ASP.NET UNIT 2

ASP.NET: Web forms,
Web Controls categories: server Controls Web controls

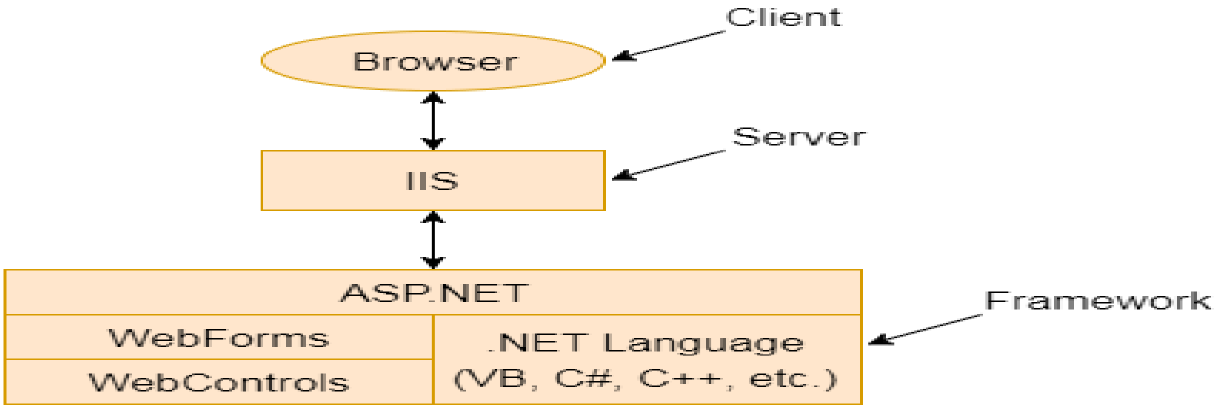
Web Controls: Label, Textbox, CheckBox and CheckBoxList,
RadioButton and RadioButton List,
ListBox and DropDownList , Table, Image ,
Hyperlink , HiddenField, FileUpload .

RichWeb Controls: AdRotator, Calendar, TreeView, TabStrip.

Concept of Master Page and Navigation Controls .

ASP.NET Web Forms

Web Forms are web pages built on the ASP.NET Technology. It executes on the server and generates output to the browser. It is compatible to any browser to any language supported by .NET common language runtime. It is flexible and allows us to create and add custom controls.



The main purpose of Web Forms is to overcome the limitations of ASP and separate view from the application logic.

ASP.NET provides various controls like: server controls and HTML controls for the Web Forms. We have tables all these controls below.

CONTROLS:

Controls are small building blocks of the graphical user interface, which include text boxes, buttons, check boxes, list boxes, labels, and numerous other tools. Using these tools, the users can enter data, make selections and indicate their preferences.

Controls are also used for structural jobs, like validation, data access, security, creating master pages, and data manipulation.

ASP.NET uses five types of web controls, which are:

HTML controls

HTML Server controls

ASP.NET Server controls

ASP.NET Ajax Server controls

User controls and custom controls

ASP.NET server controls are the primary controls used in ASP.NET. These controls can be grouped into the following categories:

Validation controls - These are used to validate user input and they work by running client-side script.

Data source controls - These controls provides data binding to different data sources.

Data view controls - These are various lists and tables, which can bind to data from data sources for displaying.

Personalization controls - These are used for personalization of a page according to the user preferences, based on user information.

Login and security controls - These controls provide user authentication.

Master pages - These controls provide consistent layout and interface throughout the application.

Navigation controls - These controls help in navigation. For example, menus, tree view etc.

Rich controls - These controls implement special features. For example, AdRotator, FileUpload, and Calendar control.

The syntax for using server controls is:

```
<asp:controlType ID ="ControlID" runat="server" Property1=value1 [Property2=value2] />
```

Properties of the Server Controls

ASP.NET server controls with a visual aspect are derived from the WebControl class and inherit all the properties, events, and methods of this class.

The WebControl class itself and some other server controls that are not visually rendered are derived from the System.Web.UI.Control class. For example, PlaceHolder control or XML control.

ASP.Net server controls inherit all properties, events, and methods of the WebControl and System.Web.UI.Control class.

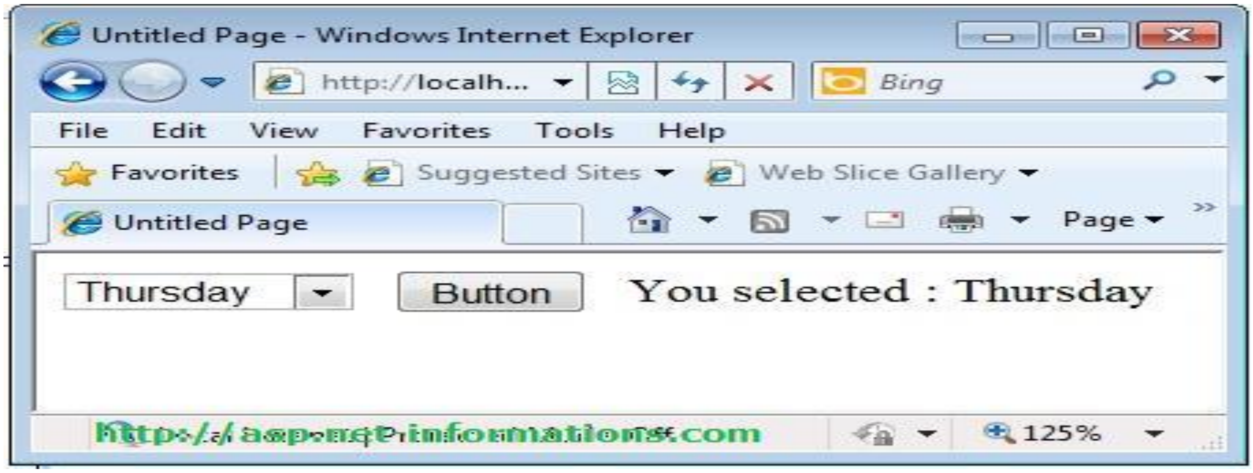
ASP.NET Web Controls

The Web controls reside in the System.Web.UI.WebControls namespace, which is available to all Web Forms pages automatically. They provide a range of functionality, from simple data entry to complex data validation. Two classes are considered to be base classes of ASP.NET server controls: System.Web.UI.Control and System.Web.UI.WebControls.WebControl.

Web controls fall into eight categories: input, display, action, selection, databound, rich, validation, They have properties, methods, and events that can be accessed at run time from code running on the server.

DropDownList Control

The drop-down list can contain any number of items and allows the user to select a single item from the drop-down list.



Thursday

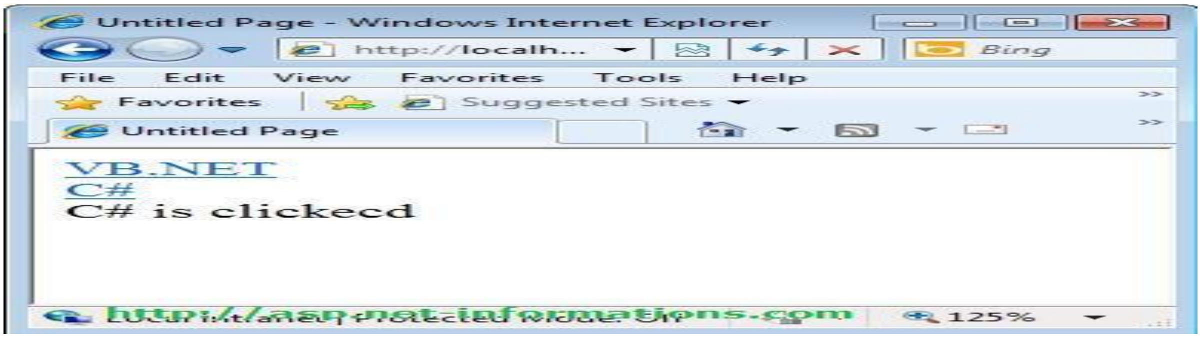
You selected : Thursday

Syntax:

DropDownList1.Items.Add("Sunday")

LinkButton Control:

LinkButton displays a hyperlink-style button control on a Web page.By default, a LinkButton control is a Submit button. You can also use the CommandArgument property with a Command button to provide additional information about the command to perform, such as specifying ascending order.



VB.NET
C#
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Rich Web Controls:

There are specific web controls that have more comples and rich functionality. Example-

AdRotator,TreeView , Calender, Tabstrip.

AdRotator Control:

The AdRotator control randomly selects banner graphics from a list, which is specified in an external XML schedule file. This external XML schedule file is called the advertisement file.

The AdRotator control allows you to specify the advertisement file and the type of window that the link should follow in the AdvertisementFile and the Target property respectively.

The basic syntax of adding an AdRotator is as follows:

```
<asp:AdRotator  runat = "server" AdvertisementFile =
"adfile.xml"  Target =  "_blank" />
```

The Advertisement File

The advertisement file is an XML file, which contains the information about the advertisements to be displayed.

Extensible Markup Language (XML) is a W3C standard for text document markup. It is a text-based markup language that enables you to store data in a structured format by using meaningful tags. The term 'extensible' implies that you can extend your ability to describe a document by defining meaningful tags for the application.

XML is not a language in itself, like HTML, but a set of rules for creating new markup languages. It is a meta-markup language. It allows developers to create custom tag sets for special uses. It structures, stores, and transports the information.

Like all XML files, the advertisement file needs to be a structured text file with well-defined tags delineating the data. There are the following standard XML elements that are commonly used in the advertisement file:

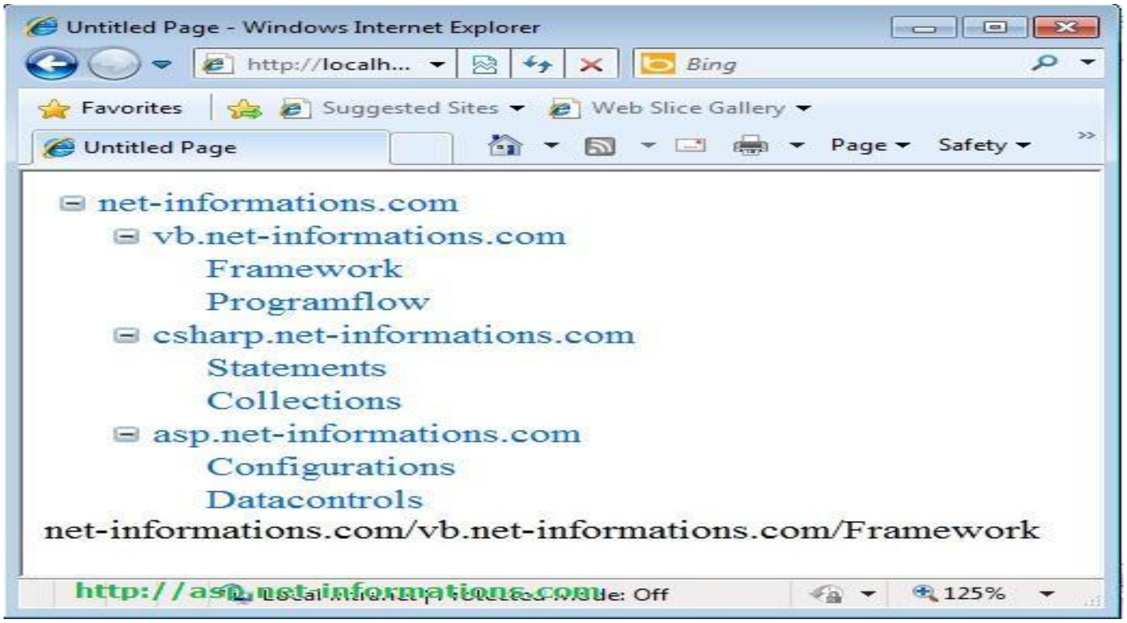
Element	Description
Advertisements	**Encloses the advertisement file.**
Ad	**Delineates separate ad.**
ImageUrl	**The path of image that will be displayed.**
NavigateUrl	**The link that will be followed when the user clicks the ad.**
AlternateText	**The text that will be displayed instead of the picture if it cannot be displayed.**
Keyword	**Keyword identifying a group of advertisements. This is used for filtering.**
Impressions	**The number indicating how often an advertisement will appear.**
Height	**Height of the image to be displayed.**
Width	**Width of the image to be displayed.**

An Example:

```
<Advertisements>
   <Ad>
      <ImageUrl>rose1.jpg</ImageUrl>
      <NavigateUrl>http://www.1800flowers.com</NavigateUrl>
      <AlternateText>
         Order flowers, roses, gifts and more
      </AlternateText>
      <Impressions>20</Impressions>
      <Keyword>flowers</Keyword>
   </Ad>
</Advertisements>
```

Treeview Control:

The TreeView control contains a hierarchy of TreeViewItem controls. You can use the TreeView control to display information from a wide variety of data sources such as an XML file, site-map file, string, or from a database. It provides a way to display information in a hierarchical structure by using collapsible nodes . The top level in a tree view are root nodes that can be expanded or collapsed if the nodes have child nodes.



```
⊟ net-informations.com
   ⊟ vb.net-informations.com
         Framework
         Programflow
   ⊟ csharp.net-informations.com
         Statements
         Collections
   ⊟ asp.net-informations.com
         Configurations
         Datacontrols
net-informations.com/vb.net-informations.com/Framework
```

http://asp.net-informations.com

The user can expand the TreeNode by clicking the plus sign (+) button, if one is displayed next to the TreeNode, or you can expand the TreeNode by calling the TreeNode.Expand method

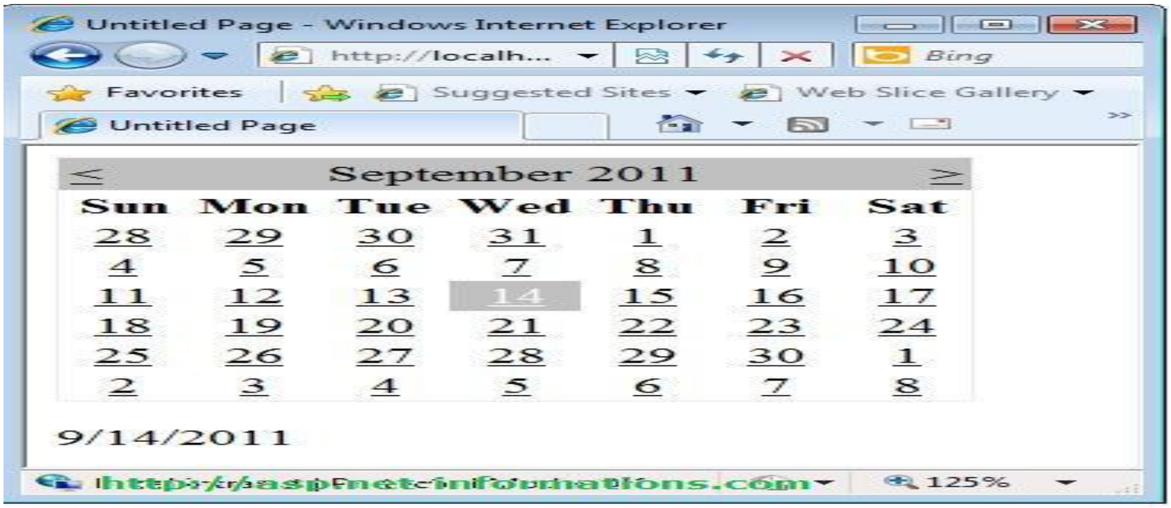
The fullpath method of treeview control provides the path from root node to the selected node.

Syntax:

Label1.Text = TreeView1.SelectedNode.ValuePath

Calendar control:

The Calendar control is used to display a calendar in the browser. The control allows you to select dates and move to the next or previous month.



< September 2011 >

Sun	Mon	Tue	Wed	Thu	Fri	Sat
28	29	30	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

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You can customize the appearance of the Calendar control by setting the properties that control the style for different parts of the control. The following ASP.NET program display the selected Calender date in short date format in a label control.

Syntax:

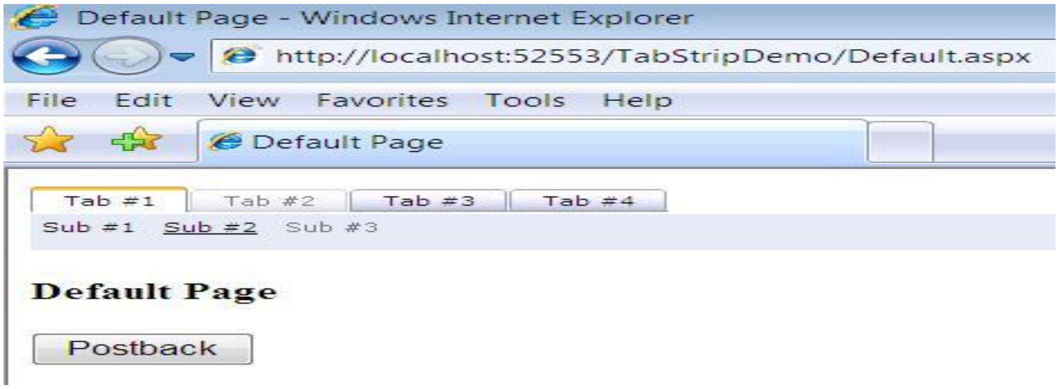
Label1.Text = Calendar1.SelectedDate.ToShortDateString()

TabStrip Control:

The Microsoft ASP.NET Ajax Toolkit offers excellent tab control that organizes several views within a single page when each view is presented one at a time. It is more difficult to use this control to manage tasks that are split between different pages. The TabStrip control presented in this article could be used for navigation between multiple pages.

The TabStrip control is adapted from the ASP.NET Ajax Toolkit tab control. It holds set of Tab objects that represent header text only. The TabStrip control does not include templates to define page content. The Tab elements are populated either from an XML file or defined in the page markup. A page URL can be associated with each tab, with a property indicating whether it is disabled. Disabled tabs cannot be selected. A tab can contain one layer of nested hyper links that are also defined in the XML file.

The control fires the ActiveItemChanged event on a server and the ClientActiveItemChanged event on a client. The server side event carries information about the tab being clicked, such as the ID and URL. The client side event also holds the ID of the currently selected tab and allows cancellation of a tab change.



ASP.NET Master Page OverView:

ASP.NET master pages allow you to create a consistent layout for the pages in your application. A single master page defines the look and feel and standard behavior that you want for all of the pages (or a group of pages) in your application. You can then create individual content pages that contain the content you want to display. When users request the content pages, they merge with the master page to produce output that combines the layout of the master page with the content from the content page.

Master Pages:

A master page is an ASP.NET file with the extension .master (for example, MySite.master) with a predefined layout that can include static text, HTML elements, and server controls. The master page is identified by a special @ Master directive that replaces the @ Page directive that is used for ordinary .aspx pages. The directive looks like the following.

VB

<%@ Master Language="VB" %>

The @ Master directive can contain most of the same directives that a @ Control directive can contain. For example, the following master-page directive includes the name of a code-behind file, and assigns a class name to the master page.

<%@ Master Language="VB" CodeFile="MasterPage.master.vb" Inherits="MasterPage" %>

In addition to the @ Master directive, the master page also contains all of the top-level HTML elements for a page, such as html, head, and form. For example, on a master page you might use an HTML table for the layout, an img element for your company logo, static text for the copyright notice, and server controls to create standard navigation for your site. You can use any HTML and any ASP.NET elements as part of your master page.

Introduction to Navigation Control in ASP.NET

Navigation control in ASP.NET manages the data passing between ASPX pages. Web applications are having multiple pages interconnected with each other. So proper navigation system must be there which can help the end user to successfully work through an application. There are standard methods are available in ASP.NET 1.x that offers well defined navigation system for the web application. Only the method which is present for building navigation within web application is to fill the pages with hyperlinks. The drawbacks of hyperlink are when you move pages around or change pages names.

When the site grows and new pages are added and at that time it is very difficult for the developer to manage all links in the application. ASP.NET 2.0 and above eliminate problems of links with a built in site navigation features. ***It provides consistent way for the user to navigate the website. It enables defining all the links at central location file as xml file and display***

<u>those links in list or navigation menus in each required page using navigation controls.</u>

Different Navigation Controls in ASP.NET

There are three navigation control in ASP.NET:

<u>SiteMapPath</u>

<u>Menu Control</u>

<u>TreeView</u>

1. SiteMapPath Control

Site maps are XML files which are mainly used to describe the logical structure of the web application. It defines the layout of all pages in web application and how they relate to each other. Whenever you want you can add or remove pages to your site map there by managing navigation of website efficiently. Site map files are defined with .sitemap extension. <sitemap> element is the root node of the sitemap file.

It has three attributes:

Title: It provides textual description of the link.

URL: It provides the location of the valid physical file.

Description: It is used for tooltip of the link.

SiteMapPath control displays the navigation path of the current page. The path acts as click able links to previous page. The sitemap path control uses the web. This control creates the navigation mechanism which is linear path defining where the user is currently located in navigation arrangement. It helps end user to know his location in relation to the rest of the site.

Properties of SiteMapPath Control:

PathSeparator: This property is to get or set the out separator text.

NodeStyle: This property is used to set the style of all nodes that will be displayed.

RootNodeStyle: This property is used to set the style on the absolute root node.

PathDirection: This property is used to set the direction of the links generated in the output.

CurrentNodeStyle: This property is used to set the style on node that represent the current page.

ShowToolTips: This property is used to set the tooltip for the control. Default value is true.

PathSeparatorStyle: This property ja used to set the style of path separator.

2. Menu Control

Menu is an another navigation control in ASP.NET which is used to display menu in web page. This control is used in combination with SiteMapDataSource control for navigating the web Site. It displays two types of menu static menu and dynamic menu. Static menu is always displayed in menu Control, by default only menu items at the root levels are displayed. Dynamic menu is displayed only when the use moves the mouse pointer over the parent menu that contains a dynamic sub menu.

Properties of Menu Control:

DataSourceID: This property is used to specify the data source to be used using sitemap file as data source.

CssClass: This property is used to specify the CSS class attribute for the control.

ImgeUrl: This property is used to specify the image that appear next to the menu item.

Orientation: This property is used to specify the alignment of menu control. It can be horizontal or vertical.

Tooltip: This property is used to specify the tooltip of the menu item when you mouse over.

Text: This property is used to specify the text to display in the menu.

NavigateUrl: This property is used to specify the target location to send the user when menu item is clicked.

Target: This property is used to specify the target page location. It can be in new window or same window.

Value: This property is used to specify the unique id to use in server side events.

3. TreeView Control

TreeView is an another navigation control used in ASP.NET to display the data in hierarchical list manner. When TreeView is displayed for the first time, it displays all of its nodes. User can control it by setting the property called ExpandDepth.

Properties of TreeView Control:

DataSourceID: This property is used to specify the data source to be used using sitemap file s data source.

ShowLines: This property is used to specify the lines to connect the individual item in the tree.

CssClass: This property is used to specify the CSS class attribute for the control.

ExpandDepth: This property is used to specify the level at which items in the tree are expanded.