CST8259 Web Programming Language II

Lab 8 – Part 1

Objective

- Integrate Visual Studio with ReactJS

- Create your first ReactJS application with Visual Studio

Due Date

See Brightspace posting for the due date of this lab. To earn 5 points, you are required:
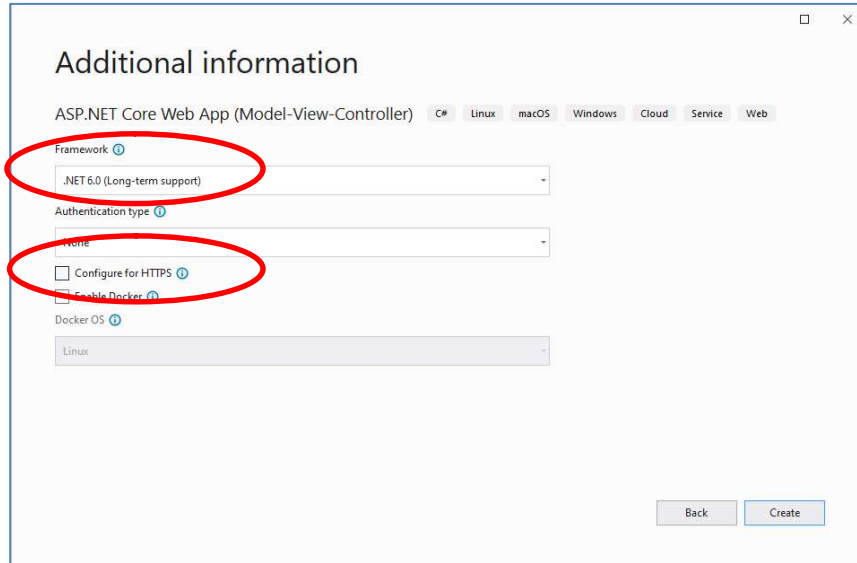
1. Complete the lab as required.

2. Submit your lab work to the Brightspace before the due date.

3. Demo your lab work during the following week's lab sessions.

Requirement

1. **Create a new ASP.NET Core MVC application project**
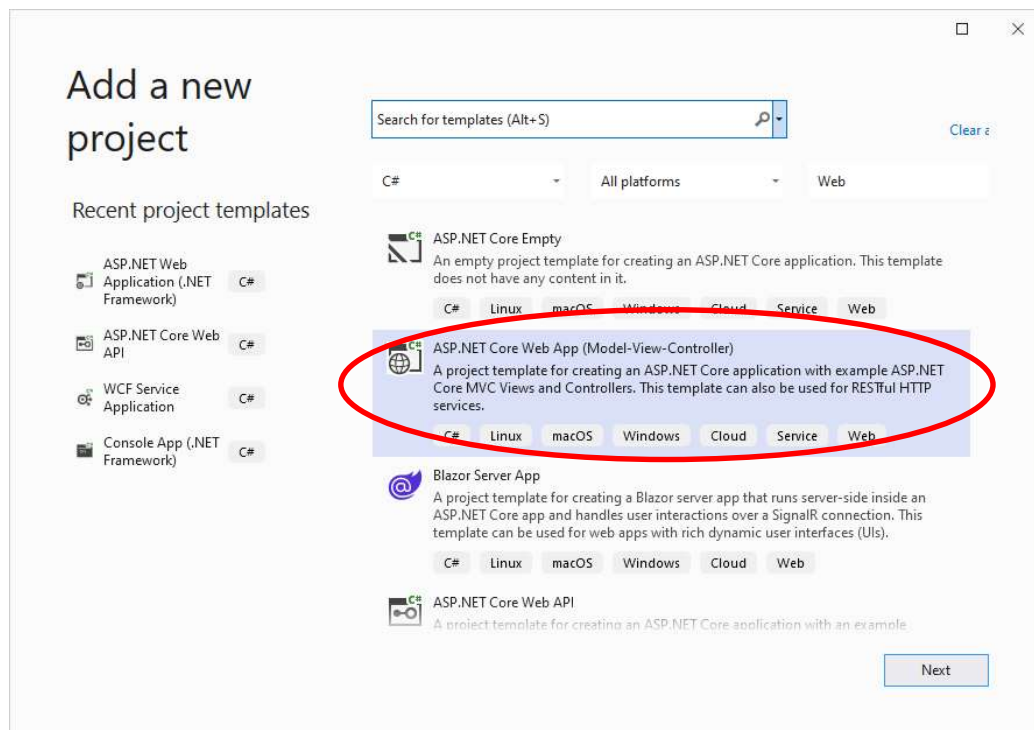
Select .NET 6.0 (Long-term support) for the targeted Framework.

2. **Install ReactJS.NET extension**

Select Menu item **Tools > NuGet Packages Manger > Manage NuGet Packages for Solution …** Select Browse and enter React.AspNet to filter the results. Select **React.AspNet** from the filtered list, check Project Lab 8 and click **Install**
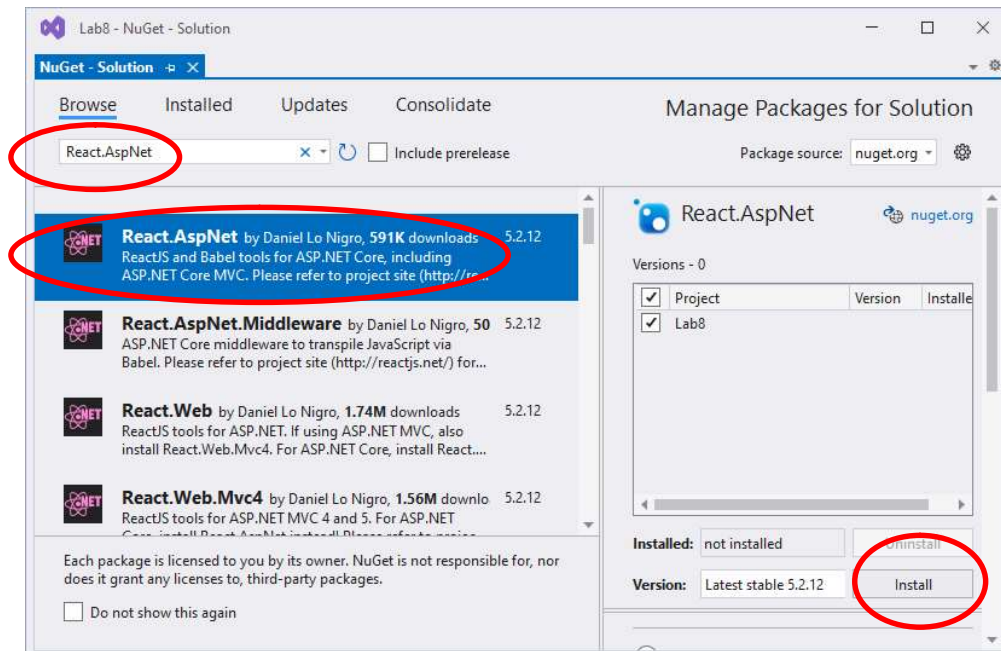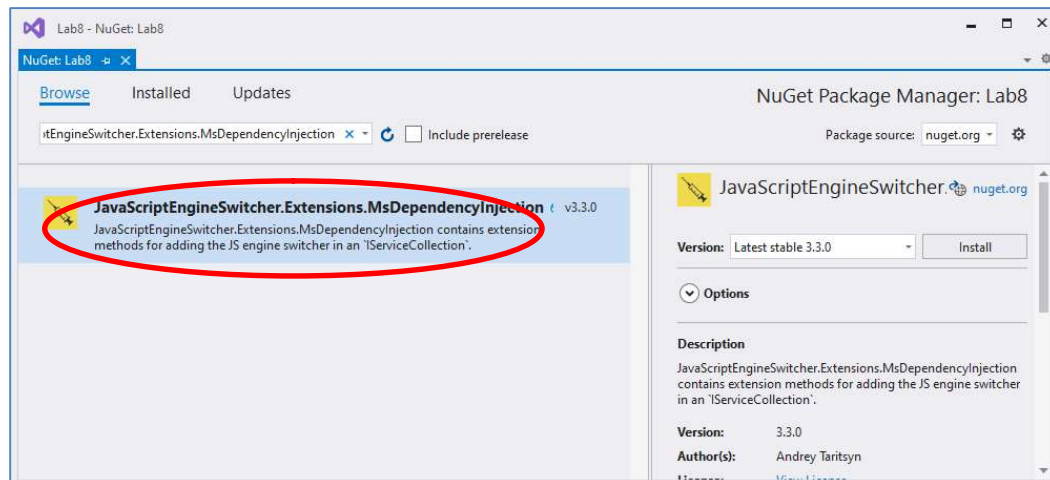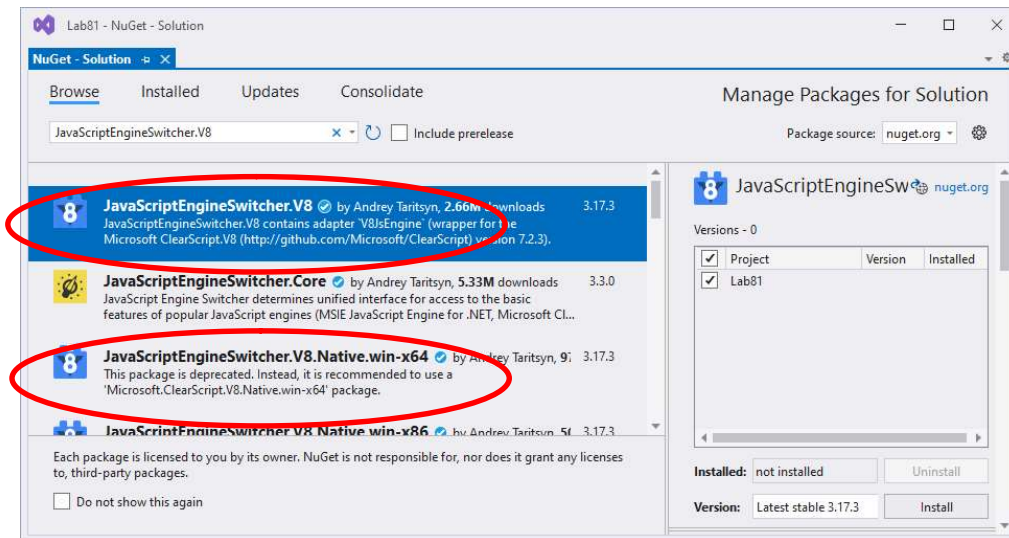

React.AspNet will need to have a JavaScript engine switcher to select the right JavaScript engine. Use NuGet Package Manager to download and install the following three packages:
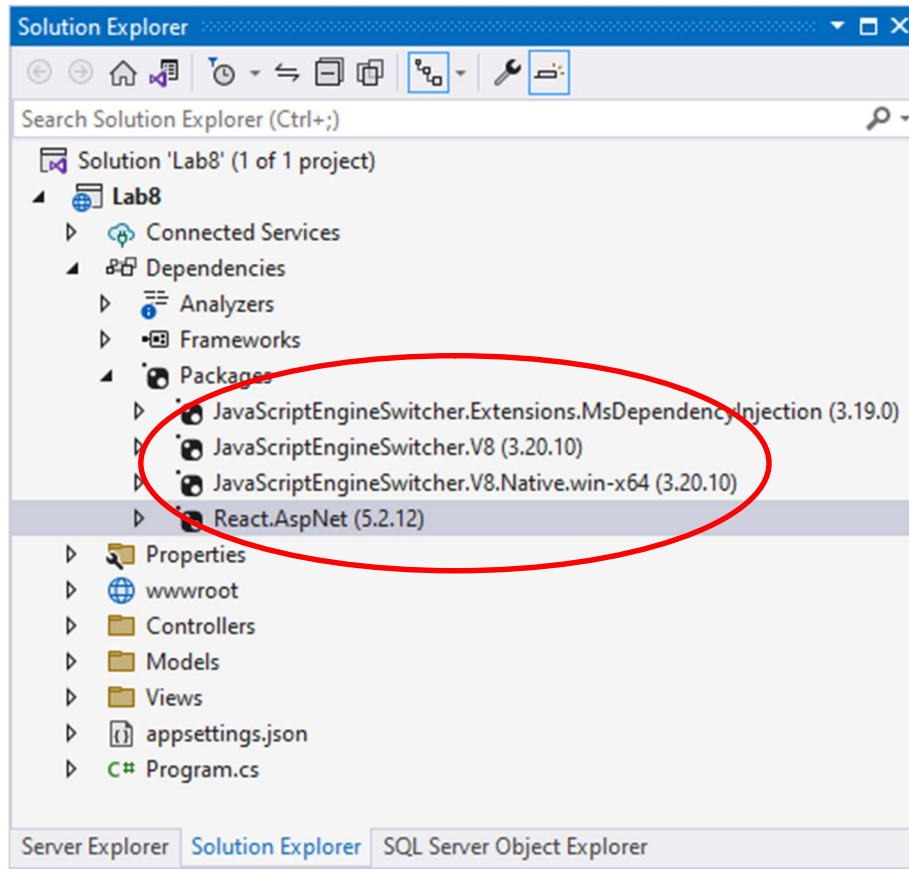
JavaScriptEngineSwitcher.V8
JavaScriptEngineSwitcher.V8.Native.win-x64
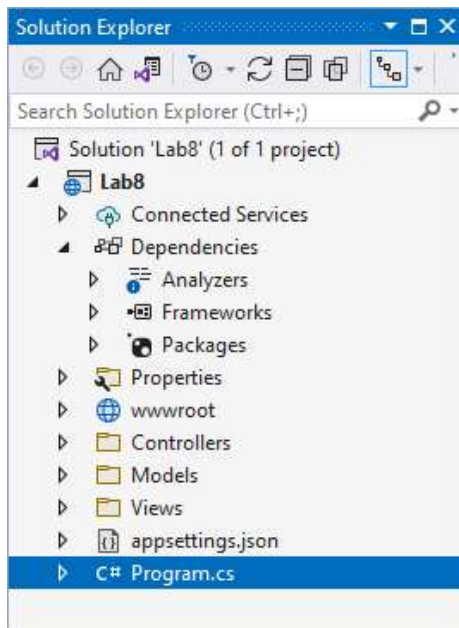**JavaScriptEngineSwitcher.Extensions.MsDependencyInjection**

After completion, check to ensure all 4 packages are installed to the project:

3. Register the service of React and JavaScript engine

Open the project's Program.cs file

Add the following using statements to the top of the file:

```
using Microsoft.AspNetCore.Http;
using JavaScriptEngineSwitcher.V8;
using JavaScriptEngineSwitcher.Extensions.MsDependencyInjection;
using React.AspNet;
```

```
builder.Services.AddSingleton<IHttpContextAccessor, HttpContextAccessor>();
builder.Services.AddReact();

builder.Services.AddJsEngineSwitcher(options =>
        options.DefaultEngineName = V8JsEngine.EngineName).AddV8();
```

Add the following right before **app.UseStaticFiles( )**

```
app.UseReact(config => { });
```

The entire Program.cs file should look like:

```
using JavaScriptEngineSwitcher.V8;
using JavaScriptEngineSwitcher.Extensions.MsDependencyInjection;
using React.AspNet;
using Microsoft.AspNetCore.Http;

var builder = WebApplication.CreateBuilder(args);

builder.Services.AddSingleton<IHttpContextAccessor, HttpContextAccessor>();
builder.Services.AddReact();

builder.Services.AddJsEngineSwitcher(options => options.DefaultEngineName = V8JsEngine.EngineName).AddV8();

// 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.UseReact(config => { });

app.UseStaticFiles();

app.UseRouting();

app.UseAuthorization();

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

app.Run();
```
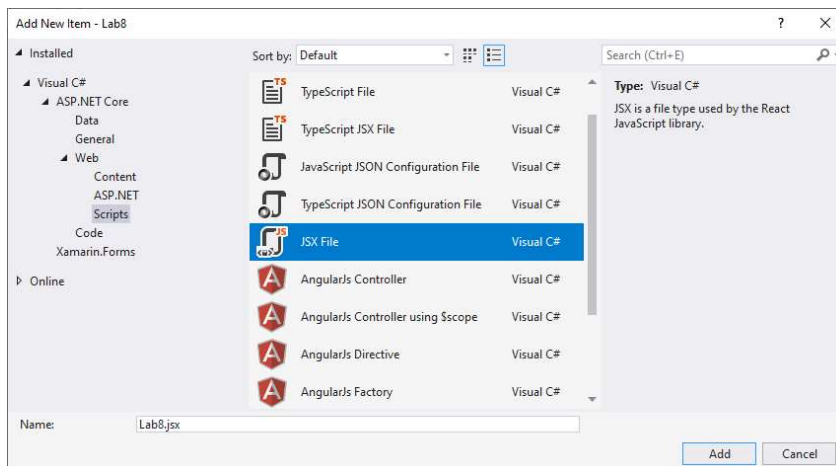
4. Modify _ViewImports.cshtml
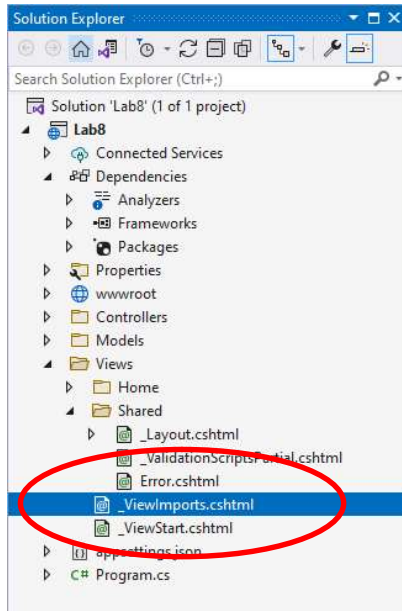
Add @`using` React.AspNet to _ViewImports.cshtml file. The file should look like:

```
@using React.AspNet
@using Lab8
@using Lab8.Models
@addTagHelper *, Microsoft.AspNetCore.Mvc.TagHelpers
```

5. Add a new JSX file.

Create a **Scripts** folder inside **wwwroot**, Right click **Scripts** folder and select **Add > New Item …** Select JSX File and name the file **Lab8.jsx**

Add the following into **Lab8.jsx**

```
    var review = (
      <div>
        <h2>Gong's Asian Cuisine</h2>
        <p>
          The food is always consistent. A good variety of dim sum, sushi,
          Chinese and even Vietnamese dishes. The service is quick and the
          food is plentiful.
        </p>
        <em>Entrees</em>
        <ul>
          <li>Scallops with Vegetables</li>
          <li>Sweet and Sour Fish Cantonese Style</li>
          <li>Beef with Mushrooms</li>
        </ul>
      </div>
    );

    ReactDOM.render(review, document.getElementById("content"));
```

6. Edit the Index view of the Home controller.

Expend **Views/Home** folder. Review and edit the generated view **Index.cshtml** so that it looks like:

```
@{
    ViewData["Title"] = "Home Page";
}

<h1>Restaurant Review</h1>

<div id="content"></div>

@section Scripts {

    <script
      src="https://cdnjs.cloudflare.com/ajax/libs/react/17.0.2/umd/react.production.min.js">
    </script>
    <script
        src="https://cdnjs.cloudflare.com/ajax/libs/react-dom/17.0.2/umd/react-dom.production.min.js">
    </script>

    <script src="~/Scripts/Lab8.jsx"></script>
}
```

You can access the view by right click the **Index** view and select **View in Browser**
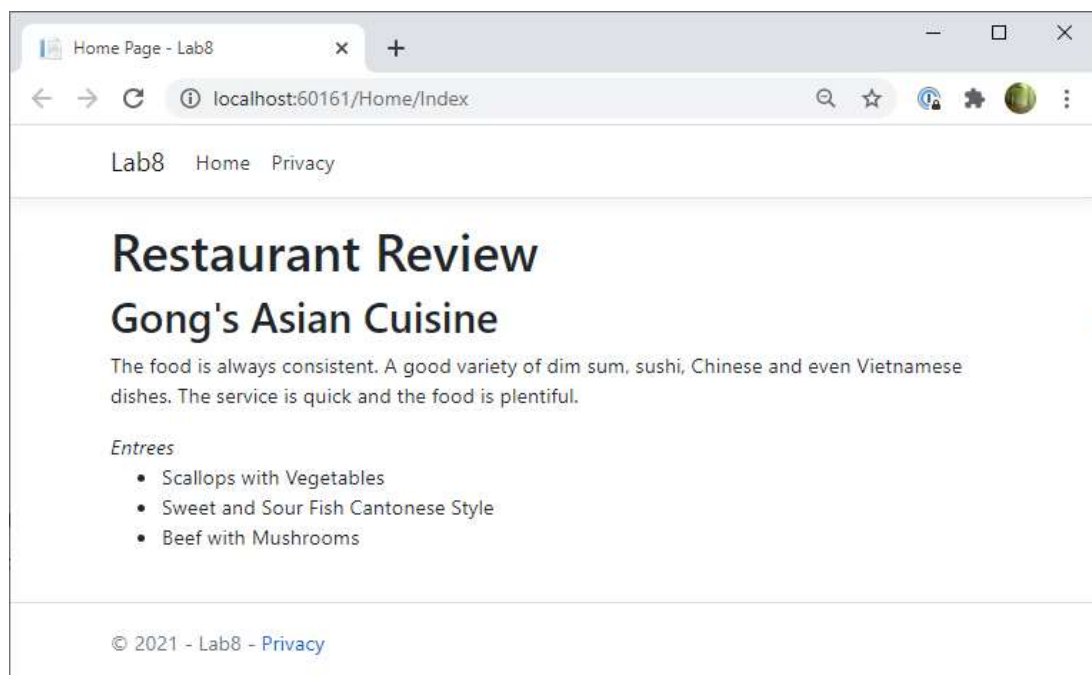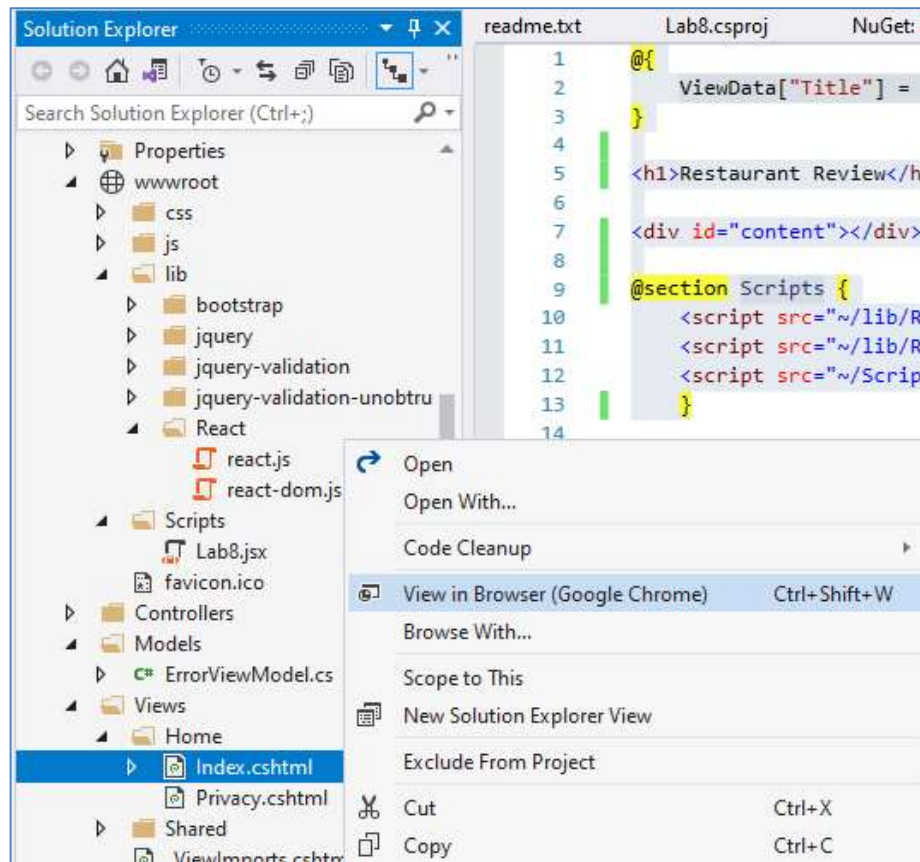
End of Lab 8 – Part 1. We will continue work on this lab as Lab 8 – Part 2 next week.