# Table of Contents

Chapter 1 Introduction ................................................................................................................. 4
  1.1 Getting Started ...................................................................................................................... 5
  1.2 Preparing to Install Sitecore CMS 7.2 .................................................................................. 6
Chapter 2 Sitecore CMS 7.2 Requirements ..................................................................................... 7
  2.1 Sitecore Hosting Environment Requirements ..................................................................... 8
    2.1.1 IIS Requirements ........................................................................................................ 8
    2.1.2 Operating System Requirements .................................................................................. 8
    2.1.3 .NET Framework Requirements .................................................................................. 9
    2.1.4 Visual Studio Requirements ......................................................................................... 9
    2.1.5 Database Requirements ............................................................................................. 9
    2.1.6 Hardware Requirements for a Server Running a Single Sitecore Installation .............. 9
    2.1.7 Antivirus Software Considerations .............................................................................. 10
  2.2 Sitecore Client Requirements ............................................................................................... 11
    2.2.1 Software Requirements ............................................................................................. 11
    2.2.2 Hardware Requirements ............................................................................................ 11
Chapter 3 Using the Sitecore Installation Program ...................................................................... 12
  3.1 Windows Vista / Windows 7 Pre-installation Steps ............................................................. 13
    3.1.1 The UAC (User Account Control) Configuration ......................................................... 13
  3.2 Installation Process ............................................................................................................. 15
    3.2.1 Full Mode (client and database) .................................................................................. 16
    3.2.2 Databases Only Installation Mode ............................................................................. 22
    3.2.3 Client Only Installation Mode ..................................................................................... 28
  3.3 Uninstalling Sitecore .......................................................................................................... 35
  3.4 Troubleshooting .................................................................................................................. 36
Chapter 4 Installing from the .ZIP File ....................................................................................... 37
  4.1 Installation Process Overview ............................................................................................. 38
  4.2 Configuring Folder and Registry Permissions ...................................................................... 40
    4.2.1 File System Permissions for Anonymous Requests .................................................. 40
    4.2.2 File System Permissions for ASP.NET Requests ....................................................... 40
    4.2.3 File System Permissions for System Folders .............................................................. 40
    4.2.4 File System Permissions for SQL Server Files .......................................................... 41
    4.2.5 Windows Registry Permissions .................................................................................. 41
        Adding an Account to a User Group ............................................................................... 41
  4.3 Configuring the IIS .............................................................................................................. 43
    4.3.1 IIS 7, 7.5, 8, 8.5 .......................................................................................................... 43
        Create the Application Pool ......................................................................................... 43
        Create the Website .................................................................................................... 45
        Limit Access to Anonymous Users ........................................................................... 46
  4.4 Microsoft SQL Server Configuration ................................................................................... 48
    4.4.1 Creating a Database Account for Sitecore CMS Databases on SQL Server 2008 ....... 48
    4.4.2 Granting Execute Rights to Stored Procedures ....................................................... 50
  4.5 Oracle Database Storage Setup ........................................................................................... 52
    4.5.1 Oracle Storage Setup ............................................................................................... 52
        Database Server Preparations .................................................................................... 52
        Website Server Setup Instructions ............................................................................ 52
  4.6 Uninstalling Sitecore (ZIP installation) .............................................................................. 54
Chapter 5 Limitations and Specific Requirements ........................................................................ 55
  5.1 Maximum Number of Worker Processes ........................................................................... 56
  5.2 Miscellaneous ..................................................................................................................... 57
    5.2.1 Install Latest Updates ............................................................................................... 57
    5.2.2 UNC Share Not Supported ....................................................................................... 57
    5.2.3 Sitecore Cannot Operate from a Virtual Directory .................................................. 57
    5.2.4 Install IIS Before Updating .NET Framework .......................................................... 57
Chapter 6 Post-Installation Steps .................................................................................................. 58
6.1 Content Expiration........................................................................................................... 59
6.2 Windows Authentication for Sitecore ............................................................................. 61
6.3 Setting Microsoft SQL Server Database Properties...................................................... 62
6.4 Rebuild the Search Index and the Link Database............................................................ 64
6.5 Cache Configuration ....................................................................................................... 65

Chapter 7 Appendix ............................................................................................................... 66
7.1 Server Configuration ...................................................................................................... 67
   7.1.1 Updating the Security Settings for a Folder ............................................................. 67
      Making the Security Tab Visible................................................................................. 67
      Making an Account Visible....................................................................................... 67
7.2 Creating a Web Project in Visual Studio ....................................................................... 69
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 7.2 installation process

- **Chapter 2 – Sitecore CMS 7.2 Requirements**
  Sitecore CMS 7.2 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 7.2 from the .ZIP file

- **Chapter 5 – Limitations and Specific Requirements**
  The information regarding limitations and requirements of Sitecore CMS 7.2

- **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
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 — .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.
1.2 Preparing to Install Sitecore CMS 7.2

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.
  - Oracle Database 11g R2 (11.2).
- 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](http://sdn.sitecore.net)) — contact a local sales office or partner manager.
- IIS configuration — host headers, and so on.
Chapter 2

Sitecore CMS 7.2 Requirements

This chapter describes the prerequisites, hardware, and software requirements for Sitecore CMS 7.2 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
2.1 Sitecore Hosting Environment Requirements

Sitecore CMS 7.2 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
- IIS 8.5

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 7.2 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)
- Windows 8.1 (32/64-bit)

**Important**

Visit Windows Update — [http://windowsupdate.microsoft.com](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.

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 or later.

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.
- MS SQL Server Express.
- Oracle Database 11g R2 (11.2).

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

Note
You should have the Oracle specific license keys in your license file to run Sitecore with the Oracle database: Sitecore.Oracle and Sitecore.FireDB.

2.1.6 Hardware Requirements for a Server Running a Single Sitecore Installation

We recommend the following hardware requirements:
Minimum configuration requirement:

- 4 core processor (4 threads)
- 8GB of RAM

Recommended configuration:

- 4 core processor (8 threads)
- 16GB of RAM

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.
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
- Microsoft Internet Explorer 10
- Microsoft Internet Explorer 9
- 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)

Note
Sitecore CMS 7.2 supports all current stable versions of these browsers unless stated otherwise.

Note
Sitecore CMS 7.2 does not support the Compatibility view in IE 9, IE 10 and IE 11.

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.

You do not need to install any additional software on the Sitecore CMS clients that access Sitecore CMS servers.
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
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.
7. Verify that the User Account Control: Detect application installations and prompt for elevation policy is set to Enabled.
3.2 Installation Process

To start the installation process, you must launch the **Sitecore 7.2. 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.
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.
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.

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 **Advanced Database Options** 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**.
If you select Oracle, you see the following Database Server dialog box:

![Database Server dialog box](image)

**Important**
You must create the appropriate tablespace first. To do this, run the following SQL script:

```sql
create tablespace sitecore logging datafile 'sitecore.dbf' size 200M
reuse autoextend on next 100M extent management local segment space management auto;
```

Configure the Oracle database server. This dialog box contains the following fields:

- **Oracle Client** – select the Oracle client.
- **Oracle Instance** – select the Oracle instance.
- **System password** – password for the system user of the Oracle instance.
- **Prefix** – prefix to use for user schema names and passwords.
- **Tablespace** – name of the tablespace for Sitecore data.

Click **Next**.

**Destination Folder**

![Destination Folder dialog box](image)

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.

**IIS Web Site**
Enter the name of the new website. Click **Advanced** to edit a website port, application pool name and its mode and .NET Framework version.

Click **OK**.

The **IIS Web Site** dialog box will reflect the changes. In Sitecore CMS 7.2, the Sitecore ASP.NET MVC Integration is enabled by default, and you will see the corresponding field in the dialog box:

Click **Next**.

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

### Installing Sitecore

![Image of installing Sitecore](image)

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

### Finish

![Image of finish](image)

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

![Database Server dialog box](image)

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.

![Advanced Database Options dialog box](image)

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

Click **Next**.
If you select Oracle, you see the following **Database Server** dialog box:

![Database Server dialog box](image)

**Important**

You must create the appropriate tablespace first. To do this, run the following SQL script:

```sql
create tablespace sitecore logging datafile 'sitecore.dbf' size 200M
  reuse autoextend on next 100M extent management local segment space management auto;
```

Configure the Oracle database server. This dialog box contains the following fields:

- **Oracle Client** – select the Oracle client.
- **Oracle Instance** – select the Oracle instance.
- **System password** – password for the system user of the Oracle instance.
- **Prefix** - prefix to use for user schema names and passwords.
- **Tablespace** – name of the tablespace for Sitecore data.

Click **Next**.

**Destination Folder**

![Destination Folder dialog box](image)

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**.

**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**

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.

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.

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**.

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

**Important**

You must create the appropriate tablespace first. To do this, run the following SQL script:

```
create tablespace sitecore logging datafile 'sitecore.dbf' size 200M
reuse autoextend on next 100M extent management local segment space management auto;
```

Configure the Oracle database server. This dialog box contains the following fields:

- **Oracle Client** – select the Oracle client.
- **Oracle Instance** – select the Oracle instance.
- **System password** – password for the system user of the Oracle instance.
- **Prefix** - prefix to use for user schema names and passwords.
- **Tablespace** – name of the tablespace for Sitecore data.

Click **Next**.
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.
IIS Web Site

Enter the name of the new website.
Click Advanced to edit a website port, application pool name and mode, .NET Framework version.

Click OK.
Click Next.
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**
The Sitecore Installation Wizard has finished installation. Click **Finish** to exit the wizard.
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.
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.
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%20CMS.aspx

This chapter contains the following sections:

- Installation Process Overview
- Configuring Folder and Registry Permissions
- Configuring the IIS
- Microsoft SQL Server Configuration
- Oracle Database Storage Setup
- Uninstalling Sitecore (ZIP installation)
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. 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
6. If you are running SQL Server, attach SQL databases from /Databases folder to the SQL server.
7. 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_" />
8. In the IIS, configure the web site as described in Section 4.3, Configuring the IIS.
9. Configure the Internet Explorer browser as described in Browser Configuration Reference.
10. Start the browser and enter the following address in the address bar:
    http://ProjectName/sitecore
You should see the Sitecore login screen now:

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

<table>
<thead>
<tr>
<th>IIS version</th>
<th>Default anonymous Internet user account name</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 and 7.5</td>
<td>IUSR</td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>IIS version</th>
<th>Default ASP.NET account name</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>NETWORK SERVICE</td>
</tr>
<tr>
<td>7.5</td>
<td>AppPoolIdentity</td>
</tr>
</tbody>
</table>

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

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

**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:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>%WINDIR%</td>
<td>C:\Windows</td>
</tr>
<tr>
<td>%PROGRAMDATA%</td>
<td>C:\ProgramData for IIS 7 and later</td>
</tr>
</tbody>
</table>

**Note**


### 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:
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
4.3 Configuring the IIS

The following sections describe how to configure different versions of IIS (versions 7, 7.5, 8 and 8.5) for Sitecore CMS.

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

- IIS 7.5 – Windows Server 2008 R2 SP1, Windows 7
- IIS 8 – Windows Server 2012, Windows 8
- IIS 8.5 – Windows Server 2012 R2, Windows 8.1

4.3.1 IIS 7, 7.5, 8, 8.5

This section contains the instructions for IIS 7, 7.5, 8 and 8.5.

Create the Application Pool

This section describes how to create the application pool for Sitecore on IIS 7, 7.5, 8 and 8.5 (Windows 7, Windows Server 2008, Windows 8, and Windows 8.1).

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


**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.

![Login - New](image)

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

![User Mapping Page](image)

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
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.
Repeat this procedure for the other Sitecore CMS databases, including the Analytics database if you have Sitecore DMS installed.
4.5 Oracle Database Storage Setup

This section describes how to set up Oracle database storage for Sitecore CMS.

4.5.1 Oracle Storage Setup

This section describes setting up a Sitecore CMS with Oracle databases in detail.

Database Server Preparations

Database server must run a supported version of Oracle database instance, which meets the following requirements:

1. Oracle instance must be configured in shared server mode.
2. Oracle instance must contain a tablespace for Sitecore having at least 200MB of free space initially. More space will be needed as Sitecore database grows. Perform these steps on the Oracle Database Server (or a workstation PC with the administration tools for the Oracle) to set up Oracle databases for Sitecore CMS:
3. Install Sitecore CMS Databases (*DB.exe setup executable, version 6.0.2 or higher). Alternatively you can copy the /Databases/Oracle folder from an existing Sitecore 6 installation.
4. Load Sitecore data into the Oracle database:
   a. In the computer’s System Properties/Advanced/Environment Variables set up user-level variables as follows:
      DATABASE = The name of the Oracle Database instance that will host Sitecore data (as set up on the PC).
      TBS = Name of the tablespace for Sitecore data
      PASSWORD = password for the system user of the Oracle instance.
      PREFIX = Prefix to use for user schema names and passwords (default: sc).
   b. Launch the createdata.bat file from the /Databases/Oracle/ folder.
   c. Remove DATABASE, TBS, PASSWORD, PREFIX variables from the environment.

Installation scripts will set up three user schemas: %PREFIX%core, %PREFIX%maste, %PREFIX%web (default: sccore, scmaster, scweb). User passwords are the same as the user names.

Website Server Setup Instructions

The following instructions describe a web server setup where Sitecore CMS file system will be hosted.

1. Install Oracle Client matching the Oracle Database version. Make sure Oracle Data Provider for .NET 2.0 is installed. Add a connection to the appropriate Oracle instance (created as described in the Database Server Preparations section). For detailed instructions on this topic, refer to Section Error! Reference source not found., Error! Reference source not und.

Note

When installing Oracle Data Provider in a 64-bit Environment, make sure you use Oracle Client for Windows x64.

2. Install Sitecore CMS 6. If you are installing Sitecore from a ZIP archive (not an exe setup executable) you should configure the dataFolder setting and put a valid license.xml file into the data folder before proceeding to next steps.
For example <sc.variable name="dataFolder" value="c:\sitecore\data"/>

4. In the Web.config.Oracle, in runtime/assemblyBinding section set bindingRedirect to the Oracle.DataAccess assembly version installed on your system:
   a. Open Global Assembly Cache by running the ‘assembly’ command in the command prompt of the Run console (Win+R).
   b. Locate Oracle.DataAccess.dll for your Oracle Client version, right-click, choose Properties and copy the Version value which can be in one of the following formats:
      i. 10.2.x.x (Oracle Client versions prior to 10.2.0.2).
      ii. 2.102.x.x or 2.111.x.x (Oracle Client versions 10.2.0.2 and higher).
   c. Modify the assemblyBinding setting. Replace 10.2.0.100 with your assembly version:
      
      <dependentAssembly>
          <assemblyIdentity name="Oracle.DataAccess" publicKeyToken="89b483f429c47342"/>
          <bindingRedirect oldVersion="9.2.0.401" newVersion="10.2.0.100"/>
      </dependentAssembly>


6. Modify connection strings in /App_Config/ConnectionStringsOracle.config to point to the valid Oracle instance.
   a. Data Source parameter must point to the local Oracle instance name as configured in the Oracle Net Manager.
   b. User names and passwords must be adjusted to match those installed on the database server. Default names/passwords are sccore/sccore, scmaster/scmaster and scweb/scweb.

Configure IIS as for a usual Sitecore installation and run Sitecore.
4.6 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:

```bash
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.
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
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”.
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
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:

- Content Expiration
- Windows Authentication for Sitecore
- Setting Microsoft SQL Server Database Properties
- Rebuild the Search Index and the Link Database
- Cache Configuration
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 and 8.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.

![IIS Manager screenshot showing HTTP Response Headers]

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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.
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
<?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:

```xml
<add name="analytics" connectionString="Data Source=<Data-Source>;Database=Sandbox6_Analytics;Trusted_Connection=Yes" />
```
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 affects 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**.
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.
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.
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.
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
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.
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.
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 Explorer, 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.