**ASP.NET server controls overview**

This article refers to the following Microsoft .NET Framework Class Library namespaces:

* System.Web.UI.HtmlControls.HtmlControl
* System.Web.UI.WebControls.WebControl

## Server controls in ASP.NET page framework

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 ASP.NET page framework includes a number of built-in server controls that are designed to provide a more structured programming model for the Web. These controls provide the following features:

* Automatic state management.
* Simple access to object values without having to use the Request object.
* Ability to react to events in server-side code to create applications that are better structured.
* Common approach to building user interfaces for web pages.
* Output is automatically customized based on the capabilities of the browser.

In addition to the built-in controls, the ASP.NET page framework also provides the ability to create user controls and custom controls. User controls and custom controls can enhance and extend existing controls to build a much richer user interface.

<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.

## **Methods of the Server Controls**