

- **Create the App:** In the VS Code Terminal with your virtual environment activated, run:

```
python manage.py startapp course_search
```

- **Modify `views.py`:** Add the following code to `course_search/views.py`:

```
python
```

```
from django.http import JsonResponse
from course_registration.models import Course
from django.shortcuts import render

def search_courses(request):
    if request.headers.get('x-requested-with') == 'XMLHttpRequest':
        query = request.GET.get('query', None)
        if query:
            # Perform the search based on the query parameter
            courses = Course.objects.filter(students__name__icontains=query)
            # Create a list of course names
            course_names = [{'name': course.name, 'course_id':
course.course_id} for course in courses]
            # Return the list of course names as JSON response
            return JsonResponse({'courses': course_names})
        else:
            return JsonResponse({'error': 'No query parameter provided'})
    else:
        # Optionally, handle non-AJAX requests here
        return render(request, 'course_search/search.html')
```

- **Create `urls.py`:** Create a file named `course_search/urls.py` with the following content:

```
python
```

```
from django.urls import path
from .views import search_courses

urlpatterns = [
    path('search/', search_courses, name='search_courses'),
]
```

- **Update the Main `urls.py`:** Modify `myproject/urls.py` to include the new app's URLs:

```
python
```

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

urlpatterns = [
    path("admin/", admin.site.urls),
    path('', include('website_pages.urls')),
    path('fruits_and_students/', include('fruits_and_students.urls')),
    path('registration/', include('course_registration.urls')),
]
```

```

    path('', include('generate.urls')),
    path('', include('enrollment.urls')),
    path('', include('course_search.urls')),
]

```

- **Update settings.py:** Add `course_search` to the `INSTALLED_APPS` list in `myproject/settings.py`:

```
python
```

```

INSTALLED_APPS = [
    # Other installed apps
    'course_search',
]

```

- **Create the Template:** Inside the `course_search` folder, create a folder named `templates`, and then another subfolder named `course_search`. In the `templates/course_search` folder, create a file named `search.html` with the following content:

```
html
```

```

<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Search Courses</title>
    <script src="https://code.jquery.com/jquery-3.6.0.min.js"></script>
    <script>
        $(document).ready(function() {
            $('#search-form').submit(function(event) {
                event.preventDefault();
                var formData = $(this).serialize();
                $.ajax({
                    url: '/search/',
                    type: 'get',
                    data: formData,
                    dataType: 'json',
                    success: function(response) {
                        if (response.courses) {
                            var coursesHtml = '';
                            response.courses.forEach(function(course) {
                                coursesHtml += '<li>' + course.name + ' (' +
course.course_id + ')</li>';
                            });
                            $('#courses-list').html(coursesHtml);
                        } else {
                            $('#courses-list').html('<li>No courses
found</li>');
                        }
                    },
                    error: function(xhr, status, error) {
                        console.error('Error:', error);
                    }
                });
            });
        });
    </script>

```

```

        });
    });
</script>
</head>
<body>
    <h1>Search Courses by Student</h1>
    <form id="search-form" method="get">
        <input type="text" name="query" placeholder="Enter student name">
        <button type="submit">Search</button>
    </form>
    <ul id="courses-list"></ul>
</body>
</html>

```

- **Save all the modified files.**

- **Run the Development Server:** In the VS Code Terminal, with the virtual environment activated, run:

```
python manage.py runserver
```

- **Check the Search Page:** Open a browser and navigate to:

- <http://127.0.0.1:8000/search>

Use AJAX to retrieve data without refreshing the page by entering a student name and clicking the Search button.