

TUTORIAL PROJECT



Django Tutorial—Build a Travel Blog with Goorm IDE and Bootstrap 4

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Preface

A student came to me when I was teaching software programming. Learning computer software (SW) became a burden to this student not only because of the poverty under which students live but also because of the expensive education fees. Moreover it was hard to study just by himself.

The use of software is part of our every days life (internet, word etc ...) therefore software programming should be easy to approach. Of course, it is not easy to find solutions as a professional SW education administrator however learning should not be a burden to students who just want to reach their dreams .

It should also be easy to learn. Thick and complicated books are not always the best choice for a beginner.

Those tutorials series are quick to read and you will improve your skills a lot , all by yourself.

Everyone can enjoy a great education with our tutorial, even someone with a poor background. So that you could enjoy learning and have the pleasure of solving problems. We will do our best to help you.

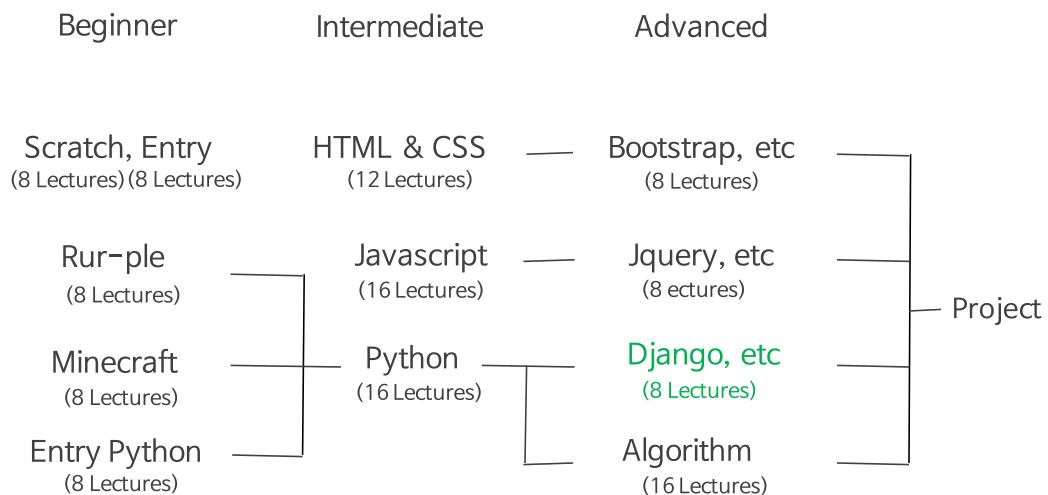
1. Check our lecture road map out on the next page and choose the one for you
2. Watch the video of the road map on our website to know what you need to learn (<http://paullab.co.kr/curriculum.html>)
3. Step through the tutorial project.

I hope that going through this steps will help you to reduce the ambiguity of software programming and reach your dreams.

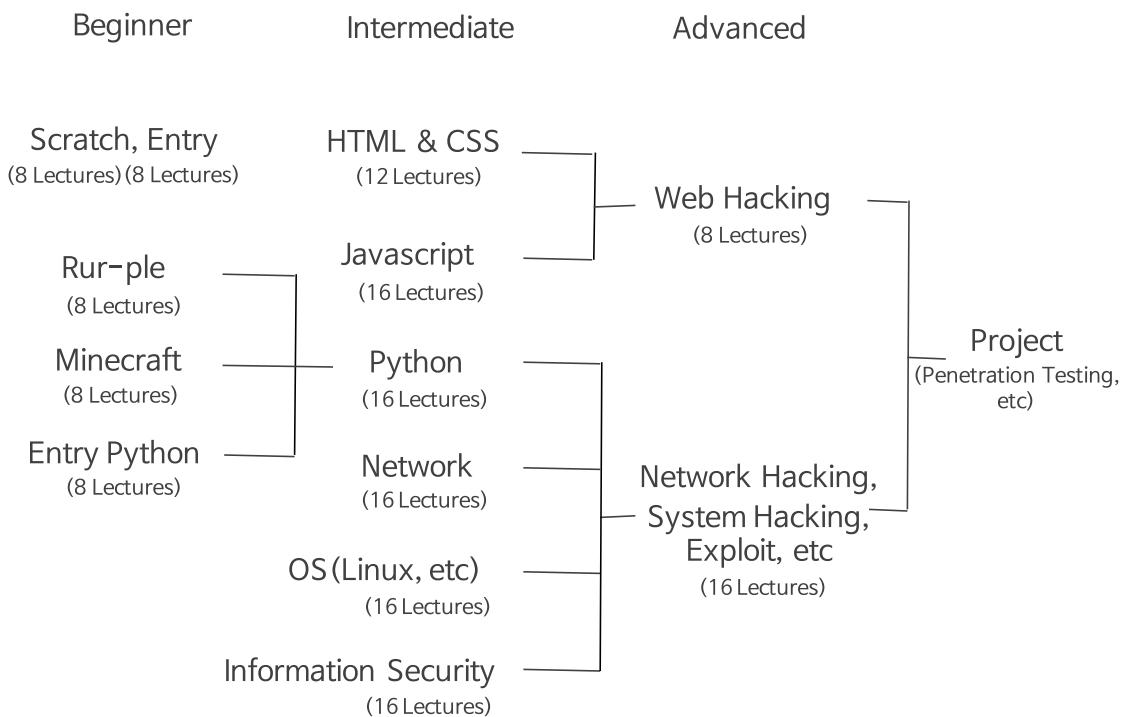
Hojun Lee

Road Map

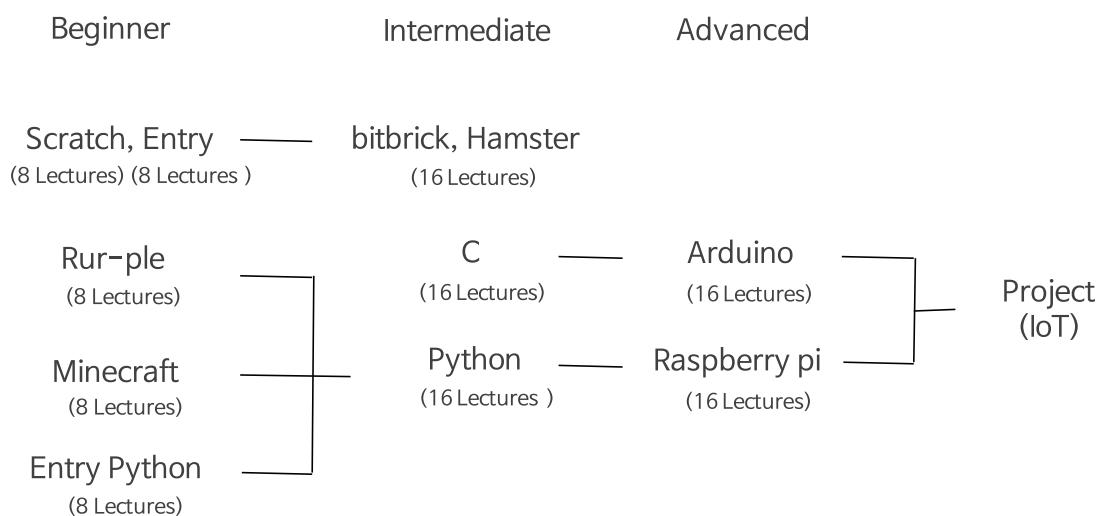
1. Web development(Front-end & Back-end : Full-Stack)



2. Information Security



3. Physical Computing



4. Advanced class

- 4.1 Big data Analysis in Python(8 Lectures)
- 4.2 Self Driving Car with Python(8 Lectures)
- 4.3 Information Security in Python(8 Lectures)
- 4.4 PyQt with Python GUI Programming(8 Lectures)
- 4.5 TensorFlow Tutorial(8 Lectures)
- 4.6 Django Tutorial(8 Lectures)**
- 4.7 Android App Development(22 Lectures – Include java class)
- 4.8 Advanced Front-end programming (16 Lectures)
- 4.9 Advanced Back-end programming(16 Lectures)

Who should read this book

This book is recommended for those who want to program with Django. Django is a very popular framework among Python programmers. We hope it will be a good opportunity to expand your perspectives on web development

About the Book

This book is a tutorial on Django that will teach you to use it while creating a simple travel blog with Python. So instead of learning with Django in details,

We focused on a simple way (step by step) to create a web service.

If you just follow along, you will be able to create a web service. You will be able to download source code example files of each examples that you will use.

The front-end programming part of this tutorial is from the Bootstrap section of the 'Travel Blog Tutorial'.

* Download templates sources from the paullab.co.kr/templates.zip

Next steps after the tutorial?

After learning Python and Django with us, you will be able to start creating an actual web service in the real world. When you're fixing an error, check the parts that you did not know and take a note of the solution.

If you are interested in Python itself, you may want to study about data analysis, visualization, and artificial intelligence.

Contents

1. Intro & Environment Setup 10

1.1 Introduction ----- 11

1.2 Environment setting with Goorm IDE ----- 15

2. A Main Page with Django 31

3. A Blog Page with Django 46

4. A Post Page with Django 59

5. Comment, Tag 76

6. Bootstrap, Deploy! 93

6.1 Bootstrap Introduction ----- 94

6.2 Environment setting with Goorm IDE ----- 95

6.3 Bootstrap Introduction ----- 96

6.4 Bootstrap Basic -----	98
6.5 Finishing touches -----	105
6.6 Deployment -----	118
7. Summary	121

Chapter 1

Environment setting with Goorm IDE

1.1 Introduction

1.2 Environment setting with Goorm IDE

TUTORIAL 1

Introduction

Django is a free and open source web application framework written in Python which is used by Instagram, NASA, Disqus and etc.

A Framework is a supporting structure around which web services can be developed in a faster and easier way using a collection of given components.

Django started as a free and open source framework in 2005, and Django 2.0 released in December of 2017, and there is no Django 2.0 tutorial book in Korea yet.

In this tutorial, we will build a simple blog in order to understand the whole process of website development.

If you want to know about django in detail refer to the documentation on the official website.

<https://www.djangoproject.com/> The official homepage provides an introduction to django, downloads, and supporting documentation.

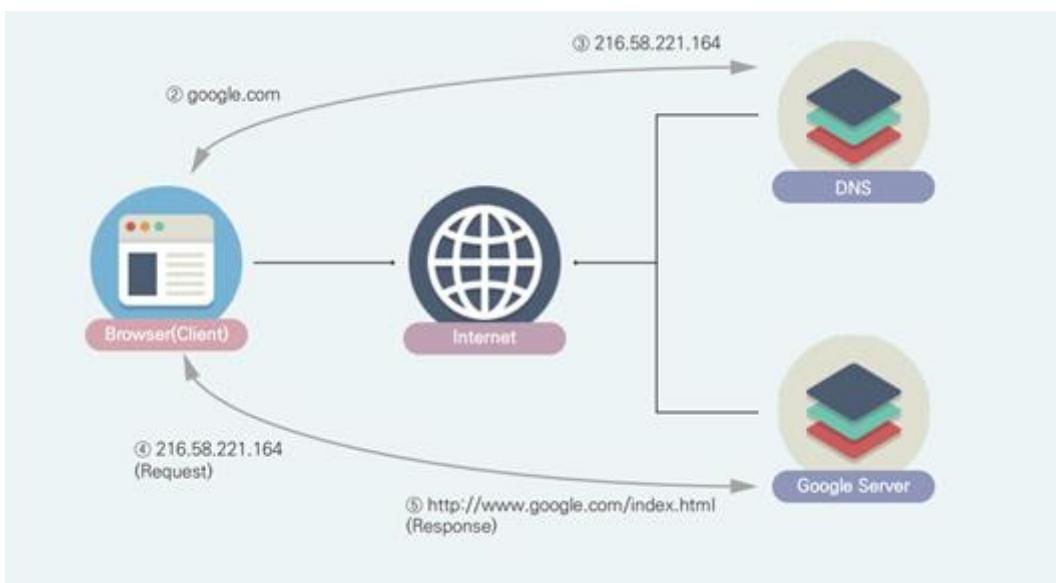
*<https://media.readthedocs.org/pdf/django/2.0.x/django.pdf>

1.1 Django installation & Environment setting(cont.)

Here is the description of how the internet works.

Below is a summary of the steps that internet is going through when you type “google” into your browser.

The web site we are going to create will work that way. We'll be using different languages such as HTML, CSS, JavaScript, Python, and we'll use the Bootstrap library on Django framework.



0. You type www.google.com into your browser
1. The Web browser gets the domain name (www.google.com) from the clients (you)
2. The Web browser looks for the IP address of the domain through the domain name server (DNS)
3. The Web browser requests a page to the web server through the IP address
4. The web server sends the requested page back to The web browser
5. The Web browser displays the page

1.1 Django installation & Environment setting(cont.)

We will use the Goorm IDE cloud service.

It is Linux based and it uses Ubuntu 14.

Most of you are used to use the mouse in the graphical GUI (graphic user interface) environment. (windows, mac)

Therefore the Linux CLI environment (command-line interface) might be unfamiliar to you as you command everything on a black screen. (no mouse)

Around the world The Linux server's market share represent at least 90% . That's the reason why we recommend to use it.

Now let's compare three different cloud service models:

The Cloud IDE we will use is PaaS model.

- 1. SaaS (Software as a Service):** SaaS is the most user-friendly service and it is a service that allows you to take advantage of application functions over the network.
- 2. Platform as a Service (PaaS):** PaaS is a cloud service that comes with Windows and Linux-like operating systems and a development platform.
- 3. IaaS (infrastructure as a service):** IaaS is a cloud infrastructure service. It is mostly used professionally.

1.1 Django installation & Environment setting(cont.)

I think the reason why you've chosen this tutorial is because you are fascinated by Python's powerful library, intuitive and excellent extensibility. So, now python is one of the most popular programming language.

Then what about framework? Below is a description of the python framework from Wikipedia. In addition to Django, there are some popular frameworks like Flask. Django is a full-stack web framework , whereas Flask is lightweight and extensible.

Depending on your project ,make the right choice among those frameworks.

Popular Full-Stack Frameworks

A web application may use a combination of a base HTTP application server, a storage mechanism such as a database, a template engine, a request dispatcher, an authentication module and an AJAX toolkit. These can be individual components or be provided together in a high-level framework.

These are the most popular high-level frameworks. Many of them include components listed on the [WebComponents](#) page.

Name	Latest version	Latest update date	description
Django	1.11	2017-04-04	The Web framework for perfectionists (with deadlines). Django makes it easier to build better Web apps more quickly and with less code. Django is a high-level Python Web framework that encourages rapid development and clean, pragmatic design. It lets you build high-performing, elegant Web applications quickly. Django focuses on automating as much as possible and adhering to the DRY (Don't Repeat Yourself) principle. See Django
TurboGears	2.3.10	2016-12-04	the rapid Web development webframework you've been looking for. Combines SQLAlchemy (Model) or Ming (MongoDB Model), Genshi (View), Repoze and Tosca Widgets . Create a database-driven, ready-to-extend application in minutes. All with designer friendly templates, easy AJAX on the browser side and on the server side, with an incredibly powerful and flexible Object Relational Mapper (ORM), and with code that is as natural as writing a function. After reviewing the Documentation , check out the Tutorials
web2py	2.14.6	2016-05-10	* Python 2.6 to 2.7, Python 3.x friendly (compile but not tested no support yet) * All in one package with no further dependencies. Development, deployment, debugging, testing, database administration and maintenance of applications can be done via the provided web interface, but not required. * web2py has no configuration files, requires no installation, can be run off a USB drive. * web2py uses Python for the Model, View and the Controller * Built-in ticketing system to manage errors * Internationalization engine and pluralsisation, caching system * Flexible authentication system (LDAP, MySQL, jahrain etc) * NIX(Linux, BSD), Windows, Mac OSX, tested on EC2, Webfaction * works with MySQL, PostgreSQL, SQLite, Firebird, Oracle, MSSQL and the Google App Engine via an ORM abstraction layer. * Includes libraries to handle HTML/XML, RSS, ATOM, CSV, RTF, JSON, AJAX, XMLRPC, WIKI markup. * Production ready. capable of upload/download of very large files * Emphasis on backward compatibility.

Popular Non Full-Stack Frameworks

These projects provide the base "application server", either running as its own independent process, upon Apache or in other environments. On many of these you can then introduce your own choice of templating engines and other components to run on top, although some may provide technologies for parts of the technology stack.

- » [Bottle](#) (0.12.13 Released 2017-01-09) is a fast and simple micro-framework for small web-applications. It offers request dispatching (Routes) with url parameter support, Templates, key/value Databases, a build-in HTTP Server and adapters for many third party WSGI/HTTP-server and template engines. All in a single file and with no dependencies other than the Python Standard Library.
- » [CherryPy](#) (10.2.1 Released 2017-03-13) is a pythonic, object-oriented HTTP framework. CherryPy powered web applications are in fact stand-alone Python applications embedding their own multi-threaded web server. TurboGears, web2py (see above) also use CherryPy.
- » [Flask](#) (0.12.1 Released 2017-03-31) is "a microframework for Python based on Werkzeug, Jinja 2 and good intentions." Includes a built-in development server, unit testing support, and is fully Unicode-enabled with RESTful request dispatching and WSGI compliance.

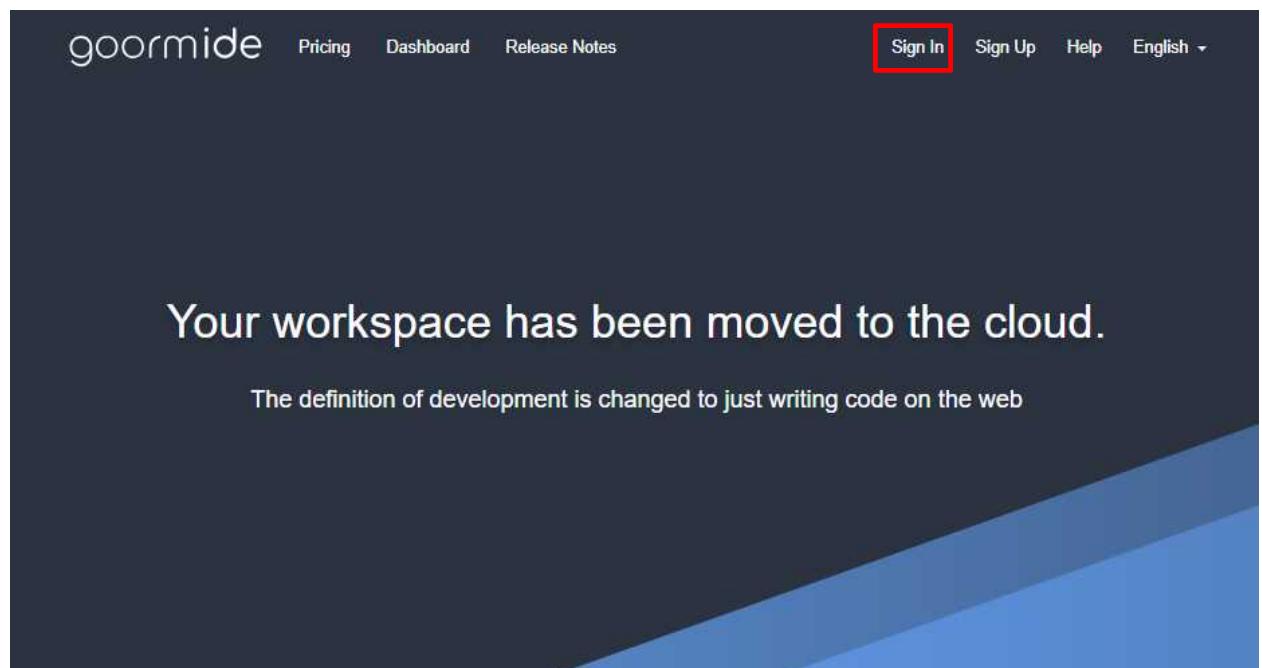
- » [Hug](#) (2.2.0 Released 2016-10-17) Embrace the APIs of the future. Hug aims to make developing APIs as simple as possible, but no simpler. It's one of the first fully future looking frameworks: only supporting Python3+.
- » [Pyramid](#) (1.8.3 Released 2017-03-12) a small, fast, down-to-earth, open source Python web development framework. It makes real-world web application development and deployment more fun, more predictable, and more productive. Pyramid is a Pylons Project, and is the successor to the Pylons web framework.

<https://wiki.python.org/moin/WebFrameworks>

TUTORIAL 1.2

Environment setting with IDE

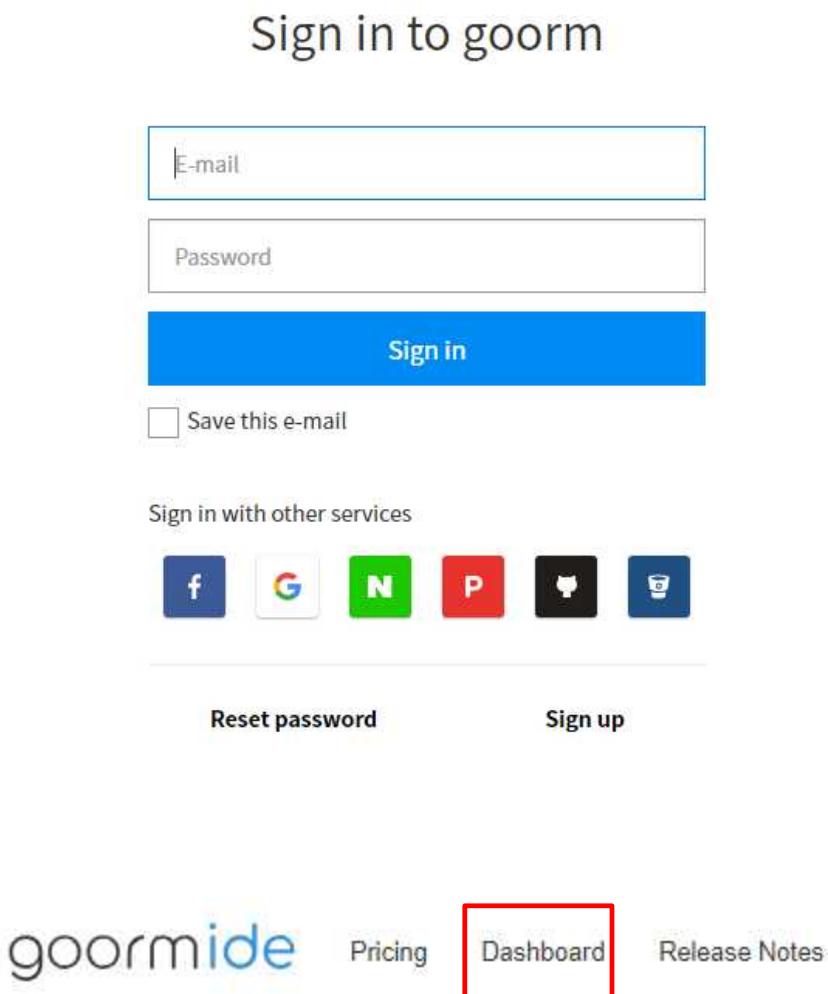
Let's try setting the Goorm IDE environment. Just follow the red square with us.



<https://ide.Goorm.io/>

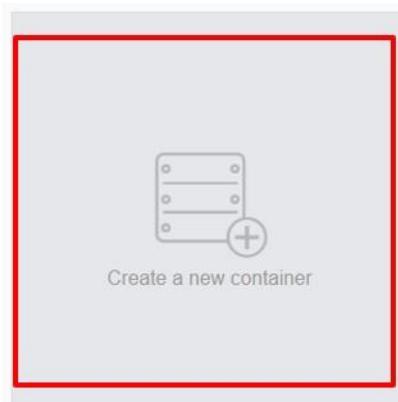
1.2 Environment setting with Goorm IDE(cont.)

Sign up for Goorm IDE first. A free account is also a powerful service that allows you to use five containers. When you register, you will enter the dashboard automatically. If you are on the main page, click Dashboard.



1.2 Environment setting with Goorm IDE(cont.)

Here is the dashboard page. A container is like setting one computer. Select Python and click Create New Container to create the container.



Create a new container

Source from Template Github Bitbucket Git / SVN ZIP/TAR file

Name

Description

Search

Choose a software stack

Python	
Template	Python Project
OS	✓ Ubuntu 14.04 LTS
Python3	✓ 3.6.5
Python	✓ 2.7.6
pip3	✓ 9.0.1
pip	✓ 9.0.1
Jupyter	✓ 4.3.0
Django	✓ 1.11.12 LTS
Flask	✓ 0.12
TensorFlow	✓ 1.3.0

Cancel

1.2 Environment setting with goorm IDE(cont.)

You will see that the container is being created and soon you will see that the container creation is complete. Click “Run Container” to enter the container.

The screenshot shows the goorm IDE interface. On the left, a progress bar indicates "14%" completion, with a message below stating "A workspace will be created soon. Please wait." To the right, a modal window titled "Run Container" asks "Do you want to run the container?". It contains two buttons: "Go to Dashboard" and a blue "Run" button, which is highlighted with a red box. Below the modal, a detailed view of a project named "tutoraldjango" is shown. The project summary includes:

create a travel blog in django	Configure
Stack	Python Project
Storage	10GB
Last run time	6/27/2018, 9:33:25 AM
SSH	Available when container is running.
Share link	Need setting
Theme	<input checked="" type="radio"/> Light <input type="radio"/> Dark
Always On	Available on PREMIUM PLAN

At the bottom of the project view, there are two buttons: a red-bordered "Run" button and a blue "Terminal" button.

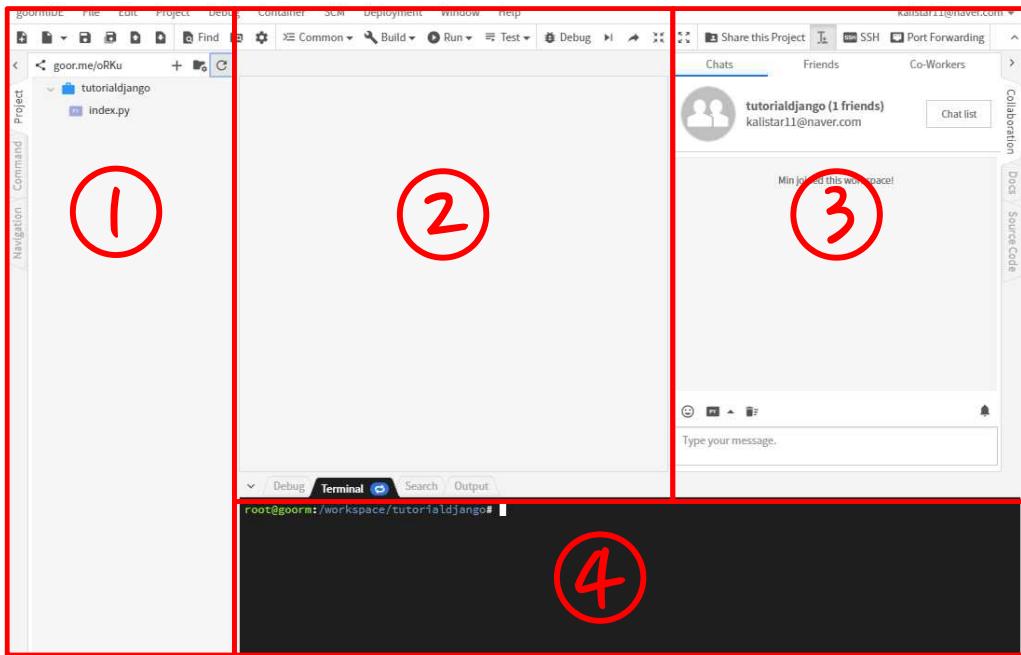
1.2 Environment setting with Goorm IDE(cont.)

This is the screen on which the container is loaded. Usually this page shows you coding tips or famous people while it's loading.



Before deleting a variable or a function,
you can confirm that the variable or function is being used by the 'Right Click > Safe Delete'.

1.2 Environment setting with Goorm IDE(cont.)

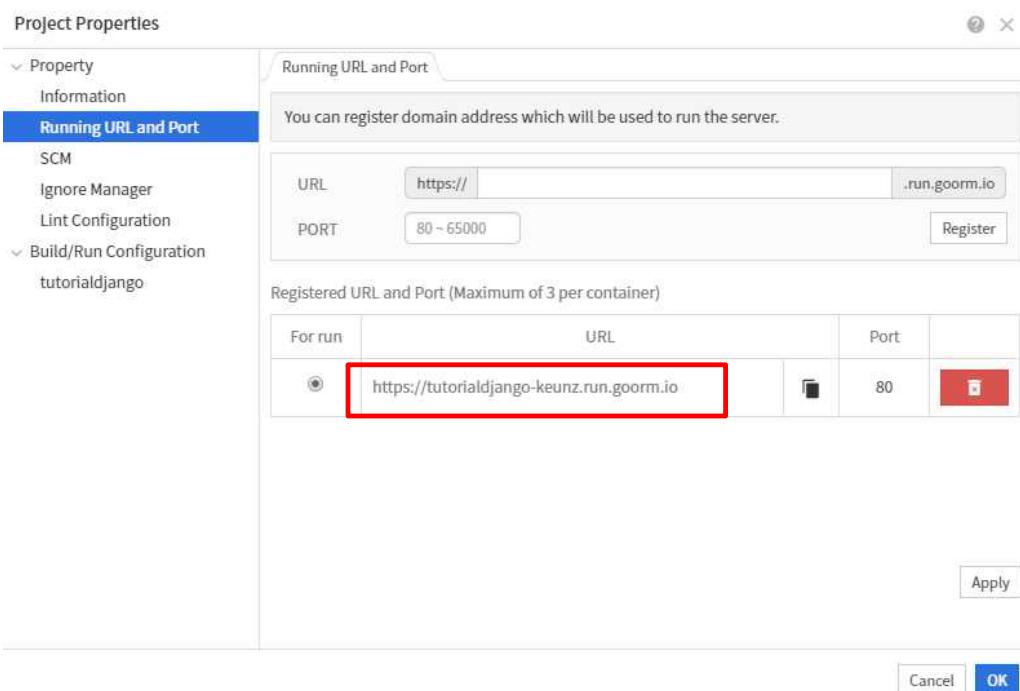
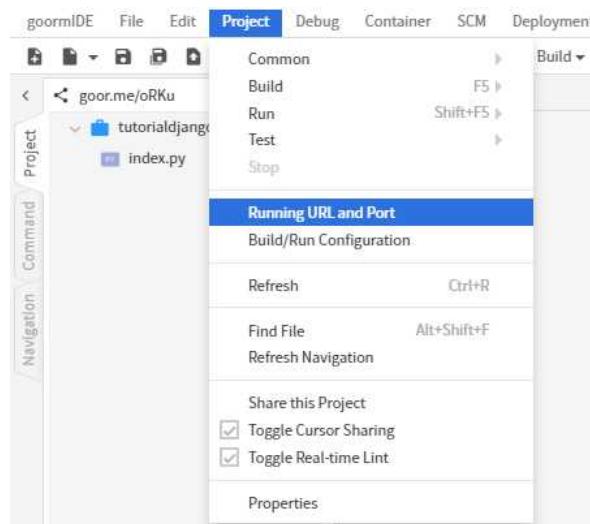


1. This space shows you the folder structure. In the top right corner there is a refresh button. If you have done something and can not see it, refresh it with this command.
2. txt, html, py files, and etc
3. Here is a space for collaboration, chat, etc. We are not going to use this options
4. Console window. We will enter most of the commands here.

1.2 Environment setting with Goorm IDE(cont.)

Click on the project and click Run URL and Port. The red squares below are the URLs we will use later. It will not run yet.

* If you are not registered, enter the URL you want below, and set the PORT to 80.



1.2 Environment setting with Goorm IDE(cont.)

The first thing to do is planning a website. This tutorial does not cover planning steps (Please refer to the tutorial " Bootstrap Tutorial: Learn how to create Travel Blog using Bootstrap")

Let's take a look at the site structure.

1. - main page https://user_specified_domain.run.Goorm.io/
 - main page, service introduction, google map api, recent post introduction
 - Template: index.html
2. - blog page https://user_specific_domain.run.Goorm.io/blog
 - Go to the main page when you click blog, post List page
 - Template: blog.html
3. - poset page https://user_specified_domain.run.Goorm.io/post_number
 - Move when you click post on blog page
 - Template: contents.html

1.2 Environment setting with Goorm IDE(cont.)

Here is the Main page. We did put lorem ipsum dummy text in paragraphs.

The screenshot shows a travel blog's main page. At the top, there is a header with navigation links (Travel, Blog, Home, About, Blog) and a search bar. Below the header is a large landscape image of a horse grazing on a grassy hillside with a mountain in the background. Overlaid on this image is a dark banner containing placeholder text: "Example headline." and "Cras justo odio, dapibus ac facilisis in, egestas eget quam. Donec id elit non mi porta gravida at eget metus. Nullam id dolor id nibh ultricies vehicula ut id elit." Below the banner is a "Sign up today" button. The main content area features a world map with several location markers and small thumbnail images. Three specific locations are highlighted with larger thumbnail images and "Heading" labels:

- Heading**
Dimec et odio da. Iniam porta sem malesuada magna mollis euismod. Nullam id dolor id nibh ultricies vehicula ut id elit. Morbi leo risus, porta ac consectetur ac, vestibulum at eros. Praesent commodo cursus magna.
- Heading**
Duis mollis, est non commodo luctus, nisi erat porttitor ligula, eget lacinia odio sem nec elit. Cras mattis consectetur purus sit amet fermentum. Fusce dapibus, tellus ac cursus commodo, tortor mauris condimentum nibh.
- Heading**
Donec sed odio dui. Cras justo odio, dapibus ac facilisis in, egestas eget quam. Vestibulum id ligula porta felis euismod semper. Praesent commodo cursus magna, vel scelerisque nisl consectetur. Fusce dapibus, tellus ac cursus commodo.

Below these three sections is a "First featurette heading. It'll blow your mind." section with placeholder text and a thumbnail image of a rocky landscape.

Further down is another featurette section with a thumbnail image of a coastal landscape and placeholder text.

At the bottom, there is a final section with a thumbnail image of a city skyline and placeholder text.

At the very bottom of the page, there is a footer with copyright information and a "Back to top" link.

1.2 Environment setting with Goorm IDE(cont.)

Here is the Blog page.

Travel Blog Home About Blog Search Search

Album example

Something short and leading about the collection below—its contents, the creator, etc. Make it short and sweet, but not too short so folks don't simply skip over it entirely.

Main call to action Secondary action

The blog page displays an 'Album example' section. It features five cards, each containing a photograph and descriptive text. The cards are arranged in two rows: three in the top row and two in the bottom row. Each card includes a 'View' and 'Edit' button, a timestamp ('9 mins'), and a detailed description of its content.

Card Position	Image Description	Text Description	Action Buttons	Timestamp
Top Left	Rock formations (e.g., Three Sisters) against a blue sky.	This is a wider card with supporting text below as a natural lead-in to additional content. This content is a little bit longer.	View Edit	9 mins
Top Middle	A coastal landscape with a rocky shore and a distant headland.	This is a wider card with supporting text below as a natural lead-in to additional content. This content is a little bit longer.	View Edit	9 mins
Top Right	A city skyline across a body of water, with a pier in the foreground.	This is a wider card with supporting text below as a natural lead-in to additional content. This content is a little bit longer.	View Edit	9 mins
Bottom Left	The Sydney Harbour Bridge at sunset.	This is a wider card with supporting text below as a natural lead-in to additional content. This content is a little bit longer.	View Edit	9 mins
Bottom Middle	A mountain peak rising above a forested hillside under a cloudy sky.	This is a wider card with supporting text below as a natural lead-in to additional content. This content is a little bit longer.	View Edit	9 mins

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1.2 Environment setting with Goorm IDE(cont.)

Here is the Post page. We did put lorem ipsum dummy text in paragraphs.

The screenshot shows a blog post page with the following structure:

- Header:** Travel Blog, Home, About, Blog, Search, Search button.
- Title:** *From the Firehose*
- Section:** Sample blog post
- Text:** January 1, 2014 by [Mark](#)
- Text:** This blog post shows a few different types of content that's supported and styled with Bootstrap. Basic typography, images, and code are all supported.
- Text:** Cum sociis natoque penatibus et magnis **dis parturient montes**, nascetur ridiculus mus. Aenean eu leo quam. Pellentesque ornare sem lacinia quam venenatis vestibulum. Sed posuere consectetur est at lobortis. Cras mattis consectetur purus sit amet fermentum.
- Text:** Curabitur blandit tempus porttitor. **Nullam quis risus eget urna mollis** ornare vel eu leo. Nullam id dolor id nibh ultricies vehicula ut id elit.
- Text:** Etiam porta sem malesuada magna mollis euismod. Cras mattis consectetur purus sit amet fermentum. Aenean lacinia bibendum nulla sed consectetur.
- Section:** Heading
- Text:** Vivamus sagittis lacus vel augue laoreet rutrum faucibus dolor auctor. Duis mollis, est non commodo luctus, nisi erat porttitor ligula, eget lacinia odio sem nec elit. Morbi leo risus, porta ac consectetur ac, vestibulum at eros.
- Section:** Sub-heading
- Text:** Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus.
- Section:** Example code block
- Text:** Aenean lacinia bibendum nulla sed consectetur. Etiam porta sem malesuada magna mollis euismod. Fusce dapibus, tellus ac cursus commodo, tortor mauris condimentum nibh, ut fermentum massa.
- Buttons:** Older, Newer
- Page footer:** © 2017-2018 Company, Inc. · [Privacy](#) · [Terms](#), Back to top

About
Etiam porta sem malesuada magna mollis euismod. Cras mattis consectetur purus sit amet fermentum. Aenean lacinia bibendum nulla sed consectetur.

이미지 캐러셀 1

이미지 3
내용3

1.2 Environment setting with Goorm IDE(cont.)

Let's get started. Type commands as below step by step in the console window.

```
root@Goorm /workspace/tutorialdjango# mkdir mysite
```

```
root@Goorm /workspace/tutorialdjango# cd mysite
```

```
root@Goorm /workspace/tutorialdjango/mysite#
```

```
apt-get install python-virtualenv
```

```
root@Goorm /workspace/tutorialdjango/mysite#
```

```
virtualenv --python=python3.4 myvenv
```

```
root@Goorm /workspace/ tutorialdjango /mysite# source myvenv/bin/activate
```

```
(myvenv)root@Goorm /workspace/ tutorialdjango /mysite#
```

```
pip install django whitenoise
```

```
(myvenv)root@Goorm /workspace/ tutorialdjango /mysite#
```

```
django-admin startproject tutorialdjango .
```

```
(myvenv)root@Goorm /workspace/ tutorialdjango /mysite#
```

```
python manage.py migrate
```

- Please be careful ‘.’ is followed by ‘startproject container name’
- Please type your container name instead of tutorialdjango

1.2 Environment setting with Goorm IDE(cont.)

```
root@goorm:/workspace/tutorialdjango# mkdir mysite
root@goorm:/workspace/tutorialdjango# cd mysite/
root@goorm:/workspace/tutorialdjango/mysite# apt-get install python-virtualenv
패키지 목록을 읽는 중입니다... 완료
의존성 트리를 만드는 중입니다
상태 정보를 읽는 중입니다... 완료
다음 새 패키지를 설치할 것입니다:
  python-virtualenv
0개 업그레이드, 1개 새로 설치, 0개 제거 및 118개 업그레이드 안 함.
```

```
root@goorm:/workspace/tutorialdjango/mysite# virtualenv --python=python3.4 myvenv
Running virtualenv with interpreter /usr/bin/python3.4
Using base prefix '/usr'                                         New python executable
bable in myvenv/bin/python3.4
Also creating executable in myvenv/bin/python
Installing setuptools, pip...done.
```

```
root@goorm:/workspace/tutorialdjango/mysite# source myvenv/bin/activate
(myvenv)root@goorm:/workspace/tutorialdjango/mysite# █
```

```
(myvenv)root@goorm:/workspace/tutorialdjango/mysite# pip install django whitenoise
Downloading/unpacking django
  Downloading Django-2.0.6-py3-none-any.whl (7.1MB): 7.1MB downloaded
Downloading/unpacking whitenoise
  Downloading whitenoise-3.3.1-py2.py3-none-any.whl
Downloading/unpacking pytz (from django)
  Downloading pytz-2018.4-py2.py3-none-any.whl (510kB): 510kB downloaded
Installing collected packages: django, whitenoise, pytz
Successfully installed django whitenoise pytz
Cleaning up...
```

```
(myvenv)root@goorm:/workspace/tutorialdjango/mysite# django-admin startproject tutorialdjango .
(myvenv)root@goorm:/workspace/tutorialdjango/mysite# python manage.py migrate
Operations to perform:
  Apply all migrations: admin, auth, contenttypes, 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 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 sessions.0001_initial... OK
```

1.2 Environment setting with Goorm IDE(cont.)

Here is the brief descriptions of the commands you typed before

```
root@Goorm:/workspace/container name# python --virSION
```

Check the version of Python. Is it 2.x version? We will develop to version 3.4

```
root@Goorm:/workspace/ container name # mkdir mysite
```

mkdir is a command that creates a directory. We create a folder named mysite.

```
root@Goorm:/workspace/ container name # cd mysite
```

The cd command is the change directory command. Go to the folder mysite.

```
root@Goorm:/workspace/ container name /mysite#  
apt-get install python-virtualenv
```

It is a command for setting virtual environment that makes it run as 3.X version in the environment that is currently running as 2.x version.

```
root@Goorm:/workspace/ container name /mysite#  
virtualenv --python=python3.4 myvenv
```

We will use python 3.4version as a virtual environment

1.2 Environment setting with Goorm IDE(cont.)

```
root@Goorm:/workspace/container name /mysite# source myenv/bin/activate
```

Activate virtual environment

This command should be run every time you use the cloud IDE container again.

```
(myenv)root@Goorm:/workspace/container name /mysite#
```

```
pip install django whitenoise
```

It is a command to install up to the package. You can install only Django.

```
(myenv)root@Goorm:/workspace/container name /mysite#
```

```
django-admin startproject 'container_name' .
```

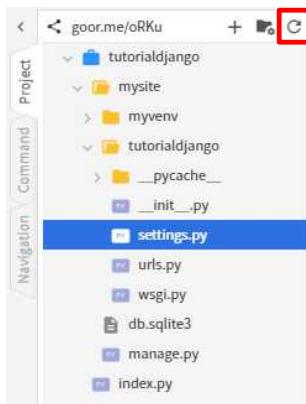
This is the command to start the project in the current folder.

```
(myenv)root@Goorm:/workspace/container name /mysite# python manage.py migrate
```

The Migrate command will be explained later. In a nutshell, put values into DB.

1.2 Environment setting with Goorm IDE(cont.)

Now go to the settings.py file and modify the 28th line as shown below. Then type the following command into the console window.



28 | ALLOWED_HOSTS = ['*']

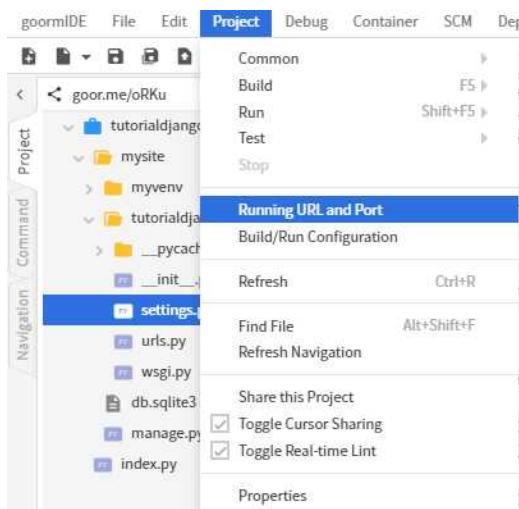
Go to Settings.py file and type the value to '*' on 28th line. It will allow all users to approach.

```
(myvenv)root@Goorm:/workspace/container name/mysite#
```

```
python manage.py runserver 0:80
```

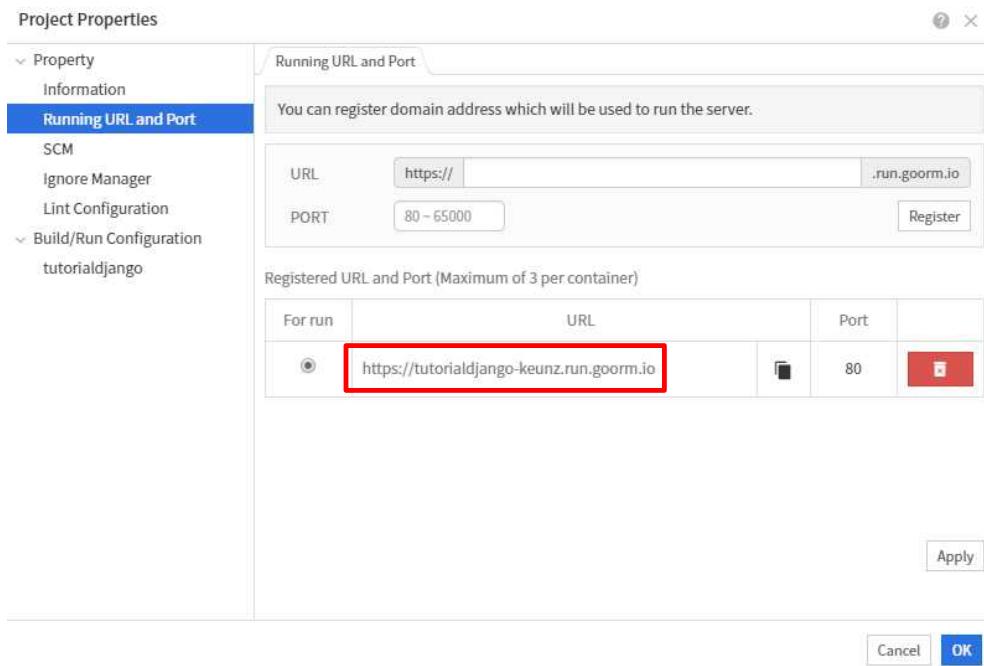
```
(myvenv)root@goorm:/workspace/tutorialdjango/mysite# python manage.py runserver 0:80
Performing system checks...

System check identified no issues (0 silenced).
June 27, 2018 - 01:41:32
Django version 2.0.6, using settings 'tutorialdjango.settings'
Starting development server at http://0:80/
Quit the server with CONTROL-C.
```



1.2 Environment setting with Goorm IDE(cont.)

If you click on the url in the red square, the following page will appear. Your first website is running now!



[django](#)

[View release notes for Django 2.0](#)



The install worked successfully! Congratulations!

You are seeing this page because DEBUG=True is in
your settings file and you have not configured any
URLs.

Chapter 2

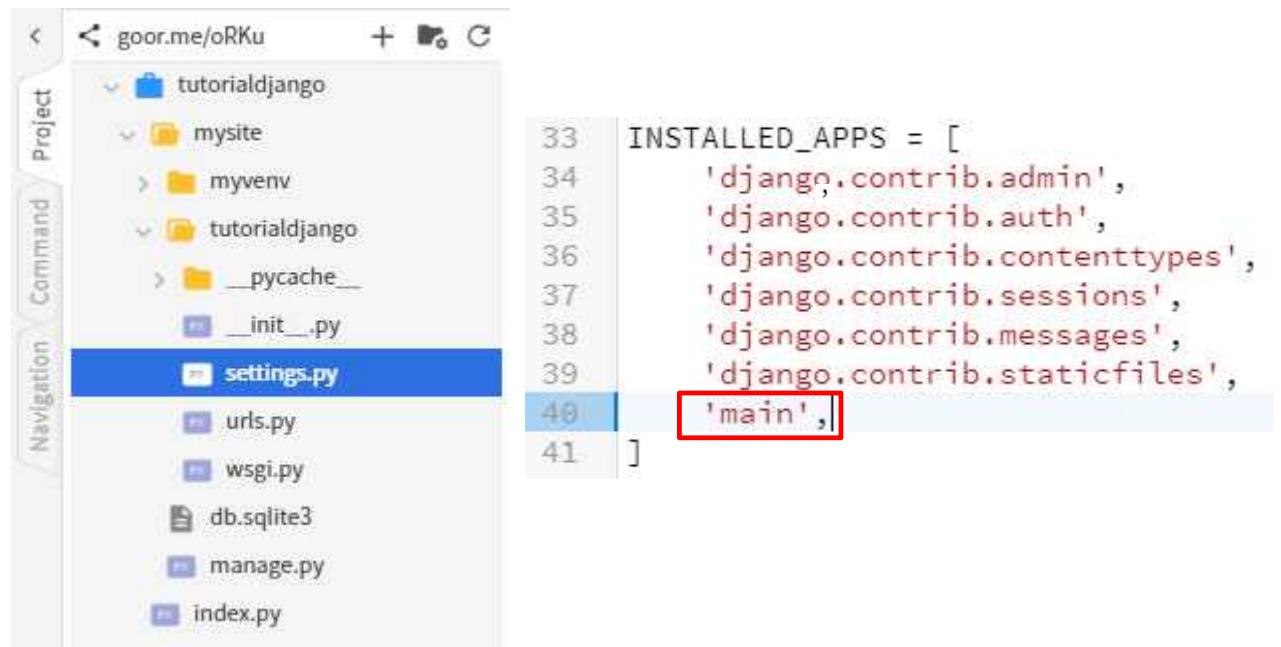
Create Main page on Django

2. Create main page(cont.)

With Django you can create and assemble multiple apps at the same time. Because we are making a simple project, we will create only one app called “main”. To create an application you need to run the command below in the console window. If you do not do this, the app will not start.

```
root@Goorm:/workspace/container name/mysite# python manage.py startapp main
```

```
(myvenv) root@goorm:/workspace/tutorialdjango/mysite# python manage.py startapp main  
(myvenv) root@goorm:/workspace/tutorialdjango/mysite#
```



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

Then find INSTALLED_APPS and add a line like above in the file settings.py to register the application.

* Please check that there is a comma after “main”.

2. Create main page(cont.)

Now we are going to add lines in the urls.py file to map pages and a urls.

First, let's add 'main.view import index' line which means we will use the index function from the view.py file in main folder. We did not declare index function in the view.py file yet, so an error will occur.

And path(' ', index),

means Django will now redirect everything that comes into '(your web site url/domain address)' to the index and we are going to connect the index function to the index.html file on the next page.

The screenshot shows the PyCharm IDE interface. On the left, the Project tool window displays a file tree for a project named 'goor.me/j1Ns'. The 'mysite' directory contains 'main', 'myenv', 'tutorialdjango', '_pycache_', '__init__.py', and 'settings.py'. The 'urls.py' file is selected and highlighted in blue. In the main editor area, the code for 'urls.py' is shown:

```
16 from django.contrib import admin
17 from django.urls import path
18 from main.views import index
19
20 urlpatterns = [
21     path('admin/', admin.site.urls),
22     path('', index)
23 ]
24 
```

Below the code, the path 'mysite > tutorialdjango > urls.py' is indicated.

2. Create main page(cont.)

Now, open the mysite> product> views.py file to create a function called index. As you can see, when you call the function it will return “render” which will render the main/index.html template.

mysite > product > views.py

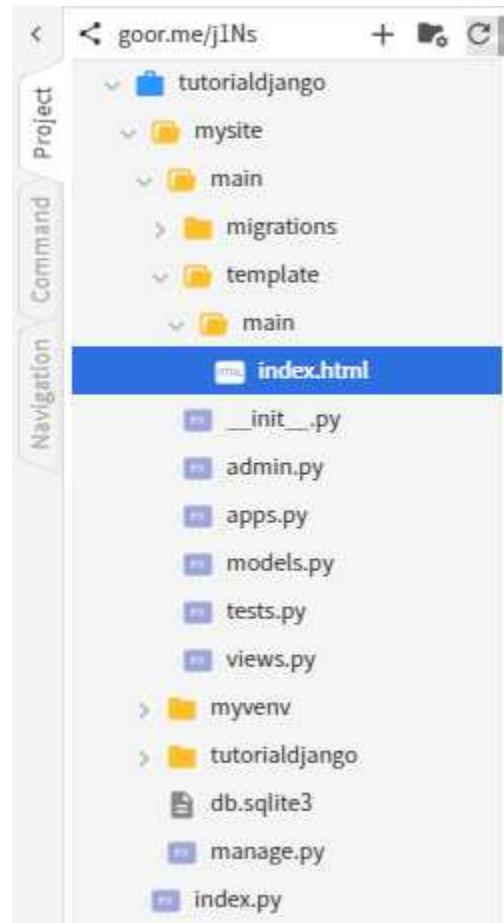
```
1 from django.shortcuts import render
2
3 def index(request):
4     return render(request, 'main/index.html')
```

2. Create main page(cont.)

In the process of connecting Template, Please make **mysite> main> templates> main> index.html** structure.

And then, Please paste codes below to the index.html file to check page loading.

```
1 <html>
2 <head>
3     <title>Django!</title>
4 </head>
5 <body>
6     <h1>Test!</h1>
7 </body>
8 </html>
```



2. Create main page(cont.)

When the web server is running check your website and see how the index.html page looks like.

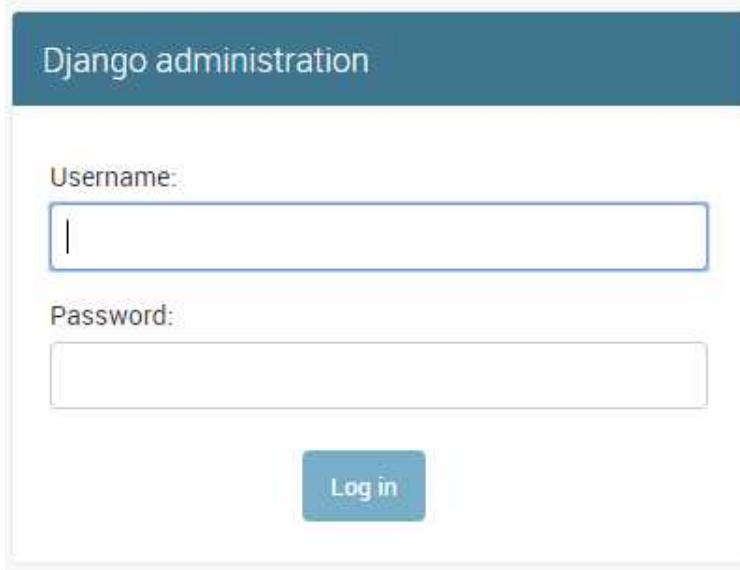
```
(myvenv)root@Goorm:/workspace/container name/mysite#  
python manage.py runserver 0:80
```

```
(myvenv)root@goorm:/workspace/tutorialdjango/mysite# python manage.py runserver 0:80  
Performing system checks...  
  
System check identified no issues (0 silenced).  
June 27, 2018 - 03:00:38  
Django version 2.0.6, using settings 'tutorialdjango.settings'  
Starting development server at http://0:80/  
Quit the server with CONTROL-C.
```



2. Create main page(cont.)

This time, add '[/admin](#)' at the end of your url then press enter, you can see the admin page . You can post, edit, or delete posts here and manage your users as well. But now, you can not log in because you have not created a superuser yet. The 'admin/' part you saw in the urls.py file before is this page. For security reasons, we recommend that you do not leave the admin page open on the web service later.

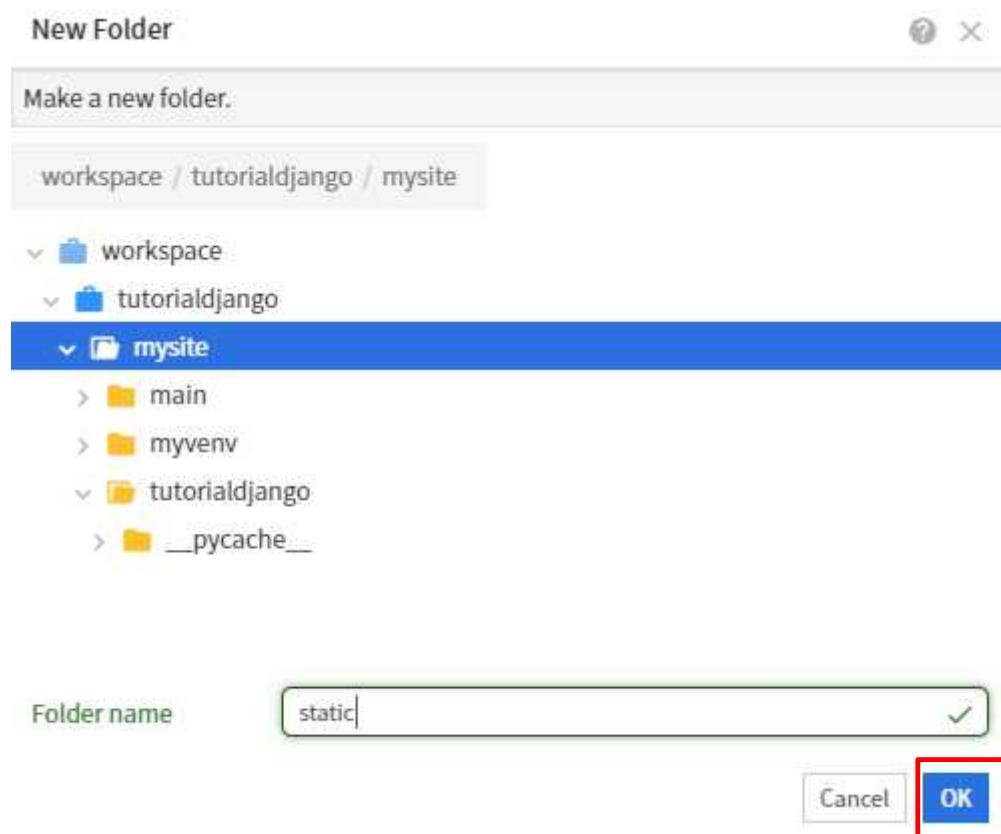


<https://yourURL/admin>

2. Create main page(cont.)

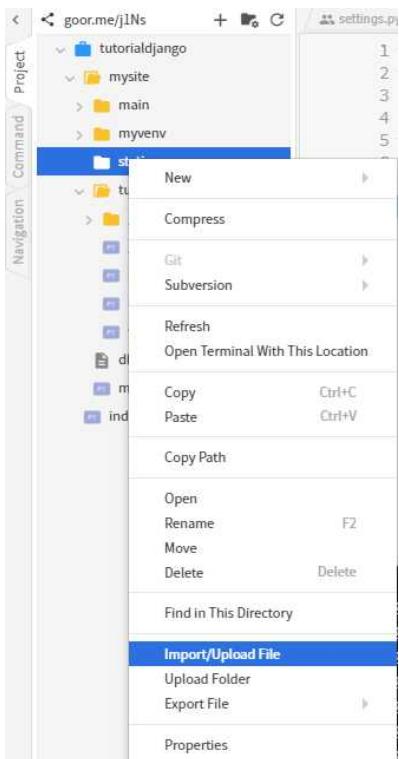
Next, I'll show you how to load images on the main page. Django does not support relative directory that HTML and CSS do support. Let's create a subfolder named 'static' in 'mysite' folder to store static files.

1) Create a new folder



2. Create main page(cont.)

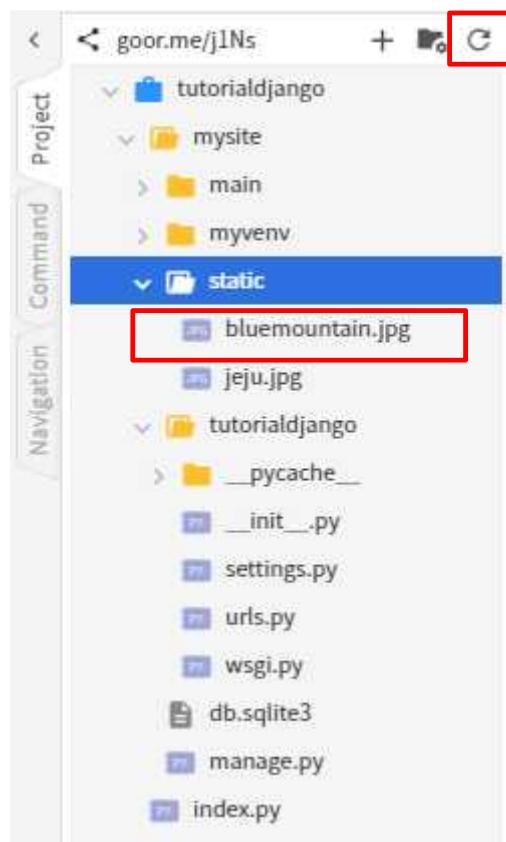
2) File upload



2. Create main page(cont.)

3) File upload confirmation

If the image does not appear, please click Refresh symbol.



2. Create main page(cont.)

The next step is to define a list of directories in the settings.py file. Add codes as below. Please make sure to type a comma at the end.

```
121 STATIC_URL = '/static/'  
122 STATICFILES_DIRS = (  
123     os.path.join(BASE_DIR, 'static'),  
124 )
```

2. Create main page(cont.)

Now open the index.html file and type the code to calls the static file. The { % %} notation is called a template tag.

For more information, please refer Django official document
(<https://docs.djangoproject.com/en/2.0/ref/templates/builtins/>).

```
1 <html>
2   <head>
3     <title>Django!</title>
4   </head>
5   <body>
6     <h1>Test!</h1>
7     {% load staticfiles %}
8     
9   </body>
10 </html>
```

tutorialdjango/mysite/main/templates/main/index.html

2. Create main page(cont.)

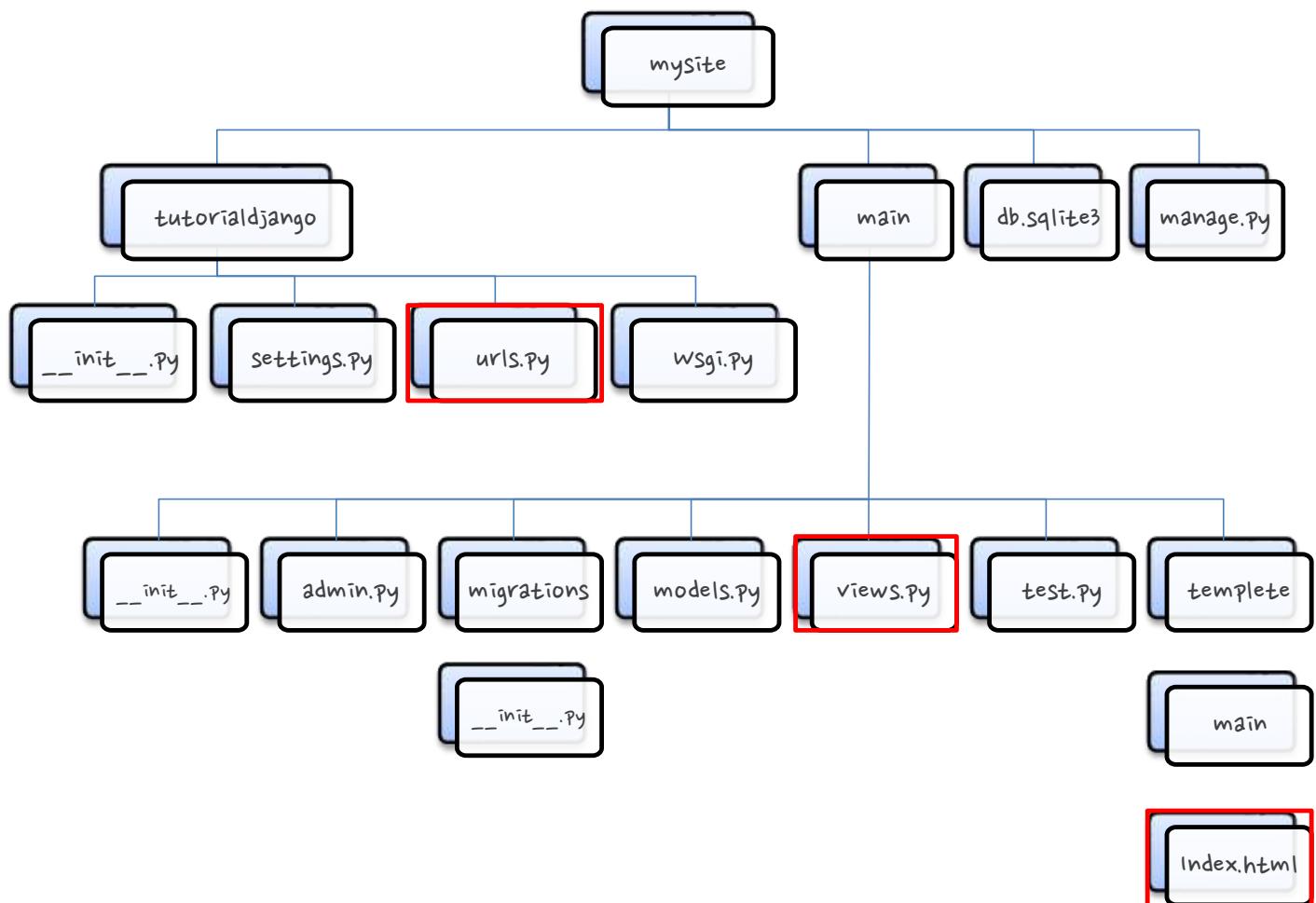
If the server is not running please type `manage.py runserver 0:80` in the console window, press enter and go to **Project > Running URL and Port** menu, then click on your URL. It works!

Test!



2. Create main page(cont.)

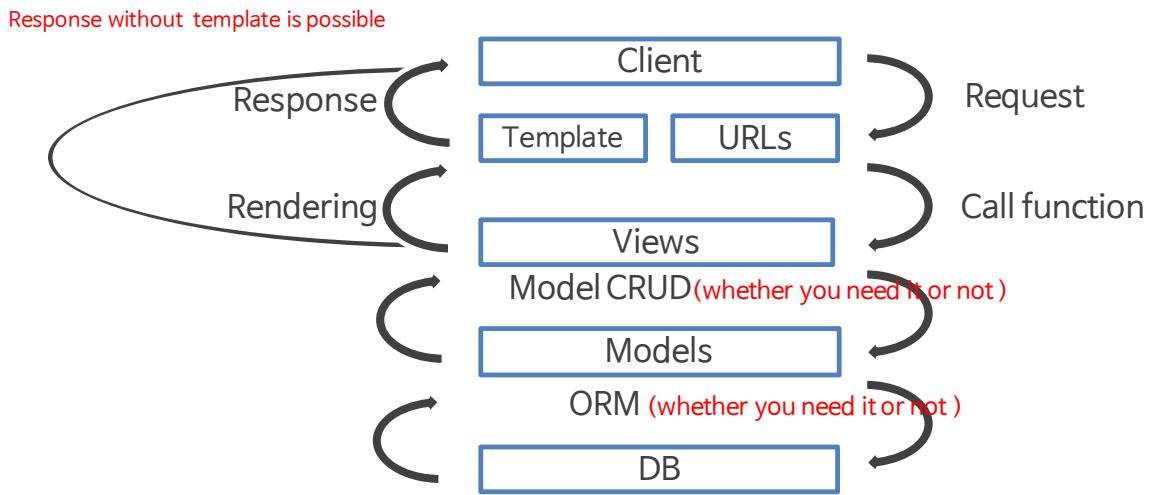
This is the file structure of our project. The red squares files are what we modified.



2. Create main page(cont.)

Django calls the MVC model to MTV. The terminology has changed, but the basic concept is the same. The table below is a diagram of how Django works. Chapter 8 covers this in more detail.

MTV



Model - Python Class connected Data Base

Template - Client View

View - Send data to Django Templates

CRUD refers to the basic data processing functions of most computer software: It stands for Create, Read, Update, and Delete.

Operation	SQL	HTTP	RESTful WS	DDS
Create	INSERT	PUT / POST	POST	write
Read (Retrieve)	SELECT	GET	GET	read / take
Update (Modify)	UPDATE	PUT / POST / PATCH	PUT	write
Delete (Destroy)	DELETE	DELETE	DELETE	dispose

https://en.wikipedia.org/wiki/Create,_read,_update_and_delete

Chapter 3

Create Blog page on Django

3. Create Blog page(cont.)

Now, let's create a blog page that contains postings. First, edit the urls.py file and edit the views.py file as below.

```
16  from django.contrib import admin
17  from django.urls import path
18  from main.views import index, blog
19
20 urlpatterns = [
21     path('admin/', admin.site.urls),
22     path('', index),
23     path('blog/', blog),
24 ]
```

tutorialdjango/mysite/tutorialdjango/urls.py

```
3 def index(request):
4     return render(request, 'main/index.html')
5
6 def blog(request):
7     return render(request, 'main/blog.html')
```

tutorialdjango/mysite/main/views.py

3. Create Blog page(cont.)

Let's create the blog.html file in the [mysite/main/templates/main/blog.html](#) directory. Please type the codes in the file as below

```
1 <html>
2 <head>
3     <title>Django!</title>
4 </head>
5 <body>
6     <h1>Blog Page!</h1>
7 <body>
8 <html>
```

/mysite/main/templates/main/blog.html

3. Create Blog page(cont.)

Enter the command below to connect the server in the console window

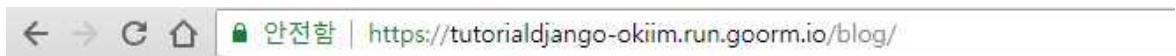
python manage.py runserver 0:80

Go to the **Project > Running URL and Port** in the menu and then click the URL to see if it's working.

```
root@goorm:/workspace/tutorialdjango# cd mysite/
root@goorm:/workspace/tutorialdjango/mysite# source myvenv/bin/activate
(myvenv)root@goorm:/workspace/tutorialdjango/mysite# python manage.py runserver 0:80
Performing system checks...

System check identified no issues (0 silenced).
July 18, 2018 - 02:30:17
Django version 2.0.6, using settings 'tutorialdjango.settings'
Starting development server at http://0:80/
Quit the server with CONTROL-C.
```

Executed page(<https://tutorialdjango-bcrpr.run.Goorm.io/blog/>)



3. Create Blog page(cont.)

Now we are going to create some text fields for each posting. First, create a post name field and a contents field.

tutorialdjango/mysite/main/models.py

```
1 from django.db import models  
2  
3 class Post(models.Model):  
4     postname = models.CharField(max_length=50)  
5     contents = models.TextField()
```

In order to add new model in your database, you need to stop the web server first by pressing the Ctrl + C keys and then type these two commands in.

```
(myvenv)root@Goorm:/workspace/container name/mysite#  
python manage.py makemigrations main
```

```
(myvenv)root@Goorm:/workspace/container name/mysite#  
python manage.py migrate
```

```
(myvenv)root@goorm:/workspace/tutorialdjango/mysite# python manage.py makemigrations main  
Migrations for 'main':  
  main/migrations/0001_initial.py  
    - Create model Post  
(myvenv)root@goorm:/workspace/tutorialdjango/mysite# python manage.py migrate  
Operations to perform:  
  Apply all migrations: admin, auth, contenttypes, main, sessions  
Running migrations:  
  Applying main.0001_initial... OK
```

3. Create Blog page(cont.)

Now we must open the admin.py file and activate the admin page. Then you can change options if needed.

tutorialdjango/mysite/main/admin.py

```
1 from django.contrib import admin  
2 from .models import Post  
3  
4 admin.site.register(Post)
```

3. Create Blog page(cont.)

Now, create a *superuser account* to log in the admin page. *superusers* can delete, edit, and save posts, and manage other users. Go to the console window and type the command “python manage.py createsuperuser” .

```
(myvenv)root@Goorm:/workspace/container name/mysite#  
python manage.py createsuperuser
```

```
(myvenv)root@goorm:/workspace/tutorialdjango/mysite# python manage.py createsuperuser  
Username (leave blank to use 'root'): tutorialdjango  
Email address: tutorialdjango@gmail.com  
Password:  
Password (again):  
Superuser created successfully.
```

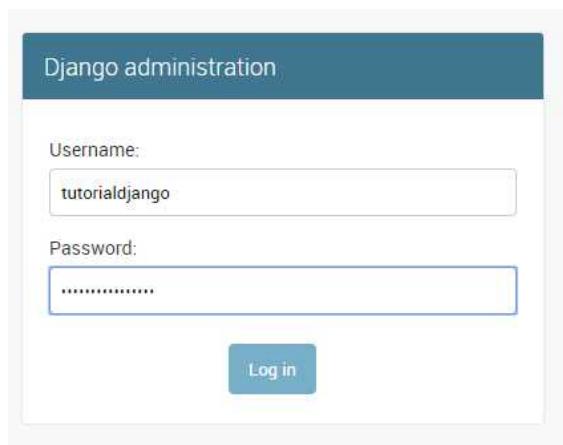
↑ I will create an admin user account.

You can't see the password when you are typing it in the console window.
Then let's start the server over again with this command.

python manage.py runserver 0:80

Can you see the admin dashboard when you log in?

<https://tutorialdjango-bcrpr.run.Goorm.io/admin/>



3. Create Blog page(cont.)

When you are on the dashboard try to add a post like this.

The screenshot shows the Django administration interface. At the top, there's a header bar with "Django administration" on the left and "WELCOME, TUTORIALDJANGO" along with links for "VIEW SITE / CHANGE PASSWORD / LOG OUT" on the right. Below this is the "Site administration" section. A sidebar on the left lists "AUTHENTICATION AND AUTHORIZATION" with "Groups" and "Users" entries, each with "Add" and "Change" buttons. The main area is titled "MAIN" and contains a "Posts" list with "Add" and "Change" buttons. The "Add" button for posts is highlighted with a red box. To the right, there are sections for "Recent actions" (empty) and "My actions" (also empty). In the bottom half of the screenshot, a specific "Add post" form is shown. It has fields for "Postname:" containing "Postname_1" and "Contents:" containing "Contents_1", both of which are also highlighted with red boxes. At the bottom right of the form, there are three buttons: "Save and add another", "Save and continue editing", and a large red-bordered "SAVE" button.

3. Create Blog page(cont.)

If you click on the SAVE button, the title is not shown as what we wrote earlier (postname_1). That is because we didn't define that "postname" is the title. Therefore let's do it: Go to the models.py file and add those codes.

The screenshot shows the Django administration interface. The top bar says "Django administration" and "WELCOME, TUTORIALDJANGO. VIEW SITE / CHANGE PASSWORD / LOG OUT". Below it, the breadcrumb navigation shows "Home > Main > Posts". A green success message box contains the text "The post "Post object (1)" was added successfully." On the left, there is a list of posts with one item selected, "Post object (1)", which is highlighted with a red box. On the right, there is an "ADD POST" button.

mysite/product/models.py

```
1 from django.db import models
2
3 class Post(models.Model):
4     postname = models.CharField(max_length=50)
5     contents = models.TextField()
6
7     def __str__(self):
8         return self.postname
```

3. Create Blog page(cont.)

If you refresh the browser window, you will see the new title that you defined. Now let's create some new postings (posts will be deleted later).

Django administration

WELCOME, TUTORIALDJANGO. VIEW SITE / CHANGE PASSWORD / LOG OUT

Home > Main > Posts

Select post to change

Action: ----- Go 0 of 1 selected

POST

Postname_1

1 post

The screenshot shows the Django admin interface for the 'Posts' model. The top navigation bar includes the site name 'TUTORIALDJANGO' and links for 'VIEW SITE', 'CHANGE PASSWORD', and 'LOG OUT'. Below the navigation, the URL 'Home > Main > Posts' is displayed. A large heading 'Select post to change' is present. Underneath, there is a search bar with dropdown options and a 'Go' button, followed by a message '0 of 1 selected'. A section titled 'POST' contains a single item, 'Postname_1', with a checked checkbox. At the bottom left, it says '1 post'. On the right side, there is a red-bordered 'ADD POST' button.

Add Post

Django administration

WELCOME, TUTORIALDJANGO. VIEW SITE / CHANGE PASSWORD / LOG OUT

Home > Main > Posts > Add post

Add post

Postname:

Contents:

Save and add another Save and continue editing **SAVE**

The screenshot shows the 'Add post' form in the Django admin. The top navigation bar and user information are identical to the previous screenshot. The main title is 'Add post'. The form has two fields: 'Postname' containing 'Postname_2' and 'Contents' containing 'Contents_2'. Both fields have red boxes around them. At the bottom, there are three buttons: 'Save and add another', 'Save and continue editing', and a prominent red-bordered 'SAVE' button.

3. Create Blog page(cont.)

I created three posts. Now, let's put these posts on the blog page. Please modify the views.py file as shown below.

Django administration

WELCOME, TUTORIALDJANGO. VIEW SITE / CHANGE PASSWORD / LOG OUT

Home > Main > Posts

The post "Postname_3" was added successfully.

Select post to change

Action: ----- Go 0 of 3 selected

POST

Postname_3

Postname_2

Postname_1

3 posts

ADD POST +

tutorialdjango/mysite/main/views.py

```
1 from django.shortcuts import render
2 from .models import Post
3
4 def index(request):
5     return render(request, 'main/index.html')
6
7 def blog(request):
8     postlist = Post.objects.all()
9     return render(request, 'main/blog.html', {'postlist':postlist})
```

3. Create Blog page(cont.)

We use the template tag { } to get all the inserted data from database.

For more information on template tags and language please refer here

* Django documentation: <https://docs.djangoproject.com/en/2.0/>

* Templates language :

<https://docs.djangoproject.com/en/2.0/ref/templates/language/>

```
1 <html>
2 <head>
3     <title>Django!</title>
4 </head>
5 <body>
6     <h1>Blog Page!</h1>
7 <table>
8     {% for list in postlist %}
9         <tr>
10            <td>{{list.postname}}</td>
11            <td>{{list.contents}}</td>
12        </tr>
13    {% endfor %}
14 </table>
15 </body>
16 </html>
```

Blog Page!

Postname_1 Contents_1

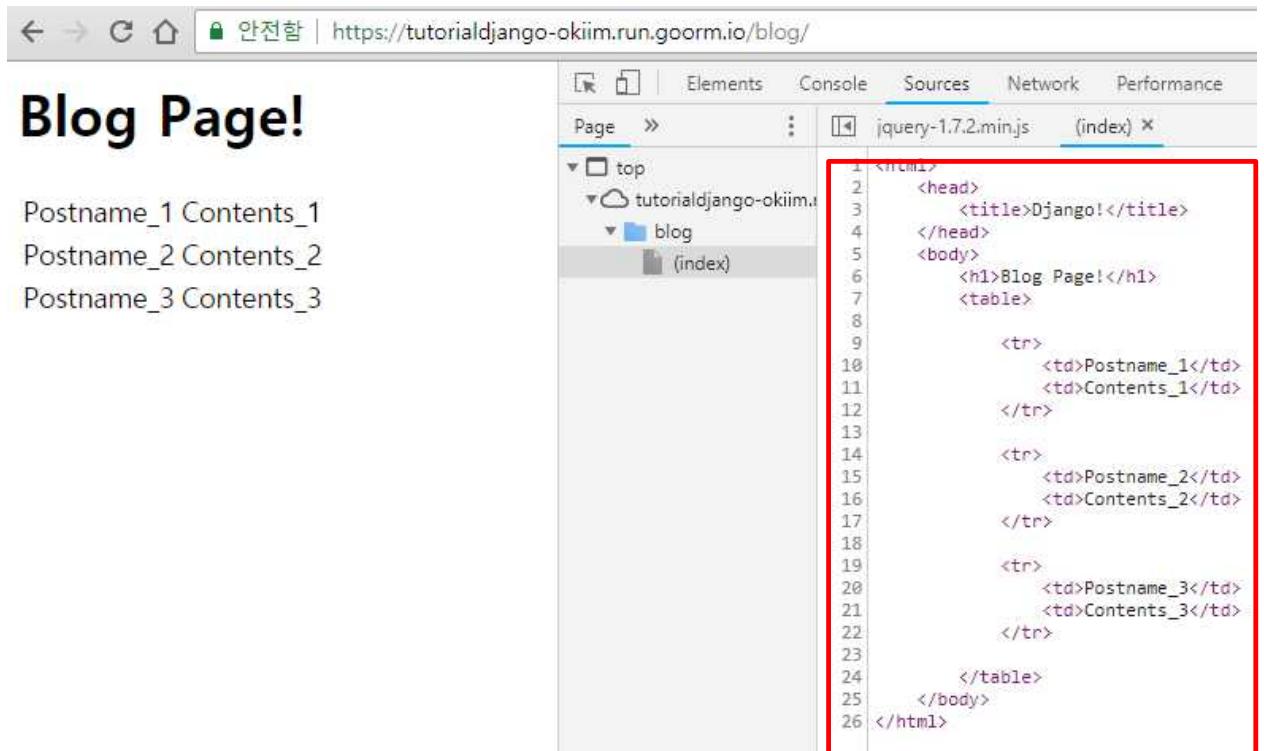
Postname_2 Contents_2

Postname_3 Contents_3

- Executed page -

3. Create Blog page(cont.)

When you check the source code with chrome development mode(F12), we can not see the template language that we created. Because it is shown to the user as a html format.



The screenshot shows a browser window with the URL <https://tutorialdjango-okiim.run.goorm.io/blog>. The page title is "Blog Page!". Below it, there is a table with three rows, each containing a post name and its content. The table has a single column with three rows of data. The entire page content is displayed in the browser's source code view, which is highlighted with a red box. The source code is as follows:

```
1 <html>
2   <head>
3     <title>Django!</title>
4   </head>
5   <body>
6     <h1>Blog Page!</h1>
7     <table>
8       <tr>
9         <td>Postname_1</td>
10        <td>Contents_1</td>
11      </tr>
12
13      <tr>
14        <td>Postname_2</td>
15        <td>Contents_2</td>
16      </tr>
17
18      <tr>
19        <td>Postname_3</td>
20        <td>Contents_3</td>
21      </tr>
22
23    </table>
24
25  </body>
26 </html>
```

- Source code -

Chapter 4

Create Post page with Django

4. Create Post page(cont.)

Every time you come back to work on this project, you'll need to run the command below to make sure you're running the version of Python installed under myvenv/ rather than your system Python. You can tell it's using this because your shell prompt will be prefixed with (myvenv)

```
root@Goorm:/workspace/container name# cd mysite
```

```
root@Goorm:/workspace/container name/mysite# source myvenv/bin/activate
```

```
(myvenv)root@Goorm:/workspace/container name/mysite#
```

If you have been following the command without myvenv, we recommend you delete the container now and start over again.

with (myvenv) prefix or without is a completely different environment.

4. Create Post page(cont.)

Now, We are going to create a detailed posting page for each post that are shown on the blog page.

3. `http://username.run.Goorm.io / post number`

- On the blog page, click on your post to open it.
- Template: `postdetails.html`

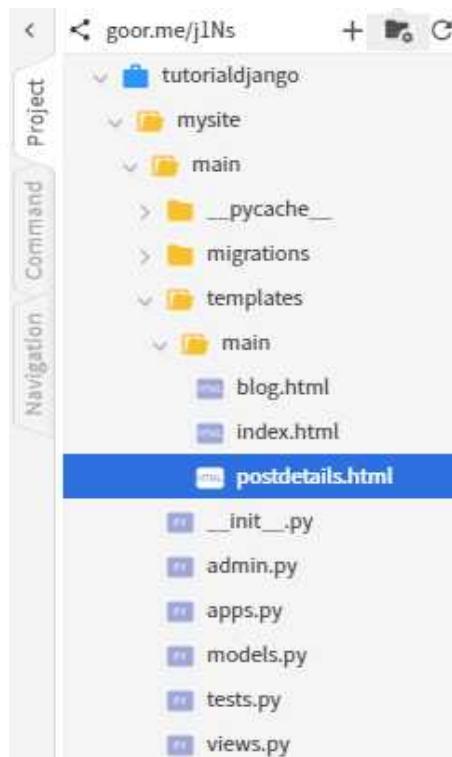
```
16 from django.contrib import admin
17 from django.urls import path
18 from main.views import index, blog, postdetails
19
20 urlpatterns = [
21     path('admin/', admin.site.urls),
22     path('', index),
23     path('blog/', blog),
24     path('blog/<int:pk>', postdetails),
25 ]
tutorialdjango/mysite/tutorialdjango/urls.py
```

```
1 from django.shortcuts import render
2 from .models import Post
3
4 def index(request):
5     return render(request, 'main/index.html')
6
7 def blog(request):
8     postlist = Post.objects.all()
9     return render(request, 'main/blog.html', {'postlist':postlist})
10
11 def postdetails(request, pk):
12     postlist = Post.objects.get(pk=pk)
13     return render(request, 'main/postdetails.html', {'postlist':postlist})
```

`tutorialdjango/mysite/main/views.py`

4. Create Post page(cont.)

As shown in the screen capture below, there are three templates in the main folder. This is the last template. (Designing blog with Bootstrap will be covered in Chapter 7.)



```
1 <html>
2 <head>
3     <title>Django!</title>
4 </head>
5 <body>
6     <h1>Postdetails Page!</h1>
7     <p>{{postlist.postname}}</p>
8     <p>{{postlist.contents}}</p>
9 </body>
10 <html>
```

tutorialdjango/mysite/main/templates/main/postdetails.html

4. Create Post page(cont.)

Add the post number at the end of the url as below, it will show you the page like the following image.

<https://tutorialdjango-okiim.run.Goorm.io/blog/1>



Postname_1

Contents_1

- Executed page -

4. Create Post page(cont.)

We're going to use the onclick event to move to the post detail pages when you click on the post title or contents on the blog page

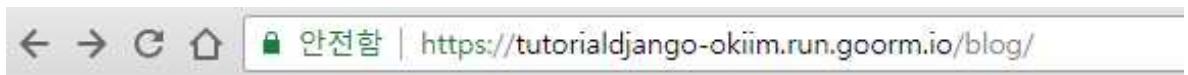
'<https://tutorialdjango-bcrpr.run.Goorm.io/>' Please replace this part with your URL

tutorialdjango/mysite/main/templates/main/blog.html

```
1 <html>
2 <head>
3     <title>Django!</title>
4 </head>
5 <body>
6     <h1>Blog Page!</h1>
7     <table>
8         {% for list in postlist %}
9         <tr onclick="location.href='https://tutorialdjango-bcrpr.run.goorm.io/blog/{{ list.pk }}'">
10            <td>{{list.postname}}</td>
11            <td>{{list.contents}}</td>
12        </tr>
13    {% endfor %}
14 </table>
15 <body>
16 <html>
```

4. Create Post page(cont.)

Click on the post title and contents to go to the post as shown below.

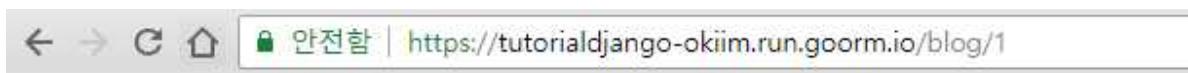


Blog Page!

Postname_1 Contents_1

Postname_2 Contents_2

Postname_3 Contents_3



Postdetails Page!

Postname_1

Contents_1

4. Create Post page(cont.)

Let's create a button that moves from post detail pages to the post list page.
Please add anchor tag “” with url like this in the postdetails.html file.

Container name/mysite/main/templates/main/productdetails.html

```
1 <html>
2   <head>
3     <title>Django!</title>
4   </head>
5   <body>
6     <h1>Postdetails Page!</h1>
7     <p>{{postlist.postname}}</p>
8     <p>{{postlist.contents}}</p>
9     <a href='https://tutorialdjango-okiim.run.goorm.io/blog/'>List(Go back)</a>
10    </body>
11 </html>
```



Postdetails Page!

Postname_1

Contents_1

List(Go back)

4. Create Post page(cont.)

Now let's set ImageField to upload photos in the post.

Go to the tutorialdjango>mysite>main > directory and open the models.py file. If you set null=True here, the board posts will be null.

tutorialdjango/mysite/main/models.py

```
1 from django.db import models
2
3 class Post(models.Model):
4     postname = models.CharField(max_length=50)
5     mainphoto = models.ImageField(blank=True, null=True)
6     contents = models.TextField()
7
8     def __str__(self):
9         return self.postname
```

4. Create Post page(cont.)

Now that you've made the changes above, you should install a library that can process your photos. It is called Pillow and can be installed as follows.

```
(myvenv)root@Goorm:/workspace/container name/mysite#
```

```
pip install pillow==2.9.0
```

```
(myvenv)root@Goorm:/workspace/container name /mysite#
```

```
python manage.py makemigrations
```

```
(myvenv)root@Goorm:/workspace/container name /mysite#
```

```
python manage.py migrate
```

```
(myvenv)root@Goorm:/workspace/container name /mysite#
```

```
python manage.py runserver 0:80
```

```
^C(myvenv)root@goorm:/workspace/tutorialdjango/mysite# pip install pillow==2.9.0
Downloading/unpacking pillow==2.9.0
  Downloading Pillow-2.9.0.tar.gz (9.3MB): 9.3MB downloaded
    Running setup.py (path:/workspace/tutorialdjango/mysite/myvenv/build/pillow/setup.py) egg_info for package pillow

Installing collected packages: pillow
  Running setup.py install for pillow
```

```
(myvenv)root@goorm:/workspace/tutorialdjango/mysite# python manage.py makemigrations
Migrations for 'main':
  main/migrations/0002_post_mainphoto.py
    - Add field mainphoto to post
(myvenv)root@goorm:/workspace/tutorialdjango/mysite# python manage.py migrate
Operations to perform:
  Apply all migrations: admin, auth, contenttypes, main, sessions
Running migrations:
  Applying main.0002_post_mainphoto... OK
(myvenv)root@goorm:/workspace/tutorialdjango/mysite#
```

```
(myvenv)root@goorm:/workspace/tutorialdjango/mysite# python manage.py runserver 0:80
Performing system checks...

System check identified no issues (0 silenced).
May 02, 2018 - 07:38:06
Django version 2.0.4, using settings 'tutorialdjango.settings'
Starting development server at http://0:80/
Quit the server with CONTROL-C.
```

4. Create Post page(cont.)

* Change post

Django administration

WELCOME, TUTORIALDJANGO [VIEW SITE](#) / [CHANGE PASSWORD](#) / [LOG OUT](#)

Home > Main > Posts > Postname_1

Change post

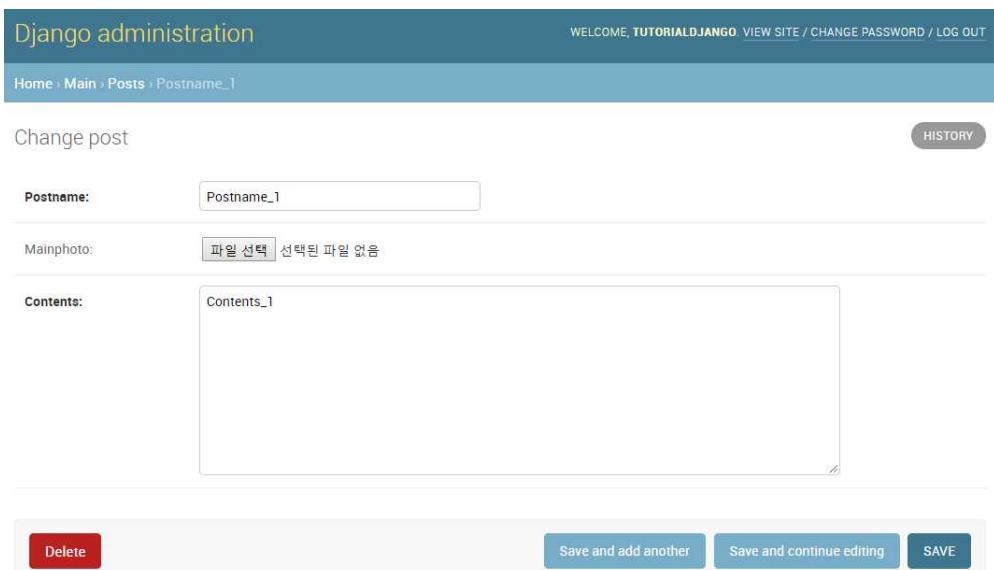
HISTORY

Postname: Postname_1

Mainphoto: 파일 선택 선택된 파일 없음

Contents: Contents_1

Delete Save and add another Save and continue editing SAVE



* Add post

Django administration

WELCOME, TUTORIALDJANGO [VIEW SITE](#) / [CHANGE PASSWORD](#) / [LOG OUT](#)

Home > Main > Posts > Postname_1

Change post

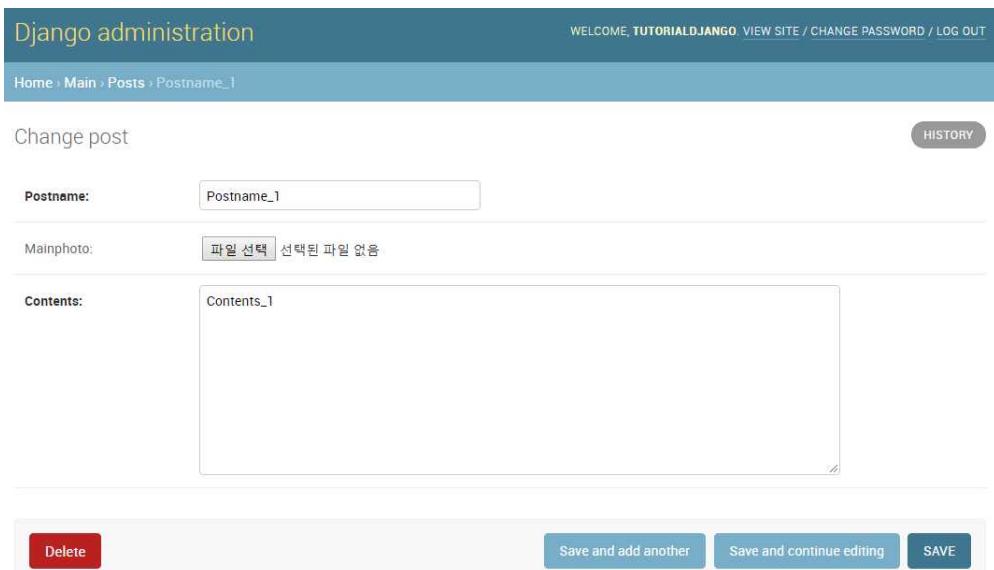
HISTORY

Postname: Postname_1

Mainphoto: 파일 선택 선택된 파일 없음

Contents: Contents_1

Delete Save and add another Save and continue editing SAVE



4. Create Post page(cont.)

Now let's set the path where the photos will be saved. If you do not do this, the file will be saved directly in the mysite directory when you upload photos.

tutorialdjango/mysite/tutorialdjango/settings.py

```
126     MEDIA_ROOT = os.path.join(BASE_DIR, 'media')
127     MEDIA_URL = '/media/'
```

Let's upload 5 Image as below



Fist of all, we well post jeju

Django administration

WELCOME, TUTORIALDJANGO. VIEW SITE / CHANGE PASSWORD / LOG OUT

Home > Main > Posts > Add post

Add post

Postname: Postname_jeju

Mainphoto: 파일 선택 jeju.jpg

Contents: contents_jeju

Save and add another Save and continue editing **SAVE**

The screenshot shows the Django Admin 'Add post' page. The 'Postname' field contains 'Postname_jeju'. The 'Mainphoto' field has a file selected named 'jeju.jpg'. The 'Contents' field contains the text 'contents_jeju'. A red box highlights the 'Postname' field, the 'Mainphoto' field, and the 'Contents' field. At the bottom, there are three buttons: 'Save and add another', 'Save and continue editing', and a large blue 'SAVE' button, which is also highlighted with a red box.

4. Create Post page(cont.)

First, I uploaded a photo of JEJU. Click on the post to check the uploaded photo.

Django administration

WELCOME, TUTORIALDJANGO [VIEW SITE / CHANGE PASSWORD / LOG OUT](#)

Home > Main > Posts

✓ The post "Postname_jeju" was added successfully.

Select post to change [ADD POST +](#)

Action: 0 of 4 selected

<input type="checkbox"/>	POST
<input checked="" type="checkbox"/>	Postname_jeju
<input type="checkbox"/>	Postname_3
<input type="checkbox"/>	Postname_2
<input type="checkbox"/>	Postname_1

4 posts

4. Create Post page(cont.)

I click on image file's name and an error page is showing up that says the page can not be found. The error is caused by the image url that can not be found. So, We have to set up the image url.

Change post

HISTORY

Postname: Postname_jeju

Mainphoto: Currently: jeju_JLmLF8H.jpg [] Clear
Change: 파일 선택 선택된 파일 없음

Contents: contents_jeju

Delete Save and add another Save and continue editing SAVE

Page not found (404)

Request Method: GET

Request URL: http://tutorialdjango-okiim.run.goorm.io/media/jeju_JLmLF8H.jpg

Using the URLconf defined in tutorialdjango.urls, Django tried these URL patterns, in this order:

1. admin/
- 2.
3. blog/
4. blog/<int:pk>

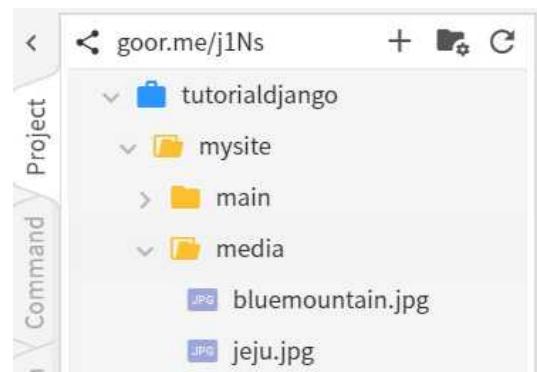
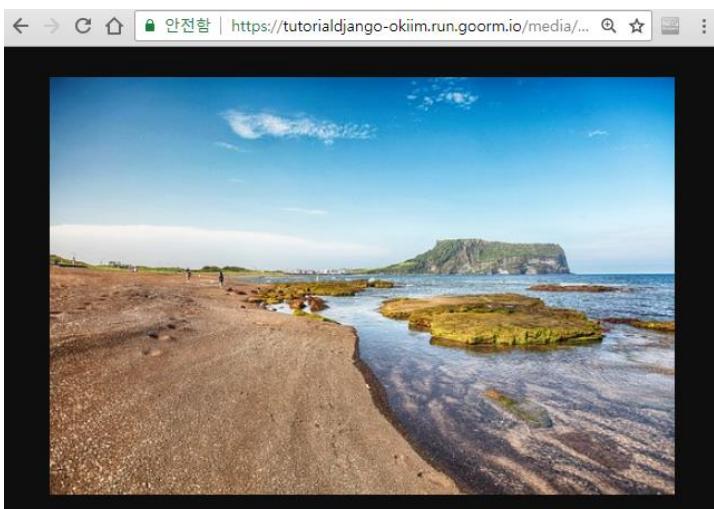
The current path, media/jeju_JLmLF8H.jpg, didn't match any of these.

You're seeing this error because you have DEBUG = True in your Django settings file. Change that to False, and Django will display a standard 404 page.

4. Create Post page(cont.)

Add urlpatterns as shown below in the urls.py file . This will allow you to see uploaded images.

```
16 from django.contrib import admin
17 from django.urls import path
18 from main.views import index, blog, postdetails
19 from django.conf.urls.static import static
20 from django.conf import settings
21
22 urlpatterns = [
23     path('admin/', admin.site.urls),
24     path('',index),
25     path('blog/', blog),
26     path('blog/<int:pk>', postdetails),
27 ]
28
29 urlpatterns +=static(settings.MEDIA_URL, document_root = settings.MEDIA_ROOT)
```



4. Create Post page(cont.)

I'll load the image from the postdetails page. Please change the value in the red square to your website's url. For more information about using files in models, please refer to <https://docs.djangoproject.com/en/2.0/topics/files/>.

tutorialdjango/mysite/main/templates/main/postdetails.html

```
1 <html>
2   <head>
3     <title>Django!</title>
4   </head>
5   <body>
6     <h1>Postdetails Page!</h1>
7     <p>{{postlist.postname}}</p>
8     <p>{{postlist.contents}}</p>
9     {% if postlist.mainphoto %}
10       
11     {% endif %}
12     <a href='https://tutorialdjango-okiim.run.goorm.io/blog/'>List(Go back)</a>
13   </body>
14 </html>
```

- Django official website -

Using files in models

When you use a `FileField` or `ImageField`, Django provides a set of APIs you can use to deal with that file.

Consider the following model, using an `ImageField` to store a photo:

```
from django.db import models

class Car(models.Model):
    name = models.CharField(max_length=255)
    price = models.DecimalField(max_digits=5, decimal_places=2)
    photo = models.ImageField(upload_to='cars')
```

Any `Car` instance will have a `photo` attribute that you can use to get at the details of the attached photo:

```
>>> car = Car.objects.get(name="57 Chevy")
>>> car.photo
<ImageFieldfile: chevy.jpg>
>>> car.photo.name
'cars/chevy.jpg'
>>> car.photo.path
'/media/cars/chevy.jpg'
>>> car.photo.url
'http://media.example.com/cars/chevy.jpg'
```

This object – `car.photo` in the example – is a `File` object, which means it has all the methods and attributes described below.

4. Create Post page(cont.)

Now, you can see the image on the post detail page.

The screenshot shows a web browser window with the following details:

- Address bar: <https://tutorialdjango-okiim.run.goorm.io/blog/4>
- Title: Postdetails Page!
- Text elements:
 - Postname_jeju
 - contents_jeju
- Image: A photograph of a coastal scene with a rocky beach in the foreground, a small rock formation in the middle ground, and a large, prominent rock formation (likely Seongsan Ilchulbong) in the background under a clear blue sky.
- Link: [List\(Go back\)](#)

Chapter 5

Add Comments Box & Tag

5. Add Comments Box

Now let's set it up so we can comment on it. We are going to use a comments plugin called Disqus. You can install Disqus in Django using the following command, but we will use a plugin in a more convenient way.

Install Disqus

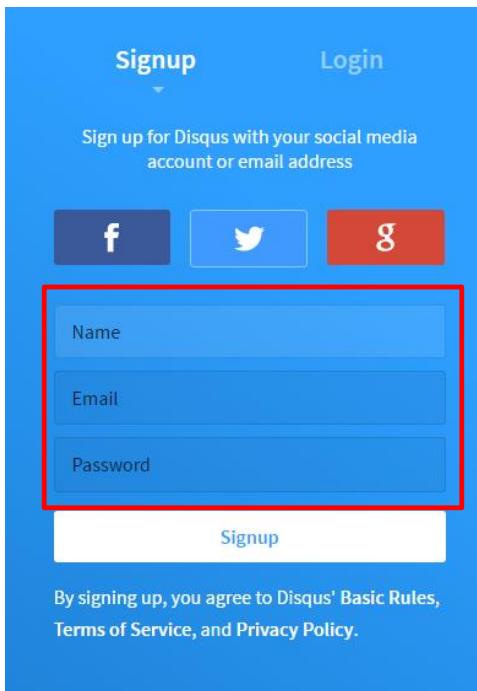
```
(myvenv)root@Goorm:/workspace/container name/mysite# pip install django-disqus
```

The screenshot shows the official Disqus website. At the top, there is a green header bar with a poll about the World Cup. Below the header, the Disqus logo is on the left, followed by navigation links: Features, Pricing, Company, and Blog. To the right are Log In and Get Started buttons, with the Get Started button highlighted by a red rectangle. The main content area features a rocket ship icon and the text: "Disqus helps publishers increase engagement and build loyal audiences". Below this are two buttons: GET STARTED (blue) and LEARN MORE (white). To the right of the LEARN MORE button is a small alien icon.

<https://disqus.com/>

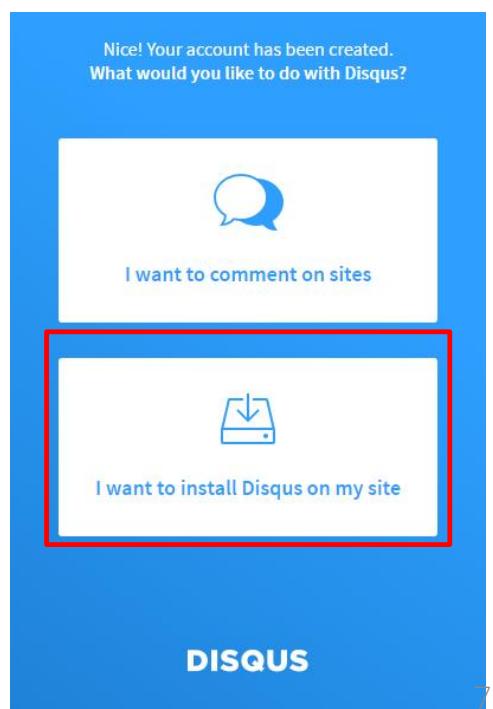
5. Add Comments Box (cont.)

Now let's set it up so that we can comment on it.



Name, E-mail, etc. are easy to manage
Goorm IDE ID, PW enabled

Disqus helps publishers increase engagement and build loyal audiences



5. Add Comments Box (cont.)

Please fill out the following form (it does not matter what you write). We will install it with Basic option.

Create a new site
All fields are required.

Site Owner  cho
To associate a different account as the site owner,
[login with a different account](#)

Organization Your Sites
The organization is the group of sites you own.
[Set an organization name](#).

Website Name
Your unique disqus URL will be: tutorialdjango-3.disqus.com
[Customize Your URL](#)

Category

Language

Create Site

<p>Basic Free, Ads Supported Any number of total daily pageviews Get all of the core Disqus features with the option to configure ads.</p> <ul style="list-style-type: none">✓ Comments Plug-in✓ Advanced Spam Filters✓ Moderation Tools✓ Basic Analytics✓ Configurable Ads <p>Learn more about Disqus' Basic features</p> <p>Subscribe Now</p>	<p>Plus \$40 \$9 per month Under 50,000 total daily pageviews Get everything in Disqus Basic and the option to turn ads on and off.</p> <ul style="list-style-type: none">✓ Everything in Basic✓ Direct Support✓ Ads Optional <p>No credit card required</p> <p>Start Trial (30 days)</p>	<p>Pro \$99 \$89 per month Under 150,000 total daily pageviews Get everything in Disqus Basic, Plus, and extra premium features.</p> <ul style="list-style-type: none">✓ Everything in Plus✓ Priority Support✓ Single Sign-On✓ Advanced Analytics✓ Shadow Banning✓ Timeouts✓ Email Subscriptions <p>Learn more about Disqus' Pro features</p> <p>No credit card required</p> <p>Start Trial (30 days)</p>
<p>Free For small, personal, non-commercial sites who do not run any ads. This plan includes everything in Plus except Direct Email Support.</p> <p>Subscribe Now</p>		

5. Add Comments Box (cont.)

If you click Next, you will see several platforms. Click on the bottom one. Then copy all of the sources as image.1 (you will paste it to your project later).

The screenshot shows the Disqus configuration interface. At the top, there is a message: "I don't see my platform listed, install manually with Universal Code". Below this, a numbered step 1 provides instructions: "Place the following code where you'd like Disqus to load:" followed by a block of JavaScript code. This code includes a comment block for configuration variables and a variable definition for `disqus_config`.

```
<div id="disqus_thread"></div>
<script>

/**
 * RECOMMENDED CONFIGURATION VARIABLES: EDIT AND UNCOMMENT THE SECTION BELOW TO INSERT
 * DYNAMIC VALUES FROM YOUR PLATFORM OR CMS.
 * LEARN WHY DEFINING THESE VARIABLES IS IMPORTANT:
 * https://disqus.com/admin/universalcode/#configuration-variables*/
 */

var disqus_config = function () {
this.page.url = PAGE_URL; // Replace PAGE_URL with your page's canonical URL variable
this.page.identifier = PAGE_IDENTIFIER; // Replace PAGE_IDENTIFIER with your page's unique identifier
variable
}
```

Below the code, there is a "Configure Disqus" section with various settings like Appearance, Color scheme, Typeface, Website Name, Website URL, Comment Policy URL, and Language. A "Complete Setup" button is highlighted with a red box at the bottom right.

5. Add Comments Box (cont.)

Let's put the sources to the project. Open the postdetails.html file and paste the source above the body closing tag </body>.

tutorialdjango/mysite/main/templates/main/postdetails.html

```
1 <html>
2 <head>
3     <title>Django!</title>
4 </head>
5 <body>
6     <h1>Postdetails Page!</h1>
7     <p>{{ postlist.postname }}</p>
8     <p>{{ postlist.contents|linebreaks }}</p>
9     {% if postlist.mainphoto %}
10        
11    {% endif %}
12        <a href='https://tutorialdjango-bcrpr.run.goorm.io/blog/'>목록</a>
13        <div id="disqus_thread"></div>
14 <script>
15 (function() {
16 var d = document, s = d.createElement('script');
17 s.src = 'https://tutorialdjango.disqus.com/embed.js';
18 s.setAttribute('data-timestamp', +new Date());
19 (d.head || d.body).appendChild(s);
20 })();
21 </script>
22 <noscript>Please enable JavaScript to view the <a href="https://disqus
</a></noscript>
23 <body>
24 <html>
```

5. Add Comments Box (cont.)

When the web server is running you can see comments at the bottom of the post detail page.

The screenshot shows a web browser window with the URL <https://tutorialdjango-okiim.run.goorm.io/blog/4>. The title of the page is "Postdetails Page!". Below the title, there are two lines of text: "Postname_jeju" and "contents_jeju". A large image of a coastal landscape with a rocky shore and a prominent green hill in the background is displayed. At the bottom of the page, there is a comment section. It shows "0 Comments" and a comment by "tutorialdjango" with one reply from "cho". There are also "Recommend" and "Share" buttons, and a "Sort by Best" dropdown. A text input field with the placeholder "Start the discussion..." is present. The Disqus logo is visible at the bottom right.

Be the first to comment.

[Subscribe](#)

[Add Disqus to your site](#)

[Disqus' Privacy Policy](#)

DISQUS

5. Add Comments Box (cont.)

Now, I will add the published date and the modified date.

tutorialdjango/mysite/main/models.py

```
1 from django.db import models
2
3 class Post(models.Model):
4     postname = models.CharField(max_length=50)
5     mainphoto = models.ImageField(blank=True, null=True)
6     publishedDate = models.DateTimeField(blank=True, null=True)
7     modifiedDate = models.DateTimeField(blank=True, null=True)
8     contents = models.TextField()
9
10    def __str__(self):
11        return self.postname
```

```
(myvenv)root@goorm:/workspace/tutorialdjango/mysite# python manage.py makemigrations
Migrations for 'main':
 main/migrations/0003_auto_20180628_0554.py
 - Add field modifiedDate to post
 - Add field publishedDate to post
(myvenv)root@goorm:/workspace/tutorialdjango/mysite# python manage.py migrate
Operations to perform:
  Apply all migrations: admin, auth, contenttypes, main, sessions
Running migrations:
  Applying main.0003_auto_20180628_0554... OK
(myvenv)root@goorm:/workspace/tutorialdjango/mysite# █
```

5. Add Comments Box (cont.)

You can see that the posted date field and the modified date field are added for posting.

Django administration

WELCOME, TUTORIALDJANGO. VIEW SITE / CHANGE PASSWORD / LOG OUT

Home › Main › Posts › Postname_1

Change post HISTORY

Postname: Postname_1

Mainphoto: 파일 선택 선택된 파일 없음

PublishedDate: Date: Today | Time: Now |

Note: You are 9 hours ahead of server time.

ModifiedDate: Date: Today | Time: Now |

Note: You are 9 hours ahead of server time.

Contents: Contents_1

Delete Save and add another Save and continue editing SAVE

5. Add Comments Box (cont.)

Let's modify all posts.

Django administration

WELCOME, TUTORIALDJANGO. VIEW SITE / CHANGE PASSWORD / LOG OUT

Home > Main > Posts > Postname_jeju

Change post

HISTORY

Postname: Postname_jeju

Mainphoto: Currently: jeju.jpg Change: 선택된 파일 없음

PublishedDate: Date: 2018-05-02 Today | Time: 08:32:26 Now |

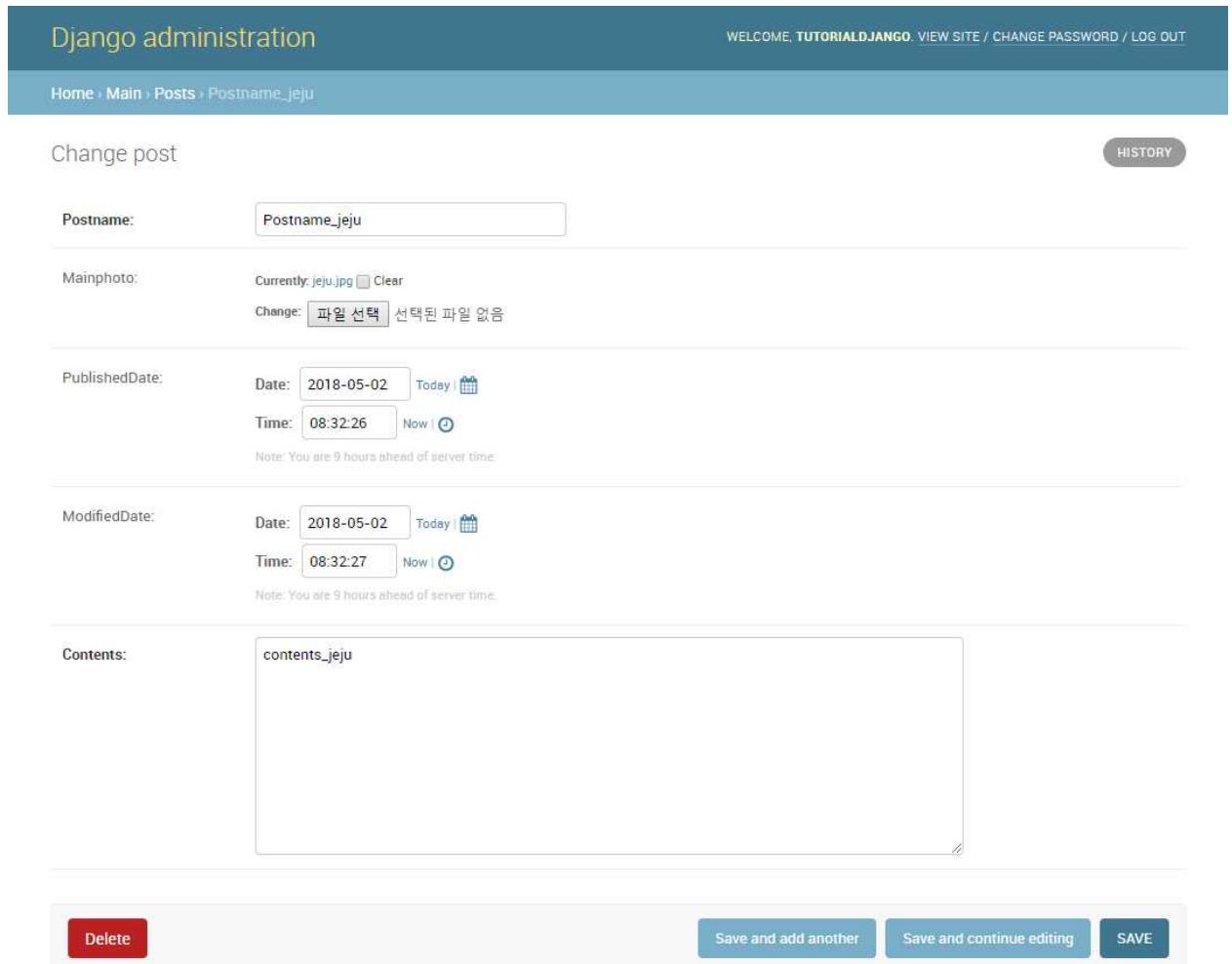
Note: You are 9 hours ahead of server time.

ModifiedDate: Date: 2018-05-02 Today | Time: 08:32:27 Now |

Note: You are 9 hours ahead of server time.

Contents: contents_jeju

Delete Save and add another Save and continue editing SAVE



5. Add Comments Box (cont.)

If you add `modifiedDate` as below you will see them in on the blog page.

tutorialdjango/mysite/main/templates/main/blog.html

```
1 <html>
2 <head>
3     <title>Django!</title>
4 </head>
5 <body>
6     <h1>Blog Page!</h1>
7     <table>
8         {% for list in postlist %}
9             <tr onclick="location.href='https://t
10                 <td>{{list.postname}}</td>
11                 <td>{{list.contents}}</td>
12                 <td>{{list.modifiedDate}}</td>
13             </tr>
14         {% endfor %}
15     </table>
16 </body>
17 <html>
```

<https://tutorialdjango-bcrpr.run.Goorm.io/blog/>

Blog Page!

Postname_1	Contents_1	May 2, 2018, 8:33 a.m.
Postname_2	Contents_2	May 2, 2018, 8:33 a.m.
Postname_3	Contents_3	May 2, 2018, 8:33 a.m.
Postname_jeju	contents_jeju	May 2, 2018, 8:32 a.m.

5. Add Comments Box (cont.)

We will install [Django-taggit](#) to put tag on your pages. You can use tag to search contents and you can create pages for tags only.

```
(myvenv)root@Goorm:/workspace/container name/mysite# pip install django-taggit
```

```
(myvenv)root@goorm:/workspace/tutorialdjango/mysite# pip install django-taggit
Downloading/unpacking django-taggit
  Downloading django_taggit-0.22.2-py2.py3-none-any.whl (45kB): 45kB downloaded
Installing collected packages: django-taggit
  Successfully installed django-taggit
Cleaning up...
```

tutorialdjango/mysite/main/models.py

```
1 from django.db import models
2 from taggit.managers import TaggableManager
3
4 class Post(models.Model):
5     postname = models.CharField(max_length=50)
6     mainphoto = models.ImageField(blank=True, null=True)
7     publishedDate = models.DateTimeField(blank=True, null=True)
8     modifiedDate = models.DateTimeField(blank=True, null=True)
9     contents = models.TextField()
10    tag = TaggableManager(blank=True)
11
12    def __str__(self):
13        return self.postname
```

5. Add Comments Box (cont.)

Let's add [taggit](#) as a application to the setting.py file as below.

```
33 INSTALLED_APPS = [  
34     'django.contrib.admin',  
35     'django.contrib.auth',  
36     'django.contrib.contenttypes',  
37     'django.contrib.sessions',  
38     'django.contrib.messages',  
39     'django.contrib.staticfiles',  
40     'main',  
41     'taggit',  
42 ]
```

tutorialdjango/mysite/tutorialdjango/settings.py

```
(myvenv)root@goorm:/workspace/tutorialdjango/mysite# python manage.py makemigrations  
Migrations for 'main':  
  main/migrations/0004_post_tag.py  
    - Add field tag to post  
(myvenv)root@goorm:/workspace/tutorialdjango/mysite# python manage.py migrate  
Operations to perform:  
  Apply all migrations: admin, auth, contenttypes, main, sessions, taggit  
Running migrations:  
  Applying taggit.0001_initial... OK  
  Applying taggit.0002_auto_20150616_2121... OK  
  Applying main.0004_post_tag... OK
```

5. Add Comments Box (cont.)

Go to the admin page and check if tags field appears at the bottom. We will put the traveled countries names here.

Django administration

WELCOME, TUTORIALDJANGO. [VIEW SITE](#) / [CHANGE PASSWORD](#) / [LOG OUT](#)

Home › Main › Posts › Postname_1

Change post HISTORY

Postname: Postname_1

Mainphoto: Currently: tasmania.jpg [Clear](#)
Change: 선택된 파일 없음

PublishedDate: Date: 2018-06-28 Today |
Time: 05:57:18 Now |

Note: You are 9 hours ahead of server time.

ModifiedDate: Date: 2018-06-28 Today |
Time: 05:57:20 Now |

Note: You are 9 hours ahead of server time.

Contents: Contents_1

Tags: Australia
A comma-separated list of tags.

5. Add Comments Box (cont.)

Enter the Tags, press SAVE, and you will see the tags on the postdetails page.



tutorialdjango/mysite/main/templates/main/postdetails.html

```
1 <html>
2 <head>
3     <title>Django!</title>
4 </head>
5 <body>
6     <h1>Postdetails Page!</h1>
7     <p>{{ postlist.postname }}</p>
8     <p>{{ postlist.contents|linebreaks }}</p>
9     {% if postlist.mainphoto %}
10        
11    {% endif %}
12    <p>{{ postlist.tag.names }}</p>
13    <br>
14    <a href='https://tutorialdjango-bcrpr.run.goorm.io/blog/'>목록</a><br>
15    <div id="disqus_thread"></div>
16 <script>
17 (function() {
18     var d = document, s = d.createElement('script');
19     s.src = 'https://tutorialdjango.disqus.com/embed.js';
20     s.setAttribute('data-timestamp', +new Date());
21     (d.head || d.body).appendChild(s);
22 })();
23 </script>
24 <noscript>Please enable JavaScript to view the <a href="https://disqus.com
25 </a></noscript>
26 </body>
27 </html>
```

5. Add Comments Box (cont.)

The tag is shown with the phrase Query Set.

Postdetails Page!

Postname_1

Contents_1



<QuerySet ['Australia']>

[List](#)([Go back](#))

0 Comments

tutorialdjango

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5. Add Comments Box (cont.)

If you use “for loop” you can have multiple tags shown. Now we will use only one tag so put 0 at the end of the tag list.

```
1 <html>
2   <head>
3     <title>Django!</title>
4   </head>
5   <body>
6     <h1>Postdetails Page!</h1>
7     <p>{{postlist.postname}}</p>
8     <p>{{postlist.contents}}</p>
9     {% if postlist.mainphoto %}
10       
11     {% endif %}
12     <p>{{postlist.tag.names.0}}</p>
13     <a href='https://tutordjango-okiim.run.goorm.io/blog/'>List</a>(Go back)</a>
14
```

Postdetails Page!

Postname_1

Contents_1



Australia

[List\(Go back\)](#)

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Chapter 6

Design blog with bootstrap & Deploy

6.1. Bootstrap Introduction

6.2. Bootstrap Download

6.3. Create a Template

6.4. Bootstrap Basic

6.5. Finishing touches

with template code examples

6.6. Deployment

TUTORIAL 6.1

Bootstrap Introduction

Bootstrap is a web framework. It's easy to think of a framework as a comprehensive set of components that you can use to get results quickly with minimal effort.

Bootstrap is optimized for the user's point of view, regardless of whether it looks like a big monitor screen or a small screen like a mobile phone. This site is tailored to the user's point of view and is called a responsive site. Bootstrap is optimized to build a responsive site.

Bootstrap is pre-designed with HTML, CSS, form, button, table, navigator. In Bootstrap 4, most of the tags used in bootstrap 3 are still used, but many have changed, so you should study the new version.

You can find a tutorial on bootstrap 4 at <https://www.w3schools.com/bootstrap4/>. For more information, check out the official Bootstrap homepage at <https://getbootstrap.com/docs/4.1/content/reboot/>.

TUTORIAL 6.2

Bootstrap Download

You can download bootstrap 4 at the <https://getbootstrap.com/>

* It is not necessary to download in this tutorial.

- Bootstrap Homepage in English: [https://getbootstrap.com/\(v4\)](https://getbootstrap.com/(v4))

The screenshot shows the official Bootstrap website homepage. At the top is a dark purple navigation bar with a white 'B' logo, 'Home', 'Documentation', 'Examples', 'Themes', 'Expo', and 'Blog' links. To the right are social media icons for GitHub, Twitter, and LinkedIn, and a 'Download' button. The main content area has a light gray background. On the left, the word 'Bootstrap' is written in a large, purple, sans-serif font. Below it is a short paragraph: 'Build responsive, mobile-first projects on the web with the world's most popular front-end component library.' To the right is a large, stylized purple icon consisting of three overlapping rounded rectangles, each featuring a white 'B'. At the bottom left is a small gray box containing a red 'St' logo and text: 'Students and Teachers, save up to 60% on Adobe Creative Cloud. ads via Carbon'.

TUTORIAL 6.3

Create a Template

The default template was created using CDN(Content delivery network / content distribution network). CDN allows you to use it without downloading it.

```
1  <!doctype html>
2  <html lang="ko">
3      <head>
4          <!-- Required meta tags -->
5          <meta charset="utf-8">
6          <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">
7
8          <!-- Bootstrap CSS -->
9          <link rel="stylesheet"
10             href="https://stackpath.bootstrapcdn.com/bootstrap/4.1.0/css/bootstrap.min.css"
11             integrity="sha384-q8i/X+965DzO0rT7abK41JStQIAqVgRVzbzo5smXKp4YfRvH+8abTE1Pi6jizo"
12             crossorigin="anonymous">
13
14      <title>Hello, world!</title>
15
16      <!-- Optional JavaScript -->
17      <!-- jQuery first, then Popper.js, then Bootstrap JS -->
18      <script src="https://code.jquery.com/jquery-3.3.1.slim.min.js"
19             integrity="sha384-q8i/X+965DzO0rT7abK41JStQIAqVgRVzbzo5smXKp4YfRvH+8abTE1Pi6jizo"
20             crossorigin="anonymous"></script>
21      <script src="https://cdnjs.cloudflare.com/ajax/libs/popper.js/1.14.0/umd/popper.min.js"
22             integrity="sha384-cs/chFZiN24E4KMATLdqvsezGxaGsi4hLG0z1Xwp5UZB1LY//20VyM2taTB4QvJ"
23             crossorigin="anonymous"></script>
24      <script src="https://stackpath.bootstrapcdn.com/bootstrap/4.1.0/js/bootstrap.min.js"
25             integrity="sha384-uefMccjFJAIV6A+rW+L4AHf99KvxDjWSu1z9VI8SKNVmz4sk7buKt/6v9KI65qnm"
26             crossorigin="anonymous"></script>
27
28  </body>
29 </html>
```

001.html

If you want to use the latest version of CDN, search for the ‘bootstrap cdn’ on google and go to <https://www.bootstrapcdn.com/>. The latest version is 4.

Google

bootstrap cdn

전체 이미지 동영상 뉴스 도서 더보기 설정 도구

검색결과 약 15,600,000개 (0.50초)

Quick Start · BootstrapCDN by StackPath
https://www.bootstrapcdn.com/ ▾ 이 페이지 번역하기
The recommended CDN for Bootstrap, Font Awesome and Bootswatch.

Quick Start

v4.1.1

Complete CSS

https://stackpath.bootstrapcdn.com/bootstrap/4.1.1/css/bootstrap.min.css

Click to copy

▼

Complete JavaScript

https://stackpath.bootstrapcdn.com/bootstrap/4.1.1/js/bootstrap.bundle.min.js

Click to copy

▼

Complete JavaScript Bundle

https://stackpath.bootstrapcdn.com/bootstrap/4.1.1/js/bootstrap.bundle.min.js

Click to copy

▼

TUTORIAL 6.4

Bootstrap Basic

Within the body tag `<body> /</body>`, there are script tags `<script> /</script>` for the CDN . The code for designing the templates is added as shown below in the red square.

```
1  <!doctype html>
2  <html lang="ko">
3      <head>
4          <!-- Required meta tags -->
5          <meta charset="utf-8">
6          <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">
7
8          <!-- Bootstrap CSS -->
9          <link rel="stylesheet"
10             href="https://stackpath.bootstrapcdn.com/bootstrap/4.1.0/css/bootstrap.min.css"
11             integrity="sha384-9gVQ4dYFwwWSjIDZnLEWnxCjeSWFphJiwGPXR1jddIhOegiu1Fw05qRGvFX0dJZ4"
12             crossorigin="anonymous">
13
14      <title>Hello, world!</title>
15  </head>
16  <body>
17      <h1>Hello, world!</h1>
18
19      <!-- Optional JavaScript -->
20      <!-- jQuery first, then Popper.js, then Bootstrap JS -->
21      <script src="https://code.jquery.com/jquery-3.3.1.slim.min.js"
22          integrity="sha384-q8i/X+965Dz0rT7abK41JStQIAqVgRVzbzo5smXKp4YfRvH+8abTE1Pi6jizo"
23          crossorigin="anonymous"></script>
24      <script src="https://cdnjs.cloudflare.com/ajax/libs/popper.js/1.14.0/umd/popper.min.js"
25          integrity="sha384-CSchZL24E4KMATLdqdvsezGxaGsi4hLG0z1Xwp5UZB1LY//20VyM2taTB4QvJ"
26          crossorigin="anonymous"></script>
27      <script src="https://stackpath.bootstrapcdn.com/bootstrap/4.1.0/js/bootstrap.min.js"
28          integrity="sha384-uefMccjFJAIV6A+rW+L4AHf99KvxDjWSu1z9VI8SKNVmz4sk7buKt/6v9KI65qnm"
29          crossorigin="anonymous"></script>
30
31  </body>
32 </html>
```

6.4 Bootstrap Grids

Bootstrap grid system provides the quick and easy way to create responsive website layouts. Bootstrap grid system allows to display up to 12 columns in a row across the page and if you do not want to use all 12 column individually, you can group the columns together to create wider columns

Bootstrap grid examples

Basic grid layouts to get you familiar with building within the Bootstrap grid system.

Five grid tiers

There are five tiers to the Bootstrap grid system, one for each range of devices we support. Each tier starts at a minimum viewport size and automatically applies to the larger devices unless overridden.

.col-4	.col-4	.col-4
.col-sm-4	.col-sm-4	.col-sm-4
.col-md-4	.col-md-4	.col-md-4
.col-lg-4	.col-lg-4	.col-lg-4
.col-xl-4	.col-xl-4	.col-xl-4

Three equal columns

Get three equal-width columns **starting at desktops and scaling to large desktops**. On mobile devices, tablets and below, the columns will automatically stack.

.col-md-4	.col-md-4	.col-md-4
-----------	-----------	-----------

Three unequal columns

Get three columns **starting at desktops and scaling to large desktops** of various widths. Remember, grid columns should add up to twelve for a single horizontal block. More than that, and columns start stacking no matter the viewport.

.col-md-3	.col-md-6	.col-md-3
-----------	-----------	-----------

Two columns

Get two columns **starting at desktops and scaling to large desktops**.

.col-md-8	.col-md-4
-----------	-----------

Full width, single column

No grid classes are necessary for full-width elements.

6.4 Bootstrap Grids (cont.)

After type the codes as shown below in the `<body> </body>` tag , save it as 002.html and execute it. The red squares represent defined grid in one row. Four small size columns are grouped in one medium column so you can see three columns.

Code

```
14      <div class="container">
15          <div class="row">
16              <div class="col-md-4">
17                  <h1>hello</h1>
18              </div>
19
20              <div class="col-md-4">
21                  <h1>hello</h1>
22              </div>
23
24              <div class="col-md-4">
25                  <h1>hello</h1>
26              </div>
27          </div>
28      </div>
```

Output

hello

4컬럼

hello

4컬럼

hello

4컬럼

002.html

6.4 Bootstrap Grids (cont.)

We use `.col-md-4` class and `.col-md-6` class to compare how grid looks like with each class

Code

```
14      <div class="container">          26      <div class="row">
15        <div class="row">            27        <div class="col-md-6">
16          <div class="col-md-4">          28          <h1>hello</h1>
17            <h1>hello</h1>            29        </div>
18          </div>            30        <div class="col-md-6">
19          <div class="col-md-4">          31          <h1>hello</h1>
20            <h1>hello</h1>            32        </div>
21          </div>            33        </div>
22          <div class="col-md-4">          34        </div>
23            <h1>hello</h1>            25      </div>
```

Output

```
hello hello hello
hello hello
```

003.html

6.4 Bootstrap Grids (cont.)

As you can see the official website below, it is also possible to subdivide one column unit.

Two columns with two nested columns

Per the documentation, nesting is easy—just put a row of columns within an existing column. This gives you two columns **starting at desktops and scaling to large desktops**, with another two (equal widths) within the larger column.

At mobile device sizes, tablets and down, these columns and their nested columns will stack.

.col-md-8		.col-md-4
.col-md-6	.col-md-6	

Mixed: mobile and desktop

The Bootstrap v4 grid system has five tiers of classes: xs (extra small), sm (small), md (medium), lg (large), and xl (extra large). You can use nearly any combination of these classes to create more dynamic and flexible layouts.

Each tier of classes scales up, meaning if you plan on setting the same widths for xs and sm, you only need to specify xs.

.col-12 .col-md-8		.col-6 .col-md-4
.col-6 .col-md-4	.col-6 .col-md-4	.col-6 .col-md-4
.col-6		.col-6

Mixed: mobile, tablet, and desktop

.col-12 .col-sm-6 .col-lg-8		.col-6 .col-lg-4
.col-6 .col-sm-4	.col-6 .col-sm-4	.col-6 .col-sm-4

<https://getbootstrap.com/docs/4.1/examples/grid/>

6.4 Bootstrap Grids (cont.)

If you want to use all 12 columns as a 100% of the screen width in a grid system, use the **.container-fluid** class.

You can remove padding and margin between columns by applying the **.no-gutters** class to the **.row** class.

Below is a description of the grid system on the official website. **Nestable** means you can split a column.

We will use **md** class mainly .

	Extra small ≤576px	Small ≥576px	Medium ≥768px	Large ≥992px	Extra large ≥1200px
Max container width	None (auto)	540px	720px	960px	1140px
Class prefix	.col-	.col-sm-	.col-md-	.col-lg-	.col-xl-
# of columns	12				
Gutter width	30px (15px on each side of a column)				
Nestable	Yes				
Column ordering	Yes				

<https://getbootstrap.com/docs/4.1/layout/grid/>

6.4 Bootstrap Grids (cont.)

If offset is used, the space of one column is floated. There are many ways to give margins, but we mainly use the offset method and the Flexbox method to sort columns. Only offset is covered here.

Code

```
14      <div class="container">
15        <div class="row">
16          <div class="col-md-5 offset-md-1"> 23      <div class="row">
17            <h1>hello</h1>                  24      <div class="col-md-6">
18          </div>                          25      <h1>hello</h1>
19          <div class="col-md-5">           26      </div>
20            <h1>hello</h1>                 27      <div class="col-md-6">
21          </div>                         28      <h1>hello</h1>
22        </div>                         29      </div>
23      </div>                         30      </div>
24    </div>                         31      </div>
```

Output

hello	hello
hello	hello

003.html

TUTORIAL 6.5

Finishing touches with template code examples

When you extract **templates.zip** file there will be index.html, blog.html, postdetails.html files in it. If you run index.html, you can see the map with some markers. Coordinates are required for each post in order to draw a marker on the map. **LatLng** in the codes below is latitude and longitude.

Next, we will use the template tag to insert coordinates of each post.

```
285     function initMap() {  
286  
287         var bluemountain = new google.maps.LatLng(-33.3493206,149.7360613);  
288         var jejucityhall = new google.maps.LatLng(33.499597,126.5290653);  
289         var perth = new google.maps.LatLng(-32.0388312,115.4010747);  
290         var sydney = new google.maps.LatLng(-33.8567844,151.213108);  
291         var tasmania = new google.maps.LatLng(-42.200633, 146.643736);
```

Index_001.html

* Download Source Code Examples: www.paullab.co.kr/templates.zip

6.5 Finishing touches with template code examples

Let's add codes as shown below in the `models.py` file.

The official document contains blank and null references.

Official document:

<https://docs.djangoproject.com/en/2.0/ref/models/fields/#django.db.models.FloatField>

```
1 from django.db import models
2 from taggit.managers import TaggableManager
3
4 class Post(models.Model):
5     postname = models.CharField(max_length=50)
6     Lat = models.FloatField(null=True)
7     Lng = models.FloatField(null=True)
8     mainphoto = models.ImageField(blank=True, null=True)
9     publishedDate = models.DateTimeField(blank=True, null=True)
10    modifiedDate = models.DateTimeField(blank=True, null=True)
11    contents = models.TextField()
12    tag = TaggableManager(blank=True)
13
14    def __str__(self):
15        return self.postname
```

`tutorialdjango/mysite/main/models.py`

null

If `True`, Django will store empty values as `NULL` in the database. Default is `False`.

blank

If `True`, the field is allowed to be blank. Default is `False`.

Note that this is different than `null`. `null` is purely database-related, whereas `blank` is validation-related. If a field has `blank=True`, form validation will allow entry of an empty value. If a field has `blank=False`, the field will be required.

Django official documentation about a null & blank part

6.5 Finishing touches with template code examples (cont.)

Type these commands in the console window and execute to apply all migrations.

`python manage.py make migrations`

`python manage.py migrate`

Then let's run the web server.

`python manage.py runserver 0:80`

```
(myvenv)root@goorm:/workspace/tutorialdjango/mysite# python manage.py makemigrations
Migrations for 'main':
 main/migrations/0005_auto_20180504_0204.py
 - Add field Lat to post
 - Add field Lng to post
(myvenv)root@goorm:/workspace/tutorialdjango/mysite# python manage.py migrate
Operations to perform:
 Apply all migrations: admin, auth, contenttypes, main, sessions, taggit
Running migrations:
 Applying main.0005_auto_20180504_0204... OK
```

6.5 Finishing touches with template code examples (cont.)

You can see the fields `Lat` and `Lng` for the geographical coordinates (as shown below) If you have forgotten your ID and password, you can re-create it in the console window.

Django administration

WELCOME, TUTORIALDJANGO. [VIEW SITE](#) / [CHANGE PASSWORD](#) / [LOG OUT](#)

Home > Main > Posts > Postname_1

Change post HISTORY

Postname: Postname_1

Lat:

Lng:

Mainphoto: Currently: tasmania.jpg Change: 선택된 파일 없음

PublishedDate: Date: Today | Time: Now |

Note: You are 9 hours ahead of server time.

ModifiedDate: Date: Today | Time: Now |

Note: You are 9 hours ahead of server time.

Contents: Contents_1

Tags: Australia

A comma-separated list of tags.

6.5 Finishing touches with template code examples (cont.)

Let's put these values below to the Lat field and the Lng field of each post.

bluemountain, latitude -33.3493206, longitude 149.7360613
jejucityhall, latitude 33.499597, longitude 126.5290653
perth, latitude -32.0388312, longitude 115.4010747
sydney, latitude -33.8567844, longitude 151.213108
tasmania, latitude -42.200633, longitude 146.643736

I will put contents from the **lorem ipsum** web site and upload a photo from the template/img folder

lorem ipsum: <https://lipsum.com/>

* I will remove all posts except the 5 below.

Action:	bluemountain	jeju	perth	sydney	tasmania
<input type="checkbox"/>	bluemountain				
<input type="checkbox"/>	jeju				
<input type="checkbox"/>	perth				
<input type="checkbox"/>	sydney				
<input type="checkbox"/>	tasmania				

6.5 Finishing touches with template code examples (cont.)

Now, let's check if the content that we posted is applied to the web site. First, Add the codes to the views.py file as below so that you can use postlist at the index.html. Then, copy the whole codes from the templates/Index_002.html and paste them to the index.html file in your project. The difference between the original index.html file and the index_002.html is shown below.

Then, If you restart the web server, you can see the broken image with the marker as shown below. Next, let's modify the index.html file.

```
4 def index(request):
5     postlist = Post.objects.all()
6     return render(request, 'main/index.html', {'postlist':postlist})
```

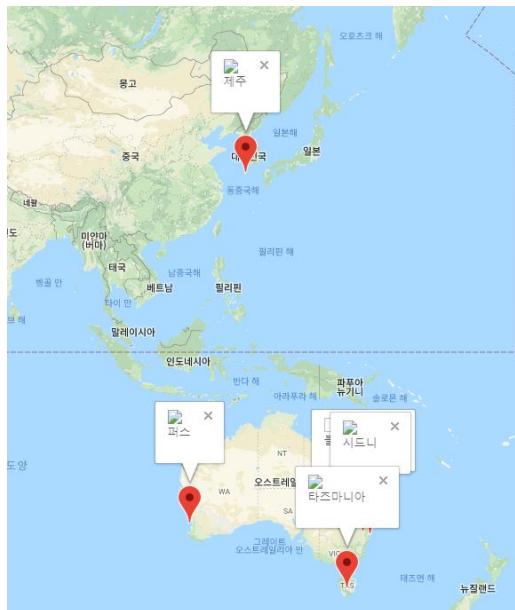
tutorialdjango/mysite/main/views.py

```
285 function initMap() {
286
287     var bluemountain = new google.maps.LatLng(-33.3493206,149.7360613);
288     var jejucityhall = new google.maps.LatLng(33.499597,126.5290653);
289     var perth = new google.maps.LatLng(-32.0388312,115.4010747);
290     var sydney = new google.maps.LatLng(-33.8567844,151.213108);
291     var tasmania = new google.maps.LatLng(-42.200633, 146.643736);
```

```
285 function initMap() {
286     {% for list in postlist %}
287         var {{list.postname}} = new google.maps.LatLng({{list.Lat}},{{list.Lng}});
288     {% endfor %}
```

Index.html

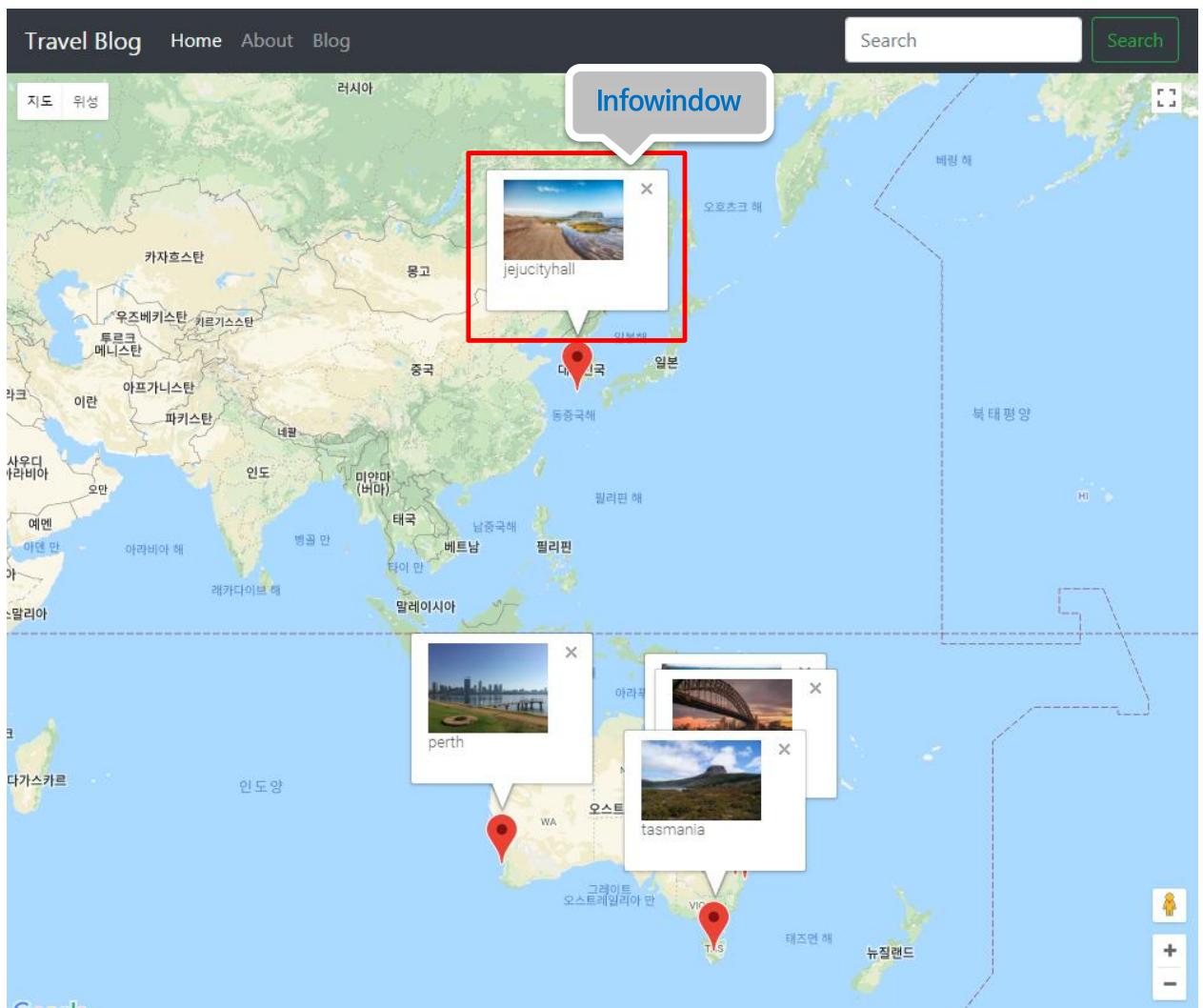
Index_002.html



If you can not see this page restart the web server

6.5 Finishing touches with template code examples (cont.)

Let's use template tag `{% %}, {}` to put a photo to a [Infowindow](#) which is in the red square of each post. If you click on a photo, the blog page will change to the post detail page.



6.5 Finishing touches with template code examples (cont.)

Then, copy the entire codes from the [templates/index_003.html file](#) and paste them to the [index.html](#) file in your project.

Index.html

[Index_003.html](#)

6.5 Finishing touches with template code examples (cont.)

Now, Let's modify the blog.html file. Just copy the whole codes from the templates/blog.html file and paste them to the blog.html file in your project. The Most important part of those codes is as shown below (from the line 161 to the line 180).

Find the anchor tag `` and put your url in the red square as below.

```
{% for list in postlist %}  
<div class="col-md-4">  
  <div class="card mb-4 box-shadow">  
    {% if list.mainphoto %}  
      <a href="https://tutorialdjango-bcrpr.run.goorm.io/blog/{{ list.pk }}/"></a>  
    {% endif %}  
    <div class="card-body">  
      <p class="card-text">{{list.postname}}</p>  
      <div class="d-flex justify-content-between align-items-center">  
        <div class="btn-group">  
          <button type="button" class="btn btn-sm btn-outline-secondary">View</button>  
          <button type="button" class="btn btn-sm btn-outline-secondary">Edit</button>  
        </div>  
        <small class="text-muted">9 mins</small>  
      </div>  
    </div>  
  </div>  
<% endfor %>
```

Put your url here instead of this.

blog.html

6.5 Finishing touches with template code examples (cont.)

I run the web server and execute the project's url. When you click on each photo here, the blog page will be moved to the post detail page.

The screenshot shows a travel blog page with a dark header bar containing the text "Travel Blog", "Home", "About", "Blog", a search input field, and a green "Search" button. Below the header is a grid of five blog post cards, each featuring a thumbnail image, the author's name, a "View" and "Edit" button, and a timestamp of "9 mins".

Post Title	Author	View	Edit	Timestamp
Jeju Island, South Korea	jejucityhall	View	Edit	9 mins
Three Sisters rock formation, Blue Mountains, Australia	bluemountain	View	Edit	9 mins
Perth, Western Australia	perth	View	Edit	9 mins
Sydney Opera House and Harbour Bridge at sunset	sydney	View	Edit	9 mins
Cradle Mountain, Tasmania	tasmania	View	Edit	9 mins

The blog page

6.5 Finishing touches with template code examples (cont.)

Now let's modify `postdetails.html`. Just copy the entire codes from the `templates/blogdetails.html` file and paste them to the `postdetails.html` file in your project. We use template tags `{% %}, {{ }}` to use `postlist`'s element as below (from the line 147 to the line 166).

Find the anchor tag `` and put your url in the red square as below.

```
<div class="blog-post">
  <h2 class="blog-post-title">{{ postlist.postname }}</h2>
  <p class="blog-post-meta">Modified Date : {{ postlist.modifiedDate }}</p>
  <p class="blog-post-meta">Published Date : {{ postlist.publishedDate }}</p>
  {% if postlist.mainphoto %}
    
  {% endif %}

  <p>{{ postlist.contents|linebreaks }}</p>
  <h2>tag</h2>
  <p>{{ postlist.tag.names.0 }}</p>

  <div id="disqus_thread"></div>

</div><!-- /.blog-post -->
<nav class="blog-pagination">
  <a class="btn btn-outline-primary" href="https://tutorialdjango-okiim.run.goorm.io/blog/">
    List</a>
</nav>
```

postdetails.html

6.5 Finishing touches with template code examples (cont.)

Here is the executed post detail page

Travel Blog Home About Blog Search Search

From the Firehose

tasmania

Modified Date : June 28, 2018, 7:42 a.m.

Published Date : June 28, 2018, 5:57 a.m.



About

Etiam porta sem malesuada magna mollis euismod. Cras mattis consectetur purus sit amet fermentum. Aenean lacinia bibendum nulla sed consectetur.

image carousel 1



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tag

Australia

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 Join the discussion...

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 Name

The postdetails page

6.5 Finishing touches with template code examples (cont.)

I did not use [template inheritance](#) for this tutorial. But most of time when you create a web service you will use [template inheritance](#).

Usually, we create templates of menus, headers, footers or etc. And add them in every single page through template inheritance .

Here is a template inheritance example from the official document.

year_archive.html inherits **base.html**.

```
mysite/templates/base.html
{%
    load static %
}
<html>
<head>
    <title>{{ block title }}{% endblock %}</title>
</head>
<body>
    
    {{ block content }}{% endblock %}
</body>
</html>

mysite/news/templates/news/year_archive.html
{%
    extends "base.html" %

    % block title %}Articles for {{ year }}{% endblock %

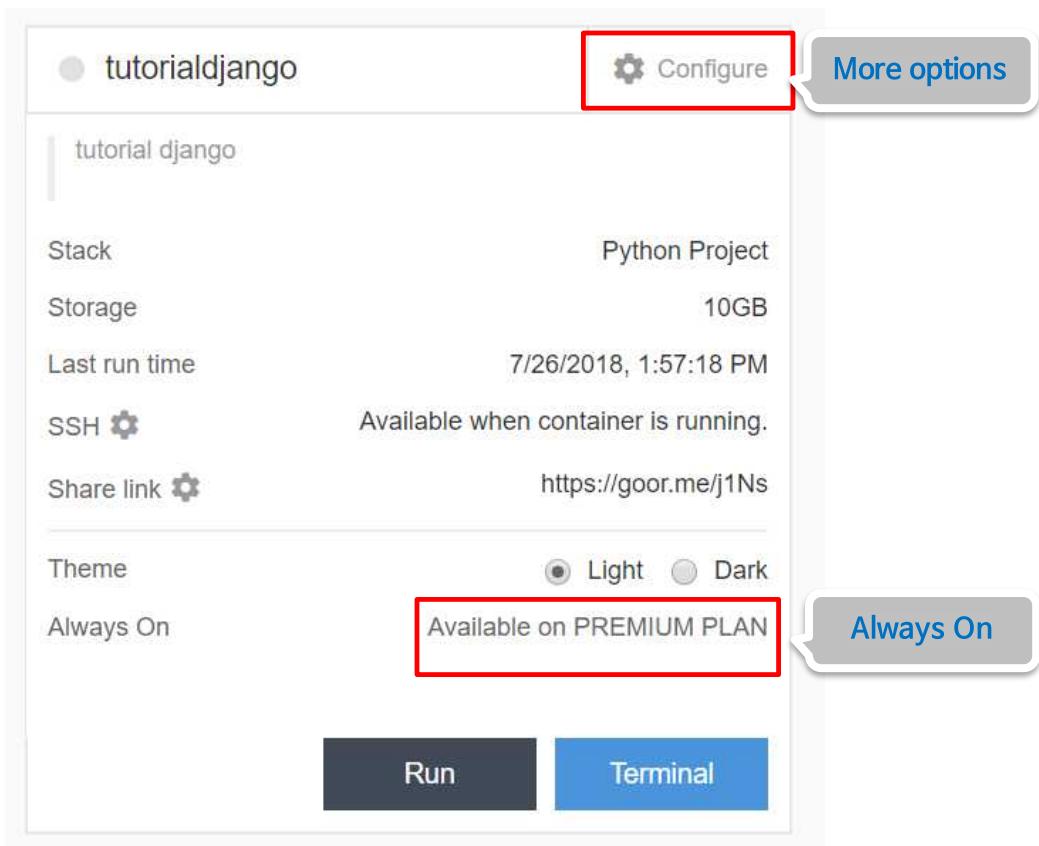
    % block content %
        <h1>Articles for {{ year }}</h1>

        {% for article in article_list %}
            <p>{{ article.headline }}</p>
            <p>By {{ article.reporter.full_name }}</p>
            <p>Published {{ article.pub_date|date:"F j, Y" }}</p>
        {% endfor %}
    % endblock %}
```

TUTORIAL 6.6

Deployment

In the Goorm IDE, the **Always On** option is only available for Premium accounts. **Always On** is activated when you click on it then you can always access your travel blog. Click on the button in the red square to see the detailed options.



6.6 Deployment

Press the  button in the second red square and add the port and the URL which you purchased. In the **Init script** I usually put those two commands as below.

```
source /workspace/container name/mysite/myvenv/bin/activate  
python3 /workspace / container name /mysite/manage.py runserver 0:80
```

Setting

Always-on	Available when purchasing PREMIUM plan
Init Script	Unset Set 1 Script goes here...
Stop this container	Stop All running 'tutorialdjango' container will be stopped.
Delete this container	Delete This action can not be undone!

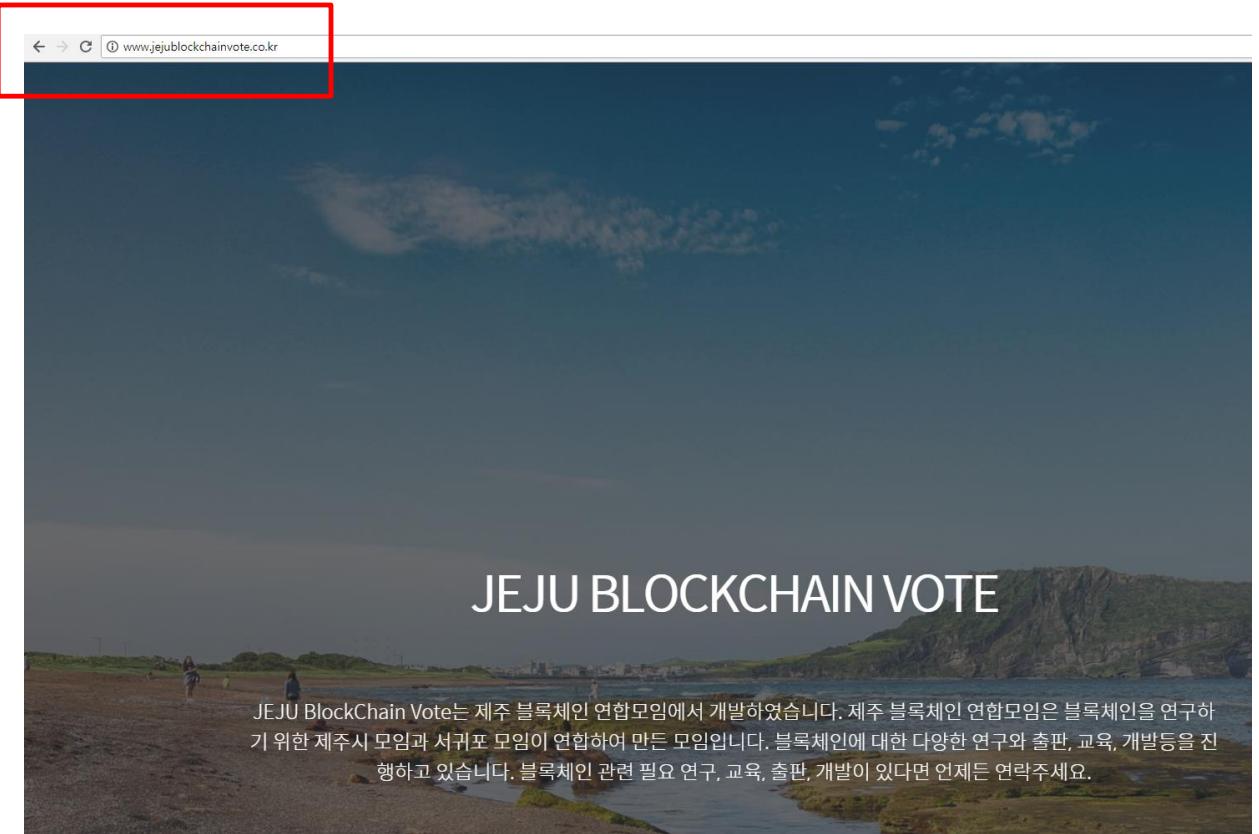
Manage Network Settings

Add URL & Port

Run URL & Port	+ Add Edit
URL	Port
tutorialdjango-okiim.run.goorm.io	80

6.6 Deployment (cont.)

Please verify that the URL is properly linked and working.



JEJU BlockChain Vote는 제주 블록체인 연합모임에서 개발하였습니다. 제주 블록체인 연합모임은 블록체인을 연구하기 위한 제주시 모임과 서귀포 모임이 연합하여 만든 모임입니다. 블록체인에 대한 다양한 연구와 출판, 교육, 개발 등을 진행하고 있습니다. 블록체인 관련 필요 연구, 교육, 출판, 개발이 있다면 언제든 연락주세요.

Chapter 7

Summary

Django

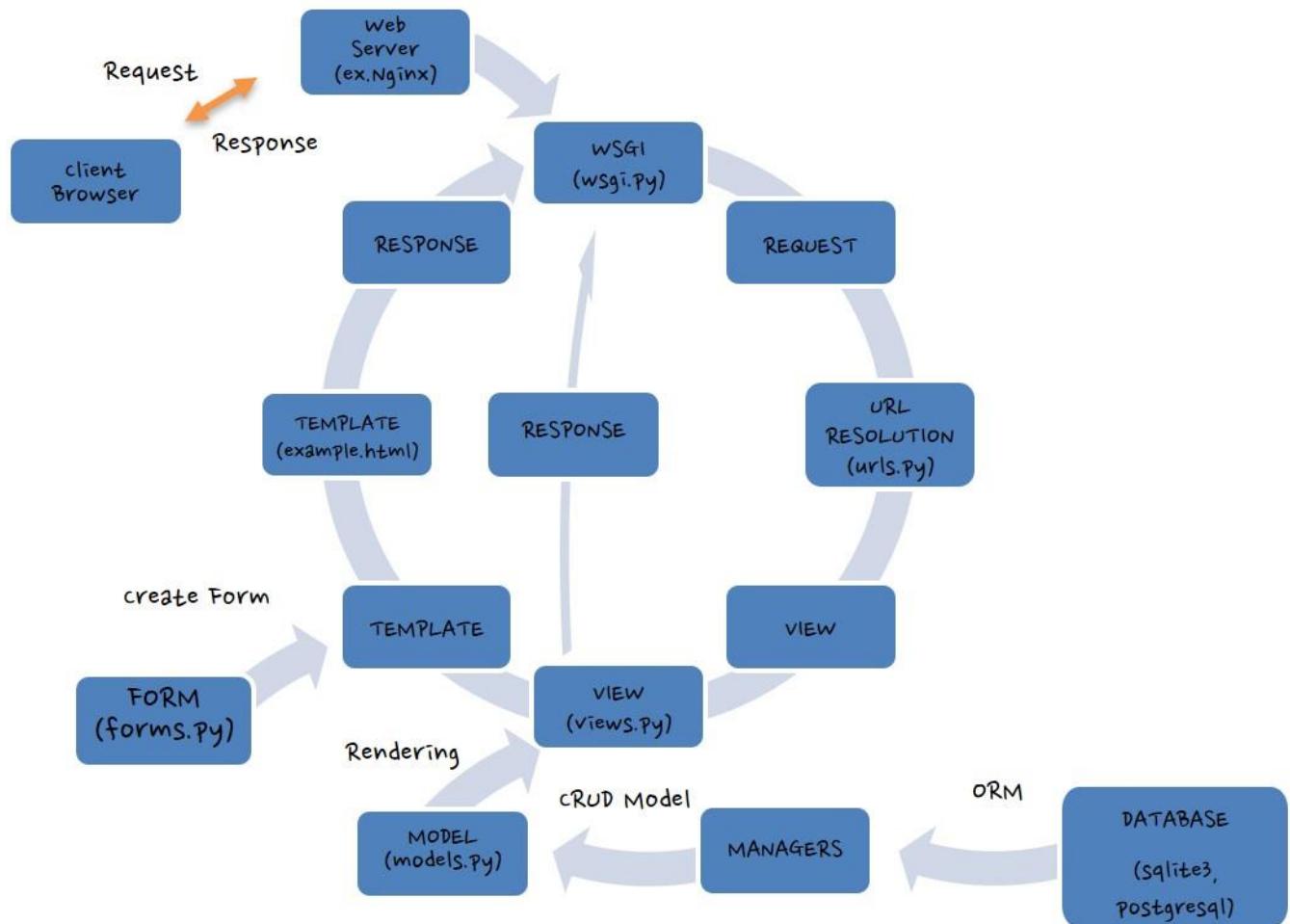
Django is a web framework that came out to develop the web quickly with Python. Most of the features are automated and the official documentation is very detailed, so once you read it, you would not need any other documentation.

We have created a simple travel blog so far with Django so far. But, it is only a small part of Django framework. If you want to use the more powerful features of Django, I recommend reading the official documentation.

Below is a Django architecture diagram and I will summarize briefly for all the steps that we did before. So, please check that you have not missed any of it.

* This book does not cover forms in Django.

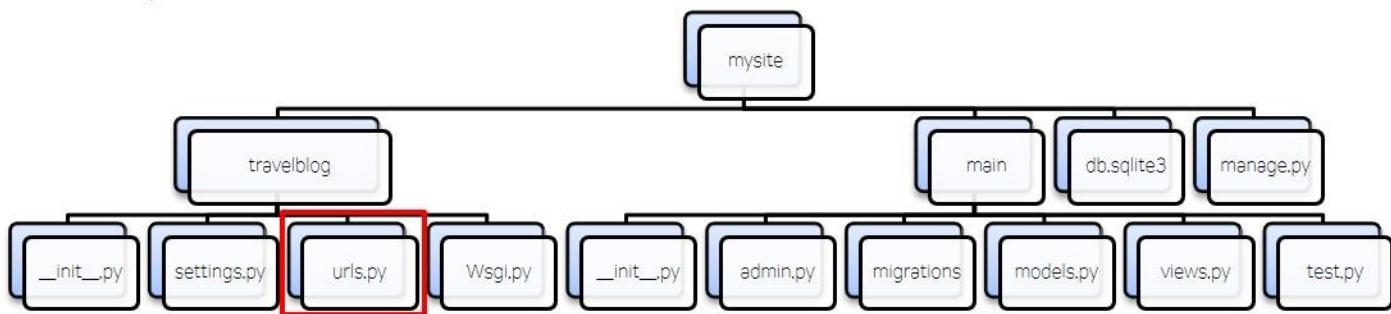
Django



urls.py

Here is a summary or “MAP” of the whole process we’ve been through. This is the order of the modifications of the **Django file system** that we did in the previous chapters (marked by red square). At first I designed URLs. A file specifies which view is called for a given URL pattern.

urls.py



```
from django.contrib import admin
from django.urls import path
from main.views import index, blog, postdetails
from django.conf.urls.static import static
from django.conf import settings

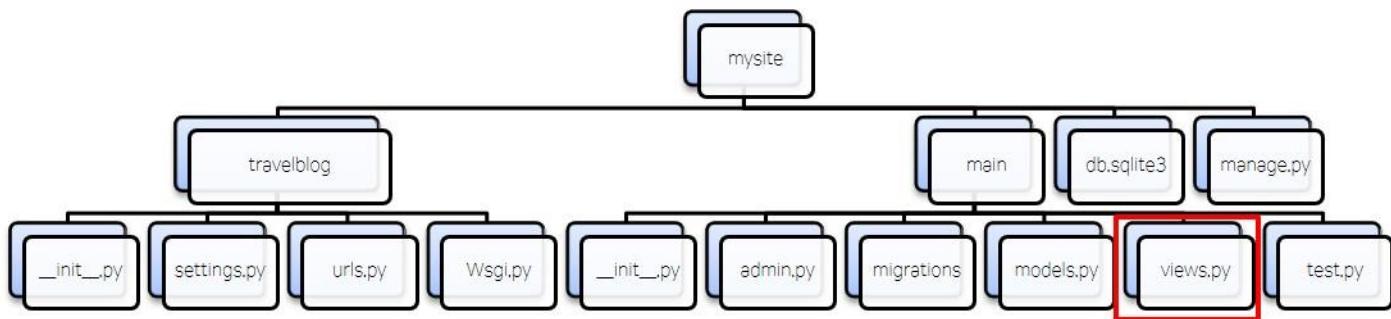
urlpatterns = [
    path('admin/', admin.site.urls),
    path('', index),
    path('blog/', blog),
    path('blog/<int:pk>', postdetails),
]

urlpatterns += static(settings.MEDIA_URL, document_root=settings.MEDIA_ROOT)
```

views.py

If you have finished designing the URL, you can create view functions that are linked to the URLs. Views contains the logic for pages.

views.py



```
from django.shortcuts import render
from .models import Post

def index(request):
    postlist = Post.objects.all()
    return render(request, 'main/index.html', {'postlist':postlist})

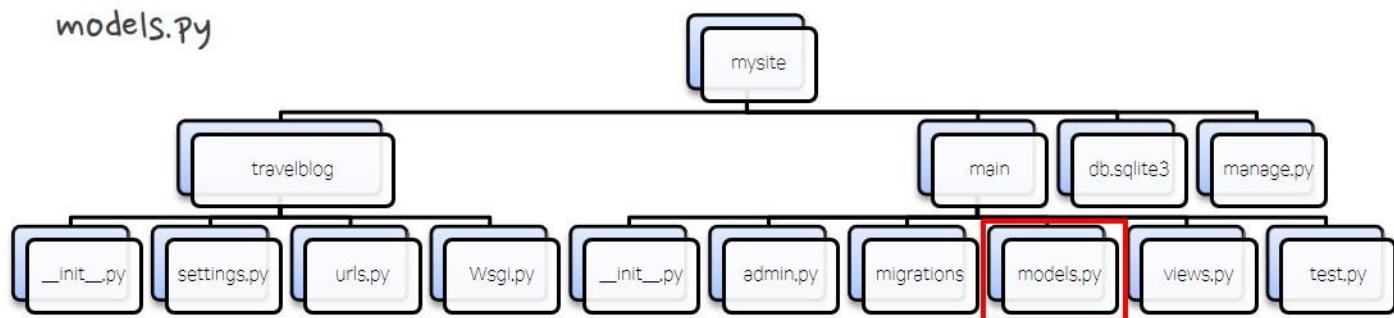
def blog(request):
    postlist = Post.objects.all()
    return render(request, 'main/blog.html', {'postlist':postlist})

def postdetails(request, pk):
    postlist = Post.objects.get(pk=pk)
    return render(request, 'main/postdetails.html', {'postlist':postlist})
```

models.py

Class variables represents a database fields in the model. And you need migrations to keep the database in sync with model objects.

models.py



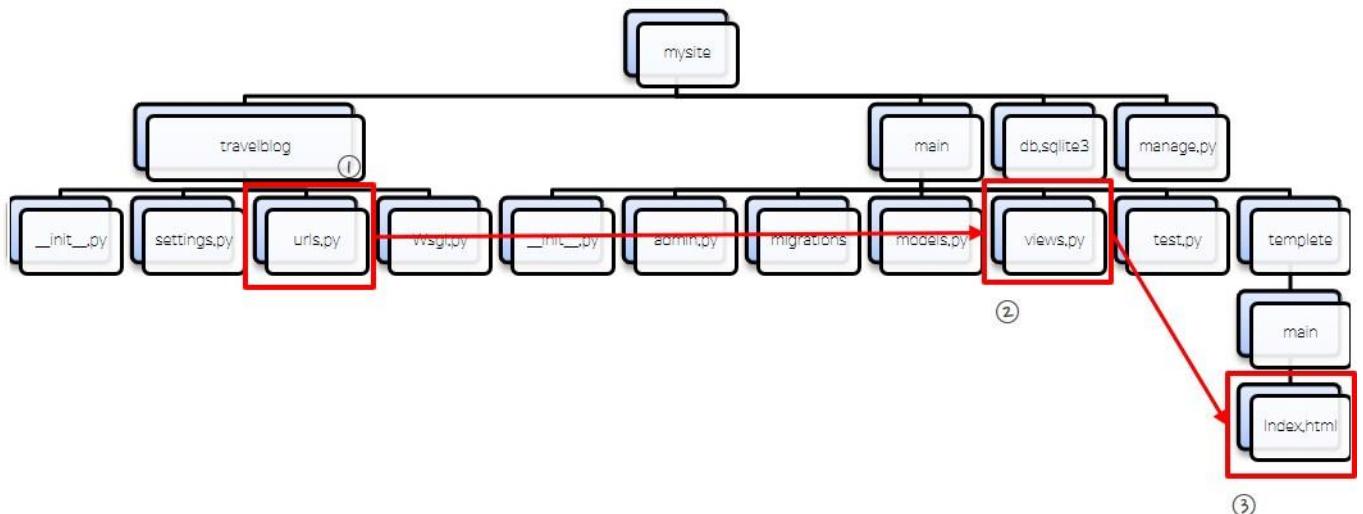
```
from django.db import models
from taggit.managers import TaggableManager

class Post(models.Model):
    postname = models.CharField(max_length=50)
    Lat = models.FloatField(null=True)
    Lng = models.FloatField(null=True)
    mainphoto = models.ImageField(blank=True, null=True)
    publishedDate = models.DateTimeField(blank=True, null=True)
    modifiedDate = models.DateTimeField(blank=True, null=True)
    contents = models.TextField()
    tag = TaggableManager(blank=True)

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

Templates

A template is simply a text file which can be generated in any text-based format(html, csv, etc.) and It describes the design of the pages.



Django Tutorial–Build a Travel Blog with Python and Bootstrap4

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Who should read this tutorial

This book is recommended for those who want to program with Django.

Django is a very popular framework among Python programmers. We hope it will be a good opportunity to expand your perspectives on web development.

About the book

This book is a tutorial on Django that will teach you to use it while creating a simple travel blog with Python. So instead of learning with Django in details,

We focused on a simple way (step by step) to create a web service.

If you just follow along, you will be able to create a web service.

