Source Code for Create an MVC Application to Manage Data for School Application

Classess.cs:

```
using System;
using System.Collections.Generic;
using System.ComponentModel.DataAnnotations.Schema;
using System.ComponentModel.DataAnnotations;
using System.Linq;
using System.Web;

namespace WenAppPracticeSec_4.Models
{
   [Table("ClTable")]
   public class Classes
   {

        [Key]
        public int ClassId { get; set; }
        [Required]
        public string ClassName { get; set; }

        public virtual Student Student { get; set; }

     }
   }
```

Student.cs:

```
using System;
using System.Collections.Generic;
using System.ComponentModel.DataAnnotations;
using System.ComponentModel.DataAnnotations.Schema;
using System.Linq;
using System.Web;

namespace WenAppPracticeSec_4.Models
{
   [Table("StTable")]
   public class Student
   {
      [Key]
      public int StudentId { get; set; }
      [Required]
      public string FirstName { get; set; }
      [Required]
      public string LastName { get; set; }
      [Required]
      public DateTime BirthDate { get; set; }
```

```
        public int ClassId { get; set; }
        public virtual ICollection<Classes> Classes { get; set; }
        public virtual ICollection<Subject> Subject { get; set; }
    }
}
```

Subject.cs

```
using System;
using System.Collections.Generic;
using System.ComponentModel.DataAnnotations.Schema;
using System.ComponentModel.DataAnnotations;
using System.Linq;
using System.Web;

namespace WenAppPracticeSec_4.Models
{

    [Table("SubTable")]
    public class Subject
    {
        [Key]
        public int SubjectId { get; set; }
        [Required]
        public string SubjectName { get; set; }

        public virtual Student Student { get; set; }

    }
  }
```

ClassessControllers:

```
using System;
using System.Collections.Generic;
using System.Data;
using System.Data.Entity;
using System.Linq;
using System.Net;
using System.Web;
using System.Web.Mvc;
using WenAppPracticeSec_4.Data;
using WenAppPracticeSec_4.Models;

namespace WenAppPracticeSec_4.Controllers
{
   public class ClassesController : Controller
   {
      private SchoolDbContext db = new SchoolDbContext();

      // GET: Classes
      public ActionResult Index()
      {
         return View(db.Classes.ToList());
      }
```

```
// GET: Classes/Details/5
public ActionResult Details(int? id)
{
    if (id == null)
    {
        return new HttpStatusCodeResult(HttpStatusCode.BadRequest);
    }
    Classes classes = db.Classes.Find(id);
    if (classes == null)
    {
        return HttpNotFound();
    }
    return View(classes);
}

// GET: Classes/Create
public ActionResult Create()
{
    return View();
}

// POST: Classes/Create
// To protect from overposting attacks, enable the specific properties you want to bind to, for
// more details see https://go.microsoft.com/fwlink/?LinkId=317598.
[HttpPost]
[ValidateAntiForgeryToken]
public ActionResult Create([Bind(Include = "ClassId,ClassName")] Classes classes)
{
    if (ModelState.IsValid)
    {
        db.Classes.Add(classes);
        db.SaveChanges();
        return RedirectToAction("Index");
    }

    return View(classes);
}

// GET: Classes/Edit/5
public ActionResult Edit(int? id)
{
    if (id == null)
    {
        return new HttpStatusCodeResult(HttpStatusCode.BadRequest);
    }
    Classes classes = db.Classes.Find(id);
    if (classes == null)
    {
        return HttpNotFound();
    }
    return View(classes);
}

// POST: Classes/Edit/5
// To protect from overposting attacks, enable the specific properties you want to bind to, for
// more details see https://go.microsoft.com/fwlink/?LinkId=317598.
[HttpPost]
[ValidateAntiForgeryToken]
```

```
        public ActionResult Edit([Bind(Include = "ClassId,ClassName")] Classes classes)
        {
            if (ModelState.IsValid)
            {
                db.Entry(classes).State = EntityState.Modified;
                db.SaveChanges();
                return RedirectToAction("Index");
            }
            return View(classes);
        }

        // GET: Classes/Delete/5
        public ActionResult Delete(int? id)
        {
            if (id == null)
            {
                return new HttpStatusCodeResult(HttpStatusCode.BadRequest);
            }
            Classes classes = db.Classes.Find(id);
            if (classes == null)
            {
                return HttpNotFound();
            }
            return View(classes);
        }

        // POST: Classes/Delete/5
        [HttpPost, ActionName("Delete")]
        [ValidateAntiForgeryToken]
        public ActionResult DeleteConfirmed(int id)
        {
            Classes classes = db.Classes.Find(id);
            db.Classes.Remove(classes);
            db.SaveChanges();
            return RedirectToAction("Index");
        }

        protected override void Dispose(bool disposing)
        {
            if (disposing)
            {
                db.Dispose();
            }
            base.Dispose(disposing);
        }
    }
}
```

SubjectsController:

```
using System;
using System.Collections.Generic;
using System.Data;
using System.Data.Entity;
using System.Linq;
using System.Net;
```

```
using System.Web;
using System.Web.Mvc;
using WenAppPracticeSec_4.Data;
using WenAppPracticeSec_4.Models;

namespace WenAppPracticeSec_4.Controllers
{
    public class SubjectsController : Controller
    {
        private SchoolDbContext db = new SchoolDbContext();

        // GET: Subjects
        public ActionResult Index()
        {
            return View(db.Subjects.ToList());
        }

        // GET: Subjects/Details/5
        public ActionResult Details(int? id)
        {
            if (id == null)
            {
                return new HttpStatusCodeResult(HttpStatusCode.BadRequest);
            }
            Subject subject = db.Subjects.Find(id);
            if (subject == null)
            {
                return HttpNotFound();
            }
            return View(subject);
        }

        // GET: Subjects/Create
        public ActionResult Create()
        {
            return View();
        }

        // POST: Subjects/Create
        // To protect from overposting attacks, enable the specific properties you want to bind to, for
        // more details see https://go.microsoft.com/fwlink/?LinkId=317598.
        [HttpPost]
        [ValidateAntiForgeryToken]
        public ActionResult Create([Bind(Include = "SubjectId,SubjectName")] Subject subject)
        {
            if (ModelState.IsValid)
            {
                db.Subjects.Add(subject);
                db.SaveChanges();
                return RedirectToAction("Index");
            }

            return View(subject);
        }

        // GET: Subjects/Edit/5
        public ActionResult Edit(int? id)
        {
            if (id == null)
```

```
    {
        return new HttpStatusCodeResult(HttpStatusCode.BadRequest);
    }
    Subject subject = db.Subjects.Find(id);
    if (subject == null)
    {
        return HttpNotFound();
    }
    return View(subject);
}

// POST: Subjects/Edit/5
// To protect from overposting attacks, enable the specific properties you want to bind to, for
// more details see https://go.microsoft.com/fwlink/?LinkId=317598.
[HttpPost]
[ValidateAntiForgeryToken]
public ActionResult Edit([Bind(Include = "SubjectId,SubjectName")] Subject subject)
{
    if (ModelState.IsValid)
    {
        db.Entry(subject).State = EntityState.Modified;
        db.SaveChanges();
        return RedirectToAction("Index");
    }
    return View(subject);
}

// GET: Subjects/Delete/5
public ActionResult Delete(int? id)
{
    if (id == null)
    {
        return new HttpStatusCodeResult(HttpStatusCode.BadRequest);
    }
    Subject subject = db.Subjects.Find(id);
    if (subject == null)
    {
        return HttpNotFound();
    }
    return View(subject);
}

// POST: Subjects/Delete/5
[HttpPost, ActionName("Delete")]
[ValidateAntiForgeryToken]
public ActionResult DeleteConfirmed(int id)
{
    Subject subject = db.Subjects.Find(id);
    db.Subjects.Remove(subject);
    db.SaveChanges();
    return RedirectToAction("Index");
}

protected override void Dispose(bool disposing)
{
    if (disposing)
    {
        db.Dispose();
    }
```

```
            base.Dispose(disposing);
        }
    }
}
```

StudentController:

```
using System;
using System.Collections.Generic;
using System.Data;
using System.Data.Entity;
using System.Linq;
using System.Net;
using System.Web;
using System.Web.Mvc;
using WenAppPracticeSec_4.Data;
using WenAppPracticeSec_4.Models;

namespace WenAppPracticeSec_4.Controllers
{
    public class StudentsController : Controller
    {
        private SchoolDbContext db = new SchoolDbContext();

        // GET: Students
        public ActionResult Index()
        {
            return View(db.Students.ToList());
        }

        // GET: Students/Details/5
        public ActionResult Details(int? id)
        {
            if (id == null)
            {
                return new HttpStatusCodeResult(HttpStatusCode.BadRequest);
            }
            Student student = db.Students.Find(id);
            if (student == null)
            {
                return HttpNotFound();
            }
            return View(student);
        }

        // GET: Students/Create
        public ActionResult Create()
        {
            return View();
        }

        // POST: Students/Create
        // To protect from overposting attacks, enable the specific properties you want to bind to, for
        // more details see https://go.microsoft.com/fwlink/?LinkId=317598.
        [HttpPost]
        [ValidateAntiForgeryToken]
        public ActionResult Create([Bind(Include = "StudentId,FirstName,LastName,BirthDate,ClassId")] Student student)
        {
```

```
    if (ModelState.IsValid)
    {
        db.Students.Add(student);
        db.SaveChanges();
        return RedirectToAction("Index");
    }

    return View(student);
}

// GET: Students/Edit/5
public ActionResult Edit(int? id)
{
    if (id == null)
    {
        return new HttpStatusCodeResult(HttpStatusCode.BadRequest);
    }
    Student student = db.Students.Find(id);
    if (student == null)
    {
        return HttpNotFound();
    }
    return View(student);
}

// POST: Students/Edit/5
// To protect from overposting attacks, enable the specific properties you want to bind to, for
// more details see https://go.microsoft.com/fwlink/?LinkId=317598.
[HttpPost]
[ValidateAntiForgeryToken]
public ActionResult Edit([Bind(Include = "StudentId,FirstName,LastName,BirthDate,ClassId")] Student student)
{
    if (ModelState.IsValid)
    {
        db.Entry(student).State = EntityState.Modified;
        db.SaveChanges();
        return RedirectToAction("Index");
    }
    return View(student);
}

// GET: Students/Delete/5
public ActionResult Delete(int? id)
{
    if (id == null)
    {
        return new HttpStatusCodeResult(HttpStatusCode.BadRequest);
    }
    Student student = db.Students.Find(id);
    if (student == null)
    {
        return HttpNotFound();
    }
    return View(student);
}

// POST: Students/Delete/5
[HttpPost, ActionName("Delete")]
[ValidateAntiForgeryToken]
```

```
        public ActionResult DeleteConfirmed(int id)
        {
            Student student = db.Students.Find(id);
            db.Students.Remove(student);
            db.SaveChanges();
            return RedirectToAction("Index");
        }

        protected override void Dispose(bool disposing)
        {
            if (disposing)
            {
                db.Dispose();
            }
            base.Dispose(disposing);
        }
    }
}
```

SchoolDbContext:

```
using System;
using System.Collections.Generic;
using System.Data.Entity;
using System.Linq;
using System.Web;

namespace WenAppPracticeSec_4.Data
{
    public class SchoolDbContext : DbContext
    {
        // You can add custom code to this file. Changes will not be overwritten.
        //
        // If you want Entity Framework to drop and regenerate your database
        // automatically whenever you change your model schema, please use data migrations.
        // For more information refer to the documentation:
        // http://msdn.microsoft.com/en-us/data/jj591621.aspx

        public SchoolDbContext() : base("name=SchoolDbContext")
        {
        }

        public System.Data.Entity.DbSet<WenAppPracticeSec_4.Models.Classes> Classes { get; set; }

        public System.Data.Entity.DbSet<WenAppPracticeSec_4.Models.Student> Students { get; set; }

        public System.Data.Entity.DbSet<WenAppPracticeSec_4.Models.Subject> Subjects { get; set; }
    }
}
```

LayOut.cshtml:

```
<!DOCTYPE html>
<html>
<head>
    <meta charset="utf-8" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>@ViewBag.Title - My ASP.NET Application</title>
    @Styles.Render("~/Content/css")
```

```
    @Scripts.Render("~/bundles/modernizr")
</head>
<body>
    <nav class="navbar navbar-expand-sm navbar-toggleable-sm navbar-dark bg-dark">
        <div class="container">
            @Html.ActionLink("Application name", "Index", "Home", new { area = "" }, new { @class = "navbar-brand" })
            <button type="button" class="navbar-toggler" data-bs-toggle="collapse" data-bs-target=".navbar-collapse"
title="Toggle navigation" aria-controls="navbarSupportedContent"
                    aria-expanded="false" aria-label="Toggle navigation">
                <span class="navbar-toggler-icon"></span>
            </button>
            <div class="collapse navbar-collapse d-sm-inline-flex justify-content-between">
                <ul class="navbar-nav flex-grow-1">
                    <li>@Html.ActionLink("Home", "Index", "Home", new { area = "" }, new { @class = "nav-link" })</li>
                    <li>@Html.ActionLink("Classes", "Index", "Classes", new { area = "" }, new { @class = "nav-link" })</li>

                    <li>@Html.ActionLink("Student", "Index", "Students", new { area = "" }, new { @class = "nav-link" })</li>

                    <li>@Html.ActionLink("Subject", "Index", "Subjects", new { area = "" }, new { @class = "nav-link" })</li>
                    <li>@Html.ActionLink("About", "About", "Home", new { area = "" }, new { @class = "nav-link" })</li>
                    <li>@Html.ActionLink("Contact", "Contact", "Home", new { area = "" }, new { @class = "nav-link" })</li>
                </ul>
            </div>
        </div>
    </nav>
    <div class="container body-content">
        @RenderBody()
        <hr />
        <footer>
            <p>&copy; @DateTime.Now.Year - My ASP.NET Application</p>
        </footer>
    </div>

    @Scripts.Render("~/bundles/jquery")
    @Scripts.Render("~/bundles/bootstrap")
    @RenderSection("scripts", required: false)
</body>
</html>
```