

CODE IMPLEMENTATION: LAB 10

Home.aspx

```
<%@ Page Language="VB" AutoEventWireup="false" CodeFile="Home.aspx.vb" Inherits="_Default" %>

<!DOCTYPE html>

<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title> Quiz Application</title>
</head>
<body>
    <form id="form1" runat="server">
        <h1>QUIZ PORTAL APPLICATION </h1>
        <h3>Enter Your Credentials: </h3>
        <div>
            <label>Role:</label>
            <asp:DropDownList ID="ddlrole" runat="server">
                <asp:ListItem>Teacher</asp:ListItem>
                <asp:ListItem>Student</asp:ListItem>
                <asp:ListItem>Administrator</asp:ListItem>
            </asp:DropDownList>
        </div><br /><br />
        <div>
            <label>Username:</label>
            <asp:TextBox ID="txtusername" runat="server"></asp:TextBox>
        </div><br /><br />
        <div>
            <label>Password:</label>
            <asp:TextBox ID="txtpassword" runat="server"></asp:TextBox>
        </div><br /><br />
        <asp:Button ID="submit" runat="server" Text="Submit" />
    </form>
    <br /><br />
    <table border='1' cellpadding='10' cellspacing='0'>
        <tr>
            <th>Username</th>
            <th>Password</th>
            <th>Role</th>
        </tr>
        <tr><td>teacher_math</td>
            <td>mathpass</td>
            <td>Teacher</td></tr>
        <tr><td>teacher_english</td>
            <td>engpass</td>
            <td>Teacher</td></tr>
        <tr><td>student1</td>
            <td>stud1pass</td>
            <td>Student</td></tr>
        <tr><td>student2</td>
            <td>stud2pass</td>
            <td>Student</td></tr>
        <tr><td>student3</td>
            <td>stud3pass</td>
            <td>Student</td></tr>
        <tr><td>admin1</td>
            <td>adminpass</td>
            <td>Administrator</td></tr>
```

```

    </table>
</body>
</html>

```

Home.aspx.vb

```

Imports System.Data.SqlClient
Imports System.Web.UI

Partial Class _Default
    Inherits Page

    Protected Sub submit_Click(ByVal sender As Object, ByVal e As EventArgs) Handles
submit.Click
        Dim cons As String
        cons = "Data source=DESKTOP-JMV907L\SQLEXPRESS; Initial Catalog=SAAS; Integrated
Security=True"
        Dim con As New SqlConnection
        con.ConnectionString = cons
        Dim cmd As New SqlCommand
        cmd.Connection = con
        Dim role As String = ddlrole.SelectedValue
        If role = "Teacher" Then
            cmd.CommandText = "SELECT * FROM Teachers WHERE Username = '" & txtusername.Text
& "' AND Password = '" & txtpassword.Text & "'"
        ElseIf role = "Student" Then
            cmd.CommandText = "SELECT * FROM Students WHERE Username = '" & txtusername.Text
& "' AND Password = '" & txtpassword.Text & "'"
        ElseIf role = "Administrator" Then
            cmd.CommandText = "SELECT * FROM Administrators WHERE Username = '" &
txtusername.Text & "' AND Password = '" & txtpassword.Text & "'"
        End If
        con.Open()
        Dim dr As SqlDataReader
        dr = cmd.ExecuteReader()
        If dr.Read() Then
            Response.Cookies("Username").Value = txtusername.Text
            Response.Cookies("UserRole").Value = role
            If role = "Teacher" Then
                Response.Redirect("Teacher.aspx")
            ElseIf role = "Student" Then
                Response.Redirect("Student.aspx")
            ElseIf role = "Administrator" Then
                Response.Redirect("Administrator.aspx")
            End If
        Else
            Response.Write("Invalid credentials or role")
        End If
        dr.Close()
        con.Close()
        cmd.Dispose()
    End Sub
End Class

```

Teacher.aspx

```
<%@ Page Language="VB" AutoEventWireup="false" CodeFile="Teacher.aspx.vb" Inherits="_Default"
%>
<!DOCTYPE html>
<html>
<head runat="server">
    <title>Teacher</title>
</head>
<body>
    <form id="form1" runat="server">
        <h1>Questions</h1><br />
        <h2>Enter Quiz Question</h2>
        <asp:TextBox ID="txtQuestion" runat="server" Placeholder="Question"
    >/asp:TextBox><br />
        <asp:TextBox ID="txtOption1" runat="server" Placeholder="Option
1">/asp:TextBox><br />
        <asp:TextBox ID="txtOption2" runat="server" Placeholder="Option
2">/asp:TextBox><br />
        <asp:TextBox ID="txtOption3" runat="server" Placeholder="Option
3">/asp:TextBox><br />
        <asp:TextBox ID="txtOption4" runat="server" Placeholder="Option
4">/asp:TextBox><br />
        <asp:DropDownList ID="ddlcorrect" runat="server">
            <asp:ListItem>A</asp:ListItem>
            <asp:ListItem>B</asp:ListItem>
            <asp:ListItem>C</asp:ListItem>
            <asp:ListItem>D</asp:ListItem>
        </asp:DropDownList><br /><br />
        <asp:Button ID="Save" runat="server" Text="Save Question" />
        <asp:Label ID="lblMessage" runat="server" ForeColor="Red">/asp:Label>
    </form>
</body>
</html>
```

Teacher.aspx.vb

```
Imports System.Data.SqlClient
Imports System.Web.UI
```

```
Partial Class _Default
    Inherits Page
```

```
    Protected Sub Save_Click(ByVal sender As Object, ByVal e As EventArgs) Handles Save.Click
        Dim cons As String
        cons = "Data source=DESKTOP-JMV907L\SQLEXPRESS; Initial Catalog=SAAS; Integrated
Security=True"
        Dim con As New SqlConnection
        con.ConnectionString = cons
        con.Open()
        Dim username As String = Nothing
        If Request.Cookies("Username") IsNot Nothing Then
            username = Request.Cookies("Username").Value
        End If
```

```

If String.IsNullOrEmpty(username) Then
    lblMessage.Text = "Username not found in cookie."
    con.Close()
    Return
End If
Dim cmd As New SqlCommand
cmd.Connection = con
cmd.CommandText = "SELECT TeacherID FROM Teachers WHERE Username = '" & username &
'''
Dim teacherId As Object = cmd.ExecuteScalar()
If teacherId Is Nothing Then
    lblMessage.Text = "Teacher not found."
    con.Close()
    Return
End If
Dim teacherIdInt As Integer = Convert.ToInt32(teacherId)
If ddlcorrect.SelectedValue IsNot "A" AndAlso ddlcorrect.SelectedValue IsNot "B"
AndAlso ddlcorrect.SelectedValue IsNot "C" AndAlso ddlcorrect.SelectedValue IsNot "D" Then
    lblMessage.Text = "Invalid correct option selected."
    con.Close()
    Return
End If
Dim cmd2 As New SqlCommand
cmd2.Connection = con
cmd2.CommandText = "INSERT INTO Questions (QuestionText, OptionA, OptionB, OptionC,
OptionD, CorrectOption, Subject, CreatedBy) " &
"VALUES ('" & txtQuestion.Text & "', '" & txtOption1.Text & "', '" &
& txtOption2.Text & "', '" & txtOption3.Text & "', '" & txtOption4.Text & "', '" &
ddlcorrect.SelectedValue & "', 'Math', " & teacherIdInt & ")"
cmd2.ExecuteNonQuery()
lblMessage.Text = "Question saved successfully."
con.Close()
End Sub
End Class

```

Student.aspx

```

<%@ Page Language="VB" AutoEventWireup="false" CodeFile="Student.aspx.vb" Inherits="_Default"
%>
<!DOCTYPE html>
<html>
<head runat="server">
    <title>Student</title>
</head>
<body>
    <form id="form1" runat="server">
        <h1>Student Quiz</h1>
        <h3>Select Subject</h3>
        <asp:DropDownList ID="ddlSubject" runat="server">
        </asp:DropDownList><br /><br />
        <asp:Button ID="btnLoadQuestions" runat="server" Text="Load Questions" /><br /><br />
        <asp:Label ID="lblMessage" runat="server" /><br /><br />
        <asp:Button ID="btnSubmit" runat="server" Text="Submit Answers" /><br /><br />
        <asp:Label ID="lblResults" runat="server" Text="" ForeColor="Red"></asp:Label>
    </form>
</body>
</html>

```

Student.aspx.vb

```
Imports System.Data.SqlClient
Imports System.Web.UI

Partial Class _Default
    Inherits Page
    Protected Sub Page_Load(ByVal sender As Object, ByVal e As EventArgs) Handles Me.Load
        If Request.Cookies("Username") Is Nothing Then
            Response.Redirect("Home.aspx")
        End If
        If Not IsPostBack Then
            ddlSubject.Items.Add("Math")
            ddlSubject.Items.Add("English")
        End If
    End Sub
    Protected Sub btnLoadQuestions_Click(ByVal sender As Object, ByVal e As EventArgs) Handles btnLoadQuestions.Click
        Dim selectedSubject As String = ddlSubject.SelectedValue
        ViewState("SelectedSubject") = selectedSubject
        LoadQuestions(selectedSubject)
    End Sub
    Private Sub LoadQuestions(ByVal selectedSubject As String)
        Dim cons As String
        cons = "Data source=DESKTOP-JMV907L\SQLEXPRESS; Initial Catalog=SAAS; Integrated
Security=True;"
        Dim con As New SqlConnection
        con.ConnectionString = cons
        Dim cmd As New SqlCommand
        cmd.Connection = con
        cmd.CommandText = "SELECT QuestionID, QuestionText, OptionA, OptionB, OptionC,
OptionD FROM Questions WHERE Subject = '" & selectedSubject & "'"
        Dim dr As SqlDataReader
        con.Open()
        dr = cmd.ExecuteReader()
        lblMessage.Text = ""
        Dim totalQuestions As Integer = 0
        While dr.Read()
            Dim questionId As Integer = Convert.ToInt32(dr("QuestionID"))
            lblMessage.Text &= "<br/><b>" & dr("QuestionText") & "</b><br/>"
            For i As Integer = 0 To 3
                Dim optionLetter As String = Chr(65 + i) ' 'A', 'B', 'C', 'D'
                Dim optionText As String = dr("Option" & optionLetter).ToString()
                lblMessage.Text &= "<input type='radio' name='q' & questionId & " ' value='" &
optionLetter & " ' />" & optionLetter & " ) " & optionText & "<br/>"
            Next
            totalQuestions += 1
        End While
        con.Close()
        ViewState("TotalQuestions") = totalQuestions
    End Sub
    Protected Sub btnSubmit_Click(ByVal sender As Object, ByVal e As EventArgs) Handles btnSubmit.Click
        Dim allAnswered As Boolean = True
        Dim correct As Integer = 0
        Dim total As Integer = Convert.ToInt32(ViewState("TotalQuestions"))
        Dim selectedSubject As String = ViewState("SelectedSubject")
        Dim cons As String
```

```

        cons = "Data source=DESKTOP-JMV907L\SQLEXPRESS; Initial Catalog=SAAS; Integrated
Security=True"
        Dim con As New SqlConnection
        con.ConnectionString = cons
        con.Open()
        Dim ids As New SqlCommand
        ids.Connection = con
        ids.CommandText = "SELECT QuestionID FROM Questions WHERE Subject = '" &
selectedSubject & "'"
        Dim dr As SqlDataReader
        dr = ids.ExecuteReader()
        Dim questionIds As New List(Of Integer)()
        While dr.Read()
            questionIds.Add(Convert.ToInt32(dr("QuestionID")))
        End While
        dr.Close()
        For Each id As Integer In questionIds
            Dim answer As String = Request.Form("q" & id)
            If String.IsNullOrEmpty(answer) Then
                allAnswered = False
                Exit For
            End If
            Dim cmd2 As New SqlCommand
            cmd2.Connection = con
            cmd2.CommandText = "SELECT CorrectOption FROM Questions WHERE QuestionID = " & id
& " AND Subject = '" & selectedSubject & "'"
            Dim correctAnswer As String = cmd2.ExecuteScalar()
            If answer = correctAnswer Then
                correct += 1
            End If
        Next
        If Not allAnswered Then
            lblResults.Text = "Please answer all the questions!"
            con.Close()
            Return
        End If
        Dim percentage As Double = (correct / total) * 100
        Dim username As String = Request.Cookies("Username").Value
        Dim cmd3 As New SqlCommand
        cmd3.Connection = con
        cmd3.CommandText = "SELECT StudentID FROM Students WHERE Username = '" & username &
""
        Dim studentId As Integer = Convert.ToInt32(cmd3.ExecuteScalar())
        Dim cmd3c As New SqlCommand
        cmd3c.Connection = con
        cmd3c.CommandText = "INSERT INTO Results (StudentID, Subject, TotalQuestions,
CorrectAnswers, Percentage) " &
            "VALUES (" & studentId & ", '" & selectedSubject & "', " & total
& ", " & correct & ", " & percentage & ")"
        cmd3c.ExecuteNonQuery()
        lblResults.Text = "You got " & correct & " out of " & total & " correct. (" &
percentage & "%)"
        con.Close()
    End Sub
End Class

```

Administrator.aspx

```
<%@ Page Language="VB" AutoEventWireup="false" CodeFile="Administrator.aspx.vb"
Inherits="_Default" %>

<!DOCTYPE html>
<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title>Administrator</title>
</head>
<body>
    <form id="form1" runat="server">
        <h3>Choose an Option: </h3>
        <asp:RadioButton ID="RadioButton1" runat="server" Text="Manage Teachers" /><br /><br />
        <asp:RadioButton ID="RadioButton2" runat="server" Text="Manage Students" /><br /><br />
        <asp:RadioButton ID="RadioButton3" runat="server" Text="Manage Questions" /><br /><br />
        <asp:RadioButton ID="RadioButton4" runat="server" Text="Manage Results" /><br /><br />
        <asp:Button ID="manage" runat="server" Text="Manage" /><br /><br />
        <div id="divManage" runat="server" Visible="false">
            <h3>Select Record to Update:</h3>
            <asp:DropDownList ID="ddlID" runat="server"></asp:DropDownList><br />
            <asp:DropDownList ID="ddlColumn"
runat="server"></asp:DropDownList><br /><br />
            <asp:TextBox ID="txtNewValue" runat="server" placeholder="Enter new
value"></asp:TextBox><br /><br />
            <asp:Button ID="btnUpdate" runat="server" Text="Update Value"/><br />
            <asp:Label ID="lblMessage" runat="server"
ForeColor="Red"></asp:Label>
        </div>
    </form>
</body>
</html>
```

Administrator.aspx.vb

```
Imports System.Data.SqlClient
Imports System.Web.UI

Partial Class _Default
    Inherits Page
    Protected Sub manage_Click(ByVal sender As Object, ByVal e As EventArgs) Handles
manage.Click
        divManage.Visible = True
        If RadioButton1.Checked Then
            LoadTableData("Teacher")
        ElseIf RadioButton2.Checked Then
            LoadTableData("Student")
        ElseIf RadioButton3.Checked Then
```

```

        LoadTableData("Question")
    ElseIf RadioButton4.Checked Then
        LoadTableData("Result")
    End If
End Sub
Private Sub LoadTableData(ByVal tableName As String)
    Dim cons As String
    cons = "Data source=DESKTOP-JMV907L\SQLEXPRESS; Initial Catalog=SAAS; Integrated
Security=True"
    Dim con As New SqlConnection
    con.ConnectionString = cons
    Dim cmd As New SqlCommand
    cmd.Connection = con
    con.Open()
    cmd.CommandText = "SELECT " & tableName & "ID FROM " & tableName & "s"
    Dim dr As SqlDataReader
    dr = cmd.ExecuteReader()
    ddlID.Items.Clear()
    While dr.Read()
        ddlID.Items.Add(dr(0).ToString())
    End While
    con.Close()
    ddlColumn.Items.Clear()
    If tableName = "Teacher" Then
        ddlColumn.Items.Add("Username")
        ddlColumn.Items.Add("Password")
        ddlColumn.Items.Add("Subject")
    ElseIf tableName = "Student" Then
        ddlColumn.Items.Add("Username")
        ddlColumn.Items.Add("Password")
    ElseIf tableName = "Question" Then
        ddlColumn.Items.Add("QuestionText")
        ddlColumn.Items.Add("OptionA")
        ddlColumn.Items.Add("OptionB")
        ddlColumn.Items.Add("OptionC")
        ddlColumn.Items.Add("OptionD")
        ddlColumn.Items.Add("CorrectOption")
        ddlColumn.Items.Add("Subject")
    ElseIf tableName = "Result" Then
        ddlColumn.Items.Add("StudentID")
        ddlColumn.Items.Add("Subject")
        ddlColumn.Items.Add("TotalQuestions")
        ddlColumn.Items.Add("CorrectAnswers")
        ddlColumn.Items.Add("Percentage")
        ddlColumn.Items.Add("QuizDate")
    End If
End Sub
Protected Sub btnUpdate_Click(ByVal sender As Object, ByVal e As EventArgs) Handles
btnUpdate.Click
    Dim tableName As String = ""
    Dim columnName As String = ddlColumn.SelectedValue
    Dim newValue As String = txtNewValue.Text
    Dim recordID As String = ddlID.SelectedValue
    If RadioButton1.Checked Then
        tableName = "Teacher"
    ElseIf RadioButton2.Checked Then
        tableName = "Student"
    ElseIf RadioButton3.Checked Then
        tableName = "Question"
    ElseIf RadioButton4.Checked Then
        tableName = "Result"
    End If

```

```
Try
    Dim cons As String
    cons = "Data source=DESKTOP-JMV907L\SQLEXPRESS; Initial Catalog=SAAS; Integrated
Security=True"
    Dim con As New SqlConnection
    con.ConnectionString = cons
    Dim cmd As New SqlCommand
    cmd.Connection = con
    cmd.CommandText = "UPDATE " & tableName & "s SET " & columnName & " = '" &
newValue & "'WHERE " & tableName & "ID = '" & recordID & "'"
    con.Open()
    cmd.ExecuteNonQuery()
    con.Close()
    lblMessage.Text = "Record updated successfully."
Catch ex As Exception
    lblMessage.Text = "Error: " & ex.Message
End Try
End Sub
End Class
```