**DJANGO APPLICATION (TEMPLATES)**

**CREATING DJANGO PROJECT USING CMD LINE**

PS C:\Users\kamal> django-admin --version

5.0.4

PS C:\Users\kamal> mkdir django\_projects

Directory: C:\Users\kamal

Mode LastWriteTime Length Name

---- ------------- ------ ----

d----- 24/04/2024 21:04 django\_projects

PS C:\Users\kamal> cd .\django\_projects\

PS C:\Users\kamal\django\_projects> django-admin startproject firstDjangoProject

PS C:\Users\kamal\django\_projects> ls

Directory: C:\Users\kamal\django\_projects

Mode LastWriteTime Length Name

---- ------------- ------ ----

d----- 24/04/2024 21:16 firstDjangoProject

PS C:\Users\kamal\django\_projects> cd .\firstDjangoProject\

PS C:\Users\kamal\django\_projects\firstDjangoProject>

**WORKING IN VISUAL STUDIO CODE**

Open the Visual Studio Code or Atom or PyCharm and drag and drop the created folder. This will show as below (screen shot from VS Code)

A screenshot of a computer program

Description automatically generated

\_\_init\_.py 🡺 its an empty file, which tells python <firstDjangoProject> is a python package.

settings.py 🡺 It carries all the settings or configuration for the applications inside the project for the middleware configuration and also the database configuration.

INSTALLED\_APPS[] 🡺 where when an application is created inside the project, it will add the app here.

MIDDLEWARE[] 🡺

TEMPLATES[] 🡺

WSGI\_APPLICATION 🡺 application name

DATABASES[] 🡺 Default is SQLite3, which is an inbuild database configuration with Django.

urls.py 🡺 This file carries the URL patterns of our project as well as applications. All the views, which are created will be configured here in this file.

Django comes with the inbuilt admin tool.

wsgi.py 🡺 Web Server Gateway Interface. This file can be used to deploy the application on online servers or on cloud. This is used during the production deployments.

Important File is manage.py 🡺 WE will be using this file every time we run our project, run the migrations for our project. When we work with databases, we will use this file from the command line to run our project on our applications.

**RUN THE PROJECT FROM CMD LINE**

PS C:\Users\kamal\django\_projects\firstDjangoProject> py -m manage runserver

Watching for file changes with StatReloader

Performing system checks...

System check identified no issues (0 silenced).

You have 18 unapplied migration(s). Your project may not work properly until you apply the migrations for app(s): admin, auth, contenttypes, sessions.

Run 'python manage.py migrate' to apply them.

April 25, 2024 - 00:08:35

Django version 5.0.4, using settings 'firstDjangoProject.settings'

Starting development server at http://127.0.0.1:8000/

Quit the server with CTRL-BREAK.

Copy the highlighted http://127.0.0.1:8000 or localhost://8000 in the browser, which will show the default page.

A computer screen shot of a rocket

Description automatically generated

In the command line, it logs all the incoming request for the link:

[25/Apr/2024 00:09:36] "GET / HTTP/1.1" 200 10629

Not Found: /favicon.ico

[25/Apr/2024 00:09:36] "GET /favicon.ico HTTP/1.1" 404 2122

If we want to change the port from 8000 to any other… the command is

PS C:\Users\kamal\django\_projects\firstDjangoProject> py -m manage runserver 7777

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A screenshot of a computer

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**CREATING AN APP IN THE PROJECT ABOVE**

PS C:\Users\kamal\django\_projects\firstDjangoProject> py -m manage startapp firstApp

A screen shot of a computer

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Description automatically generated

\_\_init\_\_.py 🡺 it’s the same like the project file created.

admin.py 🡺 Register our modules in the application inside this file and Django will us this module Django admin interface.

apps.py 🡺 Will store all the application specific configuration.

models.py 🡺 Storing all our data models, so whatever data models we have these models will represent the database tables.

tests.py 🡺 We have application specific tests it is what every function or class we create the respective tests here.

views.py 🡺 Saving all the functions or classes that will handle the incoming requests from the user, from the web browser, when a request comes in it comes to a particular view and that view will respond with an output which will be displayed on the browser.

Its where all the html and python code will use which is for responsible for rendering a UI.

migrations folder stores all the data base specific information related to our models.

**CONFIGURE THE APP IN THE PROJECT ABOVE**

In the project (firstDjangoProject) under settings.py, in INSTALLED\_APPS add the App which we have created (firstApp).

A screen shot of a computer

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It tells the project that the firstApp has to be included when we run the project.

**CREATING VIEWS IN APP**

There are two ways of creating views:

* + Class based views
  + Function based views

**Function based views:**

A View is responsible for taking a request and sending a response back.

PS C:\Users\kamal\django\_projects\firstDjangoProject> py -m manage startapp firstApp

**CONFIGURE THE URL**

In the project, go to urls.py. Add the highlighted ones

from firstApp import views

urlpatterns = [

path('admin/', admin.site.urls),

path('hello/', views.display)

]

A screen shot of a computer program

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**RUN THE VIEW**

Go to the command prompt (project folder) and execute the below command:

PS C:\Users\kamal\django\_projects\firstDjangoProject> py -m manage runserver

Watching for file changes with StatReloader

Performing system checks...

System check identified no issues (0 silenced).

You have 18 unapplied migration(s). Your project may not work properly until you apply the migrations for app(s): admin, auth, contenttypes, sessions.

Run 'python manage.py migrate' to apply them.

April 25, 2024 - 22:40:30

Django version 5.0.4, using settings 'firstDjangoProject.settings'

Starting development server at http://127.0.0.1:8000/

Quit the server with CTRL-BREAK.

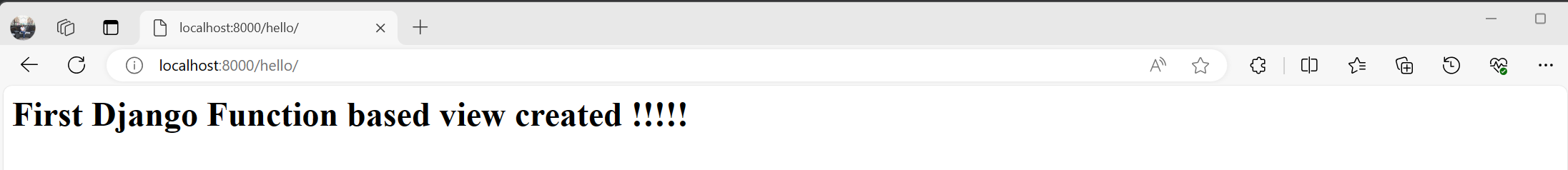
[25/Apr/2024 22:41:08] "GET /hello HTTP/1.1" 301 0

[25/Apr/2024 22:41:08] "GET /hello/ HTTP/1.1" 200 57

Not Found: /favicon.ico

[25/Apr/2024 22:41:08] "GET /favicon.ico HTTP/1.1" 404 2228

**Output : Link is** [localhost:8000/hello/](http://localhost:8000/hello/)



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A screenshot of a computer

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**MULTIPLIE APPLICATION IN THE PROJECT**

PS C:\Users\kamal\django\_projects\firstDjangoProject> py -m manage startapp quoteApp

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Step1 : Create the app.

Step2: Created the view in quoteApp.views.py

Import the from django.http import HttpResponse

Step3: Write the view

def displayQuote(request):

st1 = "<h2> Jesus said : </h2>"

st2 = "<b> I am the way, the truth and the life </b>"

return HttpResponse(st1+st2)

Step4: Add the app name in the project’s setting.py file.

A screenshot of a computer program

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Step5: In the projects urls.py, import the app name.

As we have already a view imported from firstApp, the quoteApp will also have to import the view. To fix this, can give alias name for both the vews as belpw:

A close up of a text

Description automatically generated

Step6: Add the default path and the urls :

A screen shot of a computer code

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Full Code

A screenshot of a computer program

Description automatically generated

Now re run the code in cmd window, which will bring the below:

A screenshot of a computer

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**Other way of calling a view in the urls.py files is by**

#from firstApp import views as fa

#from quoteApp import views as qa

from firstApp.views import display

from firstApp.views import display\_datetime

from quoteApp.views import displayQuote

#path('hello/', fa.display),

#path('dtime/', fa.display\_datetime),

#path('quote/', qa.displayQuote)

path('hello/', display),

path('dtime/', fa.display\_datetime),

path('quote/', qa.displayQuote)

A screenshot of a computer program

Description automatically generated

**Output**:

A screenshot of a computer

Description automatically generated

**If we haven’t given the Ctrl-Break, whatever changes, we made, this will automatically change and execute the program and re-run it.**

**Output in Console:**

System check identified no issues (0 silenced).

You have 18 unapplied migration(s). Your project may not work properly until you apply the migrations for app(s): admin, auth, contenttypes, sessions.

Run 'python manage.py migrate' to apply them.

April 25, 2024 - 23:14:03

Django version 5.0.4, using settings 'firstDjangoProject.settings'

Starting development server at http://127.0.0.1:8000/

Quit the server with CTRL-BREAK.

[25/Apr/2024 23:14:05] "GET /quote/ HTTP/1.1" 200 68

[25/Apr/2024 23:26:41] "GET /quote/ HTTP/1.1" 200 68

[25/Apr/2024 23:26:47] "GET /dtime/ HTTP/1.1" 200 55

[25/Apr/2024 23:26:51] "GET /hello/ HTTP/1.1" 200 57

**APPLICATION LEVEL URL IN THE PROJECT**

From the above example, we have two apps (firstApp and quoteApp).

In the project, we have urls.py, which have the urls mapped for both these apps.

Step1: Copy the urls.py from the project in to each app folers.

Step2: User the corresponding view in the url for their respective apps

firstApp:

A screen shot of a computer

Description automatically generated

quoteApp

A screenshot of a computer screen

Description automatically generated

Step3: In the project urls.py, import the : from django.conf.urls import include

Step4: Add the urls for both the apps as below:

A screen shot of a computer code

Description automatically generated

Check for the console, if any errors; If no errors this will show as below;

A screen shot of a computer

Description automatically generated

**Output:**

The link will slightly change as below:

firstApp:

[localhost:8000/firstApp/hello/](http://localhost:8000/firstApp/hello/)

[localhost:8000/firstApp/dtime/](http://localhost:8000/firstApp/dtime/)

quoteApp

[localhost:8000/quoteApp/quote/](http://localhost:8000/quoteApp/quote/)

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The console window:

A black background with white text

Description automatically generated

**ADDING STATIC FOLDER WITH IMAGES & CSS FILES**

**In the views.py of app folder, add the below code**

def renderEmployee(request):

myEmp = {

"empId":1025,

"empfName":"KAMAL KUMAR",

"emplName":"JESU RANJAN",

"empAge":48,

"empDesgn":"Senior Developer",

"empSal":75295.25

}

return render(request, 'templatesApp/employeeTemplate.html',myEmp)

A screenshot of a computer program

Description automatically generated

**Create employeeTemplate.html in the templates folder**

<!DOCTYPE html>

<html lang="en" dir="ltr">

{% load static %}

<head>

<meta charset="utf-8">

<title>Employee Template</title>

<link rel="stylesheet" href="{% static "css/emp.css" %}">

</head>

<body>

<h1>Employee Details </h1>

<br>

<ol>

<li> Employee Id : {{empId}} </li>

<li> Employee First Name : {{empfName}} </li>

<li> Employee Last Name : {{emplName}} </li>

<li> Employee Age : {{empAge}} </li>

<li> Employee Designation : {{empDesgn}} </li>

<li> Employee Salary (Eur) : {{empSal}} </li>

</ol>

<img src="{%static "images/kumar.jpg"%}" />

</body>

</html>

A screenshot of a computer

Description automatically generated

**Create a folder called static and added 2 folder – images / css.**

**In the image folder add an image and css folder add a css file.**

img{

height: 300px;

weight:300px;

border: 10px green groove;

margin: 1% 20%;

}

h1{

color: cyan;

text-align: center;

}

li{

color: blue;

}

**In urls.py add the path for the newly created**

from django.contrib import admin

from django.urls import path

from templatesApp import views

urlpatterns = [

path('admin/', admin.site.urls),

path('firstTemplate/',views.renderTemplate),

path('empInfo/', views.renderEmployee)

]

In settings.py file, add the below

STATICFILES\_DIRS=[

Path(BASE\_DIR/'static')

]

**Command Window Output**

A screen shot of a computer

Description automatically generated

C:\Users\kamal\django\_projects\templatesDemo\templatesDemo\settings.py changed, reloading.

Watching for file changes with StatReloader

Performing system checks...

System check identified no issues (0 silenced).

You have 18 unapplied migration(s). Your project may not work properly until you apply the migrations for app(s): admin, auth, contenttypes, sessions.

Run 'python manage.py migrate' to apply them.

May 01, 2024 - 17:56:14

Django version 5.0.4, using settings 'templatesDemo.settings'

Starting development server at http://127.0.0.1:8000/

Quit the server with CTRL-BREAK.

[01/May/2024 18:04:20] "GET /static/Papu1.jpg HTTP/1.1" 404 1786

[01/May/2024 18:04:33] "GET /static/images/Papu1.jpg HTTP/1.1" 200 3255290

[01/May/2024 18:05:54] "GET /static/images/kumar.jpg HTTP/1.1" 200 7010574

[01/May/2024 18:09:40] "GET /empInfo/ HTTP/1.1" 200 560

[01/May/2024 18:10:53] "GET /empInfo/ HTTP/1.1" 200 560

[01/May/2024 18:10:55] "GET /empInfo/ HTTP/1.1" 200 560

[01/May/2024 18:11:05] "GET /empInfo/ HTTP/1.1" 200 560

[01/May/2024 18:11:06] "GET /empInfo/ HTTP/1.1" 200 560

[01/May/2024 18:18:10] "GET /empInfo/ HTTP/1.1" 200 615

[01/May/2024 18:18:10] "GET /static/css/emp.css HTTP/1.1" 200 168

**Website output**

A person in a white shirt

Description automatically generated