


# **CASE STUDY 2 – LBJ 2021**

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## Web Based Case Study

The requirement is to develop a Web application which will read data from a .csv file and perform various operations mentioned below.

➤ Create a csv file by the name **students.csv** with the following content:

 students - Notepad

File Edit Format View Help

```
Student Id, Name, Gender, DateOfBirth, City, State, EmailId, Qualification, Stream  
1, Raj, Male, 10-10-1995, Mumbai, Maharashtra, raj@gmail.com, B.E, Electronics  
2, Priyanka, Female, 20-10-1995, Pune, Maharashtra, priyanka@gmail.com, B.Tech, IT
```

➤ This application should be developed using combination of client/server web technologies. For the client side code, combination of HTML/CSS/JS should be used and for the server side code, you can use any technology of choice like Servlet/JSP/PHP/.NET/Python.

➤ Create an **index.html** page which will display the following options to the user:

- Add new Student
- Search for a Student by Id
- Display all the Students

➤ Based on the selection done by the user, create separate pages for processing the request accordingly.

- **Step 1:** create **add-student.html** page which will display a form to the user like this:

Student ID	<input type="text"/>
Student Name	<input type="text"/>
Gender	<input type="checkbox"/> Male <input type="checkbox"/> Female
Date Of Birth	<input type="text"/> / <input type="text"/> / <input type="text"/> 
	MM DD YYYY
City	<input type="text"/>
State	<input type="text"/>
Email Id	<input type="text"/>
Qualification	<input type="text"/>
Stream	<input type="text"/>
<input type="button" value="Submit"/>	

- When the user submits the form, some server side code should be written to save the data in the students.csv file.
- **Step 2:** create a page called as **search-student.html** file which will look like this:

**Student ID**

**Submit**

- When the user submits this form, some server side code should read the data from the csv file and display the same to the user like this:

<b>Student ID</b>	1
<b>Student Name</b>	Raj
<b>Gender</b>	Male
<b>DateOfBirth</b>	10-10-1995
<b>City</b>	Mumbai
<b>State</b>	Maharashtra
<b>EmailId</b>	raj@gmail.com
<b>Qualification</b>	B.E
<b>Stream</b>	Electronics

- Similarly try to complete the 3<sup>rd</sup> scenario which will display all the students data in an HTML page.

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**Technology used:** HTML5, CSS3, PYTHON, Flask

**Editor:** Visual Studio Code

### **APPROACH:**

- Create the CSV file (students.csv) to store the details of the Students.
- Write a Flask Server using Python, which redirects the user to different routes.
- The Flask Server should also be able to read, write and manipulate the data in the CSV file.
- Create a main HTML page (index.html) which redirects the user to the desired pages.
- Create an add-student.html page which has a form that collects the student data entered and sends it to the back-end sever to store in the students.csv file.
- Create a search-student.html page through which the user searches for students' details using the student Id. The id is sent to the back-end server which then matches the id with the data in the students.csv file and a linear search algorithm is performed on the data to find the correct student record.
- Create a display-students.html page that displays the details of all the students recorded in the students.csv file.

## students.csv file:

```
file Edit Selection View Go Run Terminal Help
students.csv - Visual Studio Code

students.csv X index.html display-students.html add-student.html student_app.py 3 search-student.html

D: > Workspace -VSCode > LBJ - Case Study 2 > students.csv
1 Student ID, Name, Gender, DateOfBirth, City, State, EmailId, Qualification, Stream
2 1, Raj, Male, 10-10-1995, Mumbai, Maharashtra, raj@gmail.com, B.E, Electronics
3 2, Priyanka, Female, 20-10-1995, Pune, Maharashtra, priyanka@gmail.com, B.Tech, IT
4
```

## index.html:

```
file Edit Selection View Go Run Terminal Help
index.html - Visual Studio Code

students.csv X index.html X display-students.html 2 add-student.html student_app.py 3 search-student.html

D: > Workspace -VSCode > LBJ - Case Study 2 > templates > index.html > html > body > div.button > form
1 <!DOCTYPE html>
2 <html lang="en">
3   <head>
4     <meta charset="UTF-8">
5     <title>STUDENT MANAGEMENT PORTAL</title>
6     <style>
7       h2{
8         font-size: 50px;
9         text-align: center;
10        color: #000;
11        border: 3px solid #000;
12      }
13
14      .button button{
15        font-weight: bold;
16        border: 3px solid #000;
17        color: white;
18        border-radius: 12px;
19        background-color: #0c44aa;
20        padding: 15px 32px;
21        text-align: center;
22        text-decoration: none;
23        display: inline-block;
24        font-size: 30px;
25        font-family: Times New Roman;
26        cursor: pointer;
27      }
28
29      .button{
30        text-align: center;
31      }
32    </style>
33  </head>
34  <body>
35    <h2>STUDENT MANAGEMENT PORTAL</h2><br><br>
36    <div class="button" style="width:100%">
37      <form action="/" method="post">
38        <button type="submit" name="addstudent" value="addstudent">Add Student</button><br><br>
39        <button type="submit" name="searchstudent" value="searchstudent">Search Student</button><br><br>
40        <button type="submit" name="displaystudents" value="displaystudents">Display Students</button><br><br>
41      </form>
42    </div>
43  </body>
44 </html>
```

## add-student.html

```

1  <!DOCTYPE html>
2  <html lang="en">
3    <head>
4      <meta charset="UTF-8">
5      <title>Add Student</title>
6      <style>
7        h2{
8          font-size: 30px;
9          text-align: center;
10         color: #000;
11       }
12       .container{
13         border: 2px solid #000;
14         margin-left: 30%;
15         margin-right: 30%;
16         padding: 10px 50px;
17       }
18     </style>
19   </head>
20   <body>
21     <h2>ADD STUDENT DETAILS</h2><br><br>
22     <div class="container">
23       <form action="/addstudent" method="POST" onsubmit="alert('Student Details Added!')">
24         <label for="studentid"><b>STUDENT ID</b></label><br>
25         <input type="text" name="studentid" placeholder="STUDENT ID" required><br><br>
26
27         <label for="studentname"><b>STUDENT NAME</b></label><br>
28         <input type="text" name="studentname" placeholder="STUDENT NAME" required><br><br>
29
30         <label for="gender"><b>GENDER</b></label>
31         <div class="gender">
32           <div>
33             <input type="radio" name="gender" value="Male" id="male">
34             <label for="male"><b>MALE</b></label>
35           </div>
36           <div>
37             <input type="radio" name="gender" value="Female" id="female">
38             <label for="female"><b>Female</b></label>
39           </div>
40         </div><br>
41
42         <label for="dateofbirth"><b>DATE OF BIRTH</b></label><br>
43         <input type="date" name="dateofbirth" id="dateofbirth"><br><br>
44
45         <label for="city"><b>CITY</b></label><br>
46         <input type="text" placeholder="CITY" name="city" required><br><br>
47
48         <label for="state"><b>STATE</b></label><br>
49         <input type="text" placeholder="STATE" name="state" required><br><br>
50
51         <label for="email"><b>EMAIL</b></label><br>
52         <input type="email" placeholder="EMAIL" name="email" required><br><br>
53
54         <label for="qualification"><b>QUALIFICATION</b></label><br>
55         <input type="text" placeholder="QUALIFICATION" name="qualification" required><br><br>
56
57         <label for="stream"><b>STREAM</b></label><br>
58         <input type="text" placeholder="STREAM" name="stream" required><br><br>
59
60         <button type="submit" name="submit">Submit </button>
61       </form>
62     </div>
63   </body>
64 </html>
```

## search-student.html

```
search-student.html - Visual Studio Code
students.csv index.html add-student.html display-students.html search-student.html x student_app.py 3
D:\> Workspace -VSCode > LBJ - Case Study 2 > templates > search-student.html > html > body > table > tr > td

1  <!DOCTYPE html>
2  <html lang="en">
3      <head>
4          <meta charset="UTF-8">
5          <title>Search Student</title>
6          <style>
7              h2{
8                  font-size: 30px;
9                  text-align: center;
10                 color: #000;
11             }
12             .center {
13                 margin-left: auto;
14                 margin-right: auto;
15                 border: 2px solid;
16             }
17         </style>
18     </head>
19     <body>
20         <h2>SEARCH STUDENT DETAILS</h2><br><br>
21
22         <form action="/searchstudent" method="POST" id="searchform">
23             <table class="center">
24                 <tr><td><b>Student ID</b></td></tr><br>
25                 <tr><td><input type="text" placeholder="STUDENT ID" name="studentid" required /></td>
26                 </tr>
27                 <tr><td><br></td></tr>
28                 <tr><td><input type="submit" name="submit"/></td></tr>
29             </table>
30         </form>
31         {% if tstate %}
32         <table>
33             {% for data in row %}
34                 {% for data in row %}
35                     <tr>
36                         <th>
37                             {{data}}
38                         </th>
39                         <td>
40                             {{row[data]}}
41                         </td>
42                     </tr>
43                 {%endfor%}
44             </table>
45             {% endif %}
46     </body>
47 </html>
```

## display-students.html:

```

  Edit  Selection  View  Go  Run  Terminal  Help
display-students.html - Visual Studio Code

students.csv  index.html  add-student.html  display-students.html x  student_app.py 3  search-student.html

D:\> Workspace -VSCode > LBJ - Case Study 2 > templates > display-students.html > html > body > table > thead > tr
1  <!DOCTYPE html>
2  <html lang="en">
3      <head>
4          <meta charset="UTF-8">
5          <title>Display Students</title>
6          <style>
7              table{
8                  border: 2px solid #000;
9              }
10         </style>
11     </head>
12     <body>
13         <h2>STUDENT DETAILS</h2>
14         <table border="1">
15             <thead>
16                 <tr>
17                     <th scope="col">STUDENT ID</th>
18                     <th scope="col">STUDENT NAME</th>
19                     <th scope="col">GENDER</th>
20                     <th scope="col">DATE OF BIRTH</th>
21                     <th scope="col">CITY</th>
22                     <th scope="col">STATE</th>
23                     <th scope="col">EMAIL</th>
24                     <th scope="col">QUALIFICATION</th>
25                     <th scope="col">STREAM</th>
26                 </tr>
27             </thead>
28             <tbody>
29                 {% for r in records %}
30                 <tr>
31                     {% for i in range(9) %}
32                     <td>
33                         {{ r[i] }}
34                     </td>
35                     {% endfor %}
36                 </tr>
37                 {% endfor %}
38             </tbody>
39         </table>
40     </body>
41 </html>
```

## student\_app.py:

```
student_app.py - Visual Studio Code
students.csv  index.html  add-student.html  display-students.html  search-student.html  student_app.py 3 X

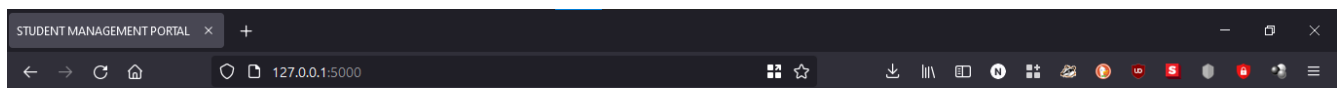
D:\> Workspace -VSCode> LBJ - Case Study 2> student_app.py> ...
1  from flask import Flask, render_template, request, Response, session, jsonify, redirect, url_for, flash
2  import re
3  import csv
4  from csv import writer
5  import pandas as pd
6  |
7  app=Flask(__name__, template_folder='./templates')
8  |
9  @app.route("/", methods=['GET', 'POST'])
10 def index():
11     if request.method=="POST":
12         if request.form.get("addstudent"):
13             return redirect(url_for('addstudent'))
14         elif request.form.get("searchstudent"):
15             return redirect(url_for('searchstudent'))
16         elif request.form.get("displaystudents"):
17             return redirect(url_for('displaystudents'))
18     |
19     return render_template('index.html')
20 |
21 @app.route("/addstudent", methods=['GET', 'POST'])
22 def addstudent():
23     print(request.method)
24     if request.method == 'POST':
25         print(request.form['studentid'])
26         df=[]
27         df.append(request.form['studentid'])
28         df.append(request.form['studentname'])
29         df.append(request.form['gender'])
30         df.append(request.form['dateofbirth'])
31         df.append(request.form['city'])
32         df.append(request.form['state'])
33         df.append(request.form['email'])
34         df.append(request.form['qualification'])
35         df.append(request.form['stream'])
36         with open('D:\Workspace -VSCode\LBJ - Case Study 2\students.csv','a') as file:
37             write=writer(file)
38             write.writerow(df)
39             file.close()
40         return render_template('index.html')
41     else:
42         return render_template('add-student.html')
43 |
44 @app.route("/searchstudent", methods=['GET', 'POST'])
45 def searchstudent():
46     #rows=0
47     #tstate=False
48     if request.method == "POST":
49         Student_ID=request.form.get("studentid")
50         df=[]
51         with open(r"D:\Workspace -VSCode\LBJ - Case Study 2\students.csv") as file:
52             reader = csv.reader(file)
53             for row in reader:
54                 if(len(row)):
55                     if(row[0]==Student_ID):
56                         df.append(row)
57             file.close()
58             #tstate=True
59             return render_template('display-students.html', records=df) #row=rows,tstate=tstate)
60     else:
61         return render_template('search-student.html') #,row=rows,tstate=tstate)
62 |
63 @app.route("/displaystudents", methods=['GET'])
64 def displaystudents():
```



```
63 @app.route("/displaystudents", methods=['GET'])
64 def displaystudents():
65     df=[]
66     with open(r"D:\Workspace -VSCode\LBJ - Case Study 2\students.csv") as file:
67         reader = csv.reader(file)
68         for row in reader:
69             if(len(row)):
70                 df.append(row)
71     file.close()
72     return render_template('display-students.html',records=df)
73
74 if __name__ == '__main__':
75     app.run(debug=True)
76
77
```

## OUTPUT:

### index.html



# STUDENT MANAGEMENT PORTAL

Add Student

Search Student

Display Students

add-student.html:

Add Student

127.0.0.1:5000/addstudent

ADD STUDENT DETAILS

STUDENT ID

STUDENT ID

STUDENT NAME

STUDENT NAME

GENDER

☐ MALE

☐ Female

DATE OF BIRTH

mm / dd / yyyy

CITY

CITY

STATE

STATE

EMAIL

EMAIL

QUALIFICATION

QUALIFICATION

STREAM

STREAM

Submit

search-student.html:

Search Student

127.0.0.1:5000/searchstudent

SEARCH STUDENT DETAILS

Student ID

STUDENT ID

Submit Query

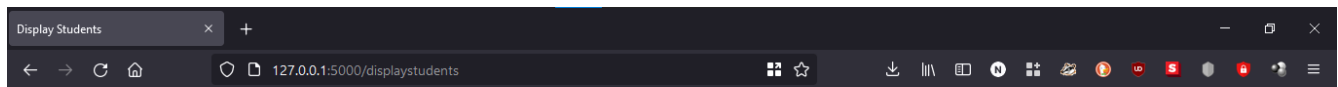
Display Students

127.0.0.1:5000/searchstudent

STUDENT DETAILS

STUDENT ID	STUDENT NAME	GENDER	DATE OF BIRTH	CITY	STATE	EMAIL	QUALIFICATION	STREAM
3	Rishi	Male	1998-09-06	Nashik	Maharashtra	rishi6sep@gmail.com	B.Tech	Computer Science

display-students.html:



#### STUDENT DETAILS

STUDENT ID	STUDENT NAME	GENDER	DATE OF BIRTH	CITY	STATE	EMAIL	QUALIFICATION	STREAM
Student ID	Name	Gender	DateOfBirth	City	State	EmailId	Qualification	Stream
1	Raj	Male	10-10-1995	Mumbai	Maharashtra	raj@gmail.com	B.E	Electronics
2	Priyanka	Female	20-10-1995	Pune	Maharashtra	priyanka@gmail.com	B.Tech	IT
3	Rishi	Male	1998-09-06	Nashik	Maharashtra	rishi6sep@gmail.com	B.Tech	Computer Science
4	Suraj	Male	2000-06-08	Jaipur	Rajasthan	dsuraj32@gmail.com	B.Tech	Computer Science

students.csv after new entries:

```
file Edit Selection View Go Run Terminal Help students.csv - Visual Studio Code
students.csv X index.html add-student.html display-students.html search-student.html student_app.py 3
D: > Workspace -VSCode > LBJ - Case Study 2 > students.csv
1 Student ID, Name, Gender, DateOfBirth, City, State, EmailId, Qualification, Stream
2 1, Raj, Male, 10-10-1995, Mumbai, Maharashtra, raj@gmail.com, B.E, Electronics
3 2, Priyanka, Female, 20-10-1995, Pune, Maharashtra, priyanka@gmail.com, B.Tech, IT
4
5
6 3,Rishi,Male,1998-09-06,Nashik,Maharashtra,rishi6sep@gmail.com,B.Tech,Computer Science
7
8 4,Suraj,Male,2000-06-08,Jaipur,Rajasthan,dsuraj32@gmail.com,B.Tech,Computer Science
9
10 |
```

Github repository link: <https://github.com/rishi698/Student-Management-Portal>