

# 복습

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프로젝트 생성과정 1~6 실행

models.py 작성

-> make migrations

-> python manage.py migrate

라이브러리 설치

pip install ipython

pip install django-extensions

settings.py -> install app

```
INSTALLED_APPS = [  
    'articles',  
  
    'django_extensions',  
  
    'django.contrib.admin',  
    'django.contrib.auth',  
    'django.contrib.contenttypes',  
    'django.contrib.sessions',  
    'django.contrib.messages',  
    'django.contrib.staticfiles',  
]
```

웹 실행

```
python manage.py shell_plus
```

CRUD 작업 실행

CREATE

3가지 방법

```
1) 생성자 함수 호출 후 저장
```

```

In [2]: article = Article()

In [3]: article.title = "first"

In [4]: article.content = "django!"

In [5]: article.save()

2) 초기값과 함께 인스턴스 생성후 저장

In [6]: article = Article(title="second", content="django!!")

In [7]: article.save()

3) QuerySet API - create메소드 1,2와는 다르게 저장하지 않아도됨

In [8]: Article.objects.create(title="third", content="django!!!")

```

save()

객체를 DB에 저장함

데이터 생성을 해도 save()를 호출하지 않으면 db에 반영되지 않음

모델의 인스턴스를 생성한 후, 반드시 save() 호출

모델 완성

```

class Article(models.Model):
    title = models.CharField(max_length=10)
    content = models.TextField()
    created_at = models.DateTimeField(auto_now_add=True)
    updated_at = models.DateTimeField(auto_now=True)

    def __str__(self):
        return self.title;

```

```
python manage.py makemigrations
```

```
python manage.py migrate
```

---

CRUD - READ

all()

현재 쿼리셋의 복사본을 반환

```
Article.objects.all()
```

get()

주어진 조건에 해당하는 객체를 반환

찾을 수 없는 경우 DoesNotExist

둘 이상 찾은 경우 MultipleObjectsReturned 예외

"딱 하나만 있을 수 있는 목표를 찾는다" -> pk, id같은 "고유한" "Unique"한 데이터를 조회하는데 사용

```
Article.objects.get(content="django!!")
```

```
Article.objects.get(content="django!!!")
```

DoesNotExist: Article matching query does not exist.

찾을 수 없는 경우 DoesNotExist

```
Article.objects.get(pk=1)
```

```
Article.objects.get(id=1)
```

```
In [14]: Article.objects.get(content="django!!!")
```

MultipleObjectsReturned: get() returned more than one Article -- it returned 2!

get() vs filter()

filter -> "여러개를 조회"

```
Article.objects.filter(title="second")
```

```
In [16]: Article.objects.filter(content="django!!!")
```

```
Out[16]: <QuerySet [<Article: first>, <Article: third>]>
```

---

CRUD - UPDATE(변경)

인스턴스 생성때와 마찬가지로 인스턴스를 생성후 **변경후 저장**

```
In [8]: article = Article.objects.get(id=1)
```

```
In [12]: article.content = "django!!!"
```

```
In [13]: article.save()
```

---

CRUD - DELETE(삭제)

쿼리셋의 모든 행에 대해 삭제 쿼리를 수행후 삭제된 객체들을 포함시킨 딕셔너리를 반환

```
article = Article.objects.get(id=1)
article.delete()
```

어드민 등록

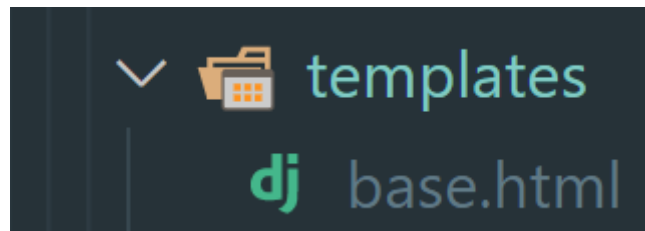
```
python manage.py createsuperuser
```

```
from django.contrib import admin
from .models import Article

# Register your models here.
admin.site.register(Article)
```

템플릿 상속

폴더 경로에 templates와 base.html 생성



```
<!doctype html>
<html lang="en">
  <head>
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <title>Bootstrap demo</title>
    <link
href="https://cdn.jsdelivr.net/npm/bootstrap@5.2.3/dist/css/bootstrap.min.css"
rel="stylesheet" integrity="sha384-
rbsA2VBKQhggwzxH7pPCaAqO46MgnOM80zw1RWuH61DGLWZJEdK2Kadq2F9CUG65"
crossorigin="anonymous">
  </head>
  <body>

    <div class="container">
      {% block content %}

      {% endblock %}
    </div>
```

```

<script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.2.3/dist/js/bootstrap.bundle.min.js" integrity="sha384-
kenU1KFdBIE4zVF0s0G1M5b4hcxpyD9F7jL+jjXkk+Q2h455rYXK/7HAuoJl+0I4"
crossorigin="anonymous"></script>
</body>
</html>

```

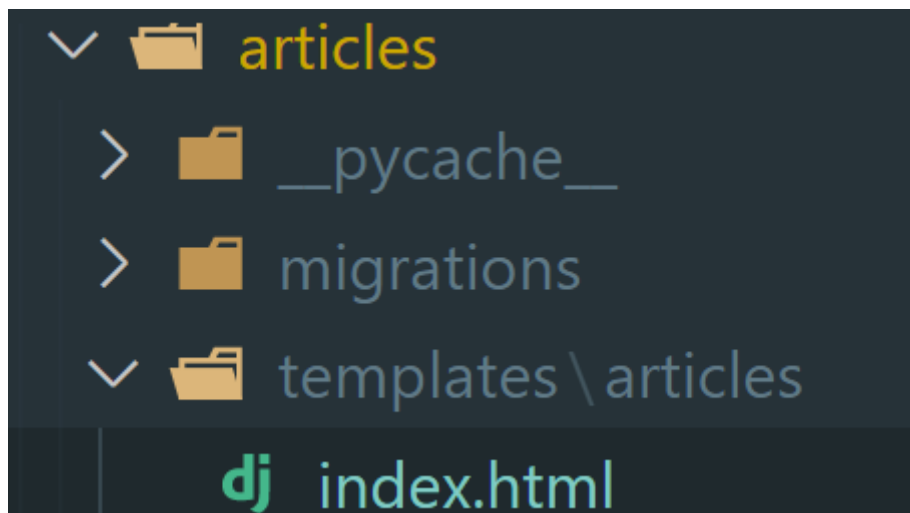
settings.py -> 'DIRS' 작성

```

{
    'BACKEND': 'django.template.backends.django.DjangoTemplates',
    'DIRS': [BASE_DIR / 'templates'],
    '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',
        ],
    },
},
]

```

app local templates 생성



index.html

```

{% extends 'base.html' %}

{% block content %}
    <h1 class="text-center">Articles</h1>
{% endblock %}

```

프로젝트 url

```

from django.contrib import admin
from django.urls import path, include

urlpatterns = [
    path('admin/', admin.site.urls),
    path("articles/", include('articles.urls'))
]

```

articles url

```

from django.urls import path
from . import views

app_name = 'articles'
urlpatterns = [
    path("", views.index, name="index")
]

```

articles / views.py

```

from django.shortcuts import render

# Create your views here.
def index(request):
    return render(request, 'articles/index.html')

```

---

CRUD -> 전체 게시글 조회

articles/views.py

```

from django.shortcuts import render
from .models import Article

# Create your views here.
def index(request):
    articles = Article.objects.all()

    context = {
        'articles' : articles
    }

    return render(request, 'articles/index.html', context)

```

articles/templates/articles/index.html

```
{% extends 'base.html' %}

{% block content %}
<h1 class="text-center">Articles</h1>
<hr>
{% for article in articles %}
<p>글 번호 : {{ article.pk }}</p>
<p>글 제목 : {{ article.title }}</p>
<p>글 내용 : {{ article.content }}</p>
<hr>
{% endfor %}

{% endblock %}
```

## CRUD - CREATE

articles / urls.py

```
from django.urls import path
from . import views

app_name = 'articles'
urlpatterns = [
    path("", views.index, name="index"),
    path('new/', views.new, name="new")
]
```

articles/views.py

```
def new(request):
    return render(request, 'articles/new.html')
```

articles / new.html

```
{% extends 'base.html' %}

{% block content %}

<h1 class="text-center">NEW</h1>

<form action="#" method="GET">
<label for="title">Title : </label>
<input type="text" name="title">
<br/>
<label for="content">Content : </label>
<textarea name="content" cols="30" row="5"></textarea>
<br>
<input type="submit">
</form>
<hr>
```

```

<a href="{% url 'articles:index' %}">[BACK]</a>

{% endblock %}

```

articles/index.html

```

{% extends 'base.html' %}

{% block content %}
    <h1 class="text-center">Articles</h1>
    <a href="{% url 'articles:new' %}">NEW</a>
    <hr>

    {% for article in articles %}
        <p>글 번호 : {{ article.pk }}</p>
        <p>글 제목 : {{ article.title }}</p>
        <p>글 내용 : {{ article.content }}</p>
        <hr>
    {% endfor %}

{% endblock %}

```

articles/urls.py

```

from django.urls import path
from . import views

app_name = 'articles'
urlpatterns = [
    path("", views.index, name="index"),
    path('new/', views.new, name="new"),
    path('create/', views.create, name="create"),
]

```

articles/ views.py

```

def create(request):
    return render(request, 'articles/create.html')

```

articles / create.html

```

{% extends 'base.html' %}

{% block content %}
    <h1 class="text-center">성공적으로 글이 작성되었습니다</h1>
{% endblock %}

```



articles/create.html

```
{% extends 'base.html' %}

{% block content %}
    <h1 class="text-center">성공적으로 글이 작성되었습니다</h1>
{% endblock %}
```

article/ views.py

```
def create(request):
    title = request.GET.get('title')
    content = request.GET.get('content')

    article = Article()
    article.title = title
    article.content = content
    article.save()
    # 1번

    # article = Article(title=title,content=content)
    # article.save()
    # 2번

    # Article.objects.create(title=title, content=content)
    # 3번

    return render(request, 'articles/create.html')
```

---

전체 조회 내림차순 변경

```
def index(request):
    articles = Article.objects.all()

    # articles = Article.objects.order_by('-pk')
    # articles = Article.objects.order_by('-id')
    # 'db에서' 내림차순으로 해서 가져와 화면에 출력

    # articles = Article.objects.all()[::-1]
    # db에서 가져와서 '파이썬'으로 내림차순으로 변경해서 출력

    context = {
        'articles' : articles
    }
```

---

```
request.GET.get('title')
```

GET -> HTTP 메서드

GET -> "특정" 데이터를 요청할때 사용-> 반드시 데이터를 가져와야함

-> DB에 변화를 주지 않음 (CRUD) R -> READ에 해당

POST -> HTTP 메서드

POST -> 서버로 데이터를 전송할때 사용 -> 데이터를 변경/생성 / DB에 변경사항을 발생

CRUD -> C/U/D CREATE, UPDATE, DELETE 담당

GET 메서드를 POST메서드로 변경

```
{% extends 'base.html' %}

{% block content %}

<h1 class="text-center">NEW</h1>

<form action="{% url 'articles:create' %}" method="POST">
  <label for="title">Title : </label>
  <input type="text" name="title">
  <br/>
  <label for="content">Content : </label>
  <textarea name="content" cols="30" row="5"></textarea>
  <br>
  <input type="submit">
</form>
<hr>

<a href="{% url 'articles:index' %}">[BACK]</a>

{% endblock %}
```

CSRF 공격 방어

Security Token 방식(CSRF TOKEN)

사용자의 데이터에 임의의 난수를 부여함 -> 매 요청마다 해당 난수값을 포함시켜 전송

-> 서버에서 요청을 받을때마다 전달된 token값이 유효한지 검증

-> POST, PATCH, DELETE (CREATE, UPDATE, DELETE)등에 적용

Django -> CSRF token 템플릿을 제공

articles / views.py

```
def create(request):
    title = request.POST.get('title')
    content = request.POST.get('content')
    # print(request)

    article = Article()
    article.title = title
    article.content = content
    article.save()
    # 1번

    # article = Article(title=title,content=content)
    # article.save()
    # 2번

    # Article.objects.create(title=title, content=content)
    # 3번

    return render(request, 'articles/create.html')
```

문제점 발생 : 게시글 작성후 index페이지로 이동하지 않음

---

```
def create(request):
    title = request.POST.get('title')
    content = request.POST.get('content')
    # print(request)

    article = Article()
    article.title = title
    article.content = content
    article.save()
    # 1번

    # article = Article(title=title,content=content)
    # article.save()
    # 2번

    # Article.objects.create(title=title, content=content)
    # 3번

    # return render(request, 'articles/create.html')
    return redirect('articles:index')
```

---

CRUD (R -> 전체 데이터조회는 하였음 / 개별데이터 조회)

articles/urls.py

```

from django.urls import path
from . import views

app_name = 'articles'
urlpatterns = [
    path("", views.index, name="index"),
    path('new/', views.new, name="new"),
    path('create/', views.create, name="create"),
    path('<int:pk>/', views.detail, name="detail"),
]

```

articles/views.py

```

def detail(request, pk):

    # 클래스명.objects.QuestAPI
    article = Article.objects.get(pk=pk)
    # articles = Article.objects.all()

    context = {
        'article' : article
    }

    return render(request, 'articles/detail.html', context)

```

index.html

```

{% extends 'base.html' %}

{% block content %}
    <h1 class="text-center">Articles</h1>
    <a href="{% url 'articles:new' %}">NEW</a>
    <hr>

    {% for article in articles %}
        <p>글 번호 : {{ article.pk }}</p>
        <p>글 제목 : {{ article.title }}</p>
        <p>글 내용 : {{ article.content }}</p>
        <a href="{% url 'articles:detail' article.pk %}">[DETAIL]</a>
        <hr>
    {% endfor %}

{% endblock %}

```

detail.html

```

{% extends 'base.html' %}

{% block content %}

```

```

<h2 class="text-center">DETAIL</h2>

<h3> {{article.pk}} 번째 글</h3>
<hr>
<p>제목 : {{article.title}}</p>
<p>내용 : {{article.content}}</p>
<p>작성 시각 : {{article.created_at}}</p>
<p>수정 시각 : {{article.updated_at}}</p>
<hr>

<a href="{% url 'articles:index' %}">[BACK]</a>

{% endblock %}

```

views.py

```

def detail(request, pk):

    # 클래스명.objects.QuestAPI
    article = Article.objects.get(pk=pk)
    # articles = Article.objects.all()

    context = {
        'article' : article
    }

    return render(request, 'articles/detail.html', context)

def create(request):

    title = request.POST.get('title')
    content = request.POST.get('content')
    # print(request)

    article = Article()
    article.title = title
    article.content = content
    article.save()
    # 1번

    # article = Article(title=title, content=content)
    # article.save()
    # 2번

    # Article.objects.create(title=title, content=content)
    # 3번

    # return render(request, 'articles/create.html')
    # return redirect('articles:index')
    return redirect('articles:detail', article.pk)

```

## CRUD - D (DELETE 삭제)

detail.html

```
{% extends 'base.html' %}

{% block content %}
<h2 class="text-center">DETAIL</h2>

<h3> {{article.pk}} 번째 글</h3>
<hr>
<p>제목 : {{article.title}}</p>
<p>내용 : {{article.content}}</p>
<p>작성 시각 : {{article.created_at}}</p>
<p>수정 시각 : {{article.updated_at}}</p>
<hr>

<form action="{% url 'articles:delete' article.pk %}" method="POST">
    {% csrf_token %}
    <button class="btn btn-danger">DELETE</button>
</form>

<a href="{% url 'articles:index' %}">[BACK]</a>

{% endblock %}
```

urls.py

```
from django.urls import path
from . import views

app_name = 'articles'
urlpatterns = [
    path("", views.index, name="index"),
    path('new/', views.new, name="new"),
    path('create/', views.create, name="create"),
    path('<int:pk>/', views.detail, name="detail"),
    path('<int:pk>/delete', views.delete, name="delete"),
]
```

views.py

```
def delete(request,pk):
    article = Article.objects.get(pk = pk)
    article.delete()
    # return render(request, 'articles/index.html')
    return redirect('articles:index')
```

---

delete 방어코드작성

```
def delete(request,pk):
    article = Article.objects.get(pk = pk)

    if request.method == 'POST':
        article.delete()
        return redirect('articles:index')
        # return render(request, 'articles/index.html')
    else:
        return redirect('articles:detail', article.pk)
```

---

CRUD (UPDATE )

edit 로직

```
from django.urls import path
from . import views

app_name = 'articles'
urlpatterns = [
    path("", views.index, name="index"),
    path('new/', views.new, name="new"),
    path('create/', views.create, name="create"),
    path('<int:pk>/', views.detail, name="detail"),
    path('<int:pk>/delete', views.delete, name="delete"),
    path('<int:pk>/edit', views.edit, name="edit"),
]
```

views.py

```
def edit(request,pk):
    article = Article.objects.get(pk=pk)

    context = {
        "article" : article
    }

    return render(request, 'articles/edit.html', context)
```

edit.html

```
{% extends 'base.html' %}

{% block content %}

<h1 class="text-center">EDIT</h1>

<form action="#" method="POST">
    {% csrf_token %}
    <label for="title">Title : </label>
    <input type="text" name="title" value = "{{article.title}}">
    <br/>
    <label for="content">Content : </label>
    <textarea name="content" cols="30" row="5">{{article.content}}</textarea>
    <br>
    <input type="submit">
</form>
<hr>

<a href="{% url 'articles:index' %}">[BACK]</a>

{% endblock %}
```

update 로직

```
from django.urls import path
from . import views

app_name = 'articles'
urlpatterns = [
    path("", views.index, name="index"),
    path('new/', views.new, name="new"),
    path('create/', views.create, name="create"),
    path('<int:pk>/', views.detail, name="detail"),
    path('<int:pk>/delete', views.delete, name="delete"),
    path('<int:pk>/edit', views.edit, name="edit"),
    path('<int:pk>/update', views.update, name="update"),
]
```

views.py

```
def update(request, pk):
    article = Article.objects.get(pk = pk)
    article.title = request.POST.get('title')
    article.content = request.POST.get('content')
    article.save()
    return redirect('articles:detail', article.pk)
```



edit.html

```
{% extends 'base.html' %}

{% block content %}

<h1 class="text-center">EDIT</h1>

<form action="{% url 'articles:update' article.pk%}" method="POST">
  {% csrf_token %}
  <label for="title">Title : </label>
  <input type="text" name="title" value = "{{article.title}}">
  <br/>
  <label for="content">Content : </label>
  <textarea name="content" cols="30" row="5">{{article.content}}</textarea>
  <br>
  <input type="submit">
</form>
<hr>

<a href="{% url 'articles:index' %}">[BACK]</a>

{% endblock %}
```