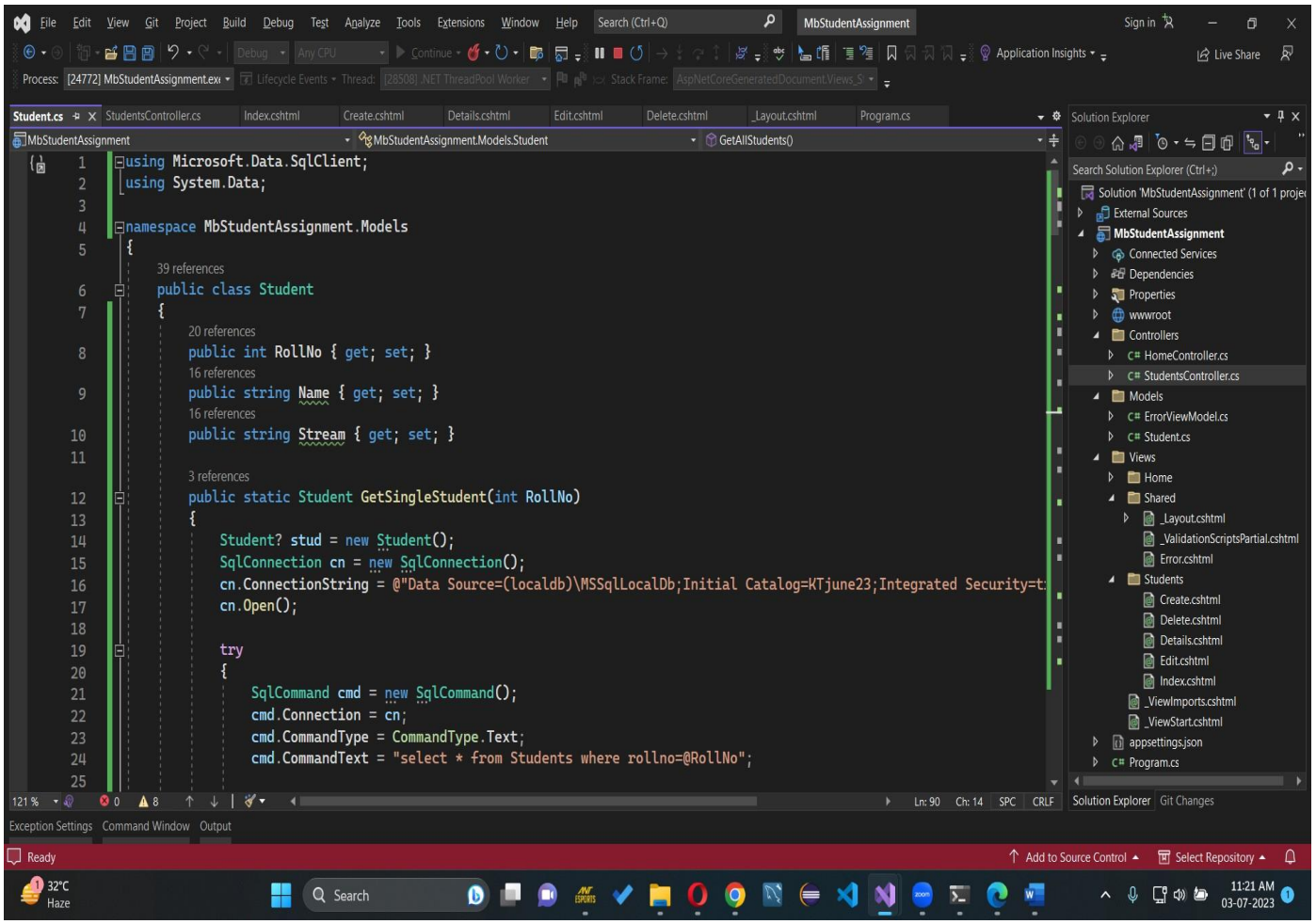
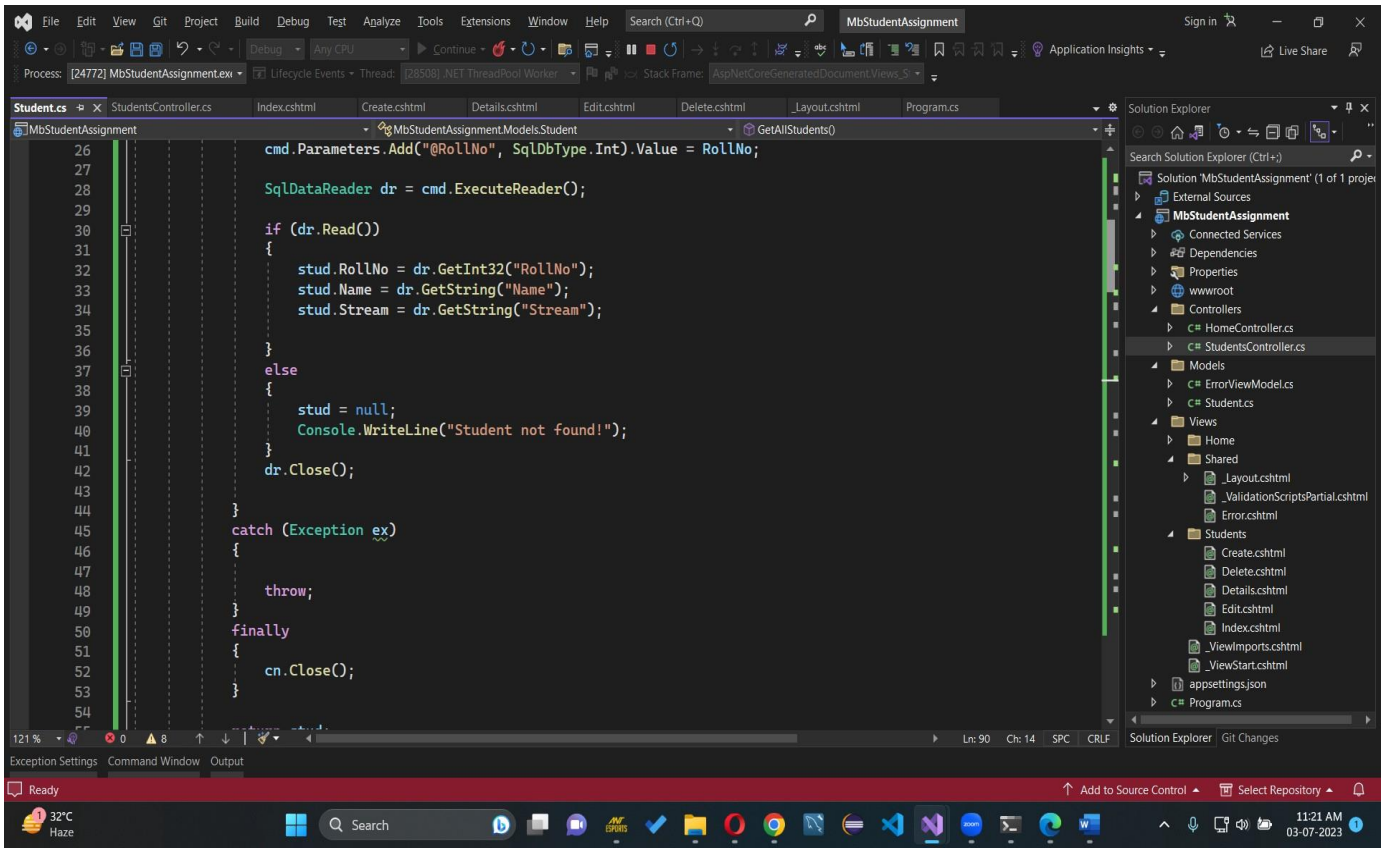
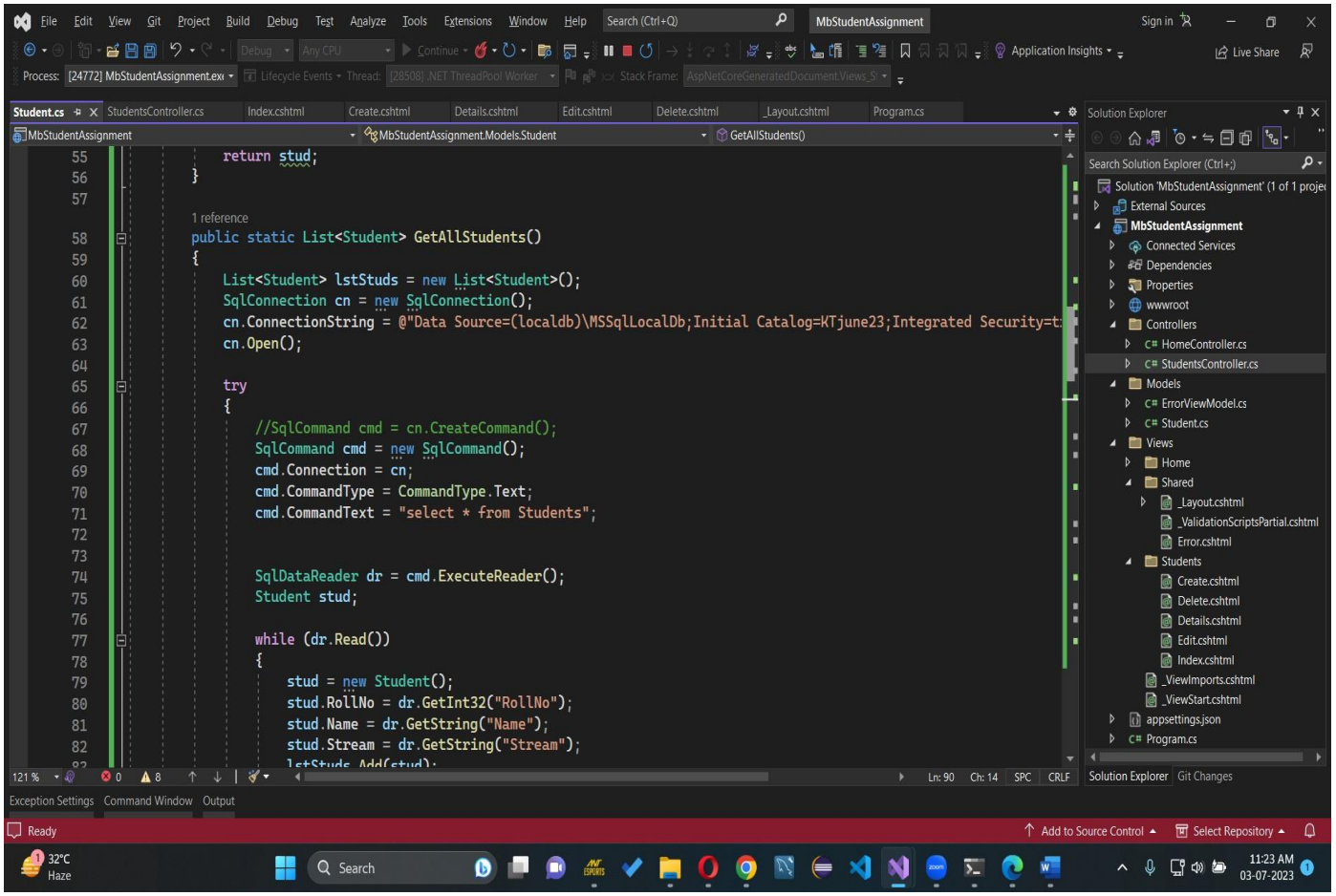
1. Create an MVC application for storing the details of student as well as display them, such as RollNo, Name, Stream, Marks, etc. These should be stored in a database and various operations such as Create Read Update and Delete must take place. The inputs must be entered by the user in a form

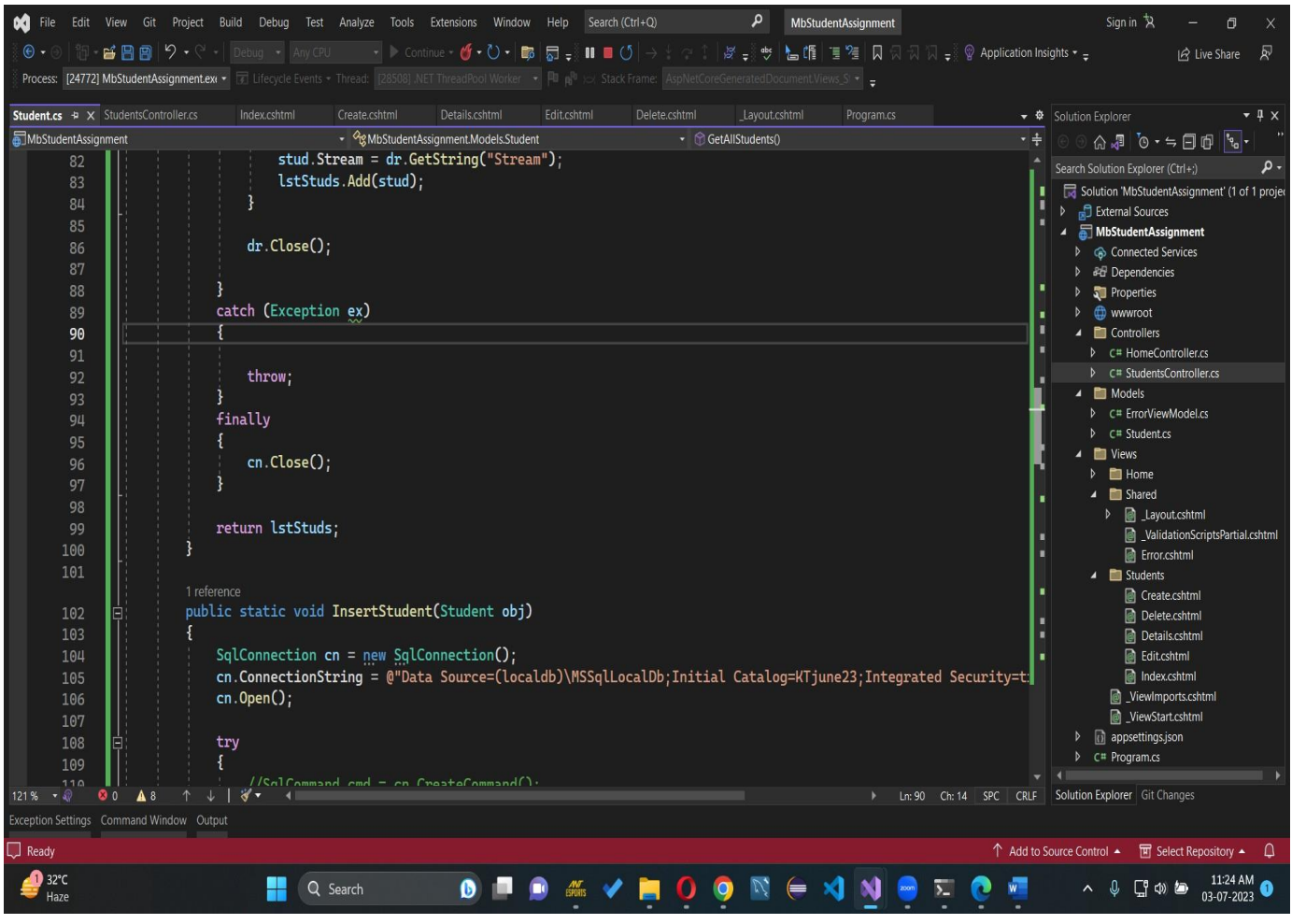
Student.cs



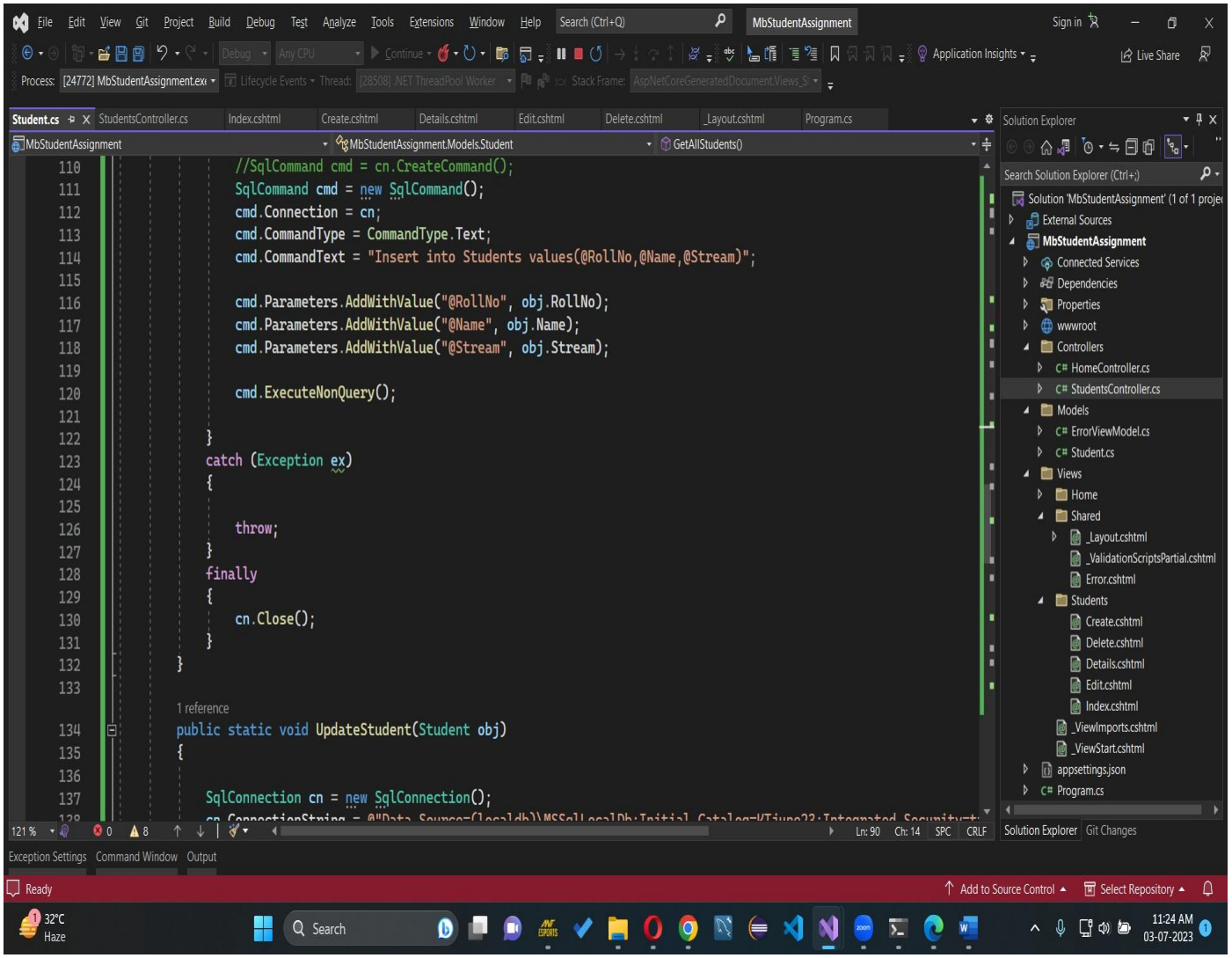




```
        return stud;
    }

    1 reference
    public static List<Student> GetAllStudents()
    {
        List<Student> lstStuds = new List<Student>();
        SqlConnection cn = new SqlConnection();
        cn.ConnectionString = @"Data Source=(localdb)\MSSqlLocalDb;Initial Catalog=KTjune23;Integrated Security=t
        cn.Open();

        try
        {
            //SqlCommand cmd = cn.CreateCommand();
            SqlCommand cmd = new SqlCommand();
            cmd.Connection = cn;
            cmd.CommandType = CommandType.Text;
            cmd.CommandText = "select * from Students";


            SqlDataReader dr = cmd.ExecuteReader();
            Student stud;

            while (dr.Read())
            {
                stud = new Student();
                stud.RollNo = dr.GetInt32("RollNo");
                stud.Name = dr.GetString("Name");
                stud.Stream = dr.GetString("Stream");
                lstStuds.Add(stud);
```



```
                stud.Stream = dr.GetString("Stream");
                lstStuds.Add(stud);
            }

            dr.Close();

        }
        catch (Exception ex)
        {

            throw;
        }
        finally
        {
            cn.Close();
        }

        return lstStuds;
    }

    1 reference
    public static void InsertStudent(Student obj)
    {
        SqlConnection cn = new SqlConnection();
        cn.ConnectionString = @"Data Source=(localdb)\MSSqlLocalDb;Initial Catalog=KTjune23;Integrated Security=t
        cn.Open();

        try
        {
            //SqlCommand cmd = cn.CreateCommand();
```


File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help
MbStudentAssignment
Student.cs StudentsController.cs Index.cshtml Create.cshtml Details.cshtml Edit.cshtml Delete.cshtml _Layout.cshtml Program.cs
MbStudentAssignment.Models.Student
GetAllStudents()
//SqlCommand cmd = cn.CreateCommand();
SqlCommand cmd = new SqlCommand();
cmd.Connection = cn;
cmd.CommandType = CommandType.Text;
cmd.CommandText = "Insert into Students values(@RollNo,@Name,@Stream)";
cmd.Parameters.AddWithValue("@RollNo", obj.RollNo);
cmd.Parameters.AddWithValue("@Name", obj.Name);
cmd.Parameters.AddWithValue("@Stream", obj.Stream);
cmd.ExecuteNonQuery();
}
catch (Exception ex)
{
throw;
}
finally
{
cn.Close();
}
}
1 reference
public static void UpdateStudent(Student obj)
{
SqlConnection cn = new SqlConnection();
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Search Solution Explorer (Ctrl+;)
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External Sources
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_ViewStart.cshtml
appsettings.json
Program.cs
Solution Explorer Git Changes
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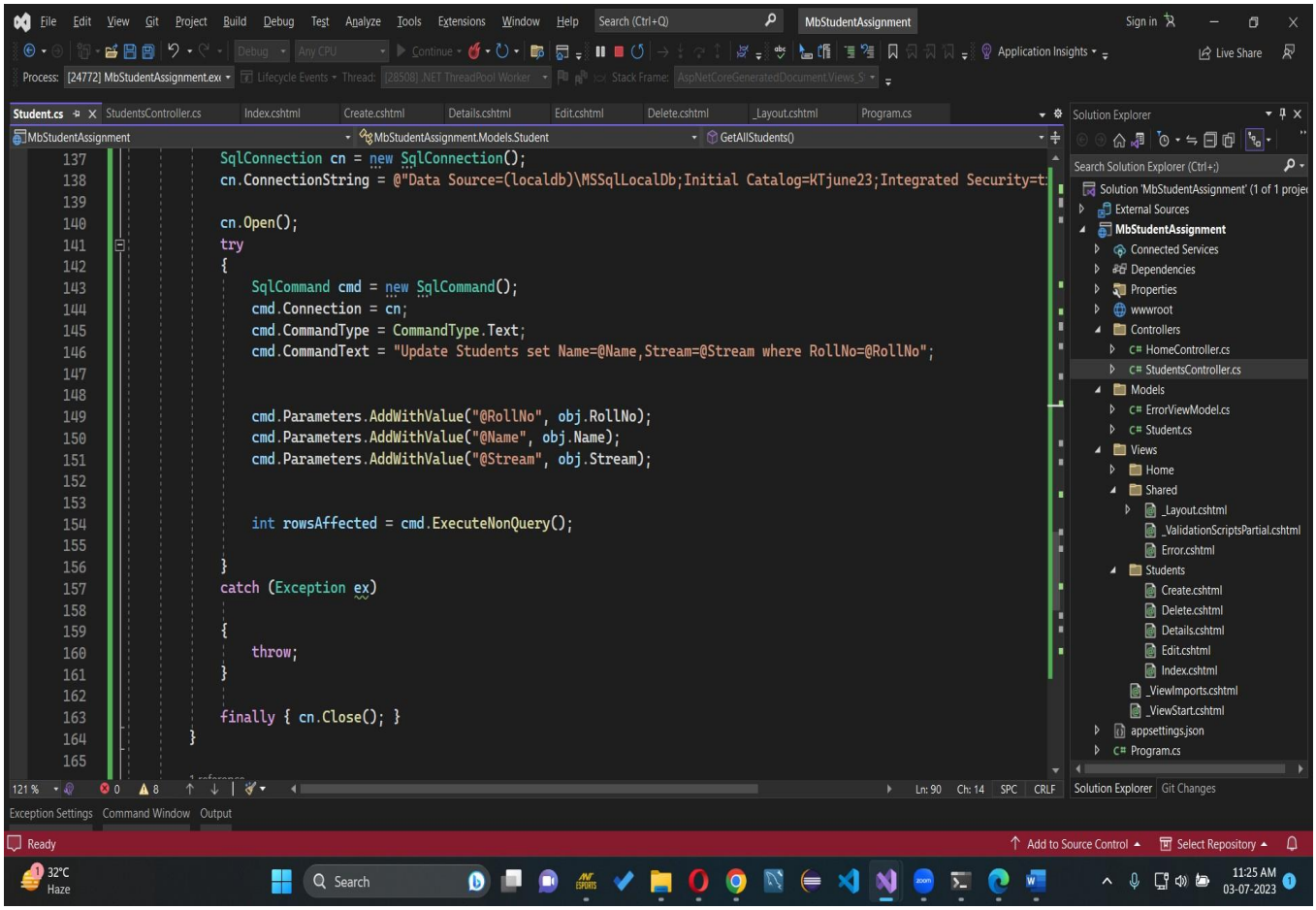
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MbStudentAssignment
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MbStudentAssignment.Models.Student
GetAllStudents()
SqlConnection cn = new SqlConnection();
cn.ConnectionString = @"Data Source=(localdb)\MSSqlLocalDb;Initial Catalog=KTjune23;Integrated Security=t
cn.Open();
try
{
SqlCommand cmd = new SqlCommand();
cmd.Connection = cn;
cmd.CommandType = CommandType.Text;
cmd.CommandText = "Update Students set Name=@Name,Stream=@Stream where RollNo=@RollNo";
cmd.Parameters.AddWithValue("@RollNo", obj.RollNo);
cmd.Parameters.AddWithValue("@Name", obj.Name);
cmd.Parameters.AddWithValue("@Stream", obj.Stream);
int rowsAffected = cmd.ExecuteNonQuery();
}
catch (Exception ex)
{
throw;
}
finally { cn.Close(); }
}
Solution Explorer
Search Solution Explorer (Ctrl+;)
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HomeController.cs
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Solution Explorer Git Changes
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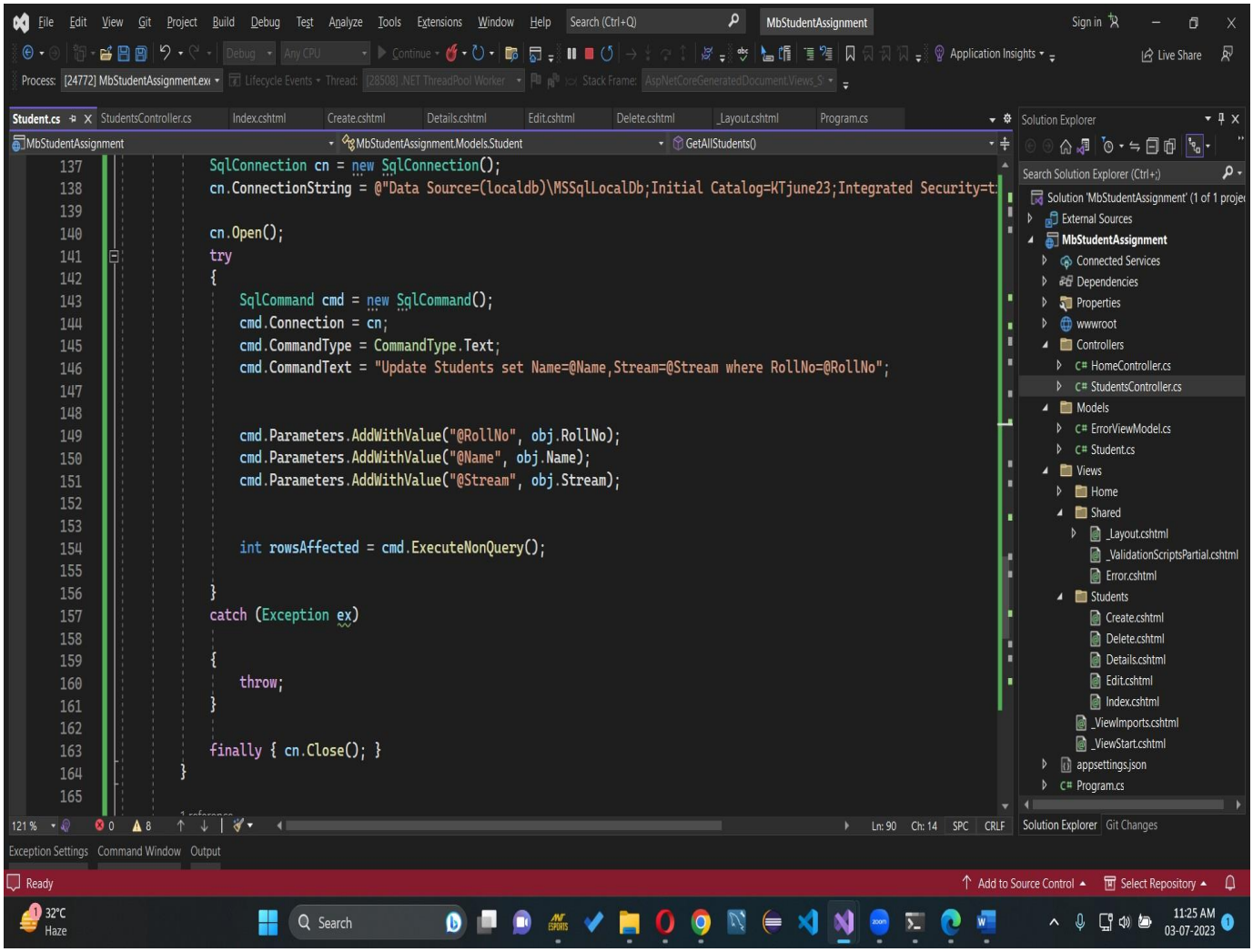
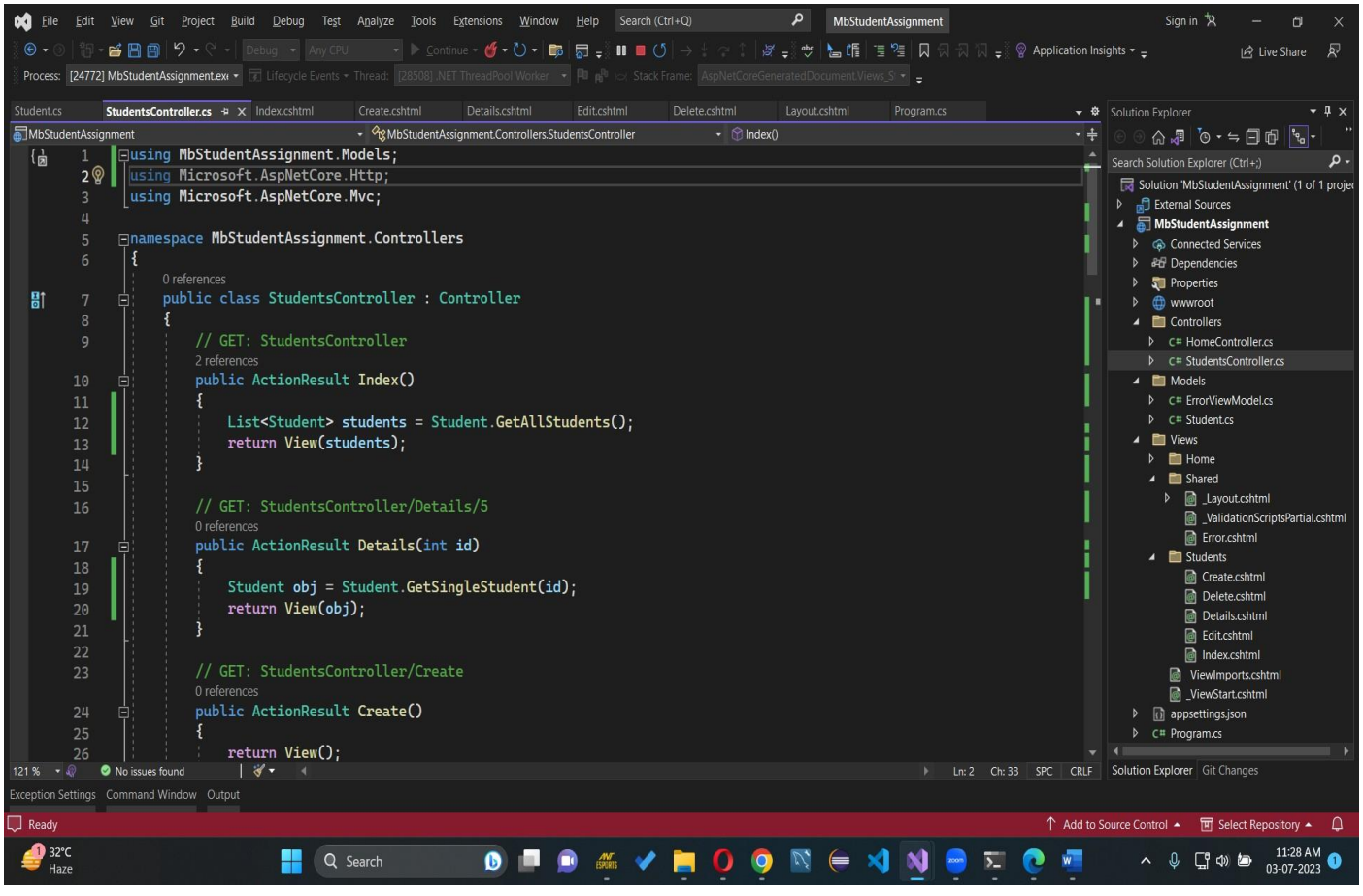
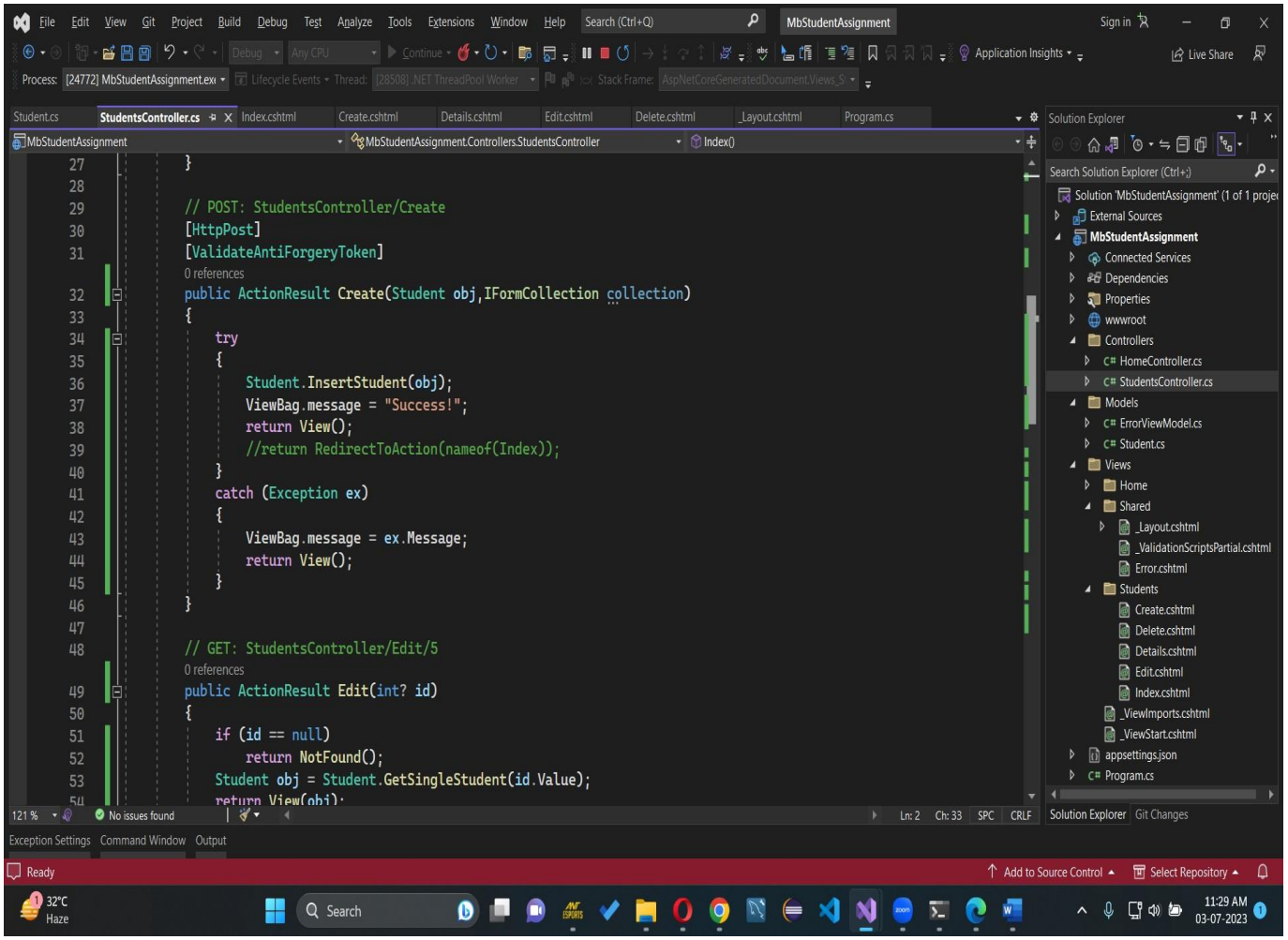


StudentsController.cs




File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help
Search (Ctrl+Q)
MbStudentAssignment
Sign in
Live Share
Application Insights
Process: [24772] MbStudentAssignment.exe
Student.cs StudentsController.cs Index.cshtml Create.cshtml Details.cshtml Edit.cshtml Delete.cshtml _Layout.cshtml Program.cs
MbStudentAssignment
MbStudentAssignment.Controllers.StudentsController
Index()
27 }
28
29 // POST: StudentsController/Create
30 [HttpPost]
31 [ValidateAntiForgeryToken]
0 references
32 public ActionResult Create(Student obj,IFormCollection collection)
33 {
34 try
35 {
36 Student.InsertStudent(obj);
37 ViewBag.message = "Success!";
38 return View();
39 //return RedirectToAction(nameof(Index));
40 }
41 catch (Exception ex)
42 {
43 ViewBag.message = ex.Message;
44 return View();
45 }
46 }
47
48 // GET: StudentsController/Edit/5
0 references
49 public ActionResult Edit(int? id)
50 {
51 if (id == null)
52 return NotFound();
53 Student obj = Student.GetSingleStudent(id.Value);
return View(obj);
Solution Explorer
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HomeController.cs
StudentsController.cs
Models
ErrorViewModel.cs
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Error.cshtml
Students
Create.cshtml
Delete.cshtml
Details.cshtml
Edit.cshtml
Index.cshtml
_ViewImports.cshtml
_ViewStart.cshtml
appsettings.json
Program.cs
121 %
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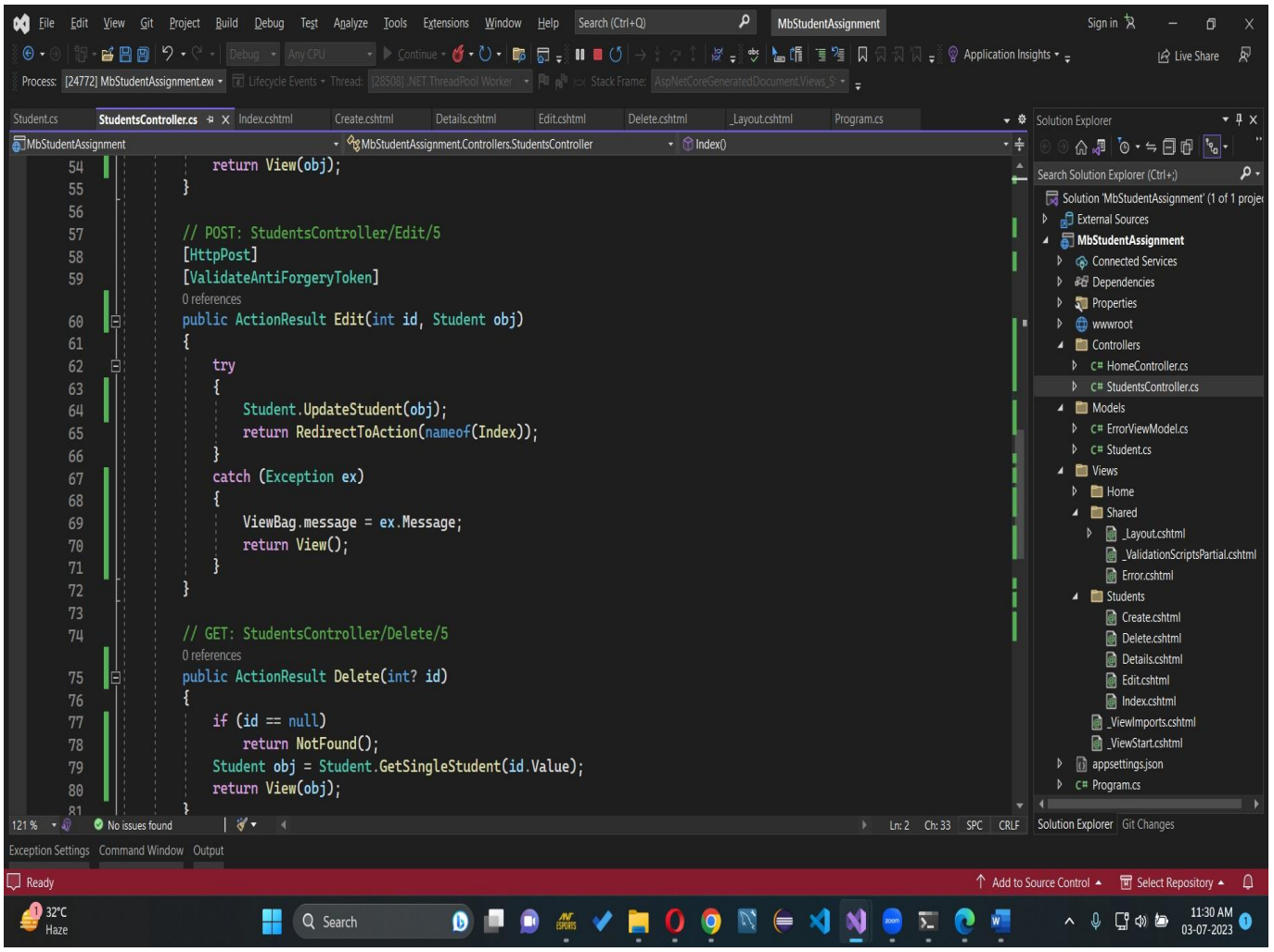
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Process: [24772] MbStudentAssignment.exe
Student.cs StudentsController.cs Index.cshtml Create.cshtml Details.cshtml Edit.cshtml Delete.cshtml _Layout.cshtml Program.cs
MbStudentAssignment
MbStudentAssignment.Controllers.StudentsController
Index()
54 return View(obj);
55 }
56
57 // POST: StudentsController/Edit/5
58 [HttpPost]
59 [ValidateAntiForgeryToken]
0 references
60 public ActionResult Edit(int id, Student obj)
61 {
62 try
63 {
64 Student.UpdateStudent(obj);
65 return RedirectToAction(nameof(Index));
66 }
67 catch (Exception ex)
68 {
69 ViewBag.message = ex.Message;
70 return View();
71 }
72 }
73
74 // GET: StudentsController/Delete/5
0 references
75 public ActionResult Delete(int? id)
76 {
77 if (id == null)
78 return NotFound();
79 Student obj = Student.GetSingleStudent(id.Value);
80 return View(obj);
81 }
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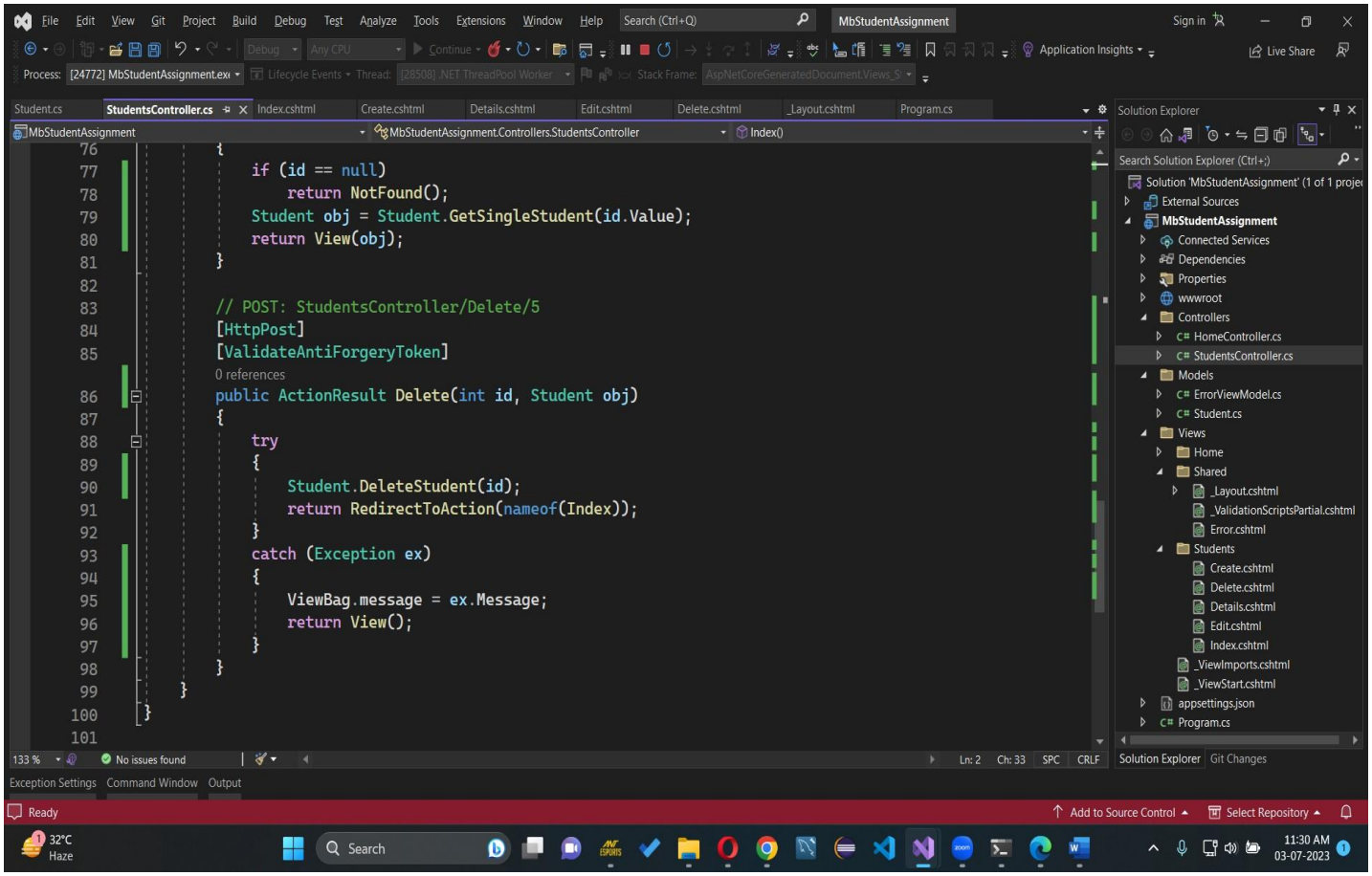
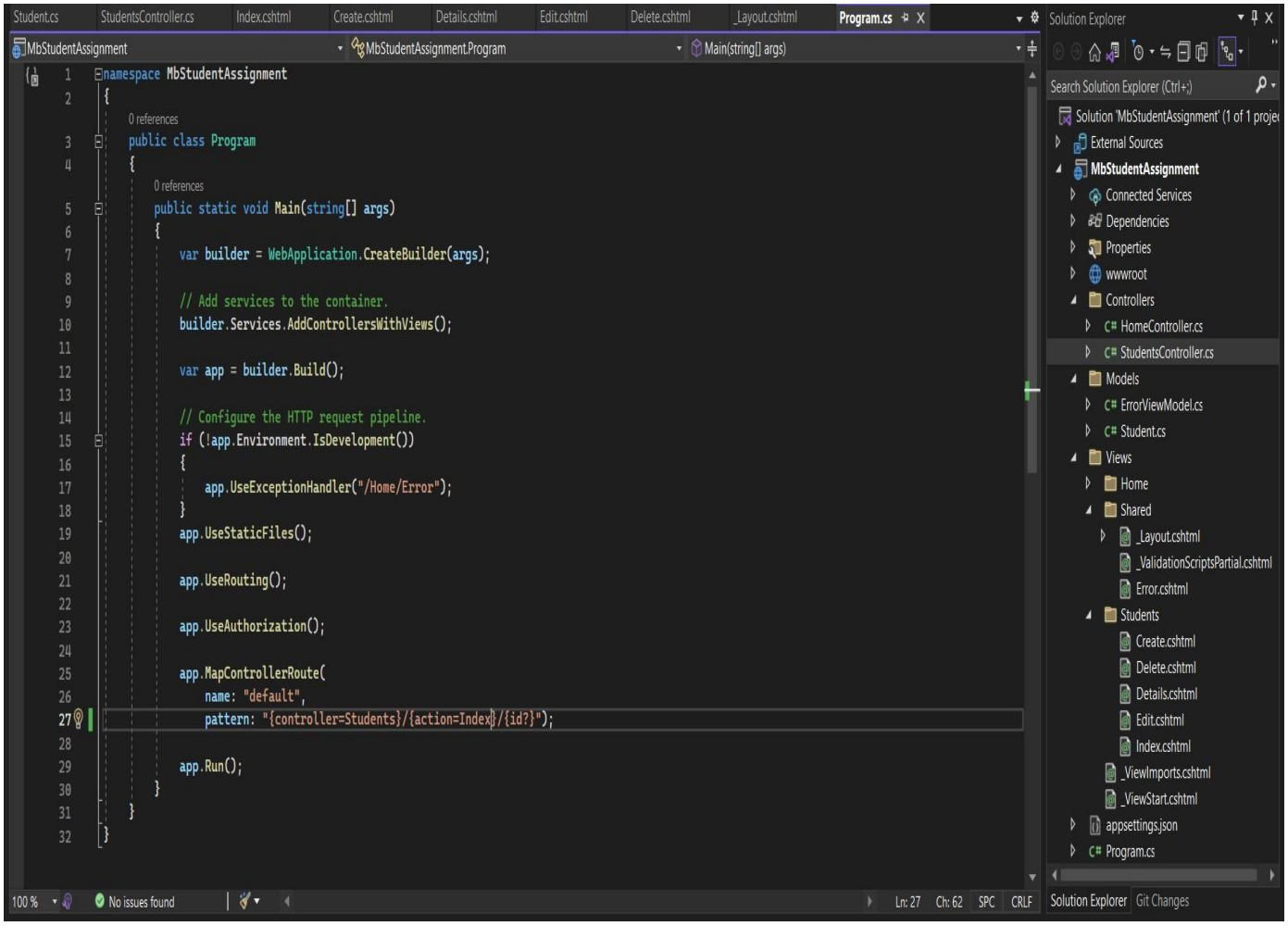


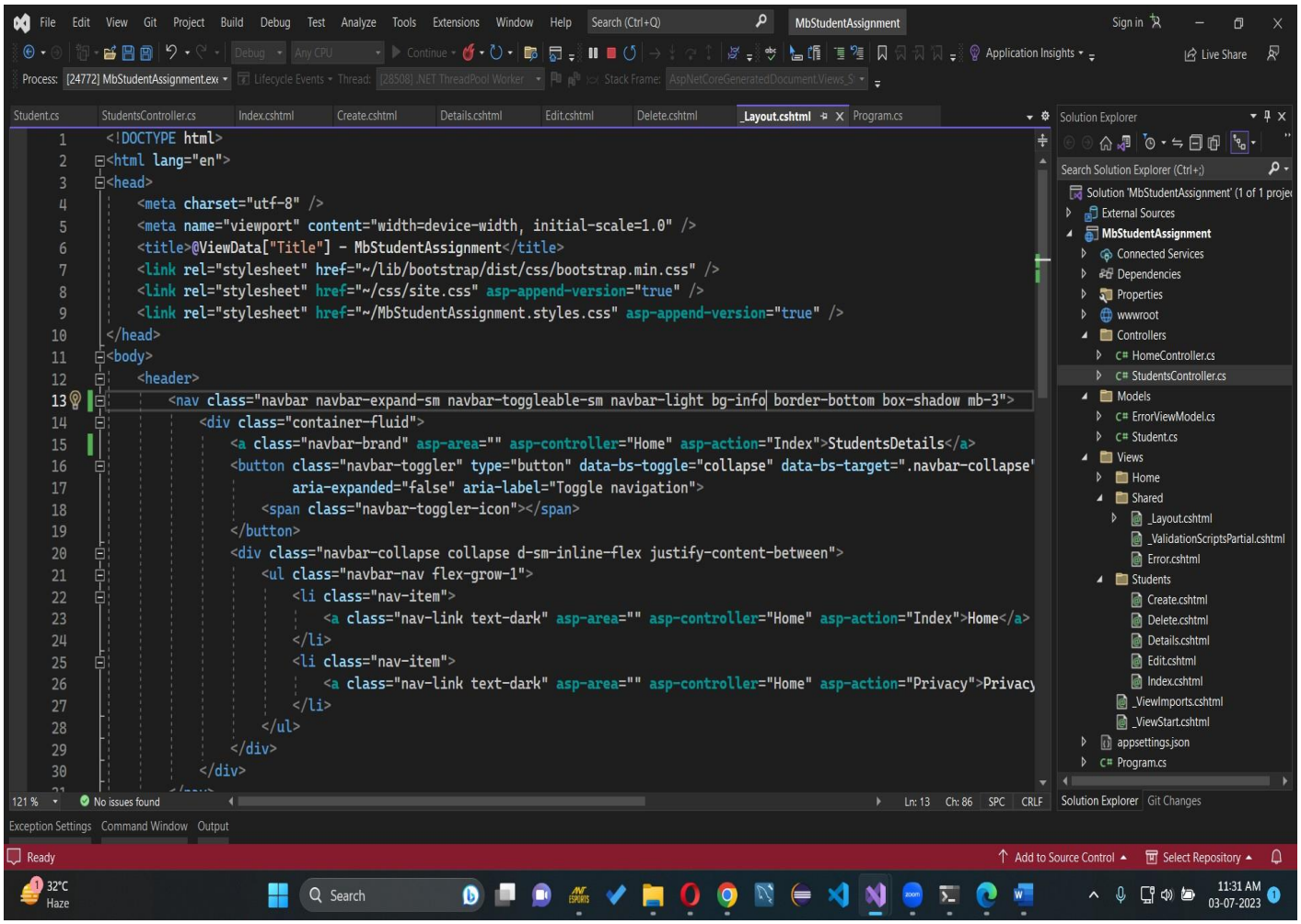
```
        {
            if (id == null)
                return NotFound();
            Student obj = Student.GetSingleStudent(id.Value);
            return View(obj);
        }

        // POST: StudentsController/Delete/5
        [HttpPost]
        [ValidateAntiForgeryToken]
        0 references
        public ActionResult Delete(int id, Student obj)
        {
            try
            {
                Student.DeleteStudent(id);
                return RedirectToAction(nameof(Index));
            }
            catch (Exception ex)
            {
                ViewBag.message = ex.Message;
                return View();
            }
        }
    }
}
```

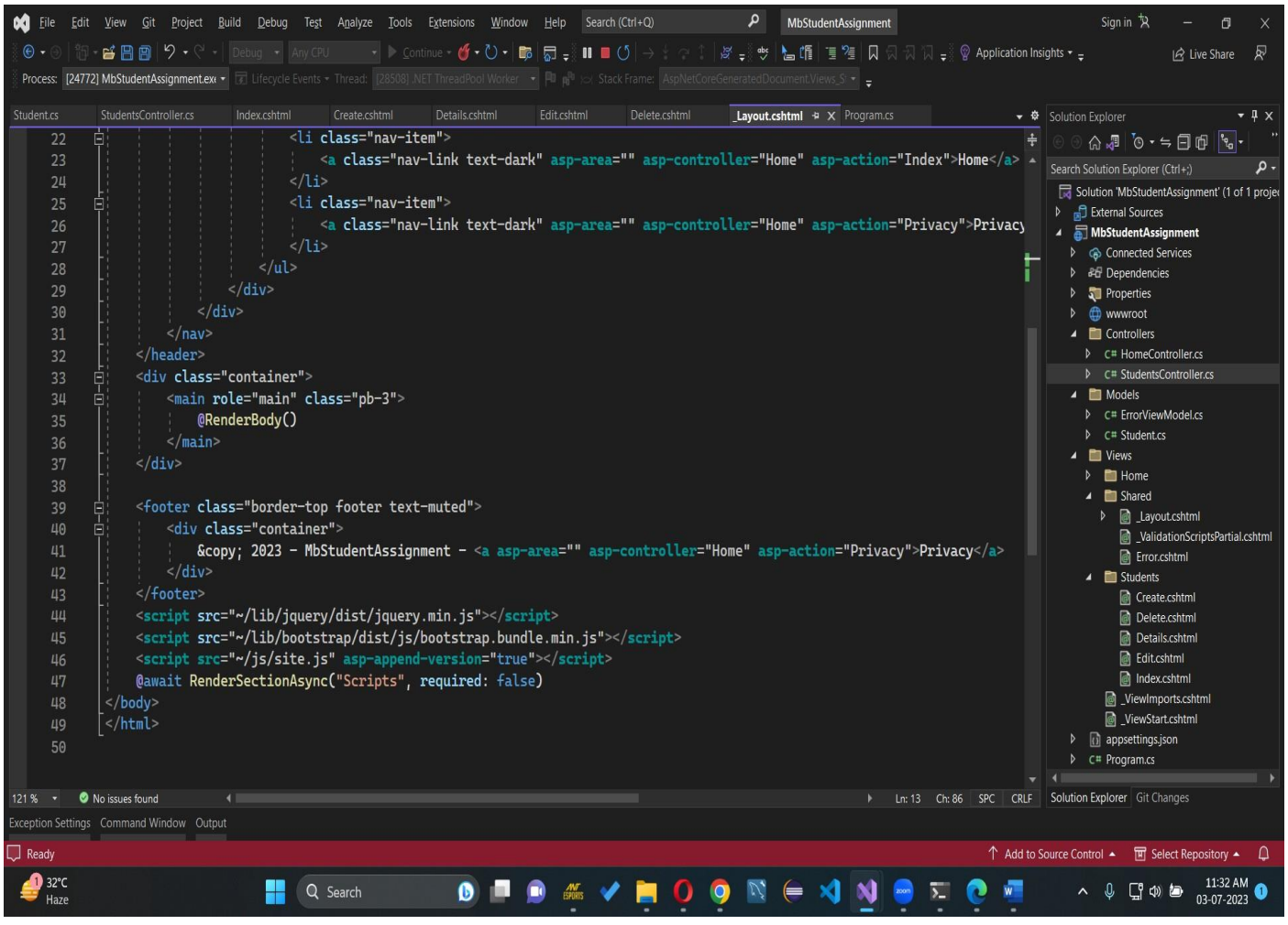
Program.cs



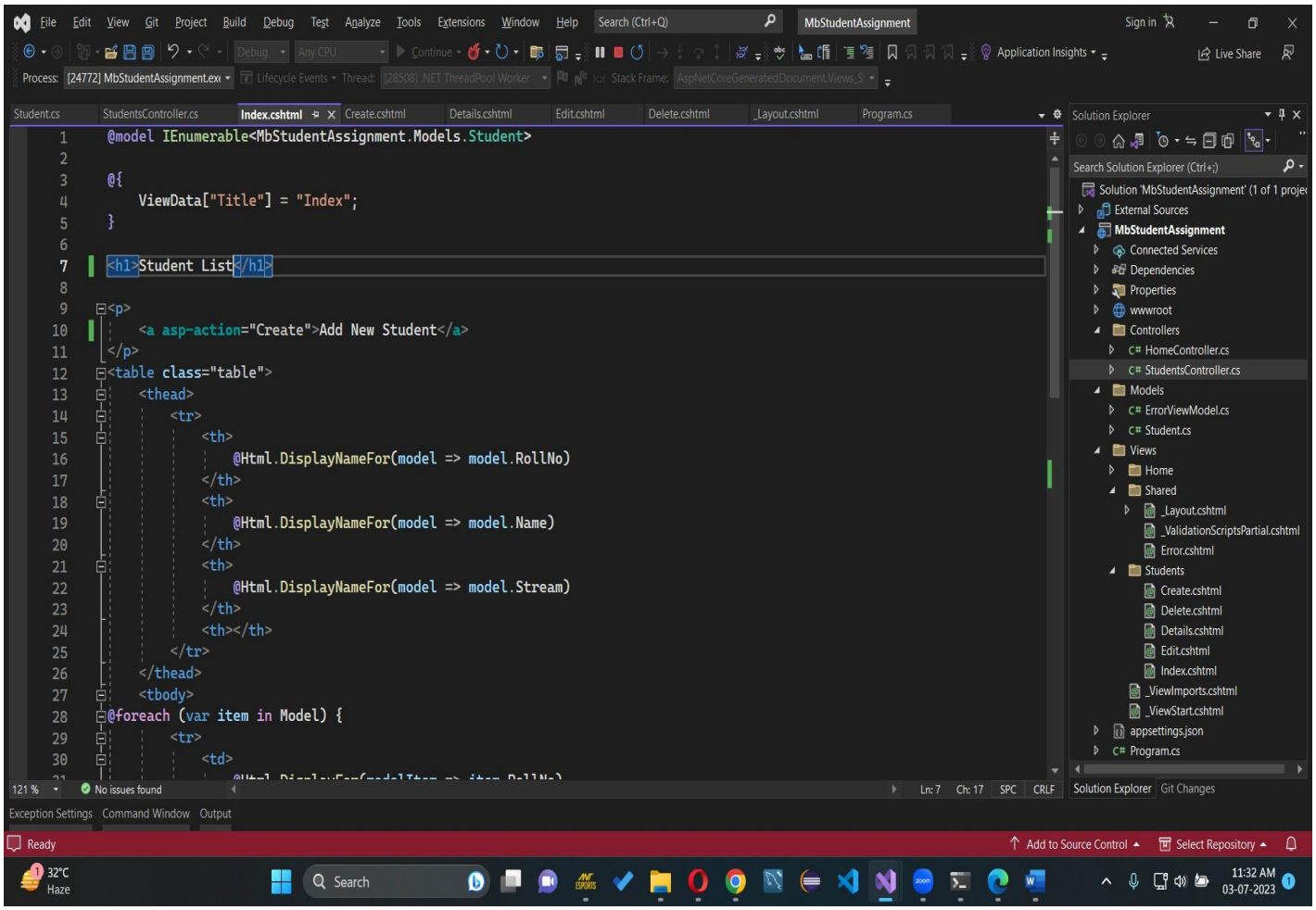
```
namespace MbStudentAssignment
{
    0 references
    public class Program
    {
        0 references
        public static void Main(string[] args)
        {
            var builder = WebApplication.CreateBuilder(args);

            // Add services to the container.
            builder.Services.AddControllersWithViews();

            var app = builder.Build();

            // Configure the HTTP request pipeline.
            if (!app.Environment.IsDevelopment())
            {
                app.UseExceptionHandler("/Home/Error");
            }
            app.UseStaticFiles();

            app.UseRouting();

            app.UseAuthorization();

            app.MapControllerRoute(
                name: "default",
                pattern: "{controller=Students}/{action=Index}/{id?}");

            app.Run();
        }
    }
}
```

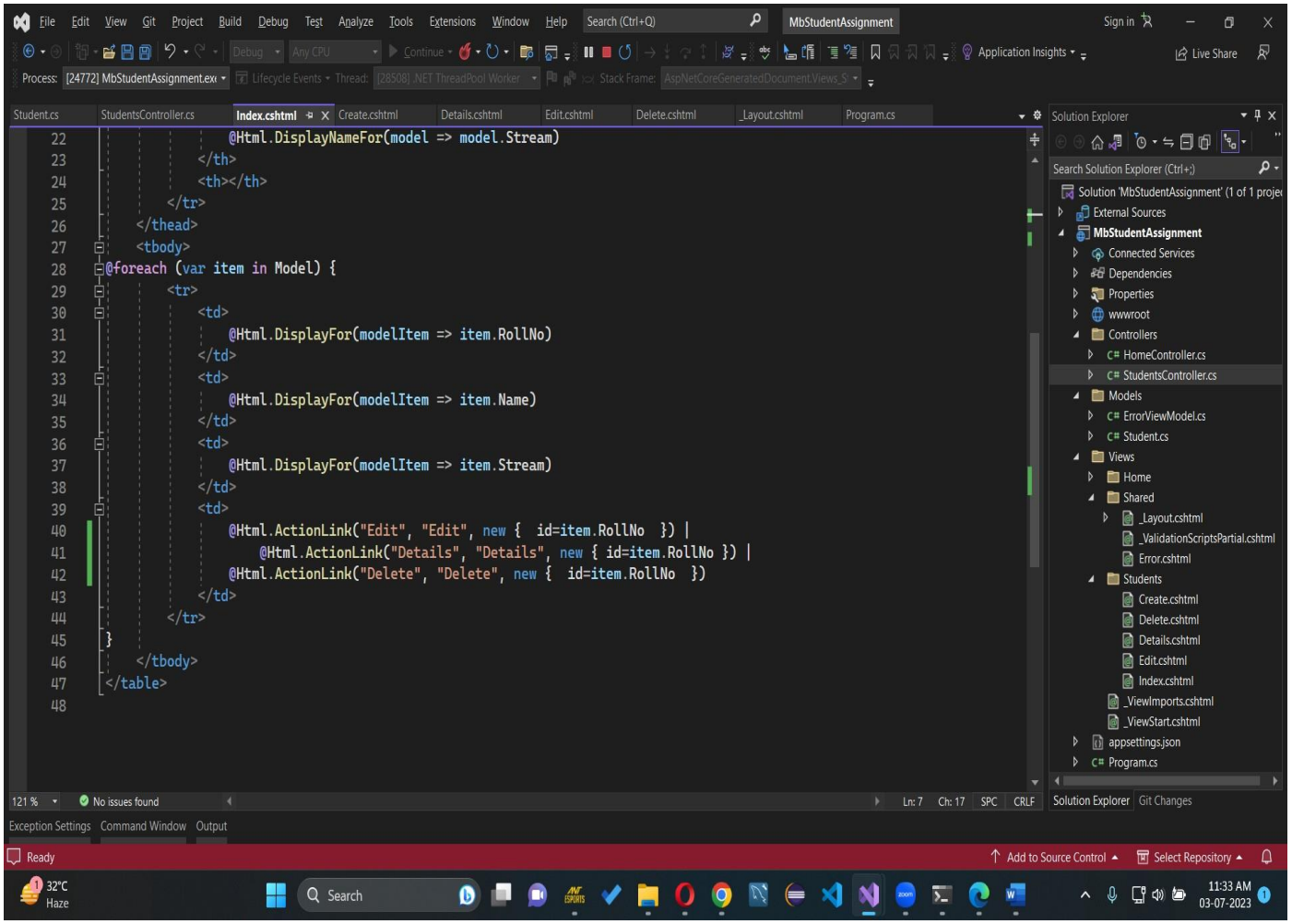
_Layout.cshtml



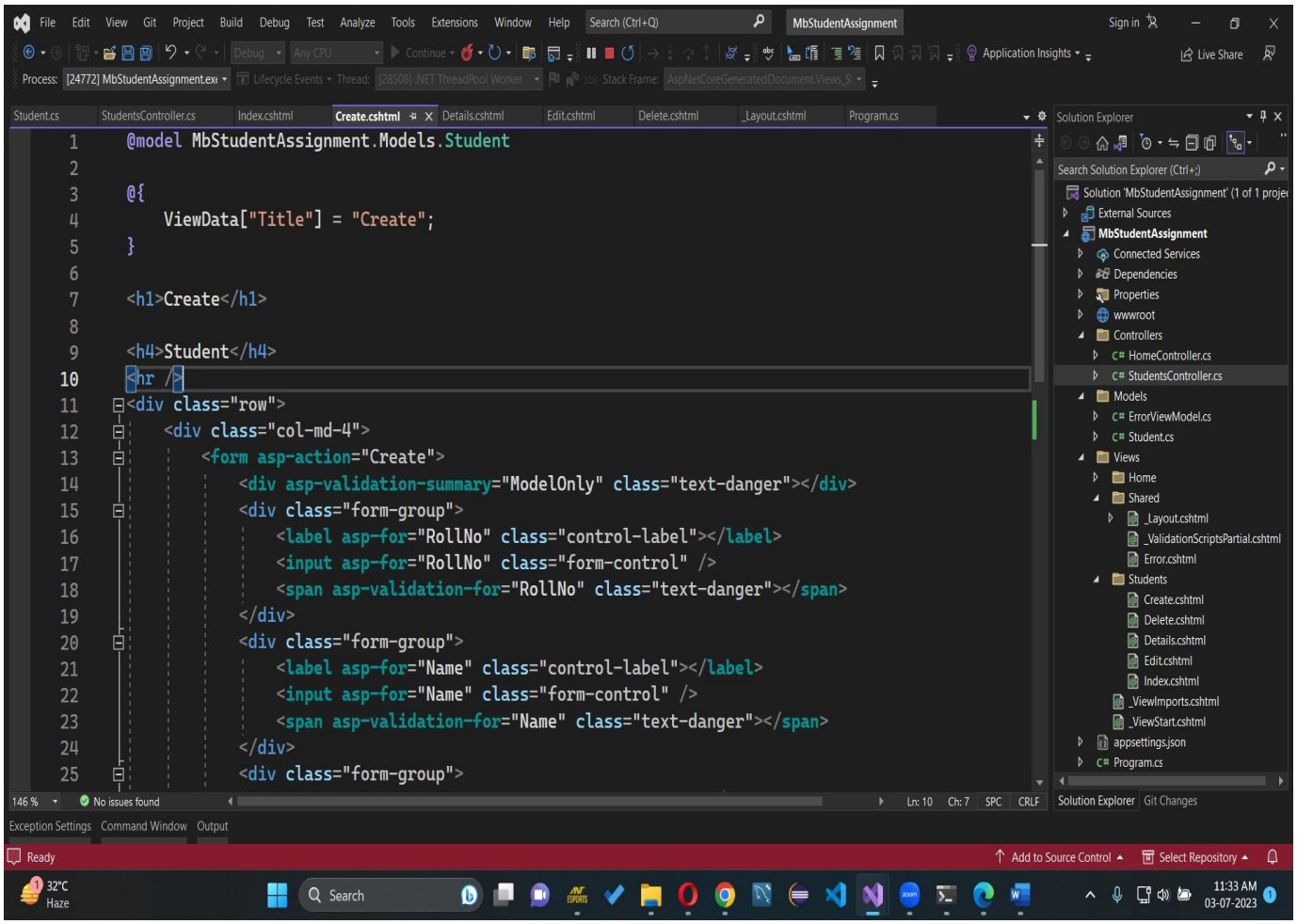


Index.cshtml

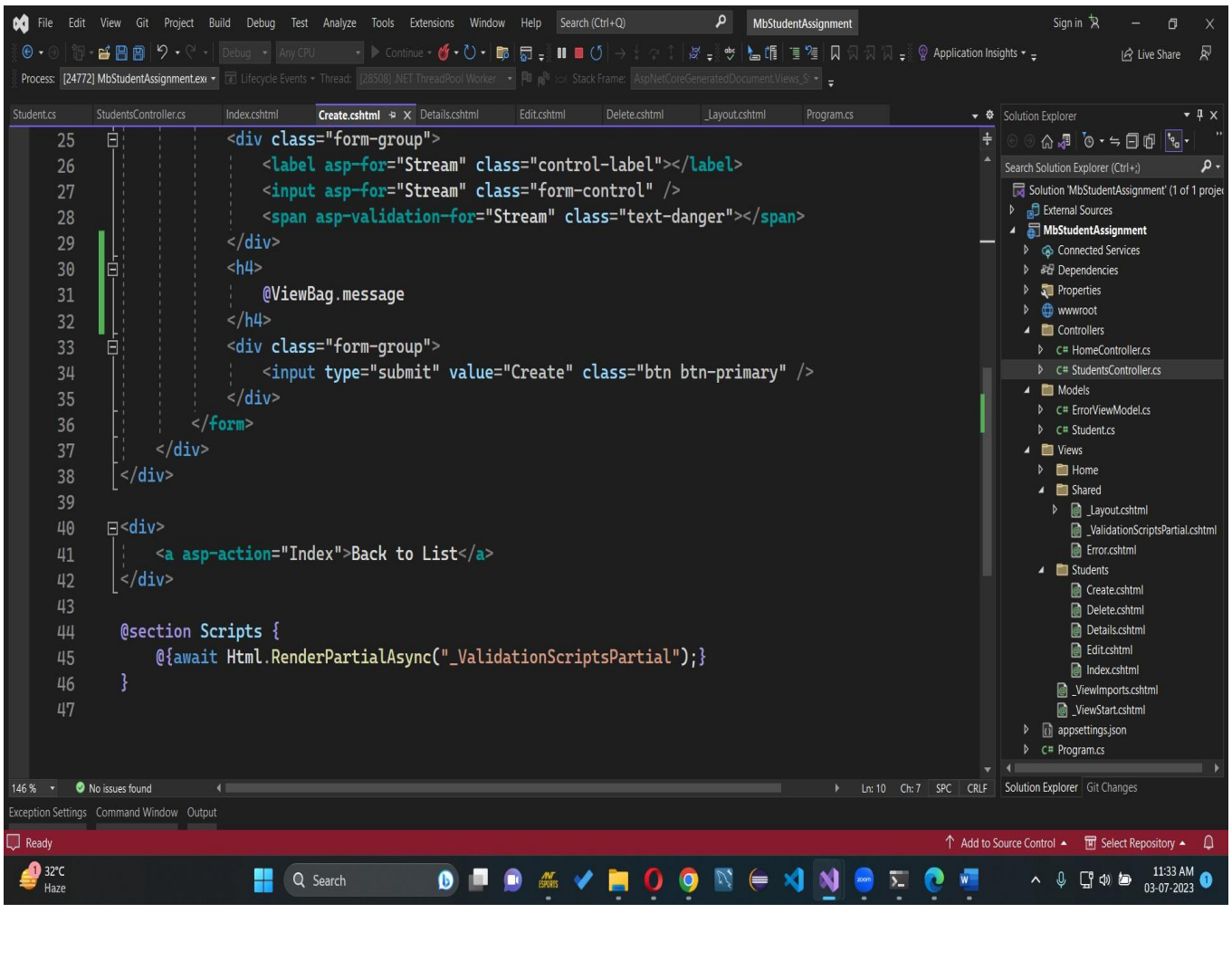




Create.cshtml

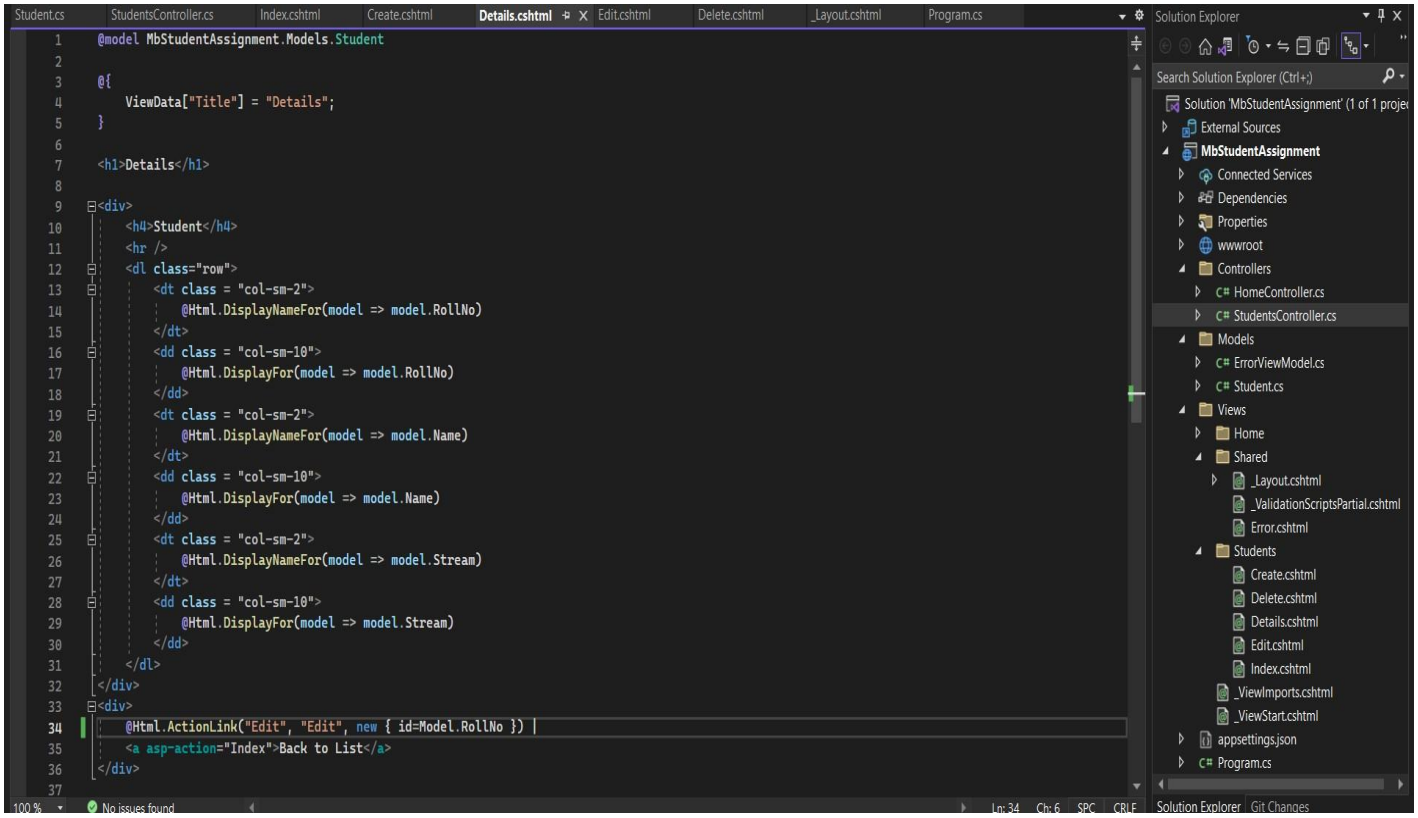


```
@model MbStudentAssignment.Models.Student

@{
    ViewData["Title"] = "Create";
}

<h1>Create</h1>

<h4>Student</h4>
<hr />
<div class="row">
    <div class="col-md-4">
        <form asp-action="Create">
            <div asp-validation-summary="ModelOnly" class="text-danger"></div>
            <div class="form-group">
                <label asp-for="RollNo" class="control-label"></label>
                <input asp-for="RollNo" class="form-control" />
                <span asp-validation-for="RollNo" class="text-danger"></span>
            </div>
            <div class="form-group">
                <label asp-for="Name" class="control-label"></label>
                <input asp-for="Name" class="form-control" />
                <span asp-validation-for="Name" class="text-danger"></span>
            </div>
            <div class="form-group">
```



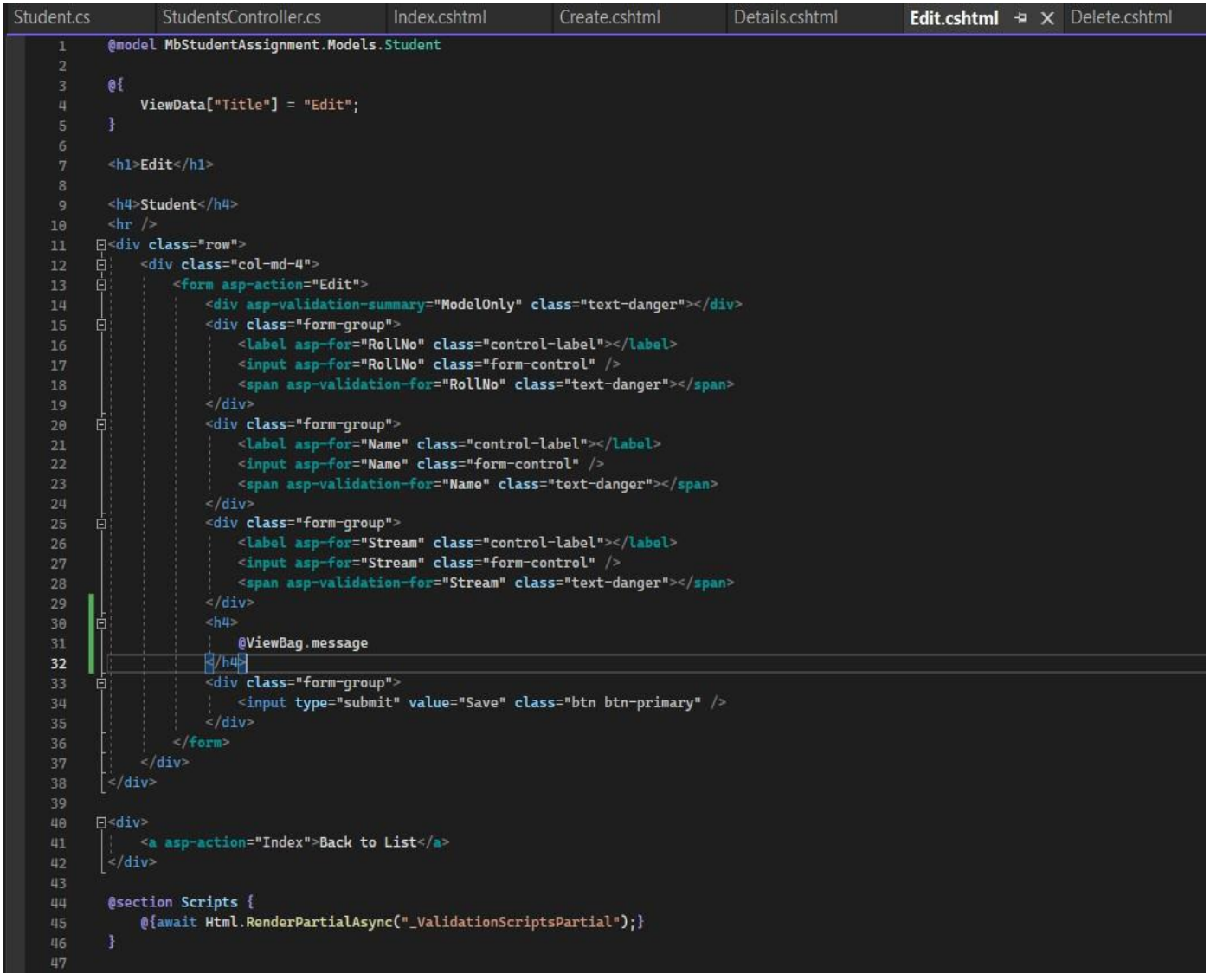
```
            <div class="form-group">
                <label asp-for="Stream" class="control-label"></label>
                <input asp-for="Stream" class="form-control" />
                <span asp-validation-for="Stream" class="text-danger"></span>
            </div>
            <h4>
                @ViewBag.message
            </h4>
            <div class="form-group">
                <input type="submit" value="Create" class="btn btn-primary" />
            </div>
        </form>
    </div>
</div>

<div>
    <a asp-action="Index">Back to List</a>
</div>

@section Scripts {
    @{await Html.RenderPartialAsync("_ValidationScriptsPartial");}
}
```

Details.cshtml



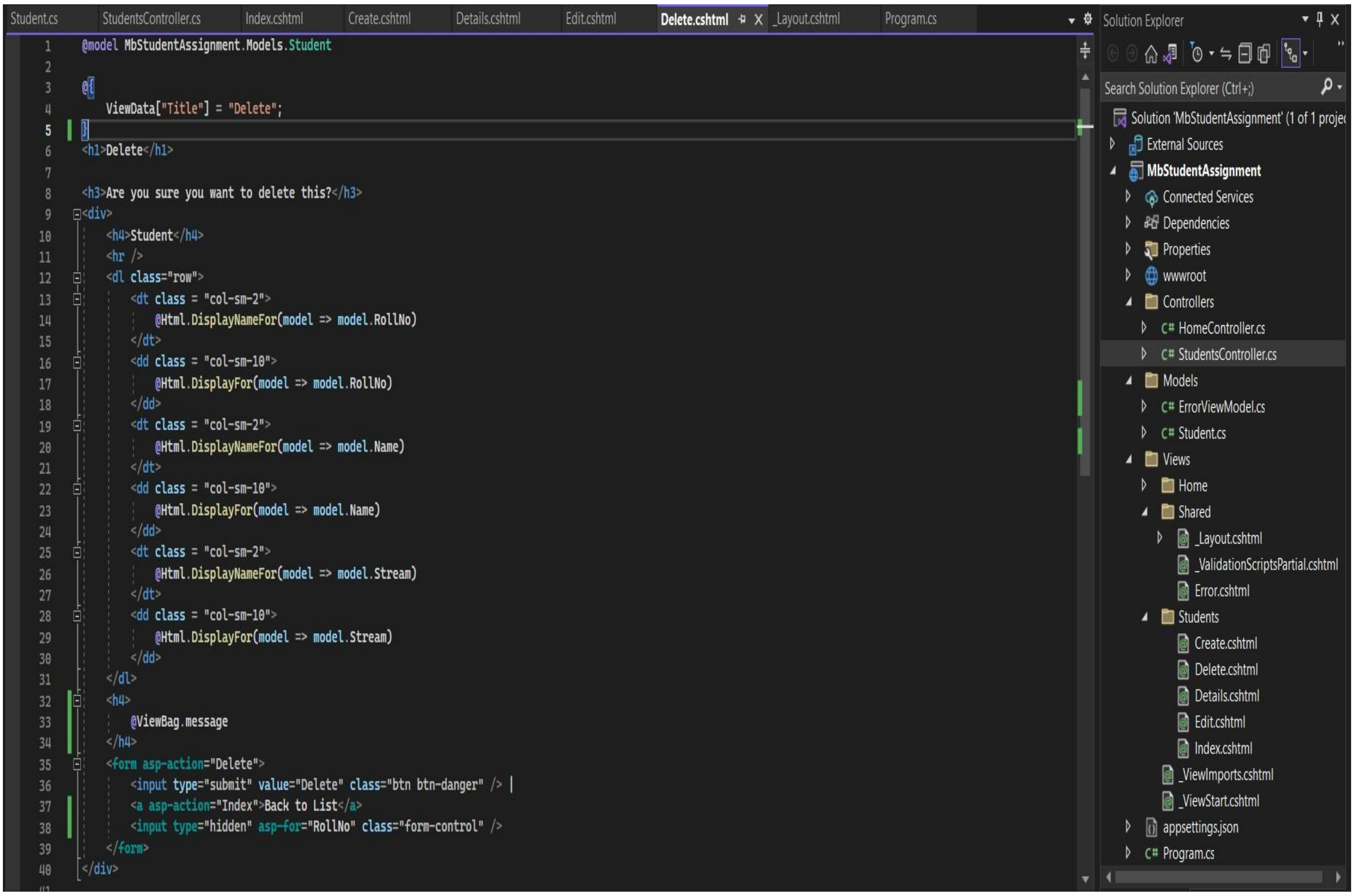
```
@model MbStudentAssignment.Models.Student

@{
    ViewData["Title"] = "Details";
}

<h1>Details</h1>

<div>
    <h4>Student</h4>
    <hr />
    <dl class="row">
        <dt class = "col-sm-2">
            @Html.DisplayNameFor(model => model.RollNo)
        </dt>
        <dd class = "col-sm-10">
            @Html.DisplayFor(model => model.RollNo)
        </dd>
        <dt class = "col-sm-2">
            @Html.DisplayNameFor(model => model.Name)
        </dt>
        <dd class = "col-sm-10">
            @Html.DisplayFor(model => model.Name)
        </dd>
        <dt class = "col-sm-2">
            @Html.DisplayNameFor(model => model.Stream)
        </dt>
        <dd class = "col-sm-10">
            @Html.DisplayFor(model => model.Stream)
        </dd>
    </dl>
</div>
<div>
    @Html.ActionLink("Edit", "Edit", new { id=Model.RollNo }) |
    <a asp-action="Index">Back to List</a>
</div>
```

Edit.cshtml



```
@model MbStudentAssignment.Models.Student

@{
    ViewData["Title"] = "Edit";
}

<h1>Edit</h1>

<h4>Student</h4>
<hr />
<div class="row">
    <div class="col-md-4">
        <form asp-action="Edit">
            <div asp-validation-summary="ModelOnly" class="text-danger"></div>
            <div class="form-group">
                <label asp-for="RollNo" class="control-label"></label>
                <input asp-for="RollNo" class="form-control" />
                <span asp-validation-for="RollNo" class="text-danger"></span>
            </div>
            <div class="form-group">
                <label asp-for="Name" class="control-label"></label>
                <input asp-for="Name" class="form-control" />
                <span asp-validation-for="Name" class="text-danger"></span>
            </div>
            <div class="form-group">
                <label asp-for="Stream" class="control-label"></label>
                <input asp-for="Stream" class="form-control" />
                <span asp-validation-for="Stream" class="text-danger"></span>
            </div>
            <h4>
                @ViewBag.message
            </h4>
            <div class="form-group">
                <input type="submit" value="Save" class="btn btn-primary" />
            </div>
        </form>
    </div>
</div>

<div>
    <a asp-action="Index">Back to List</a>
</div>

@section Scripts {
    @{await Html.RenderPartialAsync("_ValidationScriptsPartial");}
}
```

Delete.cshtml



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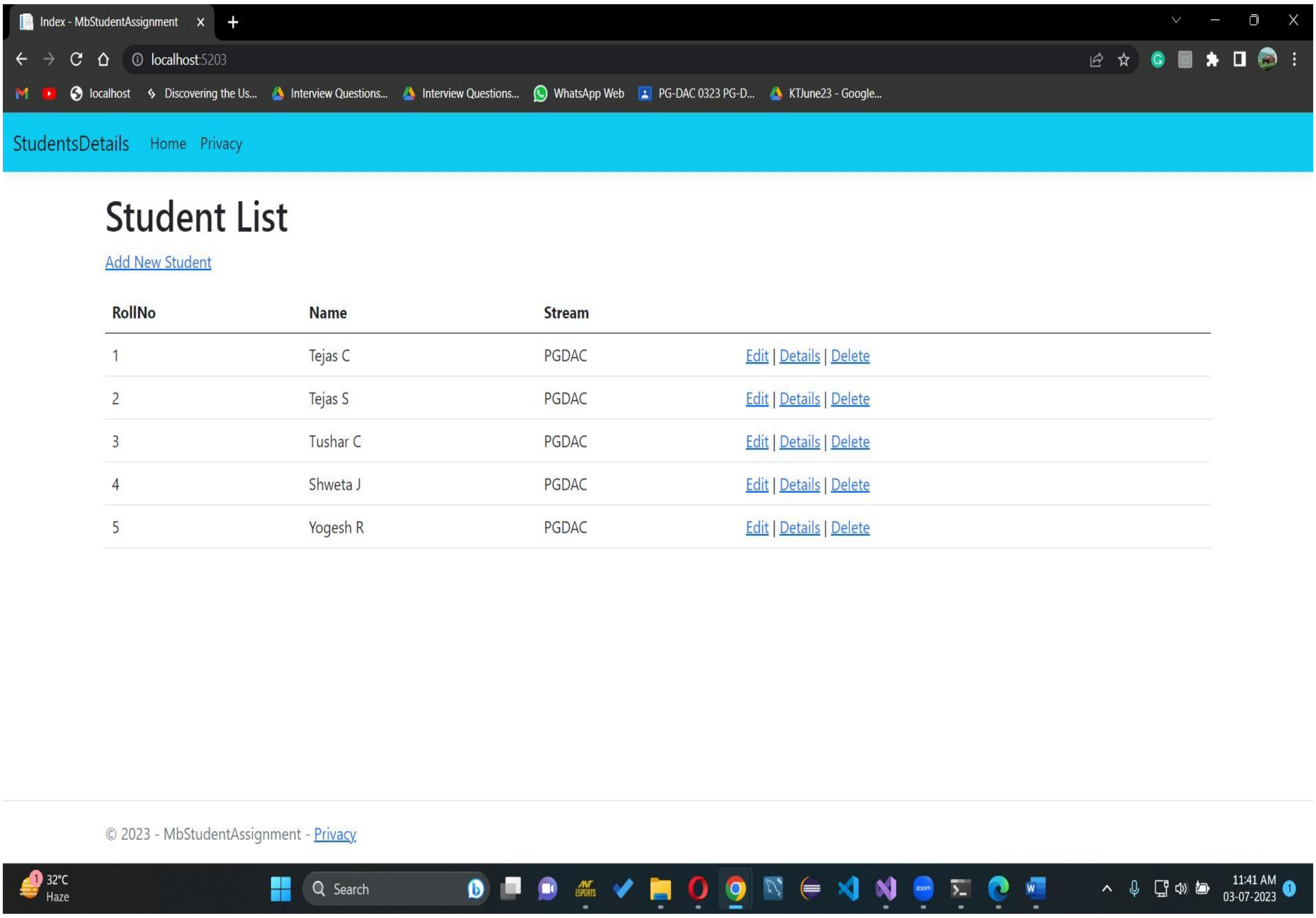

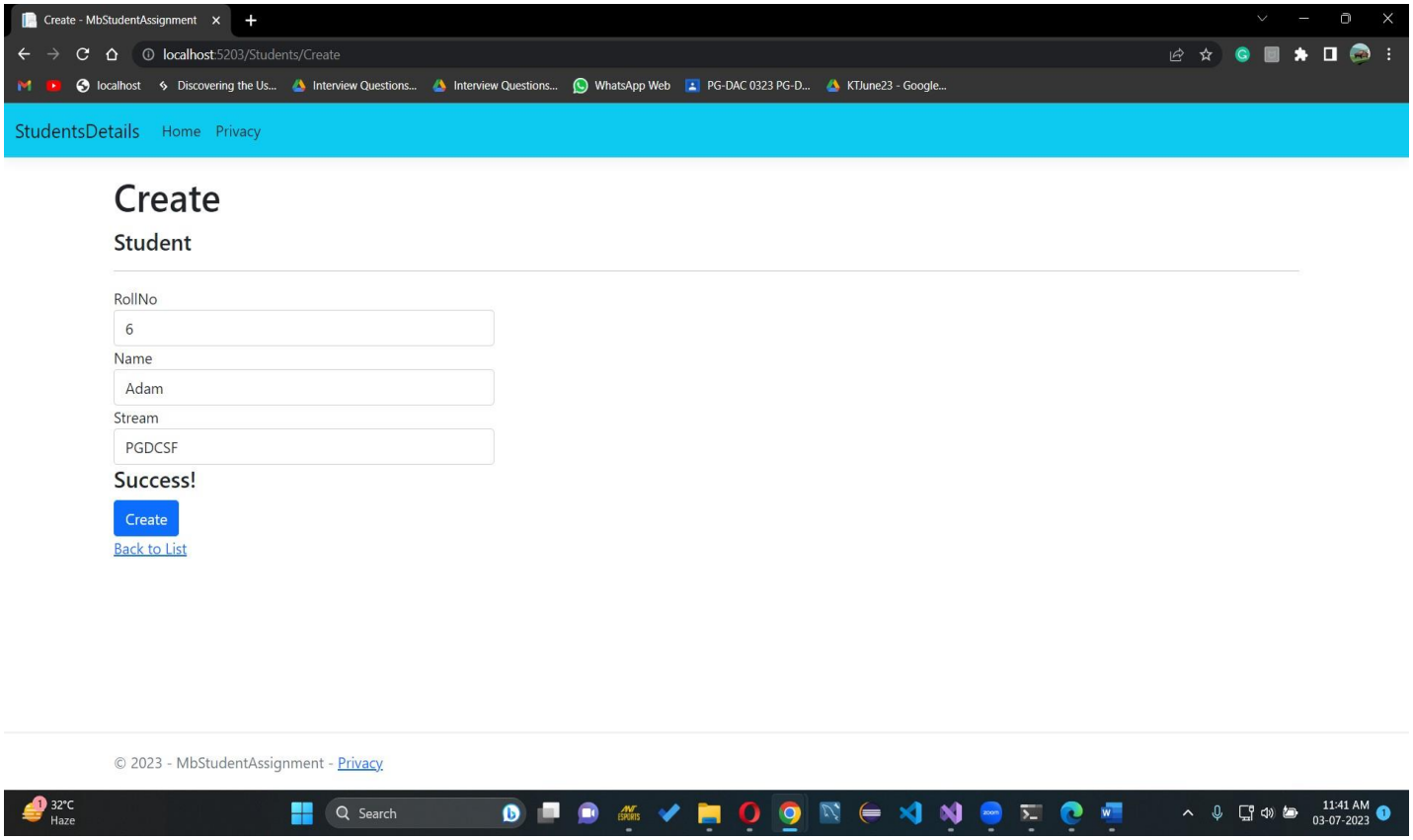
Create - MbStudentAssignment
localhost:5203/Students/Create
localhost
Discovering the Us...
Interview Questions...
Interview Questions...
WhatsApp Web
PG-DAC 0323 PG-D...
KTJune23 - Google...
StudentsDetails
Home
Privacy
Create
Student
RollNo
6
Name
Adam
Stream
PGDCSF
Success!
Create
Back to List
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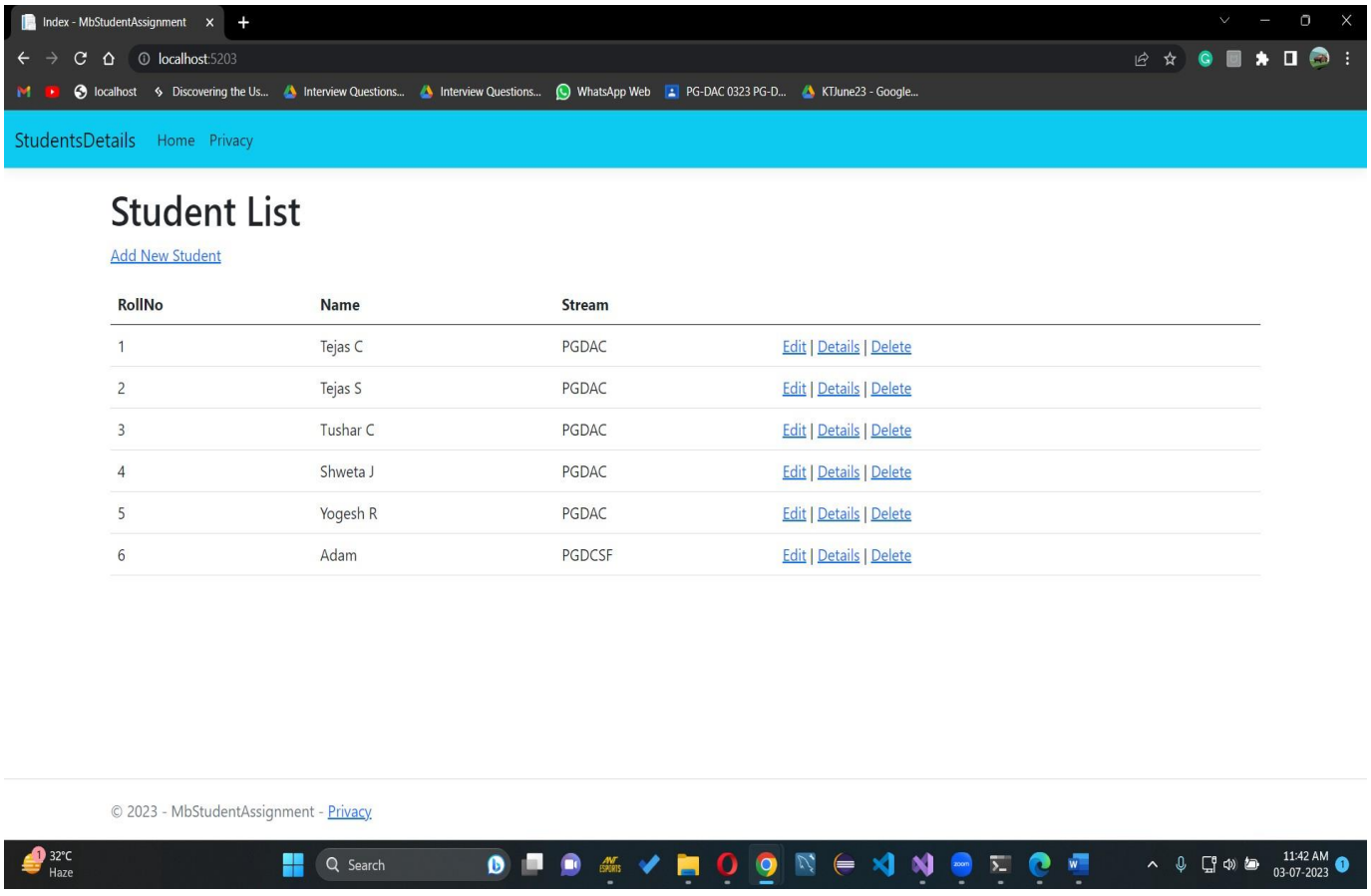
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Discovering the Us...
Interview Questions...
Interview Questions...
WhatsApp Web
PG-DAC 0323 PG-D...
KTJune23 - Google...
StudentsDetails
Home
Privacy
Student List
Add New Student
RollNo
Name
Stream
1 Tejas C PGDAC Edit | Details | Delete
2 Tejas S PGDAC Edit | Details | Delete
3 Tushar C PGDAC Edit | Details | Delete
4 Shweta J PGDAC Edit | Details | Delete
5 Yogesh R PGDAC Edit | Details | Delete
6 Adam PGDCSF Edit | Details | Delete
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Search
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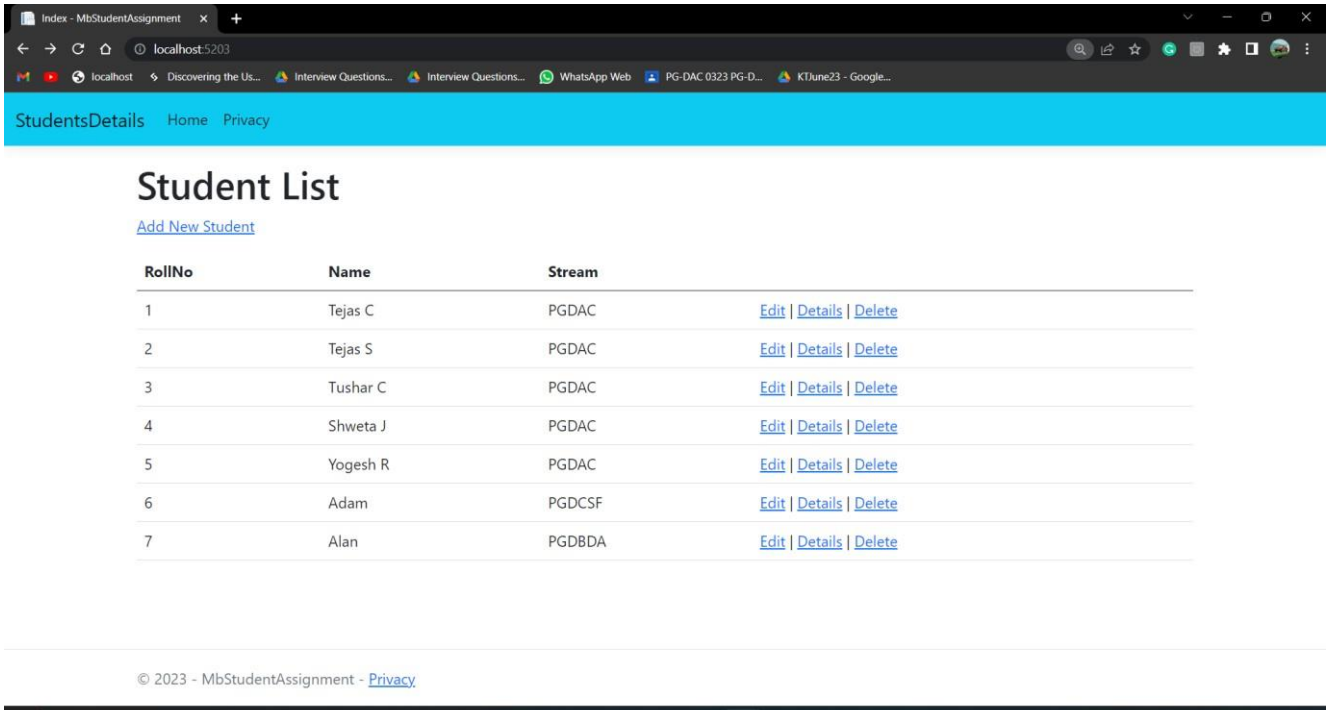
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StudentsDetails Home Privacy
Student List
Add New Student
RollNo Name Stream
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2 Tejas S PGDAC Edit | Details | Delete
3 Tushar C PGDAC Edit | Details | Delete
4 Shweta J PGDAC Edit | Details | Delete
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6 Adam PGDCSF Edit | Details | Delete
7 Alan PGDBDA Edit | Details | Delete
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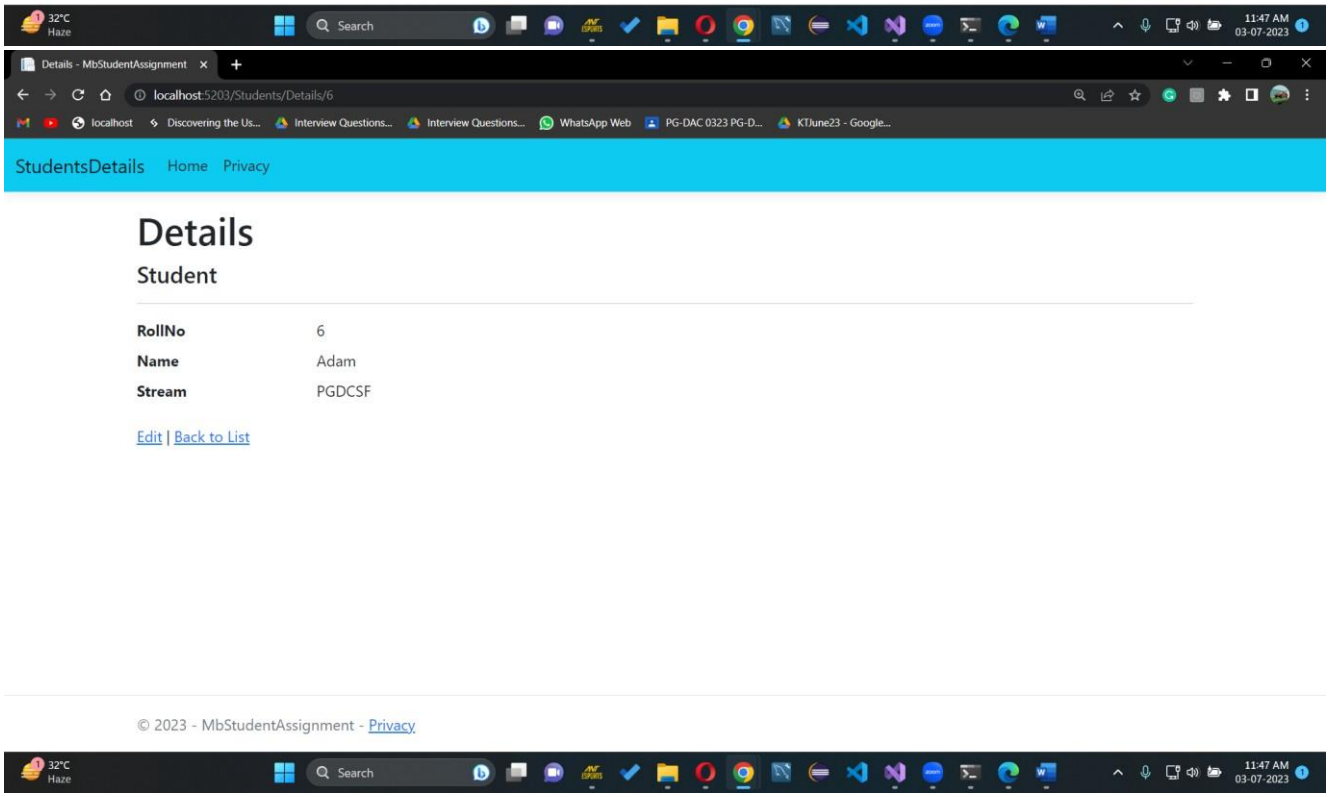
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StudentsDetails Home Privacy
Details
Student
RollNo 6
Name Adam
Stream PGDCSF
Edit | Back to List
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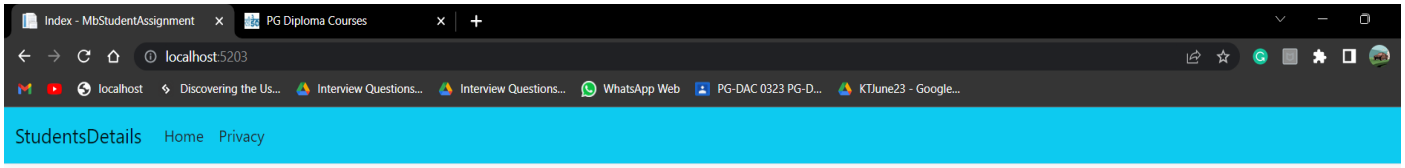
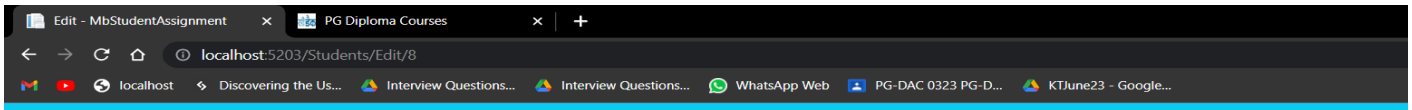


Student List

Add New Student

RollNo	Name	Stream	
1	Tejas C	PGDAC	Edit | Details | Delete
2	Tejas S	PGDAC	Edit | Details | Delete
3	Tushar C	PGDAC	Edit | Details | Delete
4	Shweta J	PGDAC	Edit | Details | Delete
5	Yogesh R	PGDAC	Edit | Details | Delete
6	Adam	PGDCSF	Edit | Details | Delete
7	Alan	PGDBDA	Edit | Details | Delete
8	Rowan	PGDAI	Edit | Details | Delete



Edit

Student

RollNo

8

Name

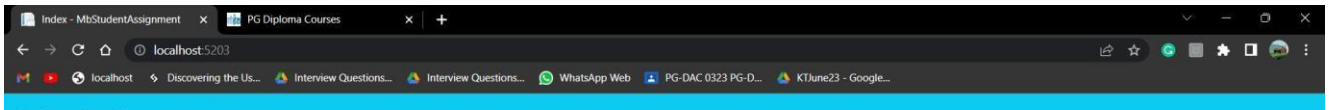
Rowan

Stream

PGDMC

Save

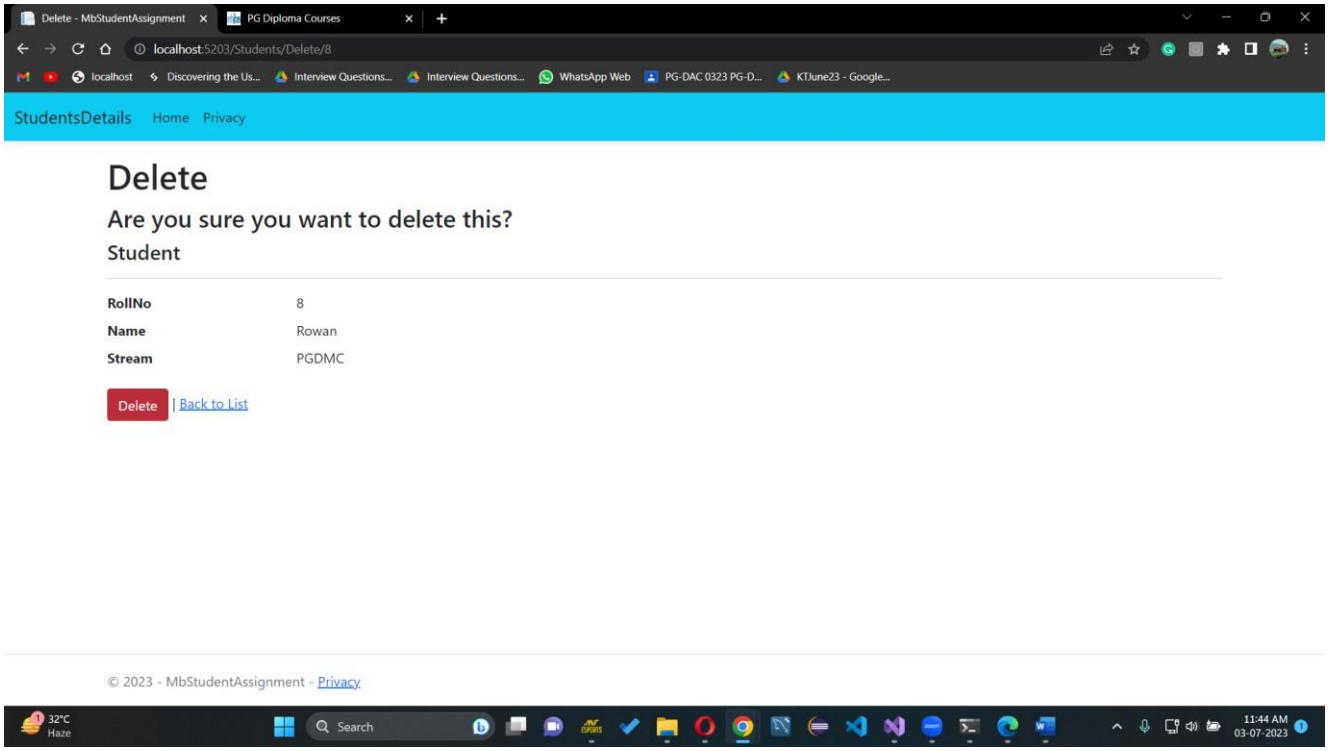
Back to List



Student List

Add New Student

RollNo	Name	Stream	
1	Tejas C	PGDAC	Edit | Details | Delete
2	Tejas S	PGDAC	Edit | Details | Delete
3	Tushar C	PGDAC	Edit | Details | Delete
4	Shweta J	PGDAC	Edit | Details | Delete
5	Yogesh R	PGDAC	Edit | Details | Delete
6	Adam	PGDCSF	Edit | Details | Delete
7	Alan	PGDBDA	Edit | Details | Delete
8	Rowan	PGDMC	Edit | Details | Delete



2. Write a C# program that reads a number from the user and calculates its square root. Handle the exception if the number is negative.

```
namespace ConsoleApp1
{
    internal class Program
    {
        static void Main(string[] args)
        {
            try
            {
                Console.Write("Enter a number: ");
                double number = double.Parse(Console.ReadLine());

                if (number < 0)
                {
                    throw new ArgumentOutOfRangeException("Number cannot be negative.");
                }

                double squareRoot = Math.Sqrt(number);
                Console.WriteLine($"Square root of {number} is: {squareRoot}");
            }
            catch (FormatException)
            {
                Console.WriteLine("Invalid input. Please enter a valid number.");
            }
            catch (ArgumentOutOfRangeException ex)
            {
                Console.WriteLine(ex.Message);
            }

        }
    }
}
```

Output:-

```
Enter a number: -6
Specified argument was out of the range of valid values. (Parameter 'Number cannot be negative.')
```

```
Enter a number: 4
Square root of 4 is: 2
```