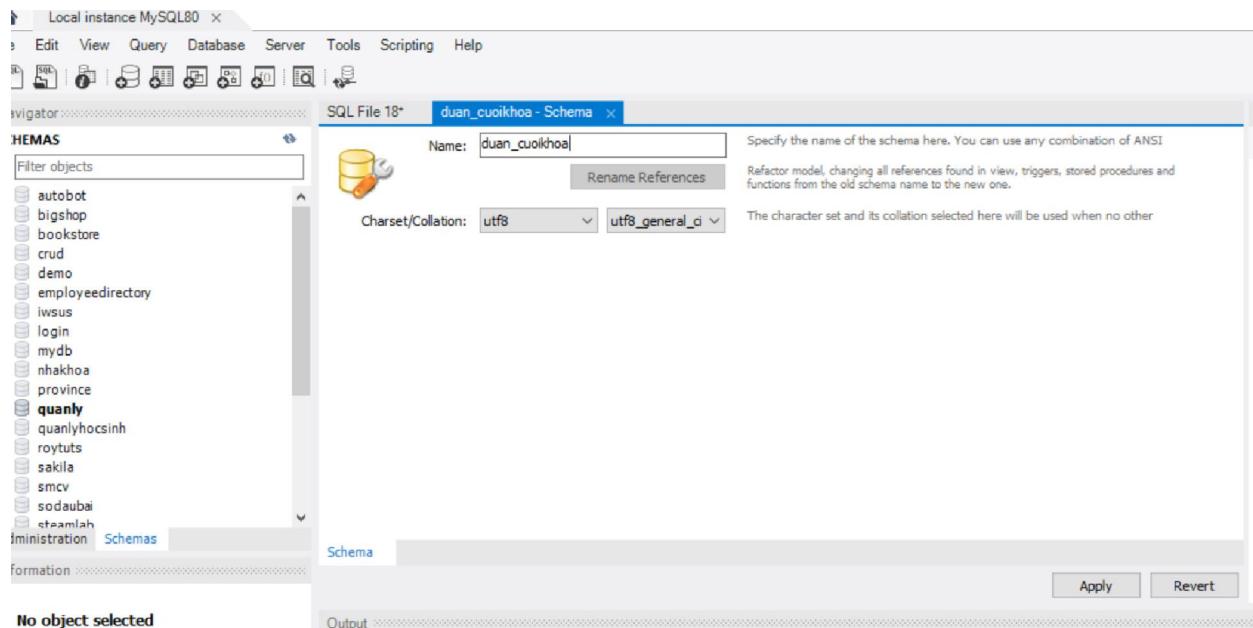


PHẦN 1. KẾT NỐI DJANGO VỚI CƠ SỞ DỮ LIỆU MYSQL

Step1. Tạo schema duan_cuoikhoa



Step2. Bổ sung thêm nội dung sau vào file setting.py

```
DATABASES = {
    'default': {
        'ENGINE': 'django.db.backends.mysql',
        'NAME': 'duan_cuoikhoa',
        'USER': 'root',
        'PASSWORD': '123456',
        'HOST': 'localhost',
        'PORT': '3306',
    }
}
```

```

File Edit Selection View Go Run Terminal Help settings.py - DUAN CUOKHOA - Visual Studio...
EXPLORER ... models.py settings.py ...
OPEN EDITORS > OPEN EDITORS
DUAN CUOKHOA
  urls.py
  views.py
  dangnhap
  env
  final
    _pycache_
    __init__.py
    asgi.py
  settings.py
  urls.py
  wsgi.py
  db.sqlite3
  manage.py

```

```

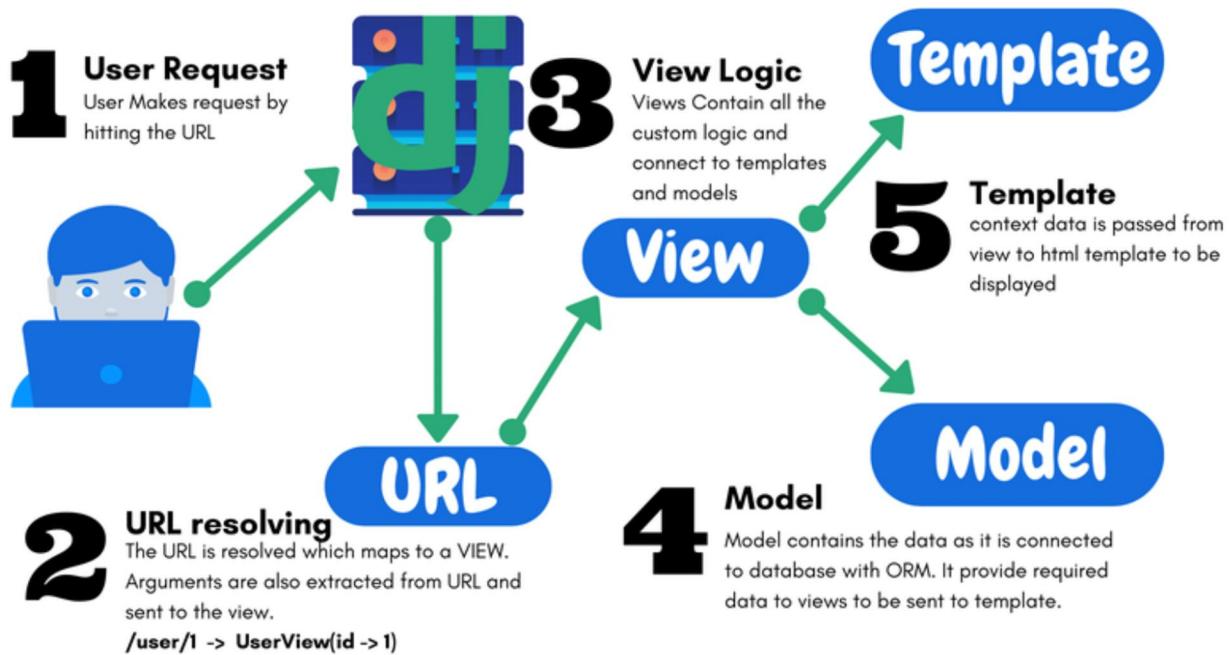
final > settings.py > ...
81 #     }
82 #   }
83 # }

84

85 # for database Mysql
86 DATABASES = {
87     'default': [
88         'ENGINE': 'django.db.backends.mysql',
89         'NAME': 'duan_cuokhoa',
90         'USER': 'root',
91         'PASSWORD': '123456',
92         'HOST': 'localhost',
93         'PORT': '3306',
94     ]
95
96
97

```

Mô hình MVT



Step3. Tạo model trong dangky

The screenshot shows the Visual Studio Code interface. The left sidebar displays the project structure under 'DUAN_CUOIKHOA' with 'dangky' expanded, showing files like __pycache__, migrations, templates, __init__.py, admin.py, apps.py, models.py, tests.py, urls.py, views.py, dangnhap, env, and final. A red arrow points to the 'models.py' file in the dangky folder. The right pane shows the code for 'models.py':

```
from django.db import models

# Create your models here.

class NguoiDung(models.Model):
    ten_dang_nhap = models.CharField(max_length = 100)
    email = models.CharField(max_length = 100)
    mat_khau = models.CharField(max_length = 100)

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

Step4. Chạy lệnh sau để tạo model

python manage.py migrate

Nếu phát sinh lỗi chưa cài đặt thư viện mysql cho django thì phải tiến hành cài đặt như sau

The screenshot shows the Visual Studio Code interface with the 'TERMINAL' tab selected. The terminal output shows the command 'python manage.py migrate' being run, followed by an error message:

```
File "D:\DUAN_CUOIKHOA\env\lib\site-packages\django\db\backends\mysql\base.py", line 17, in <module>
    raise ImproperlyConfigured(
django.core.exceptions.ImproperlyConfigured: Error loading MySQLdb module.
Did you install mysqlclient?
```

The screenshot shows the Visual Studio Code interface with the following details:

- File Menu:** File, Edit, Selection, View, Go, Run, Terminal, Help.
- Editor:** The main editor shows the file `models.py` with the following code:

```
from django.db import models

# Create your models here.

class NguoiDung(models.Model):
```
- Terminal:** The terminal window shows the command `pip install mysqlclient` being run, which installs the MySQL client library.

```
(env) D:\DUAN_CUOIKHOA>pip install mysqlclient
Collecting mysqlclient
  Downloading mysqlclient-2.1.1-cp310-cp310-win_amd64.whl (178 kB)
    178.4/178.4 KB 1.5 MB/s eta 0:00:00
Installing collected packages: mysqlclient
Successfully installed mysqlclient-2.1.1
WARNING: You are using pip version 22.0.4; however, version 22.1.2 is available.
```
- Explorer:** The sidebar shows the project structure under `DUAN CUOIKHOA`, including files like `dangky`, `migrations`, `templates`, `__init__.py`, `admin.py`, `apps.py`, `models.py`, `tests.py`, `urls.py`, `views.py`, `dangnhap`, `env`, `final`, `OUTLINE`, and `TIMELINE`.

Step 5. Apply việc tạo model bằng dòng lệnh sau

`python manage.py makemigrations`

The screenshot shows the Visual Studio Code interface with the following details:

- File Menu:** File, Edit, Selection, View, Go, Run, Terminal, Help.
- Editor:** The main editor shows the file `settings.py` with the following code:

```
NAME = 'sqlite3'
BASE_DIR = os.path.dirname(os.path.dirname(os.path.abspath(__file__)))
SECRET_KEY = '#'
DEBUG = True
ALLOWED_HOSTS = []

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

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 = 'duan_cuoikhoa.urls'

TEMPLATES = [
    {
        'BACKEND': 'django.template.backends.django.DjangoTemplates',
        'DIRS': [],
        '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 = 'duan_cuoikhoa.wsgi.application'

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

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',
    },
]

LANGUAGE_CODE = 'vi-VN'
TIME_ZONE = 'Asia/Ho_Chi_Minh'
USE_I18N = True
USE_TZ = False
STATIC_URL = '/static/'
```
- Terminal:** The terminal window shows the command `python manage.py makemigrations` being run, which creates a migration for the `dangky` app.

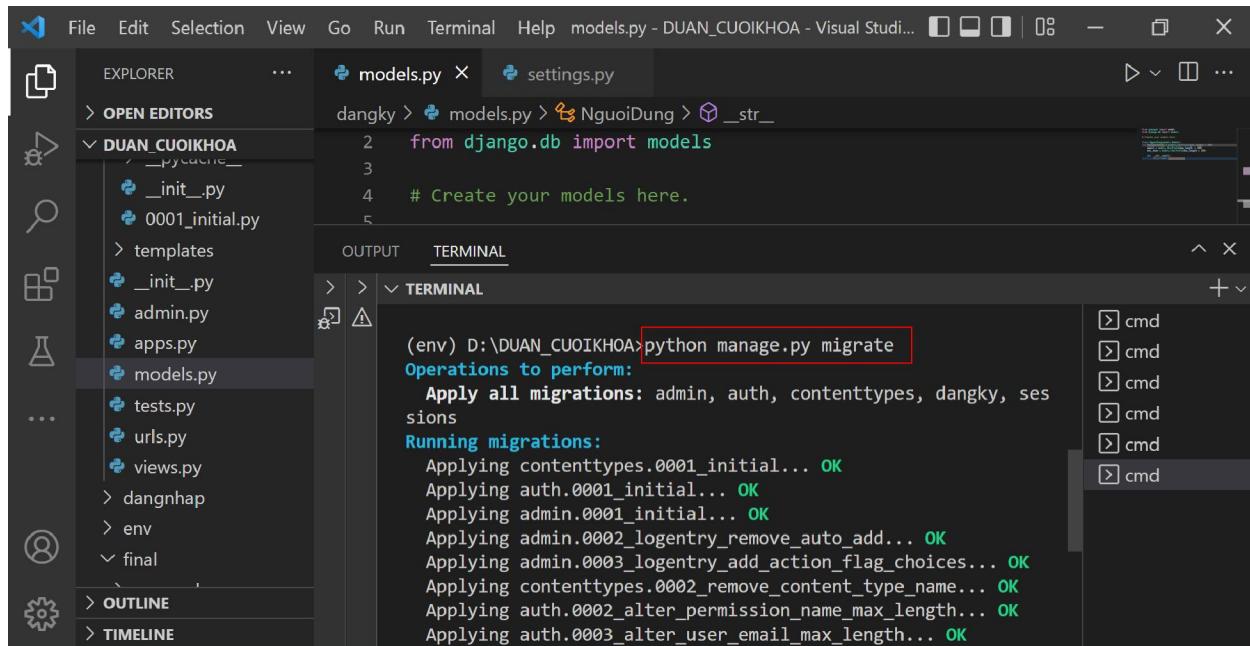
```
You should consider upgrading via the 'D:\DUAN_CUOIKHOA\env\Scripts\python.exe -m pip install --upgrade pip' command.

(env) D:\DUAN_CUOIKHOA>python manage.py makemigrations
Migrations for 'dangky':
  dangky\migrations\0001_initial.py
    - Create model NguoiDung

(env) D:\DUAN_CUOIKHOA>
```
- Explorer:** The sidebar shows the project structure under `DUAN CUOIKHOA`, including files like `urls.py`, `views.py`, `dangnhap`, `env`, `final`, `__pycache__`, `__init__.py`, `asgi.py`, `settings.py`, `manage.py`, `wsgi.py`, and `db.sqlite3`.

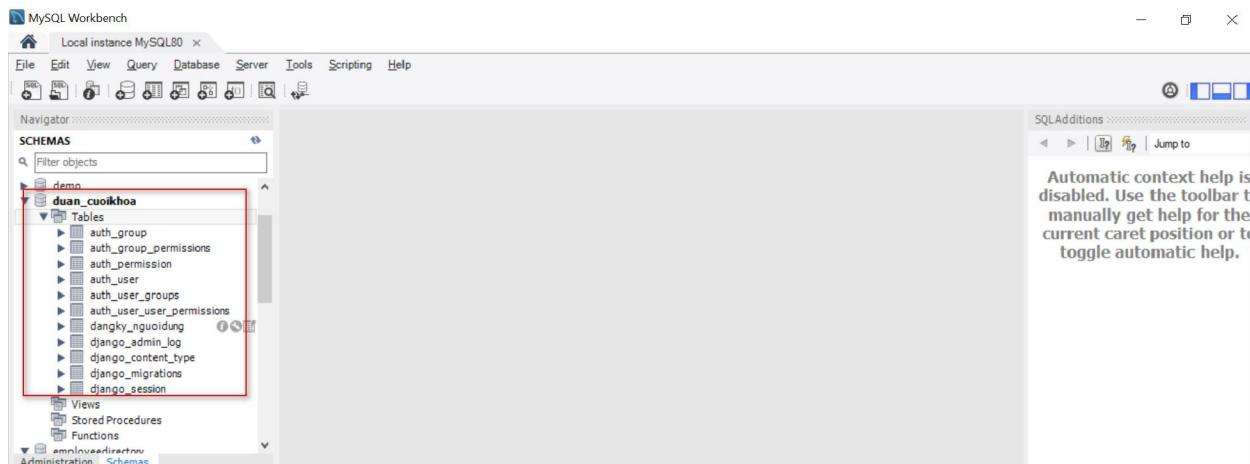
Step6. Chạy lại dòng lệnh sau để tạo table trong mySQL

python manage.py migrate



```
(env) D:\DUAN_CUOIKHOA>python manage.py migrate
Operations to perform:
  Apply all migrations: admin, auth, contenttypes, dangky, sessions
Running migrations:
  Applying contenttypes.0001_initial... OK
  Applying auth.0001_initial... OK
  Applying admin.0001_initial... OK
  Applying admin.0002_logentry_remove_auto_add... OK
  Applying admin.0003_logentry_add_action_flag_choices... OK
  Applying contenttypes.0002_remove_content_type_name... OK
  Applying auth.0002_alter_permission_name_max_length... OK
  Applying auth.0003_alter_user_email_max_length... OK
```

Kiểm tra các bảng đã được tạo hay chưa



The screenshot shows the MySQL Workbench interface with the 'duan_cuoikhoa' schema selected in the Navigator pane. A red box highlights the 'Tables' section, which lists the following tables:

- auth_group
- auth_group_permissions
- auth_permission
- auth_user
- auth_user_groups
- auth_user_user_permissions
- dangky_nguoidung
- django_admin_log
- django_content_type
- django_migrations
- django_session

Step7. Tạo user admin để vào trang quản trị

```
python manage.py createsuperuser
```

The screenshot shows a Visual Studio Code interface with a Django project named "DUAN_CUOIKHOA". The Explorer sidebar lists files such as `models.py`, `settings.py`, and migration files like `0001_initial.py`. The Terminal pane shows the command `python manage.py createsuperuser` being run. It prompts for a username ("admin") and email ("admin@gmail.com"), but the password input is rejected due to being too short, common, or numeric. The user then bypasses validation and creates the user successfully.

```
Applying sessions.0001_initial... OK
(env) D:\DUAN_CUOIKHOA>python manage.py createsuperuser
Username (leave blank to use 'admin'): admin
Email address: admin@gmail.com
Password:
Password (again):
This password is too short. It must contain at least 8 characters.
This password is too common.
This password is entirely numeric.
Bypass password validation and create user anyway? [y/N]: y
Superuser created successfully.
```

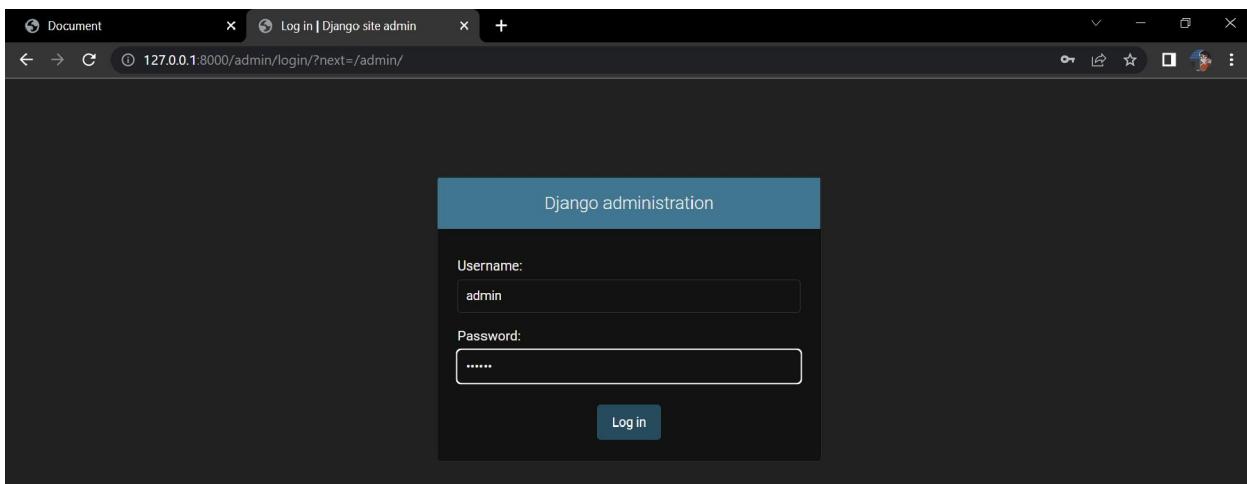
Username: admin

Email: admin@gmail.com

Password: 123456

Step 8. Chạy lại `mython manage.py runserver` và truy cập vào trang admin

<http://127.0.0.1:8000/admin/>



The screenshot shows the Django administration interface at 127.0.0.1:8000/admin/. The left sidebar has 'Django administration' and 'Site administration'. The main area is titled 'AUTHENTICATION AND AUTHORIZATION' with sections for 'Groups' and 'Users', each with '+ Add' and 'Change' buttons. On the right, there's a 'Recent actions' panel with 'None available' and a 'My actions' panel.

Step 9. Đăng ký model NguoiDung vào trang admin để quản lý

Tạo file admin của app dangky tạo nội dung sau

The screenshot shows the Visual Studio Code interface with the file 'admin.py' open. The code registers the 'NguoiDung' model with specific display and filter options:

```
from django.contrib import admin
from dangky.models import NguoiDung

# Register your models here.
class NguoiDungAdmin(admin.ModelAdmin):
    list_display = ('ten_dang_nhap', 'email')
    list_display_links = ('ten_dang_nhap',)
    list_filter = ('ten_dang_nhap', 'email')
    search_fields = ('ten_dang_nhap', 'email')
    list_per_page = 25

admin.site.register(NguoiDung, NguoiDungAdmin)
```

Chạy lại `python manage.py runserver`

Model người dùng đã có trong trang admin

The screenshot shows the Django administration interface at 127.0.0.1:8000/admin/. The left sidebar has 'Django administration' and 'Site administration'. The main area shows the 'DANGKY' app registered under 'AUTHENTICATION AND AUTHORIZATION' with the 'Nguoi dungs' model listed. The 'Recent actions' and 'My actions' panels are visible on the right.

PHẦN 2 . THÊM DATA VÀO CƠ SỞ DỮ LIỆU VỚI PYTHON VÀ HTML

Step 1. Trong file view.py của app dangky, bổ sung nội dung lưu trữ data như sau

```
EXPLORER      ...      models.py      views.py      settings.py X
OPEN EDITORS
DUAN_CUOKHOA
admin.py
apps.py
models.py
tests.py
urls.py      ①
views.py      ②
dangnhap
env
final
__pycache__
__init__.py
asgi.py
```

```
13 def xuly_dangky(request):
14     ten = request.GET.get('ten')
15     mail = request.GET.get('mail')
16     mk = request.GET.get('matkhau')
17     if(len(ten) < 10):
18         return render(request, 'loi.html')
19     else:
20         data = NguoiDung(
21             ten_dang_nhap = ten,
22             email = mail,
23             mat_khau = mk
24         )
25         data.save()
26     return render(request, 'dangnhap.html')
```

Step 2. Chạy chương trình, vào form đăng ký, nhập thông tin và kiểm tra thông tin đã được lưu vào cơ sở dữ liệu hay là chưa ?

① 127.0.0.1:8000/dangky

Đăng ký

Tên đăng nhập	<input type="text" value="tinhpham_dn"/>
Email	<input type="text" value="tinhph2@fpt.edu.vn"/>
Mật khẩu	<input type="text" value="123456"/>
<input type="button" value="Đăng ký"/>	

S Document | Site administration | Django site | Select nguoi dung to change | 127.0.0.1:8000/admin/dangky/nguoidung/

Django administration

Welcome, ADMIN. View site / Change password / Log out

Home > Dangky > Nguoi dungs

Select nguoi dung to change

Action: — Go 0 of 1 selected

TEN DANG NHAP	EMAIL
<input checked="" type="checkbox"/> tinpham_dn	tinpham_dn@fpt.edu.vn

1 nguoi dung

ADD NGUOI DUNG +

FILTER

By ten dang nhap
All
tinpham_dn

By email
All
tinpham_dn@fpt.edu.vn

MySQL Workbench Local instance MySQL80

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

demo

duan_cuoikhoa

Tables

auth_group auth_group_permissions auth_permission auth_user auth_user_groups auth_user_user_permissions dangky_nguoidung

dangky_nguoidung

Columns

id ten_dang_nhap email mat_khau

Indexes

Foreign Keys

Triggers

Administration Schemas

Result Grid

1 • SELECT * FROM duan_cuoikhoa.dangky_nguoidung;

Limit to 1000 rows

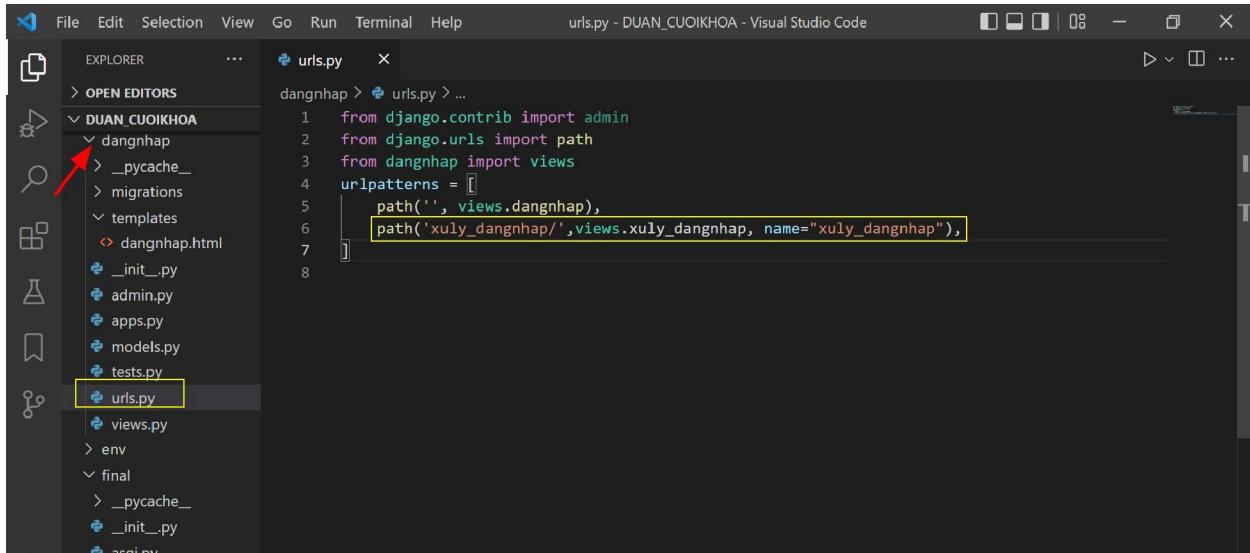
SQLAdditions

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

id	ten_dang_nhap	email	mat_khau
1	tinpham_dn	tinpham_dn@fpt.edu.vn	123456
•	HULL	HULL	HULL

PHẦN 3. XỬ LÝ KIỂM TRA THÔNG TIN TỪ TRANG ĐĂNG NHẬP

Step 1. Định nghĩa Url cho việc xử lý đăng nhập



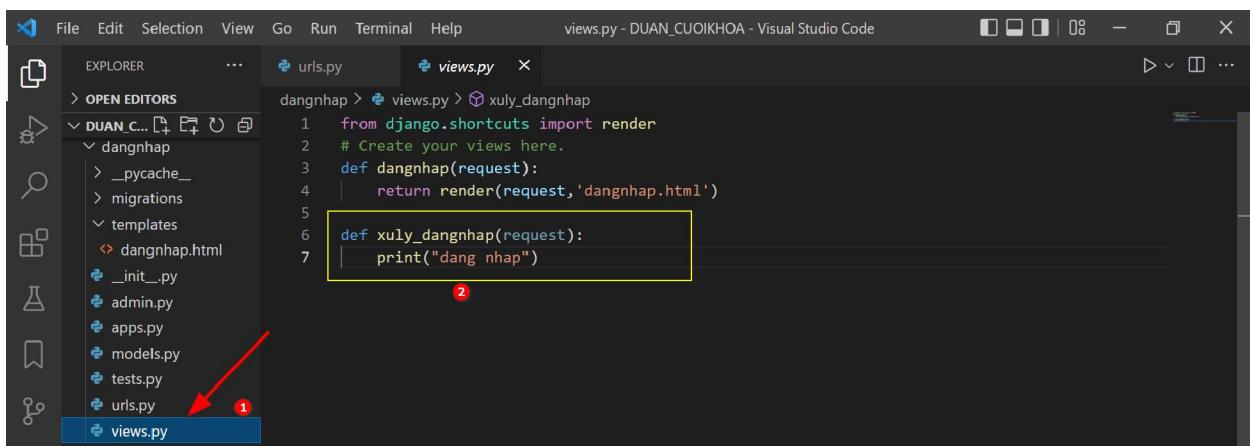
The screenshot shows the Visual Studio Code interface with the file `urls.py` open. The code defines a URL pattern for the login view:

```
from django.contrib import admin
from django.urls import path
from dangnhap import views

urlpatterns = [
    path('', views.dangnhap),
    path('xuly_dangnhap/', views.xuly_dangnhap, name="xuly_dangnhap"),
]
```

The file structure in the Explorer sidebar shows the project directory `DUAN_CUOKHOA` with subfolders `dangnhap`, `migrations`, `templates`, and `views`. The `urls.py` file is highlighted with a yellow box.

Step2. Định nghĩa hàm xử lý đăng nhập trong file view



The screenshot shows the Visual Studio Code interface with the file `views.py` open. The code contains two functions: `dangnhap` and `xuly_dangnhap`:

```
from django.shortcuts import render
# Create your views here.
def dangnhap(request):
    return render(request, 'dangnhap.html')

def xuly_dangnhap(request):
    print("dang nhap")
```

The file structure in the Explorer sidebar shows the project directory `DUAN_CUOKHOA` with subfolders `dangnhap`, `migrations`, `templates`, and `views`. The `views.py` file is highlighted with a yellow box. A red arrow points from the number 1 in the Explorer sidebar to the `views.py` tab in the editor. A red number 2 is placed near the `xuly_dangnhap` function definition.

Step3. Tạo form đăng nhập trong file html

The screenshot shows the Visual Studio Code interface with the file 'dangnhap.html' open in the editor. The code contains a form for login:

```
<body style="text-align: center;">
    <h1>Đăng ký</h1>
    <form action="{%url 'xuly_dangnhap' %}">
        <table align="center">
            <tr>
                <td class="trai">Tên đăng nhập</td>
                <td><input type="text" id="ten" name="ten"> </td>
            </tr>
            <tr>
                <td class="trai">Mật khẩu</td>
                <td><input type="text" id="matkhau" name="matkhau"> </td>
            </tr>
            <tr>
                <td colspan="2" style="text-align: center;"><input type="submit" name="dn" id="dn" value="Đăng nhập"></td>
            </tr>
        </table>
    </form>
</body>
```

A red arrow points from the left margin to the opening tag of the first table row, and another red arrow points to the 'value' attribute of the submit button.

Step 4. Chạy chương trình, nhấn nút đăng nhập, kiểm tra nội dung đã được in ra chưa, nếu có thì thành công

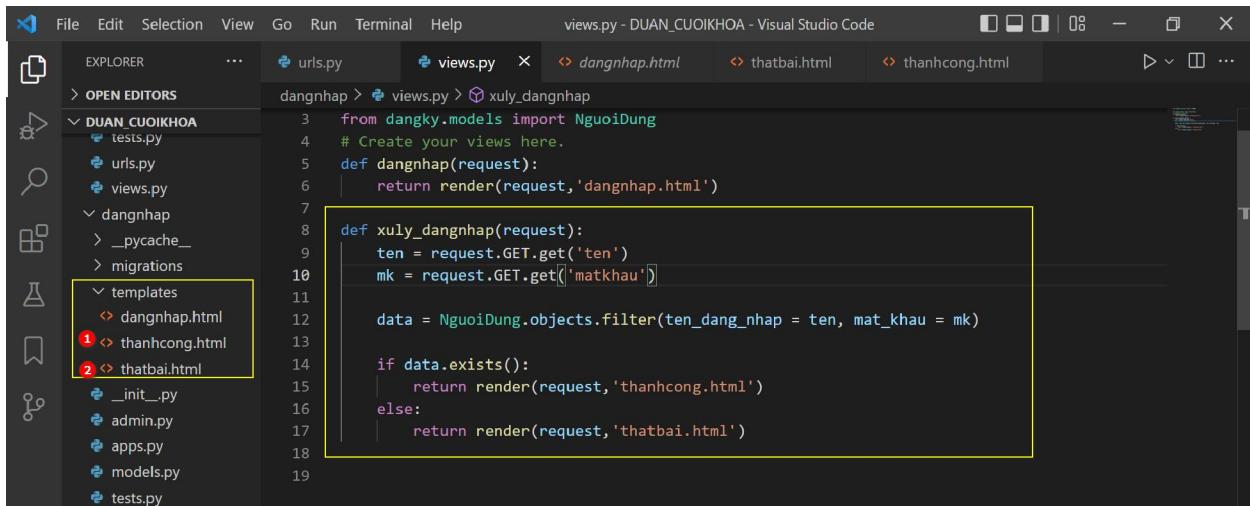
The screenshot shows the Visual Studio Code interface with the file 'views.py' open in the editor. It contains two functions:

```
from django.shortcuts import render
# Create your views here.
def dangnhap(request):
    return render(request,'dangnhap.html')
def xuly_dangnhap(request):
    print("dang nhap")
```

The terminal window below shows the application running and the output of the 'print' statement:

```
July 14, 2022 - 09:55:16
Django version 4.0.0, using settings 'final.settings'
Starting development server at http://127.0.0.1:8000/
Quit the server with CTRL-BREAK.
[14/Jul/2022 10:00:12] "GET /dangkyxuly_dangky/?ten=travannam&mail=duan%40gmail.com&matkhau=1312312&dk=%C4%90%C4%83ng+k%C3%BD HTTP/1.1" 200 955
dang nhap
Internal Server Error: /dangnhapxuly_dangnhap/
Traceback (most recent call last):
  File "D:\DUAN_CUOKHOA\env\lib\site-packages\django\core\handlers\exception.py", line 55, in inner
    response = get_response(request)
```

Step5. Tạo các trang html trong template, bổ sung nội dung sau vào hàm xử lý đăng nhập



```
File Edit Selection View Go Run Terminal Help views.py - DUAN_CUOKHOA - Visual Studio Code
EXPLORER OPEN EDITORS
DUAN_CUOKHOA
  tests.py
  urls.py
  views.py
  dangnhap
    __pycache__
    migrations
    templates
      dangnhap.html
      1 thanhcong.html
      2 thatbai.html
      __init__.py
      admin.py
      apps.py
      models.py
      tests.py
dangnhap > views.py > xuly_dangnhap
3   from dangky.models import NguoiDung
4   # Create your views here.
5   def dangnhap(request):
6       return render(request, 'dangnhap.html')
7
8   def xuly_dangnhap(request):
9       ten = request.GET.get('ten')
10      mk = request.GET.get('matkhau')
11
12      data = NguoiDung.objects.filter(ten_dang_nhap = ten, mat_khau = mk)
13
14      if data.exists():
15          return render(request, 'thanhcong.html')
16      else:
17          return render(request, 'thatbai.html')
18
19
```