

Security in ASP.NET Web Site

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Introduction to Security

- **Who are you?**
- **How can you prove that?**
- **What are you allowed to do in the system?**

Identity

Who are you?

- What makes you, you.
- No matter what you include in an identity, it is a way to refer to you.
- How does anyone else know you?
- How can they be sure it's really you when you log on to a web site?

Authentication

- Providing **evidence about who you are.**
- Library card → Your identity card
- Web Site → An **e-mail address** and a **password**



The diagram consists of a red bracket under the text 'e-mail address' and another red bracket under the text 'password'. These two brackets are connected by a horizontal red line. From the center of this horizontal line, a vertical red line extends downwards, ending in a red arrowhead pointing towards the text 'Evidence to prove your identity'.

Evidence to prove your identity

Authorization

- Depending on who you are, a system grants you **more** or **fewer** **privileges** *to access* certain areas.
- **To determine what a user is allowed to do**, a system needs to know two things:
 1. the **permissions** for the current user
 2. the **authorization rules** for the resource a user is trying to access

Authorization

- The permissions for the user are based on its *user name* and the *roles* the user is optionally assigned to.
- Resources can be opened up or blocked for specific users or roles.
- When there is a *match* between the current *user* and the *access rules* for the resource a user is trying to access, the user is *granted* access, else access is *denied*.

ASP.NET Application Services

- ***Membership***

- Enables you to **manage and work with user accounts** in your system.

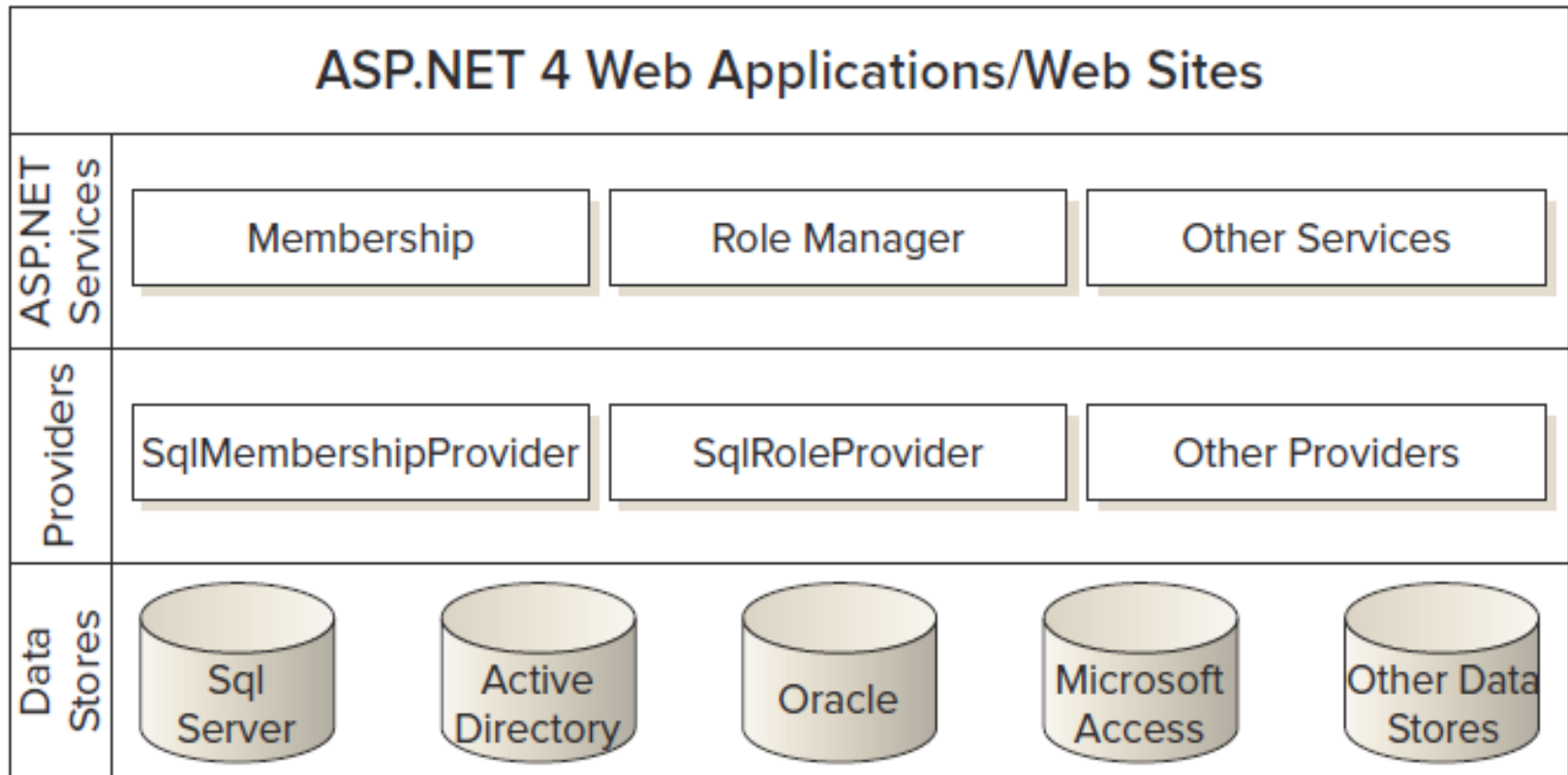
- ***Roles***

- Enables you to **manage the roles** that your users can be assigned to.

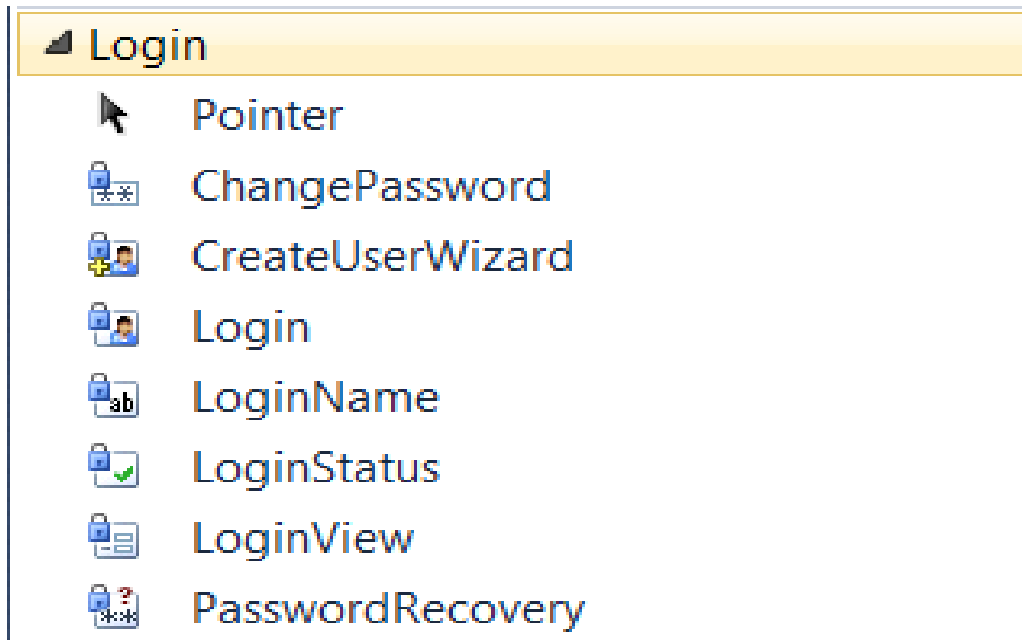
- ***Profile***

- Enables you to **store user-specific data** in a back-end database.

ASP.NET Application Services



Login Controls



Example

- Open **Login.aspx**
- Drag a **LoginStatus** control after **<h1>** element

```
<asp:Content ID="Content2" ContentPlaceHolderID="cpMainContent" Runat="Server">  
    <h1>Log in to My Website</h1>  
    <asp:LoginStatus ID="LoginStatus1" runat="server" />  
</asp:Content>
```

Example

- In Design View:
 - Drag a **Login** control on **LoginStatus**

The screenshot shows a web application in Design View. The main content area is titled "cpMainContent (Custom)" and contains a large heading "Log in to My Website". Below the heading is a login form control labeled "asp:login#Login1". The form has a title "Log In" and contains the following elements:

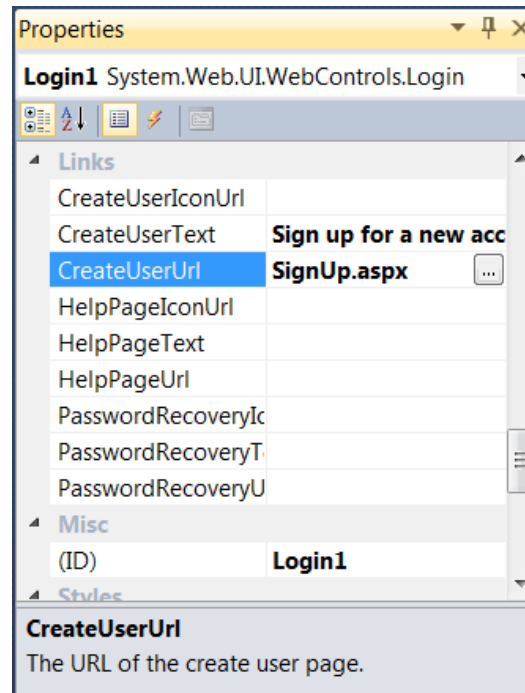
- User Name: *
- Password: *
- ☐ Remember me next time.
- Log In button

At the bottom left of the form is a blue link labeled "Login". A context menu is open on the right side of the form, titled "Login Tasks", with the following options:

- Auto Format...
- Convert to Template
- Administer Website

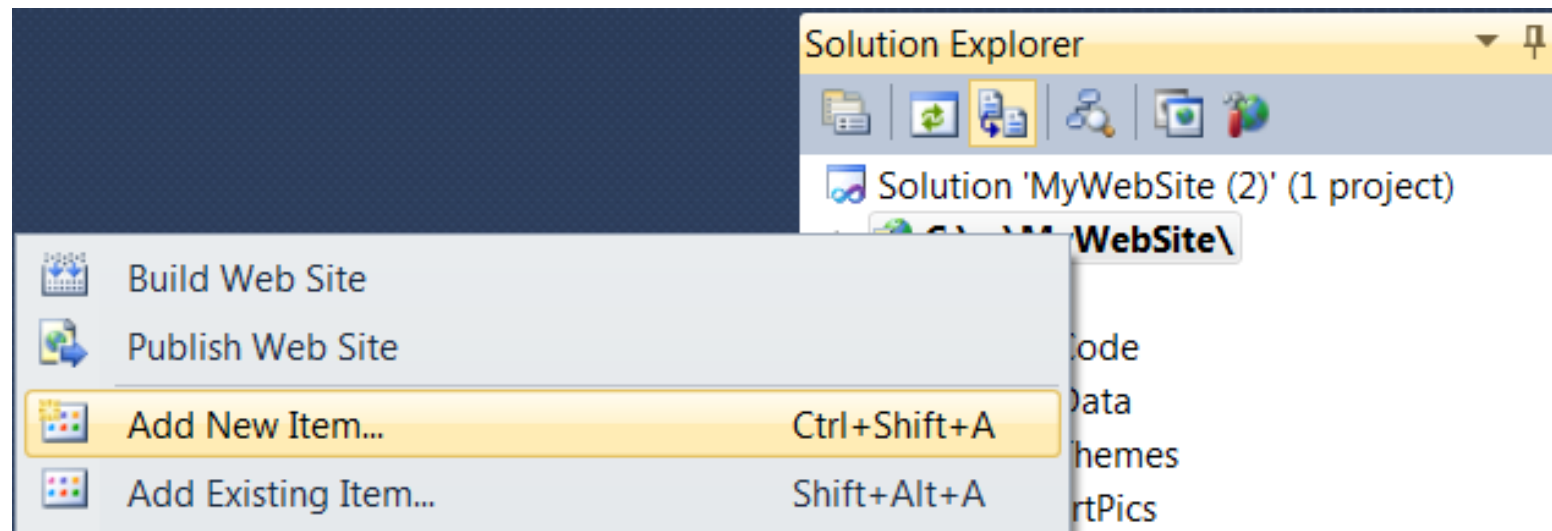
Example

- In properties of **Login** control:
 - **CreateUserText = Sign up for a new account**
 - **CreateUserUrl = SignUp.aspx**

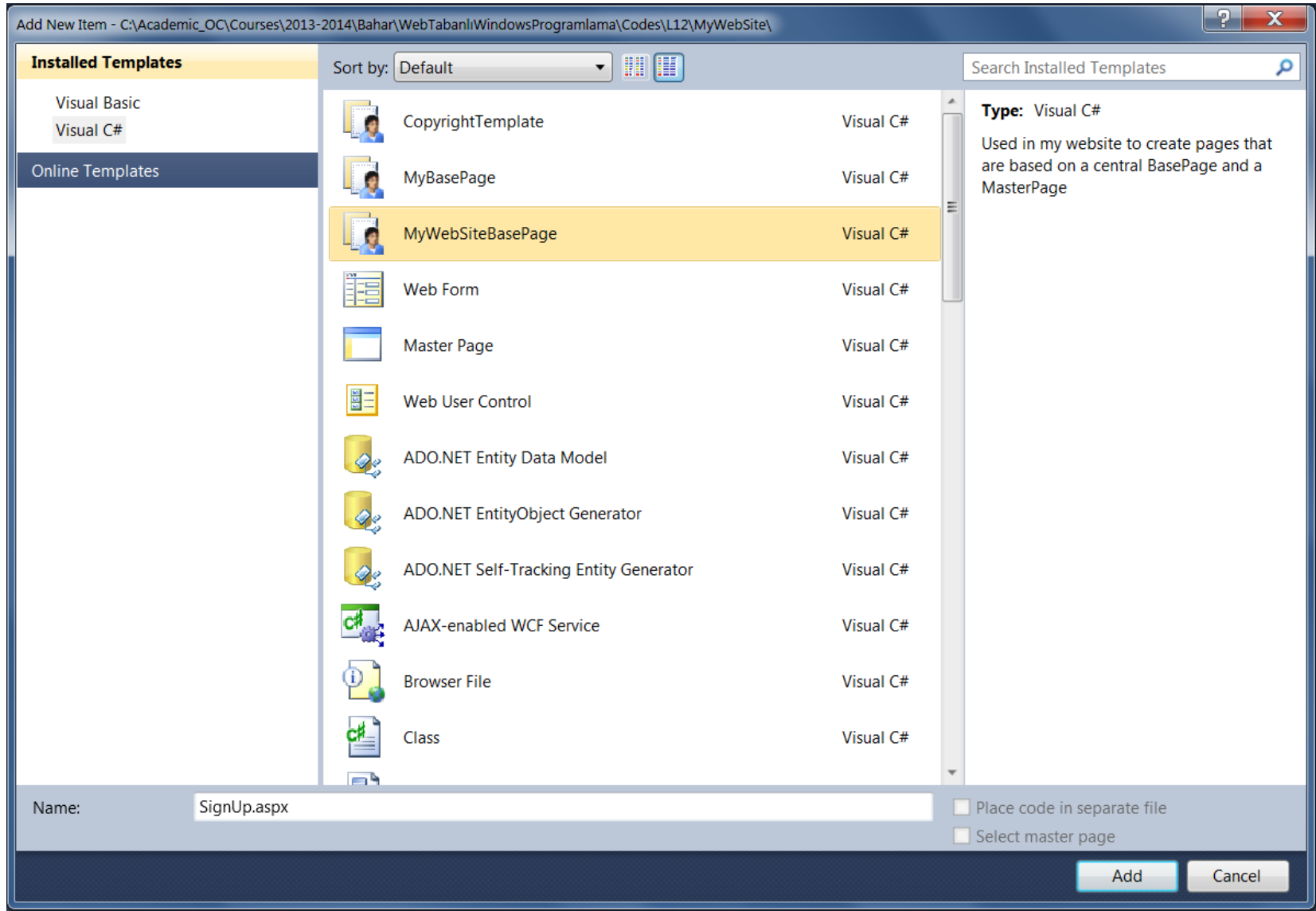


Example

- Add New Item



Example



Example

- Title = Sign Up for a New Account
- In Design View → Drag a **CreateUserWizard**

The screenshot shows the ASP.NET **CreateUserWizard** control in Design View. The main content area displays the "Sign Up for Your New Account" form with the following fields:


- User Name: *
- Password: *
- Confirm Password: *
- E-mail: *
- Security Question: *
- Security Answer: *

Below the fields, a message states: "The Password and Confirmation Password must match." At the bottom right is a "Create User" button. At the bottom left is a "Select a theme" link.

The right-hand pane, titled "CreateUserWizard Tasks", contains the following options:

- Auto Format...
- Step: Sign Up for Your New (dropdown menu)
- Add/Remove WizardSteps...
- Convert to StartNavigationTemplate
- Convert to StepNavigationTemplate
- Convert to FinishNavigationTemplate
- Convert to CustomNavigationTemplate
- Customize Create User Step
- Customize Complete Step
- Administer Website
- Edit Templates

Example

- Open `web.config`  [★https://goo.gl/vSzcS2](https://goo.gl/vSzcS2)
- Add `<authentication>` with `mode="Forms"` as a direct child of the `<system.web>` element.

```
<system.web>
  <authentication mode="Forms"></authentication>
  <compilation debug="false" targetFramework="4.0">
    <assemblies>
      <add assembly="System.Security, Version=4.0.0.0, Culture=neutral, PublicKeyToken=B03F5F7F11D50A3A" />
      <add assembly="System.Data.Entity, Version=4.0.0.0, Culture=neutral, PublicKeyToken=B77A5C561934E089" />
      <add assembly="System.Data.Entity.Design, Version=4.0.0.0, Culture=neutral, PublicKeyToken=B77A5C561934E089" />
    </assemblies>
    <buildProviders>
      <add extension=".edmx" type="System.Data.Entity.Design.AspNet.EntityDesignerBuildProvider" />
    </buildProviders>
  </compilation>
  <pages theme="Monochrome">
```


Example

- View `Login.aspx` in browser.

Home > Login

Log in to My Website

Log In

User Name:

Password:

☐ Remember me next time.

[Sign up for a new account](#)

[Login](#)

Sign Up for Your New Account

User Name:

Password:

Confirm Password:

E-mail:

Security Question:

Security Answer:

Complete
Your account has been successfully created.

Example

[Home](#) > Login

Log in to My Website

Log In

User Name:

Password:

☐ Remember me next time.

Log In

[Sign up for a new account](#)

[Logout](#)



[Home](#) > Login

Log in to My Website

Log In

User Name:

Password:

☐ Remember me next time.

Log In

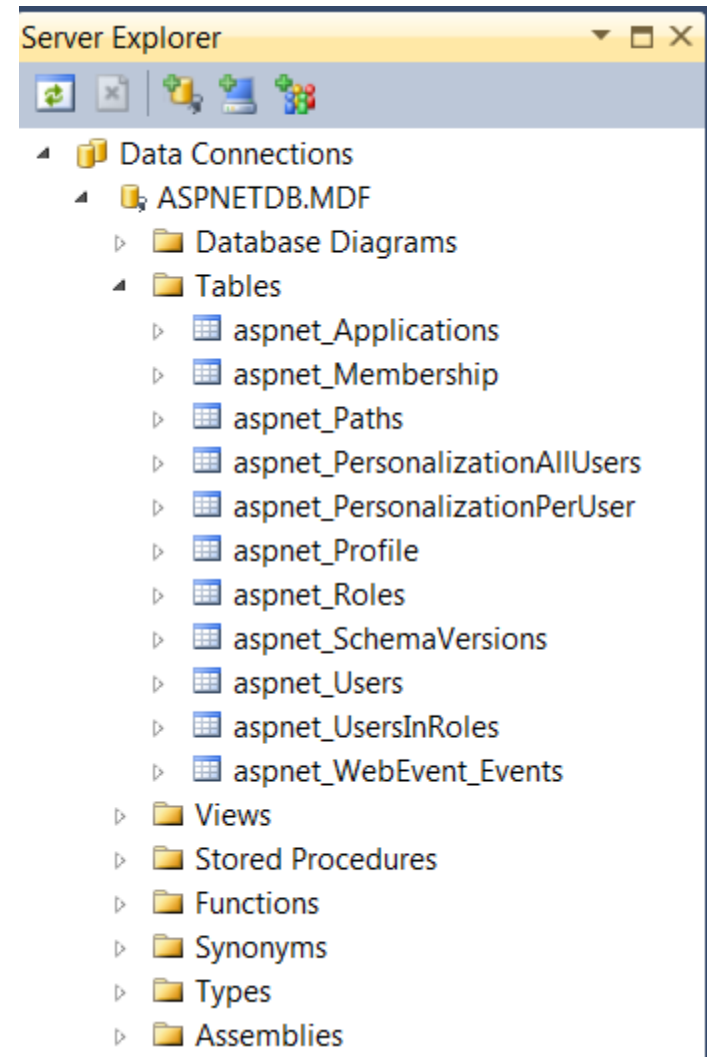
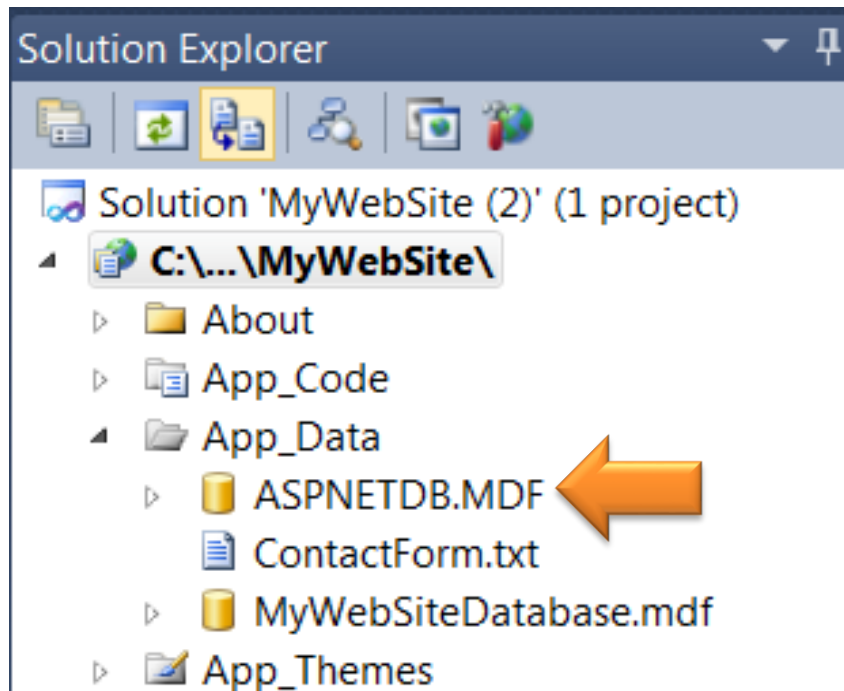
[Sign up for a new account](#)

[Login](#)



NOTE

- Refresh the project folder



NOTE

Remember me next time

- Cookie expires after 30 minutes.
- Set the timeout period:

i.e. 24 hours = 1440 minutes

```
<authentication mode="Forms">  
  <forms timeout="1440" />  
</authentication>
```

Login

- Enables a user to **log in to the site**.
- The authentication mechanism of ASP.NET **by default** assumes you have a page called **Login.aspx** in the root of your site that is used to let users log in.
- If you want **to use a different page**:

```
<authentication mode="Forms">  
  <forms loginUrl="MyLoginPage.aspx" />  
</authentication>
```

Login Control Properties

PROPERTY	DESCRIPTION
DestinationPageUrl	Defines the URL the user is sent to after a successful login attempt.
CreateUserText	Controls the text that is displayed to invite users to sign up for a new account.
CreateUserUrl	Controls the URL where users are taken to sign up for a new account.
DisplayRememberMe	Specifies whether the control displays the Remember Me option. When set to False or when the check box is not checked when logging in, users need to re-authenticate every time they close and reopen the browser.
RememberMeSet	Specifies whether the Remember Me option is initially checked.
PasswordRecoveryText	Controls the text that is displayed to tell users they can reset or recover their password.
PasswordRecoveryUrl	Specifies the URL where users are taken to get their (new) password.
VisibleWhenLoggedIn	Determines whether the control is visible when the current user is logged in. True by default.

LoginView

- Lets you display **different data to different users.**
- Enables to **differentiate** between **anonymous** and **logged-in users.**
 - You can even **differentiate** between **users in different roles.**

LoginView

TEMPLATE	DESCRIPTION
AnonymousTemplate	The content in this template is shown to unauthenticated users only.
LoggedInTemplate	The content in this template is shown to logged-in users only. This template is mutually exclusive with the AnonymousTemplate. Only one of the two can be visible at any time.
RoleGroups	This template can contain one or more RoleGroup elements that in turn contain a ContentTemplate element that defines the content for the specified role. The role or roles that are allowed to see the content are defined in the Roles attribute, which takes a comma-separated list of roles. The RoleGroups element is mutually exclusive with the LoggedInTemplate. That means that if a user is a member of one of the roles for the RoleGroup, the content in the LoggedInTemplate is not visible. Additionally, only content for the first RoleGroup that matches the user's roles is shown.

LoginView

```
<asp:LoginView ID="LoginView1" runat="server">
  <AnonymousTemplate>
    Hi there visitor. Would you be interested in signing up for an
    account?
  </AnonymousTemplate>
  <LoggedInTemplate>
    Hi there visitor and welcome.
  </LoggedInTemplate>
  <RoleGroups>
    <asp:RoleGroup Roles="Managers">
      <ContentTemplate>
        Hi there manager. You can proceed to the
        Management section.
      </ContentTemplate>
    </asp:RoleGroup>
  </RoleGroups>
</asp:LoginView>
```

LoginStatus

- Provides information about the current status of the user.

LoginName

- Display the name of the logged-in user.
- **FormatString** property.


`FormatString="Logged in as {0}"`


username

Example

Login Controls

- Open **Login.aspx**
- In Design View:
 - Drag a **LoginView** control on top of the **Login** control.



cpMainContent (Custom)

Log in to My Website

asp:loginview#LoginView1

LoginView1

LoginView Tasks

- Edit RoleGroups...
- Views: AnonymousTem ▼
- Administer Website

User Name:

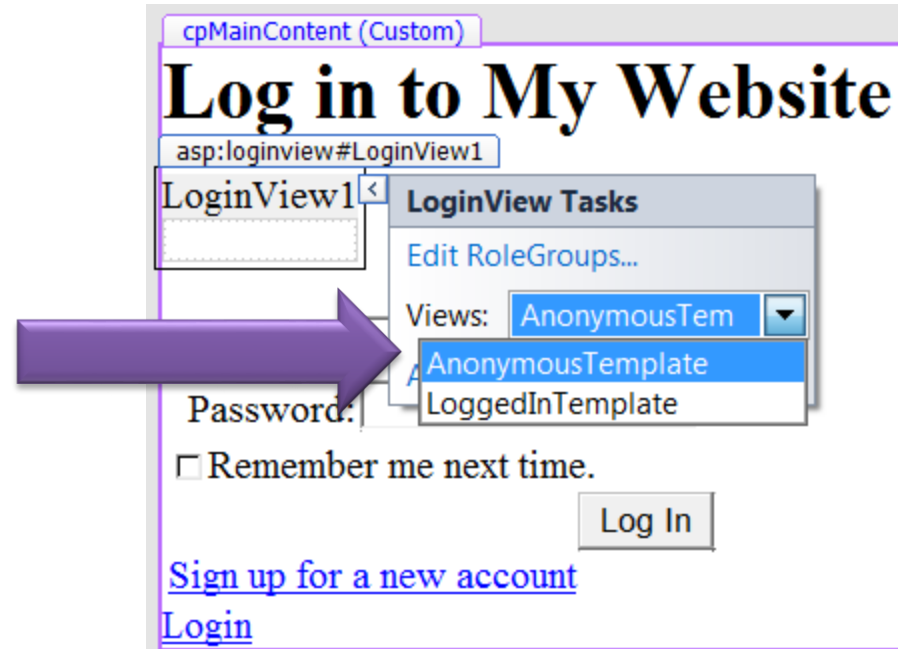
Password:

☐ Remember me next time.

Log In

[Sign up for a new account](#)

[Login](#)



cpMainContent (Custom)

Log in to My Website

asp:loginview#LoginView1

LoginView1

LoginView Tasks

- Edit RoleGroups...
- Views: AnonymousTem ▼
- AnonymousTemplate
- LoggedInTemplate

Password:

☐ Remember me next time.

Log In

[Sign up for a new account](#)

[Login](#)

Example

Login Controls

- Cut (Ctrl-X) the **Login** control
- Paste into the small white rectangle in the **LoginView** control



Example

Login Controls

cpMainContent (Custom)

Log in to My Website

asp:loginview#LoginView1

LoginView1

Log In

User Name: *

Password: *

☐ Remember me next time.

[Sign up for a new account](#)

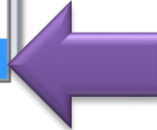
LoginView Tasks

[Edit RoleGroups...](#)

Views: AnonymousTem ▼

- AnonymousTemplate
- LoggedInTemplate

[Login](#)



Example

Login Controls

```
<asp:LoginView ID="LoginView1" runat="server">
  <AnonymousTemplate>
    <asp:Login ID="Login1" runat="server"
      CreateUserText="Sign up for a new account" CreateUserUrl="SignUp.aspx">
    </asp:Login>
  </AnonymousTemplate>
  <LoggedInTemplate>
    You are already logged in.
  </LoggedInTemplate>
</asp:LoginView>
<asp:LoginStatus ID="LoginStatus1" runat="server" />
```

Example

Login Controls

- Open **Frontend.master**
- In Source View → At the bottom of the page:
 - Drag a **LoginName** control

```
<div id="Footer">Footer goes here.</div>
```



```
<div id="Footer">Footer goes here.>  
  <asp:LoginName ID="LoginName1" runat="server" FormatString="Logged in as {0}" />  
</div>
```


Example

Login Controls

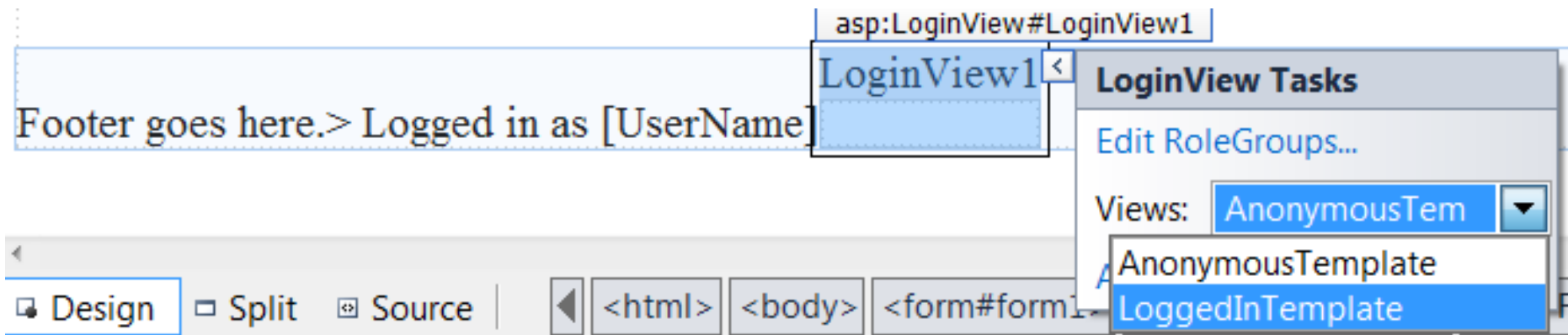
- Drag a **LoginView** control under **LoginName** control.

```
<div id="Footer">Footer goes here.>  
    <asp:LoginName ID="LoginName1" runat="server" FormatString="Logged in as {0}" />  
    <asp:LoginView ID="LoginView1" runat="server">  
    </asp:LoginView>  
</div>
```

Example

Login Controls

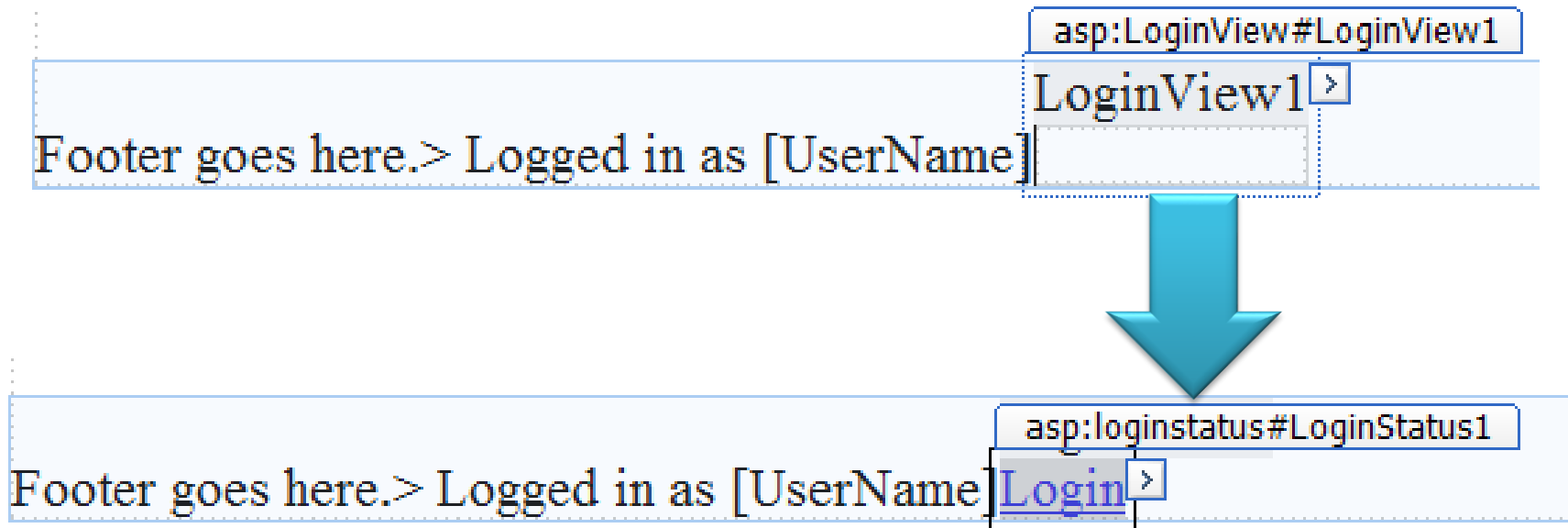
- In Design View:



Example

Login Controls

- Drag a **LoginStatus** control inside the white rectangle area.



View Login.aspx in browser.

Log in to My Website

Log In

User Name:

Password:

☐ Remember me next time.

Log In

[Sign up for a new account](#)
[Login](#)

Log in to My Website

Log In

User Name:

Password:

☐ Remember me next time.

Log In

[Sign up for a new account](#)
[Login](#)

[Home](#) > Home

Hi there visitor! Welcome to my Web Site :-)

I'm glad that you are visiting my web site <http://www.mywebsite.com>

Feel free to have a [look around](#).

You can [log in](#) here

Footer goes here.> Logged in as guest [Logout](#)

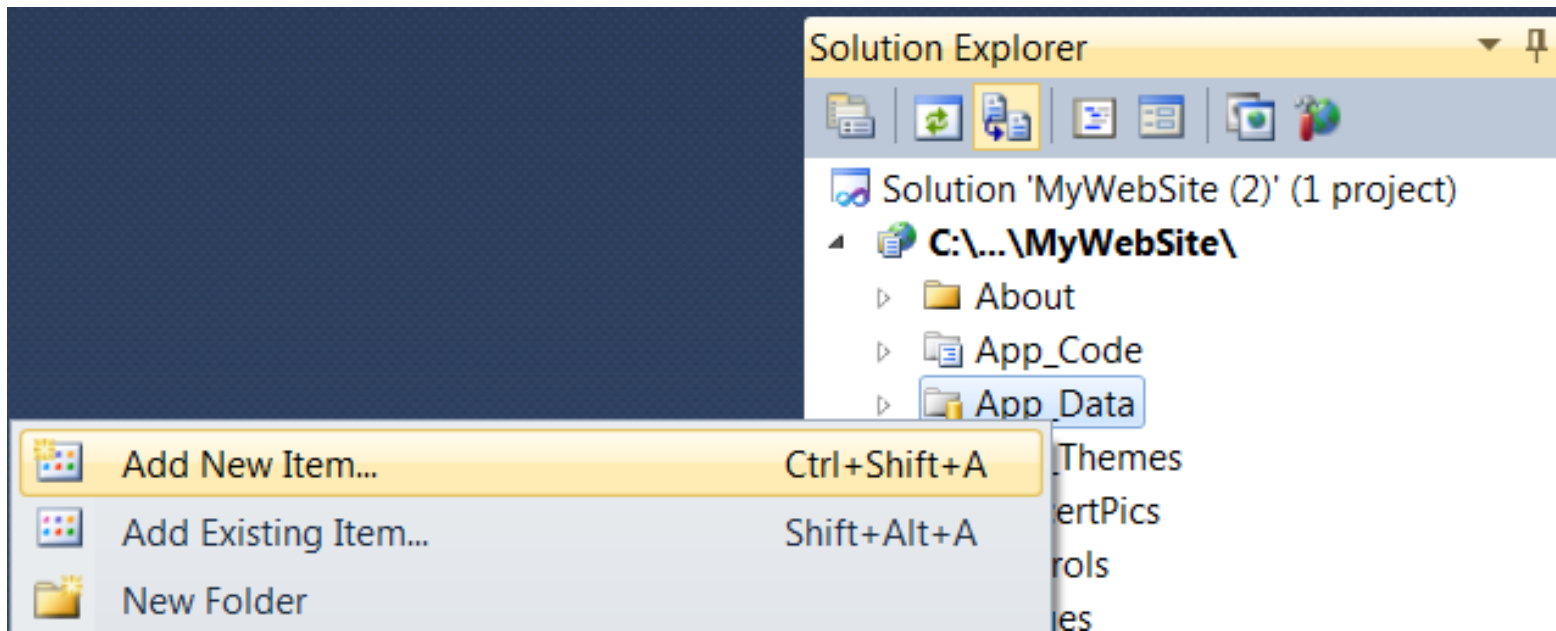
CreateUserWizard

- Provides a user interface for creating new web site user accounts.

Example

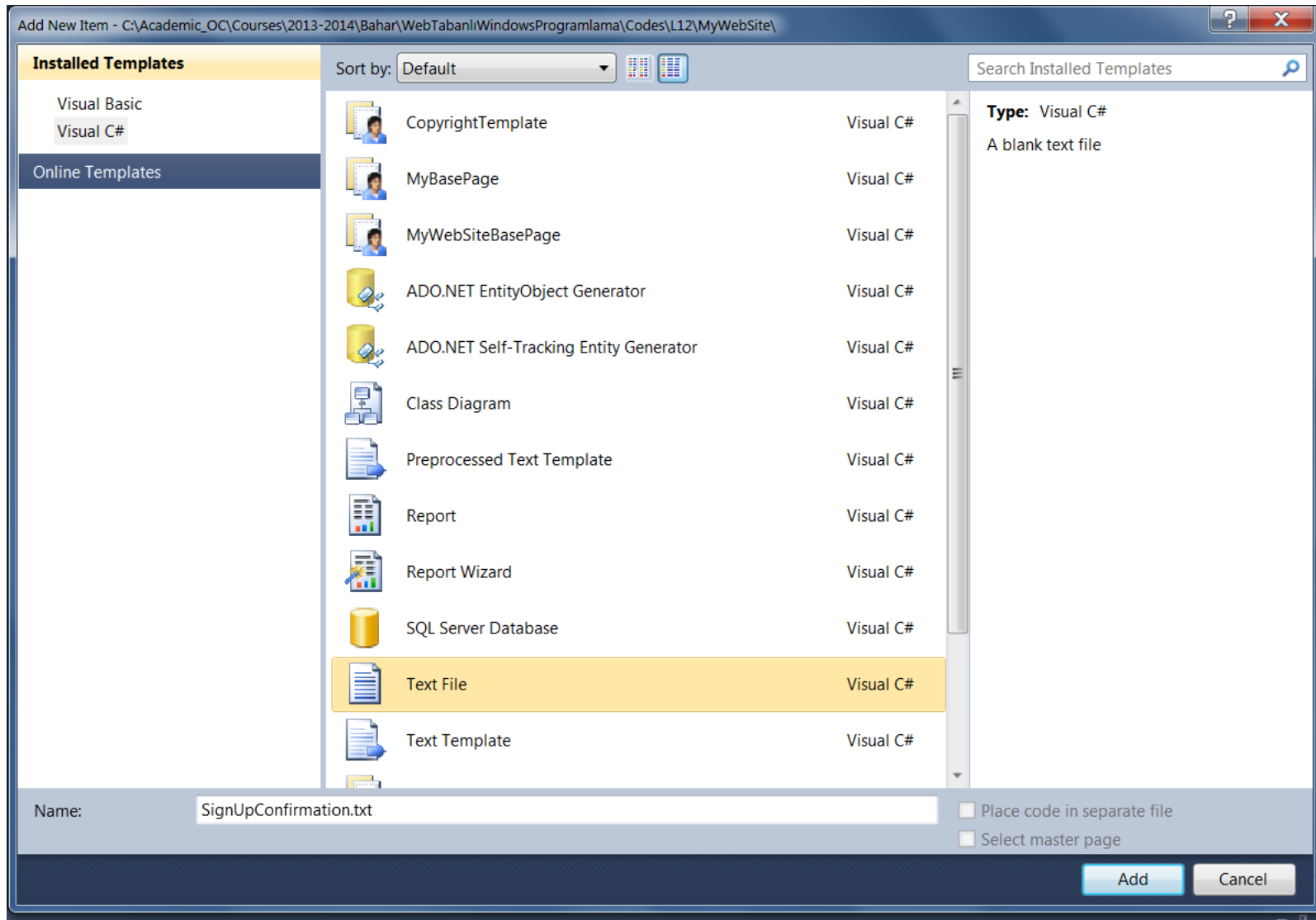
CreateUserWizard

- Add New Item to App_Data folder



Example

CreateUserWizard



Example

CreateUserWizard

- Add some text.

App_Data/SignUpConfirmation.txt* X

Hi <% UserName %>,

Thank you for signing up for a new account at my web site.

To log in to the site, use the following details:

 User name: <% UserName %>

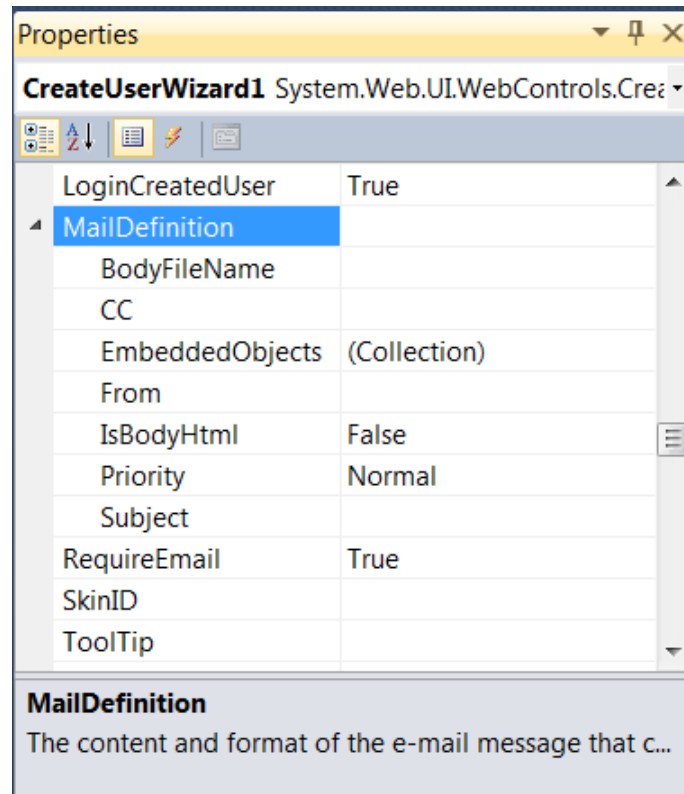
 Your password: <% Password %>

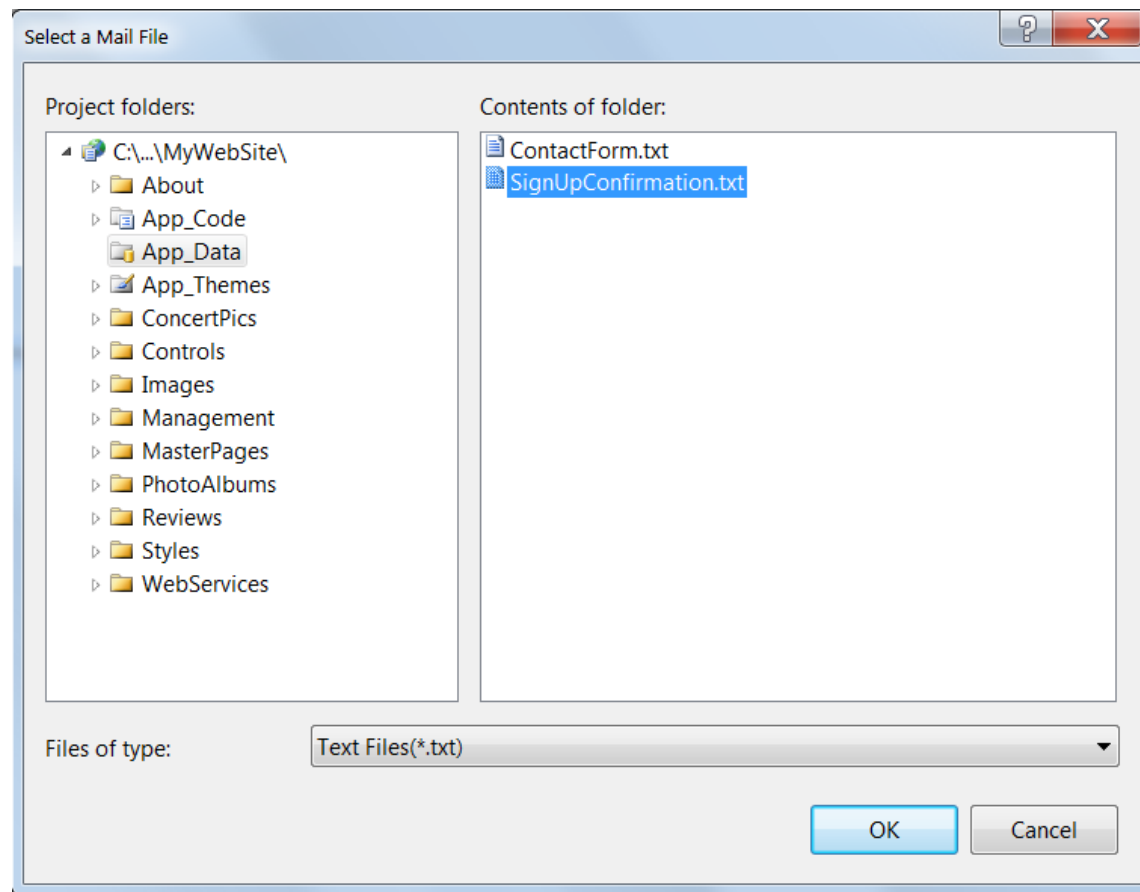
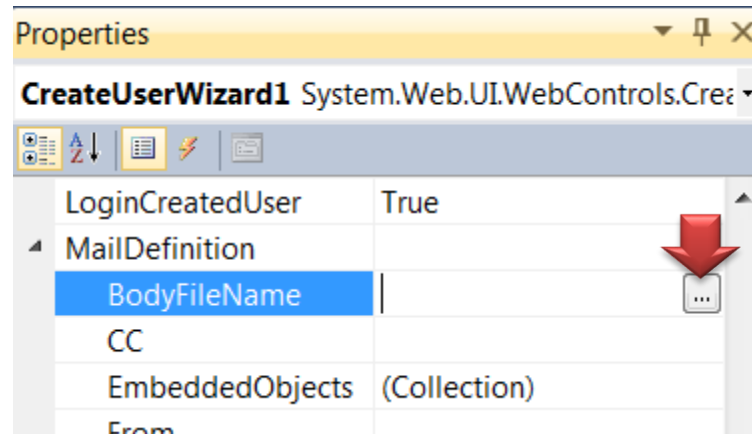
I look forward to your contributions.

Example

CreateUserWizard

- Open **SignUp.aspx** in Design View.
- Properties of **CreateUserWizard** control:

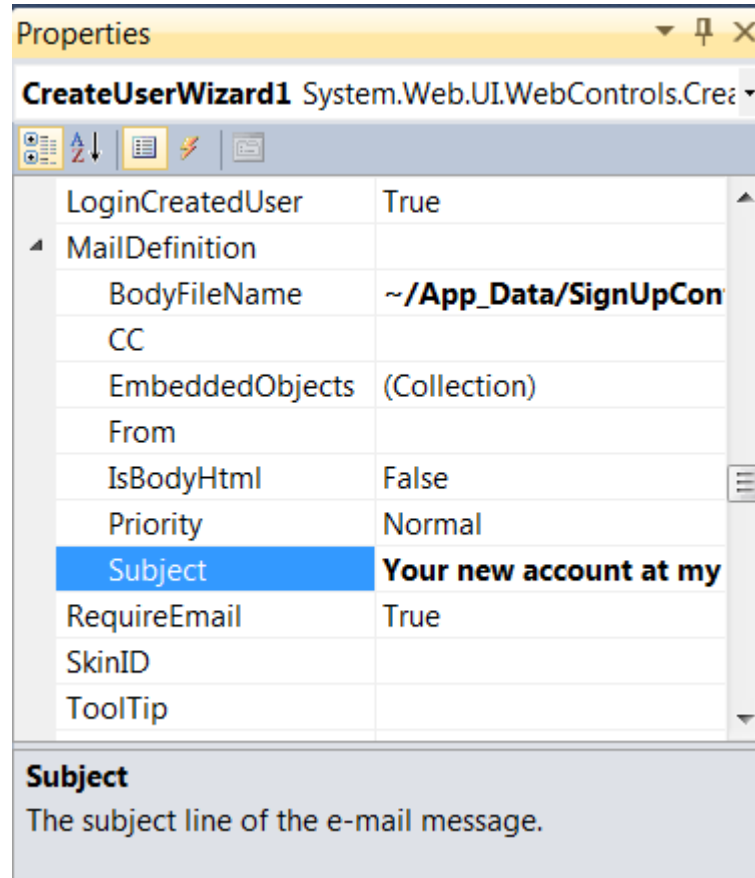


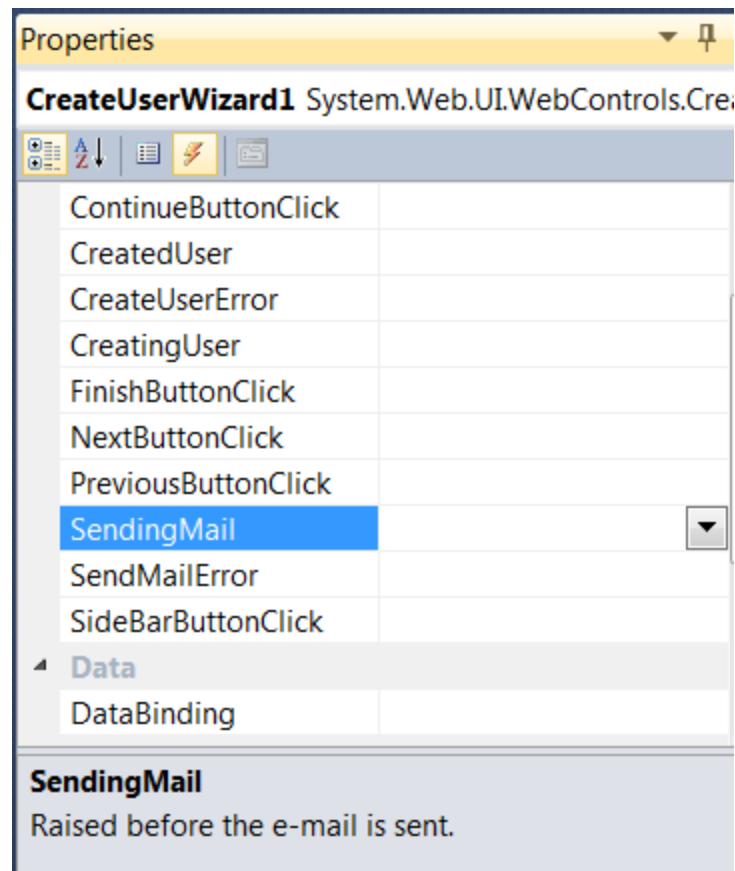


Example

CreateUserWizard

- Set **Subject = Your new account at my website.com**





```
protected void CreateUserWizard1_SendingMail(object sender, MailMessageEventArgs e)
{
    SmtpClient mySmtpClient=new SmtpClient();
    mySmtpClient.Host="smtp.gmail.com";
    mySmtpClient.EnableSsl=true;
    mySmtpClient.Port=587;
    mySmtpClient.Send(e.Message);
    e.Cancel=true;
}
```

Example

CreateUserWizard

- View SignUp.aspx in browser.

Sign Up for Your New Account

User Name:

Password:

Confirm Password:

E-mail:

Security Question:

Security Answer:

Sign Up for Your New Account

User Name:

Password:

Confirm Password:

E-mail:

Security Question:

Security Answer:



Complete

Your account has been successfully created.

Example

CreateUserWizard

- Check your e-mail!

Your new account at my website.com



Inbox x



WBWP <wbwpcourse@gmail.com>

to me ▾

Hi visitor5,

Thank you for signing up for a new account at my web site.

To log in to the site, use the following details:

User name: visitor5

Your password: guest2014.

I look forward to your contributions.

PasswordRecovery

- Enables users:
 - to retrieve their existing passwordsor
 - to get a new auto-generated password.
- Sends the password to user's e-mail address.

ChangePassword

- Enables existing and logged-in users to change their passwords.

Example

Password Functionality

- Open `Login.aspx`
- Add two `
` elements:

```
CreateUserText="Sign up for a new account" CreateUserUrl="SignUp.aspx">  
    </asp:Login>  
    <br />  
    <br />  
</AnonymousTemplate>
```

Example

Password Functionality

- Drag a **PasswordRecovery** control:

```
</asp:Login>  
<br />  
<br />  
<asp>PasswordRecovery ID="PasswordRecovery1" runat="server">  
</asp>PasswordRecovery>  
</AnonymousTemplate>
```

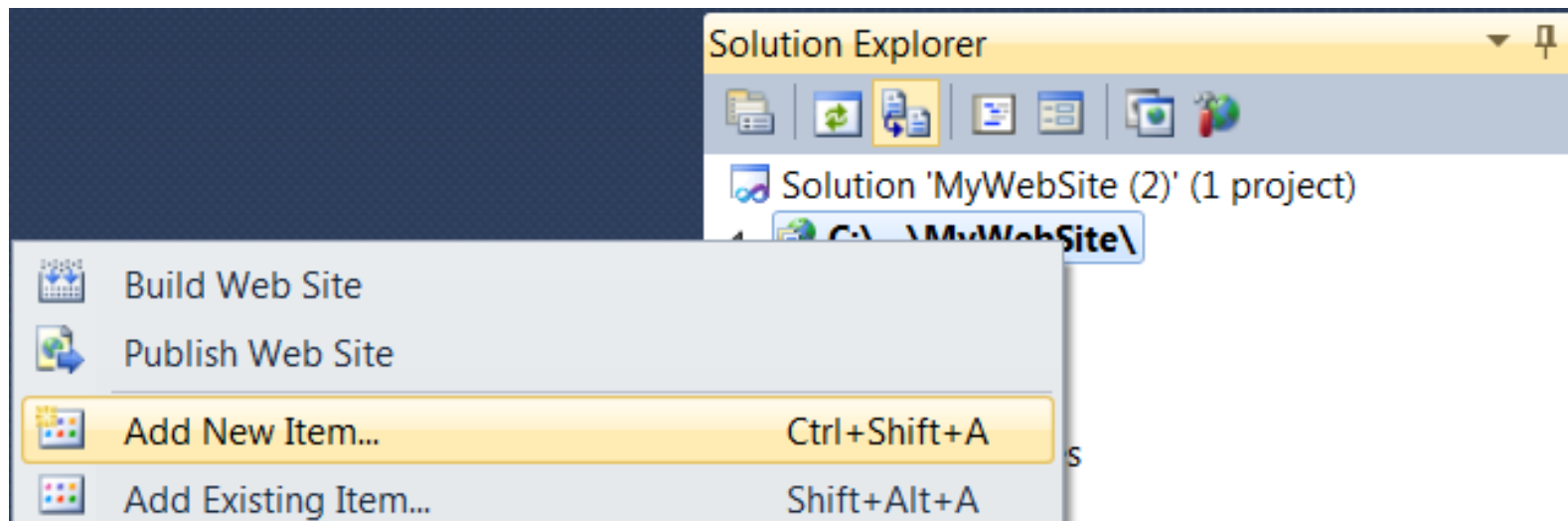
- Add **<MailDefinition>**:

```
<asp>PasswordRecovery ID="PasswordRecovery1" runat="server">  
  <MailDefinition subject="Your New Password for mywebsite.com"></MailDefinition>  
</asp>PasswordRecovery>
```

Example

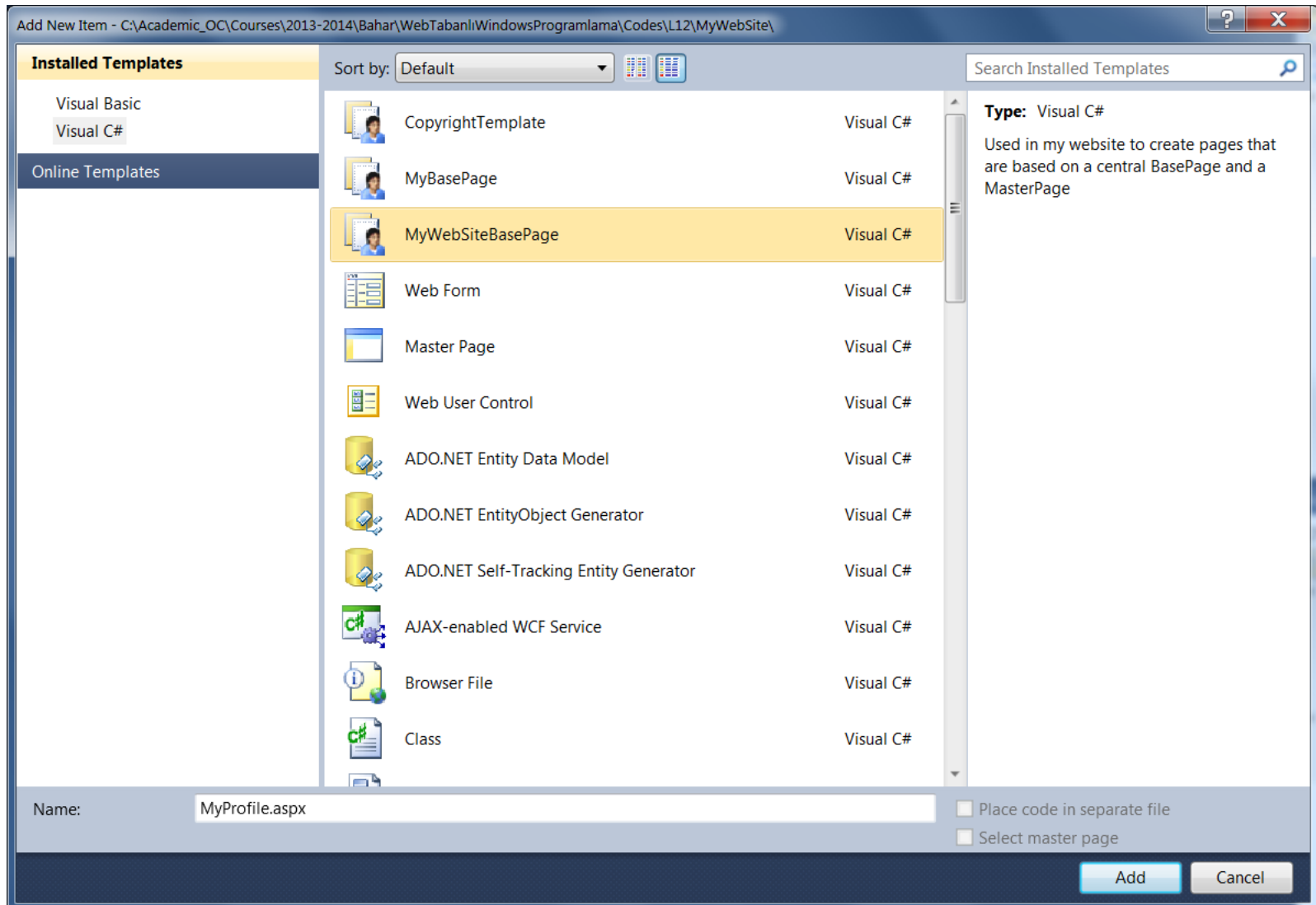
Password Functionality

- Add New Item



Example

Password Functionality



Example

Password Functionality

- Title = My Profile

```
<asp:Content ID="Content2" ContentPlaceHolderID="cpMainContent" Runat="Server">  
  { <h1> My Profile</h1>  
    <p>The My Profile page allows you to make changes to your personal profile.  
      For now, all you can do is change your password below.</p>  
</asp:Content>
```

Example

Password Functionality

- Drag a **ChangePassword** control.

```
<asp:Content ID="Content2" ContentPlaceHolderID="cpMainContent" Runat="Server">
  <h1> My Profile</h1>
  <p>The My Profile page allows you to make changes to your personal profile.
    For now, all you can do is change your password below.</p>
  <asp:ChangePassword ID="ChangePassword1" runat="server">
  </asp:ChangePassword>
</asp:Content>
```

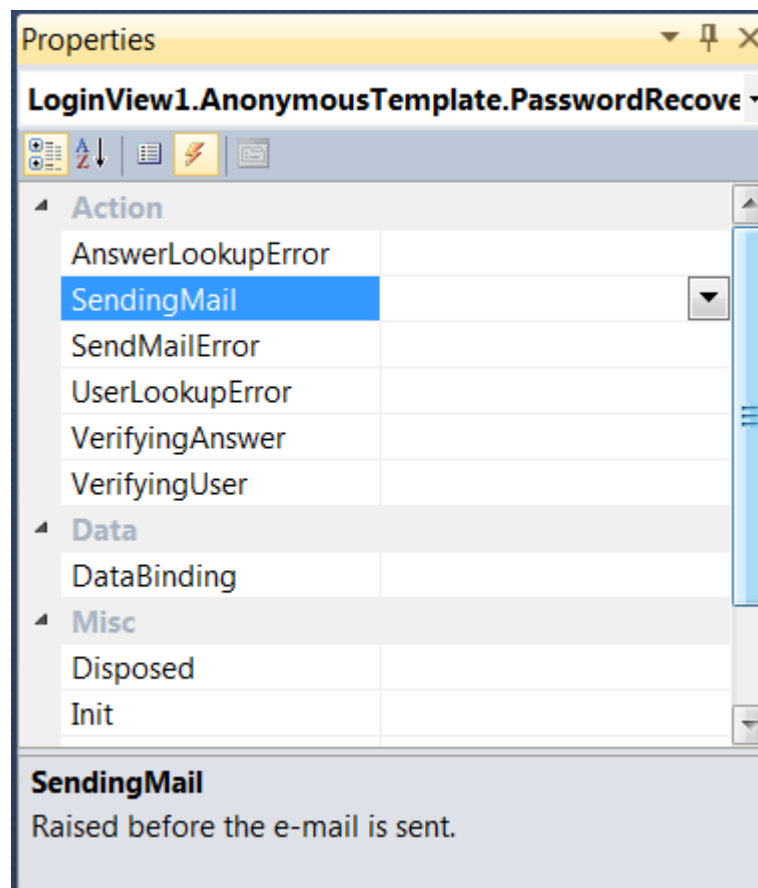
Example

Password Functionality

- Open `Web.sitemap`:

```
<siteMapNode url="/About/Default.aspx" title="About" description="About my site" >  
  <siteMapNode url="/About/Contact.aspx" title="Contact" description="Contact me" />  
  <siteMapNode url="/About/AboutMe.aspx" title="About Me" description="About myself" />  
  <siteMapNode url="/MyProfile.aspx" title="My Profile" description="My Profile" />  
</siteMapNode>
```



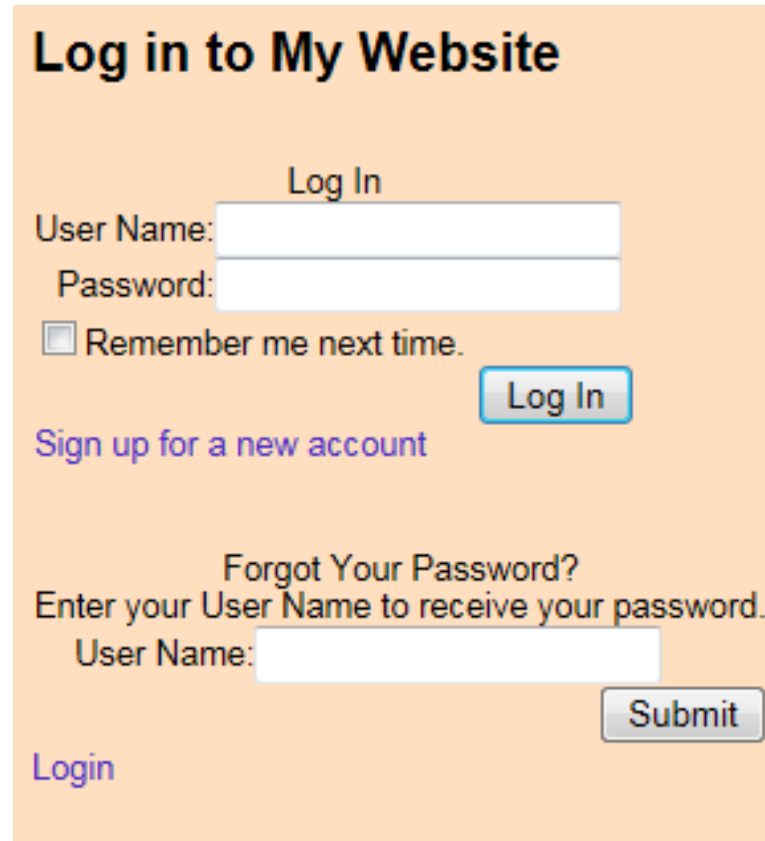


```
protected void PasswordRecovery1_SendingMail(object sender, MailMessageEventArgs e)
{
    SmtpClient mySmtpClient = new SmtpClient();
    mySmtpClient.Host = "smtp.gmail.com";
    mySmtpClient.EnableSsl = true;
    mySmtpClient.Port = 587;
    mySmtpClient.Send(e.Message);
    e.Cancel = true;
}
```


Example

Password Functionality

- Open **Login.aspx** in browser.



The screenshot shows a login page with an orange background. At the top, the title 'Log in to My Website' is displayed in bold black text. Below the title, the text 'Log In' is centered. The form includes two input fields: 'User Name:' and 'Password:'. Below the password field is a checkbox labeled 'Remember me next time.'. To the right of the checkbox is a blue 'Log In' button. Below the checkbox is a purple link 'Sign up for a new account'. Further down, the text 'Forgot Your Password?' is centered, followed by the instruction 'Enter your User Name to receive your password.'. Below this is a 'User Name:' input field and a grey 'Submit' button. At the bottom left, there is a purple link 'Login'.

Log in to My Website

Log In

User Name:

Password:

☐ Remember me next time.

[Sign up for a new account](#)

[Log In](#)

Forgot Your Password?

Enter your User Name to receive your password.

User Name:

[Submit](#)

[Login](#)

Log in to My Website

Log In

User Name:

Password:

☐ Remember me next time.

[Sign up for a new account](#)

Forgot Your Password?

Enter your User Name to receive your password.

User Name:

[Login](#)

Log in to My Website

Log In

User Name:

Password:

☐ Remember me next time.

[Sign up for a new account](#)

Identity Confirmation

Answer the following question to receive your password.

User Name: visitor

Question: Who's your favorite writer?

Answer:

[Login](#)

Log in to My Website

Log In

User Name:

Password:

☐ Remember me next time.

[Sign up for a new account](#)

Your password has been sent to you.

[Login](#)

Example

Password Functionality

- Check your e-mail!

Your New Password for mywebsite.com



Inbox x



WBWP <wbwpcourse@gmail.com>

to me 

Please return to the site and log in using the following information.

User Name: visitor5

Password: t0e{cqibRDP=&Y

Example

Password Functionality

Log in to My Website

Log In

User Name:

Password:

☐ Remember me next time.

[Sign up for a new account](#)

Your password has been sent to you.
[Login](#)

Home Reviews Concert Pics About Contact About Me **My Profile**

Home > Home

Hi there visitor! Welcome to my Web Site :-)

I'm glad that you are visiting my web site <http://www.mywebsite.com>

Feel free to have a [look around](#).

You can [log in](#) here

My Profile

The My Profile page allows you to make changes to your personal profile. For now, all you can do is change your password below.

Change Your Password

Password:

New Password:

Confirm New Password:

My Profile

The My Profile page allows you to make changes to your personal profile. For now, all you can do is change your password below.

Change Password Complete
Your password has been changed!

Example

Configuring Membership

- Open in Notepad:

C:\Windows\Microsoft.NET\Framework\v4.0.30319\Config\machine.config

- Copy **<membership>** element:

```
<system.web>
  <processModel autoConfig="true"/>
  <httpHandlers/>
  <membership>
    <providers>
      <add name="AspNetSqlMembershipProvider" type="System.Web.Security.Sql
    </providers>
  </membership>
```

Example

Configuring Membership

- Open `web.config`.
- Paste `<membership>` element before the `<authentication>` element.

```
<system.web>
  <membership>
    <providers>
      <add name="AspNetSqlMembershipProvider" type="System.Web.Security."
    </providers>
  </membership>
  <authentication mode="Forms"></authentication>
```

Example

Configuring Membership

- Change:
 - `minRequiredPasswordLength` → 6
 - `requiresQuestionAndAnswer` → false
- Add `<clear>` element.

```
<system.web>
  <membership>
    <providers>
      ➡ <clear/>
      <add name="AspNetSqlMembershipProvider" type="System.Web.Security.
    </providers>
  </membership>
```

Example

Configuring Membership

- Open **SignUp.aspx** in browser.

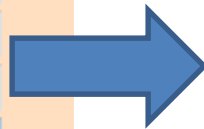
Sign Up for Your New Account

User Name:

Password:

Confirm Password:

E-mail:



Enter a short password like **pass**

Sign Up for Your New Account

User Name:

Password:

Confirm Password:

E-mail:

Password length minimum: 6. Non-alphanumeric characters required: 1.

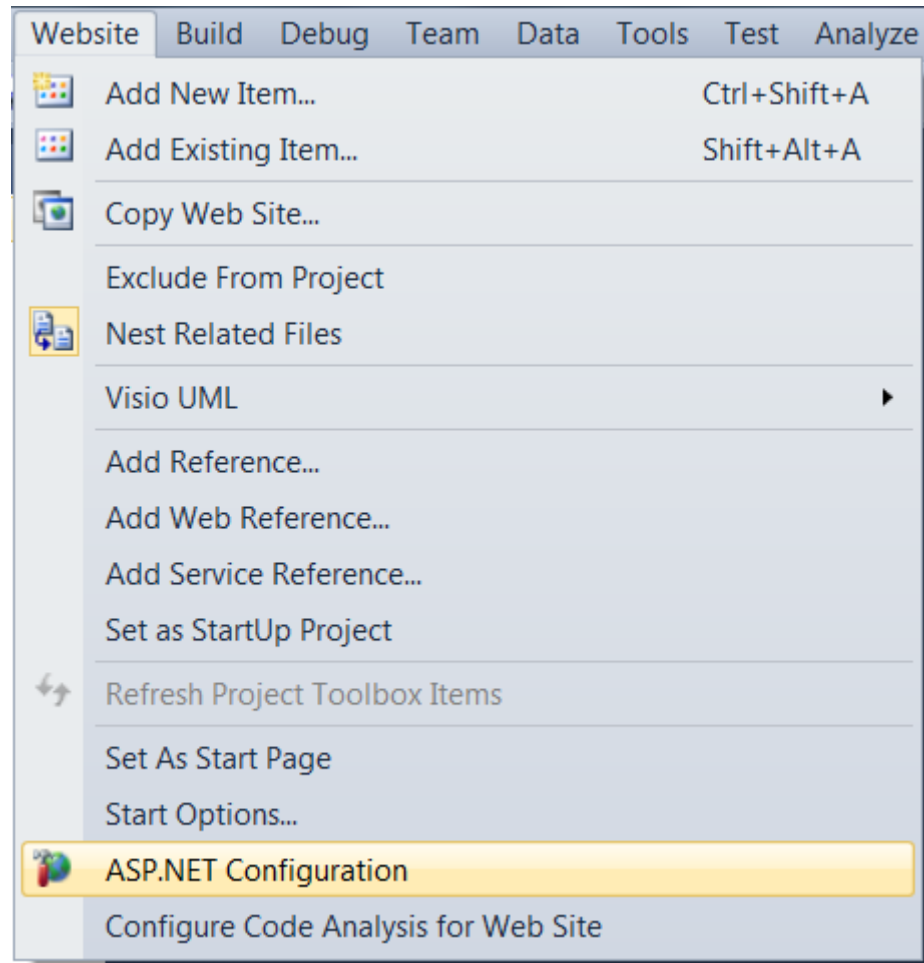
RoleManager

- Enables you to assign users to **different roles**.

In `web.config` file  `<roleManager enabled="true" />`

- After you have enabled roles, you can **assign users to different roles** in a number of ways:
 - Using the **Web Site Administration Tool (WSAT)**
 - Using IIS (**I**nternet **I**nformation **S**ervices, the Windows web server) on recent Windows editions
 - Programmatically using the Role Manager API

Example WSAT



Example WSAT



Welcome to the Web Site Administration Tool

Application:/MyWebSite

Current User Name:BLUEWISH\OZGUCAN

Security	Enables you to set up and edit users, roles, and access permissions for your site. Existing users: 6
Application Configuration	Enables you to manage your application's configuration settings.
Provider Configuration	Enables you to specify where and how to store administration data used by your Web site.

Example WSAT




You can use the Web Site Administration Tool to manage all the security settings for your application. You can set up users and passwords (authentication), create roles (groups of users), and create permissions (rules for controlling access to parts of your application).

By default, user information is stored in a Microsoft SQL Server Express database in the Data folder of your Web site. If you want to store user information in a different database, use the Provider tab to select a different provider.

[Use the security Setup Wizard to configure security step by step.](#)

Click the links in the table to manage the settings for your application.

Users	Roles	Access Rules
Existing users: 6 Create user Manage users  Select authentication type	Roles are not enabled Enable roles Create or Manage roles	Create access rules Manage access rules

Example WSAT

ASPMicrosoft**.net** Web Site Administration Tool

How do I use this tool? ?

Home Security Application Provider


How will users access your site?

☒ **From the internet**

Select this option if users will access your web site from the public internet. Users will be required to log on using a web form. The site will use forms authentication to identify users according to user information that you store in a database.

☐ **From a local network**

Select this option if users will access your web site only from a private local network. The site will use built-in Microsoft Windows authentication to identify users. Users with a valid Windows user name and password will be able to access your site.


Done

Example WSAT

You can use the Web Site Administration Tool to manage all the security settings for your application. You can set up users and passwords (authentication), create roles (groups of users), and create permissions (rules for controlling access to parts of your application).

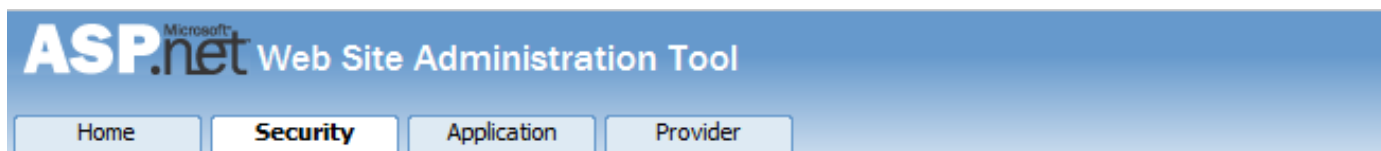
By default, user information is stored in a Microsoft SQL Server Express database in the Data folder of your Web site. If you want to store user information in a different database, use the Provider tab to select a different provider.

[Use the security Setup Wizard to configure security step by step.](#)

Click the links in the table to manage the settings for your application.

Users	Roles	Access Rules
Existing users: 6 Create user Manage users Select authentication type	Roles are not enabled Enable roles Create or Manage roles	Create access rules Manage access rules

Example WSAT



You can use the Web Site Administration Tool to manage all the security settings for your application. You can set up users and passwords (authentication), create roles (groups of users), and create permissions (rules for controlling access to parts of your application).

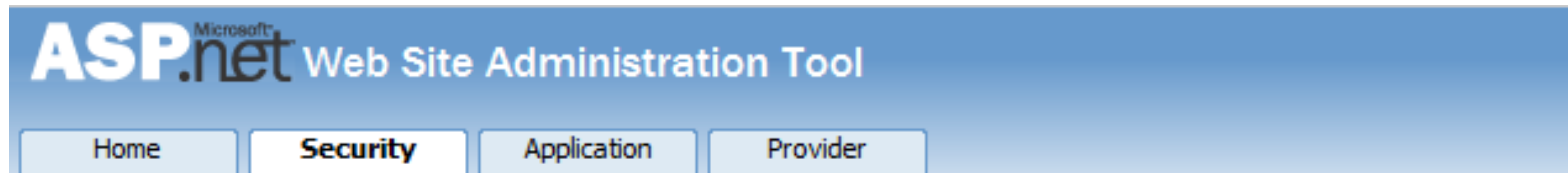
By default, user information is stored in a Microsoft SQL Server Express database in the Data folder of your Web site. If you want to store user information in a different database, use the Provider tab to select a different provider.

[Use the security Setup Wizard to configure security step by step.](#)

Click the links in the table to manage the settings for your application.

Users	Roles	Access Rules
Existing users: 6 Create user Manage users Select authentication type	Existing roles: 0 Disable Roles Create or Manage roles	Create access rules Manage access rules

Example WSAT



You can optionally add roles, or groups, that enable you to allow or deny groups of users access to specific folders in your Web site. For example, you might create roles such as "managers," "sales," or "members," each with different access to specific folders.

Create New Role

New role name:

Example WSAT

ASP.NET

Microsoft

Web Site Administration Tool

How do I use this tool?

?

Home

Security

Application


Provider

You can optionally add roles, or groups, that enable you to allow or deny groups of users access to specific folders in your Web site. For example, you might create roles such as "managers," "sales," or "members," each with different access to specific folders.

Create New Role

New role name:

Role Name	Add/Remove Users
Managers	Manage Delete



Back

Example WSAT

ASP.net Microsoft Web Site Administration Tool

HomeSecurityApplicationProvider

You can use the Web Site Administration Tool to manage all the security settings for your application. You can set up users and passwords (authentication), create roles (groups of users), and create permissions (rules for controlling access to parts of your application).

By default, user information is stored in a Microsoft SQL Server Express database in the Data folder of your Web site. If you want to store user information in a different database, use the Provider tab to select a different provider.

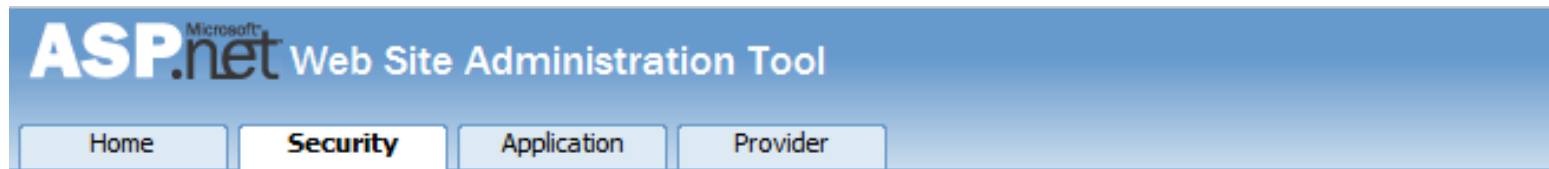
[Use the security Setup Wizard to configure security step by step.](#)

Click the links in the table to manage the settings for your application.

Users	Roles	Access Rules
Existing users: 6 Create user Manage users Select authentication type	Existing roles: 1 Disable Roles Create or Manage roles	Create access rules Manage access rules



Example WSAT



Add a user by entering the user's ID, password, and e-mail address on this page.

Create User	Roles
<p>Sign Up for Your New Account</p> <p>User Name: <input type="text"/></p> <p>Password: <input type="password"/></p> <p>Confirm Password: <input type="password"/></p> <p>E-mail: <input type="text"/></p> <p><input type="button" value="Create User"/></p>	<p>Select roles for this user:</p> <p><input type="checkbox"/> Managers</p>

☒ Active User

Example WSAT

ASP.NET Microsoft Web Site Administration Tool

HomeSecurityApplicationProvider

Add a user by entering the user's ID, password, and e-mail address on this page.

Create User

Sign Up for Your New Account

User Name:

Password:

Confirm Password:

E-mail:

Roles

Select roles for this user:

☒ Managers

☒ Active User

Example WSAT

ASP.NET Microsoft Web Site Administration Tool

How do I use this tool? ?

HomeSecurityApplicationProvider

Create User	Roles
<p>Complete</p> <p>Your account has been successfully created.</p> <p>Continue</p>	<p>Select roles for this user:</p> <p><input checked="" type="checkbox"/> Managers</p>



Example WSAT

ASPMicrosoft**.net** Web Site Administration Tool

[Home](#) **[Security](#)** [Application](#) [Provider](#)

You can use the Web Site Administration Tool to manage all the security settings for your application. You can set up users and passwords (authentication), create roles (groups of users), and create permissions (rules for controlling access to parts of your application).

By default, user information is stored in a Microsoft SQL Server Express database in the Data folder of your Web site. If you want to store user information in a different database, use the Provider tab to select a different provider.

[Use the security Setup Wizard to configure security step by step.](#)

Click the links in the table to manage the settings for your application.

Users	Roles	Access Rules
Existing users: 7 Create user Manage users Select authentication type	Existing roles: 1 Disable Roles Create or Manage roles	Create access rules Manage access rules

Example WSAT

ASP.net Microsoft Web Site Administration Tool

How do I use this tool? ?

HomeSecurityApplicationProvider

Click a row to select a user and then click **Edit user** to view or change the user's password or other properties. To assign roles to the selected user, select the appropriate check boxes on the right.

To prevent a user from logging into your application but retain his or her information in your database, set the status to inactive by clearing the check box.

Search for Users

Search by: User name ▼ for: Find User

Wildcard characters * and ? are permitted.

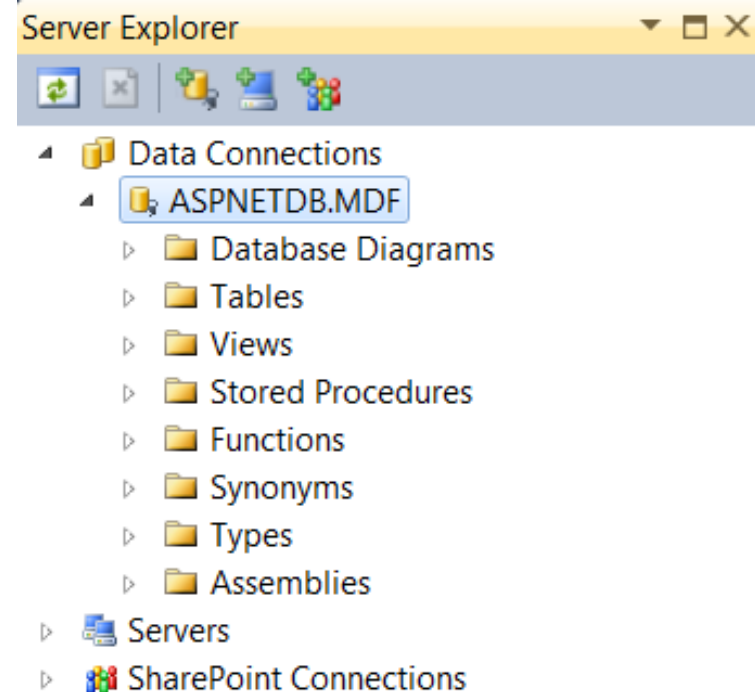
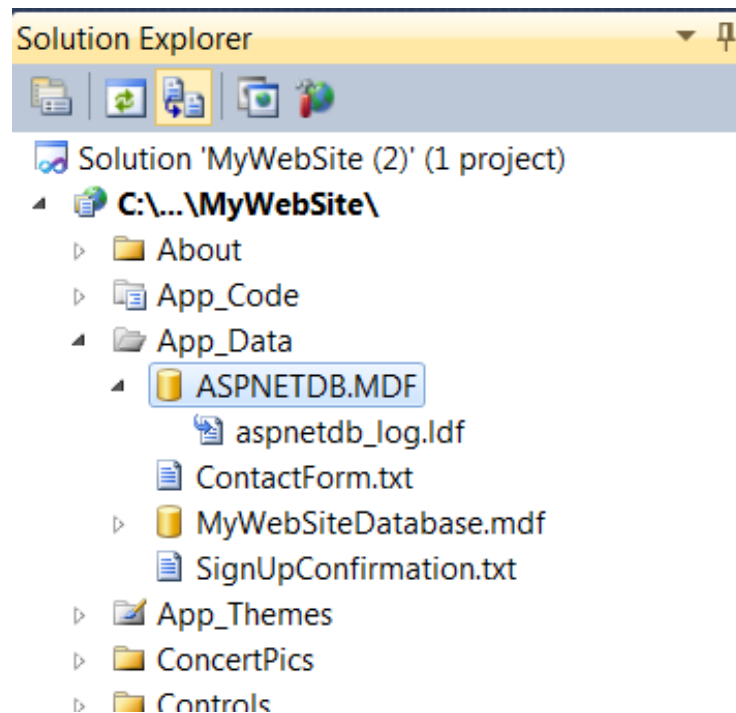
[A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#) [All](#)

Active	User name	Roles		
<input checked="" type="checkbox"/>	guest	Edit user	Delete user	Edit roles
<input checked="" type="checkbox"/>	Manager	Edit user	Delete user	Edit roles
<input checked="" type="checkbox"/>	visitor	Edit user	Delete user	Edit roles
<input checked="" type="checkbox"/>	visitor2	Edit user	Delete user	Edit roles
<input checked="" type="checkbox"/>	visitor3	Edit user	Delete user	Edit roles
<input checked="" type="checkbox"/>	visitor4	Edit user	Delete user	Edit roles
<input checked="" type="checkbox"/>	visitor5	Edit user	Delete user	Edit roles

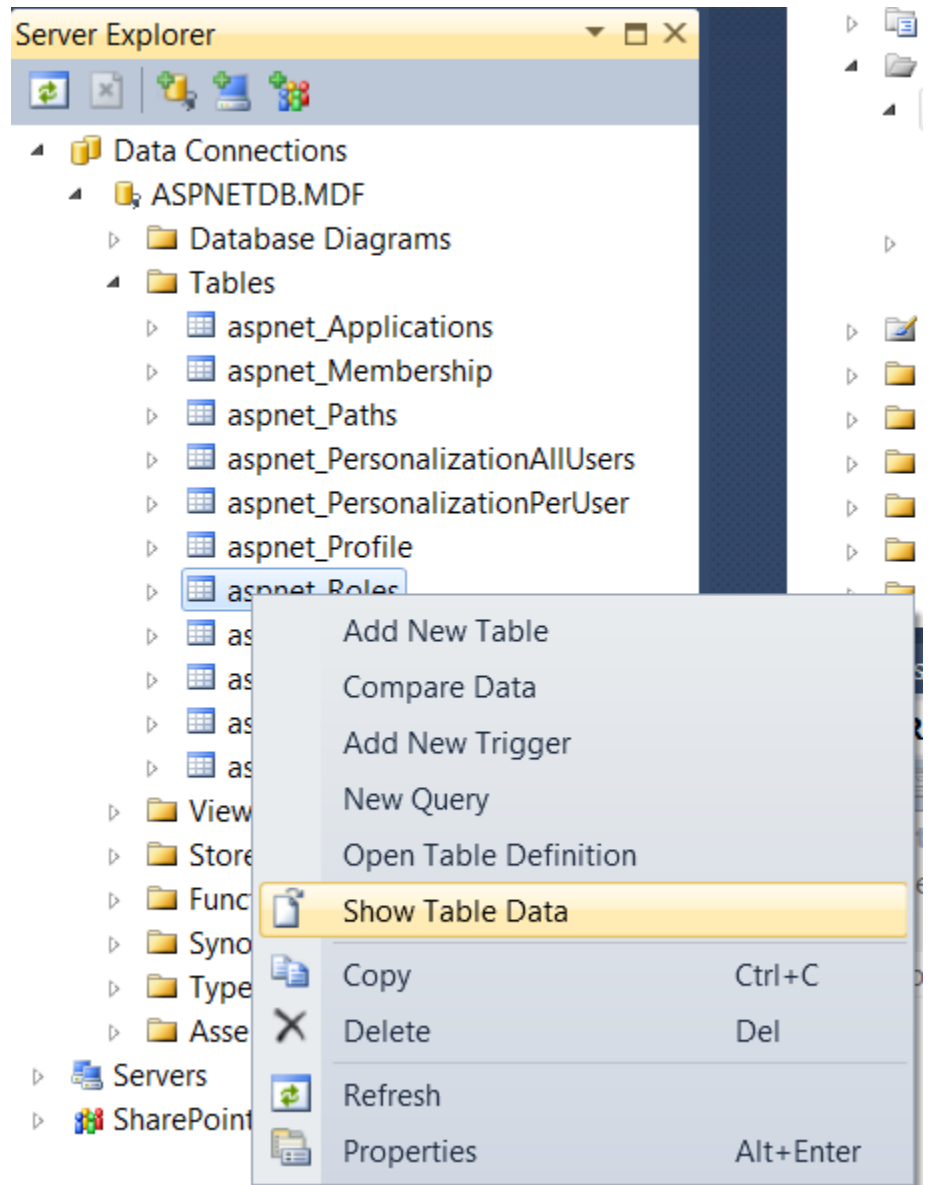
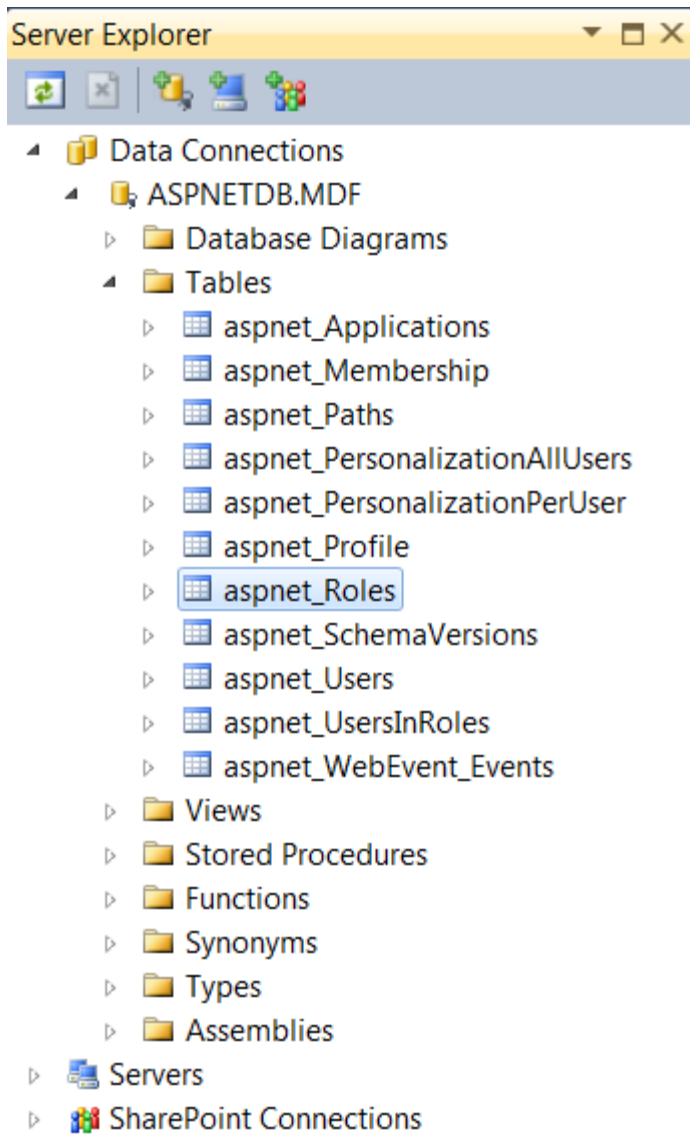
Create new user

Back

Example WSAT



Example WSAT



Example

WSAT

	Application...	RoleId	RoleName	LoweredRo...	Description
▶	124a1675-7...	41f5eac4-1...	Managers	managers	NULL
*	NULL	NULL	NULL	NULL	NULL

aspnet Membership

[illegible]

Blocking Access

- `<location>` element

```
<location path="Management">
  <system.web>
    <authorization>
      <allow roles="Managers" />
      <deny users="*" />
    </authorization>
  </system.web>
</location>
</configuration>
```

```
<location path="Reviews">
  <system.web>
    <authorization>
      <deny users="?" />
    </authorization>
  </system.web>
</location>
```

* → all users

? → unauthenticated or anonymous users

RoleGroup

- You can specify multiple **RoleGroup** elements that may all apply to a certain user, ***only the first that matches*** is displayed.

```
<asp:LoginView ID="LoginView1" runat="server">
  <RoleGroups>
    <asp:RoleGroup Roles="Managers">
      <ContentTemplate>
        <!-- Content for Managers here -->
      </ContentTemplate>
    </asp:RoleGroup>
    <asp:RoleGroup Roles="WebMasters">
      <ContentTemplate>
        <!-- Content for WebMasters here -->
      </ContentTemplate>
    </asp:RoleGroup>
  </RoleGroups>
</asp:LoginView>
```

Example

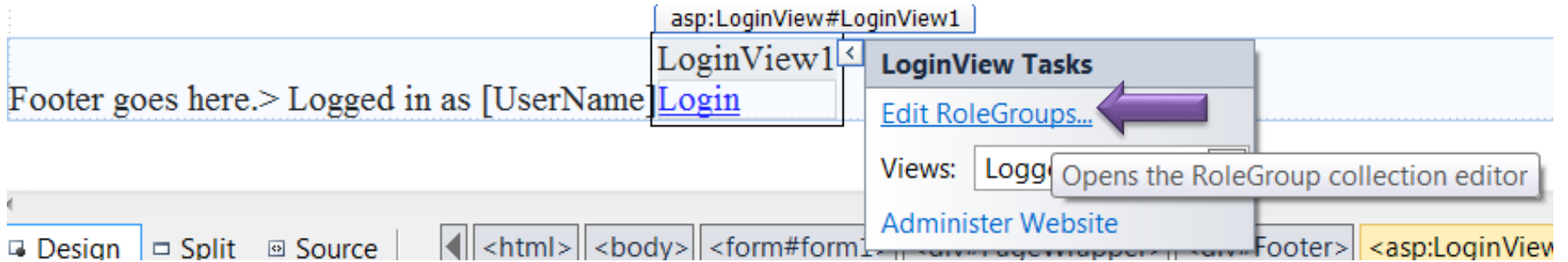
Blocking Access

- Open **web.config** file.
- At the end of the file:

```
<location path="Management">  
  <system.web>  
    <authorization>  
      <allow roles="Managers" />  
      <deny users="*" />  
    </authorization>  
  </system.web>  
</location>  
</configuration>
```

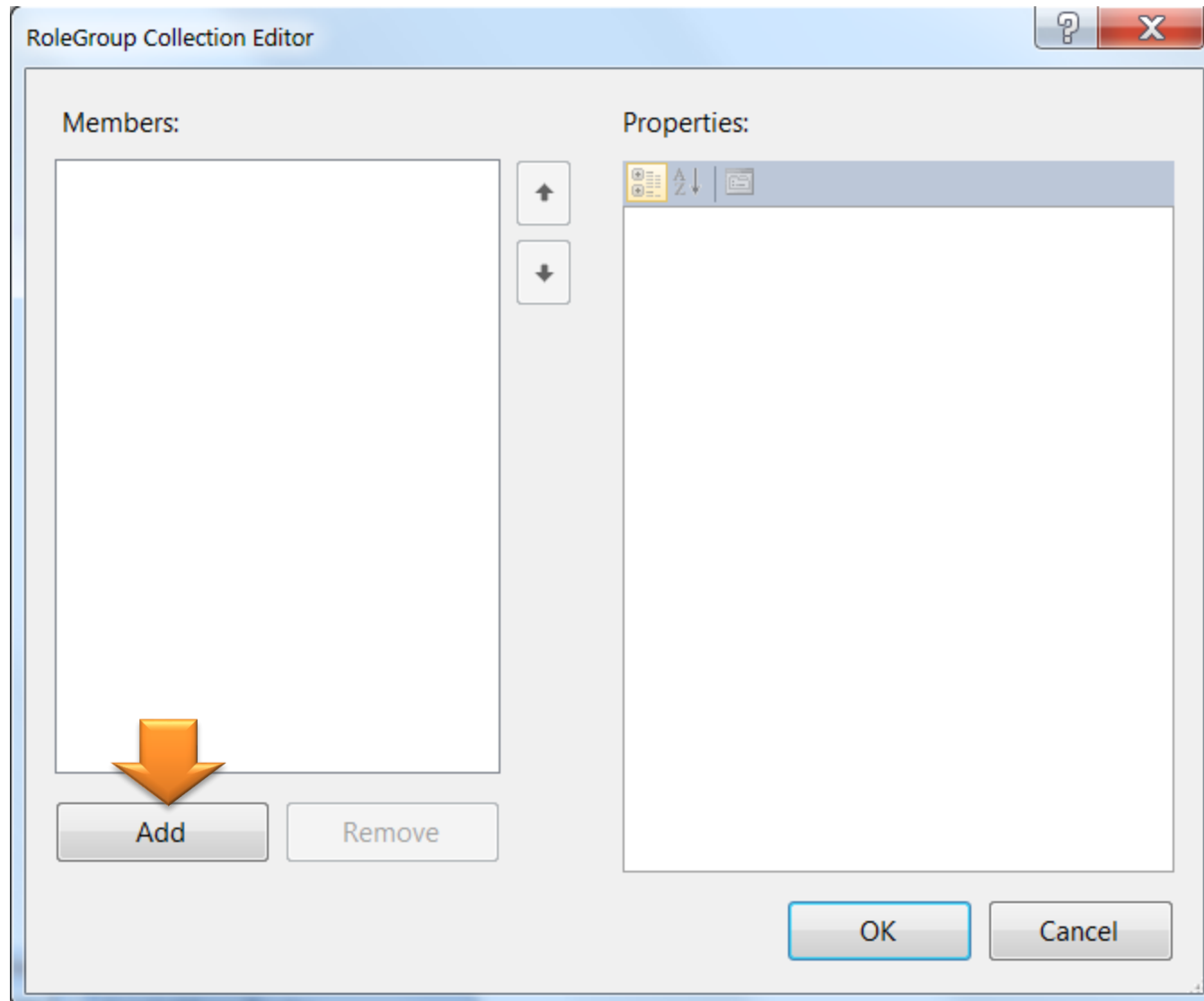
Example Blocking Access

- Open **Frontend.master** in Design View.



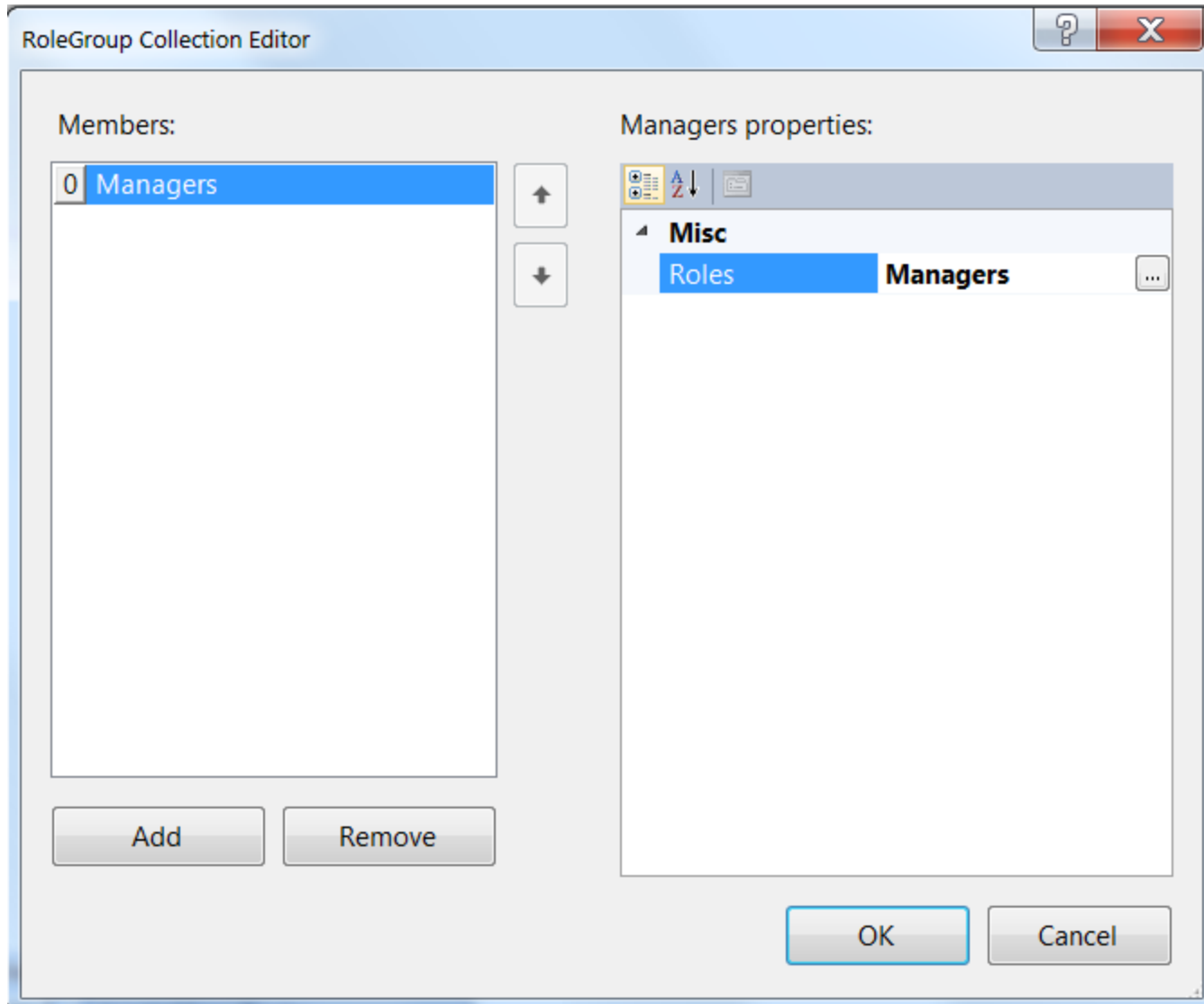
Example

Blocking Access



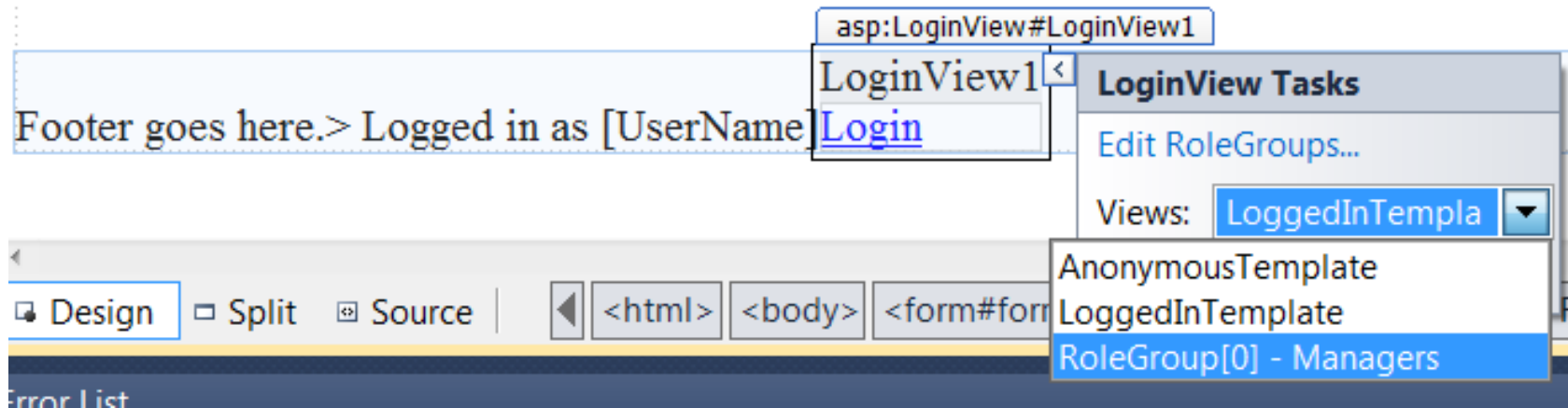
Example

Blocking Access

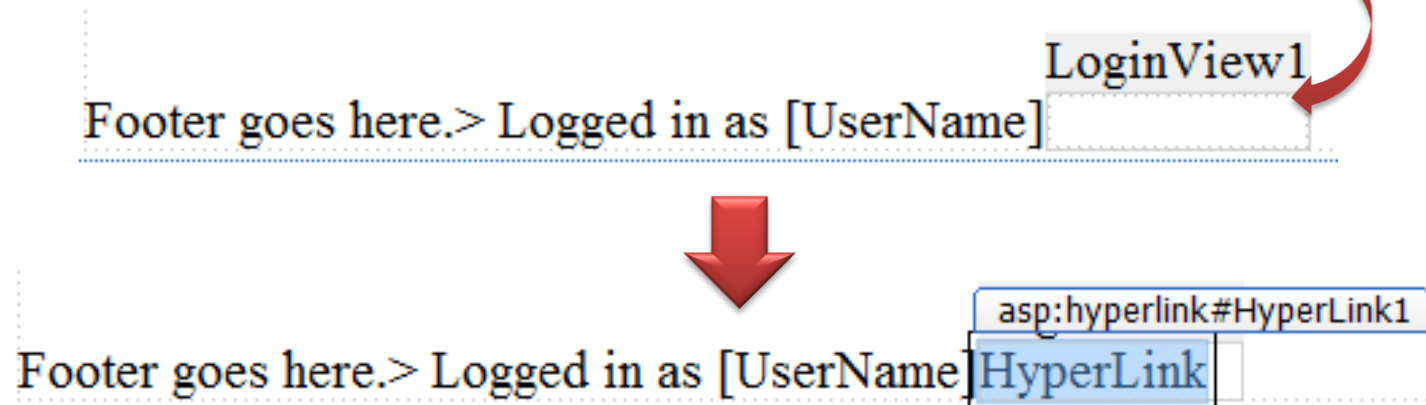


Example

Blocking Access



Drag a **HyperLink** control



Example

Blocking Access

- Properties of **HyperLink** control:
 - **Text = Manage Site**
 - **NavigateUrl = ~/Management/Default.aspx**
- In Source View → Drag a **LoginStatus** control

```
<RoleGroups>
  <asp:RoleGroup Roles="Managers">
    <ContentTemplate>
      <asp:HyperLink ID="HyperLink1" runat="server"
        NavigateUrl="~/Management/Default.aspx">Manage Site</asp:HyperLink>
      <asp:LoginStatus ID="LoginStatus2" runat="server" />
    </ContentTemplate>
  </asp:RoleGroup>
</RoleGroups>
```

Example

Blocking Access

- View `Default.aspx` in browser.

[Home](#) > Home

Hi there visitor! Welcome to my Web Site :-)

I'm glad that you are visiting my web site <http://www.mywebsite.com>

Feel free to have a [look around](#).

You can [log in](#) here



[Home](#) > Login

Log in to My Website

Log In

User Name:

Password:

☐ Remember me next time.

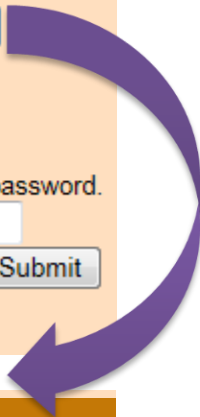
[Sign up for a new account](#)

Forgot Your Password?

Enter your User Name to receive your password.

User Name:

[Login](#)




Footer goes here.> Logged in as Manager [Manage Site](#) [Logout](#)

Example Blocking Access



Footer goes here.> Logged in as Manager [Manage](#) [Site](#) [Logout](#)

- [Management Home](#)
- [Manage Genres](#)
- [Manage Reviews](#)



Management Section

Welcome to the Management section of this web site. Please choose an item from the menu on the left to continue.

Programmatically Checking Roles

- **IsInRole** method of the **User** property

```
if (User.IsInRole("Managers"))  
{  
    // This code runs for Managers only  
}
```

- **IsUserInRole** method of the **Roles** class

```
if (Roles.IsUserInRole("Managers"))  
{  
    // This code runs for Managers only  
}
```



You need to have the **RoleManager** enabled.

Example

Roles with IsUserInRole

- Open → **PhotoAlbums** > **Default.aspx**
- After `</asp:ListItem>` element:
 - Add two `
` elements and a **HyperLink** control


```
</asp:ListView>
```

```
<br />
```

```
<br />
```

```
<asp:HyperLink ID="HyperLink1" runat="server">HyperLink</asp:HyperLink>
```

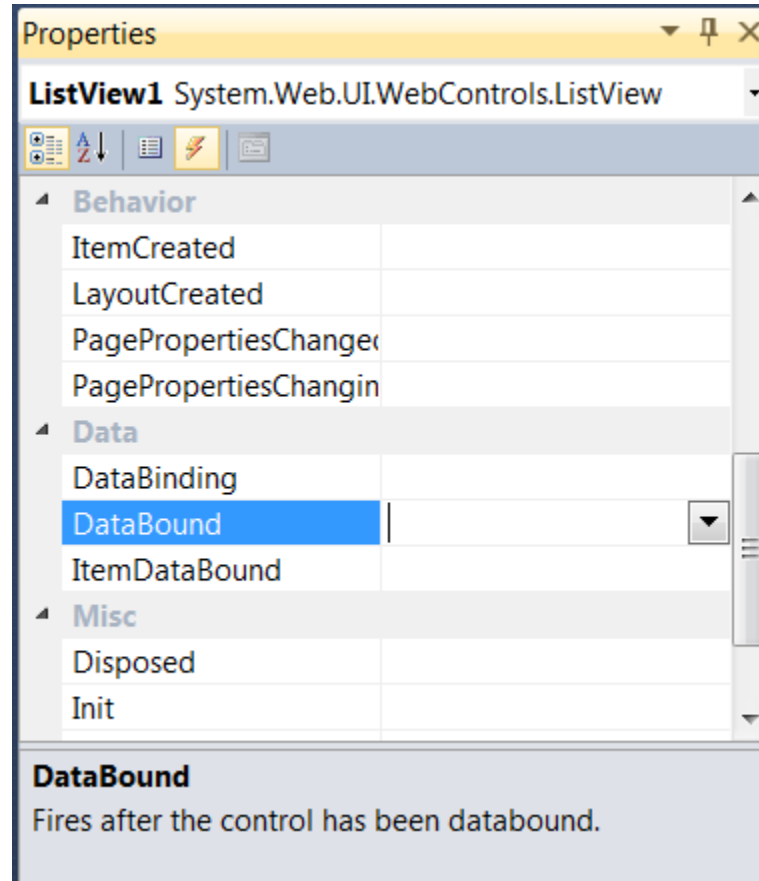
```
<asp:HyperLink ID="editHyperLink" Text="Edit Photo Album" runat="server"></asp:HyperLink>
```



Example

Roles with IsUserInRole

- Double-click the **DataBound** event of **ListView** control.



Example

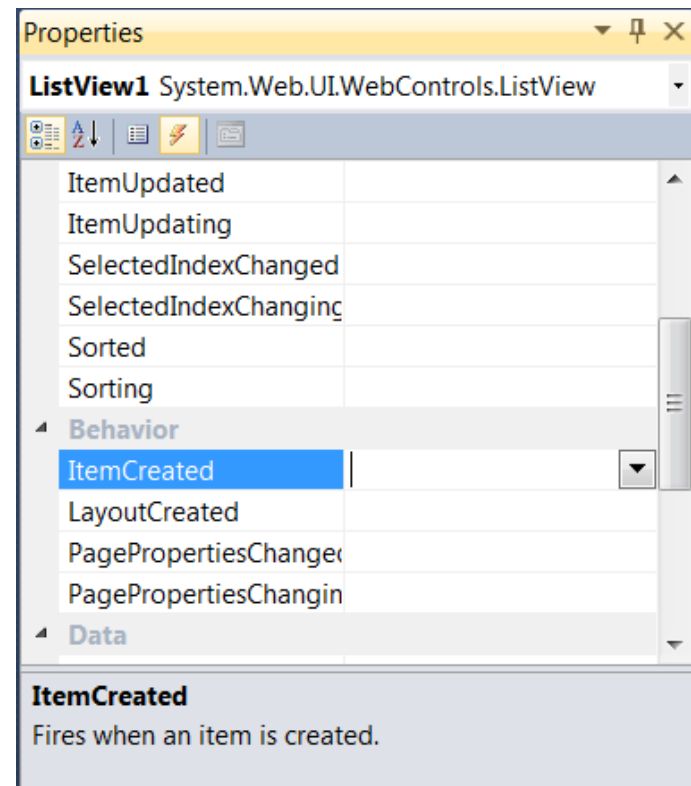
Roles with IsUserInRole

```
protected void ListView1_DataBound(object sender, EventArgs e)
{
    if (!string.IsNullOrEmpty(DropDownList1.SelectedValue))
    {
        editHyperLink.NavigateUrl = string.Format("~/ManagePhotoAlbum.aspx?PhotoAlbumId={0}", DropDownList1.SelectedValue);
        editHyperLink.Visible = true;
    }
    else
    {
        editHyperLink.Visible = false;
    }
}
```


Example

Roles with IsUserInRole

- Open → **ManagePhotoAlbum.aspx**
- Double-click the **ItemCreated** event of **ListView** control.

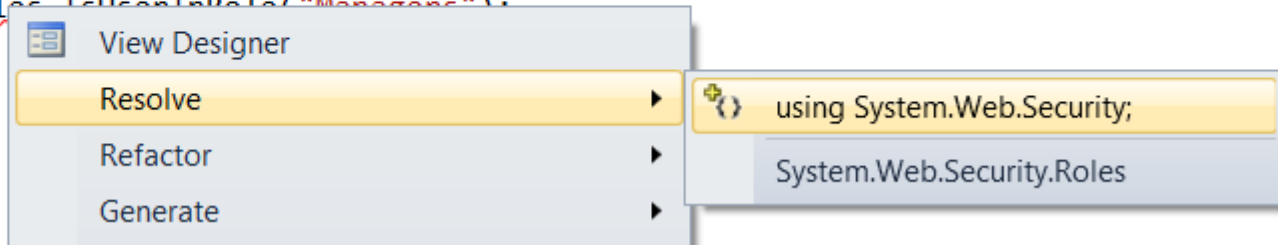


Example

Roles with IsUserInRole

```
protected void ListView1_ItemCreated(object sender, ListViewItemEventArgs e)
{
    switch (e.Item.ItemType)
    {
        case ListViewItemType.DataItem:
            Button deleteButton = (Button)e.Item.FindControl("DeleteButton");
            deleteButton.Visible = Roles.IsUserInRole("Managers");
            break;
    }
}
```

```
switch (e.Item.ItemType)
{
    case ListViewItemType.DataItem:
        Button deleteButton = (Button)e.Item.FindControl("DeleteButton");
        deleteButton.Visible = Roles.IsUserInRole("Managers");
        break;
}
```



Example

Roles with IsUserInRole

- View `PhotoAlbums > Default.aspx` in browser.
- Login as **manager**



Example

Roles with IsUserInRole

Description: Santana
ToolTip: @New York
ImageUrl:



Delete

Description:

ToolTip:

Browse...

Insert

Clear