



AN INTERNSHIP REPORT

ON

Web development using Python

(Django framework)

Submitted by

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Student of

Bachelors of Engineering

in

**Computer Engineering
Department**



GUJARAT TECHNOLOGICAL UNIVERSITY

CERTIFICATE FOR COMPLETION OF ALL ACTIVITIES AT ONLINE PROJECT PORTAL

B.E. SEMESTER VII, ACADEMIC YEAR 2023-2024

Date of certificate generation : 30 September 2023 (18:00:20)

This is to certify that, **Rakholiya Pammy Sureshbhai** (Enrolment Number - 211020107521) working on project entitled with **Web developing using python django** from **Computer Engineering** department of **OM ENGINEERING COLLEGE, AT CHOKLI, DIST JUNAGADH** had submitted following details at online project portal.

Internship Project Report	Completed
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Name of Student : Rakholiya Pammy Sureshbhai

Name of Guide : Miss. CHAVDA MEGHA KAMLESH BHAI

Signature of Student : _____

*Signature of Guide : _____

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*Guide has to sign the certificate, Only if all above activities has been Completed.



DECLARATION


I do hereby solemnly declare that the work presented in this Internship Report has been carried out by me and has not been previously submitted to any other University, College, and Organization for any academic Qualification and Certificate.

I hereby warrant that the work I have presented does not breach any existing copyright acts.

Rakholiya Pammy



CONFIRMATION LETTER

 **TOPS Technologies**
Training - Consultancy - Placement Services

INTERNSHIP JOINING LETTER

Date: 20-07-2023

To,
Pammy rakholiya

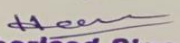
Subject: Internship Joining

Pammy rakholiya
In reference to your application we would like to congratulate you on being selected internship with **Tops Technologies Pvt. Ltd** based at Ahmedabad. Your internship is schedule as per the below details:

Duration:-15 days Summer Internship
Joining date:- 27-07-2023
Technology:-Python Programming(django framework)

All of us at **Tops Technologies** are excited that you will joining our team. During this internship, the concentration will be on helping you understand logical concepts their practicality and implications to help you connect your classroom knowledge to industrial standards. Your internship will include orientation and focus primarily on learning developing new skills and gaining a deeper understanding of concepts through hands application of the knowledge.

We will be happy to guide you to learn new skills which are extremely helpful in professional standard.

For, TOPS Technologies Pvt. Ltd

Authorised Signature

9th Floor Samedh Complex CG Road Ahmedabad 079 30612162 | www.tops-int.com



CERTIFICATE OF COMPLETION



COMPANY PROFILE

Established in 2016, incorporation with our parent IT company, INFOLABZ IT SERVICES PVT. LTD. has managed to make it's own position in IT Sector. We are involved in Web Development, App Development, Progressive Web Application Development, IOT solutions, Graphics & Designing, Digital Marketing, Domain & Hosting services, SMS services etc.

In the span of seven years we have managed to deliver all projects on time with utmost accuracy to our clients across the globe. We have dedicated teams of experienced and hardworking developers. Our developers who are always willing to take new challenges and looking forward to learn new things, are heart of this company.

Our objective is to sustain with exponential growth in IT industry. Our mission is to deliver the best with top notch quality every quarter and vision is to develop a product with one of its kind concept which could be used by millions of people.

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- **Django Environment setup**

In this Section Downlod Django framework using python pip command.

- Pip install Django

- **Django project creation**

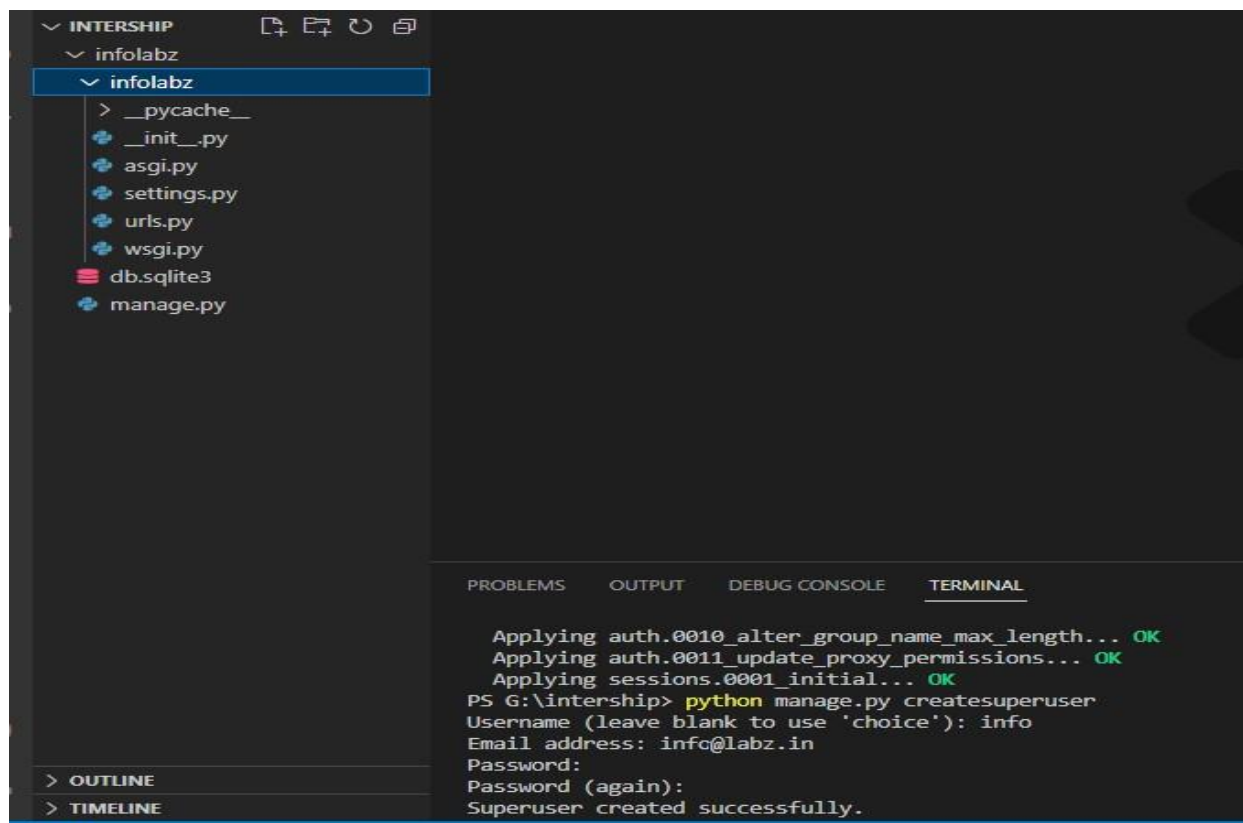
Create First project in Django Using its command.

- `django-admin startproject infolabz .`

- **Django super user**

Create Super User for access Django admin panel which is given by default by Django.

- `python manage.py createsuperuser`



The screenshot shows a code editor with a file explorer on the left displaying the project structure for 'INTERSHIP' and 'infolabz'. The 'infolabz' directory contains files like `__pycache__`, `__init__.py`, `asgi.py`, `settings.py`, `urls.py`, `wsgi.py`, `db.sqlite3`, and `manage.py`. The terminal at the bottom shows the execution of `python manage.py createsuperuser`, with output indicating the successful creation of a superuser named 'info' with email 'info@labz.in'.

```
Applying auth.0010_alter_group_name_max_length... OK
Applying auth.0011_update_proxy_permissions... OK
Applying sessions.0001_initial... OK
PS G:\intership> python manage.py createsuperuser
Username (leave blank to use 'choice'): info
Email address: info@labz.in
Password:
Password (again):
Superuser created successfully.
```

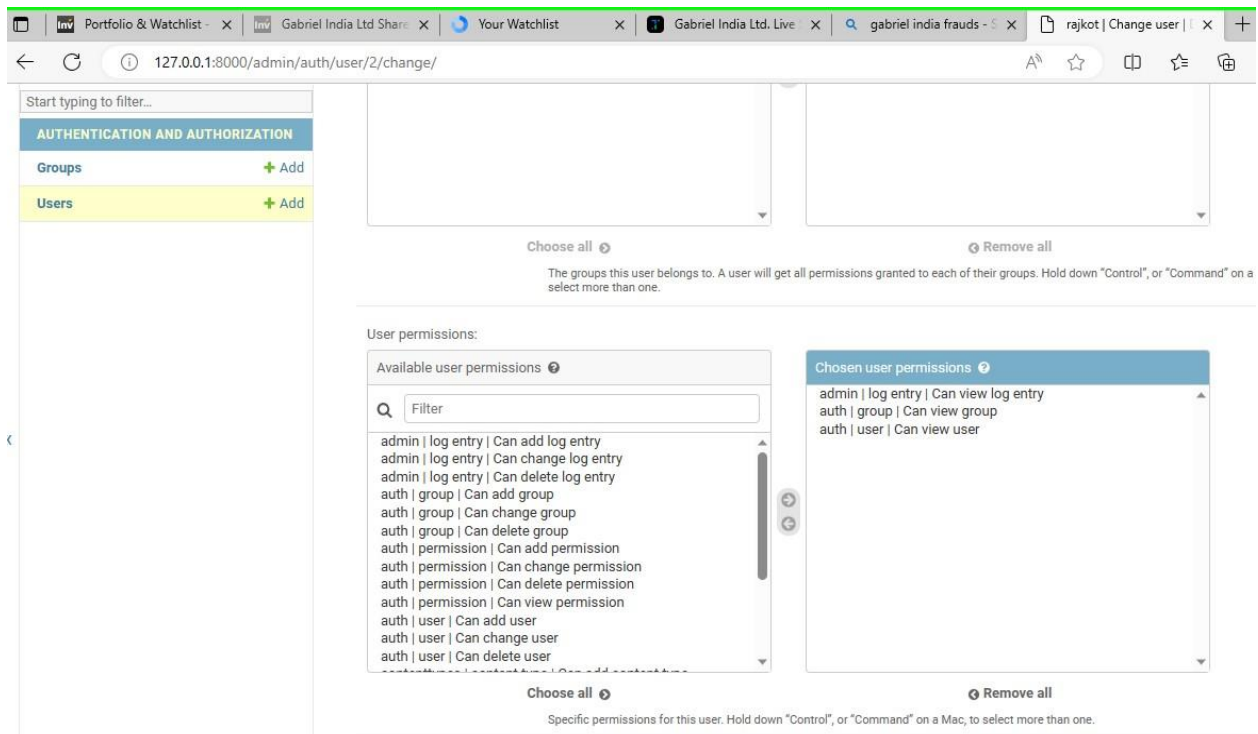
Date: 28 JULY 2023

Day 2

WEEK 1

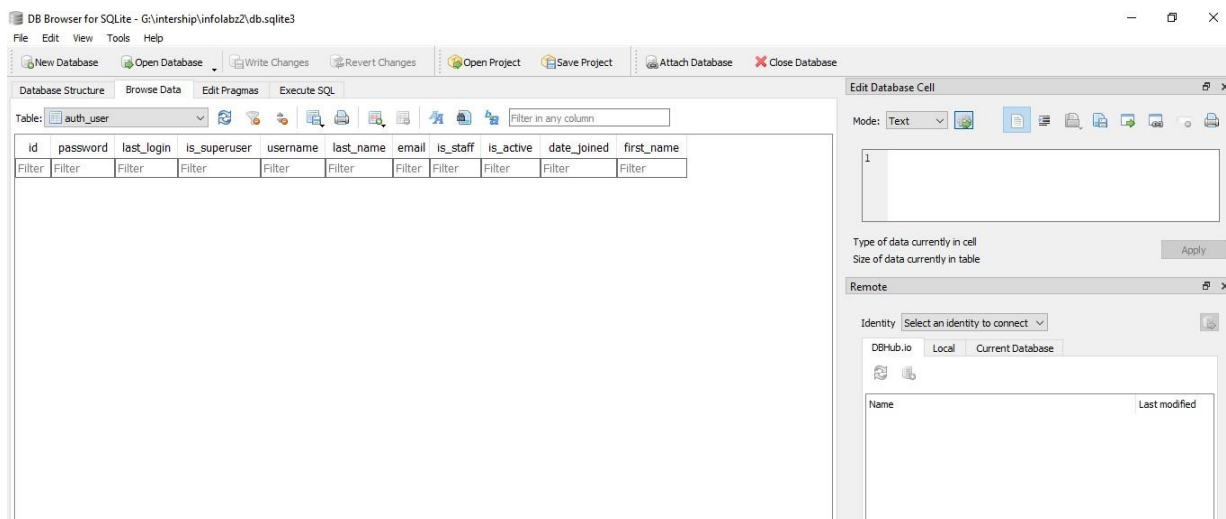
- **Super user permissions**

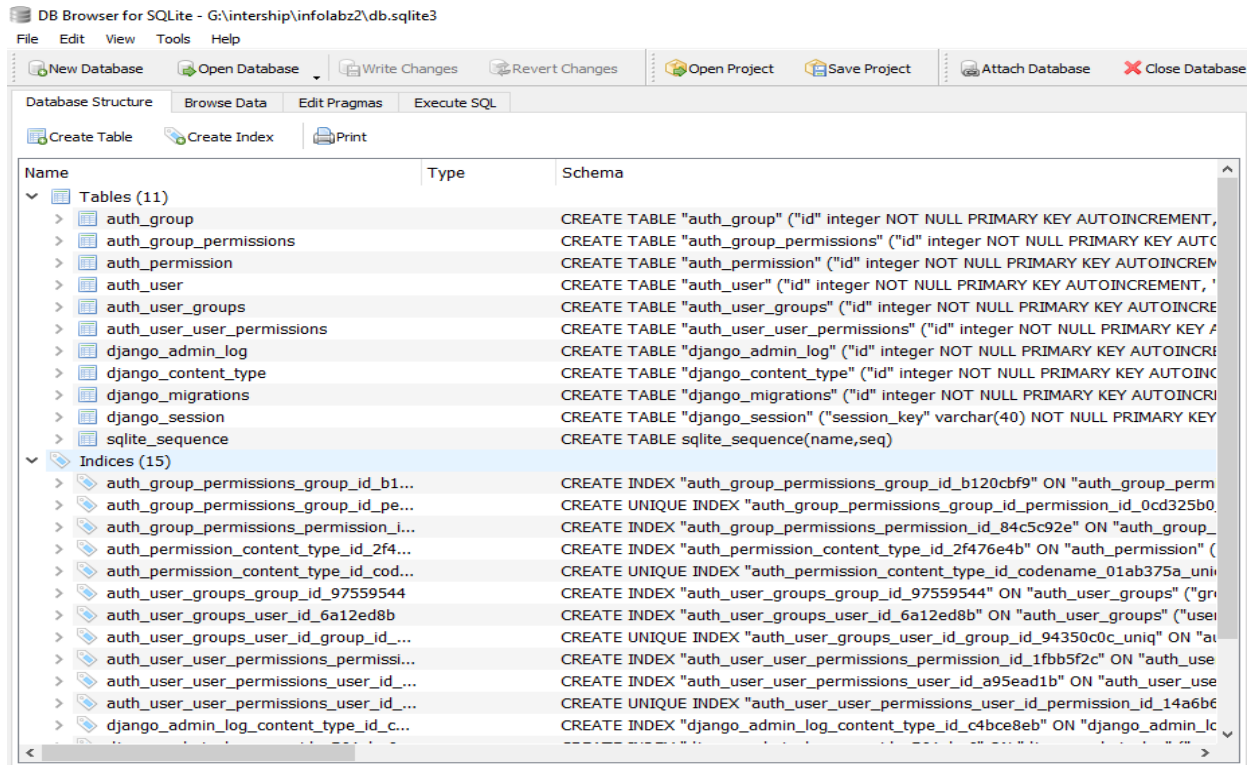
Here we create multiple super users and give various permissions to each.



- **SQLite Database Browser**

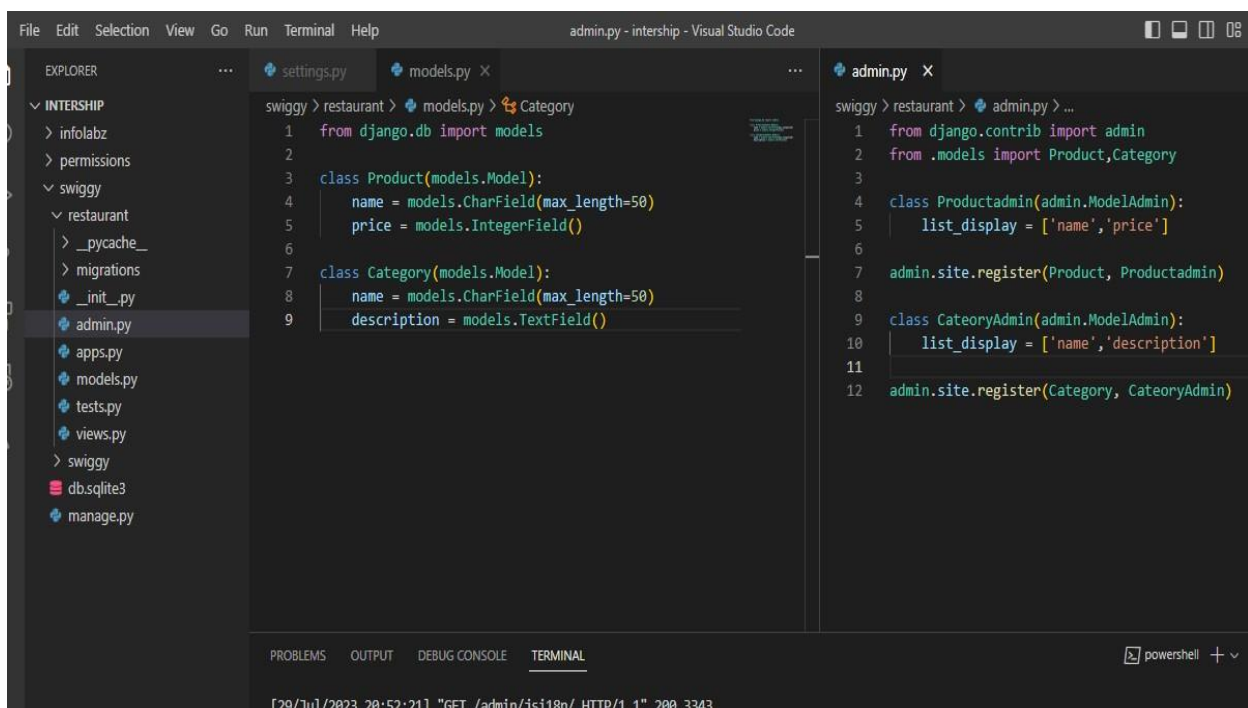
Download SQLite software for visualization of database in well-organized table form.





- **First Model : Database Table : Insert Update & Delete**

Create first table into data base with help of Django project which follow object to table mapping. E.g. class name = table name, class property = table fields



- **Multiple Database Tables with different Fields**

Created multiple table with different types of field like Character, number, text, etc.

```
models.py ×
intership > myproject > myapp > models.py > ...
1  from django.db import models
2
3  class Category(models.Model):
4      name = models.CharField(max_length= 30)
5      description = models.TextField()
6      def __str__(self):
7          return self.name
8
9  class Product(models.Model):
10     name = models.CharField(max_length=30)
11     price = models.IntegerField()
12     Product_cate = models.ForeignKey(Category, on_delete=models.CASCADE)
13     quantity = models.IntegerField()
14
15     class moviecategory(models.Model):
16         name = models.CharField(max_length= 30)
17         description = models.TextField()
18         def __str__(self):
19             return self.name
20
21     class male_actor(models.Model):
22         name = models.CharField(max_length=30)
```

```
admin.py ×
intership > myproject > myapp > admin.py > ...
1  from django.contrib import admin
2  from .models import Category,Product,moviecategory,male_actor,female_actor,movie
3
4  @admin.register(Category)
5  class CategoryAdmin(admin.ModelAdmin):
6      list_display = ['id','name','description']
7
8  @admin.register(Product)
9  class ProductAdmin(admin.ModelAdmin):
10     list_display = ['name','price','quantity','Product_cate']
11
12
13  @admin.register(moviecategory)
14  class MovieCategoryAdmin(admin.ModelAdmin):
15     list_display = ['name','description']
16
17  @admin.register(male_actor)
18  class Male_actorAdmin(admin.ModelAdmin):
19     list_display = ['name','dob','des']
20
21  @admin.register(female_actor)
22  class Female_actorAdmin(admin.ModelAdmin):
```

0 0 Ln 1, Col 1 Spaces: 4 UTF-8 CRLF Python

- **Foreign Key Concept**

In this session we learn about how to assign foreign key to field of database through Django project.

```
33 |         return self.name
34 |
35 | class movie(models.Model):
36 |     name = models.CharField(max_length=30)
37 |     descri = models.TextField()
38 |     Category = models.ForeignKey(moviecategory, on_delete=models.CASCADE)
39 |     actor = models.ForeignKey(male_actor, on_delete=models.CASCADE)
40 |     actress = models.ForeignKey(female_actor, on_delete=models.CASCADE)
```

```
11
12
13 @admin.register(moviecategory)
14 class MovieCategoryAdmin(admin.ModelAdmin):
15 |     list_display = ['name', 'description']
16
17 @admin.register(male_actor)
18 class Male_actorAdmin(admin.ModelAdmin):
19 |     list_display = ['name', 'dob', 'des']
20
21 @admin.register(female_actor)
22 class Female_actorAdmin(admin.ModelAdmin):
23 |     list_display = ['name', 'dob', 'des']
24
25 @admin.register(movie)
26 class MovieAdmin(admin.ModelAdmin):
27 |     list_display = ['name', 'descri', 'Category', 'actor', 'actress']
28
```

Ln 15, Col 42 Spaces: 4 UTF-8 CRLF Python 3.11.2 64-bit

- Assignment project task

That day I create a project myself as a assignment given to us.

```
admin.py ×
intership > newproject > newapp > admin.py > ...
1 from django.contrib import admin
2 from .models import Role, User_detail, Bank_detail, Country, State, City, User
3
4 @admin.register(Role)
5 class RoleAdmin(admin.ModelAdmin):
6     list_display = ['id', 'user_typename']
7
8 @admin.register(User_detail)
9 class User_detailAdmin(admin.ModelAdmin):
10     list_display = ['id', 'u_name', 'u_password', 'u_email', 'u_phone', 'u_ty
11
12 @admin.register(Bank_detail)
13 class Bank_detailAdmin(admin.ModelAdmin):
14     list_display = ['u_id', 'bank_name', 'account_number', 'end_month', 'end
15
16 @admin.register(Country)
17 class CountryAdmin(admin.ModelAdmin):
18     list_display = ['id', 'Country_name']
19
20 @admin.register(State)
21 class StateAdmin(admin.ModelAdmin):
22     list_display = ['id', 'Country_id', 'state_name']
```

```
models.py ×
intership > newproject > newapp > models.py > ...
1 from django.db import models
2
3 class Role(models.Model):
4     user_typename = models.CharField(max_length=50)
5     def __str__(self):
6         return str(self.id)
7
8 status = [("0", "ACTIVE"), ("1", "INACTIVE")]
9 class User_detail(models.Model):
10     u_name = models.CharField(max_length=50)
11     u_password = models.CharField(max_length=50)
12     u_email = models.EmailField()
13     u_phone = models.IntegerField()
14     u_type = models.ForeignKey(Role, on_delete=models.CASCADE)
15     u_status = models.CharField(choices=status, max_length=50)
16     def __str__(self):
17         return str(self.id)
18
19 > months = [("1", "January"), ...
31 > years = [("2022", "2022"), ...
40 class Bank_detail(models.Model):
41     u_id = models.ForeignKey(User_detail, on_delete=models.CASCADE)
```

- **Admin Panel Project : Backend Bank Customer DB development**

In this assignment I created a project which has main two database table Bank details and Customer that both are connected as per requirement.

The screenshot shows the Django administration interface in a web browser. The address bar displays '127.0.0.1:8000/admin/'. The page title is 'Django administration'. Under 'Site administration', there are two main sections: 'AUTHENTICATION AND AUTHORIZATION' and 'NEWAPP'. The 'AUTHENTICATION AND AUTHORIZATION' section lists 'Groups' and 'Users', each with '+ Add' and 'Change' links. The 'NEWAPP' section lists several models: 'Bank_details', 'Citys', 'Countrys', 'Roles', 'States', 'User_addressss', and 'User_details', each with '+ Add' and 'Change' links. On the right side, there is a 'Recent actions' panel with a 'My actions' sub-section, which currently shows 'None available'.

AUTHENTICATION AND AUTHORIZATION	
Groups	+ Add Change
Users	+ Add Change

NEWAPP	
Bank_details	+ Add Change
Citys	+ Add Change
Countrys	+ Add Change
Roles	+ Add Change
States	+ Add Change
User_addressss	+ Add Change
User_details	+ Add Change

Recent actions
My actions
None available

- **Loading HTML Page in Django**

Show a simple html page through a Django.

Required steps to load html page :

1. Create folder name 'Templates' inside app
2. Add html page into Templates folder
3. Create function in views.py for render html page
4. Create url for call that function
5. Create main url for include app's Urls

The first screenshot shows the `views.py` file in the `newapp` directory. It contains the following code:

```
from django.shortcuts import render

def index(request):
    return render(request, 'newapp/index.html')
```

The second screenshot shows the `index.html` file in the `newapp/templates/newapp` directory. It contains the following code:

```
<h1> Hello, this is home page </h1>
```

The third screenshot shows the `urls.py` file in the `infolabz2` directory. It contains the following code:

```
10 1. Add an import: from other_app.views import
11 2. Add a URL to urlpatterns: path('', Home.a
12 Including another URLconf
13 1. Import the include() function: from django
14 2. Add a URL to urlpatterns: path('blog/', i
15 """
16 from django.contrib import admin
17 from django.urls import path,include
18
19 urlpatterns = [
20     path('admin/', admin.site.urls),
21     path('', include('newapp.urls')),
22 ]
23
24
```

The Explorer sidebar on the left of the third screenshot shows the project structure:

- INTERNSHIP
- API
- infolabz
- infolabz2
 - __pycache__
 - __init__.py
 - asgi.py
 - settings.py
 - urls.py (selected)
 - wsgi.py
- newapp
- db.sqlite3
- manage.py
- myproject
- newproject

- **Page Routing in Django**

Use Django Template tags for routing the urls.

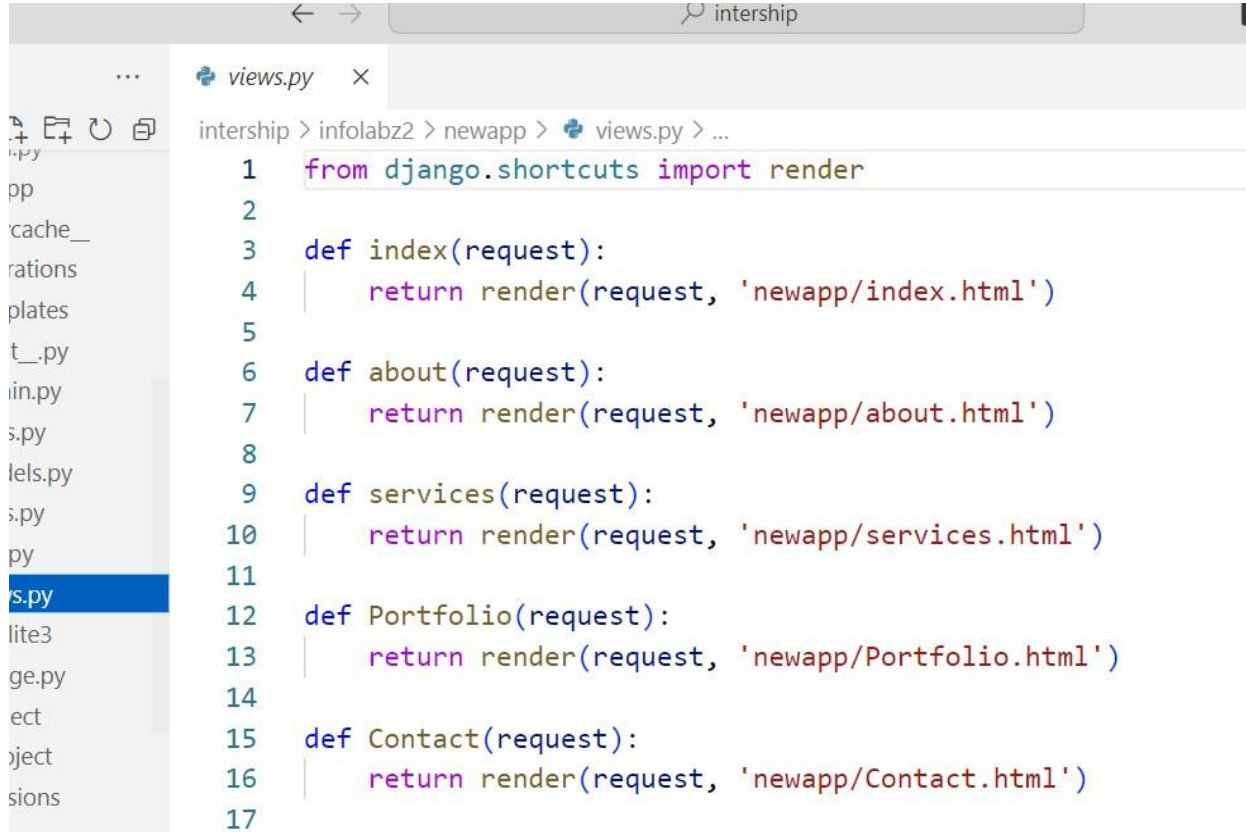
href = "{% url 'url name' %}"

In that we create multiple page like Home, About Us, Contact Us, Services, and Portfolio. Also Create Route for visit each other from every pages.



The screenshot shows a code editor with a file explorer on the left and a code editor on the right. The file explorer shows a project structure with files like urls.py, views.py, and templates. The code editor shows the contents of urls.py, which defines the URL patterns for the application.

```
1 from django.urls import path
2 from . import views
3
4 urlpatterns = [
5     path('', ( views.index), name='indexfile'),
6     path('about/', ( views.about), name='aboutfile'),
7     path('Services/', ( views.services), name='Servicesfile'),
8     path('Portfolio/', ( views.Portfolio), name='Portfoliofile'),
9     path('Contact/', ( views.Contact), name='Contactfile'),
10 ]
```



The screenshot shows a code editor with a file explorer on the left and a code editor on the right. The file explorer shows a project structure with files like urls.py, views.py, and templates. The code editor shows the contents of views.py, which defines the view functions for the application.

```
1 from django.shortcuts import render
2
3 def index(request):
4     return render(request, 'newapp/index.html')
5
6 def about(request):
7     return render(request, 'newapp/about.html')
8
9 def services(request):
10    return render(request, 'newapp/services.html')
11
12 def Portfolio(request):
13    return render(request, 'newapp/Portfolio.html')
14
15 def Contact(request):
16    return render(request, 'newapp/Contact.html')
17
```

- **Implementation of Static folder (CSS, JS & IMAGES) in Django**

Load static things in html templates using tags load static.

For that first we have to create a static folder inside app.

```
<> index.html ×
finalproject > final > templates > final > <> index.html > html > body > section.navigation > div.nav-container >
1 <html>
2 <header>
3 <title>Django Project</title>
4 <link rel="stylesheet" type="text/css" href="static/css/index.css" />
5 <link rel="stylesheet" type="text/css" href="static/css/temp.css" />
6 <link rel="stylesheet" type="text/css" href="static/css/footer.css" />
7 </header>
8 <body>
9 <section class="navigation">
```

- **Bootstrap**

Also add Bootstrap in that html page same as other static files like CSS.

```
# temp.css ×
finalproject > final > static > css > # temp.css > .card-text
1 @import url('https://fonts.googleapis.com/css2?family=Playfair+Display:ital,wght@0,400;0,9
2 *{
3 margin:0;
4 padding:0;
5 box-sizing:border-box;
6 font-family:'Playfair Display', serif;
7 }
8 body{ background:url(https://w0.peakpx.com/wallpaper/248/213/HD-wallpaper-abstract-texture
9 background-size:cover;
10 background-position:right;
11 background-attachment:fixed;
12 }
13 #header{
14 margin:20px;
15 }
16 #header>h1{
17 text-align:center;
18 font-size:smaller;
19 }
20 #header>p{
21 text-align:center;
```

- **Dictionary**

Learn about python inbuilt data type dictionary in that we can store key, value pair.

```

Day_8 > dics.py > ...
1 mydata = {"ahemdabad":100,"Surata":200,"Rajkot":300}
2 print(mydata["Rajkot"])
3
4 mydata1 = {"Ahmedabad":100,"Surat":[200,250,1],"Rajkot":300}
5 print(mydata1["Surat"][1])
6
7 mydata2 = {"Ahmedaba":[{"Date":"5 Aug 2023","cases":15},
8                     {"Date":"6 Aug 2023","cases":25},
9                     {"Date":"7 Aug 2023","cases":35}],
10            "Surat":[200,250,1],
11            "Rajkot":300}
12 print(mydata2["Ahmedaba"][1]["Date"])
13 print(mydata.keys())
  
```

- **Requests Package**

Install Request package using command: pip install request

Get info about use of request package.

```

mutual_fund.py > ...
1 import requests
2
3 url = requests.get("https://api.mfapi.in/mf")
4 mydata = (module) requests
5
6 # print
7 print()
8 print()
  
```

Requests HTTP Library

Requests is an HTTP library, written in Python, for human beings. Basic GET usage:

```

>>> import requests
>>> r = requests.get('https://www.python.org')
>>> r.status_code
200
>>> b'Python is a programming language' in r.content
True
  
```

mutual_fund.py X

Day_8 > mutual_fund.py > ...

```
1 import requests
2
3 url = requests.get("https://api.mfapi.in/mf")
4 mydata
5
6 # print payload = dict(key1='value1', key2='value2')
7 print(>>> r = requests.post('https://httpbin.org/post',
8 print(data=payload)
>>> print(r.text)
{
...
"form": {
    "key1": "value1",
    "key2": "value2"
```

- **Concept of APIs**

Get information about Application Programming Interface.

Lear to fetch data from API with the help of request package.

Day_8 > news.py > ...

```
1 import requests
2
3 url = requests.get("https://inshortsapi.vercel.app/news?category=sports")
4 mydata = url.json()
5
6 print(mydata.keys())
7 print(len(mydata["data"]))
```

- **API: Covid, Bitcoin, ISRO etc.**

Perform task to fetch various data from given API of Covid, Bitcoin, and ISRO's API.

covid.py ×

Day_8 > covid.py > ...

```
1 import requests
2
3 url = requests.get("https://data.covid19india.org/data.json")
4 mydata = url.json()
5
6 print(mydata.keys())
7 print(mydata["cases_time_series"][0]["date"])
8 print(len(mydata["cases_time_series"]))
```

bitcoins.py ×

Day_8 > bitcoins.py > ...

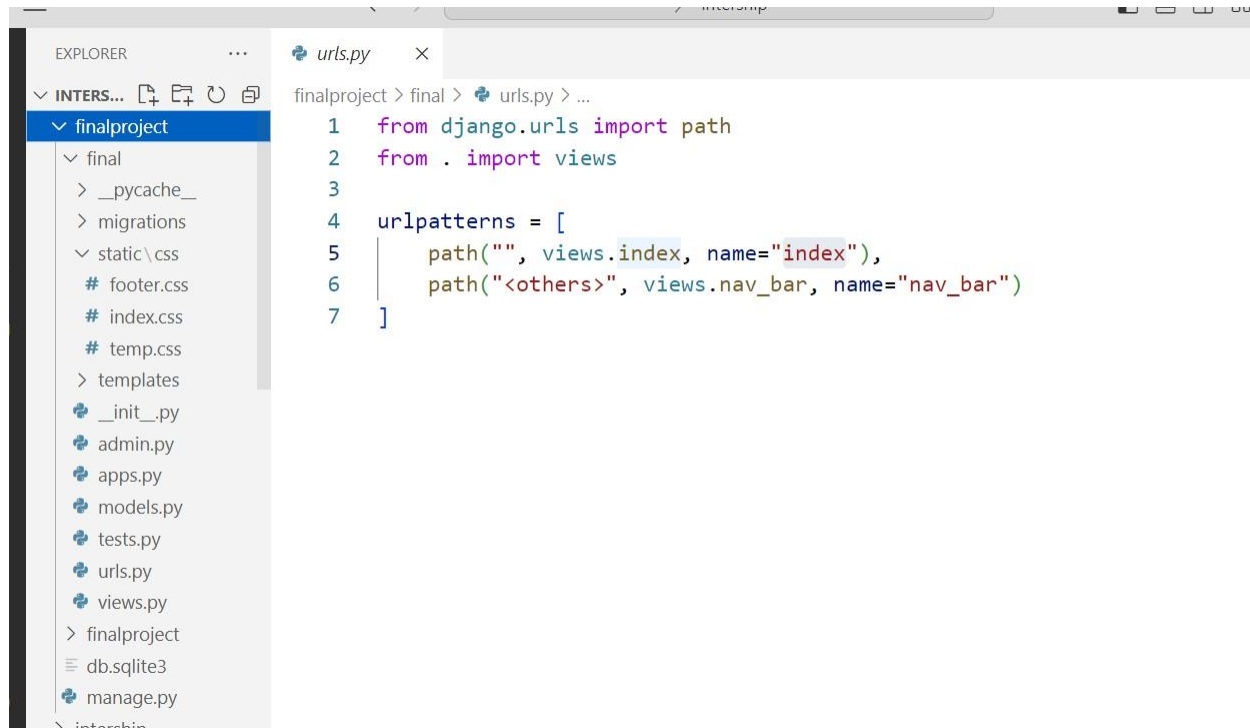
```
1 import requests
2
3 url = requests.get("http://api.coindesk.com/v1/bpi/currentprice.json")
4 mydata = url.json()
5
6 print(type(mydata))
7 print(mydata["bpi"]["USD"]["rate"])
8 print(mydata.keys())
```

isro.py ×

Day_8 > isro.py > ...

```
1 import requests
2
3 url = requests.get("https://isro.vercel.app/api/spacecrafts")
4 mydata = url.json()
5
6 print(mydata.keys())
7 print(len(mydata["spacecrafts"]))
8 print((mydata["spacecrafts"])[0]["name"])
```

- **API Integration in Webpages using Django Framework**
Fetch information from API and add that data into web pages



The screenshot shows a code editor with a file explorer on the left and a code editor on the right. The file explorer shows a project structure with a 'finalproject' folder containing 'final' and 'static' subfolders. The 'final' folder contains files like 'urls.py', 'views.py', 'models.py', 'tests.py', 'admin.py', 'apps.py', 'migrations', and 'static'. The 'static' folder contains 'css' and 'templates' subfolders. The code editor shows the content of 'urls.py' in the 'finalproject' folder. The code defines URL patterns for the 'index' and 'nav_bar' views.

```
1 from django.urls import path
2 from . import views
3
4 urlpatterns = [
5     path("", views.index, name="index"),
6     path("<others>", views.nav_bar, name="nav_bar")
7 ]
```



```
35         </ul>
36     </nav>
37 </div>
38 </section>
39 <div id="header">...
42 </div>
43 <div class="container">
44     {% for i in news.data.articles %}
45
46     <div class="card">
47         <div class="card-image">
48             
49         </div>
50         <div class="card-text">
51             <h2 class="card-title">{{i.title}}</h2>
52             <p class="card-body">{{ i.content }}</p>
53         </div>
54         <button class="card-price" type="button">AuthorName : {{ i.author
55     </div>
56
57     {% endfor %}
58 </div>
```

```
3
4 def index(req):
5     records = {}
6     url = requests.get("https://inshorts.me/news/all?offset=0&limit=21")
7     allnews = url.json()
8
9     records['news'] = allnews
10    return render(req, "final/index.html", records)
11
12 def nav_bar(req, others):
13     records = {}
14     if others == "topnews":
15         url = requests.get("https://inshorts.me/news/top?offset=0&limit=21")
16         topnews = url.json()
17         records['news'] = topnews
18         return render(req, "final/index.html", records)
19     if others == "trendingnews":
20         url = requests.get("https://inshorts.me/news/trending?offset=0&limit=21")
21         trendingnews = url.json()
22         records['news'] = trendingnews
23         return render(req, "final/index.html", records)
24     if others == "sciencenews":
```

- **Assignment project task**

Give an Assignment to create project on given API. Which contain multiple pages.

All pages have use static files like css, bootstraps, images etc.

Also use Routine Concept for visit all pages from nav-bar.

```

15 <div class="nav-mobile"><a id="navbar-toggle" href="#!"><span>
16 <ul class="nav-list">
17   <li>
18     <a href="{% url 'index' %}">All News</a>
19   </li>
20   <li>
21     <a href="{% url 'nav_bar' 'topnews' %}">topnews</a>
22   </li>
23   <li>
24     <a href="{% url 'nav_bar' 'trendingnews' %}">trendingnews</a>
25   </li>
26   <li>
27     <a href="{% url 'nav_bar' 'sciencenews' %}">sciencenews</a>
28   </li>
29   <li>
30     <a href="{% url 'nav_bar' 'entertainmentnews' %}">entertainmentnews</a>
31   </li>
32   <li>
33     <a href="{% url 'nav_bar' 'sportsnews' %}">sportsnews</a>
34   </li>
35 </ul>
36 </div>

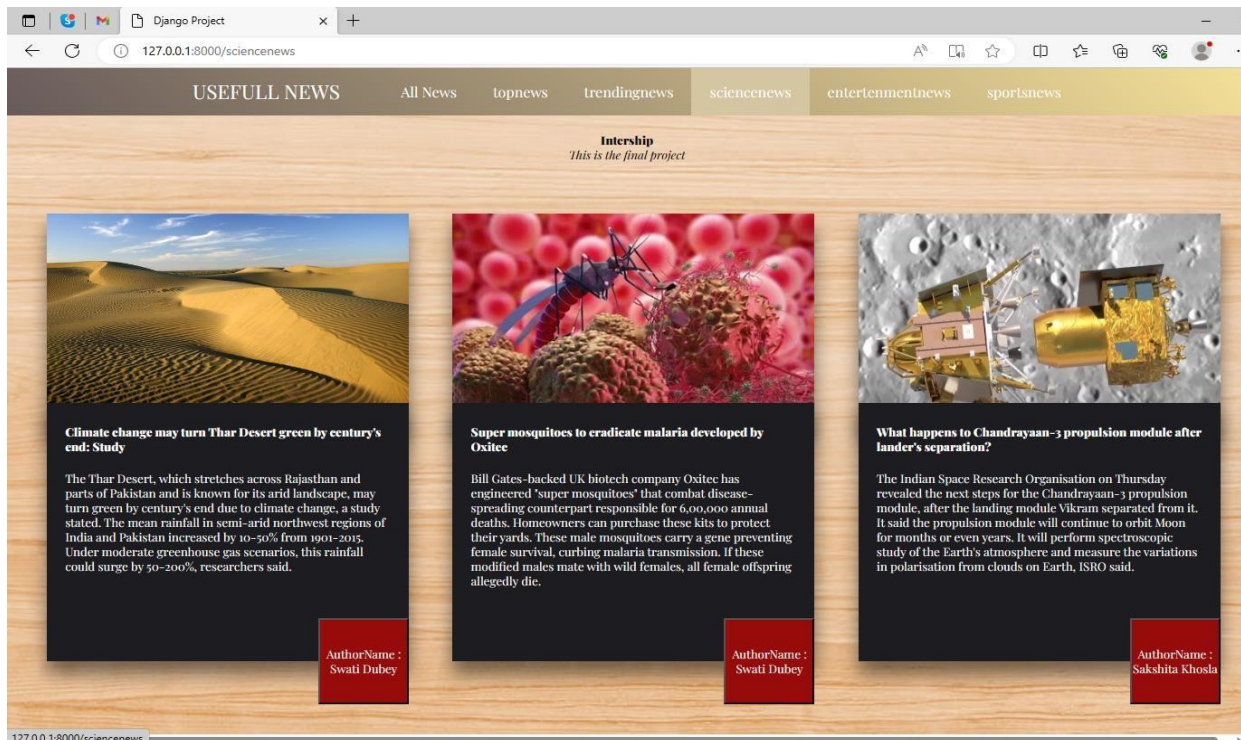
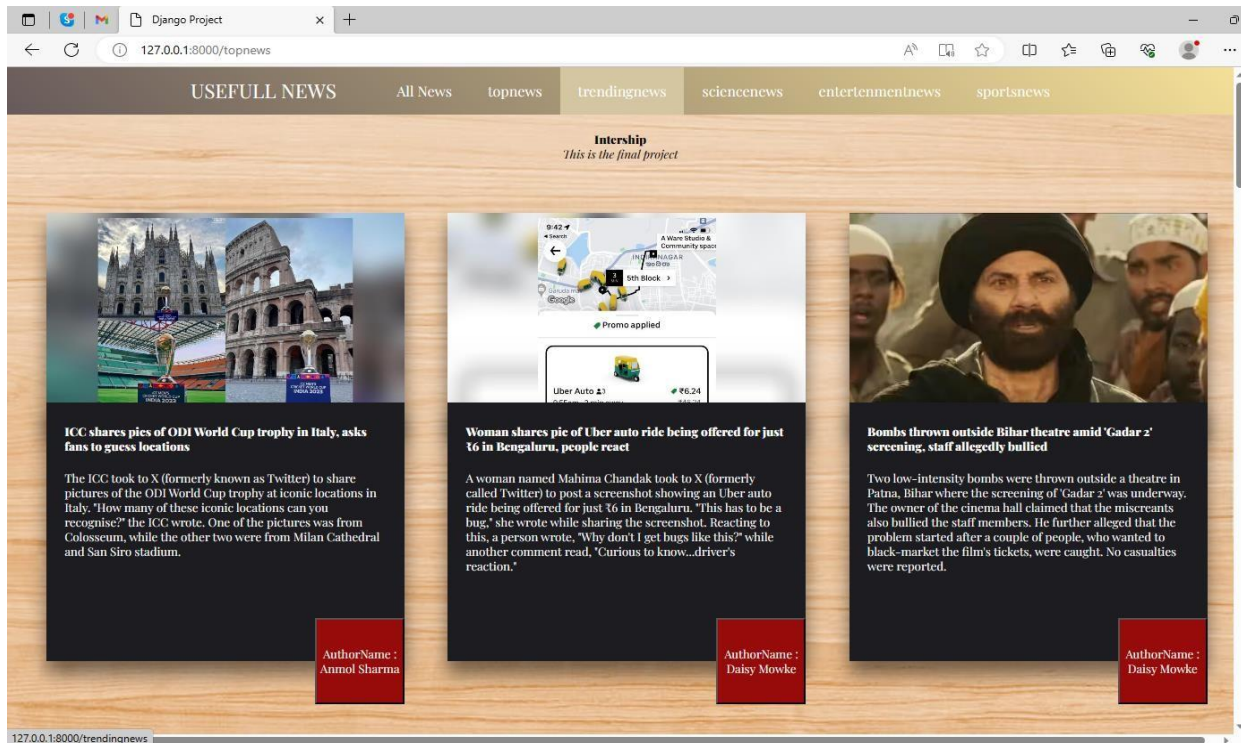
```

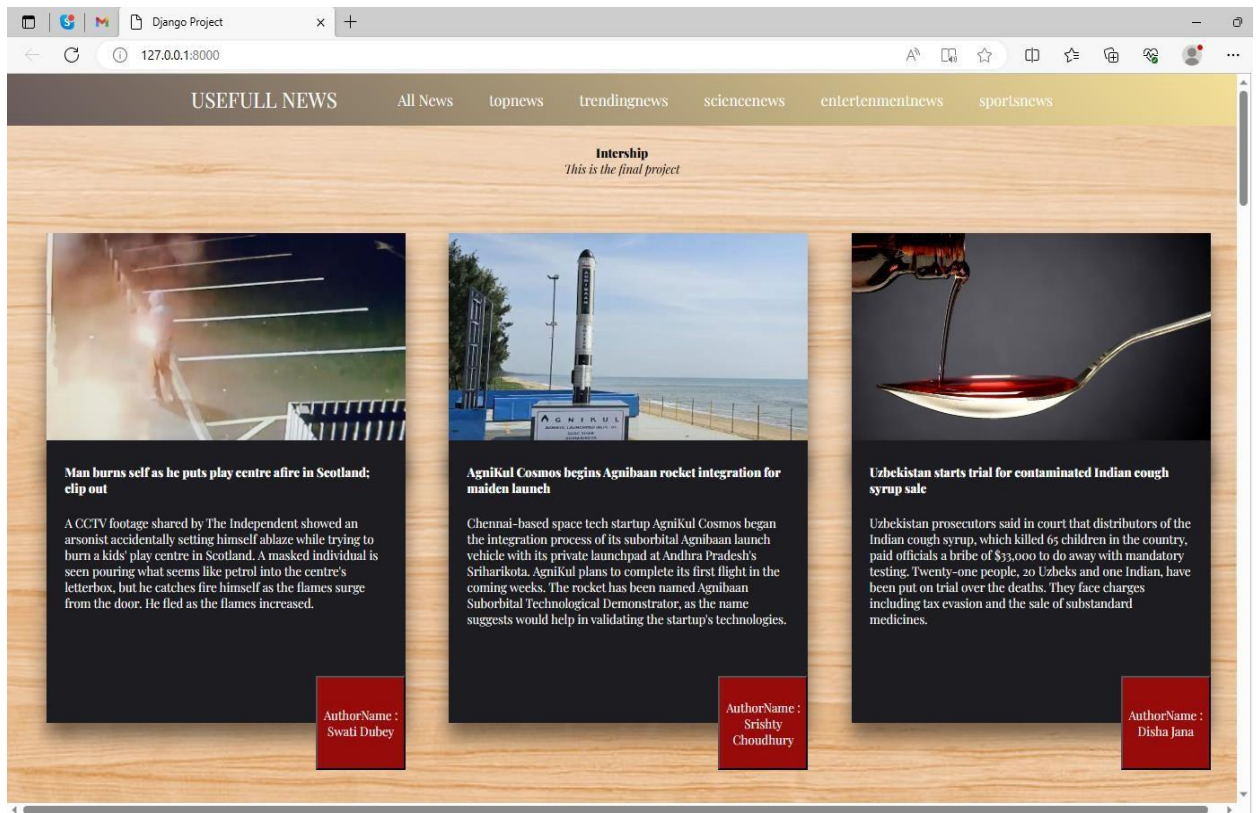
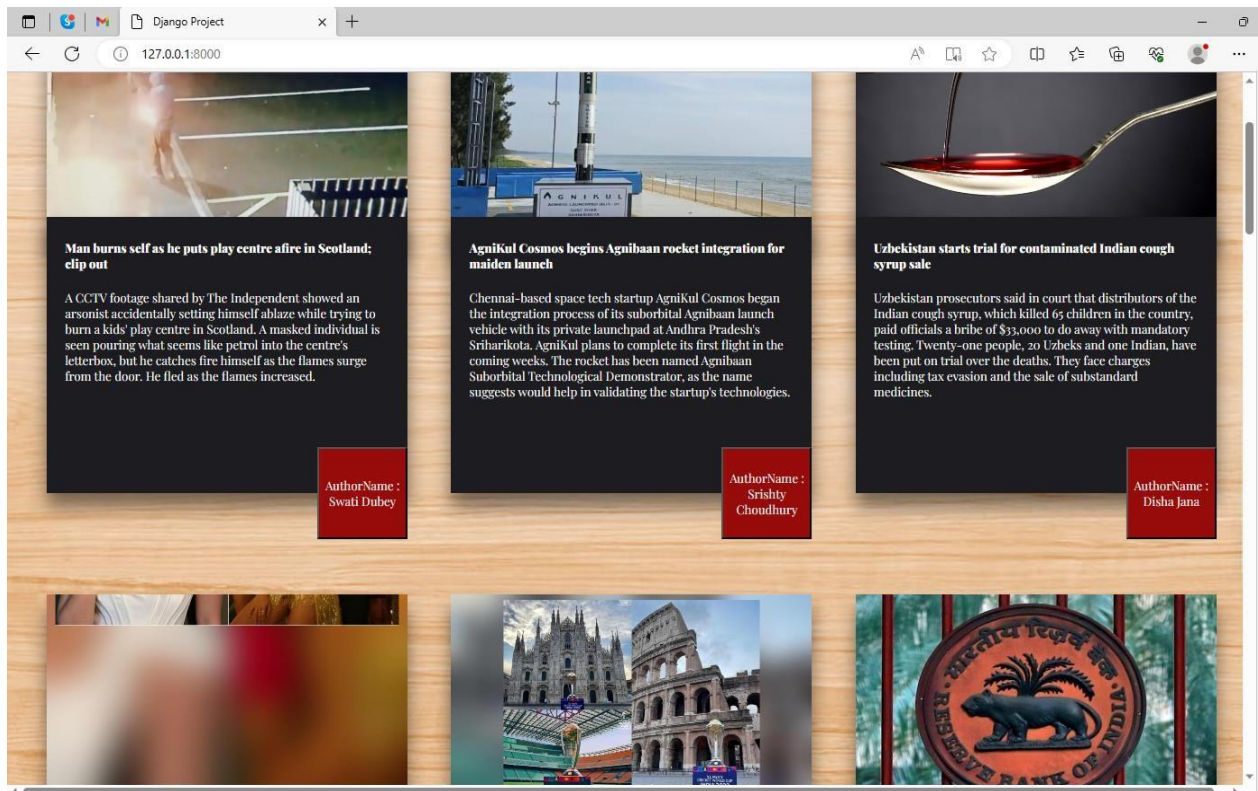
```

6 Examples:
7 Function views
8   1. Add an import: from my_app import views
9   2. Add a URL to urlpatterns: path('', views.home, name='home')
10 Class-based views
11   1. Add an import: from other_app.views import Home
12   2. Add a URL to urlpatterns: path('', Home.as_view(), name='home')
13 Including another URLconf
14   1. Import the include() function: from django.urls import include, path
15   2. Add a URL to urlpatterns: path('blog/', include('blog.urls'))
16 """
17 from django.contrib import admin
18 from django.urls import path, include
19
20 urlpatterns = [
21     path('admin/', admin.site.urls),
22     path('', include('final.urls')),
23 ]
24

```


- **Project : Real time news website using in shorts API**
Create Project As per Given Assignment by over self.
Here I attach final Output of that project.





- **Project Revision**

At last gives Solution if any in final Project.

Also revise all the topics from starting.

- **Conclusion**

In conclusion, I thank my instructor. I really appreciate the way I have been guided through this internship program. Beginning from the opportunity I got as an intern in infolabz. I give time to this internship program is really useful for me to expand my knowledge in several task in company, learn and adding values.

I finally earned the confidence to deal with difficulties in assignments by myself. It is through them that I can't wait to start a life of work in any place at my own,

In short:

I now appreciate more what the different between college learning and then actually apply knowledge in work place at company.

I have acquired knowledge and additional practical experiences.