**EXPERIMENT 9**

#### Building ASP.net web applications with Database Connectivity

**Objective**

* Learn creating DataBase Connectivity with ASP.Net Web Application

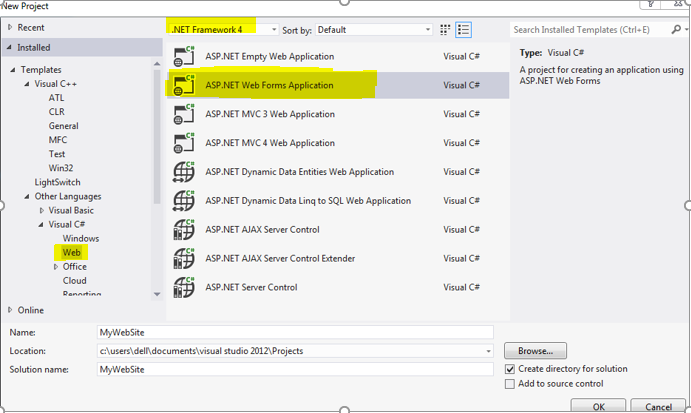
The following Exercise will demonstrate how to create and use Master Pages

Master pages allow you to create a consistent look and behavior for all the pages (or group of pages) in your web application. A master page provides a template for other pages, with shared layout and functionality. The master page defines placeholders for the content, which can be overridden by content pages. The output result is a combination of the master page and the content page. The content pages contain the content you want to display.

When users request the content page, ASP.NET merges the pages to produce output that combines the layout of the master page with the content of the content page.

1. Create a New Project in Visual Studio , Selecting ASP.Net Web Application and .Net Framework 4 in middle Pane and Visual C# Web in left Pane

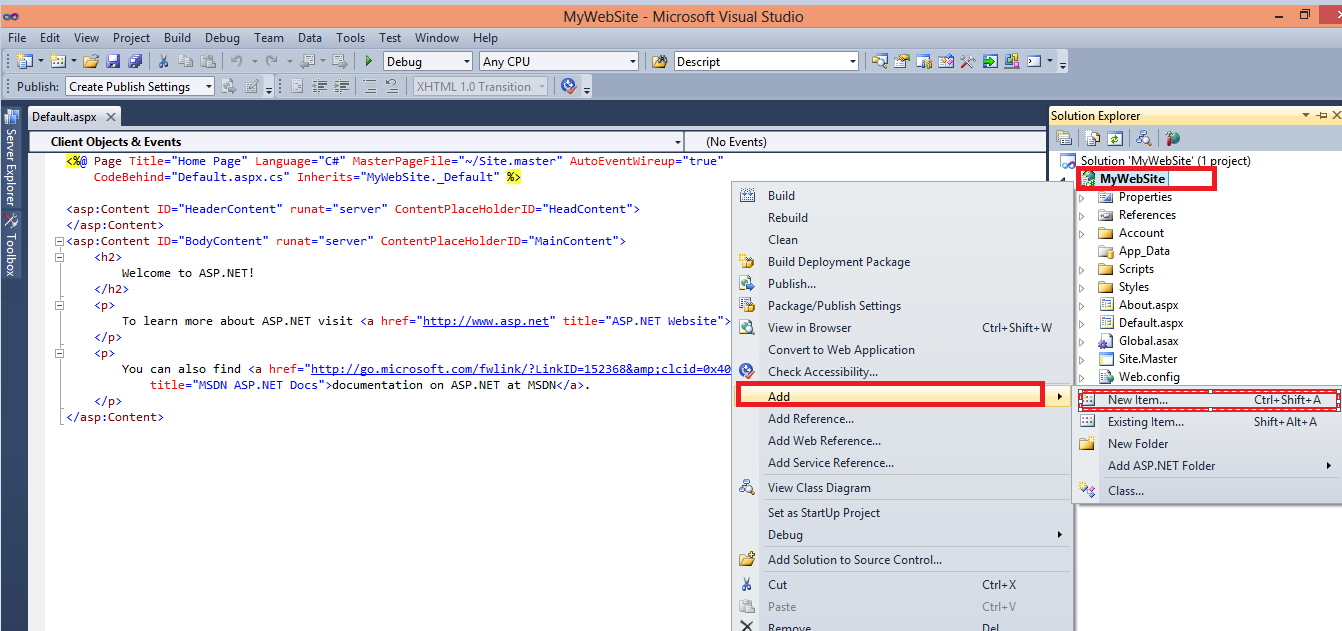
Name your project MyWebSite (follow figure 1)



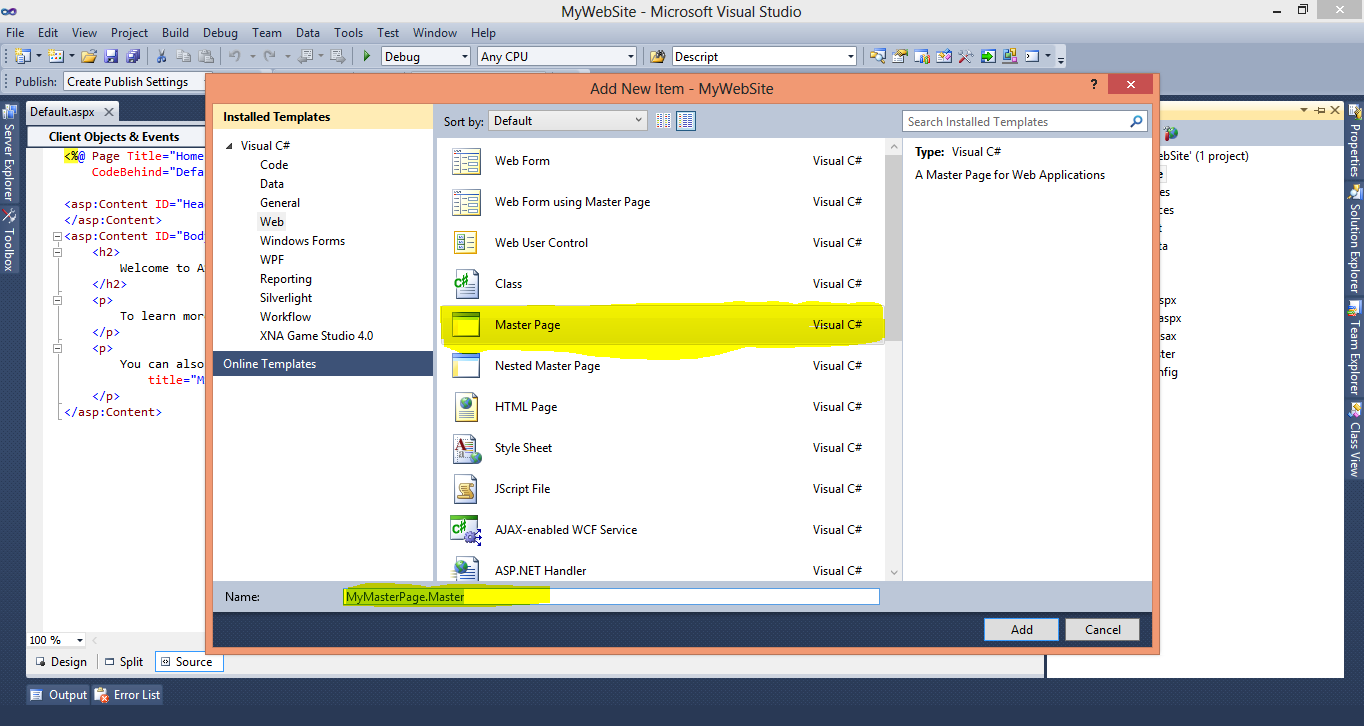
**Figure 1**

1. Add Master Page in you Project, using Add New Item Option from Solution Explorer (Follow Figure 2 and 3)

Name this Master Page as MyMasterPage.Master



**Figure 2**



**Figure 3**

1. Now we will add CSS file and images in our project that will be used in Styling MasterPage

Add The CSS files (MyCSSFile.CSS given in Resource Folder along with Manual) in your Project using Add Existing Item as shown in Figure 4

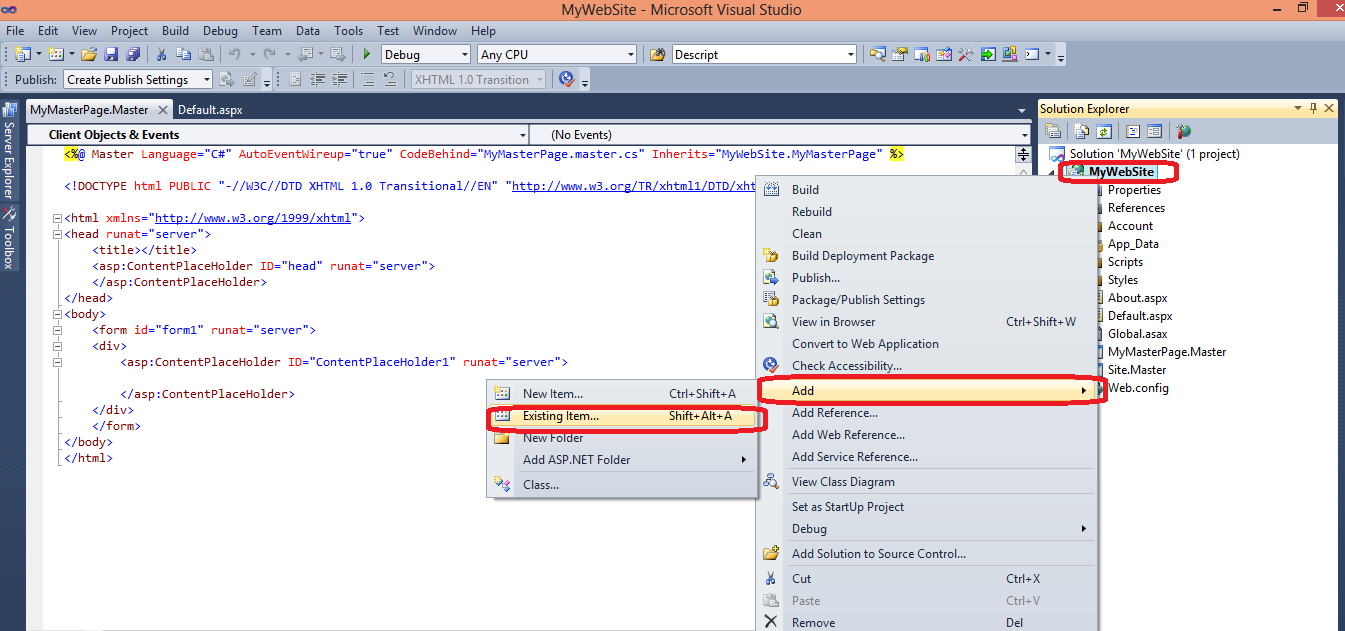
***The Web Template is downloaded from***

[*http://all-free-download.com/free-website-templates/*](http://all-free-download.com/free-website-templates/)

***You can also download template from this website for your Projects***

***The Template used for This Lab Exercise is***

[*http://all-free-download.com/free-website-templates/snow\_glass\_215.html*](http://all-free-download.com/free-website-templates/snow_glass_215.html)

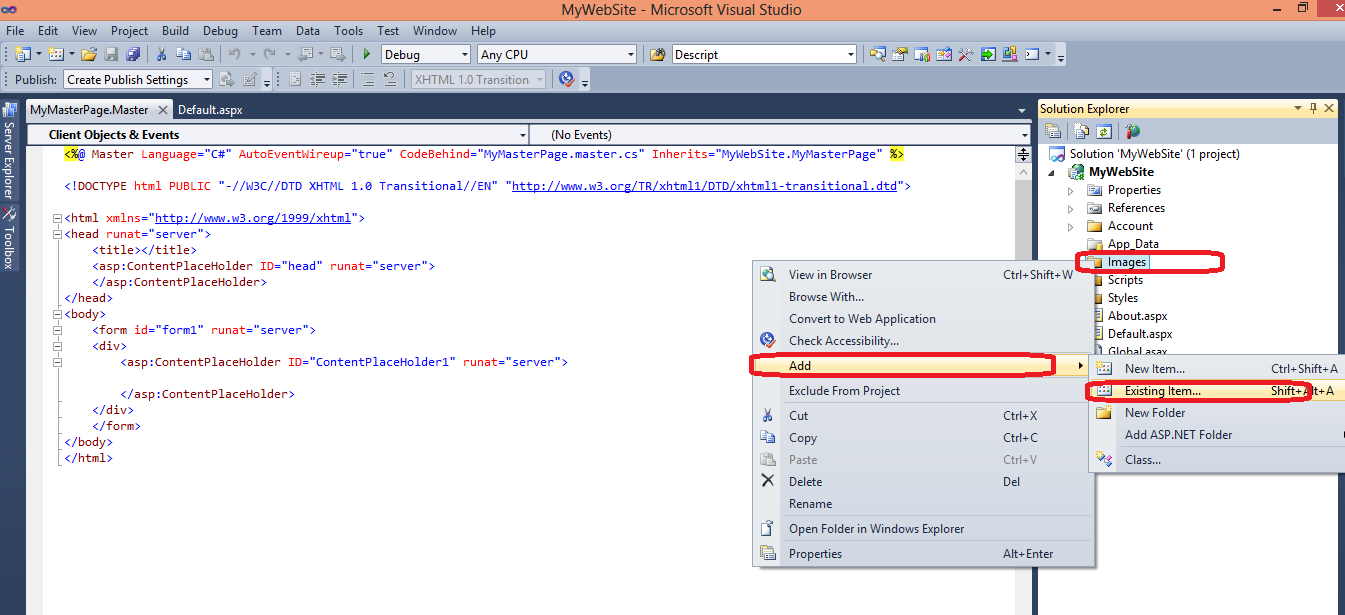


**Figure 4**

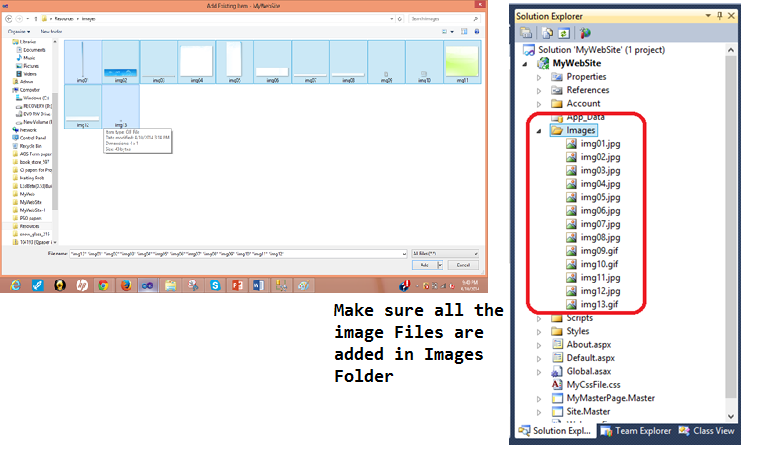
After Adding CSS file choose the folder named Images

Now add all the images given in Resources\Images folder in this Images folder

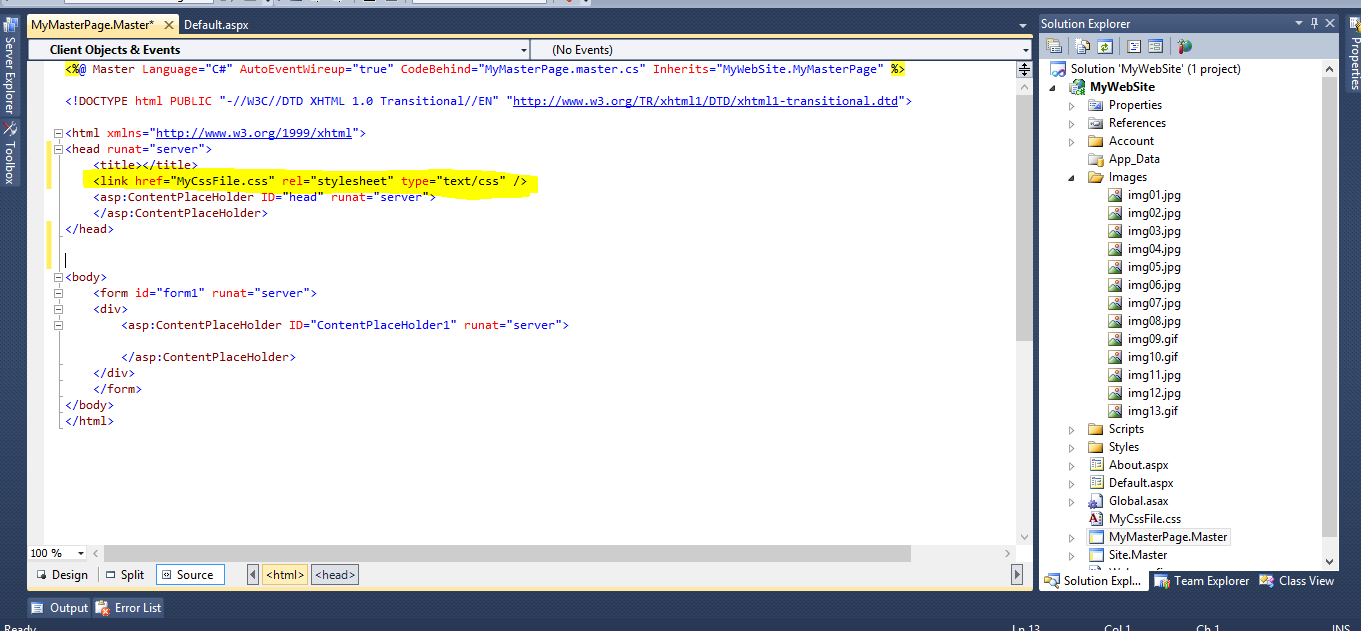
(as shown in figure 5 and 6)

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**Figure 5**

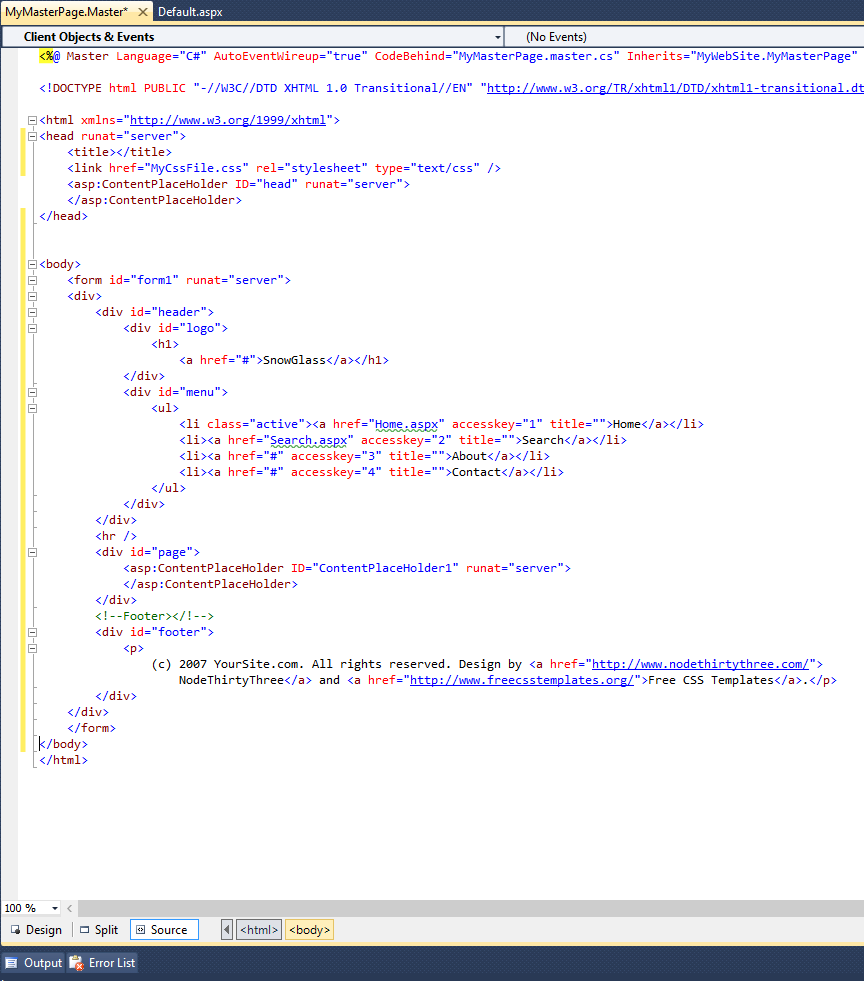
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**Figure 6**

1. Now open MyMasterPage and Drag Drop Css file in Header (as shown in Figure 7)

**Figure 7**

After that Open the MasterPage\_Body.txt file given in Resources and Copy All the contents , Replace everything inside the Body tags of MyMasterPage with this content as shown in the figure 8

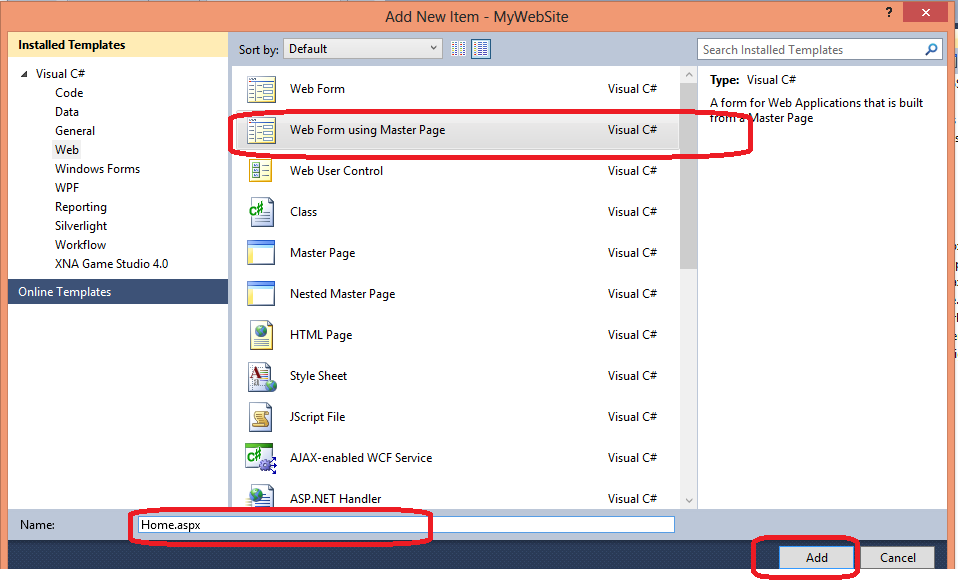
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**Figure 8**

1. Now we create Two Web Forms that will use the Master Pages.

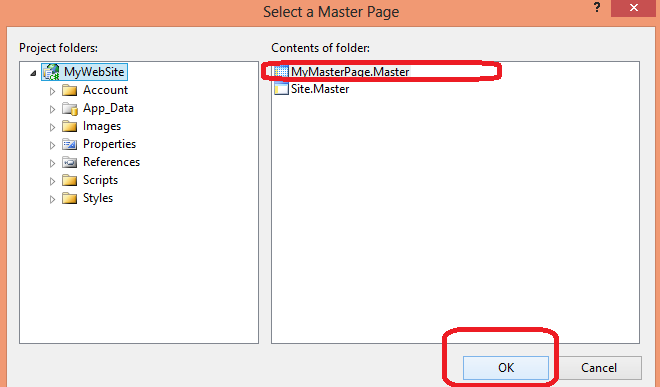
Add New Web Form Using Master Page, Using Add New Item, Name this page as Home.aspx

As shown in figure 9 below



**Figure 9**

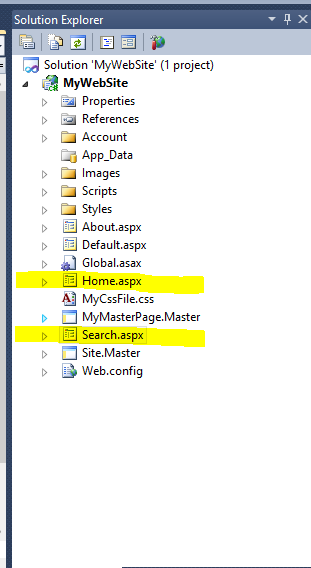
Choose MyMasterPage.Master from Selection Popup as shown in the figure 10



**Figure 10**

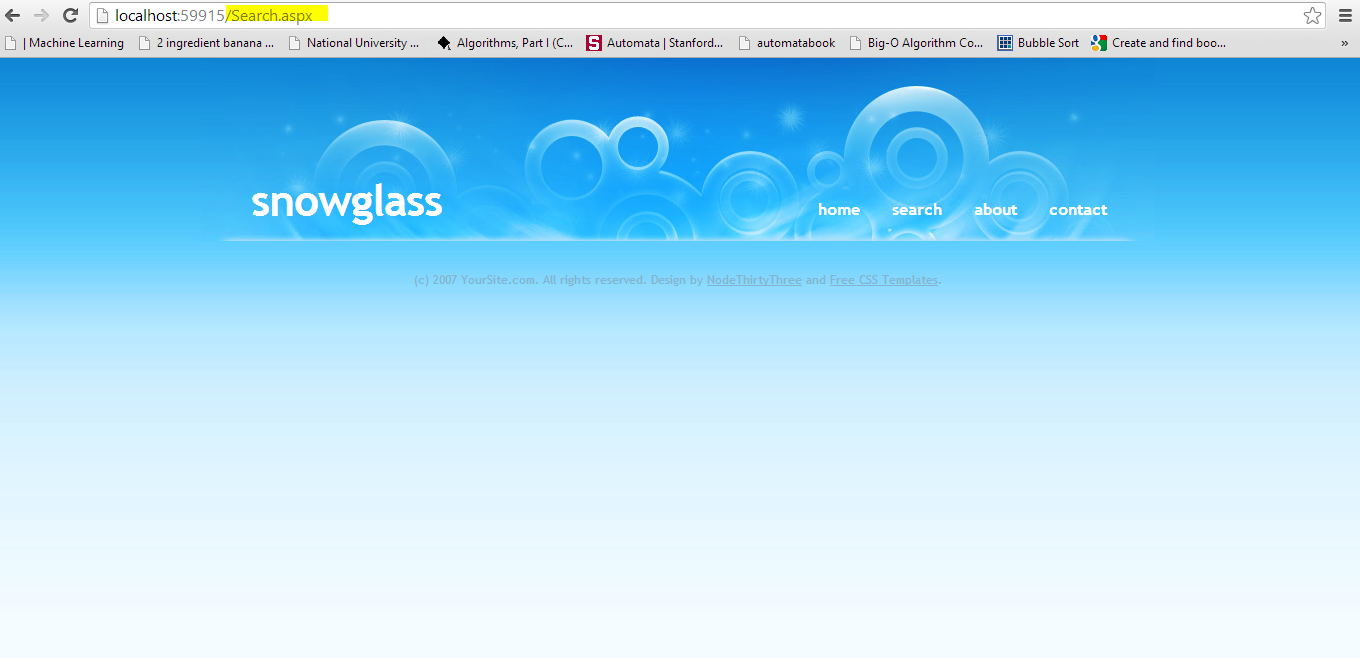
Similarly add another Web Form using Master Page in your Project, Name it ***Search.aspx***

**Confirm the Web Forms are added form solution Explorer as shown in figure 11**



**Figure 11**

Execute your Project and see the result in Browser, Click on home and search and see the change in Address bar as shown in figure 12



**Figure 12**

You have successfully created a Master Page and used it in Home Page and Search Pages. Save you work for the next exercise

## Connect with database

The Next Exercise will show how to connect the web site with the SQL databases, and how to Access the Data

1. First Open TheDataBaseQueries.Script file in resources, and execute it in SQL server using your own database , this will create an Items Table , and SearchItems Procedure , we will use the data from this table and result from this procedure in our Web site
2. Use the Same Web Project in previous Exercise , Create a DataBase Conection String in Web Config File

FORMAT OF CONNECTION STRING

<connectionStrings>

<add name="SQLDbConnection"

connectionString="Data Source=SQlServerName; Initial Catalog=YouDatabaseName; User Id=userid; password= password"

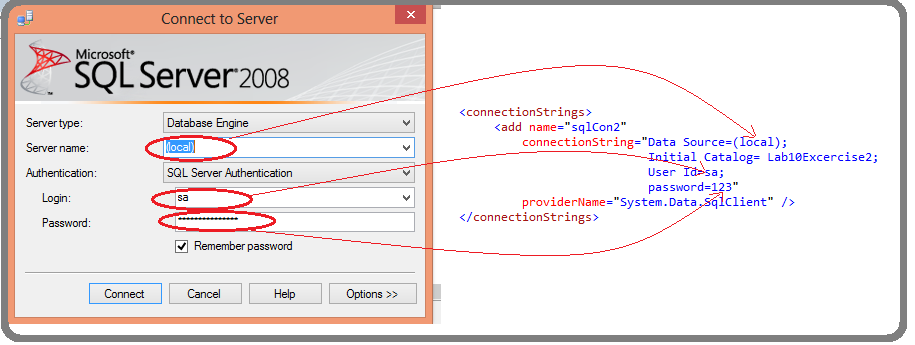
providerName="System.Data.SqlClient" />

</connectionStrings>

More info about connection string  
<http://msdn.microsoft.com/en-us/library/jj653752%28v=vs.110%29.aspx>

* Data Source means server name i.e. cactus, (local)
* Initial Catalog means database name which has your table, sp and views
* User Id means login name for database
* password means password for database

An Easy Way to get these values are from SQL server Connect to Server Window as Shown in Figure 13

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**Figure 13**

**Sample connection strings**

* **Connection string with window authentication for local host**

<connectionStrings>

<add name="sqlCon1" connectionString="Data Source=(local);Initial Catalog=Lab9Excercise2;Integrated Security=True"

providerName="System.Data.SqlClient" />  
</connectionStrings>

* **Connection string with SQL server authentication for server name MYSQLSERVER**

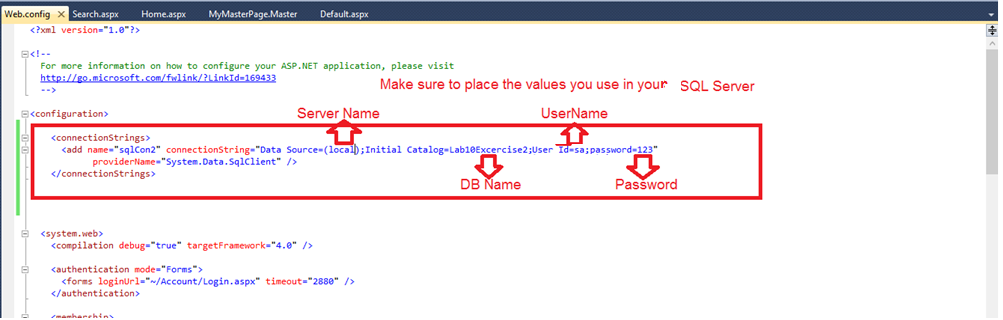
<connectionStrings>

<add name="sqlCon1" connectionString="Data Source=172.16.1.158;Initial Catalog=yourDB; User ID=sa; password=12345678"

providerName="System.Data.SqlClient" />

</connectionStrings>

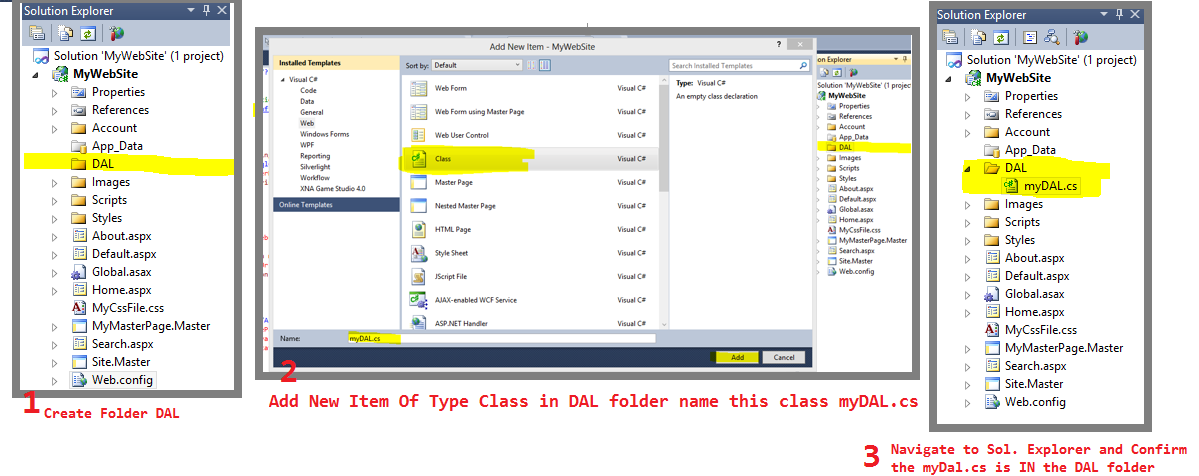
Add your Connection String in Web Config file as shown in figure 14



**Figure 14**

1. Creating DAL --- Data Access Layer, to get Data from SQL

Create New Folder in your Project Named DAL, in this folder Add New Item of type Class and Name it myDAL as shown in figure 15

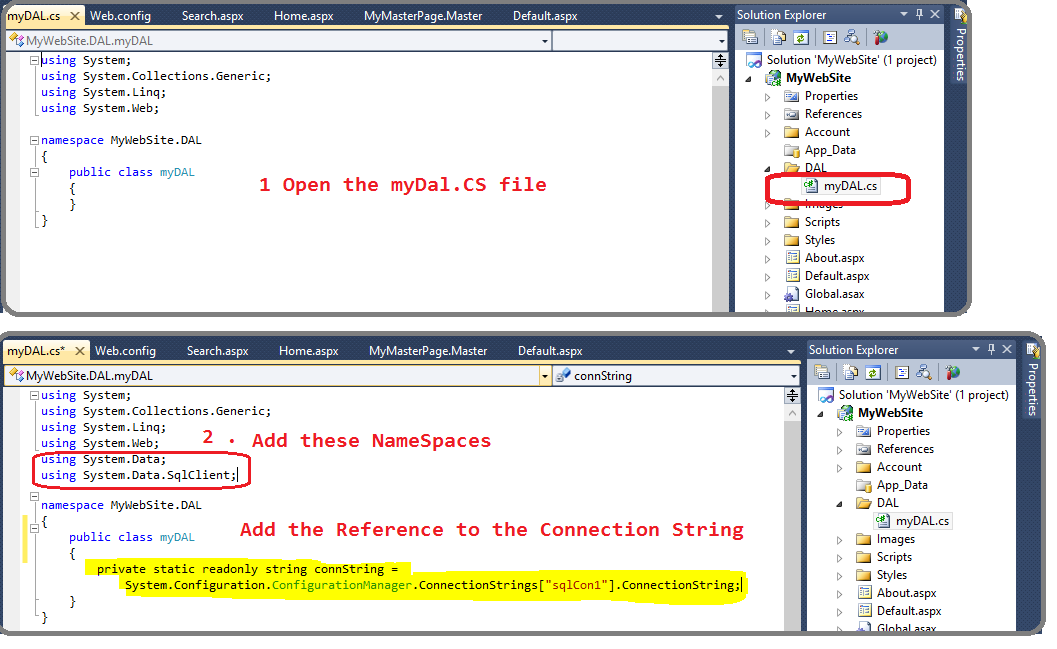


**Figure 15**

1. open the myDal.cs file and Add the Reference to Connection String plus , Name Spaces for SQL and DataSets as shown in figure 16

private static readonly string connString =

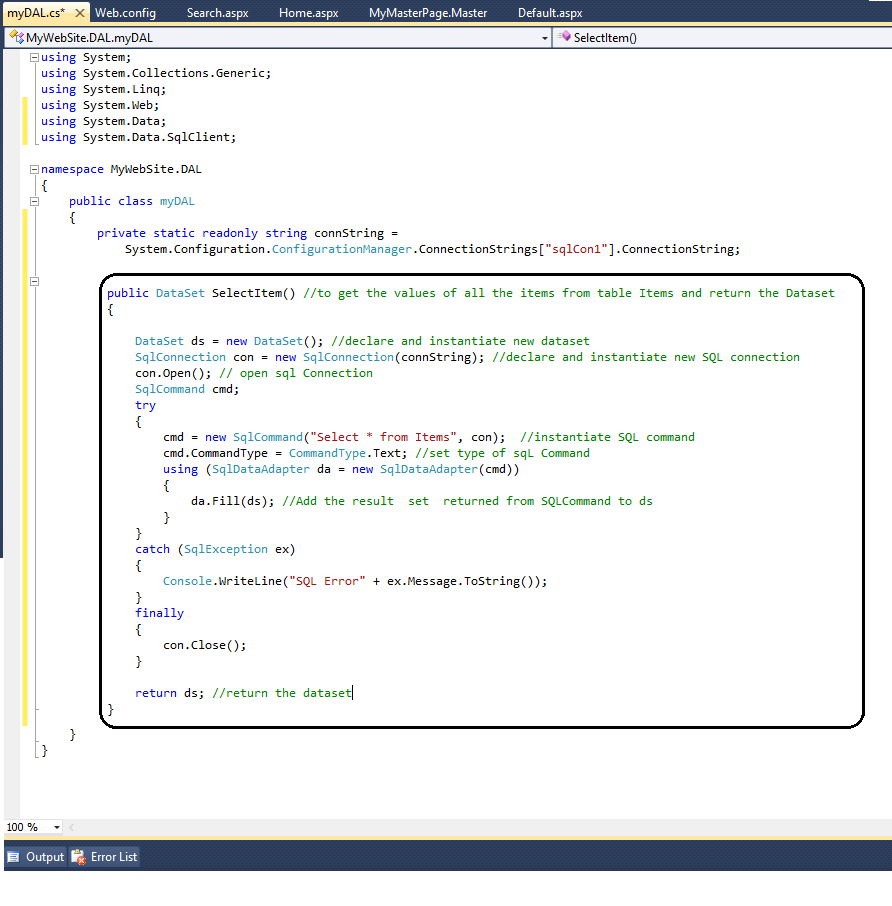
System.Configuration.ConfigurationManager.ConnectionStrings["sqlCon1"].ConnectionString;

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**Figure 16**

1. Now Create the a function in myDal Class that will perform a simple *select \* from Item* query on Database and get the result set

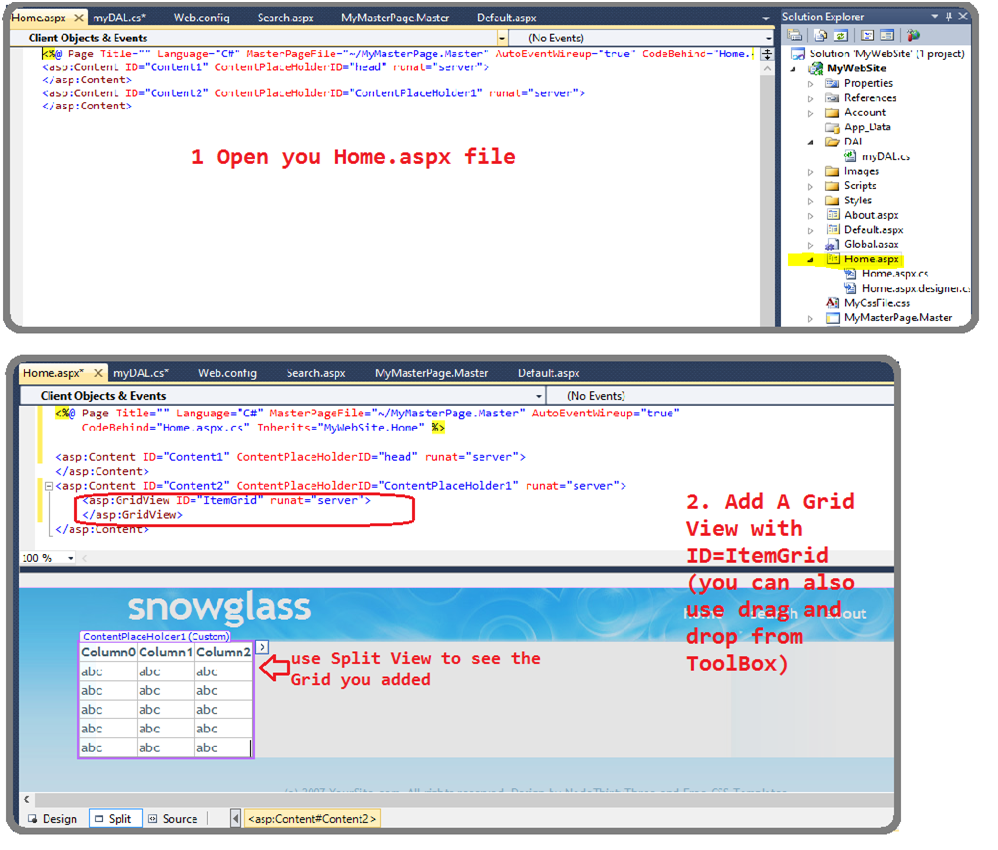
Copy paste the function SelectItem() from Function\_SelectItems.Txt file as shown in figure 17

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**Figure 17**

1. Using SelectItems() function to Displaying the result set

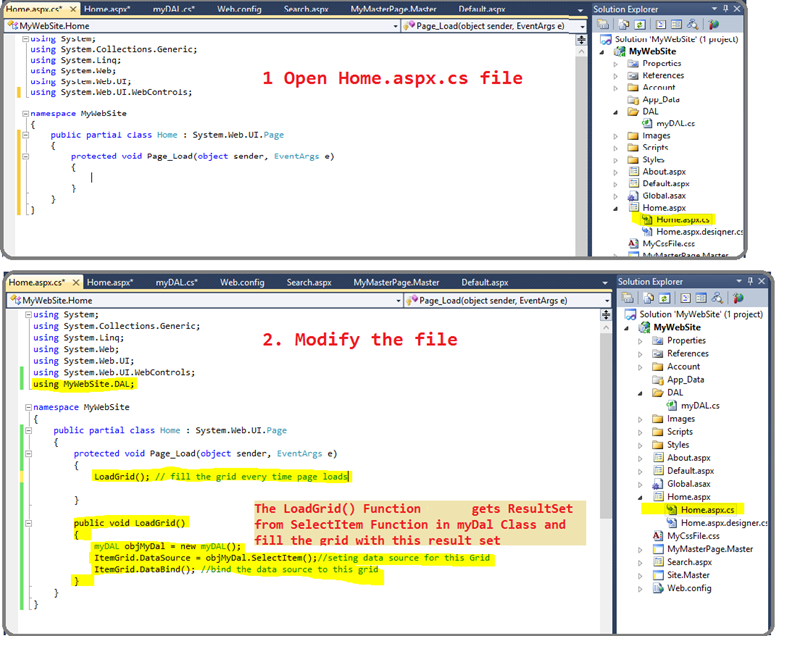
Now we display the DataSet returned from SelectItem() on Home page as shown in figure 18

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**Figure 18**

You can see that the Grid Already look like a table , all you need to do is fill the values in it from your Query

The contents of Grid are changes from Server Side Aspx.csfile, open your [Home.aspx.cs](http://Home.aspx.cs) file , modify it (changes are given In Home\_aspx\_CS.txt file) as shown in the figure 19

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**Figure 19**

Execute your Project, and if everything goes right, the Home page should be as shown in the figure 20:

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**Figure 20**

## Using SQL procedures in Asp.Net

So far we have used a Table form result set of a simple query and displayed on our web site, the following Exercise will show how to call SQL procedures from ASP.net, how to pass them input parameters and how to get output parameters and result sets from SQL procedures

We have already create a Web Form Names **Search.aspx** in our Web Project and **SearchItem** SQL procedure, Now we will add search Functionality on our page, by getting the Item Name from user and querying the database for that item using **SearchItemsqL** Procedure, the procedure will return the dataset and output found =1 if any item with that name exists, and if no item is found for that Item it will output Found = 0.

**Open Search.aspx page and modify the Code, (Adding Text box and Button and a Grid to show the result of search)**

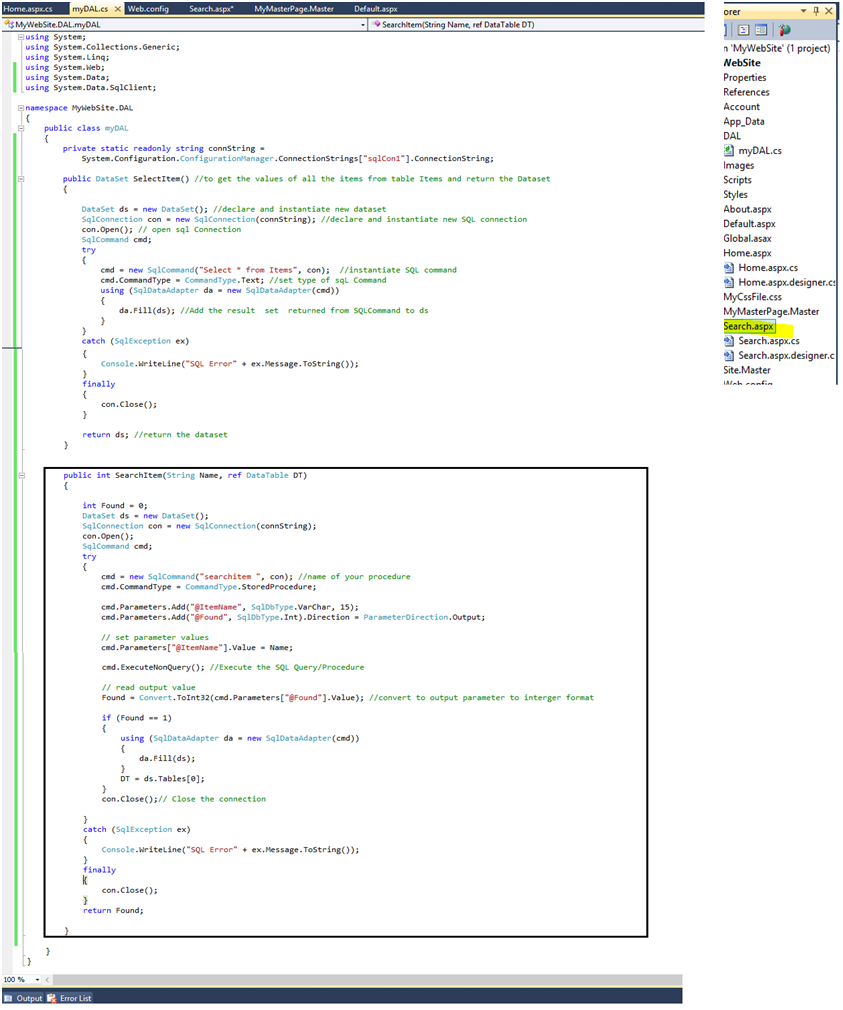
Code given in file Search\_Aspx.txt

It will look like the figure 21 shown below



**Figure 21**

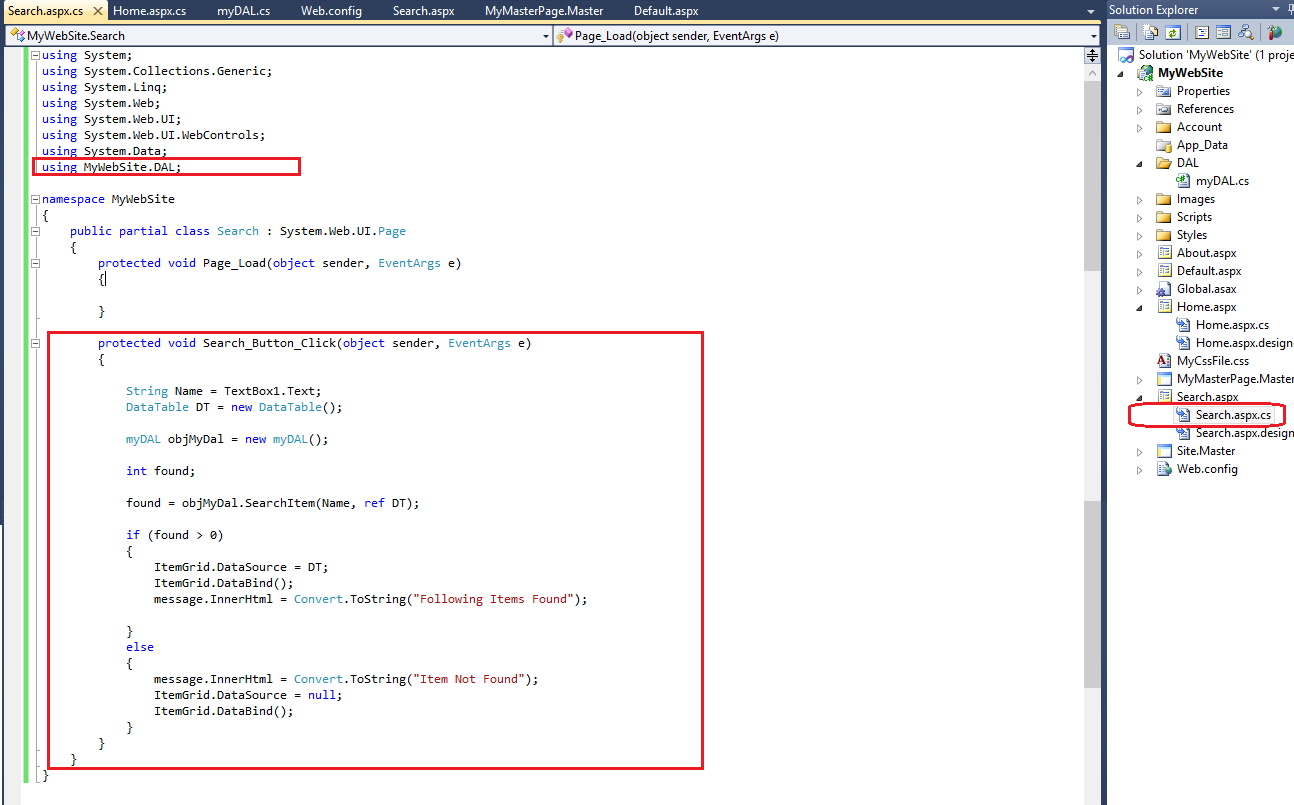
Open myDal.cs file and Add SearchItems() function in it (code given in Function\_Searchitems.Txt file) as shown in figure 22



**Figure 22**

Use this new Function SearchItem() in Server Side Search.aspx.cs

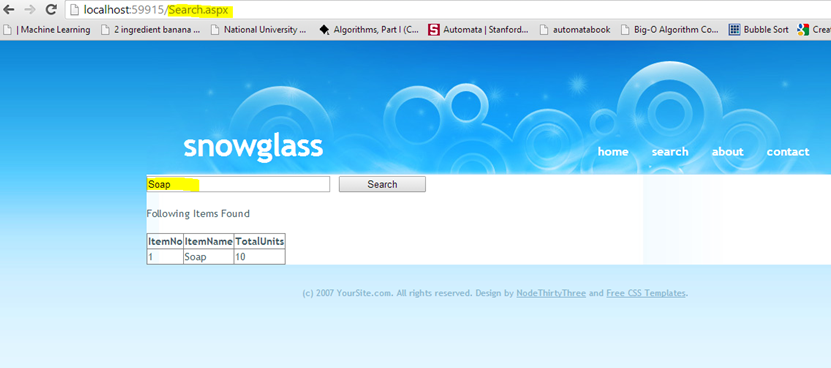
Open Search.aspx.cs file and modify it as shown in figure 23 (code given in Search\_Aspx\_CS.txt file)



**Figure 23**

Execute your project. Type Soap in Text box and Click Search, following results should appear

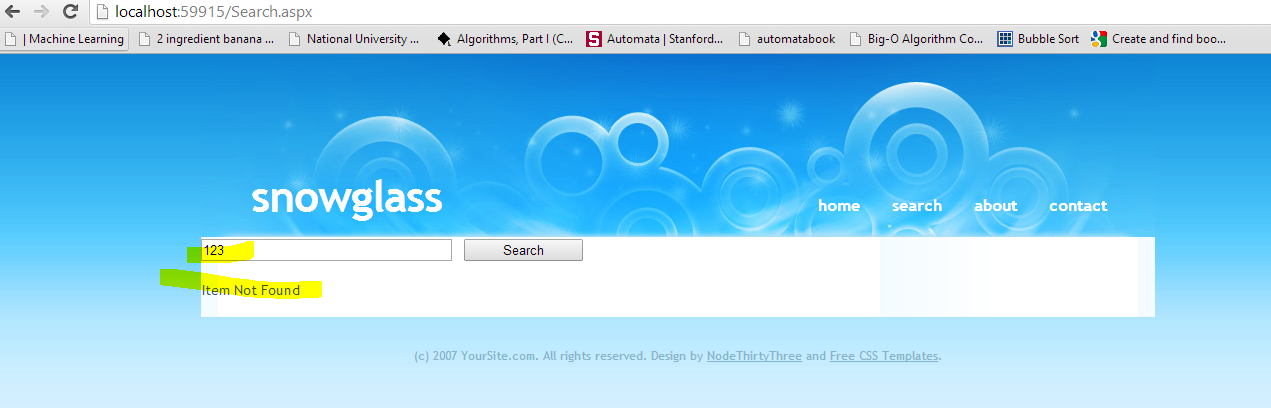
As in the figure 24



**Figure 24**

Now Type some random string in Test box and Click Search, Following Results Should Appear

As in the figure 25



**Figure 25**

**Exercise:**

Make changes to your website so that instead of Snowglass your Rollnumber gets displayed on all pages. Also get rid of the About page link. Paste a screen shot of the output when Search and Home pages are run for your lab report today.