FINOLEX ACADEMY OF MANAGEMENT AND TECHNOLOGY, RATNAGIRI

DEPARTMENT OF MCA

PRACTICAL NO. 04

Session Management and AJAX

Global.asax.cs

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.Security;
using System.Web.SessionState;

namespace PracticalNo4
{
    public class Global : System.Web.HttpApplication
    {

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

        }

        protected void Session_Start(object sender, EventArgs e)
        {
            Application.Lock();
            Application["SiteVisiterCounter"] = Convert.ToInt32(Application["SiteVisiterCounter"]) + 1;
            Application["OnlineUserCounter"] = Convert.ToInt32(Application["OnlineUserCounter"]) +
1;
            Application.UnLock();
        }

        protected void Session_End(object sender, EventArgs e)
        {
            Application.Lock();
            Application["OnlineUserCounter"] = Convert.ToInt32(Application["OnlineUserCounter"]) -
1;
            Application.UnLock();
        }
    }
}
```

1. **Design Web application to maintain the session data using In-proc session state.**

   Ans:

   - **CODE –**
     SM_SessionDemo1.aspx

Sever Side Session Management Using Session(InProc mode)

First Name : [_____]

Last Name : [_____]

[Set session state data] [Submit]

```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="SM_SessionDemo1.aspx.cs"
Inherits="PracticalNo4.SM_SessionDemo1" %>

<!DOCTYPE html>

<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title></title>
</head>
<body>
    <form id="form1" runat="server">
        <div>
            <div>
            <asp:Label ID="Label1" runat="server" Font-Bold="True" Font-Italic="False" Font-Size="X-
Large" ForeColor="#FF3399" Text="Sever Side Session Management Using Session(InProc
mode)"></asp:Label>
            <br />
            <br />
            <asp:Label ID="lblFirstName" runat="server" Text="First Name : "></asp:Label>
 
            <asp:TextBox ID="txtFirstName" runat="server"></asp:TextBox>
            <br />
            <br />
            <asp:Label ID="lblLastName" runat="server" Text="Last Name : "></asp:Label>
 
            <asp:TextBox ID="txtLastName" runat="server"></asp:TextBox>
            <br />
            <br />
            <asp:Button ID="btnSetSessionState" runat="server" OnClick="btnSetSessionState_click"
Text="Set session state data" Width="252px" />
             <asp:Button ID="btnSubmit1" runat="server" OnClick="btnSubmit1_Click"
Text="Submit" />
            </div>
        </div>
    </form>
</body>
</html>
```

SM_SessionDemo1.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 PracticalNo4
{
    public partial class SM_SessionDemo1 : System.Web.UI.Page
    {
        protected void Page_Load(object sender, EventArgs e)
        {

        }

        protected void btnSetSessionState_click(object sender, EventArgs e)
        {

            Session["FirstName"] = txtFirstName.Text;
            Session["LastName"] = txtLastName.Text;


        }

        protected void btnSubmit1_Click(object sender, EventArgs e)
        {
            Response.Redirect("SM_SessionDemo2.aspx");
        }
    }
}
```

SM_SessionDemo2.aspx

Session Management using Session

Welcome [lblString]

   Your First Name :   [lblFirstName]

   Your Last Name :   [lblLastName]

```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="SM_SessionDemo2.aspx.cs"
Inherits="PracticalNo4.SM_SessionDemo2" %>

<!DOCTYPE html>

<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title>Session State</title>
```

```html
</head>
<body>
    <form id="form1" runat="server">
        <div>
            <div>
            <asp:Label ID="Label1" runat="server" Text="Session Management using
Session"></asp:Label>
            <br />
            <br />
            <asp:Label ID="Label2" runat="server" Text="Welcome"></asp:Label>
 
            <asp:Label ID="lblString" runat="server"></asp:Label>
            <br />
            <br />
     
            <asp:Label ID="Label3" runat="server" Text="Your First Name : "></asp:Label>
  
            <asp:Label ID="lblFirstName" runat="server"></asp:Label>
            <br />
            <br />
     
            <asp:Label ID="Label4" runat="server" Text="Your Last Name : "></asp:Label>
   
            <asp:Label ID="lblLastName" runat="server"></asp:Label>
        </div>
        </div>
    </form>
</body>
</html>
```

SM_SessionDemo2.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 PracticalNo4
{
    public partial class SM_SessionDemo2 : System.Web.UI.Page
    {
        protected void Page_Load(object sender, EventArgs e)
        {
            if (!IsPostBack)
            {
                if (Session["FirstName"] != null && Session["LastName"] != null)
                {
                    lblString.Text = Session["FirstName"].ToString();

                    lblFirstName.Text = Session["FirstName"].ToString();
                    lblLastName.Text = Session["LastName"].ToString();
                }
```

```
        else
        {
            lblFirstName.Text = "Session for FirstName key is not set!!";
            lblLastName.Text = "Session for LastName key is not set!!";
        }
      }
    }
  }
          }
```
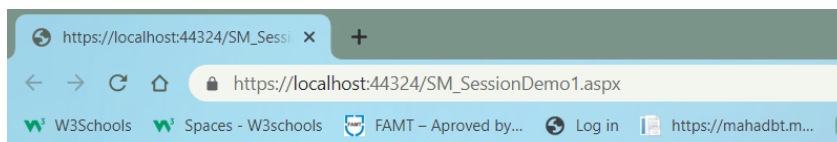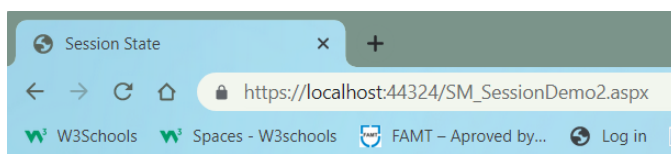
Web.config

```
<!--Inproc-->
<sessionState mode="InProc" timeout="1"></sessionState>
```
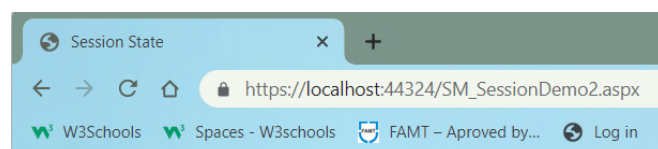
- **OUTPUT :**

Sever Side Session Management Using Session(InProc mode)

First Name : vaishnavi

Last Name : shinde

Set session state data   Submit

Session Management using Session

Welcome   vaishnavi

　　Your First Name :   vaishnavi

　　Your Last Name :   shinde

Session Management using Session

Welcome

　　Your First Name :   Session for FirstName key is not set!!

　　Your Last Name :   Session for LastName key is not set!!

2. Design Web application to maintain the session data using Out of process session state (UseStateServer and SQLServer modes).

   Ans:

- **CODE –**
  1)StateServer Mode –

  SM_SessionDemo1.aspx

  Sever Side Session Management Using Session(StateServer mode)

  First Name : [   ]

  Last Name : [   ]

  [Set session state data   ] [Submit]

<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="SM_SessionDemo1.aspx.cs" Inherits="PracticalNo4.SM_SessionDemo1" %>

<!DOCTYPE html>

<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
   <title></title>
</head>
<body>
   <form id="form1" runat="server">
     <div>
        <div>
        <asp:Label ID="Label1" runat="server" Font-Bold="True" Font-Italic="False" Font-Size="X-Large" ForeColor="#FF3399" Text="Sever Side Session Management Using Session(StateServer mode)"></asp:Label>

        <asp:Label ID="lblFirstName" runat="server" Text="First Name : "></asp:Label>

        <asp:TextBox ID="txtFirstName" runat="server"></asp:TextBox>

        <asp:Label ID="lblLastName" runat="server" Text="Last Name : "></asp:Label>

        <asp:TextBox ID="txtLastName" runat="server"></asp:TextBox>

        <asp:Button ID="btnSetSessionState" runat="server" OnClick="btnSetSessionState_click" Text="Set session state data" Width="252px" />
      <asp:Button ID="btnSubmit1" runat="server" OnClick="btnSubmit1_Click" Text="Submit" />
        </div>
     </div>
   </form>
</body>
</html>

SM_SessionDemo1.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 PracticalNo4
{
    public partial class SM_SessionDemo1 : System.Web.UI.Page
    {
        protected void Page_Load(object sender, EventArgs e)
        {

        }

        protected void btnSubmit_Click(object sender, EventArgs e)
        {

            Session["FirstName"] = txtFirstName.Text;
            Session["LastName"] = txtLastName.Text;

            Response.Redirect("SM_SessionDemo2.aspx");
        }


    }
}
```

SM_SessionDemo2.aspx

```
Session Management using Session

Welcome  [lblString]

     Your First Name :    [lblFirstName]

     Your Last Name :     [lblLastName]

|
```

```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="SM_SessionDemo2.aspx.cs"
Inherits="PracticalNo4.SM_SessionDemo2" %>

<!DOCTYPE html>

<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title>Session State</title>
</head>
```

```html
<body>
    <form id="form1" runat="server">
       <div>
          <div>
          <asp:Label ID="Label1" runat="server" Text="Session Management using
Session"></asp:Label>
          <br />
          <br />
          <asp:Label ID="Label2" runat="server" Text="Welcome"></asp:Label>
 
          <asp:Label ID="lblString" runat="server"></asp:Label>
          <br />
          <br />
     
          <asp:Label ID="Label3" runat="server" Text="Your First Name : "></asp:Label>
  
          <asp:Label ID="lblFirstName" runat="server"></asp:Label>
          <br />
          <br />
     
          <asp:Label ID="Label4" runat="server" Text="Your Last Name : "></asp:Label>
   
          <asp:Label ID="lblLastName" runat="server"></asp:Label>
       </div>
       </div>
    </form>
</body>
</html>
```
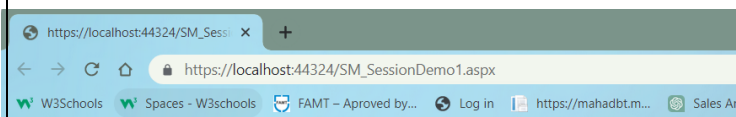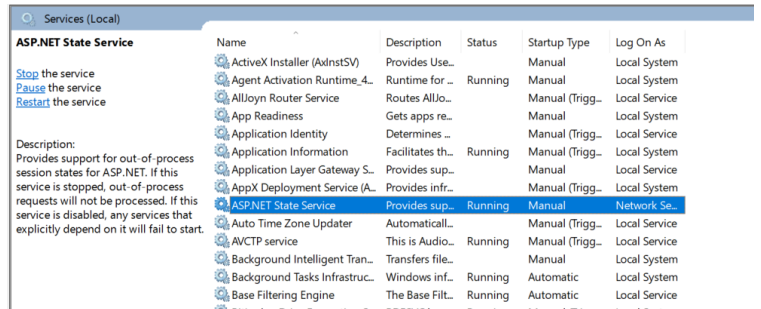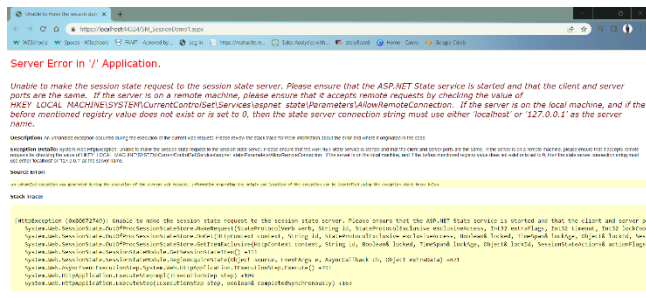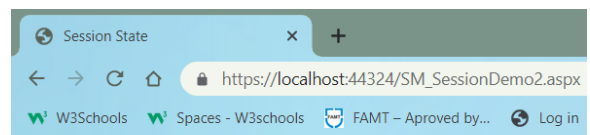
SM_SessionDemo2.aspx.cs

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

namespace PracticalNo4
{
    public partial class SM_SessionDemo2 : System.Web.UI.Page
    {
        protected void Page_Load(object sender, EventArgs e)
        {
            if (!IsPostBack)
            {
                if (Session["FirstName"] != null && Session["LastName"] != null)
                {
                    lblString.Text = Session["FirstName"].ToString();

                    lblFirstName.Text = Session["FirstName"].ToString();
                    lblLastName.Text = Session["LastName"].ToString();
                }
                else
```

```
                {
                    lblFirstName.Text = "Session for FirstName key is not set!!";
                    lblLastName.Text = "Session for LastName key is not set!!";
                }
            }
        }
    }
}
```

Web.config

```
<!--StateServer-->
<sessionState mode="StateServer" stateConnectionString="tcpip=127.0.0.1:42424"
stateNetworkTimeout="10" timeout="1"/>
```

- **OUTPUT :**

2)SQLServer Mode –

SM_SessionDemo1.aspx

Sever Side Session Management Using Session(SQLServer mode)

First Name :

Last Name :

| Set session state data | Submit |

```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="SM_SessionDemo1.aspx.cs"
Inherits="PracticalNo4.SM_SessionDemo1" %>

<!DOCTYPE html>

<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title></title>
</head>
<body>
    <form id="form1" runat="server">
        <div>
            <div>
            <asp:Label ID="Label1" runat="server" Font-Bold="True" Font-Italic="False" Font-Size="X-
Large" ForeColor="#FF3399" Text="Sever Side Session Management Using Session(SQLServer
mode)"></asp:Label>
            <br />
            <br />
            <asp:Label ID="lblFirstName" runat="server" Text="First Name : "></asp:Label>
 
            <asp:TextBox ID="txtFirstName" runat="server"></asp:TextBox>
            <br />
            <br />
            <asp:Label ID="lblLastName" runat="server" Text="Last Name : "></asp:Label>
 
            <asp:TextBox ID="txtLastName" runat="server"></asp:TextBox>
            <br />
            <br />
            <asp:Button ID="btnSetSessionState" runat="server" OnClick="btnSetSessionState_click"
Text="Set session state data" Width="252px" />
         <asp:Button ID="btnSubmit1" runat="server" OnClick="btnSubmit1_Click"
Text="Submit" />
            </div>
        </div>
    </form>
</body>
</html>
```

SM_SessionDemo1.aspx.cs

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

namespace PracticalNo4
{
    public partial class SM_SessionDemo1 : System.Web.UI.Page
    {
        protected void Page_Load(object sender, EventArgs e)
        {

        }

        protected void btnSubmit_Click(object sender, EventArgs e)
        {

            Session["FirstName"] = txtFirstName.Text;
            Session["LastName"] = txtLastName.Text;

            Response.Redirect("SM_SessionDemo2.aspx");
        }


    }
}
```

SM_SessionDemo2.aspx

```
Session Management using Session

Welcome  [lblString]

    Your First Name :   [lblFirstName]

    Your Last Name :   [lblLastName]
```

```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="SM_SessionDemo2.aspx.cs"
Inherits="PracticalNo4.SM_SessionDemo2" %>

<!DOCTYPE html>

<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title>Session State</title>
</head>
<body>
```

```
    <form id="form1" runat="server">
        <div>
            <div>
            <asp:Label ID="Label1" runat="server" Text="Session Management using
Session"></asp:Label>
            <br />
            <br />
            <asp:Label ID="Label2" runat="server" Text="Welcome"></asp:Label>
 
            <asp:Label ID="lblString" runat="server"></asp:Label>
            <br />
            <br />
     
            <asp:Label ID="Label3" runat="server" Text="Your First Name : "></asp:Label>
  
            <asp:Label ID="lblFirstName" runat="server"></asp:Label>
            <br />
            <br />
     
            <asp:Label ID="Label4" runat="server" Text="Your Last Name : "></asp:Label>
   
            <asp:Label ID="lblLastName" runat="server"></asp:Label>
            </div>
            </div>
    </form>
</body>
</html>
```

SM_SessionDemo2.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 PracticalNo4
{
    public partial class SM_SessionDemo2 : System.Web.UI.Page
    {
        protected void Page_Load(object sender, EventArgs e)
        {
            if (!IsPostBack)
            {
                if (Session["FirstName"] != null && Session["LastName"] != null)
                {
                    lblString.Text = Session["FirstName"].ToString();

                    lblFirstName.Text = Session["FirstName"].ToString();
                    lblLastName.Text = Session["LastName"].ToString();
                }
                else
                {
```
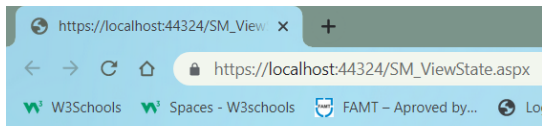
```
                lblFirstName.Text = "Session for FirstName key is not set!!";
                lblLastName.Text = "Session for LastName key is not set!!";
            }
        }
    }
}
                            }
```

Web.config

```
<!--SQLServer-->
                <sessionState mode="SQLServer" sqlConnectionString="Data
Source=(LocalDB)\MSSQLLocalDB;Integrated Security=SSPI"
                                        cookieless="true"
                                        regenerateExpiredSessionId="true"
                                        stateNetworkTimeout="40" timeout="1"></sessionState>
```

- **OUTPUT :**

	SessionId	Created	Expires	LockDate	LockDateLocal	LockCookie	Timeout	Locked	SessionItemShort	SessionItemLong	Flags
1	ctofsclq4cc2eet3rnccqktb2b7731d2	2023-05-22 17:20:16.077	2023-05-22 17:21:51.680	2023-05-22 17:20:51.643	2023-05-22 22:50:51.643	5	1	0	0x0100000001002000000FFFFFFF0946697273744E616D...	NULL	0
2	sxzelghefiswroo4xhufkczx2b7731d2	2023-05-22 17:02:33.403	2023-05-22 17:03:41.820	2023-05-22 17:02:41.773	2023-05-22 22:32:41.773	5	1	0	0x0100000001002000000FFFFFFF0946697273744E616D...	NULL	0

3. Design an ASP.NET web application to display the number of times current page is visited using following session management techniques:

a. View State

b. QueryString

c. Cookies and

d. Application State

    Ans:

- **CODE –**
  a. **View State**
     SM_ViewState.aspx

View State

Page Count: [lblPageCount]

[Reload]

```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="SM_ViewState.aspx.cs"
Inherits="PracticalNo4.SM_ViewState" %>

<!DOCTYPE html>

<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
   <title></title>
</head>
<body>
   <form id="form1" runat="server">
     <div>
            <div>
               <asp:Label ID="Label2" runat="server" Font-Bold="True" Font-Size="X-Large"
ForeColor="Fuchsia" Text="View State"></asp:Label>
               <br />
               <br />
       <asp:Label ID="Label1" runat="server" Text="Page Count: "></asp:Label>
       <asp:Label ID="lblPageCount" runat="server"></asp:Label>
       <br />
       <asp:Button ID="btnReload" runat="server" OnClick="btnReload_Click" Text="Reload" />
     </div>

     </div>
   </form>
</body>
</html>
```

SM_ViewState.aspx.cs

```
using System;
```

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

namespace PracticalNo4
{
    public partial class SM_ViewState : System.Web.UI.Page
    {
        protected void Page_Load(object sender, EventArgs e)
        {

        }

        protected void btnReload_Click(object sender, EventArgs e)
        {
            int Count = 0;
            if (ViewState["Counter"] == null)
                Count += 1;
            else
                Count = ((int)ViewState["Counter"]) + 1;
            ViewState["Counter"] = Count;
            lblPageCount.Text = Count.ToString();

        }
    }
}
```

- **OUTPUT :**
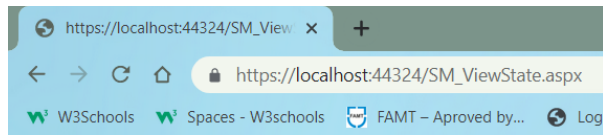
b. QueryString
- **CODE –**

SM_QueryString.aspx

```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="SM_QueryString.aspx.cs"
Inherits="PracticalNo4.SM_QueryString" %>

<!DOCTYPE html>

<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title>Query String</title>
</head>
<body>
    <form id="form1" runat="server">
      <div>
          <br />
          <asp:Label ID="Label1" runat="server" Font-Bold="True" Font-Size="X-Large"
ForeColor="#CC0099" Text="Client Side Session Management Using Query String"></asp:Label>
          <br />
          <br />
          <asp:Label ID="lblMessage" runat="server" Text="Message"></asp:Label>
          <br />
          <br />
          <asp:Label ID="Label3" runat="server" Text="Counter : "></asp:Label>
          <asp:Label ID="lblCounter" runat="server" Text="0"></asp:Label>
          <br />
          <br />
          <asp:Button ID="btnSubmit" runat="server" OnClick="btnSubmit_Click" Text="Submit" />
          <br />
          <br />
      </div>
    </form>
</body>
</html>
```
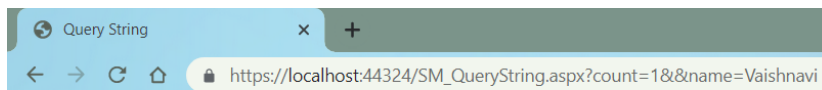
SM_QueryString.aspx.cs

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

namespace PracticalNo4
{
    public partial class SM_QueryString : System.Web.UI.Page
    {
        int cnt;
        protected void Page_Load(object sender, EventArgs e)
        {
            cnt = Convert.ToInt32(Server.UrlDecode(Request.QueryString["count"]));

            if(cnt !=0)
            {
                cnt = cnt + 1;
            }
```

```
        else
        {
          cnt = 1;
        }
        lblCounter.Text = Convert.ToString(cnt);

        lblMessage.Text = "Welcome" + Request.QueryString["name"];
    }

    protected void btnSubmit_Click(object sender, EventArgs e)
    {
        Response.Redirect("SM_QueryString.aspx?count=" + Server.UrlEncode(lblCounter.Text) +
"&&name=Vaishnavi");

    }
  }
}
```

- **OUTPUT :**
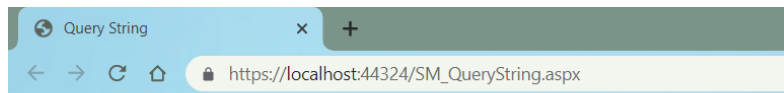
Client Side Session Management Using Query String

Welcome

Counter : 1

Submit

Client Side Session Management Using Query String

WelcomeVaishnavi

Counter : 2

Submit

- **CODE –**
  SM_Cookies.aspx

Client Side Session Management Using Cookies

Page Counter :   lblCounter

```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="SM_Cookies.aspx.cs"
Inherits="PracticalNo4.SM_Cookies" %>

<!DOCTYPE html>

<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
   <title>Cookies</title>
</head>
<body>
   <form id="form1" runat="server">
     <div>
        <br />
        <asp:Label ID="Label1" runat="server" Font-Bold="True" Font-Size="X-Large"
ForeColor="#CC0099" Text="Client Side Session Management Using Cookies"></asp:Label>
        <br />
        <br />
        <asp:Label ID="Label2" runat="server" Text="Page Counter : "></asp:Label>
 
        <asp:Label ID="lblCounter" runat="server" Text="lblCounter"></asp:Label>
        <br />
        <br />
     </div>
   </form>
</body>
</html>
```

SM_Cookies.aspx.cs

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

namespace PracticalNo4
{
   public partial class SM_Cookies : System.Web.UI.Page
   {
      int counter = 0;
      protected void Page_Load(object sender, EventArgs e)
      {
         if(Request.Cookies["counter"] == null)
         {
            counter = 1;
```

```
                }
                else
                {
                    counter = int.Parse(Request.Cookies["counter"].Value) + 1;
                }

                Response.Cookies["counter"].Value = counter.ToString();
                // Response.Cookies["counter"].Expires = DateTime.Now.AddSeconds(5);
                if(Request.Cookies["counter"] != null)
                {
                    lblCounter.Text = Request.Cookies["counter"].Value;
                }
            }
        }
                }
```

Web.config

```
<!--Cookies-->

 <sessionState cookieless="AutoDetect" regenerateExpiredSessionId="true" ></sessionState>
```

- **OUTPUT :**

d. Application State
- **CODE –**

  SM_ApplicationState.aspx

Session Management Using Application State

[lblVisiterCounter]

[lblOnlineCounter]

| Clear Session |

```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="SM_ApplicationState.aspx.cs"
Inherits="PracticalNo4.SM_ApplicationState" %>

<!DOCTYPE html>

<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title></title>
</head>
<body>
    <form id="form1" runat="server">
        <div>
            <asp:Label ID="Label1" runat="server" Font-Bold="True" Font-Size="X-Large"
ForeColor="#FF6699" Text="Session Management Using Application State"></asp:Label>
            <br />
            <br />
            <asp:Label ID="lblVisiterCounter" runat="server"></asp:Label>
            <br />
            <br />
            <asp:Label ID="lblOnlineCounter" runat="server"></asp:Label>
            <br />
            <br />

        <asp:Button ID="btnClearSession" runat="server" Text="Clear Session"
OnClick="btnClearSession_Click" />
        </div>
    </form>
</body>
</html>
```

SM_ApplicationState.aspx.cs

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

namespace PracticalNo4
```

```
{
    public partial class SM_ApplicationState : System.Web.UI.Page
    {
        protected void Page_Load(object sender, EventArgs e)
        {
            lblVisiterCounter.Text = "No of times site visited =
"+(Application["SiteVisiterCounter"]).ToString();
            lblOnlineCounter.Text = "No of users online on the site = " +
(Application["OnlineUserCounter"]).ToString();
        }

        protected void btnClearSession_Click(object sender, EventArgs e)
        {
            Session.Abandon();
        }
    }
}
```

- **OUTPUT :**

Session Management Using Application State

No of times site visited = 1

No of users online on the site = 1

Clear Session

Session Management Using Application State

No of times site visited = 2

No of users online on the site = 2

Clear Session

Session Management Using Application State

No of times site visited = 2

No of users online on the site = 1

Clear Session
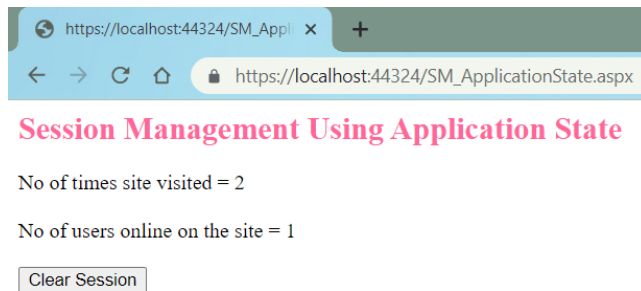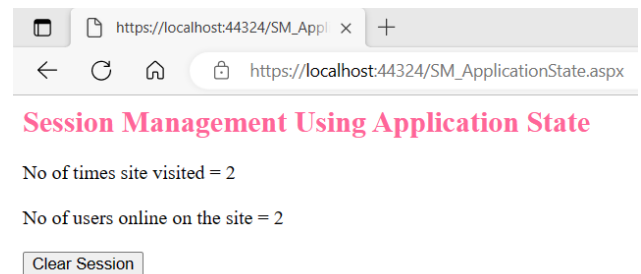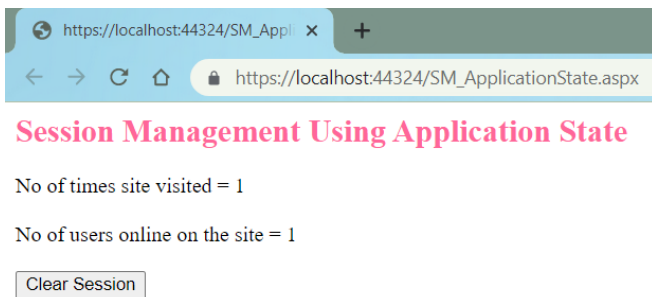
4. Design an ASP.NET web form to display digital clock using AJAX.

Ans:

- **CODE –**

  WF_DigitalClock_AJAX.aspx
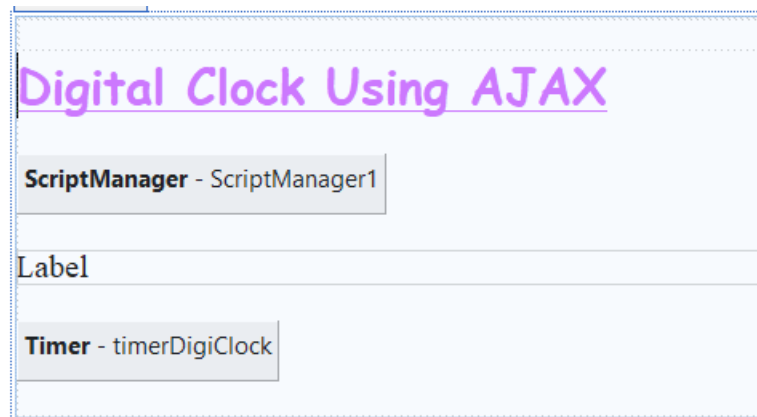

```
<%@ Page Language="C#" AutoEventWireup="true"
CodeBehind="WF_DigitalClock_AJAX.aspx.cs" Inherits="PracticalNo4.WF_DigitalClock_AJAX"
%>

<!DOCTYPE html>

<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title>Digital Clock Using AJAX</title>
</head>
<body style="height: 297px">
    <form id="form1" runat="server">
        <div>
        </div>
        <asp:Label ID="Label1" runat="server" Font-Bold="True" Font-Names="Comic Sans MS" Font-
Size="X-Large" ForeColor="#CC66FF" style="text-decoration: underline; text-align: center"
Text="Digital Clock Using AJAX"></asp:Label>
        <br />
        <br />
        <asp:ScriptManager ID="ScriptManager1" runat="server">
        </asp:ScriptManager>
        <br />
        <asp:UpdatePanel ID="UpdatePanel1" runat="server">
            <ContentTemplate>
                <asp:Label ID="lblDigitalClock" runat="server" Text="Label"></asp:Label>
            </ContentTemplate>
            <Triggers>
                <asp:AsyncPostBackTrigger ControlID="timerDigiClock" EventName="Tick" />
            </Triggers>
        </asp:UpdatePanel>
        <br />
        <asp:Timer ID="timerDigiClock" runat="server" Interval="1000"
OnTick="timerDigiClock_Tick">
        </asp:Timer>
```

```
        <br />
    </form>
</body>
                </html>
```
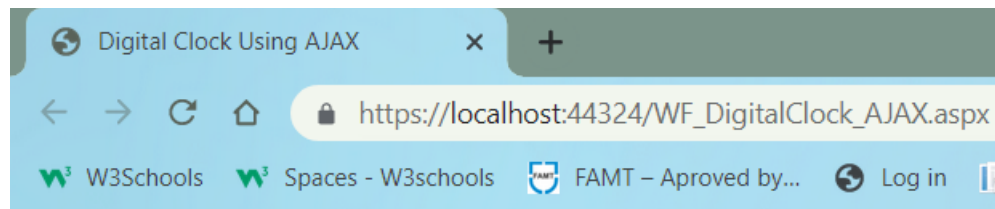
WF_DigitalClock_AJAX.aspx.

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

namespace PracticalNo4
{
    public partial class WF_DigitalClock_AJAX : System.Web.UI.Page
    {
        protected void Page_Load(object sender, EventArgs e)
        {

        }

        protected void timerDigiClock_Tick(object sender, EventArgs e)
        {
            lblDigitalClock.Text = DateTime.Now.ToString("hh:mm:ss tt");
        }
    }
}
```

- **OUTPUT :**

Digital Clock Using AJAX

10:36:26 AM

5. Design an ASP.NET web form using AJAX controls to change the banner image of your college website every 10 seconds.

   Ans:

- **CODE –**
  WF_BannerChange_AJAX.aspx


```
<%@ Page Language="C#" AutoEventWireup="true"
CodeBehind="WF_BannerChange_AJAX.aspx.cs"
Inherits="PracticalNo4.WF_BannerChange_AJAX" %>

<!DOCTYPE html>

<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title>Banner Change</title>
</head>
<body style="height: 79px">
    <form id="form1" runat="server">
      <div>
        <asp:Label ID="Label1" runat="server" Text="Banner Image Change Using AJAX" Font-
Bold="True" Font-Names="Century Gothic" Font-Size="Large"></asp:Label>

        <br />
        <br />
        <asp:ScriptManager ID="ScriptManager1" runat="server">
        </asp:ScriptManager>
        <br />
        <asp:UpdatePanel ID="UpdatePanel1" runat="server">
          <ContentTemplate>
```

```
                <asp:Image ID="imgBanner" runat="server" Height="325px"
ImageUrl="~/Images/banner_1.jpeg" Width="628px" />
<br />
            <br />
        </ContentTemplate>
        <Triggers>
            <asp:AsyncPostBackTrigger ControlID="timerBanner" EventName="Tick" />
        </Triggers>
    </asp:UpdatePanel>
    <br />
    <asp:Timer ID="timerBanner" runat="server" Interval="5000" OnTick="timerBanner_Tick">
    </asp:Timer>

    </div>
  </form>
</body>
</html>
```

WF_BannerChange_AJAX.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 PracticalNo4
{
    public partial class WF_BannerChange_AJAX : System.Web.UI.Page
    {
        protected void Page_Load(object sender, EventArgs e)
        {

        }

        protected void timerBanner_Tick(object sender, EventArgs e)
        {
            Random RandomNumber = new Random();
            int n = RandomNumber.Next(1,5);

            imgBanner.ImageUrl = String.Concat("Images/banner_", n.ToString(), ".jpeg");
        }
    }
                }
```
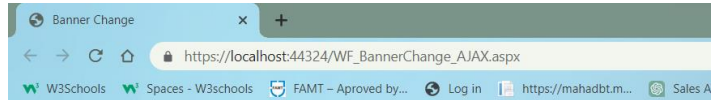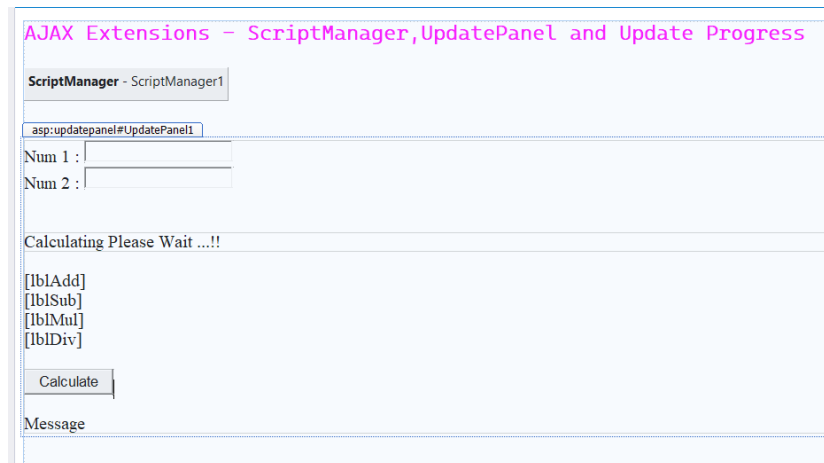
- **OUTPUT :**
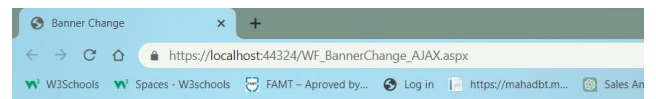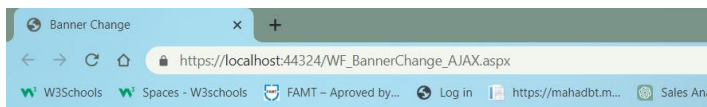
6. Design an ASP.NET web form to demonstrate UpdatePanel and UpdateProgress AJAX controls.

   Ans:

- **CODE –**
  WF_UpdateProgress.aspx


```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WF_UpdateProgress.aspx.cs"
Inherits="PracticalNo4.WF_UpdateProgress" %>

<!DOCTYPE html>

<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title>UPDATE PROGRESS USING AJAX</title>
</head>
<body>
    <form id="form1" runat="server">
        <div>
            <asp:Label ID="Label1" runat="server" Font-Bold="True" Font-Names="Cascadia Mono
Light" Font-Size="Large" ForeColor="Fuchsia" Text="AJAX Extensions -
ScriptManager,UpdatePanel and Update Progress"></asp:Label>
            <br />
            <asp:ScriptManager ID="ScriptManager1" runat="server">
            </asp:ScriptManager>
            <br />
            <asp:UpdatePanel ID="UpdatePanel1" runat="server">
                <ContentTemplate>
                    <asp:Label ID="Label2" runat="server" Text="Num 1 :"></asp:Label>
                     <asp:TextBox ID="txtNum1" runat="server"></asp:TextBox>
                    <br />
                    <asp:Label ID="Label3" runat="server" Text="Num 2 : "></asp:Label>
                    <asp:TextBox ID="txtNum2" runat="server"></asp:TextBox>
                    <br />
```

```
                <br />
                 <asp:UpdateProgress ID="UpdateProgress1" runat="server"
AssociatedUpdatePanelID="UpdatePanel1">
<ProgressTemplate>
                     <asp:Label ID="Label4" runat="server" Text="Calculating Please Wait
...!!"></asp:Label>
                </ProgressTemplate>
            </asp:UpdateProgress>
            <br />
            <asp:Label ID="lblAdd" runat="server"></asp:Label>
            <br />
            <asp:Label ID="lblSub" runat="server"></asp:Label>
            <br />
            <asp:Label ID="lblMul" runat="server"></asp:Label>
            <br />
            <asp:Label ID="lblDiv" runat="server"></asp:Label>
            <br />
            <br />
            <asp:Button ID="btnCalculate" runat="server" OnClick="btnCalculate_Click"
Text="Calculate" />
            <br />
            <br />
            <asp:Label ID="lblmessage" runat="server" Text="Message"></asp:Label>
        </ContentTemplate>
        <Triggers>
            <asp:AsyncPostBackTrigger ControlID="btnCalculate" EventName="Click" />
        </Triggers>
    </asp:UpdatePanel>
    <br />
    </div>
    </form>
</body>
</html>
```

WF_UpdateProgress.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 PracticalNo4
{
    public partial class WF_UpdateProgress : System.Web.UI.Page
    {
        protected void Page_Load(object sender, EventArgs e)
        {

        }

        protected void btnCalculate_Click(object sender, EventArgs e)
```

```
        {
           try {
           int num1 = Convert.ToInt32(txtNum1.Text);
           int num2 = Convert.ToInt32(txtNum2.Text);

               System.Threading.Thread.Sleep(5000);

           int add = num1 + num2;
           int sub = num1 - num2;
           int mul = num1 * num2;
           int div = num1 / num2;

           lblAdd.Text = string.Format("Addition:{0}",add);
           lblSub.Text = string.Format("Substraction:{0}", sub);
           lblMul.Text = string.Format("Multiplication:{0}", mul);
           lblDiv.Text = string.Format("Division:{0}", div);
           }
           catch(Exception ex)
           {
              lblmessage.Text = "Exception Caught!!" + ex.Message;
           }
        }
     }
}
```
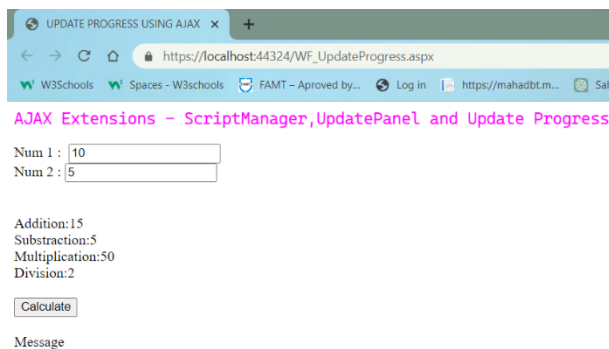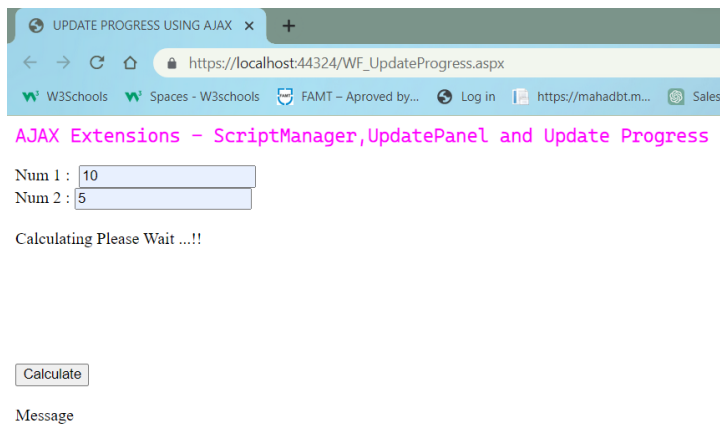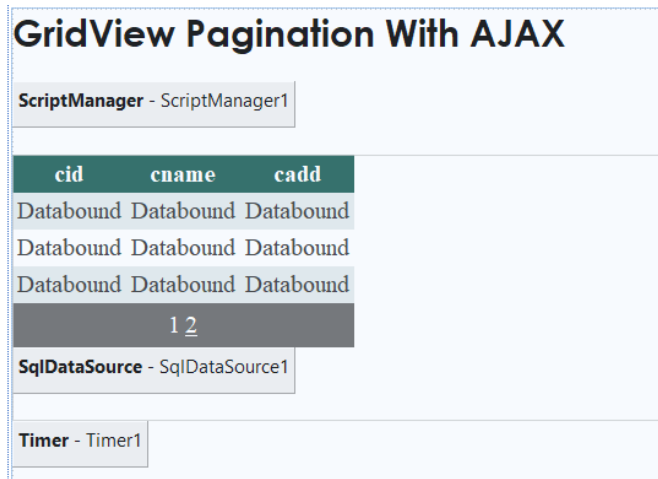
- **OUTPUT :**

7. Design an ASP.NET web form to show paginated output of customer_info table in GridView using AJAX.

Ans:

- **CODE –**

WF_Pagination_AJAX.aspx


```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WF_Pagination_AJAX.aspx.cs"
Inherits="PracticalNo4.WF_Pagination_AJAX" %>

<!DOCTYPE html>

<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
   <title>Pagination </title>
</head>
<body>
   <form id="form1" runat="server">
     <div style="height: 730px">
        <asp:Label ID="Label1" runat="server" Text="GridView Pagination With AJAX " Font-
Bold="True" Font-Names="Century Gothic" Font-Size="X-Large"></asp:Label>
        <br />
        <br />
        <asp:ScriptManager ID="ScriptManager1" runat="server">
        </asp:ScriptManager>
        <br />
        <asp:UpdatePanel ID="UpdatePanel1" runat="server">
          <ContentTemplate>
             <asp:GridView ID="GridView1" runat="server" AllowPaging="True"
AutoGenerateColumns="False" CellPadding="4" DataKeyNames="cid"
DataSourceID="SqlDataSource1" ForeColor="#333333" GridLines="None" PageSize="3">
                <AlternatingRowStyle BackColor="White" />
                <Columns>
                   <asp:BoundField DataField="cid" HeaderText="cid" ReadOnly="True"
SortExpression="cid" />
```

```asp
                <asp:BoundField DataField="cname" HeaderText="cname"
SortExpression="cname" />
                <asp:BoundField DataField="cadd" HeaderText="cadd" SortExpression="cadd" />
            </Columns>
            <EditRowStyle BackColor="#7C6F57" />
            <FooterStyle BackColor="#1C5E55" Font-Bold="True" ForeColor="White" />
            <HeaderStyle BackColor="#1C5E55" Font-Bold="True" ForeColor="White" />
            <PagerStyle BackColor="#666666" ForeColor="White" HorizontalAlign="Center" />
            <RowStyle BackColor="#E3EAEB" />
            <SelectedRowStyle BackColor="#C5BBAF" Font-Bold="True" ForeColor="#333333"
/>
            <SortedAscendingCellStyle BackColor="#F8FAFA" />
            <SortedAscendingHeaderStyle BackColor="#246B61" />
            <SortedDescendingCellStyle BackColor="#D4DFE1" />
            <SortedDescendingHeaderStyle BackColor="#15524A" />
        </asp:GridView>
        <asp:SqlDataSource ID="SqlDataSource1" runat="server" ConnectionString="<%$
ConnectionStrings:customerConString %>" SelectCommand="SELECT * FROM
[cust]"></asp:SqlDataSource>
            <br />

        </ContentTemplate>
        <Triggers>
            <asp:AsyncPostBackTrigger ControlID="Timer1" EventName="Tick" />
        </Triggers>
    </asp:UpdatePanel>
    <asp:Timer ID="Timer1" runat="server" Interval="2000" OnTick="Timer1_Tick">
            </asp:Timer>
        <br />
    </div>
  </form>
</body>
</html>
```

WF_Pagination_AJAX.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 PracticalNo4
{
  public partial class WF_Pagination_AJAX : System.Web.UI.Page
  {
    protected void Page_Load(object sender, EventArgs e)
    {

    }

    protected void Timer1_Tick(object sender, EventArgs e)
```

```
                  {
                  if (GridView1.PageIndex != GridView1.PageCount - 1)
                  {
                      GridView1.PageIndex = GridView1.PageIndex + 1;
                  }
                  else
                  {
                      GridView1.PageIndex = 0;
                  }

              }
          }
                  }
```
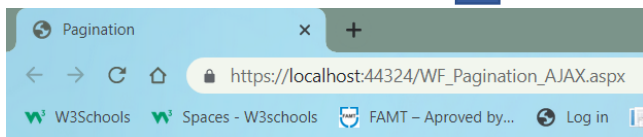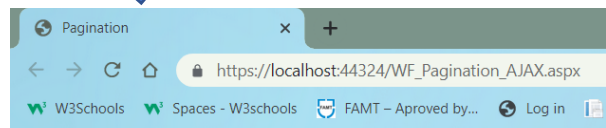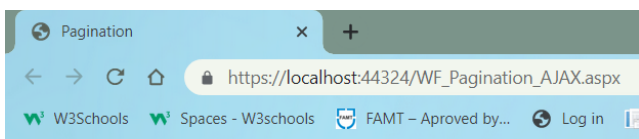
- **OUTPUT :**

GridView Pagination With AJAX

cid	cname	cadd
105	Shubham	Mumbai
106	Ritesh	Nimsod

1 2

GridView Pagination With AJAX

cid	cname	cadd
101	Vedantika	Vaduth
103	Nimish	Sangali
104	Vedant	Ratnagiri

1 2

GridView Pagination With AJAX

cid	cname	cadd
105	Shubham	Mumbai
106	Ritesh	Nimsod

1 2