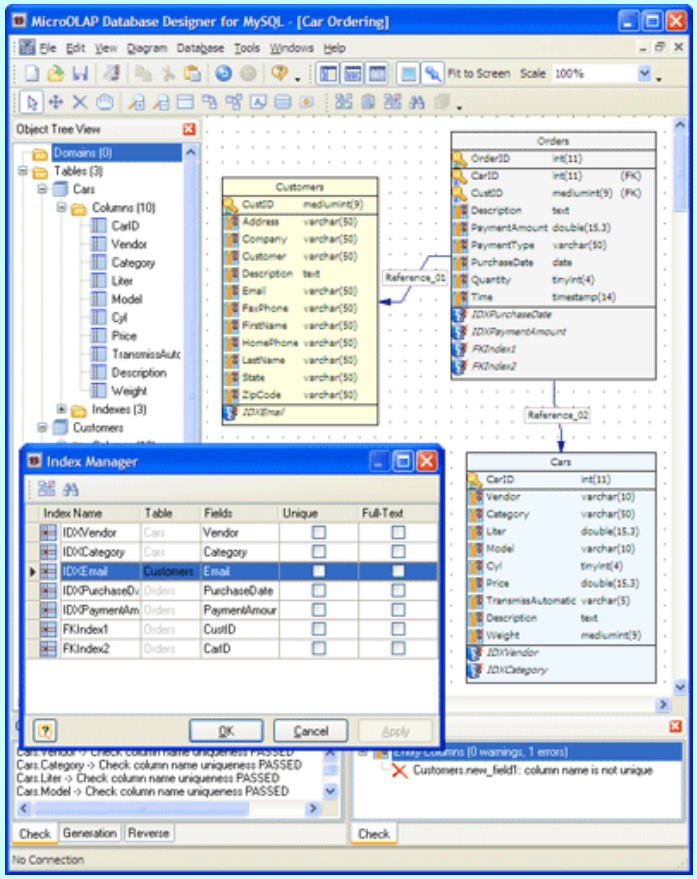
Database Systems



Topic 10 :

SQL Server Database -

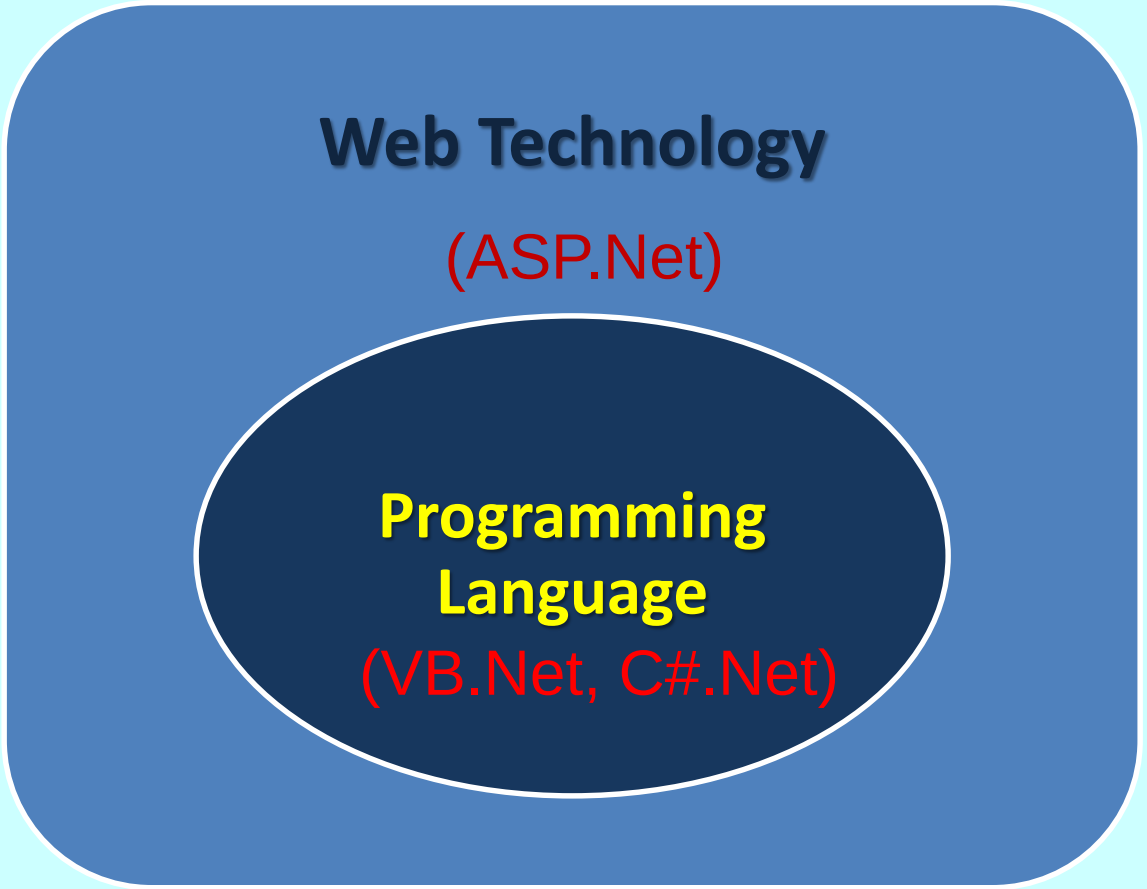
Introduction

Unit 11 : Database in SQL Server

Objective :

- At the end of this unit, you should be able to:
  - Learn the Integrated Development Environment (IDE) in MS Visual Studio, ASP.net C#
  - Create web site, web form.
  - Create database tables & establish relationship
  - Create SQL statements.
  - Import database into the system.

Web Technology & Programming Language



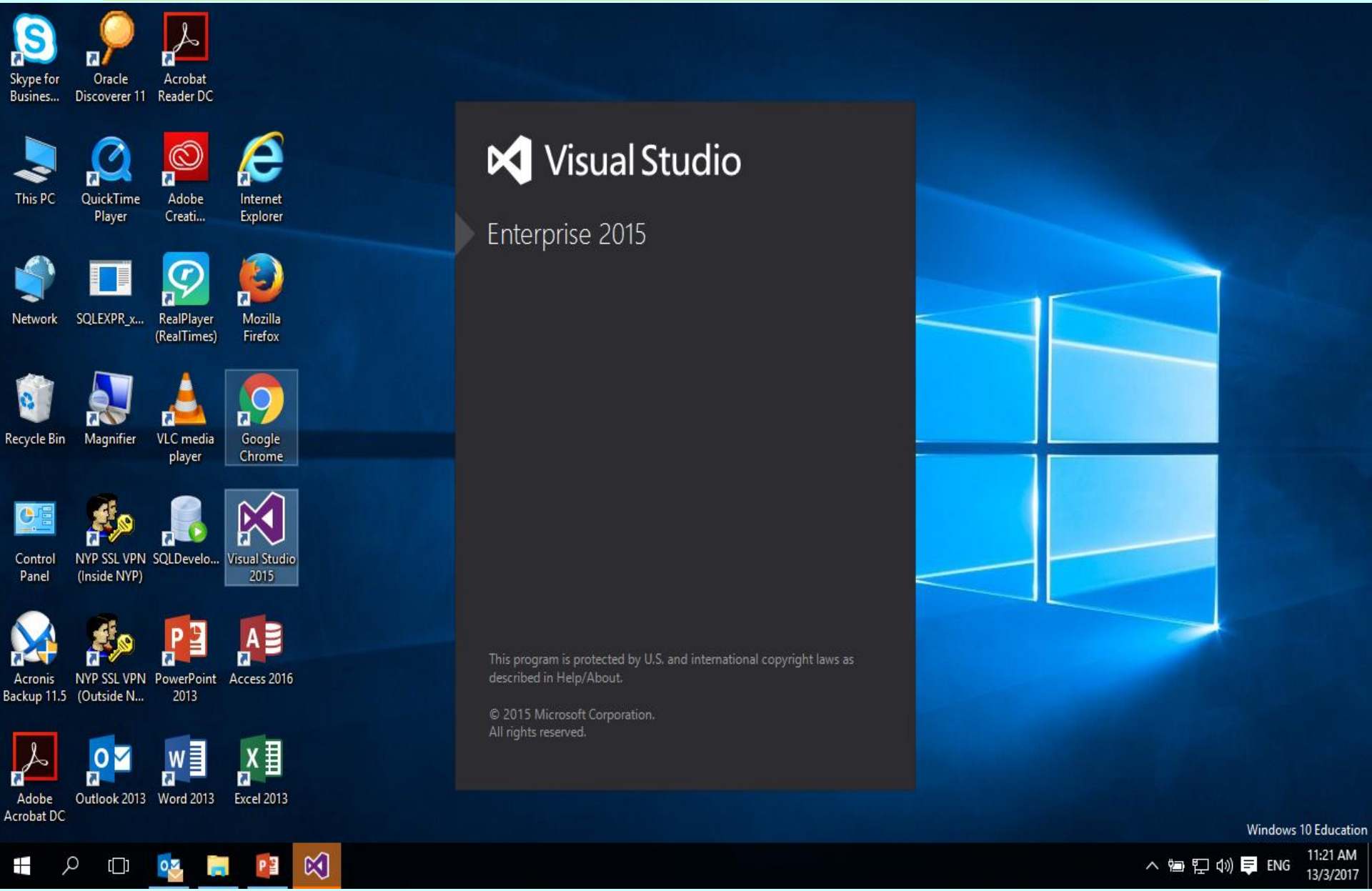
Web Technology

- ASP .Net

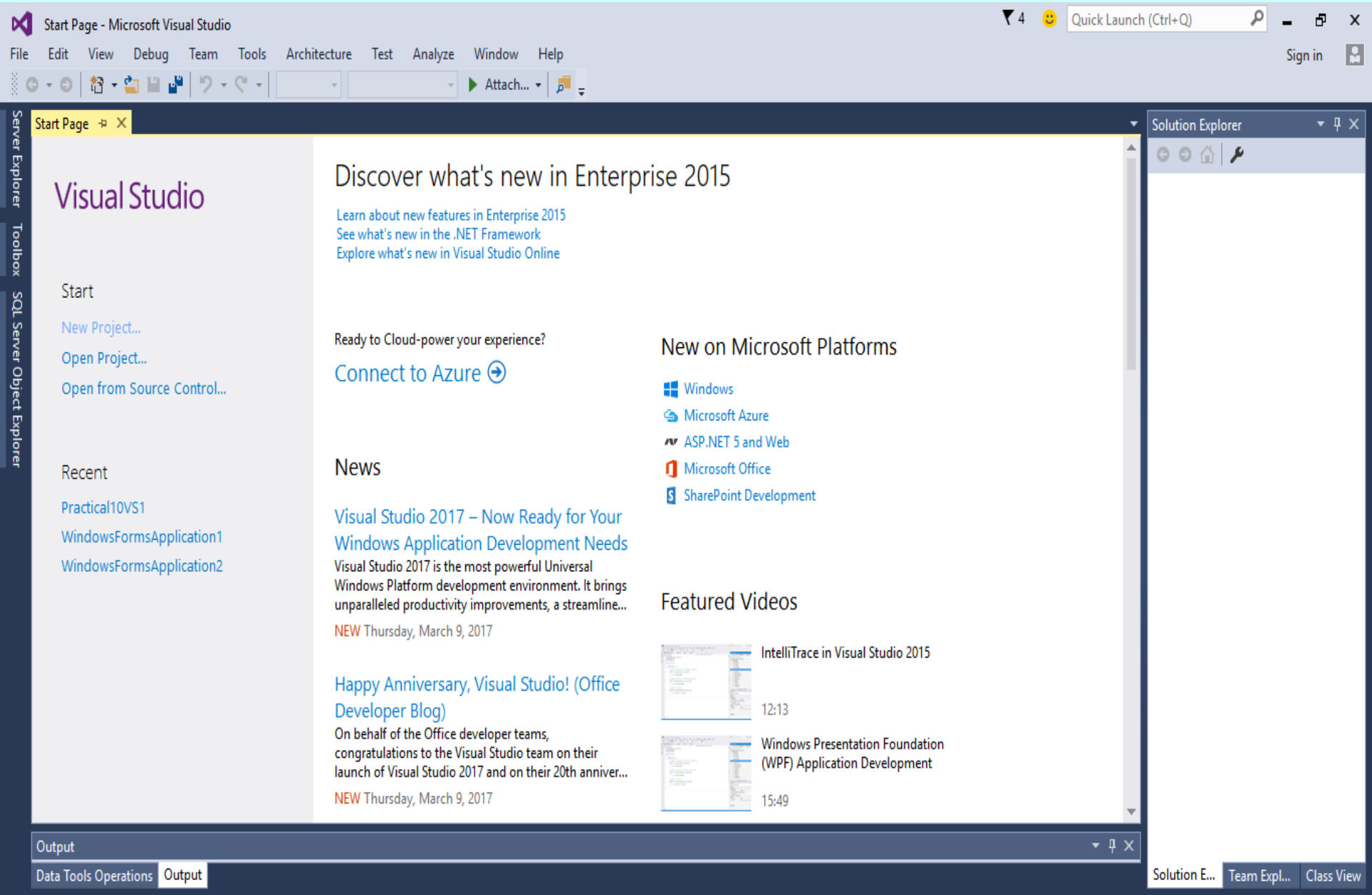
Programming Language

- VB. Net
- C# . Net

Launching of Visual Studio 2015



Start Page pf Visual Studio 2015



Database in SQL Server

1) How to create a new **Web Site** ?
2) How to create a **web form** & import data objects ?
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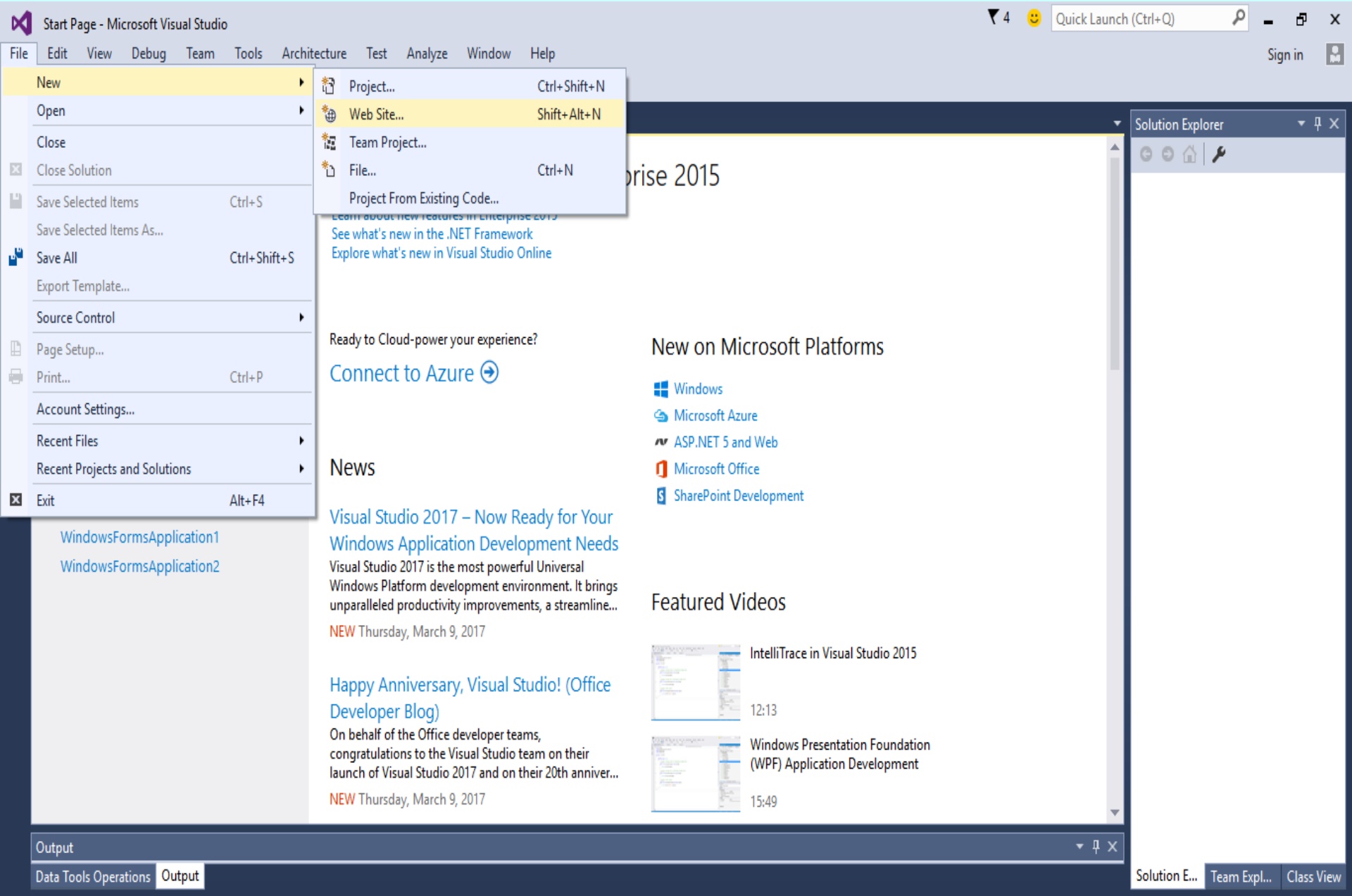
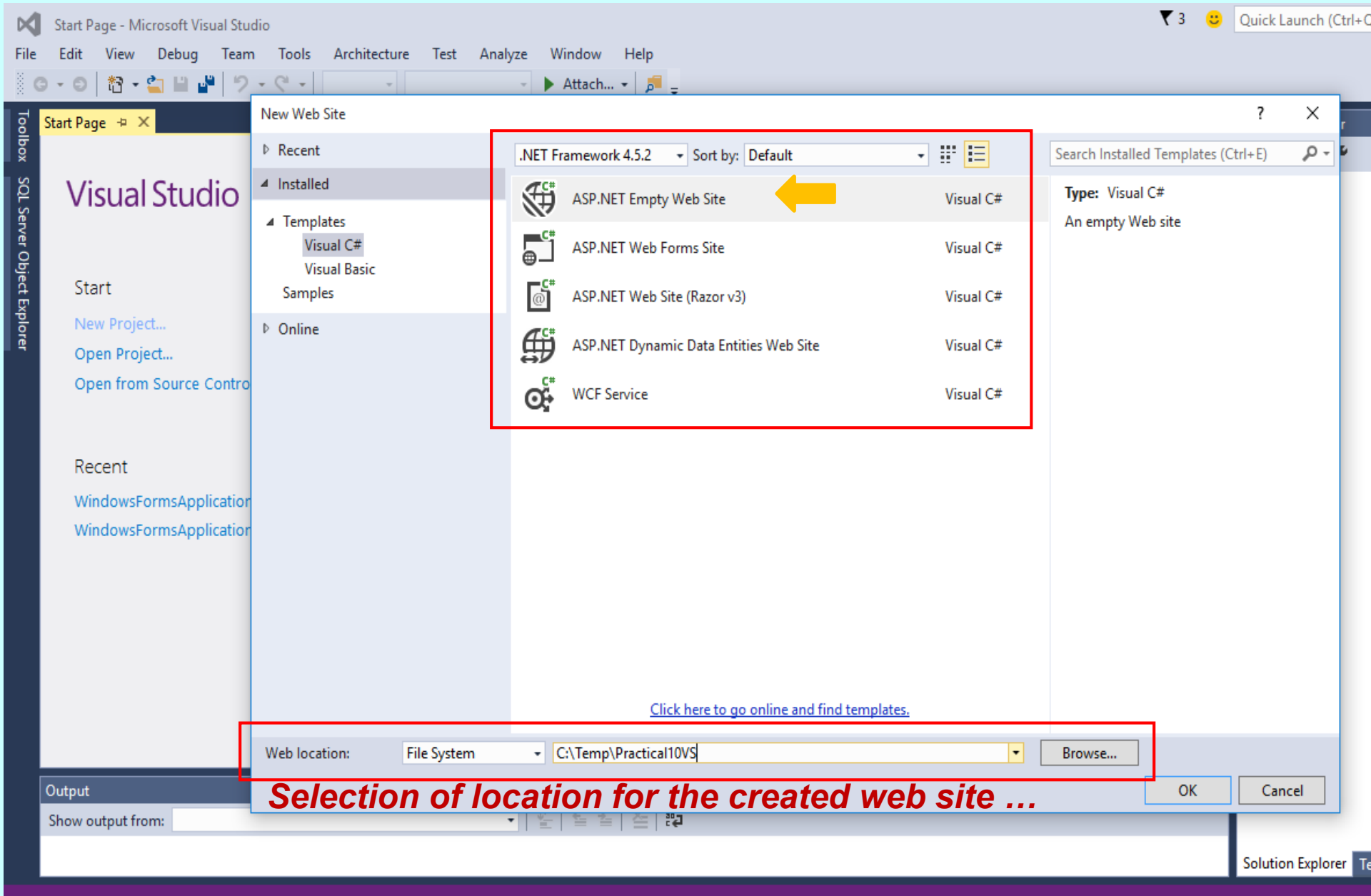
5) How to establish **relationship between tables**?
6) How to create **SQL Query** and execute it?
7) How to import an existing database ?

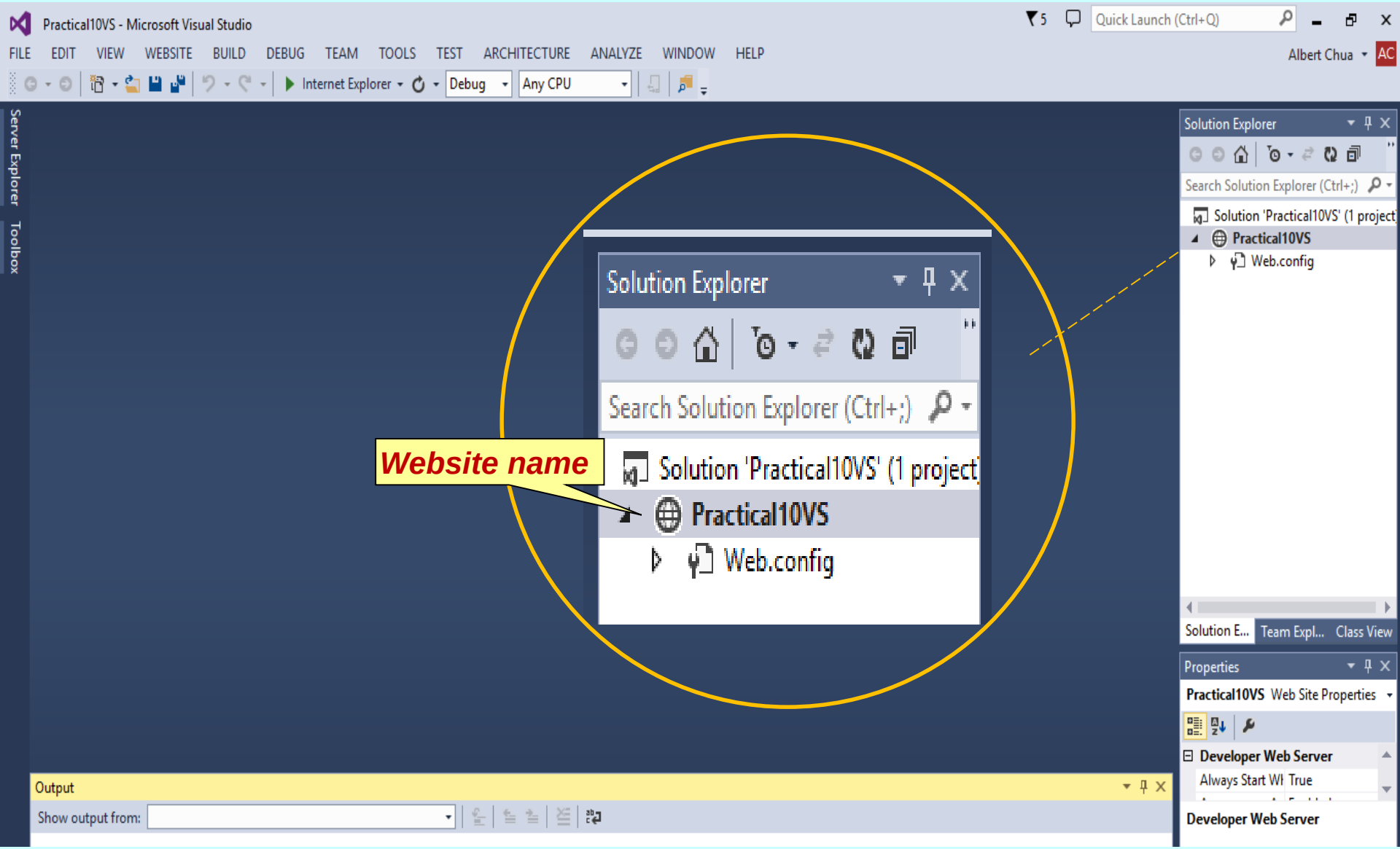
Creating a new website



Selection of ASP.Net Technology & C# Language



A New Website



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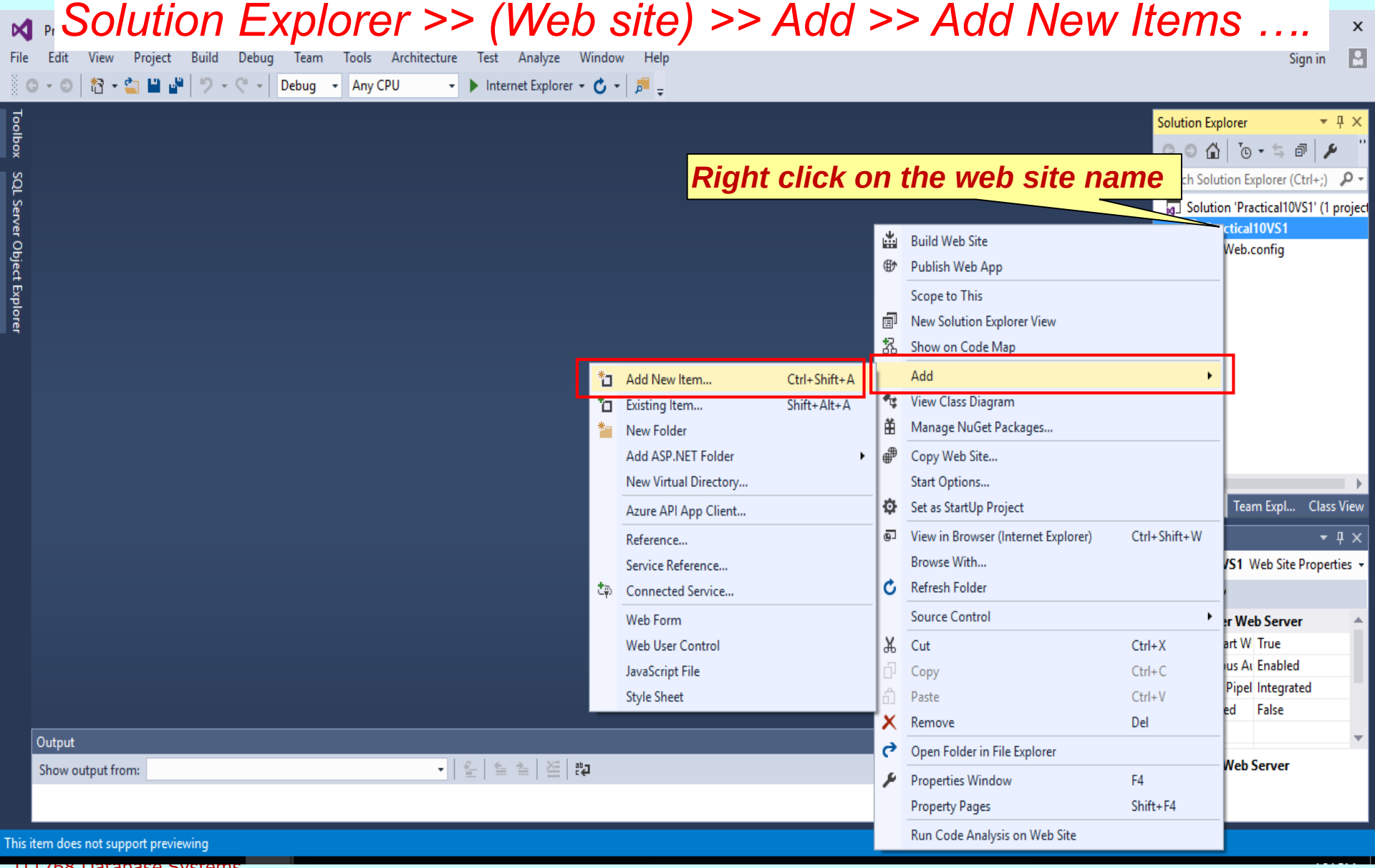
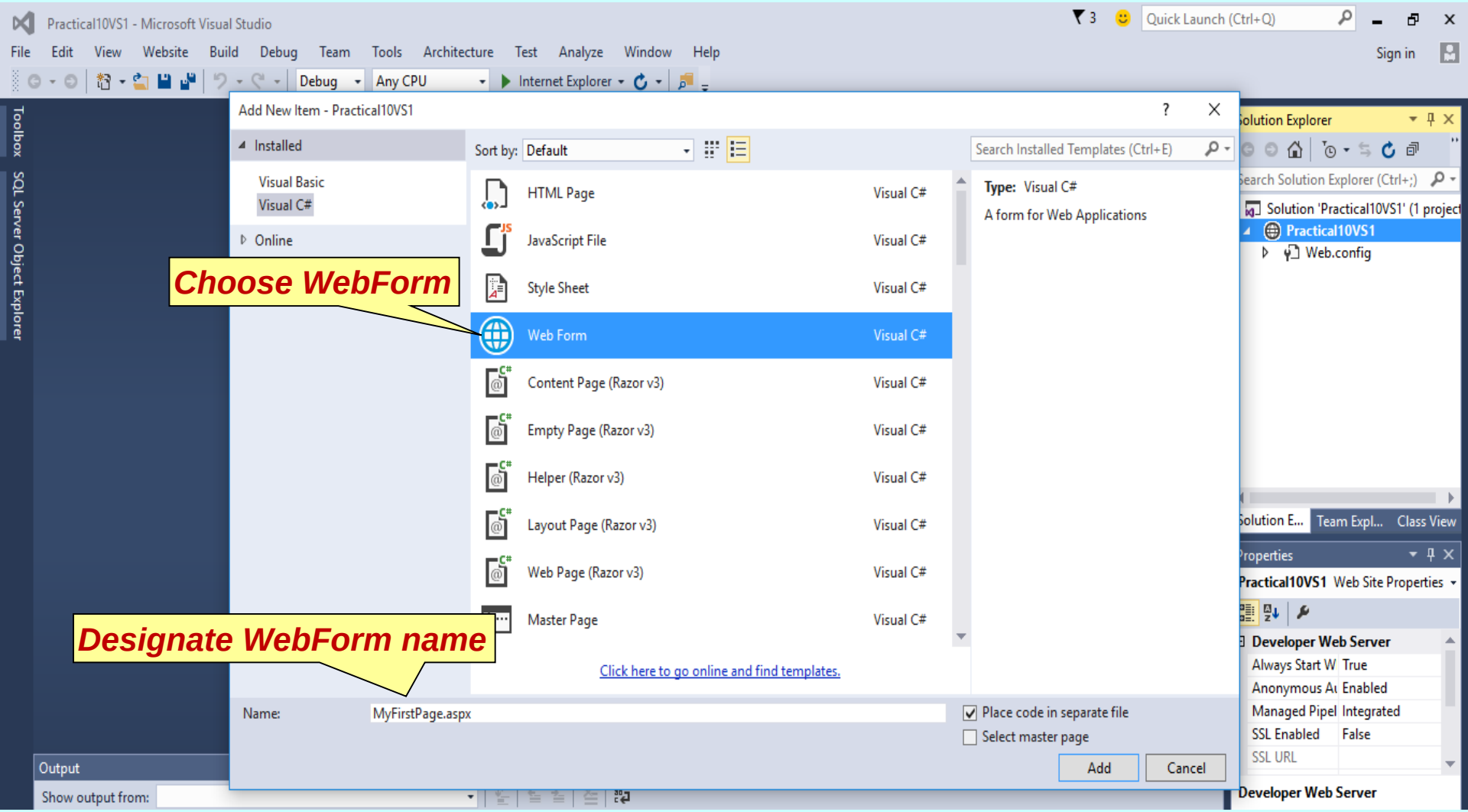
Add a new web form

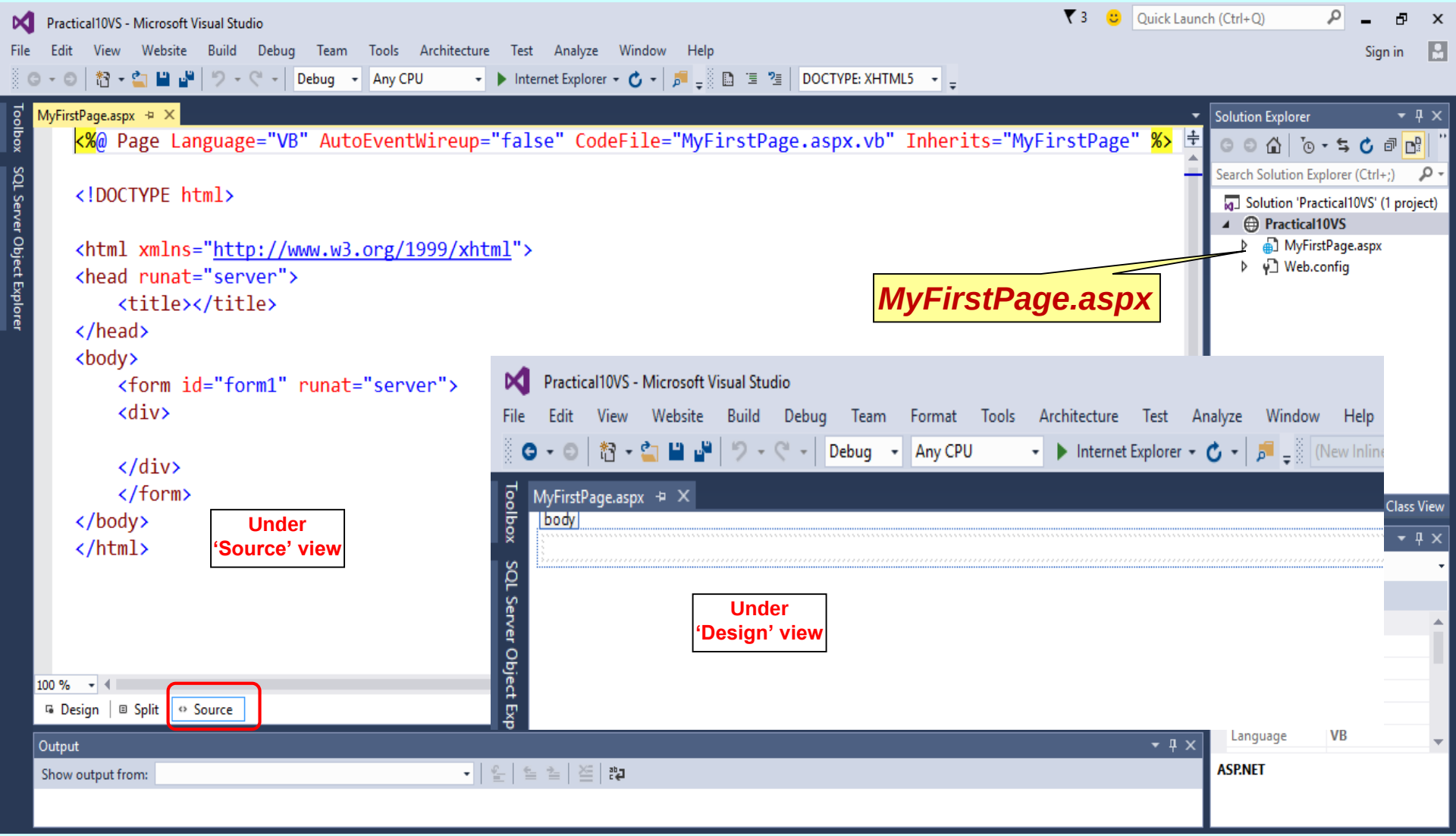
Solution Explorer >> (Web site) >> Add >> Add New Items ….



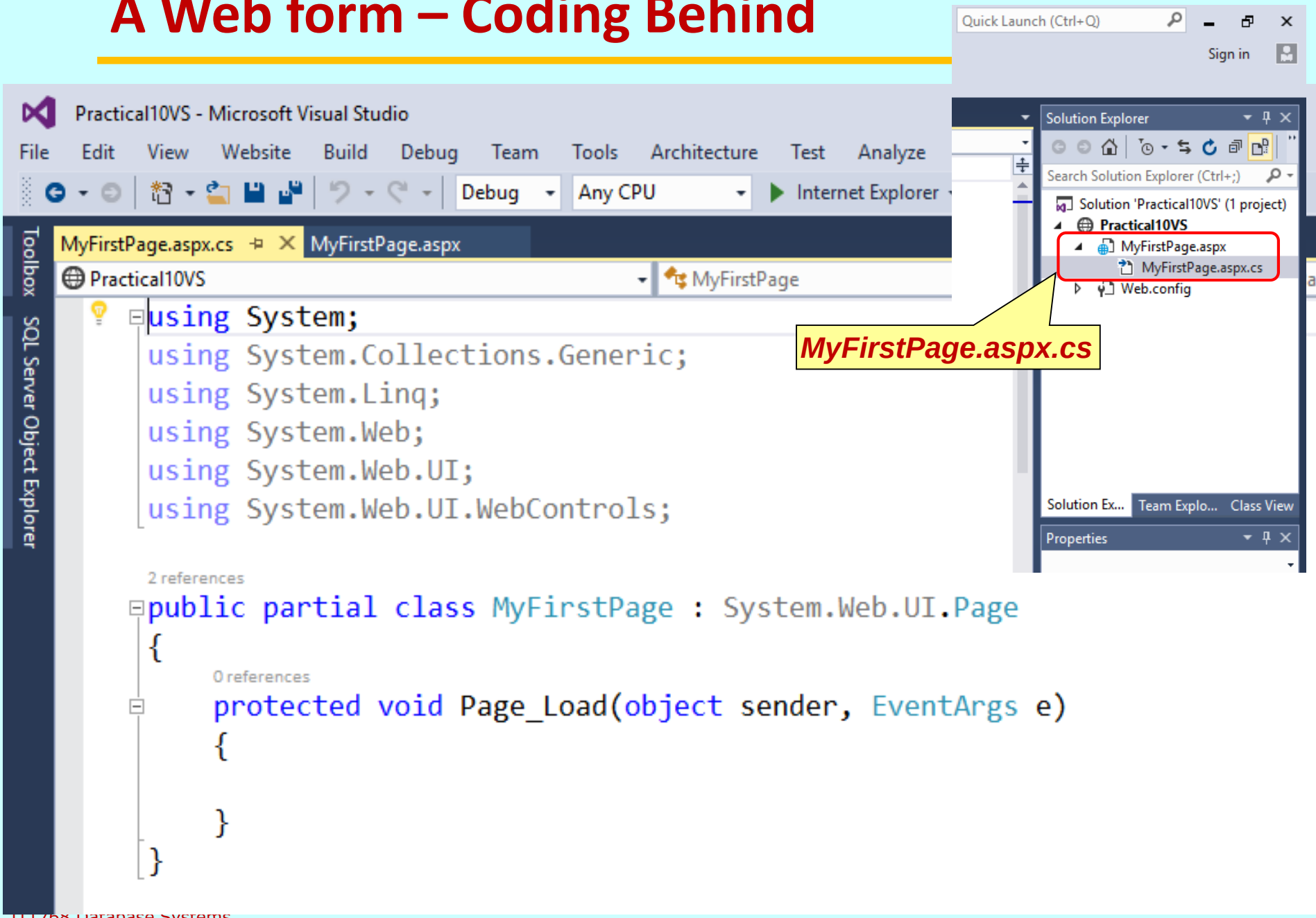
Add a new web form



A Web form – Design & Source



A Web form – Coding Behind



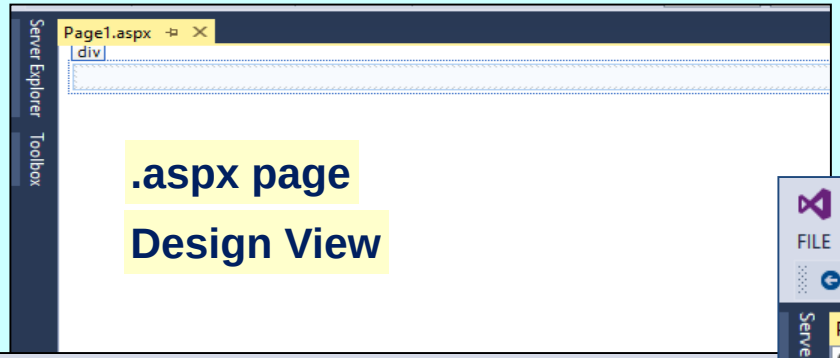
Two-page Web form Programming Model

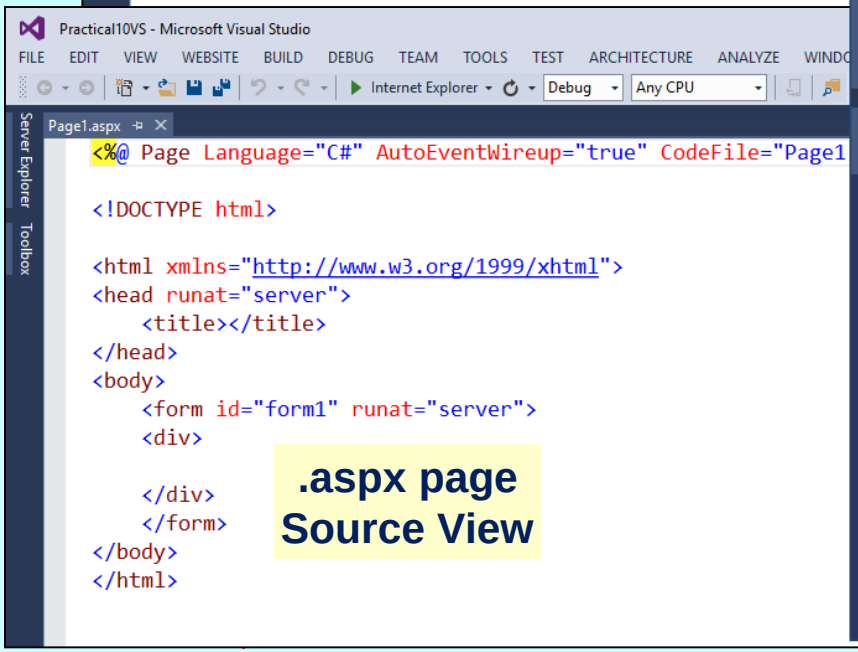
.aspx Page

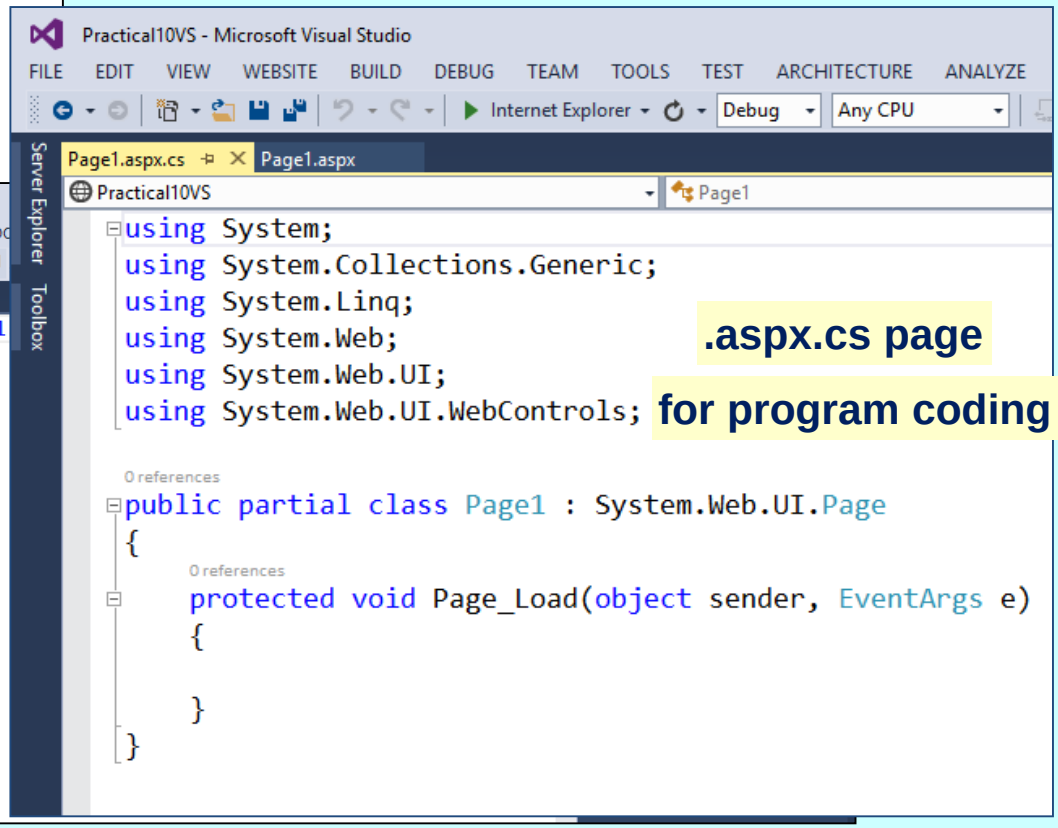
Presentation-centric code

.aspx.cs Page

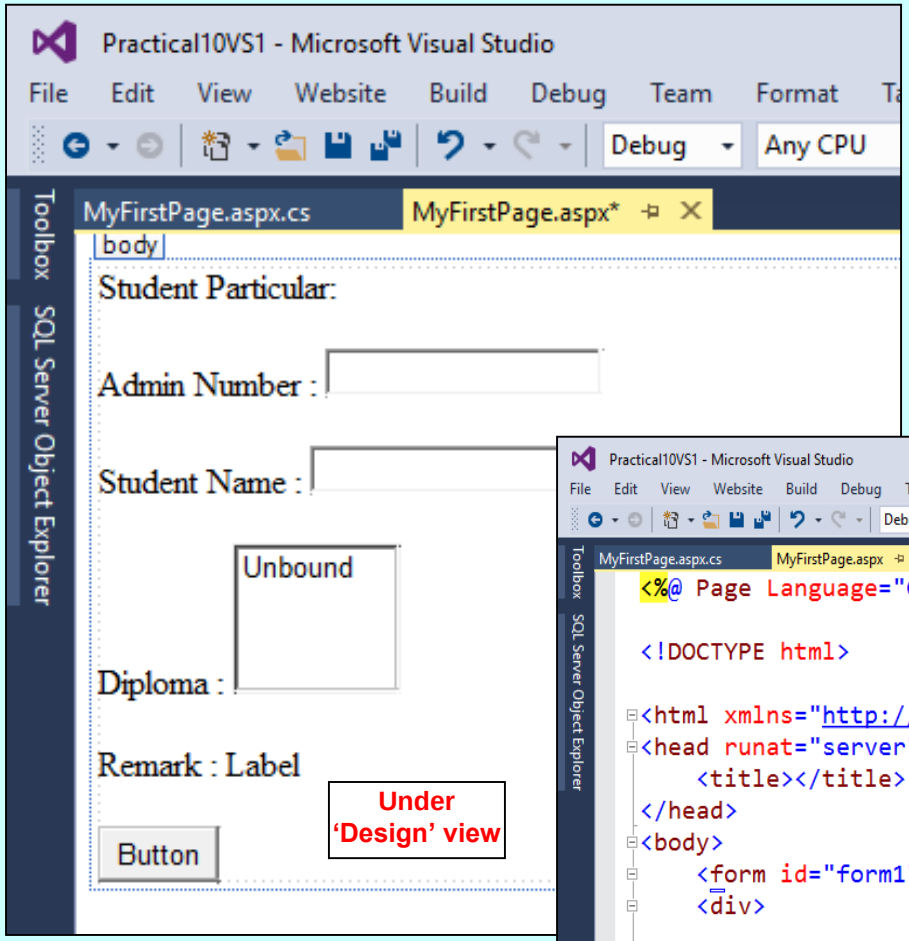
Logical execution (business) code







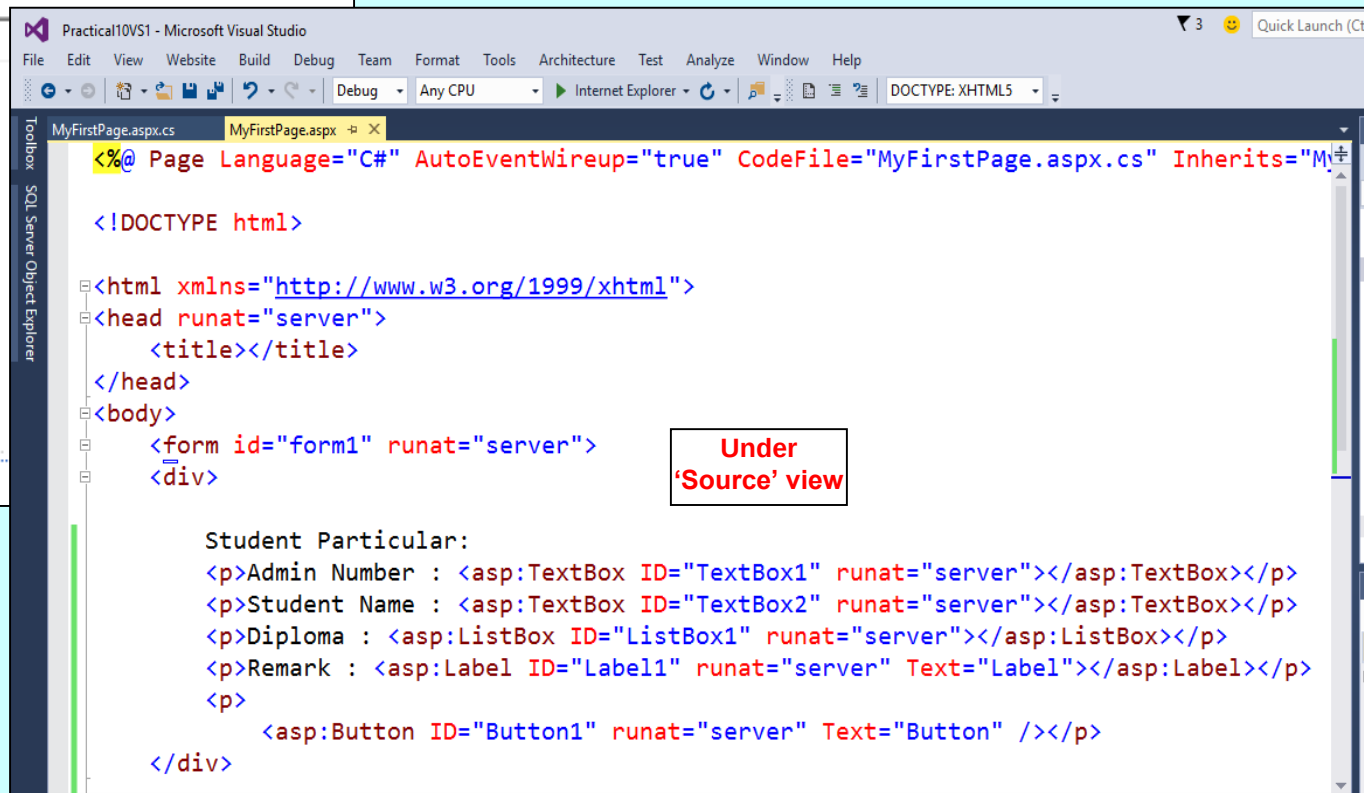
Two-page Web form Programming Model



Under 'Design' view

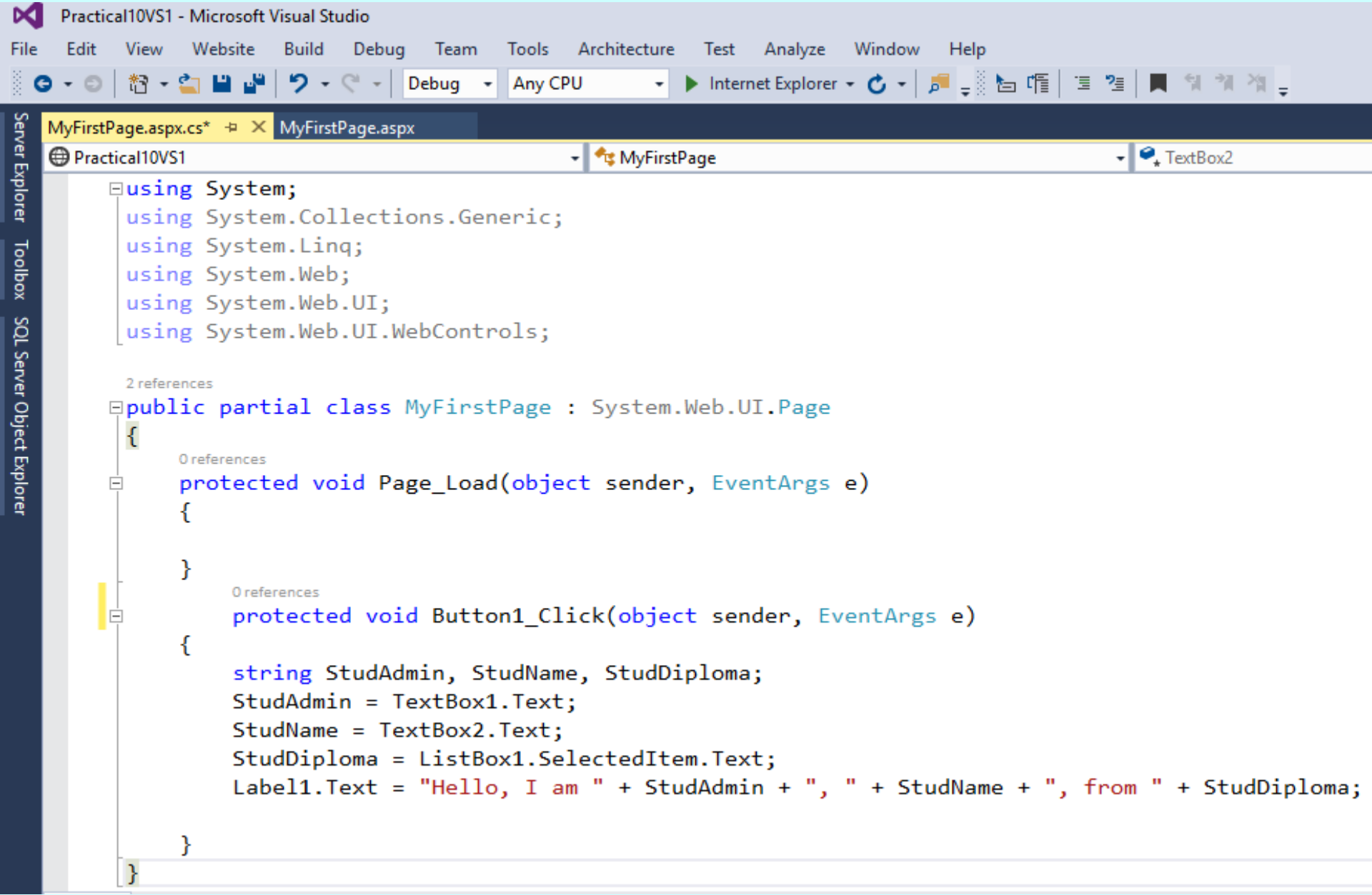
.aspx Page

- Presentation-centric code



Under 'Source' view

.aspx.cs page – the Logical execution (business) code



Two-page Web form Programming Model

.aspx Page

Presentation-centric code

.aspx.cs Page

Logical execution (business) code

1) How does .aspx page knows that the code behind file is .aspx.cs?

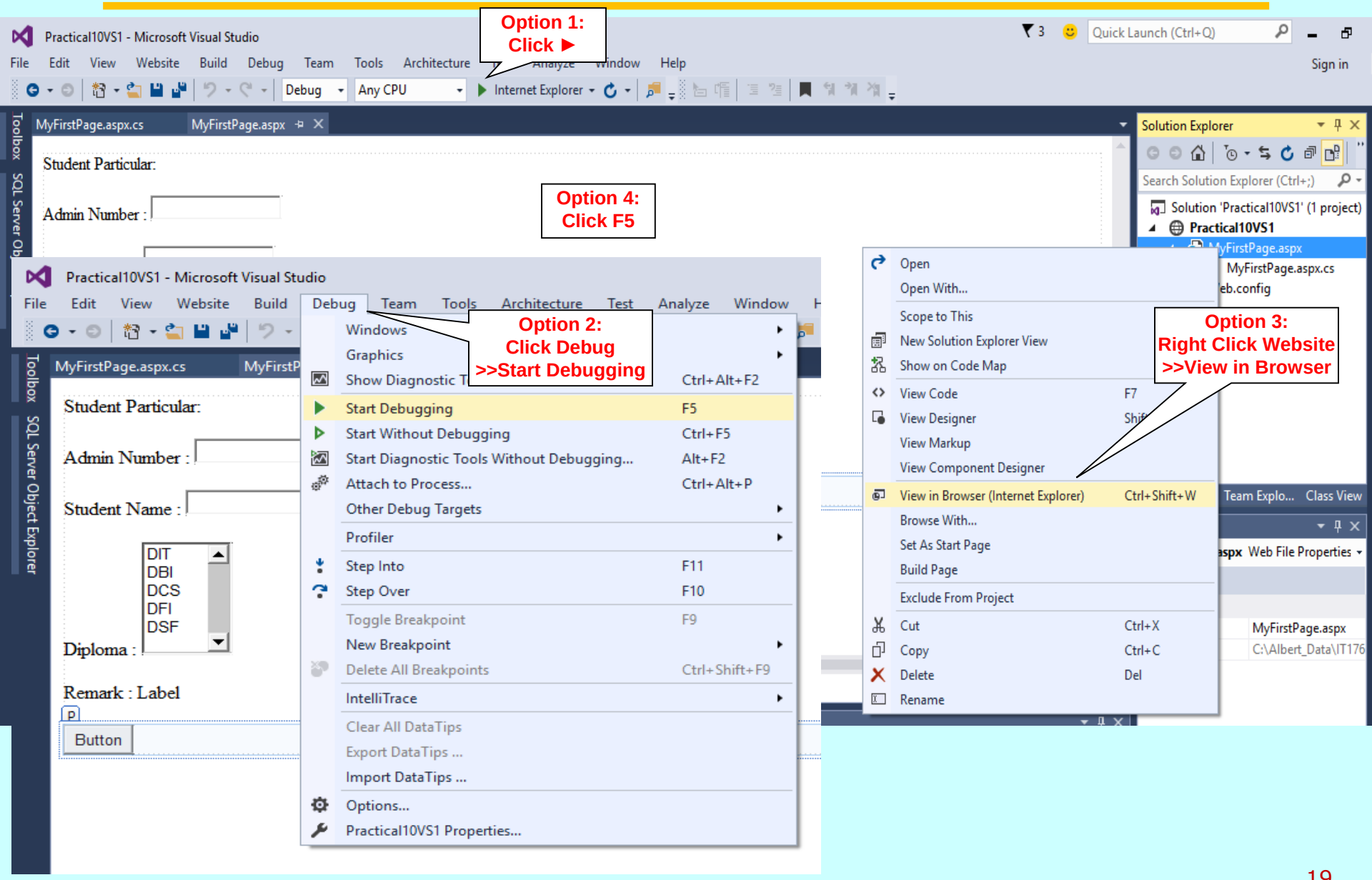
In MyFirstPage.aspx page, it starts with a directive:

<%@ Page Language="C#" AutoEventWireup="true" CodeFile="MyFirstPage.aspx.cs" Inherits="MyFirstPage" %>

2) What is the benefit of the two-page web form design?

It allows a cleaner separation of presentation-centric code and logical execution (business) code

To Run (execute) the web page



Database in SQL Server

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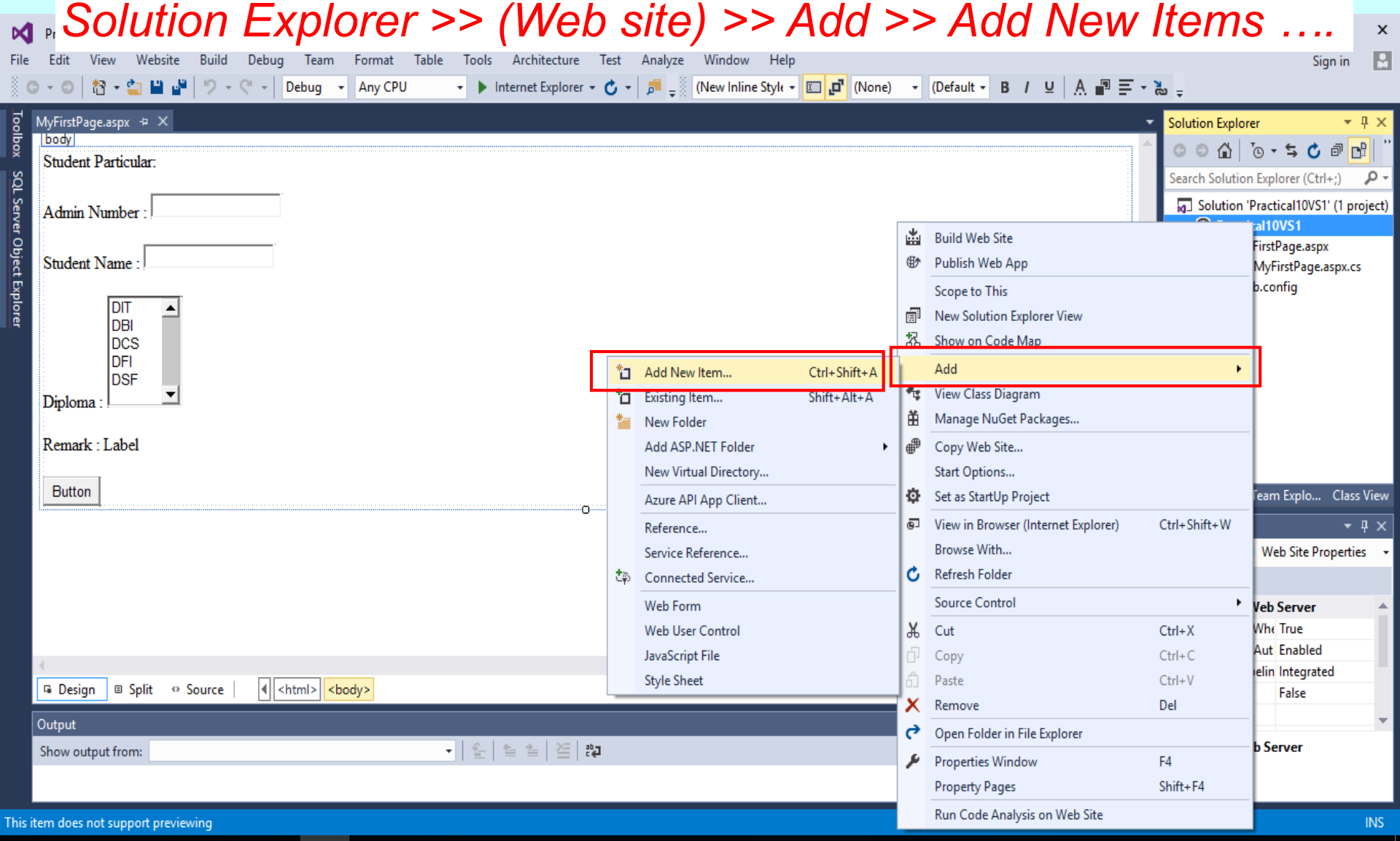
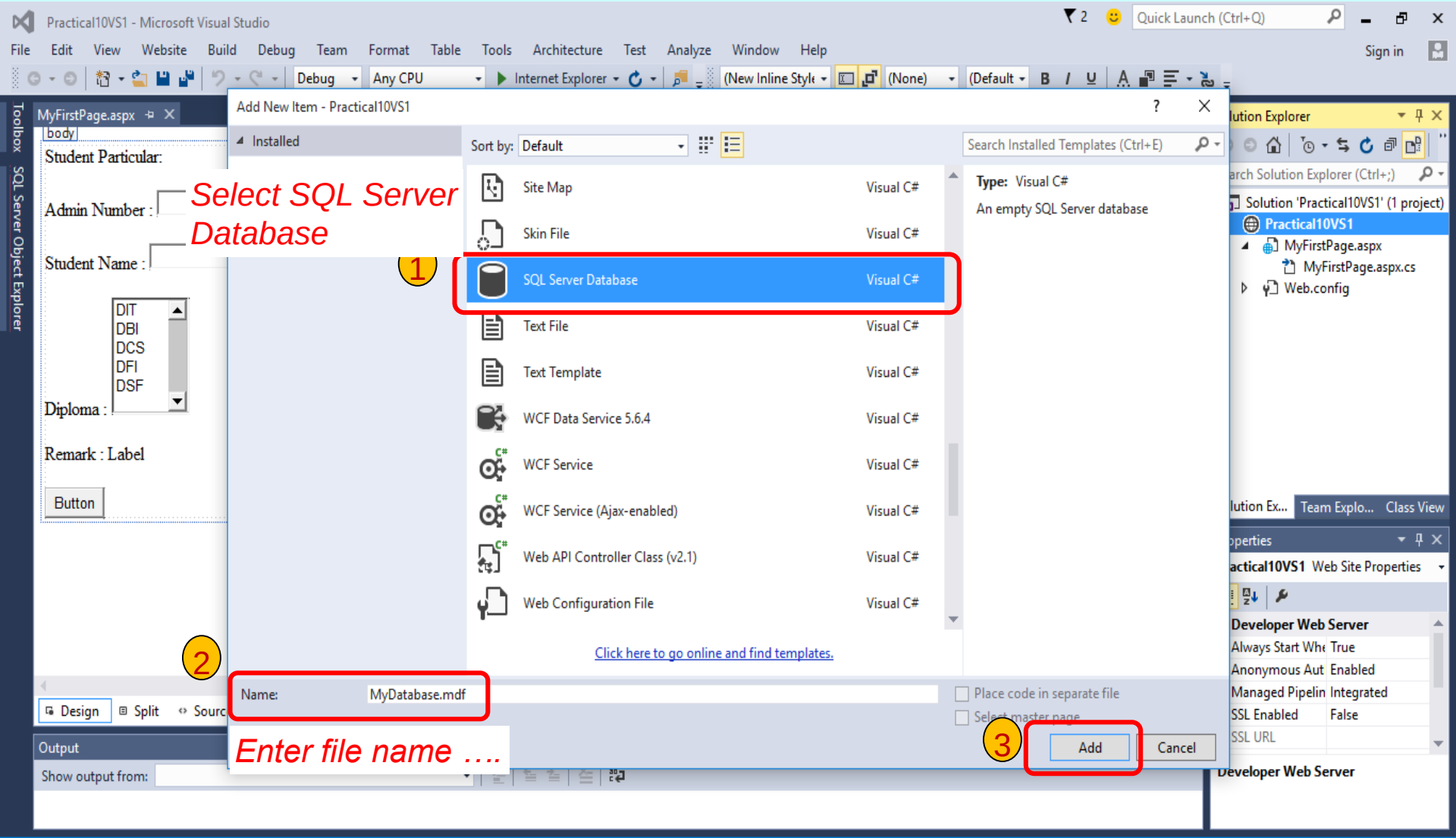
Create a New SQL Server Database

Solution Explorer >> (Web site) >> Add >> Add New Items ….

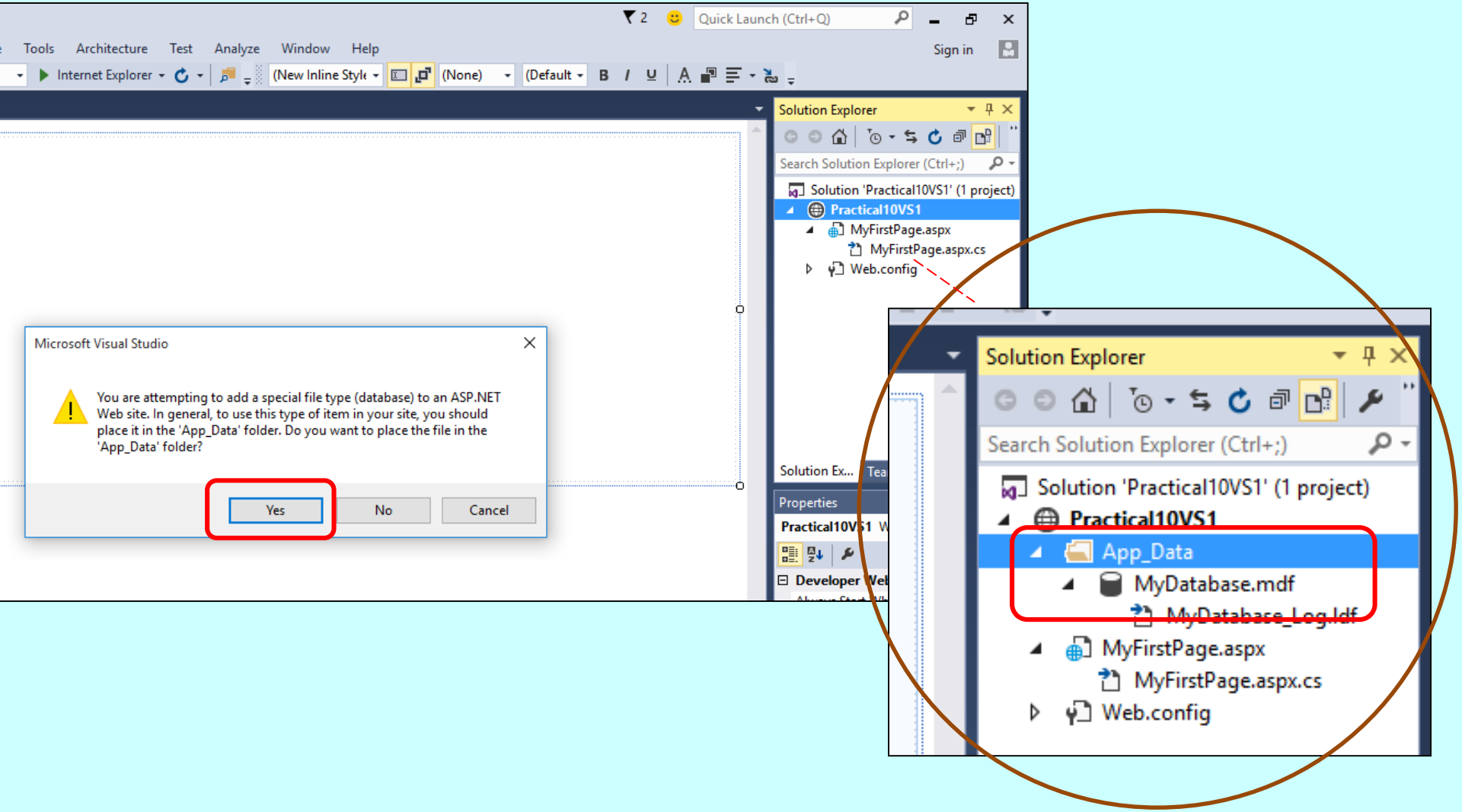


Create a New SQL Server Database



Under Solution Explorer

Where to park the database base file ?



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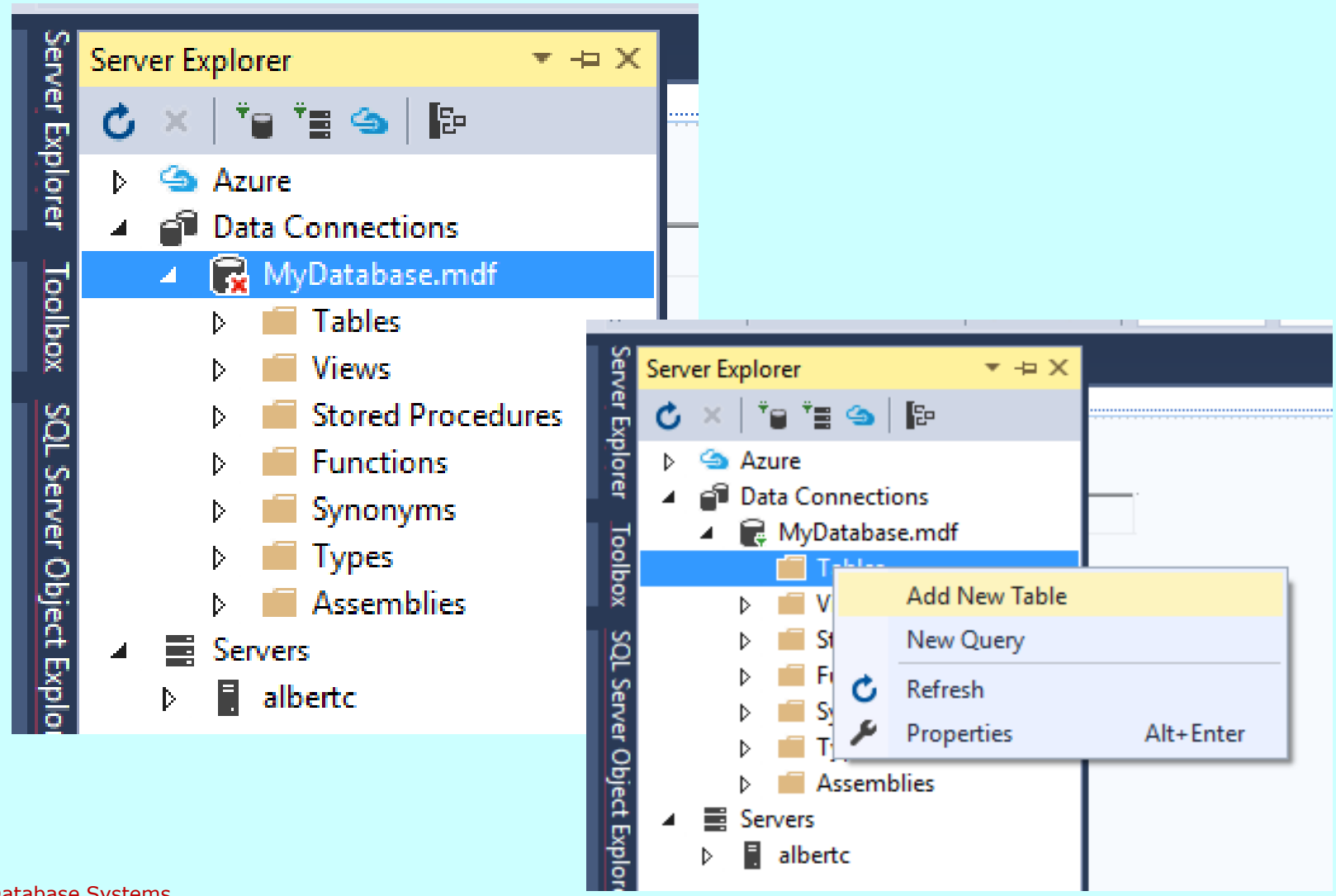
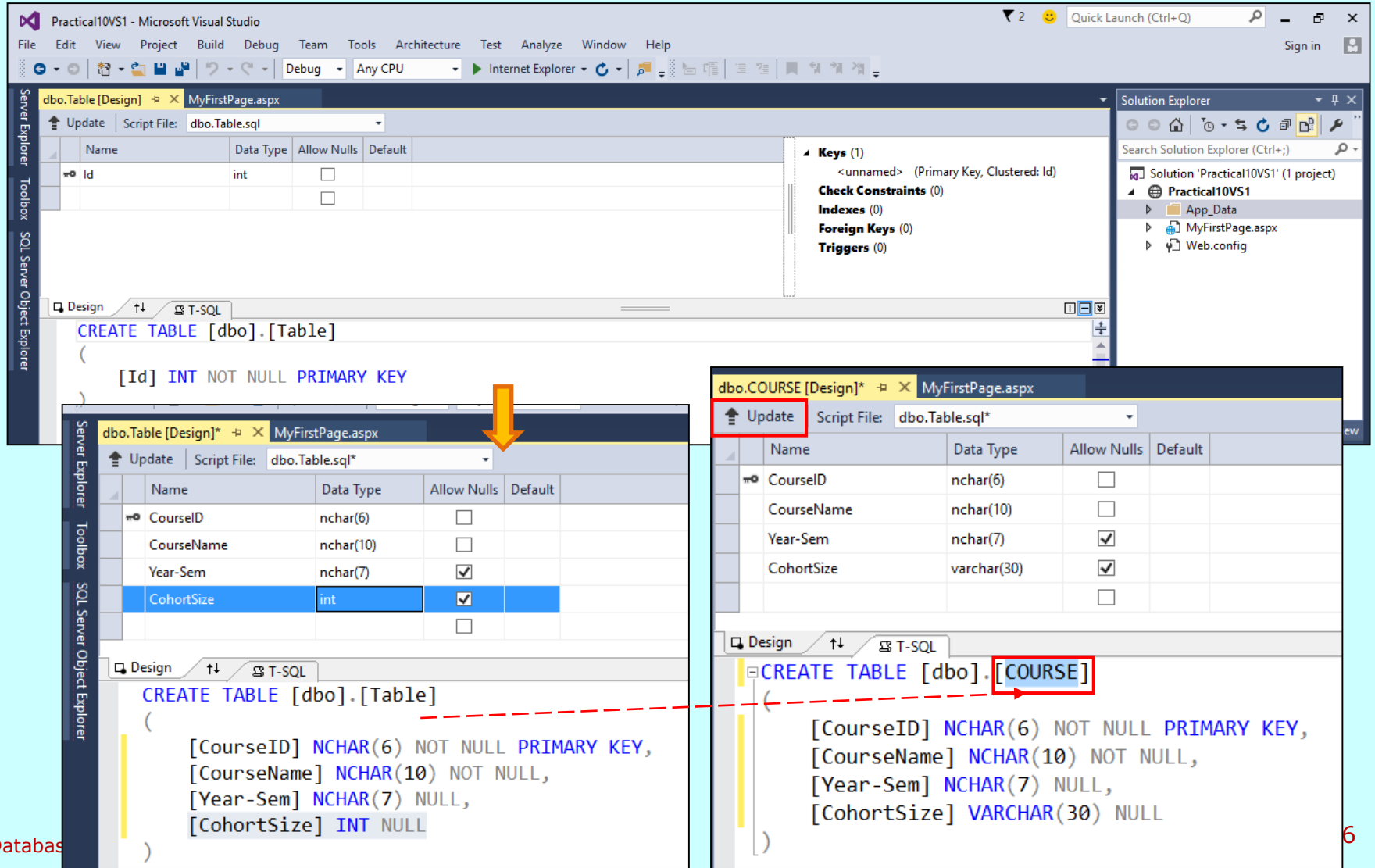
Under Server Explorer

Database name appears … & Create new table…



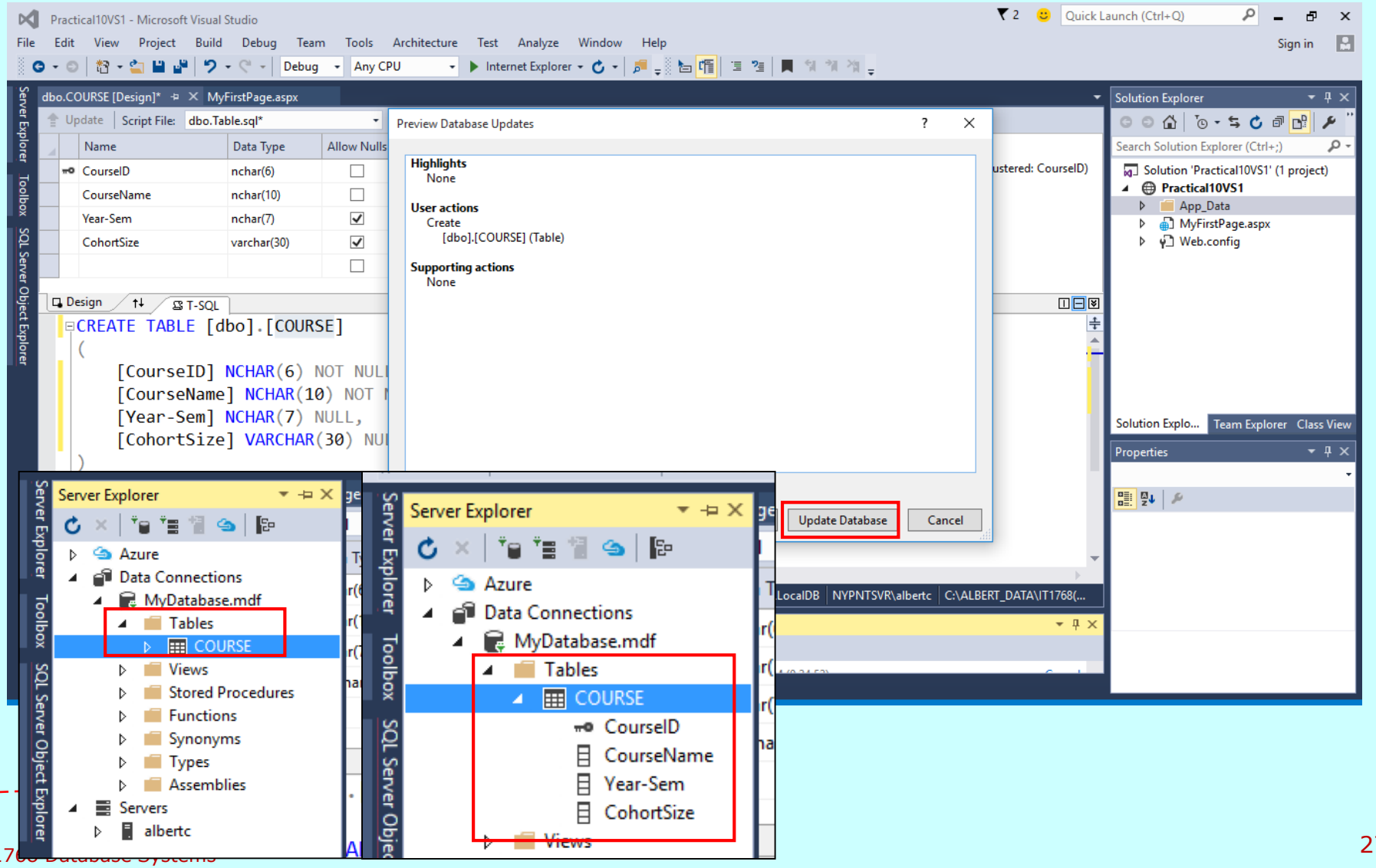
Under Server Explorer

Define table fields…data type and field sizes…

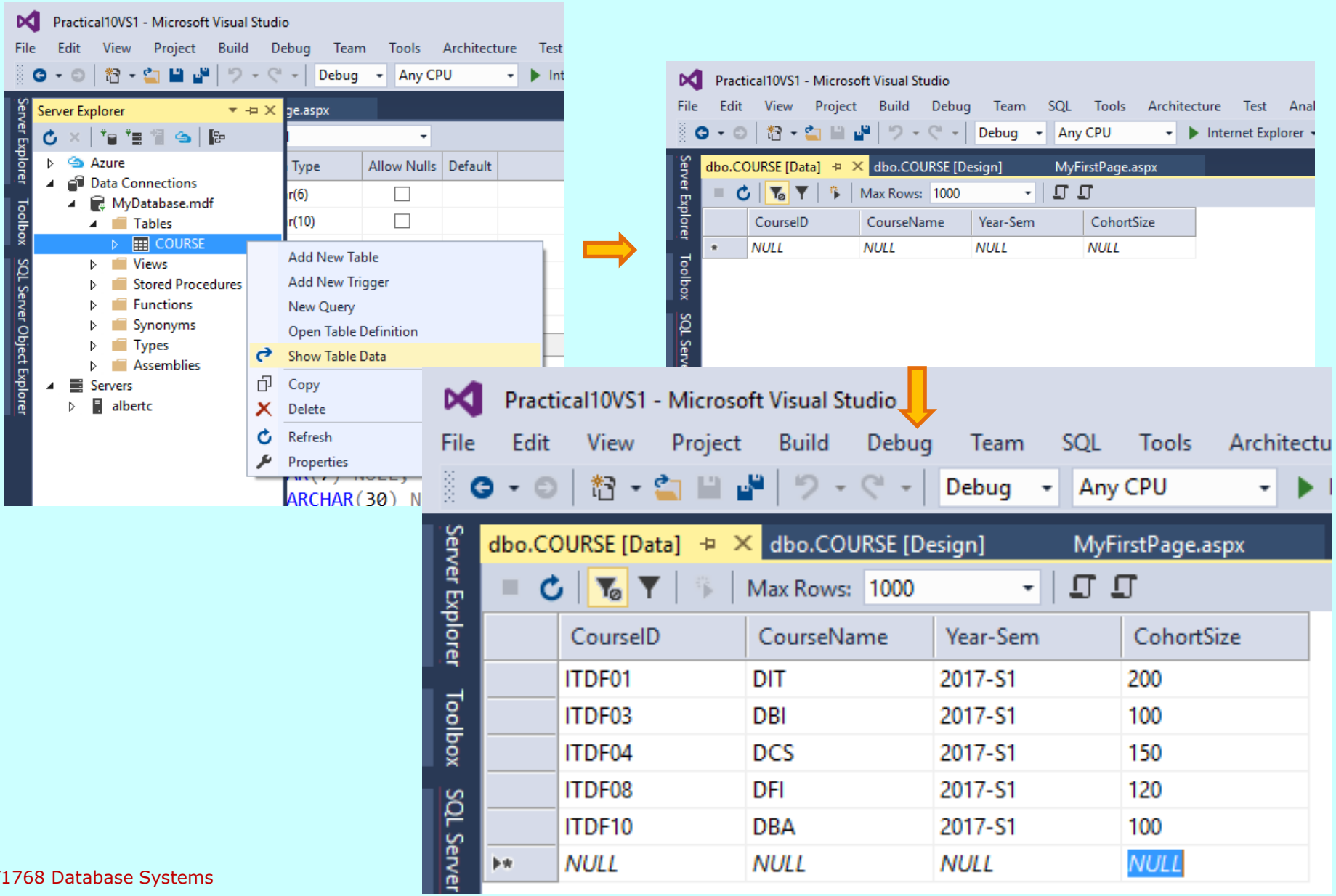


Under Server Explorer

Update database…



Populate data in a new Table



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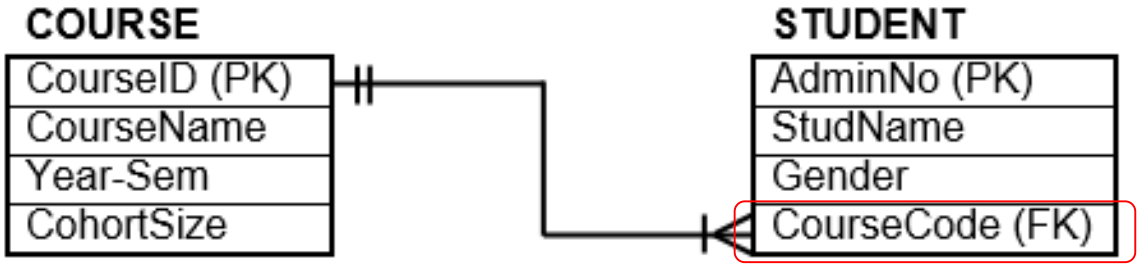
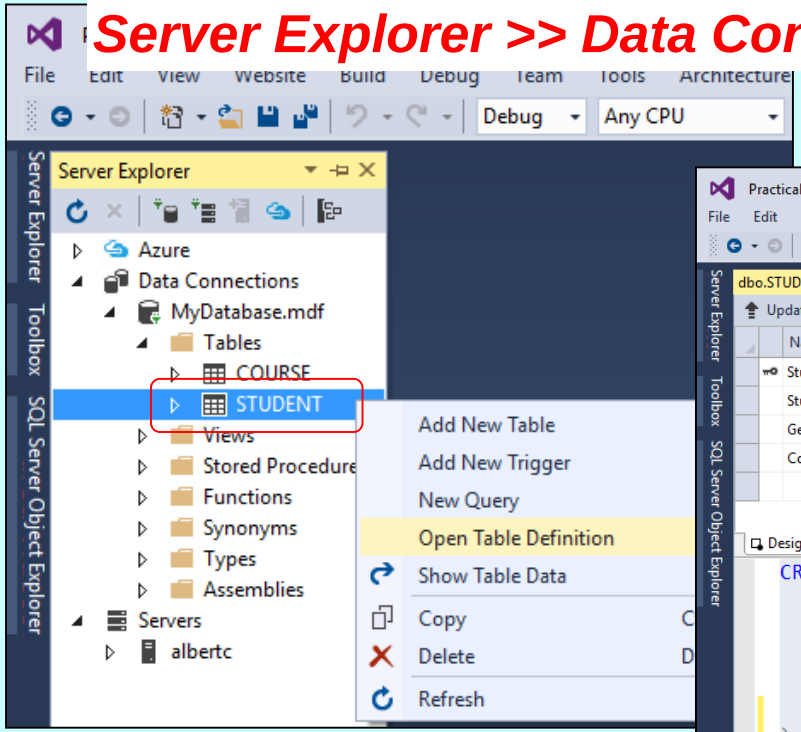
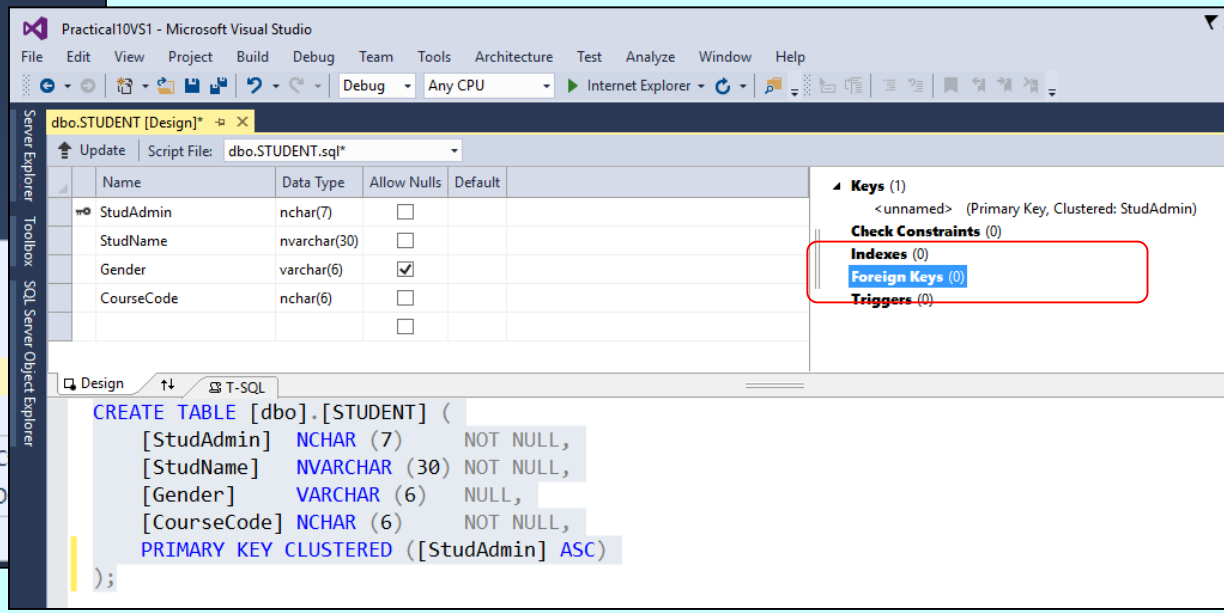
Establish relationship between Tables

In the Entity Relationship Diagram below, COURSE table 'CourseID' is the primary key whereas STUDENT table 'CourseCode' is the foreign key.

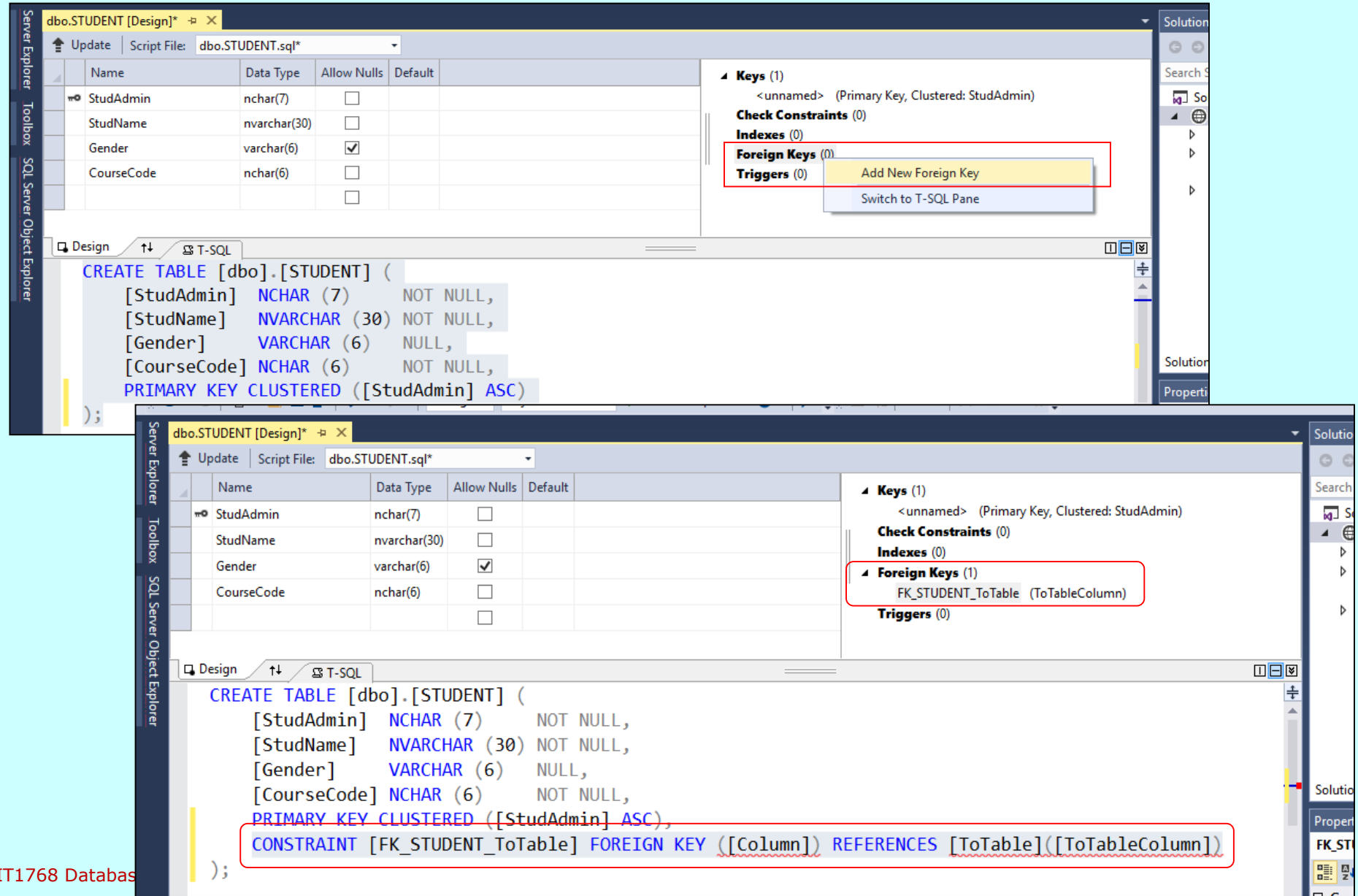


Server Explorer >> Data Connection >> *(Database name)* ***>> Tables …***





Establish relationship between tables

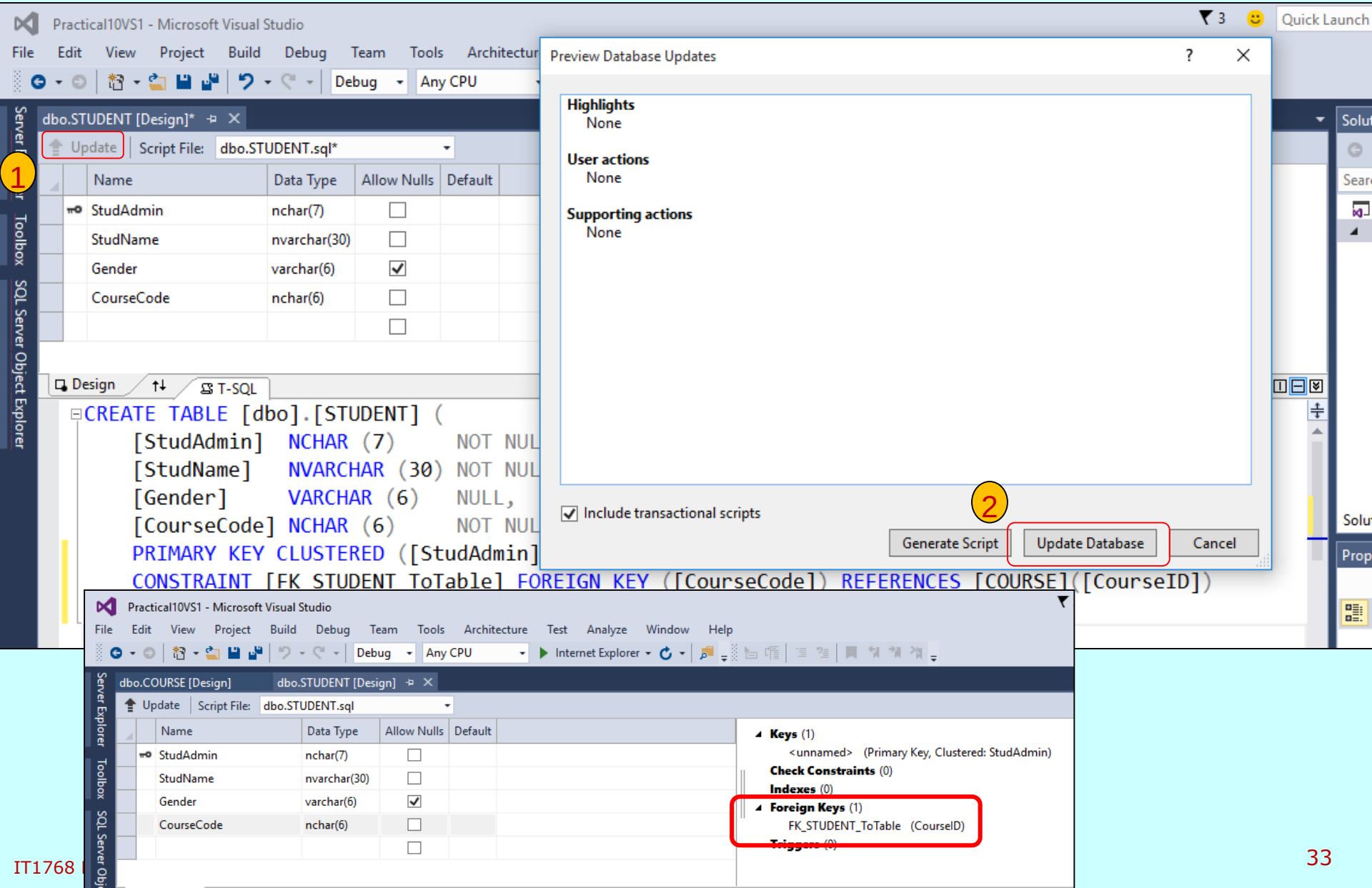


Establish relationship between Tables

```
CREATE TABLE [dbo].[STUDENT] (
    [StudAdmin]  NCHAR (7)     NOT NULL,
    [StudName]   NVARCHAR (30) NOT NULL,
    [Gender]     VARCHAR (6)   NULL,
    [CourseCode] NCHAR (6)     NOT NULL,
    PRIMARY KEY CLUSTERED ([StudAdmin] ASC),
    CONSTRAINT [FK_STUDENT_ToTable] FOREIGN KEY ([Column]) REFERENCES [ToTable]([ToTableColumn])
);
```

```
CREATE TABLE [dbo].[STUDENT] (
    [StudAdmin]  NCHAR (7)     NOT NULL,
    [StudName]   NVARCHAR (30) NOT NULL,
    [Gender]     VARCHAR (6)   NULL,
    [CourseCode] NCHAR (6)     NOT NULL,
    PRIMARY KEY CLUSTERED ([StudAdmin] ASC),
    CONSTRAINT [FK_STUDENT_ToTable] FOREIGN KEY ([CourseCode]) REFERENCES [COURSE]([CourseID])
);
```

Save the established relationship



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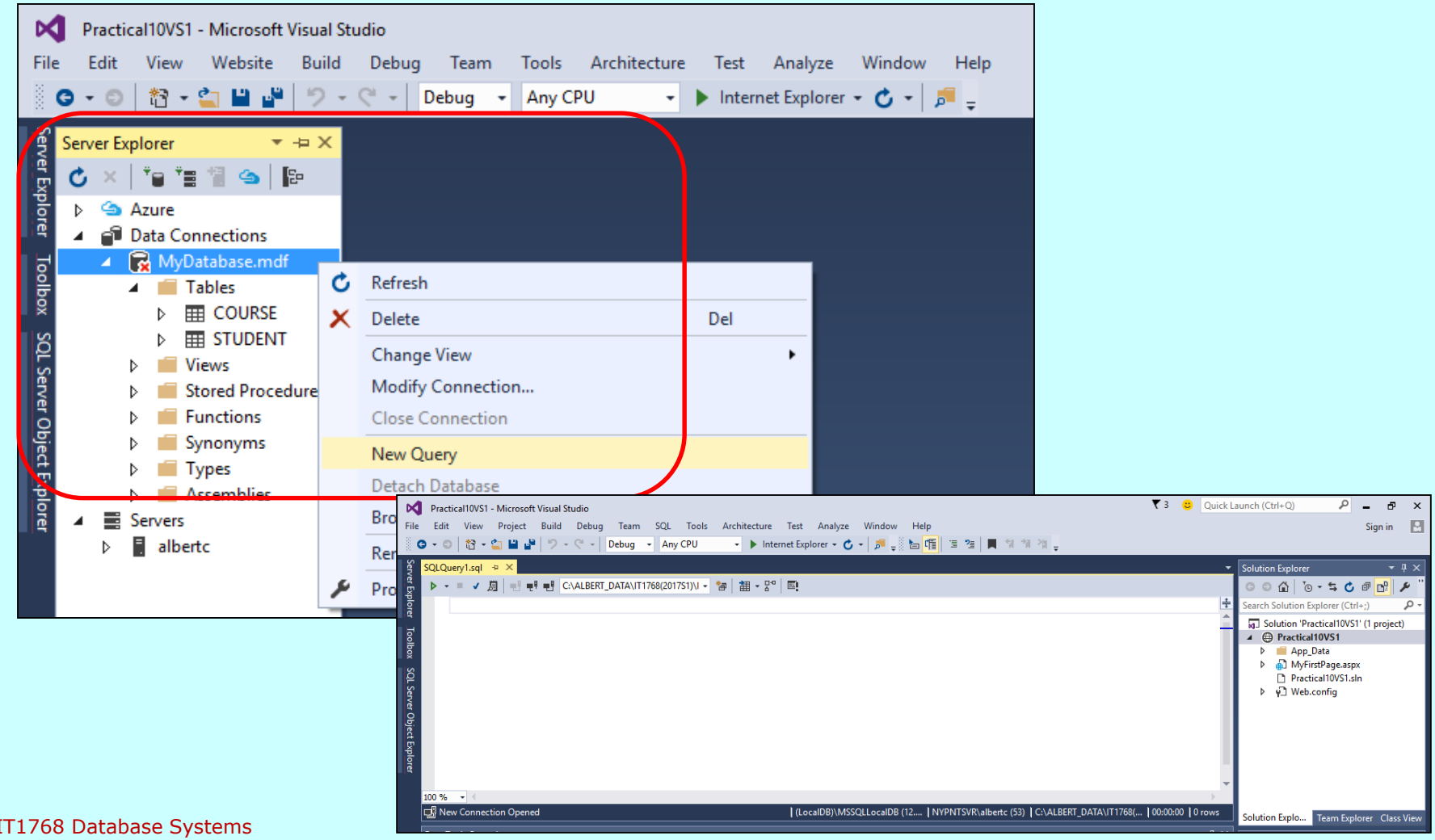
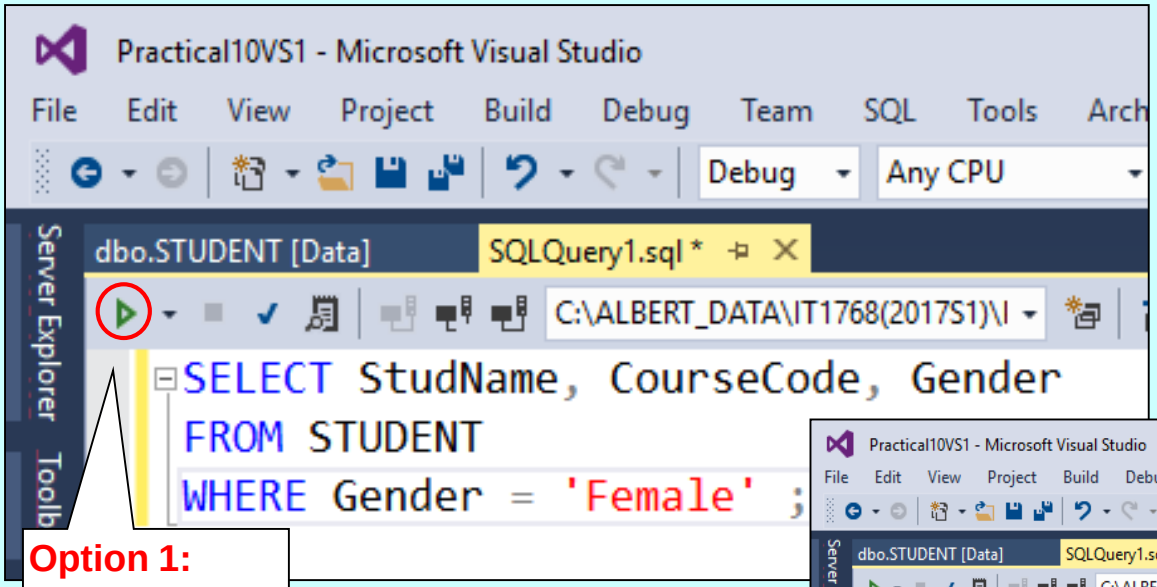
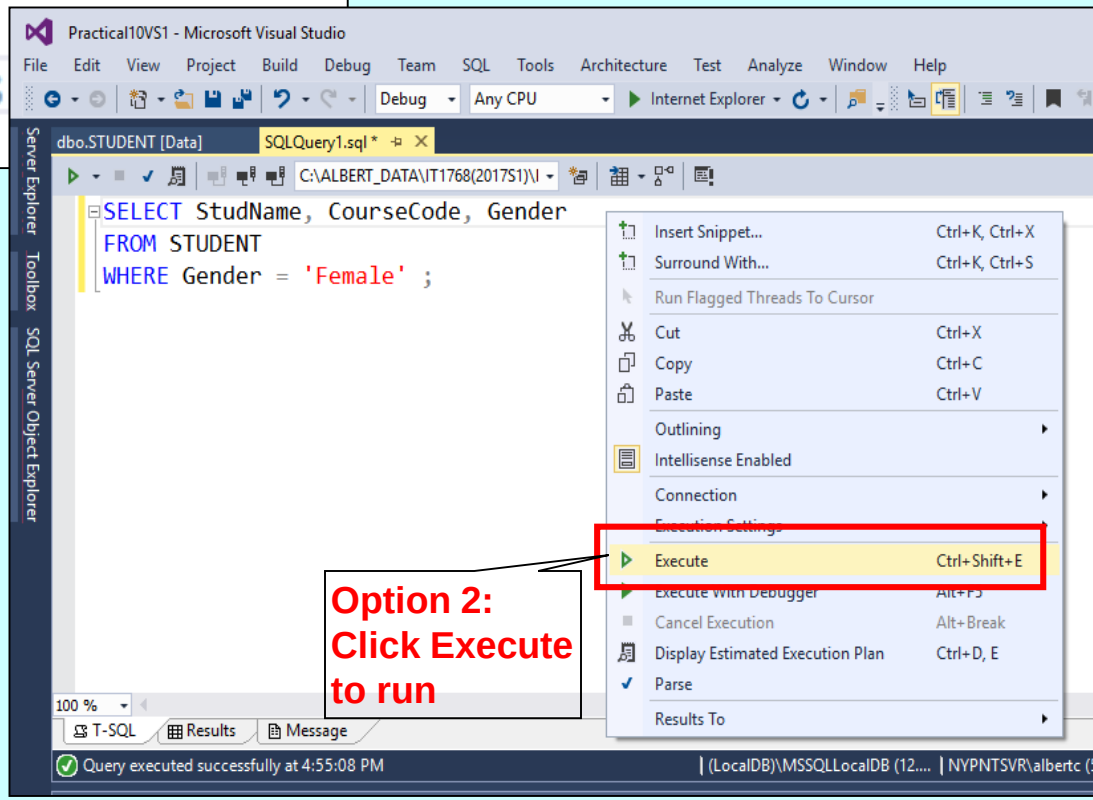
Create SQL Query from Database

Server Explorer >> Data Connection >> (Database) >> New Query

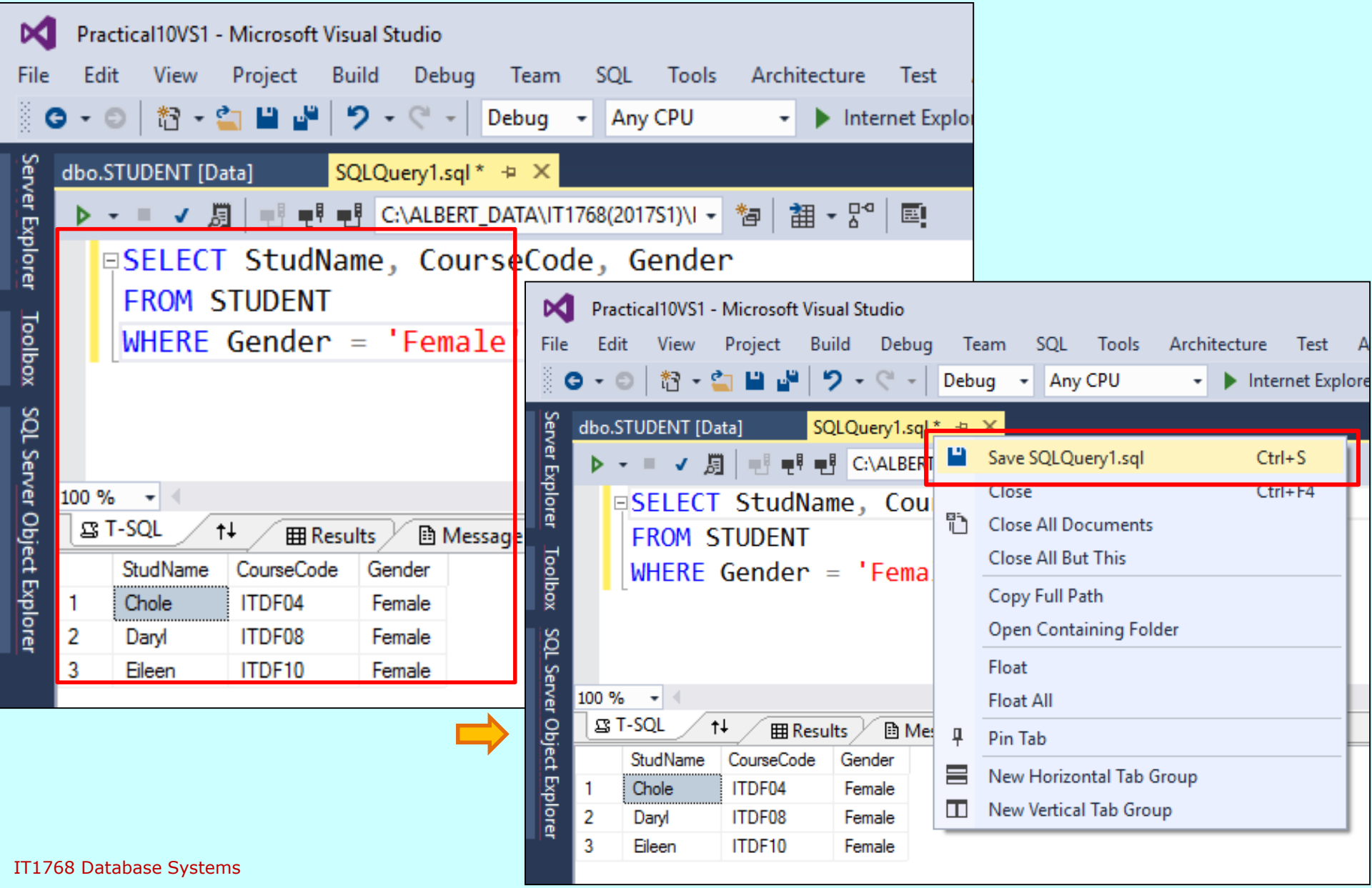


Type SQL statement and execute (run)





Display Query and Save Query



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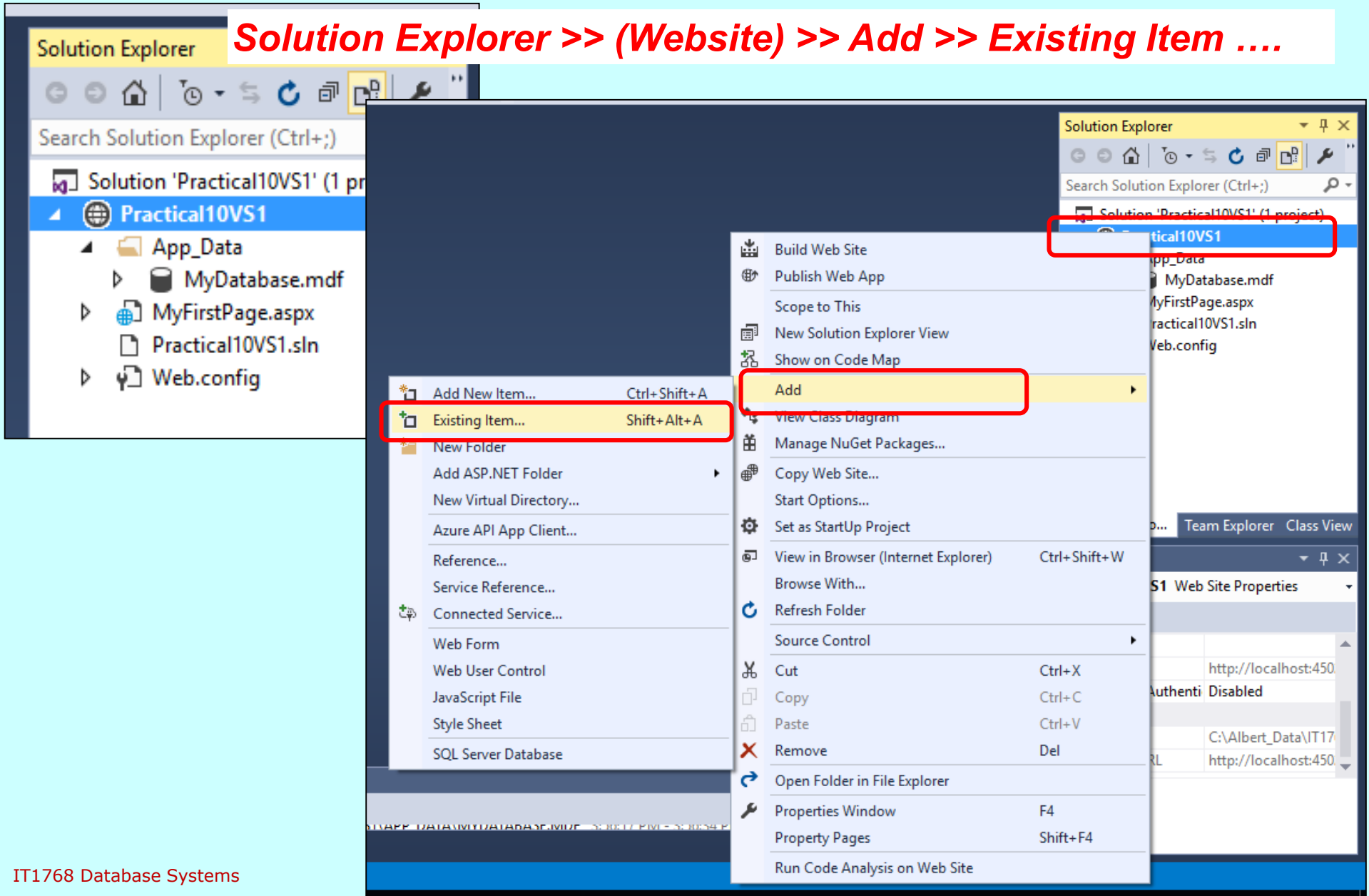
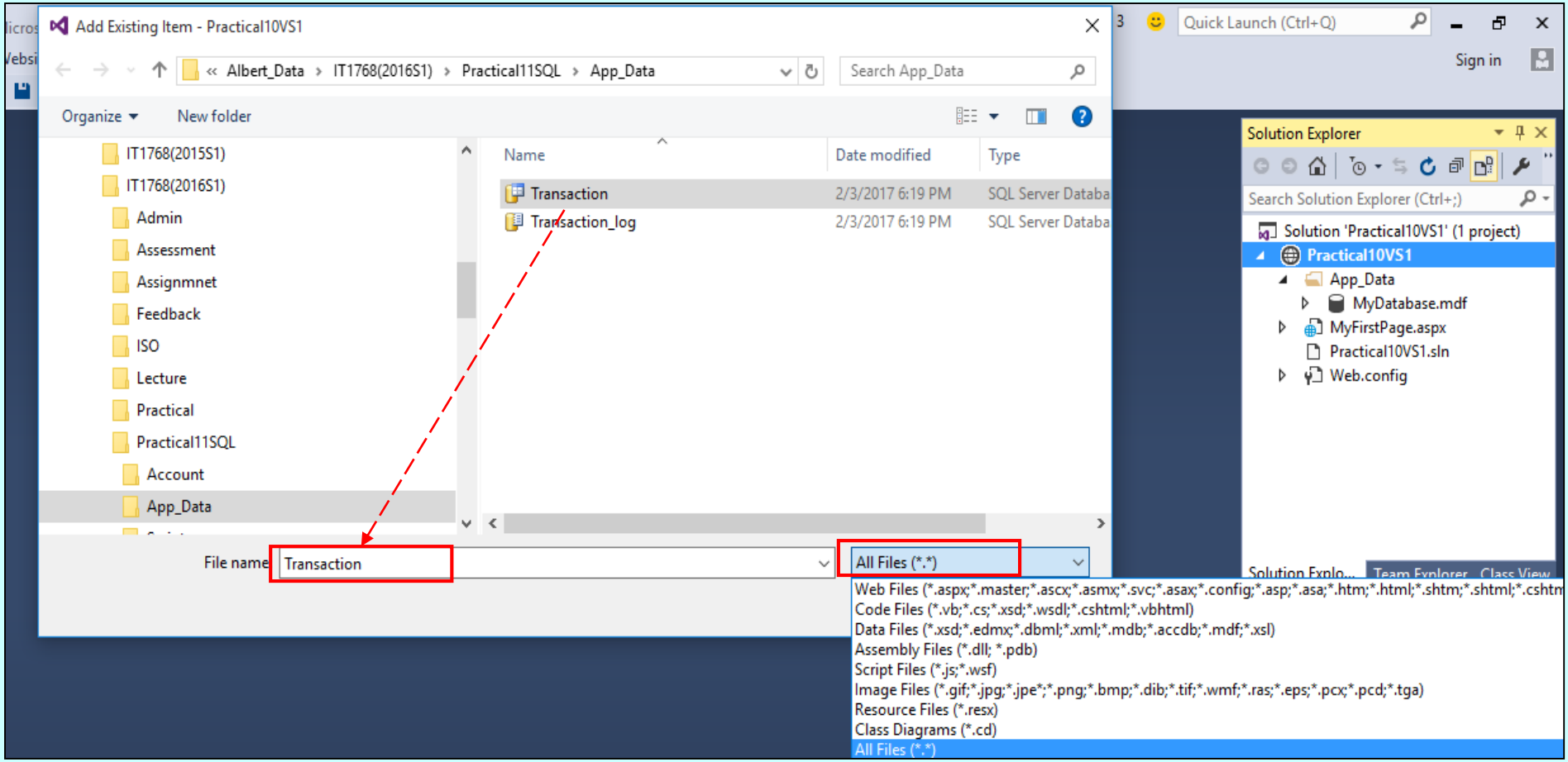
Import an Existing Database

Solution Explorer >> (Website) >> Add >> Existing Item ….

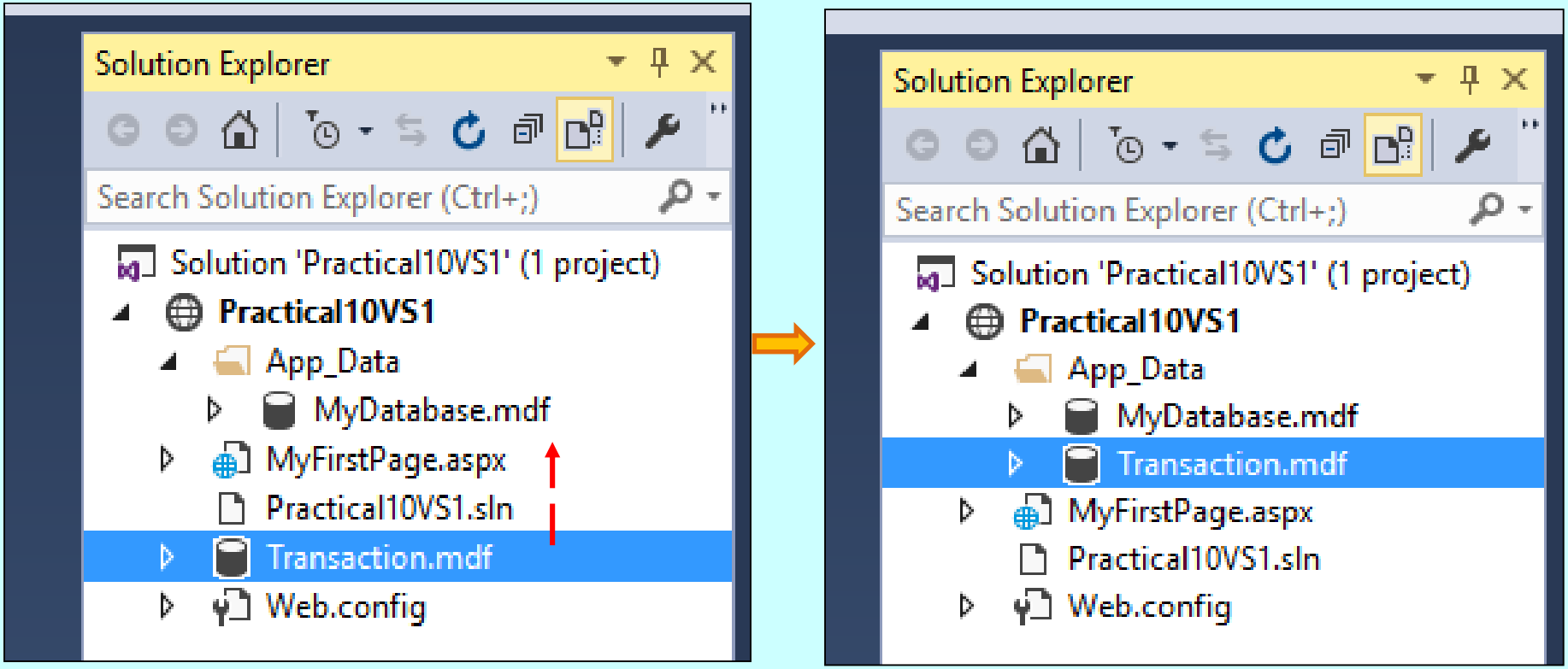


Import an Existing Database



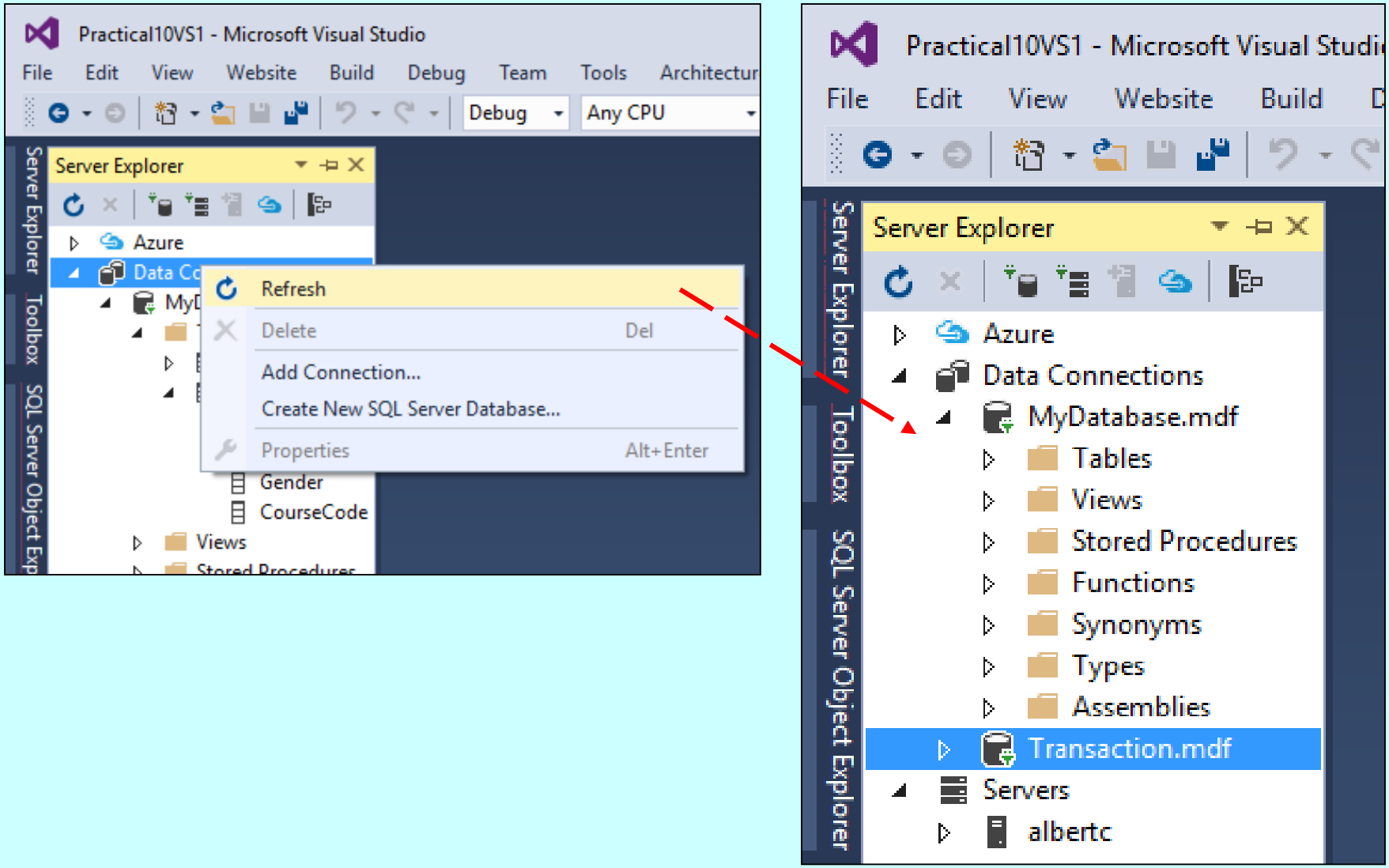
Import an Existing Database

Database imported under Website initially …..



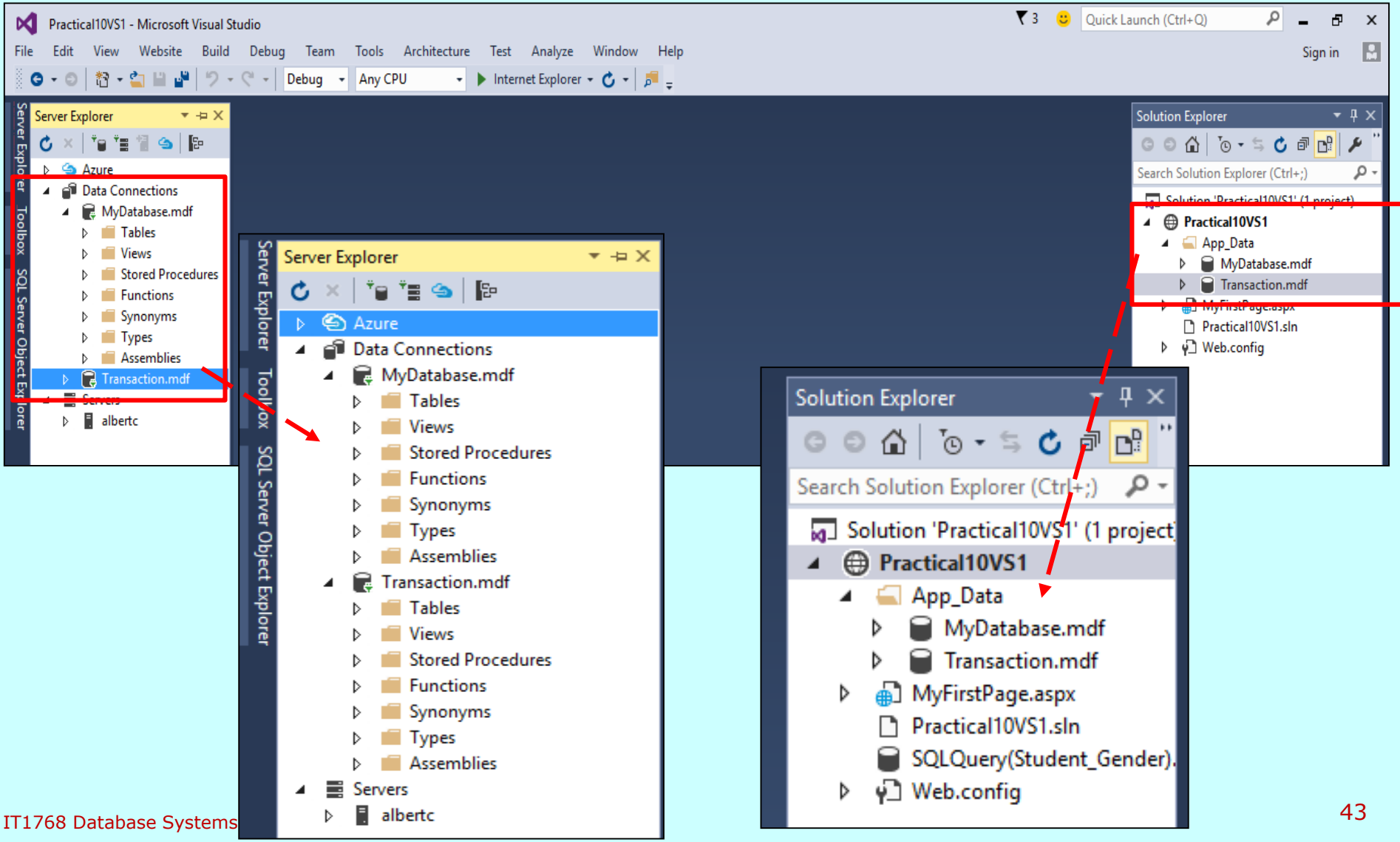
Move Database under App_Data

Import an Existing Database



Import an Existing Database

Website with more than one databases …..



End of Topic 10