Introduction of AJAX

BCA SEM-VI

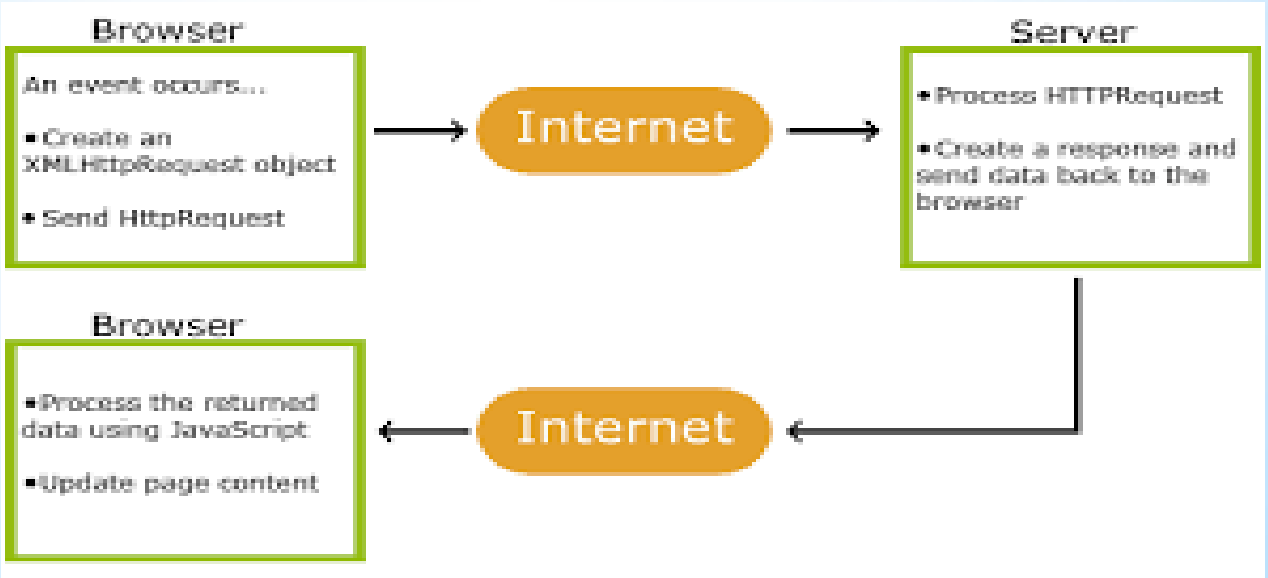
Adv. NET using c#

UNIT-2

THE INSB IITMS BCA & PGDCA COLLEGE, IDAR

Introduction of AJAX

- AJAX Stand for **A**synchronous **J**avaScript **A**nd **X**ML.
- AJAX is not a programming language.
- AJAX just uses a combination of a browser built in XML HTTP-Request object (to request data from a web server).



- AJAX is used in web pages to be updated asynchronous by exchanging data with a web server behind the scenes. This make possible to update parts of a web page without reloading the whole page.
- Using Ajax we can create better and faster web application.
- Example
  - → on type search
  - → Facebook comment, like

Advantages of AJAX

- Speed
- Interaction
- XMLHttprequest
- Asynchronous call
- Form validation
- Bandwidth usage

- Reduce the server traffic and increase the speed.
- It is responsive and the time taken is also less.
- Form validation
- Asynchronous call can be made this reduce the time for data arrival.

AJAX Extension Control

- AJAX specific controls to ease the implementation of AJAX in a website. You can find these control under the tab named AJAX extensions.
- When you add any of these controls to the web form the reference of corresponding script library is add automatically to the webpage.
- The list of AJAX controls is follows.

(1) Script Manager Control
(2) Script Manager Proxy control
(3) Timer Control
(4) Update Panel Control
(5) Update Progress Control

Script Manager Control

- The Script manager controls is the first AJAX server control in the toolbox.
- This control helps in implementing the AJAX functionality in the asp.net website.
- You need to place this control on the webpage whenever AJAX functionality is required. in the absence of this control no other server control such as Timer, Update Panel and Update Progress.
- The Script Manager control is responsible for managing client scripts for AJAX. Script Manager control use a Script Manager class to manage AJAX script libraries and script files.

- Syntax:-

```
<asp:ScriptManager ID="ScriptManager1" runat="server">
                </asp:ScriptManager>
```

- The ‘ScriptManager’ control is a server control that is used to manage and register client script files on web pages. It is typically placed at the top of the page, on the master page, or on the main content page.
- The ‘ScriptManager’ control can combine multiple client script files into a single request, and can also minify and compress the script files to reduce their size. This reduces the number of requests made to the server and improves the performance of the page

Script Manager Proxy Control

- The ‘ScriptManagerProxy’ control is a server control that is used to manage and register client script files for a specific child control on the page. It enables the child control to request client script files independently of the parent page, while still benefiting from the script combining and minification features of the ‘ScriptManager’.
- This is useful when the child control requires additional client script files that are not needed by the parent page, or when the child control is used on different pages with different script requirements

- A Web page can contain only one ScriptManager control, either directly on the page or indirectly inside a nested or parent component.
- The ScriptManagerProxy control lets you add scripts and services to content pages and to user controls if the master page or host page already contains a ScriptManager control.
- When you use the ScriptManagerProxy control, you can add to the script and service collections defined by the ScriptManager control. If you do not want to include specific scripts and services on every page that includes a particular ScriptManager control, you can remove them from the ScriptManager control. You can then add them to individual pages by using the ScriptManagerProxy control instead.

Systex: <asp:ScriptManagerProxy ID="ScriptManagerProxy1"
runat="server">
</asp:ScriptManagerProxy>

Update Panel Control

- UpdatePanel controls are a central part of AJAX functionality in ASP.NET. They are used with the ScriptManager control to enable partial-page rendering.
- Partial-page rendering reduces the need for synchronous postbacks and complete page updates when only part of the page has to be updated.
- the selected part of the web page by using UpdatePanel control, Ajax updatepanel control contains a two child tags that is ContentTemplate and Triggers. In a ContenTemplate tag we used to place the user controls and the Trigger tag allows you to define certain triggers which will make the panel update its content.

Systex:- <asp:UpdatePanel ID="updatepnl" runat="server">
<ContentTemplate>

Update Progess Control

- The UpdateProgress control enables you to provide feedback about the progress of partial-page rendering. For postbacks or initial page rendering, UpdateProgress control content is not displayed. The page can contain multiple UpdateProgress controls. Each one can be associated with a different UpdatePanel control.

Timer Control

- The Timer control in ASP.NET serves as a trigger for a designated area of the page that is encompassed by an UpdatePanel control. It enables the execution of postbacks at specified intervals, allowing for the automatic refreshment of content.
- The Interval property of the Timer control is measured in milliseconds, providing the ability to define the time interval between each postback. For instance, setting the Interval property to 5000 milliseconds will refresh the associated UpdatePanel control every 5 seconds.

Custom Control

- Custom controls are deployed as individual assemblies.
- They are compiled into a **Dynamic Link Library(DLL)** and used as any other ASP.NET server control.
- A custom control is portable.
- If you like to create an extendable web application that has a place holder for plug-ins a custom control is used.
- There are two parts of Custom Control (1) User Control (2) Custom Control.
- Custom control can be added in toolbox.
- Custom control it is to be drag and drop from toolbox.
- Custom control are only single copy of custom control can work for all application.
- Custom control can be use to create dynamic layout.
- Custom control are complied into .dll files.