CONTROLLER : StudentController.cs

```
using DAL;
using StudentsMarksWebAPI.Models;
using System;
using System.Collections.Generic;
using System.Linq;
using System.Net;
using System.Net.Http;
using System.Web.Http;
using System.Web.Razor.Generator;

namespace StudentsMarksWebAPI.Controllers
{
  public class StudentController : ApiController
  {
    Helper helper;

    public StudentController()
    {
      helper = new Helper();

    }
    // GET api/<controller>
    public List<MMark> Get()
    {
      List<MMark> marks = new List<MMark>();
      var ans = helper.GetAllMarks();
      foreach (var item in ans)
      {
```

```
                marks.Add(new MMark { marks = item.marks, RollNo = item.RollNo, SubjectId =
item.SubjectId });

            }

            return marks;


        }





        // POST api/<controller>

        public void Post([FromBody] MMark m )

        {

            Mark newMark = new Mark();


            newMark.RollNo = m.RollNo;

            newMark.SubjectId = m.SubjectId;

            newMark.marks = m.marks;


            helper.CreateMark(newMark);





        }


        // PUT api/<controller>/5

        public void Put(int id, int id1 ,[FromBody] MMark m)

        {

            Mark newMark = new Mark();


            newMark.RollNo = m.RollNo;

            newMark.SubjectId = m.SubjectId;
            newMark.marks = m.marks;
            helper.UpdateMark(id,id1,newMark);

        }

        // DELETE api/<controller>/5
        public void Delete(int id, int id1)
        {
            helper.DeleteMark(id, id1);

        }
    }
}
```

Models: Student.cs

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

namespace StudentsMarksWebAPI.Models
{
    public class MStudent
    {

        public int RollNo { get; set; }
        public string Name { get; set; }
        public System.DateTime DOB { get; set; }
        public int ClassNo { get; set; }


        public virtual ICollection<MMark> marks { get; set; }
    }
}
```

Subject.cs

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

namespace StudentsMarksWebAPI.Models
{
    public class MSubject
    {
        public int SubjectId { get; set; }
        public string SubjectName { get; set; }
        public int Duration { get; set; }
        public int ClassNo { get; set; }
        public virtual ICollection<MMark> marks { get; set; }
    }
}
```

Mark.cs

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

namespace StudentsMarksWebAPI.Models
{
    public class MMark
    {

        public int RollNo { get; set; }
        public int SubjectId { get; set; }
        public int marks { get; set; }

        public virtual MStudent Student { get; set; }
        public virtual MSubject Subject { get; set; }
    }
}
```

DAL : Helper class - Helper.cs

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace DAL
{
    public class Helper
    {
        Marks context;

        public Helper()

        {

            context = new Marks();

        }


        public List<Mark> GetAllMarks()

        {

            return context.MarkList.ToList();

        }


        //public List<Mark> GetMarksbyId(int id,int id1)

        //{

        //    var found = (Mark) context.MarkList.ToList().Find(a => (a.RollNo == id && a.SubjectId ==
id1));


        //    return found;

        //}


        public void CreateMark(Mark m)

        {

            context.MarkList.Add(m);


            context.SaveChanges();

        }


        public void UpdateMark(int id,int id1,Mark m)

        {


            var found = context.MarkList.ToList().Find(s => s.RollNo == id && s.SubjectId == id1);
            context.MarkList.Remove(found);

            context.MarkList.Add(m);

            context.SaveChanges();

        }

        public void DeleteMark(int id, int id1)
        {
            var found = context.MarkList.ToList().Find(s => s.RollNo == id && s.SubjectId == id1);

            context.MarkList.Remove(found);

            context.SaveChanges();

        }




    }
```

DatabaseContext class (ADO.NET EDM file) Marks.cs(DbContext)

```
using System;
using System.Collections.Generic;
using System.ComponentModel.DataAnnotations;
using System.ComponentModel.DataAnnotations.Schema;
using System.Data.Entity;
using System.Linq;
```

```
namespace DAL
{
    public class Marks : DbContext
    {

        public Marks()
            : base("name=Marks")
        {
            Database.SetInitializer<Marks>(new CreateDatabaseIfNotExists<Marks>());
        }

        public virtual DbSet<Student> Students { get; set; }
        public virtual DbSet<Subject> Subjects { get; set; }
        public virtual DbSet<Mark> MarkList { get; set; }

    }

    public class Mark
    {
        [Key]
        [DatabaseGenerated(DatabaseGeneratedOption.Identity)]
        public int Sno { get; set; }
        public int RollNo { get; set; }
        public int SubjectId { get; set; }
        public int marks { get; set; }

        public virtual Student Student { get; set; }
        public virtual Subject Subject { get; set; }

    }
    public class Subject
    {

        [System.Diagnostics.CodeAnalysis.SuppressMessage("Microsoft.Usage",
"CA2214:DoNotCallOverridableMethodsInConstructors")]
        public Subject()
        {
            this.marks = new HashSet<Mark>();
        }

        [Key]
        public int SubjectId { get; set; }
        public string SubjectName { get; set; }
        public int Duration { get; set; } //minutes
        public int ClassNo { get; set; }

        [System.Diagnostics.CodeAnalysis.SuppressMessage("Microsoft.Usage",
"CA2227:CollectionPropertiesShouldBeReadOnly")]
        public virtual ICollection<Mark> marks { get; set; }
    }

    public class Student
    {

        public Student()
        {
            this.marks = new HashSet<Mark>();
        }
        [Key]
        public int RollNo { get; set; }
        public string Name { get; set; }
        public System.DateTime DOB { get; set; }
        public int ClassNo { get; set; }

        [System.Diagnostics.CodeAnalysis.SuppressMessage("Microsoft.Usage", "CA2227:CollectionPropertiesShouldBeReadOnly")]
        public virtual ICollection<Mark> marks { get; set; }
    }
}
```