**In this video we will discuss**  
**1.** What are strongly typed datasets  
**2.** Advantage of using strongly typed datasets over untyped datasets  
**3.** Steps to generate a typed dataset using visual studio  
  
   
  
**What are strongly typed datasets**  
**1.** Strongly Typed Dataset is generated based on the Database Schema.   
**2.** Strongly Typed Dataset derive form DataSet  
**3.** In a strongly typed dataset the database table columns become properties and the type associated with each column is known at design time  
  
**Advantage of using strongly typed datasets over untyped datasets**  
Since, in a strongly typed dataset the database table columns become properties and the type associated with each column is known at design time,   
**1.** Development is much easier as we will have intellisense   
**2.** Any errors related to misspelt column names can be detected at compile time, rather than at runtime  
  
**Steps to generate a typed dataset using visual studio**  
**1.** Right click on the **Project Name**in solution explorer and select **"Add - New Item"**  
**2.** Select **"DataSet"**, give it a meaningful name and click **"Add"**. This should add a file with **.XSD** extension.  
**3.** Click on **"View"**menu item in Visual Studio and select **"Server Explorer"**  
**4.** In **"Server Explorer"**, expand **"Data Connections"**, then expand the **"Database"**, and then expand **"Tables"**  
**5.** Drag and drop the table based on which you want to generate a strongly typed dataset.  
  
**ASPX code for both WebForm1.aspx and WebForm2.aspx**  
<div style="font-family:Arial">  
    <asp:TextBox ID="TextBox1" runat="server"></asp:TextBox>  
    <asp:Button ID="Button1" runat="server" Text="Button"   
        onclick="Button1\_Click" />  
    <asp:GridView ID="GridView1" runat="server">  
    </asp:GridView>  
</div>  
  
**Student class used in the demo**  
public class Student  
{  
    public int ID { get; set; }  
    public string Name { get; set; }  
    public string Gender { get; set; }  
    public int TotalMarks { get; set; }  
}  
  
Please make sure to include the following using declarations on **WebForm1.aspx.cs**  
using System.Configuration;  
using System.Data;  
using System.Data.SqlClient;  
  
**WebForm1.aspx.cs code:**  
public partial class WebForm1 : System.Web.UI.Page  
{  
    protected void Page\_Load(object sender, EventArgs e)  
    {  
        if (!IsPostBack)  
        {  
            string connectionString =  
            ConfigurationManager.ConnectionStrings["DBCS"].ConnectionString;  
            SqlConnection connection = new SqlConnection(connectionString);  
            string selectQuery = "Select \* from tblStudents";  
            SqlDataAdapter dataAdapter = new SqlDataAdapter(selectQuery, connection);  
  
            DataSet dataSet = new DataSet();  
            dataAdapter.Fill(dataSet, "Students");  
  
            Session["DATASET"] = dataSet;  
  
            GridView1.DataSource = from dataRow in dataSet.Tables["Students"].AsEnumerable()   
                select new Student   
                {   
                    ID = Convert.ToInt32(dataRow["Id"]),   
                    Name = dataRow["Name"].ToString(),   
                    Gender = dataRow["Gender"].ToString(),   
                    TotalMarks = Convert.ToInt32(dataRow["TotalMarks"])   
                };  
            GridView1.DataBind();  
        }  
    }  
  
    protected void Button1\_Click(object sender, EventArgs e)  
    {  
        DataSet dataSet = (DataSet)Session["DATASET"];  
  
        if (string.IsNullOrEmpty(TextBox1.Text))  
        {  
            GridView1.DataSource = from dataRow in dataSet.Tables["Students"].AsEnumerable()   
                select new Student   
                {   
                    ID = Convert.ToInt32(dataRow["Id"]),   
                    Name = dataRow["Name"].ToString(),   
                    Gender = dataRow["Gender"].ToString(),   
                    TotalMarks = Convert.ToInt32(dataRow["TotalMarks"])   
                };  
            GridView1.DataBind();  
        }  
        else  
        {  
            GridView1.DataSource = from dataRow in dataSet.Tables["Students"].AsEnumerable()   
                where dataRow["Name"].ToString().ToUpper().StartsWith(TextBox1.Text.ToUpper())   
                select new Student   
                {   
                    ID = Convert.ToInt32(dataRow["Id"]),   
                    Name = dataRow["Name"].ToString(),   
                    Gender = dataRow["Gender"].ToString(),   
                    TotalMarks = Convert.ToInt32(dataRow["TotalMarks"])   
                };  
            GridView1.DataBind();  
        }  
    }  
}  
  
**WebForm2.aspx.cs code:**  
public partial class WebForm2 : System.Web.UI.Page  
{  
    protected void Page\_Load(object sender, EventArgs e)  
    {  
        if (!IsPostBack)  
        {  
            StudentDataSetTableAdapters.StudentsTableAdapter studentsTableAdapter =   
                new StudentDataSetTableAdapters.StudentsTableAdapter();  
            StudentDataSet.StudentsDataTable studentsDataTable =   
                new StudentDataSet.StudentsDataTable();  
            studentsTableAdapter.Fill(studentsDataTable);  
  
            Session["DATATABLE"] = studentsDataTable;  
  
            GridView1.DataSource = from student in studentsDataTable   
                select new { student.ID, student.Name, student.Gender, student.TotalMarks };  
            GridView1.DataBind();  
        }  
    }  
  
    protected void Button1\_Click(object sender, EventArgs e)  
    {  
        StudentDataSet.StudentsDataTable studentsDataTable =   
            (StudentDataSet.StudentsDataTable)Session["DATATABLE"];  
  
        if (string.IsNullOrEmpty(TextBox1.Text))  
        {  
            GridView1.DataSource = from student in studentsDataTable   
                select new { student.ID, student.Name, student.Gender, student.TotalMarks };  
            GridView1.DataBind();  
        }  
        else  
        {  
            GridView1.DataSource = from student in studentsDataTable   
                where student.Name.ToUpper().StartsWith(TextBox1.Text.ToUpper())   
                select new { student.ID, student.Name, student.Gender, student.TotalMarks };  
            GridView1.DataBind();  
        }  
    }  
}