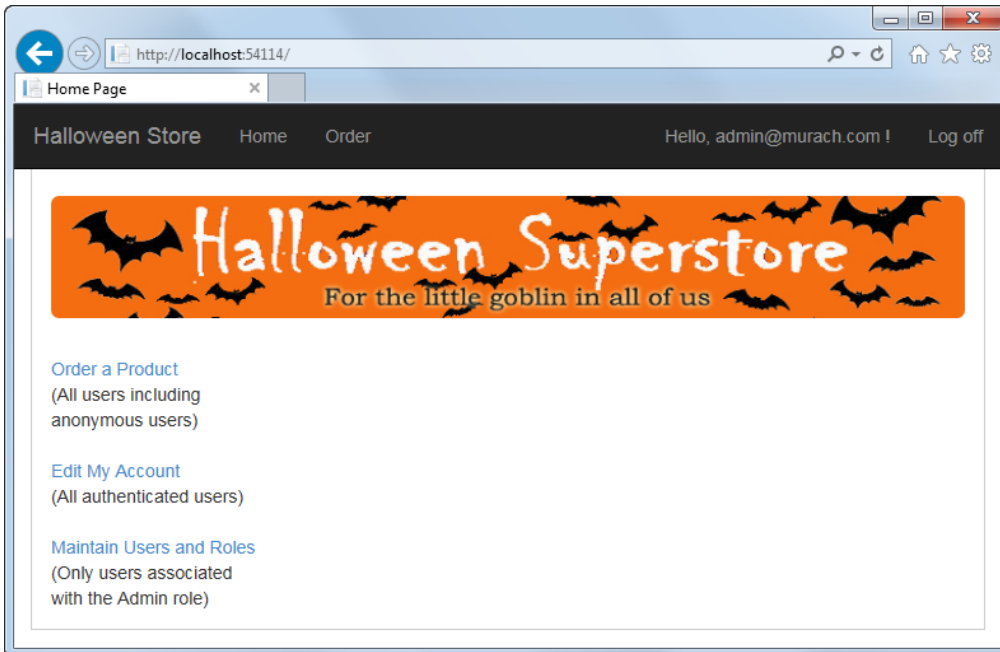# Work with users and roles in the User Maintenance application

In this exercise, you'll test the User Maintenance application that was presented in chapter 20 of the book. Then you'll add authorization rules for a directory to a Web.config file, and you'll add custom content to a page using a LoginView control.

Review the User Maintenance application

1. Open the attached web application in your project directory.

1. Review the code in the IdentityConfig.cs file of the App_Start directory. Notice the code at the end of the file that creates a custom role manager object. Unlike the code in this file that creates sign in manager and user manager objects, the code that creates the role manager isn't generated by default by the Web Forms template.

2. Still in the App_Start directory, review the code in the Startup.Auth.cs file. Notice the statement near the beginning of the ConfigureAuth method that configures the role manager to use a single instance of the ApplicationRoleManager object per request. Unlike the statements that configure the db context, user manager, and sign in manager objects, this statement isn't generated by default by the Web Forms template.

3. In the Maintenance directory, review the code-behind file for the Default page. Note that it uses the role manager object you reviewed in steps 2 and 3. Also note that this directory contains a Web.config file.

Test the User Maintenance application and fix an error

4. Run the application, click the Register link in the navbar, and register this user:

```
Email: admin@murach.com
Password: P@ssw0rd
```

When you're done, you'll be returned to the Home page.

5. Log off and then click the Order a Product link. This should take you to the Order page. Go back to the Home page and then click on the Edit My Account link. Since you're not logged in, this should take you to the Login page. Log in as the user you registered in step 5, and go back to the Edit My Account page.

6. Log off to return to the Home page. Then, click on the Maintain Users and Roles link, which should throw an error. Click on the Continue button in Visual Studio to bring up the ASP.NET error page and see the error message.

7. In the Web.config file, find the connection string named DefaultConnection. Add a property to this connection string that provides for working with multiple active result sets. Use figure 20-15 as a guide if necessary.

8. Click on the Maintain Users and Roles link again. This time, the Maintain Users and Roles page should be displayed even though you're not logged in.

Add a role and define access rules for the Maintenance directory

9. In the Roles section of the Maintain Users and Roles page, add a role named "admin". Then, in the Add Roles to User section, add the "admin" role to the "admin@murach.com" user. The Users section of the page should now list the admin@murach.com user as belonging to the admin role. Close the browser.

10. Add authorization rules to the Web.config file in the Maintenance directory so only users in the admin role can access files in this directory. Use figure 20-14 as a guide if necessary.

11. Run the application and click the Maintain Users and Roles link. This time, the Login page should be displayed because you're not logged in. Log in with the admin user to see that you can access the Maintain Users and Roles page.

12. Log off, navigate to the Register page, and register another user. While you're logged in, click on all three links from the Home page. You should be able to access the pages associated with the first two links, but the Login page should be displayed when you click the third link because you aren't a user in the admin role.

13. Log in as the admin user and assign the new user to the admin role. Then, log off, log back in as the new user, and navigate back to the Maintain Users and Roles page. This time, the page should be displayed.

14. Experiment with the Maintain Users and Roles page. When you're done, close the browser.

Use the LoginView control to add content for anonymous and logged in users

15. Add a LoginView control to the Order.aspx page.

16. In the Anonymous template of the control, add a message specific to anonymous users. In the LoggedIn template of the control, add a message specific to authenticated users.

17. Run the application, navigate to the Order page, and view the message. Then, log in, navigate back to the Order page, and view the message.

Once completed, publish or FTP the project to your WEB180even directory.