MODULE 4: SESSION MANAGEMENT & AJAX

1.Display the number of times current page is visited using View State, Session, Cookies and Application State.

```csharp
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;

namespace sessionMng
{
    public partial class sessionMngDemo : System.Web.UI.Page
    {
        protected void Page_Load(object sender, EventArgs e)
        {
            if (ViewState["VisitCount"] == null)
            {
                ViewState["VisitCount"] = 1;
            }
            else
            {
                ViewState["VisitCount"] = (int)ViewState["VisitCount"] + 1;
            }
            lblView.Text = "View State Visits: " +
ViewState["VisitCount"].ToString();

            //Session Tacking
            if (Session["VisitCount"] == null)
            {
                Session["VisitCount"] = 1;
            }
            else
            {
                Session["VisitCount"] = (int)Session["VisitCount"] + 1;
            }
            lblSession.Text = "Session Visits: " +
Session["VisitCount"].ToString();

            //Cookies Tracking

            HttpCookie visitCookie = Request.Cookies["VisitCount"];
            int cookieCount = 1;

            if (visitCookie != null)
            {
                cookieCount = int.Parse(visitCookie.Value) + 1;
            }

            visitCookie = new HttpCookie("VisitCount", cookieCount.ToString());
            visitCookie.Expires = DateTime.Now.AddMinutes(1);
            Response.Cookies.Add(visitCookie);
            lblCookie.Text = "Cookie Visits: " + cookieCount.ToString();

            //Application Tracking(for all user)
            if (Application["VisitCount"] == null)
            {
                Application["VisitCount"] = 1;
            }
            else
            {
```

```
                Application["VisitCount"] = (int)Application["VisitCount"] + 1;
            }
            lblApplication.Text = "Session Visits: " +
Application["VisitCount"].ToString();

        }

        protected void btnRefresh_Click(object sender, EventArgs e)
        {
            Response.Redirect(Request.RawUrl);
        }
    }
}
```

Output:

PAGE VISIT COUNTER

View State Visits: 1
Session Visits: 1
Cookie Visits: 1
Application Visits: 1

Refresh Page

PAGE VISIT COUNTER

View State Visits: 1
Session Visits: 5
Cookie Visits: 5
Application Visits: 5

Refresh Page

When I close the project and again start the project

PAGE VISIT COUNTER

View State Visits: 1
Session Visits: 1
Cookie Visits: 6
Application Visits: 1

Refresh Page

2. Design a webpage to read, write and remove cookies.

```csharp
using System;

using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;

namespace cookies
{
    public partial class cookiesPage : System.Web.UI.Page
    {
        protected void Page_Load(object sender, EventArgs e)
        {
            lblMsg.Text = "";
        }

        protected void btnWrite_Click(object sender, EventArgs e)
        {
            HttpCookie myCookie = new HttpCookie("UserCookie");
            myCookie.Value = txtCookieValue.Text;
            myCookie.Expires = DateTime.Now.AddDays(7);
            Response.Cookies.Add(myCookie);
            lblMsg.Text = "Cookie has been Written!";
        }

        protected void btnRead_Click(object sender, EventArgs e)
        {
            HttpCookie myCookie = Request.Cookies["UserCookie"];
            if (myCookie != null)
            {
                lblMsg.Text = "Stored Cookie Value: " + myCookie.Value;
            }
            else
            {
                lblMsg.Text = "No cookie found";
            }
        }

        protected void btnRemove_Click(object sender, EventArgs e)
        {
            if (Request.Cookies["UserCookie"] != null)
            {
                HttpCookie myCookie = new HttpCookie("UserCookie");
                myCookie.Expires = DateTime.Now.AddDays(-1);
                Response.Cookies.Add(myCookie);
                lblMsg.Text = "Cookie has been removed!";
            }
            else
            {
                lblMsg.Text = "No Cookie to remove!";
            }
        }
    }
}
```

Name: Rajvardhan Ganpatrao Patil
Roll No: 40   Div: A

Output:

MANAGE COOKIES

[_____] [Write Cookie]

[Read Cookie]

[Remove Cookie]

Write Cookie:

MANAGE COOKIES

Cookie has been Written!

[Treant Boult] [Write Cookie]

[Read Cookie]

[Remove Cookie]

Read Cookie:

MANAGE COOKIES

Stored Cookie Value: Treant Boult

[Treant Boult] [Write Cookie]

[Read Cookie]

[Remove Cookie]

Remove Cookie

MANAGE COOKIES

Cookie has been removed!

Treant Boult   Write Cookie

Read Cookie

Remove Cookie

MANAGE COOKIES

No cookie found

Treant Boult   Write Cookie

Read Cookie

Remove Cookie

Name: Rajvardhan Ganpatrao Patil
Roll No: 40   Div: A

3. Design a session-based login system where users are redirected to a dashboard upon successful login.

Login.aspx.cs

```csharp
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;

namespace Login_Logout
{
    public partial class Login : System.Web.UI.Page
    {
        protected void Page_Load(object sender, EventArgs e)
        {
            if (Session["Username"] != null)
            {
                Response.Redirect("Dashboard.aspx");
            }
        }

        protected void btnLogin_Click(object sender, EventArgs e)
        {
            string username = txtun.Text;
            string password = txtpass.Text;

            if(username == "admin" &&  password == "Rajvardhan")
            {
                Session["Username"] = username;
                Response.Redirect("Dashboard.aspx");
            }
            else{
                lblmsg.Text = "Invalid username or password";
            }
        }
    }
}


Dashboard.aspx.cs

using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;

namespace Login_Logout
{
    public partial class Dashboard : System.Web.UI.Page
    {
        protected void Page_Load(object sender, EventArgs e)
        {
            if (Session["Username"] == null)
            {
                Response.Redirect("login.aspx");
            }
```

```
            else
            {
                lbluser.Text = Session["Username"].ToString();
            }
        }

        protected void btnlogout_Click(object sender, EventArgs e)
        {
            Session.RemoveAll();
            Response.Redirect("login.aspx");
        }
    }
}
```

Output:

Login

UserName: [   ]
Password: [   ]

Login

Login

Invalid username or password

UserName: [hello   ]
Password: [   ]

Login

After successfully Login

Welcome, admin !

This is your dashboard page BVIMIT

Logout

After logout

Login

UserName: [_____]
Password: [_____]

Login

4. Design Web Application to show a list of books.on click of submit button selected book should be added in session and book details should be displayed on another page.

`SelectedBooks.aspx.cs`

```csharp
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;

namespace Login_Logout
{
    public partial class SelectedBooks : System.Web.UI.Page
    {
        protected void Page_Load(object sender, EventArgs e)
        {

        }

        protected void btnsub_Click(object sender, EventArgs e)
        {
            Session["bookname"] = ListBox1.SelectedItem;
            if (Session["bookname"] == null)
            {
                Response.Write("<script>alert('Please Select the Books')</script>");
            }
            else
            {
                Server.Transfer("~/Books.aspx");
            }
        }
    }
}
```

`Books.aspx.cs`

```csharp
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;
```
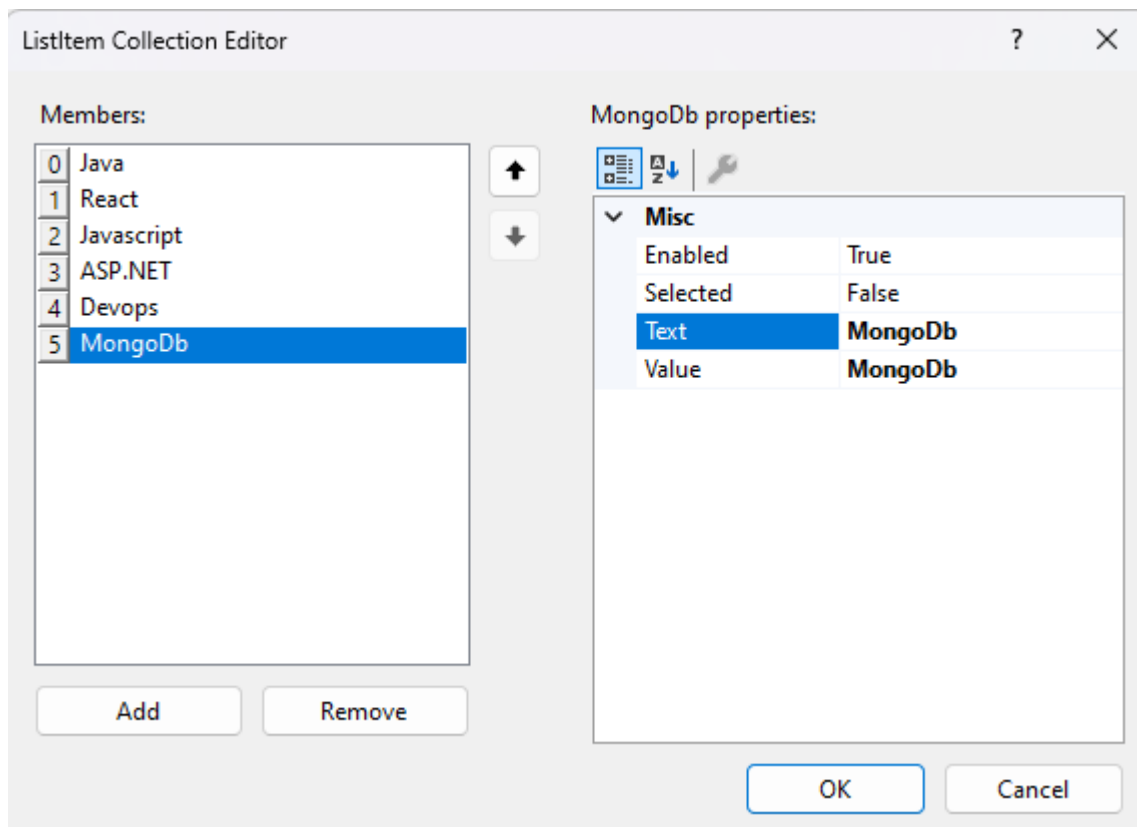
Name: Rajvardhan Ganpatrao Patil
Roll No: 40   Div: A

```csharp
namespace Login_Logout
{
    public partial class Books : System.Web.UI.Page
    {
        protected void Page_Load(object sender, EventArgs e)
        {
            if (Session["bookname"] != null)
            {
                string book = Session["bookname"].ToString();

                {

                }
                lblbooks.Text = "You selected: " + book;
            }
            else
            {
                lblbooks.Text = "No books selected";
            }
        }

        protected void btnback_Click(object sender, EventArgs e)
        {
            Session.RemoveAll();
            Server.Transfer("~/SelectedBooks.aspx");
        }
    }
}
```

ListItem Collection Editor   ?   ✕

Members: **MongoDb properties:**

0	Java
1	React
2	Javascript
3	ASP.NET
4	Devops
5	MongoDb

⬆ ⬇

∨	**Misc**	
	Enabled	True
	Selected	False
	Text	**MongoDb**
	Value	**MongoDb**

Add   Remove   OK   Cancel

Output:

Name: Rajvardhan Ganpatrao Patil
Roll No: 40   Div: A

List Of Books

Select BOOK

```
Java
React
Javascript
ASP.NET
```

Submit

Selected Books

You selected: React

Back to Book List

Click on back to books list button

List Of Books

Select BOOK

```
Java
React
Javascript
ASP.NET
```

Submit

When not select any book

localhost:44352 says

Please Select the Books

OK

5. Design Web Application to read 10 students info from database table into a gridview.cache this output for 10 sec.use cache object.

Name: Rajvardhan Ganpatrao Patil
Roll No: 40   Div: A

Cache

```csharp
using System;
using System.Collections.Generic;
using System.Data;
using System.Data.SqlClient;
using System.Linq;
using System.Web;
using System.Web.Configuration;
using System.Web.UI;
using System.Web.UI.WebControls;

namespace Login_Logout
{
    public partial class Cache : System.Web.UI.Page
    {
        protected void Page_Load(object sender, EventArgs e)
        {
            if (!IsPostBack) {
                LoadStudents();
            }
        }
        private void LoadStudents()
        {
            if (Cache["StudentData"] == null)
            {
                string connString =
WebConfigurationManager.ConnectionStrings["studCon"].ConnectionString;
                using (SqlConnection conn = new SqlConnection(connString))
                {
                    SqlDataAdapter da = new SqlDataAdapter("select * from emp",
conn);
                    DataTable dt = new DataTable();
                    da.Fill(dt);

                    Cache.Insert("StudentData", dt, null,
DateTime.Now.AddSeconds(10), System.Web.Caching.Cache.NoSlidingExpiration);
                    Cache["CacheTime"] = DateTime.Now.ToString();


                }
            }

            GridView1.DataSource = (DataTable)Cache["StudentData"];
            GridView1.DataBind();
            lblcachetime.Text = "Last Cached Time: " + Cache["CacheTime"];
        }

        protected void btnRef_Click(object sender, EventArgs e)
        {
            Cache.Remove("StudentData");
            LoadStudents() ;
        }
    }
}
```

Output:

Name: Rajvardhan Ganpatrao Patil
Roll No: 40   Div: A

Student Information(Cached for 10 seconds)

Id	name	marks
1	Raj	90
2	Amol	91
3	Sujal	92
4	Avi	88
5	Siddhu	85
6	Shree	95
7	Tushar	96
8	Piyush	97
9	Virat	98
10	Rohit	100

Last Cached Time: 24-03-2025 14:57:29

Refresh Data

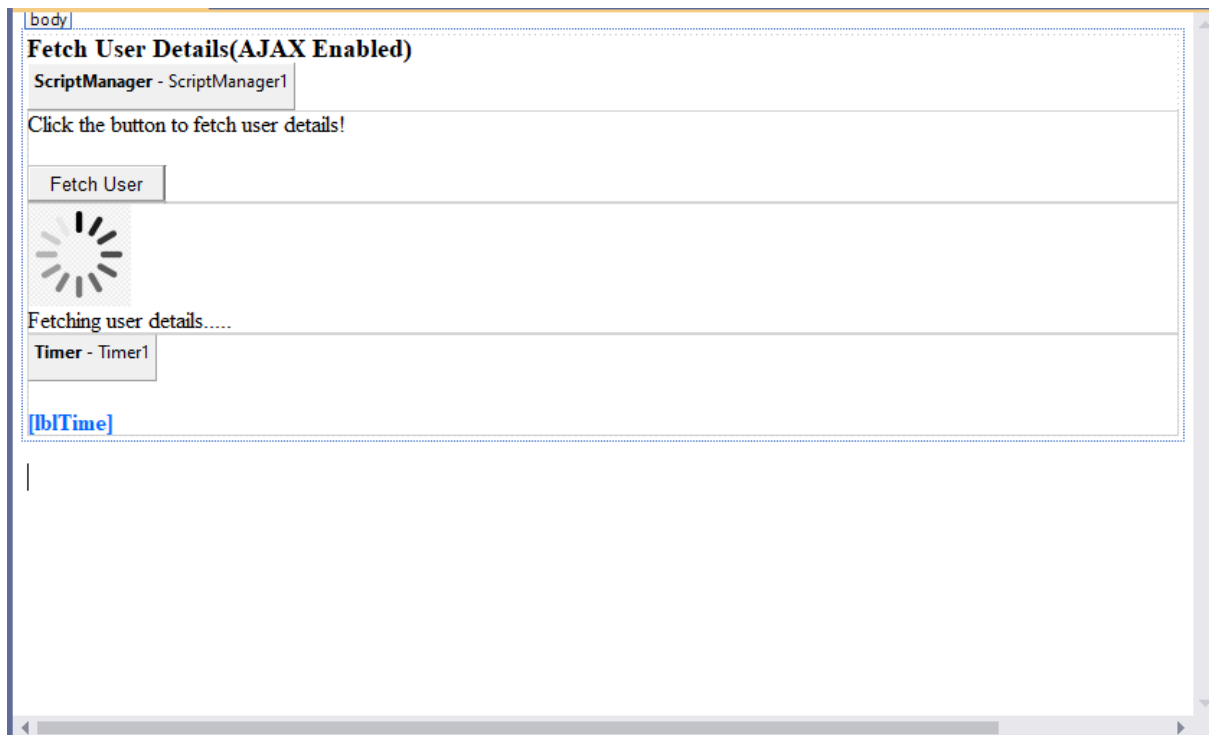**After Click on Refresh Data**

Student Information(Cached for 10 seconds)

Id	name	marks
1	Raj	90
2	Amol	91
3	Sujal	92
4	Avi	88
5	Siddhu	85
6	Shree	95
7	Tushar	96
8	Piyush	97
9	Virat	98
10	Rohit	100

Last Cached Time: 24-03-2025 14:58:02

Refresh Data

6. Implement an AJAX-enabled web form to fetch user details without reloading the page.


```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="Ajax_demo.aspx.cs"
Inherits="ajax.Ajax_demo" %>

<!DOCTYPE html>

<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title></title>
    <style type="text/css">
        .auto-style1 {
            font-size: large;
        }
    </style>
</head>
<body>
    <form id="form1" runat="server">
        <div class="auto-style1">
            <strong>Fetch User Details(AJAX Enabled)</strong></div>
        <asp:ScriptManager ID="ScriptManager1" runat="server">
        </asp:ScriptManager>
        <asp:UpdatePanel ID="UpdatePanel1" runat="server">
            <ContentTemplate>
                <asp:Label ID="lbluser" runat="server" Text="Click the button
to fetch user details! "></asp:Label>
                <br />
                <br />
                <asp:Button ID="btnfetch" runat="server"
OnClick="btnfetch_Click" Text="Fetch User" />
            </ContentTemplate>
        </asp:UpdatePanel>
        <asp:UpdateProgress ID="UpdateProgress1" runat="server">
            <ProgressTemplate>
                <asp:Image ID="Image1" runat="server" ImageUrl="~/loading.png"
Width="72px" />
```

```
                    <br />
                    <asp:Label ID="lblfetch" runat="server" Text="Fetching user
details....."></asp:Label>
            </ProgressTemplate>
        </asp:UpdateProgress>
        <asp:UpdatePanel ID="UpdatePanel2" runat="server">
            <ContentTemplate>
                <asp:Timer ID="Timer1" runat="server" Interval="1000"
OnTick="Timer1 Tick">
                </asp:Timer>
                <br />
                <asp:Label ID="lblTime" runat="server" Font-Bold="True"
ForeColor="#0066FF"></asp:Label>
            </ContentTemplate>
        </asp:UpdatePanel>
    </form>
</body>
</html>
```

Output:

Fetch User Details(AJAX Enabled)
Click the button to fetch user details!

Fetch User

Last Updated: 02:16:49 PM

After click on fetch user button

Fetch User Details(AJAX Enabled)
User: Avi

Fetch User

Last Updated: 02:17:15 PM

7. Develop a simple to-do list application using AJAX controls and update panels.

Name: Rajvardhan Ganpatrao Patil
Roll No: 40   Div: A

AJAX TO-DO-LIST

ScriptManager - ScriptManager1

Add Task

Unbound

asp:updateprogress#UpdateProgress1

Updating List......

Design | Split | Source

```csharp
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;

namespace ajax
{
    public partial class to_do_list : System.Web.UI.Page
    {
        protected void Page_Load(object sender, EventArgs e)
        {
            if (!IsPostBack)
            {
                if (Session["Tasks"] == null)
                {
                    Session["Tasks"] = new List<string>();
                }
                BindTasks();
            }
        }

        private void BindTasks()
        {
            ListBox1.Items.Clear();
            List<string> tasks = (List<string>)Session["Tasks"];
            foreach (string task in tasks)
            {
                ListBox1.Items.Add(task);
            }
        }

        protected void btnAddTask_Click(object sender, EventArgs e)
        {
```

```
            System.Threading.Thread.Sleep(2000);
            if (!string.IsNullOrEmpty(txttask.Text)) {
                List<string> tasks = (List<string>)Session["Tasks"]; ;
                tasks.Add(txttask.Text);
                Session["Tasks"] = tasks;
                txttask.Text = "";
                BindTasks();
            }
        }

        protected void btnDeleteTask_Click(object sender, EventArgs e)
        {
            System.Threading.Thread.Sleep(2000);
            if (ListBox1.SelectedIndex != 1)
            {
                List<string> tasks = (List<string>)Session["Tasks"]; ;
                tasks.RemoveAt(ListBox1.SelectedIndex);
                Session["Tasks"] = tasks;
                BindTasks();
            }
        }
    }
}
```

Output:

AJAX TO-DO-LIST

[   ]   [Add Task]

[   ]

[Delete Selected Task]

Add task

Name: Rajvardhan Ganpatrao Patil
Roll No: 40   Div: A

AJAX TO-DO-LIST

	Add Task

Wakeup
Code
Eat
Sleep
Repeat()

Delete Selected Task

Delete Repeate() task

AJAX TO-DO-LIST

	Add Task

Wakeup
Code
Eat
Sleep
Repeat()

Delete Selected Task

AJAX TO-DO-LIST

8. Demonstrate the use of the Global.asax file for handling application-level events.
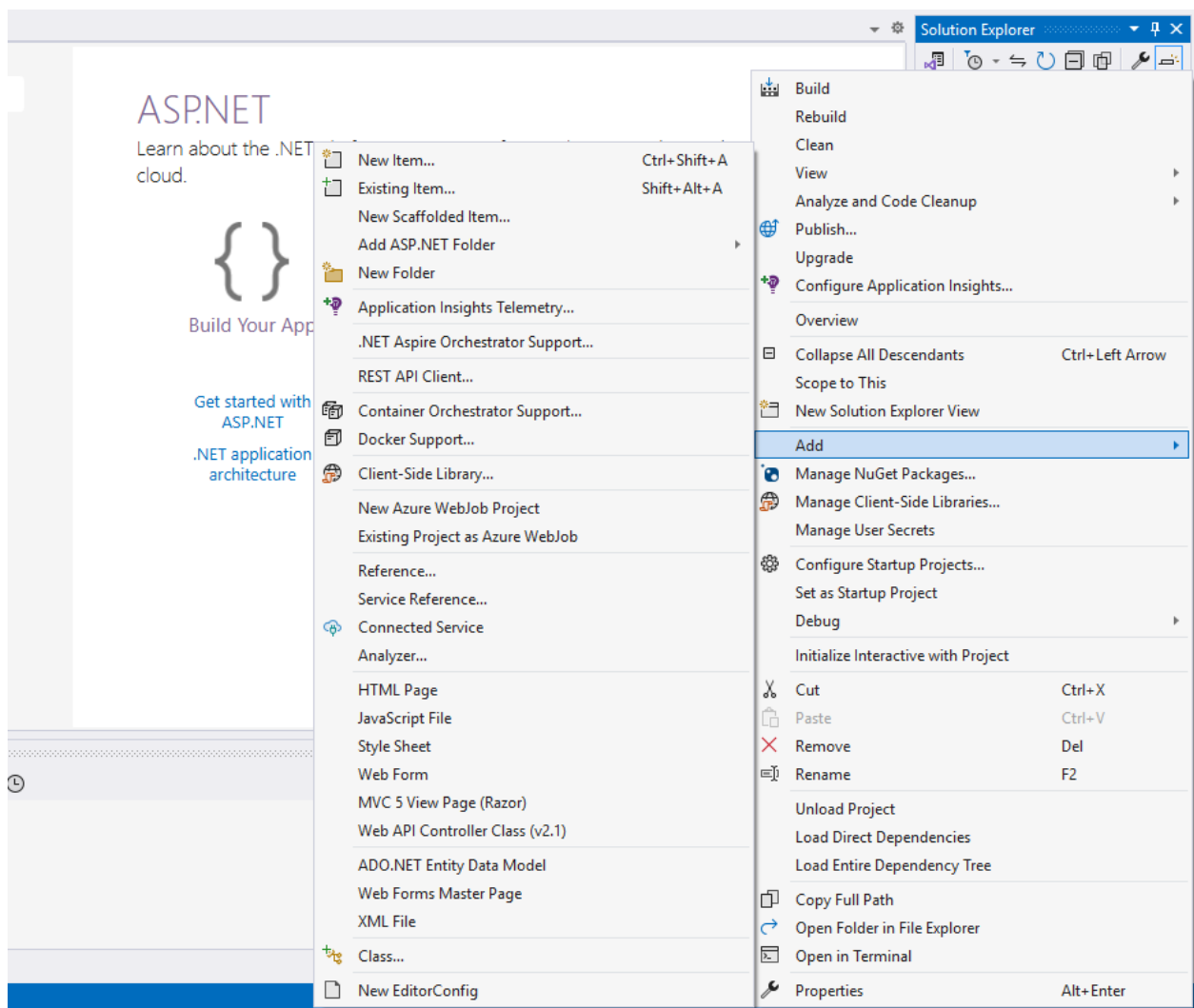
Name: Rajvardhan Ganpatrao Patil
Roll No: 40   Div: A
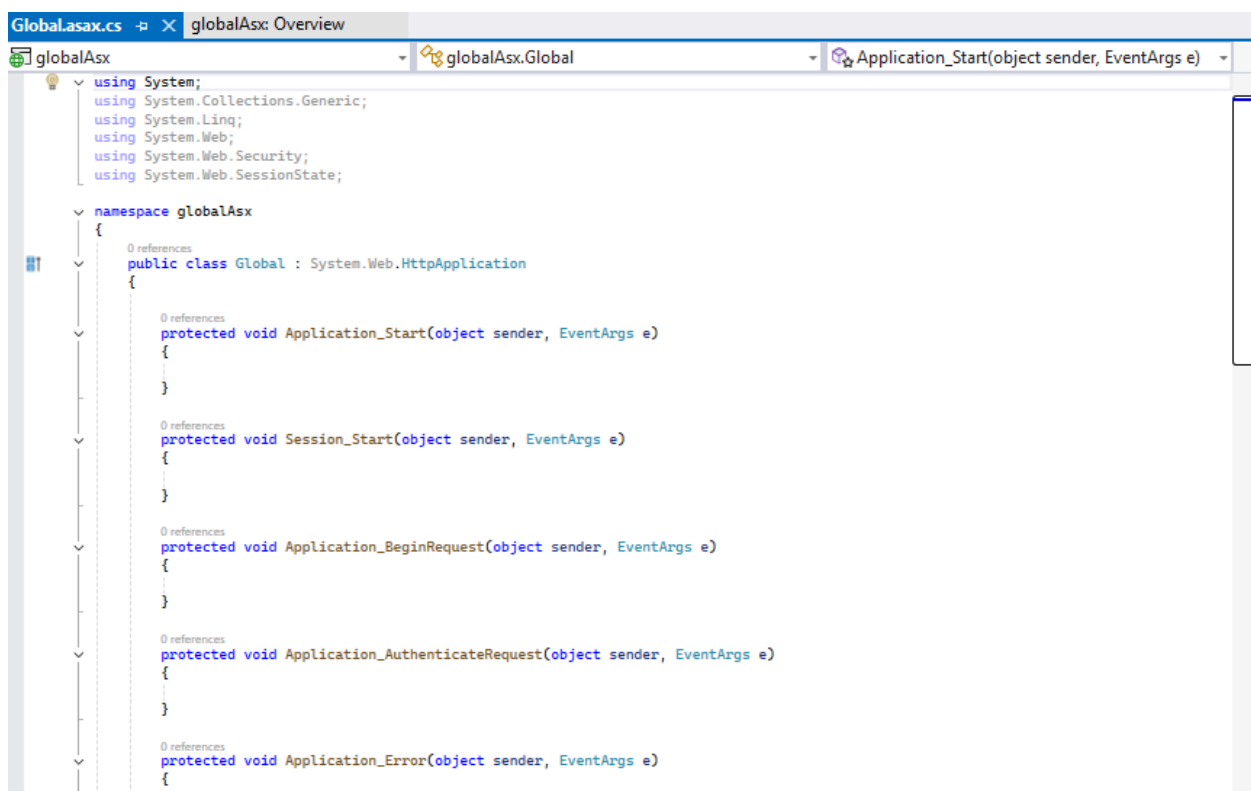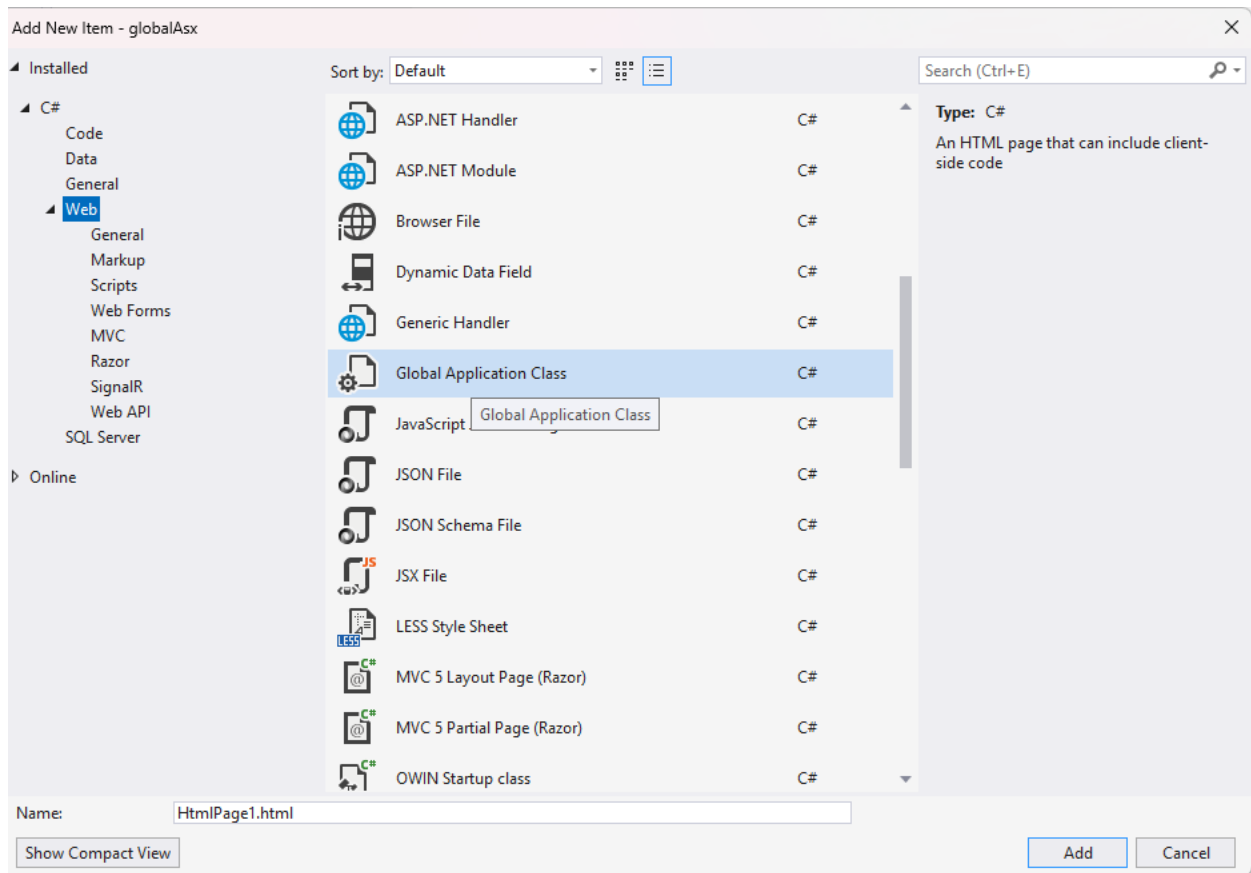
Global.asax.cs

```
using System;
using System.Collections.Generic;
using System.Linq;
```

Name: Rajvardhan Ganpatrao Patil
Roll No: 40   Div: A

```csharp
using System.Web;
using System.Web.Security;
using System.Web.SessionState;

namespace globalAsx
{
    public class Global : System.Web.HttpApplication
    {

        protected void Application_Start(object sender, EventArgs e)
        {
            Application["ActiveUsers"] = 0;
        }

        protected void Session_Start(object sender, EventArgs e)
        {
            Application.Lock();
            Application["ActiveUsers"] = (int)Application["ActiveUsers"] + 1;
            Application.UnLock();
        }

        protected void Session_End(object sender, EventArgs e)
        {
            Application.Lock();
            Application["ActiveUsers"] = (int)Application["ActiveUsers"] - 1;
            Application.UnLock();

        }


    }
}
```

Web.config

```xml
<?xml version="1.0" encoding="utf-8"?>
<!--
  For more information on how to configure your ASP.NET application, please
visit
  https://go.microsoft.com/fwlink/?LinkId=169433
  -->
<configuration>
  <system.web>

      <sessionState timeout="1" mode="InProc"/>

    <compilation debug="true" targetFramework="4.7.2" />
    <httpRuntime targetFramework="4.7.2" />
  </system.web>
  <system.codedom>
    <compilers>
      <compiler language="c#;cs;csharp" extension=".cs"
type="Microsoft.CodeDom.Providers.DotNetCompilerPlatform.CSharpCodeProvider,
Microsoft.CodeDom.Providers.DotNetCompilerPlatform, Version=2.0.1.0,
Culture=neutral, PublicKeyToken=31bf3856ad364e35" warningLevel="4"
compilerOptions="/langversion:default /nowarn:1659;1699;1701" />
      <compiler language="vb;vbs;visualbasic;vbscript" extension=".vb"
type="Microsoft.CodeDom.Providers.DotNetCompilerPlatform.VBCodeProvider,
Microsoft.CodeDom.Providers.DotNetCompilerPlatform, Version=2.0.1.0,
Culture=neutral, PublicKeyToken=31bf3856ad364e35" warningLevel="4"
compilerOptions="/langversion:default /nowarn:41008
/define:_MYTYPE=\&quot;Web\&quot; /optionInfer+" />
    </compilers>
```
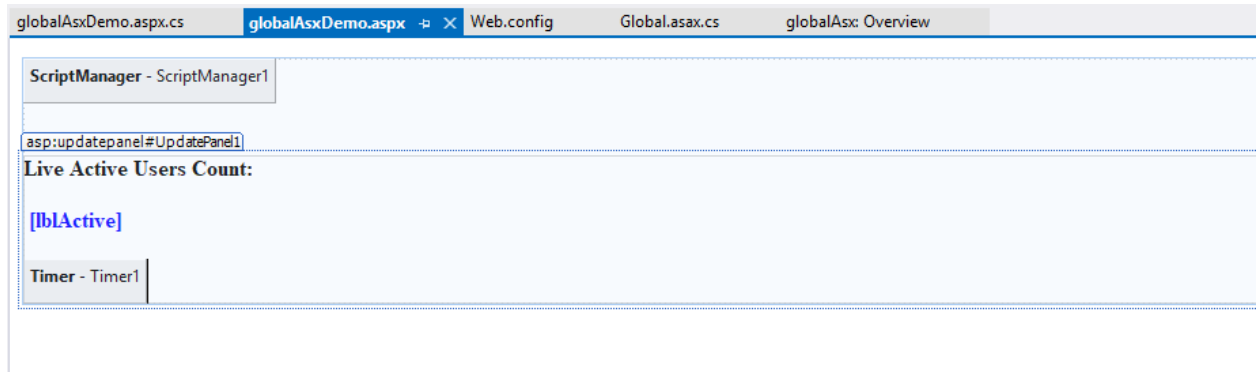
```
    </system.codedom>
</configuration>
```

| globalAsxDemo.aspx.cs | globalAsxDemo.aspx | Web.config | Global.asax.cs | globalAsx: Overview |

ScriptManager - ScriptManager1

asp:updatepanel#UpdatePanel1

Live Active Users Count:

[lblActive]

Timer - Timer1

globalAsxDemo.aspx.cs

```csharp
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;

namespace globalAsx
{
    public partial class globalAsxDemo : System.Web.UI.Page
    {
        protected void Page_Load(object sender, EventArgs e)
        {
            if (!IsPostBack)
            {
                lblActive.Text = "Active Users: " +
Application["ActiveUsers"].ToString();
            }
        }

        protected void Timer1_Tick(object sender, EventArgs e)
        {
            lblActive.Text = "Active Users: " +
Application["ActiveUsers"].ToString();
        }
    }
}
```

Output:

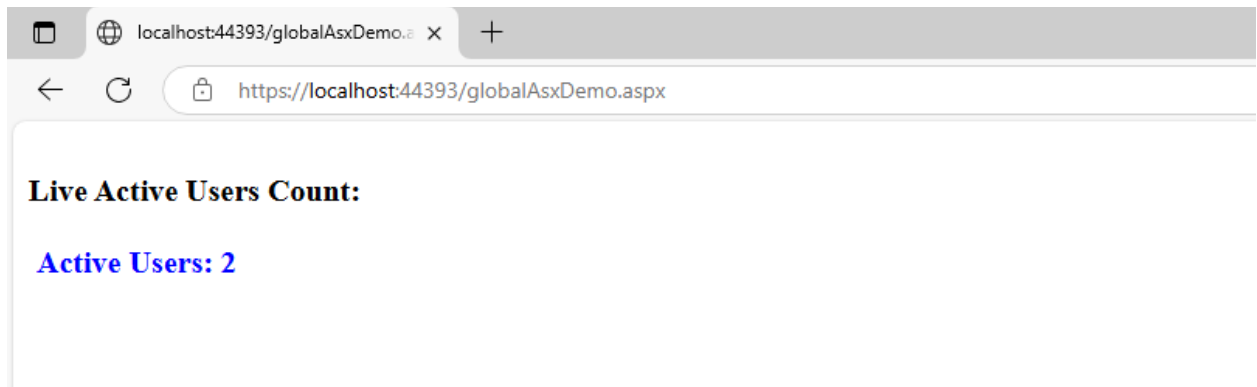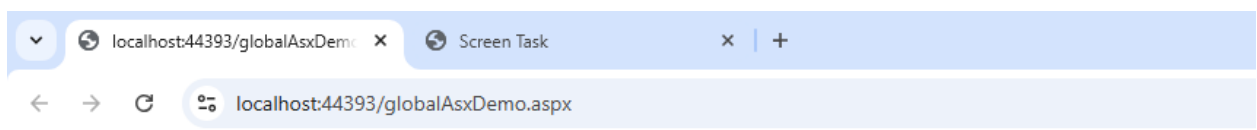**Name: Rajvardhan Ganpatrao Patil**
Roll No: 40   Div: A

Open on Chrome
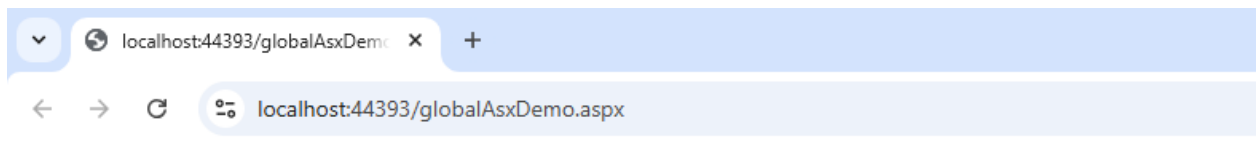
Open in edge

After close the application in edge and then count is decrease by 1 in chrome after 1 min because we set timeout of 1 minute in web.cofig file you can see in above screen shot of web.config, if we not specify the timeout the bydefault timeout is 20 minutes