

**Московский Государственный Технический Университет им. Н.Э.
Баумана**

Разработка интернет-приложений

Отчёт по лабораторной работе №6

«Работа с СУБД»

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1. Цель работы

Подключить СУБД к приложению Django

2. Листинг

Файл settings.py — настройка баз данных

```
DATABASES = {  
    'default': {  
        'ENGINE': 'django.db.backends.mysql',  
        'OPTIONS': {  
            'db': 'grow_db',  
            'read_default_file': '~/.my.cnf'  
        }  
    }  
}
```

Модуль grow/connection.py

```
import MySQLdb
```

```
class Connection:
```

```
    def __init__(self, host, db_name, read_default_file="~/.my.cnf"):
```

```
        self.host = host
```

```
        self.db_name = db_name
```

```
        self.read_default_file = read_default_file
```

```
        self._connection = None
```

```
    @property
```

```
    def connection(self):
```

```
        return self._connection
```

```
    def __enter__(self):
```

```
        return self.connect()
```

```
    def __exit__(self, exc_type, exc_val, exc_tb):
```

```
        self.disconnect()
```

```
    def connect(self):
```

```
        if not self._connection:
```

```
            self._connection = MySQLdb.connect(  
                host=self.host,
```

```
                db=self.db_name,
```

```
                read_default_file=self.read_default_file  
            )
```

```
            return self._connection
```

```
    def disconnect(self):
```

```
        if self._connection:
```

```
            self._connection.close()
```

Модуль connect.py – проверка подключения к БД

```

import MySQLdb
from MySQLdb.constants import FIELD_TYPE

db = MySQLdb.connect(host="localhost", db="grow_db",
read_default_file=~/.my.cnf")
cursor=db.cursor()
cursor.execute("select article_id, author_id, pubdate, likes from articles")
result = cursor.fetchall()
for x in result:
    print(x)

```

Модуль db_models.py – модели с возможностью сохранения в базу

```

import connection
class Author:

    def __init__(self, first_name, last_name, about, email,
phone_number):

        self.connection = connection.Connection(host="localhost",
db_name="grow_db")

        self.first_name = first_name

        self.last_name = last_name

        self.about = about

        self.email = email

        self.phone_number = phone_number

    def save(self):

        with self.connection as c:

            cursor = c.cursor()

            cursor.execute("""insert into grow_author (firstName, lastName,
about, email, phone_number)

                values (%s, %s, %s, %s, %s)""", (self.first_name,

                    self.last_name,

                    self.about,

                    self.email,

                    self.phone_number) )

            c.commit()

```

```
author = Author("Alex", "Klein", "Photographer, traveller",
               "alex@klein.com", "467214")

author.save()
```

Модуль lab5/urls.py

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

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

Модуль grow/urls.py

```
from django.conf.urls import url

from . import views

urlpatterns = [
    url(r'^$', views.index, name='index'),
    url(r'^(?P<id>(\d+))$', views.article, name='article')
]
```

Модуль grow/views.py

```
from django.shortcuts import render
from django.shortcuts import render_to_response
from django.template.loader import render_to_string
from django.http import HttpResponseRedirect
from django.template import RequestContext, loader
from .models import Article

# Create your views here..

def index(request):
    articles = Article.objects.all()
    content = {
        'articles': articles
    }
    return render(request, 'articles.html', content)

def article(request, id):
    art = Article.objects.get(id=int(id))
    content = {
        'article' : art
    }
    return render(request, 'single.html', content)
```

Модуль grow/models.py

```
from django.db import models

# Create your models here.

class Article(models.Model):
    title = models.CharField(max_length=100)
    author = models.ForeignKey("Author")
    content = models.TextField()
    snippet = models.CharField(max_length=500)
    pubdate = models.DateTimeField()
    likes = models.PositiveIntegerField()

    def __unicode__(self):
        return self.title

class Author(models.Model):
    firstName = models.CharField(max_length=50)
    lastName = models.CharField(max_length=50)
    about = models.TextField()
    email = models.EmailField()
    phone_number = models.CharField(max_length=12)
    pass
```

Шаблон base.html

```
<!DOCTYPE html>
<html lang="en">

<head>
    <title>Articles on personal growth, entrepreneurship and
psychology</title>

    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1,
shrink-to-fit=no">

    <link rel="stylesheet"
href="https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0-
beta/css/bootstrap.min.css"
integrity="sha384-/Y6pD6FV/Vv2HJnA6t+vsLU6fwYXjCFtcEpHbNJ0lyAFsXTsjBbfaDjzALe
QsN6M"
crossorigin="anonymous">
    {% load static %}
    <link rel="stylesheet" type="text/css" href="{% static 'css/style.css'
%}">
</head>

<body>
    <div class="container-fluid menu">
        <div class="row">
            <h1 class="col-md-2"> GROW </h1>
            <div class="col-md-5"></div>
            <div class="col-md-2 menu-button">
                <a href="/articles/"><p>ARTICLES</p></a>
            </div>
            <div class="col-md-2 menu-button">
                <a href="#"><p>AUTHORS</p></a>
            </div>
        </div>
    </div>
```

```

    </div>
</div>

<div class="content">
    {% block content %} {% endblock %}
</div>

<script src="https://code.jquery.com/jquery-3.2.1.slim.min.js"
integrity="sha384-
KJ3o2DKtIkVYIK3UENzmM7KCKRr/rE9/Qpg6aAZGJwFDMVNA/GpGFF93hXpG5KkN"
crossorigin="anonymous"></script>
<script
src="https://cdnjs.cloudflare.com/ajax/libs/popper.js/1.11.0/umd/popper.min.j
s" integrity="sha384-
b/U6ypiBEHpOf/4+1nzFpr53nxSS+GLCKfwBdFNTxtclqgenISfwAzpKaMNFNmj4"
crossorigin="anonymous"></script>
<script src="https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0-
beta/js/bootstrap.min.js" integrity="sha384-
h0AbiXch4ZDo7tp9hKZ4TsHbi047NrKGL03SEJAg45jXxnGIfYzk4Si90RDIqNm1"
crossorigin="anonymous"></script>
</body>
</html>

```

Шаблон articles.html
 {% extends 'base.html' %}

```

{% block content %}

    {% for article in articles %}
        <div class="article-body">
            <h2><a href="/articles/{{article.id}}"
target="_blank">{{article.title}}</a></h2>
            <p>{{article.snippet}}</p>
        </div>
    {% endfor %}
{% endblock %}

```

Шаблон single.html
 {% extends 'base.html' %}

```

{% block content %}

    <div class="article-body">
        <h2>{{article.title}}</h2>
        <p>{{article.content}}</p>
    </div>

{% endblock %}

```

3. Результат

Страница со статьями из базы данных:

GROWARTICLESAUTHORS

The Simple 10 Step Morning Routine That Changed My Life

People often ask what my writing schedule looks like. This is always a hard question to answer, because I'm not much of a structure guy. But I see the value in establishing routines, especially in the morning. This can be a challenge, because routines are all about you and your personality. So they should vary from person to person. I like what Seth Godin said when Brian Clark asked him how he wrote every day. Seth refused to answer, and then he said: There is this feeling that if we ate the same breakfast cereal Stephen King ate, then we'd be able to write like Stephen King writes. So true. Routines are important, but only if you make them your own. Simply copying someone else's routine probably won't work.

Are You A Good Writer or Bad One? Here's The Difference.

The difference between good writers and bad writers has little to do

Статья, открытая по клику на название:

GROWARTICLESAUTHORS

The Simple 10 Step Morning Routine That Changed My Life

People often ask what my writing schedule looks like. This is always a hard question to answer, because I'm not much of a structure guy. But I see the value in establishing routines, especially in the morning. This can be a challenge, because routines are all about you and your personality. So they should vary from person to person. I like what Seth Godin said when Brian Clark asked him how he wrote every day. Seth refused to answer, and then he said: There is this feeling that if we ate the same breakfast cereal Stephen King ate, then we'd be able to write like Stephen King writes. So true. Routines are important, but only if you make them your own. Simply copying someone else's routine probably won't work. Why we need routines Routines are not fun. They're not creative or imaginative. And frankly, I hate doing them. But routines can do a lot of good, if we can get into the regular discipline of practicing them. Why is this? Because they help make room in our lives for other things. Having an established routine in the morning is a great way to start the day, because it gets you going in the right direction. Plus, it allows you focus on other things throughout the day. In our busy lives, sometimes we need to do a few things by rote simply to ensure they get done. Otherwise, you spend