

**МИНИСТЕРСТВО НАУКИ И ВЫСШЕГО ОБРАЗОВАНИЯ РОССИЙСКОЙ
ФЕДЕРАЦИИ**

**ФЕДЕРАЛЬНОЕ ГОСУДАРСТВЕННОЕ АВТОНОМНОЕ
ОБРАЗОВАТЕЛЬНОЕ УЧРЕЖДЕНИЕ ВЫСШЕГО ОБРАЗОВАНИЯ
"НАЦИОНАЛЬНЫЙ ИССЛЕДОВАТЕЛЬСКИЙ УНИВЕРСИТЕТ ИТМО"**

ЛАБОРАТОРНАЯ РАБОТА №2

РЕАЛИЗАЦИЯ ПРОСТОГО САЙТА СРЕДСТВАМИ DJANGO

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Цель работы:

Овладеть практическими навыками и умениями реализации сатов, используя фреймворк Django.

Выполнение:

Необходимо было реализовать сайт – список научных конференций.

Модель данных (models.py):

1. класс Конференции, содержащий следующие поля: название, тема, местоположение, дата начала и конца, описание конференции, описание места, условия участия, выступающие (внешний ключ к User), рекомендуется или нет к публикации.

```
class Conference(models.Model):
    name = models.CharField("conference", max_length=50)
    topic = models.CharField("topic", blank=True, choices=[
        ("business", "business"),
        ("design", "design"),
        ("physics", "physics"),
    ], max_length=10)
    location = models.CharField("location", max_length=100)
    start_date = models.DateField("start date")
    end_date = models.DateField("end date")
    description = models.CharField("conference description", max_length=200)
    location_description = models.CharField("location description",
max_length=200)
    terms = models.CharField("participation terms", max_length=1000)
    speaker = models.ForeignKey(User, on_delete=models.CASCADE,
verbose_name="speaker", null=True)
    recommend = models.CharField("recommend", choices=[
        ("yes", "yes"),
        ("no", "no"),
    ], max_length=3)
    class Meta:
        verbose_name = "conference"
        verbose_name_plural = "conferences"

    def __str__(self):
        return f"{self.topic}: {self.name}"
```

2. класс Комментарий, содержащий следующие поля: название конференции (внешний ключ из Conference), автор комментария (внешний ключ из User), текст комментария, рейтинг.

```
class Comment(models.Model):
```

```

    name = models.ForeignKey(Conference, on_delete=models.CASCADE,
verbose_name="conference")
    author = models.ForeignKey(User, on_delete=models.CASCADE,
verbose_name="comment author")
    text = models.CharField("comment", max_length=100)
    rating = models.CharField("rating", choices =[
        ("1","1"),
        ("2","2"),
        ("3","3"),
        ("4","4"),
        ("5","5"),
        ("6","6"),
        ("7","7"),
        ("8","8"),
        ("9","9"),
        ("10","10"),

    ], max_length=2)

class Meta:
    verbose_name = "comment"
    verbose_name_plural = "comments"

def __str__(self):
    return f"{self.author}: {self.text}"

```

Представления (views.py):

На основе функций

Функция index для показа домашней страницы

```

def index(request):
    return render(request, "index.html")

```

На основе классов

Класс Представление конференции: используется модель конференций, имя conferences, имя шаблона conferences.html

```

class ConferenceView(generic.ListView):
    model = Conference
    context_object_name = "conferences"
    queryset = Conference.objects.all()
    template_name = "conferences.html"

```

Класс Детальное представление конференции: используется модель конференций, имя шаблона conference-detail.html, класс PostCommet импортируется из forms.py; два метода get_context_data, post (получение и отправка данных).

```

class ConferenceDetailView(FormMixin, generic.DetailView):
    model = Conference
    template_name = "conference-detail.html"
    form_class = PostComment

    def get_context_data(self, **kwargs):
        context = super(ConferenceDetailView, self).get_context_data(**kwargs)
        context["form"] = PostComment(
            initial={"name": self.object, "author": self.request.user}
        )
        context["comments"] =
Comment.objects.filter(name=self.get_object()).all()
        return context

    def post(self, request, *args, **kwargs):
        self.object = self.get_object()
        form = self.get_form()
        if form.is_valid():
            form.save()
        return HttpResponseRedirect(
            reverse("conference-detail", args=(self.object.pk,))
        )

```

Формы (forms.py):

Класс Публикация комментария: за модель берется класс комментариев, поля: названия, комментарий, автор, рейтинг, указывается вспомогательный текст “Write your comment here”

```

class PostComment(ModelForm):
    class Meta:
        model = Comment
        fields = ["name", "text", "author", "rating"]

        labels = {
            "text": "Write your comment here",
        }

        widgets = {
            "conference": HiddenInput(),
            "text": Textarea(attrs={"cols": 70, "rows": 10}),
            "author": HiddenInput(),
        }

```

Роутеры (urls.py):

В приложении conf_app:

- путь по умолчанию index,
- путь conferences/, открывающий страницу со всеми конференциями

- путь `conferences/<slug:pk>/`, открывающий детальное описание конкретной конференции (напр. `conferences/2` – вторая конференция)

```
from django.urls import path

from .views import index, ConferenceView, ConferenceDetailView

urlpatterns = [
    path("", index, name="index"),
    path("conferences/", ConferenceView.as_view(), name="conferences"),
    path(
        "conferences/<slug:pk>/",
        ConferenceDetailView.as_view(),
        name="conference-detail",
    ),
]
```

В проекте `conferences_lab`:

- путь `admin/`, открывающий админ-панель
- путь `accounts/`, открывающий страницы логина, регистрации, выхода из аккаунта, установки пароля и т.д.
- включение путей из приложения `conf_app`

```
urlpatterns = [
    path('admin/', admin.site.urls),
    path("accounts/", include("allauth.urls")),
    path("", include("conf_app.urls"))
]
```

Шаблоны (templates):

Index.html

```
<!DOCTYPE html>
<html>
<head>
    <meta http-equiv="Content-Type" content="text/html; charset=utf-8"/>
    <title>conferences</title>
    <style>
        .layer {
            border: 2px solid black;
            padding: 20px;
        }
    </style>
</head>
<body class="layer">
<h2>main</h2>
<a href="{% url 'conferences' %}">conferences</a>
<br/>
```

```
{% if user.is_active %}
<a href="{% url 'account_logout' %}">sign out</a>
{% else %}
<a href="{% url 'account_login' %}">sign in</a>
{% endif %}
</body>
</html>
```

Conferences.html

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8"/>
  <title>conferences</title>
  <style>
    .layer {
      border: 2px solid black;
      padding: 20px;
    }
  </style>
</head>
<body class="layer">
<h2>conferences</h2>
<a href="{% url 'index' %}">main</a>
<br/>
{% if user.is_active %}
<a href="{% url 'account_logout' %}">sign out</a>
{% else %}
<a href="{% url 'account_login' %}">sign in</a>
{% endif %}
{% if conferences %}
{% for conference in conferences %}
<p>
  {{ conference }}
  <br/>
  <a href="/conferences/{{ conference.id }}">detail</a>
  {% endfor %}
</p>
{% else %}
<p>no conferences yet</p>
{% endif %}
</body>
</html>
```

Conference-detail.html

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8"/>
  <title>{{ conference }}</title>
  <style>
```

```
.layer {
  border: 2px solid black;
  padding: 20px;
}
</style>
</head>
<body class="layer">
<a href="/">main</a>
<br/>
<a href="/conferences/{{ conferences }}">conferences</a>
<br/>
{% if user.is_active %}
<a href="{% url 'account_logout' %}">sign out</a>
{% else %}
<a href="{% url 'account_login' %}">sign in</a>
{% endif %}
<h2>conference info</h2>
<h3>{{ conference }}</h3>
<p>
  <b>topic:</b>
  <br/>
  {{ conference.topic }}
</p>
<p>
  <b>speaker:</b>
  <br/>
  {{ conference.speaker }}
</p>
<p>
  <b>location:</b>
  <br/>
  {{ conference.location }}
</p>
<p>
  <b>start date:</b>
  <br/>
  {{ conference.start_date }}
</p>
<p>
  <b>end date:</b>
  <br/>
  {{ conference.end_date }}
</p>
<p>
  <b>conference description:</b>
  <br/>
```

```

        {{ conference.description }}
    </p>

    <p>
        <b>location description:</b>
        <br/>
        {{ conference.location_description }}
    </p>

    <p>
        <b>terms of participation:</b>
        <br/>
        {{ conference.terms }}
    </p>

    <h1>comments</h1>

    {% for comment in comments %}
    <p>{{ comment.text }}</p>
    <p><small><b>comment author: {{ comment.author }}</b></small></p>
    <p><small><b>rating: {{ comment.rating }}</b></small></p>
    <p><small><b>conference dates: {{ conference.start_date }}-{{ conference.end_date }}</b></small></p>
    {% endfor %} {% if user.is_authenticated %}
    <div>
        <h1>add comment:</h1>
        <form action="/conferences/{{conference.id}}/" method="post">
            {% csrf_token %} {{ form.as_p }}
            <input type="submit" value="add comment"/>
        </form>
    </div>
    {% else %} sign in to add comment
    <a href="{% url 'account_login' %}">sign in</a>
    {% endif %}
</body>
</html>

```

Скрины работы программы (функционал):

Админ-панель <http://127.0.0.1:8000/admin/>

Django administration

WELCOME, [ADMIN](#) / [VIEW SITE](#) / [CHANGE PASSWORD](#) / [LOG OUT](#)

Site administration

ACCOUNTS

Email addresses

+ Add

Change

AUTHENTICATION AND AUTHORIZATION

Groups

+ Add

Change

Users

+ Add

Change

CONF_APP

Comments

+ Add

Change

Conferences

+ Add

Change

SITES

Sites

+ Add

Change

SOCIAL ACCOUNTS

Recent actions

My actions

business: Modern Businessman Conference

design: Figma vs Canvas Conference

physics: Living on Mars Conference

design: Minimalism - are we tired of it? Conference

business: Global trends in business Conference

business: Global trends in business Conference

galina User

tamara User

kirill

E-mail пользователей <http://127.0.0.1:8000/admin/account/emailaddress/>

✓ The email address "annahoffman@gmail.com" was added successfully.

Select email address to change

ADD EMAIL ADDRESS +

Q

Search

Action:

Go

 0 of 1 selected

<input type="checkbox"/>	E-MAIL ADDRESS	USER	PRIMARY	VERIFIED
<input type="checkbox"/>	annahoffman@gmail.com	annahoff	✖	✖

1 email address

FILTER

↓ By primary

All

Yes

No

↓ By verified

All

Yes

No

Пользователи сайта <http://127.0.0.1:8000/admin/auth/user/>

Select user to change

[ADD USER +](#)

Action: ----- 0 of 8 selected

<input type="checkbox"/>	USERNAME	EMAIL ADDRESS	FIRST NAME	LAST NAME	STAFF STATUS
<input type="checkbox"/>	admin	abinochu@yandex.ru			✓
<input type="checkbox"/>	annahoff		Anna	Hoffman	✓
<input type="checkbox"/>	dmitry		Dmitry	Meshkov	✓
<input type="checkbox"/>	galina				✗
<input type="checkbox"/>	kirill		Kirill	Kasatkin	✓
<input type="checkbox"/>	selena		Selena	Gomez	✗
<input type="checkbox"/>	sergio				✗
<input type="checkbox"/>	tamara		Tamara	Alieva	✓

8 users

FILTER

↓ By staff status

[All](#)

Yes

No

↓ By superuser status

[All](#)

Yes

No

↓ By active

[All](#)

Yes

No

Добавление пользователя <http://127.0.0.1:8000/admin/auth/user/add/>

Add user

First, enter a username and password. Then, you'll be able to edit more user options.

Username:

Required. 150 characters or fewer. Letters, digits and @/./+/-/_ only.

Password:

Your password can't be too similar to your other personal information.

Your password must contain at least 8 characters.

Your password can't be a commonly used password.

Your password can't be entirely numeric.

Password confirmation:

Enter the same password as before, for verification.

Изменение пользователя <http://127.0.0.1:8000/admin/auth/user/5/change/>

Change user

kirill

HISTORY

Username:

kirill

Required: 150 characters or fewer. Letters, digits and @/./+/-/_ only.

Password:

algorithm: pbkdf2_sha256 iterations: 390000 salt: oooRDs***** hash: 8kSGrd*****

Raw passwords are not stored, so there is no way to see this user's password, but you can change the password using this form.

Personal info

First name:

Kirill

Last name:

Kasatkin

Email address:

Permissions

☒ Active

Designates whether this user should be treated as active. Unselect this instead of deleting accounts.

☒ Staff status

Designates whether the user can log into this admin site.

☐ Superuser status

Designates that this user has all permissions without explicitly assigning them.

Комментарии http://127.0.0.1:8000/admin/conf_app/comment/

Select comment to change

ADD COMMENT +

Action:

Go

0 of 5 selected

☐ COMMENT

☐ tamara: I loved every part of it

☐ selena: it was too blunt, could be better

☐ annahoff: Didn't learn a thing to be honest...

☐ annahoff: It was fine! I'll visit it again!

☐ annahoff: it was great! i learned a lot!

5 comments

Изменение комментария

http://127.0.0.1:8000/admin/conf_app/comment/2/change/




Change comment

annahoff: It was fine! I'll visit it again!

HISTORY




Conference:

design: Minimalism - are we tired of it?

Comment author:

annahoff

Comment:

It was fine! I'll visit it again!

Rating:

6

Delete

Save and add another

Save and continue editing

SAVE

Список конференций http://127.0.0.1:8000/admin/conf_app/conference/

Select conference to change ADD CONFERENCE +

Action: 0 of 5 selected

<input type="checkbox"/>	CONFERENCE
<input type="checkbox"/>	business: Global trends in business
<input type="checkbox"/>	design: Minimalism - are we tired of it?
<input type="checkbox"/>	physics: Living on Mars
<input type="checkbox"/>	design: Figma vs Canvas
<input type="checkbox"/>	business: Modern Businessman

5 conferences

Изменение конференции

http://127.0.0.1:8000/admin/conf_app/conference/2/change/

Change conference HISTORY

design: Figma vs Canvas

Conference:

Figma vs Canvas

Topic:

design

Location:

Moscow, Russia

Start date:

2022-10-02

Today | 📅

Note: You are 3 hours ahead of server time.

End date:

2022-10-03

Today | 📅

Note: You are 3 hours ahead of server time.

Conference description:

Comparison of two design tools

Location description:

MSU, ballroom

Participation terms:

Being a MSU student

Speaker:

tamara

✎ + 👁

Recommend:

yes

Delete

Save and add another

Save and continue editing

SAVE

Создание конференций http://127.0.0.1:8000/admin/conf_app/conference/add/

Add conference

Conference:	<input type="text"/>
Topic:	<input type="text"/>
Location:	<input type="text"/>
Start date:	<input type="text"/> Today
Note: You are 3 hours ahead of server time.	
End date:	<input type="text"/> Today
Note: You are 3 hours ahead of server time.	
Conference description:	<input type="text"/>
Location description:	<input type="text"/>
Participation terms:	<input type="text"/>
Speaker:	<input type="text"/>
Recommend:	<div><div>admin annahoff dmitry galina kirill selena sergio tamara</div></div>

Save and add another

Save and continue editing

SAVE

Основная страница <http://127.0.0.1:8000/>

main

[conferences](#)
[sign out](#)

Окно выхода из аккаунта <http://127.0.0.1:8000/accounts/logout/>

Menu:

- [Change E-mail](#)
- [Sign Out](#)

Sign Out

Are you sure you want to sign out?

Sign Out

Изменение email <http://127.0.0.1:8000/accounts/email/>

Menu:

- [Change E-mail](#)
- [Sign Out](#)

E-mail Addresses

The following e-mail addresses are associated with your account:

• abinochu@yandex.ru Unverified
Make Primary Re-send Verification Remove

Add E-mail Address

E-mail:

[Add E-mail](#)

Страница входа в аккаунт <http://127.0.0.1:8000/accounts/login/>

Messages:

- You have signed out.

Menu:

- [Sign In](#)
- [Sign Up](#)

Sign In

If you have not created an account yet, then please [sign up](#) first.

Username:

Password:

Remember Me: ☐

[Forgot Password?](#) [Sign In](#)

Список конференций <http://127.0.0.1:8000/conferences/>

conferences
main
sign out
business: Modern Businessman
detail
design: Figma vs Canvas
detail
physics: Living on Mars
detail
design: Minimalism - are we tired of it?
detail
business: Global trends in business
detail

Описание конференции + окно оставления комментария

<http://127.0.0.1:8000/conferences/4/>

[main](#)
[conferences](#)
[sign out](#)

conference info

design: Minimalism - are we tired of it?

topic:
design

speaker:
dmitry

location:
New York, USA

start date:
July 7, 2022

end date:
July 8, 2022

conference description:
Discussion about minimalism - if this trend is going to stay any longer

location description:
White House

terms of participation:
Pre-registration on the official site

comments

It was fine! I'll visit it again!

comment author: **annahoff**

rating: 6

conference dates: July 7, 2022-July 8, 2022

I loved every part of it

comment author: **tamara**

rating: 10

conference dates: July 7, 2022-July 8, 2022

add comment:

Conference: **design: Minimalism - are we tired of it?** ▼

Write your comment here:

Rating:

Вывод: Создан простой сайт на фреймворке Django и были получены необходимые навыки работы с ним.