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## Lt. Shree Chimanbhai Shukla

B.SC.(I.T. & C.A.)SEM-5 ASP.NET

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## SUBJECT: ASP.NET

### CHAPTER-1:

Sr No.	Topic
1.	What is Asp.Net?
2.	Explain overview of asp.net framework
3.	What is CTS, CLS?
4.	What is Assembly, Meta Data, Namespace
5.	Explain Client/Server Architecture
6.	IIS and Installation of IIS
7.	Types of files used in asp.net
8.	Types of controls
9.	Overview of Asp.Net Page Architecture
10.	Page Class



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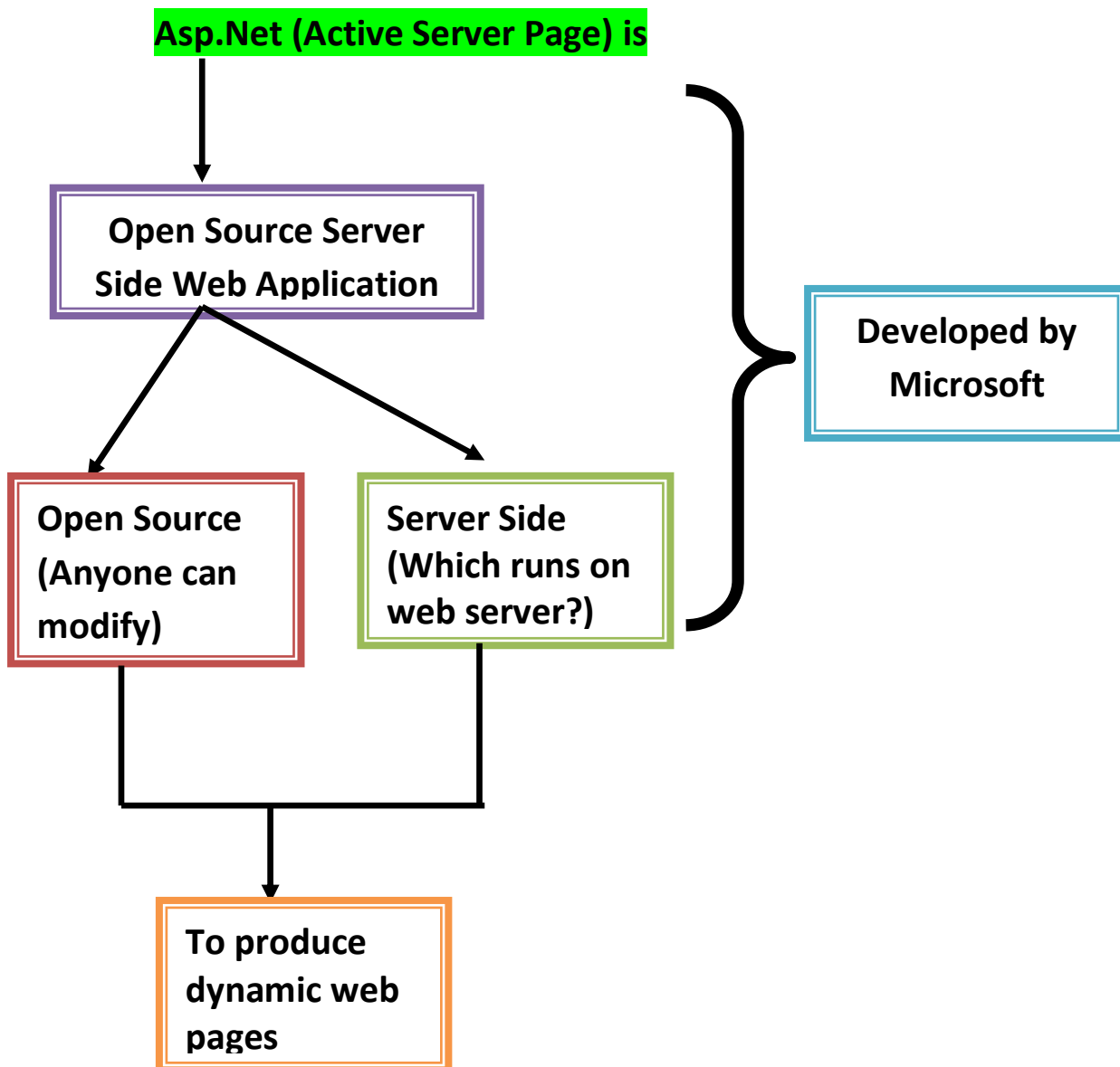
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**Topic:What is Asp.Net? Explain Characteristics of .Net Framework**

Ans:





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## Detailing:

Characteristics of .Net framework are:

### 1) Multilanguage Development:

.Net Framework supports multiple languages like c#.net, asp.net etc. that is single framework can execute multiple languages.

### 2) Platform and processor independent:

.Net framework is platform and processor independent which means that languages supported by .net framework can be executed on any type of Operating System and processor.

### 3) Security:

.Net framework is secure because the code written is converted into CLR (Common Language Runtime)

### 4) OOP:

OOP stands for Object Oriented Programming. .Net framework supports the concept of class and all other concepts of OOP.

## 1 word Question Answer

Sr No.	Question	Answer
1.	Asp.Net was developed by?	Microsoft
2.	OOP Stands for?	Object Oriented Programming
3.	ASP Stands for?	ActiveServerPage



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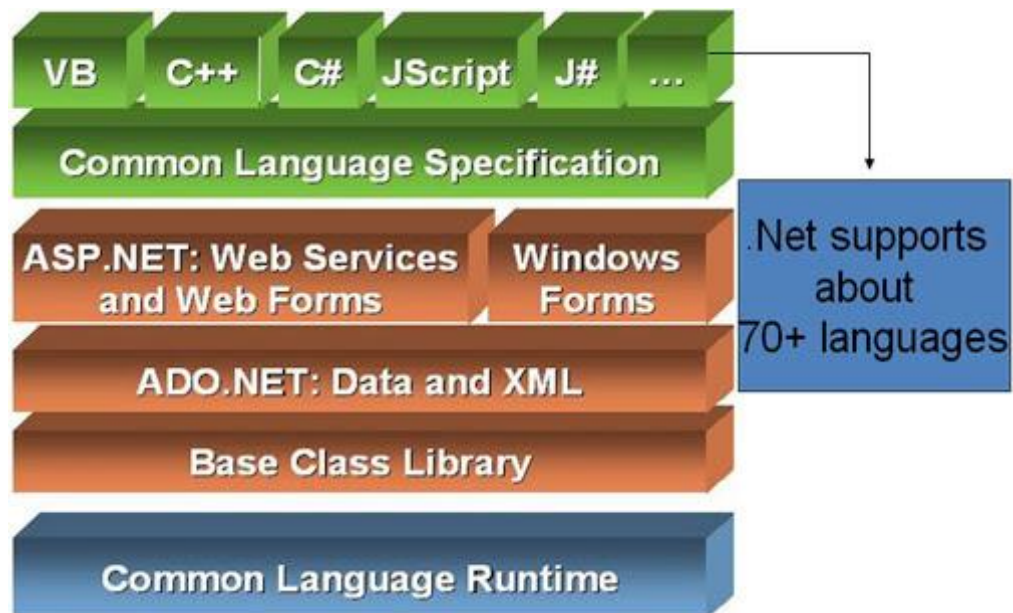
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## Topic: Explain overview of Asp.Net Framework

Ans:



Detailing:

### 1) .Net Languages:

- Asp.Net applications codes can be written in any of the languages.
- Different 70 over languages are there.



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## 2) Common Language Runtime (CLS)

- CLS defines a set of features that are needed by many common applications. It also provides a sort of recipe for any language that is implemented on top of .Net on what it needs to support.
- CLS is a subset of CTS

## 3) Windows Form and Web Form:

- Two types of application asp.net supports:
  - 1) Windows Form: Contain the graphical representation of any window displayed in the application.
  - 2) Web Form: Contains only Coding Section

## 4) Asp.Net Web Service:

- Asp.Net provides Services such as memory management, thread management, OOP features, Exception Handling.

## 5) ADO.NET: Data and XML:

- ADO.NET (Active X Data Object) is the technology used for working with data and database.
- It provides access to data source like SQL Server, OLEDB, and XML etc.
- ADO.NET allows connection to data sources for retrieving, manipulating and updating data.



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## 6) BCL/FCL (Base Class Library/Framework Class Library)

- FCL is the collection of classes or namespaces that can be used to develop applications.
- The class library consists of data classes, XML classes and windows forms class.
- FCL is similar to Header Files in c or c++

## 7) CLR (Common Language Runtime)

- It is a runtime environment that manages and executes the code written in any .Net programming language.
- It converts code into native code which can be further executed by CPU.

### 1 word Question Answer

Sr No.	Question	Answer
1.	CLR stands for	Common Language Runtime
2.	FCL Stands for?	Framework Class Library
3.	FCL is similar to header files in C or C++ (True/False)	True



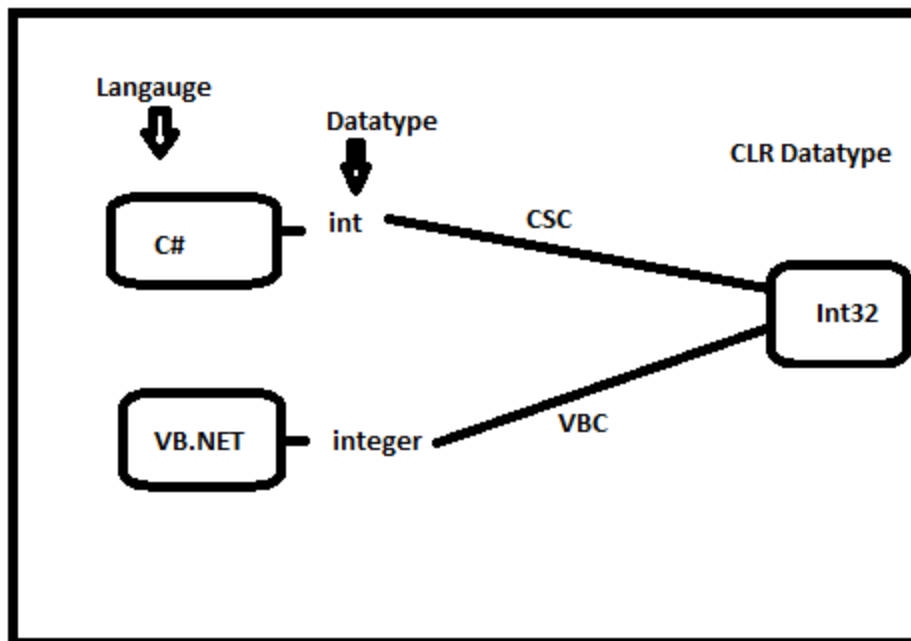
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## Topic: What is CTS?



### Detailing:

- CTS stand for Common Type System.
- CTS deal with data type. So we have several languages and each and every language has its own data type and one language data type cannot be understandable by other languages but .Net framework language can understand all the data types.





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- In the above diagram, C# has int data type and vb.Net has integer data type. Hence a variable declared as an int in c# and integer in Vb.Net finally after compilation, uses same structure Int32 from CTS.

## 1 word Question Answer

Sr No.	Question	Answer
1.	CTS stands for	Common Type System
2.	CTS provides Cross Language Integration? (True/False)	True

## Topic: What is CLS?

- CLS stands for Common Language Specification.

### Detailing:

- It is a subset of CTS.
- It defines set of rules and regulations that every language must follow which runs under .Net Framework
- CLS enables cross language Integration.



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- Example: In C#, every statement has to end with semicolon, but in vb.Net, each statement should not end with semicolon. So, these syntax rules which you have to follow from language to language differ but CLR can understand all the language syntax, because in .Net, each language is converted into Common code.

## 1 word Question Answer

Sr No.	Question	Answer
1.	CLS stands for	Common Language Specification
2.	CLS provides Cross Language Integration? (True/False)	True

## Topic: What is Assembly?

- An assembly is primary building block of .Net framework application.
- It is a single unit of deployment.



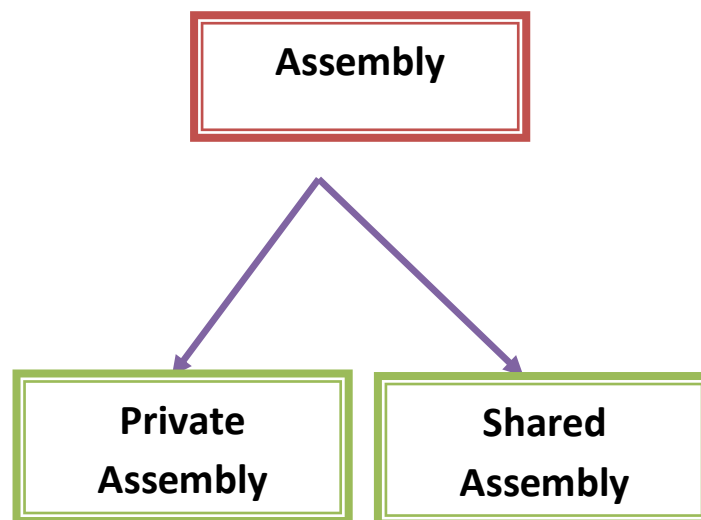
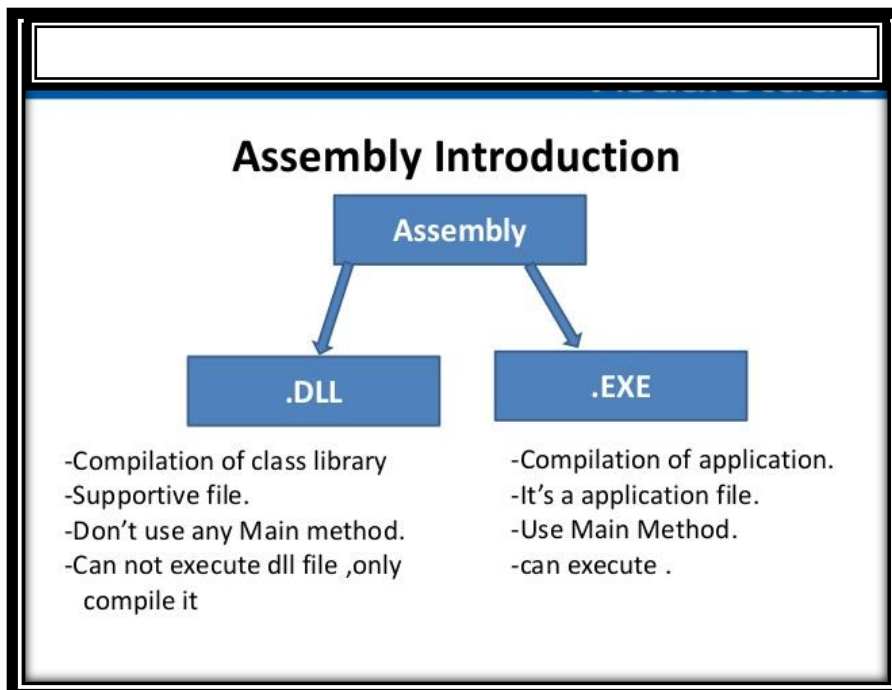
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Detailing:





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## 1) Private Assembly:

- It is used only by a single application and is stored in that applications installed directory.
- Private assembly requires us to copy separately in all application folders where we want to use that assemblies functionalities
- Without copying, we cannot access the private assembly Features.

## 2) Shared Assembly:

- This assembly can be referenced by more than one application.
- Shared assembly is not required to copy separately into all application folders. Shared assembly is also called Shared Assembly.
- Only one copy is required in system level, there is no need to copy the assembly into the application folder.
- Shared assemblies (also called strong named assemblies) are copied to a single location (usually the Global assembly cache).



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## 1 word Question Answer

Sr No.	Question	Answer
1.	....is the primary building block of .Net framework	Assembly
2.	.....is used by single application	Private Assembly
3.	Which assembly is not required to copy separately in to all application folders	Shared Assembly
4.	Shared Assembly is also known as....	Public Assembly

## Topic: Explain Metadata in Asp.Net

- Meta Data means data about data.

### Detailing:

- Metadata in .Net is binary information which describes the characteristics of a resource.
- This information include Description of the Assembly , Data Types and members with their declarations and implementations, references to other types and members , Security permissions etc.



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- During the compile time Metadata created with Microsoft Intermediate Language (MSIL) and stored in a file called a Manifest.
- Both Metadata and Microsoft Intermediate Language (MSIL) together wrapped in a Portable Executable (PE) file.
- During the runtime of a program Just in Time (JIT) compiler of the Common Language Runtime (CLR) uses the Metadata and converts Microsoft Intermediate Language (MSIL) into native code.
- When code is executed, the runtime loads metadata into memory and references it to discover information about your code's classes, members, inheritance, and so on.

## 1 word Question Answer

Sr No.	Question	Answer
1.	.....in .Net is the binary information which describes characteristics of a resource	MetaData
2.	Meta Data created with MSIL is stored in file called?	Manifest
3.	Both Meta Data and MSIL are wrapped in single File known as .....	PE (Portable Executable)
4.	JIT Stands for?	Just In Time Compiler



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## Topic: Explain Namespace in Asp.Net

- Namespace is nothing but a logical partition or container.

### Detailing:

- Namespace is the Logical group of types or we can say namespace is a container (e.g Class, Structures, Interfaces, Enumerations, Delegates etc.),
- Example System.IO logically groups input output related features , System.Data.SqlClient is the logical group of ado.net Connectivity with Sql server related features.
- Namespaces allow you to create a system to organize your code.

### Example:-

```
// Namespace Declaration
using System;

// The Namespace
namespace MyNameSpace
{
    // Program start class
    class MyClass
    {
        //Functionality
    }
}
```



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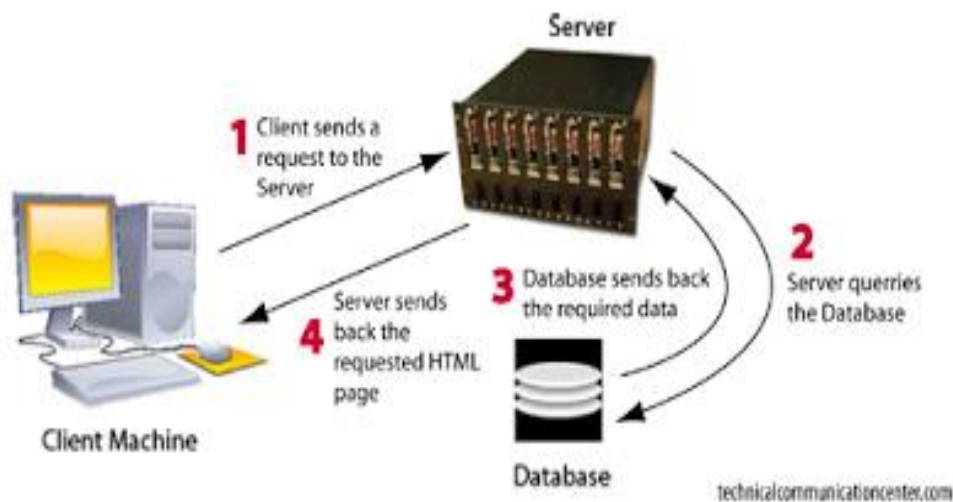
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## 1 word Question Answer

Sr No.	Question	Answer
1.	.....is a logical container	Namespace
2.	.....allows you to create a system to organize your code	Namespace

## Topic: Explain Client/Server Architecture



### Detailing:

- In traditional client/server architecture, the server is some sort of database from which client requests information.
- A server fulfils the request for information by serving the requested information to the client





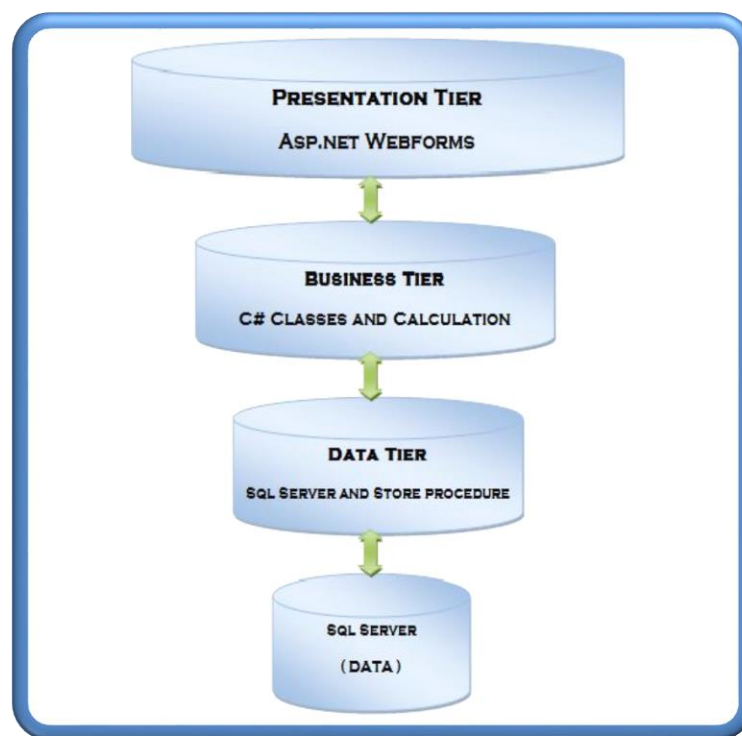
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- A system consisting of client and server is known as 2-tier architecture.
- The web is built on 2-tier client/server system in which as web browser requests the documents from webserver. Once, the web server returns the requested document, the client is responsible for formatting and presenting the document to user
- The client/server system evolves into what is known as 3-tier architecture.





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- In 3-tier architecture, processing tier handles the interaction between browser client and database tier. It performs necessary calculations based on request from client and then reads information or writes to database tier

## 1 word Question Answer

Sr No.	Question	Answer
1.	The architecture having only client and server is known as?	2-tier
2.	In .....architecture, processing tier handles the interaction between browser client and database tier	3-tier

## Topic: Explain IIS and installation of IIS

- IIS (Internet Information Server) is one of the most popular web servers from Microsoft that is used to host and provide internet based services to Asp.Net and Asp Web applications.

### Detailing:

- When request comes from client to server, IIS takes that request from user and process it and send response back to the users.



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- Although, Asp.Net development server comes inbuilt with visual studio, you can install IIS for better scalability of your web application after you upload it on real web server
- If you want to install IIS, you must have windows XP CD with you as IIS pack comes inbuilt as part of XP.

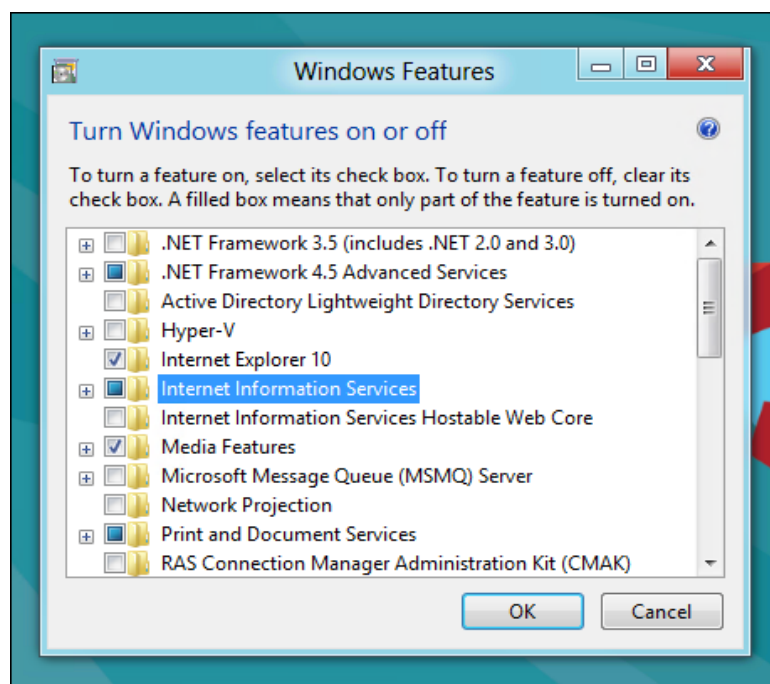
## Steps for installation:

Step 1: Go to start

Step 2: Start -> Control Panel

Step 3: Control Panel-> Add/Remove Programs ->

Add/Remove Windows Components-> IIS





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## 1 word Question Answer

Sr No.	Question	Answer
1.	IIS stands for?	InternetInformation Server
2.	In order to install IIS, you must have ....	Windows XP CD.

Topic: Explain types of files used in asp.net

## ASP.NET file types

File Name	Description
.aspx	ASP.NET web pages User Interface and underlying code
.ascx	ASP.NET user controls,used to create custom controls Inherited to a web page
Web.config	XML-based configuration files,which hold settings for application
.cs ,.vb	Code behind files,allows to create separate code
Global .asax	File is used to declare global variables and react to global events
.asmx	Web services



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## Detailing:

- 1) **.aspx**: It is the extension of any .Net file or Webform. They contain user interface and underlying application code.
- 2) **.ascx**: These are Asp.Net user controls. User controls cannot be accessed directly but they should be used on web page
- 3) **Web.Config**: It is XML based configuration file which includes settings for security, state management, memory management etc.
- 4) **.cs/.vb**: These are code behind files that contain c# code or vb code.
- 5) **global.asax**: It is the global application file and you can use this file to define global variables.
- 6) **.asmx**: These are asp.net web services files

### 1 word Question Answer

Sr No.	Question	Answer
1.	.....are the code behind files that are used to create separate code	.cs/.vb
2.	.....are the asp.net web services file	.asmx



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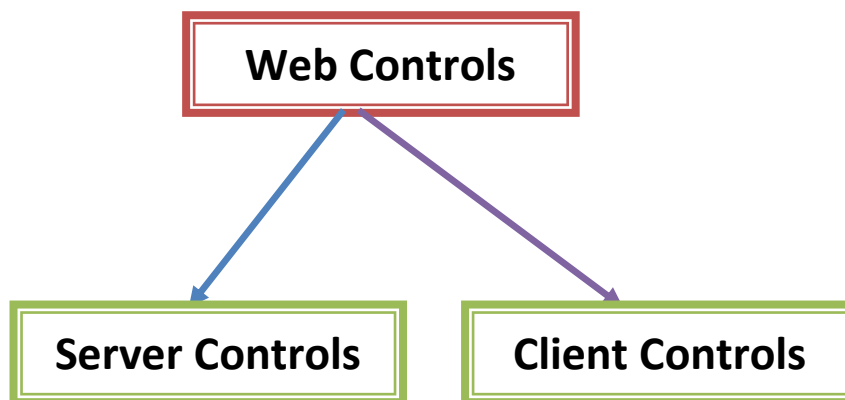
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3. ....is the XML based Web.config configuration file

**Topic: Explain types of controls in asp.net**



**Detailing:**

## 1) Server Controls:

- These are the controls which execute on server side. The controls which execute on server side have two important properties

`runat="Server"`  
`ID`

## 2) Client Controls:



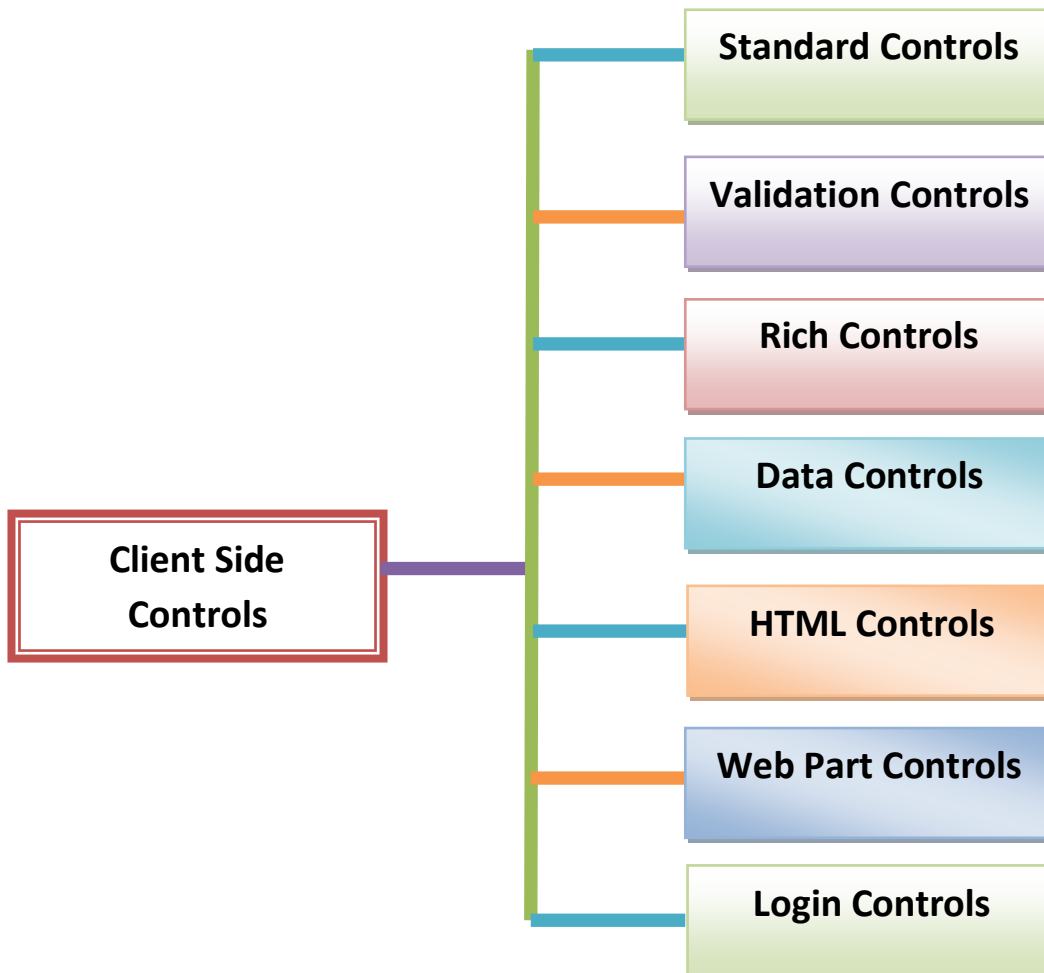
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- These are the controls which don't execute on server side. Generally, HTML Controls are known as client controls.





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## 1) Standard Controls:

- This type of controls includes buttons, input fields, label, textbox, checkbox etc.

## 2) Validation Controls:

- This type of controls enables you to validate form data before you submit data to server.

**Example: RequiredFieldValidator**

## 3) Rich Controls:

- These are the advanced controls which have ability to generate large amount of HTML markup and javascript.

**Example: Calendar, FileUpload, AdRotator**

## 4) Data Controls:

- These controls enable you to work with data such as database data.

**Example: You can use this controls to submit new records to database table or display list of database records.**

## 5) HTML Controls:





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- These controls enable you to convert any HTML tag into server side control.

## 6) Web Part Controls:

- These controls enable you to build personalize portal applications

## 7) Login Controls:

These controls enable you to display login, change password and registration forms. Login control support form authentication.

### 1 word Question Answer

Sr No.	Question	Answer
1.	..... control is used to validate form	Validation
2.	Label and button are example of...	Standard Controls
3.	AdRotator is the example of .....	Rich Controls



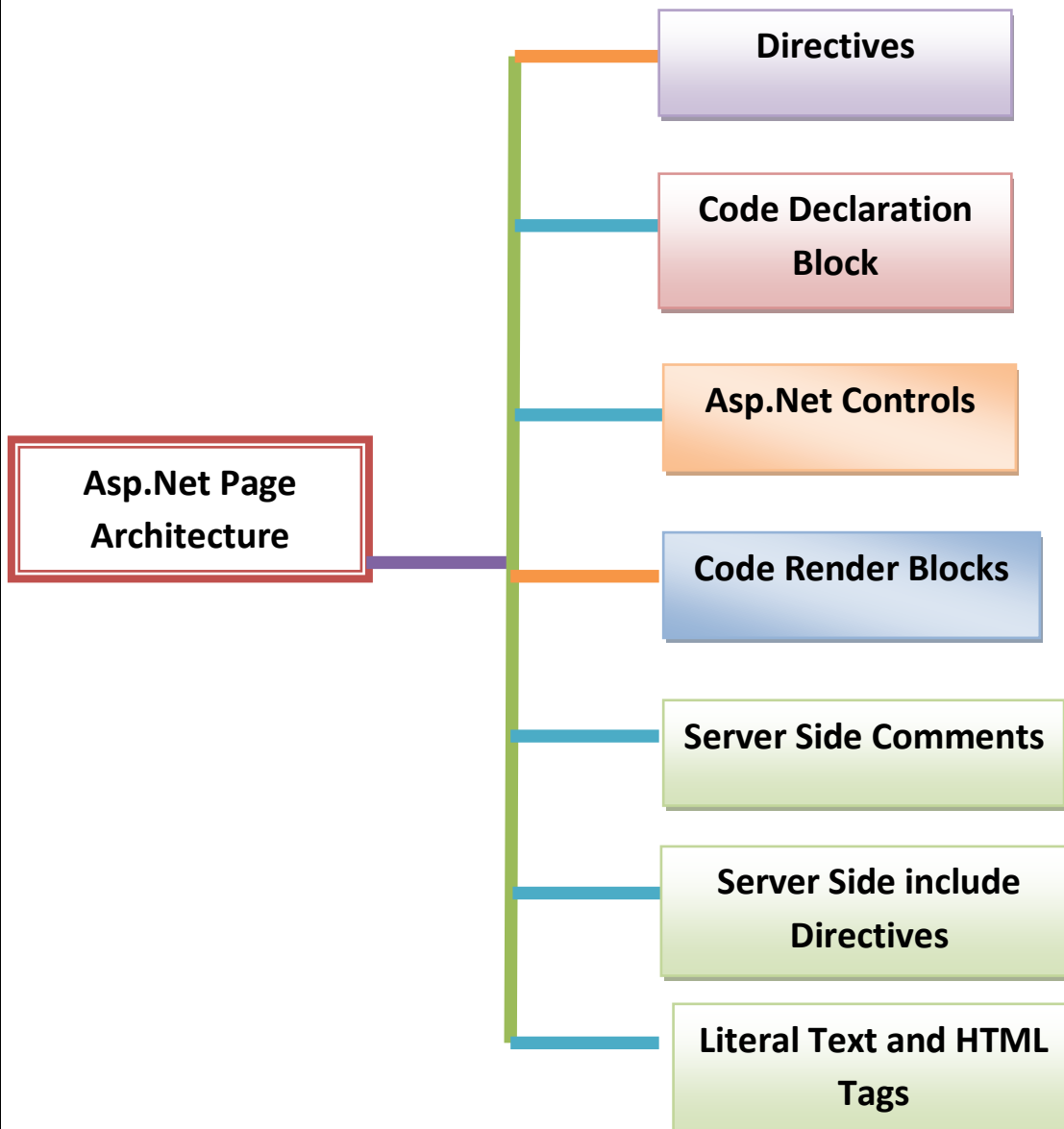
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## Topic: Explain Asp.Net Page Architecture





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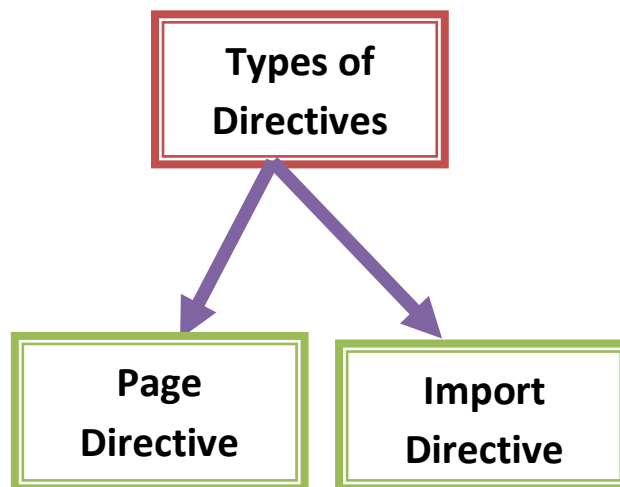
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## Detailing:

### 1) Directives:

- A directive controls how an Asp.Net page is compiled. The beginning of a directive is marked with the character `<%@` and end of directive is marked with characters `%>`



### \*\* Page Directive:

- Basically, page directives are commands. These commands are used by compiler when page is compiled.
- When you want to specify attribute for Asp.Net page then you need to use `@page` directive.



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## \*\* import Directive:

- By default, only certain namespaces are automatically imported into Asp.Net page. If you want to refer to the class that is not the member of one of the default namespace, then you must explicitly import the namespace.
- Example: Suppose that you want to send email from Asp.Net by using send method of Smtplib class. The Smtplib class is contained in System.Web.Mail namespace.

## 2) Code Declaration Block:

- This block contains all the application logic for your Asp.Net page and all the global variables declarations and functions. It must appear within a `<script runat="server">`

## 3) Asp.Net Controls:

- These controls can be freely interpreted with text and HTML content of a page. The only requirement is that controls should appear within a `<form runat="Server">`

## 4) Code Render Blocks:



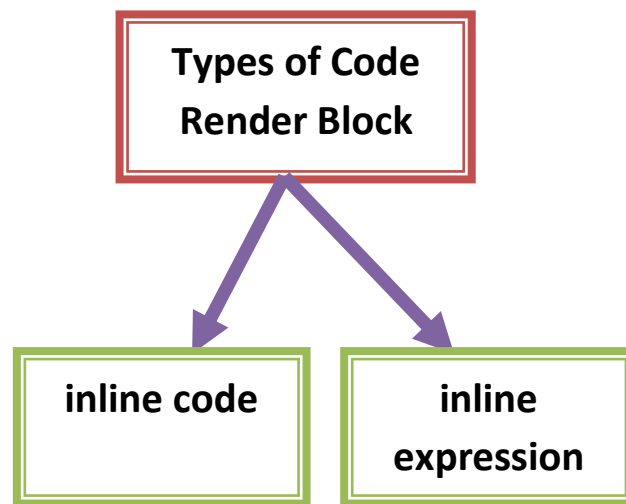
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- If you need to execute code within HTML or text content of your Asp.Net page, you can do so with code render blocks.



**\*\* Inline code:**

- It executes a statement or series of statements.

**\*\* Inline Expression:**

- It displays the value of variable or method. Inline expression begins with `<%=` and end with characters `%>`

## 5) Server Side Comments:

- Comments can be added by using server side comment blocks. The beginning of server side comment is marked



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with characters `<%- -` and end of comment is marked with characters `- -%>`

## 6) Server Side include Directives:

- You can include a file in Asp.Net page by using one of the two forms of the server side include directive. If you want to include the file that is located in the same directory or in subdirectory of page including the file.

```
<!-- #INCLUDE file="1.aspx" -->
```

```
<!-- #INCLUDE virtual="/myDirectory/1.aspx" -->
```

## 7) Literal Text & HTML Tags:

The static portion of your page is built with old HTML tags and text. HTML content in page is represented with literal control class.

### 1 word Question Answer

Sr No.	Question	Answer
1.	The beginning of directive is marked with ....	<code>&lt;%@</code>
2.	Page directives are represented by .....	<code>&lt;%@Page%</code>
3.	.....executes a statement or series of statement	inline code.
4.	Comments are represented by ...	<code>&lt;%- -</code> and <code>- - %&gt;</code>



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## Topic: Write a short note on Page Class

Ans:

All the web forms are actually instance of Asp.Net Page Class.

Various Objects of Page Class are:

### 1) Session:

- It acts as global repository to store any type of user specific data that needs to persist between web page requests.
- HTTP is stateless protocol that is the protocol does not have any features that can be used to maintain information about user.
- Variable stored in session object are not discarded when the user browses from one page to another, they are only destroyed when user abandons session or sessions times out.
- A new session is created once for each new browser that hits your asp.net website. If the user stops hitting your website, his session will time out after 20 minutes of inactivity by default.



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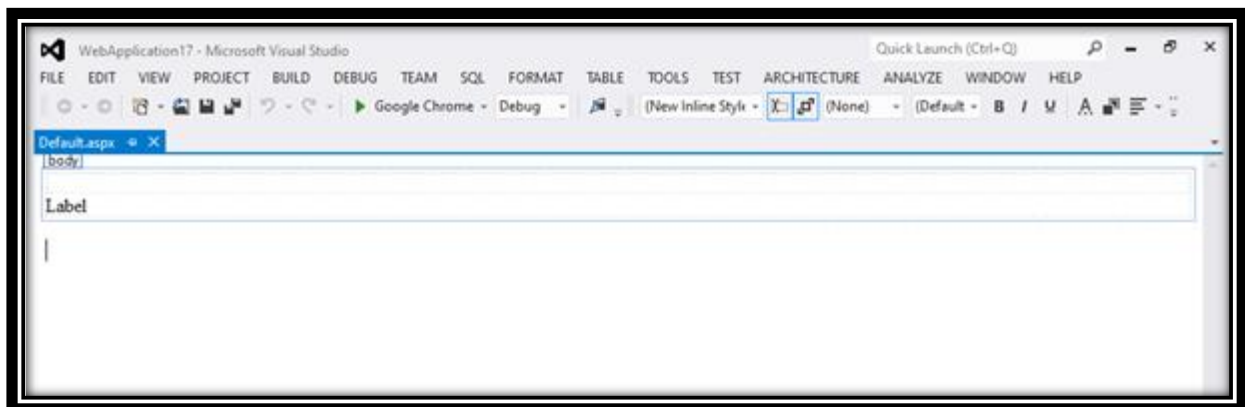
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**Syntax to declare session variable:**

`Session[“VariableName”]=value;`

**Example:**



**Global.asax**

`Session[“User”]=0;`

**Page Load Event**

`Session[“User”]=Convert.ToInt32(Session[“User”])+1;`

`Label1.Text=“Session State is” +Session[“User”].ToString();`

**Output:**

**“Programming in Asp.Net”**



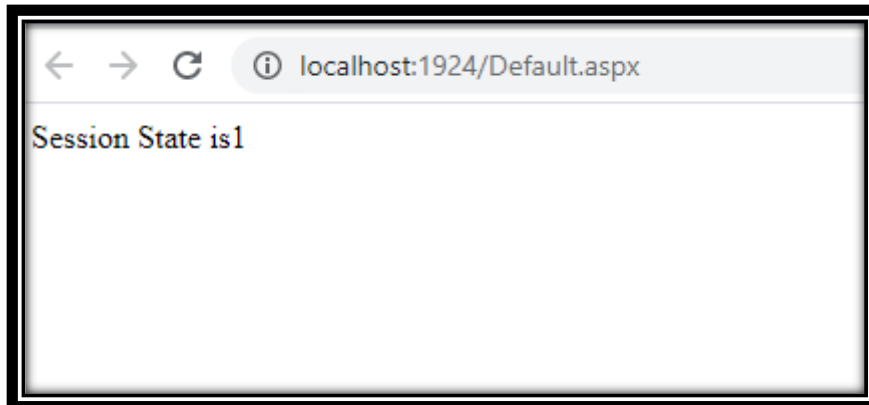


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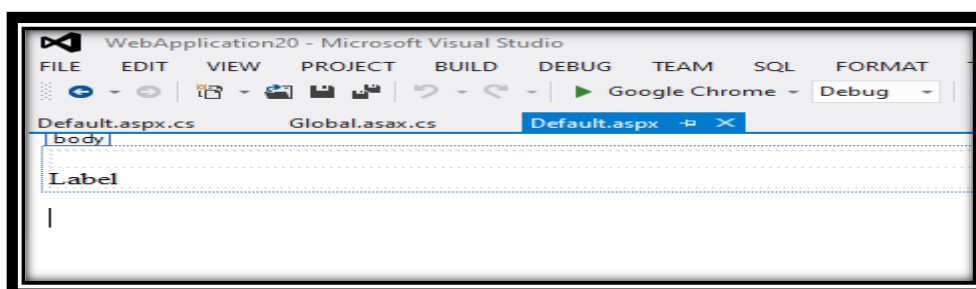


## 2) Application Object:

- This object is used to store the information that is common for the all the users.
- Single or same application object is shared by all the users.
- Value stored in application variables retains or retrieves the value.

## Syntax to declare application variable:

Application[“Variablename”]=Value;



Examp  
le:



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## Global.asax

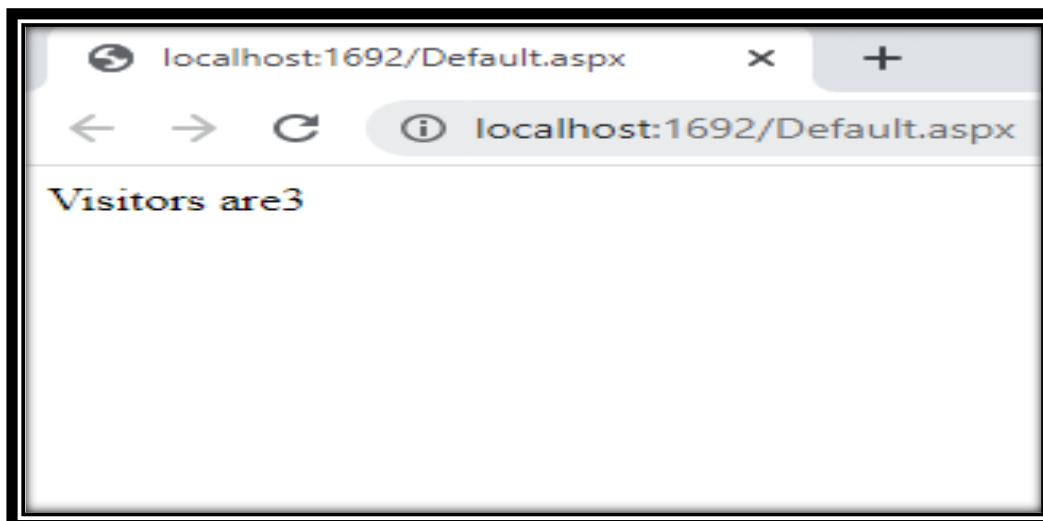
```
Application["User"]=0;
```

## Page Load Event

```
Application["User"]=Convert.ToInt32(Application["User"])+1;
```

```
Label1.Text="Visitor Count is" +Application["User"].ToString();
```

## Output:



## 3) Cache Object:



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- This object is used to place the frequently used data in quickly accessed media such as random access memory of computer.
- Caching of data is non-deterministic.
- To access the items in cache indexer is used

#### 4) Request Object:

- It is the object of System.Web.HttpRequest.
- This object is used to represent the properties or the information of the client like browser of the client, request made by the client etc.

#### 5) Response Object:

- It represents the server response to the client request. It is the instance of System.Web.HttpResponse Class.
- It provides the methods like Response.Redirect().

#### 6) Server Object:

- This Class provides numerous properties and methods to perform various jobs like machine name, Transfer, Configuration etc.



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## 7) Trace Object:

- This object enables you to follow a page's execution path or actual flow of the program.
- This object shows line by line execution of your web page or program

## Topic: Explain Standard Controls

### 1) Label Control

- Whenever you need to modify the text displayed in a page dynamically, you can use the Label control.

### Detailing:

### Properties:

Sr No.	Property	Description
1.	BackColor	Enables you to change the background color of the label.
2.	BorderColor	Enables you to set the color of a border rendered around the label
3.	<u>BorderStyle</u>	Enables you to display a border around the label.
4.	<u>Font</u>	Enables you to set the label's font properties
5.	<u>ForeColor</u>	Enables you to set the color of the content rendered by the label



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## 1 word Question Answer

Sr No.	Question	Answer
1.	.....control is used to display or modify text	Label
2.	Which property is used to set the label's font?	Font

## 2) TextBox Control

- The TextBox control can be used to display three different types of input fields depending on the value of its TextMode property. The TextMode property accepts the following three values:

SingleLine : Displays a single-line input field.

MultiLine : Displays a multi-line input field.

Password : Displays a single-line input field in which the text is hidden.

### Detailing:

### Properties:

Sr No.	Property	Description
1.	TabIndex	Enables you to specify the tab order of the textbox.
2.	Wrap	Enables you to specify whether text word wraps when the TextMode is set to Multiline.
3.	<u>BorderStyle</u>	Enables you to display a border around the



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		label.
4.	<u>Font</u>	Enables you to set the label's font properties
5.	<u>ForeColor</u>	Enables you to set the color of the content rendered by the label

## Methods:

- 1) **Text Changed:** This event is raised on the server when the contents of the text box are changed.
- 2) **Focus:** This event enables you to set the initial form focus to the textbox.

### 1 word Question Answer

Sr No.	Question	Answer
1.	.....control is used to enter the text from the user	TextBox
2.	.....value of textmode property allows you to enter multiple lines in textbox	MultiLine
3.	.....property is used to specify whether text word wrap when textmode property is set to multiline	Wrap



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## 3) CheckBox Control

- This control is used to accept the choice from user. It is used to display multiple choices from which user can select none of them or many or all of them.

### Detailing:

### Properties:

Sr No.	Property	Description
1.	Checked	Enables you to get or set whether the checkbox is checked.
2.	Enabled	Enables you to display the checkbox
3.	TabIndex	Enables you to specify the tab order of the checkbox
4.	Text	Enables you to provide a label for the checkbox
5.	TextAlign	Enables you to align the label for the checkbox.

### Methods:

- 1) **CheckedChanged:** This event is raised on the server when the checkbox is checked or unchecked.
- 2) **Focus:** This event enables you to set the initial form focus to the checkbox



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## 1 word Question Answer

Sr No.	Question	Answer
1.	.....control is used to display multiple choices from which user can select none of them or many or all of them	CheckBox
2.	Which event is fired when the checkbox is checked or unchecked	CheckedChanged

### 4) RadioButton Control:

- This control is used in the group. Only 1 radiobutton in a group of RadioButton controls can be checked at a time.
- Radiobutton are mutually exclusive.

### Detailing:

### Properties

Sr No.	Property	Description
1.	Checked	Enables you to get or set whether the radiobutton is checked.
2.	Enabled	Enables you to display the radiobutton
3.	TabIndex	Enables you to specify the tab order of the radiobutton control.
4.	Text	Enables you to provide a label for the radiobutton control





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5.	TextAlign	Enables you to align the label for the radiobutton.
6.	GroupName	Enables you to group radiobutton controls.

## Methods:

- 1) **CheckedChanged:** This event is raised on the server when the radiobutton is checked or unchecked.
- 2) **Focus:** This event enables you to set the initial form focus to the radiobutton

## 1 word Question Answer

Sr No.	Question	Answer
1.	.....control is also known as mutually exclusive	Radiobutton
2.	Which property is used to group radiobutton controls?	GroupName

## 5) Button Control:

- This control used to submit the data to the server. It works like a push button, when you click data is submitted to the server.

## Detailing:



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## Properties

Sr No.	Property	Description
1.	Enabled	Enables you to disable the button control
2.	PostBackUrl	Enables you to post a form to particular page
3.	TabIndex	Enables you to specify tab order of the button control
4.	Text	Enables you to label the button control

## Methods:

- 1) **Focus:** This event enables you to set the initial form focus to the button control

## Events:

- 1) **Click:** This event is raised when the button control is click.

### 1 word Question Answer

Sr No.	Question	Answer
1.	.....control is used to submit data to the server	Button
2.	Which event is fired when button is clicked?	Click

## 6) Link Button Control:

- The LinkButton control, like the Button control, enables you to post a form to the server.



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- Unlike a Button control, however, the LinkButton control renders a link instead of a push button.

## Detailing:

Sr No.	Property	Description
1.	Enabled	Enables you to disable the Linkbutton control
2.	PostBackUrl	Enables you to post a form to particular page
3.	TabIndex	Enables you to specify tab order of the Linkbutton control
4.	Text	Enables you to label the Linkbutton control

## Methods:

- 1) **Focus:** This event enables you to set the initial form focus to the Linkbutton control

## Events:

- 1) **Click:** This event is raised when the Linkbutton control is clicked

### 1 word Question Answer

Sr No.	Question	Answer
1.	....control renders a link instead of push button	LinkButton
2.	Which event is fired when linkbutton is clicked?	Click



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## 7) Image Button Control:

- The ImageButton control, like the Button and LinkButton controls, enables you to post a form to the server.
- However, the ImageButton control always displays an image

### Detailing:

Sr No.	Property	Description
1.	ImageUrl	Enables you to specify URL to the image
2.	Alternate Text	Enables you to provide alternate text for the image
3.	TabIndex	Enables you to specify the tab order of the Image Button control.
4.	Description URL	Enables you to provide a link to the page that contains a detailed description of the image
5.	ImageAlign	Enables you to align the image relative to other HTML elements in the page.
6.	Enabled	Enables you to disable the ImageButton control

### Methods:

- 1) **Focus:** This event enables you to set the initial form focus to the Imagebutton control



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## Events:

- 1) **Click:** This event is raised when the Imagebutton control is clicked

### 1 word Question Answer

Sr No.	Question	Answer
1.	.....control always displays image and post a form to server	Button
2.	Which event is fired when Imagebutton is clicked?	Click

## 8) Image Control:

- This control is used to display the image.

## Detailing:

Sr No.	Property	Description
1.	ImageUrl	Enables you to specify URL to the image
2.	Alternate Text	Enables you to provide alternate text for the image
3.	Description URL	Enables you to provide a link to the page that contains a detailed description of the image
4.	ImageAlign	Enables you to align the image relative to other HTML elements in the page.



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## 1 word Question Answer

Sr No.	Question	Answer
1.	.....property of image control specifies the URL of the image to be displayed	ImageURL
2.	Which property enables you to provide a link to the page that contains a detailed description of the image.	DescriptionURL

### 9) Panel Control:

- The Panel control enables you to work with a group of ASP.NET controls. You can use a Panel control to hide or show a group of ASP.NET controls.

#### Detailing:

Sr No.	Property	Description
1.	Default Button	Enables you to specify the default button in a panel. The default button is invoked when you press the Enter button
2.	Grouping Text	Enables you to render the text of panel
3.	Scrollbars	Enables you to display scrollbars around the panel's contents.



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## 1 word Question Answer

Sr No.	Question	Answer
1.	.....control enables you to work with a group of controls	Panel
2.	.....property enables you to display scrollbars around the panel's content	Scrollbars

### 10) Hyperlink Control:

- The HyperLink control enables you to create a link to a page. Unlike the LinkButton control, the HyperLink control does not submit a form to a server.

### Detailing:

Sr No.	Property	Description
1.	Enabled	Enables you to disable the hyperlink
2.	ImageUrl	Enables you to specify the URL represented by hyperlink
3.	Text	Enables you to label the hyperlink

### Note:

- You can specify an image for the HyperLink control by setting the ImageUrl property. If you set both the Text and ImageUrl properties, then the ImageUrl property takes precedence.



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## 1 word Question Answer

Sr No.	Question	Answer
1.	.....control enables you to create a link to a page	Hyperlink Control
2.	.....property enables you to specify the URL represented by hyperlink	ImageURL

### 11) Image Map Control

- Map is a picture which is subdivided into areas. Image Map is also a single image but different parts of image are linked to different URLs.
- Example: you have Gujarat Map. When you click on different areas of Gujarat, the information of clicked city should be displayed.
- A Hotspot defines clickable region in image map.
- There are 3 different classes of Hotspot:
  - **Circle Hotspot**: Enables you to define circular region in image map.
  - **Polygon Hotspot**: Enables you to define irregularly shaped region in image map.
  - **Rectangle Hotspot**: Enables you to define a rectangular region in image map.





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Sr No.	Property	Description
1.	HotSpot	Enables you to retrieve the collection of Hotspot contained in Image Map Control
2.	Image URL	Enables you to specify the URL to the image
3.	Alternate Text	Enables you to provide alternate text for the image map.



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## SUBJECT: ASP.NET

### CHAPTER-2:

Sr No.	Topic
1.	What is Validation?
2.	Types of Validation
3.	List out validation controls 1) Required Field Validation Control 2) Compare Validator 3) Range Validator 4) Regular Expression Validator 5) Custom Validator 6) Validation Summary Control 7) Validation Group
4.	State Management Client Side State Management 1) Viewstate 2) Cookie 3) Query String 4) Hidden Field Server Side State Management 1) Session 2) Application
	<div style="border: 1px solid black; padding: 5px; display: inline-block;">} Already discussed in first chapter. So this topic is not included in this chapter</div>
5.	Rich Controls 1) Adrotator



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	<ul style="list-style-type: none"><li>2) Calendar Control</li><li>3) Menu Control</li><li>4) TreeView Control</li><li>5) Multiview and view control</li><li>6) Wizard Control</li></ul>
6.	Global.aspx File

**Topic: What is Validation?**



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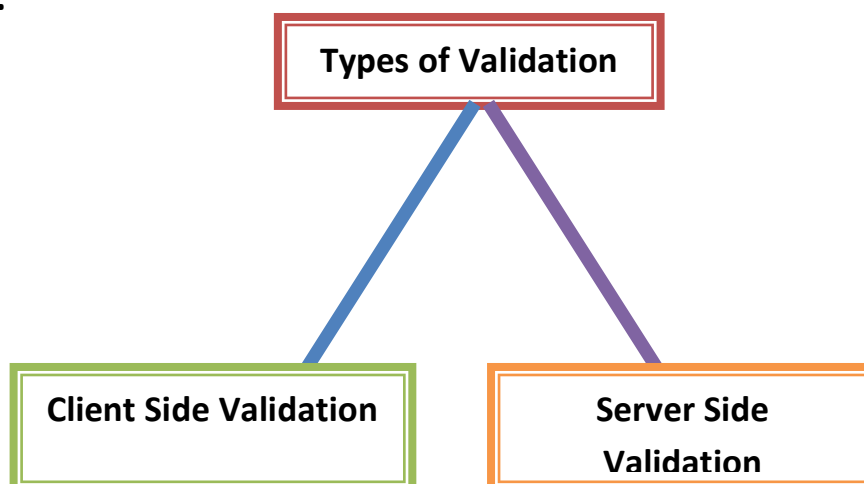
Ans:

- Form validation is one of the most important activities of any website development.
- The data which is entered or selected by the user must be validated properly before it gets processed. This is done to maintain consistency within the web application.
- Form validation is nothing but validation of all the controls which are available under the form.

Sr No.	Question	Answer
1.	Validation is necessary for .....of application or website	Security

**Topic: Explain types of validation.**

Ans:



**1) Client Side validation:**



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- It means checking of data is done at client end that is by the browser itself.
- The main theme behind developing the client side validation is fast response to the client.
- Various scripting languages can be used like javascript, DHTML for validation.
- Asp.Net provides several controls which are used for client side validation.

## 2) Server Side validation:

- It means checking of data is done at server side. Even though the data is checked at client side, it must be checked at server side. The reason behind this is attacker.
- Attacker might attack on your data and manipulate it or misuse it.
- Client side validation is done at browser level, but when the data is submitted to the client, attacker/hacker might manipulate it.
- Server side validation is done using database programming tool. Asp.Net uses ADO.NET and related controls for this purpose.

Sr No.	Question	Answer
1.	Client side validation is done using .....	Javascript
2.	The reason to check or validate	Attacker/Hacker



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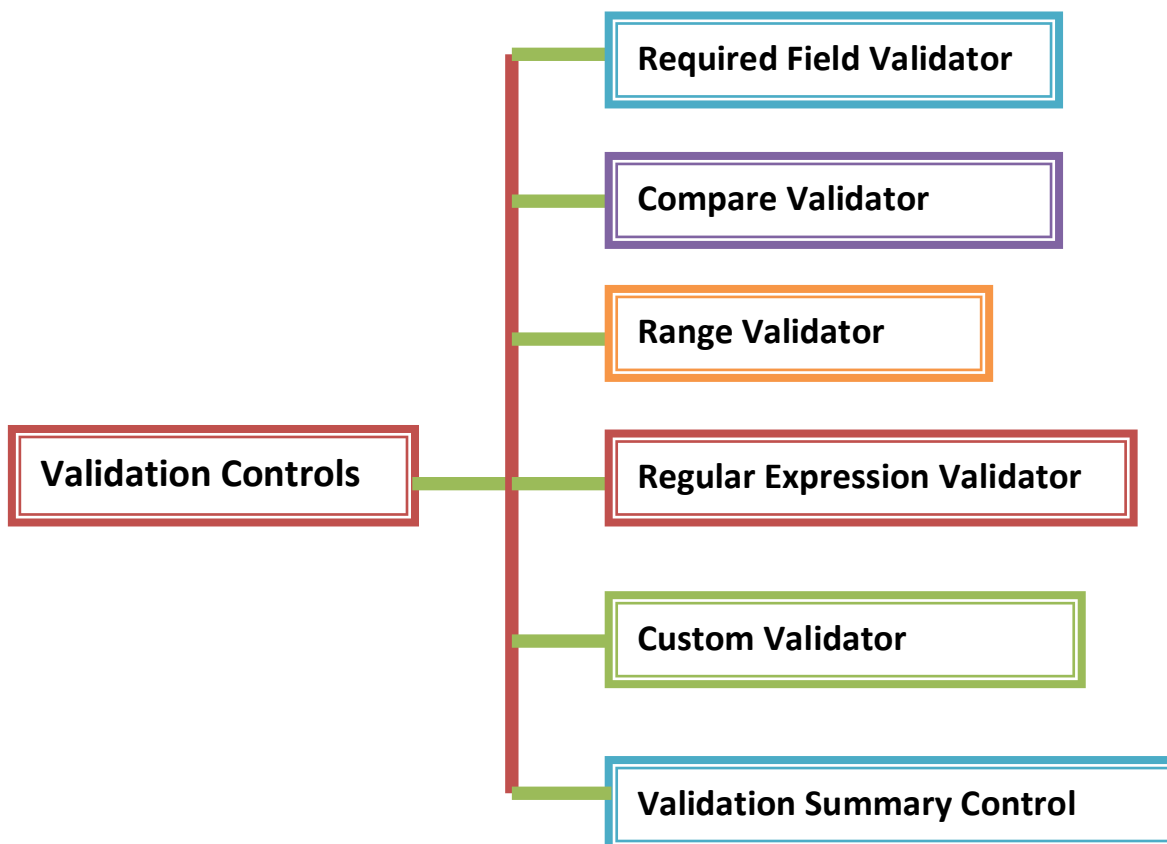
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	the data at server side is .....	
--	----------------------------------	--

## Topic: Explain types of validation controls.

Ans:

- Validation controls are checked at end, client side as well as server side.
- Following are the types of validation controls.





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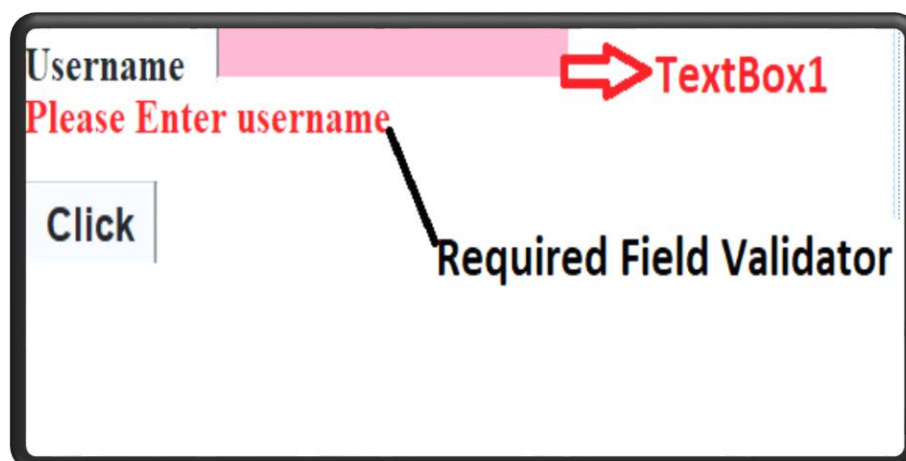
## 1) Required Field Validator:

- It is used to check whether the control has got some value or not. It forces user to enter the value for the control.

Sr No.	Property	Description
1.	Error Message	This property is used to set the message which is displayed when Validator control fails.
2.	Control to validate	This property is used to set the control which you want as required field.
3.	Text	to change the text of validation control

Example:

Design View:





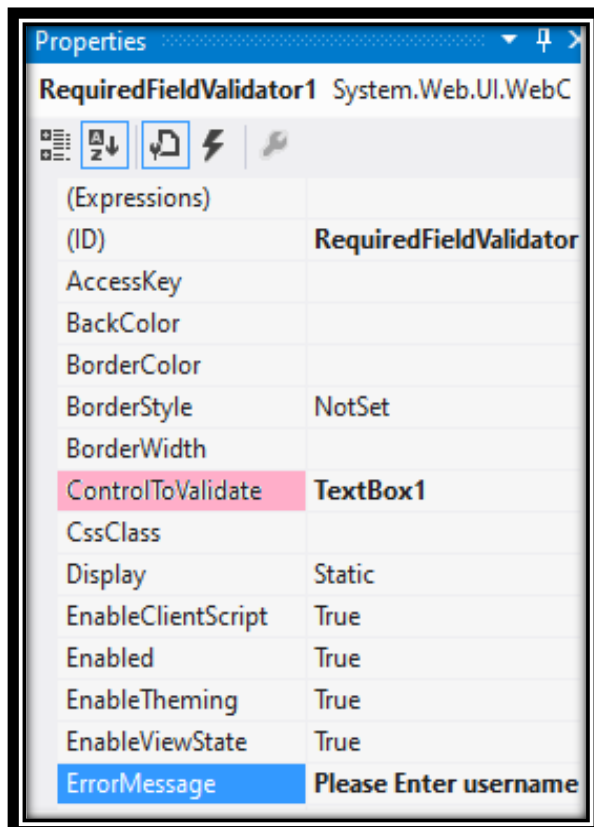
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## Property Window:



Sr No.	Question	Answer
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1.	.....validation control is used when we want the field to be entered compulsory	Required Field
2.	Required field has .....property which shows the control on which validation is to be performed	Control to Validate

## 2) Compare Validator:

- This control is used to check value of two controls. It checks whether both controls have got same value or not. If both controls have got same value, it returns true else returns false.

Sr No.	Property	Description
1.	Error Message	This property is used to set the message which is displayed when Validator control fails.
2.	Control to validate	This property is used to set the control which you want as required field.
3.	Control to Compare	This property is used to set the control which you want to compare.
4.	Text	to change the text of validation control

Example:

Design View:

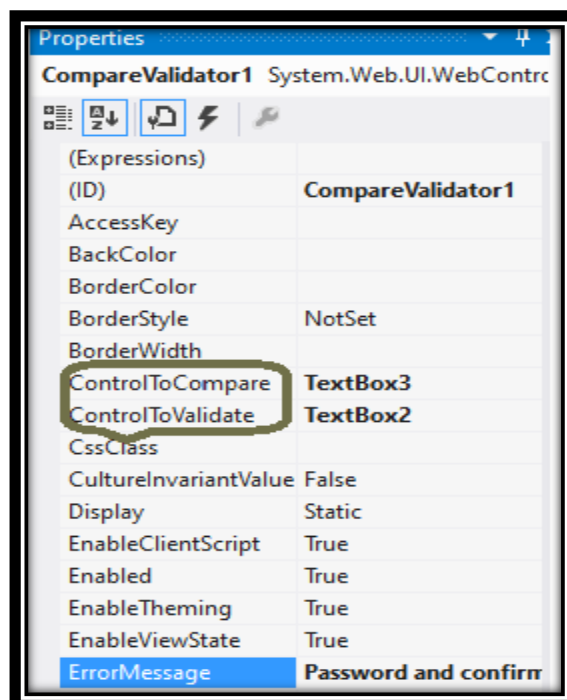
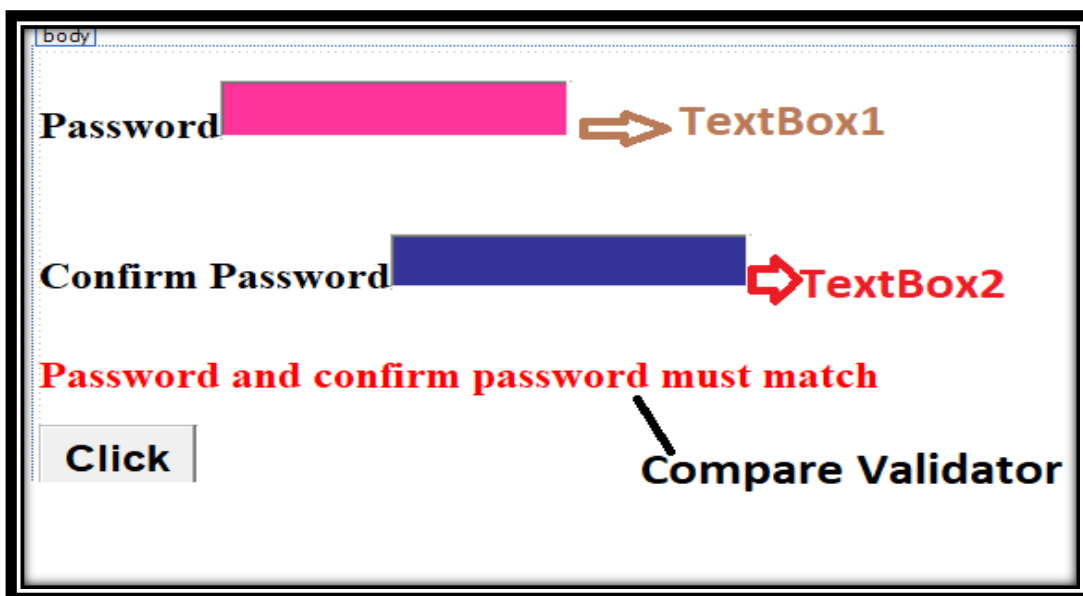


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Sr No.	Question	Answer
1.	..... validation is used to compare two different controls	Compare Validator
2.	.....is the example of compare Validator	Password and confirm password
3.	.....property indicates the control which is to be compared	Control to compare

### 3) Range Validator:

- This control is used to check that value of control is between specific range or not. The value which you enter into control can be numeric, date or string.
- Examples of range Validator are:
  - Input age within specific range

Sr No.	Property	Description
1.	Error Message	This property is used to set the message which is displayed when Validator control fails.
2.	Control to validate	This property is used to set the control which you want as required field.
3.	Minimum Value	This property is used to set the minimum value of the control to be validated
4.	Maximum Value	This property is used to set the maximum value of the control to be validated.



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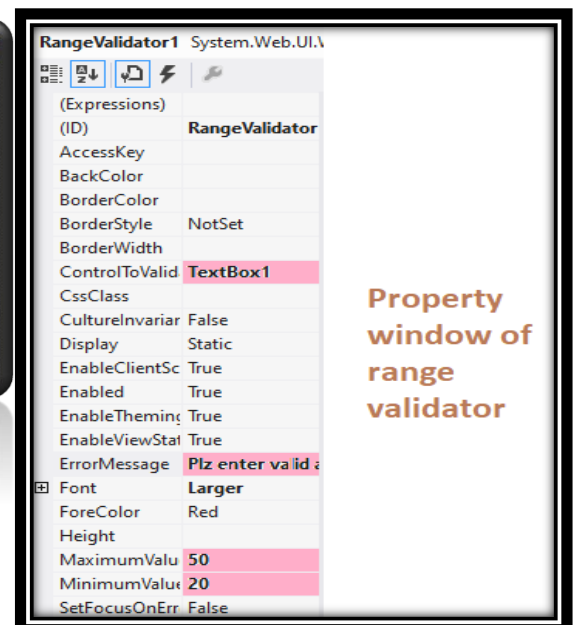
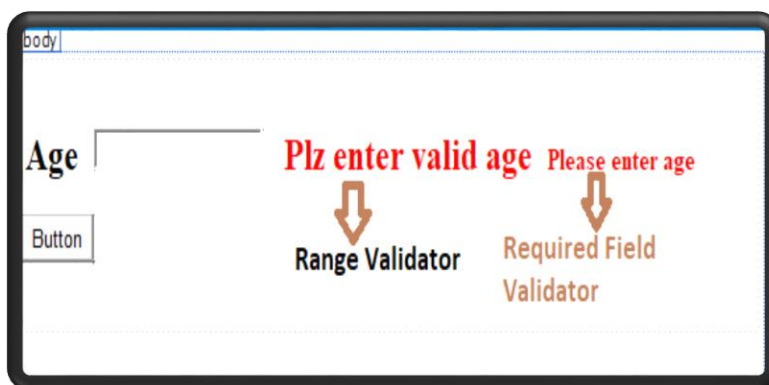
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## Example

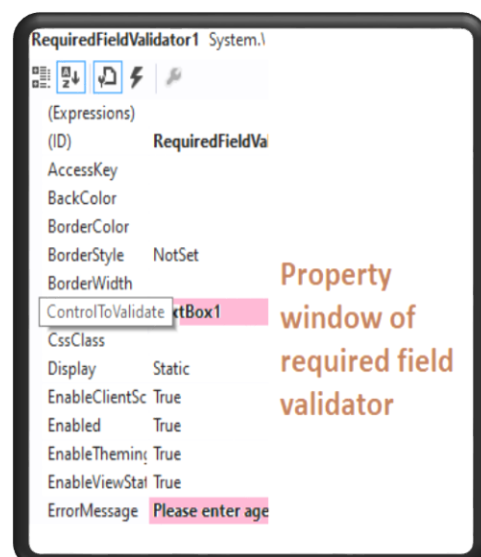
### Design View:



### Coding:

```
Button1_Click
```

```
Response.Write("Hello");
```





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Sr No.	Question	Answer
1.	.....validation control is used when we want to check the value between specific range	Range Validator
2.	.....and .....property is used to set the value of range	Minumum Value Maximum Value

#### 4) Regular Expression Validator:

- This Validator is used to check the value of a control against specified expression.
- Regular expression is a powerful tool which is used to check against specific type of values which may be string value, integer value, data value etc.
- Some examples of using regular expression Validator are:
  - to input mobile number in proper format
  - to input email address in valid format
- To make regular expression, following characters are specified below:

Sr No.	Character	Description
1.	\w	Any word character (letter, number or underscore)
2.	\d	Any digit
3.	\D	Any character that is not a digit
4.	\s	Any white space character
5.	\S	Any non-white space character
6.	[ ]	to specify range of characters or set of characters
7.	*	to specify zero or more no. of characters



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8.	+	to specify one or more no. of charactes
----	---	---

## Some of the examples of regular expression are:

`\d{10}`: Mobile number

`\d{5,}`: Allows digit which can be minimum 5 with no maximum limit.

`[A-D]`: Allows any character between A to D

`[A-D]*`: Allows zero or any no. of characters between A to D

`[A-D]+`: Allows 1 or more characters between A to D.

Sr No.	Property	Description
1.	Error Message	This property is used to set the message which is displayed when Validator control fails.
2.	Control to validate	This property is used to set the control which you want as required field.
3.	Validation Expression	Regular expression for given field.

Example

Design View:



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body

Enter Email ID  Please Enter Email ID in proper format

Click

Regular Expression validator

## Property Window:

RegularExpressionValidator1 System.Web.UI.WebControls.RegularExpressionValidator

(Expressions)	
(ID)	RegularExpressionValidator1
AccessKey	
BackColor	
BorderColor	
BorderStyle	NotSet
BorderWidth	
ControlToValidate	TextBox1
CssClass	
Display	Static
EnableClientScript	True
Enabled	True
EnableTheming	True
EnableViewState	True
ErrorMessage	Please Enter Email ID in proper format
Font	Medium
ForeColor	Red
Height	
SetFocusOnError	False
SkinID	
TabIndex	0
Text	
ToolTip	
ValidationExpression	\w+([-+.'!w+)*@w+([-.]w+)*\.\w+([-.]w+



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Sr No.	Question	Answer
1.	.....control is used to check the value of control against specified expression	Regular Expression Validator
2.	.....property is used to add the expression?	validation expression

## 5) Custom Validator:

- Custom Validator control is used when the inbuilt validation controls cannot work.
- Using custom Validator, you can customize your checking with control.
- Custom Validator control allows you to specify your own functions at both sides.
  - Server side validation Function
  - Client side validation Function
- **Server Side Validation Function:**
  - This function is executed on server side. This is done when you click on button or some processing is done at server side.
  - The name of server side function is Server Validate function.  
This function has 2 arguments:
    - **object source:** This will give you the source name with which custom Validator control is connected.
    - **object args:** This will have 2 important properties:
      - args.Value: Will give you value of control
      - args.IsValid: can be set to true or false





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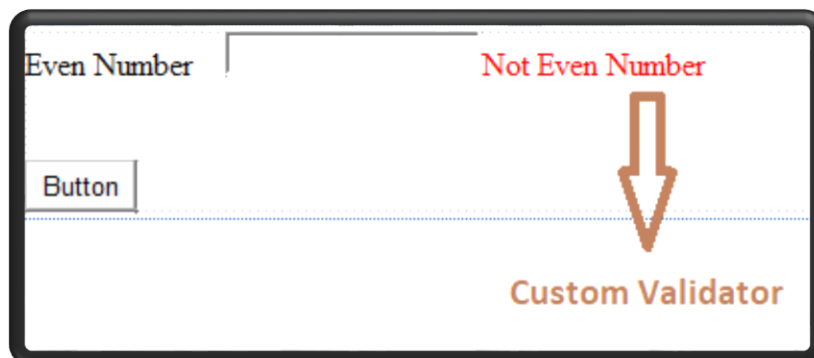
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Sr No.	Property	Description
1.	Error Message	This property is used to set the message which is displayed when Validator control fails.
2.	Control to validate	This property is used to set the control which you want as required field.

Example

Design View:



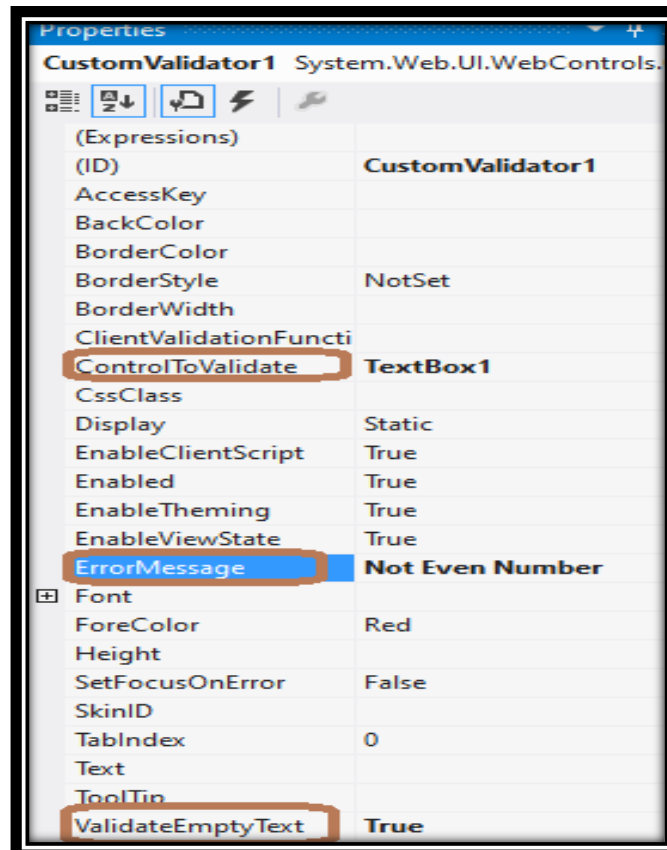


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Coding:



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## CustomValidator1 ServerValidate

```
if (args.Value=="")
{
    args.IsValid = false;
}
else
{
    int num = Convert.ToInt32(args.Value);
    if (num % 2 == 0)
        args.IsValid = true;
    else
        args.IsValid = false;
}
}
```

## Button1 Click

```
if (Page.IsValid)
    Response.Write("Even Number");
else
    Response.Write("Valdiaton Error");
```



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- **Client Side Validation Function:**

- This function is executed on client side. Client side function can be written in JavaScript.
- The name of client side function should be specified in **Client Validation Function**.

## Example

### Design View:

The image shows a design view of a web form. It features a text input field with the label 'Even Number' on the left and 'Not Even Number' on the right. Below the input field is a button labeled 'Button'. A large downward-pointing arrow is positioned below the button, pointing to the text 'Custom Validator'. The entire form is enclosed in a rounded rectangular border.



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CustomValidator1 System.Web.UI.WebControls.

(Expressions)	
(ID)	CustomValidator1
AccessKey	
BackColor	
BorderColor	
BorderStyle	NotSet
BorderWidth	
ClientValidationFunction	IsEven
ControlToValidate	TextBox1
CssClass	
Display	Static
EnableClientScript	True
Enabled	True
EnableTheming	True
EnableViewState	True
ErrorMessage	Not Even Number
Font	
ForeColor	Red
Height	
SetFocusOnError	False
SkinID	
TabIndex	0
Text	
ToolTip	
ValidateEmptyText	True



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Source:

```
<script language="javascript" type="text/javascript">
    function IsEven(source, args) {
        if (args.Value == "") {
            args.IsValid = false;
        }
        else {
            if (args.Value % 2 == 0)
                args.IsValid = true;
            else
                args.IsValid = false;
        }
    }
</script>
```

Sr No.	Question	Answer
1.	Custom Validator is used when inbuilt controls does not work (T/F)	True
2.	Which event is fired or what is the name of event to write the code on server side custom validation.	ServerValidate
3.	args.IsValid means?	It is Boolean property having two value (True/False) depending upon the condition

6) Validation Summary Control:  
"Programming in Asp.Net"



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- This control is used to show summary of all the Validator controls which are included in particular web form.
- It is very useful when you have large web form which has more number of controls, may not be visible in single screen

Sr No.	Property	Description
1.	Header Text	This property is used to give heading to the validation summary control
2.	Display Mode	<ul style="list-style-type: none"><li>• Bullet List</li><li>• List</li><li>• Paragraph</li></ul>

## Example

### Design View:

Username  Plz enter username

Password  Password and confirm password must match

Confirm Password

Click

List of validation

- Error message 1.
- Error message 2.

Validation Summary Control

### Property Window:

“Programming in Asp.Net”

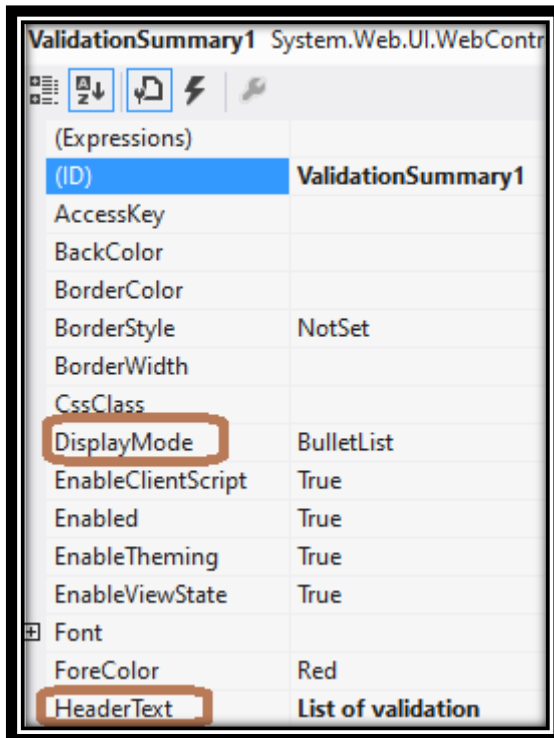


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Coding:

**Button1 Click**

```
if(Page.IsValid==true)  
    Response.Write("Hello");
```





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Output:

Username  Plz enter username

Password  Password and confirm password must match

Confirm Password

List of validation

- Plz enter username
- Password and confirm password must match

When validation fails, all error messages will be displayed in validation summary control

Sr No.	Question	Answer
1.	.....control is used to show summary of all the Validator controls which are included in particular web form	Validation Summary Control



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## 7) Validation Group:

- All validation controls has a property called “IsValid”. If all validation controls “IsValid” property is true then only “IsValid” property of “Page” class is set to true, which allows you to execute your server side event code.
- So, in this case, even if one of the validation control is not valid, the whole page will be treated as “Invalid=false”, which won’t allow to process your event code written in code behind file.
- But in case, if you have two or more different group of validation controls, if one group of validation control is valid, related button should be allowed to click and its event should be executed. At that time may be one of other validation group control may be incorrect.
- You need to set **“ValidateGroup” Property**

Example:

Design View

The screenshot shows a web form with two validation groups. Group-1 contains fields for Username, Email Id, and Age. The Username field has an error message "Plz enter username", and the Email Id field has "Invalid email id". The Age field has "Invalid Age". Below these fields is a "Group-1" button and a list of error messages: "Error message 1." and "Error message 2.". Group-2 contains an Address field with an error message "Plz enter address". Below it is a "Group-2" button and another list of error messages: "Error message 1." and "Error message 2.". The form is annotated with red stars labeled "G1" and "G2" next to the buttons, and speech bubbles labeled "Group-1" and "Group-2" pointing to the respective validation lists.

Step 2: Please set validation controls property of Group 1 to G1  
“Programming in Asp.Net”



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“ValidateGroup” – G1

Step 3: Please set validation summary control property of group 1 to G1

“ValidateGroup” – G1

Step 4: Please set button1 property of group-1 to G1

“ValidateGroup” – G1

Step 5: Please set validation controls property of Group 2 to G2

“ValidateGroup” – G2

Step 6: Please set validation summary control property of group 1 to G2

“ValidateGroup” – G2

Step 7: Please set button2 property of group-2 to G2

“ValidateGroup” – G2

```
protected void Button1_Click(object sender)
{
    Response.Write("Welcome to group-1");
}

protected void Button2_Click(object sender)
{
    Response.Write("Welcome to Group-2");
}
```

Output:



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Rajkot – 360001.  
Ph No. 0281- 2440478

3 – Vaishalinagar,  
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Welcome to Group-2

Username  Plz enter username

Email Id  Invalid email id

**Group-1 fails as validation of group-1 are invalid**

**Group-1 validations**

- Plz enter username
- Invalid email id

Age

Address

**Group-2 gets execute**

Sr No.	Question	Answer
1.	Which property must be set to perform validation on particular group of controls	valdiateGroup

**Topic: Write a short note on State Management**

Ans:

“Programming in Asp.Net”



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## State Overview:

- Stateless means whenever we visit a website, our browser communicates with the respective server depending on our requested functionality or the request. The browser communicates with the respective server using HTTP.
- When we visit the same website again, HTTPs doesn't remember what website or URL we visited, or we can say it doesn't hold the state of a previous website that we visited before closing our browser, that is called stateless.
- HTTP is a stateless protocol. It just cleans up or we can say removes all the resources/references that were serving a specific request in the past. These resources can be:
  - 1) Objects
  - 2) Allocated Memory
  - 3) Sessions ID's
  - 4) Some URL infoand so on

## State Management Types:

- In ASP.NET there are the following 2 State Management methodologies:

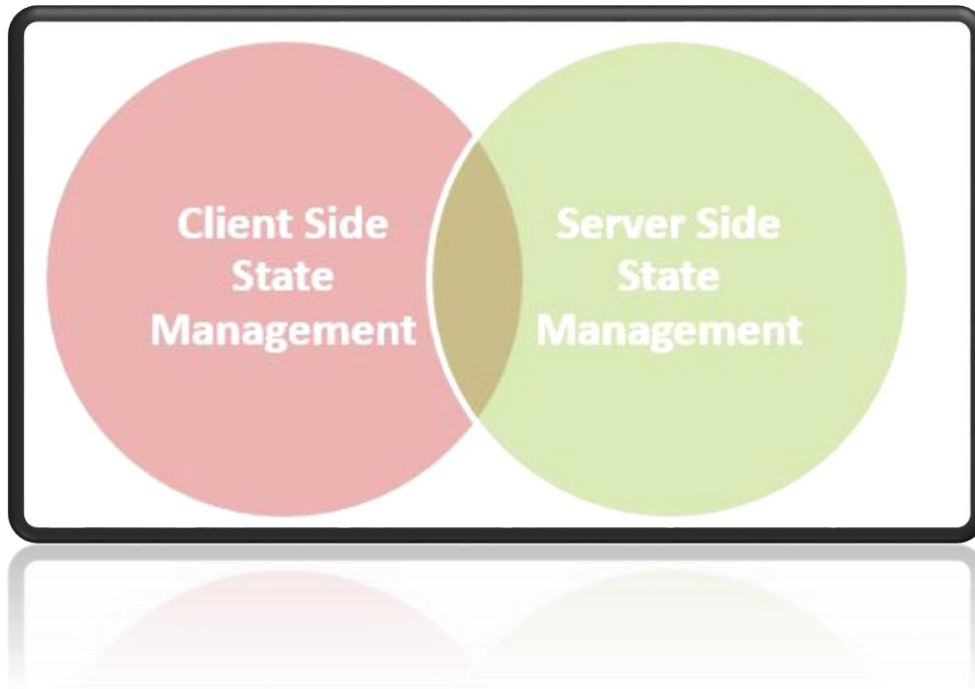


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## Client-Side State Management

- Whenever we use Client-Side State Management, the state related information will directly get stored on the client-side. That specific information will travel back and communicate with every request generated by the user then afterwards provides responses after server-side communication.

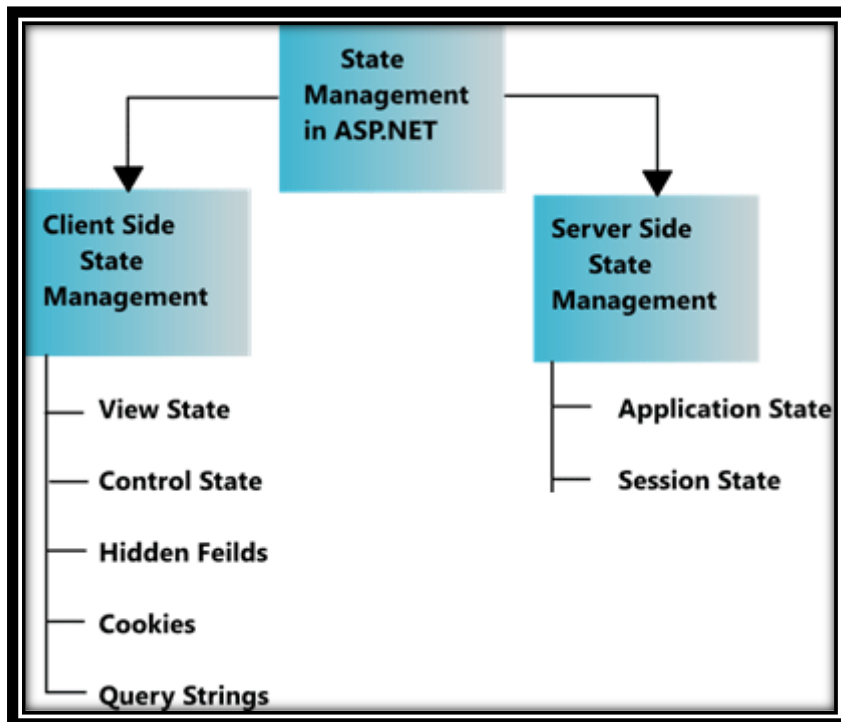


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## Client Side State Management Techniques:

### 1) Viewstate:

- This technique is used to store any type of information temporarily.
- Sometimes, in asp.net application, the user wants to maintain or store their data temporarily after a postback. In this case, view state is the most used
- View state is state level management



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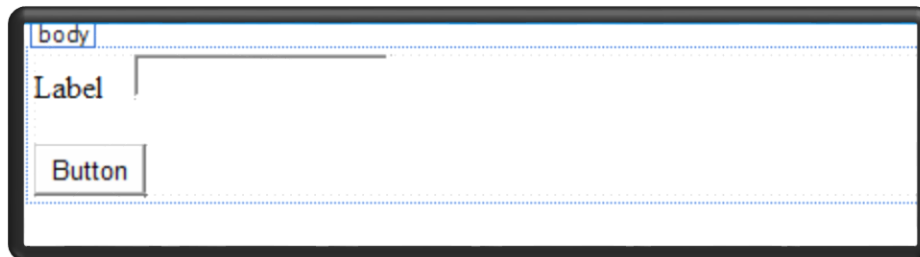
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Example:

Design View:



Coding:

```
protected void Page_Load(object sender, EventArgs e)
{
    ViewState["username"] = TextBox1.Text;
}

protected void Button1_Click(object sender, EventArgs e)
{
    if (ViewState["username"] != null)
        Label1.Text = ViewState["username"].ToString();
}
```





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Output:

karishma    karishma

Button

Sr No.	Question	Answer
1.	State management means?	Storing the information
2.	There are .....techniques of state management.	4
3.	.....technique of client side management is used to store the information temporary	Viewstate
4.	Give the syntax to declare view state variable	ViewState["Username"]



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## 2) Cookie:

- It is a small bit of text that is used to store user-specific information. This information can be read by the web application whenever user visits the site.
- When a user requests for a web page, web server sends not just a page, but also a cookie containing the date and time. This cookie stores in a folder on the user's hard disk.
- When the user requests for the web page again, browser looks on the hard drive for the cookie associated with the web page. Browser stores separate cookie for each different sites user visited.
- The Cookie is limited to small size and can be used to store only 4 KB (4096 Bytes) text.
- There are two ways to store cookies in ASP.NET application.
  - HttpCookie class
  - Cookie Collection

## 1) HttpCookie Class:

- Httpcookie class is the inbuilt class that is used to create the cookie.

Example:

Design View:





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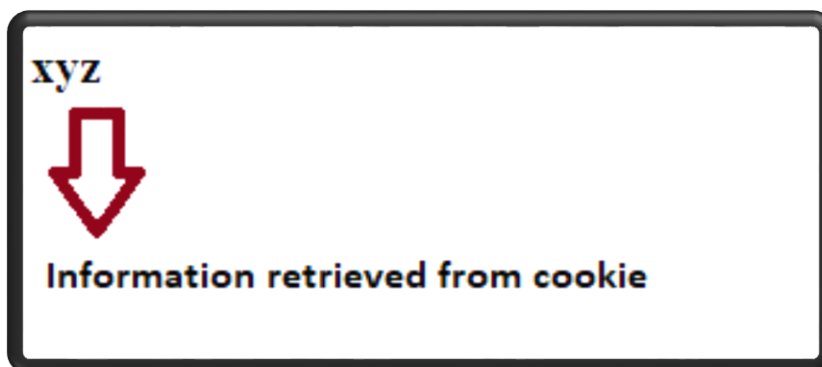
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## Coding:

```
protected void Page_Load(object sender, EventArgs e)
{
    //Creating cookie
    HttpCookie c = new HttpCookie("Student");
    //giving value to cookie
    c.Value = "xyz";
    //Adding cookie to response class
    Response.Cookies.Add(c);
    //Fetching the value from cookie
    var ck = Response.Cookies["Student"].Value;
    Label1.Text = ck;
}
```

## Output:



## 2) Cookie Collection:

- Httpcookie class is the inbuilt class that is used to create the cookie.



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- If the cookie contains a collection of multiple values, Cookie collection can be used.

Example:

Design View:

div

Select the brand

Acer

Dell → Multiple Values so cookie  
Collection can be used

Lenevo

Click

Label

Coding:



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```
protected void Page_Load(object sender, EventArgs e)
{
Response.Cookies["Computer"].Expires = DateTime.Now.AddDays(-1);
}
protected void Button1_Click(object sender, EventArgs e)
{
    Label2.Text = "";
    if (CheckBox1.Checked)
Response.Cookies["Computer"]["Acer"] = "Acer";
    if (CheckBox2.Checked)
Response.Cookies["Computer"]["Dell"] = "Dell";
    if (CheckBox3.Checked)
Response.Cookies["Computer"]["Lenevo"] = "Lenevo";
if (Request.Cookies["Computer"].Values.ToString() != null)
    {
        if (Request.Cookies["Computer"]["Acer"] != null)
Label2.Text+= Request.Cookies["Computer"]["Acer"] + "";
        if (Request.Cookies["Computer"]["Dell"] != null)
Label2.Text += Request.Cookies["Computer"]["Dell"] + "";
        if (Request.Cookies["Computer"]["Lenevo"] != null)
Label2.Text += Request.Cookies["Computer"]["Lenevo"] + "";
    }
    else
        Label2.Text = "Plz select atleast 1 brand";
}
```



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Output:

**Select The Brand**

**Acer**

**Dell**

**Lenevo**

AcerDell

Sr No.	Question	Answer
1.	.....is small text information files.	Cookie
2.	There are .....techniques to create cookie	2
3.	.....technique is used when we want to store multiple values.	Cookie Collection
4.	.....is the inbuilt class used to create cookie	HttpCookie
5.	Cookie can store up to .....bytes of information	5000 Bytes

### 3) Query String:

- A query string is the collection of characters input to a web browser.

“Programming in Asp.Net”



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- A Query String is helpful when we want to transfer a value from one page to another.
- Query string is very easy to use and the query string follows a separating character, usually a Question Mark (?). It is basically used for identifying data appearing after this separating symbol.
- A query string collection is used to retrieve the value
- Query Strings are also generated by form submission or can be used by a user typing a query into the address bar of the browsers

**Example:**

**Design View:**

The screenshot shows a web form with two text input fields. The first field is labeled 'Name' and the second is labeled 'LastName'. Below the fields is a 'Submit' button. The form is enclosed in a dotted border, indicating it is in design view.

**Coding:**

```
protected void Button1_Click(object sender, EventArgs e)
{
    Response.Redirect("WebForm1.aspx?firstname="
        + TextBox1.Text + "&lastname=" + TextBox2.Text);
}
```



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Output:

Name	<input type="text" value="karishma"/>
LastName	<input type="text" value="rupani"/>
<input type="button" value="Submit"/>	

Welcomekarishmarupani

Output

Sr No.	Question	Answer
1.	.....method is used to store the information in browser or URL	Query String
2.	Query string has .....special character	?
3.	To store multiple information through query string, ... symbol is used	&

#### 4) Hidden Field:

- It is also one type of client side state management technique which is used for carrying information within a page when you don't want that information to be visible to the user.
- Hidden field provides a way to store state information in the page.





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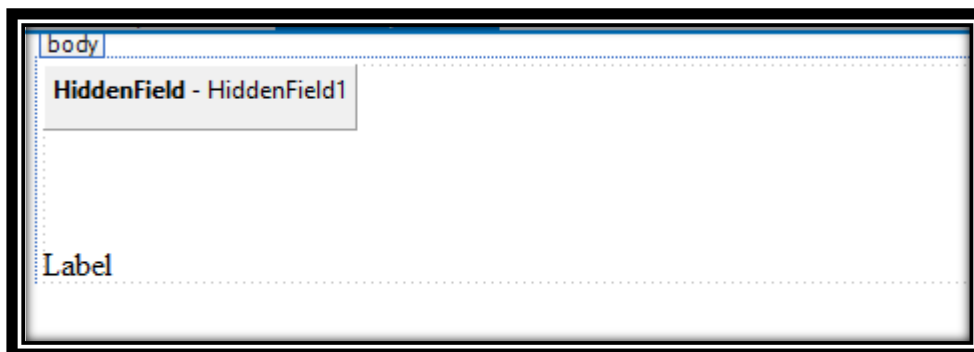
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- We cannot store any sensitive information in hidden field because any user can change the property of hidden field.

**Example:**

**Design View:**



**Coding:**



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```
public partial class _Default : System.Web.UI.Page
{
    protected void Page_Load(object sender, EventArgs e)
    {
        HiddenField1.Value = DateTime.Now.ToString();
        Label1.Text = Convert.ToString(HiddenField1.Value);
    }
}
```

Output:

09-09-2020 03:56:36 PM

Sr No.	Question	Answer
1.	.....is used to carry a information within the page that should not be visible to user	Hidden Field
2.	Hidden Field is inbuilt control (T/F)	True
3.	We can not store .....information using hidden field	Sensitive

**Topic: Write a short note on Rich Controls**

“Programming in Asp.Net”



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Ans:

## 1) Ad Rotator:

### Description:

- It is used to display different images randomly. It allows you to insert images and display them randomly into web pages.
- The main concept of AdRotator is XML File.
- Following is the structure of Advertisement File:

```
<Advertisements>
  <Ad>
    <ImageURI>
    </ImageUri>
    <Width>
    </Width>
    <Height>
    </Height>
    <AlternateText>
    </AlternateText>
    <NavigateUrl>
    </NavigateUrl>
    <Keyword>
    </Keyword>
    <Impressions>
    </Impressions>
  </Ad>
</Advertisements>
```

\*\*<Advertisements>: It is the root element of XML File.



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\*\* **<Ad>**: It depends on number of images you want to store under advertisement file. Each image will have **<Ad>** and **</Ad>** element.

\*\* **<ImageUrl>**: It gives the path of image which you are going to display.

\*\* **<Width>**: It is used to specify the width of image.

\*\* **<Height>**: It is used to specify the height of image.

\*\* **<NavigateUrl>**: When we click on image, the control should be transferred to some specific web location.

\*\* **<Keyword>**: It is used to specify keyword for all images. It is used to display images category wise. e.g: If you have 10 images, 5 of java and 5 of Microsoft and if you want to display only images of java then you can use keyword “Java”.

\*\* **<Impressions>**: It means priority or importance. If you specify same value for all the images then all the images will display equal no. of times.

Example:

Design View:

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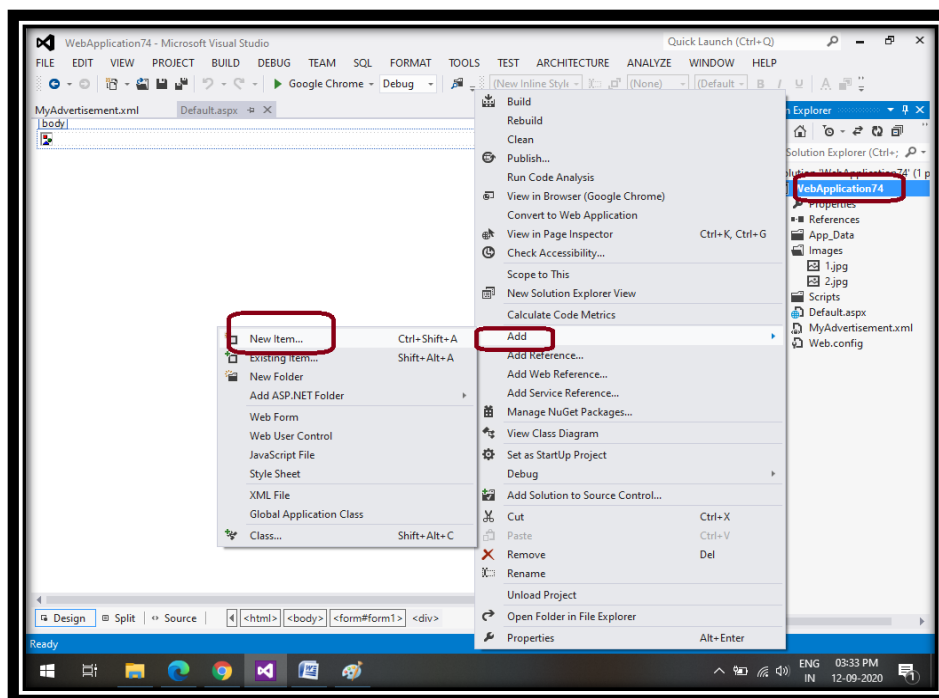
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## Step 1:



## Step 2: Add one XML File In your application and name it as myAdvertisement.xml

### Add->New Item



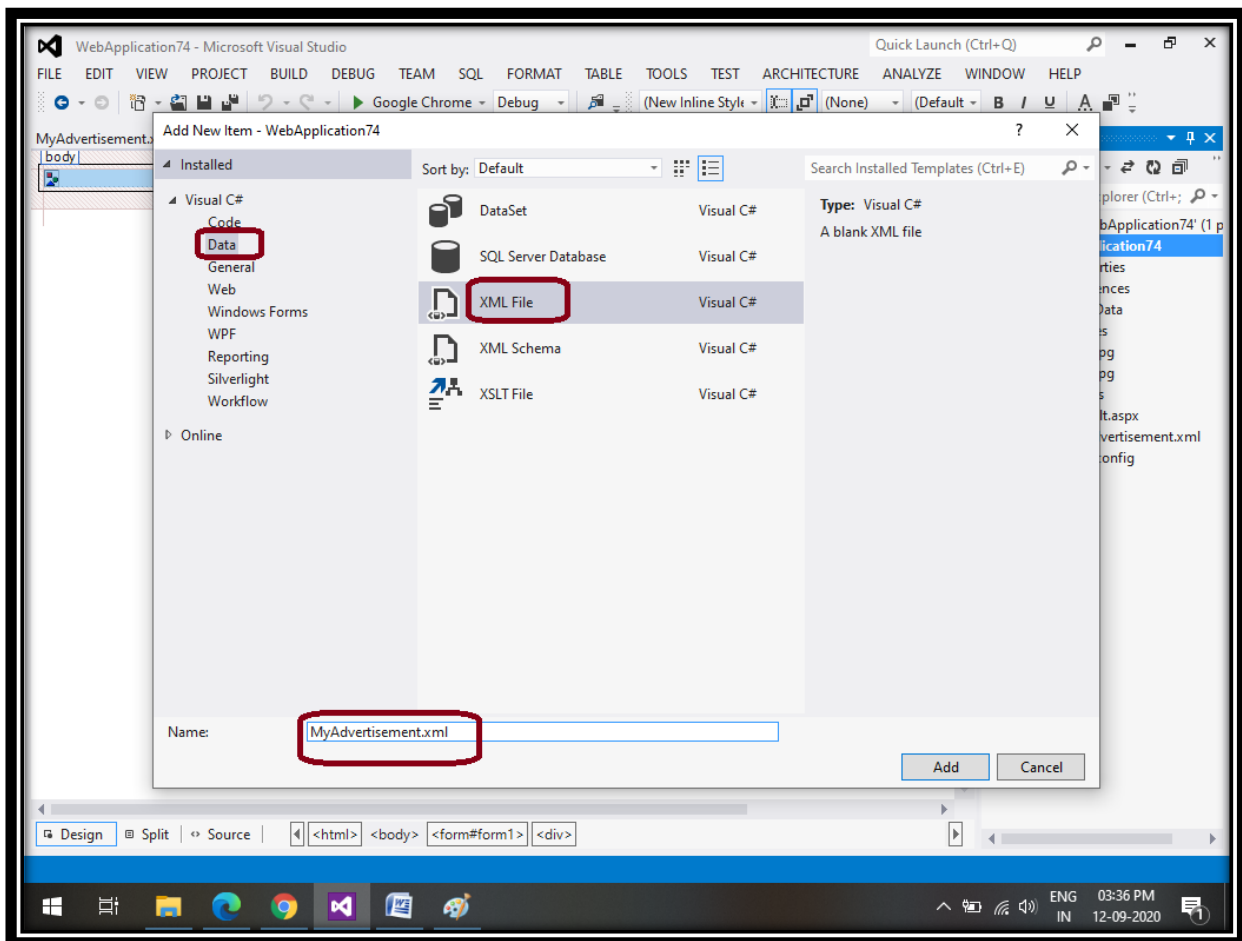


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**Step 3: Write the coding in xml file**



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```
<?xml version="1.0" encoding="utf-8" ?>
<Advertisements>
  <Ad>
    <ImageUrl>Images/1.jpg</ImageUrl>
    <Width>800</Width>
    <Height>200</Height>
    <AlternateText>Invalid</AlternateText>
    <NavigateUrl>http://www.google.com</NavigateUrl>
    <Keyword>Dell</Keyword>
    <Impression>5</Impression>
  </Ad>
  <Ad>
    <ImageUrl>Images/2.jpg</ImageUrl>
    <Width>800</Width>
    <Height>200</Height>
    <AlternateText>Invalid</AlternateText>
    <NavigateUrl>http://www.google.com</NavigateUrl>
    <Keyword>hp</Keyword>
    <Impression>10</Impression>
  </Ad>
</Advertisements>
```

step 4: Set the property of AdRotator control (“AdvertisementFile”) to the name of the XML File that you created.



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Sr No.	Question	Answer
1.	To rotate the images randomly like advertisement, .....is used.	AdRotator
2.	The main concept of AdRotator file is .....	XML File
3.	.....is the root element of AdRotator	<Advertisments>
4.	.....tag is used to display total number of images	<Ad>
5.	.....tag is used to display image category wise	<Keyword>
6.	.....tag is used to display images priority wise	<Impression>
7.	.....tag is used to display when image can not load properly	<AlternateText>

## 2) Calendar Control:

### Description:





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- It is used to display calendar.

## Properties:

Sr No.	Property	Description
1.	FirstDayOfWeek	Allows you to select first day of week
2.	DayNameFormat	Allows you to set the format of Day Name 1) First Letter (M) 2) FirstTwoLetters (MO) 3) Ful(Monday) 4) Short (Mon)
3.	SelectedDate	Gives you selected date
4.	SelectionMode	Used to set whether you want to select one day, week or month 1) Day 2) DayWeek 3) DayWeekMonth 4) None
5.	TodaysDate	Allows you to set today's date

## Methods:

Sr No.	Methods	Description
--------	---------	-------------



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1.	<code>SelectedSDate.Add</code>	Allows you to add specific value to date and returns new date after adding specified value.
2.	<code>SelectedDate.AddDays</code>	Allows you to add specified no. of days and returns new date after adding days.
3.	<code>SelectedDate.AddMonths</code>	Allows you to add specified no. of months and returns new date after adding months.
4.	<code>SelectedDate.AddYears</code>	Allows you to specified no. of years and returns new date after adding years.
5.	<code>SelectedDate.AddHours</code>	Adds specified no. of hours to selected ate and time and returns new date after adding specified no.of hours
6.	<code>SelectedDate.Addminutes</code>	Adds specified no. of minutes to selected date and time and returns new date after adding specified no.of minutes
7.	<code>SelectedDate.Addseconds</code>	Adds specified no. of seconds to selected date and time and returns new date after adding specified no.of seconds.
8.	<code>SelectedDates.SelectRange</code>	Allows you to set the range to be selected for calendar.

Events:

“Programming in Asp.Net”



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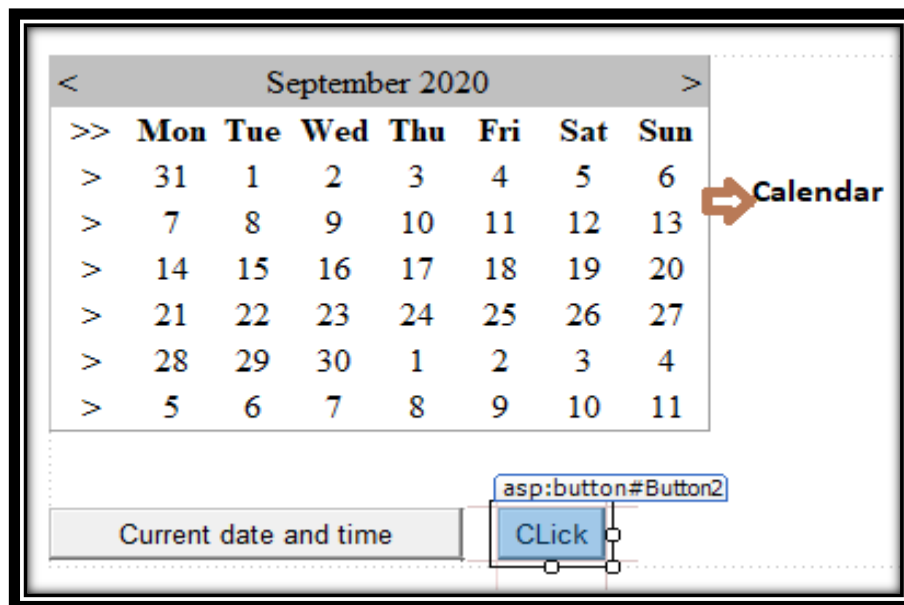
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Sr No.	Property	Description
1.	SelectionChanged	Raised when selection of date, week or month is changed from calendar control

Example:



Coding:



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```
public void showdate(DateTime d)
{
    Response.Write("<p> Date is" + d.ToString());
    Response.Write("<p> Day is" + d.Day);
    Response.Write("<p> Month is" + d.Month);
    Response.Write("<p> Year is" + d.Year);
    Response.Write("<p> Dayof week is" + d.DayOfWeek);
    Response.Write("<p> Day of year is" + d.DayOfYear);
}

```

class System.String

```
protected void Button1_Click(object sender, EventArgs e)
{
    DateTime d = DateTime.Now; ;
    showdate(d);
}

```



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```
protected void Button2_Click(object sender, EventArgs e)
{
    if (Calendar1.SelectedDates.Count == 0)
        Response.Write("No Date Selected");
    else if (Calendar1.SelectedDates.Count == 1)
    {
        Response.Write("1 date selected");
        DateTime d = Calendar1.SelectedDate;
        this.showdate(d);
    }
    else if(Calendar1.SelectedDates.Count>1)
    {
        Response.Write("Multiple date selected");
        DateTime d;
        for(int i=0;i<Calendar1.SelectedDates.Count;i++)
        {
            d=Calendar1.SelectedDates[i];
            this.showdate(d);
        }
    }
}
```

**Output:**

Date is 14-09-2020 04:53:35 PM  
Day is 14  
Month is 9  
Year is 2020  
Day of week is Monday  
Day of year is 258

September 2020						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
31	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	1	2	3	4
5	6	7	8	9	10	11

Current date and time    Click



**Single Date Selected**

**Multiple Dates Selected**



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Ph No. 0281- 2440478

3 – Vaishalinagar,  
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Raiya Road,  
Rajkot – 360001.  
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```
Multiple date selected
Date is14-09-2020 12:00:00 AM
Day is14
Month is9
Year is2020
Dayof week isMonday
Day of year is258
Date is15-09-2020 12:00:00 AM
Day is15
Month is9
Year is2020
Dayof week isTuesday
Day of year is259
Date is16-09-2020 12:00:00 AM
```

```
Month is9
Year is2020
Dayof week isWednesday
Day of year is260
Date is17-09-2020 12:00:00 AM
Day is17
Month is9
Year is2020
Dayof week isThursday
Day of year is261
Date is18-09-2020 12:00:00 AM
Day is18
Month is9
Year is2020
```



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Dayof week isFriday  
Day of year is262  
Date is19-09-2020 12:00:00 AM  
Day is19  
Month is9  
Year is2020  
Dayof week isSaturday  
Day of year is263  
Date is20-09-2020 12:00:00 AM  
Day is20  
Month is9  
Year is2020

Dayof week isSunday  
Day of year is264

September 2020							
>>	Mon	Tue	Wed	Thu	Fri	Sat	Sun
>	31	1	2	3	4	5	6
>	7	8	9	10	11	12	13
>	14	15	16	17	18	19	20
>	21	22	23	24	25	26	27
>	28	29	30	1	2	3	4
>	5	6	7	8	9	10	11

Current date and time

Click



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Sr No.	Question	Answer
1.	.....is the inbuilt class used to display current date and time	DateTime
2.	.....event is executed when dates in the calendar are selected	Selection_Changed()

### 3) Menu Control:

#### Description:

- It is used to display menu in Asp.Net Web page. Menu can have:
  - 1) **Root Menu Items:** Menu items at top level(0 level) are known as root menu items.
  - 2) **Parent Menu Items:** Menu items which have sub menus is known as parent menu items
  - 3) **Child Menu items:** A menu item that has parent menu item is known as child menu items.
- There are 2 types of menu items:
  - 1) **Static Menu items:** Menu items which are always visible is known as static menu items
  - 2) **Dynamic Menu items:** Menu items which appear only at particular situation and disappear after certain duration is known as dynamic menu items.





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## Properties:

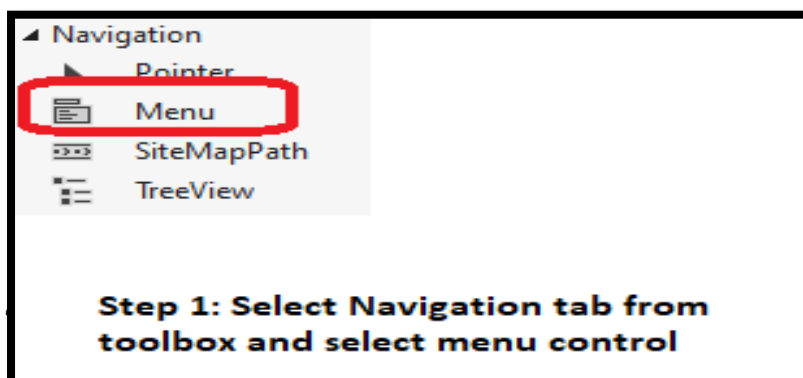
Sr No.	Property	Description
1.	Orientation	Whether you want to display menu as horizontal menu or vertical menu
2.	Items	Collection of Menu Items
3.	SelectedItem	Returns Selected Menu Item
4.	SelectedItem.Text	Returns text value of selected menu item
5.	SelectedItem.ValuePath	Returns the path of the selected menu item
6.	SelectedItem.NavigateURL	Specifies some URL which will be navigated when user clicks on particular menu item
7.	SelectedItem.ChildItems	Returns childitems of selected menu item

## Events:

- 1) MenuItem\_Click: This event is fired when you click on any menu item.

## Example:

### Step 1:





# SHREE H.N.SHUKLA GROUP OF COLLEGES

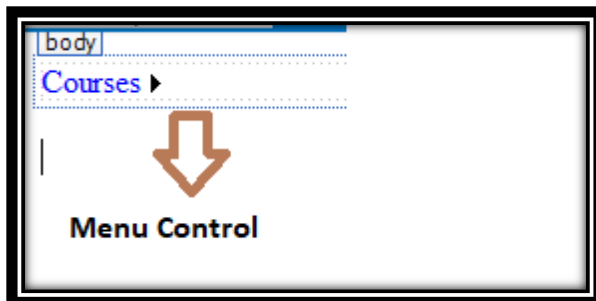
(Affiliated to Saurashtra University and G.T.U)

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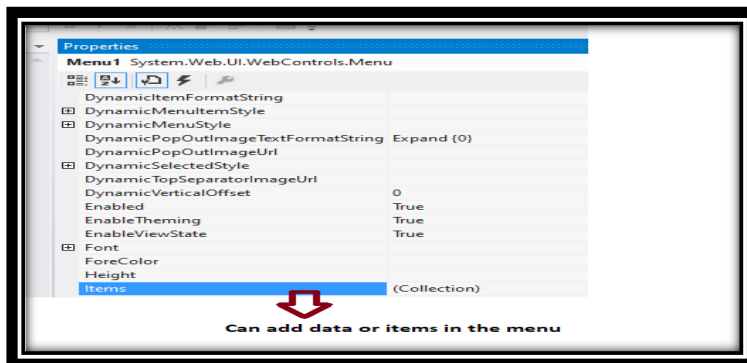
3 – Vaishalinagar,  
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Step

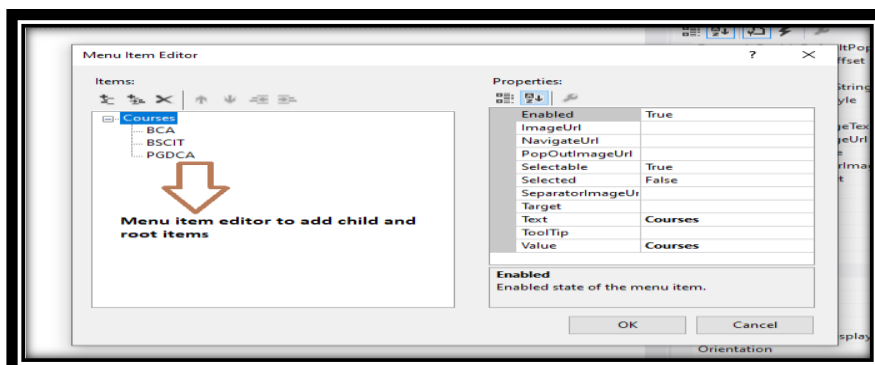
2:



Step 3:



Step 4:





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## Step 5: Coding

```
protected void Menu1_MenuItemClick(object sender, MenuEventArgs e)
{
protected void Menu1_MenuItemClick(object sender, MenuEventArgs e)
{
    Response.Write("<br> Selected Item is" + Menu1.SelectedItem.Text);
    Response.Write("<br> Path is" + Menu1.SelectedItem.ValuePath);
    Response.Write("<br> Child items is" + Menu1.SelectedItem.ChildItems.Count);
    if (Menu1.SelectedItem.ValuePath == "Courses")
    {
        MenuItem m = new MenuItem("MSCIT", "MSCIT");
        Menu1.SelectedItem.ChildItems.Add(m);
    }
}
}
```

## Step 6: Output

```
Selected Item isCourses
Path isCourses
Child items is4
Courses ▶ BCA
        BSCIT
        PGDCA
        MSCIT
        MSCIT
```



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Sr No.	Question	Answer
1.	The menu which always appears is known as.....	Static Menu
2.	The menu which appears for some time and disappears after some duration is known as .....	Dynamic Menu
3.	To add data in menu..... property is used	Items
4.	To display path of selected item in menu, property is used.	SelectedItem.ValuePath
5.	To count child items of particular menu, ..... is used.	SelectedItem.ChildItems.Count

### 3) Treeview Control:

#### Description:

- It is used to display the data in hierarchical manner
- All the information inside treeview control is known as nodes.
- There are 3 types of nodes:
  - 1) **Root Node**: It is the topmost node of the treeview control. It does not have parent node.



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- 2) **Parent Node**: The node which has one or more child nodes and also its own parent node is known as parent node.
- 3) **Leaf Node**: The node which does not have any child nodes is known as leaf node

## Properties:

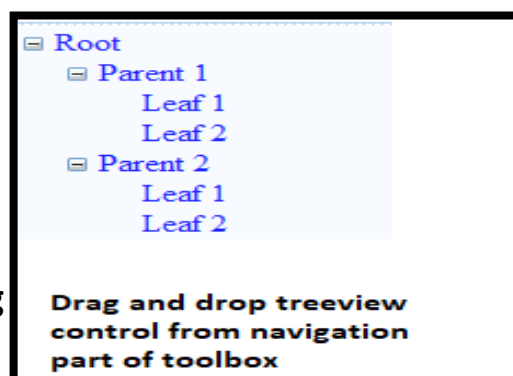
Sr No.	Property	Description
1.	Nodes	Specifies nodes of treeview at design time
2.	SelectedNode	Gives the information about selected node
3.	SelectedNode.ValuePath	Gives the path of the selected node
4.	SelectedNode.ChildNodes.Count	Counts the child nodes of the selected node.

## Events:

- 1) **SelectedNode\_Changed**: This event is fired when you double click on treenode.

## Example:

### Step 1:





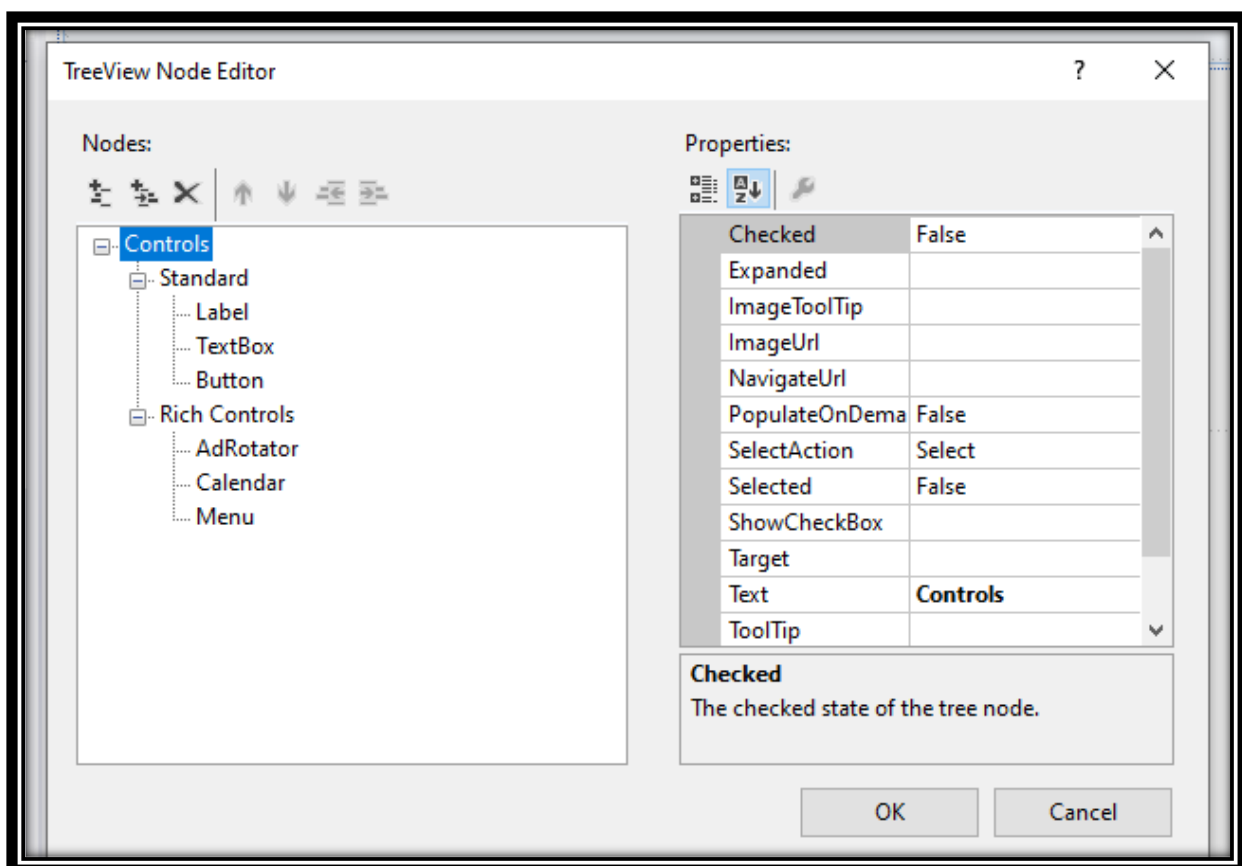
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Step 2: Go to **Nodes** property and add the nodes at design time



Step 3: Now, your treeview controls look like this

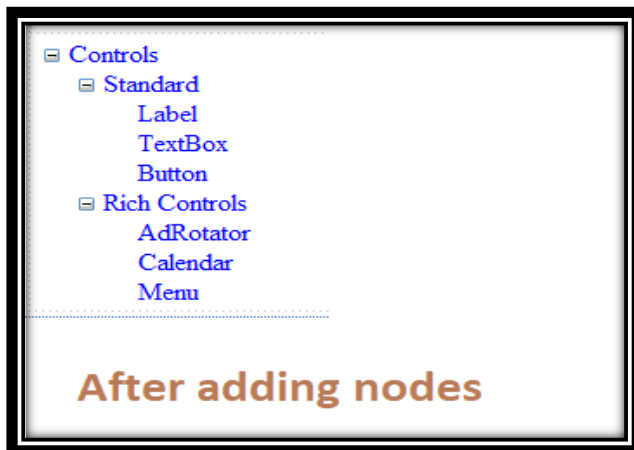


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**Step 4:**



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```
protected void TreeView1_SelectedNodeChanged(object sender, EventArgs e)
{
    if (TreeView1.SelectedNode == null)
        Response.Write("Please select atleast 1 node");
    else
    {
        Response.Write("<br> Text property is" + TreeView1.SelectedNode.Text);
        Response.Write("<br> Path is" + TreeView1.SelectedNode.ValuePath);
        Response.Write("<br> Childnodes" + TreeView1.SelectedNode.ChildNodes.Count);

        if (TreeView1.SelectedNode.ValuePath == "Controls/Standard")
        {
            TreeNode t = new TreeNode("RadioButton", "RadioButton");
            TreeView1.SelectedNode.ChildNodes.Add(t);
        }
    }
}
```

## Step 5:

```
Text property isStandard
Path isControls/Standard
Childnodes3
[-] Controls
    [-] Standard
        Label
        TextBox
        Button
        RadioButton
    [-] Rich Controls
        AdRotator
        Calendar
        Menu
```

## Output





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## Difference between Treeview control and Menu Control

Treeview Control	Menu Control
1) It does not have horizontal orientation	1) It have both horizontal as we as vertical orientation
2) All the nodes are visible at design time	2) The submenus will be displayed only when we click on Menu at runtime
3) It support checkbox	3) It does not support checkbox
4) It have Nodes Property	4) It have Items Property

Sr No.	Question	Answer
1)	The node which does not have child nodes are is known as .....	Leaf Nodes
2)	Using .....property, we can add nodes in treeview at design time	Nodes
3)	..... property is used to display total number of child nodes of treeview	SelecteNode.ChildNodes.Count
4)	Does Treeview supports checkbox?(Y/N)	Yes
5)	.....property is used to show the path of selected node	SelectedNode.ValuePath

### 5) Multiview and view control:

Ans:

“Programming in Asp.Net”



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## Description:

- Multiview control is used for many views.
- Sometimes, we have many screens with application but at a time I want to display only one screen, instead of creating different webforms for each screen, it is better to create multiveiw.
- Multiview is a container of group of view controls.
- In Multiview, only one view is selected at a time and the selected view is known as Active view.

## Properties:

Sr No.	Property	Description
1.	ActiveViewIndex	Used to set or get the index numer of currently active index. By default it is -1 that is no view is selected.
2.	Views.Count	Gives the total number of views under multiview

## Methods:

Sr No.	Property	Description
1.	SetActiveView	Used to set some view as active view.

## Events:



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Sr No.	Property	Description
1.	ActiveViewChanged	Raised when the view is changed from one view to another view

Example:



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The screenshot shows a web application interface with a MultiView control. At the top, there is a menu bar with a 'Menu' button. Below the menu, the MultiView control is active, displaying three views:

- View 1: Calendar Control**: Displays a calendar for September 2020.
- View 2: Image Control**: Displays a cartoon image of a smiling face with a thumbs up gesture.
- View 3: ImageButton Control**: Displays a world map.

The status bar at the bottom shows the following code snippets: `<html>`, `<body>`, `<form#form1>`, `<asp:MultiView#MultiView1>`, `<asp:View#View3>`, and `<asp:ImageButton#ImageBut...>`.

## Note:

- When adding items in the menu, Set the value property of particular menu item

Calendar: 0  
Image :1  
ImageButton :2

Coding:

“Programming in Asp.Net”



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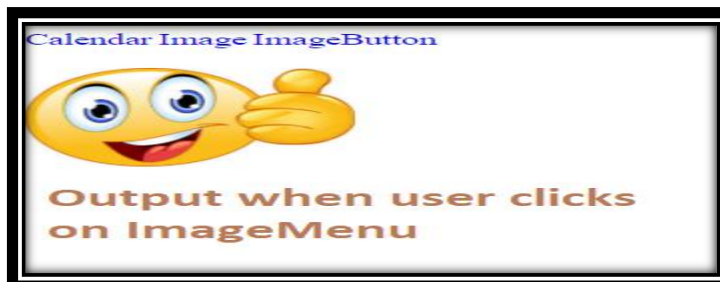
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```
namespace WebApplication87
{
    public partial class _Default : System.Web.UI.Page
    {
        protected void Page_Load(object sender, EventArgs e)
        {
            MultiView1.ActiveViewIndex = 0;
        }

        protected void Menu1_MenuItemClick(object sender, MenuEventArgs e)
        {
            MultiView1.ActiveViewIndex = Convert.ToInt32(e.Item.Value);
        }
    }
}
```

Output:



## 5) Wizard Control:

**Description:**



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- It is the advancement of Multiview control. In Multiview, you can have many view controls inside Multiview in which you can see only one view at time.
- Wizard has many screens which come one after another.
- For wizard, it is generally said “Start->Next->Next->.....->Finish. where screen starts with “Start” screen and goes up to last screen.
- Wizard has different views which it shows one by one but in a customized format.
- Different parts of wizard control are:
  - **Main:** This part contains User interface for each step. Generally, this part contains navigational buttons which are used to move Next or previous screen.
  - **Header:** This part displays header information about the current step.
  - **Side Bar:** This contains navigational steps for quick navigation so you can directly move from one step to any other step by.



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Personal Details  
Contact Information  
Qualification  
Experience  
Registration Done

## Job Portal Registration

First Name

Last Name

Male  Female

Next

Side Bar

Main

Header

- The navigation is determined by StepType property.

StepType Auto

Misc Auto

(ID) Complete

Finish

Start

Step

- 1) Auto: If you set type to Auto, it will automatically determine whether the step is first, middle or last step. If it is first step, it will have only “Next” button, if it is middle step it will have “Next” and “Previous” button and if it is last step, it will have “Previous “ and “Finish” button.



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- 2) Start: This determines that the step is starting step, which will have only “Next” button
- 3) Step: This determines that the step is middle step, which will have “Next” and “Previous” button.
- 4) Finish: This determines that the step is last step. So it will have “Previous” and “Finish” button
- 5) Complete: This step type is generally used after last step means after Finish step.

## Example:

**Step 1: Drag and drop wizard control from toolbox.**

**Step1: Drag and drop wizard control from toolbox**





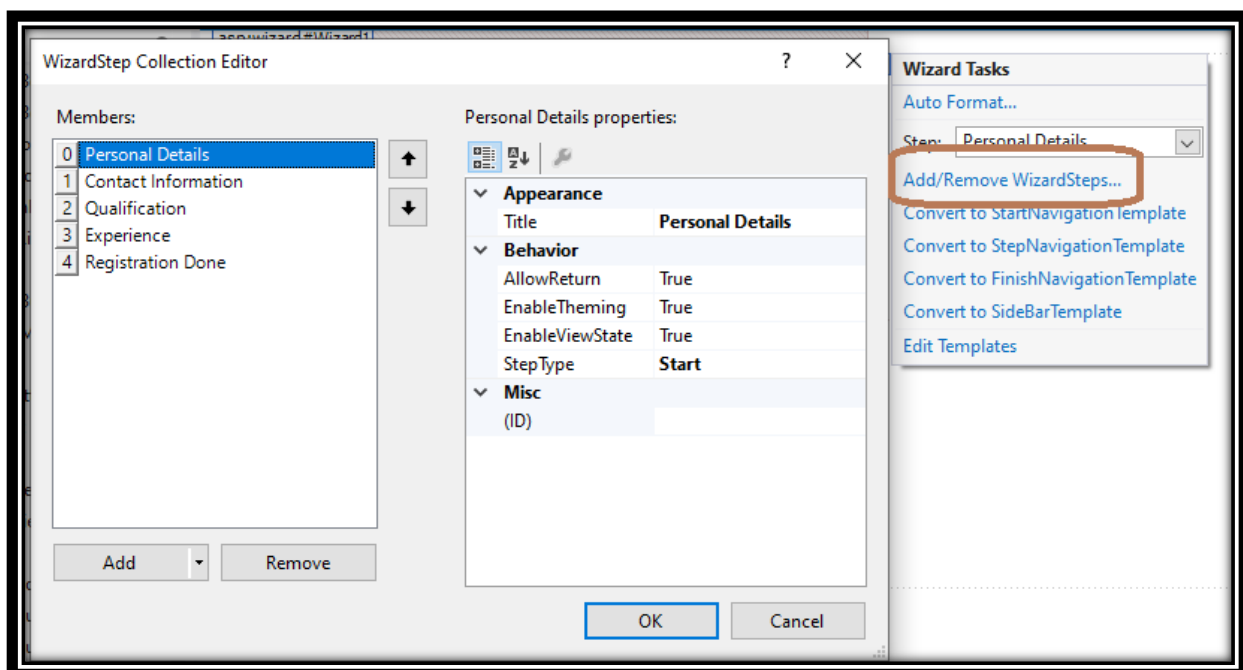
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**Step 2: Click on Add/Remove Wizard Steps which will open “WizardStepCollectionEditor” and add 5 steps**



**Step 3: Click on “AutoFormat” to specify the format. Select “Professional” style.**

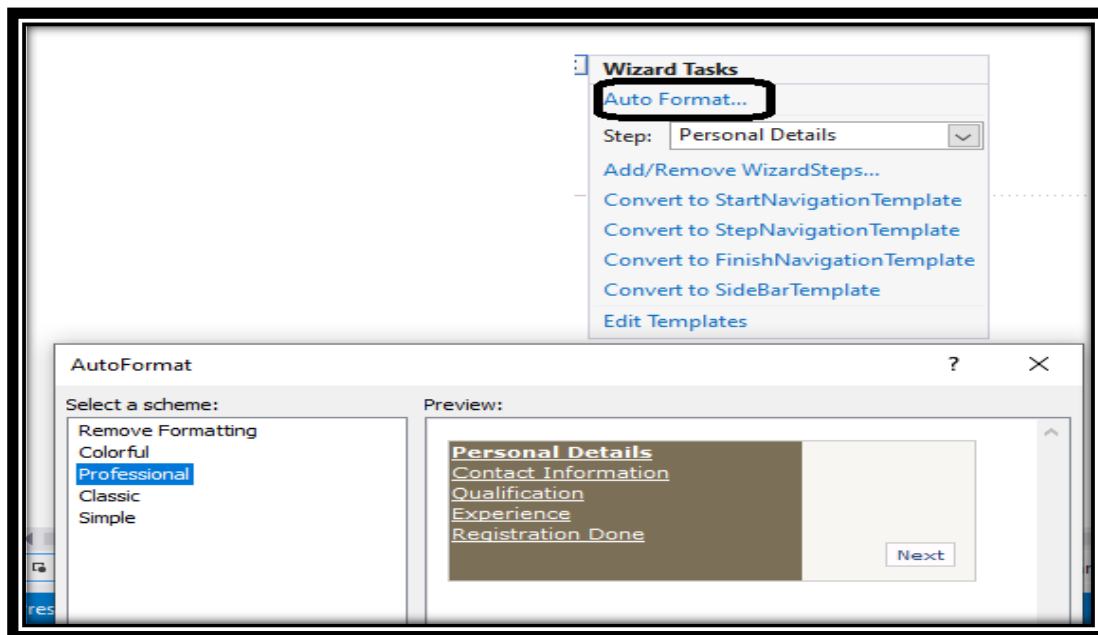


# SHREE H.N.SHUKLA GROUP OF COLLEGES

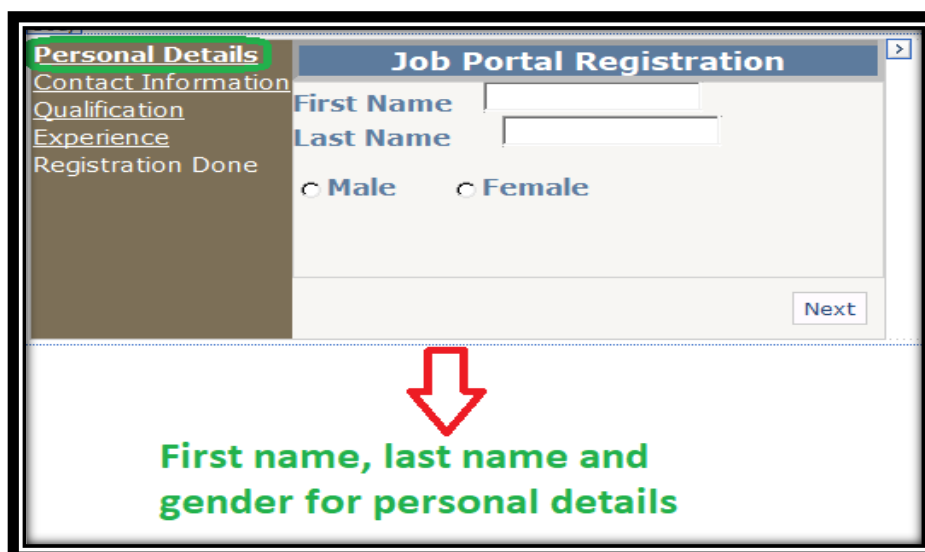
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**Step 4: Add controls inside each wizard step (Personal Details).**



**Step 5:  
Add  
controls**



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inside each wizard step (Contact Information).

body

Personal Details  
**Contact Information**  
Qualification  
Experience  
Registration Done

### Job Portal Registration

Contact

Previous Next

Contact number for contact information

Step 6: Add controls inside each wizard step (Qualification Information).

Personal Details  
Contact Information  
**Qualification**  
Experience  
Registration Done

### Job Portal Registration

Qualification

Previous Next

Qualification selection from dropdownlist

Step  
7:



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Add controls inside each wizard step (Experience).

body

Personal Details  
Contact Information  
Qualification  
**Experience**  
Registration Done

**Job Portal Registration**

Yrs. of experience

Previous Finish

Years of experience

Step 8: Add controls inside each wizard step (Registration Done)

Personal Details  
Contact Information  
Qualification  
Experience  
**Registration Done**

**Job Portal Registration**

First Name

Last Name

Male  Female

Next

Registered Successfully

Step 9: Add controls inside each wizard step (Registration Done)



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## Step 10: Coding

```
protected void Wizard1_FinishButton_Click(object sender, WizardNavigationEventArgs e)
{
    Response.Write("<br> FirstName is" + TextBox1.Text);
    Response.Write("<br> Lastname is" + TextBox2.Text);
    if (RadioButton1.Checked == true)
        Response.Write("<br> Male");
    else
        Response.Write("<br> Female");
    Response.Write("<br> Mobile is" + TextBox3.Text);
    Response.Write("<br> qualfiication" + DropDownList1.SelectedValue);
    Response.Write("<br> Expereinece is" + TextBox4.Text);
}
```

## Step 11: Output

**Personal Details**  
Contact Information  
Qualification  
Experience  
Registration Done

**Job Portal Registration**  
First Name: Karishma  
Last Name: Rupani  
 Male  Female  
Next

**Personal details**



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**Job Portal Registration**

**Contact**

**Contact Information**



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Personal Details  
Contact Information  
**Qualification**  
Experience  
Registration Done

**Job Portal Registration**

Qualification

**Qualification details**

Personal Details  
Contact Information  
Qualification  
**Experience**  
Registration Done

**Job Portal Registration**

Yrs. of experience

**Experience Details**



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FirstName isKarishma  
Lastname isRupani  
Female  
Mobile is9574796292  
qualficationEngineer  
Expereinece is10

**Registered Successfully**

## Topic: Explain Global.aspx

Ans:

- It is one of the very important file of Asp.Net
- Global.aspx file is used to store some global data. This data can be shared anywhere. This file gives you some special events, which can help you to write application code.
- Only one global.aspx file can be there in your application.
- Global.aspx file contains 5 important events:
  - Application\_Start()
  - Application\_End()
  - Application\_Error()
  - Session\_Start()





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## ○ Session\_End()

- 1) **Application\_Start():** This event is raised when your application is started for the first time. Generally this event is used to set up database connection because as soon as application is started, database connection is also created.
- 2) **Application\_End():** This event is raised when your application is stopped or web server containing application gets down. This event is used to disconnect database connection
- 3) **Application\_Error():** This event is raised when your application gets any error. This event is generally used to maintain the log of application errors which occurred during application execution or during application life time
- 4) **Session\_Start():** This event is raised as soon as any new user visits the website. Web server first of all assigns SessionID to new user and then this event is raised. This event is also used to store some user specific data
- 5) **Session\_End():** This event is fired after specific time when session is no longer needed. This even clears all the session specific data.



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## **SUBJECT: ASP.NET**

### **CHAPTER-3:**

Sr No.	Topic
1.	What is ADO.NET?
2.	ADO.NET Architecture
3.	Data Providers
4.	Connected Architecture Practical
5.	Disconnected Architecture Practical
6.	Gridview
7.	Practical of AutoGenerate Edit and AutoGenerate Delete Button
8.	Data Binding



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## Topic: What is ADO.NET?

Ans:

- ADO stands for ActiveX Data Object
- ADO.NET is large set of .NET classes that enable us to retrieve and manipulate data, and update data sources in many different ways.
- **Advantages:**
  - 1) **Connection with any Database:** ADO.NET can be used to connect with any type of database that is routine database like SQL Server, Oracle, Access, MySql etc.
  - 2) **Connected and Disconnected Architecture:** ADO.NET supports both connected and disconnected architecture for connectivity
  - 3) **XML Support:** This is one of the key features of .Net. Today XML is used widely to transfer the data globally. Using ADO.NET, you can convert data from Dataset to XML and do operations as per your requirement.
  - 4) **Fast, Scalable and Secured:** As ADO.NET supports disconnected architecture, web applications are faster now. ADO.NET provides facility to deal with Distributed Databases easily which makes your application scalable, it also provides XML and support which makes data secured.



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- 5) **Cross Language Support:** As .Net supports many languages like C#, J# etc. So, ADO.NET provides cross language support features.

M.C.Q		
Sr No.	Question	Answer
1.	ADO stands for .....	ActiveX Data Object
2.	ADO.NET supports both .....and .....architecture	Connected Disconnected
3.	For security, data from dataset can be converted to .....	XML

**Topic: Explain ADO.NET Architecture**

Ans:

“Programming in Asp.Net”



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## ■ ADO.NET supports two types of architecture:

### 1) Connected Architecture:

- Connected architecture simply means, you are connected with the database throughout your operations.
- It is connection oriented
- Connected architecture gives faster response.
- Connected architecture holds the data of only single table.
- In Connected Architecture, Data reader cannot persist the data.
- Following set of classes are used in connected architecture:
  - **Connection:** This allows you to connect with database
  - **Command:** This allows you to give the commands like insert, update, delete, select etc.
  - **Data Reader:** This allows you to read the data directly from the database.

### 2) Disconnected Architecture:

- It is connectionless oriented.
- In Disconnected architecture, copy of data from database is loaded and kept into local memory of client.
- Connection remains active only while copying the data. After copying the data connection is automatically lost.
- Following set of classes are used in disconnected architecture:
  - **Connection:** This allows you to connect with database



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- **DataAdapter**: It is a mediator which provides (fills) data into dataset/datatable and again updates the data back to the database.
- **DataSet**: It is used if you want to load some group of tables into local memory. It is the collection of tables.
- **DataTable**: It is used if you want to load only one table into local memory

## \*Difference between Connected and Disconnected Architecture:

Connected Architecture	Disconnected Architecture
1) In this, you are connected with database throughout your operation. Data is stored in database while	1) In this, you get the copy of data and then do operations in local memory. Data is stored in local memory while doing operation.



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<b>doing operation.</b>	
<b>2) This creates Heavy traffic at database server side when number of user increases.</b>	<b>2) As data is loaded into local memory, it does not create heavy traffic at database server side even number of user's increases.</b>
<b>3) Transactional commands like insert, delete, update etc are performed using connected architecture, as they do not require more time</b>	<b>3) If you want to load data just for display purpose, disconnected architecture is used.</b>
<b>4) Data Reader is used for connected architecture.</b>	<b>4) Data Adapter, Data Set, Data Table, Data Row, Data Column objects are used in this architecture</b>
<b>5) Data Reader is used to fetch the data in connected architecture</b>	<b>5) Data set or data table is used to fetch the data in disconnected architecture.</b>

<b>M.C.Q</b>		
<b>Sr No.</b>	<b>Question</b>	<b>Answer</b>
<b>1.</b>	<b>In ..... architecture, the connection remains alive throughout the application</b>	<b>Connected</b>
<b>2.</b>	<b>Which architecture is faster?</b>	<b>Disconnected</b>



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3.	Data Reader is used in .....architecture	Connected
4.	Data Adapter is used in .....architecture	Disconnected
5.	.....is a mediator which provides (fills) data into dataset/datatable and again updates the data back to the database.	Data Adapter
6.	Data Adapter, Data Set, Data Table, Data Row, and Data Column objects are used in ..... architecture.	Disconnected

**Topic: Write a short note on Data Providers.**

**Ans:**

- The data providers are responsible for providing and maintaining the connection to database.





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- A data provider is a set of ADO.NET classes that allows you to access a specific database, execute SQL commands and retrieve the data.
- ADO.NET does not have any general classes for data providers; instead it uses different types of data providers for different types of databases.
- Microsoft gives 4 types of data providers.
  - SQL Server Provider
  - Oracle Provider
  - OLEDB Provider
  - ODBC Provider

## 1) SQL Server Provider:

➤ This provider is specially designed to deal with SQL Server Database.

## 2) Oracle Provider:

➤ This provider is specially designed to deal with oracle database. But Oracle provider works only with Client-Server Oracle, if you have installed Personal Oracle, you cannot use Oracle provider as it is meant for client oracle only.

## 3) OLEDB Provider:

➤ This provides access to any database that has OLEDB (Object Linking and Embedding Database) driver. The main idea behind providing this provider is to access Global Data.



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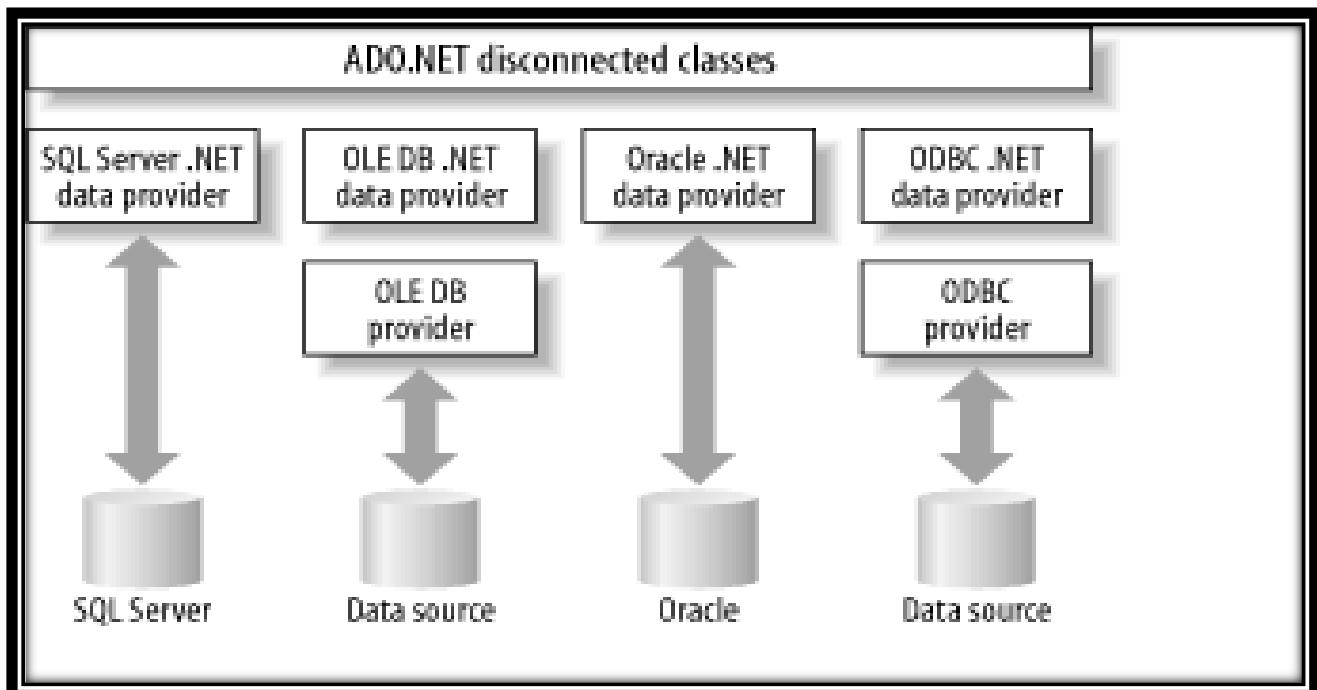
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This means you can access data from any type of database by using OLEDB provider.

## 4) ODBC Provider:

- This also provides access to any database which has ODBC (Open Database Connectivity) driver.
- One advantage of this provider is, almost all database today comes with ODBC Driver inbuilt. So you can connect with any database even though you don't have specific



driver.

### M.C.Q

Sr No.	Question	Answer
1.	A ..... is a set of ADO.NET classes	Data Provider



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	that allows you to access a specific database, execute SQL commands and retrieve the data.	
2.	Microsoft gives .....types of data providers.	4
3.	.....provider is used when you want to deal with SQL Server Database	SQL Server Provider
4.	OleDb stands for .....	Object linking and Embedding Database
5.	ODBC stands for .....	Open Database Connectivity
6.	Which provider can access data from any database?	OleDb, ODBC
7.	In .....provider, all database come with inbuilt drivers.	ODBC

**Topic: Write a program to connect with database.**

Ans:

Step1: Take new application (windowsApplication1)



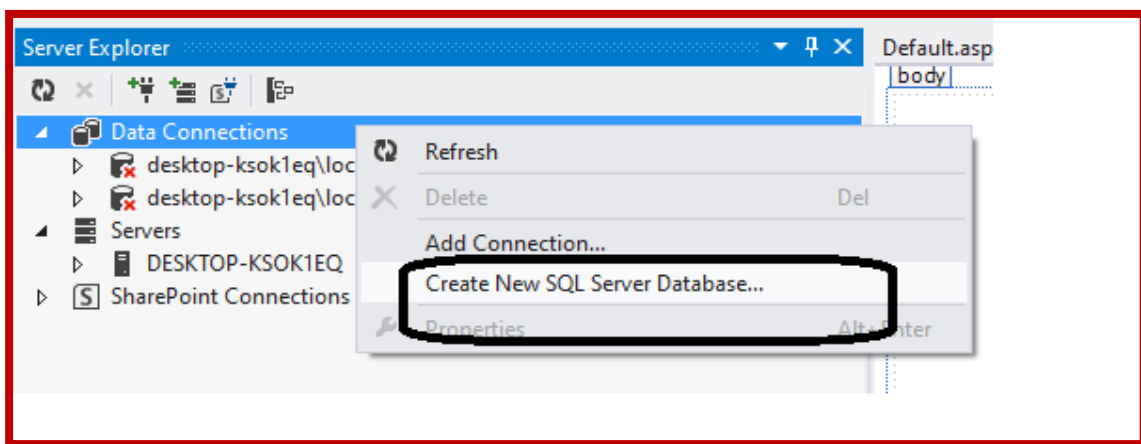
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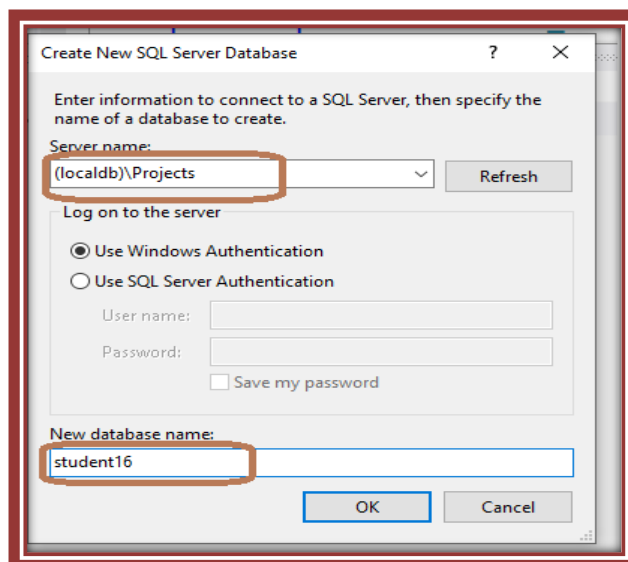
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Step 2: Go to view->Server Explorer->DataConnections->Add new sq server database



Step3: Give the server name and database name



Step 4:  
(Using  
in the coding section

Include the namespace  
System.Data.SqlClient)



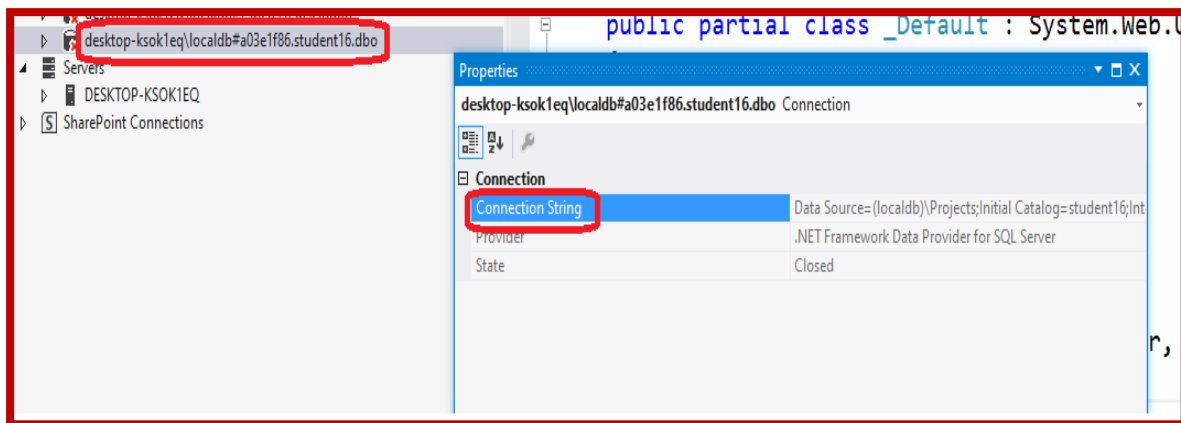
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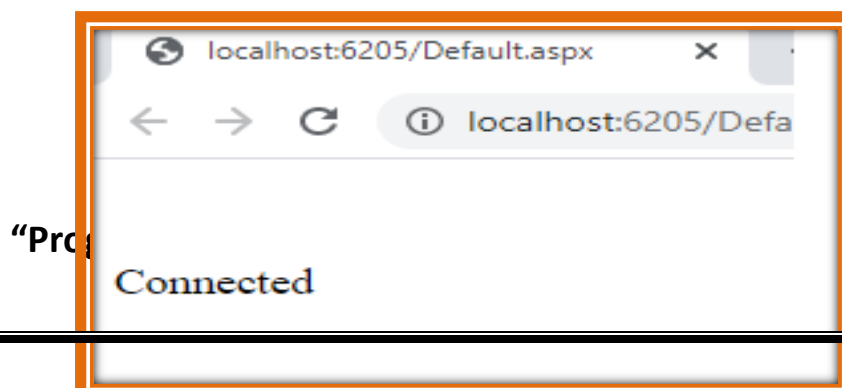
Step 5: Copy the connection string from the properties of the database that you have created.



Step 6:

```
using System.Data.SqlClient;
namespace WebApplication99
{
    public partial class _Default : System.Web.UI.Page
    {
        protected void Page_Load(object sender, EventArgs e)
        {
            string x="Data Source=(localdb)\\Projects;Initial Catalog=student16;Integrated Security=True;Pooling=False;Connect Timeout=30;User Instance=True;";
            SqlConnection con = new SqlConnection(x);
            con.Open();
            Label1.Text = "Connected";
        }
    }
}
```

Step 7: Output



“Pro



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## Topic: What is web.config

Ans:

- web.config is a xml based configuration file used in Asp.Net based application to manage various settings that concerned with configuration of website.
- Although you can write connection string in all the web forms which is used for connecting SQL Server or any other database. But if we 150 web forms, so it is not flexible enough to write connection string in all the web forms. So in this case, we can use web.config
- Writing the connection string only once in web.config, will reflect the changes in all 150 web forms.

Practical showing connection string in web.config

Step 1: Take one label from toolbox to print “Connection” message.

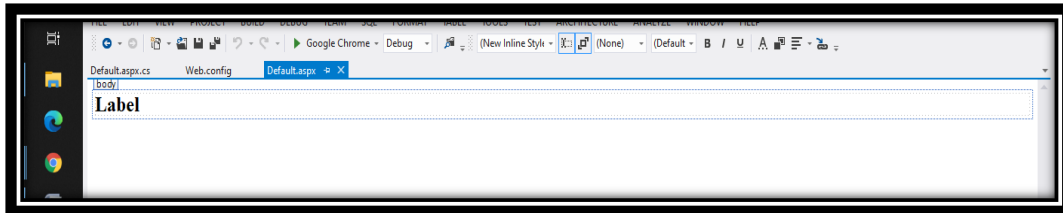


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**Step 2: Goto View->SolutionExplorer->Web.config and write connection string there**

```
<?xml version="1.0"?>
<configuration>
  <connectionString>
    <add name="x" connectionString="Data Source=(localdb)\\Projects;Initial Catalog=student16;Int
  </connectionString>
  <system.web>
    <compilation debug="true"/>
  </system.web>
</configuration>
```



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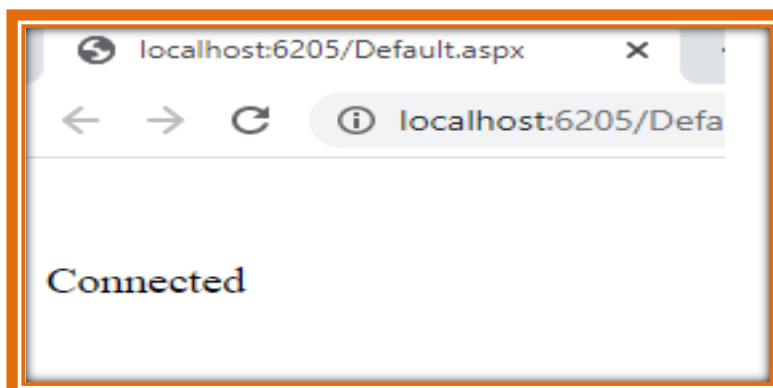
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## Step 3: Code in .cs file to fetch the connection string from web.config

```
using System.Web.UI;
using System.Web.UI.WebControls;
using System.Web.Configuration;
using System.Data.SqlClient;

namespace WebApplication100
{
    public partial class _Default : System.Web.UI.Page
    {
        protected void Page_Load(object sender, EventArgs e)
        {
            string x1;
            x1 = WebConfigurationManager.ConnectionStrings["x"].ConnectionString;
            SqlConnection con = new SqlConnection(x1);
            Label1.Text = "Connected";
        }
    }
}
```

## Step 4: Output







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**Topic: Write a program to perform insert, delete and update operation on database using connected architecture**

```
protected void Page_Load(object sender, EventArgs e)
{
    string x="Data Source=(localdb)\\Projects;Initial Catalog=b.sc.it5;Integrated Security=SSPI;
    SqlConnection con = new SqlConnection(x);
    con.Open();
    Response.Write("Connected");

    string x1 = "insert into student values(1,'karishma','rajkot)";
    SqlCommand cmd = new SqlCommand(x1, con);
    cmd.ExecuteNonQuery();
    Response.Write("Inserted");

    string x2 = "update student set name='kkkkk' where roll=1";
    SqlCommand cmd1 = new SqlCommand(x2, con);
    cmd1.ExecuteNonQuery();
    Response.Write("Updated");

    string x4 = "select * from student";
    SqlCommand cmd2 = new SqlCommand(x4, con);
    SqlDataReader dr;
    dr = cmd2.ExecuteReader();
    if (dr.HasRows)
    {
        while (dr.Read())
        {
            Response.Write("<p> Rollno is" + dr[0].ToString());
            Response.Write("<p> Name is" + dr[1].ToString());
            Response.Write("<p> City is" + dr[2].ToString());
        }
    }

    dr.Close();
    con.Close();
}
```



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## Output:

ConnectedInsertedUpdatedDeleted

Rollno is1

Name iskkkkk

City israjkot

Rollno is3

Name isaaa

City israjkot

Rollno is1

Name iskkkkk

City israjkot

City israjkot

Name iskkkkk



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**Topic: Write a program to perform insert, delete and update operation on database using connected architecture and display in grid view**

RollNo	<input type="text"/>	
Name	<input type="text"/>	
City	<input type="text"/>	
<input type="button" value="Click"/>		
Column0	Column1	Column2
abc	abc	abc
abc	abc	abc
abc	abc	abc
abc	abc	abc
abc	abc	abc



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```
protected void Button1_Click(object sender, EventArgs e)
{
    string x="Data Source=(localdb)\\Projects;Initial Catalog=b.sc.it5;Integrated S
SqlConnection con = new SqlConnection(x);
con.Open();
Response.Write("Connected");

    string x1 = "insert into emp values('" + TextBox1.Text + "'
'" + TextBox2.Text + "',' + TextBox3.Text + "')";
    SqlCommand cmd = new SqlCommand(x1, con);
    cmd.ExecuteNonQuery();
    Response.Write("Inserted");

    string x2 = "select * from emp";
    SqlCommand cmd1 = new SqlCommand(x2, con);
    SqlDataReader dr;
    dr = cmd1.ExecuteReader();
    DataTable dt = new DataTable();
    dt.Load(dr);
    GridView1.DataSource = dt;
    GridView1.DataBind();
}
}
```

**Output:**

**“Programming in Asp.Net”**



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ConnectedInserted

RollNo

Name

City

roll	name	city
1	xyz	rajkot
1	ddasda	rajkot
1	hello	51

**Topic: Write a program to perform insert operation and display data using Disconnected architecture**



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RollNo

Name

City

Column0	Column1	Column2
abc	abc	abc
abc	abc	abc
abc	abc	abc
abc	abc	abc
abc	abc	abc



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```
protected void Button1_Click(object sender, EventArgs e)
{
    string x="Data Source=(localdb)\\Projects;Initial Catalog=b.sc.it5;Integrated Security=SSPI;
    SqlConnection con = new SqlConnection(x);
    con.Open();
    Response.Write("Connected");

    string x1 = "insert into emp values
    ('" + TextBox1.Text + "','" + TextBox2.Text + "','" + TextBox3.Text + "')";
    SqlCommand cmd = new SqlCommand(x1, con);
    cmd.ExecuteNonQuery();
    Response.Write("Inserted");

    string x2 = "select * from emp";
    SqlDataAdapter da = new SqlDataAdapter(x2, con);
    DataTable dt = new DataTable();
    da.Fill(dt);
    GridView1.DataSource = dt;
    GridView1.DataBind();
}
```

ConnectedInserted

**Roll**

**Name**

**City**

roll	name	city
22	sfdsfd	dfffd



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## Topic: What is Gridview?

Ans:

- It is a control which displays the data in a tabular format which means you can bind table with gridview which can be displayed under Grid View.
- Each record of table becomes row of Grid view and each column of table becomes column of Grid view control.
- Gridview has inbuilt features which allows you to edit, delete or insert the data directly into Grid View.

Properties:

Property	Description
AutoGenerateEditButton	Displays edit link button along with all the rows of Gridview, this allows you to edit data of gridview
AutoGenerateDeleteButton	Displays Delete ink button along with all the rows of grid view, which allows you to delete clicked record from gridview.
Allow Paging	Allows you to set paging if table data is too long.

Methods:

Method	Description
--------	-------------





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## DataBind

Allows you to bind the data with specified data source. Data source can be Dataset or Data Table object.

**Topic: Practical to demonstrate autogenerate delete and autogenerate edit button in gridview.**

Ans:

Step 1: Take gridview control from toolbox

Column0	Column1	Column2
abc	abc	abc
abc	abc	abc
abc	abc	abc
abc	abc	abc
abc	abc	abc



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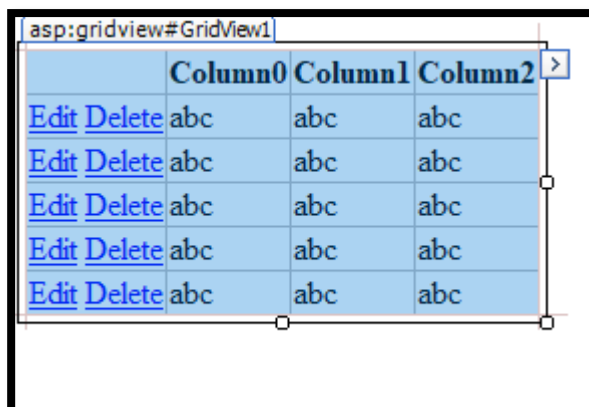
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Step 2: Go to property window of gridview control and set AutoGenerate Edit and AutoGenerate Delete Property to true.

step 3: After setting the property, your gridview control will look like:





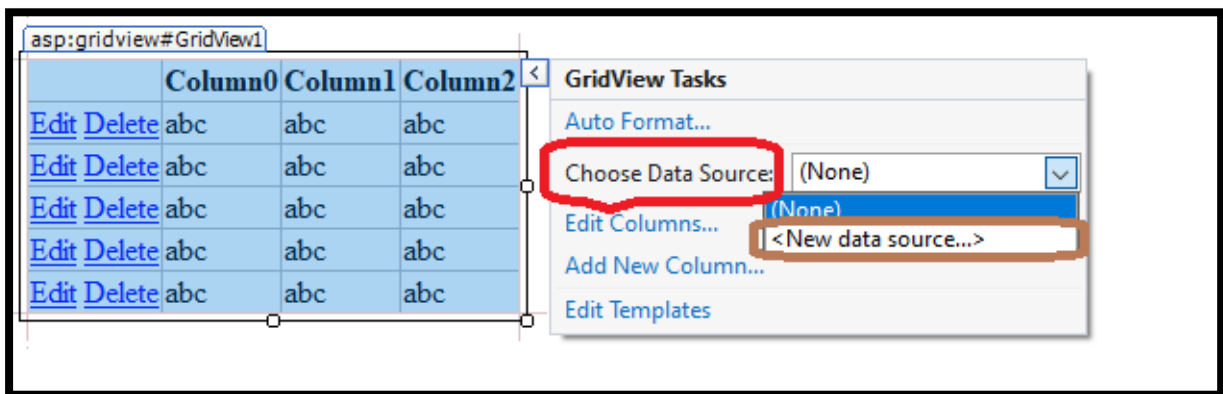
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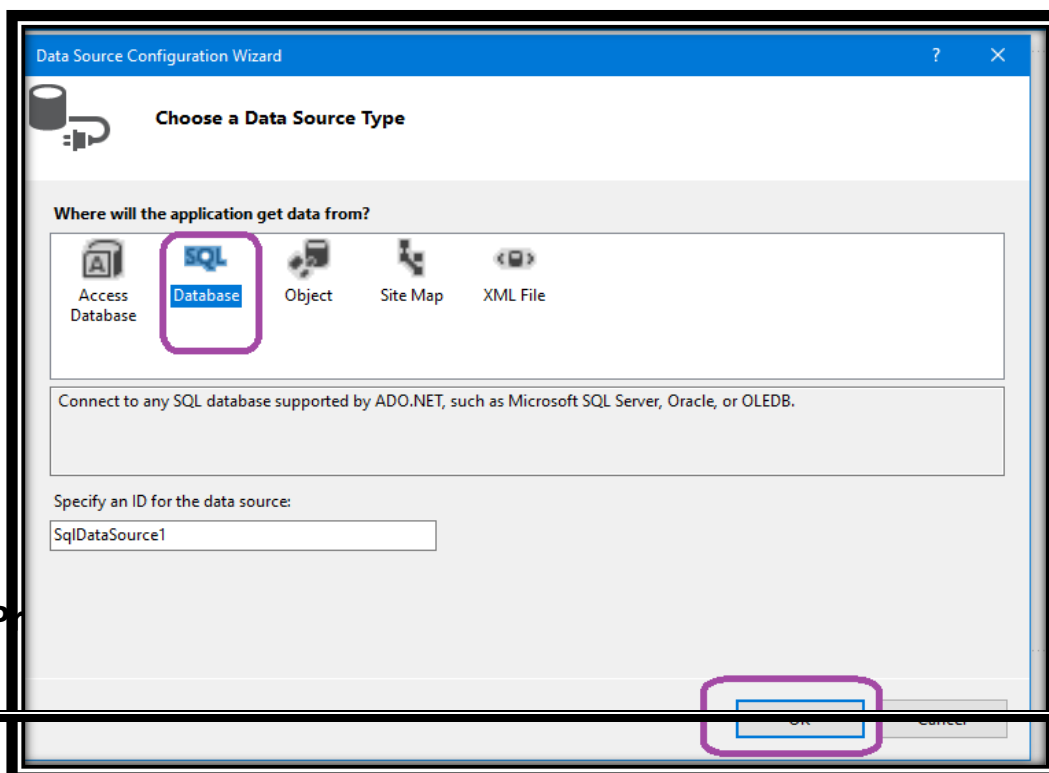
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Step 4: For connectivity, choose Data Source as New DataSource



Step 4: Select the SQL Database.





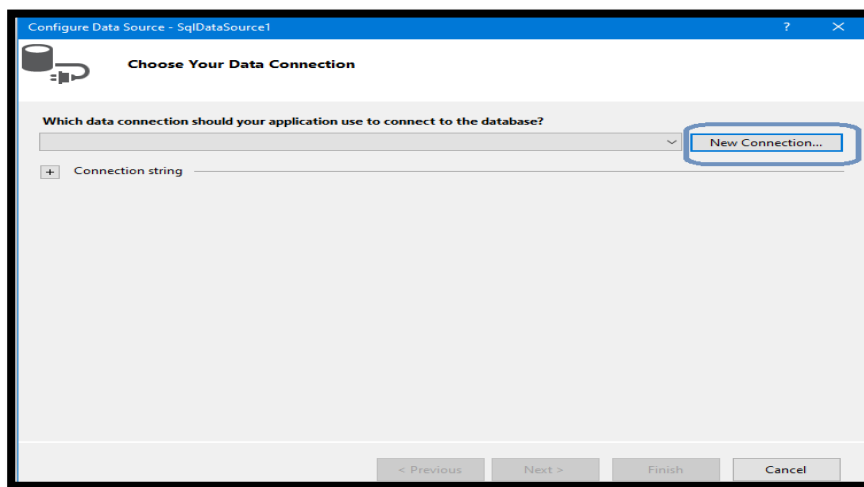
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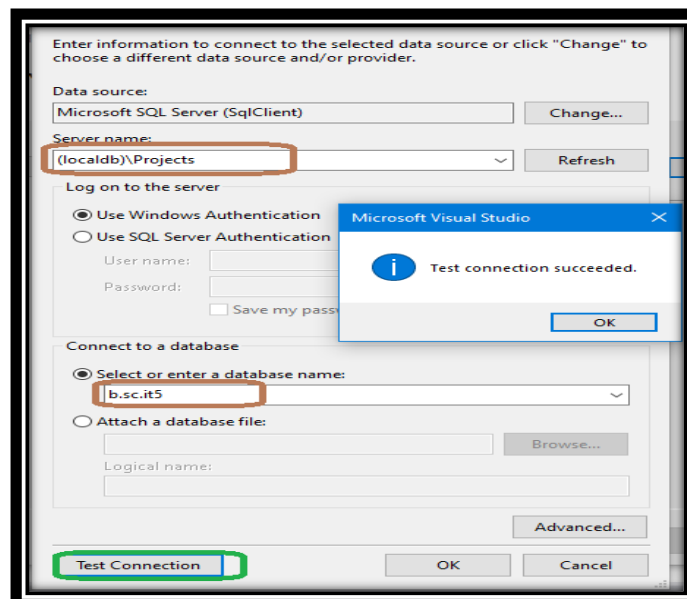
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step 5: Click on new connection button.



Step 6:

Enter the server name and select the database and test the connection





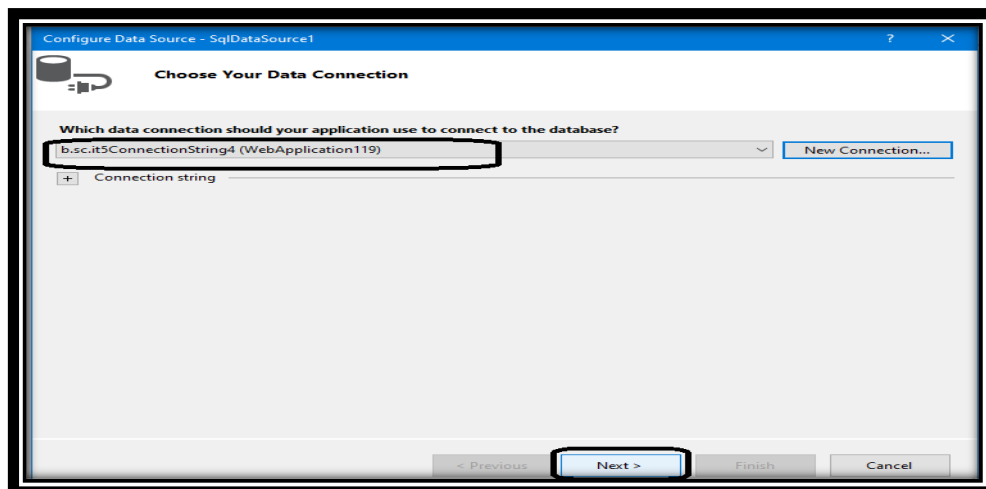
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Step 7: After test connection you will automatically get the connection string as shown below





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Step 8: Select the table and fields of table.

Configure Data Source - SqlDataSource1

### Configure the Select Statement

How would you like to retrieve data from your database?

- Specify a custom SQL statement or stored procedure
- Specify columns from a table or view

Name:

Columns:

- \*
- roll
- name
- city

Return only unique rows

WHERE...  
ORDER BY...  
Advanced...

SELECT statement:  
SELECT \* FROM [emp]

< Previous **Next >** Finish Cancel

Step 9: Select the table and fields of table.

Configure Data Source - SqlDataSource1

### Test Query

To preview the data returned by this data source, click Test Query. To complete this wizard, click Finish.

roll	name	city
22	sfdsfd	dfdd

Test Query

SELECT statement:  
SELECT \* FROM [emp]



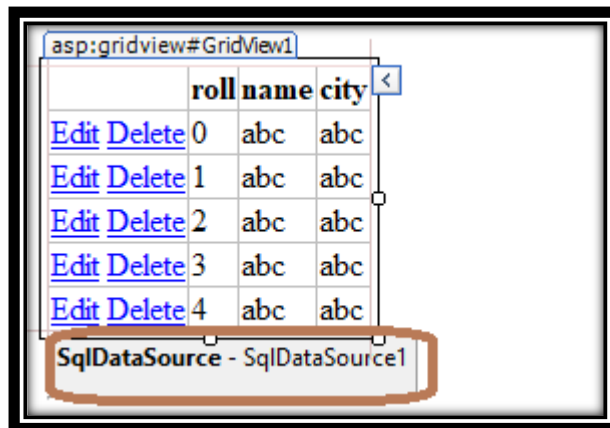
# SHREE H.N.SHUKLA GROUP OF COLLEGES

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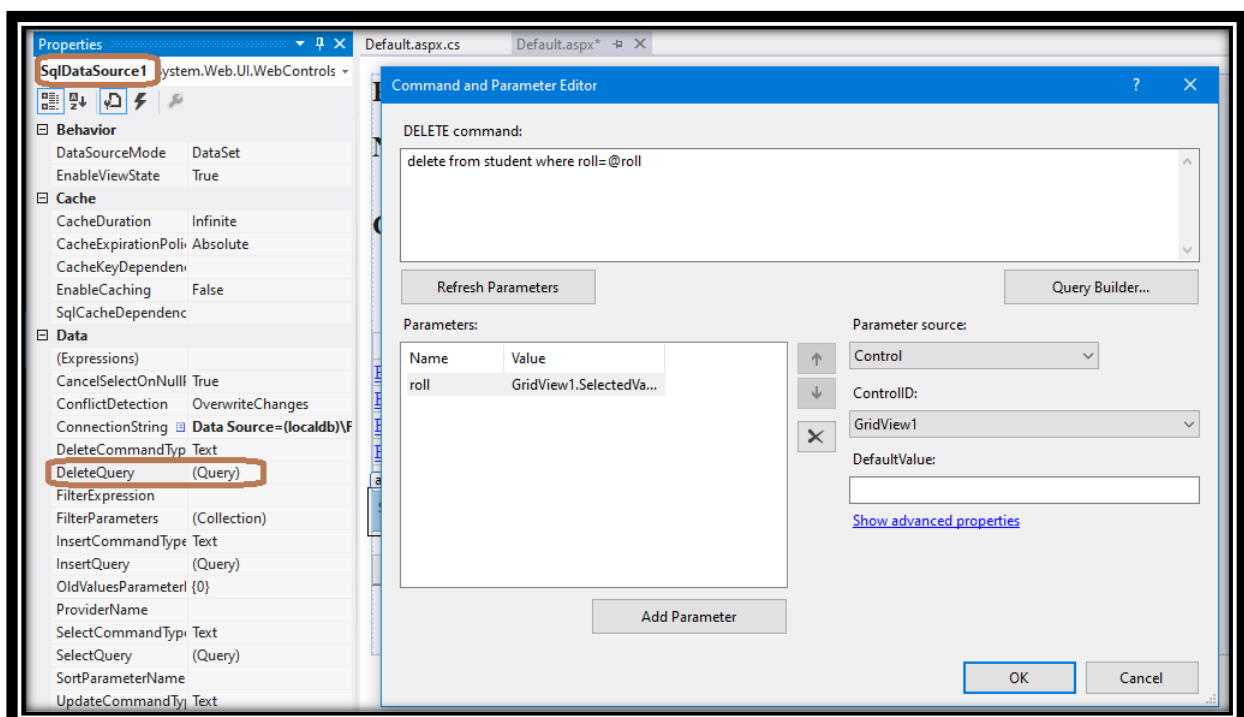
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Step 10: After test query, your gridview will generate SqlDataSource1



Step 11: Go to properties of SqlDataSource1 and write delete query





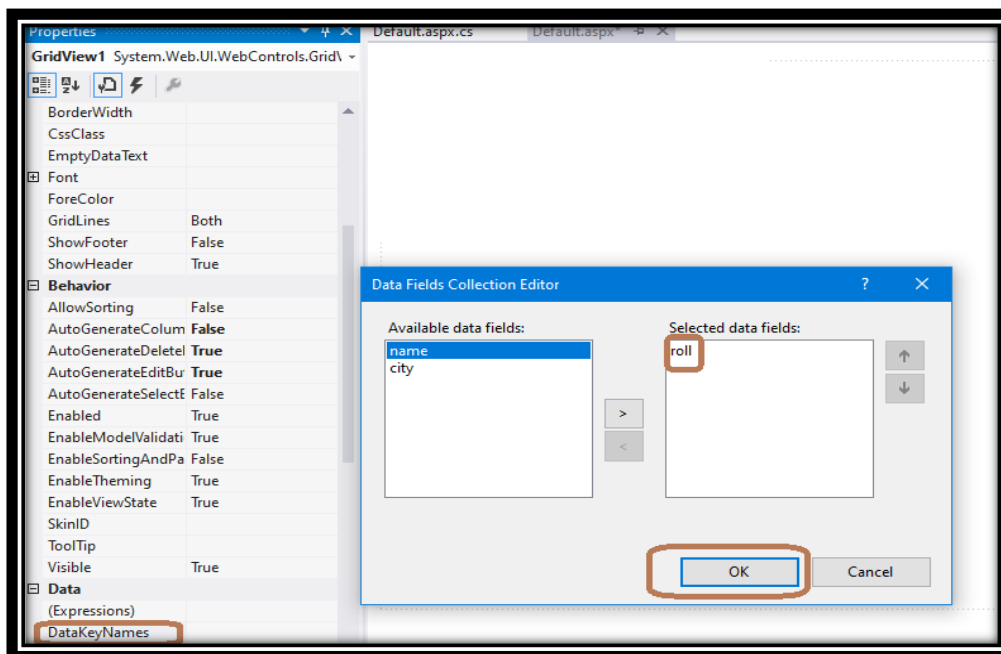
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Step 12: Go to property of Grid view and set the DataKeyname property



Step 13: Look at the output





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	roll	name	city
<a href="#">Edit</a> <a href="#">Delete</a>	22	sfdsfd	dffd

Note: Accordingly you can perform update operation.

Topic: Explain Data Binding

Ans:

- Data Binding means binding a data to specific control.
- There are types of databinding
  - 1) Simple DataBinding
  - 2) Declarative Data Binding
- ⊕ Simple Data Binding:
  - In simple data binding, the control is bounded to dataset. The properties of the control are used for binding with values.
- ⊕ Declarative Data Binding:
  - The process of binding a component like listbox, datagrid, recordlist with dataset is known as declarative data



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binding. When there is more than one element in the database, the declarative binding is used.

- Some of the controls used for declarative data binding are datagrid, listbox, combobox



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## **SUBJECT: ASP.NET**

### **CHAPTER-4:**

### **XML And Web Services**

Sr No.	Topic
1.	XML Basics
2.	Features of XML
3.	Rules for creating XML File
4.	Dataset and XML
5.	Web Service
6.	How to create web service

**Topic: what is XML?**



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Ans:

- 🌿 XML Stands for Extensible Mark Up Language.
- 🌿 XML is the text file that contains the information organized in a structure that meets XML standards.
- 🌿 XML is a mark up language like HTML but have many differences between them.

XML	HTML
1) XML stands for Extensible Mark Up Language	1) HTML stands for Hypertext Mark Up Language.
2) Data is the main goal	2) View/Presentation is the main goal
3) It is mainly designed to store and transfer the data from one location to another through internet.	3) It is mainly used to display the data
4) In XML, you can create your own rules as per your requirements	4) In HTML, you cannot create your own rules

## Topic: Features of XML

Ans:

“Programming in Asp.Net”



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1) Using XML, you can create your own tags. XML is mainly used for data purpose

Example:

```
<Age>35</Age>
```

In the above example, <Age> tag have a data that is 35. Now while creating <Age> tag, you can specify rules for age, so that these tags won't allow you to enter any invalid <Age> value.

- 2) XML is platform independent which means that it is widely used to transfer the data across web applications or other.
- 3) XML can separate Data from HTML. The reason is HTML is mainly used for presentation purpose where as XML focuses on data part. So that you can easily separate data from HTML
- 4) XML allows data only in well formed manner which makes easy to identify the data even at multiple levels.
- 5) In XML, you can create DTD (Data Type Definition) and XSD (XML Schema Definition) files to specify your own set of rules for user defined data type.
- 6) XML is known as Extensible Mark Up Language because you can create your own tags. And using that tags you can create further new tags.
- 7) In XML, you can create XSLT (XML Style Sheet Transformation) files to show your XML data in particular format.



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Sr No.	Question	Answer
1.	XML stands for	Extensible Mark up Language
2.	XML is platform independent (T/F)?	True
3.	DTD stands for.....	Data Type Defintion
4.	XSD stands for....	XML Schema Definition
5.	XSLT stands for ....	XML Style Sheet Transformation

## Topic: Rules for creating XML File

Ans:

👉 There are some rules which each of XML File must specify in order to be valid and well formed.

### 1) Every XML document can have only one root element

- There should be only one main element. All other elements should be inside the root element.

#### Example:

```
<students>
```

```
  <student>
```



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```
<studid>101</student>  
<name>xyz</name>  
<age> 35</age>  
</student>  
</students>
```

## 2) Every start tag must have end tag

**Example:**

```
<hello> </hello>
```

## 3) End tag can not contain any information

- You can write attributes in the starting tag but you cannot write any information in ending tag.

Example:

```
<student stuid="100">Hello</student>
```

## 4) If any element has nothing as a data that is if tag is empty, the same tag can work as start and end tag.

**Example:**

```
<student stuid=101"/>
```

## 5) All attributes value must be written between double quotes (" ")

Example:

```
"Programming in Asp.Net"
```



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<student stuid="101">

6) All tags that is elements must be nested properly in XML File

7) Elements (Tags) in XML are case sensitive.

M.C.Q		
Sr No.	Question	Answer
1.	End tag can not contain any information (T/F)	True
2.	All attribute value must be written between .....	double quotes (“ ”)
3.	Tags in xml are case sensitive (T/F)	True

## Topic: Explain Dataset and XML

Ans:

- 👉 Dataset and XML have mainly 2 operations:
- Writing dataset to XML
  - Reading from XML and writing to dataset





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## DESIGN VIEW

WriteXML

Column0	Column1	Column2
abc	abc	abc
abc	abc	abc
abc	abc	abc
abc	abc	abc
abc	abc	abc

⇒ **Section 1: Writing dataset to XML**

ReadXML

Column0	Column1	Column2
abc	abc	abc
abc	abc	abc
abc	abc	abc
abc	abc	abc
abc	abc	abc

⇒ **Section 2: Reading from XML File and writing to dataset**

### Writing dataset to XML:

Step1: Go to new item-> Data->XML File

Step 2:



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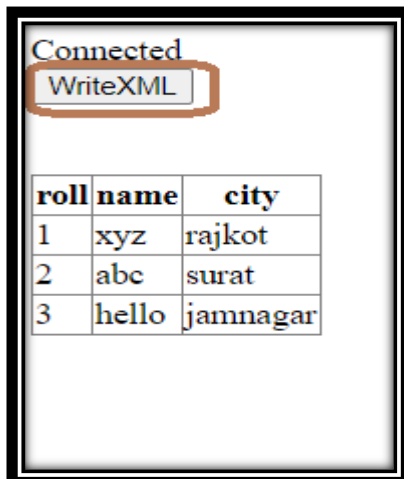
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```
protected void Button1_Click(object sender, EventArgs e)
{
    string x="Data Source=(localdb)\\Projects;Initial Catalog=bsc;Integrated Security=True";
    SqlConnection con = new SqlConnection(x);
    con.Open();
    Response.Write("Connected");

    string x1 = "select * from emp";
    SqlDataAdapter da = new SqlDataAdapter(x1, con);
    DataSet ds = new DataSet();
    da.Fill(ds);
    ds.WriteXml(MapPath("Student.xml"));
    GridView1.DataSource = ds;
    GridView1.DataBind();
}
```

### Step 3:



### Step 4:



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```
<?xml version="1.0" standalone="yes"?>
```

```
<NewDataSet>
```

```
<Table>
```

```
<roll>1</roll>
```

```
<name>xyz </name>
```

```
<city>rajkot </city>
```

```
</Table>
```

```
<Table>
```

```
<roll>2</roll>
```

```
<name>abc </name>
```

```
<city>surat </city>
```

```
</Table>
```

```
<Table>
```

```
<roll>3</roll>
```

```
<name>hello </name>
```

```
<city>jamnagar </city>
```

```
</Table>
```

```
</NewDataSet>
```

Data from  
dataset written  
to XML File



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## Reading from XML File and writing to dataset:

Step1: Create one XML File

```
<?xml version="1.0" standalone="yes"?>
<NewDataSet>
  <Table>
    <roll>1</roll>
    <name>xyz      </name>
    <city>rajkot  </city>
  </Table>
  <Table>
    <roll>2</roll>
    <name>abc      </name>
    <city>surat   </city>
  </Table>
  <Table>
    <roll>3</roll>
    <name>hello    </name>
    <city>jamnagar </city>
  </Table>
</NewDataSet>
```



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## Step2:

```
protected void Button2_Click(object sender, EventArgs e)
{
    DataSet ds = new DataSet();
    ds.ReadXml(MapPath("Student.xml"));
    GridView2.DataSource = ds;
    GridView2.DataBind();
}
```

## Step3:

ReadXML

roll	name	city
1	xyz	rajkot
2	abc	surat
3	hello	jamnagar

**Data read from  
XML File and  
written to dataset**

**Topic: Write a short note on Web Service.**

**"Programming in Asp.Net"**



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**Ans:**

- 🌳 Web services are group of web methods where each web method gives you some particular functionality.
- 🌳 Web methods are just same as those methods, but all web methods are combined under a single web service and web service is uploaded on web server
- 🌳 Web service is platform independent that is it can be used by different applications regardless of programming language, operating system and hardware platform
- 🌳 An application which use web service is known as web service client
- 🌳 It is not necessary that you use all the web methods. It depends upon your requirement

## Why Web service?

- 🌳 Today, there are so many clients each of them don't use similar configuration that is some clients use different hardware, different OS, different programming language so it was difficult to share something between all of them.
- 🌳 Web services are the components which are shareable among all types of hardware, OS and programming language because web services are platform independent.
- 🌳 Various protocols that works behind web service are:

### 1) XML



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2) SOAP

3) WSDL

4) UDDI

## 1) XML:

- It stands for **Extensible Mark Up Language**
- The basic theme behind web service is XML and HTTP.
- Web methods may have arguments and parameters and they return values. These arguments and return values are passed in XML so that they can be platform independent.

## 2) SOAP

- It stands for **Simple Object Access Protocol**
- XML is base of web service. Web service arguments and return values are written in form of XML but how they are passed over internet?
- SOAP is xml based protocol through which data is transferred over HTTP from one location to another location
- When client application makes a request for a web method, SOAP packet is created. This packet contains name of the web method to be invoked and parameters to be passed to web method in XML format.
- When the SOAP packet arrives at web server on which web service resides, the web method name and its parameters **are** extracted from the SOAP packet. After this appropriate web method is invoked, execute and again answer value is returned back using SOAP packet in reverse.



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### 3) WSDL (Web Service Description Language):

- 🌸 WSDL is the language which is used to describe the web service and its web methods.
- 🌸 WSDL is a markup language that describes a web services and all its web methods.
- 🌸 WSDL contains following information about particular webservice and its web methods.
  - All the web services which are specified/created under particular website
  - The purpose of each web service
  - The types of parameters and return values for each web method and under web service.
  - The format to access each web service method
  - URL at which a web service can be accessed.

### 4) UDDI (Universal Description Discovery and Integration)

- 🌸 UDDI is a directory service where different companies can register and search for their web services.
- 🌸 UDDI provides standard mechanism to register and discover a web service
- 🌸 UDDI is a place for storing the information about web services.
- 🌸 The place where you can find all the registered web services is UDDI





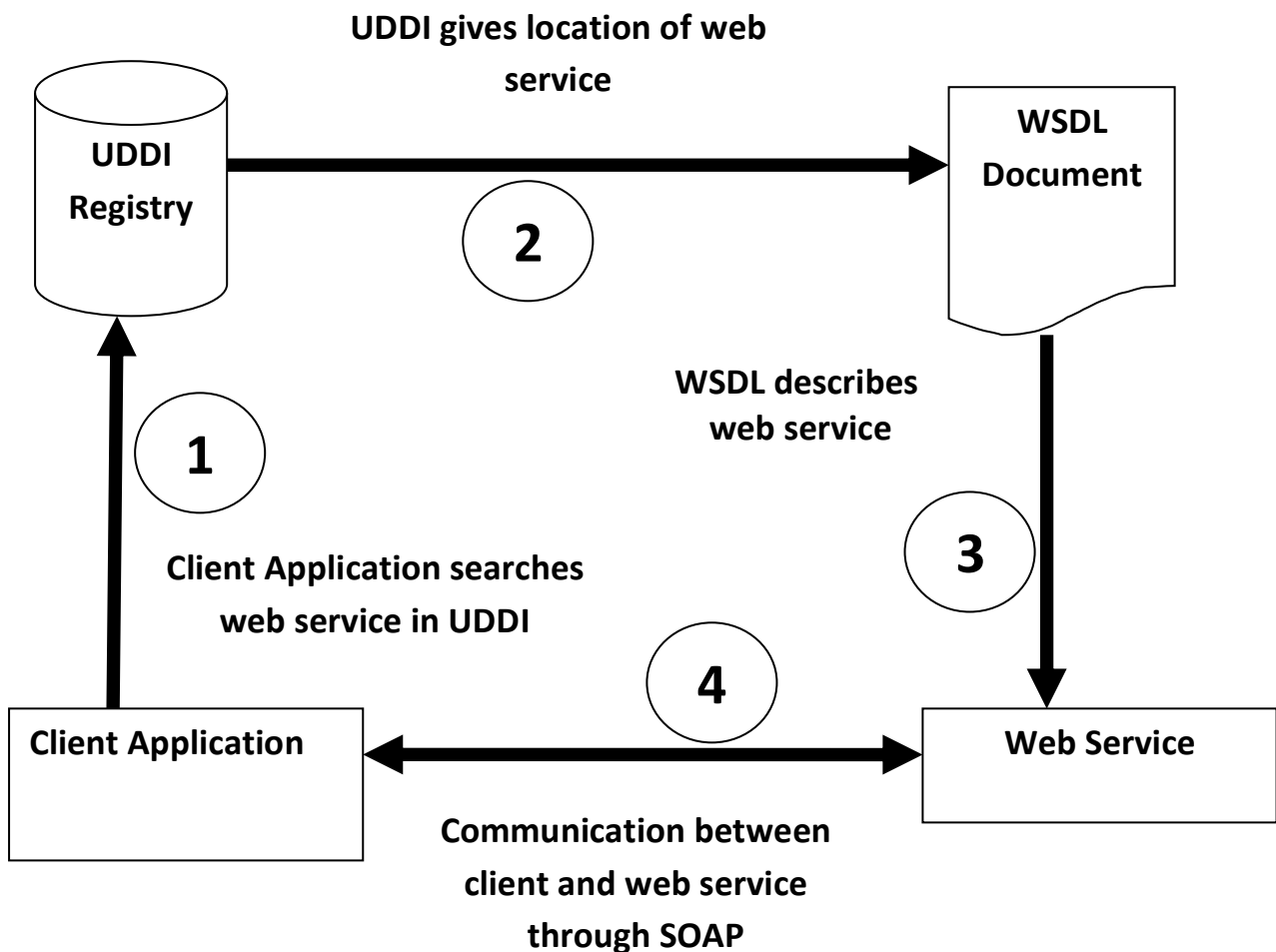
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🔥 When you register web service under UDDI, it is registered and the URL of web service is stored under UDDI, which can be accessed by client after searching it



M.C.Q		
Sr No.	Question	Answer
1.	.....is the collection of web methods	Web Service



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2.	Webservice is platform independent (T/F)?	True
3.	There are .....types of protocol that works behind webservice	4
4.	Client application and web service communicate through .....protocol	SOAP
5.	.....is the place where all the web services get registered.	UDDI
6.	.....protocol describes the information of webservice	WSDL
7.	UDDI stands for .....	Universal Description Discovery and Integration
8.	SOAP stands for ....	Simple Object Access Protocol
9.	WSDL stands for .....	Web Service Description Language.

**Topic:** Practical to create webservice



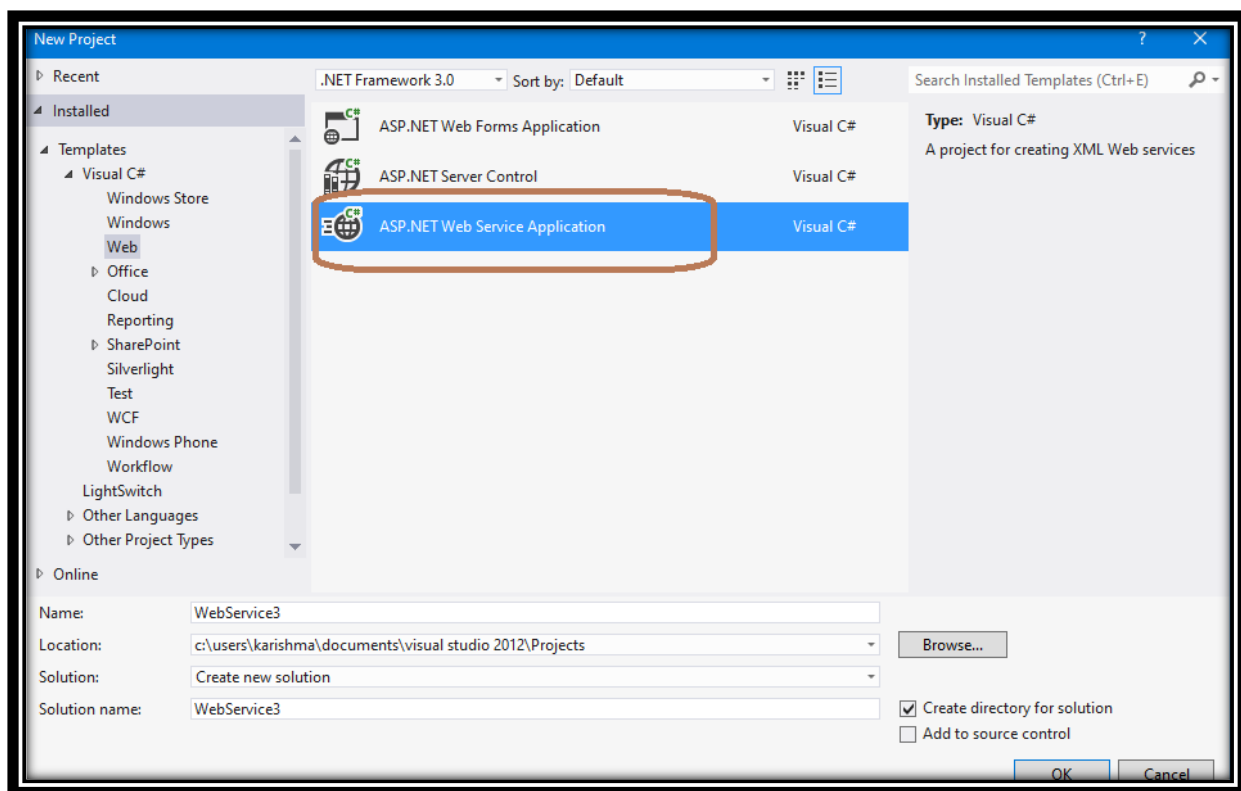
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**Step 1: Go to File-> Add new project and select Asp.Net Web Service application**





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## Step 2: Remove the default web method

```
namespace WebService3
{
    /// <summary>
    /// Summary description for Service1
    /// </summary>
    [WebService(Namespace = "http://tempuri.org/")]
    [WebServiceBinding(ConformsTo = WsiProfiles.BasicProfile1_1)]
    [System.ComponentModel.ToolboxItem(false)]
    public class Service1 : System.Web.Services.WebService
    {
        [WebMethod]
        public string HelloWorld()
        {
            return "Hello World";
        }
    }
}
```

Remove this default  
web method

## Step 3: Create your new web method.

```
public class Service1 : System.Web.Services.WebService
{
    [WebMethod]
    public bool even(int a)
    {
        if (a % 2 == 0)
            return true;
        else
            return false;
    }
}
```

new web method



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## Step 4: Execute Web application

The following operations are supported. For a formal definition, please review the [Service Description](#).

- [even](#)

This web service is using <http://tempuri.org/> as its default namespace.

Recommendation: Change the default namespace before the XML Web service is made public.

## Step 5:

**even**

### Test

To test the operation using the HTTP POST protocol, click the 'Invoke' button.

Parameter	Value
a:	4

Invoke

## Step 6:

```
<boolean xmlns="http://tempuri.org/">true</boolean>
```