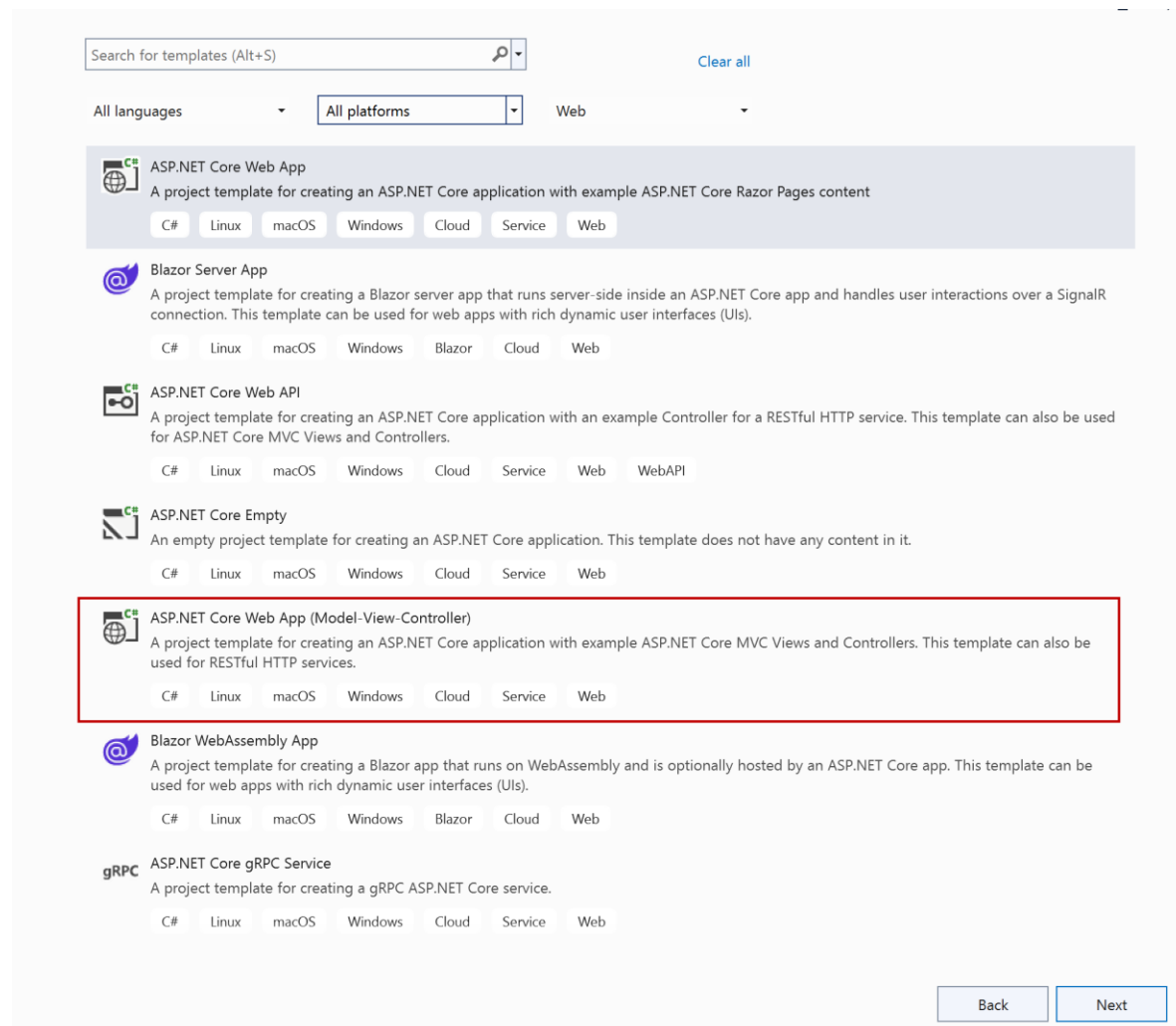


Lab 5: Nhập môn Asp.NET Core MVC

Bài 1:

Tạo Project mẫu ASP.NET Core Web MVC, chạy ứng dụng

Mở ứng dụng Visual studio. Tạo mới Project:



Bỏ chọn: Configure for HTTPS

Tích chọn: Do not use top-level statements

Additional information

ASP.NET Core Web App (Model-View-Controller)

C#

Linux

macOS

Windows

Cloud

Service

Web

Framework [i](#)

.NET 6.0 (Long Term Support)

Authentication type [i](#)

None

☐ Configure for HTTPS [i](#)

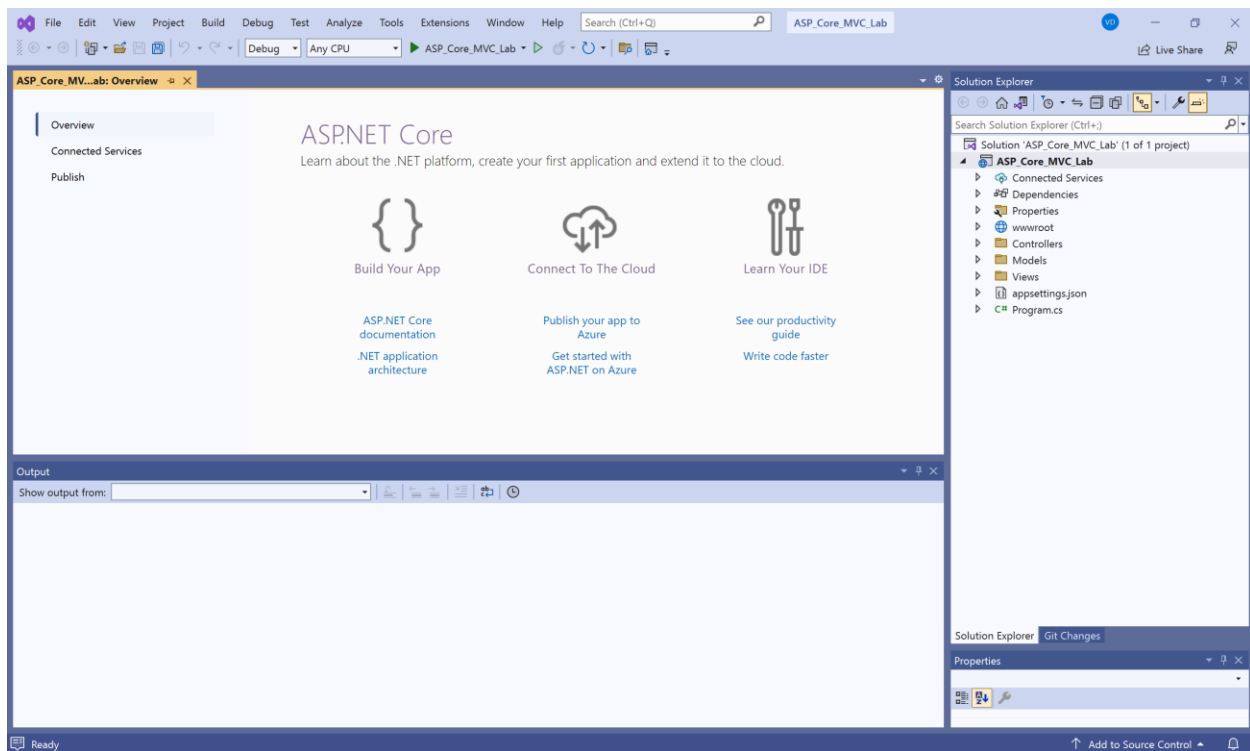
☐ Enable Docker [i](#)

Docker OS [i](#)

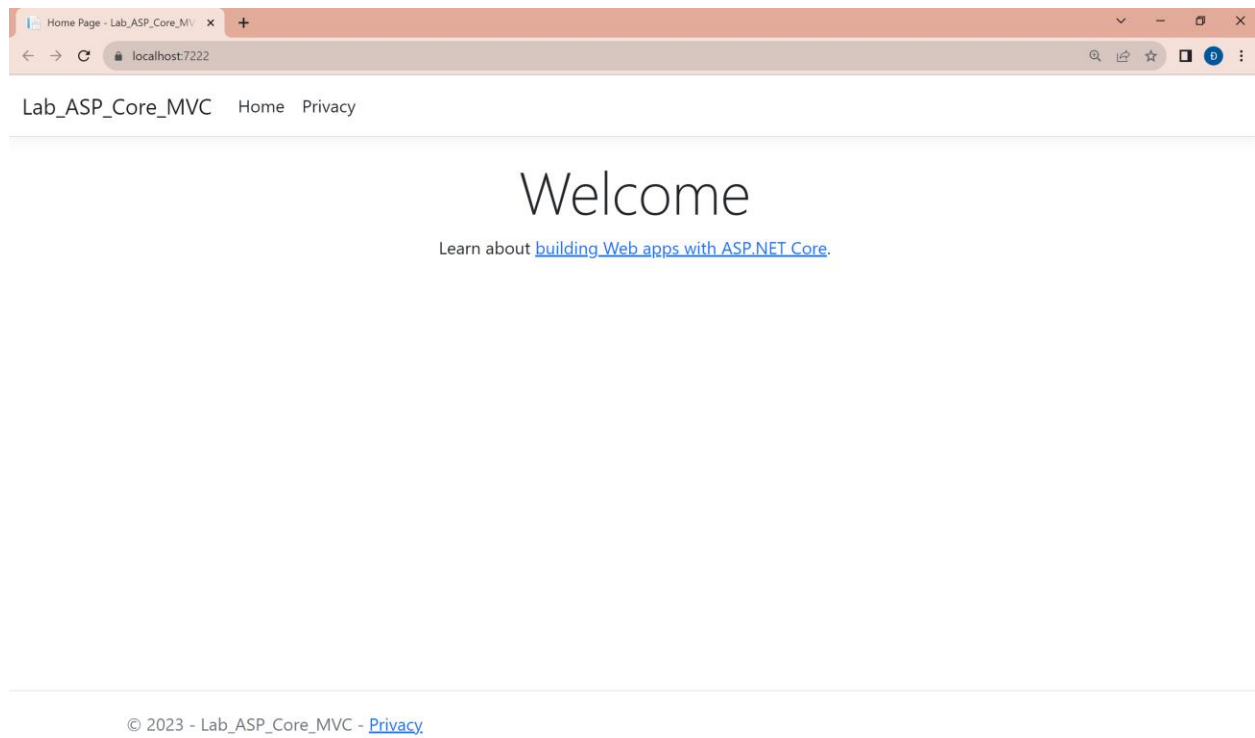
Linux

☒ Do not use top-level statements [i](#)

Dự án được tạo ra như sau:

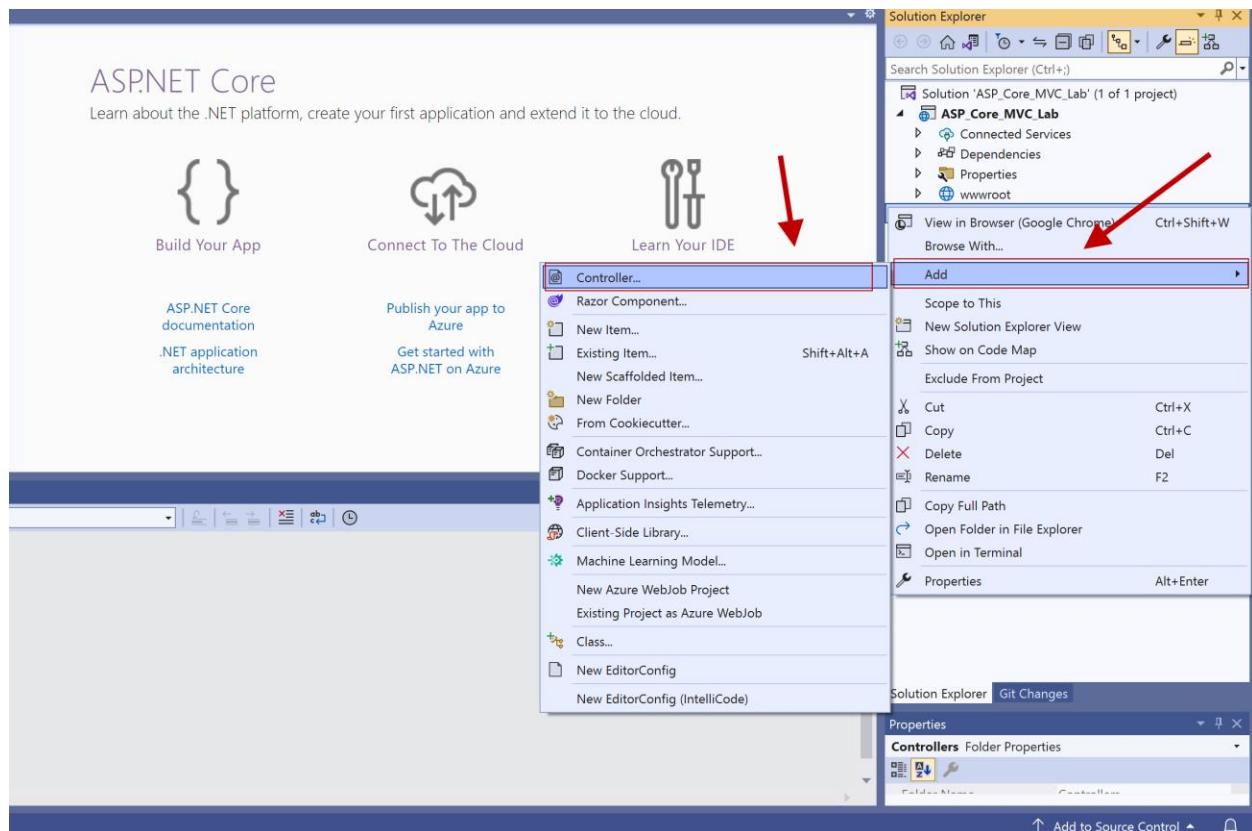


Bấm Ctrl + F5 chạy ứng dụng. Xem kết quả

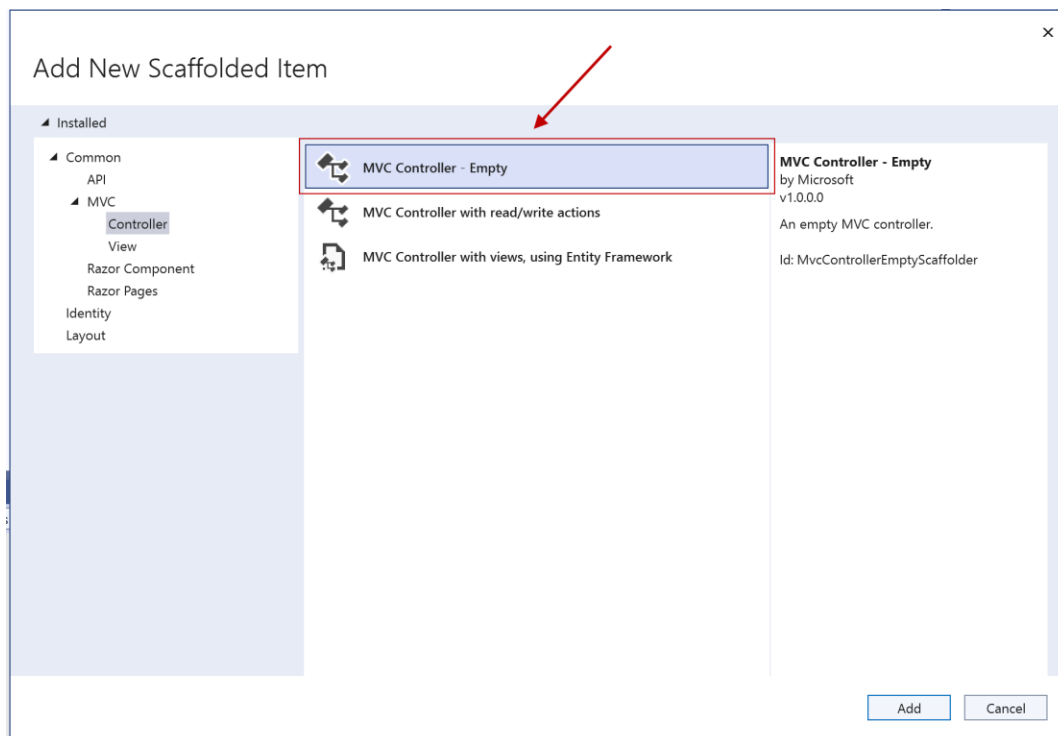


Thêm Controller:

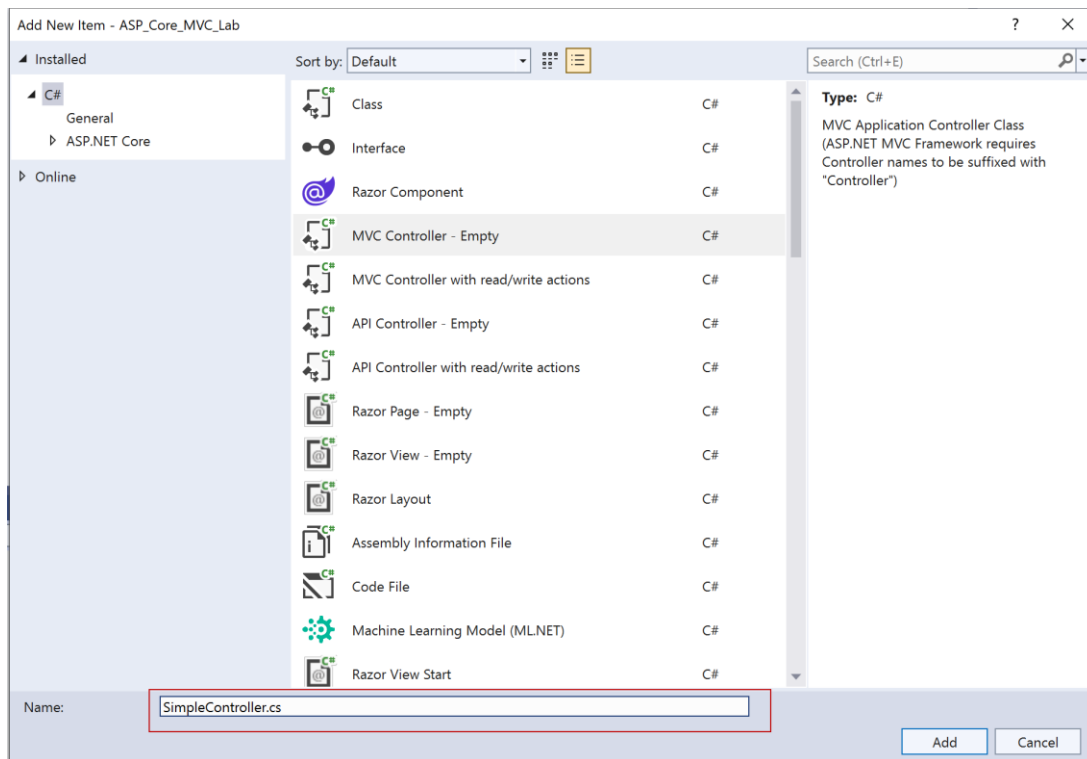
Bấm chuột phải thư mục Controller, chọn Add:



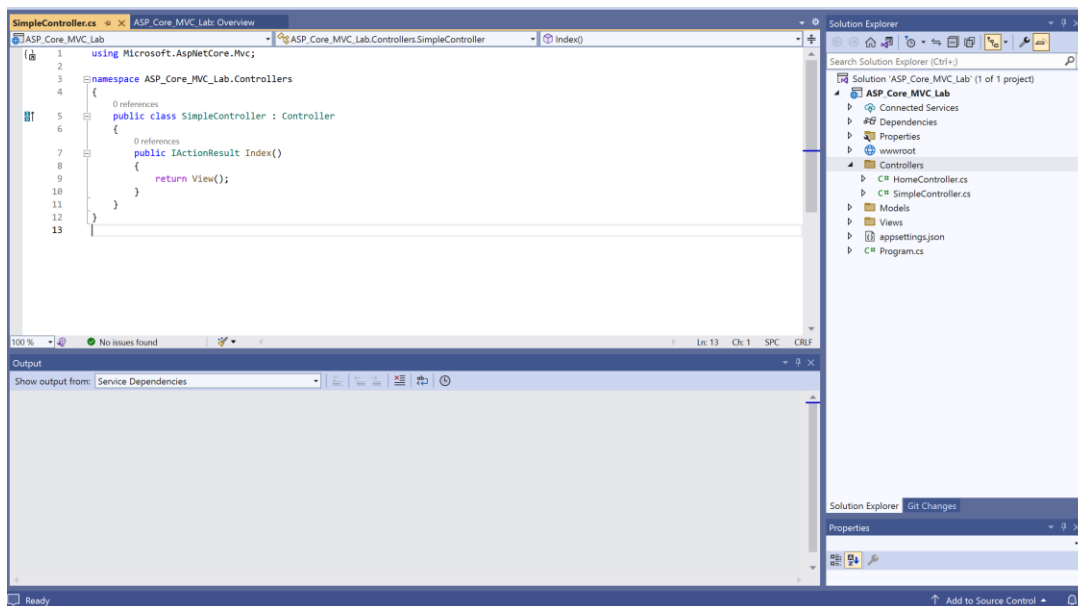
Chọn MVC Controller Empty:



Đặt tên Controller là **SimpleController.cs** như hình bên dưới:



Được kết quả như hình bên dưới:

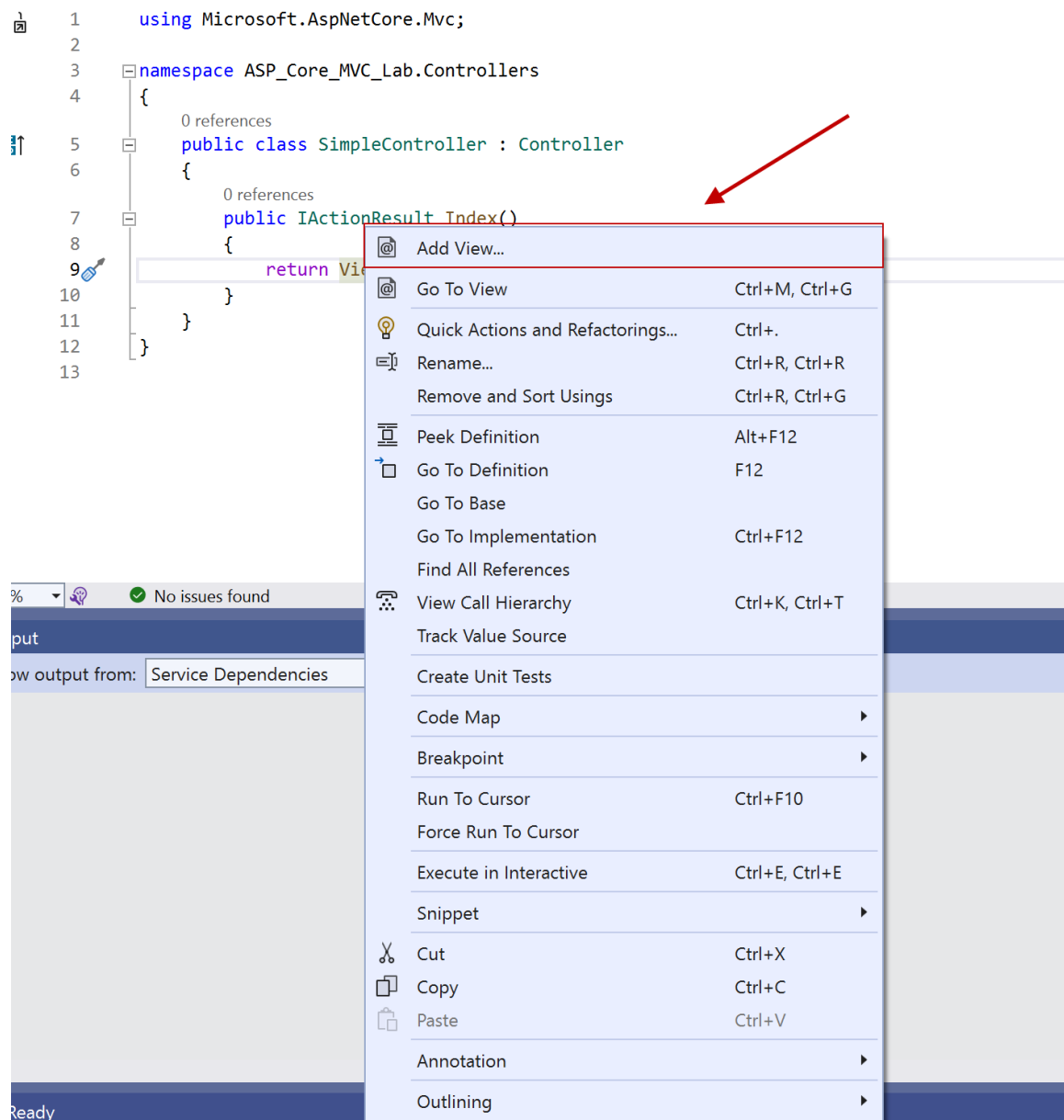


Thêm View:

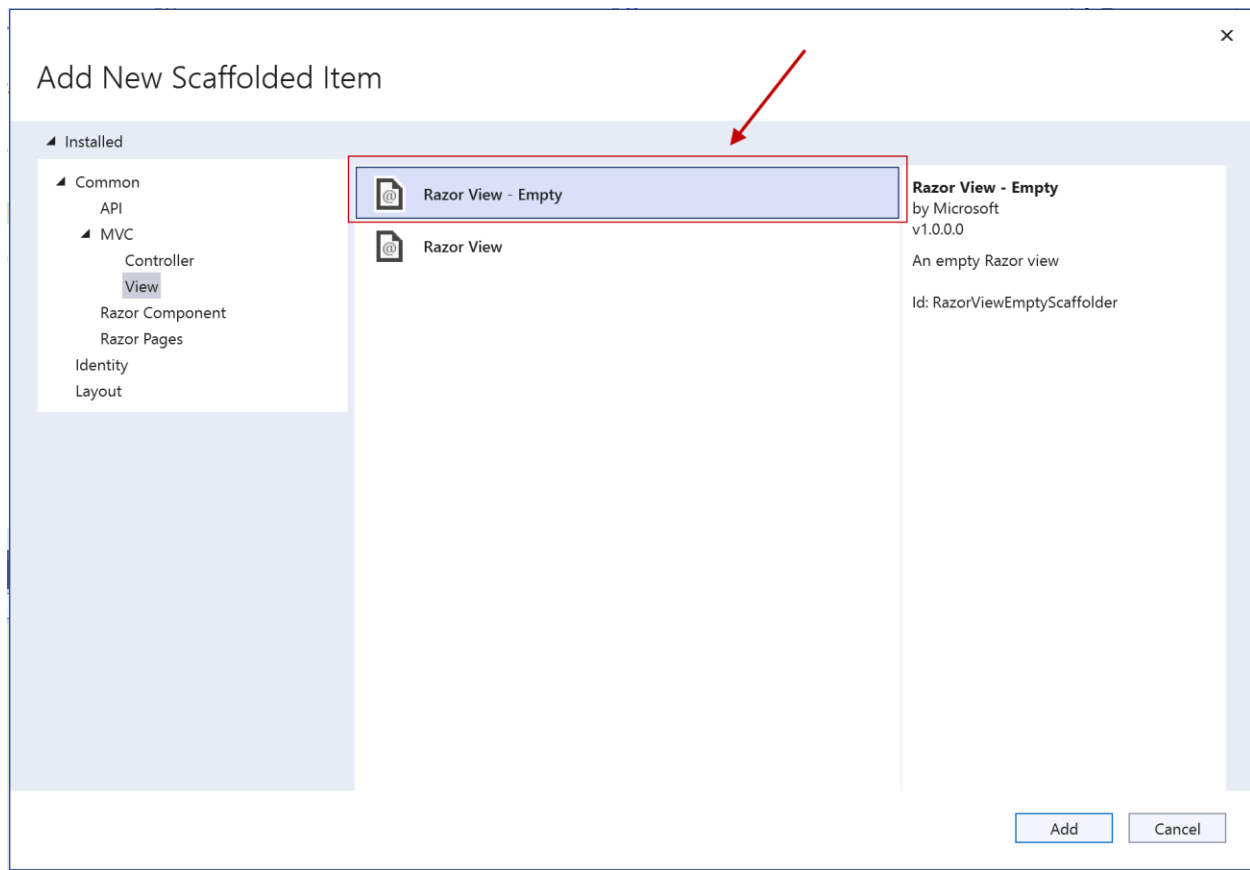
Bấm chuột phải lên Method

`public IActionResult Index()`

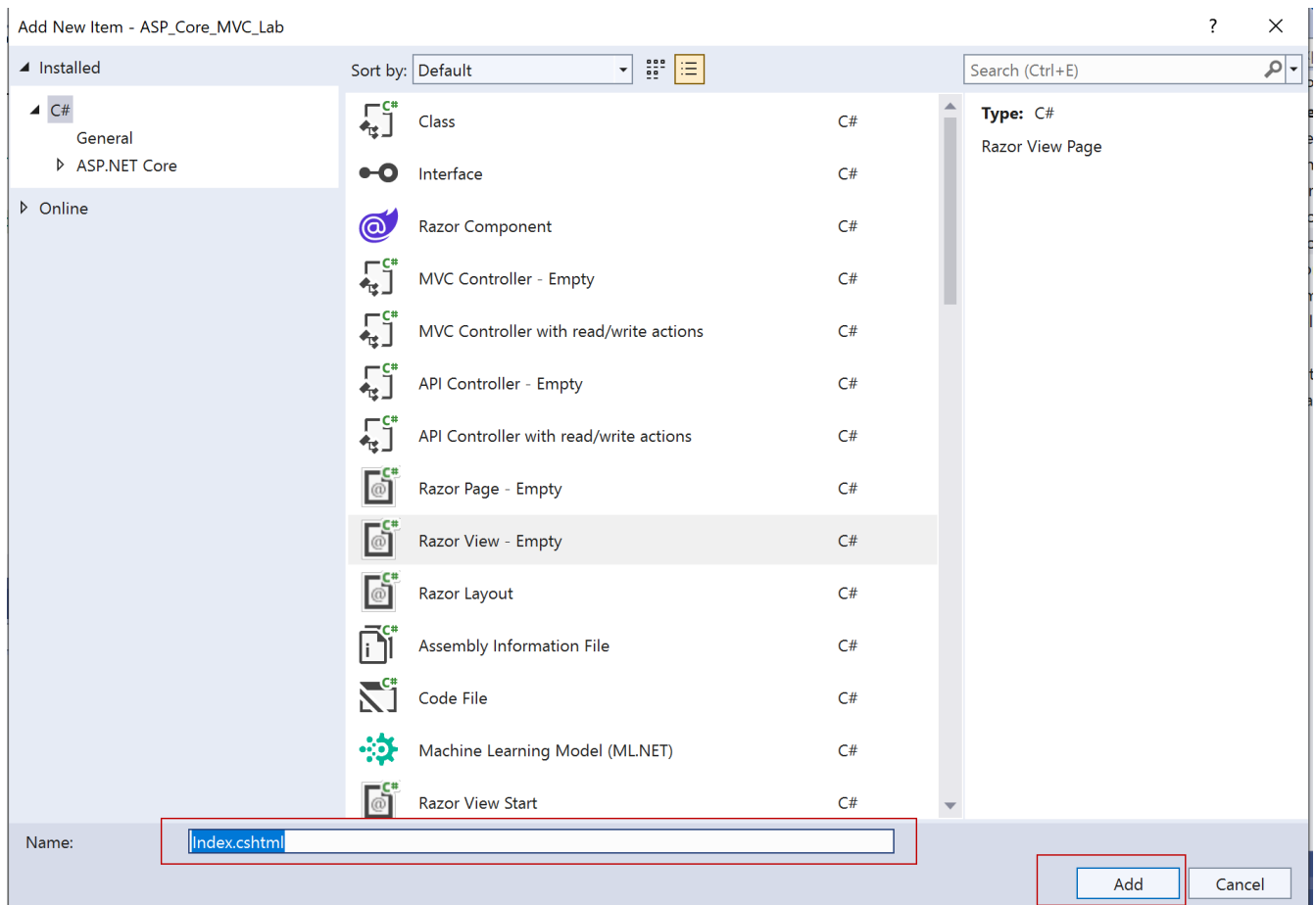
chọn Add view:



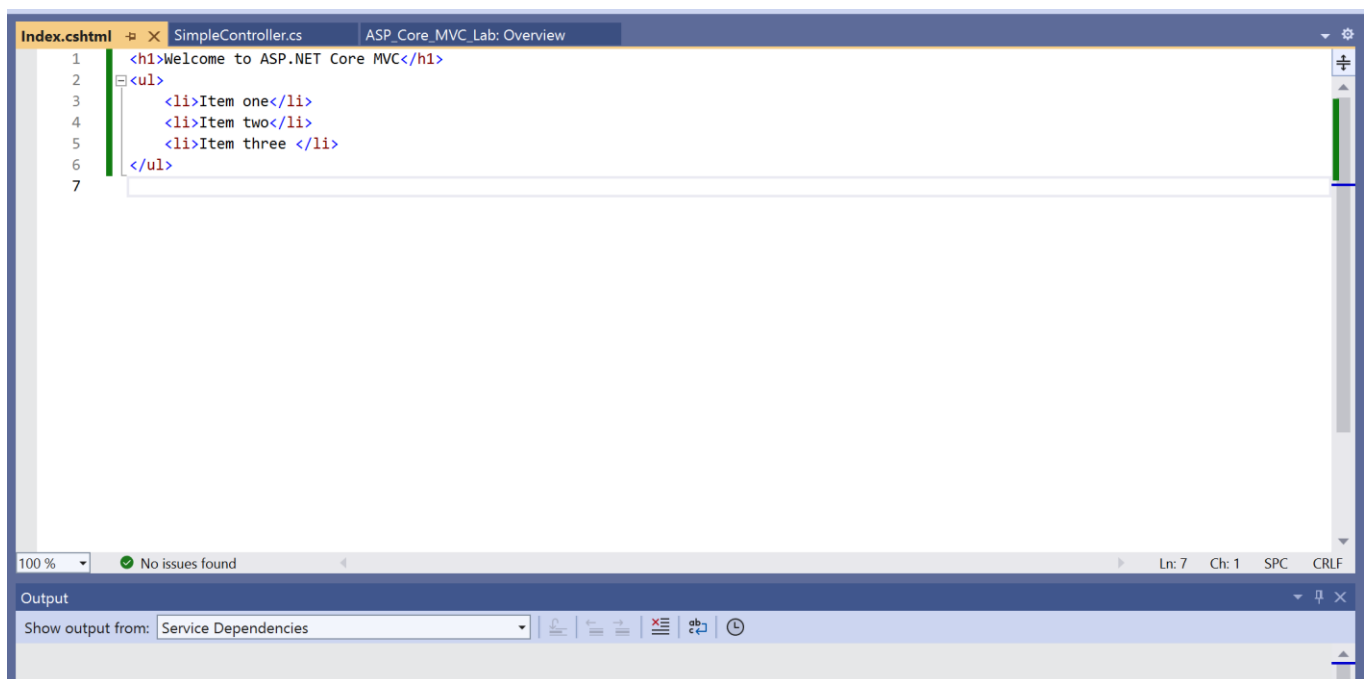
Chọn Razor View – Empty:



Bấm Add, để tên mặc định Index.cshtml



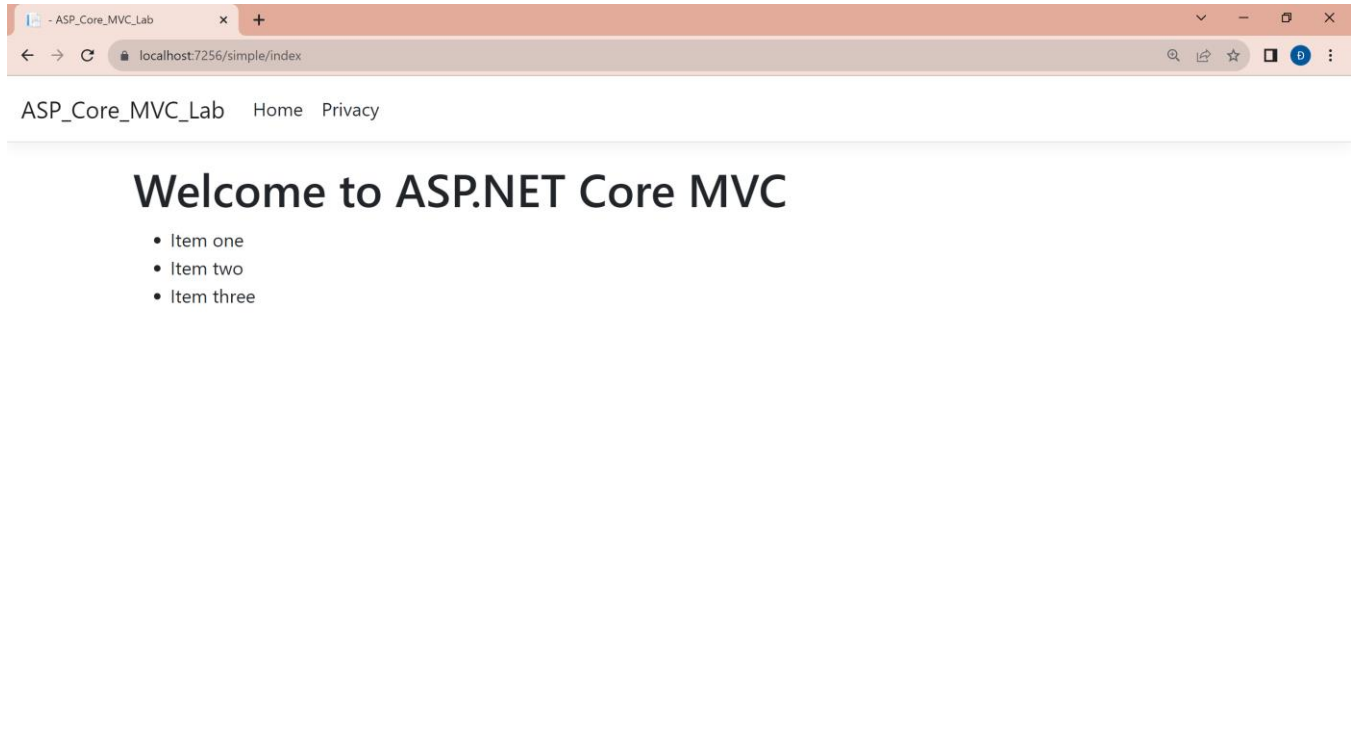
Nhập nội dung file Index.cshtml vừa được tạo như sau:



Bấm Ctrl + F5 chạy ứng dụng. Truy cập vào đường dẫn sau:

localhost:xxxx/simple/index

Lưu ý: Giá trị của localhost:xxxx sẽ được thay bằng giá trị tương ứng khi khởi chạy ứng dụng



Lưu project.

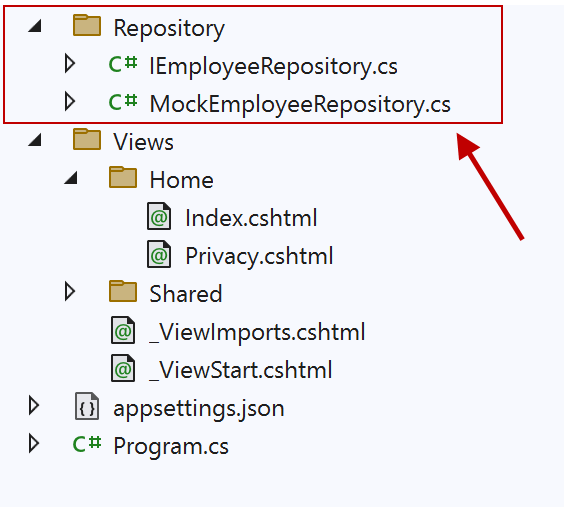
Bài 2:

Tạo project mới tương tự như bài 1

Bấm chuột phải lên thư mục Models, thêm Class mới Employee.cs như sau:

```
public class Employee
{
    public int Id { get; set; }
    public string Name { get; set; }
    public string Department { get; set; }
    public string Email { get; set; }
}
```

Tạo mới thư mục Repository, trong thư mục này thêm hai file mới như sau:



Nội dung interface IEmployeeRepository.cs

```
4 references
public interface IEmployeeRepository
{
    2 references
    IEnumerable<Employee> GetAllEmployees();
}
```

Nội dung Class MockEmployeeRepository.cs (Lưu ý Class này kế thừa Class IEmployeeRepository)

```
public class MockEmployeeRepository : IEmployeeRepository
{
    private List<Employee> _employeeList;
    0 references
    public MockEmployeeRepository()
    {
        _employeeList = new List<Employee>()
        {
            new Employee() { Id = 1, Name = "Alice", Department = "HR", Email = "alice@abc.com" },
            new Employee() { Id = 2, Name = "Henry", Department = "IT", Email = "henry@abc.com" },
            new Employee() { Id = 3, Name = "Jolly", Department = "IT", Email = "jolly@abc.com" },
        };
    }
    2 references
    public IEnumerable<Employee> GetAllEmployees()
    {
        return _employeeList;
    }
}
```

Trong thư mục Controller, chỉnh sửa Controller.cs như sau:

```

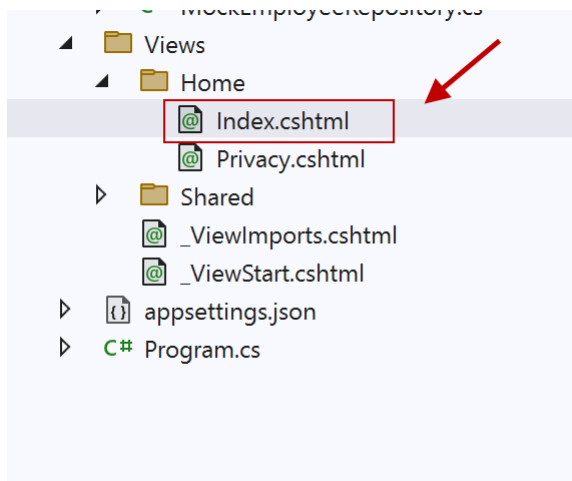
1 reference
public class HomeController : Controller
{
    private IEmployeeRepository _employeeRepository;

    0 references
    public HomeController(IEmployeeRepository employeeRepository)
    {
        _employeeRepository = employeeRepository;
    }

    0 references
    public ViewResult Index()
    {
        // retrieve all the employees
        var model = _employeeRepository.GetAllEmployees();
        // Pass the list of employees to the view
        return View(model);
    }
}

```

Thay đổi nội dung file Index.cshtml



Thay thế bằng nội dung như bên dưới:

```

@model IEnumerable<AspCoreMVC_Lab_5.Models.Employee>

<html>
<head>
    <title></title>
</head>
<body>
    <table class="table">
        <thead>
            <tr>
                <th>ID</th>
                <th>Name</th>
                <th>Department</th>
            </tr>
        </thead>
        <tbody>
            @foreach (var employee in Model)
            {
                <tr>
                    <td>
                        @employee.Id
                    </td>
                    <td>
                        @employee.Name
                    </td>
                    <td>
                        @employee.Department
                    </td>
                </tr>
            }
        </tbody>
    </table>
</body>
</html>

```

Trong file Program.cs, thêm nội dung như hình dưới:

```

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();
        builder.Services.AddScoped<IEmployeeRepository, MockEmployeeRepository>();

        var app = builder.Build();

        // Configure the HTTP request pipeline.
        if (!app.Environment.IsDevelopment())
        {
            app.UseExceptionHandler("/Home/Error");
            // The default HSTS value is 30 days. You may want to change this for production scenarios, see https://aka.ms/aspnetcore/hsts
            app.UseHsts();
        }

        app.UseHttpsRedirection();
        app.UseStaticFiles();

        app.UseRouting();

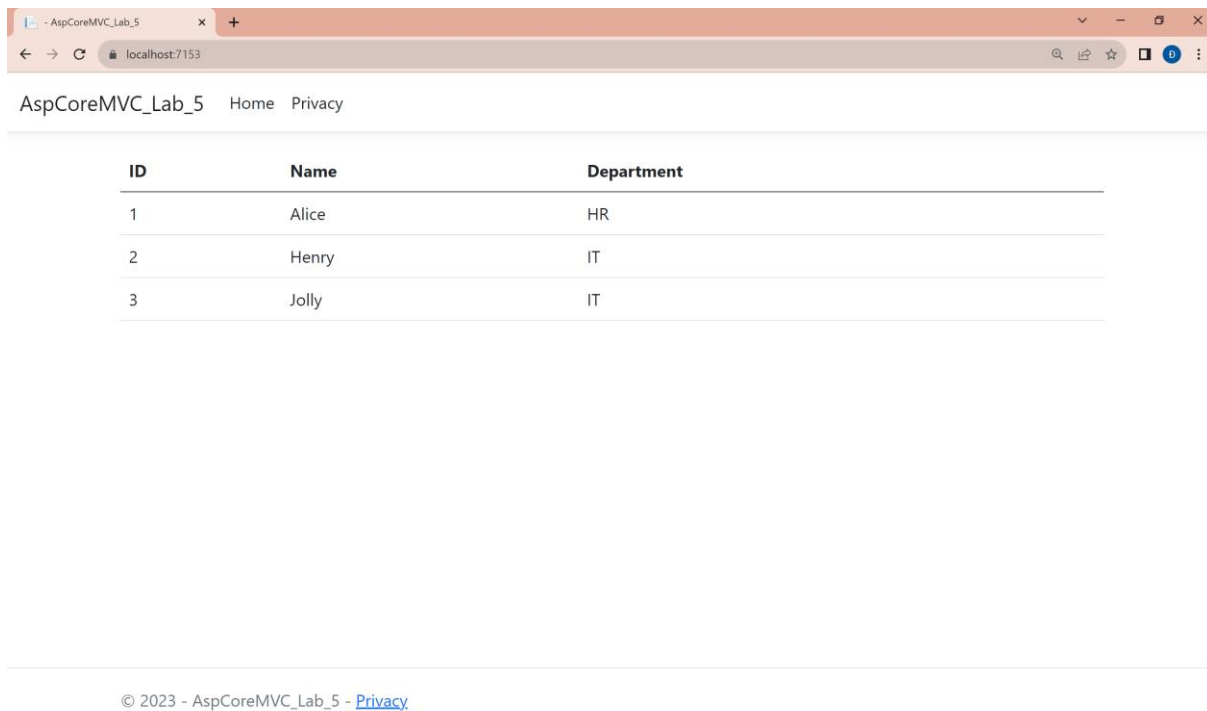
        app.UseAuthorization();

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

        app.Run();
    }
}

```

Bấm Ctrl + F5 chạy ứng dụng:



The screenshot shows a web browser window with the address bar at localhost:7153. The page title is "AspCoreMVC_Lab_5". The page content includes a table with the following data:

ID	Name	Department
1	Alice	HR
2	Henry	IT
3	Jolly	IT

The footer of the page contains the text: © 2023 - AspCoreMVC_Lab_5 - [Privacy](#).

Lưu Project.

Bài 3:

Lab 5 – Công nghệ .NET

Tạo Project mới Project Asp.NET Core MVC

Trong thư mục Model thêm mới Class Student như sau:

```
public class Student
{
    public string Name { get; set; }
    [EmailAddress] //data annotation is used
    public string Email { get; set; }
    public string Country { get; set; }

    public List<SelectListItem> Countries { get; } = new List<SelectListItem>
    {
        new SelectListItem { Value = "DE", Text = "Germany" },
        new SelectListItem { Value = "US", Text = "USA" },
        new SelectListItem { Value = "FR", Text = "France" },
    };
}
```

Tại Controller->HomeController, thay đổi nội dung file HomeController.cs như sau:

```
0 references
public class HomeController : Controller
{
    0 references
    public IActionResult Index()
    {
        Student student = new Student();
        student.Country = "FR"; //Select default value in Dropdownn
        return View(student);
    }

    [HttpPost]
    0 references
    public IActionResult Index(Student student)
    {
        //get all values and check
        var name = student.Name;
        var country = student.Country;
        var Email = student.Email;

        //Save in database here
        //Continuing in Lab 6
        return View(new Student());
    }
}
```

Tại thư mục Views ->Home->Index.cshtml thay đổi nội dung file Index.cshtml thành:

```

@model Student
@{
    ViewData["Title"] = "Home Page";
}
<br />

<form asp-controller="Home" asp-action="Index" method="post">
    <div class="container">
        <div class="row">
            <div class="col-sm-4">Name</div>
            <div class="col-sm-8">
                <input asp-for="Name" placeholder="Enter your name" autocomplete="off" class="form-control" />
            </div>
        </div>
        <br />
        <div class="row">
            <div class="col-sm-4">Email</div>
            <div class="col-sm-8">
                <input asp-for="Email" placeholder="Enter your Email" autocomplete="off" class="form-control" />
            </div>
        </div>
        <br />
        <div class="row">
            <div class="col-sm-4">Country</div>
            <div class="col-sm-8">
                <select asp-for="Country" asp-items="Model.Countries" class="form-control"></select>
            </div>
        </div>
        <br />
        <div class="row">
            <div class="col-sm-offset-4 col-sm-8">
                <button type="submit" class="btn btn-primary">Save</button>
            </div>
        </div>
    </div>
</form>

```

Bấm Ctrl + F5 để chạy ứng dụng:

The screenshot shows a web browser window with the address bar at 'localhost:7211'. The page title is 'ASP_Core_MVC_Student'. There are navigation links for 'Home' and 'Privacy'. The form contains three input fields: 'Name' with placeholder text 'Enter your name', 'Email' with placeholder text 'Enter your Email', and 'Country' with the value 'France'. A blue 'Save' button is located below the form fields.

Lưu dự án.

Bài 4: Làm việc với Model và Repository

```
public class Product
{
    public int Id { get; set; }
    public string Name { get; set; }
    public string Category { get; set; }
    public decimal Price { get; set; }
}
```

Tạo Interface:

```
public interface IProductRepository
{
    IEnumerable<Product> GetAllProducts();
    Product GetProduct(int id);
}
```

Tạo Mock Data:

```
public MockProductRepository()
{
}

public IEnumerable<Product> GetAllProducts()
{
}

public Product GetProduct(int id)
{
}
}
```


Thêm ProductController:

```
private readonly IProductRepository _productRepository;

public ProductController(IProductRepository productRepository)
{
    _productRepository = productRepository;
}

public IActionResult Index()
{
    var products = _productRepository.GetAllProducts();
    return View(products);
}
```

Thêm view theo gợi ý sau:

```
@model IEnumerable<RoutingDemo.Models.Product>

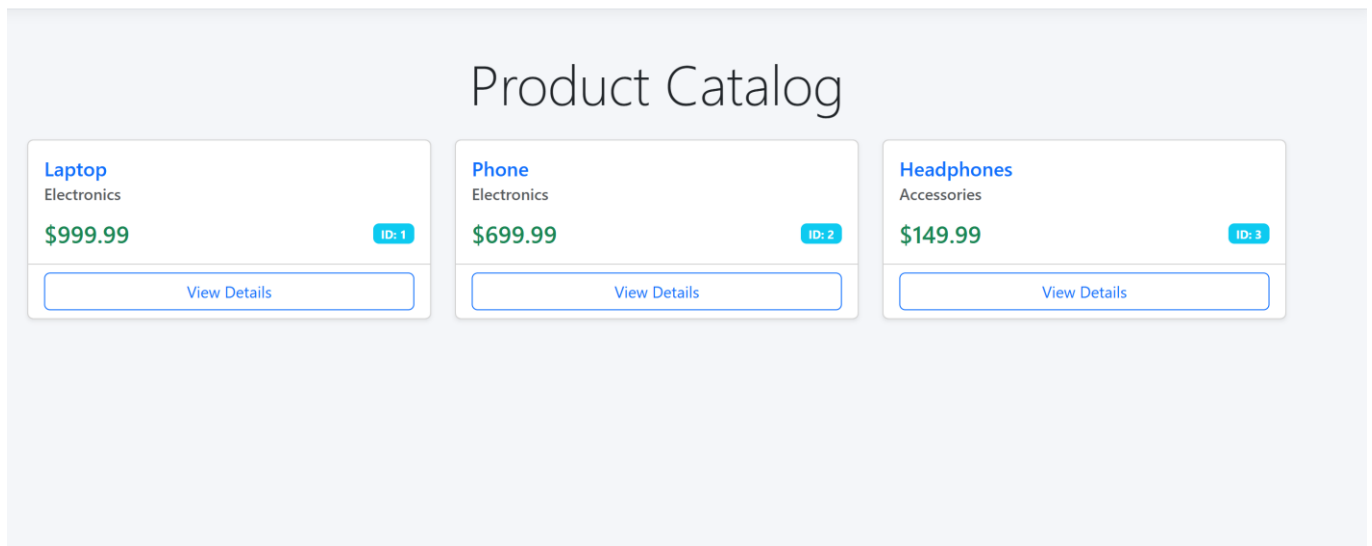
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="utf-8" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <title>Modern Product Catalog</title>
    <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0/dist/css/bootstrap.min.css" rel="stylesheet">
    <style>
        body {
            background-color: #f4f6f9;
        }
        .product-card {
            transition: transform 0.3s ease-in-out;
        }
        .product-card:hover {
            transform: scale(1.03);
            box-shadow: 0 4px 6px rgba(0,0,0,0.1);
        }
    </style>
</head>
<body>
    <div class="container-fluid py-4">
        <div class="row">
            <div class="col-12">
                <h1 class="text-center mb-4 display-4">Product Catalog</h1>

                <div class="row row-cols-1 row-cols-md-3 g-4">
                    @foreach (var product in Model)
                    {
                        <div class="col">
                            <div class="card product-card h-100 shadow-sm">
                                <div class="card-body">
                                    <h5 class="card-title text-primary">
                                        @product.Name
                                    </h5>
                                    <h6 class="card-subtitle mb-2 text-muted">
                                        @product.Category
                                    </h6>
                                    <div class="d-flex justify-content-between align-items-center mt-3">
                                        <span class="h4 text-success mb-0">
                                            $@product.Price.ToString("N2")
                                        </span>
                                        <span class="badge bg-info">
                                            ID: @product.Id
                                        </span>
                                    </div>
                                </div>
                                <div class="card-footer bg-transparent">
                                    <button class="btn btn-outline-primary w-100">
                                        View Details
                                    </button>
                                </div>
                            </div>
                        </div>
                    }
                </div>
            </div>
        </div>
    </div>
```

```

        </div>
      </div>
    }
  </div>
  @if (!Model.Any())
  {
    <div class="alert alert-info text-center" role="alert">
      No products available in the catalog.
    </div>
  }
</div>
</div>
</div>
<script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0/dist/js/bootstrap.bundle.min.js"></script>
</body>
</html>

```



Đăng ký service trong file Program.cs như các ví dụ trên.

Chạy kết quả chương trình và lưu Project