**TEMPLATES**

Tempo is the component in Django that is responsible for rendering the UI to the end user.

.i.e. Rendering HTML to the web browser.

They can also take the data that the views sends them and they can render that dynamically to the end user.

**CREATE PROJECT/ APP/ TEMPLATE FOLDER (USING STATIC TEMPLATE)**

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

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

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

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

Mode LastWriteTime Length Name

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

d----- 27/04/2024 22:21 templatesDemo

-a---- 27/04/2024 22:21 691 manage.py

PS C:\Users\kamal\django\_projects\templatesDemo> py -m manage startapp templatesApp

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

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

Mode LastWriteTime Length Name

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

d----- 27/04/2024 22:24 templatesApp

d----- 27/04/2024 22:24 templatesDemo

d----- 27/04/2024 22:24 \_\_pycache\_\_

-a---- 27/04/2024 22:21 691 manage.py

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

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

Mode LastWriteTime Length Name

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

d----- 27/04/2024 22:24 templates

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

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

Mode LastWriteTime Length Name

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

d----- 27/04/2024 22:24 templates

d----- 27/04/2024 22:24 templatesApp

d----- 27/04/2024 22:24 templatesDemo

d----- 27/04/2024 22:24 \_\_pycache\_\_

-a---- 27/04/2024 22:21 691 manage.py

PS C:\Users\kamal\django\_projects\templatesDemo> cd templates

PS C:\Users\kamal\django\_projects\templatesDemo\templates> mkdir templatesApp

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

Mode LastWriteTime Length Name

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d----- 27/04/2024 22:27 templatesApp

PS C:\Users\kamal\django\_projects\templatesDemo\templates>

**In the IDE, open the project.**

A screenshot of a computer

Description automatically generated

Add the template directory in the

TEMPLATES = [

'DIRS': [Path(BASE\_DIR/'templates')],

]

as below:

Code for settings.py (only added the highlighted part)

TEMPLATES = [

{

'BACKEND': 'django.template.backends.django.DjangoTemplates',

'DIRS': [Path(BASE\_DIR/'templates')],

'APP\_DIRS': True,

'OPTIONS': {

'context\_processors': [

'django.template.context\_processors.debug',

'django.template.context\_processors.request',

'django.contrib.auth.context\_processors.auth',

'django.contrib.messages.context\_processors.messages',

],

},

},

]

Code for urls.py (only added the highlighted part)

from django.contrib import admin

from django.urls import path

from templatesApp import views

urlpatterns = [

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

path('firstTemplate/',views.renderTemplate)

]

Code for firstTemplate.html (fully added)

<!<!DOCTYPE html>

<<!DOCTYPE html>

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

<head>

<meta charset="utf-8">

<title>First Template</title>

</head>

<body>

<h1>Teplates from MVT </h1>

</body>

</html>

Code for views.py (only added the highlighted part)

from django.shortcuts import render

# Create your views here.

def renderTemplate(request):

return render(request, 'templatesApp/firstTemplate.html')

**Output (With Error)**

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

Watching for file changes with StatReloader

Performing system checks...

Exception in thread django-main-thread:

Traceback (most recent call last):

File "C:\Users\kamal\AppData\Local\Programs\Python\Python312\Lib\threading.py", line 1073, in \_bootstrap\_inner

self.run()

File "C:\Users\kamal\AppData\Local\Programs\Python\Python312\Lib\threading.py", line 1010, in run

self.\_target(\*self.\_args, \*\*self.\_kwargs)

File "C:\Users\kamal\AppData\Local\Programs\Python\Python312\Lib\site-packages\django\utils\autoreload.py", line 64, in wrapper

fn(\*args, \*\*kwargs)

File "C:\Users\kamal\AppData\Local\Programs\Python\Python312\Lib\site-packages\django\core\management\commands\runserver.py", line 133, in inner\_run

self.check(display\_num\_errors=True)

File "C:\Users\kamal\AppData\Local\Programs\Python\Python312\Lib\site-packages\django\core\management\base.py", line 486, in check

all\_issues = checks.run\_checks(

^^^^^^^^^^^^^^^^^^

File "C:\Users\kamal\AppData\Local\Programs\Python\Python312\Lib\site-packages\django\core\checks\registry.py", line 88, in run\_checks

new\_errors = check(app\_configs=app\_configs, databases=databases)

^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

File "C:\Users\kamal\AppData\Local\Programs\Python\Python312\Lib\site-packages\django\core\checks\urls.py", line 14, in check\_url\_config

return check\_resolver(resolver)

^^^^^^^^^^^^^^^^^^^^^^^^

File "C:\Users\kamal\AppData\Local\Programs\Python\Python312\Lib\site-packages\django\core\checks\urls.py", line 24, in check\_resolver

return check\_method()

^^^^^^^^^^^^^^

File "C:\Users\kamal\AppData\Local\Programs\Python\Python312\Lib\site-packages\django\urls\resolvers.py", line 519, in check

for pattern in self.url\_patterns:

^^^^^^^^^^^^^^^^^

File "C:\Users\kamal\AppData\Local\Programs\Python\Python312\Lib\site-packages\django\utils\functional.py", line 47, in \_\_get\_\_

res = instance.\_\_dict\_\_[self.name] = self.func(instance)

^^^^^^^^^^^^^^^^^^^

File "C:\Users\kamal\AppData\Local\Programs\Python\Python312\Lib\site-packages\django\urls\resolvers.py", line 738, in url\_patterns

patterns = getattr(self.urlconf\_module, "urlpatterns", self.urlconf\_module)

^^^^^^^^^^^^^^^^^^^

File "C:\Users\kamal\AppData\Local\Programs\Python\Python312\Lib\site-packages\django\utils\functional.py", line 47, in \_\_get\_\_

res = instance.\_\_dict\_\_[self.name] = self.func(instance)

^^^^^^^^^^^^^^^^^^^

File "C:\Users\kamal\AppData\Local\Programs\Python\Python312\Lib\site-packages\django\urls\resolvers.py", line 731, in urlconf\_module

return import\_module(self.urlconf\_name)

^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

File "C:\Users\kamal\AppData\Local\Programs\Python\Python312\Lib\importlib\\_\_init\_\_.py", line 90, in import\_module

return \_bootstrap.\_gcd\_import(name[level:], package, level)

^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

File "<frozen importlib.\_bootstrap>", line 1387, in \_gcd\_import

File "<frozen importlib.\_bootstrap>", line 1360, in \_find\_and\_load

File "<frozen importlib.\_bootstrap>", line 1331, in \_find\_and\_load\_unlocked

File "<frozen importlib.\_bootstrap>", line 935, in \_load\_unlocked

File "<frozen importlib.\_bootstrap\_external>", line 995, in exec\_module

File "<frozen importlib.\_bootstrap>", line 488, in \_call\_with\_frames\_removed

File "C:\Users\kamal\django\_projects\templatesDemo\templatesDemo\urls.py", line 23, in <module>

pat('firstTemplate/',views.renderTemplate)

^^^

NameError: name 'pat' is not defined. Did you mean: 'path'?

C:\Users\kamal\django\_projects\templatesDemo\templatesDemo\urls.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.

April 27, 2024 - 22:56:44

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.

[27/Apr/2024 22:57:34] "GET /firstTemplate HTTP/1.1" 301 0

[27/Apr/2024 22:57:34] "GET /firstTemplate/ HTTP/1.1" 200 201

**Output in Browser**

A computer screen shot of a computer

Description automatically generated

**CREATE TEMPLATE (USING DTL – Django Template Library)**

This is used to render dynamic data that is what ever data the view sends to the template by fetching from the database through models that can be rendered on the UI using the Django Template Library (DTL)

{{ <variable names> }}

{% tagName %} 🡺 We can use the template tags provided by Django.

{% csrf\_token %} 🡺 Django will automatically replace this token with the unique key value inside your html form.

{% x extends y %} 🡺 extend from one template to another

{% if condition %} 🡺 conditionally execute the html code.

{% endif %} 🡺 end statement for if condition

We can also use {%for loop %} and {% end for %}

**These tags are processed by the highlighted inbuilt engine**

TEMPLATES = [

{

'BACKEND': 'django.template.backends.django.DjangoTemplates',

'DIRS': [Path(BASE\_DIR/'templates')],

'APP\_DIRS': True,

'OPTIONS': {

'context\_processors': [

'django.template.context\_processors.debug',

'django.template.context\_processors.request',

'django.contrib.auth.context\_processors.auth',

'django.contrib.messages.context\_processors.messages',

],

},

},

]

PASSING DATA FROM views.py TO template.html

FROM views.py 🡺 render(request, ‘template’, data)

IN templates.py 🡺 {{data}}

Code for firstTemplate.html (only added the highlighted part)

<!<!DOCTYPE html>

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

<head>

<meta charset="utf-8">

<title>First Template</title>

</head>

<body>

<h1>Teplates from MVT </h1>

<br>

{{fname}}

</body>

</html>

Code for views.py (only added the highlighted part)

from django.shortcuts import render

# Create your views here.

def renderTemplate(request):

myName={"fname":"KamalKumar"}

return render(request, 'templatesApp/firstTemplate.html',context=myName)

**Output in Browser**

A screenshot of a computer

Description automatically generated