

## 1. Current Date and Time, four hours ahead and before

Settings.py:

```
INSTALLED_APPS = [
    'django.contrib.admin',
    'django.contrib.auth',
    'django.contrib.contenttypes',
    'django.contrib.sessions',
    'django.contrib.messages',
    'django.contrib.staticfiles',
    'app1',
    'listapp',
    'date',
    'website',
    'app5',
]
```

Project urls.py:

```
from django.contrib import admin
from django.urls import include, path

urlpatterns = [
    path("", include("app1.urls")),
    path("", include("listapp.urls")),
    path("", include("date.urls")),
    path("", include("website.urls")),
    path("", include("app5.urls")),
    path('admin/', admin.site.urls),
]
```

Views.py:

```
from django.shortcuts import render
from django.http import HttpResponse
from django.template import loader
from datetime import datetime, timedelta

def app3(request):
    current_datetime=datetime.now()
    delta=timedelta(hours=4)
    newtime=current_datetime+delta
    beforetime=current_datetime-delta
    html=<html><body><b>Current Date and Time: </b> %s </body></html>% current_datetime
    html1=<html><body><br><b> Four Hour after: </b> %s </body></html>% newtime
    html2=html+html1+<html><body><br><b>Fours hours before: </b> %s </body></html>% beforetime
    return HttpResponse(html2)
```

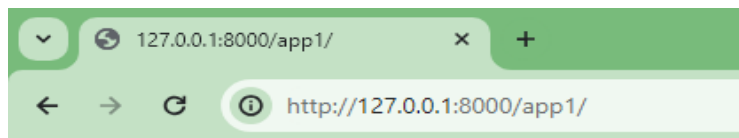
```
from django.shortcuts import render
from django.http import HttpResponse
from django.template import loader
from datetime import datetime

def app1(request):
    current_datetime=datetime.now()
    html=<html><body><b>Current date and time :</b>%s</body></html>%current_datetime
    return HttpResponse(html)
```

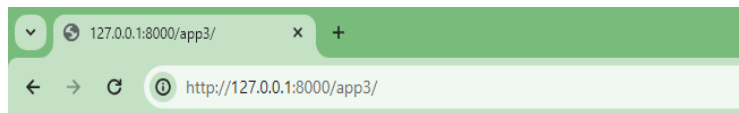
App urls.py:

```
from django.urls import path
from . import views
urlpatterns=[
    path('app3/',views.app3,name='app3'),
]
```

Output:



**Current date and time :**2024-06-14 23:51:19.076724



**Current Date and Time:** 2024-06-14 23:52:12.277398

**Four Hour after:** 2024-06-15 03:52:12.277398

**Fours hours before:** 2024-06-14 19:52:12.277398

## 2. Fruits and Student List and Basic small website and webpages

Settings.py:

```
INSTALLED_APPS = [
    'django.contrib.admin',
    'django.contrib.auth',
    'django.contrib.contenttypes',
    'django.contrib.sessions',
    'django.contrib.messages',
    'django.contrib.staticfiles',
    'app1',
    'listapp',
    'date',
    'website',
    'app5',
]
```

Project Urls.py:

```
from django.contrib import admin
from django.urls import include, path

urlpatterns = [
    path("", include("app1.urls")),
    path("", include("listapp.urls")),
    path("", include("date.urls")),
    path("", include("website.urls")),
    path("", include("app5.urls")),
    path('admin/', admin.site.urls),
]
```

Views.py:

```
views.py X
listapp > views.py
1 from django.shortcuts import render
2 from django.http import HttpResponse
3
4 def listapp(request):
5     fruits=['Apple','Banana','Orange','Mango','Pineapple']
6     students=['John','Jane','Mike','Sarah','Tom']
7     context={
8         'fruits':fruits,
9         'students':students
10    }
11    return render(request,'list.html',context)
12
```

```
views.py X
website > views.py
1 from django.shortcuts import render
2
3 def website(request):
4     return render(request,'home.html')
5 def about(request):
6     return render(request,'about.html')
7 def contact(request):
8     return render(request,'contact.html')
9
```

App urls:

```

urls.py X
listapp > urls.py
1 from django.urls import path
2 from . import views
3
4 urlpatterns=[
5     path('listapp/',views.listapp,name='listapp'),
6 ]
7

```

Html:

```

list.html X
listapp > templates > list.html > ...
1 <!DOCTYPE html>
2 <html lang="en">
3 <head>
4     <meta charset="UTF-8">
5     <meta name="viewport" content="width=device-width, initial-scale=1.0">
6     <title>Fruits and Student</title>
7 </head>
8 <body>
9     <div>
10         <h1>Fruits</h1>
11         <ul>
12             {%for fruit in fruits%}
13             <li>{{fruit}}</li>
14             {%endfor%}
15         </ul>
16     </div>
17     <div>
18         <h1>Selected Students</h1>
19         <ul>
20             {%for student in students%}
21             <li>{{student}}</li>
22             {%endfor%}
23         </ul>
24     </div>
25 </body>
26 </html>

```

```

about.html X
website > templates > about.html > ...
1 {% extends 'layout.html' %}
2 {% block title %}About Us{% endblock %}
3 {% block content %}
4 <div>
5     <h1>About Us</h1>
6     <p>We are a Company that provides awesome products. </p>
7 </div>
8 <div>
9     <h2>Web Development</h2>
10    <p>This website is a part of our Fullstack Laboratory.</p>
11 </div>
12 {% endblock %}
13

```

```

< layout.html > < contact.html >
website > templates > < contact.html > div > ul > li
1  {% extends 'layout.html' %}
2  {% block title %}The ul element represents a list of items, where the order of the
3  {% block content %}where changing the order would not materially change the mea
4  <div>
5      MDN Reference
6  </div>
7  <ul>
8      <li>Email: abc@gmail.com</li>
9      <li>Phone: 123-456-789</li>
10     <li>Address: 123 Main Street,City,State</li>
11 </ul>
12 </div>
13 {% endblock %}

```

```

< home.html >
website > templates > < home.html > ...
1  {% extends 'layout.html' %}
2  {% block title %}Home{% endblock %}
3  {% block content %}
4  <div>
5      <h1>Welcome to my Website.</h1>
6      <p>This is the home page of my website.</p>
7  </div>
8  {% endblock %}
9
10

```

Output:

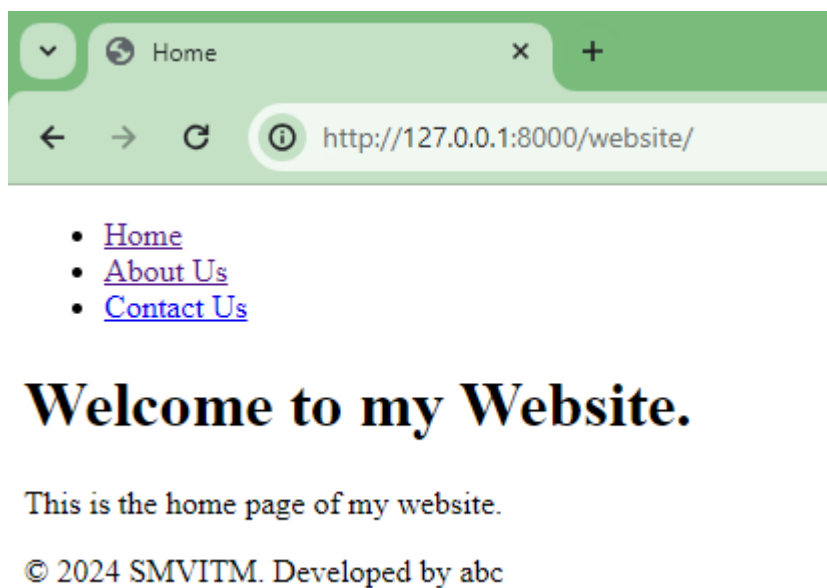
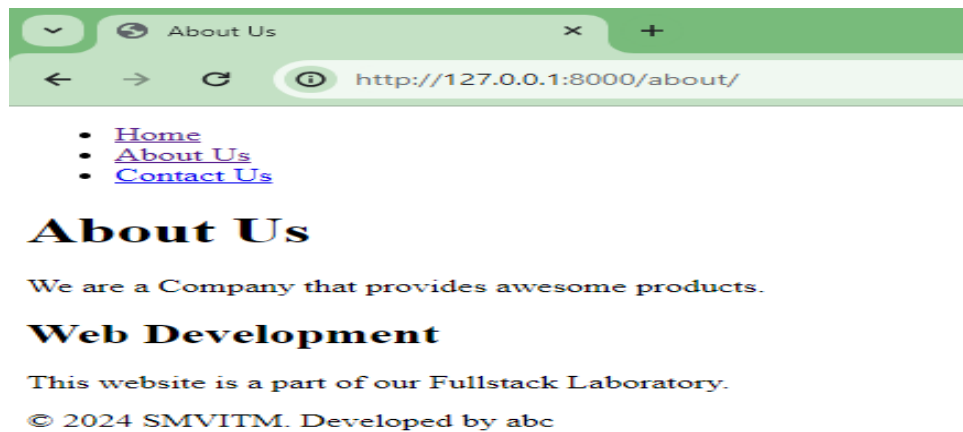


## Fruits

- Apple
- Banana
- Orange
- Mango
- Pineapple

## Selected Students

- John
- Jane
- Mike
- Sarah
- Tom



### 3. Student registration

Settings.py:

```
INSTALLED_APPS = [  
    'django.contrib.admin',  
    'django.contrib.auth',  
    'django.contrib.contenttypes',  
    'django.contrib.sessions',  
    'django.contrib.messages',  
    'django.contrib.staticfiles',  
    'app1',  
    'listapp',  
    'date',  
    'website',  
    'app5',  
]
```

## Urls.py

```
from django.contrib import admin
from django.urls import include, path

urlpatterns = [
    path("", include("app1.urls")),
    path("", include("listapp.urls")),
    path("", include("date.urls")),
    path("", include("website.urls")),
    path("", include("app5.urls")),
    path('admin/', admin.site.urls),
]
```

## Admin.py:

```
admin.py x
app5 > admin.py
1 from django.contrib import admin
2 from .models import Course, Student, Project
3
4 class CourseAdmin(admin.ModelAdmin):
5     list_display=('name', 'description')
6     admin.site.register(Course, CourseAdmin)
7
8 class StudentAdmin(admin.ModelAdmin):
9     list_display=('first_name', 'last_name', 'email')
10    filter_horizontal=('courses',)
11    admin.site.register(Student, StudentAdmin)
12
13 class ProjectAdmin(admin.ModelAdmin):
14     list_display=('topic', 'languages_used', 'duration')
15     admin.site.register(Project, ProjectAdmin)
16 # Register your models here.
```

## Urls.py:

```
urls.py x
app5 > urls.py
1 from django.urls import path
2 from . import views
3 urlpatterns=[
4     path("index/", views.index, name="index"),
5     path("register_student/", views.register_student, name="register_student"),
6     path("register_course/", views.register_course, name="register_course"),
7     path("studentlist/<int:course_id>/", views.studentlist, name="studentlist"),
8     path("register_project/", views.register_project, name="register_project"),
9     path("projectlist/<int:project_id>/", views.projectlist, name="projectlist"),
10 ]
```

## Forms.py:

```

forms.py X
app5 > forms.py
1 from django import forms
2 from .models import Student, Course, Project
3
4 class StudentForm(forms.ModelForm):
5     class Meta:
6         model=Student
7         fields=['first_name','last_name','email','courses','projects']
8         widgets={
9             'first_name':forms.TextInput(attrs={'class':'form-control'}),
10            'last_name':forms.TextInput(attrs={'class':'form-control'}),
11            'email':forms.EmailInput(attrs={'class':'form-control'}),
12            'courses':forms.SelectMultiple(attrs={'class':'form-select','data-toggle':'dropdown'}),
13            'projects':forms.SelectMultiple(attrs={'class':'form-select','data-toggle':'dropdown'}),
14        }
15 class CourseForm(forms.ModelForm):
16     class Meta:
17         model=Course
18         fields=['name','description']
19         widgets={
20             'name':forms.TextInput(attrs={'class':'form-control'}),
21             'description':forms.Textarea(attrs={'class':'form-control','rows':3}),
22         }
23 class ProjectForm(forms.ModelForm):
24     class Meta:
25         model=Project
26         fields=['topic','languages_used','duration']
27         widgets={
28             'topic':forms.TextInput(),
29             'languages_used':forms.TextInput(),
30             'duration':forms.TextInput(),
31         }

```

Models.py:

```

models.py X
app5 > models.py
1 from django.db import models
2 class Course(models.Model):
3     name=models.CharField(max_length=255)
4     description=models.TextField(blank=True,null=True)
5     def __str__(self):
6         return f"{self.name}"
7
8
9 class Project(models.Model):
10    topic=models.CharField(max_length=100,default='')
11    languages_used=models.CharField(max_length=100,default='')
12    duration=models.IntegerField(default=0)
13    def __str__(self):
14        return f"{self.topic}"
15
16 class Student(models.Model):
17    first_name=models.CharField(max_length=255)
18    last_name=models.CharField(max_length=255)
19    email=models.EmailField(unique=True,default='')
20    courses=models.ManyToManyField(Course,related_name='students',blank=True)
21    projects=models.ManyToManyField(Project,related_name='students_project',blank=True)
22    def __str__(self):
23        return f"{self.first_name} {self.last_name}"
24
25
26
27 # Create your models here.

```

Views.py:

```

views.py X
app5 > views.py
1 from django.shortcuts import render,redirect
2 from .models import Student,Course,Project
3 from .forms import StudentForm,CourseForm,ProjectForm
4 def index(request):
5     courses=Course.objects.all()
6     projects=Project.objects.all()
7     return render(request,'index.html',{'courses':courses,'projects':projects})
8 def register_student(request):
9     if request.method=="POST":
10         form=StudentForm(request.POST)
11         if form.is_valid():
12             form.save()
13             return redirect('index')
14     else:
15         form=StudentForm()
16         return render(request,'register_student.html',{'form':form})
17
18 def register_course(request):
19     if request.method=="POST":
20         form=CourseForm(request.POST)
21         if form.is_valid():
22             form.save()
23             return redirect('index')
24     else:
25         form=CourseForm()
26         return render(request,'register_course.html',{'form':form})
27 def studentlist(request,course_id):
28     course=Course.objects.get(id=course_id)
29     students=course.students.all()
30     return render(request,'studentlist.html',{'students':students,'course':course})
31
32 def projectlist(request,project_id):

```



# Html:

```
projectlist.html x studentlist.html x
app5 > templates > studentlist.html > ...
1 <!DOCTYPE html>
2 <html lang="en">
3 <head>
4   <meta charset="UTF-8">
5   <meta name="viewport" content="width=device-width, initial-scale=1.0">
6   <title>student registration</title>
7 </head>
8 <body>
9   <h1>Students registered for {{course.name}}</h1>
10  <ul>
11    {% for student in students %}
12    <li> {{student.first_name}} {{student.last_name}}</li>
13    {% endfor %}
14  </ul>
15 </body>
16 </html>

projectlist.html x register_student.html x
app5 > templates > register_student.html > ...
1 <!DOCTYPE html>
2 <html lang="en">
3 <head>
4   <meta charset="UTF-8">
5   <meta name="viewport" content="width=device-width, initial-scale=1.0">
6   <title>student registration</title>
7 </head>
8 <body>
9   <h1> register student</h1>
10  <div>
11    <form method="post">
12      {% csrf_token %}
13      {% for field in form %}
14        <div>
15          {{field.label_tag}}
16          {{field}}
17        </div>
18      {% endfor %}
19      <button type="submit">Register</button>
20    </form>
21  </div>
22 </body>
23 </html>

projectlist.html x register_project.html x
app5 > templates > register_project.html > ...
1 <!DOCTYPE html>
2 <html lang="en">
3 <body>
4   <h1> register Project</h1>
5   <div>
6     <form method="post">
7       {% csrf_token %}
8       {% for field in form %}
9         <div>
10          {{field.label_tag}}
11          {{field}}
12        </div>
13      {% endfor %}
14      <button type="submit">Register</button>
15    </form>
16  </div>
17 </body>
18 </html>
```

```

<> projectlist.html    <> register_course.html X
app5 > templates > <> register_course.html > ...
1  <!DOCTYPE html>
2  <html lang="en">
3
4  <body>
5      <h1> register course</h1>
6      <div>
7          <form method="post">
8              {% csrf_token %}
9              {% for field in form %}
10                 <div>
11                     {{field.label_tag}}
12                     {{field}}
13                 </div>
14             {% endfor %}
15             <button type="submit">Register</button>
16         </form>
17     </div>
18 </body>
19 </html>

<> projectlist.html X
app5 > templates > <> projectlist.html > ...
1  <!DOCTYPE html>
2  <html lang="en">
3  <head>
4      <meta charset="UTF-8">
5      <meta name="viewport" content="width=device-width, initial-scale=1.0">
6      <title>student registration</title>
7  </head>
8  <body>
9      <h1>Students registered for {{project.topic}}</h1>
10     <ul>
11         {% for student in students_project %}
12         <li> {{student.first_name}}{{student.last_name}}</li>
13         {% endfor %}
14     </ul>
15 </body>
16 </html>

<> index.html X
app5 > templates > <> index.html > ...
1
2  <!DOCTYPE html>
3  <html>
4      <body>
5          <div>
6              <h1>courses</h1>
7              <ul>
8                  {% for course in courses %}
9                  <li><a href="{% url 'studentlist' course.id %}">{{course.name}}</a></li>
10                 {% endfor %}
11              </ul>
12              <h1>Projects</h1>
13              <ul>
14                  {% for project in projects %}
15                  <li><a href="{% url 'projectlist' project.id %}">{{project.topic}}</a></li>
16                  {% endfor %}
17              </ul>
18              <a href="{% url 'register_student' %}">register student</a>
19              <a href="{% url 'register_course' %}">register course</a>
20              <a href="{% url 'register_project' %}">register Project</a>
21          </div>
22      </body>
23  </html>

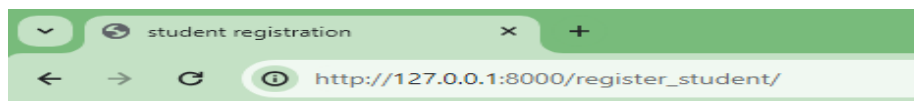
```

Output:



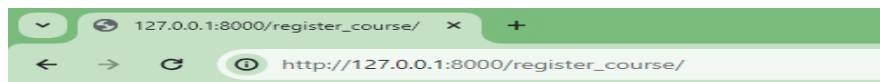
## register Project

Topic:   
Languages used:   
Duration:



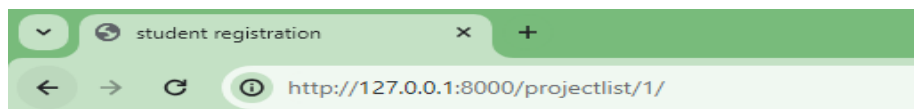
## register student

First name:   
Last name:   
Email:   
Courses:   
Projects:



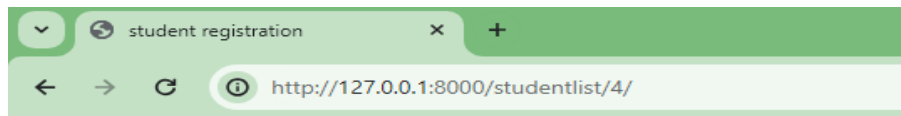
## register course

Name:   
Description:



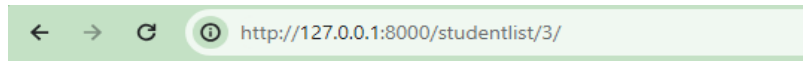
## Students registered for Dbms

- stellaharper
- lilyjack



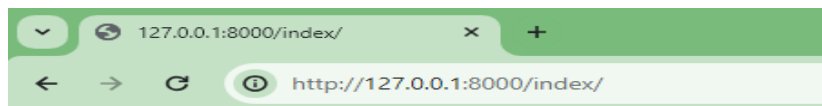
## Students registered for Web dev

- lillyrose
- lilyjack



## Students registered for android dev

- stellaharper



## courses

- [android dev](#)
- [Web dev](#)
- [ss](#)

## Projects

- [Dbms](#)
- [os](#)

[register student](#) [register course](#) [register Project](#)