

Sitecore CMS 7.0

Installation Guide

Installation guide for administrators and developers

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Chapter 1

Introduction

This document describes how to install Sitecore CMS.

The document contains the following chapters:

- **Chapter 1 – Introduction**
  The chapter contains introduction to the Sitecore CMS 7 installation process
- **Chapter 2 – Sitecore CMS 7.0 Requirements**
  Sitecore CMS 7.0 installation requirements
- **Chapter 3 – Using the Sitecore Installation Program**
  The chapter describes how to use the Sitecore Installation Program
- **Chapter 4 – Installing from the .ZIP File**
  How to install Sitecore CMS 7.0 from the .ZIP file
- **Chapter 5 – Limitations and Specific Requirements**
  The information regarding limitations and requirements of Sitecore CMS 7.0
- **Chapter 6 – Post-Installation Steps**
  The chapter describes some necessary actions after installation
- **Chapter 7 – Appendix**
  The chapter contains the supplementary instructions that help to configure the environment

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1.1 Getting Started

For small implementations including developer workstations and testing environments, Sitecore CMS and the database server can be installed on a single computer. For larger implementations, the database server is typically separated from the application server. The content authoring environment for business users is also frequently separated from the content delivery environment that is accessed by internet users.

Sitecore can be broken down into three logical components regardless of whether a setup .exe file or a .zip file is used to install a new instance of Sitecore and regardless of the database technology that is used.

The three logical components are:

- IIS document root ("the Web site").
- Supporting file system for logs and data.
- Supporting relational databases. The databases are often stored under the supporting file system.

Configuration is managed by files such as `web.config` and the files under the `/App_Config` folder.

For information about hardening security when Sitecore is installed, see the *Security Hardening Guide*.

The Sitecore CMS can be distributed in two ways:

- As an executable installation program — `.exe` file(s).
- As an archived copy of a Sitecore CMS solution in a file system — a zip file.

The installation program should be used whenever possible. It contains a wizard, which guides you through the installation process.

Using the installation program requires considerably less manual effort than configuring the zip file.

You can create an archive of your Sitecore CMS solution to move it from one computer to another.

Please contact http://support.sitecore.net/helpdesk/ for assistance or to report any discrepancies between this document and the product.

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1.2 Preparing to Install Sitecore CMS 7.0

There are several ways to install Sitecore. They depend on your choice of database technologies, the server administrator's preferences, and the environment you want to run — development, testing, content authoring, content delivery, and so on.

Before installing Sitecore CMS, you should decide on the:

- Project name and acronym, for instance ProjectName.
- Acronym/prefix, for instance PN.
- Target installation file system root, for instance `C:\inetpub\wwwroot\ProjectName`.
- Database technology — SQL Server 2008 R2 SP1, SQL Server 2012 or SQL Express.
- Database location — locally or on a remote server.
- Appropriate Sitecore CMS license.
- Hardware.
- Administrative access to computers and databases.
- Access to Sitecore Developer Network (http://sdn.sitecore.net) — contact a local sales office or partner manager.
- IIS configuration — host headers, and so on.

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Chapter 2

Sitecore CMS 7.0 Requirements

This chapter describes the prerequisites, hardware, and software requirements for Sitecore CMS 7.0 host and client computers. In this document, the term *server* refers to a Windows OS Web server and the term “host” refers to an installation of Sitecore CMS on either a server or a workstation.

This chapter contains the following sections:

- Sitecore Hosting Environment Requirements
- Sitecore Client Requirements

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2.1 Sitecore Hosting Environment Requirements

Sitecore CMS 7.0 has some specific requirements towards the operating system, Web Server, .NET, Visual Studio and database server.

2.1.1 IIS Requirements

Sitecore CMS can be hosted on the following IIS versions running on supported operating systems:

- IIS 7.0
- IIS 7.5
- IIS 8.0

You must use the version of IIS that is supported by your operating system. For more information about IIS and operating systems, see Microsoft's documentation.

Sitecore CMS does not support any other ASP.NET web servers such as Visual Studio Cassini, IIS Express, or Mono Web Server.

Important
Sitecore neither supports nor permits multiple IIS website definitions pointing to the same Sitecore web root.

2.1.2 Operating System Requirements

Sitecore CMS 7.0 is compatible only with those Client and Server Operating Systems, which support .NET Framework 4.5. Sitecore CMS can be hosted on the following Microsoft operating systems:

- Windows Server 2008 (32/64-bit) SP2+
- Windows Server 2008 R2 (32/64-bit) SP1+
- Windows Server 2012 (32/64-bit)
- Windows Server 2012 R2 (32/64-bit)
- Windows Vista (32/64-bit) SP2+
- Windows 7 (32/64-bit, Home Premium and higher) SP1+
- Windows 8 (32/64-bit, Professional and higher)

Important
Visit Windows Update — http://windowsupdate.microsoft.com — and install all the appropriate service packs and security updates on all of your Sitecore CMS host and client computers.

Windows 7

Sitecore CMS supports the following editions of the Windows 7 operating system:

- Ultimate
- Professional
- Enterprise

It is possible to run Sitecore on Windows 7 Home Premium if you install IIS 7.5 on it. For more information about installing IIS 7.5 on Windows 7 Home Premium, see the following article:

- Installing IIS 7.5 on Windows 7 Home Premium, Home Basic, or Home Starter.

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For more information about the feature limitations in the various Windows 7 editions, see the following article:

Available Web Server (IIS) Role Services in IIS 7.5

Windows Vista

Sitecore CMS supports the following editions of the Windows Vista operating system:

- Business
- Ultimate
- Enterprise

The other editions of Vista, such as Home Basic, have IIS server limitations. For more information about IIS configuration on different editions of Windows Vista, see the following articles:

- Why you need Vista Business / Ultimate for IIS 7?
- IIS 7.0 Features and Vista Editions

2.1.3 .NET Framework Requirements

Sitecore CMS 7 requires .NET Framework 4.5.

Any available updates to the .NET Framework should be applied to every Sitecore host.

2.1.4 Visual Studio Requirements

Sitecore CMS 7 requires Visual Studio 2012

The Sitecore code is compiled in .NET 4.5 and you must therefore use Visual Studio 2012 to compile your projects.

2.1.5 Database Requirements

Sitecore CMS supports the following database servers:

- MS SQL Server 2008 R2 SP1.
- MS SQL Server 2012.
- Oracle Database 11g R2 (11.2) or higher.

Note
Sitecore recommends running the database on a separate server from the web server.

Note
Oracle is supported starting from Sitecore CMS 7 Update-1.

2.1.6 Hardware Requirements for a Server Running a Single Sitecore Installation

We recommend the following hardware requirements:

- 4 core processor
- 4 GB of RAM

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Note
The recommended hardware requirements are for running the software on a single computer. For more information about running Sitecore on different kinds of hardware, consult your Sitecore partner or Technical Sales Representative.

2.1.7 Antivirus Software Considerations

Some antivirus software can have a detrimental effect on the performance of ASP.NET applications including Sitecore. We therefore recommend that you use only antivirus scanners that are certified for the operating system that you use. For more information about the certified products, see the Windows Server Catalog website.

To ensure optimal performance, exclude the following folders from scanning by your antivirus software:

- The site root folder.
- The data folder that is defined in the `<sc.variable name="dataFolder" ... />` setting in the `web.config` file.
- The folder that contains the actual Sitecore database files.
- The `C:\Windows\Temp` or `{app_pool user profile}\Temp` folder.

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2.2 Sitecore Client Requirements

This chapter describes requirements towards the software and hardware.

2.2.1 Software Requirements

Browser

Sitecore CMS clients are browser-based user interfaces. Sitecore clients can run on the following browsers:

- Microsoft Internet Explorer 11 (CMS 7.0 Service Pack-1, originally released as 7.0 Update-5)
- Microsoft Internet Explorer 10
- Microsoft Internet Explorer 9
- Microsoft Internet Explorer 8
- Mozilla Firefox 17+ (latest supported version by Mozilla)
- Google Chrome 25+ (current supported version by Chrome)
- Apple Safari 6 for Mac OS (Windows is not supported by Apple)

- IE8 compatibility – not supported
- IE8 normal – supported
- IE9 compatibility – supported
- IE9 normal – supported
- IE10 compatibility – supported
- IE10 normal – supported

Note
To use the Page Editor, Preview, or the Sitecore Debugger in Microsoft Internet Explorer 9, you must enable Compatibility View mode in the browser. For more information about IE 9 support, see the known issue on SDN.

Sitecore CMS 7 supports all current stable versions of these browsers unless stated otherwise.

For more information about configuring a browser, see the manual *Browser Configuration Reference*.

Silverlight

If you want to install Sitecore DMS, you must also install Microsoft Silverlight 4 or later.

2.2.2 Hardware Requirements

- Processor: Intel Pentium 4 2GHz or faster processor.
- RAM: 512 MB minimum. 1GB – recommended.
- TCP/IP connection at 512Kbps or faster to the Sitecore CMS host.
- 1024x768 or greater screen resolution required for advanced operations.

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You do not need to install any additional software on the Sitecore CMS clients that access Sitecore CMS servers.

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Chapter 3

Using the Sitecore Installation Program

This chapter describes how to use the installation program to install Sitecore CMS.

You can download the Sitecore installation program from the Sitecore CMS Downloads page.

This chapter contains the following sections:

- Windows Vista / Windows 7 Pre-installation Steps
- Installation Process
- Uninstalling Sitecore
- Troubleshooting

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3.1 Windows Vista / Windows 7 Pre-installation Steps

Before you can install Sitecore on Windows Vista or Windows 7, you must enable the *Detect application installations and prompt for elevation* UAC (User Account Control) configuration security policy.

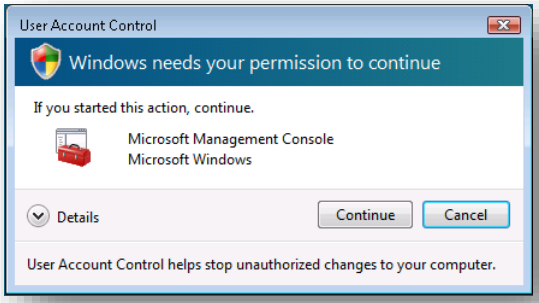
3.1.1 The UAC (User Account Control) Configuration

To run the installation program on Windows Vista or Windows 7, the UAC (User Account Control) configuration security policy *Detect application installations and prompt for elevation* must be enabled (this setting is enabled by default).

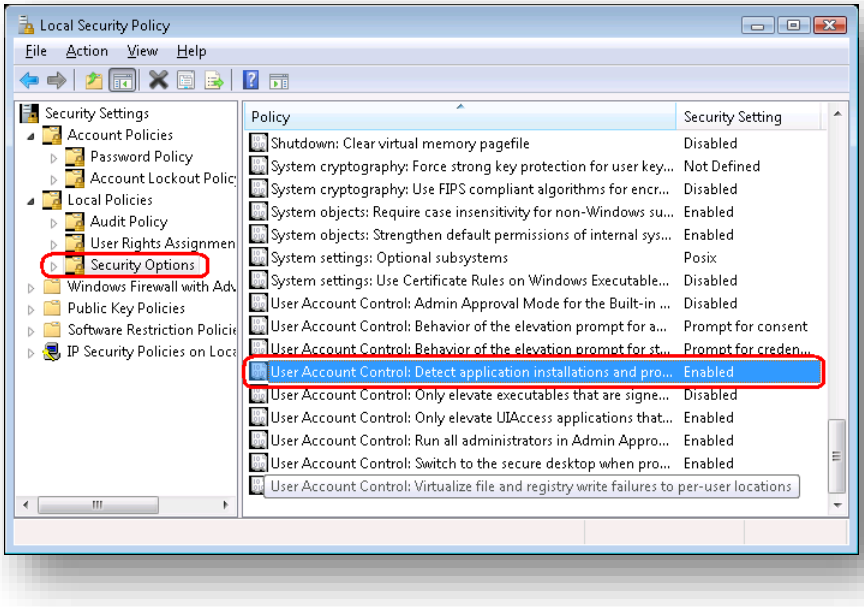
To check if this setting has been changed on your machine:

1. Log in as an administrator.
2. Press WIN + R to open the **Run** window.
3. In the **Run** window, enter *secpol.msc* and press ENTER.

   The UAC (User Account Control) requests your permission to continue.



4. Click **Continue** to open the **Local Security Policy** window.



5. In the left-hand pane, expand the *Local Policies* node and select *Security Options*.
6. In the right-hand pane, scroll to the bottom of the list of policies.

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7. Verify that the *User Account Control: Detect application installations and prompt for elevation* policy is set to *Enabled*.

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3.2 Installation Process

To start the installation process, you must launch the **Sitecore 7.0. rev.XXXXXX.exe** application, which starts the installation wizard. This section describes the steps in the wizard.

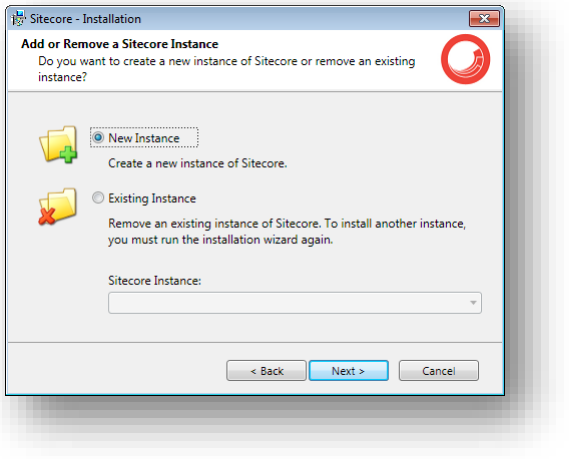
Note
The Sitecore CMS configuration files are automatically modified according to the settings provided in the wizard.

Welcome screen



Review the welcome screen and click **Next**.

Upgrade or New Instance

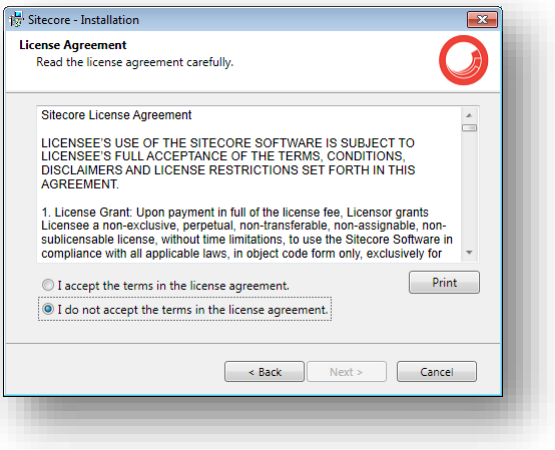


Select the **New Instance** option to *install a new instance*.

Select the **Existing Instance** option to *remove an existing instance of Sitecore CMS*. This option is only active when an instance of Sitecore already exists on the machine.

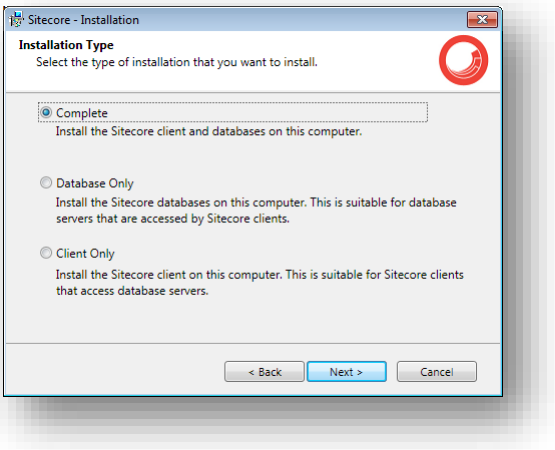
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License Agreement



Read the license agreement and select the appropriate option. Click **Next**.

What to Install?



Select the type of installation that you want:

- Complete (client and database). This mode installs both the Sitecore databases and the Sitecore client on the local computer.
- Database only. This mode only installs the Sitecore databases.
- Client only. This mode installs everything except the databases.

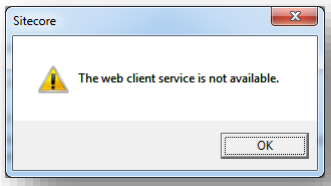
3.2.1 Full Mode (client and database)

This mode installs both Sitecore databases and Sitecore client on the local computer.

In the Installation Type window, select the **Complete** option.

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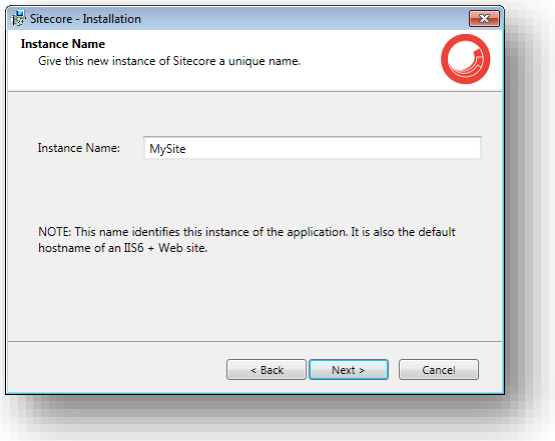
To install Sitecore WebDAV features you must have the WebClient service on your computer. If the WebClient service is not available, the following message appears:



Disregard this message if you do not want to install WebDAV features.

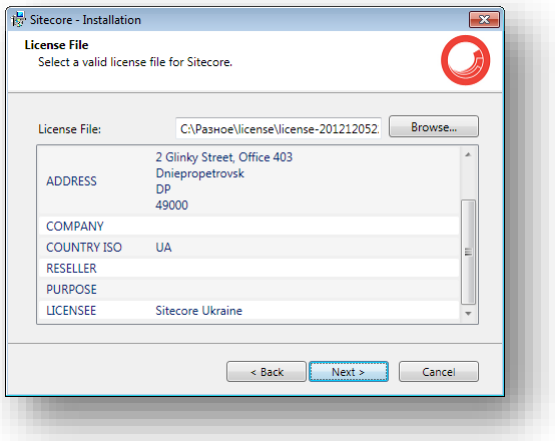
Click **Next**.

Instance Name



Give a unique name to this new instance of Sitecore CMS. If you choose to create a new site in a later step, this name is also used as the hostname of an IIS web site.

License File



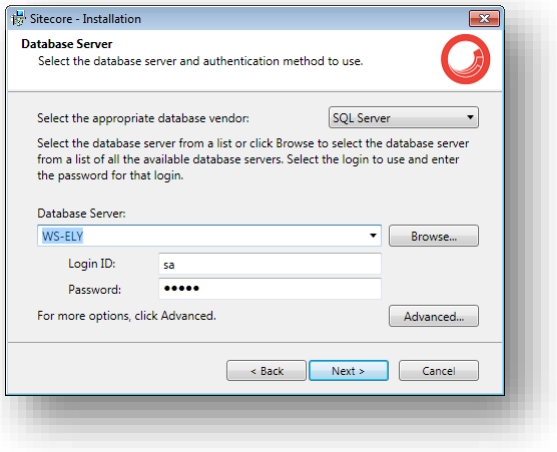
Browse to the license file that you want to use. Click **Next**.

Database Server

Select the database server.

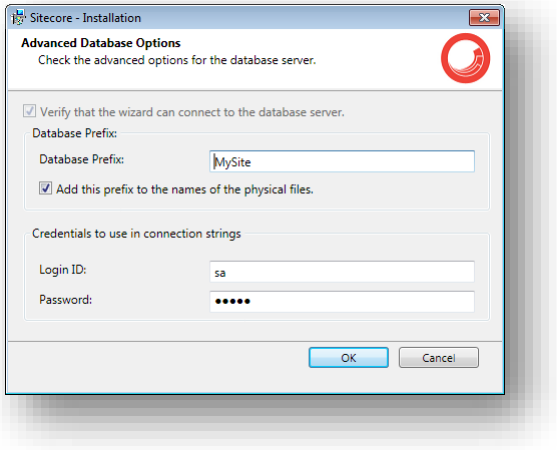
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If you select SQL Server, you see the following **Database Server** dialog box:



Select the database vendor. Select the database server from a list or click **Browse** to see a list of all the database servers available. Enter the login id (SQL server user name) and the corresponding password. The installation program will use these credentials to access SQL server.

To set the database prefix options, click **Advanced** and the **Check the advanced options of the database server** dialog box appears:



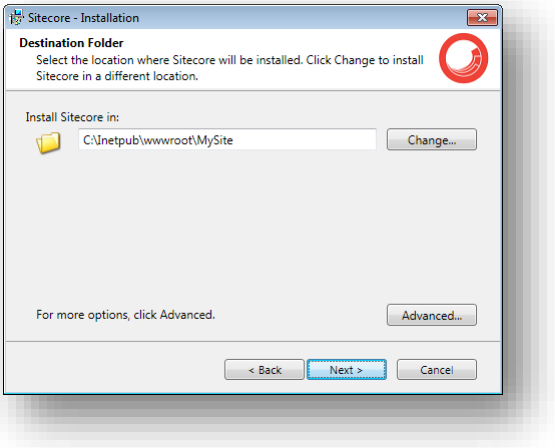
Specify the database prefix for this instance of Sitecore CMS and select whether to prefix physical files or not.

Enter the login id (SQL server user name) and corresponding password. Sitecore applications will use these credentials to access the SQL server. Click **OK**.

Click **Next**.

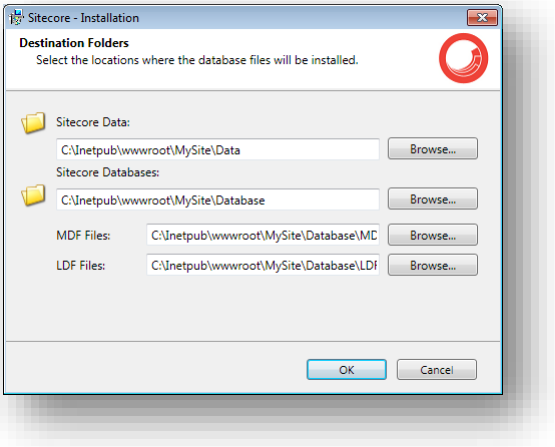
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Destination Folder



Select the folder where Sitecore CMS web site will be installed.

To change the database folder and the folder where various data files will be stored — log files, packages, and so on — click **Advanced** and the **Destination Folders** dialog box appears:



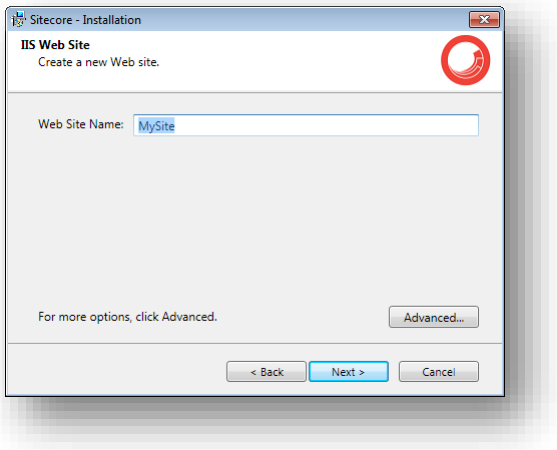
Enter new destination folders and click **OK**.

Click **Next**.

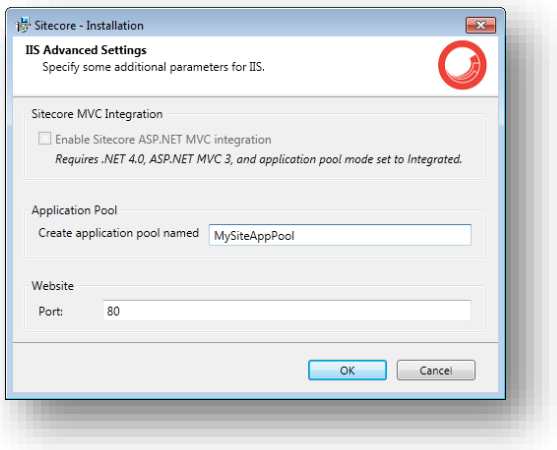
Note
Make sure that SQL server has the permissions to write to the destination folder.

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IIS Web Site



Enter the name of the new website. Click **Advanced** to enable Sitecore ASP.NET MVC integration, edit a website port, application pool name and its mode and .NET Framework version.

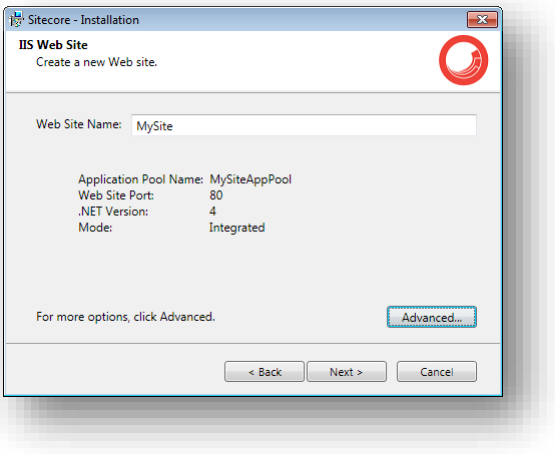


Important
To enable Sitecore ASP.NET MVC integration, you must have Microsoft ASP.NET MVC 3 installed before you run the installation program. To install ASP.NET MVC 3, use the Web Platform Installer.

Click **OK**.

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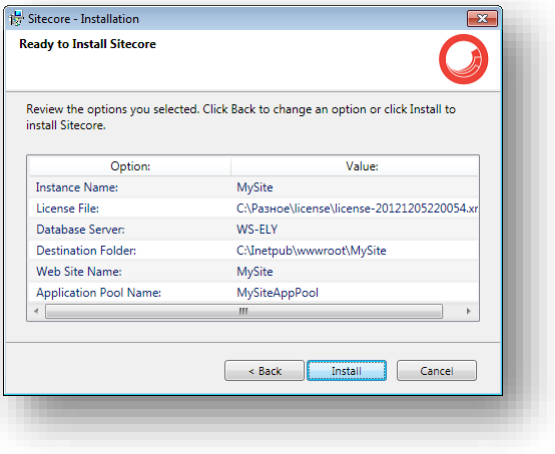
If you select the **Enable Sitecore ASP.NET MVC Integration** checkbox, the IIS Web Site dialog box will reflect that in the **Sitecore MVC Integration** field:



Click **Next**.

Note
If you did not set these options during your Sitecore 7.0 installation, you can do this later using the Microsoft Windows IIS Manager tool to verify or set the application pool for your new Sitecore web site to .NET Framework 4.0.

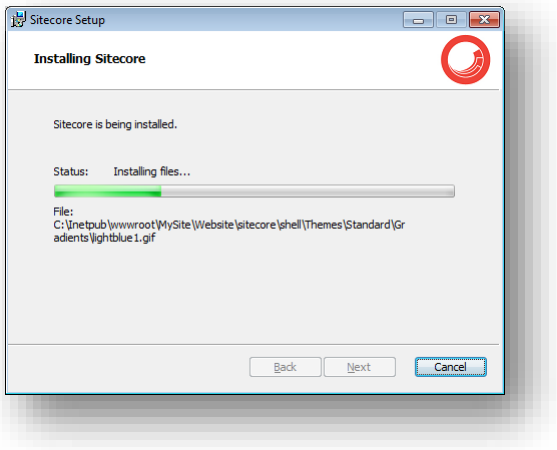
Ready to Install Sitecore



Review the options you selected. Click **Install** to install Sitecore CMS.

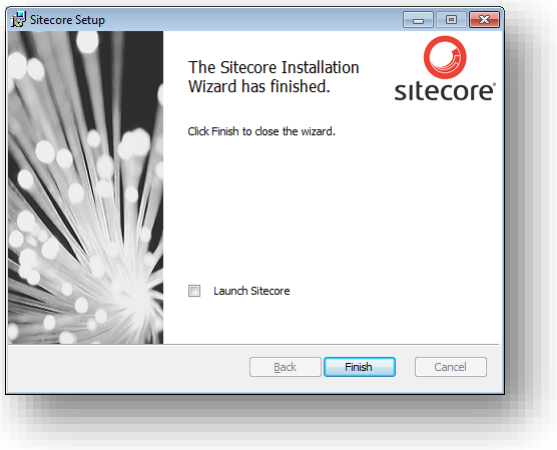
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Installing Sitecore



After you click **Next**, you see a progress window which informs you about the installation process.

Finish



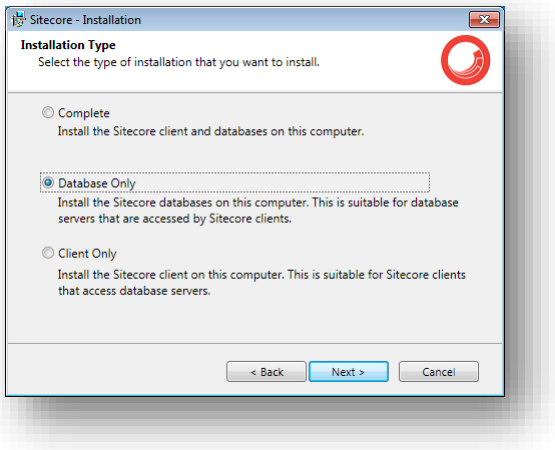
The Sitecore Installation Wizard has finished. Click **Finish** to exit the wizard.

3.2.2 Databases Only Installation Mode

This section describes the Databases Only installation mode. This mode only installs Sitecore databases.

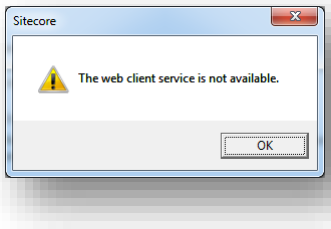
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What to Install?



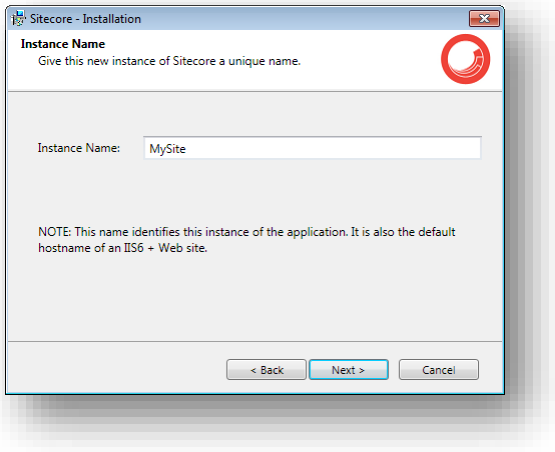
Select the **Databases only** option to only install the databases.

To install Sitecore WebDAV features you must have the WebClient service on your computer. If not, the following message appears:



Disregard this message if you do not want to install WebDAV features.

Instance Name



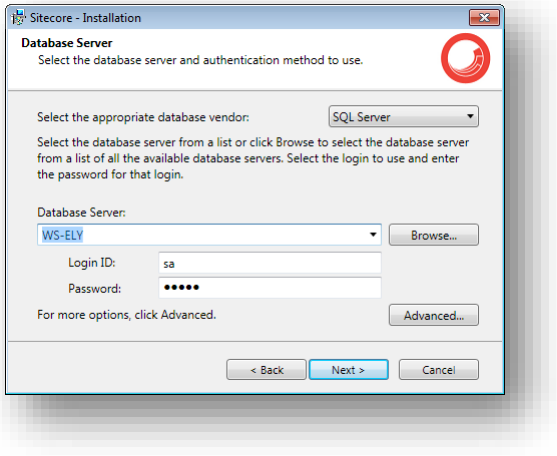
Give this new instance of Sitecore CMS a unique name. If you choose to create a new site on a later step, this name is also used as the hostname of an IIS web site.

Database Server

Select the database server.

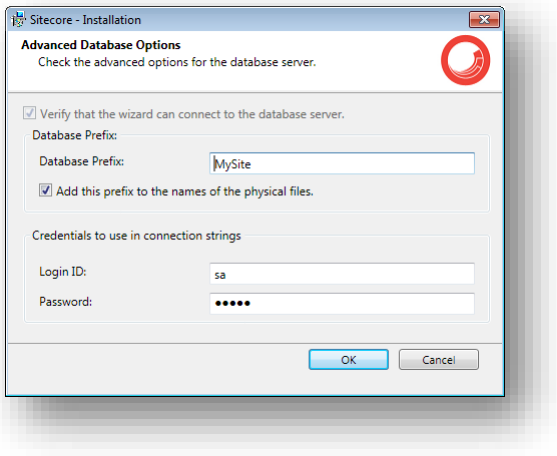
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If you select SQL server, you see the following **Database Server** dialog box:



Select the database server from a list or click **Browse** to see a list of all the database servers that are available. Enter the login ID — SQL server user name — and the corresponding password.

To set the database prefix options, click **Advanced** and the **Check the Advanced options of the database server** dialog box appears.

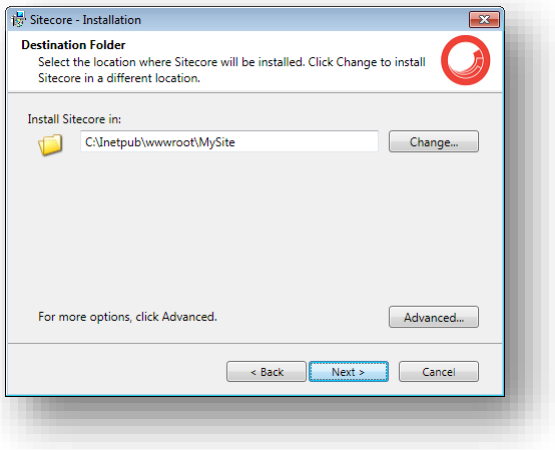


Specify the database prefix for this instance of Sitecore CMS and select whether to prefix physical files or not. Click **OK**.

Click **Next**.

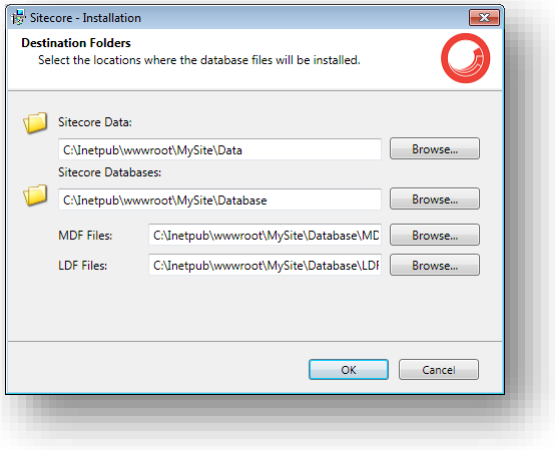
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Destination Folder



Select the location where the databases will be installed.

To change the database folder and the folder where various database files will be stored, click **Advanced**. The **Destination Folders** dialog box appears:

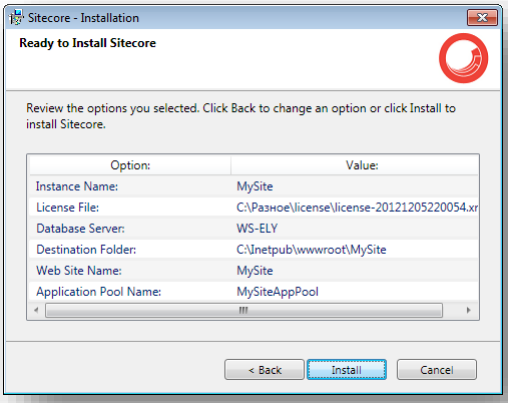


Enter destination folders and click **OK**.

Click **Next**.

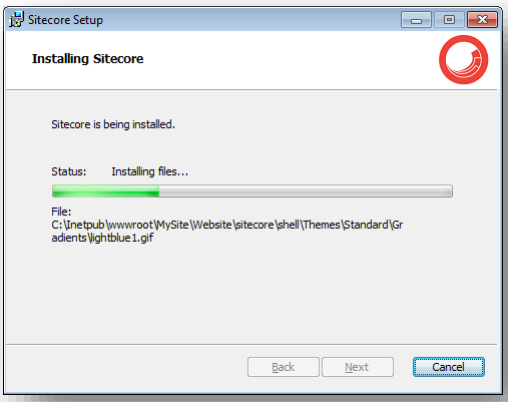
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Ready to Install Sitecore



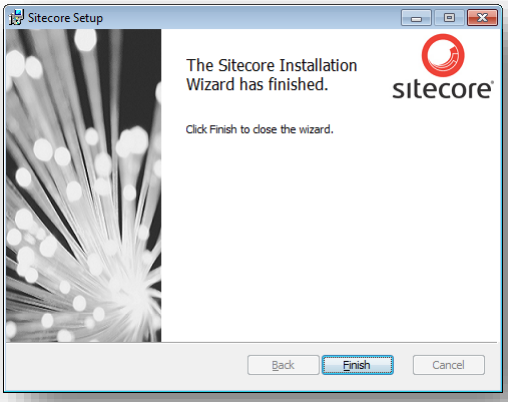
Review the options you selected. Click **Install** to install Sitecore CMS.

Installing Sitecore



After you click **Next,** you see a progress window which informs you about the installation process.

Finish



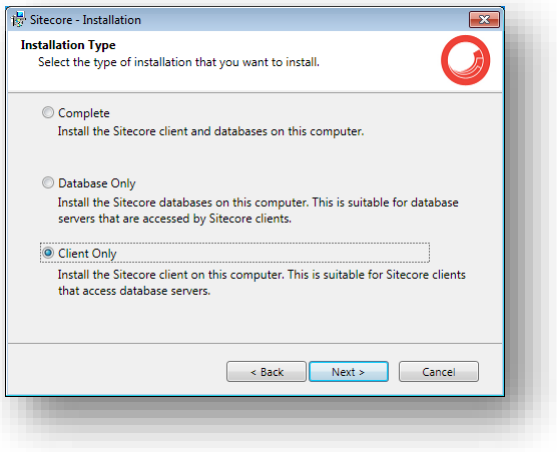
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The Sitecore Installation Wizard has finished installation. Click **Finish** to exit the wizard.

3.2.3 Client Only Installation Mode

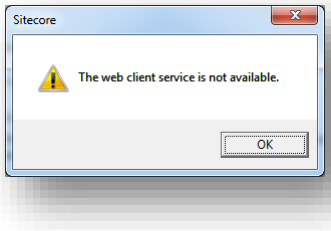
This section describes the Client Only installation mode. This mode installs everything except databases.

What to Install?



Select the **Client only** check box.

To install Sitecore WebDAV features you must have the WebClient service on your computer. If not, the following message appears:

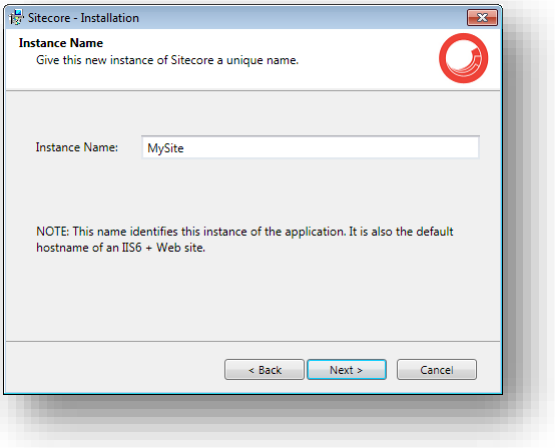


Disregard this message if you do not want to install WebDAV features.

Click **Next**.

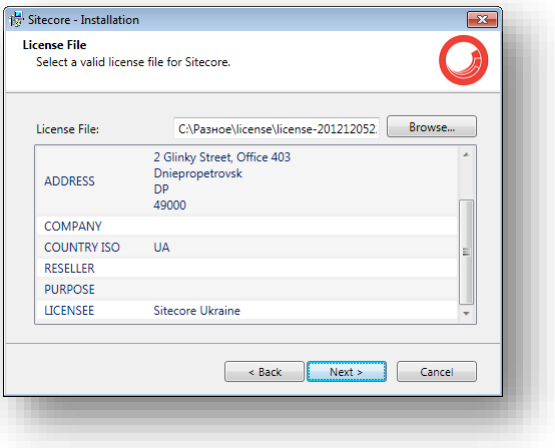
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Instance Name



Give a unique name to the new instance of Sitecore CMS. If you choose to create a new site on a later step, the hostname of an IIS web site will also use this name.

License File



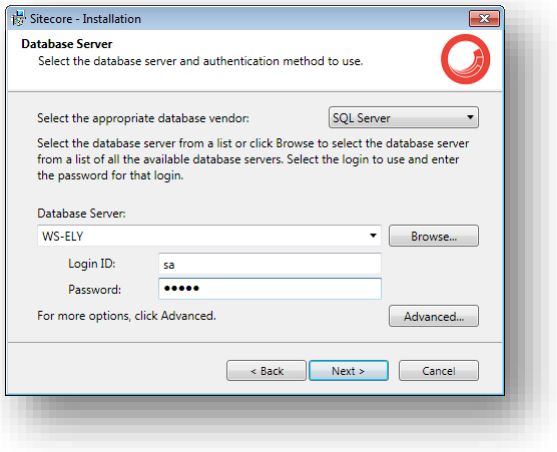
Select the license file. Click **Next**.

Database Server

Select the database server.

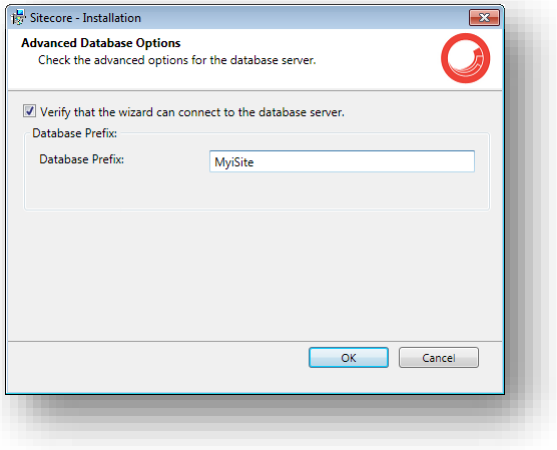
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If you have selected SQL server, you see the following **Database Server** dialog box:



Select the database vendor. Select the database server from a list or click **Browse** to see a list of all the database servers available. Enter the login id — SQL server user name — and the corresponding password. The installation program will use these credentials to access the SQL server.

To set the database prefix options, click **Advanced** and the **Check the advanced options of the database server** dialog box appears.

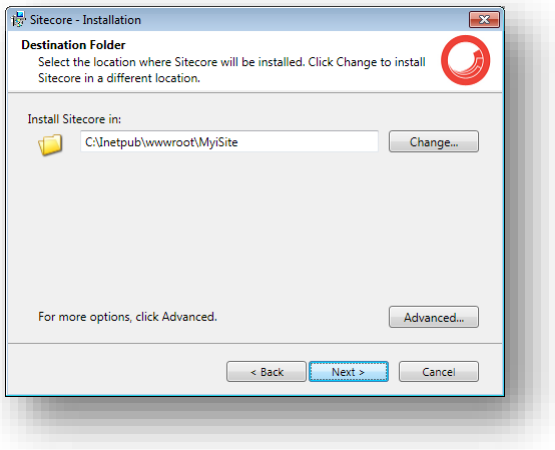


Specify the database prefix for this instance of Sitecore CMS and select whether to prefix physical files or not. Click **OK**.

Click **Next**.

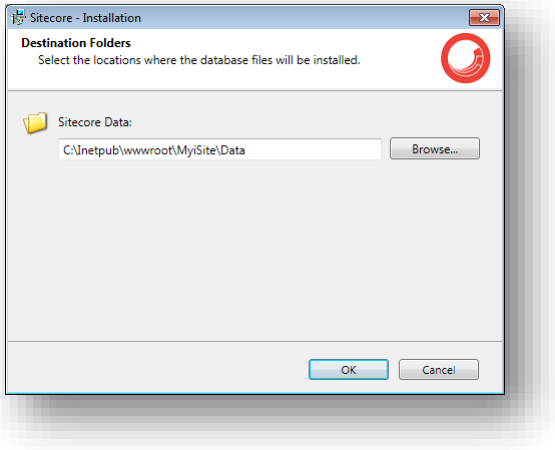
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Destination Folder



Select the location where Sitecore will be installed.

To change the database folder and the folder where various database files will be stored, click **Advanced** and the **Destination Folders** dialog box appears:

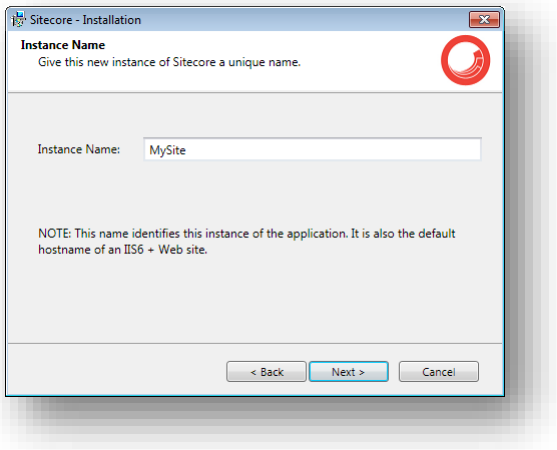


Enter destination folders and click **OK**.

Click **Next**.

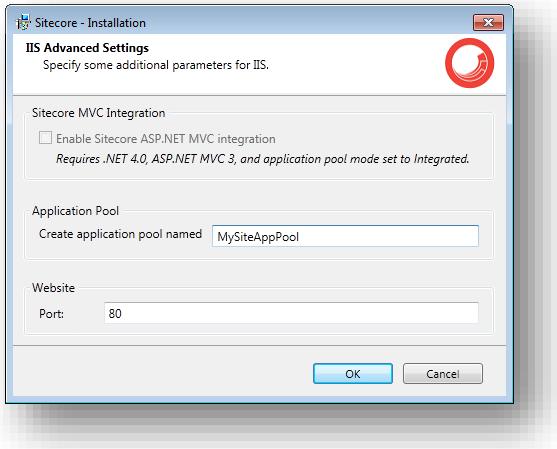
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IIS Web Site



Enter the name of the new website.

Click **Advanced** to enable Sitecore ASP.NET MVC integration, edit a website port, application pool name and mode, .NET Framework version.



Important
To enable Sitecore ASP.NET MVC integration, you must have Microsoft ASP.NET MVC 3 installed before you run the installation program. To install ASP.NET MVC 3, use the Web Platform Installer.

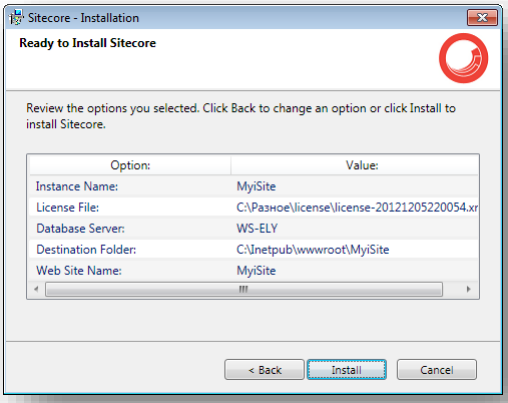
Click **OK**.

Click **Next**.

Note
If you did not set these options during your Sitecore 7.0 installation, you can do this later using the Microsoft Windows IIS Manager tool to verify or set the application pool for your new Sitecore web site to .NET Framework 4.0.

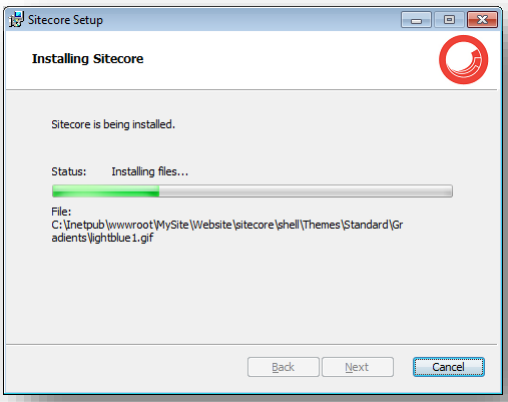
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Ready to Install Sitecore



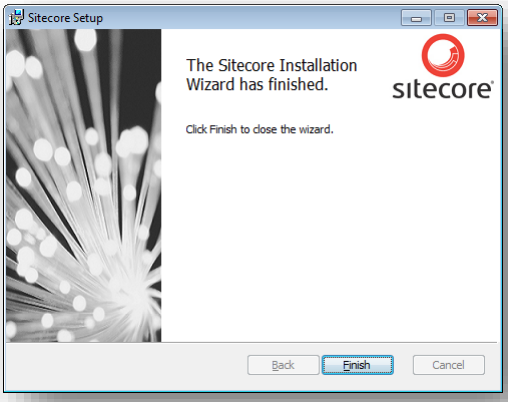
Review the options you selected. Click **Install** to install Sitecore CMS.

Installing Sitecore



After you click **Next,** you see a progress window which will inform you about the installation process.

Finish



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The Sitecore Installation Wizard has finished installation. Click **Finish** to exit the wizard.

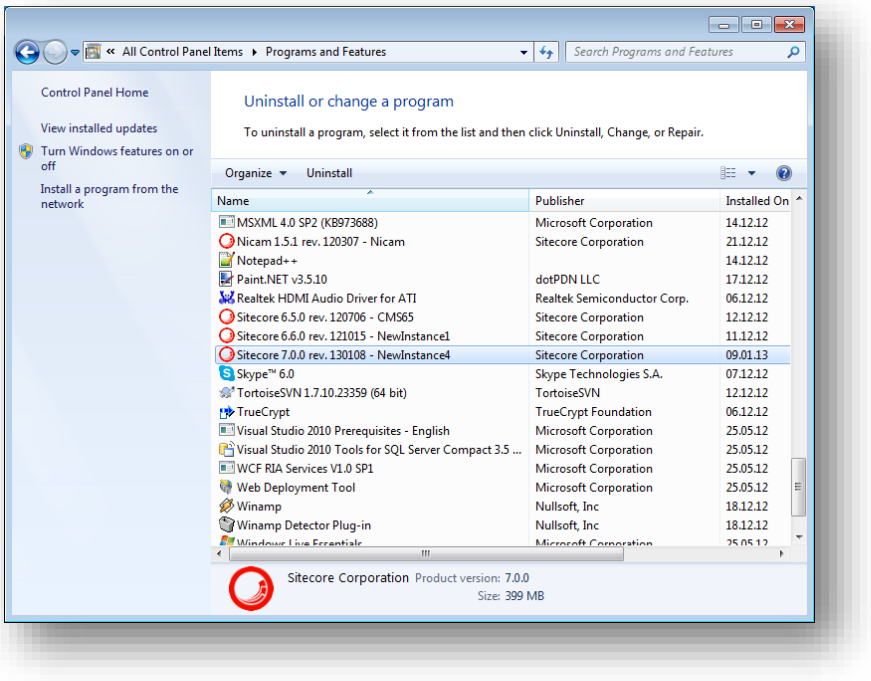
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3.3 Uninstalling Sitecore

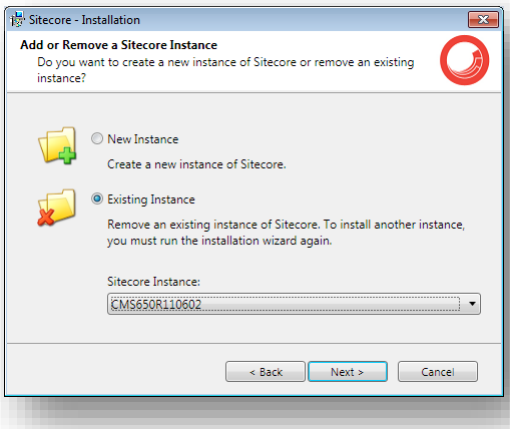
To start the process of uninstalling Sitecore, perform one of the following actions:

- Open Windows Control Panel and select the **Programs and Features** option.

  In the **Uninstall or change a program** window, locate the appropriate entry, right-click it and then click **Uninstall**:



- Launch the **Sitecore 7.X rev.XXXXXX.exe** application, in the **Add or Remove Sitecore Instance** step; select **the Existing Instance** check box.



After uninstalling Sitecore, restart the SQL Server and IIS services as appropriate.

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3.4 Troubleshooting

If the installation program fails

If the installation program fails, archive the log file and attach it to your support request.

If the installation program fails after you click **Install** in the **Ready to Install** dialog box, the log file is automatically created at: `%TEMP%\SitecoreInstaller.log`.

Note
The log file is recreated during each installation. You should therefore copy it right after an unsuccessful installation. Otherwise the file will be overwritten.

"Database '...' cannot be upgraded" error message while using SQL Server

When using SQL Server the installer returns the "Database '...' cannot be upgraded" error message, the user account configured to run the SQL server application must have Full access permissions to the website root folder. Typically, the SQL server application runs in the context of the NETWORK SERVICE account.

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Chapter 4

Installing from the .ZIP File

This chapter describes how to install Sitecore CMS using the ZIP archive of the Web site root. You can download the ZIP archive from the following page:

http://sdn.sitecore.net/SDN5/Resources/Sitecore%207/Sitecore%20CMS.aspx

This chapter contains the following sections:

- Installation Process Overview
- Configuring Folder and Registry Permissions
- Configuring the IIS
- Microsoft SQL Server Configuration
- Uninstalling Sitecore (ZIP installation)

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4.1 Installation Process Overview

This section describes how to install Sitecore from a ZIP archive of the Sitecore CMS site root.

You can download the Sitecore CMS ZIP archive from the following page:

http://sdn.sitecore.net/SDN5/Resources/Sitecore%207/Sitecore%20CMS.aspx

To install an instance of Sitecore:

1. Install Microsoft .NET Framework v4.5.
2. Choose a parent directory path for the project, for example `C:\InetPub\ProjectName.`
3. Extract the `.zip` archive to create the following folders:

   ```
   C:\InetPub\ProjectName\Website
   C:\InetPub\ProjectName\Data
   C:\InetPub\ProjectName\Databases
   ```

4. Set permissions as described in **Section 4.2, Configuring Folder and Registry Permissions**.
5. To enable Sitecore ASP.NET MVC integration, perform the following actions:
   - Install ASP.NET MVC 3 using the Web Platform Installer.
   - Disable the `Web.config` file.
   - Rename the `Web.config.Mvc` file to `Web.config`.
   - In the `/Website/App_Config/` folder, enable the following files:

     ```
     Sitecore.Mvc.config
     Sitecore.MvcExperienceEditor.config
     Sitecore.MvcSimulator.config
     ```

     To use DMS with Sitecore MVC, also enable the `Sitecore.MvcAnalytics.config` file.
6. Place the appropriate `license.xml` file to the `/Data` folder. The location of the `/Data` folder is determined by the following setting in the `web.config` file:

   ```
   <sc.variable name="dataFolder" value="/data" />
   ```

   This setting should be changed to the absolute location of the folder, such as:
   `C:\InetPub\ProjectName\Data`
7. If you are running SQL Server, attach SQL databases from `/Databases` folder to the SQL server.
8. If you are running SQL Server, edit the `ConnectionStrings.config` file located in the `/Website/App_Config/` folder. Enter the appropriate values in a line for each database, for instance:

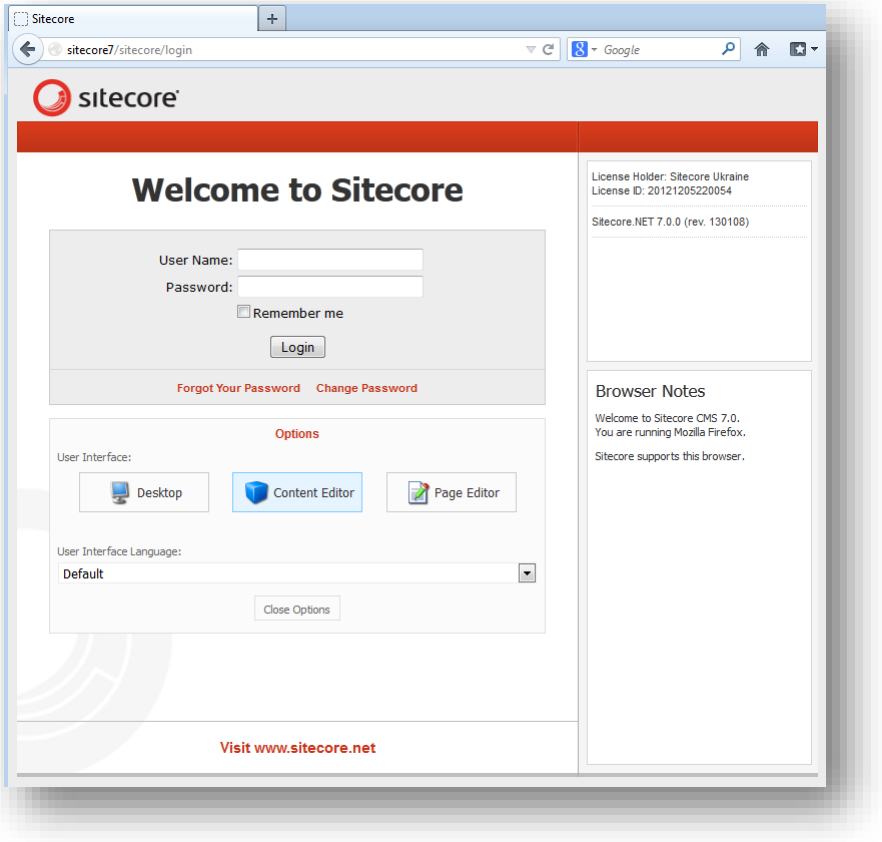
   ```
   <add name="core" connectionString="user
   id=_sql_server_user_;password=_user_password_;Data
   Source=_sqlserver_;Database=_core_database_name_" />
   ```

9. In the IIS, configure the web site as described in **Section 4.3, Configuring the IIS**.
10. Configure the Internet Explorer browser as described in Browser Configuration Reference.
11. Start the browser and enter the following address in the address bar:

    http://ProjectName/sitecore

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You should see the Sitecore login screen now:



The default password for the Admin user is “b”.

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4.2 Configuring Folder and Registry Permissions

This section describes the NTFS permissions for folders and files and Windows registry permissions required by Sitecore CMS for proper functioning. For practical advice on how to edit NTFS permissions and registry permissions, please refer to **Section 7.1, Server Configuration**, and to the MSDN web site and Windows help application.

4.2.1 File System Permissions for Anonymous Requests

Certain types of browser requests (generally for directory lookups and static resources) are executed with the permissions of the anonymous Internet user account. This account requires *Read* permissions to all files, folders, and subfolders under the `/Website` folder.

The following table contains the default name for this account in different versions of IIS:

IIS version	Default anonymous Internet user account name
7 and 7.5	IUSR

If IIS is configured not to use the default IUSR account for processing anonymous requests or Anonymous authentication is not enabled for the web site, the aforementioned permissions should be granted to the corresponding account(s).

4.2.2 File System Permissions for ASP.NET Requests

Requests for ASP.NET resources and all the .NET code running within the application is executed with the permissions of the account configured as an identity for the web site's application pool. This account requires *Modify* permissions to all files, folders, and subfolders under the `/Website` and `/Data` folders.

The following table contains the default account used for processing ASP.NET requests in different versions of IIS:

IIS version	Default ASP.NET account name
7	NETWORK SERVICE
7.5	AppPoolIdentity

IIS 6 and later versions allow changing the user account used for processing ASP.NET requests.

If you choose a different user account for processing ASP.NET requests, you must grant this account the aforementioned permissions.

Note
For more information about application pool identities and specifically about assigning rights to the AppPoolIdentity account, refer to the following article: http://learn.iis.net/page.aspx/624/application-pool-identities/

4.2.3 File System Permissions for System Folders

To be able to load .NET runtime and ASP.NET resources used for processing the ASP.NET requests, the worker process hosting the Sitecore CMS application requires access to multiple system files and folders that are not distributed as a part of the Sitecore CMS but installed as a part of Windows OS and .NET framework.

Most of these permissions are granted by IIS to all ASP.NET applications automatically making the application pool identity account a member of the *IIS_IUSRS* security group.

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However, on certain environments it is necessary to manually grant permissions for the application pool identity to the following system locations:

Default location	Required permissions	Comments
%WINDIR%\temp\	Modify	
%WINDIR%\Globalization\	Modify	Required for registering custom languages by the .NET Framework correctly
%PROGRAMDATA%\Microsoft\Crypto	Modify	Required for storing cryptographic keys used for encrypting/decrypting data

Note
ASP.NET and/or IUSR_* users require the modify access rights to the \temp folder to install Sitecore CMS.

These variables mentioned have the following default values:

Variable	Default value
%WINDIR%	C:\Windows
%PROGRAMDATA%	C:\ProgramData for IIS 7 and later

Note
For more information about built-in groups and accounts in IIS, refer to http://learn.iis.net/page.aspx/140/understanding-built-in-user-and-group-accounts-in-iis-7/

4.2.4 File System Permissions for SQL Server Files

If you are using SQL Server, the user account configured to run the SQL server application requires *Full access* to the `/Databases` folder containing MDF and LDF database files. Typically, the SQL server application runs within the context of the *NETWORK SERVICE* account.

4.2.5 Windows Registry Permissions

Sitecore CMS contains a built-in functionality that reads and updates the Windows performance counters that can be used for monitoring and troubleshooting the Sitecore application. This functionality requires access to Windows registry keys. This access can be granted by making the application pool identity a member of the built-in *Performance Monitor Users* group.

Note
If the required registry permissions are not granted, the “Access to the registry key 'Global' is denied” error will be written in the Sitecore log files whenever the application attempts to access Windows performance counters.

To avoid the error, you must prevent Sitecore from updating the performance counters. To do that, in the `web.config` file, set the “Counters.Enabled” setting to “false”.

Adding an Account to a User Group

To add a Windows account to a user group, use the `net localgroup` command.

For example, to add the *NETWORK SERVICE* account to the *Performance Monitor Users* group, run the following command on the server hosting the Sitecore CMS web application:

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```
net localgroup "Performance Monitor Users" /add "NETWORK SERVICE"
```

IIS reset is required for the changes to take effect.

For more information about the `net localgroup` command, refer to http://www.microsoft.com/resources/documentation/windows/xp/all/proddocs/en-us/net_localgroup.mspx

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4.3 Configuring the IIS

The following sections describe how to configure different versions of IIS (versions 7 and 7.5) for Sitecore CMS.

The following list shows which operating systems use which IIS versions:

- IIS 7 – Windows Server 2008, Windows Vista.
- IIS 7.5 – Windows Server 2008 R2 SP1, Windows 7.

Elbrus deprecates support for IIS Classic Mode. In other words, the setup.exe will not allow installing with Classic Mode. Customers and partners can manually change to Classic Mode if desired.

4.3.1 IIS 7

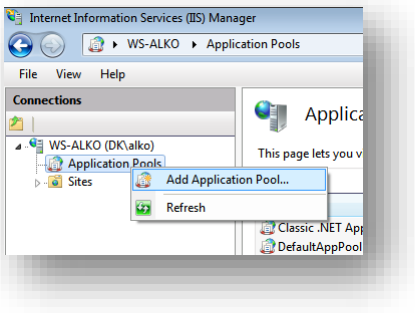
This section contains the instructions for IIS 7 and 7.5.

Create the Application Pool

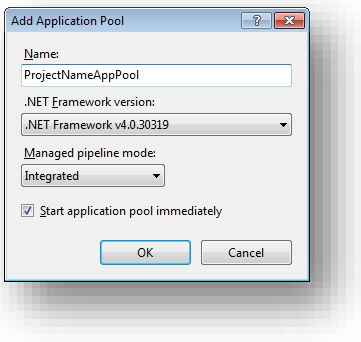
This section describes how to create the application pool for Sitecore on IIS7 or IIS7.5 (Windows 7, Windows Server 2008).

To create the application pool:

1. Start the **IIS Manager**.
2. In the **Connections** panel, select **Application Pools**.



3. Right-click **Application Pools** and click **Add Application Pool**.



4. In the **Add Application Pool** dialog box, enter the following values:

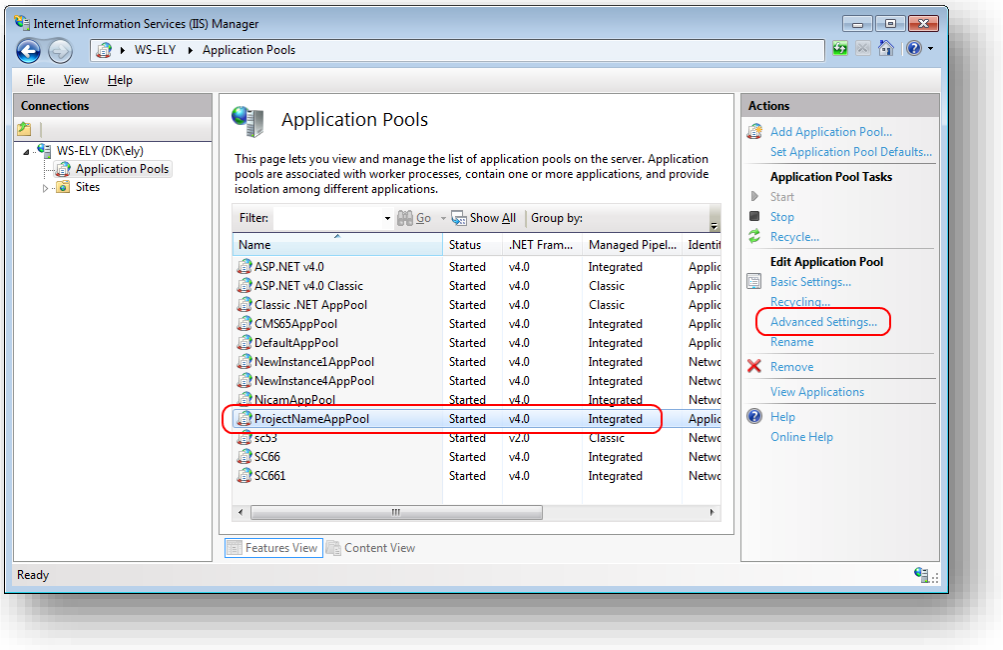
   Name: ProjectNameAppPool

   .NET Framework version: 4.0 XXXXX

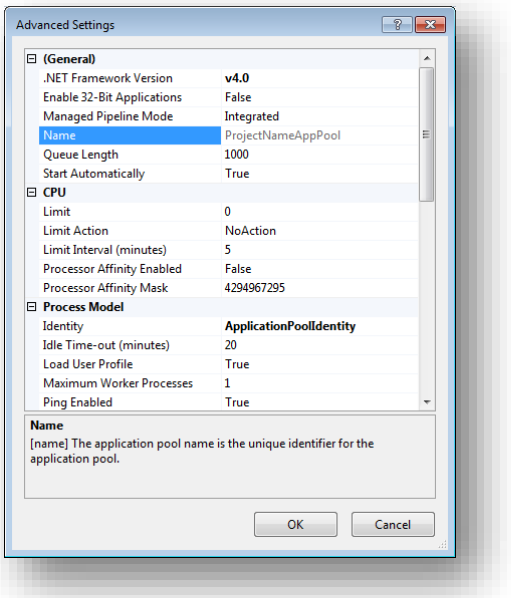
   Managed pipeline mode: Integrated.

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5. Click **OK**.
6. In the **Application Pools** panel, select the application pool you have just created.



7. In the **Actions** panel, click **Advanced Settings**.



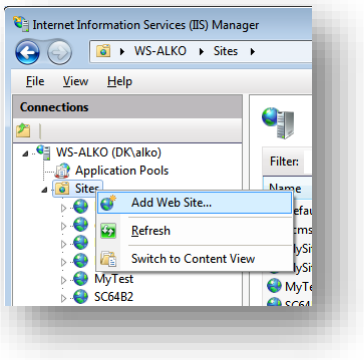
8. In the **Advanced Settings** dialog box:
   - Set the .NET Framework version to *v4.0.*
   - Set the **Identity** setting to the built-in account called *ApplicationPoolIdentity* or *NetworkService*.
   - Ensure that the **Maximum Worker Processes** setting is set to *1*.
   - Set the **Load User Profile** setting to *True*.

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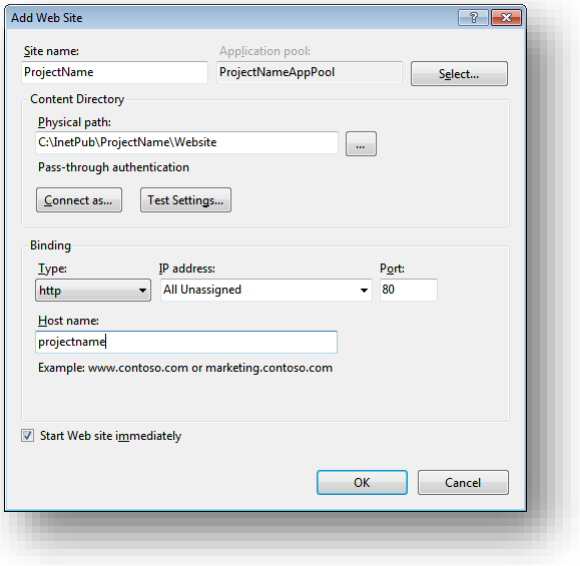
Create the Website

To configure the website:

1. Start the **IIS Manager**.
2. In the **Connections** panel, expand *Sites*.



3. Right-click *Sites* and then click **Add Web Site**.



4. In the **Add Web Site** dialog box, fill in the required fields, for example:

   Site name: ProjectName

   Application pool: ProjectNameAppPool

   Physical path: C:\InetPub\ProjectName\Website

   Host name: projectname

5. Click **OK**.
6. Add the following line to your `hosts` file that is located at `C:\Windows\System32\drivers\etc`:

   127.0.0.1 projectname

Now you can access your website by entering the *http://projectname* address in your browser.

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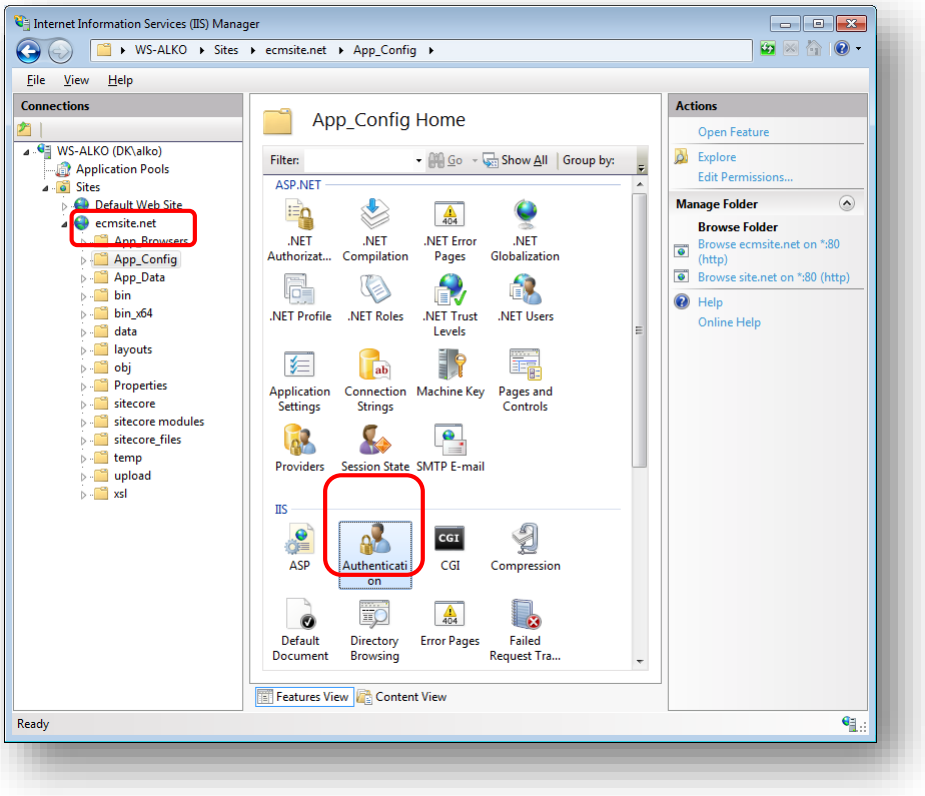
Limit Access to Anonymous Users

You should prevent anonymous users from accessing the following folders:

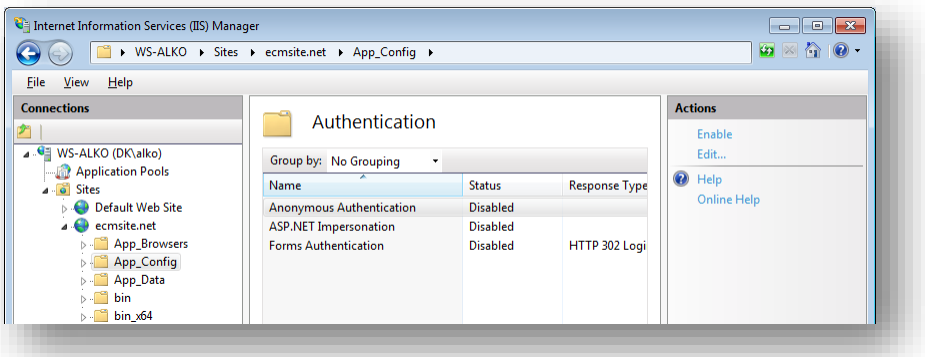
- /App_Config
- /sitecore/admin
- /sitecore/debug
- /sitecore/shell/WebService

For instance, to limit anonymous access to the /`App_Config` folder:

1. Open the IIS.
2. In the **Connections** panel, browse your Sitecore site and select the `/App_Config` folder.



3. In the **App_Config Home** panel, double-click **Authentication** to configure the authentication settings for this folder.
4. In the **Authentication** panel, ensure that the **Anonymous Authentication** is disabled.



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5. Repeat steps 2-4 for the other folders you want to secure.
6. Restart the IIS.

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4.4 Microsoft SQL Server Configuration

When you install Microsoft SQL Server, select **Mixed Mode** authentication (Windows Authentication and SQL Server Authentication).

If you have already installed MS SQL and you need to change the security authentication mode, refer to the following article:

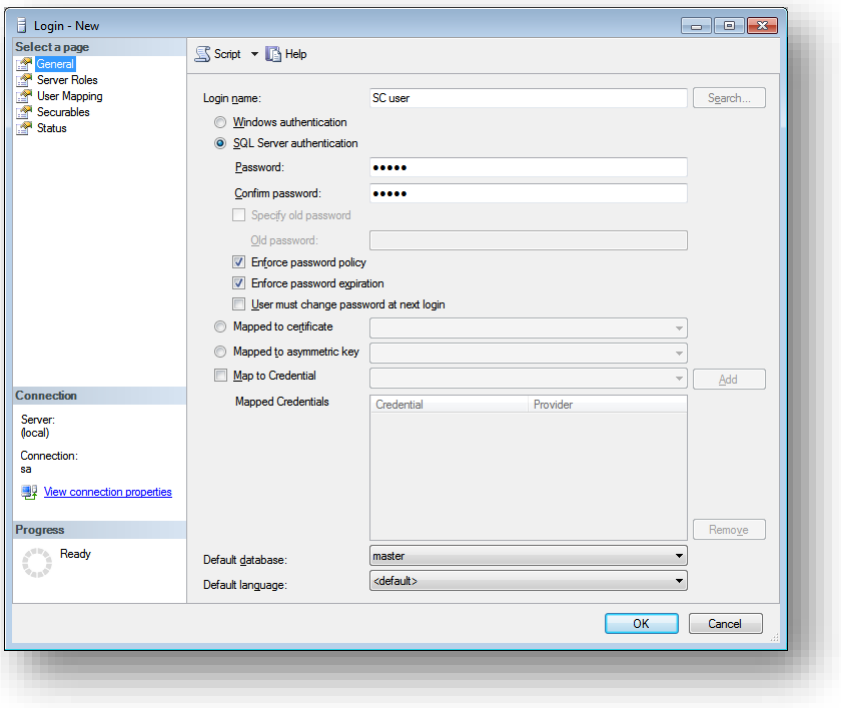
http://technet.microsoft.com/en-us/library/ms188670.aspx

Note
It is also possible to use Windows authentication to connect to the SQL server. For more information on connecting to the SQL server, refer to http://msdn.microsoft.com/en-us/library/ff647396.aspx

4.4.1 Creating a Database Account for Sitecore CMS Databases on SQL Server 2008

This section describes how to create a database account for Sitecore databases under SQL Server 2008 with the minimum required permissions.

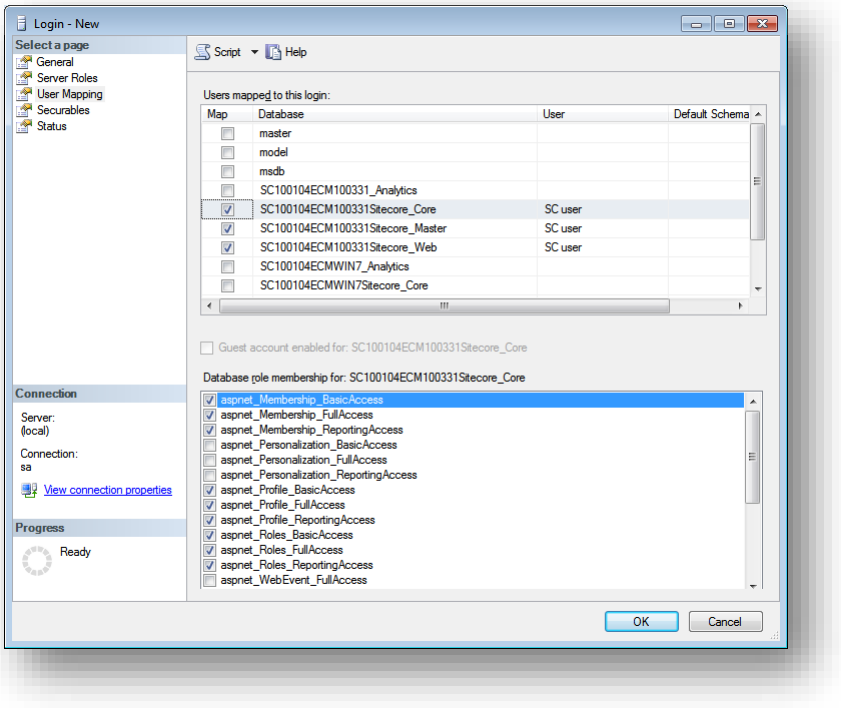
1. Start **SQL Server Management Studio**.
2. Make sure the Sitecore databases are attached.
3. In **SQL Server Management Studio**, in the **Object Explorer** pane, expand the *Security* folder.
4. Right-click the *Logins* folder and click **New Login** to create a new login.



5. In the **Login – New** window, select the **General** page and specify the login name.
6. Select the **SQL Server authentication** option and clear the **User must change password at next login** checkbox (this option is not supported on some Windows operating systems).

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7. Select the **User Mapping** page and in the **User mapped to this login** field, select the Sitecore databases.



8. In the **Database role membership for** field, select the following check boxes:

   For the Master and the Web databases:

   - db_datareader
   - db_datawriter
   - public

   For the Analytics database (if you have DMS installed):

   - db_datareader
   - db_datawriter
   - public

   For the *Core* database:

   - db_datareader
   - db_datawriter
   - public
   - aspnet_Membership_BasicAccess
   - aspnet_Membership_FullAccess
   - aspnet_Membership_ReportingAccess
   - aspnet_Profile_BasicAccess
   - aspnet_Profile_FullAccess
   - aspnet_Profile_ReportingAccess
   - aspnet_Roles_BasicAccess
   - aspnet_Roles_FullAccess

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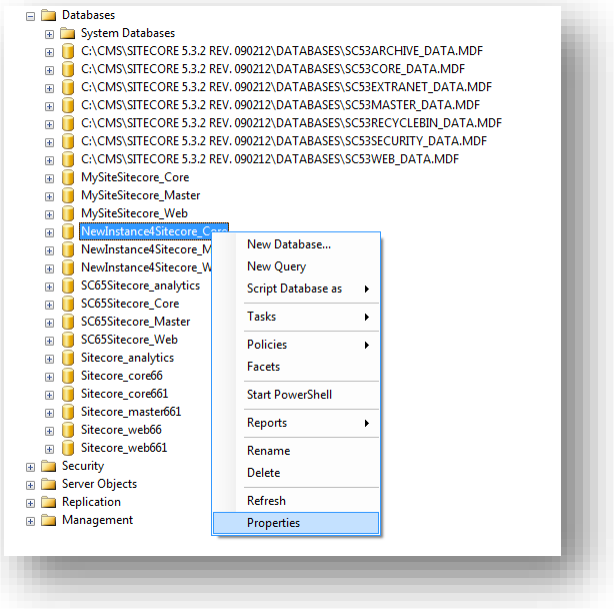
- aspnet_Roles_ReportingAccess

9. Click OK to create the user.

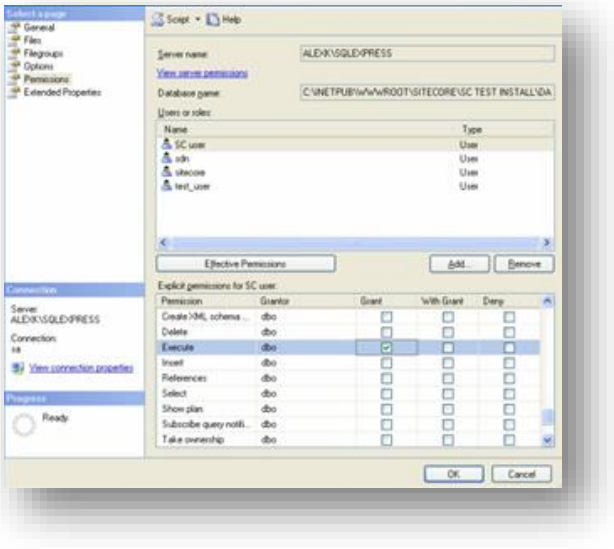
4.4.2 Granting Execute Rights to Stored Procedures

To grant execute rights to stored procedures:

1. In the **SQL Server Management Studio** window, expand Databases.



2. Right-click a Sitecore database and the click **Properties** and the **Database Properties** window appears.



3. In the **Database Properties** window, select the **Permissions** section and select the user that you want to grant rights to.
4. In the **Users or roles** field, select the user and in the **Explicit permissions for** field, in the **Grant** column give the user *Execute* permission.

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Repeat this procedure for the other Sitecore CMS databases, including the Analytics database if you have Sitecore DMS installed.

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4.5 Uninstalling Sitecore (ZIP installation)

Before uninstalling Sitecore, delete the IIS Web site or update it to reference a different directory, or stop IIS by executing the following command:

```
net stop w3svc.
```

Stop the SQL Server process:

- for SQL Server Express: `net stop "sql server (sqlexpress)"`
- for every other edition of SQL Server: `net stop "sql server (instancename)"`

Remove the Sitecore file system.

Remove any databases on remote or local servers that are used by this instance of Sitecore.

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Chapter 5

Limitations and Specific Requirements

This chapter describes various limitations and environment-specific requirements.

This chapter contains the following sections:

- Maximum Number of Worker Processes
- Miscellaneous

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5.1 Maximum Number of Worker Processes

Sitecore does not support configuration when the **Maximum number of worker processes** is set to two or higher. You must set this setting to “1”.

On multiple processor servers, this value may automatically be set higher than “1” when you install the OS/IIS. On these servers, it is therefore especially important to check this setting as it will likely be higher than "1".

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5.2 Miscellaneous

This section contains miscellaneous uncategorized requirements.

5.2.1 Install Latest Updates

Visit Windows Update — http://windowsupdate.microsoft.com — and install all the appropriate service packs and security updates on all of your Sitecore CMS host and client computers.

5.2.2 UNC Share Not Supported

Sitecore CMS must be installed on a local drive, not a UNC share.

5.2.3 Sitecore Cannot Operate from a Virtual Directory

Do not create a virtual directory for Sitecore as the product cannot operate from a virtual directory.

5.2.4 Install IIS Before Updating .NET Framework

To reduce the number of ASP.NET configuration issues on Sitecore hosts, install IIS before installing or updating the .NET framework.

If you have installed or updated .NET framework before installing the IIS, refer to the following article that contains instructions about troubleshooting an ASP.NET installation:

http://www.microsoft.com/technet/prodtechnol/WindowsServer2003/Library/IIS/187d0e2c-8e89-49ad-a89d-e26e4d76ee68.mspx?mfr=true

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Chapter 6

Post-Installation Steps

This chapter describes the steps that we recommend you to take after installing Sitecore CMS.

This chapter contains the following sections:

- Windows Authentication for Sitecore
- Setting Microsoft SQL Server Database Properties
- Rebuild the Search Index and the Link Database
- Cache Configuration

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6.1 Content Expiration

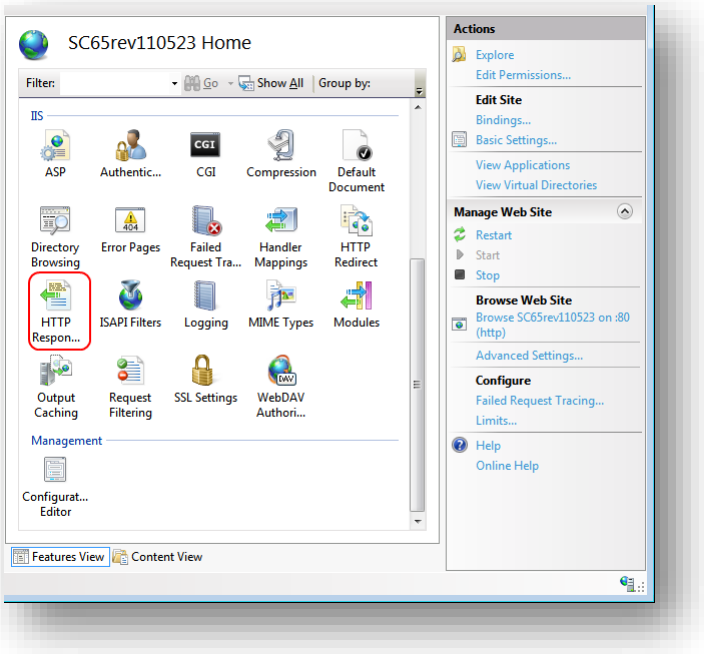
Set IIS Expire Web content header to improve performance.

The Expire Web content header (located in common HTTP Response headers) is how IIS determines whether or not to return a new version of the requested web page if the request is made after the web page content has expired. IIS will mark each web page before it's sent using the settings you provide for content expiration. The browser of the website visitor will translate the expiration mark.

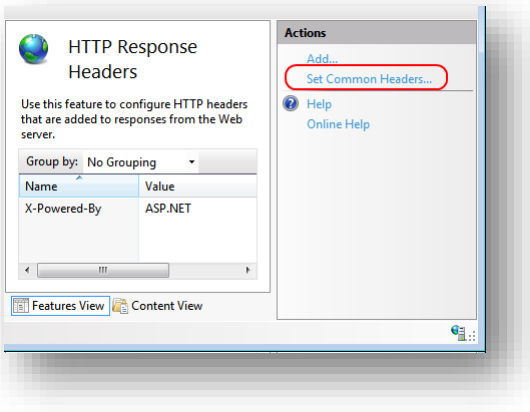
By setting Expire Web content to something other than immediately, you can reduce second-access load times by 50 to 70 percent. This setting will not affect dynamically generated content.

To enable the Expire Web content header in IIS 7.x:

1. Launch IIS Manager.
2. Navigate to the site that you wish to enable the Expire Web content header.
3. In the **IIS** section, double click on the **HTTP Response Headers**.



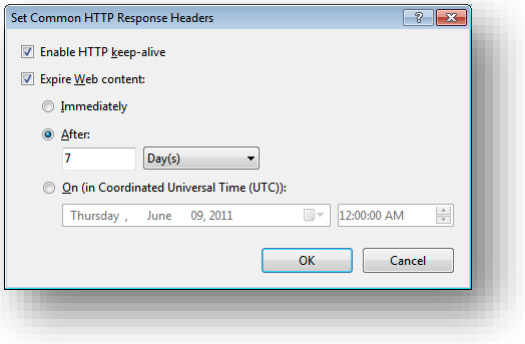
4. In the **Actions** panel, click on **Set common headers…**



5. Select the **Expire Web content** check box.

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6. Select the **After** check box and set the number of days to its default (7).



7. Click **OK** when finished.

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6.2 Windows Authentication for Sitecore

You can configure Sitecore to use Windows Authentication for SQL connection (SQL 2008 / Windows 2008 (R2)) and effectively remove the username and password from the `connectionStrings.config` file.

1. Find the application pool that your Sitecore is running under. Open Properties and set the identity to the domain user on the corresponding tab.
2. On the SQL Server box, register the domain user and grant security permissions on Sitecore databases for the domain user according to the section "4.4.1 Creating a Database Account for Sitecore CMS Databases on SQL Server 2008" of the Installation Guide.
3. On the machine that hosts Sitecore, add this domain user to the IIS_IUSRS group.
4. Adjust the permissions for the IIS_IUSRS group according to these sections of the Installation Guide":
   - "4.2.2 File System Permissions for ASP.NET Requests"
   - "4.2.3 File System Permissions for System Folders".
5. Edit the `/App_Config/ConnectionStrings.config` file and replace the `user id` and `password` parameters with the `trusted_connection=yes` option:

```
        <?xml version="1.0" encoding="utf-8"?>
        <connectionStrings>
        <add name="core" connectionString="Data
Source=.\sql2008;Database=Sandbox6_Core;Trusted_Connection=Yes" />
        <add name="master" connectionString="Data
Source=.\sql2008;Database=Sandbox6_Master;Trusted_Connection=Yes" />
        <add name="web" connectionString="Data
Source=.\sql2008;Database=Sandbox6 Web;Trusted Connection=Yes" />
        </connectionStrings>
```

6. Prepare your identity so it can be used as a service account with "aspnet_regiis.exe" and the -ga switch.
7. Add your domain service account to the local "Performance Monitor Users" group as per this section: "4.2.5 Windows Registry Permissions"

Note
If you use DMS, the same configuration must be repeated for the Analytics database. The connection string for the Analytics database must be follows:

```
        <add name="analytics" connectionString="Data
        Source=<Data-Source>;Database=Sandbox6_Analytics;Trusted_Connection=Yes" />
```

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6.3 Setting Microsoft SQL Server Database Properties

There are a few Microsoft SQL Server database properties that, when configured correctly, will help increase performance:

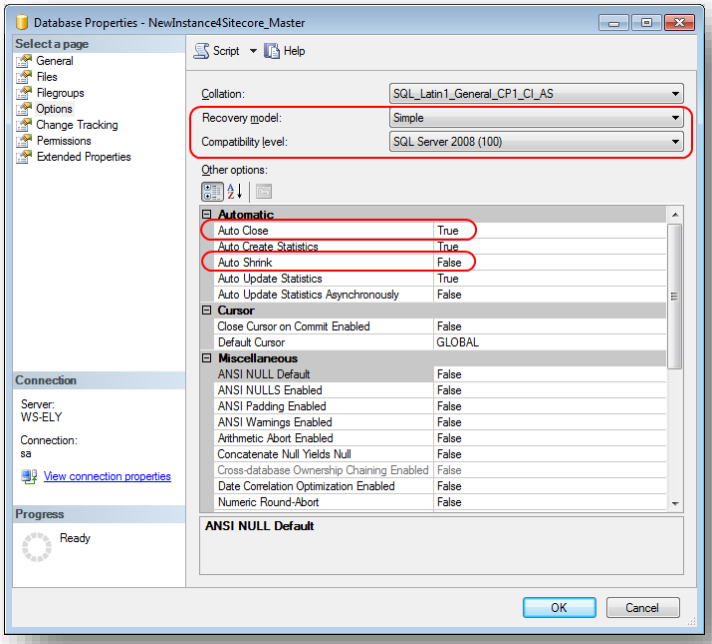
- **Compatibility Level**
  Compatibility Level effects SQL syntax and query parsing, and should have no impact of performance. Setting the Compatibility Level to a value of *SQL Server 2008(100)* will take advantage of new T-SQL features, which are used in many of the scripts / commands.
- **Auto Close**
  When MS SQL Server opens a database, resources are allocated to maintain that state. Memory for locks, buffers, security tokens, etc. are all assigned. These operations take time. The *Auto Close* property defines how these resources are handled. If it is set to *true* or *ON*, then when the last connection is closed these resources are deallocated. If a new connection comes in within a short period of time (1/10th of second or quicker), then all of those resources need to be activated again. Setting the *Auto Close* property to *false* or *OFF* will prevent this from happening.
- **Auto Shrink**
  The Auto Shrink property uses a lot of resources when it's called, and you have no control over when it is being called. If you combine *Auto Shrink* with *Auto Growth*, you can get into a spiral of constantly growing and shrink the database, taking valuable resources away from other database tasks as well as causing fragmentation issues. If a database or file requires a SHRINK command, it should be done so via a script, command or scheduled Maintenance Plan. Setting the *Auto Shrink* property to *false* or *OFF* will disable this feature.
- **Recovery Model**
  In Simple Recovery Model MS SQL Server logs minimal amount of information in the transaction log. MS SQL Server basically truncates the transaction log whenever the transaction log becomes 70 percent full or the active portion of the transaction log exceeds the size that MS SQL Server could recover in the amount of time which is specified in the Recovery Interval server level configuration. Setting Recovery Model to Simple has the lowest amount of overhead over Full and Bulk-logged, which is crucial to the performance requirements needed for the Sitecore CMS databases.

To set these properties:

1. Launch MS SQL Server Management Studio.
2. In the object explorer, right click on the **CMS Master** database and select **Properties**.

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3. Select the **Options** page and set the parameters as it is presented on the following image:



4. In the **Compatibility Level** field, select **SQL Server 2008(100)**.
5. Set the **Auto Close** property to **false**.
6. Set the **Auto Shrink** property to **false**.
7. In the **Recovery Model** field, select **Simple**
8. Click **OK**.

Repeat these actions for the CMS Core and Web databases.

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6.4 Rebuild the Search Index and the Link Database

Follow these instructions only if you install Sitecore using the ZIP archive of the Web site root.

You should rebuild the Search Index for the core database and the Quick search index.

Rebuilding the Search Indexes

To rebuild the Search Index, log in to the Sitecore Desktop, click *Control Panel*, and then click *Indexing.* In the *Indexing Manager*, you can choose which database indexes you want to rebuild.

Rebuilding the Link Database

To rebuild the Link Database, log in to the Sitecore desktop and click *Control Panel, Database, Rebuild the Link Database*. Select all available databases.

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6.5 Cache Configuration

When Sitecore CMS is installed, optimize caching to improve solution performance, reduce server load, and increase system capacity.

For more information about cache configuration, see *Cache Configuration Reference* on SDN.

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Chapter 7

Appendix

This chapter contains the supplementary instructions that help you to configure your environment.

This chapter contains the following sections:

- Server Configuration
- Creating a Web Project in Visual Studio

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7.1 Server Configuration

The following sections contain miscellaneous information and techniques concerning the server configuration.

7.1.1 Updating the Security Settings for a Folder

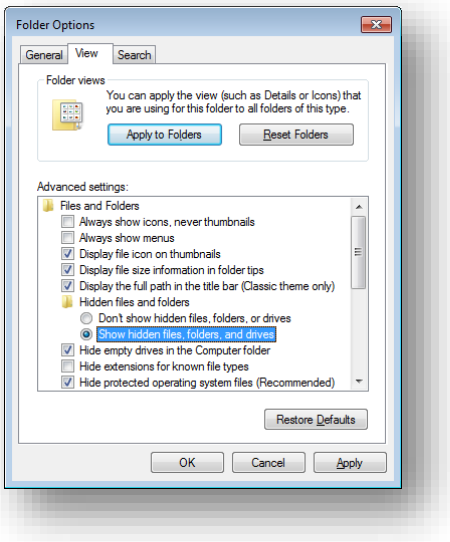
To update the security settings for a folder:

1. In **Windows Explorer**, right-click the folder and select **Properties**.
2. In the **Properties** dialog box, click the **Security** tab.
3. In the **Group or user names** field, select a user or group and grant them the appropriate permissions in the **Permissions for** field.
4. In the **Security** tab, click **Advanced**.
5. In the **Advanced Security Settings** dialog box, select the **Replace permission entries** checkboxes.

Making the Security Tab Visible

If the **Security** tab is not visible, — this can occur after upgrading from Windows XP Home to Professional:

1. In Windows Explorer, click **Organize**, **Folder and search options**.
2. In the **Folder Options** dialog box, click the **View** tab.



3. Ensure that the **Use simple file sharing** check box is not selected.

If an account is not visible in the **Security** tab, you must make it visible.

Making an Account Visible

To make an account visible in the **Security** tab:

1. In the **Properties** dialog box, click the **Security** tab.
2. In the **Security** tab, click **Add**.

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3. In the **Select Users, Computers, or Groups** dialog box, in the **From this location** field, ensure that the local computer is selected.
4. In the **Enter the object names to select** field, enter the name of the account, and click Check Names.

   Alternatively, you can click **Advanced** and then click **Find Now** and select the account you want to add.

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7.2 Creating a Web Project in Visual Studio

Sitecore supports the Visual Studio Web Application project model for Sitecore solutions.

Important
Create a Visual Studio solution and at least one project for each Sitecore solution that uses Visual Studio. Follow the steps outlined below as a single sequence once for each new Sitecore solution, then add new projects to the existing solution as appropriate.

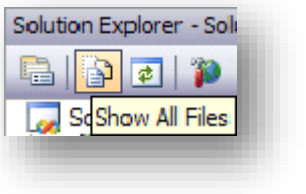
To create a Visual Studio Web Application project for an existing Sitecore solution:

1. In Visual Studio, click the **File** menu, then click **New**, and then click **Project**. The new project dialog appears.
2. In the new project dialog, in the **Project Types** tree, expand **Visual C#**, and then click **Web**.
3. In the new project dialog, in the **Templates** list, click **ASP.NET Web Application**.
4. In the new project dialog, select the version of the .NET Framework. While installing Sitecore CMS, in the **IIS Website** step you selected the version of the .NET Framework: 4.5.
   - Select **.NET Framework 4** in the Visual Studio project.
5. In the new project dialog, in the **Name** field, enter the name of the project, for example `MyWebSite`. Visual studio will use this name as the default .NET namespace and assembly name.
6. In the new project dialog, in the **Location** field, enter the document root of the Sitecore solution, for example `C:\inetpub\sitecore\MyWebSite\WebSite`.
7. In the new project dialog, in the **Solution Name** field, enter the name of the solution, which is typically the name of the project, for example `MyWebSite`.
8. Select the **Create directory for solution** check box.
9. Click **OK**. Visual Studio creates the project in a subdirectory of the directory specified by **Location**, and then opens that project.
10. In Solution Explorer, right-click References and click **Add Reference**.
11. Click the **Browse** tab and select the `Sitecore.Kernel.dll` file, and then click OK.
12. In Solution Explore**r**, select the `Sitecore.Kernel.dll` file and set the *Copy Local* property to false.

To edit files in Visual Studio, you must make them visible and include them in the project.

To make the files visible:

13. In the Solution Explorer, click **Show All Files**.



14. You must now include the files you want to edit. For example, right-click the XSL folder and click **Include in Project**.
15. Finally, double click the files themselves to edit them.

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