

Lab 03

Saturday, October 15, 2022 1:53 PM

Creating a Dynamic route

So, we are going to learn how we create dynamic routes.

What is Dynamic routes or URL?

So, if you are visiting some website where you are seeing multiple posts or blogs, and when you click any of them then the detail page of that blog will open.

The URL of that detail page is actually dynamic route, So actually when you click any other blog the new URL is created and page for that URL remains same. SO it means the page for all blog or posts remain same the URL and data is going to be changed that is called dynamic route.

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So lets do an example

```
from django.http import HttpResponseRedirect

def aboutUs(request):
    return HttpResponseRedirect('Welcome to Django framework development!')

def zia(request):
    return HttpResponseRedirect('Engr. Zia Ur Rehman')
```

The screenshot shows a code editor with a Python file open. The file contains two function definitions: `aboutUs` and `zia`. The `aboutUs` function returns a HttpResponseRedirect to 'Welcome to Django framework development!'. The `zia` function returns a HttpResponseRedirect to 'Engr. Zia Ur Rehman'. A blue oval highlights the `zia` function, and a blue arrow points from it down to the explanatory text below.

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I have created a page with my name and now I want to extend the same page with my son's name using dynamic routes
Zayan and Zamin

How routes created?

1. Int based
2. Str based
3. Slug based e.g. Hello-zia-zayan

So let's create, first open the urls.py file

```

from labtwo import views

urlpatterns = [
    path('admin-panel/', admin.site.urls),
    path('about-us/', views.aboutUs),
    path('zia/', views.zia),
    path('zia/<str:name>', views.zia)
]

Data type of dynamic url or route
Just random name
Slug, int also used

```

Change this with new function name

S Now create function in views.py

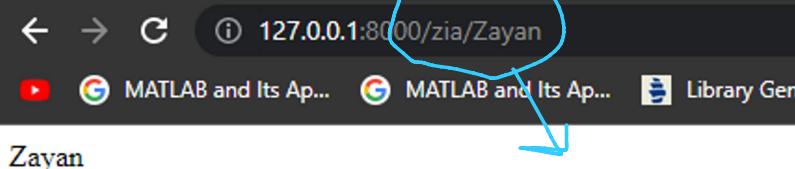
```

def zia(request):
    return HttpResponse('Engr. Zia Ur Rehman')

def sons(request, name):
    return HttpResponse(name)

```

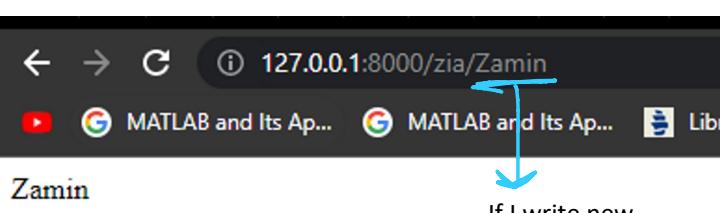
Same variable which is placed in url file



Zayan

I write Zayan and a same string is appear in my same page, because in url I mentioned there a string input url See the pint number 4

So, basically when we type any string after zia/ the same string is passed to sons function in views.py file and as we give same name to HTTPs response so that's why it appear.



Zamin

If I write now

Page remains same and data will be changed using



Zamin

If I write new name or string the same thing appears in the page

Page remains same and data will be changed using dynamic routes

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Render a HTML Template as Response

Now we create a html template and inside that template we have our html code for website. So we learn how to attach html page with our django project.

For that we have to import render function from django library. Through render function we can attach html files.

So there are sequence of steps you must have to follow for that.

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First you have to create a html file inside the template folder that previously you have created.

The screenshot shows a code editor with a Django project structure on the left and the content of a `home.html` template on the right. The project structure includes a `labtwo` directory containing `__init__.py`, `asgi.py`, `settings.py`, `urls.py`, `views.py`, and `wsgi.py`. Below these are `media` and `static` directories, with `templates` being highlighted by a blue oval. Inside `templates` is a file named `home.html`. The code in `home.html` is as follows:

```
<!DOCTYPE html>
<html lang="en">
    <head>
        <meta charset="UTF-8">
        <title>Home Page</title>
    </head>
    <body>
        This is Home Page
    </body>
</html>
```

Annotations on the right side of the code editor explain the template structure:

- A blue arrow points to the `title` tag with the text "give the title of page here".
- A blue arrow points to the `body` tag with the text "Inside the body tag write something".
- A blue arrow points to the `home.html` file in the project tree with the text "Right click on templates folder and create new html file named as home.html".

Right click on templates folder and create new html file named as home.html

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Now you have to set the templates dir inside the settings.py file so open that file and make some changes.

```
TEMPLATES = [
    {
        'BACKEND': 'django.template.backends.django.DjangoTemplates',
        'DIRS': [BASE_DIR, "templates"], ←
```

```
'BACKEND': 'django.template.backends.django.DjangoTemplates',
'DIRS': [BASE_DIR, "templates"], ←
'APP_DIRS': True,
'OPTIONS': {
    'context_processors': [
```

Inside this square brackets write this, which tells django the html files resides in this folder



Now open the views.py file and create the function for home.html page

```
from django.http import HttpResponseRedirect
from django.shortcuts import render ← Import render function
```

```
def HomePage(request):
Function for homepage
    return render(request, "home.html")↑
    → Render function takes two parameters,
        request and html page name
def aboutUs(request):
    return HttpResponseRedirect('Welcome to Django framework development!')
```

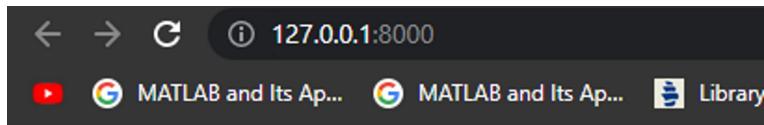


Now we have to create URL for that view function in urls.py file

```
urlpatterns = [
    path('admin-panel/', admin.site.urls),
    path('about-us/', views.aboutUs),
    path('zia/', views.zia),
    path('zia/<str:name>', views.sons),
    path('', views.homePage) ← For home leave empty
]
```



Now Run the project



This is Home Page

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Passing Data from a Django View to a Template

Now we pass some data from view to html file.

```
def HomePage(request):
    → data = {
I have created a dictionary |     'title': 'A Home Page', ← Title of home page
                           'message': 'Data is send from view to this Html file'
    }
                           ↗ This message is displayed on the page
    return render(request, "home.html", data)
                                     ↴
                                     You have to pass the data here
def aboutUs(request):
    return HttpResponse('Welcome to Django framework development!')
```

★ Inside dictionary there are two things, key and value

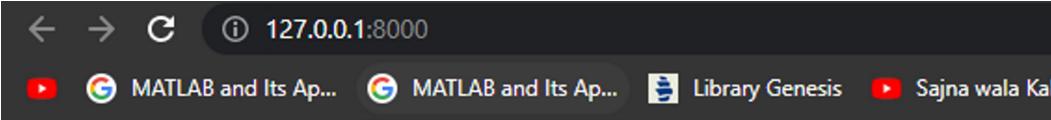
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Now make some changes in html file

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <title>{{title}}</title>
</head>
<body>
    This is Home Page
    {{message}}
</body>
</html>
```

Give the key name here to change the title

Here you have to give the key of message that you have created in views, inside the curly brackets



This is Home Page Data is send from view to this Html file



You can see the results



Django Template For Loop

In this section we learn how we use for loop inside the html file

```
def homePage(request):
    data = {
        "title": "A Home Page",
        "message": "This data is from views file",
        'name': ['zia', 'Nouman', 'Zayan', 'Zamin']
    }
    return render(request, "home.html", data)
```

I want to display this list data
On the Html page



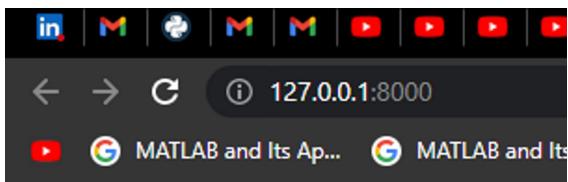
```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <title>{{title}}</title>
</head>
<body>
    HOMe page, {{message}}
    {% for n in name %}
        <div>
            {{n}}
        </div>
    {% endfor %}
</body>
</html>
```



For loop



The <div> tag defines a division or a section in an HTML document. The <div> tag is used as a container for HTML elements - which is then styled with CSS or manipulated with JavaScript. The <div> tag is easily styled by using the class or id attribute.



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 `{{forloop.counter}} {{n}}
{{forloop.revcounter}} {{n}}
{{forloop.first}} {{n}}
{{forloop.last}} {{n}}`

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```
def home_page(request):
    data = {
        "title": "A Home Page",
        "message": "This data is from views file",
        'name': ['zia', 'Nouman', 'Zayan', 'Zamin'],
        'contacts': [
            {'name': 'zia', 'phone': 1234567},
            {'name': 'zayan', 'phone': +991234567}
        ]
    }
```

A screenshot of a code editor showing Python code for a view function named "home_page". The code defines a dictionary "data" containing a title, a message, a list of names, and a list of contacts. The contacts list contains two dictionaries, each with a "name" and a "phone" key. A blue bracket on the right side of the contacts list is connected by a blue arrow to the text "Now I want to display this data in form of table" located to the right of the code.

Now I want to display this data in form of table

```
{% endfor %}

<br/>





```