

Internet Application Development  
Lab 6

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Registration No: BS-23-LB-104168 / 111131

Full Name: M. Talha Maaz - M. Abdullah Iftakhar  
- Haider Ali

**Problem 1)** Refer to Lab 1 (Problem 1), Lab 4 (Problems 3 and 4) and Lab 5 (Problems 1 to 4). You are required to design and implement Role Base Access Control mechanism for Pine Valley Furniture Company interfaces developed so far in above mentioned problems.  
(a) As an initial step enhance the schema of PVFC database.  
Write enhanced schema below.

Users
User ID (PK)
Password
Role ID
Customer ID (FK, nullable)
Employee ID (FK, nullable)

Roles
Role ID (PK)
Role Name

Role	Access Rights
Admin	Full access (View, Add, Edit)
Customer	Can only view orders and place orders

(b) Next enhance the solutions for above mentioned problems to take advantage of modified schema and incorporate role based access control for all interfaces. Write the updated code for any one of the above problems below?

### Employee Login Page:

Imports System.Data.SqlClient

Partial Class EmployeeLogin

Inherits System.Web.UI.Page

Protected Sub BtnLogin\_Click(sender  
As Object, e As EventArgs) Handles  
BtnLogin.Click

Dim conn As New SqlConnection ("your  
connection - string - here")

Dim query As String = "SELECT  
UserID, RoleID From Users WHERE  
Username = @username AND Password =  
@password"

Dim cmd As New SqlCommand  
(query, conn)

cmd.Parameters.AddWithValue ("user<sup>2</sup>name")

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txtUsername.Text.Trim())  
cmd.Parameters.AddWithValue("@password",  
txtPassword.Text.Trim())
```

```
Dim reader Has Rows Then  
reader.Read()  
Dim roleID As Integer = Convert.  
ToInt32(reader("RoleID"))
```

```
If roleID = 2 Then  
Session("UserID") = reader("UserID")  
Session("RoleID") = roleID  
Response.Redirect("Catalog  
Update.aspx")
```

```
Else  
lblMessage.Text = "Access  
denied, Not an employee"  
End If
```

(c) Develop test cases for role based access control?

Test Case 1: Employee Login

Steps: Enter valid employee  
username/pass on Employee  
Login page-

Expected Result = Redirected  
to Catalog Update page, access  
granted.

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