**1. Web Api CRUD operation**

EmployeeController.cs :

using Microsoft.AspNetCore.Mvc;

using EmpDemo.Models;

using System;

using System.Collections.Generic;

using System.Linq;

namespace EmpDemo.Controllers

{

[ApiController]

[Route("api/[controller]")]

public class EmployeeController : ControllerBase

{

private static List<Employee> employees;

// Constructor: Initialize sample data

static EmployeeController()

{

employees = GetStandardEmployeeList();

}

[HttpGet]

[ProducesResponseType(typeof(List<Employee>), 200)]

[ProducesResponseType(500)]

public ActionResult<List<Employee>> Get()

{

return Ok(employees);

}

[HttpGet("standard")]

[ProducesResponseType(typeof(Employee), 200)]

public ActionResult<Employee> GetStandard()

{

return Ok(employees.First());

}

[HttpPost]

[ProducesResponseType(typeof(Employee), 201)]

public ActionResult<Employee> Post([FromBody] Employee emp)

{

emp.Id = employees.Max(e => e.Id) + 1;

employees.Add(emp);

return CreatedAtAction(nameof(Get), new { id = emp.Id }, emp);

}

[HttpPut("{id}")]

[ProducesResponseType(typeof(Employee), 200)]

[ProducesResponseType(400)]

public ActionResult<Employee> Put(int id, [FromBody] Employee updatedEmp)

{

if (id <= 0)

{

return BadRequest("Invalid employee id");

}

var existingEmp = employees.FirstOrDefault(e => e.Id == id);

if (existingEmp == null)

{

return BadRequest("Invalid employee id");

}

existingEmp.Name = updatedEmp.Name;

existingEmp.Salary = updatedEmp.Salary;

existingEmp.Permanent = updatedEmp.Permanent;

existingEmp.DateOfBirth = updatedEmp.DateOfBirth;

existingEmp.Department = updatedEmp.Department;

existingEmp.Skills = updatedEmp.Skills;

return Ok(existingEmp);

}

private static List<Employee> GetStandardEmployeeList()

{

return new List<Employee>

{

new Employee

{

Id = 1,

Name = "John Doe",

Salary = 60000,

Permanent = true,

DateOfBirth = new DateTime(1990, 1, 1),

Department = new Department { Id = 1, Name = "Finance" },

Skills = new List<Skill>

{

new Skill { Id = 1, Name = "C#" },

new Skill { Id = 2, Name = "SQL" }

}

},

new Employee

{

Id = 2,

Name = "Jane Smith",

Salary = 70000,

Permanent = false,

DateOfBirth = new DateTime(1992, 5, 15),

Department = new Department { Id = 2, Name = "HR" },

Skills = new List<Skill>

{

new Skill { Id = 3, Name = "Excel" },

new Skill { Id = 4, Name = "Communication" }

}

}

};

}

}

}

Output:

