

Data Binding and GridView

What is Data Binding?

Data Binding in ASP.NET connects UI elements (like [GridView](#), [DropDownList](#), etc.) with data sources (like collections, databases, XML, etc.) so they can display and interact with data dynamically.

What is GridView?

The **GridView** control is a powerful, tabular data-bound control in ASP.NET for:

- Displaying data in a table format
 - Auto-generating rows and columns
 - Supporting features like **sorting, paging, editing, deleting**
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Case Study-1: Bind a list of student objects to a GridView

ASPX Page: [GridViewBinding.aspx](#)

```
<h2>Student List</h2>

<asp:GridView ID="gvStudents" runat="server" AutoGenerateColumns="False">
  <Columns>
    <asp:BoundField DataField="StudentId" HeaderText="ID" />
    <asp:BoundField DataField="Name" HeaderText="Name" />
    <asp:BoundField DataField="Score" HeaderText="Score" />
  </Columns>
</asp:GridView>
```

Code-Behind: [GridViewBinding.aspx.cs](#)

```
public partial class GridViewBinding : System.Web.UI.Page
{
    protected void Page_Load(object sender, EventArgs e)
    {
        if (!IsPostBack)
        {
            List<Student> studentList = GetStudents();
            gvStudents.DataSource = studentList;
            gvStudents.DataBind();
        }
    }
}
```

```
private List<Student> GetStudents()
{
    return new List<Student>
    {
        new Student { StudentId = 1, Name = "Alice", Score = 95 },
        new Student { StudentId = 2, Name = "Bob", Score = 88 },
        new Student { StudentId = 3, Name = "Charlie", Score = 78 }
    };
}

public class Student
{
    public int StudentId { get; set; }
    public string Name { get; set; }
    public int Score { get; set; }
}
}
```

Case Study-2: Bind a database table to a GridView

ASPX Page: [EmpGridDB.aspx.aspx](#)

```
<h2>Employee List (From SQL Server)</h2>

<asp:GridView ID="gvEmp" runat="server" AutoGenerateColumns="True"
    BorderWidth="1" GridLines="Both"
    Font-Size="Medium" Font-Names="Segoe UI">
</asp:GridView>
```

Code-Behind: [EmpGridDB.aspx.aspx.cs](#)

```
using System;
using System.Data;
using System.Data.SqlClient;

public partial class EmpGridDB : System.Web.UI.Page
{
    protected void Page_Load(object sender, EventArgs e)
    {
        if (!IsPostBack)
        {
            BindEmpData();
        }
    }
}
```

```
private void BindEmpData()
{
    string connectionString = @"Server=.\SQLEXPRESS;Initial
Catalog=TestDb;Integrated Security=True";
    string query = "SELECT empno, ename, job, sal, deptno FROM emp";

    using (SqlConnection conn = new SqlConnection(connectionString))
    using (SqlCommand cmd = new SqlCommand(query, conn))
    using (SqlDataAdapter da = new SqlDataAdapter(cmd))
    {
        DataTable dt = new DataTable();
        da.Fill(dt);
        gvEmp.DataSource = dt;
        gvEmp.DataBind();
    }
}
```

GridView Key Properties

Property	Description
<code>AutoGenerateColumns</code>	If true, creates columns automatically
<code>DataSource</code>	The data to display
<code>DataBind()</code>	Binds data to the GridView

Summary

Concept	Description
Data Binding	Connects UI controls to data sources
GridView	Displays data in table format with rich features
Use Cases	Reporting, dashboards, admin panels, CRUD interfaces
