11장 장고의 데이터베이스 연동

11.1 MySQL 데이터베이스 연동

■ 장고에서는 MySQL 5.5 이상의 버전을 지원한다.

11.1.1 연동 드라이버 설치

■ 파이썬에 MySQL 데이터베이스 연동을 위한 연동 드라이버 모듈은 아래와 같다.
   • mysqlclient
   • MySQL Connector/Python
   • pymysql

```
D:\dev\workspace\django\beginner>pip install mysqlclient
Collecting mysqlclient
  Downloading mysqlclient-2.0.3-cp38-cp38-win_amd64.whl (179 kB)
     |████████████████████████████████| 179 kB 6.4 MB/s
Installing collected packages: mysqlclient
Successfully installed mysqlclient-2.0.3

# MySql 8.0 이상: pip install mysql-connector-python
# MySql 8.0 이하: pip install mysql.connector
D:\dev\workspace\django\beginner>pip install mysql.connector
Collecting mysql.connector
  Downloading mysql-connector-2.2.9.tar.gz (11.9 MB)
     |████████████████████████████████| 11.9 MB 220 kB/s
Building wheels for collected packages: mysql.connector
  Building wheel for mysql.connector (setup.py) ... done
  Created wheel for mysql.connector: filename=mysql_connector-2.2.9-cp38-cp38-win_amd64.whl size=247947
sha256=ac85c6b1670e76ed1cda8cf746cecb82da7381a11c1cff7bb540a84fb2f08546
  Stored in directory:
c:\users\admin\appdata\local\pip\cache\wheels\57\e4\98\5feafb5c393dd2540e44b064a6f95832990d543e5b4f53ea8fSucc
essfully built mysql.connector
Installing collected packages: mysql.connector
Successfully installed mysql.connector

D:\dev\workspace\django\beginner>pip install pymysql
Collecting pymysql
  Downloading PyMySQL-1.0.2-py3-none-any.whl (43 kB)
     |████████████████████████████████| 43 kB 378 kB/s
Installing collected packages: pymysql
Successfully installed pymysql-1.0.2
```

11.1.2 settings.py 파일 수정

■ mysql db & user 생성

```
create database django default character set utf8;

create user 'django'@'localhost' identified by 'django';
grant all privileges on django.* to 'django'@'localhost';

create user 'django'@'%' identified by 'django';
```

```
grant all privileges on django.* to 'django'@'%';
```

- 장고의 settings.py 파일의 DATABASES 항목에 MySQL 데이터베이스를 사용한다고 지정해준다.
  - 78~87: mysql db 연결정보를 기입한다.

[ch3Lab/mysite/settings.py]
```
01   """
02   Django settings for mysite project.
03
04   Generated by 'django-admin startproject' using Django 3.2.9.
05
06   For more information on this file, see
07   https://docs.djangoproject.com/en/3.2/topics/settings/
08
09   For the full list of settings and their values, see
10   https://docs.djangoproject.com/en/3.2/ref/settings/
11   """
12
13   from pathlib import Path
14
15   # Build paths inside the project like this: BASE_DIR / 'subdir'.
16   BASE_DIR = Path(__file__).resolve().parent.parent
17
18
19   # Quick-start development settings - unsuitable for production
20   # See https://docs.djangoproject.com/en/3.2/howto/deployment/checklist/
21
22   # SECURITY WARNING: keep the secret key used in production secret!
23   SECRET_KEY = 'django-insecure-_-mmz+e_uuh-(87iq650$lh((x+1nq7n@v#b5wznw(8n(w0*ld'
24
25   # SECURITY WARNING: don't run with debug turned on in production!
26   DEBUG = True
27
28   # ALLOWED_HOSTS = []
29   ALLOWED_HOSTS = ['192.168.18.163', 'localhost', '127.0.0.1']    # 변경
30
31
32   # Application definition
33
34   INSTALLED_APPS = [
35       'django.contrib.admin',
36       'django.contrib.auth',
37       'django.contrib.contenttypes',
38       'django.contrib.sessions',
39       'django.contrib.messages',
40       'django.contrib.staticfiles',
41       'polls.apps.PollsConfig',           # 추가
42   ]
43
44   MIDDLEWARE = [
45       'django.middleware.security.SecurityMiddleware',
46       'django.contrib.sessions.middleware.SessionMiddleware',
47       'django.middleware.common.CommonMiddleware',
48       'django.middleware.csrf.CsrfViewMiddleware',
49       'django.contrib.auth.middleware.AuthenticationMiddleware',
50       'django.contrib.messages.middleware.MessageMiddleware',
51       'django.middleware.clickjacking.XFrameOptionsMiddleware',
52   ]
53
54   ROOT_URLCONF = 'mysite.urls'
55
56   TEMPLATES = [
```

```python
57         {
58             'BACKEND': 'django.template.backends.django.DjangoTemplates',
59             'DIRS': [],
60             'APP_DIRS': True,
61             'OPTIONS': {
62                 'context_processors': [
63                     'django.template.context_processors.debug',
64                     'django.template.context_processors.request',
65                     'django.contrib.auth.context_processors.auth',
66                     'django.contrib.messages.context_processors.messages',
67                 ],
68             },
69         },
70     ]
71
72     WSGI_APPLICATION = 'mysite.wsgi.application'
73
74
75     # Database
76     # https://docs.djangoproject.com/en/3.2/ref/settings/#databases
77
78     DATABASES = {
79         'default': {
80             'ENGINE': 'django.db.backends.mysql',
81             'NAME': 'django',
82             'USER': 'django',
83             'PASSWORD': 'django',
84             'HOST': '127.0.0.1',
85             'PORT': '3306',
86         }
87     }
88
89
90     # Password validation
91     # https://docs.djangoproject.com/en/3.2/ref/settings/#auth-password-validators
92
93     AUTH_PASSWORD_VALIDATORS = [
94         {
95             'NAME': 'django.contrib.auth.password_validation.UserAttributeSimilarityValidator',
96         },
97         {
98             'NAME': 'django.contrib.auth.password_validation.MinimumLengthValidator',
99         },
100        {
101            'NAME': 'django.contrib.auth.password_validation.CommonPasswordValidator',
102        },
103        {
104            'NAME': 'django.contrib.auth.password_validation.NumericPasswordValidator',
105        },
106    ]
107
108
109    # Internationalization
110    # https://docs.djangoproject.com/en/3.2/topics/i18n/
111
112    LANGUAGE_CODE = 'en-us'
113
114    # TIME_ZONE = 'UTC'
115    TIME_ZONE = 'Asia/Seoul'        # 변경
116
117
118    USE_I18N = True
119
120    USE_L10N = True
121
```

```
122    USE_TZ = True
123
124
125    # Static files (CSS, JavaScript, Images)
126    # https://docs.djangoproject.com/en/3.2/howto/static-files/
127
128    STATIC_URL = '/static/'
129
130    # Default primary key field type
131    # https://docs.djangoproject.com/en/3.2/ref/settings/#default-auto-field
132
133    DEFAULT_AUTO_FIELD = 'django.db.models.BigAutoField'
```
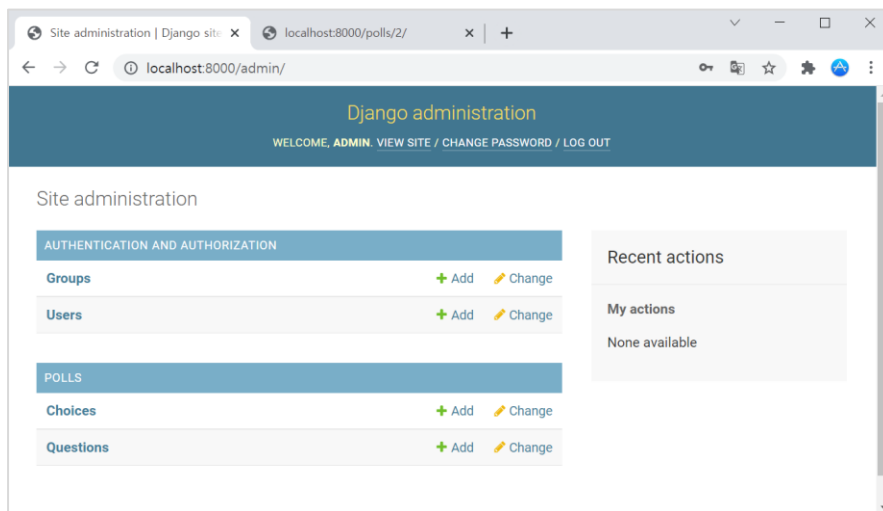
11.1.3 변경사항 장고에 반영하기

```
D:\dev\workspace\django1\ch3Lab>python manage.py migrate
Operations to perform:
  Apply all migrations: admin, auth, contenttypes, polls, 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
  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 polls.0001_initial... OK
  Applying sessions.0001_initial... OK


D:\dev\workspace\django1\ch3Lab>python manage.py createsuperuser
Username (leave blank to use 'admin'): admin
Email address: admin@naver.com
Password: admin
Password (again): admin
The password is too similar to the username.
This password is too short. It must contain at least 8 characters.
This password is too common.
Bypass password validation and create user anyway? [y/N]: y
Superuser created successfully.


D:\dev\workspace\django1\ch3Lab>python manage.py runserver 0.0.0.0:8000
Watching for file changes with StatReloader
Performing system checks...

System check identified no issues (0 silenced).
November 11, 2021 - 23:07:18
Django version 3.2.9, using settings 'mysite.settings'
Starting development server at http://0.0.0.0:8000/
Quit the server with CTRL-BREAK.
```

11.1.4 작업 확인하기

11.2 Oracle 데이터베이스 연동

- 장고에서는 Oracle Database Server 12.1 이상의 버전을 지원한다.

```
D:\dev\workspace\django1\ch11>pip install cx_Oracle
Collecting cx_Oracle
  Downloading cx_Oracle-8.3.0-cp38-cp38-win_amd64.whl (219 kB)
       |████████████████████████████████| 219 kB ...
Installing collected packages: cx-Oracle
Successfully installed cx-Oracle-8.3.0
```