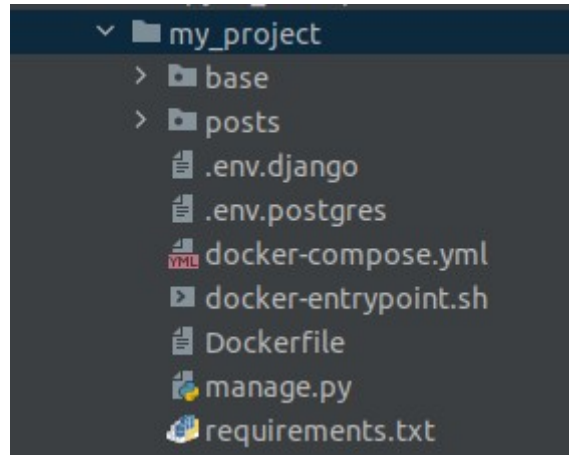


```
dima@dima-TUF-GAMING-FX5046D-FX806D:~/PycharmProjects/pythonProject2/lab_30/my_project$ docker images
REPOSITORY    TAG        IMAGE ID      CREATED       SIZE
dima@dima-TUF-GAMING-FX5046D-FX806D:~/PycharmProjects/pythonProject2/lab_30/my_project$ docker ps -a
CONTAINER ID   IMAGE      COMMAND       CREATED       STATUS      PORTS       NAMES
dima@dima-TUF-GAMING-FX5046D-FX806D:~/PycharmProjects/pythonProject2/lab_30/my_project$
```



```
settings.py x Dockerfile x docker-compose.yml x docker-entrypoint.sh x
1 import os
2     from pathlib import Path
3     from datetime import timedelta
4
5     BASE_DIR = Path(__file__).resolve().parent.parent
6
7     SECRET_KEY = os.environ.get("SECRET_KEY")
8
9     DEBUG = int(os.environ.get("DEBUG", default=0))
10
11     ALLOWED_HOSTS = [os.environ.get("DJANGO_ALLOWED_HOSTS")]
12
```

```
settings.py x Dockerfile x docker-compose.yml x docker-entrypoint.sh x
62
63
64 DATABASES = {
65     "default": {
66         "ENGINE": os.environ.get("ENGINE"),
67         "NAME": os.environ.get("DATABASE"),
68         "USER": os.environ.get("USER"),
69         "PASSWORD": os.environ.get("PASSWORD"),
70         "HOST": os.environ.get("HOST"),
71         "PORT": os.environ.get("PORT"),
72     }
73 }
```

```
settings.py × Dockerfile × docker-compose.yml × docker-entrypoint.sh ×
1  version: '3.3'
2  services:
3    web:
4      build: .
5      command: python3 manage.py runserver 0.0.0.0:8000
6      ports:
7        - 8000:8000
8      env_file:
9        - ../.env.django
10       - ../.env.postgres
11      depends_on:
12        - db
13    db:
14      image: postgres:15.1
15      volumes:
16        - postgres_data:/var/lib/postgresql/data/
17      environment:
18        - POSTGRES_USER=postgres
19        - POSTGRES_PASSWORD=lab_30
20        - POSTGRES_DB=lab_30
21
22  volumes:
23    postgres_data:
24
```

```
settings.py × Dockerfile × docker-compose.yml × docker-entrypoint.sh ×
1  #!/bin/sh
2
3  if [ "$BASE" = "postgres" ];
4  then
5      echo "Waiting for postgres..."
6      while ! nc -vz $HOST $PORT; do
7          sleep 0.1
8      done ;
9
10     echo "PostgreSQL started"
11 fi
12 exec "$@"
13
```

```
.env.postgres x .env.django x settings.py x
1 ENGINE=django.db.backends.postgresql
2 DATABASE=lab_30
3 USER=postgres
4 PASSWORD=lab_30
5 HOST=db
6 PORT=5432
7 BASE=postgres
8
```

```
.env.postgres x .env.django x settings.py x Dockerfile x docker-compose.yml x
1 DEBUG=1
2 SECRET_KEY=django-insecure-+_4!)$q!e5w+=em9tex^3r#f*(@4#22m7lp$ys-73=s6_17v7!
3 DJANGO_ALLOWED_HOSTS=0.0.0.0
4
```

```
.env.postgres x .env.django x requirements.txt x
1 Django==3.2
2 django_filter==22.1
3 django_restframework==3.14.0
4 django_restframework_simplejwt==5.2.2
5 psycopg2-binary==2.9.1
6
```

```
dima@dima-TUF-GAMING-FX5046D-FX806D:~/PycharmProjects/pythonProject2/lab_30/my_project$ docker-compose build
db uses an image, skipping
Building web
Step 1/13 : FROM python:3.9.6
3.9.6: Pulling from library/python
4c25b3090c26: Pull complete
1acf565088aa: Pull complete
b95c0dd0dc0d: Pull complete
5cf06daf6561: Pull complete
942374d5c114: Pull complete
64c0f10e4cfa: Pull complete
76571888410b: Pull complete
5e88ca15437b: Pull complete
0ab5ec771994: Pull complete
Digest: sha256:2bd64896cf4ff75bf91a513358457ed09d890715d9aa6bb602323aedbee84d14
Status: Downloaded newer image for python:3.9.6
--> 1e76b28bfd4e
Step 2/13 : WORKDIR /lab_30/my_project
--> Running in f668078ad692
Removing intermediate container f668078ad692
--> cd2f5ecc2651
Step 3/13 : ENV PYTHONDONTWRITEBYTECODE 1
--> Running in 4fa3cb597985
Removing intermediate container 4fa3cb597985
--> 10d84d49349e
Step 4/13 : ENV PYTHONUNBUFFERED 1
--> Running in 8280de2ffd66
Removing intermediate container 8280de2ffd66
--> b0be99f9df10
```

```
Step 5/13 : RUN pip install --upgrade pip
--> Running in 7814414a5ace
Requirement already satisfied: pip in /usr/local/lib/python3.9/site-packages (21.2.4)
Collecting pip
  Downloading pip-22.3.1-py3-none-any.whl (2.1 MB)
Installing collected packages: pip
  Attempting uninstall: pip
    Found existing installation: pip 21.2.4
    Uninstalling pip-21.2.4:
      Successfully uninstalled pip-21.2.4
Successfully installed pip-22.3.1
WARNING: Running pip as the 'root' user can result in broken permissions and conflicting behaviour
Removing intermediate container 7814414a5ace
--> 738e04930398
Step 6/13 : RUN apt-get update && apt-get install -y netcat
--> Running in a6b000f4d6a1
Get:1 http://deb.debian.org/debian bullseye InRelease [116 kB]
Get:2 http://security.debian.org/debian-security bullseye-security InRelease [48.4 kB]
Get:3 http://deb.debian.org/debian bullseye-updates InRelease [44.1 kB]
Get:4 http://security.debian.org/debian-security bullseye-security/main amd64 Packages [216 kB]
Get:5 http://deb.debian.org/debian bullseye/main amd64 Packages [8183 kB]
Get:6 http://deb.debian.org/debian bullseye-updates/main amd64 Packages [14.6 kB]
Fetched 8622 kB in 3s (3177 kB/s)
Reading package lists...
Reading package lists...
Building dependency tree...
Reading state information...
The following additional packages will be installed:
  netcat-openbsd
The following NEW packages will be installed:
  netcat netcat-openbsd
```

```

0 upgraded, 2 newly installed, 0 to remove and 118 not upgraded.
Need to get 50.8 kB of archives.
After this operation, 130 kB of additional disk space will be used.
Get:1 http://deb.debian.org/debian bullseye/main amd64 netcat-openbsd amd64 1.217-3 [41.1 kB]
Get:2 http://deb.debian.org/debian bullseye/main amd64 netcat all 1.10-46 [9728 B]
debconf: delaying package configuration, since apt-utils is not installed
Fetched 50.8 kB in 0s (277 kB/s)
Selecting previously unselected package netcat-openbsd.
(Reading database ... 23378 files and directories currently installed.)
Preparing to unpack .../netcat-openbsd_1.217-3_amd64.deb ...
Unpacking netcat-openbsd (1.217-3) ...
Selecting previously unselected package netcat.
Preparing to unpack .../netcat_1.10-46_all.deb ...
Unpacking netcat (1.10-46) ...
Setting up netcat-openbsd (1.217-3) ...
update-alternatives: using /bin/nc.openbsd to provide /bin/nc (nc) in auto mode
Setting up netcat (1.10-46) ...
Removing intermediate container a6b000f4d6a1
---> ee61b69f510b
Step 7/13 : COPY ./requirements.txt .
---> 57ac818dbe23
Step 8/13 : RUN pip install -r requirements.txt
---> Running in 41f52cdd0c34
Collecting Django==3.2
  Downloading Django-3.2-py3-none-any.whl (7.9 MB)
  _____ 7.9/7.9 MB 5.6 MB/s eta 0:00:00
Collecting django_filter==22.1
  Downloading django_filter-22.1-py3-none-any.whl (80 kB)
  _____ 80.9/80.9 kB 2.3 MB/s eta 0:00:00
Collecting djangoorestframework==3.14.0
  Downloading djangoorestframework-3.14.0-py3-none-any.whl (1.1 MB)
  _____ 1.1/1.1 MB 2.2 MB/s eta 0:00:00

```

```

Collecting djangoorestframework_simplejwt==5.2.2
  Downloading djangoorestframework_simplejwt-5.2.2-py3-none-any.whl (85 kB)
  _____ 85.4/85.4 kB 431.8 kB/s eta 0:00:00
Collecting pycpg2-binary==2.9.1
  Downloading pycpg2-binary-2.9.1-cp39-cp39-manylinux_2_17_x86_64.manylinux2014_x86_64.whl (3.4 MB)
  _____ 3.4/3.4 MB 16.1 MB/s eta 0:00:00
Collecting sqlparse==0.2.2
  Downloading sqlparse-0.4.3-py3-none-any.whl (42 kB)
  _____ 42.8/42.8 kB 184.7 kB/s eta 0:00:00
Collecting pytz
  Downloading pytz-2022.7.1-py2.py3-none-any.whl (499 kB)
  _____ 499.4/499.4 kB 3.5 MB/s eta 0:00:00
Collecting asgiref<4,>=3.3.2
  Downloading asgiref-3.6.0-py3-none-any.whl (23 kB)
Collecting pyjwt<3,>=1.7.1
  Downloading PyJWT-2.6.0-py3-none-any.whl (20 kB)
Installing collected packages: pytz, sqlparse, pyjwt, pycpg2-binary, asgiref, Django, djangoorestframework, django_filter, djangoorestframework_simplejwt
Successfully installed Django-3.2 asgiref-3.6.0 django_filter-22.1 djangoorestframework-3.14.0 djangoorestframework_simplejwt-5.2.2 pycpg2-binary-2.9.1 pyjwt-2.6.0 pytz-2022.7.1 sqlparse-0.4.3
WARNING: Running pip as the 'root' user can result in broken permissions and conflicting behaviour with the system package manager. It is recommended to use a virtual environment instead: https://
Removing intermediate container 41f52cdd0c34
---> 78d657a967f8
Step 9/13 : COPY ./docker-entrypoint.sh .
---> a64d1644006b
Step 10/13 : RUN sed -i 's/\r$//g' /lab_30/my_project/docker-entrypoint.sh
---> Running in ec97f4f520e3
Removing intermediate container ec97f4f520e3
---> b38861f7aff3
Step 11/13 : RUN chmod +x /lab_30/my_project/docker-entrypoint.sh
---> Running in 6d15a96bf191
Removing intermediate container 6d15a96bf191
---> 43a8df72554c

```



```
Step 13/13 : ENTRYPOINT ["/lab_30/my_project/docker-entrypoint.sh"]
--> Running in 9e27602884f8
Removing intermediate container 9e27602884f8
--> c9ab1c5a5c6d

Successfully built c9ab1c5a5c6d
Successfully tagged my_project_web:latest
dima@dima-TUF-GAMING-FX5046D-FX806D:~/PycharmProjects/pythonProject2/lab_30/my_project$ docker images
```

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
my_project_web	latest	c9ab1c5a5c6d	30 seconds ago	998MB
python	3.9.6	1e76b28bfd4e	17 months ago	911MB

```
dima@dima-TUF-GAMING-FX5046D-FX806D:~/PycharmProjects/pythonProject2/lab_30/my_project$ docker-compose up
Pulling db (postgres:15.1)...
15.1: Pulling from library/postgres
8740c948ffd4: Pull complete
c8dbd2beab50: Pull complete
05d9dc9d0fbd: Pull complete
ddd89d5ec714: Pull complete
f98bb9f03867: Pull complete
0554611e703f: Pull complete
64e0a8694477: Pull complete
8b868a753f47: Pull complete
12ed9aefbab3: Pull complete
825b08d51ffd: Pull complete
8f272b487267: Pull complete
ba2eed7bd2cc: Pull complete
ff59f63f47d6: Pull complete
Digest: sha256:6b07fc4fbcf551ea4546093e90cecefc9dc60d7ea8c56a4ace704940b6d6b7a3
Status: Downloaded newer image for postgres:15.1
Creating my_project_db_1 ... done
Creating my_project_web_1 ... done
```

```
Attaching to my_project_db_1, my_project_web_1
db_1 |
db_1 | PostgreSQL Database directory appears to contain a database; Skipping initialization
db_1 |
db_1 | 2023-01-28 12:29:00.106 UTC [1] LOG: starting PostgreSQL 15.1 (Debian 15.1-1.pgdg110+1) on x86_64-pc-linux-gnu, compiled by gcc (Debian 10.2.1-6) 10.2.1 20210110, 64-bit
db_1 | 2023-01-28 12:29:00.107 UTC [1] LOG: listening on IPv4 address "0.0.0.0", port 5432
db_1 | 2023-01-28 12:29:00.107 UTC [1] LOG: listening on IPv6 address "::", port 5432
db_1 | 2023-01-28 12:29:00.408 UTC [1] LOG: listening on Unix socket "/var/run/postgresql/.s.PGSQL.5432"
db_1 | 2023-01-28 12:29:01.220 UTC [29] LOG: database system was shut down at 2023-01-28 10:59:27 UTC
db_1 | 2023-01-28 12:29:01.582 UTC [1] LOG: database system is ready to accept connections
web_1 | Waiting for postgres...
web_1 | Connection to db (172.20.0.2) 5432 port [tcp/postgresql] succeeded!
web_1 | PostgreSQL started
web_1 | Watching for file changes with StatReloader
web_1 | Performing system checks...
web_1 |
web_1 | System check identified no issues (0 silenced).
web_1 |
web_1 | You have 19 unapplied migration(s). Your project may not work properly until you apply the migrations for app(s): admin, auth, contenttypes, posts, sessions.
web_1 | Run 'python manage.py migrate' to apply them.
web_1 | January 28, 2023 - 12:29:07
web_1 | Django version 3.2, using settings 'base.settings'
web_1 | Starting development server at http://0.0.0.0:8000/
web_1 | Quit the server with CONTROL-C.
web_1 | [28/Jan/2023 12:29:28] "GET / HTTP/1.1" 200 5255
web_1 | [28/Jan/2023 12:29:28] "GET /static/rest_framework/css/default.css HTTP/1.1" 200 1152
web_1 | [28/Jan/2023 12:29:29] "GET /static/rest_framework/css/bootstrap-tweaks.css HTTP/1.1" 200 3385
web_1 | [28/Jan/2023 12:29:29] "GET /static/rest_framework/js/csrf.js HTTP/1.1" 200 1719
web_1 | [28/Jan/2023 12:29:29] "GET /static/rest_framework/css/prettify.css HTTP/1.1" 200 817
web_1 | [28/Jan/2023 12:29:29] "GET /static/rest_framework/js/ajax-form.js HTTP/1.1" 200 3597
web_1 | [28/Jan/2023 12:29:29] "GET /static/rest_framework/js/default.js HTTP/1.1" 200 1268
web_1 | [28/Jan/2023 12:29:29] "GET /static/rest_framework/js/prettify-min.js HTTP/1.1" 200 13632
web_1 | [28/Jan/2023 12:29:29] "GET /static/rest_framework/js/jquery-3.5.1.min.js HTTP/1.1" 200 89476
web_1 | [28/Jan/2023 12:29:29] "GET /static/rest_framework/js/bootstrap.min.js HTTP/1.1" 200 39680
web_1 | [28/Jan/2023 12:29:29] "GET /static/rest_framework/css/bootstrap.min.css HTTP/1.1" 200 121457
web_1 | [28/Jan/2023 12:29:29] "GET /static/rest_framework/img/grid.png HTTP/1.1" 200 1458
```

```
web_1 | Waiting for postgres...
web_1 | Connection to db (172.20.0.2) 5432 port [tcp/postgresql] succeeded!
web_1 | PostgreSQL started
```

← → ↻ ⚠ Не защищено | 0.0.0.0:8000

Django REST framework

Api Root

Api Root

The default basic root view for DefaultRouter

GET /

HTTP 200 OK
Allow: GET, HEAD, OPTIONS
Content-Type: application/json
Vary: Accept

```
{
  "users": "http://0.0.0.0:8000/users/"
}
```

OPTIONS GET ▾

```
dima@dima-TUF-GAMING-FX504GD-FX80GD:~/PycharmProjects/pythonProject2/lab_30/my_project$ docker-compose exec web python manage.py migrate
```

Operations to perform:

Apply all migrations: admin, auth, contenttypes, posts, sessions

Running migrations:

```
Applying contenttypes.0001_initial... OK
Applying contenttypes.0002_remove_content_type_name... OK
Applying auth.0001_initial... OK
Applying auth.0002_alter_permission_name_max_length... OK
Applying auth.0003_alter_user_email_max_length... OK
Applying auth.0004_alter_user_username_opts... OK
Applying auth.0005_alter_user_last_login_null... OK
Applying auth.0006_require_contenttypes_0002... OK
Applying auth.0007_alter_validators_add_error_messages... OK
Applying auth.0008_alter_user_username_max_length... OK
Applying auth.0009_alter_user_last_name_max_length... OK
Applying auth.0010_alter_group_name_max_length... OK
Applying auth.0011_update_proxy_permissions... OK
Applying auth.0012_alter_user_first_name_max_length... OK
Applying posts.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 sessions.0001_initial... OK
```

← → ↻ ⚠ Не защищено | 0.0.0.0:8000/users/

Django REST framework

Api Root / Custom User List

Custom User List

GET /users/

HTTP 200 OK
Allow: GET, POST, HEAD, OPTIONS
Content-Type: application/json
Vary: Accept

```
{
  "count": 0,
  "next": null,
  "previous": null,
  "results": []
}
```

Raw data HTML form

First name

Last name

Email

Password

POST