<https://github.com/Iforgotaboutitin2seconds/Sprint.git>

<https://github.com/users/Iforgotaboutitin2seconds/projects/1>

I assume that you are new team member and are trying to understand stuff before you mess everything up.

Welcome!

If you are not the new team member, it is about time that you remember how to do all these basic stuffs.

Ignore the above, the old documentation maker was not really taking their med.

Anyways, welcome to the team. This documentation will help you setup the basic environment that displays home page.

You will gain basic understanding of Django with python code that:

Create Model.

Detail View and List View.

Create, Edit and Delete actions for your model.

For the new member, just scroll down and read everything in order.

For the old member that come back for review, go to the [Index](#_Index) page.

Ctrl + Left Click on the blue title to jump right into it.

For the people that wonder why all the documents are in comic sans, is because the maker is really in sans.

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# Step 0: Requirements (Windows 11)

Please know that all the documents are made for windows 11 system. If you do not have the windows 11, please let team lead know, he will help you in person or online.

For you to get started, you will need to install the following, Ctrl + Left Click on the blue underlined word to open link:

* [Git](https://git-scm.com/downloads)(If you need help with this, really? Call the team lead)
* [GitHub](https://desktop.github.com/) Desktop(You will need a GitHub account)
* [Python 3](https://www.python.org/downloads/)(Recommend install it from Microsoft Store)
* [Pip](https://phoenixnap.com/kb/install-pip-windows)(If the website is down, please let team lead know)
* [Visual Studio Code](https://code.visualstudio.com/)

# Step 1: Setup the VM(Virtual Environment)

Why do we need the virtual environment?

* Isolates your project's dependencies.
* Manages different Python and library versions.
* Enhances security.
* Simplifies deployment.
* Aligns with best practices in Python development.

What? You think this is too short and want to know more about it? We have Google for a reason you know.

Step 1: Open Terminal.

Press Windows key:

图片包含 键盘, 电脑, 游戏机, 电路

描述已自动生成

Type cmd:

图形用户界面, 应用程序

描述已自动生成

then press Enter key:

蓝色的键盘

低可信度描述已自动生成

You should see the following:

背景图案

中度可信度描述已自动生成

Step 2: Find a location you want.

For example: C:\Users\kenyo\Desktop\Sprint

Step 3: type “cd C:\Users\kenyo\Desktop\Sprint” in your terminal.

图形用户界面, 文本, 应用程序

描述已自动生成

Step 4: Create the Virtual Environment.

Type “python -m venv yourVMname”

When you see this:

文本

描述已自动生成

You done, check the file to see if it is there:

图形用户界面, 文本, 应用程序

描述已自动生成

# Step 2: Use VM to setup Django

Go to your VM’s file and go under Scripts:

C:\Users\kenyo\Desktop\Sprint\myWorld\Scripts

Type “cd C:\Users\kenyo\Desktop\Sprint\myWorld\Scripts”

Active the VM:

Type ”activate”



Once you see it is activated, type “pip install django”

If you see “A new release of pip is available:”

Type “python -m pip install --upgrade pip”

Now the Django has been installed. Time to use it.

# Step 3: Create Django Project!

Type “django-admin startproject projectname” to create a new Django project.

Replace projectname with whatever name you want.

Type “cd projectname” to go to it.

Type “python manage.py migrate” to apply the changes in the project

Type “python manage.py runserver” to run the server.

文本

描述已自动生成

Go to the link <http://127.0.0.1:8000> to see the home page.

图形用户界面, 文本, 电子邮件, 网站

描述已自动生成

Use Ctrl + C in the terminal to close the website.

# Step 4: Visual Studio Code!

Time to use Visual Studio Code:

电脑屏幕截图

描述已自动生成

Go to the folder that has your vm and Django project:

图形用户界面, 文本, 应用程序

描述已自动生成

Go to extension:

图片包含 图标

描述已自动生成

Install Pylance, Python, SQLite Viewer. Use the search bar:

图形用户界面, 文本, 应用程序

描述已自动生成

手机屏幕的截图

描述已自动生成

Find activate.bat file in the folder click on it(1) and then click run(2).

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描述已自动生成

You should be able to see this at the bottom of the vscode.

文本

描述已自动生成

# Checkpoint For Django

At this point, you have understood how to set up the basic environment for Django and a basic homepage for Django.

# Understanding the Model

Before you start, we only created the project, now we need to create the app.

Type “cd yourProjectName”

Type “python manage.py startapp yourAppName” to actually start an app.

You should be able to see the following:

日历

中度可信度描述已自动生成

We will get started with models.py:

You can see model as class in python. Each model has its name, attributes.

For my music app as example:

文本

描述已自动生成

I defined 2 class, song, and playlist. Each of them has name and artist.

CharField, you can see it as string with (max\_length=100).

The “songs = models.ManyToManyField(song, related\_name="playlists")”

This means each playlist can have multiple songs, and each song can belong to multiple playlists.

The “songs = models. OneToOneField (song, related\_name="playlist")”

This means each playlist can have only have 1 song, and that song can only belong to this playlist.

The “songs = models. ForeignKey (song, related\_name="playlists")”

This means 1 song can belong to multiple playlists.

More Details for [Models](https://docs.djangoproject.com/en/4.2/topics/db/models/)

Now that you have created your own models. In order to use them you need to put your app name under the INSTALLED\_APPS in the setting.py:

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描述已自动生成

Once all the above is done, migrate.

Type “python manage.py makemigrations”

Type “python manage.py migrate”

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描述已自动生成

That is what you suppose to see.

# Understanding List and Detailed Views

In short,

List View – used to display a collection of objects, often as a list or a table. This allows you to view multiple instances of a model at once.

Detail View – used to display the detailed information of a single object. Usually used with pk.

pk or Primary Key – it is a unique identifier for each record in the database table. Basically, like the array[7], in this array case, pk is 7.

More about [DetailView and ListView](https://docs.djangoproject.com/en/4.2/ref/class-based-views/generic-display/).

In order to use them:

You need to define them in the view.py,

Put the link into the urls.py.

Define List View:

屏幕上有字

描述已自动生成

Make sure you import the Django.views.generic

And .models

The \* means everything in it. It became useful if you are lazy like me, but not recommended if you want best practice.

I defined 2 views,

I make songListView with ListView as setting and tell it the model we are going to use are song. The ListView automatically get all instances of the song.

I make playListDetailView with DetailView, it gets one playlist.

Now we going to add them into the urls.py.

Note: We are doing good practice. So instead of putting every urls in the project urls.py. we are going to have separate one under the app folder.

文本

描述已自动生成

In the urls.py, add include in the import and add the path to your app.

You are going to create a new urls.py under the app folder:

电脑的屏幕截图

描述已自动生成

Make sure you do the import part first,

With ‘’ it means the default page when people join the website, I set it so it display using songListView from the views.py and has template name of song\_list.

The following is my song\_list template:

电脑萤幕的截图

描述已自动生成

How does it work? See [here](https://docs.djangoproject.com/en/4.2/ref/templates/builtins/).

Now run the server,

Type “python manage.py runserver”:

图片包含 背景图案

描述已自动生成

The above is what you should see.

# How to manage your model with admin

In order to manage your mode with admin.

You must first create an admin, or rather super user.

Type “python manage.py createsuperuser”

And enter what it asks you to do.

Then you going to add your model under the admin.py

文本

描述已自动生成

Once you finish, go to the website and type …/admin in the top bar.  Then press enter key.

You should see this:

图形用户界面, 文本, 应用程序, 电子邮件, 网站

描述已自动生成

After login, you should see:

图形用户界面, 应用程序

描述已自动生成

Now you know how to add change and delete from the admin website.

Congratulations! You finished! You read the DOCUMENTAION! Hopefully you get the basic idea now. if any questions arise, just investigate this first before asking other people.

If you feel the documentation is not good enough, let team lead know, he will make sure the person who make this document gets it.

Anyways, you should be able to jump right into the Django right now. Please note that it is a little bit different if you are getting a project instead of creating one. You will see how it is done in the next document, whenever that is.

I wish you best of luck, and have fun.