Installing the Sitecore Experience Platform

Sitecore Experience Platform 8.0 Update 4

Installation guide for administrators and developers

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Chapter 1

Introduction

This document describes how to install Sitecore Experience Platform 8.0 Update 4.

The document contains the following chapters:

- **Chapter 1 – Introduction**
  An introduction to the Sitecore Experience Platform 8.0 installation process
- **Chapter 2 – Sitecore XP Requirements**
  An outline of the installation requirements for Sitecore CMS
- **Chapter 4 – Installing the Sitecore XP from the .ZIP File**
  Step by step instructions for installing Sitecore CMS from the .ZIP file
- **Chapter 5 – Sitecore XP Post-Installation Steps**
  Information about necessary actions after installation
- **Chapter 6 – Configuring Sitecore Experience Database**
  Step by step instructions for configuring Sitecore Experience Database
- **Chapter 7 – Appendix**
  Supplementary instructions for configuring the environment

1.1 Getting Started

Sitecore® Experience Platform™ (Sitecore XP) is the name of the entire Sitecore solution. It contains:

- Sitecore CMS – the content management capabilities
- Sitecore xDB – the experience marketing and scalability, and analytics features

These components are installed together. Sitecore XP is distributed as an `.exe` or `.zip` file.

1.2 Preparing to Install Sitecore XP

For small implementations, including developer workstations and testing environments, Sitecore XP 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. For more information about scaling Sitecore XP solutions, see http://sdn.sitecore.net/.

Sitecore XP can be broken down into three logical components regardless of the database technology that is used:

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

Configuration is stored in files such as `web.config` and the files under the `/App_Config` folder.

For information about hardening security after you install Sitecore, see the manual Security Hardening Guide on the SDN.

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

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

Before installing Sitecore XP, you should decide on the:

- Project name and acronym, for example, *ProjectName*.
- Acronym/prefix, for instance PN.
- Target installation file system root, for instance `C:\inetpub\wwwroot\ProjectName`.
- Database technology:
  - SQL Server 2014, SQL Server 2012, SQL Server 2008 R2 SP1.
  - MongoDB Database 2.6.x (for Sitecore xDB).
- Database location – locally or on a remote server.
- Appropriate Sitecore 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.

1.2.1 Install Latest Updates

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

1.2.2 UNC Share Not Supported

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

1.2.3 Sitecore Cannot Operate from a Virtual Directory

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

1.2.4 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 2

Sitecore XP Requirements

This chapter describes the prerequisites, hardware, and software requirements for Sitecore XP 8.0 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 XP 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 XP 8.0 has some specific requirements for the operating system, IIS Web Server, .NET Framework, and the database server.

2.1.1 IIS Requirements

Sitecore XP can be hosted on the following IIS versions:

- IIS 8.5
- IIS 8.0
- IIS 7.5
- IIS 7.0

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 XP does not officially support any other ASP.NET web servers such as 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 XP 8.0 is only compatible with the client and server operating systems that support .NET Framework 4.5.

Sitecore XP can be hosted on the following Microsoft operating systems:

- Windows Server 2012 R2 (64-bit)
- Windows Server 2012 (64-bit)
- Windows Server 2008 R2 (64-bit) SP1+
- Windows Server 2008 (32/64-bit) SP2+
- Windows Vista (32/64-bit) SP2+
- Windows 8.1 (32/64-bit)
- Windows 8 (32/64-bit)
- Windows 7 (32/64-bit, Home Premium and higher) SP1+

Important
Go to Windows Update – http://windowsupdate.microsoft.com – and install all the appropriate service packs and security updates on all of your Sitecore XP host and client computers.

Windows 8.1

Sitecore XP supports the following editions of the Windows 8.1 operating system:

- Enterprise
- Professional
- Core

Windows 8

Sitecore XP supports the following editions of the Windows 8 operating system:

- Enterprise
- Professional
- Core

Windows 7

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

- Ultimate
- Professional
- Enterprise

You can 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 http://technet.microsoft.com/en-us/library/cc731911.aspx.

For more information about the feature limitations in the various Windows 7 editions, see http://technet.microsoft.com/en-us/library/cc753473.aspx.

Windows Vista

Sitecore XP 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 http://msmvps.com/blogs/bernard/archive/2007/04/03/why-you-need-vista-business-ultimate-for-iis-7.aspx and http://www.iis.net/learn/install/installing-iis-7/iis-features-and-vista-editions.

2.1.3 .NET Framework Requirements

Sitecore XP 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 for Custom Solutions

Sitecore XP 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 XP supports the following database servers:

- Microsoft SQL Server 2008 R2 SP1
- Microsoft SQL Server 2012
- Microsoft SQL Server 2014
- MongoDB Database 2.6.x (for Sitecore xDB)

Note
Sitecore recommends that you run the database on a separate server from the web server.

2.1.6 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 `web.config` file.
- The folder that contains the actual Sitecore database files.
- The `C:\Windows\Temp or {app_pool user profile}\Temp` folder.

2.1.7 Hardware Requirements for a Server Running a Single Sitecore Installation

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.

2.2 Sitecore Client Requirements

This section describes the software and hardware requirements.

2.2.1 Software Requirements

Browser

Sitecore XP clients are browser-based user interfaces and can run on the following browsers:

- Microsoft Internet Explorer 11
- Microsoft Internet Explorer 10
- Microsoft Internet Explorer 9
- Mozilla Firefox 17+
- Google Chrome 25+
- Apple Safari 6 for Mac OS (Windows is not supported by Apple)

Note
Sitecore XP 8.0 supports all the current stable versions of these browsers unless stated otherwise. Sitecore XP 8.0 does not support the Compatibility view in IE 9, IE 10, and IE 11.

For more information about configuring a browser, see the Browser Configuration Reference document on SDN.

Silverlight

Some applications, such as xDB and Sitecore App Center require Microsoft Silverlight 4 or later.

Adobe Flash

To use the Report Designer in Sitecore xDB, you must also install Adobe Flash Player.

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 XP host.
- 1024x768 or greater screen resolution required for advanced operations.

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

Chapter 3

Installing the Sitecore XP from the .EXE File

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

You can download the Sitecore installation program from the on the Sitecore Developer Portal.

This chapter contains the following sections:

- Windows Vista / Windows 7 / Windows 8 Pre-installation Steps
- The Installation Process
- Troubleshooting

3.1 Windows Vista / Windows 7 / Windows 8 Pre-installation Steps

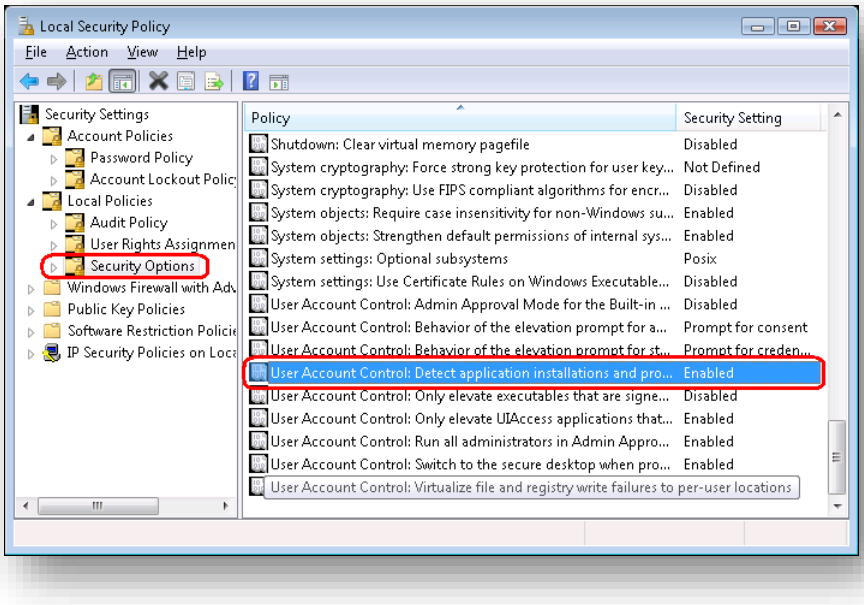
Before you can install Sitecore on Windows Vista or Windows 7, you must enable the *Detect application installations and prompt for elevation* UAC (User Account Control) configuration security policy.

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.
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*.

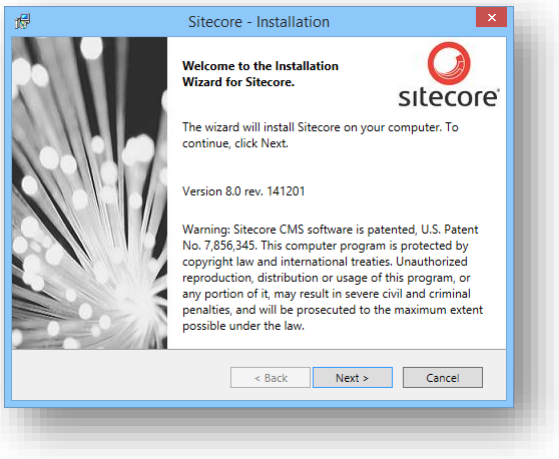
3.2 The Installation Process

To start the installation, launch the *Sitecore 8.0 rev.XXXXXX.exe* application, which starts the installation wizard. The installation wizard will guide you through the installation process.

This section describes the important steps in the wizard.

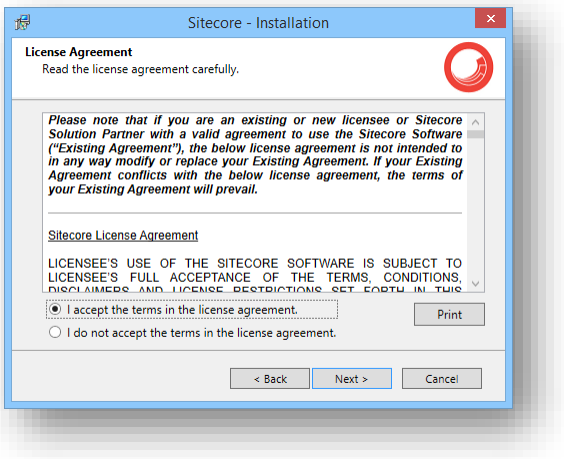
Note
The Sitecore XP configuration files are automatically modified according to the settings provided in the wizard.

Welcome Window



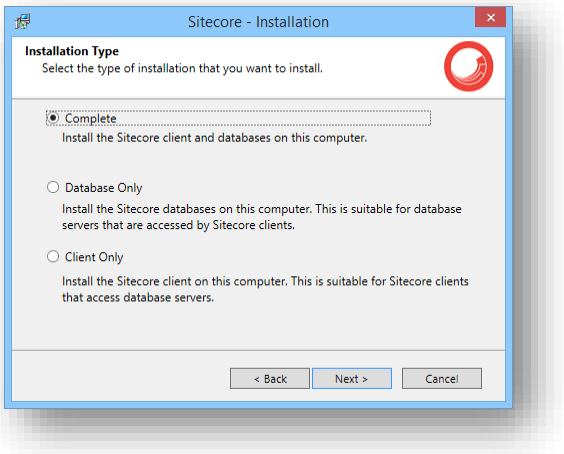
Click **Next**.

License Agreement



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

Installation Type



Select the type of installation that you want:

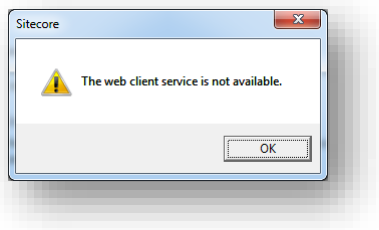
- Complete — installs both the Sitecore databases and the Sitecore client.
- Database only — only installs the Sitecore databases.
- Client only — installs everything except the databases.

3.2.1 Complete

This installs both the Sitecore databases and the Sitecore client.

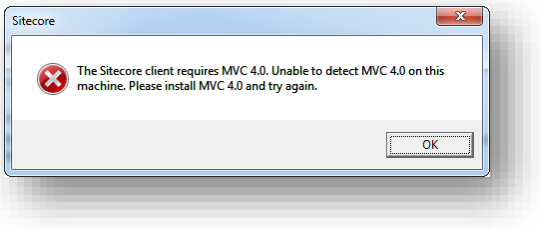
In the **Installation Type** window, select **Complete**.

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:



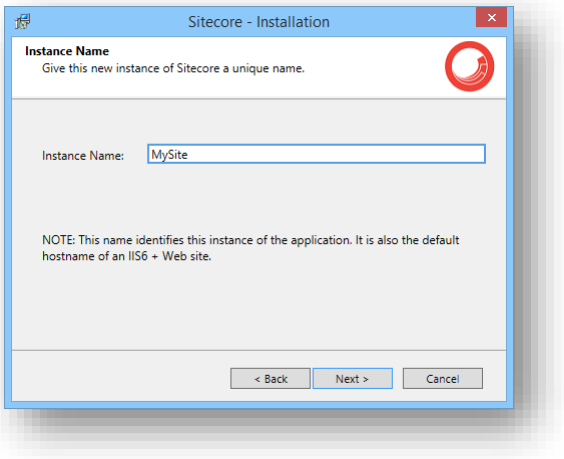
Disregard this message if you do not want to install WebDAV features. Click **Next**.

To install the Sitecore client, you must have Microsoft ASP.NET MVC 5.1 on your computer. If MVC 5.1 is not installed, the following message appears:



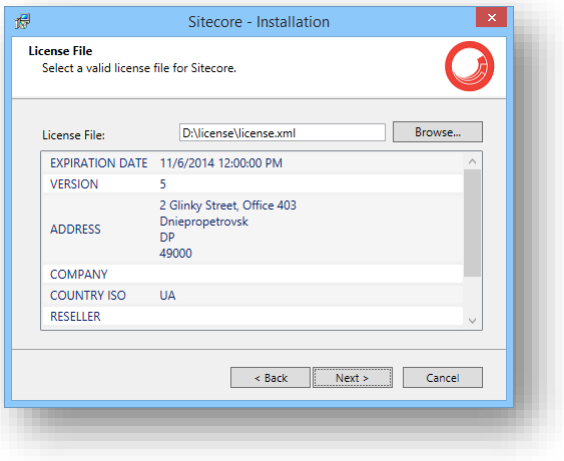
The installation cannot be completed without MVC 5.1. To proceed with the installation, close the error message, install ASP.NET MVC 5.1, and then click **Next**.

Instance Name



Give a unique name to this new instance of Sitecore. 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

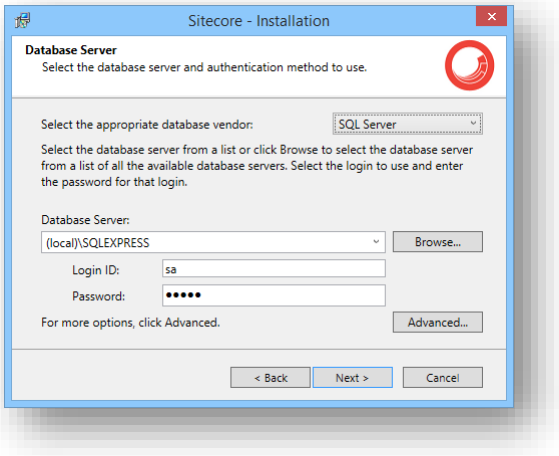


Browse to the license file that you want to use and then click **Next**.

Database Server

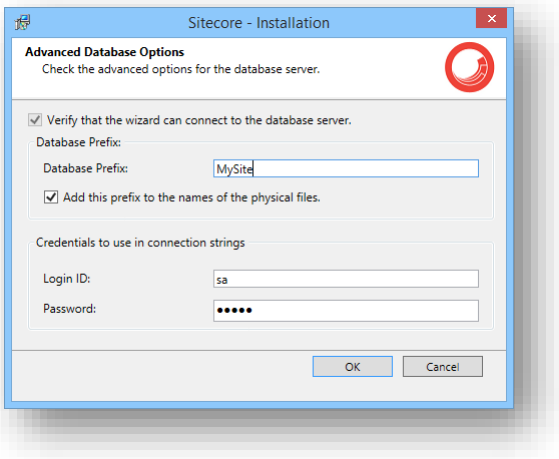
Select the database server.

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:

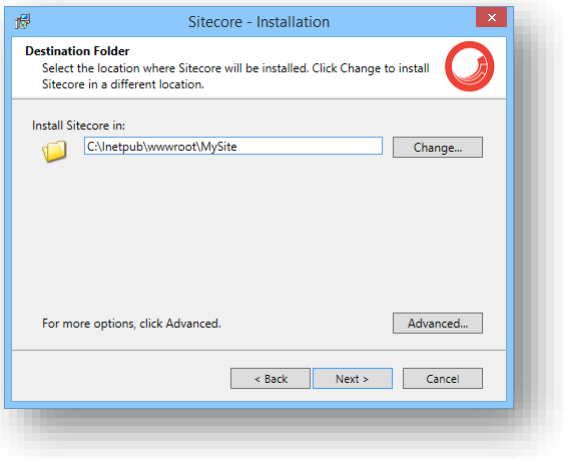


Specify the database prefix for this instance of Sitecore XP and select whether to prefix physical files or not.

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

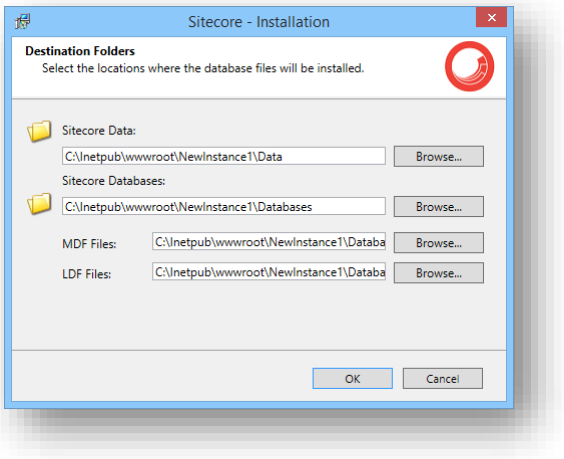
Click **Next**.

Destination Folder



Select the folder where the Sitecore 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:

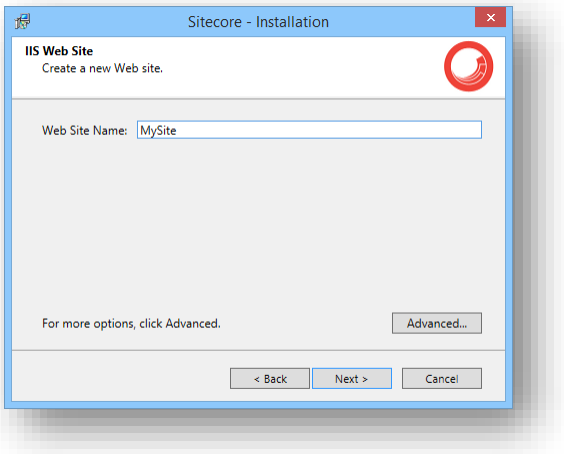


Enter new destination folders and click **OK**.

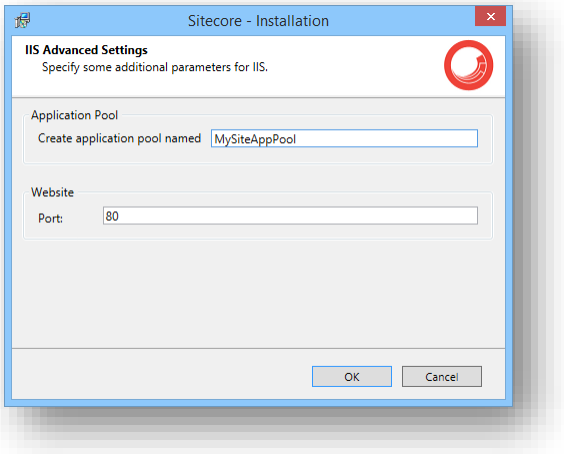
Click **Next**.

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

IIS Web Site

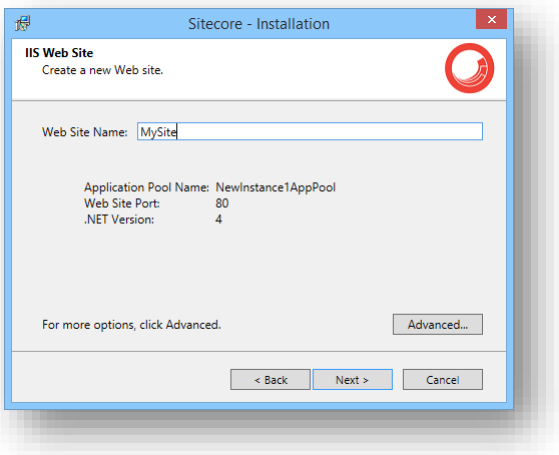


Enter the name of the new website. Click **Advanced** to edit a website port, application pool name and its mode and .NET Framework version.



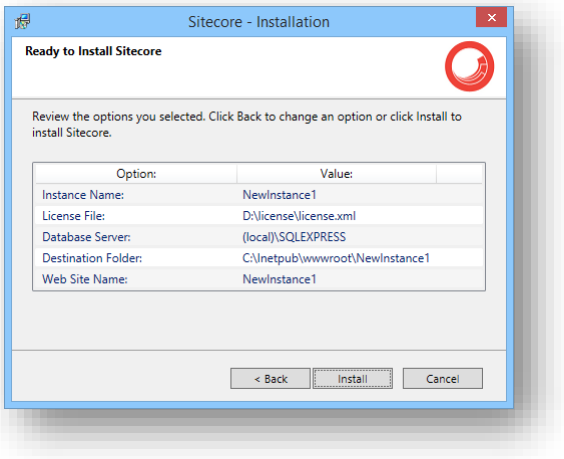
Click **OK**.

The **IIS Web Site** dialog box will reflect the changes. In Sitecore XP 8.0, 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



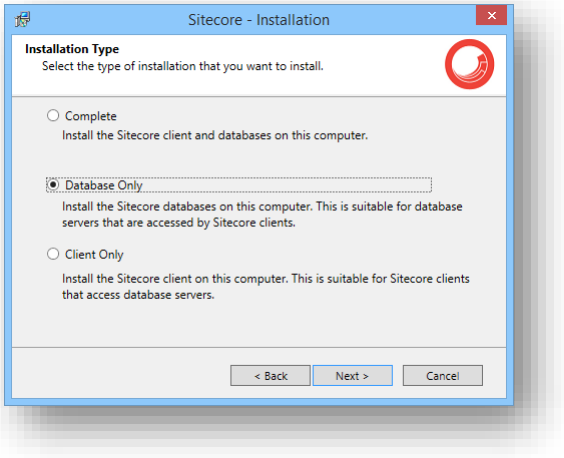
Review the options you selected. Click **Install** to install Sitecore XP.

A progress window informs you about the installation process.

3.2.2 Databases Only

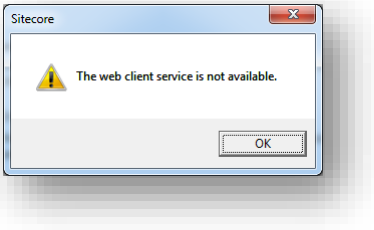
This section describes the Databases Only installation. This option only installs the Sitecore databases.

Installation Type



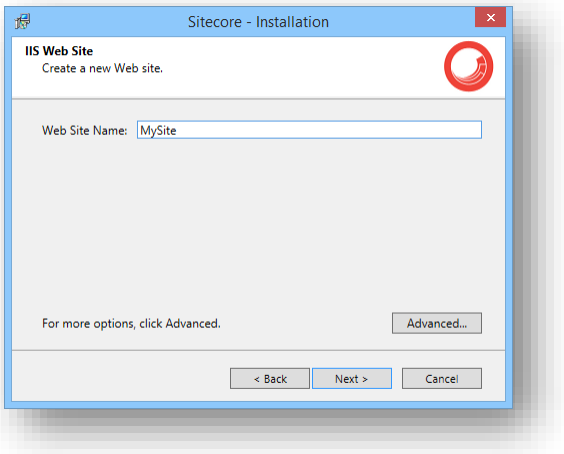
Select the **Databases only** option to only install the databases.

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

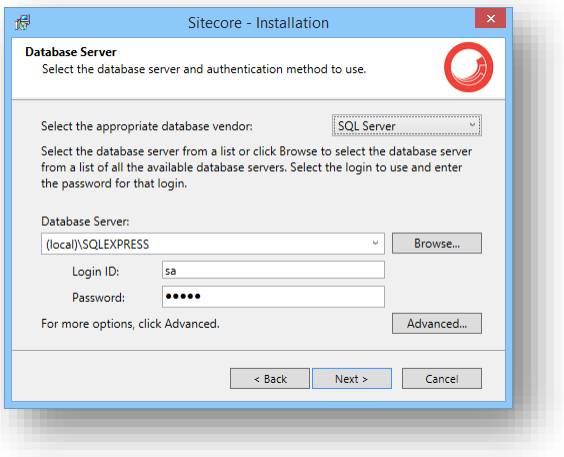


Give this new instance of Sitecore XP a unique name. If you choose to create a new site on a later step, this name is also used as the hostname of an IIS web site.

Database Server

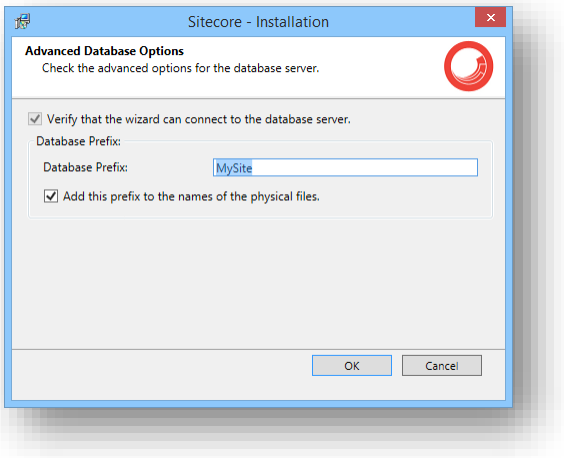
Select the database server.

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



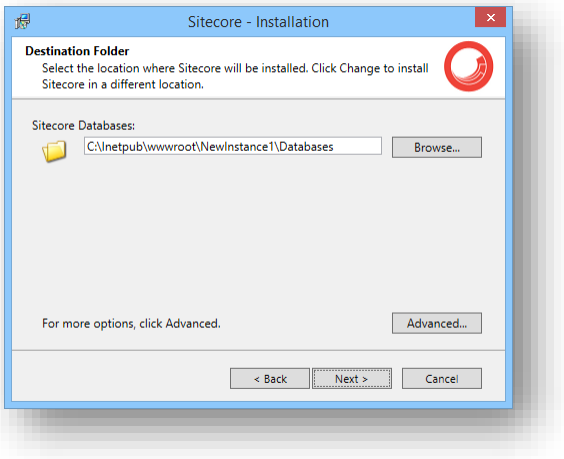
Select the database server from a list or click **Browse** to see a list of all the database servers that are available. Enter the login ID — SQL Server user name — and the corresponding password.

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



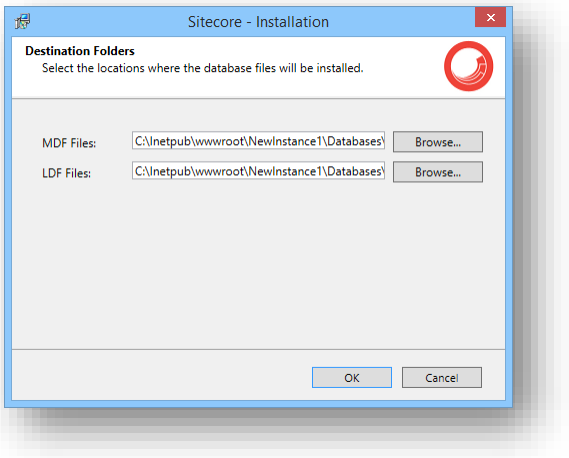
Specify the database prefix for this instance of Sitecore and select whether to prefix physical files or not. Click **OK**.

Destination Folder



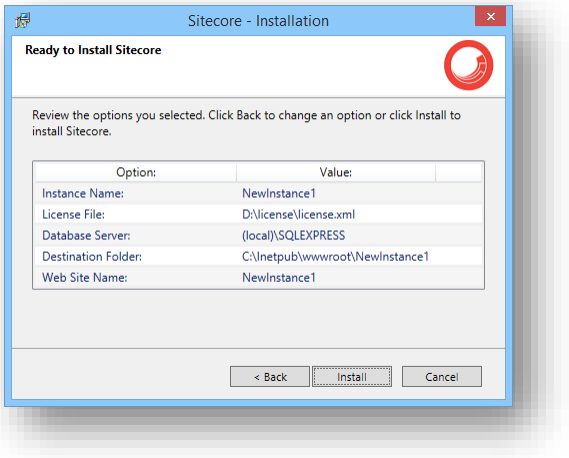
Select the location where the databases will be installed.

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**.

Ready to Install Sitecore



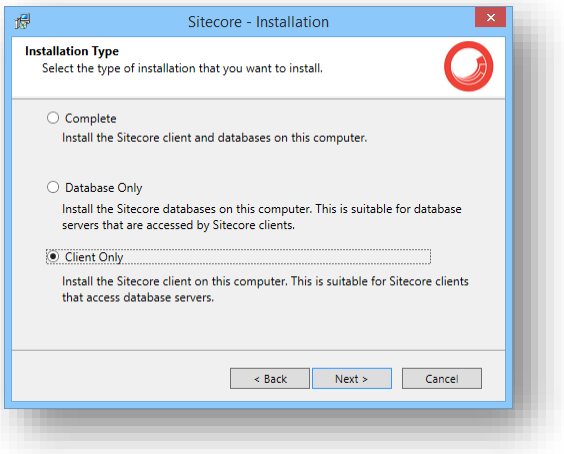
Review the options you selected. Click **Install** to install Sitecore XP.

A progress window informs you about the installation process.

3.2.3 Client Only Installation

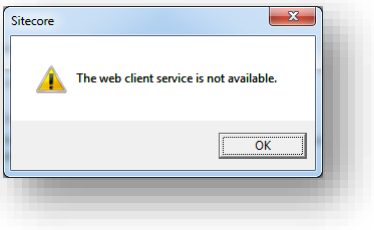
This section describes the Client Only installation. This installs everything except databases.

Installation Type



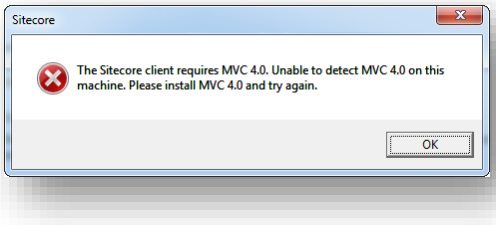
Select the **Client only** option.

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



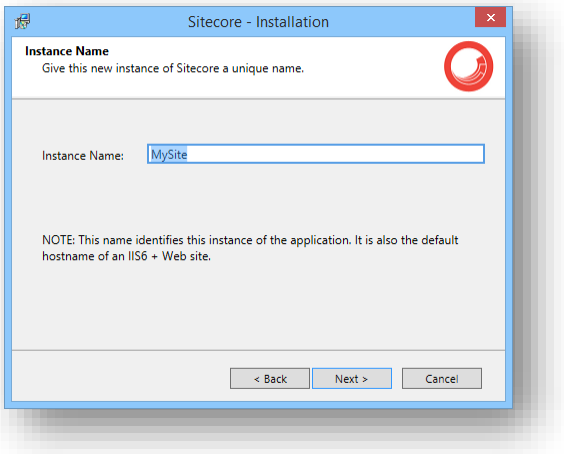
Disregard this message if you do not want to install WebDAV features. Click **Next**.

To install the Sitecore client, you must have Microsoft ASP.NET MVC 5.1 installed on your computer. If MVC 5.1 is not installed, the following message appears:



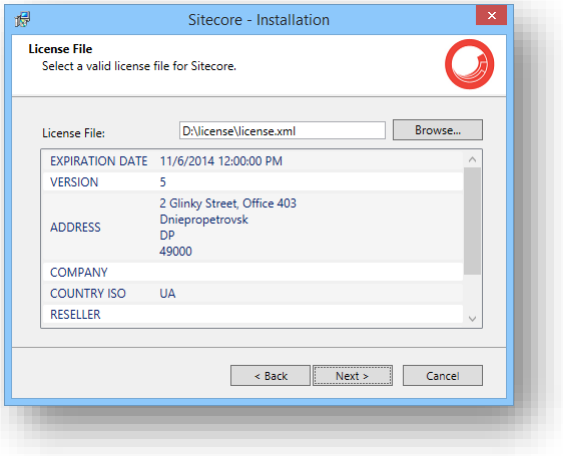
The installation cannot be completed without MVC 5.1. To proceed with the installation, close the error message, install ASP.NET MVC 5.1, and then click **Next**.

Instance Name



Give a unique name to the new instance of Sitecore XP. 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

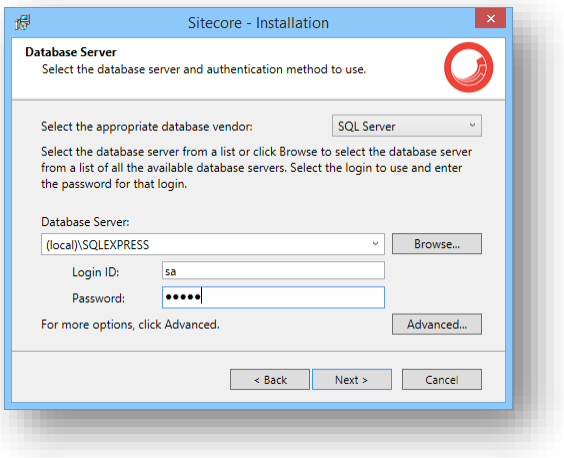


Select the license file. Click **Next**.

Database Server

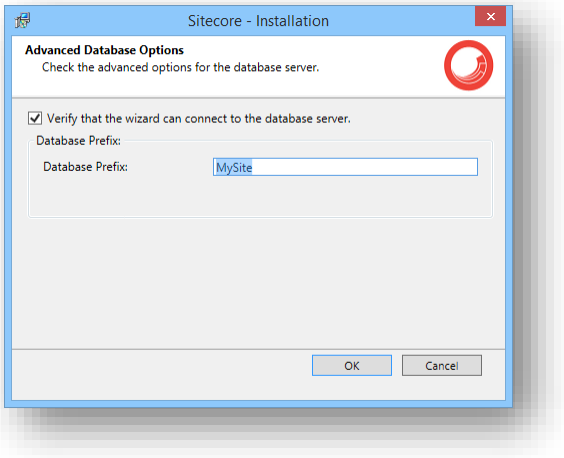
Select the database server.

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.

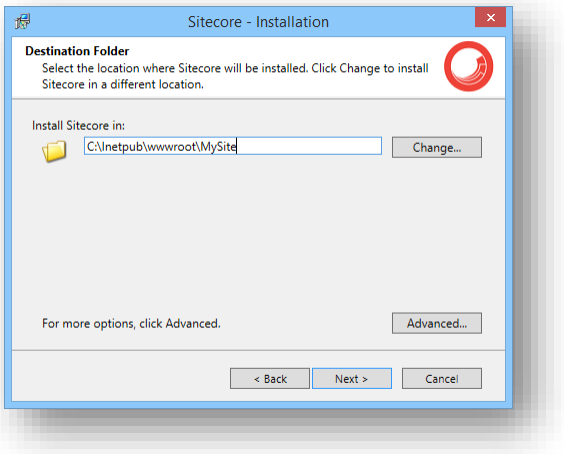
To set the database prefix options, click **Advanced** and the **Check the advanced options of the database server** dialog box appears.



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

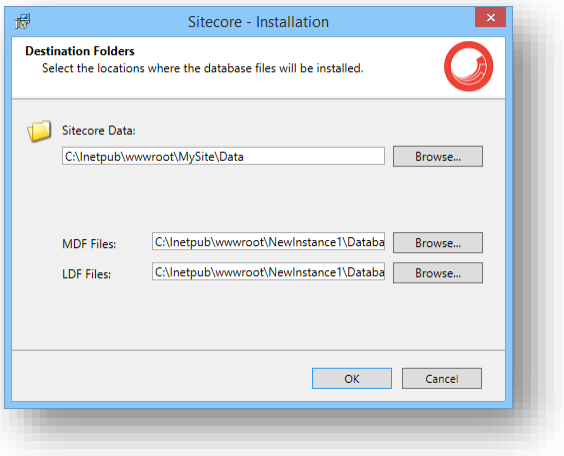
Click **Next**.

Destination Folder



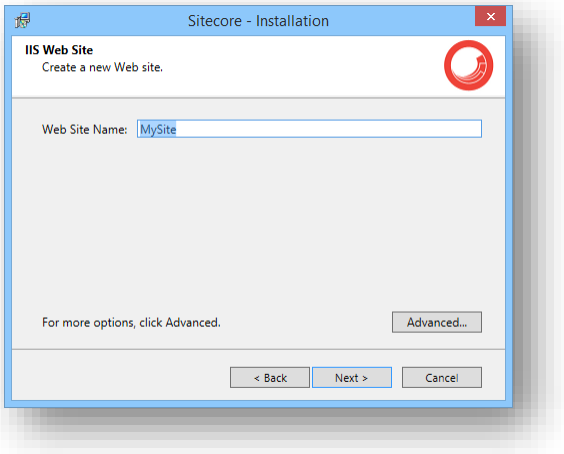
Select the location where Sitecore will be installed.

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



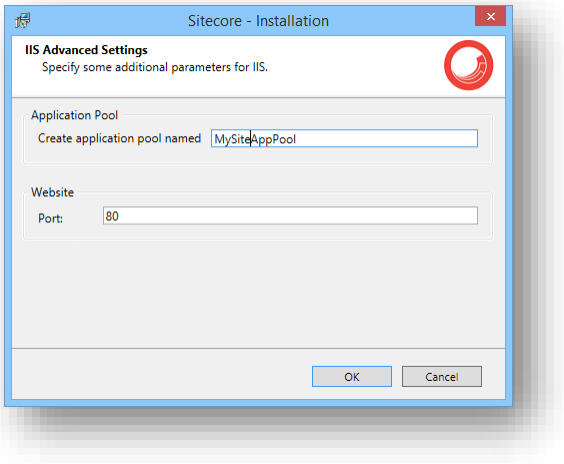
Enter destination folders and click **OK**.

IIS Web Site



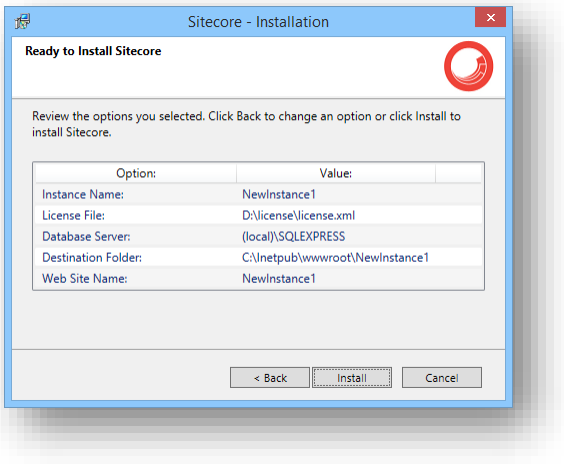
Enter the name of the new website.

Click **Advanced** to edit a website port, application pool name and mode, .NET Framework version.



Click **OK**.

Ready to Install Sitecore



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

A progress window informs you about the installation process.

3.3 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 the Sitecore XP from the .ZIP File

This chapter describes how to install Sitecore XP 8.0 from the ZIP file of the website root.

This chapter contains the following sections:

- Installation Process Overview
- Configuring Folder and Registry Permissions
- Configuring the IIS
- Microsoft SQL Server Configuration
- Uninstalling Sitecore XP

4.1 Installation Process Overview

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

You can download the Sitecore XP ZIP archive from the SDN.

To install an instance of Sitecore:

1. Install Microsoft .NET Framework 4.5.
1. Make sure the ASP.NET feature is enabled for Internet Information Services.
2. Choose a parent directory path for the project, for example `C:\InetPub\wwwroot\ProjectName.`
3. Extract the `.zip` archive to create the following folders:

   ```
   C:\InetPub\wwwroot\ProjectName\Website
   C:\InetPub\wwwroot\ProjectName\Data
   C:\InetPub\wwwroot\ProjectName\Databases
   ```
4. Set permissions as described in the section *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" />
   ```

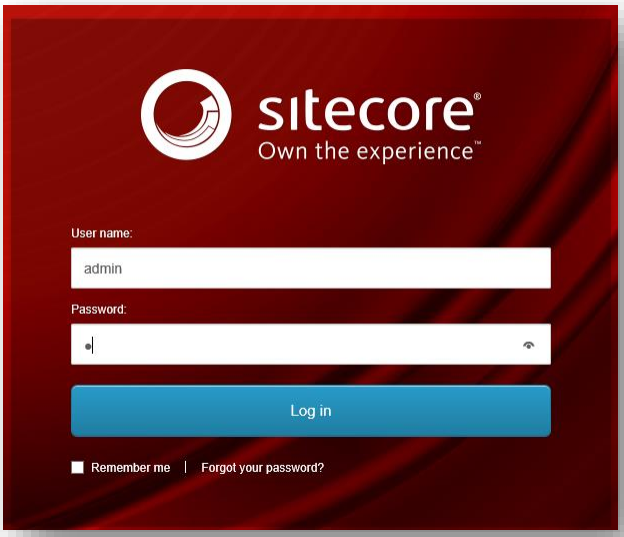
   This setting should be changed to the absolute location of the folder, such as: `C:\InetPub\wwwroot\ProjectName\Data`
6. Attach SQL databases from `/Databases` folder to the SQL server.
7. Edit the `ConnectionStrings.config` file located in the `/Website/App_Config/` folder.

   Enter a connection string for each database, for example:

   ```
   <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 website as described in the section *Configuring the IIS*.
9. Configure the Internet Explorer browser as described in the manual *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:



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 XP 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 website 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* permission to all the 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, 7.5, 8.0, 8.5	IUSR

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

4.2.2 File System Permissions for ASP.NET Requests

Sitecore XP executes requests for ASP.NET resources and all the .NET code running within the application with the permissions of the account configured as an identity for the website's application pool.

This account requires *Modify* permissions to all the files, folders, and subfolders under the `/Website` and `/Data` folders.

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

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

IIS 7 and later allows you to change the user account that is used for processing ASP.NET requests.

If you select a different user account to process the 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, see the 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 XP application requires access to multiple system files and folders that are not distributed as a part of the Sitecore XP 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:

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 account require the modify access rights to the \temp folder to install Sitecore XP.

These variables 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 XP 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 XP web application:

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

An 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 XP.

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
- IIS 8 – Windows Server 2012, Windows 8
- IIS 8.5 – Windows Server 2012 R2, Windows 8.1

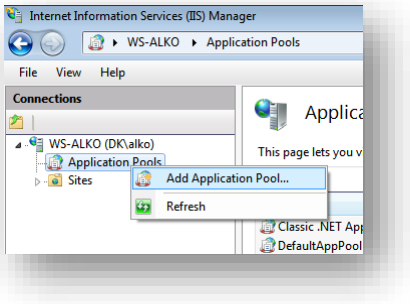
4.3.1 IIS 7, 7.5, 8, 8.5

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

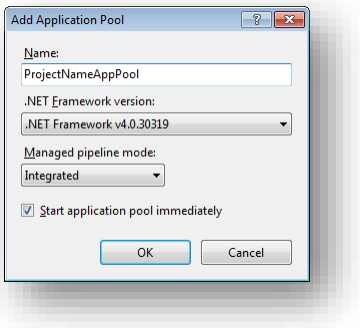
Create the Application Pool

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):

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



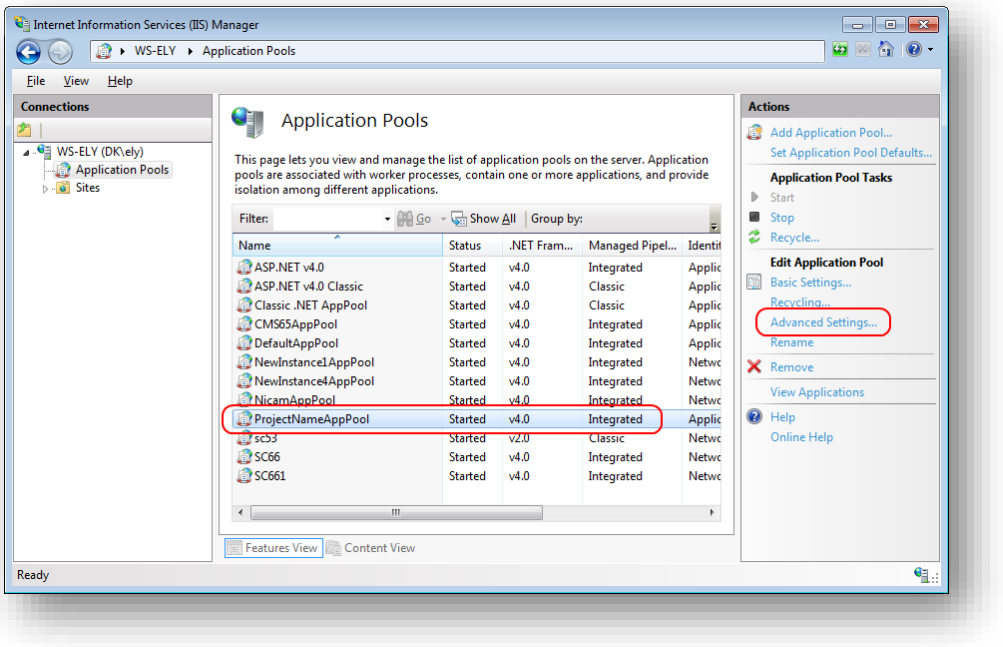
3. Right-click **Application Pools** and click **Add Application Pool**.



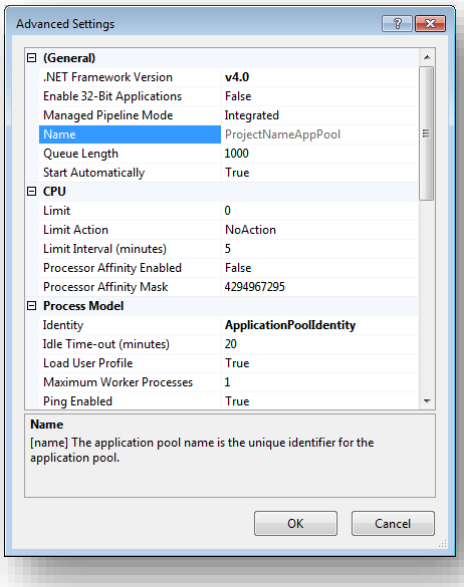
4. In the **Add Application Pool** dialog box, enter the following values:

Field	Value
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**.

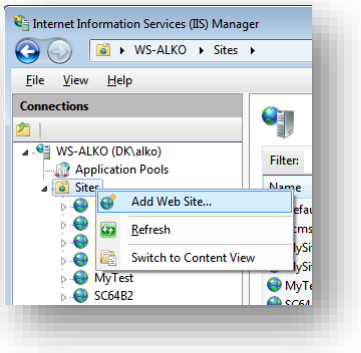


8. In the **Advanced Settings** dialog box:
   - Set the .NET Framework version to *v4.0*.
   - Set the **Identity** setting to the built-in account called *ApplicationPoolIdentity* or *NetworkService*.
   - Ensure that the **Maximum Worker Processes** setting is set to *1*.
   - Set the **Load User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

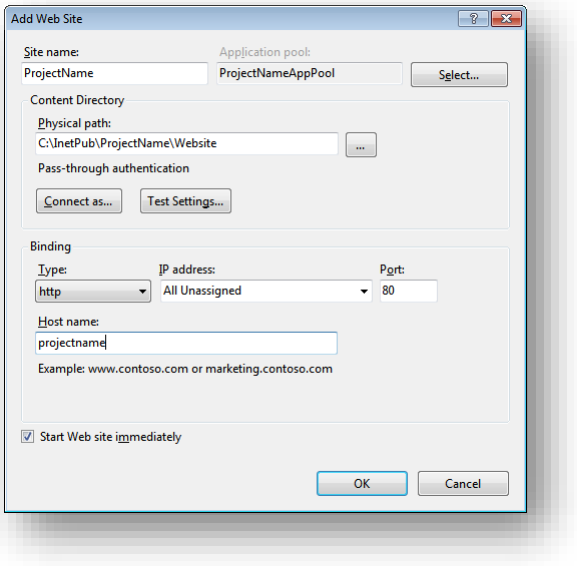
Create the Website

To configure the website:

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



3. Right-click *Sites* and then click **Add Website**.



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

Field	Value
Site name	ProjectName
Application pool	ProjectNameAppPool
Physical path	C:\InetPub\ProjectName\Website
Host name	Projectname

5. Click **OK**.
6. Open the hosts file – `C:\Windows\System32\drivers\etc` – and add the following line:

```
127.0.0.1       projectname
```

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

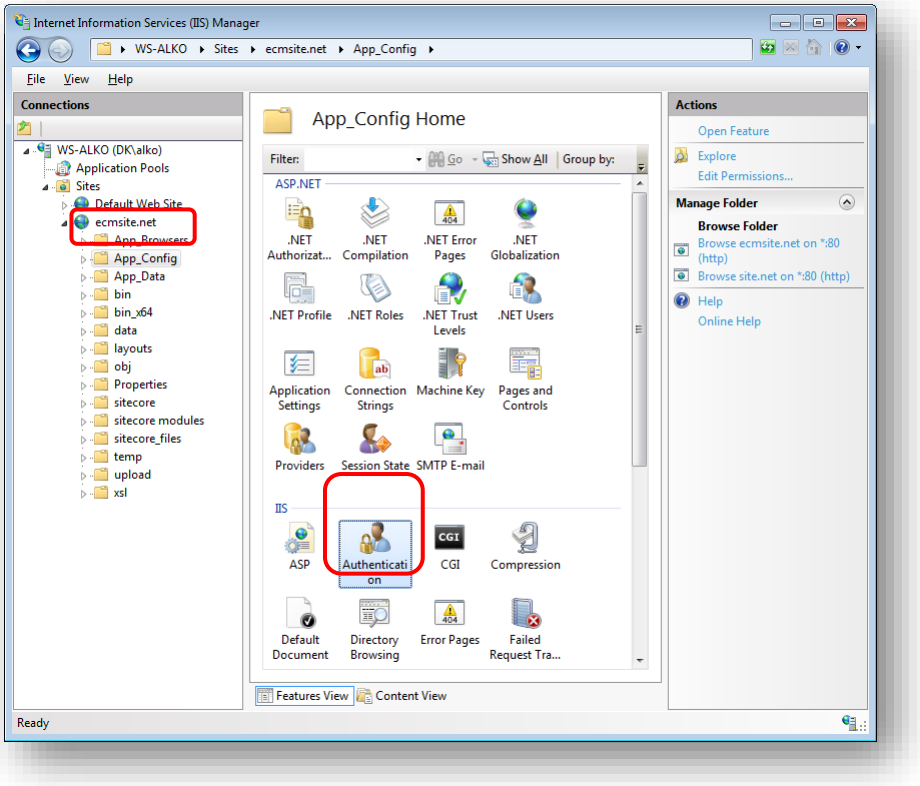
Limit Access to Anonymous Users

You should prevent anonymous users from accessing the following folders:

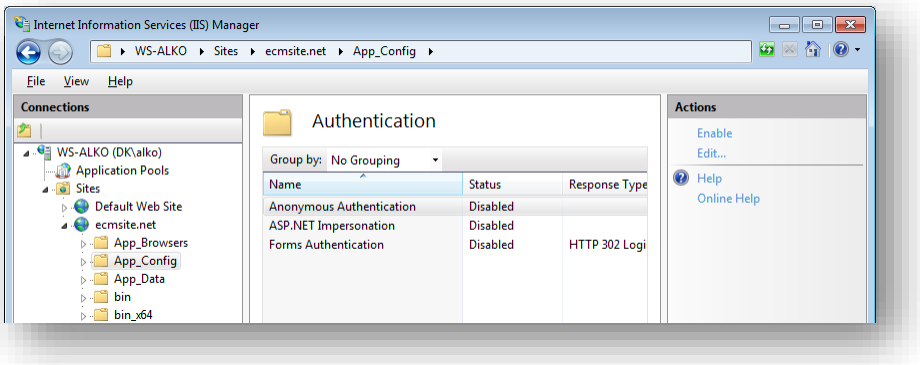
- /App_Config
- /sitecore/admin
- /sitecore/debug
- /sitecore/shell/WebService

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

1. Open the IIS.
2. In the **Connections** panel, browse to 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).

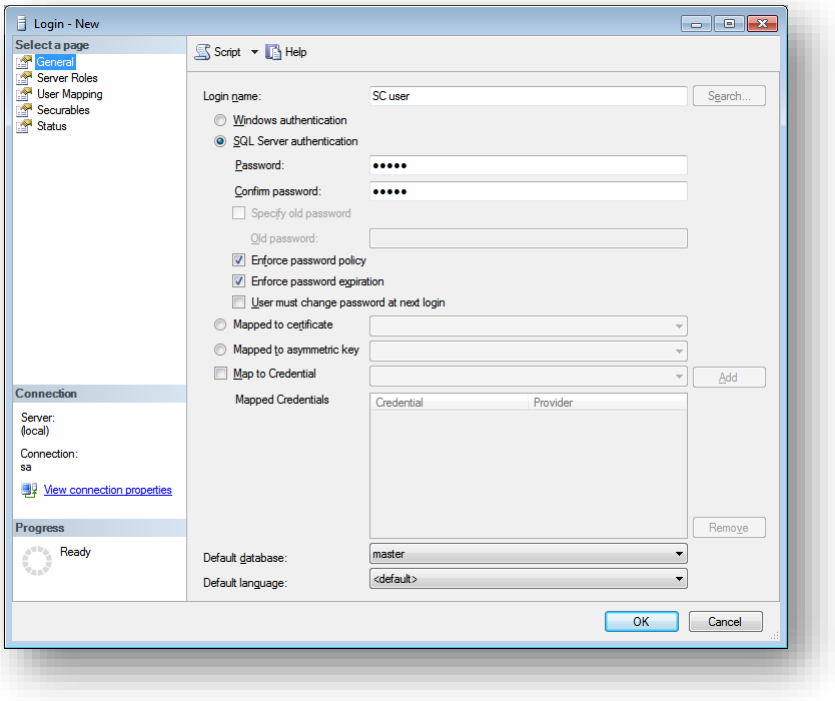
If you have already installed MS SQL and you need to change the security authentication mode, refer to this article: http://technet.microsoft.com/en-us/library/ms188670.aspx

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

4.4.1 Creating a Database Account for Sitecore XP Databases on SQL Server 2008, 2012 and 2014

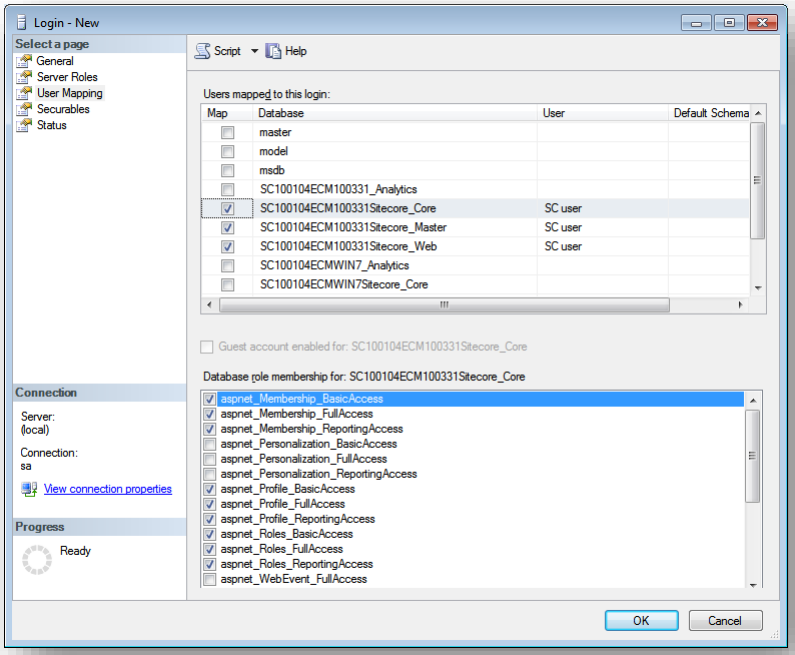
This section describes how to create a database account for Sitecore databases under SQL Server 2008 with the minimum required permissions.

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).

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 CEP 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

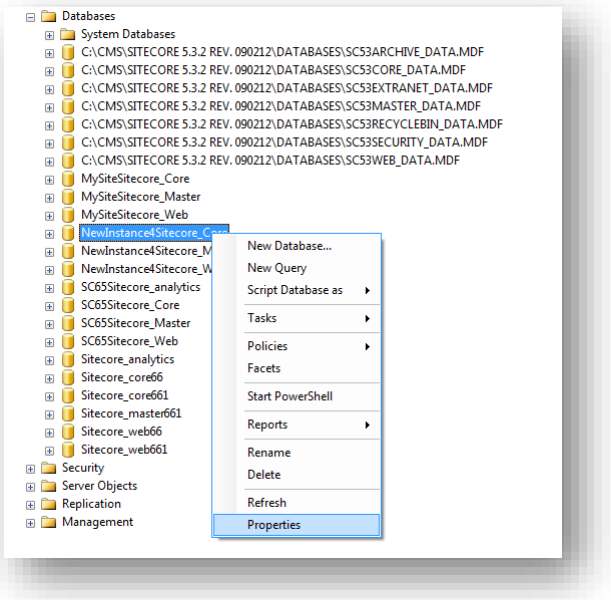
- aspnet_Roles_ReportingAccess

9. Click **OK** to create the user.

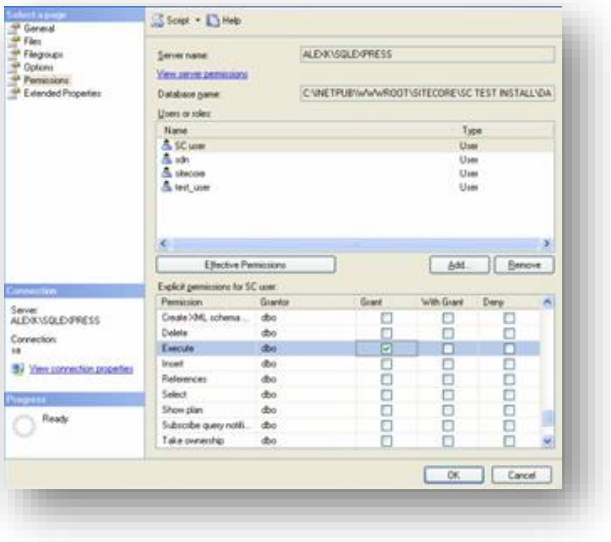
4.4.2 Granting Execute Rights to Stored Procedures

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**.



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 databases.

Important
The analytics database for Sitecore xDB runs on MongoDB. For more information about configuring Sitecore xDB on MongoDB see the *xDB Configuration Guide*.

4.5 Uninstalling Sitecore XP

Before uninstalling Sitecore:

- delete the IIS Website or update it to reference a different directory, or stop IIS by executing the following command:
  `net stop w3svc`.
- Remove the Sitecore file system.
- Remove any databases on remote or local servers that are used by this instance of Sitecore.

Chapter 5

Sitecore XP Post-Installation Steps

This chapter describes the recommend steps that you should take after installing Sitecore XP.

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
- Deploy the Marketing Definition Items
- Post Installation Steps

5.1 Content Expiration

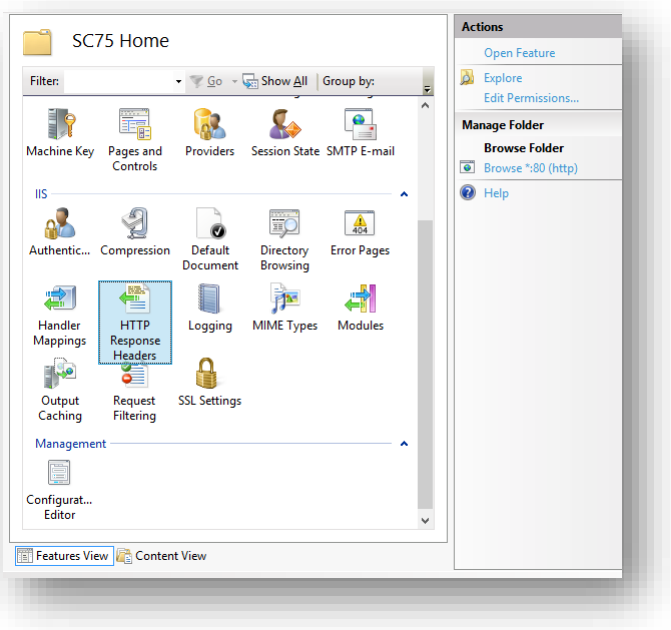
Set the IIS Expire Web content header to improve performance.

The Expire Web content header (located in common HTTP Response headers) is how IIS determines whether to return a new version of the requested web page if the request is made after the web page content has expired. IIS marks each web page before it is sent using the settings that you provide for content expiration. The website visitor's browser translates the expiration mark.

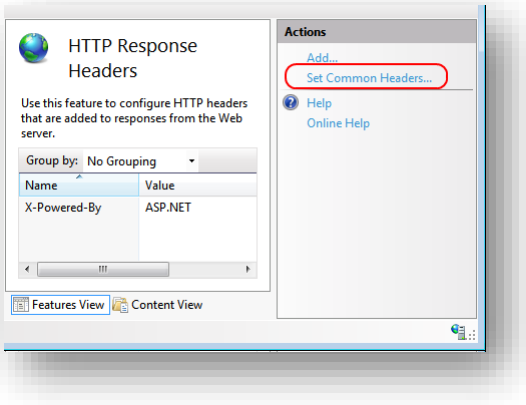
By setting Expire Web content to something other than immediately, you can reduce second-access load times by 50 to 70 percent. This setting does not affect dynamically generated content.

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

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

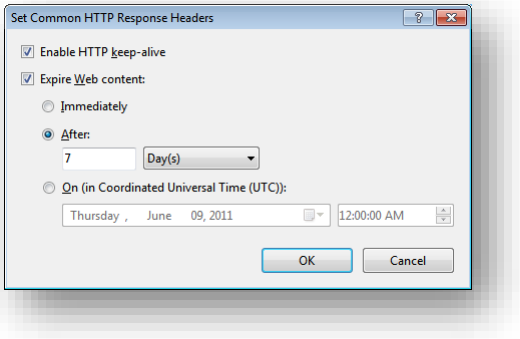


4. In the **Actions** panel, click **Set common headers...**



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

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

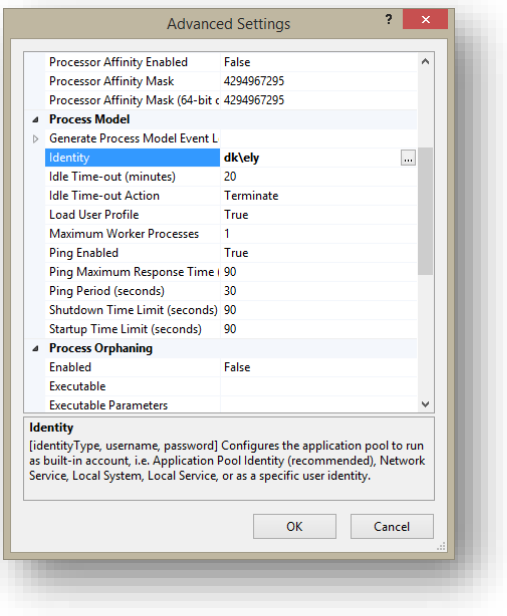


7. Click **OK**.

5.2 Windows Authentication for Sitecore

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

1. Open IIS and find the application pool that Sitecore is running under. Open **Advanced Settings** and in the **Identity** field, set the identity to the domain user.



2. In the SQL Server register the domain user and grant security permissions on Sitecore databases for the domain user. For more information, see the section *Creating a Database Account for Sitecore XP Databases on SQL Server 2008, 2012*.
3. On the machine that hosts Sitecore, add the domain user to the IIS_IUSRS group.
   - Adjust the permissions for the IIS_IUSRS group according to the instructions in the sections: *File System Permissions for ASP.NET Requests* and *File System Permissions for System Folders.*
4. 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>
```

5. Prepare your identity so that it can be used as a service account with "aspnet_regiis.exe" and the -ga switch.
6. To add your domain service account to the local "Performance Monitor Users" group follow the instructions in the section *Windows Registry Permissions.*

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

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

5.3 Setting Microsoft SQL Server Database Properties

There are some Microsoft SQL Server database properties that, when configured correctly, can increase performance:

Compatibility Level

Compatibility Level effects SQL syntax and query parsing, and should have no impact on performance. Setting the Compatibility Level to a value of *SQL Server 2008(100)* takes 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, and so on 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 (1/10 of a second or quicker), then all of those resources need to be activated again. Setting the *Auto Close* property to *false* or *OFF* prevents this from happening.

Auto Shrink

The Auto Shrink property uses many resources when it's called, and you have no control over when it is called. If you combine *Auto Shrink* with *Auto Growth*, you can get into a spiral of constantly growing and shrinking 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 via a script, a command, or a scheduled maintenance plan. Setting the *Auto Shrink* property to *false* or *OFF* disables this feature.

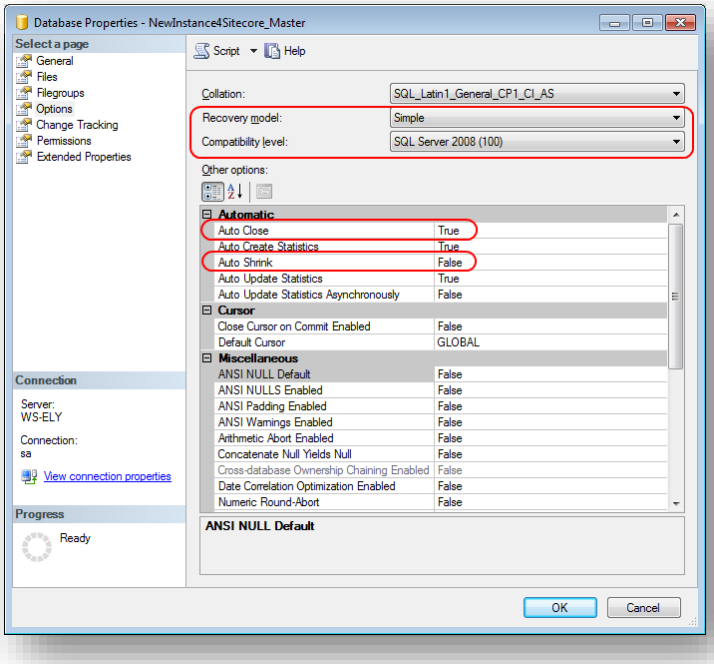
Recovery Model

In the Simple Recovery Model, MS SQL Server records a minimal amount of information in the transaction log. MS SQL Server 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 can recover in the amount of time that is specified in the Recovery Interval server level configuration. Setting the 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 XP databases.

To set these properties:

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

3. Select the **Options** page and set the parameters as shown in 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 Sitecore Core and Web databases.

5.4 Rebuild the Search Index and the Link Database

Follow these instructions after you install Sitecore.

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** and select all the available databases.

5.5 Cache Configuration

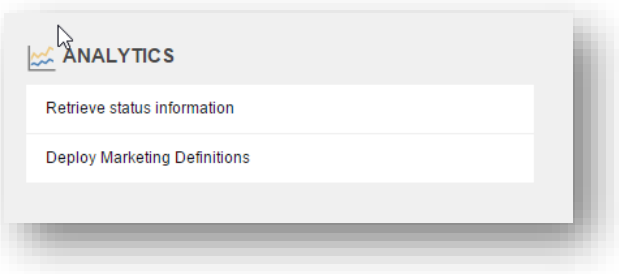
When Sitecore XP is installed, you should optimize caching to improve solution performance, reduce server load, and increase system capacity.

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

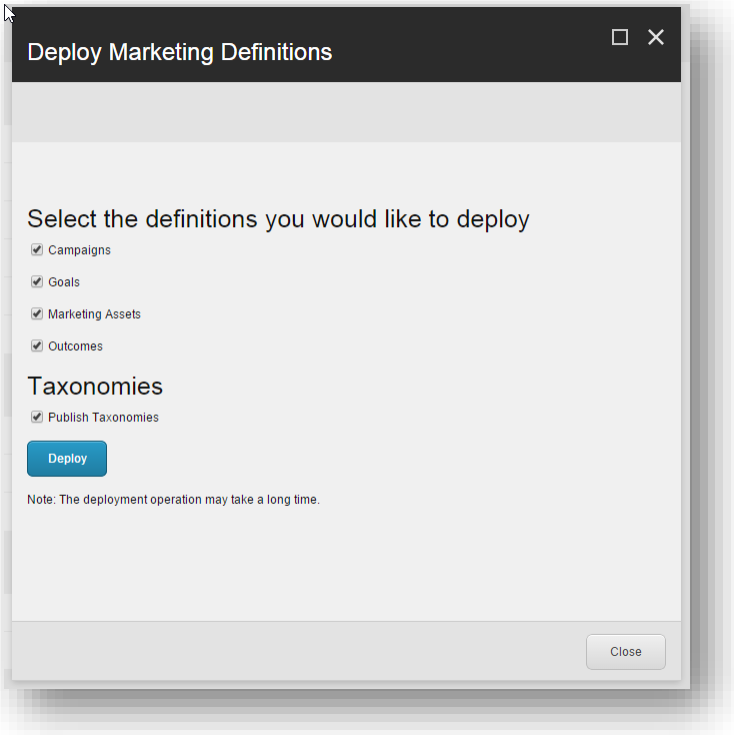
5.6 Deploy the Marketing Definition Items

If you want to use XMarketing functionality, you must deploy the marketing definition items. To do this:

1. Login to the Sitecore Experience Platform desktop.
2. Click **Control Panel** and navigate to the **ANALYTICS** section.



3. Click **Deploy Marketing Definitions**.
4. Check all checkboxes and click **Deploy**.



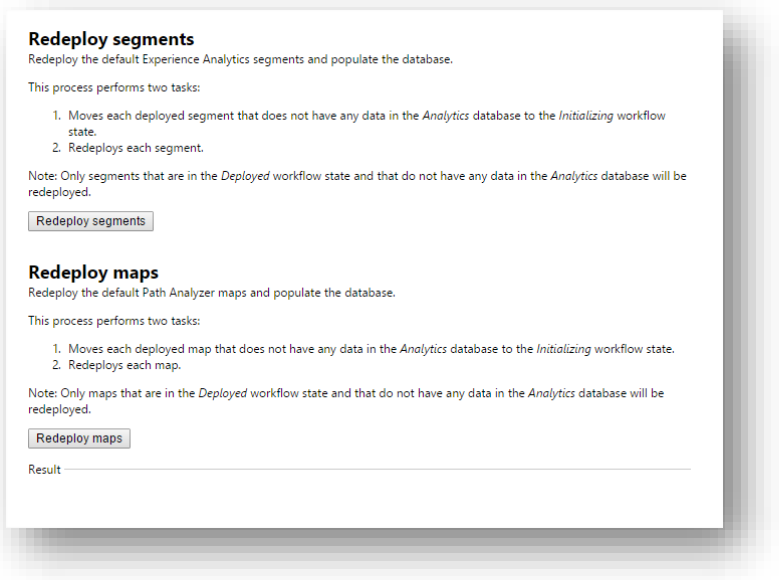
5.7 Post Installation Steps

5.7.1 Deploy the Experience Analytics Segments

If this is a new installation and you want to start collecting data for Experience Analytics, you must deploy the Experience Analytics segments. These segments determine what data is analyzed.

To deploy the Experience Analytics segments:

1. Log in to your Sitecore installation.
2. In the browser, enter this path in the address field: `yoursitecoreinstallation/sitecore/admin/RedeployMarketingData.aspx`.



3. Click **Redeploy segments**.

Chapter 6

Configuring Sitecore Experience Database

This chapter describes how to configure the Sitecore Experience Database.

The Sitecore Experience Database (Sitecore xDB) is a central data repository for marketers. It collects and connects all customer interactions in a single view, and enables immediate, personalized, automated experiences. Sitecore xDB uses MongoDB as a collection database.

This chapter contains the following sections:

- Prerequisites
- Configuration Process

6.1 Prerequisites

The Sitecore xDB 8.0 requires the following prerequisites for installation:

- Sitecore XP 8.0 (8.0 Initial Release) or later
- Sitecore License file supporting Sitecore xDB
- Microsoft SQL Server 2008 R2 SP1, SQL Server 2012 or SQL Server 2014
- Microsoft Silverlight 4 or later
- MongoDB 2.6.x

For more information on how to install MongoDB, see http://docs.mongodb.org/manual/.

6.2 Configuration Process

Sitecore xDB is included into the Sitecore XP package. You do not need to install it separately.

There are three overall steps to configuring Sitecore xDB:

- **Configuring the reporting database** – attach the `Sitecore.Analytics.mdf` database to SQL Server. This database is used for reporting.
  - In the `ConnectionStrings.config` file, customize the following string:

```
<add name="reporting" connectionString="user id= username ;password= password ;Data Source=_server_;Database=Sitecore_Analytics" />
```

Note
You can create a database account with the minimum required permissions for the *analytics* database as described in the section Microsoft SQL Server Configuration.

- **Installing MongoDB** – download and install the latest version of MongDB.
- **Configuring Sitecore to use Mongo databases** – perform the actions outlined in the following procedure for each Mongo server.

To configure Sitecore to use Mongo databases:

1. In the `ConnectionStrings.config` file, specify connection strings to your MongoDB server:

```
<add name="analytics" connectionString="mongodb://localhost/analytics" />
<add name="tracking.live" connectionString="mongodb://localhost/tracking live" />
<add name="tracking.history" connectionString="mongodb://localhost/tracking history" />
```

2. Update the relevant `web.config` and `Sitecore.Analytics.config` settings, such as *MailServer* and *Analytics.EMailFromAddress* (for sending out reports as emails).
3. If you wish to use DMS with Sitecore MVC, in */App_Config/Include/* folder, rename the `Sitecore.MvcAnalytics.config.disabled` file to `Sitecore.MvcAnalytics.config`.
4. To limit the lookup activity to one server, in the `/App_Config/Include/Sitecore.Analytics.config` file, update the `Analytics.PerformLookup` setting.

Note
You can enable lookups on either a CM or a CD instance. The Sitecore instance should be able to access the MaxMind web service.

For more information about GeoIP lookup functionality, see MaxMind Signup and Purchase.

5. Restart Internet Information Services (IIS).

For more information about configuring Sitecore xDB to use with Sitecore XP, as well as scalability of Sitecore xDB architecture, see https://doc.sitecore.net/.

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

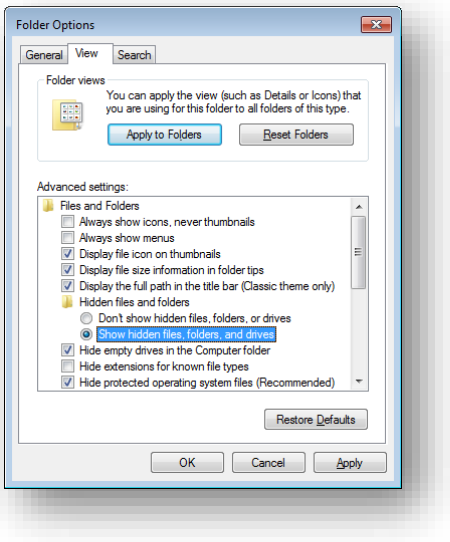
To update the security settings for a folder:

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.

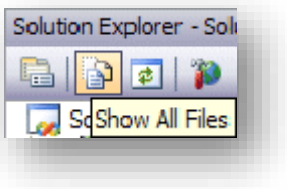
To create a Visual Studio Web Application project for an existing Sitecore solution:

1. In Visual Studio, click the **File** menu, then click **New**, **Project**.
2. In the **New Project** dialog box, in the **Project Types** tree, expand **Visual C#**, and then click **Web**.
3. In the **Templates** list, click **ASP.NET Web Application**.
4. Select the version of the .NET Framework. While installing Sitecore XP, in the **IIS Website** step you selected the version of the .NET Framework: 4.5.
   - Select **.NET Framework 4.5** in the Visual Studio project.
5. In the **Name** field, enter the name of the project, for example `MyWebSite`. Visual studio uses this name as the default .NET namespace and assembly name.
6. In the **Location** field, enter the document root of the Sitecore solution, for example `C:\inetpub\sitecore\MyWebSite\WebSite`.
7. 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, and then click **OK**. Visual Studio creates the project in a subdirectory of the directory specified by **Location**, and then opens your project.
9. In Solution Explorer, right-click References and click **Add Reference**.
10. Click the **Browse** tab and select the `Sitecore.Kernel.dll` file, and then click OK.
11. 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:

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



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