

Multi-site Development with Microsoft Content Management Server 2002 on Windows XP Professional

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Abstract

In many scenarios, Windows XP Professional is the ideal environment for developing Microsoft Content Management Server 2002 (MCMS) solutions. However when it comes to supporting multiple MCMS sites, for example if you are an ISV or consultant developing sites for different clients, MCMS on Windows XP has some limitations. This article presents an approach to multi-site MCMS development on Windows XP Professional which avoids these limitations and provides an easy way to switch between MCMS 'instances'.

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Introduction

In many scenarios, Windows XP Professional is the ideal environment for developing Microsoft Content Management Server 2002 (MCMS) solutions. Windows XP supports all elements of MCMS required for development, namely Internet Information Services, SQL Server 2000 Developer Edition, the Content Server itself, and perhaps most importantly Visual Studio .NET. When working in teams, it is also possible to utilise a separate server hosting a shared SQL Server 2000 database.

However when it comes to supporting multiple MCMS sites, for example if you are an ISV or consultant developing sites for different clients, MCMS on Windows XP has some limitations. In particular IIS 5.1 on Windows XP does not support multiple Virtual Web Sites. This is important if you are developing for clients who may also require or have existing non MCMS content or applications hosted under IIS. In these scenarios the MCMS Map Channel Names to Host Header Names is often unsuitable, especially if you wish to deploy the MCMS database and application to a distinct server once development is complete. Also there is often the security requirement for physical separation of client data during development.

This article presents an approach to multi-site MCMS development on Windows XP Professional which avoids these limitations and provides an easy way to switch between MCMS 'instances'.

Note: the approach detailed should also work on Windows 2000 Professional, but has not been tested.

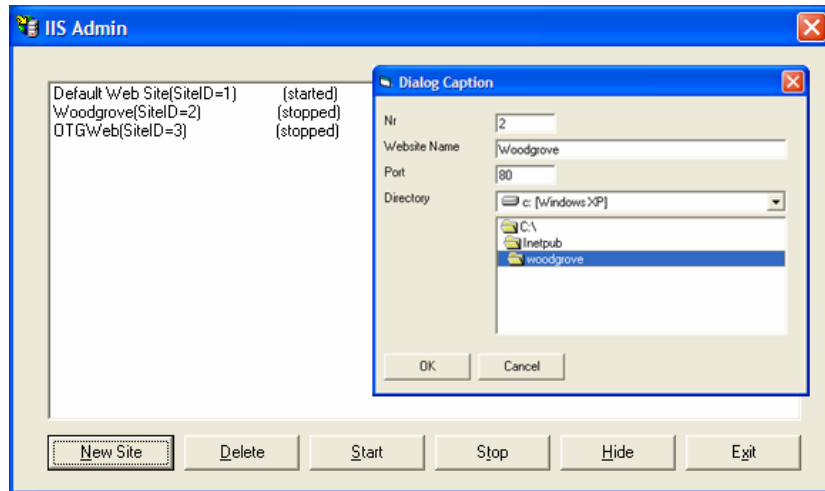
Note: neither multiple sites under IIS5.1 or MCMS applications configured under anything other than the Default Web Site (Instance 1) are officially supported by Microsoft. The IIS Admin utility is also provided as is, without support. Whilst the approach detailed has been extensively tested and used to develop many MCMS solutions, it should be followed at your own risk!

This article assumes you are familiar with MCMS installation and configuration, and have previously developed MCMS applications with Visual Studio .NET.

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MindXpand IIS Admin

The [IIS Admin](#) utility from MindXpand allows for the creation of multiple Virtual Web Sites under Windows XP Professional and provides a GUI to quickly switch between them. Once IIS Admin has been used to create multiple sites, Internet Services Manager can also be used in the normal manner to set configuration properties, such as logging and security. IIS Admin is more suitable than other ISAPI based solutions or Cassini-Ex, because it will support all MCMS and ASP.NET related IIS configuration. To install, extract the [ZIP](#) file and run the `iisadmin.msi` file. The following screen shot shows the IIS Admin user interface:



Note: IIS Admin does not remove the limitation in Windows XP which prevents more than one Virtual Web Site being started concurrently.

Pre-requisites

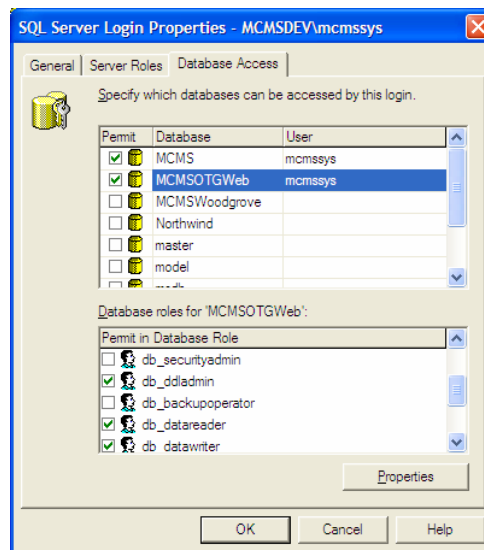
Before proceeding, ensure that Content Management Server 2002 Service Pack 1a is installed and configured by following the [product installation guide](#) and the default installation locations. In the examples presented, the MCMS System Account is LOCAL_MACHINENAME\mcmssys and the Initial MCMS Administrator Account is the account under which you are currently logged on. You can substitute these accounts if required. To follow the steps in this article the logged on user also needs to be a local administrator. In addition, the [WoodgroveNet](#) and [OTGWeb](#) MCMS sample sites should be installed and functioning correctly before continuing. This article assumes you are using Visual Studio .NET 2003. For the purposes of this article we will configure two distinct MCMS applications, both of which are hosted under their own IIS Virtual Web Site and utilise their own SQL Server 2000 database. We won't touch the Default Web Site. The configuration is shown below:

Name:	Webroot Directory:	Database:	Description:
Woodgrove	C:\inetpub\woodgrove	MCMSWoodgrove	WoodgroveNet Sample Site
OTGWeb	C:\inetpub\otgweb	MCMSOTGWeb	OTGWeb Sample Site

Creating and Configuring Databases

We will start by creating the two MCMS databases and configuring the appropriate access for the MCMS System Account.

1. From the **Start Menu**, click **Programs**, followed by **Microsoft SQL Server**, followed by **Enterprise Manager**.
2. Expand the **Microsoft SQL Servers** and **SQL Server** Group nodes, and expand your server (which by default is named (**l o c a l**)).
3. Right click **Databases** and click **New Database...**
4. On the **Database Properties** dialog, enter **MCMSWoodgrove** in the **Name** text box and click **OK**.
5. Right click **Databases** and click **New Database...**
6. On the **Database Properties** dialog, enter **MCMSOTGWeb** in the **Name** text box and click **OK**.
7. Expand the **Security** node, and click the **Logins** node.
8. In the **Logins** pane, double click the **MACHI NE_NAME\mcmsys** Login.
9. On the **SQL Server Login Properties** dialog, click the **Database Access** tab.
10. Select the **Permit** check box to the left of the **MCMSOTGWeb** database.
11. In the **Database roles for 'MCMSOTGWeb'** view, select the **db_ddl adm i n**, **db_datareader** and **db_datawri ter** roles:

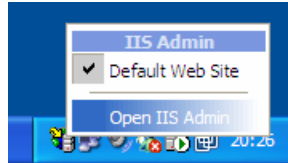


12. Select the **Permit** check box to the left of the **MCMSWoodgrove** database.
13. In the **Database roles for 'MCMSWoodgrove'** view, select the **db_ddl adm i n**, **db_datareader** and **db_datawri ter** roles.
14. Click **OK** to close the **SQL Server Login Properties** dialog, and close **Enterprise Manager**.

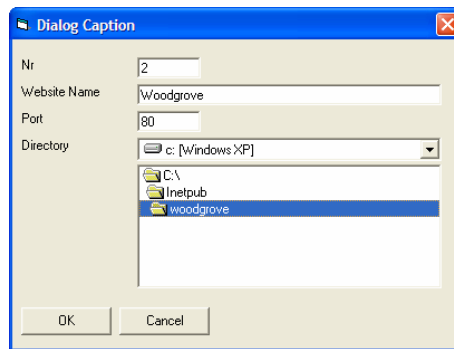
Creating and Configuring Virtual Web Sites

Next we will set up the file system, use IIS Admin to create two new Virtual Web Sites, configure FrontPage Server Extensions, and copy the required ASP.NET and Internet Explorer Web Controls client components.

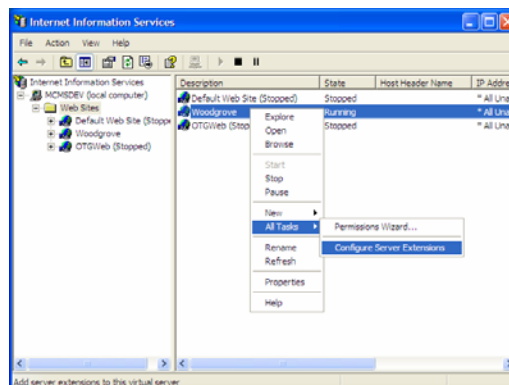
1. Use **Windows Explorer** to create the folders **C: \I netpub\woodgrove** and **C: \I netpub\otgweb**.
2. From the **Start Menu**, click **Programs**, followed by **IIS Admin**, followed by **IIS Admin**.
3. Right click the **IIS Admin** icon in the system tray, and click **Open IIS Admin**:



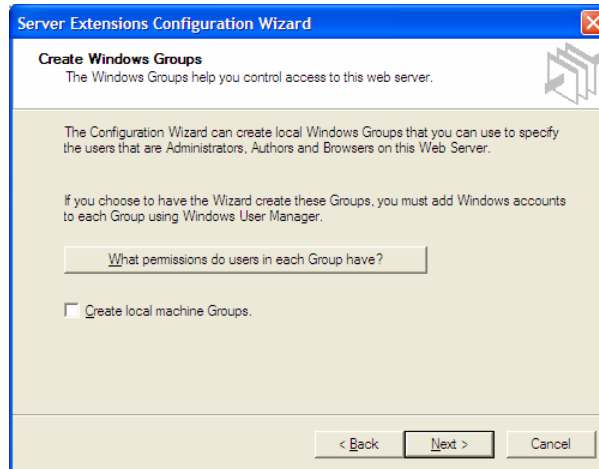
4. On the **IIS Admin** window, click **New Site**.
5. On the dialog, enter **Woodgrove** in the **Website Name** text box, and select the **c: \I netpub\woodgrove** folder in the **Directory** tree view and click **OK**:



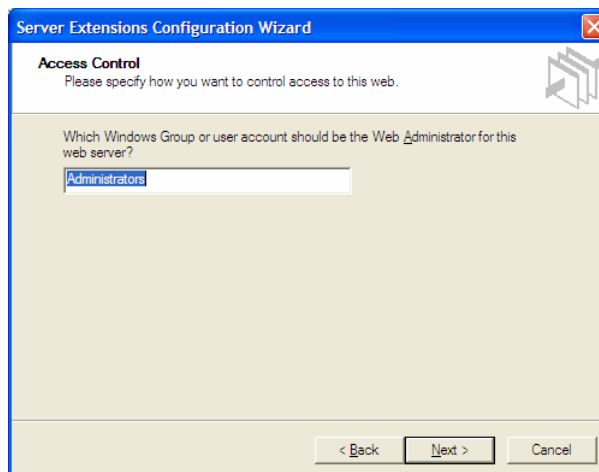
6. On the **IIS Admin** window, click **New Site**.
7. On the dialog, enter **OTGWeb** in the **Website Name** text box, and select the **c: \I netpub\otgweb** folder in the **Directory** tree view and click **OK**.
8. On the **IIS Admin** window, select the **Woodgrove** site, and click **Start**., followed by **Hide**.
9. From the **Start Menu**, click **Programs**, followed by **Administrative Tools**, followed by **Internet Information Services**.
10. Expand the **MACHINE_NAME** node, followed by the **Web Sites** folder.
11. Right click the **Woodgrove** Virtual Web Site, followed by **All Tasks**, followed by **Configure Server Extensions**:



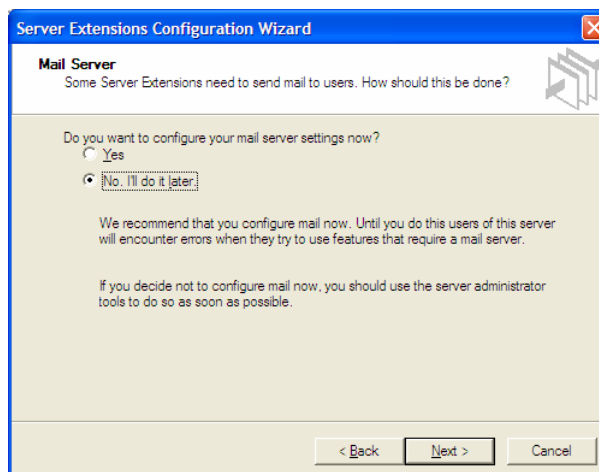
12. On the **Welcome to the Server Extensions Configuration Wizard** page, click **Next**.
13. On the **Create Windows Groups** page, deselect the **Create local machine Groups** check box and click **Next**:



14. On the **Access Control** page, click **Next**:

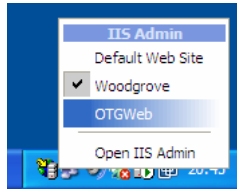


15. On the **Mail Server** page, select the **No. I'll do it later.** radio button and click **Next**:



16. On the **Completing the Server Extensions Configuration Wizard** page, click **Finish**.

17. Right click the **IIS Admin** icon in the system tray and click **OTGWeb**:

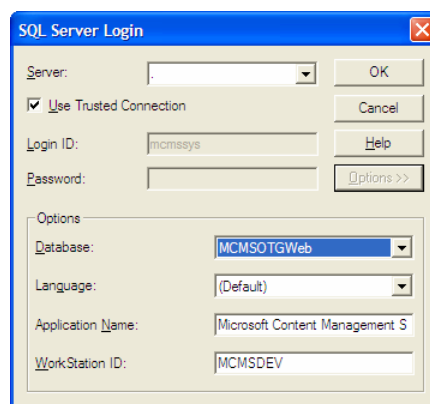


18. Switch back to the **Internet Information Services** Administration Console, click the **Web Sites** folder and click the **Refresh** toolbar button.
19. Right click the **OTGWeb** Virtual Web Site, followed by **All Tasks**, followed by **Configure Server Extensions**.
20. On the **Welcome to the Server Extensions Configuration Wizard** page, click **Next**.
21. On the **Create Windows Groups** page, deselect the **Create local machine Groups** check box and click **Next**.
22. On the **Access Control** page, click **Next**.
23. On the **Mail Server** page, select the **No. I'll do it later.** radio button and click **Next**.
24. On the **Completing the Server Extensions Configuration Wizard** page, click **Finish**.
25. Use Windows Explorer to navigate to the **C: \I netpub\wwwroot** folder.
26. Select the **aspnet_client** and **webctrl_client** folders, and choose **Copy** from the **Edit** menu.
27. Navigate to the **C: \I netpub\woodgrove** folder and choose **Paste** from the **Edit** menu.
28. Navigate to the **C: \I netpub\otgweb** folder and choose **Paste** from the **Edit** menu.

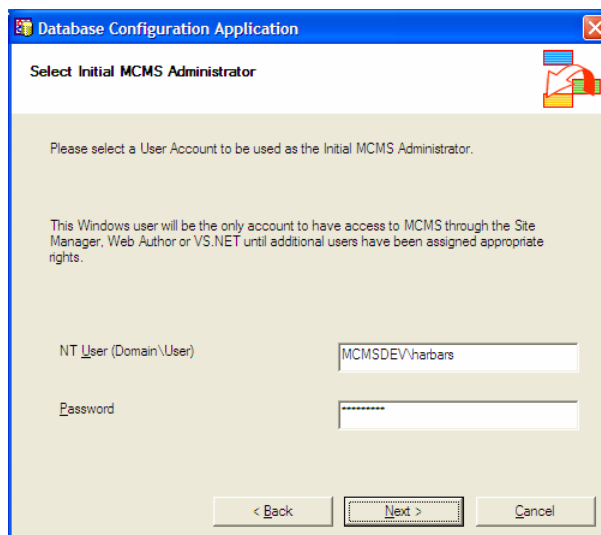
Installing the Schema and Configuring Entry Points

In this section we will install the MCMS database schema into the two previously created databases, setup the initial MCMS Administrator to be the currently logged on user and configure the MCMS Entry Points.

1. From the **Start Menu**, click **Programs**, followed by **Microsoft Content Management Server**, followed by **Database Configuration Application**, and click **Next**.
2. On the **Stop Services** message box, click **Yes**.
3. On the **Select MCMS Database** page, click **Select Database**.
4. On the **SQL Server Login** dialog enter a period (.) in the **Server** select box, and click **Options >>**.
5. Select **MCMSOTGWeb** in the **Database** select box, and click **OK**:



6. Click **Next**, and on the **Empty database** dialog, click **Yes**.
7. On the **Database Population** page, click **Next**.
8. On the **Select Initial MCMS Administrator** page enter your credentials (the user username and password of the currently logged on user), and click **Next**:

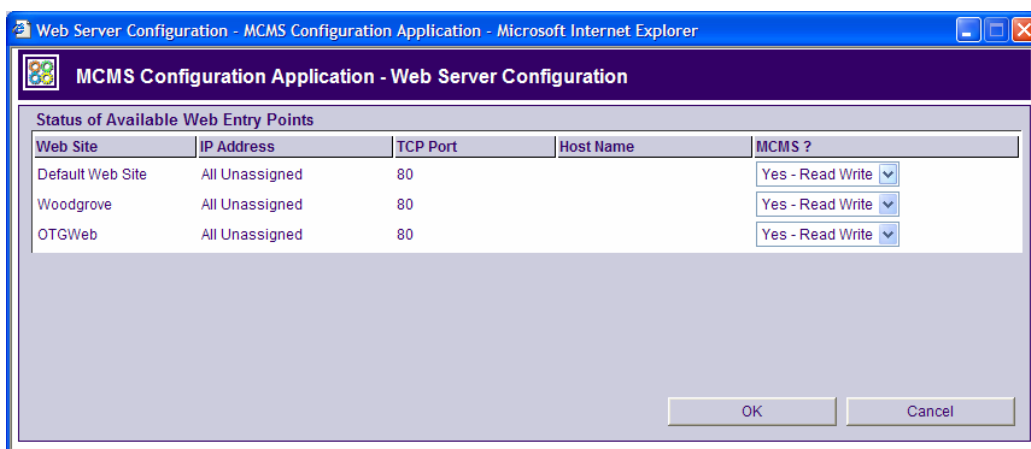


9. Once the DCA has completed, clear the **Launch the SCA Now** check box, and click **Finish**.
10. From the **Start Menu**, click **Programs**, followed by **Microsoft Content Management Server**, followed by **Database Configuration Application**, and click **Next**.

11. On the **Stop Services** message box, click **Yes**.
12. On the **Select MCMS Database** page, click **Select Database**.
13. On the **SQL Server Login** dialog enter a period (.) in the **Server** select box, and click **Options >>**.
14. Select **MCMSWoodgrove** in the **Database** select box, and click **OK**, followed by **Next**.
15. On the **Empty database** dialog, click **Yes**.
16. On the **Database Population** page, click **Next**.
17. On the **Select Initial MCMS Administrator** page enter your credentials (the user username and password of the currently logged on user), and click **Next**:
18. Once the DCA has completed, clear the **Launch the SCA Now** check box, and click **Finish**.

Note: The MCMS Server Configuration Application is installed on the Default Web Site as part of the default MCMS installation on Windows XP. As the Default Web Site is stopped, it will fail to load if the Launch the SCA Now check box is selected in the steps above.

19. Right click the **IIS Admin** icon in the system tray and click **Default Web Site**.
20. From the **Start Menu**, click **Programs**, followed by **Microsoft Content Management Server**, followed by **Server Configuration Application**.
21. Click the **Web** tab, followed by **Configure...**
22. Set the **MCMS?** property of **Woodgrove** and **OTGWeb** to **Yes - Read Write**. When prompted about adding or removing entry points, click **OK**:



23. Click **OK**, and close the **Server Configuration Application**.

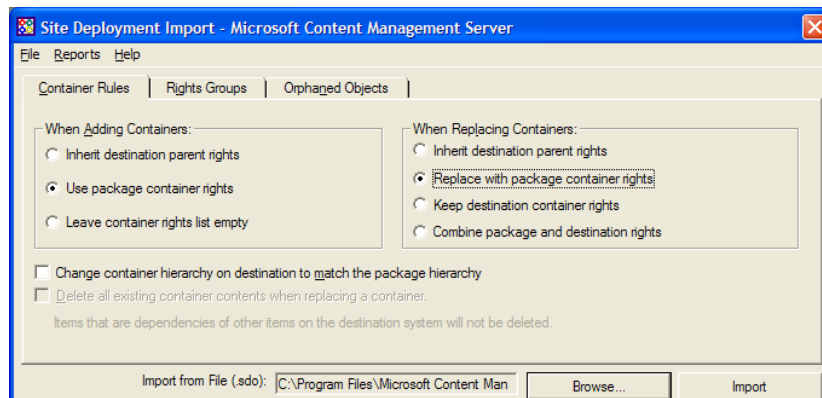
At this stage we now have two 'empty' Web sites and databases which you can use for MCMS development. If you wish to see the technique demonstrated using sample sites, continue with the next section, *Configuring the MCMS Sample Sites*.

If you wish to use this approach to develop MCMS sites from scratch using Visual Studio .NET, skip the next section, and go directly to the *Developing MCMS Sites from scratch using Visual Studio .NET* section.

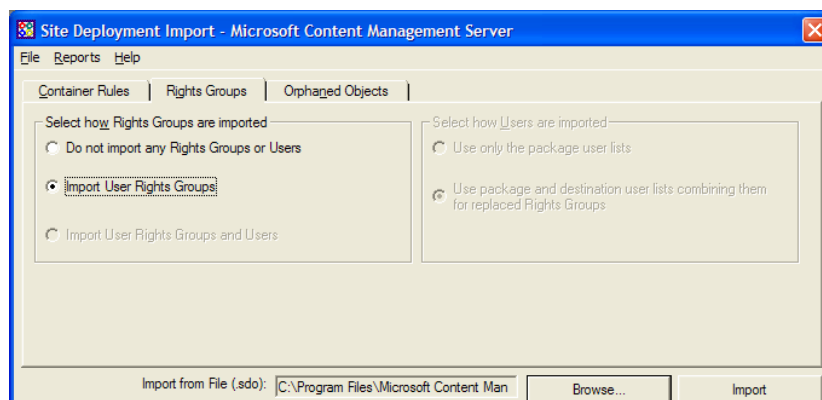
Configuring the MCMS Sample Sites

At this stage we now have two 'empty' Web sites and databases which you can use for MCMS development. To demonstrate this we will now configure one of the previously installed MCMS sample sites on each 'instance' of MCMS by importing sample data, configuring IIS Virtual Directories and using the DCA and IIS Admin to switch between them.

1. Right click the **IIS Admin** icon in the system tray, and ensure the **Woodgrove** Virtual Web Site is selected.
2. From the **Start Menu**, click **Programs**, followed by **Microsoft Content Management Server**, followed by **Site Manager**.
3. On the **Server Information** dialog, click **OK**.
4. On the **Logon** dialog, click **Start**.
5. From the Site Manager **File** menu, choose **Package**, followed by **Import...**
6. On the **Site Deployment Import** window click **Browse...**
7. Navigate to the **C:\Program Files\Microsoft Content Management Server\Sample Data\WoodgroveNet** folder, select the **WoodgroveNet.sdo** file and click **Open**.
8. In the **Container Rules** tab, select the **Use package container rights** radio button, and the **Replace with package container rights** radio button:

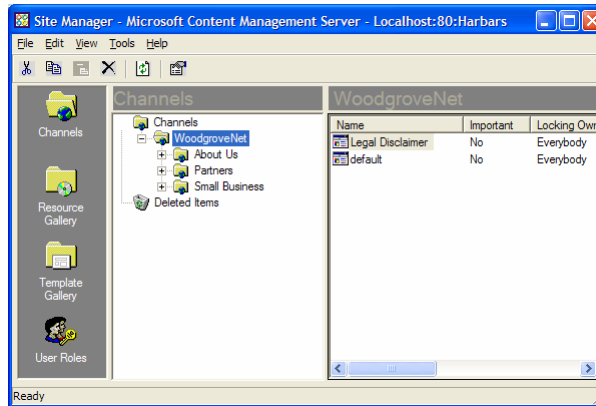


9. Click the **Rights Groups** tab, and select the **Import User Rights Groups** radio button:

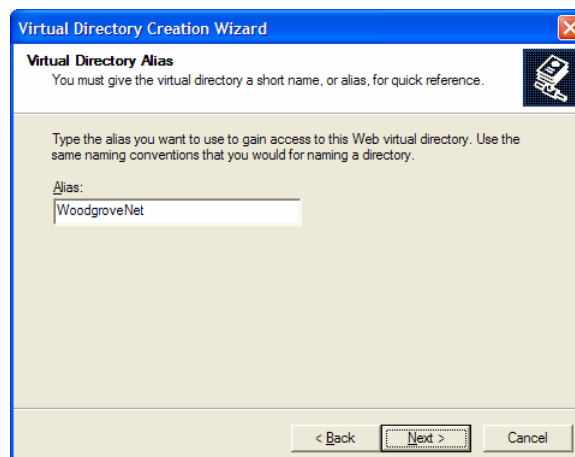


10. Click **Import**, and on the **Import Confirmation** dialog, click **Continue**.
11. Once the import has completed, click **OK** on the informational dialog.
12. Close the **Site Deployment Import** window.

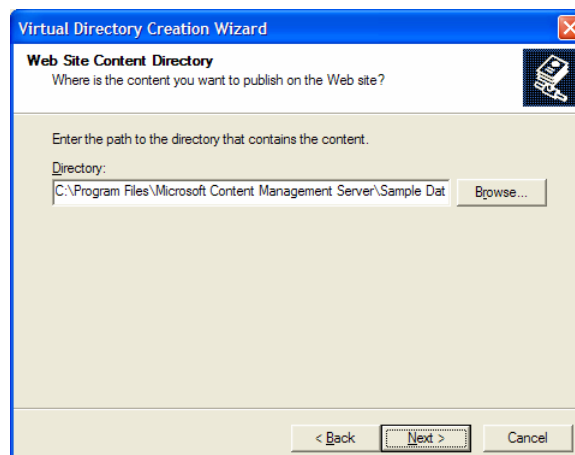
- Using **Site Manager** you can browse the hierarchy to view the imported assets:



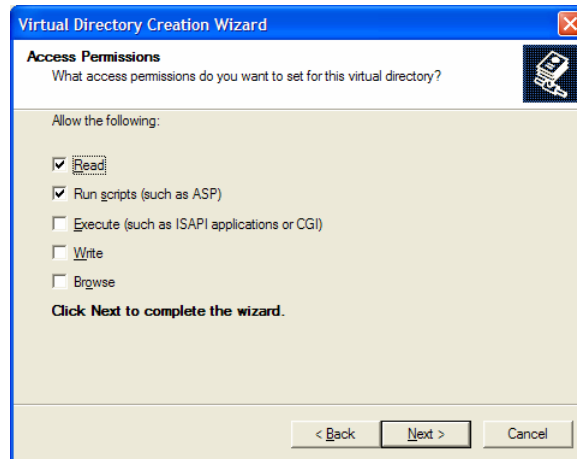
- Close **Site Manager**.
- From the **Start Menu**, click **Programs**, followed by **Administrative Tools**, followed by **Internet Information Services**.
- Expand the **MACHINE_NAME** node, followed by the **Web Sites** folder.
- Right click the **Woodgrove** Virtual Web Site, followed by **New**, followed by **Virtual Directory...**
- On the **Welcome to the Virtual Directory Creation Wizard** page, click **Next**.
- On the **Virtual Directory Alias** page, enter **WoodgroveNet** in the **Alias** text box, and click **Next**:



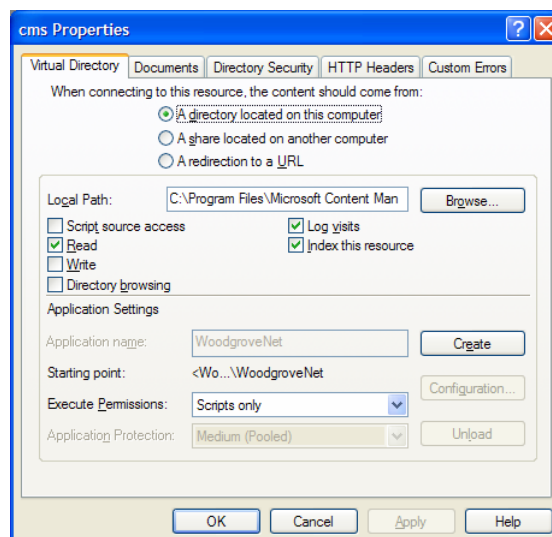
- On the **Web Site Content Directory** page, enter **C:\Program Files\Microsoft Content Management Server\Sample Data\WoodgroveNet** in the **Directory** text box (or use the **Browse...** button to locate the folder) and click **Next**:



21. On the **Access Permissions** page, click **Next**:



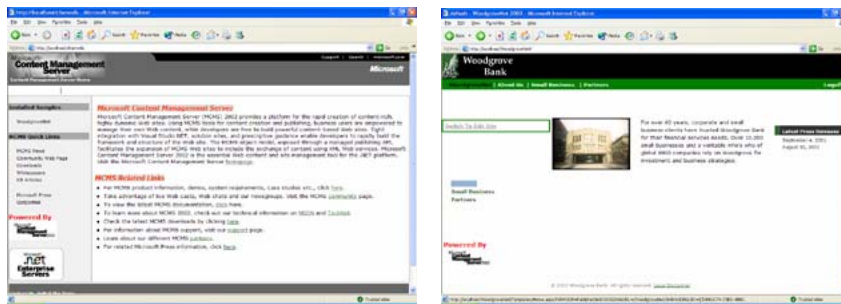
22. On the **You have successfully completed the Virtual Directory Creation Wizard** page, click **Finish**.
23. Right click the **WoodgroveNet** Virtual Directory, followed by **New**, followed by **Virtual Directory...**
24. On the **Welcome to the Virtual Directory Creation Wizard** page, click **Next**.
25. On the **Virtual Directory Alias** page, enter **cms** in the **Alias** text box, and click **Next**.
26. On the **Web Site Content Directory** page, enter **C: \Program Files\Microsoft Content Management Server\Server\IIS\CMS** in the **Directory** text box (or use the **Browse...** button to locate the folder) and click **Next**.
27. On the **Access Permissions** page, click **Next**.
28. On the **You have successfully completed the Virtual Directory Creation Wizard** page, click **Finish**.
29. Right click the **cms** Virtual Directory, and click **Properties**.
30. On the **cms Properties** dialog, on the **Virtual Directory** tab, click **Remove**, followed by **OK**:



31. Note that the icon displayed in Internet Information Services for the **cms** Virtual Directory has changed to reflect it is no longer an application:



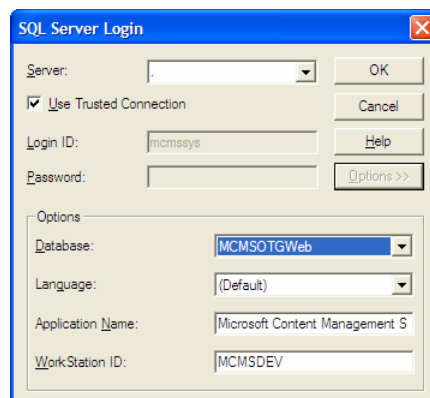
32. Expand the **MCMS** Virtual Directory, right click the **McmsHomeport** virtual directory, and click **Properties**
33. On the **McmsHomeport Properties** dialog, on the **Virtual Directory** tab, click **Create**, followed by **OK**.
34. Close **Internet Information Services**.
35. At this stage, you can test the **WoodgroveNet** sample by opening Internet Explorer and browsing to **http://localhost/channel s**, clicking the **WoodgroveNet** link, logging on, switching to edit mode etc:



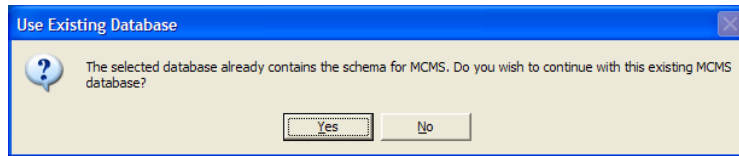
36. You can also test Visual Studio.NET development by opening **C:\Program Files\Microsoft Content Management Server\Sample Data\WoodgroveNet\WoodgroveNet.sln**.

Note: When opening the WoodgroveNet solution you will be prompted to upgrade it to be compatible with Visual Studio .NET 2003.

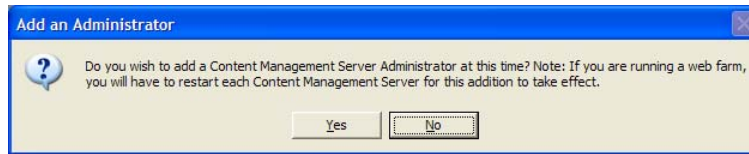
37. Close Internet Explorer and Visual Studio.NET.
38. From the **Start Menu**, click **Programs**, followed by **Microsoft Content Management Server**, followed by **Database Configuration Application**, and click **Next**.
39. On the **Stop Services** message box, click **Yes**.
40. On the **Select MCMS Database** page, click **Select Database**.
41. On the **SQL Server Login** dialog enter a period (.) in the **Server** select box, and click **Options >>**.
42. Select **MCMSOTGWeb** in the **Database** select box, and click **OK**:



43. Click **Next**, and on the **Use Existing Database** dialog, click **Yes**:



44. On the **Add an Administrator** dialog, click **No**:

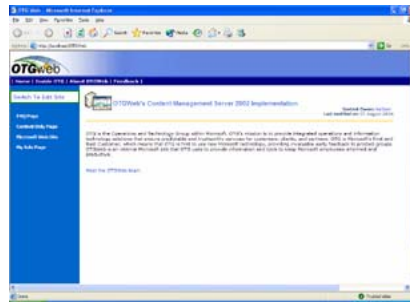


45. Once the DCA has completed, clear the **Launch the SCA Now** check box, and click **Finish**.
46. From the **Start Menu**, click **Programs**, followed by **Microsoft Content Management Server**, followed by **Site Manager**.
47. On the **Server Information** dialog, click **OK**.
48. On the **Logon** dialog, click **Start**.
49. From the Site Manager **File** menu, choose **Package**, followed by **Import...**
50. On the **Site Deployment Import** window click **Browse...**
51. Navigate to the **C:\Program Files\Microsoft WSS Books\ebusiness\Enterprise Intranet Sites** folder, select the **OTGWeb.sdo** file and click **Open**.
52. Click **Import**, and on the **Import Confirmation** dialog, click **Continue**.

Note: There is no need to configure Rights Groups as the OTGWeb sample does not include any Rights Groups or Users.

53. Once the import has completed, click **OK** on the informational dialog.
54. Close the **Site Deployment Import** window.
55. Using **Site Manager** you can browse the hierarchy to view the imported assets.
56. Close **Site Manager**.
57. Right click the **IIS Admin** icon click the **OTGWeb** Virtual Web Site.
58. From the **Start Menu**, click **Programs**, followed by **Administrative Tools**, followed by **Internet Information Services**.
59. Expand the **MACHINE_NAME** node, followed by the **Web Sites** folder.
60. Right click the **OTGWeb** Virtual Web Site, followed by **New**, followed by **Virtual Directory...**
61. On the **Welcome to the Virtual Directory Creation Wizard** page, click **Next**.
62. On the **Virtual Directory Alias** page, enter **OTGWeb** in the **Alias** text box, and click **Next**.
63. On the **Web Site Content Directory** page, enter **C:\Program Files\Microsoft WSS Books\ebusiness\Enterprise Intranet Sites** in the **Directory** text box (or use the **Browse...** button to locate the folder) and click **Next**.
64. On the **Access Permissions** page, click **Next**.
65. On the **You have successfully completed the Virtual Directory Creation Wizard** page, click **Finish**.

66. Right click the **OTGWeb** Virtual Directory, followed by **New**, followed by **Virtual Directory...**
67. On the **Welcome to the Virtual Directory Creation Wizard** page, click **Next**.
68. On the **Virtual Directory Alias** page, enter **cms** in the **Alias** text box, and click **Next**.
69. On the **Web Site Content Directory** page, enter **C:\Program Files\Microsoft Content Management Server\Server\IIS\CMS** in the **Directory** text box (or use the **Browse...** button to locate the folder) and click **Next**.
70. On the **Access Permissions** page, click **Next**.
71. On the **You have successfully completed the Virtual Directory Creation Wizard** page, click **Finish**.
72. Right click the **cms** Virtual Directory, and click **Properties**.
73. On the **cms Properties** dialog, on the **Virtual Directory** tab, click **Remove**, followed by **OK**.
74. Close **Internet Information Services**.
75. At this stage, you can test the **OTGWeb** sample by opening Internet Explorer and browsing to **http://localhost/OTGWeb**, switching to edit mode etc:



76. You can also test Visual Studio.NET development by opening **C:\Program Files\Microsoft WSS Books\Business\Enterprise Intranet Sites\OTGWeb.sln**.

Note: You may wish to copy the WoodgroveNet and OTGWeb sample folders to another location to keep them separate from those used by the Default Web Site. If so simply substitute the file paths in the above steps.

The next section details developing MCMS sites from scratch using Visual Studio .NET, if you wish you can skip this next section, and go directly to the *Switching between 'Instances'* section.

Developing MCMS Sites from scratch using Visual Studio .NET

At this stage we now have two 'empty' Web sites and databases which you can use for MCMS development. Developing sites from 'scratch', using Visual Studio .NET rather than installing the sample sites, requires a number of additional steps to enable Visual Studio .NET to access your Virtual Web Sites and set up the correct Virtual Directories during the New Project creation.

Note: This section makes use of the databases and Virtual Web Sites created earlier, you may wish to rename these to reflect the MCMS applications you are developing.

Note: Due to MCMS only supporting the Default Web Site, we will modify Virtual Web Site Ports, create our MCMS applications, and then reset the Ports and edit the files created by Visual Studio .NET. You could however continue to develop against Virtual Web Sites with different ports, in which case skip steps 31 through 64.

1. Right click the **IIS Admin** icon in the system tray, and ensure the **Woodgrove** Virtual Web Site is selected.
2. From the **Start Menu**, click **Programs**, followed by **Administrative Tools**, followed by **Internet Information Services**.
3. Expand the **MACHINE_NAME** node, followed by the **Web Sites** folder.
4. Right click the **Woodgrove** Virtual Web Site, and click **Properties**.
5. On the **Web Site** tab, in the **Web Site Identification** pane, enter **81** in the **TCP Port** text box, and click **OK**.
6. If prompted to Restart IIS, click **Yes**, and wait until IIS is restarted.
7. Right click the **OTGWeb** Virtual Web Site, and click **Properties**.
8. On the **Web Site** tab, in the **Web Site Identification** pane, enter **82** in the **TCP Port** text box, and click **OK**.
9. If prompted to Restart IIS, click **Yes**, and wait until IIS is restarted.
10. If necessary, right click the **Woodgrove** Virtual Web Site, and click **Start**.
11. Close Internet Information Services.
12. Using Windows Explorer, navigate to the **C:\Program Files\Microsoft Content Management Server\DevTools** folder.
13. Open the **DeveloperTools.xml** file using Notepad (or your editor of choice).
14. Within the **CmsEnvironment** element, set the **Server InstanceID** attribute to 2:

```
<CmsEnvironment>  
    <Server BaseUrl="http://localhost" InstanceId="2" />  
    <Template QueryString="" />  
</CmsEnvironment>
```

Note: It is not necessary to add a port to this URL.

15. From the **File** menu, click **Save**.
16. Open Visual Studio .NET, and from the **File** menu, choose **New**, followed by **Project...**

17. In the **Project Types** box, expand the **Content Management Server Projects** folder, and click the **Visual C# Projects** folder.
18. In the **Templates** box, click **MCMS Web Application**.
19. In the **Location** text box, enter **http: //l ocal host: 81/MCMSMSD1**, and click **OK**, wait until the MCMS application is created.
20. From the **File** menu, choose **Save All...** and close Visual Studio .NET.

Note: If you examine the MCMSMSD1 application using Internet Information Services, the cms Virtual Directory will not appear. However Visual Studio .NET has created it, and it does exist! This can be verified by attempting to create another Virtual Directory with the same alias (doing so is impossible). This can also be verified by examining the MCMSMSD1/CMS node using MetaEdit 2.2.

21. Right click the **IIS Admin** icon in the system tray and click the **OTGWeb** Virtual Web Site.
22. Switch back to Notepad (or the editor which has **DeveloperTools.xml** open).
23. Within the **CmsEnvironment** element, set the **Server InstanceID** attribute to **3**:

```

<CmsEnvironment>
  <Server BaseUrl="http: //l ocal host" InstanceId="3"/>
  <Template QueryString="" />
</CmsEnvironment>

```

24. From the **File** menu, click **Save**.
25. Close Notepad (or the editor which has **DeveloperTools.xml** open).
26. Open Visual Studio .NET, and from the **File** menu, choose **New**, followed by **Project...**
27. In the **Project Types** box, expand the **Content Management Server Projects** folder, and click the **Visual C# Projects** folder.
28. In the **Templates** box, click **MCMS Web Application**.
29. In the **Location** text box, enter **http: //l ocal host: 82/MCMSMSD2**, and click **OK**, wait until the MCMS application is created.
30. From the **File** menu, choose **Save All...** and close Visual Studio .NET.

Note: If you wish to continue to develop against Virtual Web Sites with different ports you can skip the remaining steps in this section.

31. From the **Start Menu**, click **Programs**, followed by **Administrative Tools**, followed by **Internet Information Services**.
32. Expand the **MACHINE_NAME** node, followed by the **Web Sites** folder.
33. Right click the **Woodgrove** Virtual Web Site, and click **Properties**.
34. On the **Web Site** tab, in the **Web Site Identification** pane, enter **80** in the **TCP Port** text box, and click **OK**.
35. If prompted to Restart IIS, click **Yes**, and wait until IIS is restarted.
36. Right click the **OTGWeb** Virtual Web Site, and click **Properties**.
37. On the **Web Site** tab, in the **Web Site Identification** pane, enter **80** in the **TCP Port** text box, and click **OK**.
38. If prompted to Restart IIS, click **Yes**, and wait until IIS is restarted.
39. If necessary, right click the **Woodgrove** Virtual Web Site, and click **Start**.

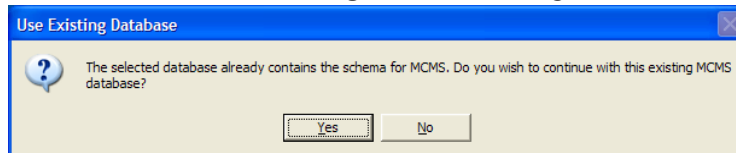
40. Close Internet Information Services.
41. Using Windows Explorer, navigate to the **C: \Documents and Settings\USER_NAME\My Documents\Visual Studio Projects\MCMSMSD1** folder (where **USER_NAME** is the username of the currently logged on user).
42. Select the two files, and click the **Edit** menu, followed by **Cut**.
43. Navigate to the **C: \inetpub\woodgrove\MCMSMSD1** folder and click the **Edit** menu, followed by **Paste**.
44. Using Windows Explorer, navigate to the **C: \Documents and Settings\USER_NAME\My Documents\Visual Studio Projects\MCMSMSD2** folder (where **USER_NAME** is the username of the currently logged on user).
45. Select the two files, and click the **Edit** menu, followed by **Cut**.
46. Navigate to the **C: \inetpub\otgweb\MCMSMSD2** folder and click the **Edit** menu, followed by **Paste**.
47. Using Windows Explorer, navigate to the **C: \inetpub\woodgrove\MCMSMSD1** folder.
48. Open the **MCMSMSD1. sln** file using Notepad.
49. On the second line, remove the port within the **URL** (i.e. change **http: //localhost: 81/MCMSMSD1/MCMSMSD1. csproj** to **http: //localhost/MCMSMSD1/MCMSMSD1. csproj**).
50. From the **File** menu, click **Save**.
51. Open the **MCMSMSD1. csproj .webinfo** file using Notepad.
52. Remove the port from the **URLPath** attribute of the **Web** element (i.e. **<Web URLPath = "http: //localhost/MCMSMSD1/MCMSMSD1. csproj " />**).
53. From the **File** menu, click **Save**.
54. Using Windows Explorer, navigate to the **C: \inetpub\otgweb\MCMSMSD2** folder.
55. Open the **MCMSMSD2. sln** file using Notepad.
56. On the second line, remove the port within the **URL**.
57. From the **File** menu, click **Save**.
58. Open the **MCMSMSD2. csproj .webinfo** file using Notepad.
59. Remove the port from the **URLPath** attribute of the **Web** element.
60. From the **File** menu, click **Save**.
61. Close Notepad.
62. Test the MCMSMSD1 application by opening **C: \inetpub\woodgrove\MCMSMSD1\MCMSMSD1. sln** in Visual Studio .NET
63. Right click the **IIS Admin** icon in the system tray, and click the **OTGWeb** Virtual Web Site.
64. Test the MCMSDEV2 application by opening **C: \inetpub\otgweb\MCMSMSD2\MCMSMSD2. sln** in Visual Studio .NET.

Note: It is important to remember that DeveloperTools.xml is in the same state as when we completed step 23. If we wish to create more 'instances' or develop against the Default Web Site we must remember to modify this file again.

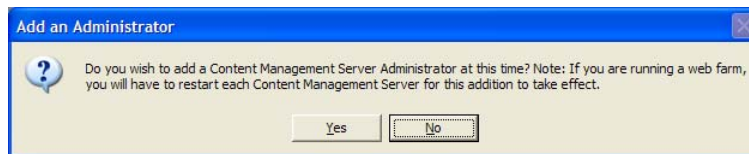
Switching between 'Instances'

Now the two 'instances' are setup, you can switch between them easily by running the Database Configuration Application to select the correct database, and IIS Admin to select the correct Virtual Web Site.

1. From the **Start Menu**, click **Programs**, followed by **Microsoft Content Management Server**, followed by **Database Configuration Application**, and click **Next**.
2. On the **Stop Services** message box, click **Yes**.
3. On the **Select MCMS Database** page, click **Select Database**.
4. On the **SQL Server Login** dialog enter a period (.) in the **Server** select box, and click **Options >>**.
5. Select the desired MCMS database in the **Database** select box, and click **OK**.
6. Click **Next**, and on the **Use Existing Database** dialog, click **Yes**:



7. On the **Add an Administrator** dialog, click **No**:



8. Once the DCA has completed, clear the **Launch the SCA Now** check box, and click **Finish**.
9. Right click the **IIS Admin** icon in the system tray and click the desired Virtual Web Site.
10. Open the **C:\Program Files\Microsoft Content Management Server\DevTools\DeveloperTools.xml** file using Notepad (or your editor of choice).
11. Within the **CmsEnvironment** element, set the **Server InstanceID** to match the instance ID for the desired Virtual Web Site (which is displayed in the IIS Admin window):
12. From the **File** menu, click **Save, and close Notepad**.

Note: Steps 10-12 are only required if you wish to use the Template Gallery Item browse facility in Visual Studio.NET. You can manually enter paths for the TemplateFile property without editing DeveloperTools.xml. Once you edit DeveloperTools.xml you must restart Visual Studio .NET for the changes to take effect.

13. Open the applications in Internet Explorer or Visual Studio .NET to develop and test your MCMS applications as normal.

Links to Further Information

- MCMS News, Technical Articles, Code Samples, FAQs, KBs, White Papers
<http://www.mcmsfaq.com>
<http://www.mcmsfaq.com/rss.asp>
- Stefan Goßner's Blog
http://blogs.msdn.com/stefan_gossner
- MCMS Installation Guide
http://www.microsoft.com/cmserver/cms_installing.htm
- MCMS FAQ
[http://download.microsoft.com/download/4/2/5/4250f79a-c3a1-4003-9272-2404e92bb76a/MCMS+2002+-+\(complete\)+FAQ.htm](http://download.microsoft.com/download/4/2/5/4250f79a-c3a1-4003-9272-2404e92bb76a/MCMS+2002+-+(complete)+FAQ.htm)
- Accessing a MCMS Web site different from the Default Web site
[http://download.microsoft.com/download/4/2/5/4250f79a-c3a1-4003-9272-2404e92bb76a/MCMS+2002+-+\(complete\)+FAQ.htm#AF0A8BBF-1488-450F-ADD1-E555312ADEC9](http://download.microsoft.com/download/4/2/5/4250f79a-c3a1-4003-9272-2404e92bb76a/MCMS+2002+-+(complete)+FAQ.htm#AF0A8BBF-1488-450F-ADD1-E555312ADEC9)

Downloads Related to this Article

- WoodgroveNet Sample Site
<http://download.microsoft.com/download/a/a/1/aa121cac-2a05-4602-8416-233e7b6779ca/WoodgroveNet.zip>
- OTGWeb Sample Site
<http://download.microsoft.com/download/1/e/4/1e49e06c-73bb-497b-b4c0-1f7075467cf0/Enterprise%20Intranet%20Sites.msi>
- IIS Admin
<http://www.mindxpand.be/iisadmin/iisadmin.zip>
- MetaEdit 2.2
<http://download.microsoft.com/download/iis50/Utility/5.0/NT45/EN-US/MtaEdt22.exe>

