



# K.S. INSTITUTE OF TECHNOLOGY, BENGALURU - 560109

## LABORATORY MANUAL 2023-2024 EVEN SEMESTER

### Module 2

**Aim:** Develop a Django app that performs student registration to a course. It should also display list of students registered for any selected course. Create students and course as models with enrolment as ManyToMany field.

**Objective:** The students will be able to

Creation of virtual environment, Django project and App to

**Concept / Theory:**

**3. Develop a Django app that performs student registration to a course. It should also display list of students registered for any selected course. Create students and course as models with enrolment as ManyToMany field.**

**In the Command Prompt**

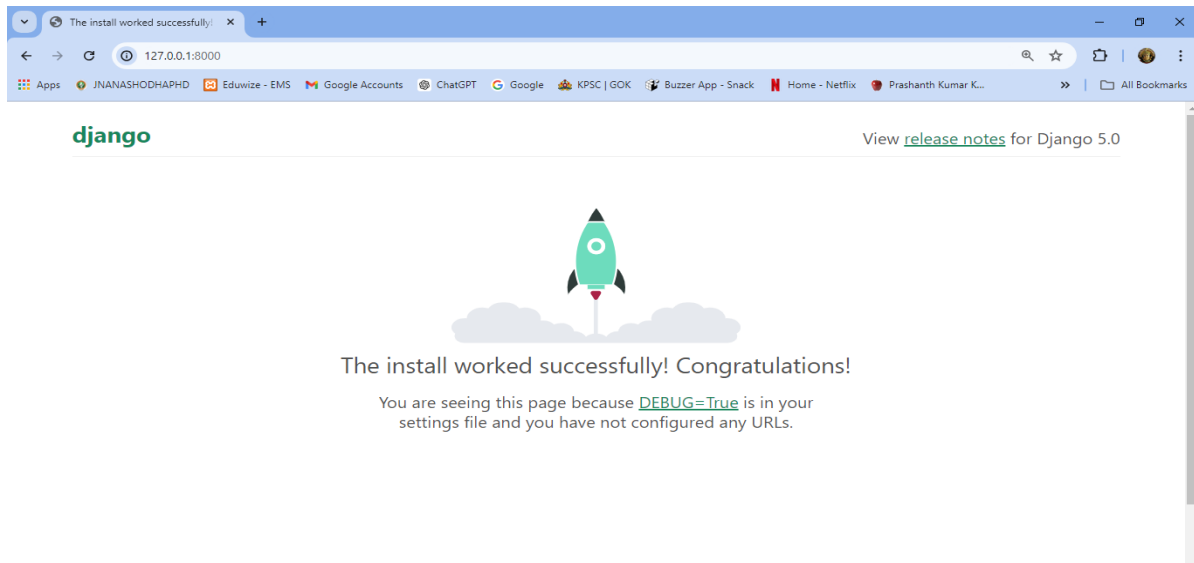
```
C:\Users\Dell>cd ..  
C:\Users>cd ..  
C:\>cd fsd  
C:\fsd>cd studCourseReg  
C:\fsd\studCourseReg>py -m venv studCourseRegVenv  
C:\fsd\studCourseReg>code .  
C:\fsd\studCourseReg>
```

**Select the Python interpreter**

**In the VSCode Terminal**

```
PS C:\fsd\studCourseReg> pip install django  
Collecting django  
  Using cached Django-5.0.6-py3-none-any.whl.metadata (4.1 kB)  
Collecting asgiref<4,>=3.7.0 (from django)  
  Using cached asgiref-3.8.1-py3-none-any.whl.metadata (9.3 kB)  
Collecting sqlparse>=0.3.1 (from django)  
  Using cached sqlparse-0.5.0-py3-none-any.whl.metadata (3.9 kB)  
Collecting tzdata (from django)  
  Using cached tzdata-2024.1-py2.py3-none-any.whl.metadata (1.4 kB)  
Using cached Django-5.0.6-py3-none-any.whl (8.2 MB)  
Using cached asgiref-3.8.1-py3-none-any.whl (23 kB)  
Using cached sqlparse-0.5.0-py3-none-any.whl (43 kB)  
Using cached tzdata-2024.1-py2.py3-none-any.whl (345 kB)  
Installing collected packages: tzdata, sqlparse, asgiref, django  
Successfully installed asgiref-3.8.1 django-5.0.6 sqlparse-0.5.0 tzdata-2024.1
```

```
PS C:\fsd\studCourseReg> django-admin startproject studCourseRegProj .
PS C:\fsd\studCourseReg> django-admin startapp studCourseRegApp
PS C:\fsd\studCourseReg> py manage.py runserver
```



## In the project Settings

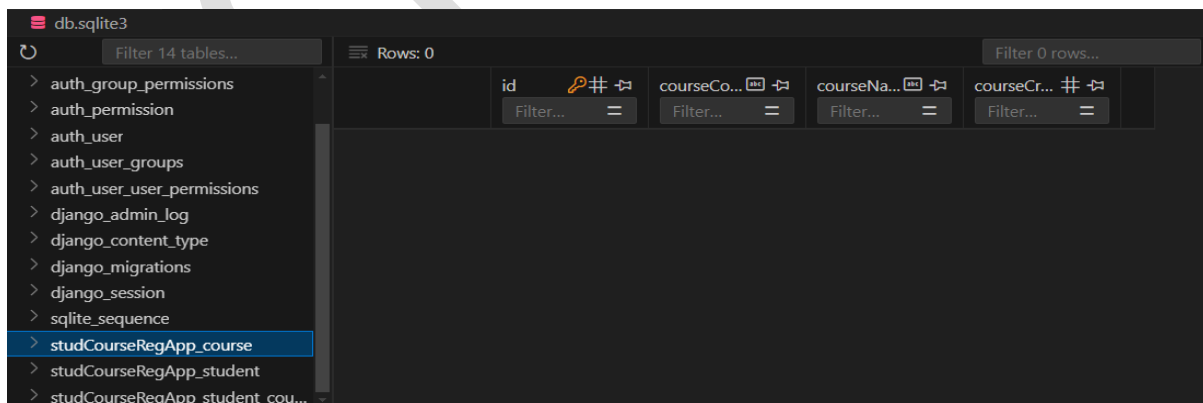
```
INSTALLED_APPS = [
    'django.contrib.admin',
    'django.contrib.auth',
    'django.contrib.contenttypes',
    'django.contrib.sessions',
    'django.contrib.messages',
    'django.contrib.staticfiles',
    'studCourseRegApp',
]
```

## In models.py of App

```
from django.db import models
class course(models.Model):
    courseCode=models.CharField(max_length=10)
    courseName=models.CharField(max_length=50)
    courseCredits=models.IntegerField()
    def __str__(self):
        return self.courseCode+" "+self.courseName+"
"+str(self.courseCredits)
class student(models.Model):
    usn=models.CharField(max_length=10)
    name=models.CharField(max_length=40)
    sem=models.IntegerField()
    courses=models.ManyToManyField(course,related_name='student_set')
    def __str__(self):
        return self.usn+" "+self.name+" "+str(self.sem)
```

```
(studCourseRegVenv) C:\fsd\studCourseReg>py manage.py makemigrations
Migrations for 'studCourseRegApp':
  studCourseRegApp\migrations\0001_initial.py
    - Create model course
    - Create model student
```

```
(studCourseRegVenv) C:\fsd\studCourseReg>py manage.py migrate
Operations to perform:
  Apply all migrations: admin, auth, contenttypes, sessions, studCourseRegApp
Running migrations:
  Applying contenttypes.0001_initial... OK
  Applying auth.0001_initial... OK
  Applying admin.0001_initial... OK
  Applying admin.0002_logentry_remove_auto_add... OK
  Applying admin.0003_logentry_add_action_flag_choices... OK
  Applying contenttypes.0002_remove_content_type_name... OK
  Applying auth.0002_alter_permission_name_max_length... OK
  Applying auth.0003_alter_user_email_max_length... OK
  Applying auth.0004_alter_user_username_opts... OK
  Applying auth.0005_alter_user_last_login_null... OK
  Applying auth.0006_require_contenttypes_0002... OK
  Applying auth.0007_alter_validators_add_error_messages... OK
  Applying auth.0008_alter_user_username_max_length... OK
  Applying auth.0009_alter_user_last_name_max_length... OK
  Applying auth.0010_alter_group_name_max_length... OK
  Applying auth.0011_update_proxy_permissions... OK
  Applying auth.0012_alter_user_first_name_max_length... OK
  Applying sessions.0001_initial... OK
  Applying studCourseRegApp.0001_initial... OK
```



```
(studCourseRegVenv) C:\fsd\studCourseReg>py manage.py shell
Python 3.12.2 (tags/v3.12.2:6abddd9, Feb 6 2024, 21:26:36) [MSC v.1937 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license" for more information.
(InteractiveConsole)
```

```
>>> from StudentCourseRegApp.models import student, course
>>> student.objects.all()
<QuerySet []>
>>> s1 = student(usn = '1KS21CS001', name = 'Aarya', sem = 6)
>>> s2 = student(usn = '1KS21CS002', name = 'Ayesha', sem = 6)
>>> s3 = student(usn = '1KS21CS003', name = 'Bheem', sem = 6)
>>> s4 = student(usn = '1KS21CS004', name = 'Chaitra', sem = 6)
>>> s5 = student(usn = '1KS21CS005', name = 'Daya', sem = 6)
>>> s6 = student(usn = '1KS21CS006', name = 'Eesho', sem = 6)
>>> s1 = student(usn = '1KS21CS001', name = 'Aarna', sem = 6)
>>> stud_list = [s1, s2, s3, s4, s5, s6]
>>> for s in stud_list:
...     s.save()
```

| Rows: 6 |           |            |           |           |  | Filter 6 rows... |
|---------|-----------|------------|-----------|-----------|--|------------------|
|         | id        | usn        | name      | sem       |  |                  |
|         | Filter... | Filter...  | Filter... | Filter... |  |                  |
| 1       | 1         | 1KS21CS001 | Aarna     | 6         |  |                  |
| 2       | 2         | 1KS21CS002 | Ayesha    | 6         |  |                  |
| 3       | 3         | 1KS21CS003 | Bheem     | 6         |  |                  |
| 4       | 4         | 1KS21CS004 | Chaitra   | 6         |  |                  |
| 5       | 5         | 1KS21CS005 | Daya      | 6         |  |                  |
| 6       | 6         | 1KS21CS006 | Eesho     | 6         |  |                  |

```
>>> c1 = course(courseCode = '21CS61', courseName = 'SEPM', courseCredits= 3)
>>> c2 = course(courseCode = '21CS62', courseName = 'FSD', courseCredits= 3)
>>> c3 = course(courseCode = '21CS63', courseName = 'CGV', courseCredits= 3)
>>> c4 = course(courseCode = '21CS64', courseName = 'ADA', courseCredits= 3)
>>> course_list = [c1, c2, c3, c4]
>>> for c in course_list:
...     c.save()
...
>>>
```

| Rows: 4 |           |             |             |             |  | Filter 4 rows... |
|---------|-----------|-------------|-------------|-------------|--|------------------|
|         | id        | courseCo... | courseNa... | courseCr... |  |                  |
|         | Filter... | Filter...   | Filter...   | Filter...   |  |                  |
| 1       | 1         | 21CS61      | SEPM        | 3           |  |                  |
| 2       | 2         | 21CS62      | FSD         | 3           |  |                  |
| 3       | 3         | 21CS63      | CGV         | 3           |  |                  |
| 4       | 4         | 21CS64      | ADA         | 3           |  |                  |

In baseTempale.html of templates folder under App

```
<!DOCTYPE html>
<html>
```

```

<head>
    <style>
        nav{background-color: lightblue; padding: 10px;}
    </style>
    <title>
        {% block title %} {% endblock %}
    </title>
</head>

<body>
    <center> <h1 style="background-color: rgb(4, 4, 93);color:rgb(246, 246, 71)"> STUDENT COURSE REGISTRATION PORTAL</h1></center>
    <nav>
        <a href="/home/">HOME</a>|
        <a href="/studentlist/">STUDENT LIST</a>|
        <a href="/courselist/">COURSE LIST</a>|
        <a href="/register/">REGISTER</a>|
        <a href="/enrolledlist/">ENROLLED LIST</a>|
    </nav>
    <section>
        {% block content %} {% endblock %}
    </section>
    <footer>
        <hr/>
        <center>
            &copy; Designed and Developed by Ms.Namyapriya D, CSE, KSIT,
Bangalore-109
        </center>
    </footer>

</body>
</html>

```

**In home.html of templates folder under App**

```

{% extends 'basicTemplate.html' %}
{% block title %} Home Page {% endblock %}
{% block content %}
<li>Click on Student List to get the List of students</li>
<li> Click on Course List to get the list of courses</li>
<li>click on register to enroll student to a course</li>
{% endblock %}

```

**In studentlist.html of templates folder under App**

```

{% extends 'basicTemplate.html' %}
{% block title %} Student List {% endblock %}
{% block content%}
<h1>Student List</h1>
<table border="1">
    <tr>

```

```

        <th>
            USN
        </th>
        <th>
            NAME
        </th>
        <th>
            SEM
        </th>
    </tr>
    {% for s in student_list %}
    <tr>
        <td>{{s.usn}}</td>
        <td>{{s.name}}</td>
        <td>{{s.sem}}</td>
    </tr>
    {% endfor %}
</table>
{% endblock %}

```

### In courselist.html of templates folder under App

```

{% extends 'basicTemplate.html' %}
{% block title %} Course List {% endblock %}
{% block content%}

<h1> Course List</h1>

<table border="1">
    <tr>
        <th>
            Sub Code
        </th>
        <th>
            Sub Name
        </th>
        <th>
            Credits
        </th>
    </tr>
    {% for c in course_list %}
    <tr>
        <td>{{c.courseCode}}</td>
        <td>{{c.courseName}}</td>
        <td>{{c.courseCredits}}</td>
    </tr>
    {% endfor %}
</table>
{% endblock %}

```

### In register.html of templates folder under App

```
{% extends 'basicTemplate.html' %}
{% block title %} Course Register Page {% endblock %}
{% block content %}
<h1> Student Course Registration</h1>
<form method="POST" action="">
    {% csrf_token %}
    Select USN:
    <select name="student">
        {% for s in student_list %}
        <option value="{{s.id}}">{{s.usn}}</option>
        {% endfor %}
    </select>
    Select Course:
    <select name="course">
        {% for c in course_list %}
        <option value="{{c.id}}">{{c.courseCode}}</option>
        {% endfor %}
    </select>
    <input type="submit" value="ENROLL"/>
</form>
{% endblock %}
```

### In views.py under the app

```
from django.http import HttpResponseRedirect
from django.shortcuts import render
from studCourseRegApp.models import student,course #projectForm

def home(request):
    return render(request,'home.html')
def studentlist(request):
    s=student.objects.all()
    return render(request,'studentlist.html',{'student_list':s})
def courselist(request):
    c=course.objects.all()
    return render(request,'courselist.html',{'course_list':c})
def register(request):
    if request.method=="POST":
        sid=request.POST.get("student")
        cid=request.POST.get("course")
        studentobj=student.objects.get(id=sid)
        courseobj=course.objects.get(id=cid)
        res=studentobj.courses.filter(id=cid)
        if res:
            resp="<h1>Student with usn %s has already enrolled for the
%s<h1>"%(studentobj.usn,courseobj.courseCode)
            return HttpResponseRedirect(resp)
        studentobj.courses.add(courseobj)
```

```

        resp=<h1>student with usn %s successfully enrolled for the course
with sub code %s</h1>"%(studentobj.usn,courseobj.courseCode)
        return HttpResponseRedirect(resp)
    else:
        studentlist=student.objects.all()
        courselist=course.objects.all()
        return
render(request,'register.html',{'student_list':studentlist,'course_list':cours
elist})
def enrolledStudents(request):
    if request.method=="POST":
        cid=request.POST.get("course")
        courseobj=course.objects.get(id=cid)
        studentlistobj=courseobj.student_set.all()
        return
render(request,'enrolledlist.html',{'course':courseobj,'student_list':studentl
istobj})

    else:
        courselist=course.objects.all()
        return render(request,'enrolledlist.html',{'Course_List':courselist})

```

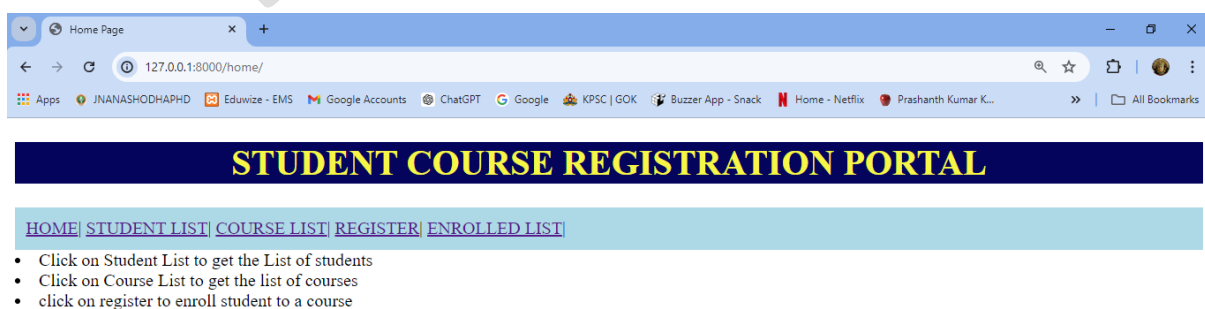
In urls.py under the project

```

from django.contrib import admin
from django.urls import path
from studCourseRegApp.views import home,
studentlist,courselist,register,enrolledStudents
urlpatterns = [
    path('secretadmin/', admin.site.urls),
    path('',home),
    path('home/',home),
    path('studentlist/',studentlist),
    path('courselist/',courselist),
    path('register/',register),
    path('enrolledlist/',enrolledStudents)
]

```

Outputs : Home page





## Student list

Student List

127.0.0.1:8000/studentlist/

Apps JNANASHODHAPHD Eduwize - EMS Google Accounts ChatGPT Google KPSC | GOK Buzzer App - Snack Home - Netflix Prashanth Kumar K...

STUDENT COURSE REGISTRATION PORTAL

[HOME](#) [STUDENT LIST](#) [COURSE LIST](#) [REGISTER](#) [ENROLLED LIST](#)

### Student List

| USN        | NAME    | SEM |
|------------|---------|-----|
| 1KS21CS001 | emily   | 6   |
| 1KS21CS002 | gabriel | 6   |
| 1KS21CS003 | sylvie  | 6   |
| 1KS21CS004 | luc     | 6   |

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## Course list

Course List

127.0.0.1:8000/courselist/

Apps JNANASHODHAPHD Eduwize - EMS Google Accounts ChatGPT Google KPSC | GOK Buzzer App - Snack Home - Netflix Prashanth Kumar K...

STUDENT COURSE REGISTRATION PORTAL

[HOME](#) [STUDENT LIST](#) [COURSE LIST](#) [REGISTER](#) [ENROLLED LIST](#)

### Course List

| Sub Code | Sub Name | Credits |
|----------|----------|---------|
| 21CS61   | SEPM     | 3       |
| 21CS62   | FSD      | 3       |
| 21CS63   | CG       | 3       |
| 21CS64   | ADJ      | 3       |
| 21CS65   | RES      | 3       |

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## Registration Page

Course Register Page

127.0.0.1:8000/register/

Apps JNANASHODHAPHD Eduwize - EMS Google Accounts ChatGPT Google KPSC | GOK Buzzer App - Snack Home - Netflix Prashanth Kumar K...

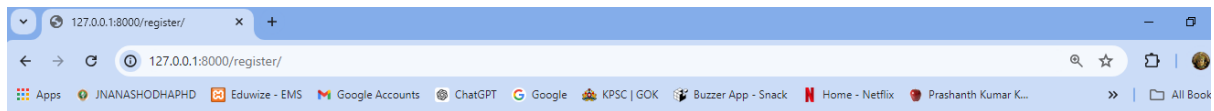
STUDENT COURSE REGISTRATION PORTAL

[HOME](#) [STUDENT LIST](#) [COURSE LIST](#) [REGISTER](#) [ENROLLED LIST](#)

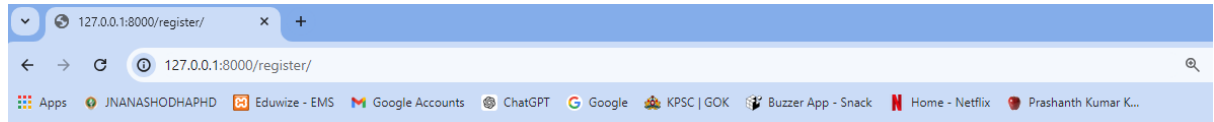
### Student Course Registration

Select USN:  Select Course:

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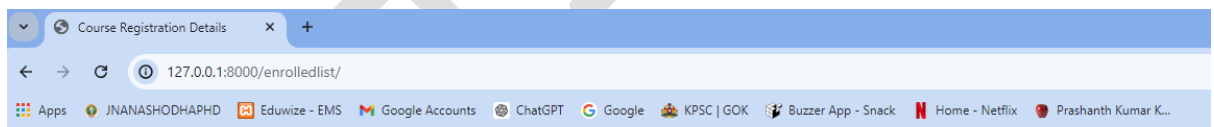
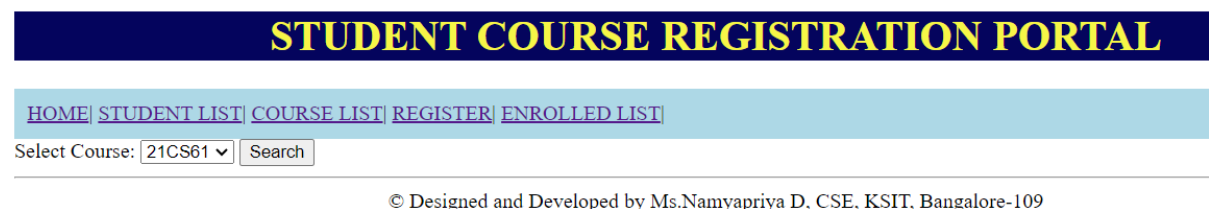
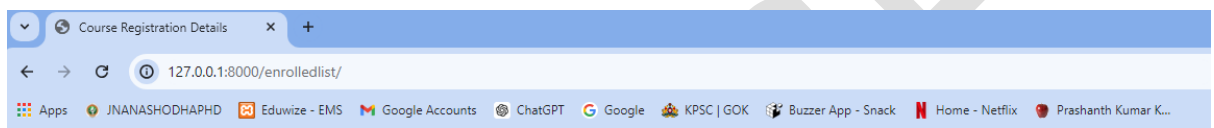


**student with usn 1KS21CS002 successfully enrolled for the course with sub code 21CS61**



**Student with usn 1KS21CS001 has already enrolled for the 21CS61**

Enrolled Student list



**List of Students registered of the course 21CS61**

| USN        | NAME    | SEM |
|------------|---------|-----|
| 1KS21CS001 | emily   | 6   |
| 1KS21CS002 | gabriel | 6   |

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**Conclusion:** we were able to Django app that performs student registration to a course. It should also display list of students registered for any selected course. Create students and course as models with enrolment as ManyToMany field.