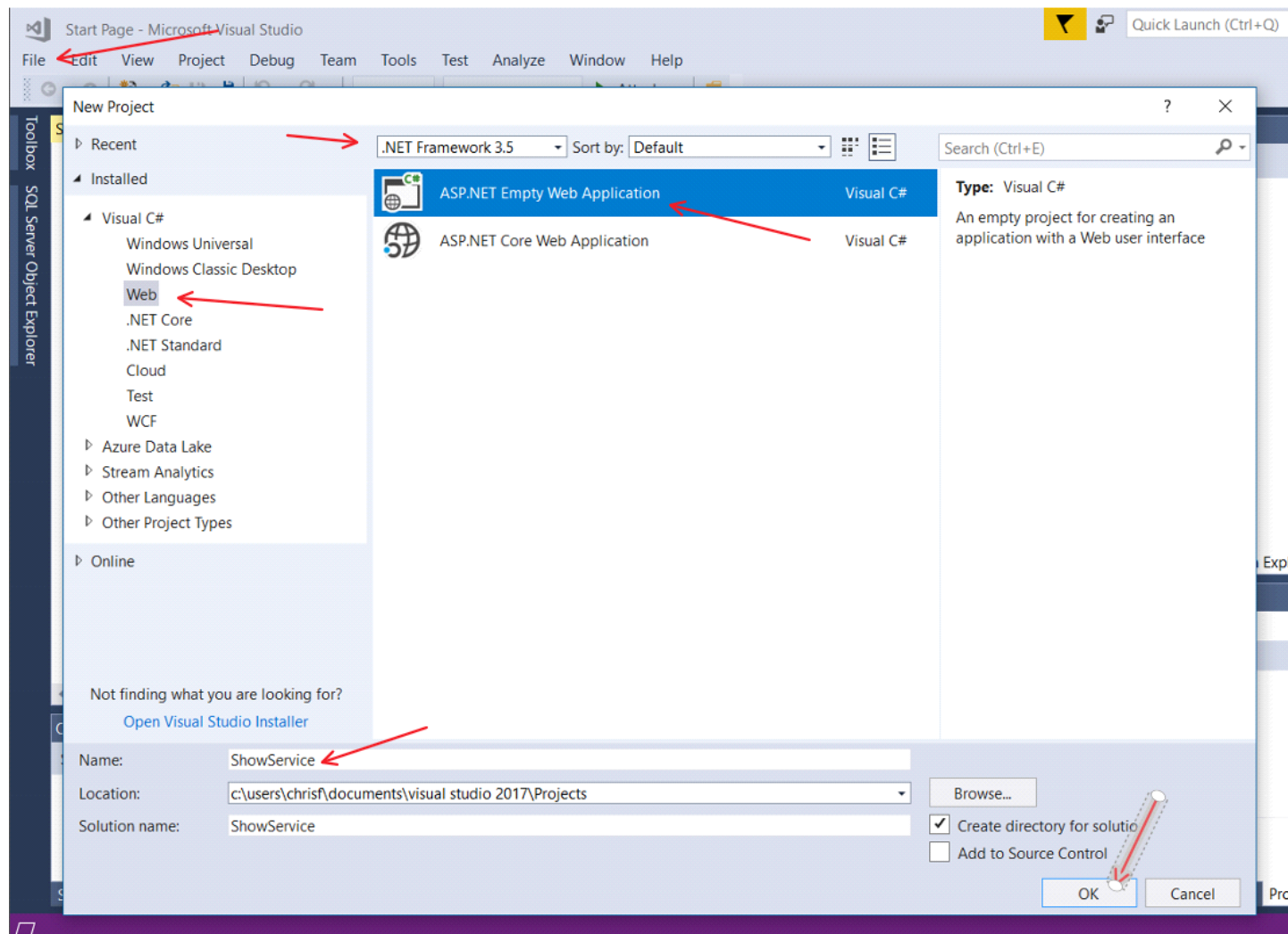# Creating Web Service

Friday, October 13, 2017   9:09 PM

Quick Steps

1. Create a new empty Asp.NET Web Application.
2. In Solution Explorer right-click on the project root.
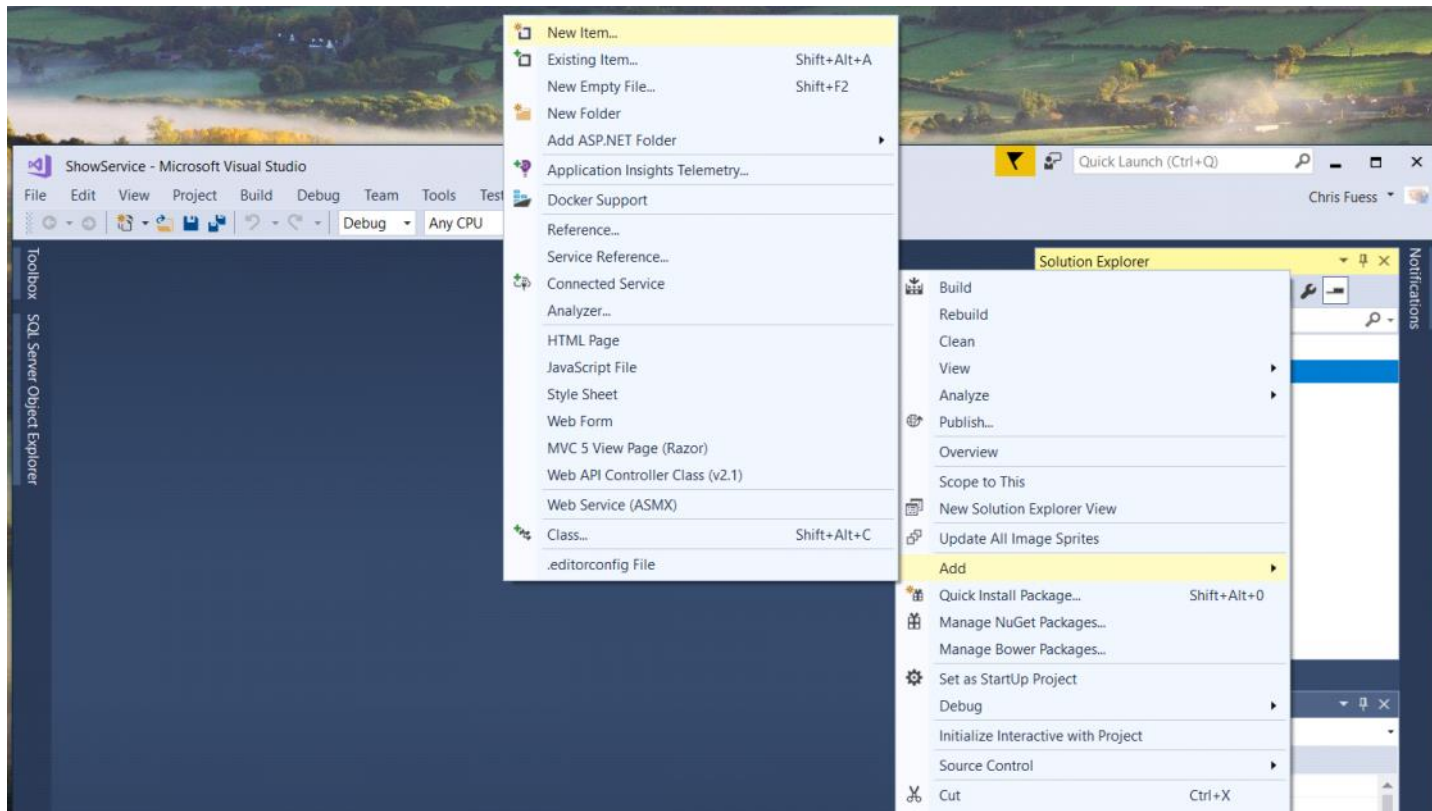3. Choose the menu item Add-> Web Service

From <https://stackoverflow.com/questions/12051814/how-to-create-web-service-server-client-in-visual-studio-2012>

Start Visual Studio and select: File | New | Project
Choose .NET Framework 3.5 (not required but helpful)
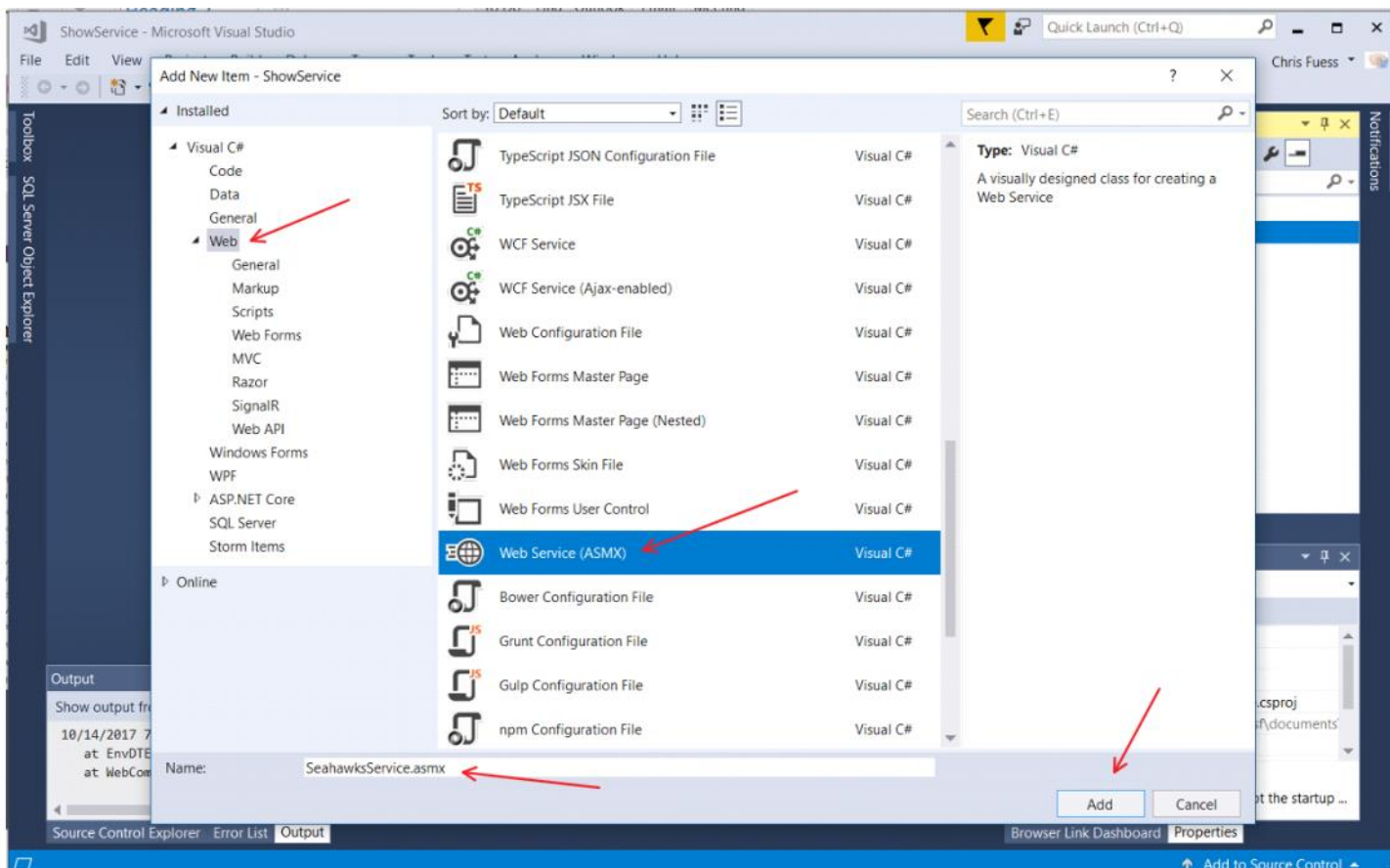Choose Web and select ASP.NET Empty Web App

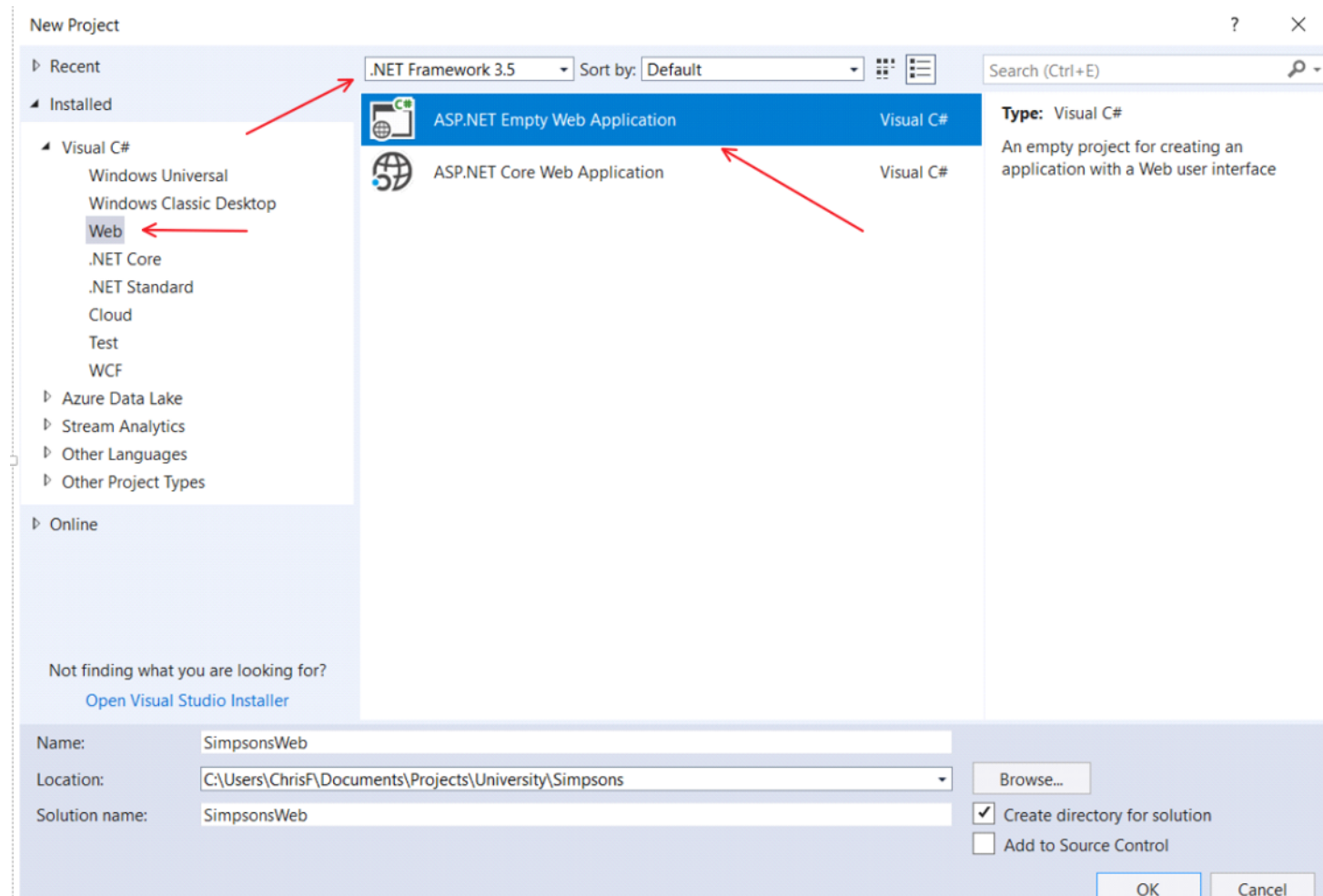In Solution Explorer right-click on the Project root. Choose Add | New

Item

Choose Web then Scroll down to Web Service (ASMX) then click the
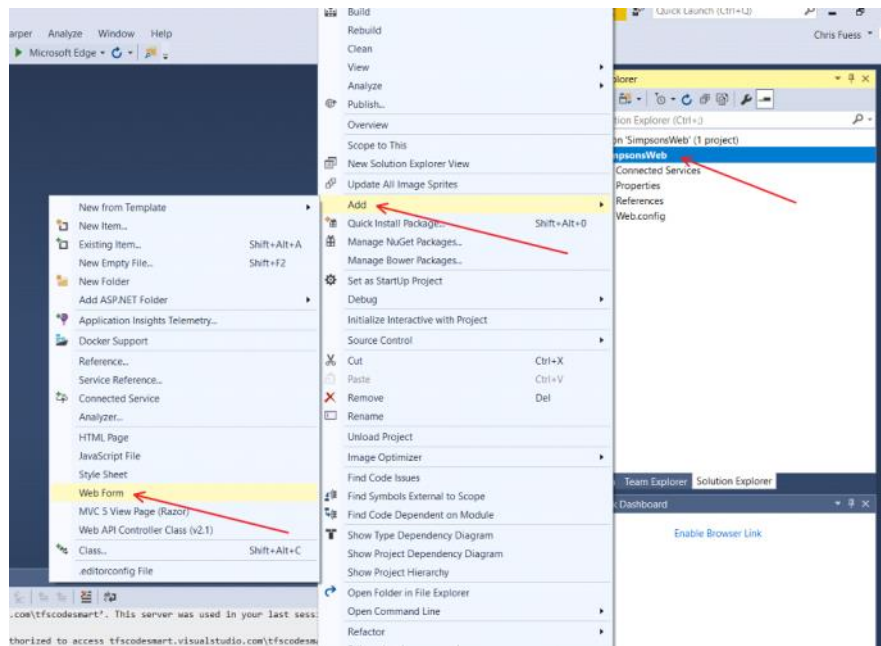Add Button

Creating Web Service Client
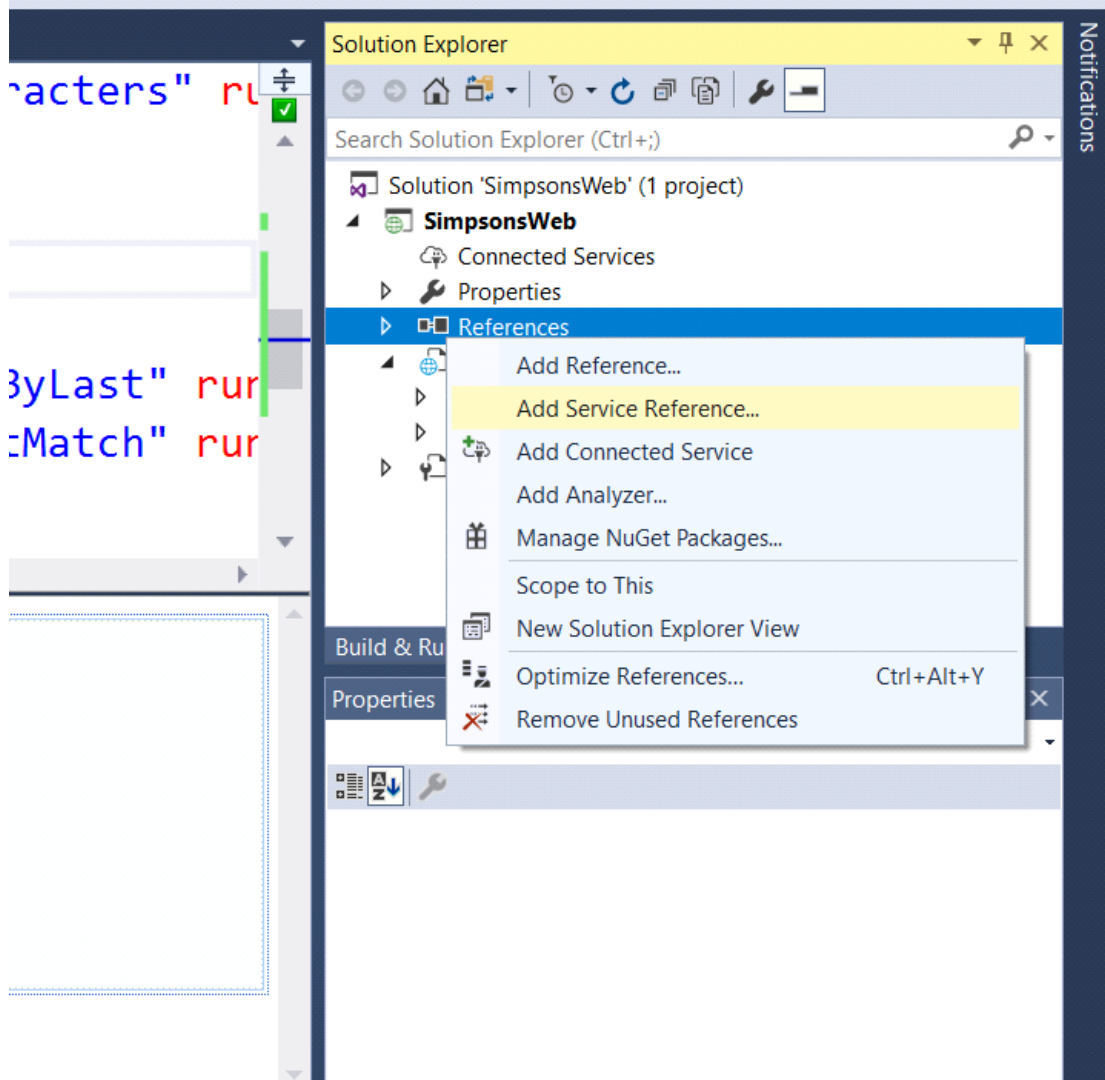
Friday, October 13, 2017   10:37 PM

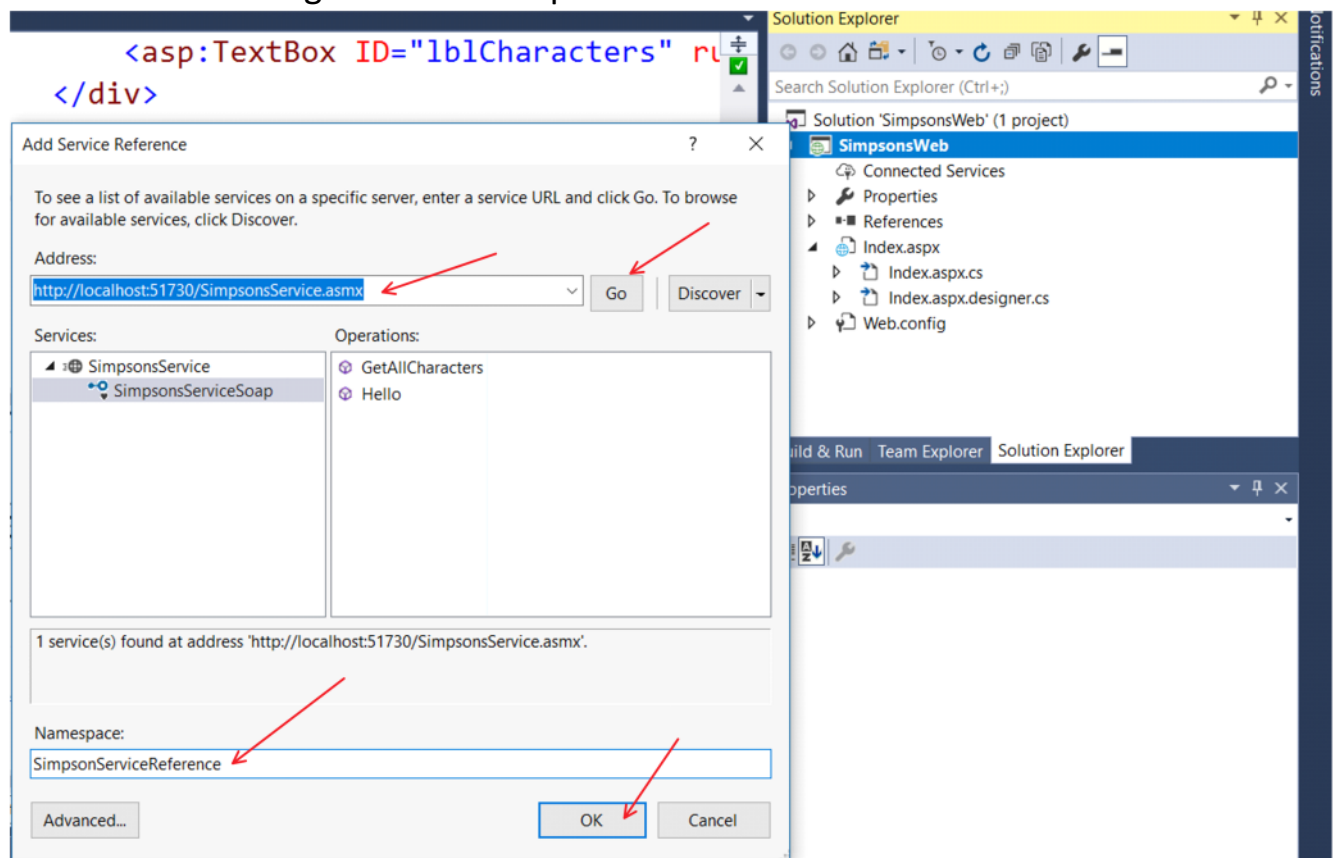Start Visual Studio and select: File | New | Project

Right-Click the web project and add a new Web Form, call it index and it
will make a index.aspx page.

Add a Service Reference (Start your service first and copy the URL)

Enter the URL and give the Namespace a name and click OK

Class notes

- Web services provide a way to interact with programming objects located on remote computers.

- Web services are based on standard technologies and are interoperable.

  Key technologies:

  - Hypertext Transmission Protocol (HTTP)

  - Extensible Markup Language (XML)

  - Simple Object Access Protocol (SOAP)

  - Web Services Description Language (WSDL)

SOAP

- SOAP stands for ***Simple Object Access Protocol***.
- SOAP is the protocol that defines how remote computers exchange messages as part of a Web service communication.
- Message format: XML
- XML is easier for otherwise non compatible systems to understand.
- Message transmission: HTTP
- HTTP, they can normally reach any machine on the Internet without being blocked by firewalls.

WSDL

- WSDL stands for **Web Services Description Language**.
- A WSDL file acts as the public interface of a Web service and includes the following information:
- The data types it can process
- The methods it exposes
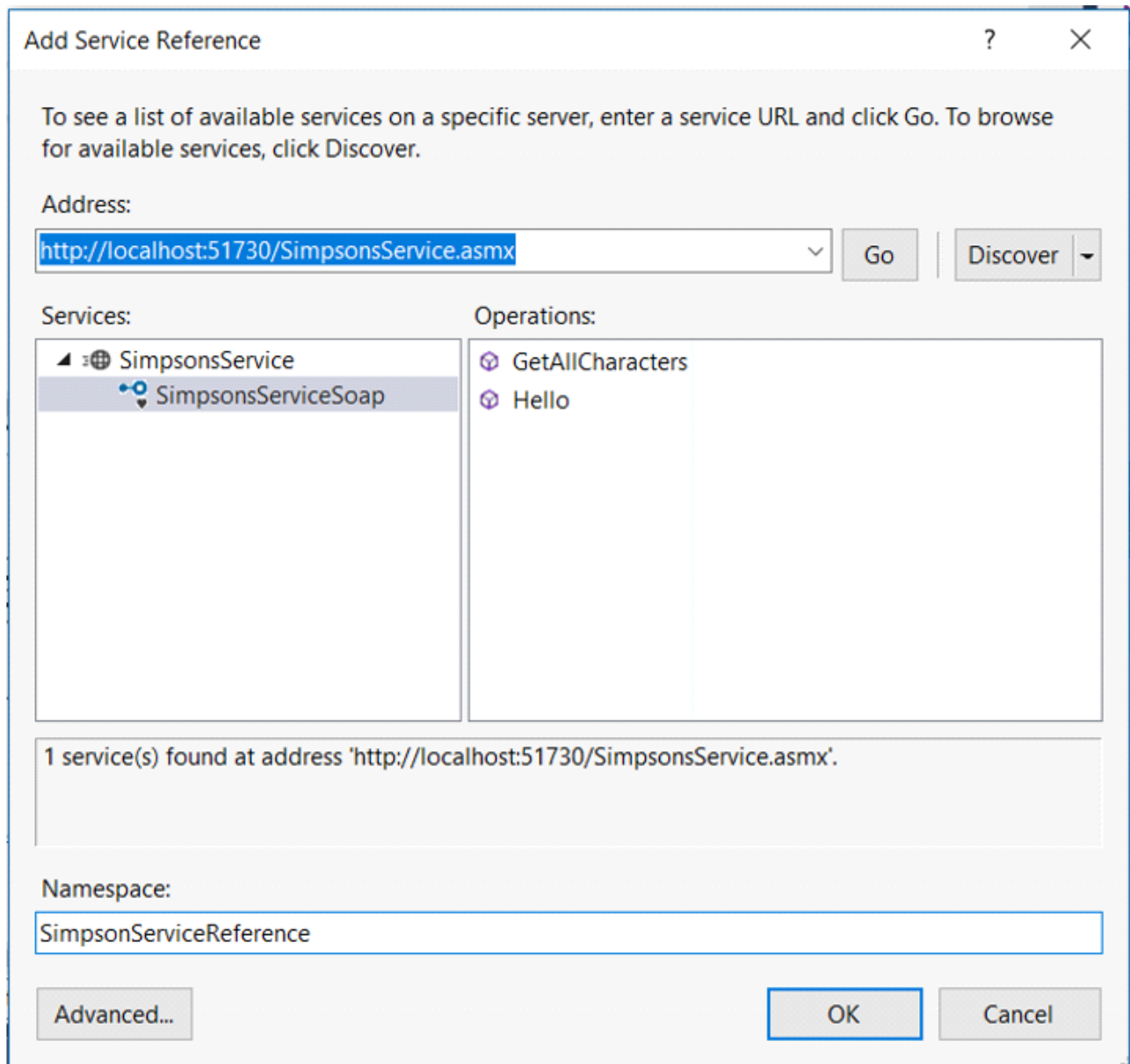- The URLs through which those methods can be accessed

WebService Code

- Inherit from System.Web.Services.WebService
- Mark the class with a WebService attribute
- Mark the methods with WebMethod attribute

```
[WebService(Namespace = "http://northwindtraders.com/")]
[WebServiceBinding(ConformsTo= WsiProfiles.BasicProfile1_1)]
public class TextWebService : System.Web.Services.WebService
{
   [WebMethod]
   public string ToUpper(string inputString)
   {
      return inputString.ToUpper();
   }
}
```

Consuming Web Services

- Add a reference to the Web service by using the Add Service Reference dialog Box.

The proxy object allows you to invoke Web service methods.

```
protected void Button1_Click(object sender, EventArgs e)
{
    var webService_service = new TextServiceSoapClient();
    toLowerLabel.Text = webService.ToLower(TextBox1.Text);
    toUpperLabel.Text = webService.ToUpper(TextBox1.Text);
}
```