="password2">
                        {% if errors.password2 != '' %}
                            <div class="form-error">{{ errors.password2
}}</div>
                        {% endif %}
                    </div>
                </div>
                <div class="auth_blank">
                    <label>
                        E-mail
                    </label>
                    <div class="form-block">
                        <input type="email" name="email" value="{{ email }}">
                        {% if errors.email != '' %}
                            <div class="form-error">{{ errors.email }}</div>
                        {% endif %}
                    </div>
                </div>
                <div class="auth_blank">
                    <label>
                        Имя
                    </label>
                    <div class="form-block">
                        <input type="text" name="firstname" value="{{
firstname }}">
                        {% if errors.firstname != '' %}
                            <div class="form-error">{{ errors.firstname
}}</div>
                        {% endif %}
                    </div>
                </div>
                <div class="auth_blank">
                    <label>
                        Фамилия
                    </label>
                    <div class="form-block">
                        <input type="text" name="surname" value="{{ surname
}}">
                        {% if errors.surname != '' %}
                            <div class="form-error">{{ errors.surname }}</div>
                        {% endif %}
                    </div>
                </div>
                <br>
                <button type="submit">Зарегистрироваться</button>
                <a style=" font-size: 20px; font-weight: 200; "  href="{% url
'registration2' %}">Регистрация через форму</a>
            </div>
        </form>
            </div>
        </div>
    </div>
{% endblock %}
```

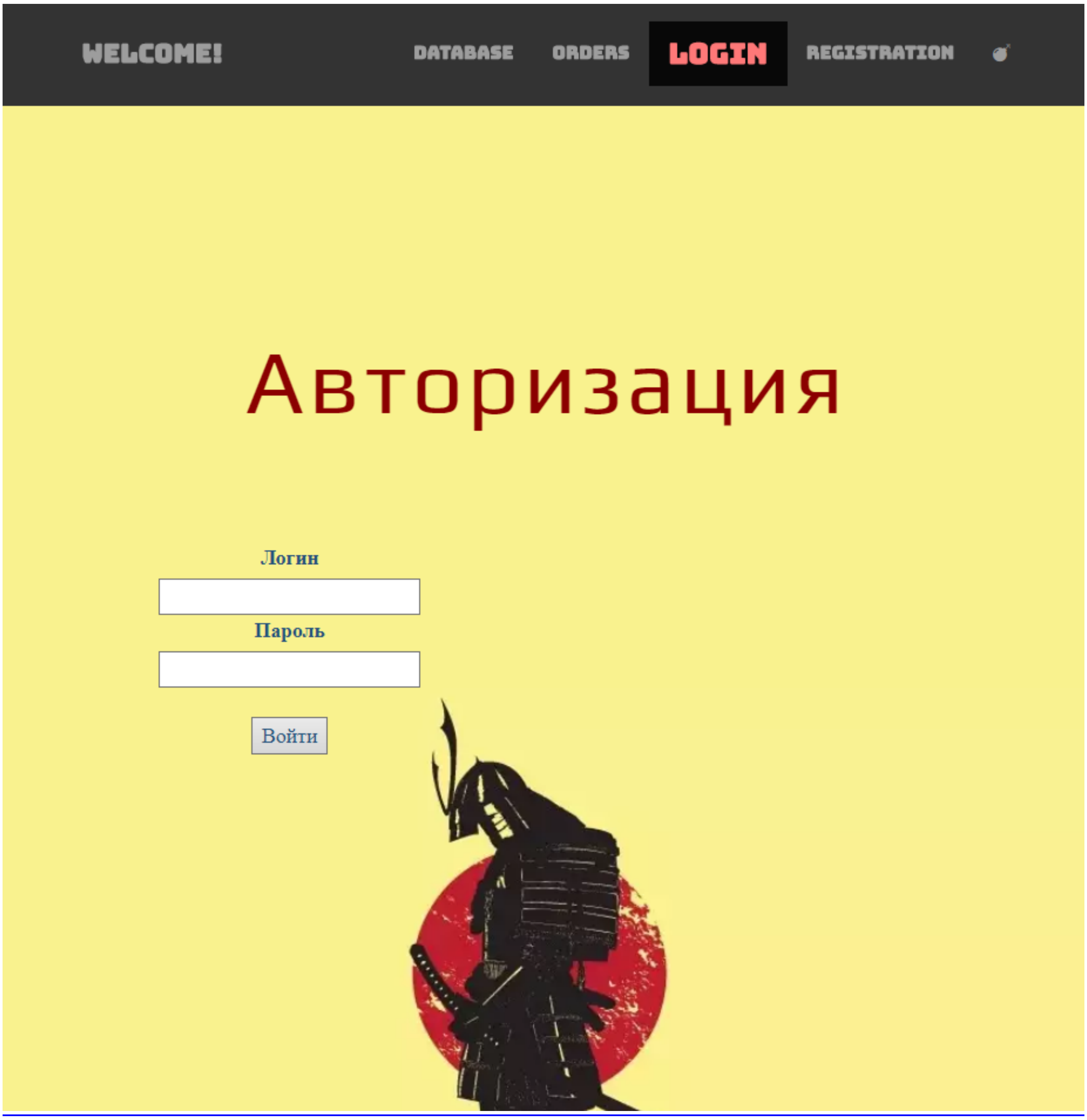
Registration2.html

```
<!DOCTYPE html>
{% extends 'base.html' %}
                {% block body1 %}
                    <li><a href="{%url 'bd'  %}">DataBase</a></li>
                    <li><a href="{%url 'orders_url'  %}">Orders</a></li>
                    <li ><a href="{%url 'login'  %}">Login</a></li>
                    <li class="active" ><a href="{%url 'registration'
%}">registration</a></li>
                    <li><a href="{%url 'admin:index'  %}"><i class="fa fa-bomb
fa-invert" aria-hidden="true"></i></a></li>
                {% endblock %}
{% block body2 %}
 <div id="body1">
        <div class="container">
            <div class="row centered">
                <div class="col-lg-8 col-lg-offset-2">
                    <h5><br>Регистрация (форма)<br><br></h5>
                </div>
             <form method= "POST">
         <div class="auth_block" style="width: 452px">
                {% csrf_token %}
                {{ form.as_p }}
             <br>
             <button type= "submit"> Зарегистрироваться </button>
         </div>
    </form>
            </div>
        </div>
    </div>
{% endblock %}
```

main.html

```
<!DOCTYPE html>
{% extends 'base.html' %}
{% load static %}
                {% block body1 %}
                    <li><a href="{%url 'bd'  %}">DataBase</a></li>
                    <li><a href="{%url 'orders_url'  %}">Orders</a></li>
                    <li ><a href="{%url 'login'  %}">Login</a></li>
                    <li ><a href="{%url 'registration'
%}">registration</a></li>
                    <li><a href="{%url 'admin:index'  %}"><i class="fa fa-bomb
fa-invert" aria-hidden="true"></i></a></li>
                {% endblock %}
{% block body2 %}
 <div class="container">
        <div class="row centered">
            <div class="col-lg-8 col-lg-offset-2">
                <h1>Выберите категорию</h1>
            </div>
            <br>
        </div>
    </div>
{% endblock %}
```

http://127.0.0.1:8000/login

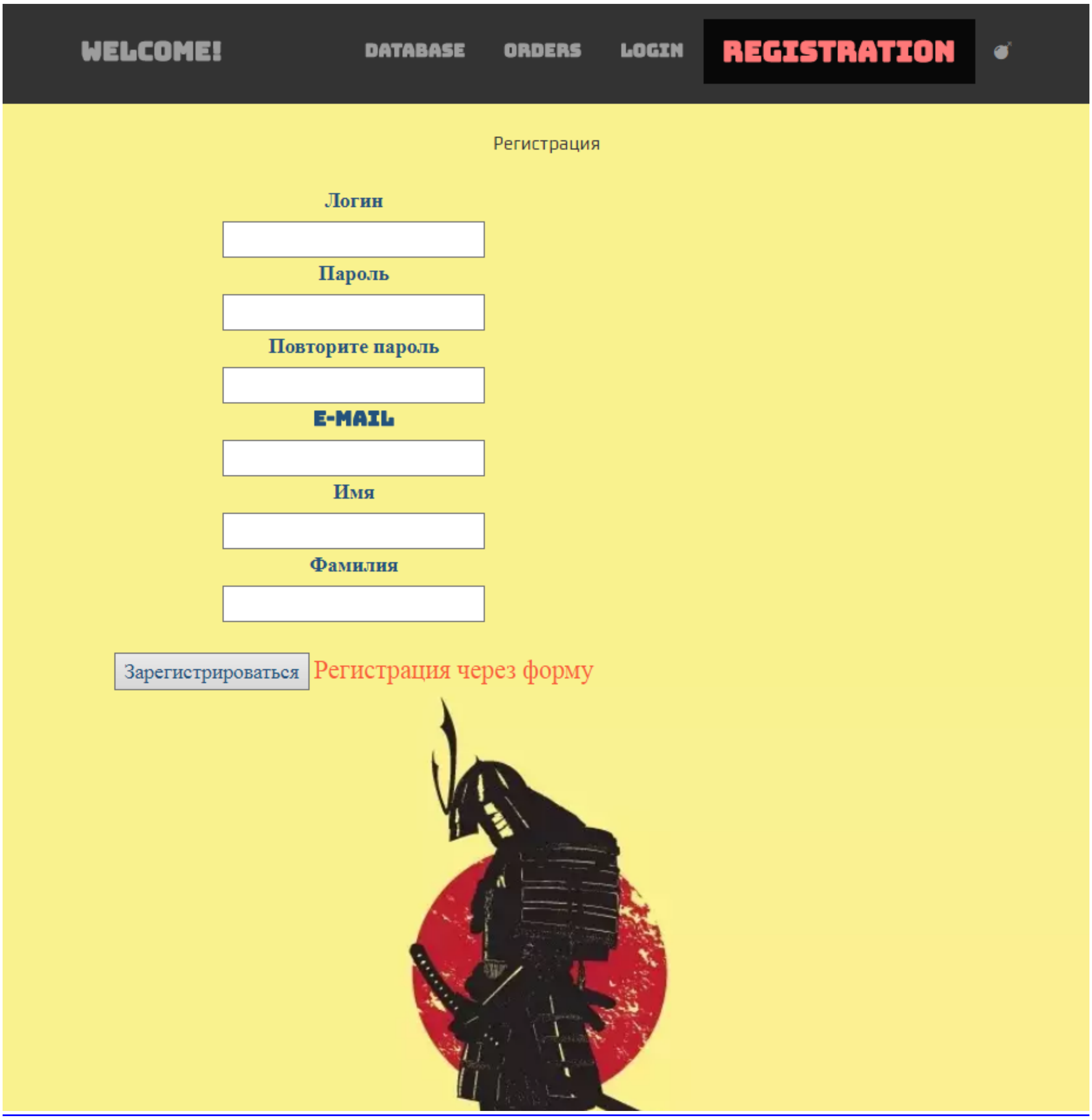


Авторизация

Логин

Пароль

http://127.0.0.1:8000/registration



Регистрация

Логин

Пароль

Повторите пароль

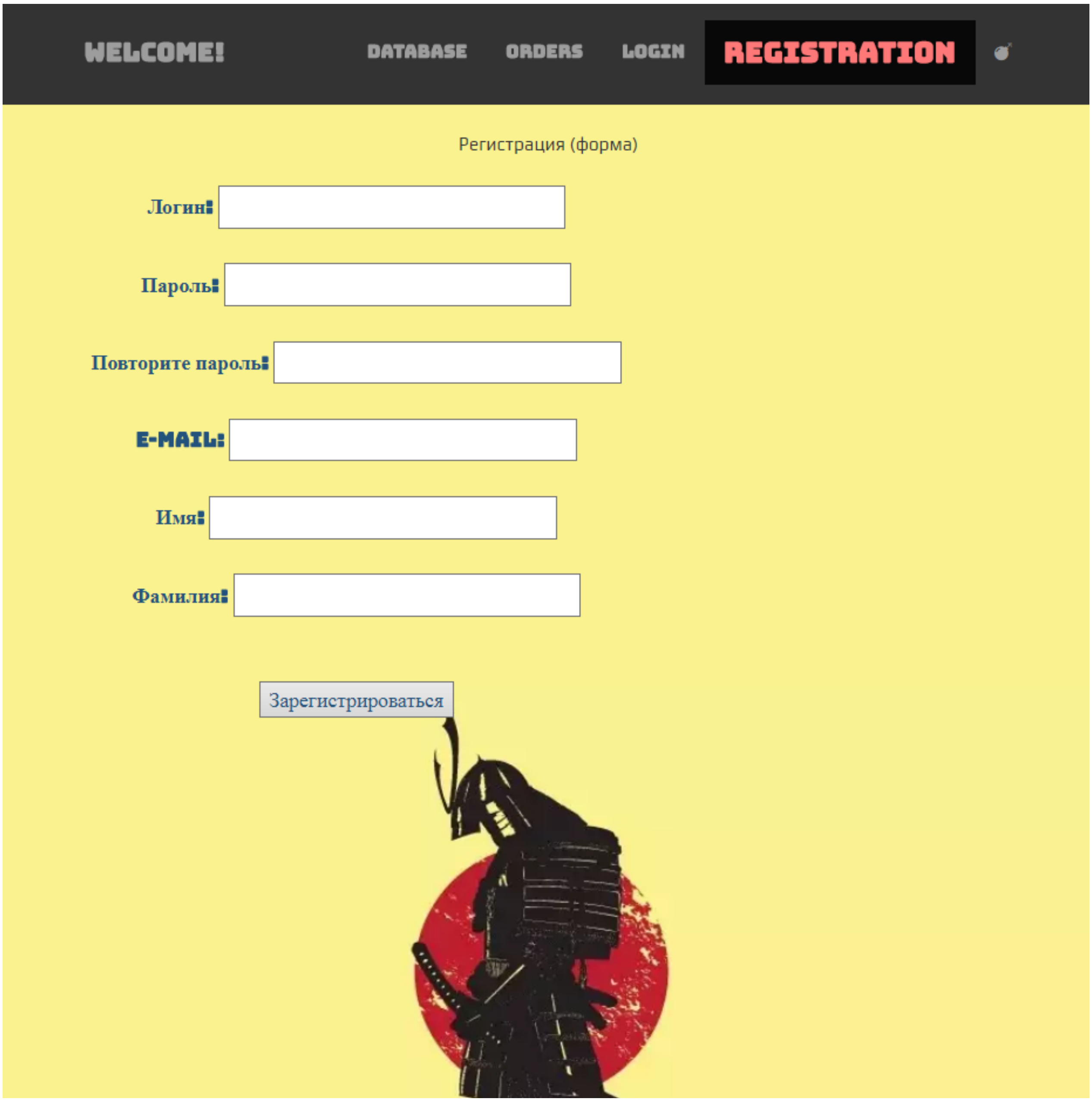
E-MAIL

Имя

Фамилия

Регистрация через форму

http://127.0.0.1:8000/registration2



Регистрация (форма)

Логин:

Пароль:

Повторите пароль:

E-MAIL:

Имя:

Фамилия: