



Microsoft®

SharePoint® Server 2010

Microsoft SharePoint Server 2010 Self-study

Installation Guide (RTM Version)

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Introduction

SharePoint Server 2010 was officially released in May 2010. All new UIs and features were designed and improved to increase the productivity of end-user computing.

The server configuration, especially the farm configuration (an environment consisting of multiple servers), was also redesigned to allow more flexible configurations. This helped the product evolve to a platform that enterprises can more easily use with higher redundancy and availability than the earlier versions.

This self-study guide has been prepared to help you to install SharePoint Server 2010 and immediately start an evaluation. Start with the basic installation procedure. In various parts of this guide, you will find tips that will help you to configure an actual environment.

Throughout this guide, you will also find many links to Microsoft TechNet and MSDN. If you intend to create more complicated configurations, we recommend that you use those links to read additional detailed information.

There are several techniques that can be used to install SharePoint Server 2010. Note that the examples given in this self-study guide are merely examples. You are not obligated to perform installation exactly as described in the examples for the product to work. Installation can be performed from the command line, and the post-installation configuration can be deployed effectively using various techniques, such as configuring from Windows PowerShell. This self-study guide helps you to take full advantage of powerful installers and wizards implemented by SharePoint Server 2010 so that the installation can be performed without the need for scripts.

Note that for environments in which SharePoint Server 2010 has been constructed, data migration (database-attach upgrade) from SharePoint Server 2010 Beta version (Beta2, RC) is not supported. This is blocked at the code level. Construct new content instead of recycling environments and contents for the SharePoint Server 2010 Beta version or RC version that you evaluated prior to RTM.

For details on upgrade techniques, refer to the [SharePoint Server 2010 Self-study Upgrade Guide](http://go.microsoft.com/fwlink/p/?LinkId=227468) (<http://go.microsoft.com/fwlink/p/?LinkId=227468>).

Revision History

Version	Released In	Details of Changes
Version 1.0	June 2010	Initial release

About the Prerequisite Environment

Note: *This white paper is based on the environment described below. That environment is not available to you, but this paper still offers a detailed, graphics-rich companion to the installation and upgrade content available on TechNet.*

The white paper assumes that the Active Directory environment to be evaluated and the e-mail server have already been made available.

The prerequisite environment used to write this self-study guide is as follows:

- Active Directory

Server OS: Windows Server 2008 R2 (x64)

Server name: DC2008

Server roles: AD DS, DNS

Domain name: Contoso.com

Domain function level: Windows Server 2003 Native

IP address	192.168.1.100
Subnet mask	255.255.255.0
DNS	127.0.0.1

- E-mail server

Server OS: Windows Server 2008 R2 (x64)

Server name: MAIL2010

Application: Microsoft Exchange Server 2010

Installation: Exchange Server standard installation (Hub, CAS, Mail Box, Exchange administrative tools)

IP address	192.168.1.200
Subnet mask	255.255.255.0
DNS	192.168.1.100

- **SharePoint Server 2010 installation server**

Server OS: Windows Server 2008 R2 (x64)

Server name: SP2010

SQL Server: SQL Server 2008 R2 (x64)

IP address	192.168.1.110
Subnet mask	255.255.255.0
DNS	192.168.1.100

In this self-study guide, SharePoint Server 2010 and SQL Server co-exist on one server, but in an operating environment these should be prepared and used on different servers to improve daily maintenance, data backup, and performance.

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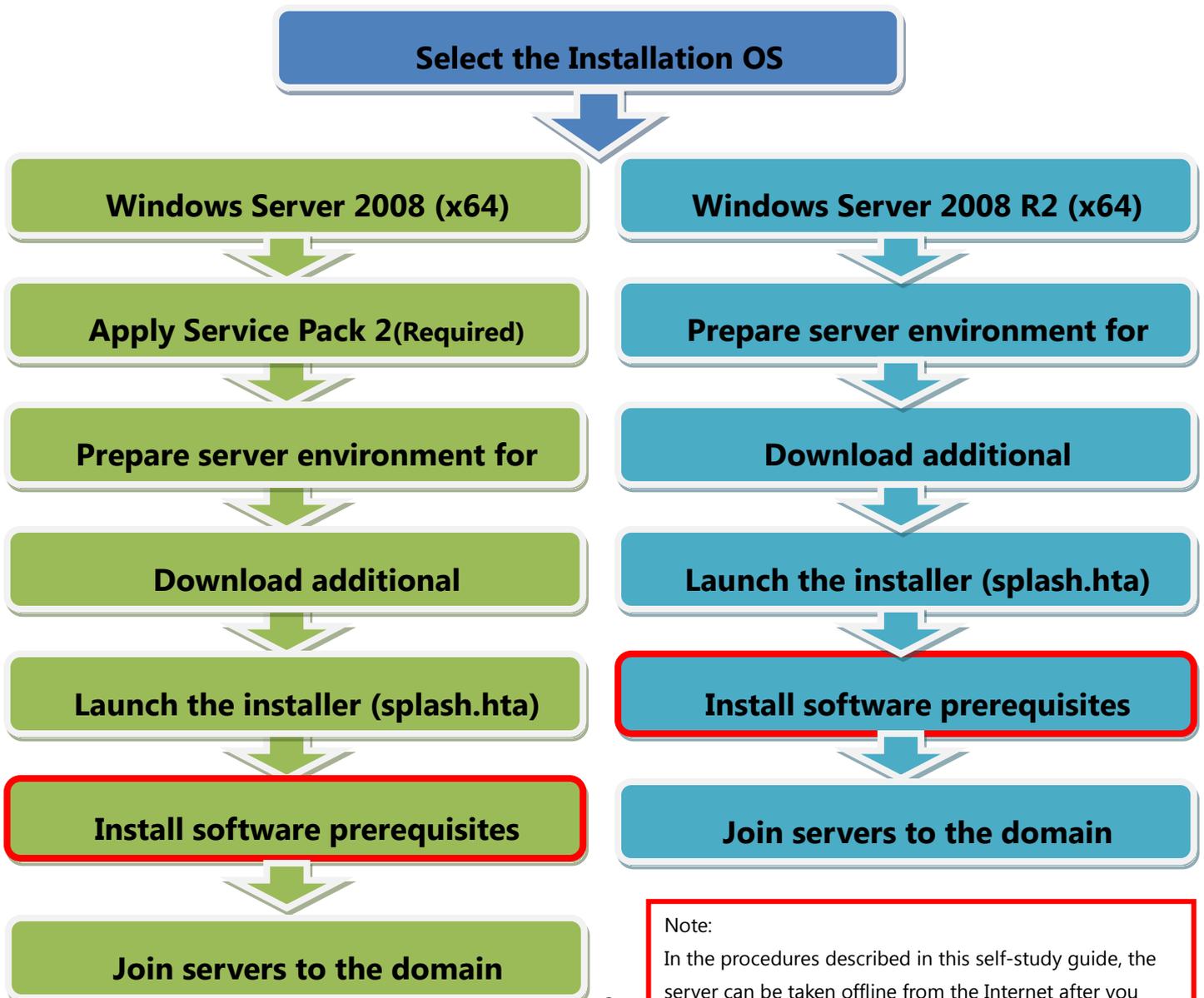
Chapter 1. Constructing the Installation Environment

1.1 SharePoint Server 2010 Installation Procedures Performed in This Self-study Guide

This evaluation environment deploys Microsoft SharePoint Server 2010 and Microsoft SQL Server 2008 on one server to describe first how to build an environment with the least number of servers possible. In an operating environment, or when high performance is required, you should prepare and use SQL Server on a different server. During the installation, in order to allow the installation of necessary additional modules, you will need an environment that is connected to the Internet. Once you have completed the installation and download of additional modules, it is possible to disconnect the environment from the Internet. (If you want to use features that require a constant connection to the Internet, such as the Search Federation feature, some Web parts, or RSS features, we recommend that you use a server on which multiple network cards have been installed.)

SharePoint Server 2010 supports Windows Server 2008 SP2 and the latest Windows Server 2008 R2 as its basic OS. **In both cases, only the 64-bit version is supported.**

Before starting the installation, let us confirm the differences in the overall flow for each OS version.



Note:
In the procedures described in this self-study guide, the server can be taken offline from the Internet after you have completed the "Install software prerequisites" step.



This self-study guide uses the RTM versions of Microsoft Windows Server 2008 SP2 and Microsoft Windows Server 2008 R2, SharePoint Server 2010, and SQL Server 2008 R2 in its explanations.

1.2 Verifying the Recommended Hardware and Software

The recommended hardware and software requirements for a server on which Microsoft SharePoint Server 2010 is to be installed are shown below.

Hardware requirements:

Processor	64-bit , 4-core
Memory	4 gigabyte (GB) for stand-alone or evaluation installation 8 GB for single server and multiple server farm installation for production use
Hard disk	80 GB
Miscellaneous	DVD drive

Software requirements:

Database servers in the farm	Microsoft SQL Server 2005 Service Pack 3 (SP3) or Microsoft SQL Server 2008 Service Pack 1 (SP1) and Hotfix
Stand-alone configuration	<p>64-bit version Windows Server 2008 SP2 or Windows Server 2008 R2</p> <p>--- The following components can be automatically configured with the SharePoint 2010 PrerequisiteInstaller.exe tool:</p> <ul style="list-style-type: none"> Role of Web Server (IIS) Role of Application Server Microsoft .NET Framework version 3.5 SP1 SQL Server 2008 Express with SP1 Microsoft Sync Framework Runtime v1.0 (x64) Microsoft Filter Pack 2.0 Microsoft Chart Controls for the Microsoft .NET Framework 3.5 Windows PowerShell 2.0 SQL Server 2008 Native Client Microsoft SQL Server 2008 Analysis Services ADOMD.NET ADO.NET Data Services Update for .NET Framework 3.5 SP1 Windows Identity Foundation (WIF)
Farm configuration	<p>64-bit version Windows Server 2008 SP2 or Windows Server 2008 R2</p> <p>--- The following components can be automatically configured with the SharePoint 2010 PrerequisiteInstaller.exe Install tool:</p> <ul style="list-style-type: none"> Role of Web Server (IIS) Role of Application Server Microsoft .NET Framework version 3.5 SP1

Microsoft Sync Framework Runtime v1.0 (x64)
 Microsoft Filter Pack 2.0
 Microsoft Chart Controls for the Microsoft .NET Framework 3.5
 Windows PowerShell 2.0
 SQL Server 2008 Native Client
 Microsoft SQL Server 2008 Analysis Services ADOMD.NET
 ADO.NET Data Services Update for .NET Framework 3.5 SP1
 Windows Identity Foundation (WIF)

Client requirements:

PC A browser supported by SharePoint Server 2010
 Silverlight 3

Tips: For information on the supported browsers, see the following TechNet article:
<http://technet.microsoft.com/en-us/library/cc263526.aspx>

Notes:

At first glance, you might think that you need a server equipped with very powerful and advanced hardware. However, the minimum recommended requirements are 4 GB of memory and a multi-core CPU, and these specifications are now in the mainstream. The level of hardware specifications that will eventually be required will depend on the services that you use and the purpose of using SharePoint Server in your organization.

For information on capacity planning, refer to the following TechNet articles:

<http://technet.microsoft.com/en-us/library/cc261700.aspx>

<http://technet.microsoft.com/en-us/sharepoint/ff601870.aspx> (Capacity Management Center)

This self-study guide has constructed an environment on a server with the following specifications.

Environment for evaluation of SharePoint Server 2010 features: (the domain controller and mail server for evaluation are separate)

CPU	Intel Core 2 Duo E8600
Memory	8GB
Hard disk	160GB
To be installed	Windows Server 2008 R2 + SharePoint Server 2010 + SQL Server 2008 R2 Office 2010 Professional Plus + Office Web Apps

1.3 Preparing Service Accounts

Before you start installing SharePoint Server 2010, you must prepare the necessary service accounts. As far as security is concerned, it is not advisable to always use the Administrator account. Your organization can

plan how many service accounts should be prepared and used for operation. You can ensure a high level of security by carefully operating service accounts, which also facilitates troubleshooting. However, in order to operate many service accounts simultaneously, it is necessary to consider the time and cost required for maintenance.

The minimum service accounts that you should prepare before you can run SharePoint Server 2010 properly are as follows.

• SharePoint Server installation account

This is an account that you use to log in to the OS when installing SharePoint Server. The use of an installation account eliminates the necessity to use the Administrator account, which always has the higher authority. In order to "run" the installer and to install program files on the server, this account should be included in the group of local "Administrators" on the server OS.

• SharePoint Server farm account

This is a shared account that is used to perform default services in a SharePoint farm. A SharePoint farm consists of multiple servers running SharePoint Server, but each server is not configured with different accounts. Decide on and use one common account in a farm. This account also serves as an execution account for several services required by default (for initial configuration).

• SharePoint Server search service account

This is an account that is used when an indexer accesses the target content. SharePoint Server internally provides special privileges to a designated search service account. Therefore, this search service account should not be the same as the SharePoint Server farm account or the Administrator account.

Prepare a dedicated account so that the security trimming operates properly.

Other accounts based on the service applications that you use or the decisions made by your organization.

Example:

• Web application worker process execution account

You can more easily monitor the behavior of Web Applications by creating separate worker process execution accounts for the application pools in each respective Web Application. A worker process is run under the Image Name of "W3WP.exe", and you can use Task Monitor to verify the execution account in which each W3WP.exe is being run, and you can also observe memory usage.

• User Profile Sync service application service account

The User Profile Sync service application requires you to grant special permissions on the Active Directory side to synchronize it with the domain controller.

This self-study guide prepares and uses service accounts as shown below.

Purpose	Account name	Password
SharePoint installation	Spadmin	P@ssw0rd

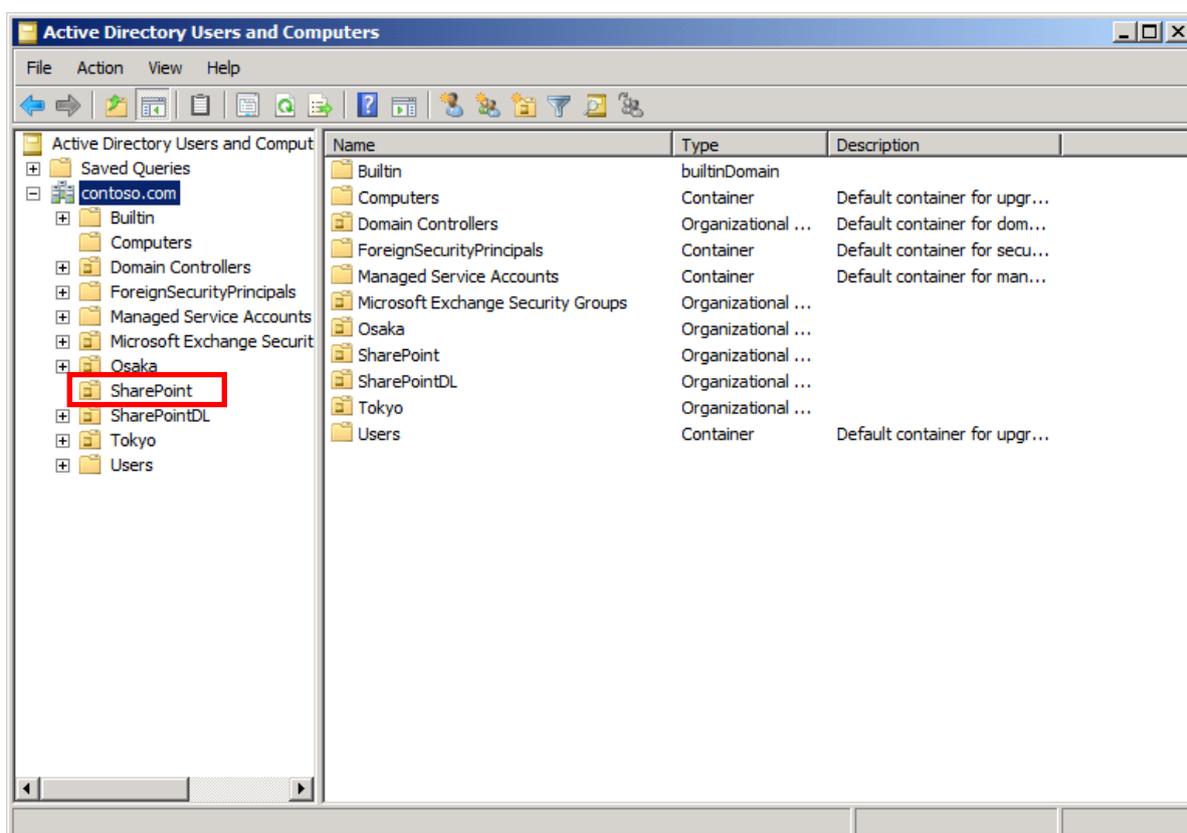
SharePoint farm	Spfarm	P@ssw0rd
SharePoint search service	Spsearch	P@ssw0rd
Test user account(Taro Yamada)	Yamada	P@ssw0rd
User Profile Sync	Spups	P@ssw0rd

* The configuration technique for User Profile Sync is described in the Appendix.

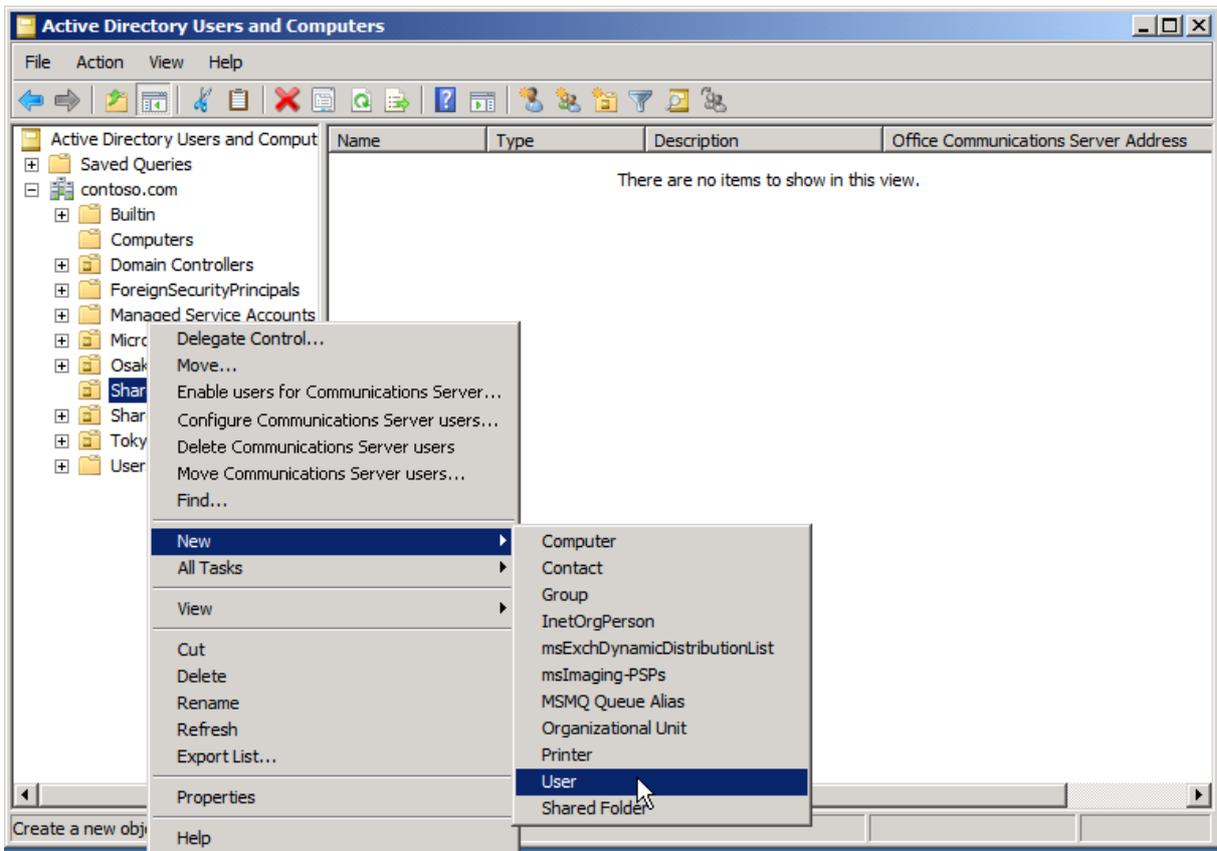
1. In the domain controller, point to **Administrative Tools from the **Start** menu and open **Active Directory Users and Computers**.**

* If possible, we recommend that you create an organizational unit (OU) for SharePoint Server.

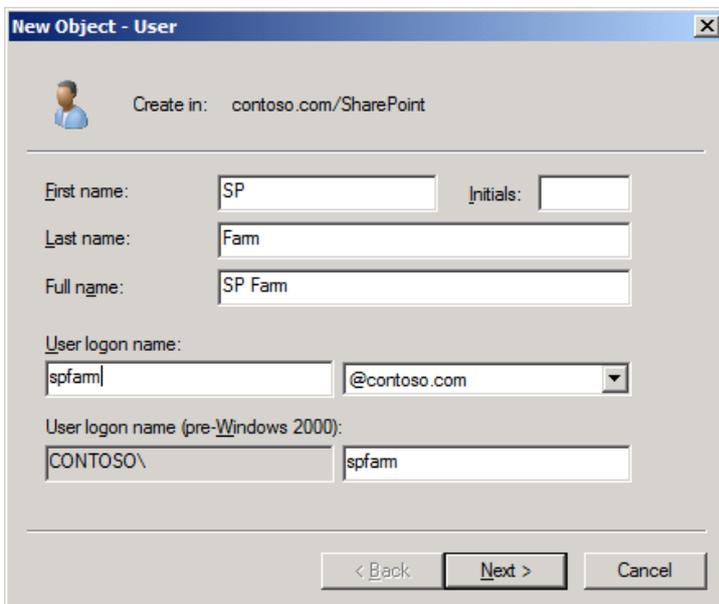
* In this self-study guide, an OU named "SharePoint" has been created.



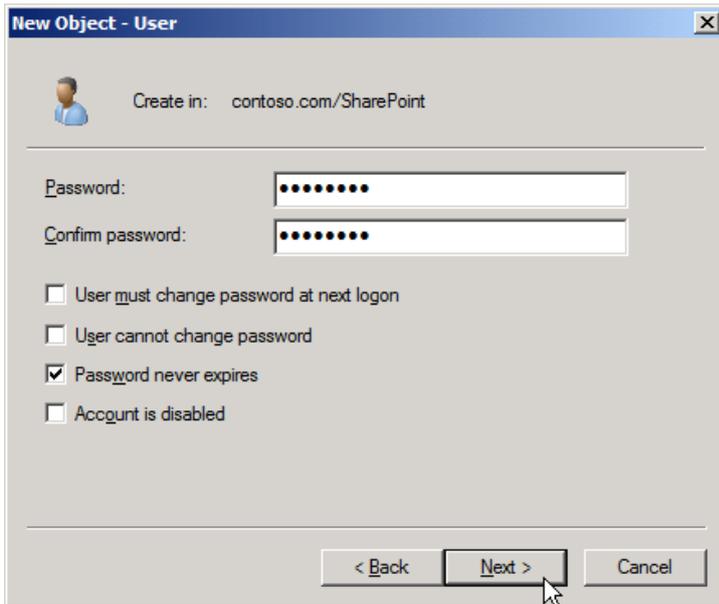
2. In the left pane, right-click the created OU (in this self-study guide, "SharePoint"). Select **New from **User**.**



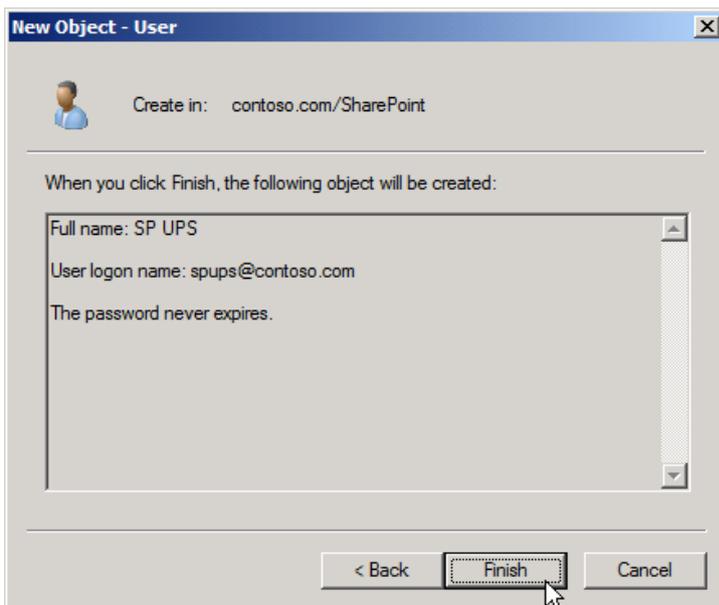
3. Create a user account (service account). Enter a full name that is easy to remember and a user logon name.



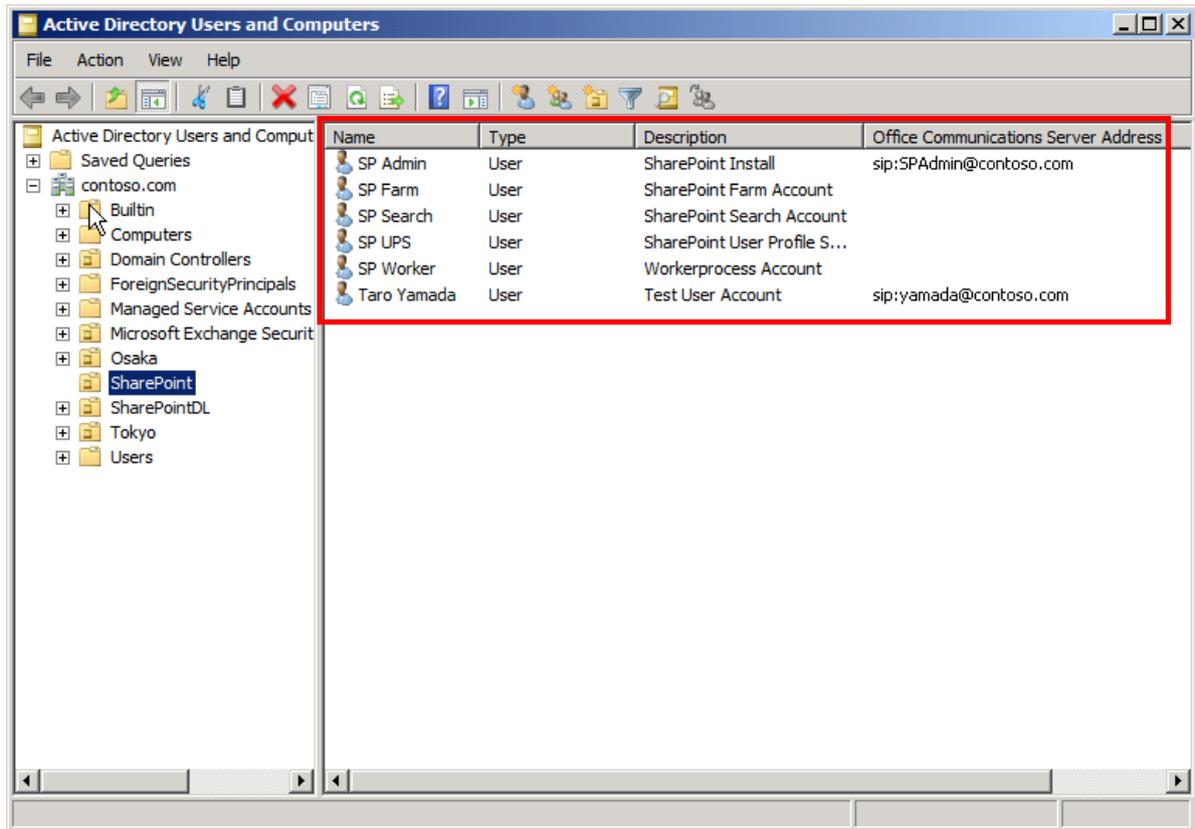
4. Set the password. Select the **Password never expires** check box. Click **Next**.



5. Confirm the settings, and click **Finish**.



6. Repeat the above steps to create the necessary service accounts.



For further additional settings for each individual account, you will perform settings step-by-step in the installation process that follows.

1.4 Important Points Regarding Use of Trial Version Software and Download Points

This self-study guide uses **only** the **full versions** of Server OS, Microsoft SharePoint Server 2010, Office Web Apps, SQL Server, and Office Client. Full versions are used because we are assuming that you will evaluate Office Web Apps. A trial version of SharePoint Server 2010 is available, but as of June 2010 there is no trial version of Office Web Apps. (Evaluation on Windows Live SkyDrive is recommended) In the SharePoint environment, you cannot install Office Web Apps that require a "full version" license key on a SharePoint Server 2010 trial version that has been installed with a "trial version" key that is valid for 180 days only.

(Tip: A full version key and a trial version key are not allowed to coexist within one environment.)

If you wish to configure an environment using the "trial version" software provided by Microsoft for the purpose of configuring a SharePoint Server environment to perform a short-term evaluation, you can use one of the combinations shown below.

Evaluate Office Web Apps		Do not evaluate Office Web Apps	
Windows Server 2008 R2	Trial version available	Windows Server 2008 R2	Trial version available
SQL Server 2008 R2	Trial version available	SQL Server 2008 R2	Trial version available
SharePoint Server 2010	Full version and license key	SharePoint Server 2010	Trial version available
Office Web Apps	Full version and license key	The entire environment can be constructed with the trial version (for 180 days)	

To download each of these trial versions, refer to the following download points.

1. Windows Server 2008 R2 180-day trial version

<http://www.microsoft.com/downloads/details.aspx?FamilyID=ba571339-5436-4cf5-9c37-6ed7dab6f781&DisplayLang=en>

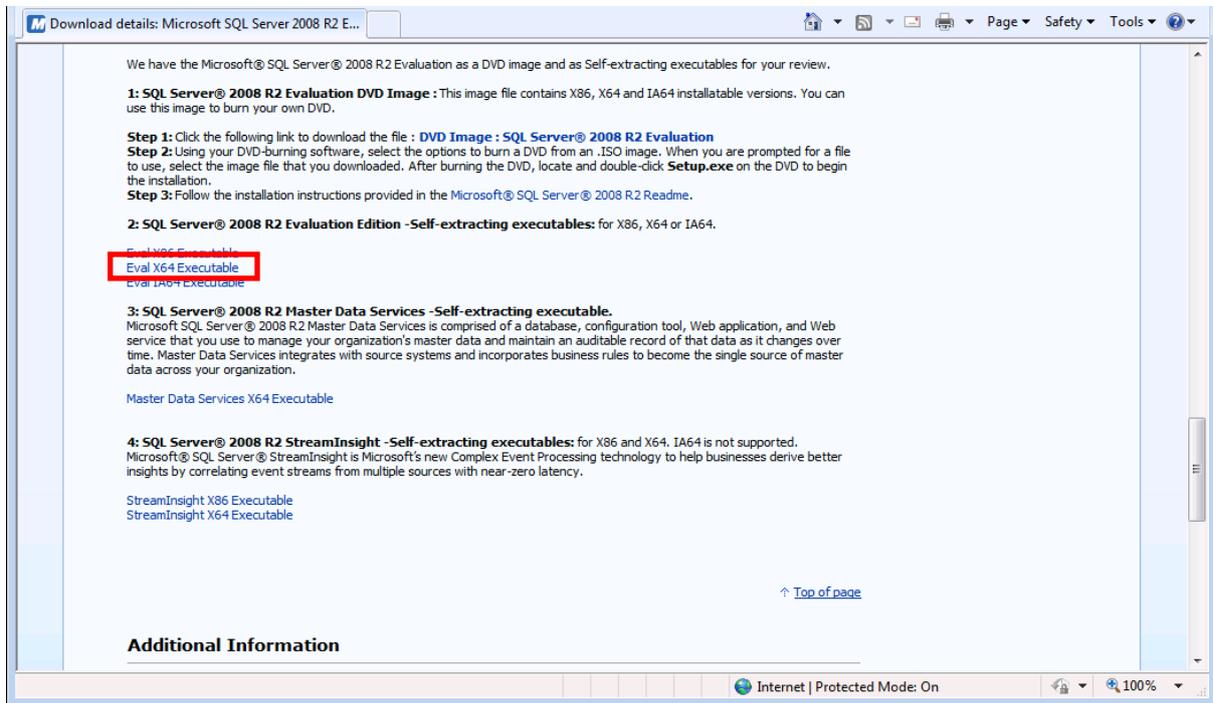
Because it is provided as an ISO image, create an OS installation disk by using DVD writing software.

Microsoft SQL Server 2008 R2 Evaluation: The trial version for IT professionals (download a 64-bit version)

<http://www.microsoft.com/downloads/details.aspx?FamilyID=54ad6107-c552-4d47-b1a1-3f66460f71a9&displaylang=en>

SharePoint Server 2010 Self-study Installation Guide (RTM Version)

There are two types of trial versions available; one is offered as an ISO image, the other as an executable file in a self-extracting format. Download the version that is easier to use in your environment. **If you prefer a self-decompressing format, download the "Eval X64 Executable file".**



2. Microsoft SharePoint Server Enterprise 2010 Trial Version

<http://www.microsoft.com/downloads/details.aspx?FamilyID=230ecdfb-89ec-4d4a-8a85-89fd98329f7b&displaylang=en>

3. Microsoft Office Professional Plus 2010 (**60-Day** trial version only)

<http://technet.microsoft.com/en-us/evalcenter/ee390818.aspx>

After you complete the user registration by using a Live ID, a product key and a download link are issued. Be sure to write down or print out your product key, and then start downloading by using Download Manager.



After you log on with a Windows Live ID, the product key is issued.

You can select either a 32-bit version or a 64-bit version. Even if you install it to a 64-bit version server, you can select a 32-bit version or use a new 64-bit version that runs in native 64-bit mode.

4. Microsoft SharePoint Designer 2010

SharePoint Designer is a client application that is required for using SharePoint Server. SharePoint Server 2010 provides a menu that enables interaction with SharePoint Designer in various processes.

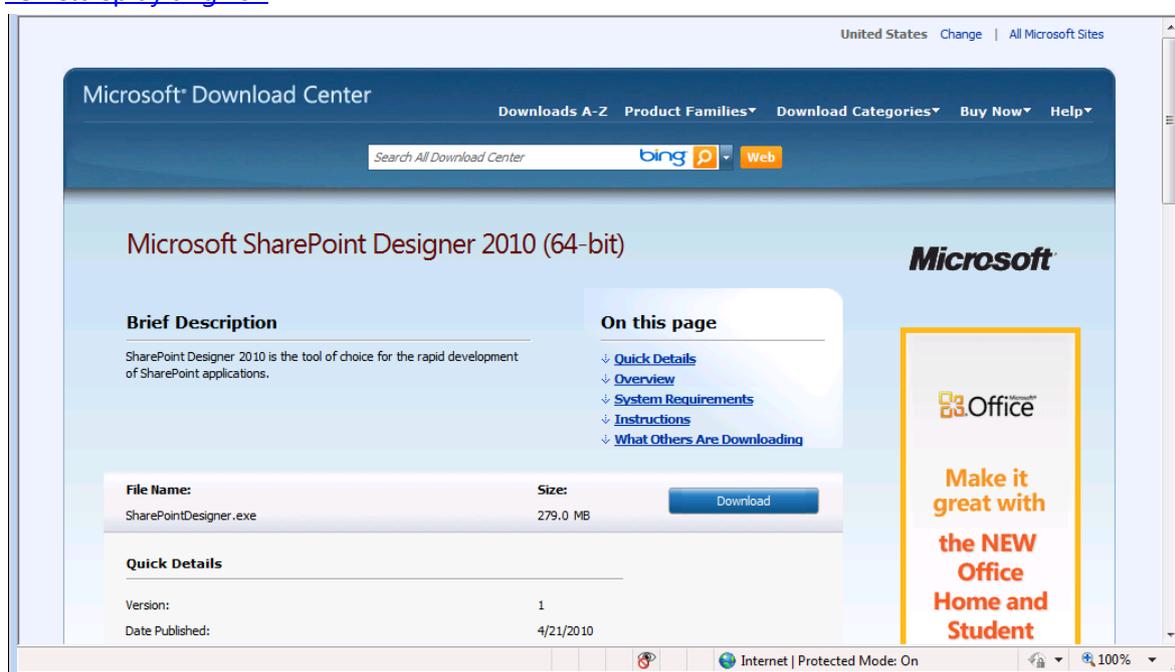
We recommend that you download and use it. This application is provided in Microsoft Download Center free of charge.

32-bit version:

<http://www.microsoft.com/downloads/details.aspx?familyid=D88A1505-849B-4587-B854-A7054EE28D66&displaylang=en>

64-bit version:

<http://www.microsoft.com/downloads/details.aspx?familyid=566D3F55-77A5-4298-BB9C-F55F096B125D&displaylang=en>



Tips:

The versions of each Microsoft Office Professional Plus 2010 product must match. If you have downloaded a 32-bit version, you must also download a SharePoint Designer 2010 32-bit version. For each product, the 32-bit version and the 64-bit version cannot co-exist.

5. (Optional) Microsoft Office Visio Premium 2010, Project 2010, etc. can be downloaded from the following general page.

<http://office.microsoft.com/en-us/try>

1.5 Downloading Hotfix Components

At the time of the writing of this self-study guide, no hotfix components for SharePoint Server 2010 are available because it is being released as a retail version (RTM). (As of May 2010)

However, updates are required for some peripheral technologies used by SharePoint Server 2010, such as some components in the Microsoft .NET Framework. These are not automatically fixed or updated by the SharePoint Server 2010 installer. This is because .NET Framework components are generic components and your environment might also be using applications other than SharePoint Server.

Wherever possible, you should install only SharePoint Server 2010 on the server where it will be installed and apply the necessary hotfix components.

1. ADO.NET data service update program (required)

<http://www.microsoft.com/downloads/details.aspx?FamilyID=79d7f6f8-d6e9-4b8c-8640-17f89452148e&displaylang=en>

This is an update for correct use of the REST Web Service.

2. Update required for use of Claims authentication (optional)

<http://support.microsoft.com/kb/979917/en-us>

<http://code.msdn.microsoft.com/KB979917/Release/ProjectReleases.aspx?ReleaseId=4033&ln=en-us>

When using SQL Server 2008 (excluding 2008 R2):

If you use SQL Server 2008, be sure to apply both SP1 and CU2 updates.

Tip: For cumulative update, we recommend that you use CU2, CU5, or subsequent updates.

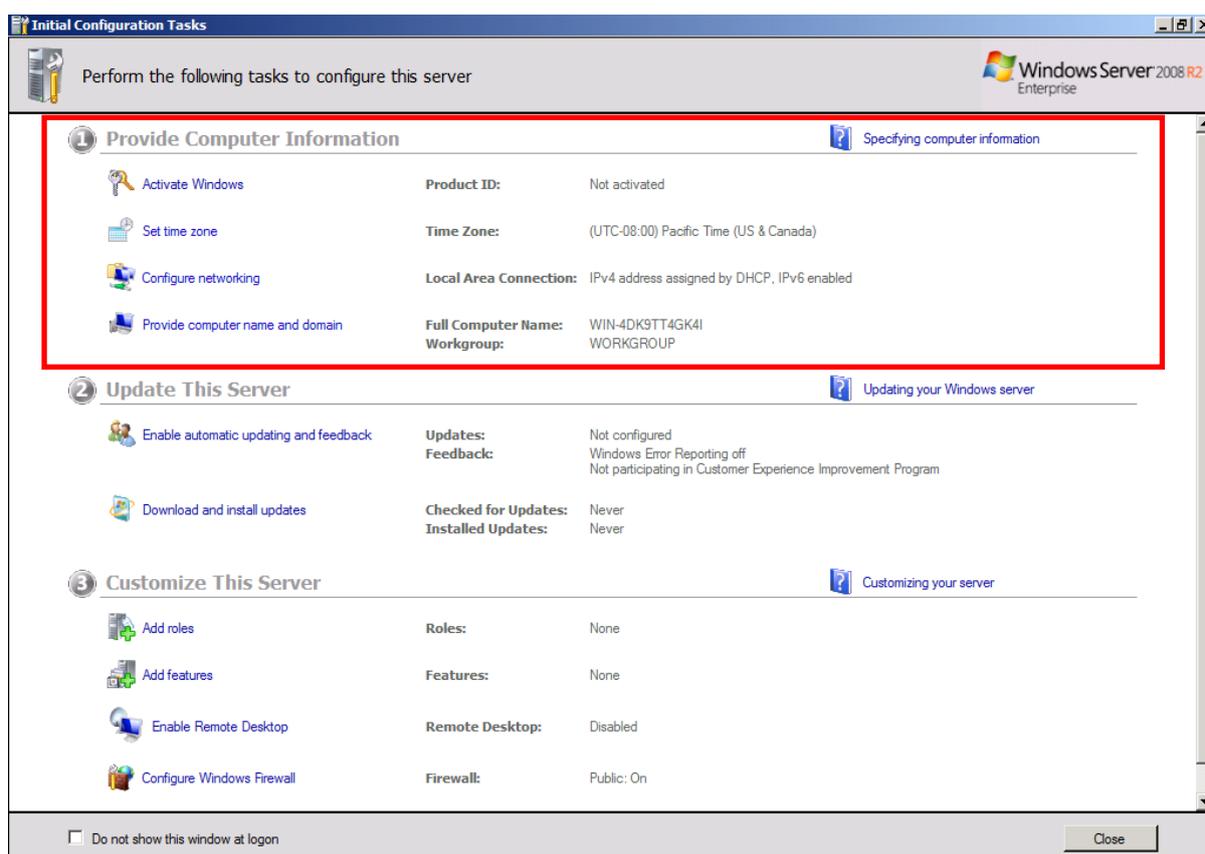
CU3 and CU4 are not recommended. (<http://technet.microsoft.com/en-us/library/cc262485.aspx>)

Tip: You may not need a Hotfix program relating to the .NET Framework if you have installed the latest version of ".NET Framework 4.0". In that case, an error message "You cannot install ..." appears at the installation.

1.6 Preparing the Installation Server OS

Install Windows Server 2008 R2. The OS installation takes about 20 minutes to one hour, depending on the server environment. When you are finished with the installation of the OS, perform the following steps to create the environment.

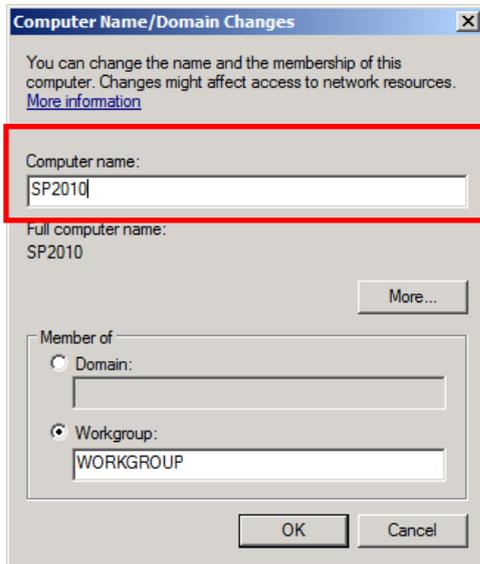
1. When the installation of the OS is complete, the **Initial Configuration Tasks** window appears.



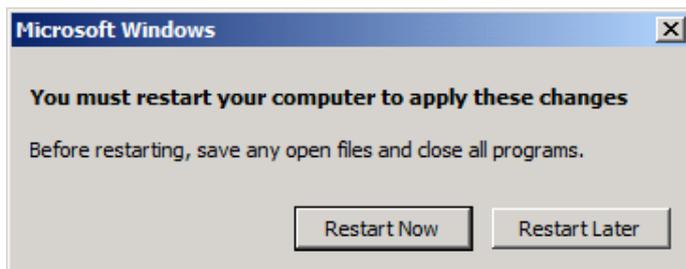
2. Perform necessary configuration tasks from top to bottom as they are presented on the dashboard.

Activate Windows	Not now
Set time zone	Default
Configure networking	Not now
Provide computer name and domain	Perform (See Step 3: The computer name is SP2010)

3. Click **Provide computer name and domain**, click **Change**, and enter the **Computer name**. This self-study guide uses "SP2010" as the computer name.



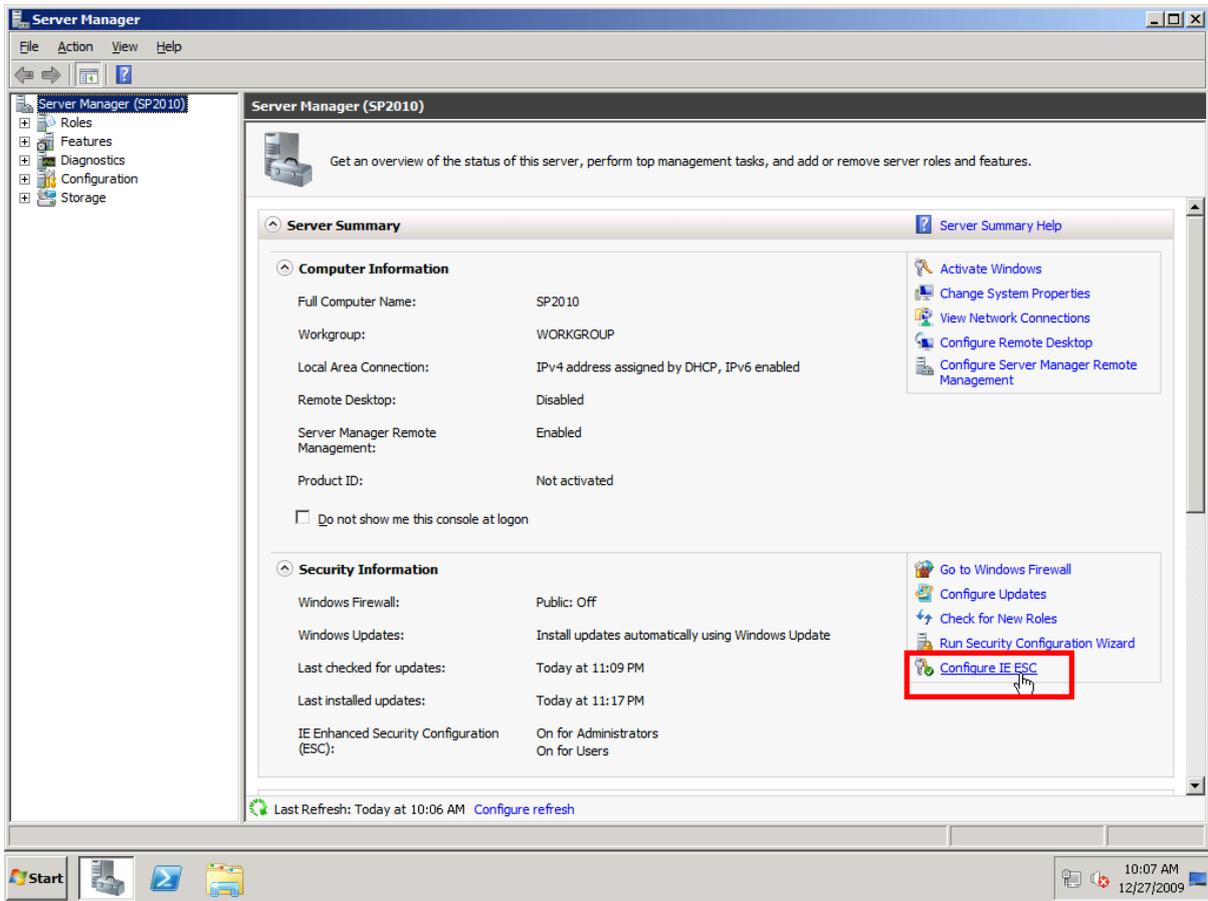
4. After entering a new computer name, you will be prompted to restart. Select **Restart Now**.



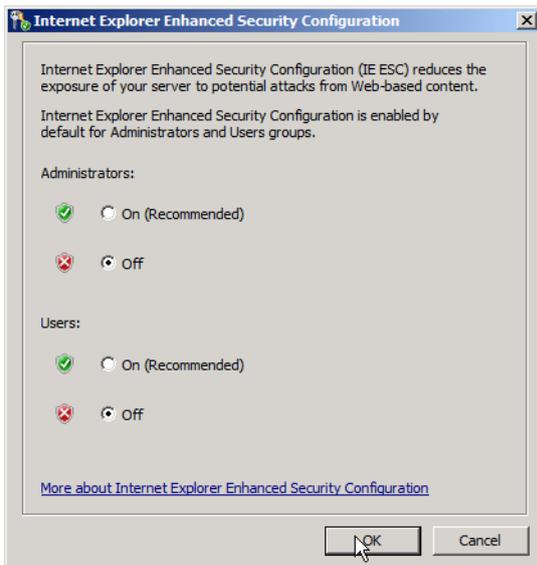
5. Finish the initial configuration tasks. At that time, select the **Do not show this window at logon** check box.



6. When you are finished with the initialization tasks, the **Server Manager** starts.



Configure **IE Enhanced security configuration (ESC)** in the **Security Information** section. Click **Configure IE-ESC** from the links on left side, and clear the selections for both **Administrators** group and **Users** group.

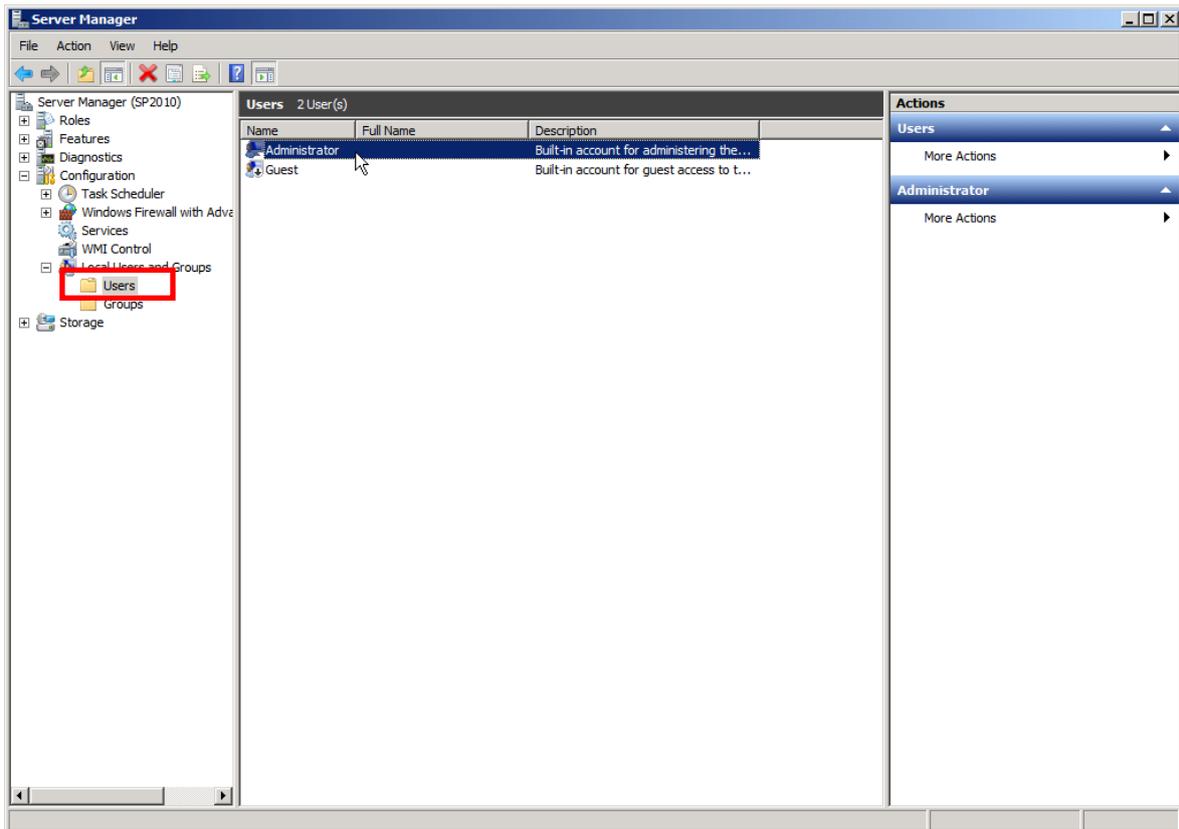


*We recommend that you return the security settings to their original state after you finish the series of settings.

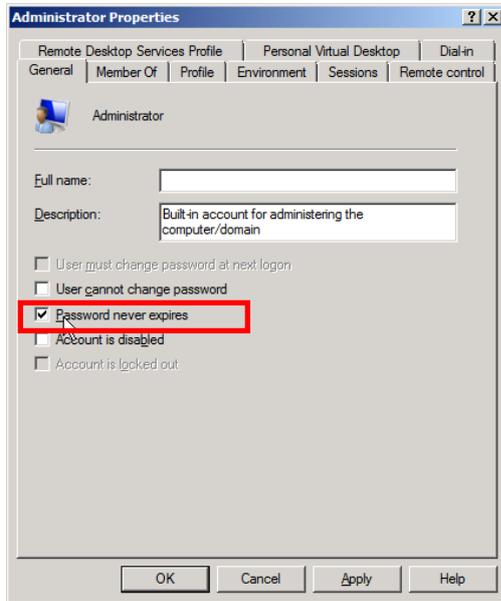
7. (Optional procedures)

Set the local Administrator's password to "never expires". In Windows Server 2008, a password is set immediately after the installation. However, the user is regularly requested to change the password according to the default password policies, because there are limits to the terms of passwords. This is a desirable default behavior from the viewpoint of security.

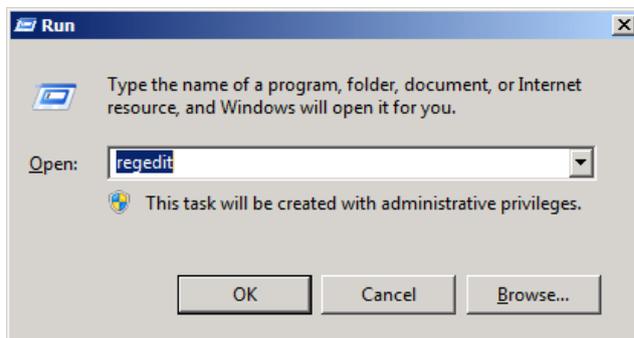
You do not necessarily need to perform this task because you will eventually join the server to a domain and use a domain user, but considering the situation in which you return to a local account to perform server tasks, the configuration technique is shown below.



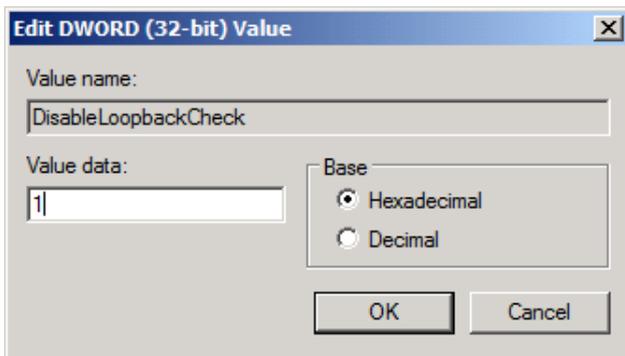
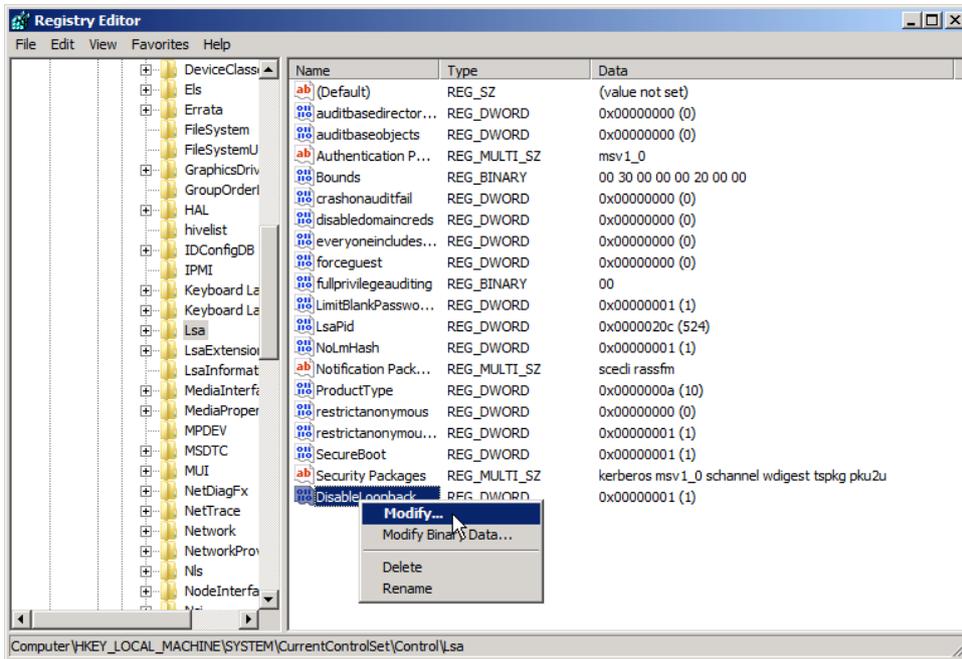
In the left pane of the **Server Manager**, expand **Configuration**, and then open **Users**. Double-click **Administrator** user to open the properties. Select the **Password never expires** check box, and click **OK**.



8. Add a DisableLoopbackCheck value to the registry. (See [KB896861](#))
Set the DisableLoopbackCheck registry here under the assumption that a host header will be used.
From the **Start** menu, click **Run** and enter "regedit" to launch the **Registry Editor**.



In HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Lsa, create a DWORD for DisableLoopbackCheck and enter a value of "1" (hexadecimal).

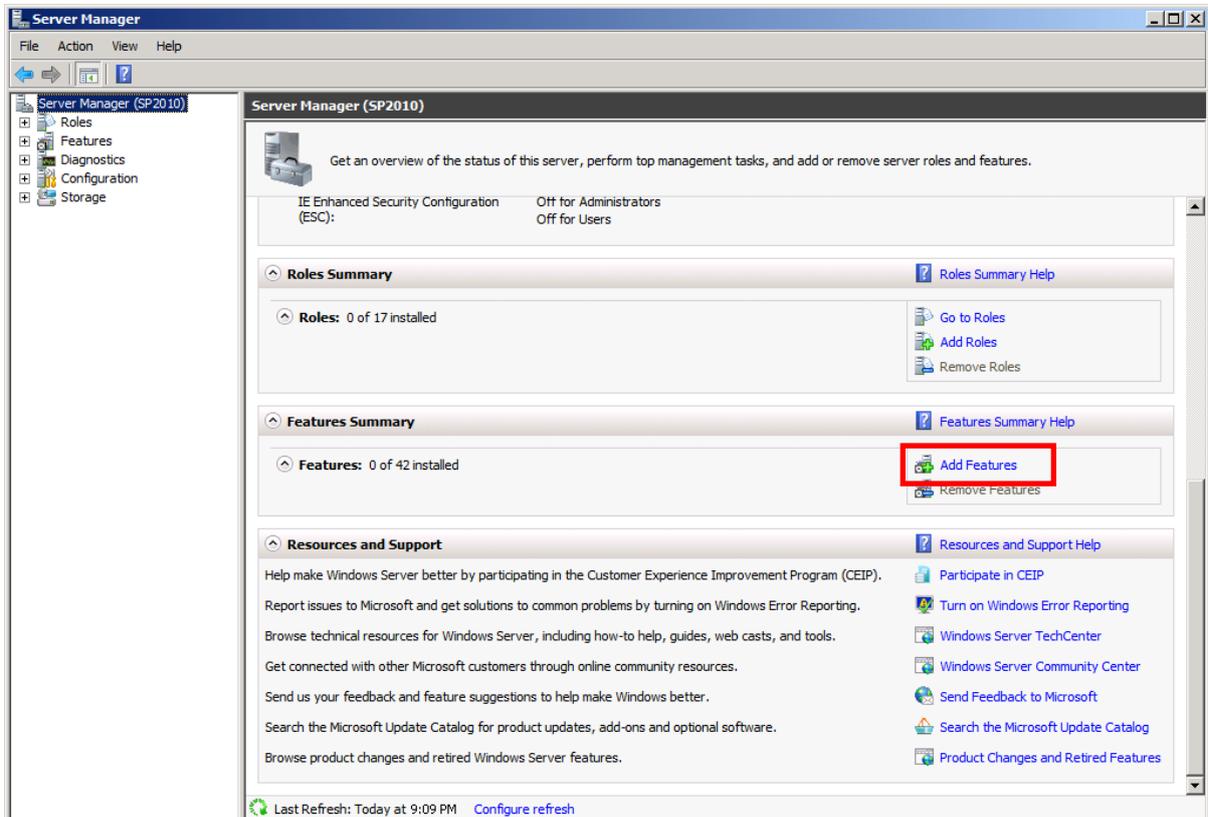


After you enter the value, click **OK** to finish editing.

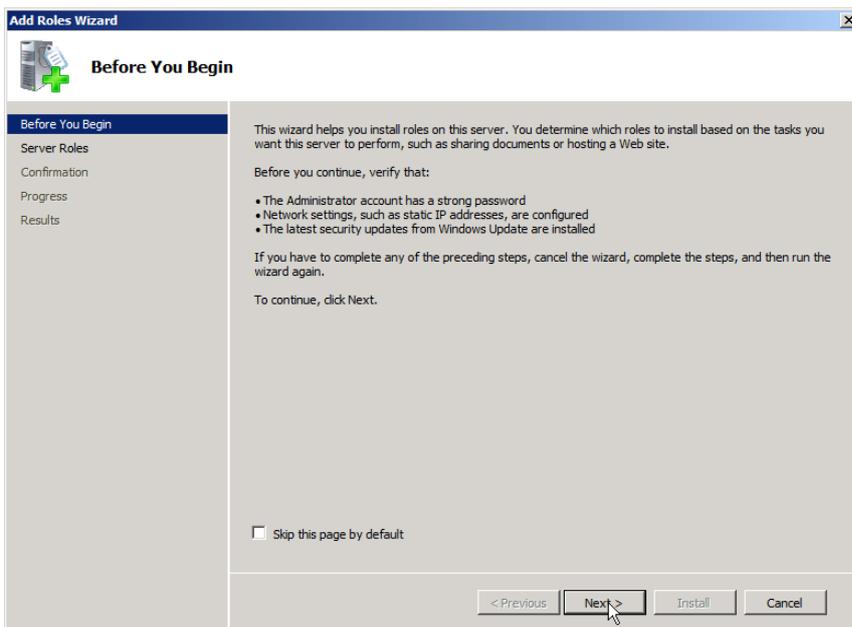
1.7 Adding "Features" Required for the Installation Server OS

1. Add a role to the server. Click **Administrative Tools** from the **Start** menu, and then click **Server Manager**.

Click **Add Features**.



The **Add Roles Wizard** window opens. Click **Next**.



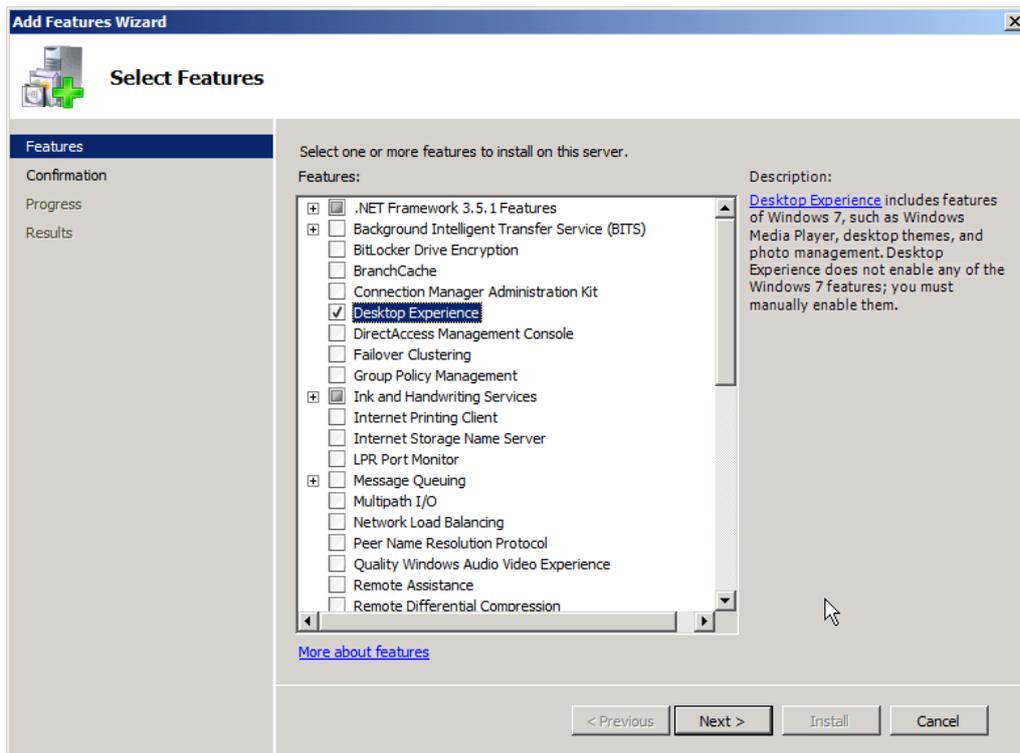
In **Add Features**, add the following two roles:

- **Windows PowerShell Integrated Scripting Environment (ISE)**

* You can install Windows PowerShell 2.0 by using the SharePoint Server 2010 installer, but the ISE (editor) is not included in this installation. For that reason, you should install the ISE as an additional feature. You will also find information on how to run Windows PowerShell scripts by using the ISE in the "SharePoint Server 2010 Windows PowerShell/STSADM Self-study Guide".

- **Desktop Experience**

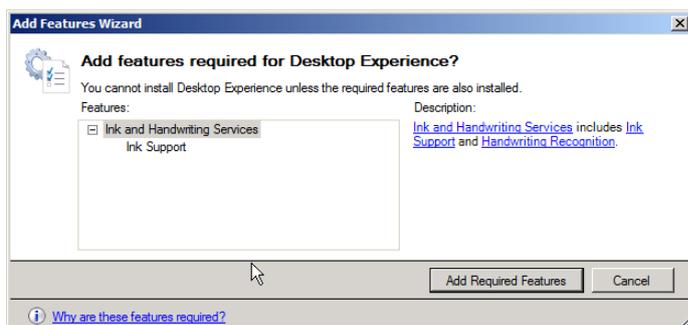
* In the example environment used in this self-study guide, the **Desktop Experience** feature is added to enable validation by installing Office Client on a SharePoint Server installation.



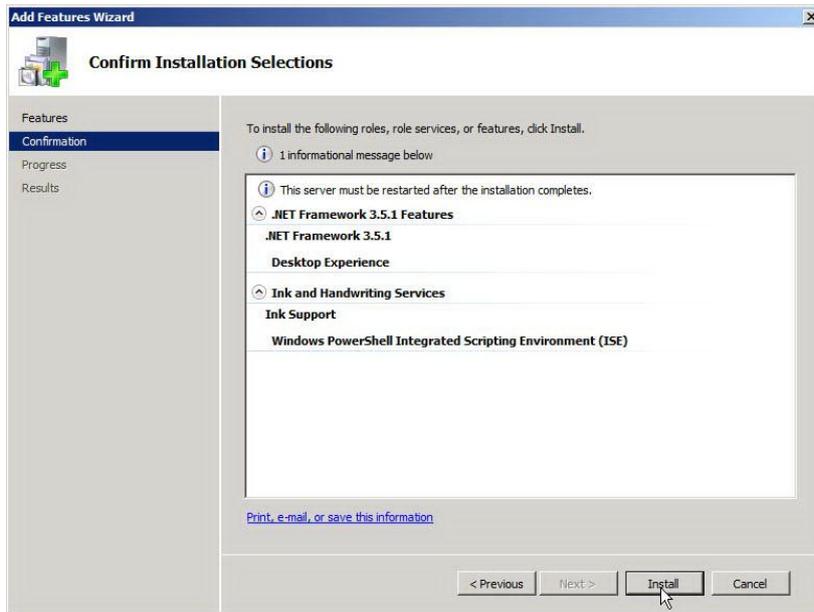
If this check box is selected, additional components that you need in order to run respective "features" will be displayed.

- **.NET Framework 3.5 Features**
- **Ink and Handwriting Services**

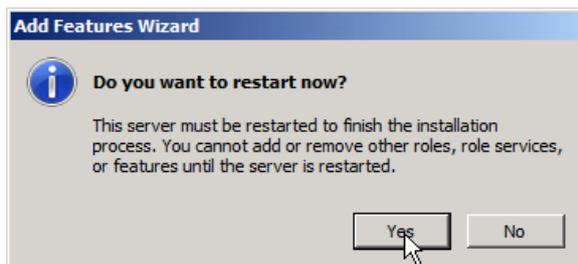
Click **Add Required Features**.



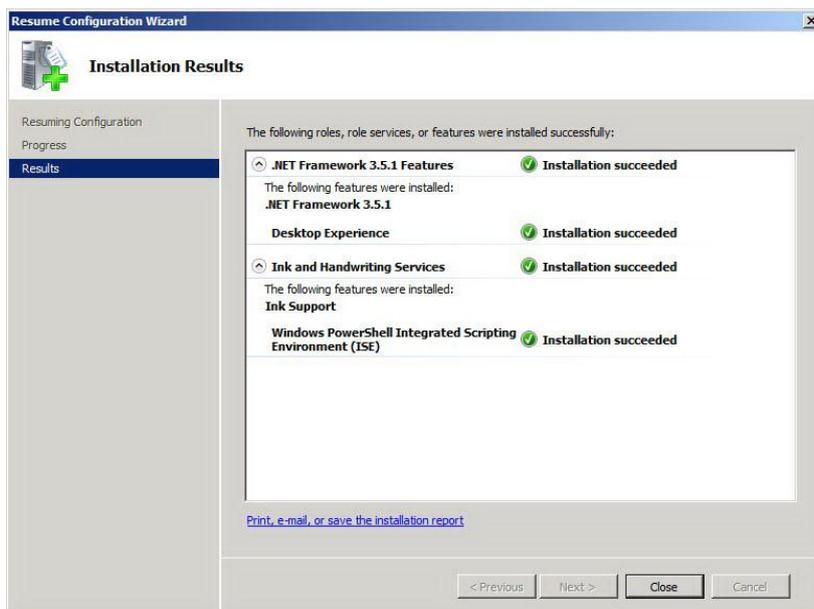
Check the installation options, and click **Install**.



After the installation, you need to restart the server. When prompted to restart, click **Yes**.

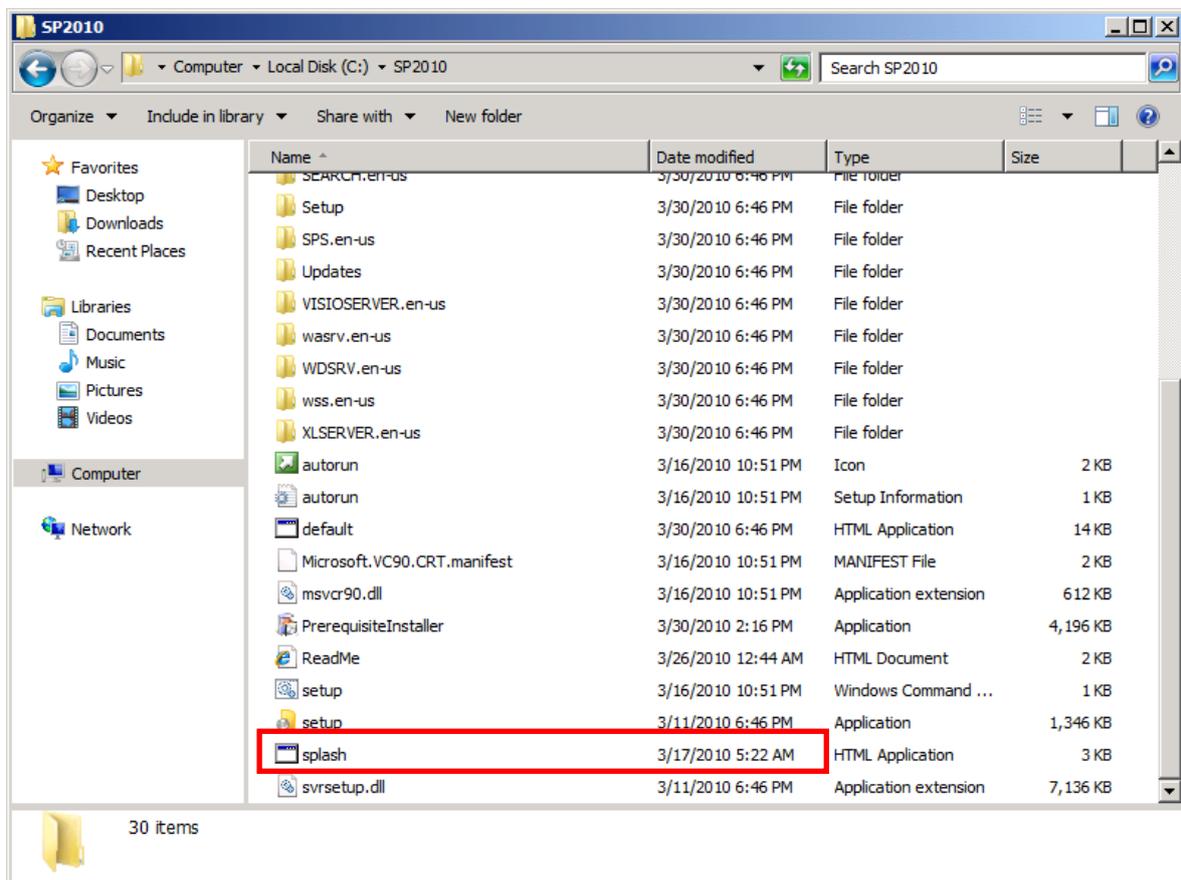
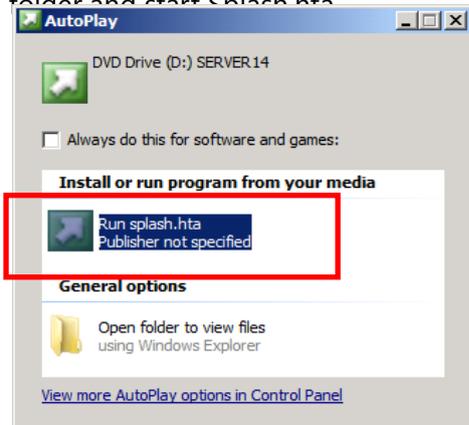


After the restart, ensure that the installation was successful, and then click **Close**.



2. Run the SharePoint Server 2010 software prerequisites.

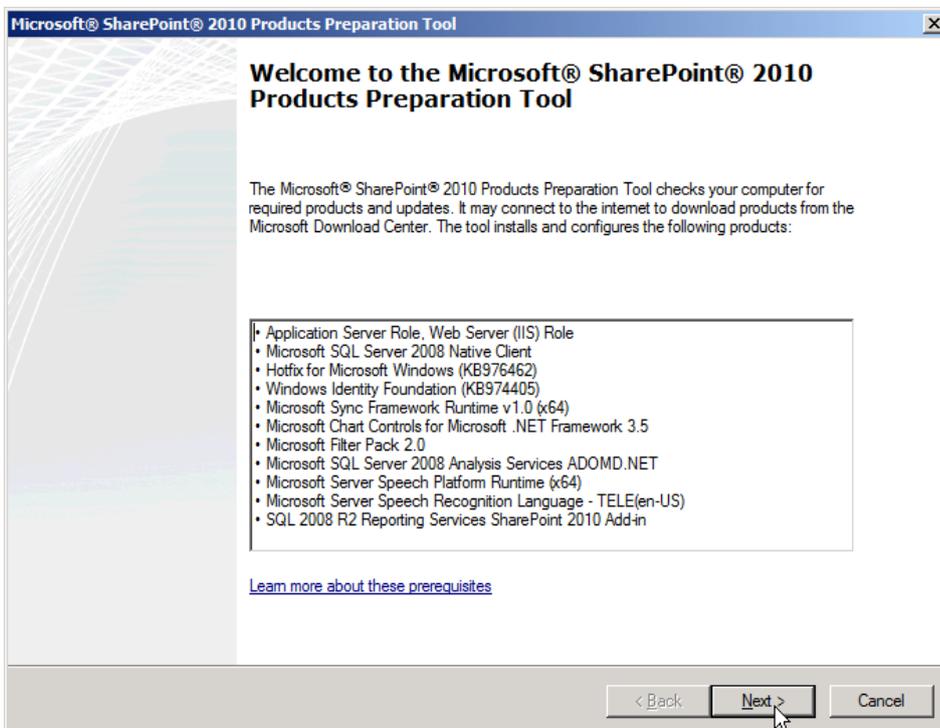
Insert the SharePoint Server 2010 media DVD into the server. Select **Run Splash.hta**, or open the folder and start Splash.hta



3. When the SharePoint Server 2010 software prerequisites are run, the following menu appears. Perform **Install software prerequisites** under **Install**. **Make sure that the server is connected to the Internet.**

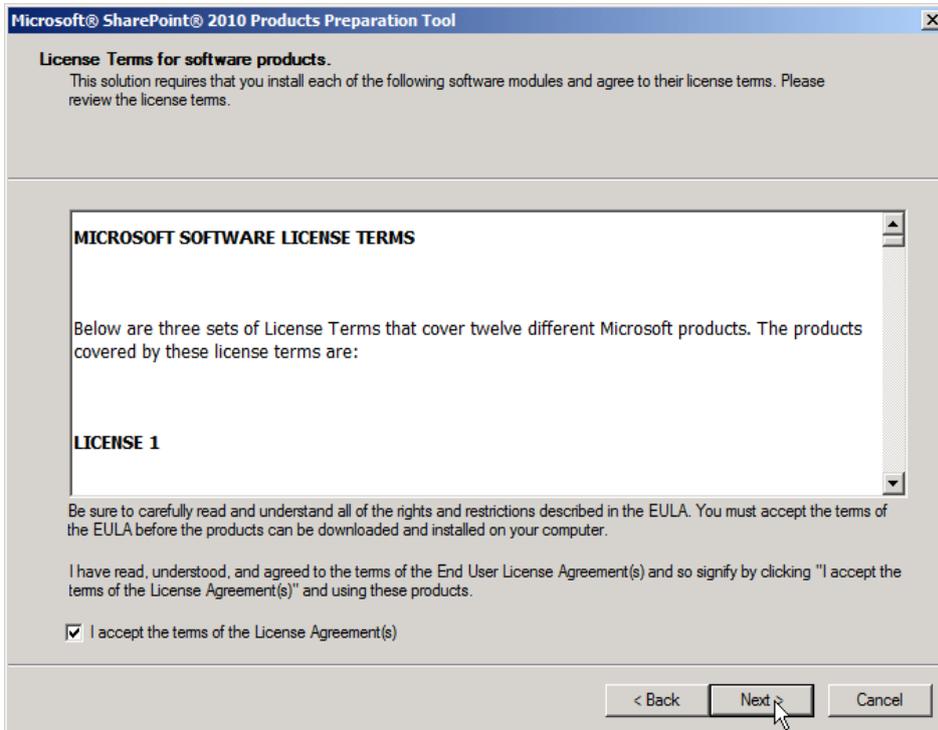


The **Welcome to Microsoft SharePoint 2010 Products Preparation Tool** dialog box opens. Click **Next**.

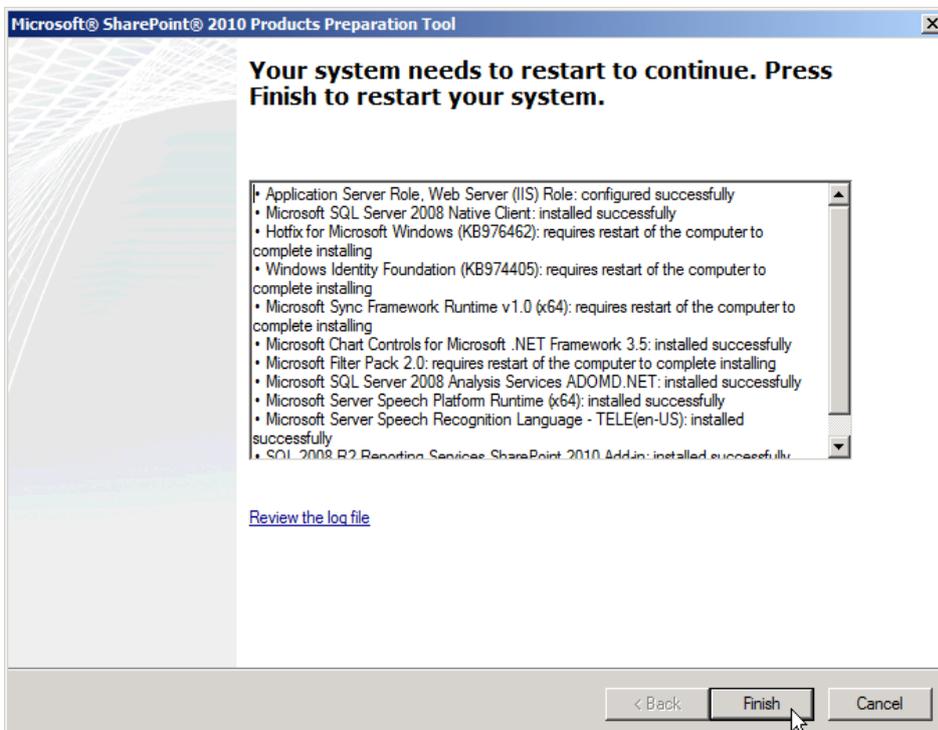


By running the Preparation Tool, you can configure Internet Information Services (IIS) and application server roles, and you can download and install the necessary components.

Select the **I accept the terms of the License Agreement(s)** check box, and then click **Next**.



When the installation finishes, make sure that the prerequisites have been successfully configured and installed, click **Finish**, and then **restart the server**.



Tips:

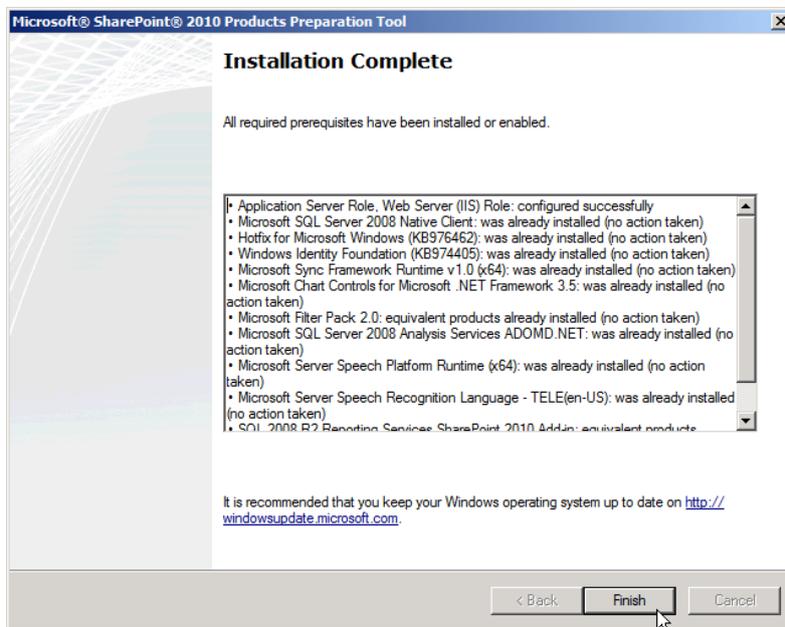
If the installation was unsuccessful, first verify the connection to the Internet. If downloading from the Internet fails, the process is marked "Failed" and terminates. Also make sure that you have Administrator permissions for the local server.

If the environment is unable to connect to the Internet, you can prepare the environment for SharePoint Server 2010 installation by downloading each prerequisite component individually and installing them manually.

If you perform a manual installation, see the following TechNet article and apply all prerequisite components.

<http://technet.microsoft.com/en-us/library/cc262485.aspx#section4>

4. After the restart, confirm that the installation was successful, and then click **Finish**.

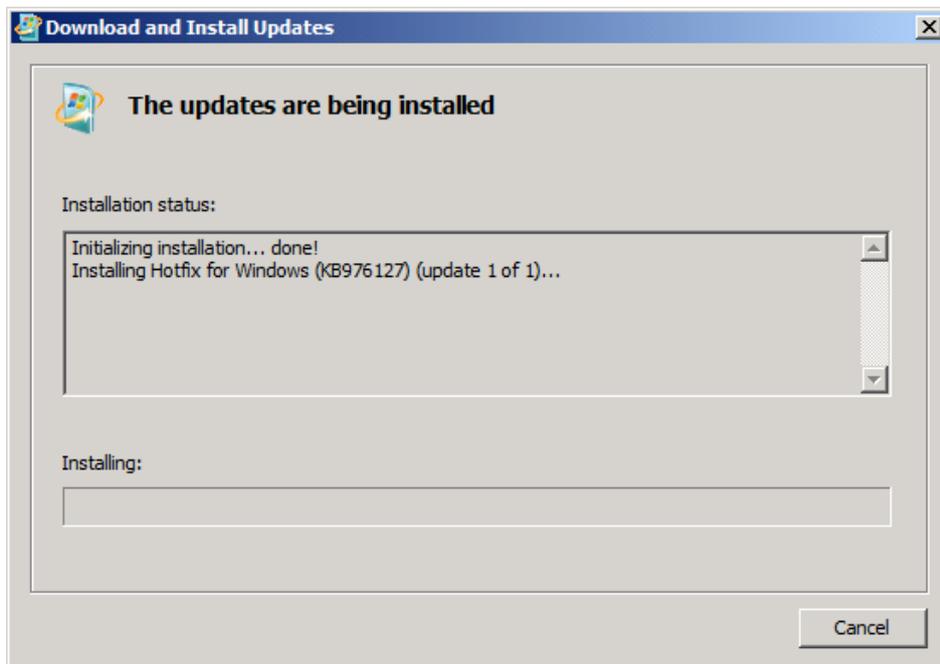
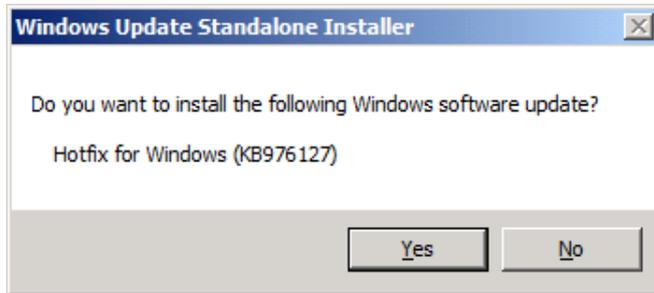


1.8 Applying Hotfixes to the Server

Apply the Hotfix module that you downloaded in the first step. Apply hotfixes only after running PrerequisiteInstaller.exe in SharePoint Server 2010.

1. Run KB976127. (ADONETDataServices_v15_CTP2)

Double-click the downloaded KB976127 Hotfix and select **Yes** to launch the installer.



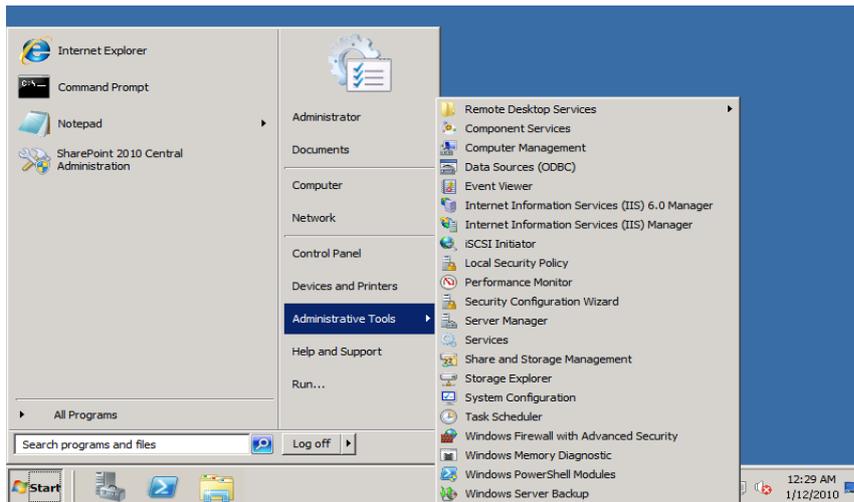
NOTE: In some environments, if the latest ".NET Framework 4.0" is applied, the update might not be performed because the fix is already made.

1.9 Joining the Domain

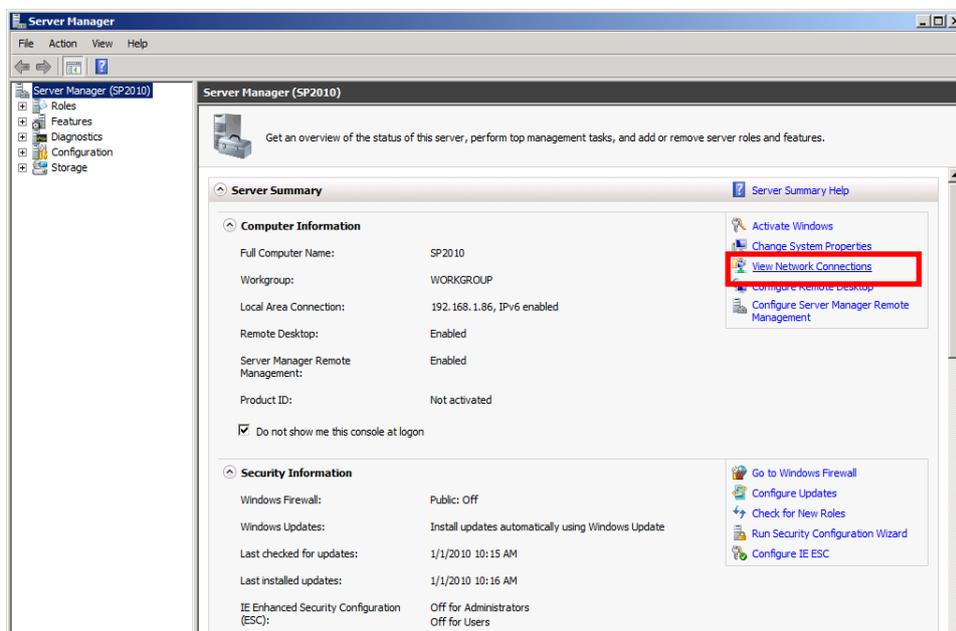
When you have finished the preparation of the SharePoint Server 2010 installation server (particularly, the preparatory items that require a connection to the Internet), assign a static IP address to the server, join the server to the domain, install and configure Microsoft SQL Server, and then install SharePoint Server 2010. This self-study guide uses the domain name "Contoso".

1. Set a static IP address on the server.

From the **Start** menu, select **Administrative Tools** and then **Server Manager**.

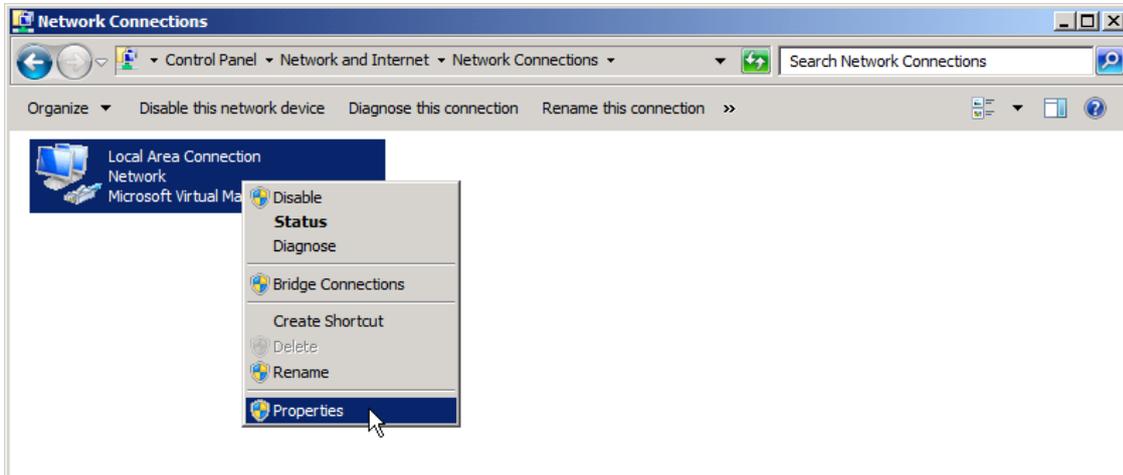


On the **Server Manager**, click **View Network Connections** in the **Server Summary** section.

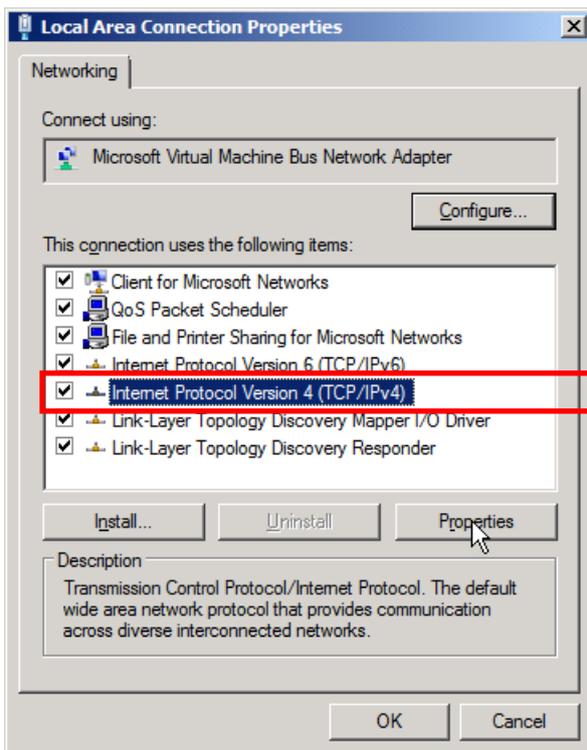


In the **Network Connections** window, select the network device that is currently enabled, and from the right-click menu select **Properties**.

Tips: In the example in this self-study guide, the Local Area Connection is the enabled network. The number of local area connections shown in the window depends on the number of network cards. Check the enabled network, and then proceed with the tasks.



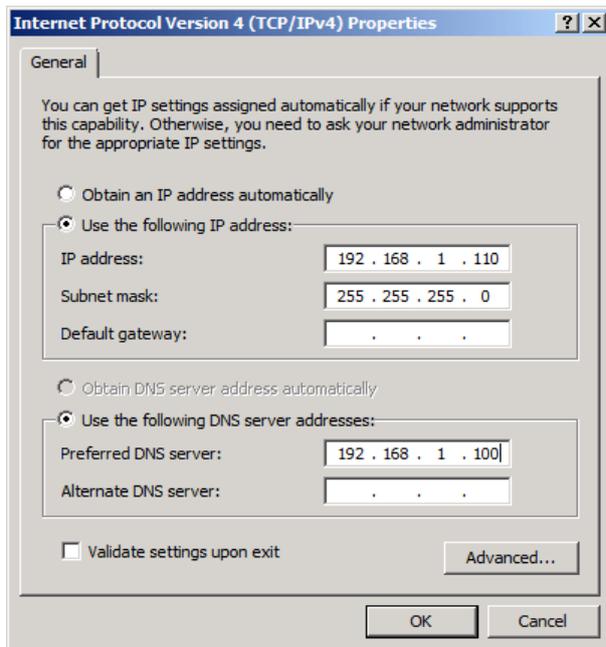
In **Properties**, select **Internet Protocol Version 4 (TCP/IPv4)** and click **Properties**.



Select **Use the following IP address**, and enter the IP address. In the same way, select **Use the following DNS server addresses** to specify the DNS server.

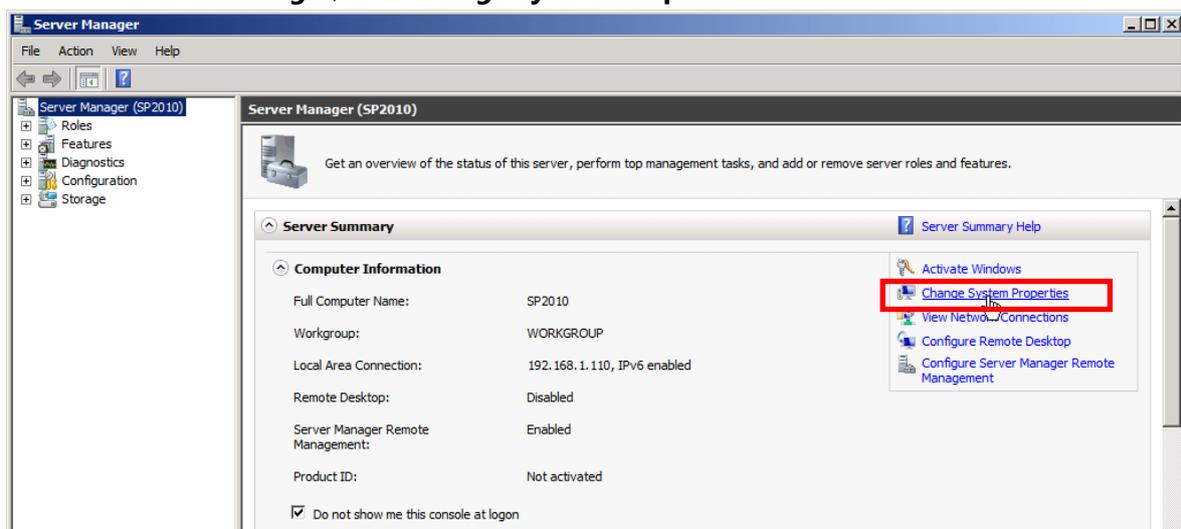
This self-study guide uses the following settings.

IP address	192.168.1.110
Subnet mask	255.255.255.0
Preferred DNS server	192.168.1.100

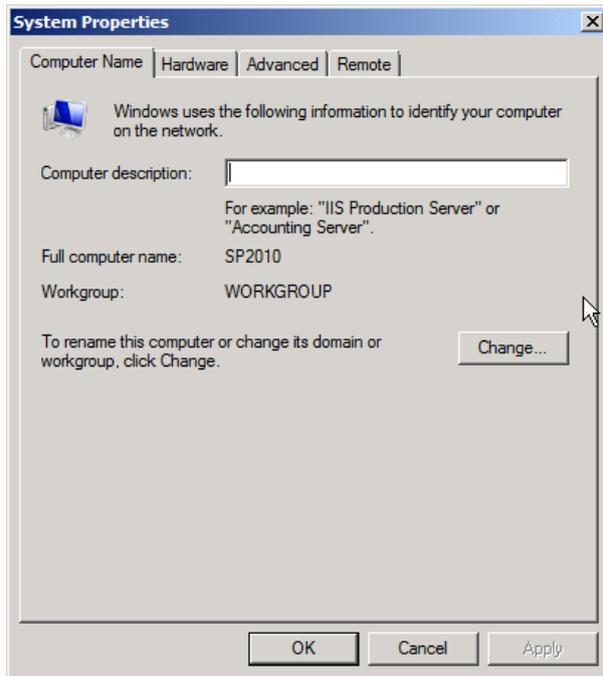


2. Join the domain.

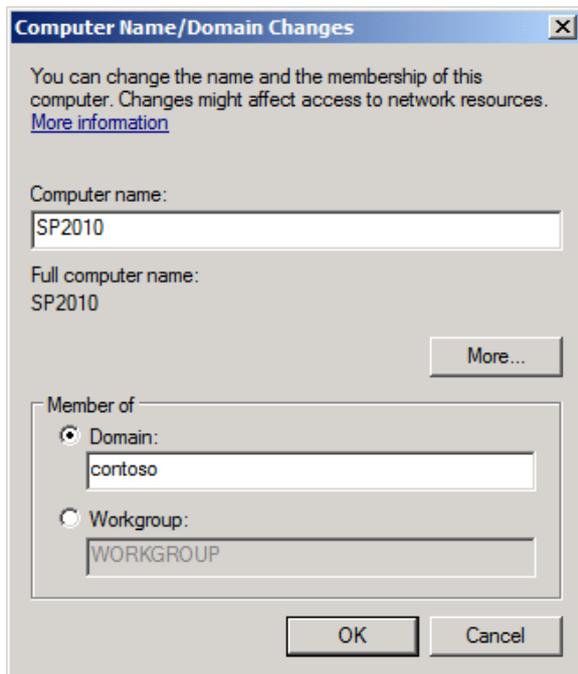
From the **Server Manager**, click **Change System Properties**.



In the **System Properties** dialog box, click **Change**.



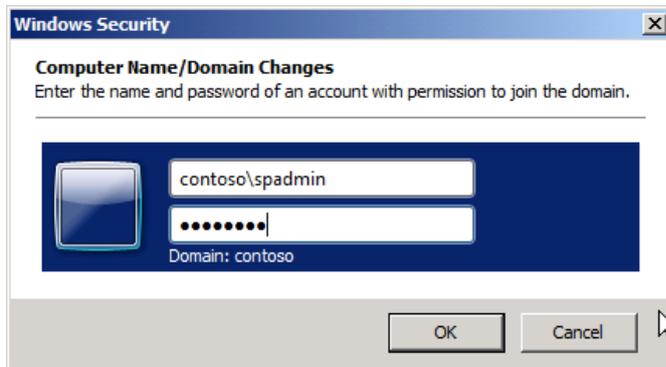
Select **Domain** in the **Member of** section, and enter the domain name. For this self-study exercise, enter "contoso".



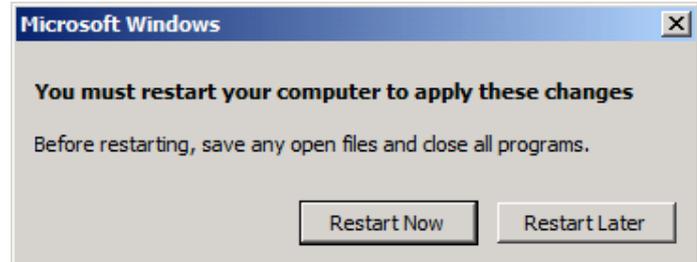
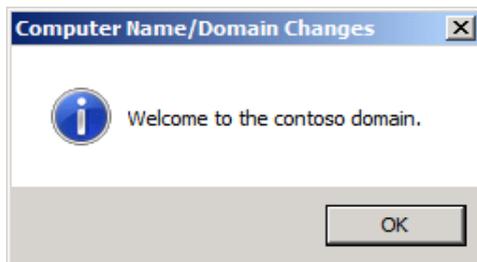
Enter the account name and password that have access required for joining the domain.

For this self-study exercise, enter as follows.

- User name: contoso\spadmin
- Password: P@ssw0rd



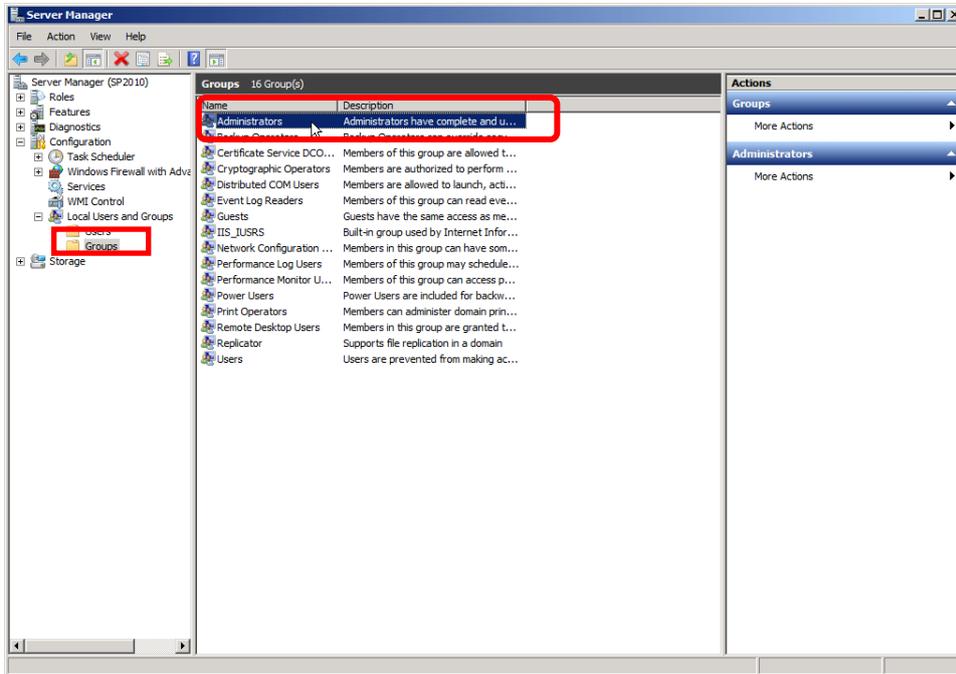
After joining the domain, click **Restart Later**, and then add Contoso\spadmin and Contoso\spfarm to the **Administrators** group of the server.



- Before restarting the server, open **Server Manager**, and add an account to the **Administrators** group.

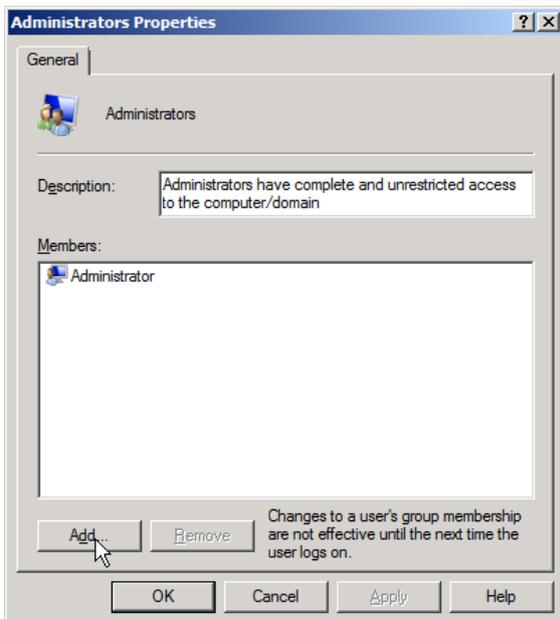
From the **Start** menu, select **Administrative Tools** and launch **Server Manager**.

Expand **Configuration** in the left pane, and click **Local Users and Groups**. Click **Groups**, and select and double-click **Administrators** from the list of groups.

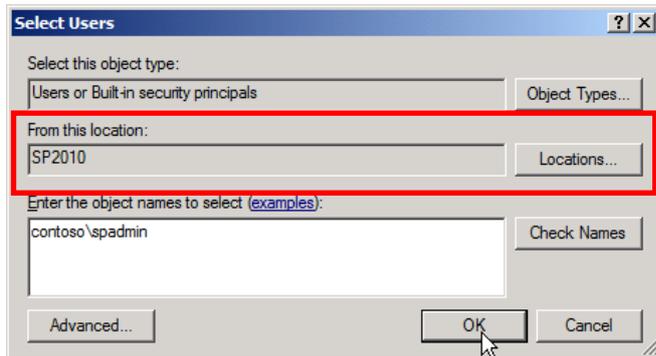


Add Contoso\spadmin and Contoso\spfarm.

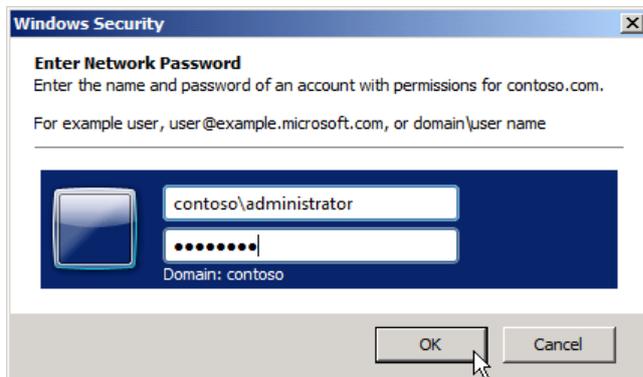
Click **Add**.



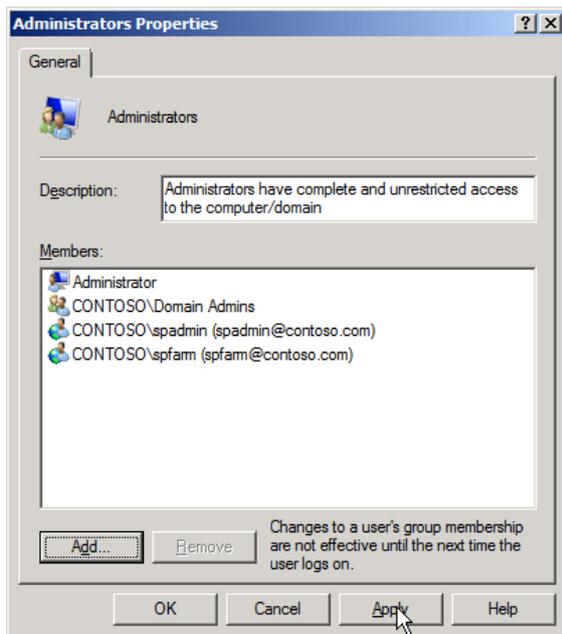
In the **Select Users** window, specify the service account. If the local server is specified as **Location** (Example: SP2010), click **Locations** and select the Contoso domain.



Note that when adding an account, you might be requested to enter the network password. If that is the case, use "contoso\administrator" and "P@ssw0rd".



4. Confirm that the installation account and the farm account have been correctly added to the **Administrators** group.

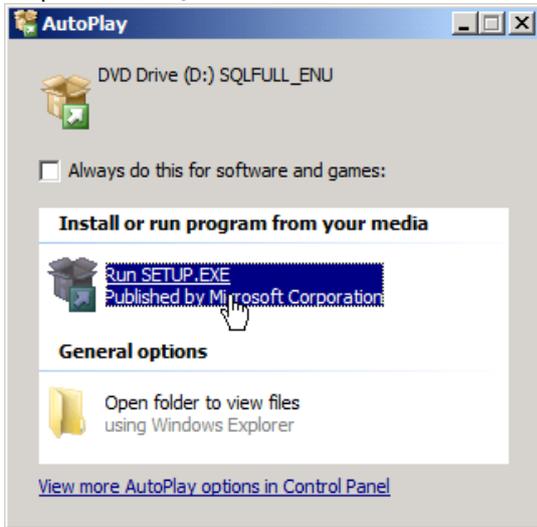


Next, restart the server once. After the restart, log on with Contoso\spadmin (SharePoint installation account).

1.10 Installing SQL Server 2008 R2

After joining the domain, install and configure SQL Server 2008 R2.

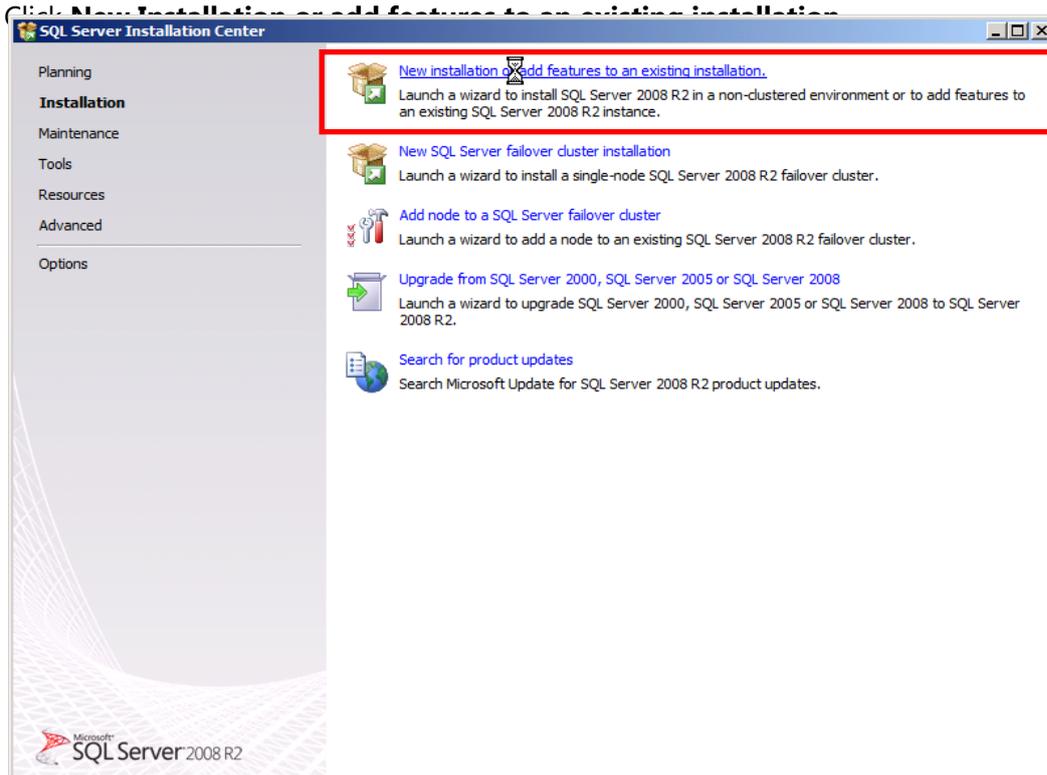
1. Prepare the SQL Server 2008 R2 DVD media. From **AutoPlay**, click **Run SETUP.exe**.



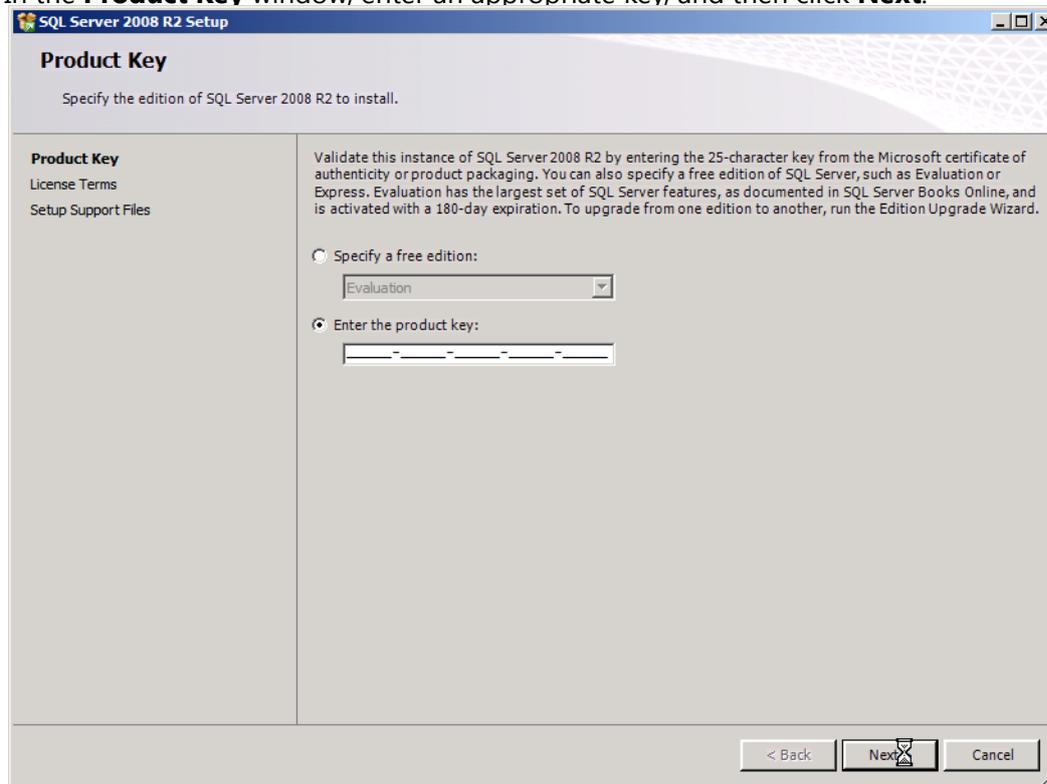
When the **Installation Center** opens, click **Installation** from the left pane.



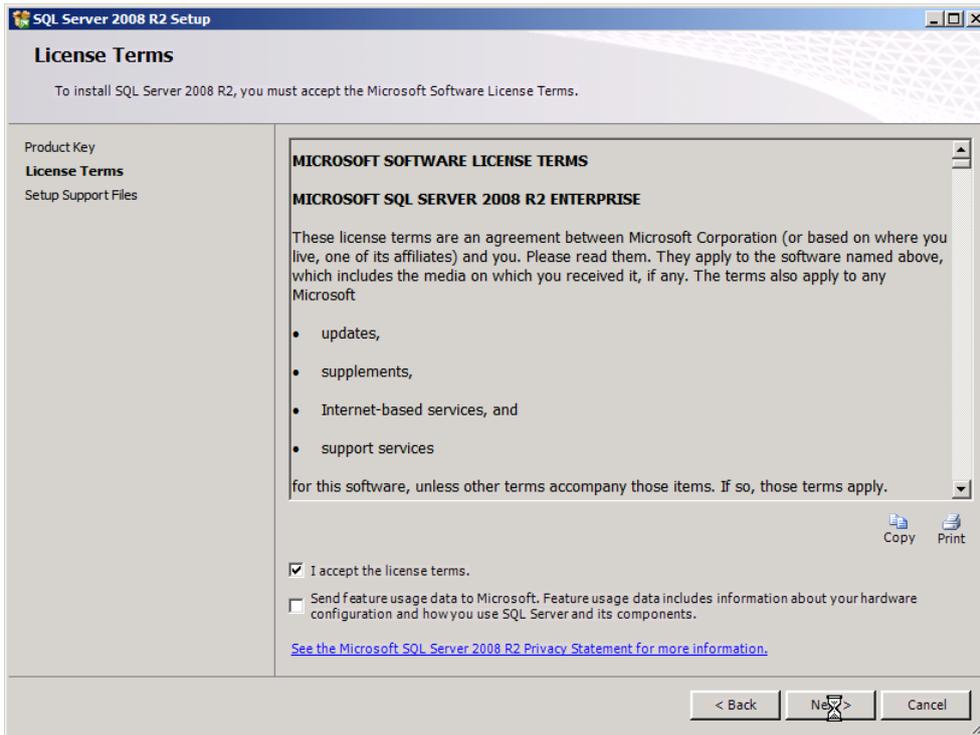
SharePoint Server 2010 Self-study Installation Guide (RTM Version)



In the **Product Key** window, enter an appropriate key, and then click **Next**.



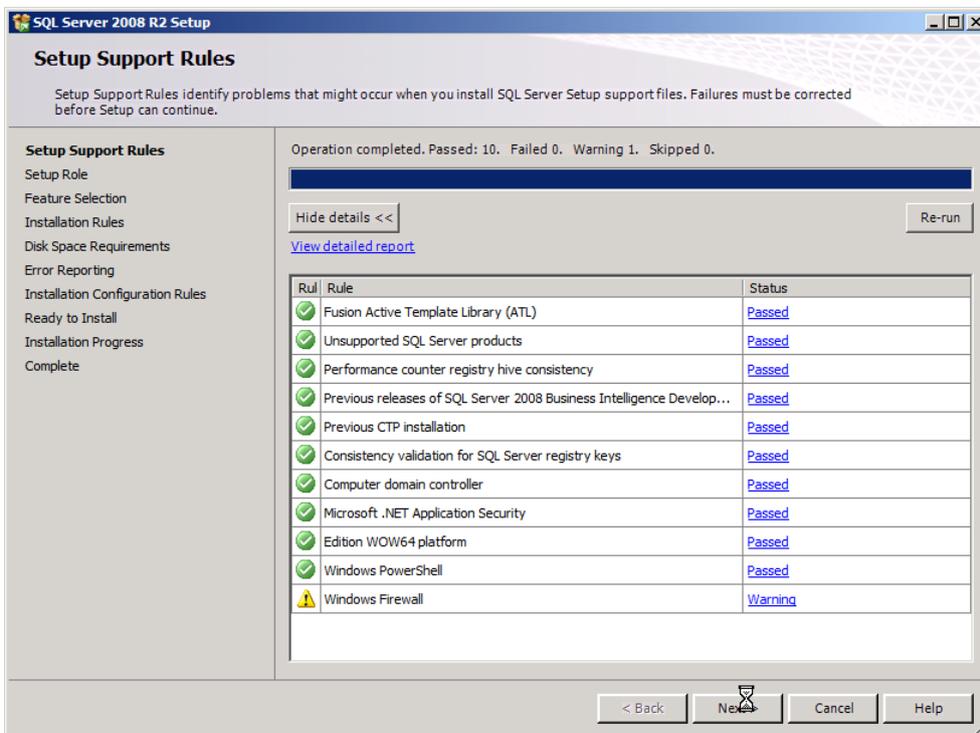
Select the **I accept the license terms** check box, and click **Next**.



Install the setup support files.

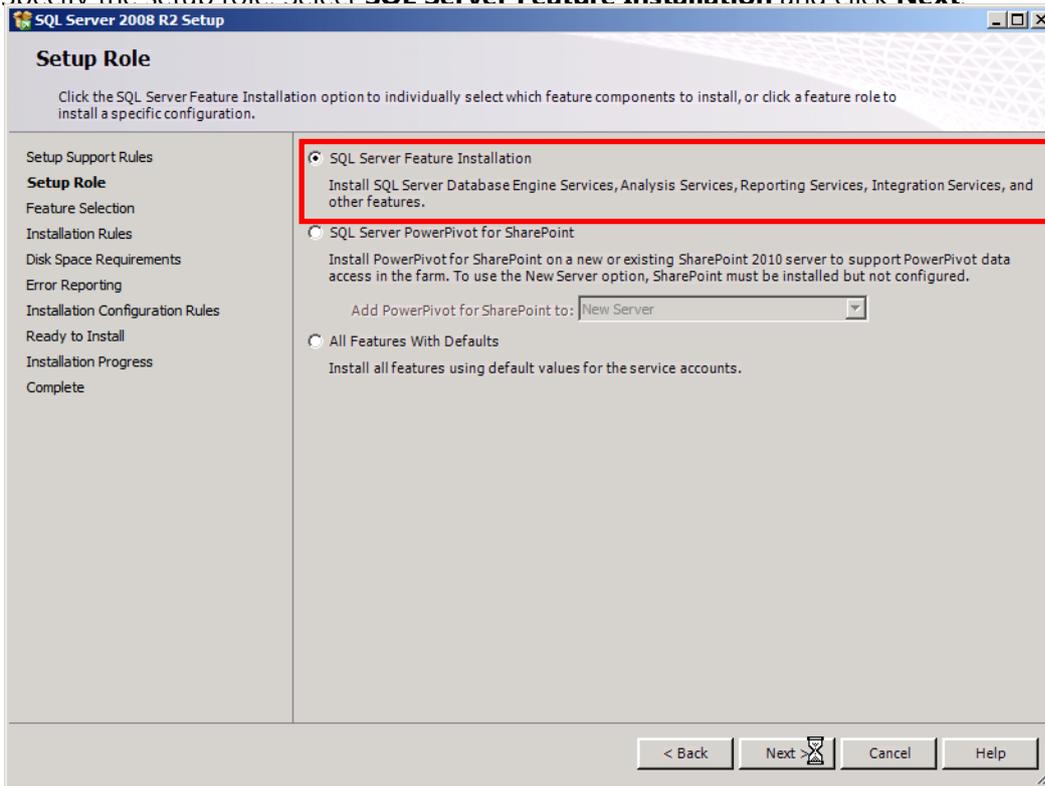
Confirm that the set of check items is in a "Success" state.

In this environment, you will find a **Windows Firewall** warning because the exception settings for the firewall are not configured, but click **Next** to continue the installation.



Tips: If you receive a "warning" for any item other than **Windows Firewall**, be sure to click the hyperlink and identify the cause of the warning before continuing the installation.

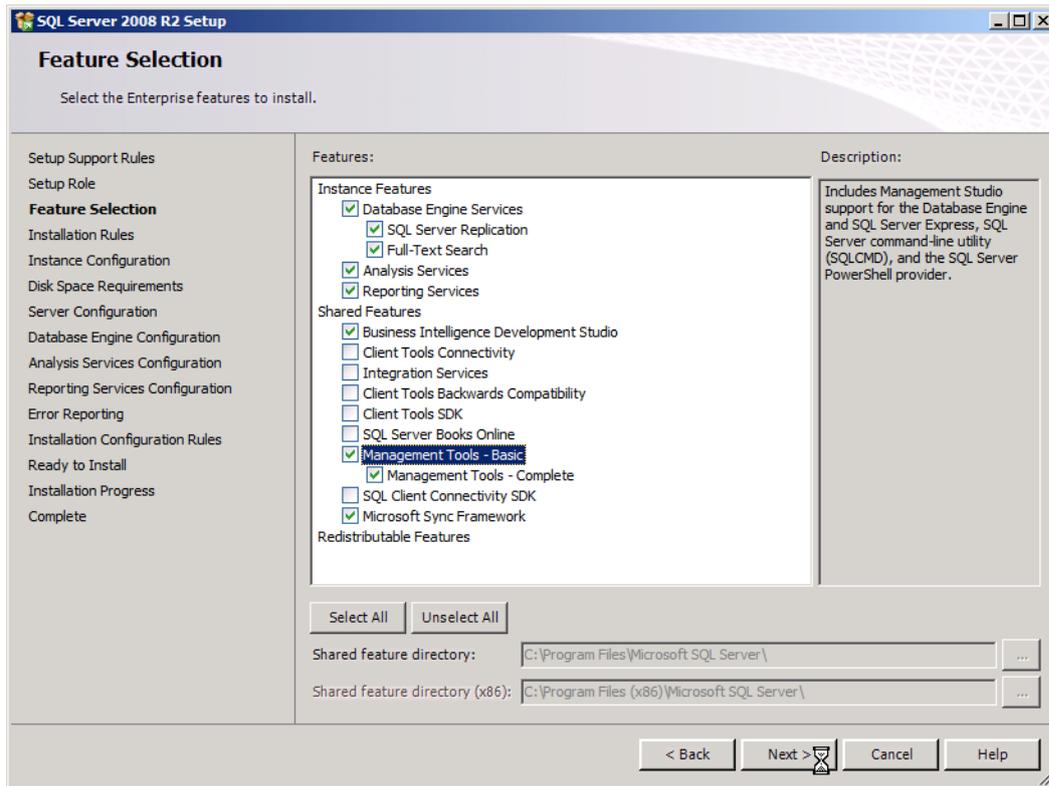
2. Specify the setup role. Select **SQL Server Feature Installation** and click **Next**.



3. Select the features you want to install.

In this self-study guide, you will install the following features for the evaluation environment.

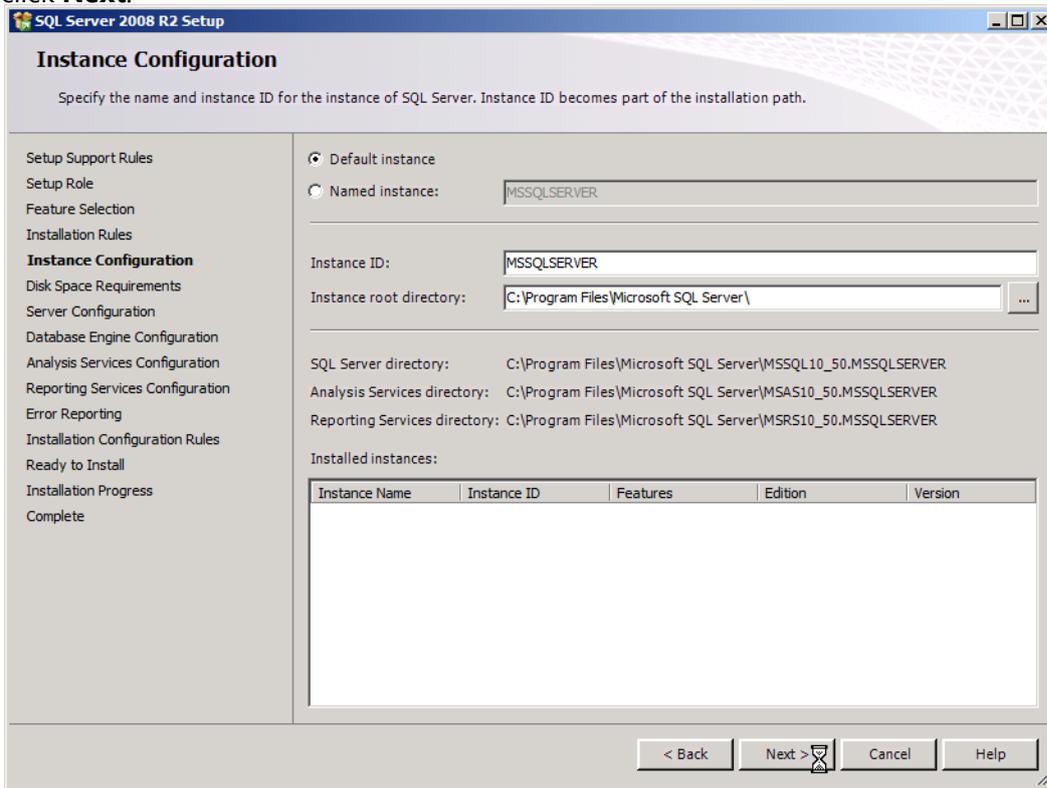
Instance Features
Database Engine Service
SQL Server Replication
Full-Text Search
Analysis Services
Reporting Services
Shared Features
Business Intelligence Development Studio
Management Tools - Basic, Complete
Microsoft Sync Framework



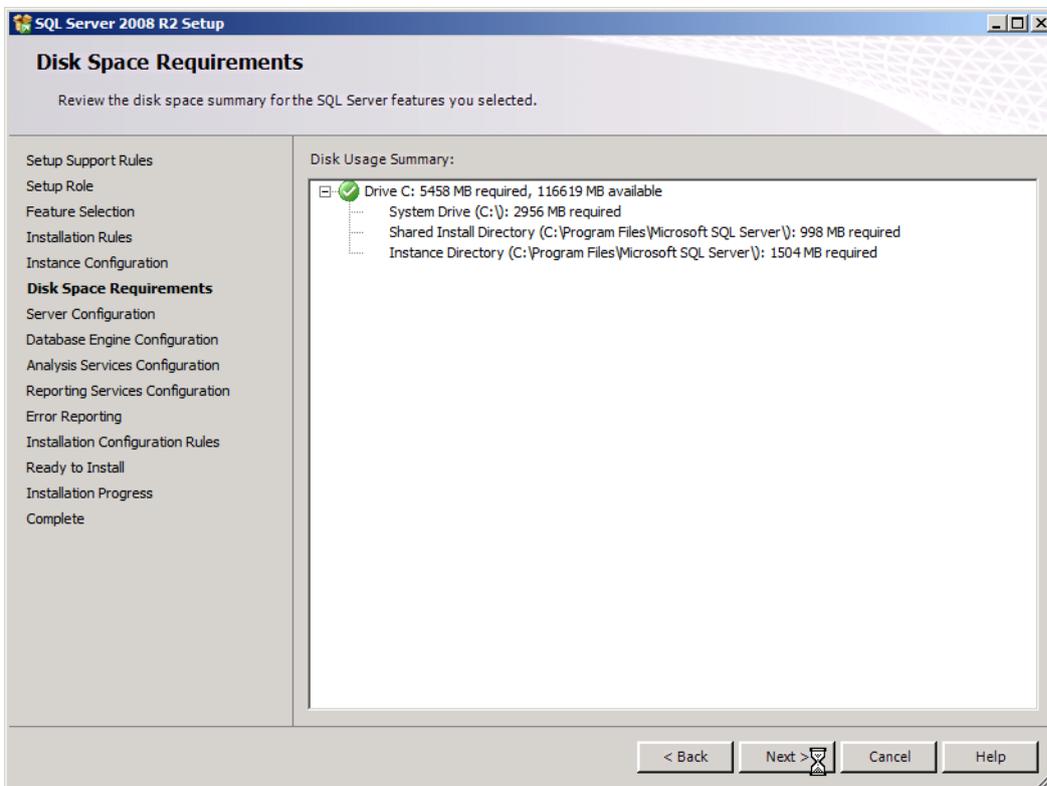
Tips: You do not need all features selected here as prerequisites for the operation of SharePoint Server 2010.

However, in this step you will install all features that you might use later, including Business Intelligence (BI), reporting and managing features.

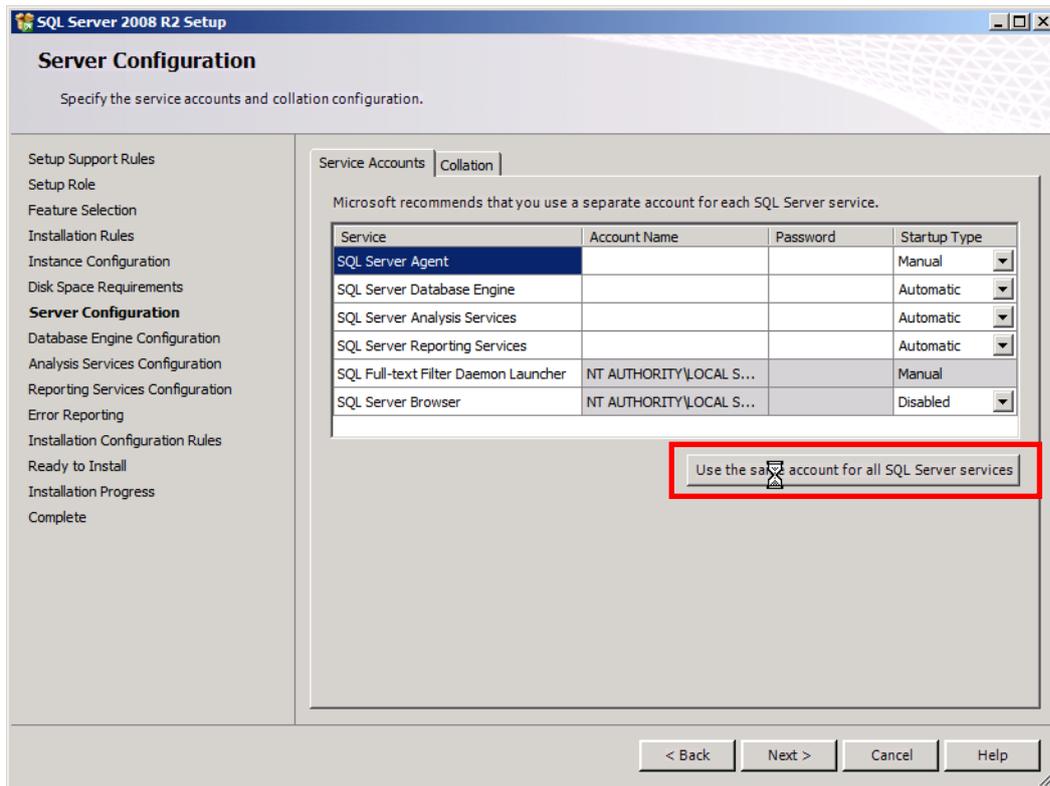
Select the required features and click **Next**. Use the default values for the instance configuration and click **Next**.



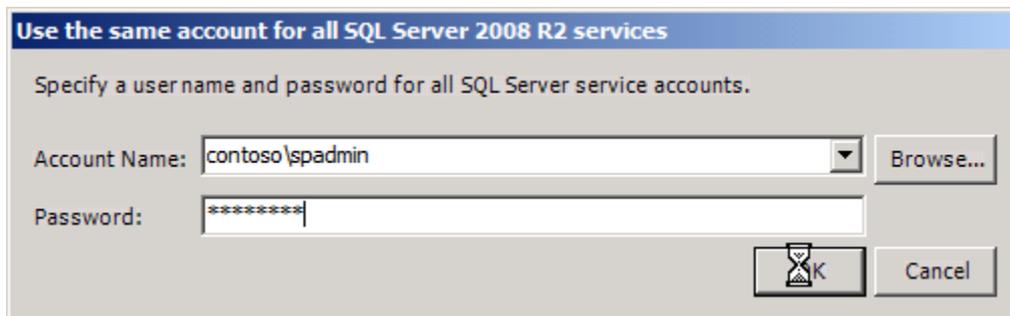
Check the necessary disk space, and then click **Next**.



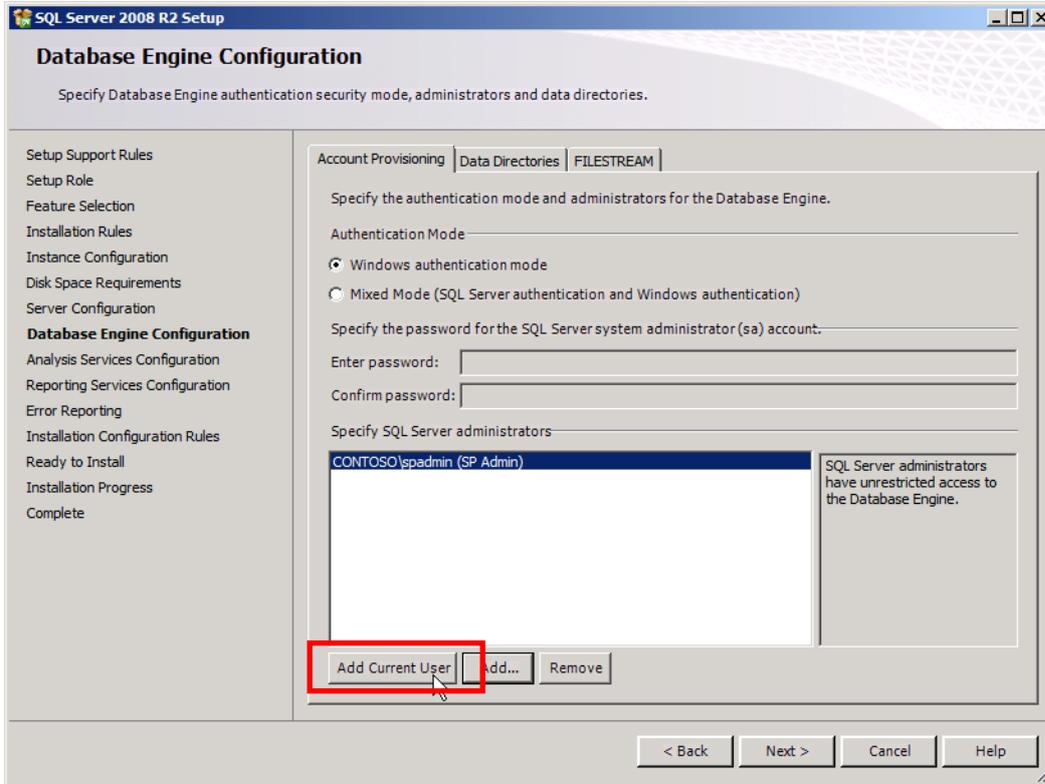
4. Specify the service account. Click **Use the same account for all SQL Server services**.



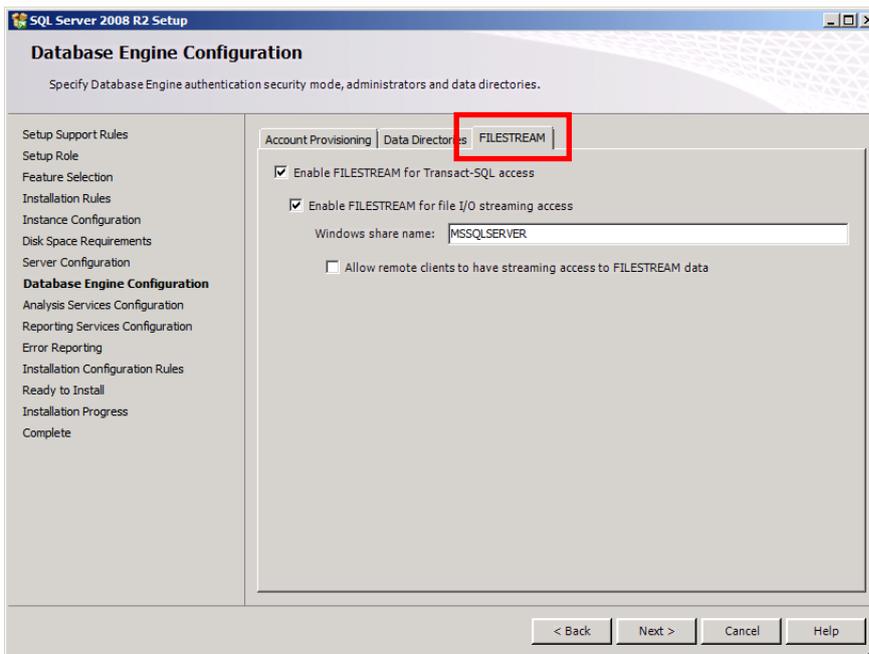
Display the drop-down list for the account name, and enter contoso\spadmin.
Enter "P@ssw0rd" in the **Password** box and click **OK**.



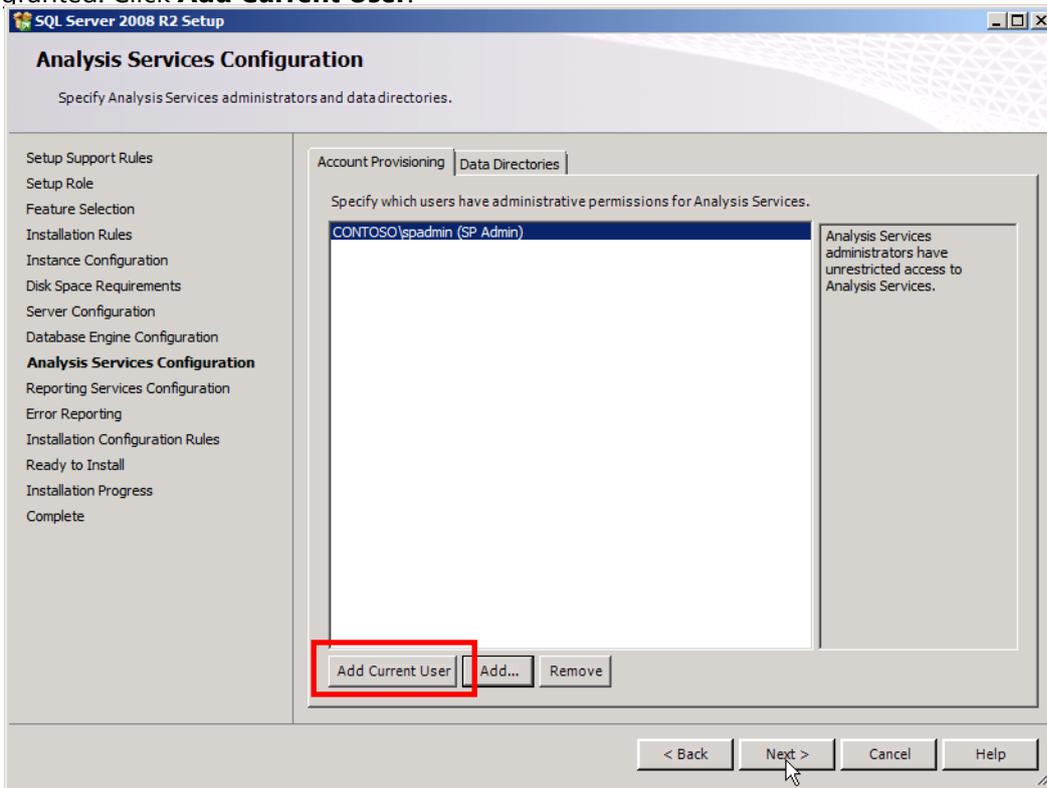
5. In the **Database Engine Configuration** screen, specify the SQL Server administrator. Click **Add Current User**.



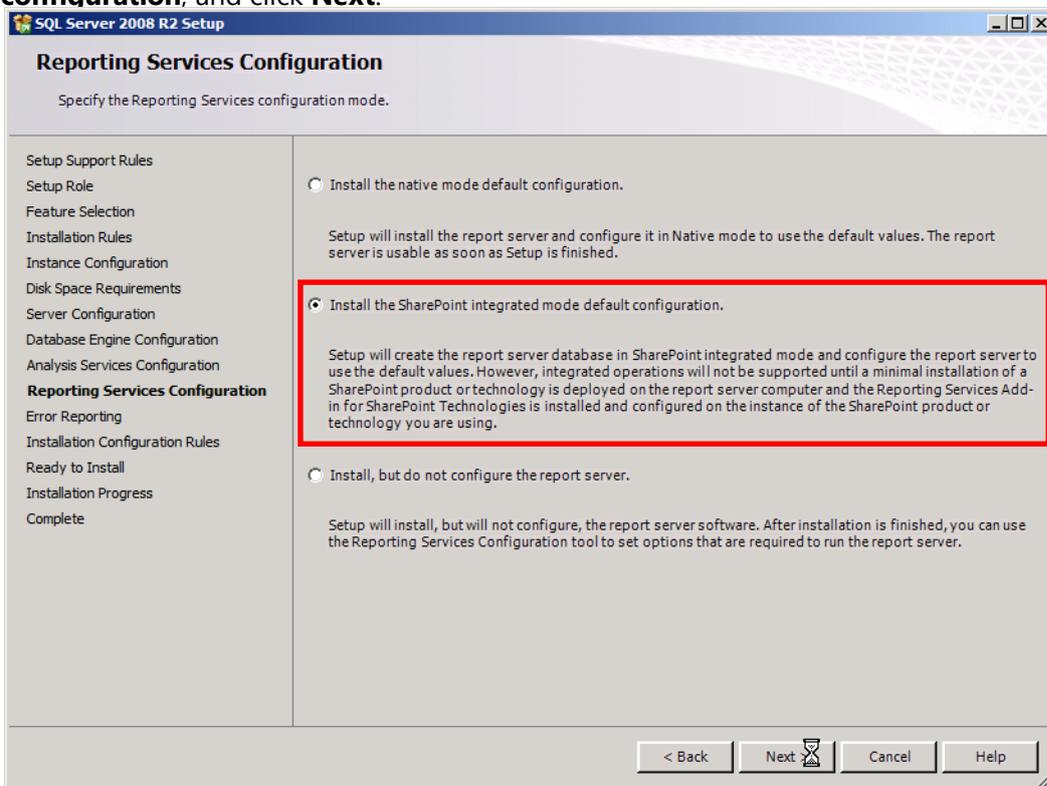
6. (Option) In the same window, open the **FILESTREAM** tab, and then select the **Enable FILESTREAM for Transact-SQL access** check box and the **Enable FILESTREAM for file I/O streaming access** check box. Click **Next**. (Use these settings when you verify Binary Large Objects (BLOB).)



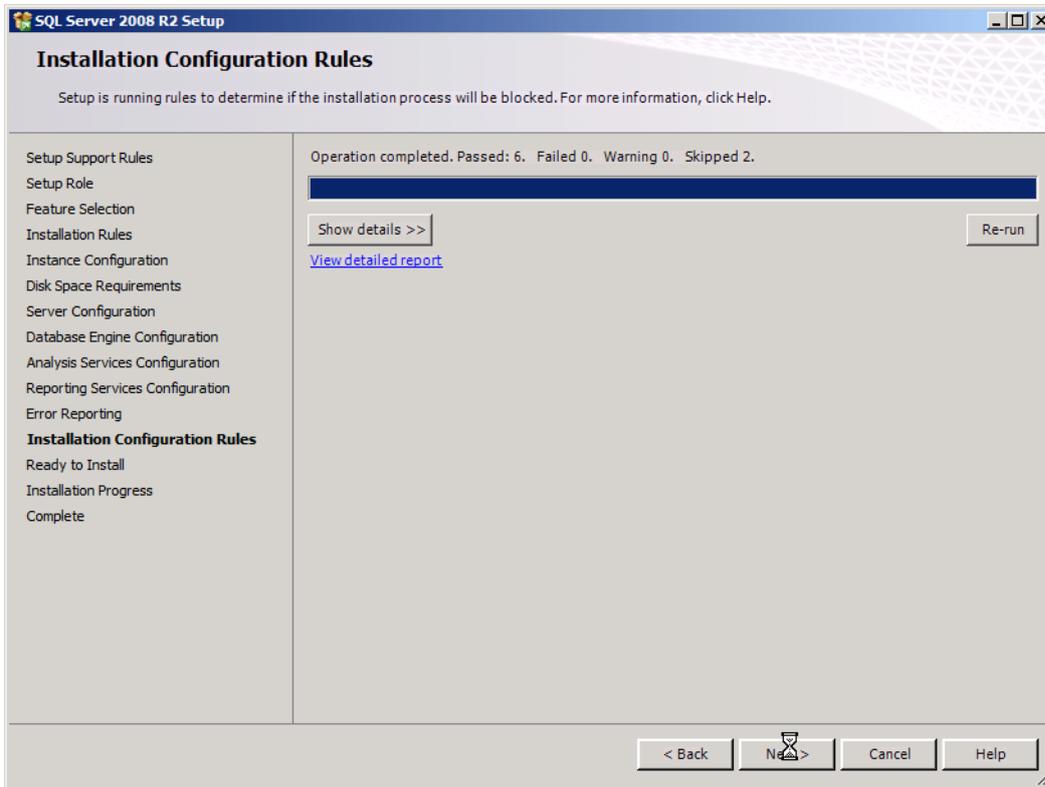
7. In **Analysis Services Configuration**, specify the account to which an administrative permission is granted. Click **Add Current User**.



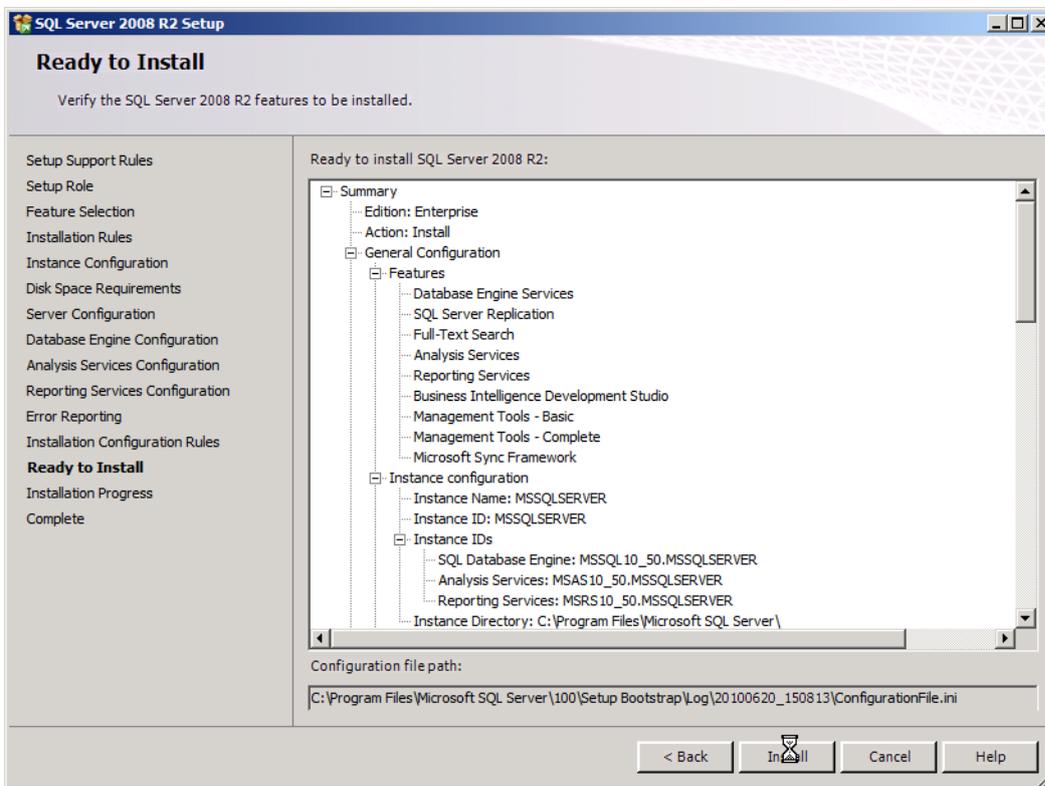
- In **Reporting Services Configuration**, select **Install the SharePoint integrated mode default configuration**, and click **Next**.



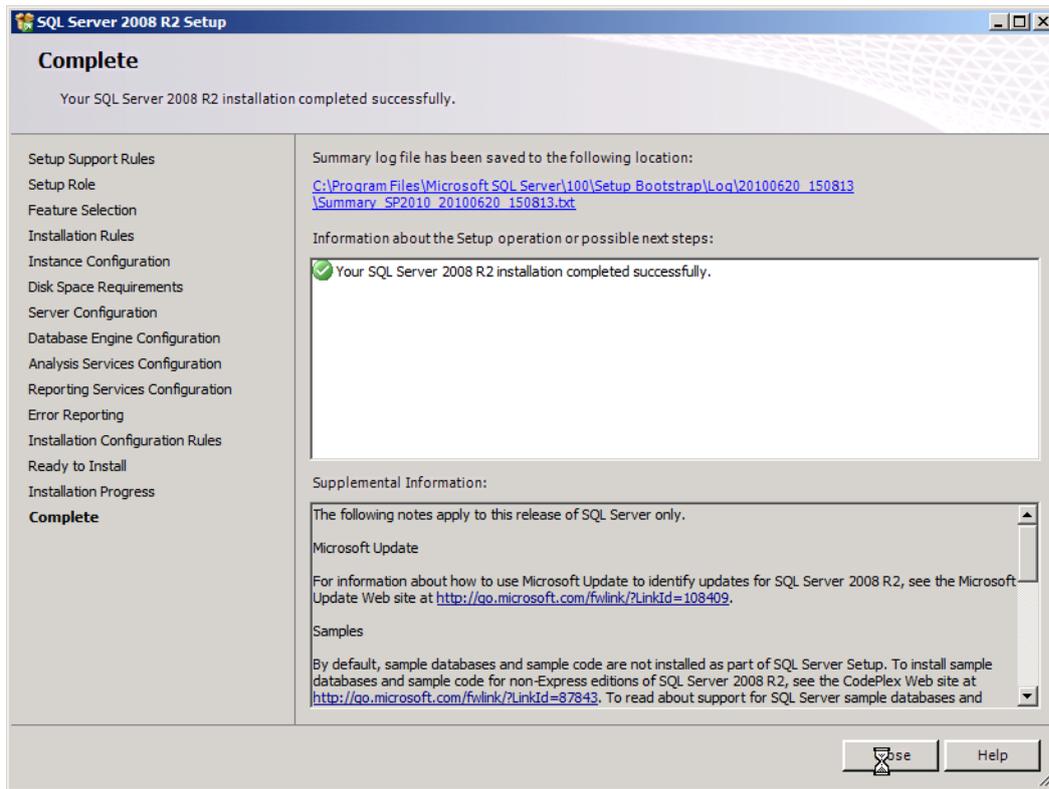
Check the error reporting and **Installation Configuration Rules** to confirm that there are no failures or warnings.



8. In the **Installation Preparation Complete** window, confirm the settings and click **Install**.



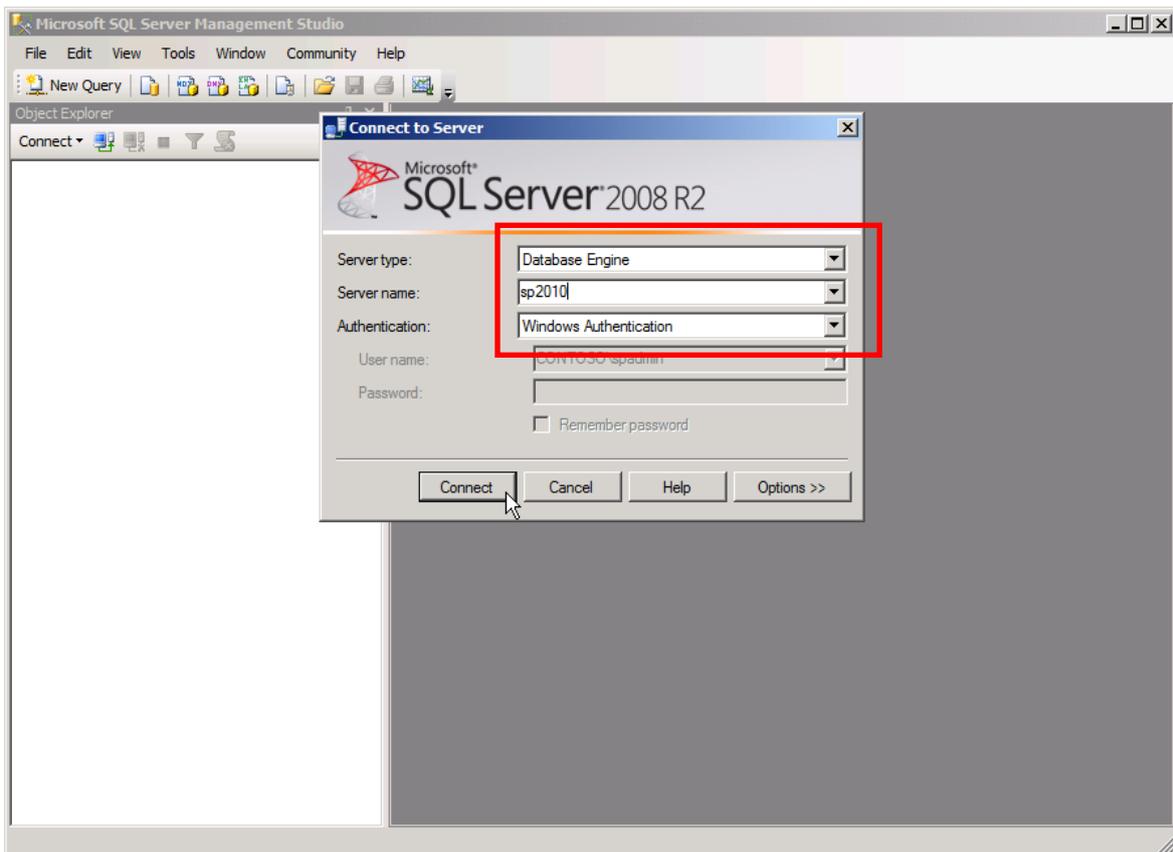
Confirm that the installation has successfully completed and click **Close**.



1.11 Registering the Service Account to SQL Server

After the installation of SQL Server, set the access permissions so that you can write to SQL Server for Contoso\spfarm that is the SharePoint Server 2010 farm account.

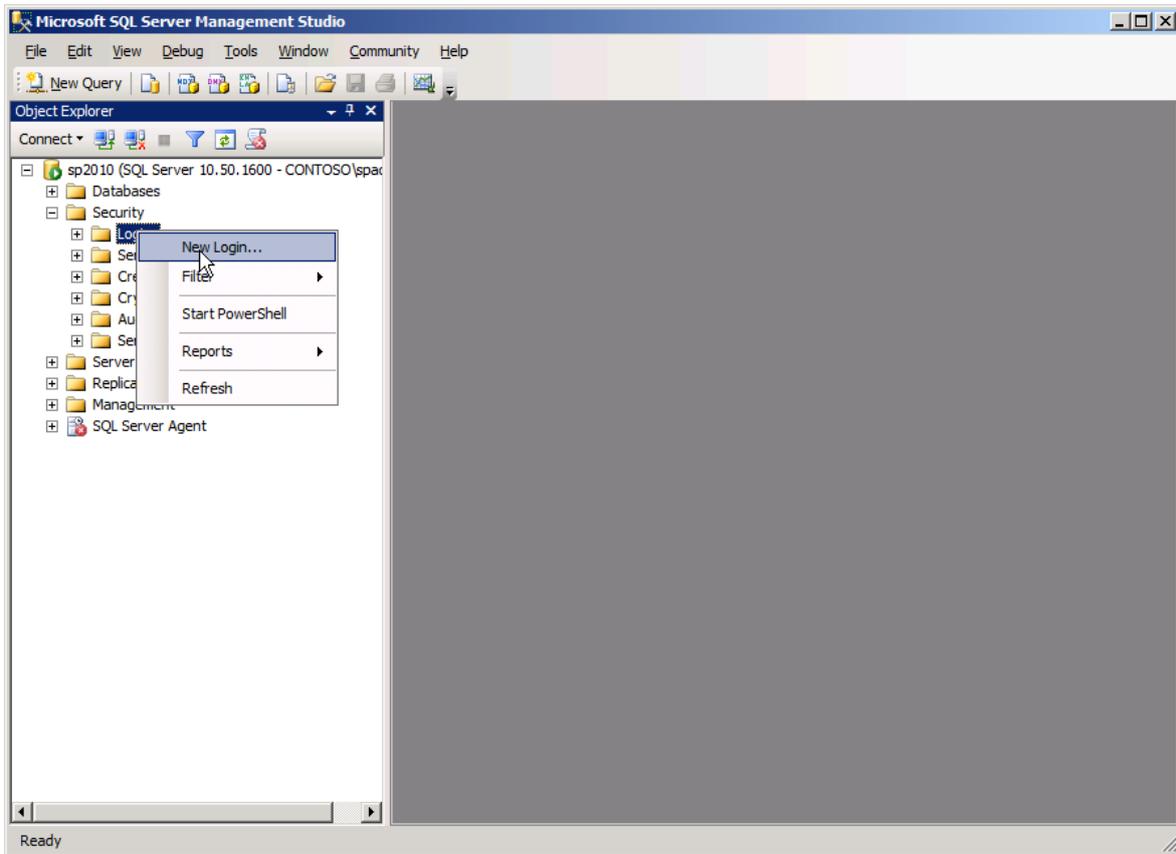
1. Open the SQL Server Management Studio. From the **Start** menu, select **All Programs**, and click **Microsoft SQL Server 2008 R2** and then **SQL Server Management Studio** to launch it.



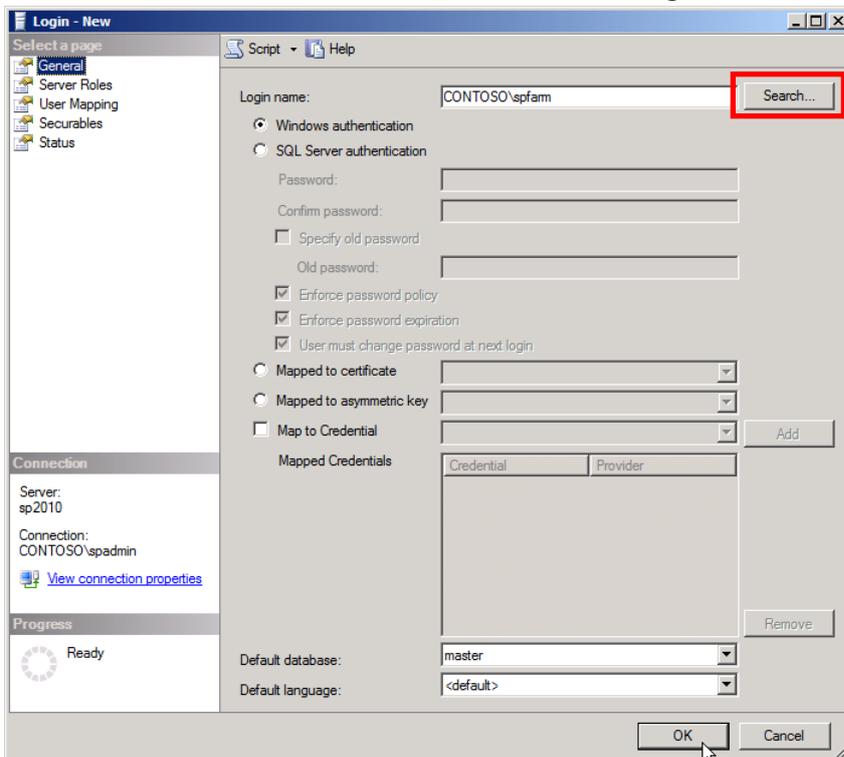
In the **Connect to Server** dialog box, set up as shown below and click **Connect**.

Server type	Database Engine
Server name	sp2010
Authentication	Windows Authentication

- Expand **Security** from the left pane in **Management Studio**. Right-click the **Login** folder, and select the **New Login** menu.

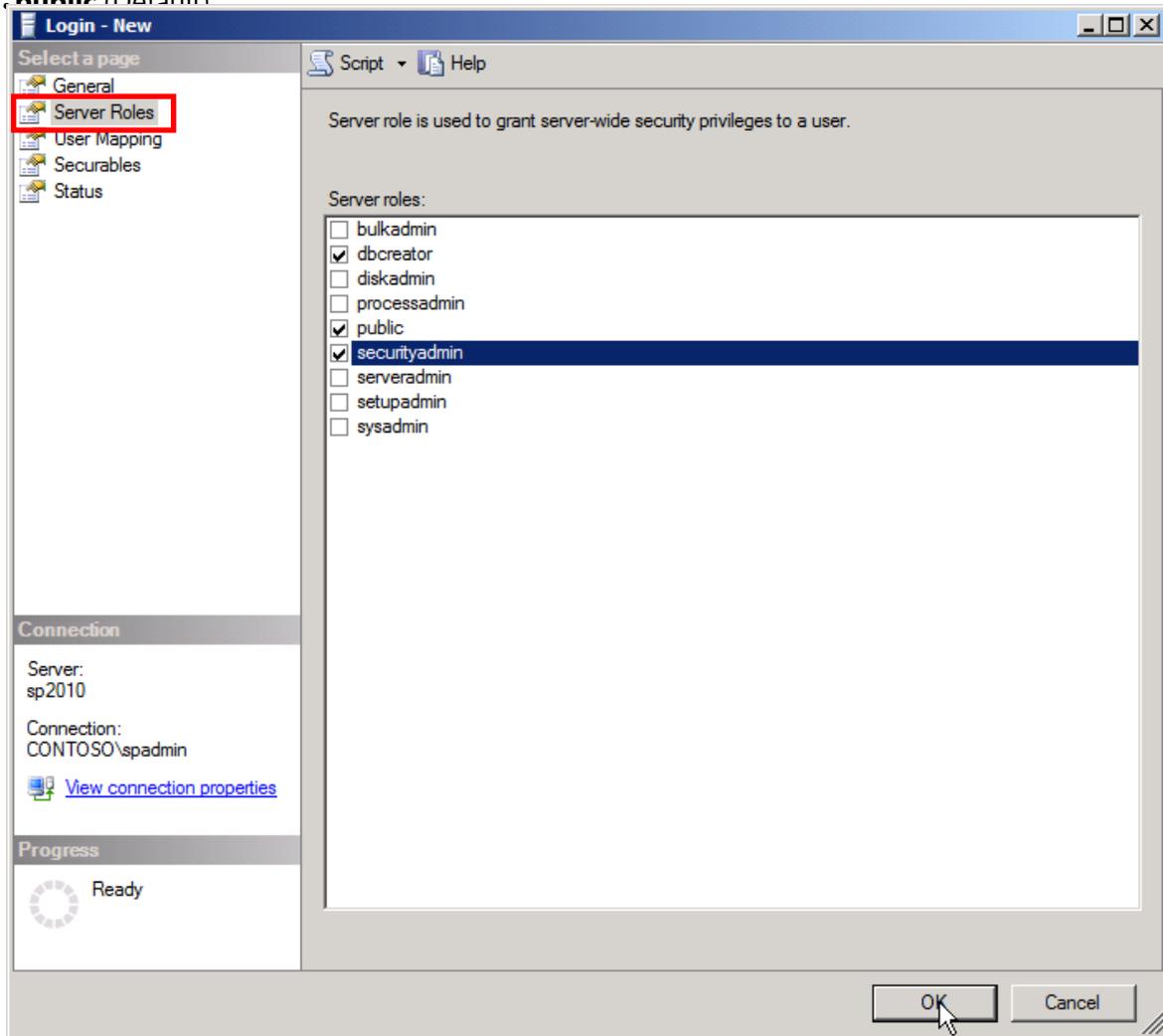


- Add a service account. Click **Search**, and select the Login name "CONTOSO\spfarm".



4. From the left pane, select **Server Roles**. Grant the following server roles.

- **dbcreator**
- **securityadmin**
- **public** (Default)

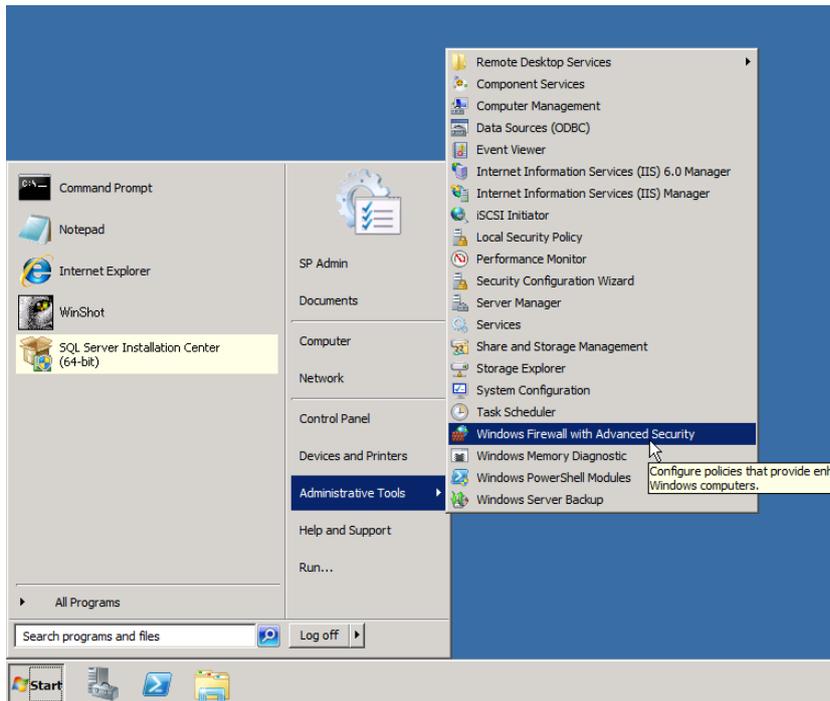


Confirm that the check boxes are correctly selected and click **OK**.

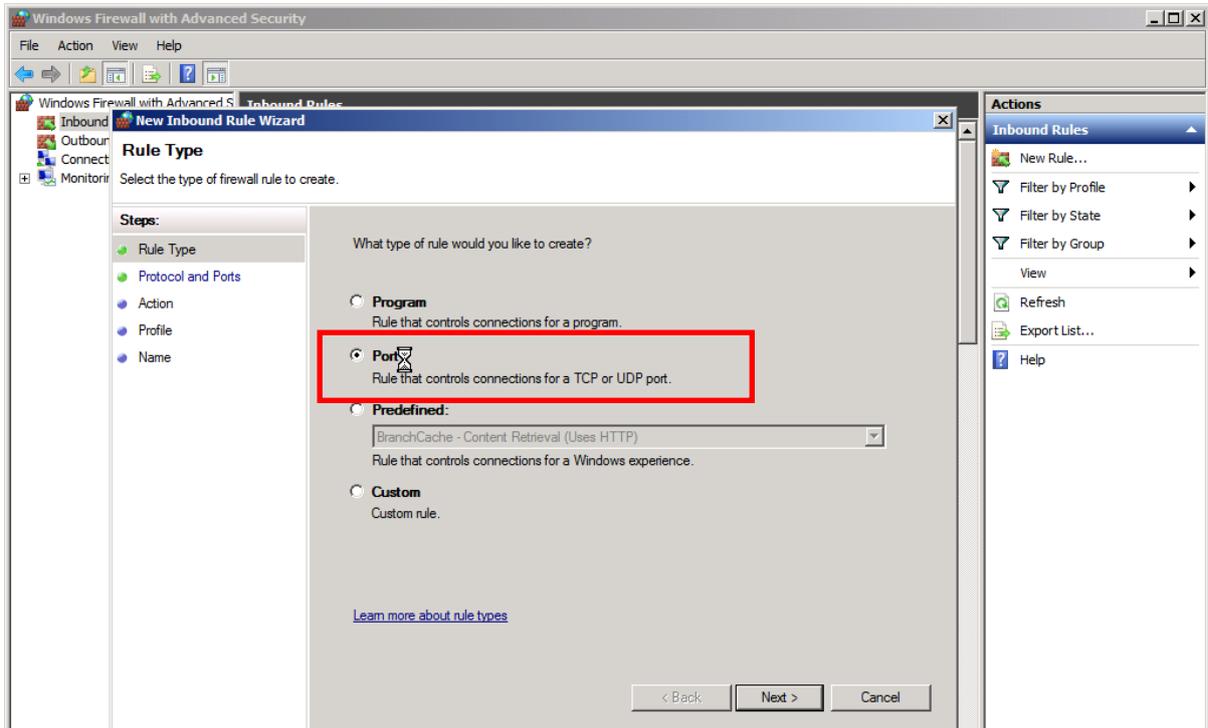
1.12 (Appendix) Configuring Windows Firewall for SQL Server

In the example environment used in this self-study guide, no problems occur because SharePoint Server and SQL Server 2008 R2 are installed in the same environment, but in an actual operating environment in which SharePoint Server and SQL Server are installed respectively on different servers (recommended), you have to configure the firewall on the computer that runs SQL Server so that it allows access to the SQL Server database through the firewall.

1. On the SQL Server installation server, create inbound rules. From the **Start** menu, select **Administrative Tools**. Click **Windows Firewall with Advanced Security**.



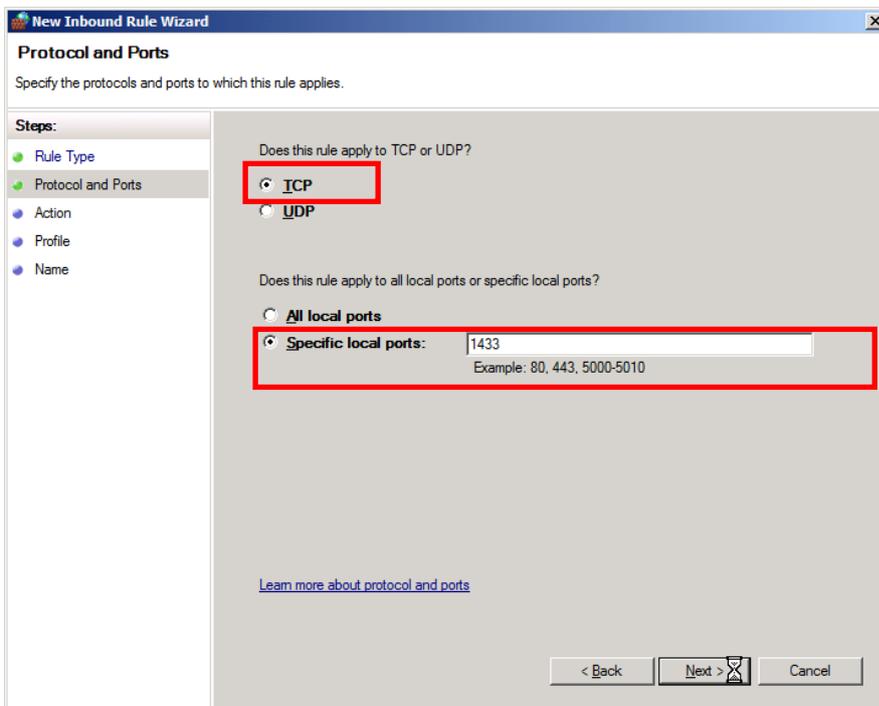
- From the left pane, select **Inbound Rules**, and from the Operation pane on the right side, select **New Rule**. In the **New Inbound Rule Wizard**, select **Port**.



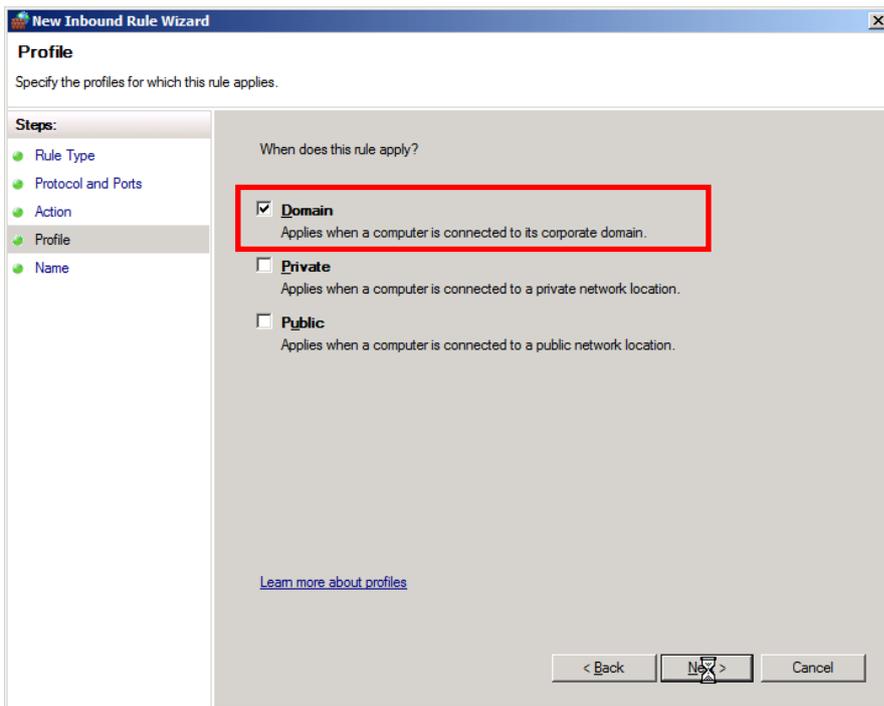
- Select a **Protocol and Ports**.

Protocol: **TCP**

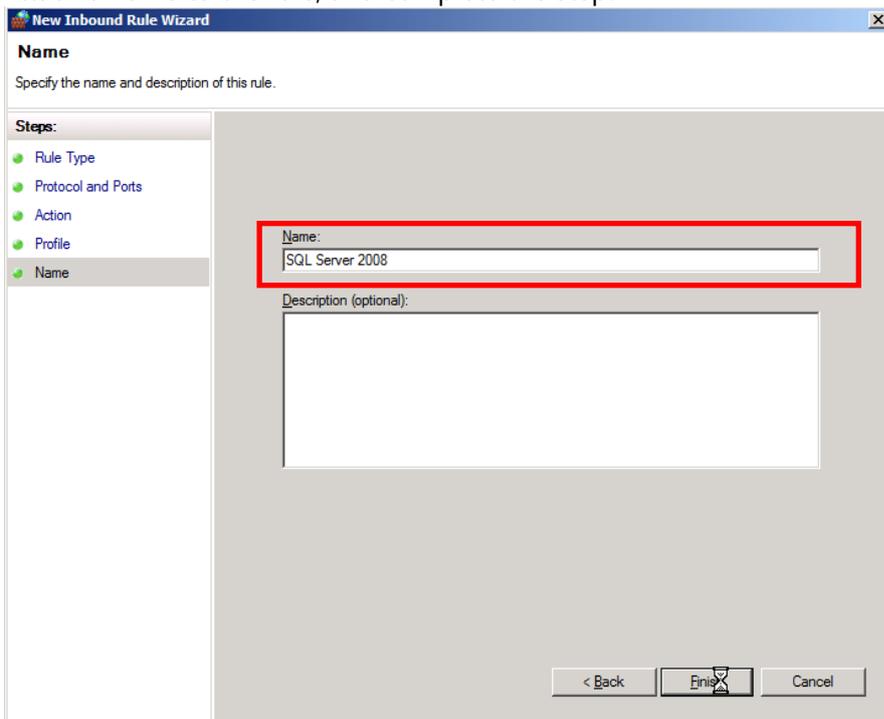
Specific local ports: 1433 (SQL Service)



4. Select application of the rule. Select the **Domain** check box and proceed.



5. Attach a name to the rule, and complete the step.



If necessary, specify dynamic release settings for the necessary ports or programs of Analysis Services and Reporting Services.

The above example describes steps only for the base port of SQL Server, but you should refer to MSDN for further details before performing configuration.

<http://msdn.microsoft.com/en-us/library/cc646023.aspx>

Chapter 2. Installing SharePoint Server 2010

2.1 Installing SharePoint Server 2010

When you are installing SharePoint Server 2010, there are two installation techniques to choose from. These are "**Standalone**" and "**Server Farm**".



These installation techniques have their own unique characteristics, as shown below. In this self-study guide, the server farm configuration is used for installation.

Stand-alone	<p>As its name suggests, in this technique, you install all of the software and features needed for the operation of SharePoint Server on one server. "Automatic Configuration Script (Config.xml)" is available for stand-alone installation, and you can finish all installation processes with just a few mouse clicks. Therefore, this is most suitable when you need to configure an evaluation environment in a limited time, when you wish to focus on an evaluation of features, or when you configure a development environment.</p> <p>However, there are some restrictions as follows.</p> <ul style="list-style-type: none"> • SQL Server 2008 Express Edition is automatically installed and configured. (Even if you have a full version of SQL Server, the Express Edition is installed and applied because the automatic configuration script is enabled. The Express Edition has a 4 GB limitation.) • Cannot be installed on the domain controller. If you launch the SharePoint Server 2010 installer on the domain controller, for example for an evaluation purpose, the "Standalone" installation option is unavailable and cannot be selected. The script blocks the stand-alone installation because the installation of SQL Server on the domain controller is not recommended. • User Profile Sync is not available. This is a limitation of stand-alone installation.
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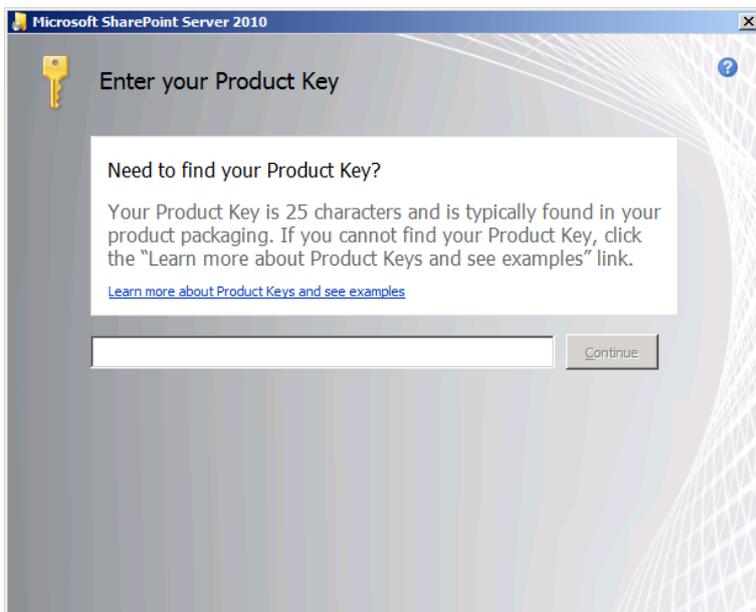
Server farm	<p>This is the most suitable installation technique recommended for the operating environment.</p> <p>The configuration of a farm consisting of multiple servers can increase redundancy and availability.</p> <p>Servers can be freely added or removed as needed.</p> <p>All features provided by SharePoint Server 2010 are available.</p> <p>(Within the scope of license)</p>
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2.2 Installing SharePoint Server 2010 in the Server Farm Configuration

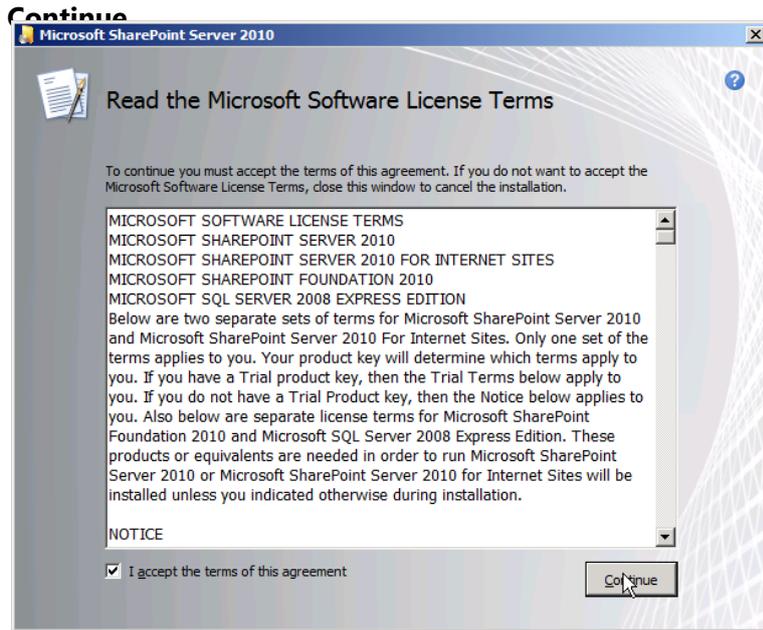
Install SharePoint Server 2010 using a server farm configuration (SharePoint Server 2010 + SQL Server 2008 R2).

1. Insert the SharePoint Server 2010 media disk in the server and select **Run splash.hta**, and then click **Install SharePoint Server**.

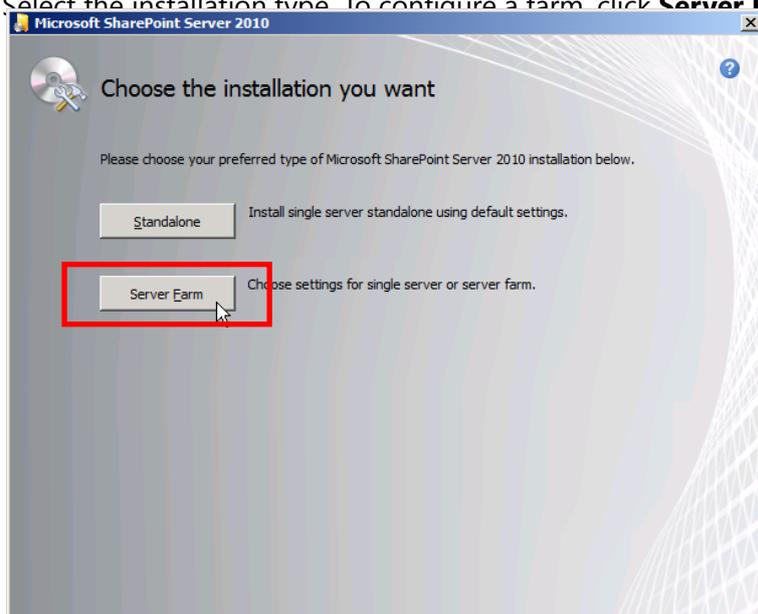
You are prompted to enter the product key. Type the authorized product key, and then click **Continue**.

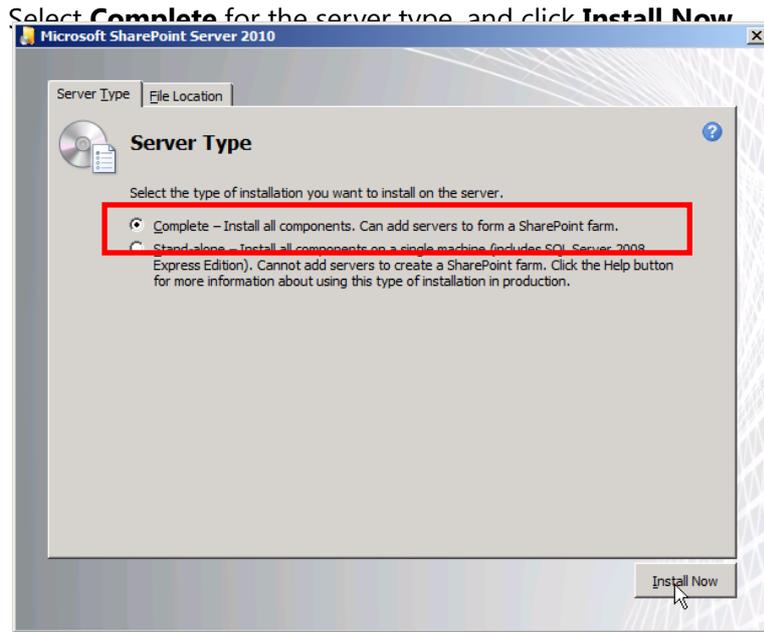


Check the license terms, select the **I accept the terms of this agreement** box, and then click



Select the installation type. To configure a farm, click **Server Farm**.





The installation of SharePoint Server 2010 starts.

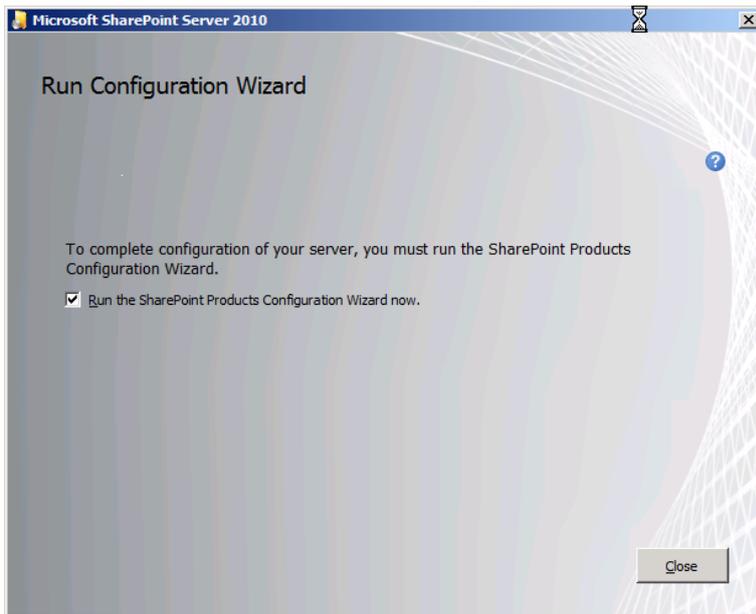
After the installation is complete, the **Run Configuration Wizard** appears. Make sure that the **Run the SharePoint Products Configuration Wizard now** box is selected, and then click **Close**.



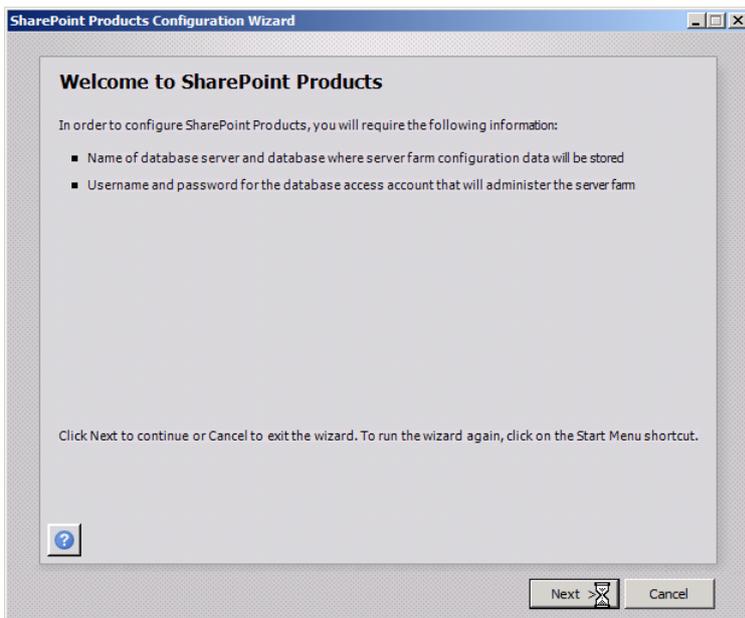
2.3 Running the SharePoint Products and Technologies Configuration Wizard

After the installation of SharePoint Server 2010 is complete, run the Configuration Wizard. By running the configuration wizard, you can install and expand on the farm the Configuration Database in which the SharePoint farm configuration information is recorded, along with various features. It also allows the preparation of SharePoint Central Administration Web applications.

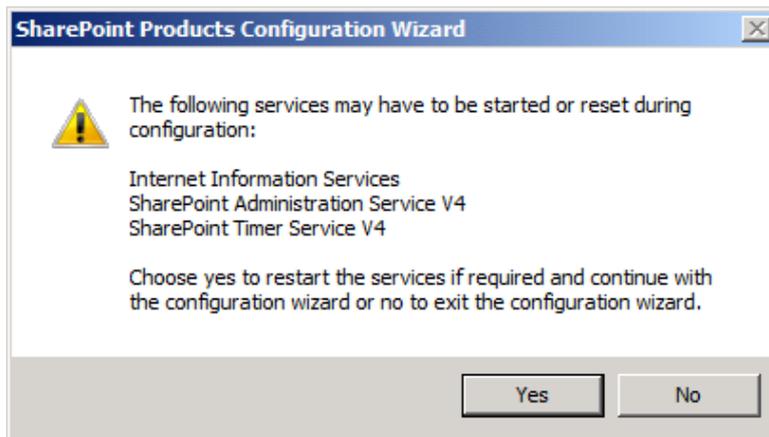
1. Check that **Run the SharePoint Configuration Wizard now** is selected, and then click **Close**.



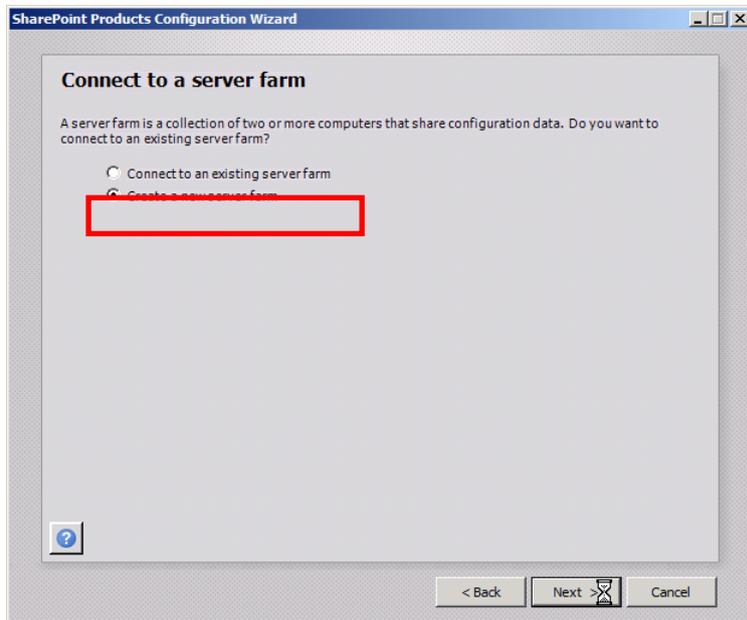
- In **Welcome to SharePoint Products**, click **Next**.



Check the list of services that may be reset while the configuration wizard is running, and then select **Yes**.

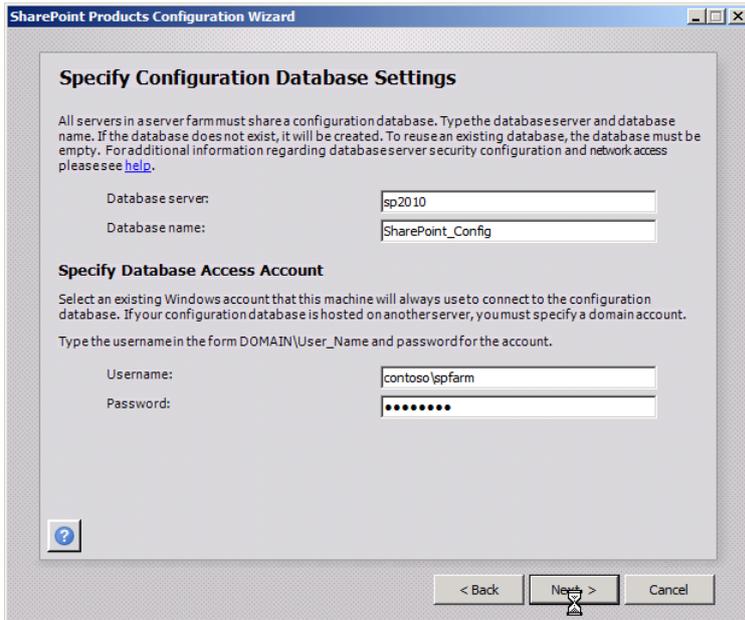


2. In **Connect to a server farm**, select **Create a new server farm**, and then click **Next**.

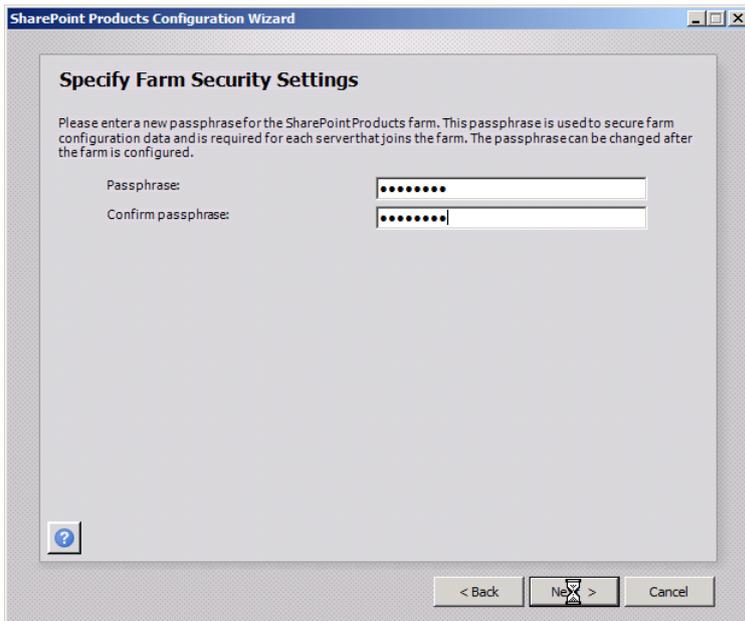


3. Specify the configuration database settings. In this self-study guide, the configuration is as follows.

Database server	sp2010
Database name	Default value [SharePoint_Config]
User name	contoso\spfarm
Password	P@ssw0rd



- Specify the farm security settings. When prompted for a passphrase, enter "P@ssw0rd". Enter "P@ssw0rd" again in the **Confirm passphrase** box, and then click **Next**.



Tips:

With earlier versions, if you wanted to add a new server to the existing SharePoint farm, for example for further enhancement of redundancy, you could add it only by specifying the existing configuration database. However, with SharePoint Server 2010, if you add a new server to the SharePoint farm or the configuration information is changed by the configuration wizard, your passphrase is requested. This change enhances the security of farm configuration.

5. Configure the SharePoint Server Central Administration Web application.

Specify the port number for the Web application for SharePoint Server Central Administration, which enables you to set and manage SharePoint Server 2010 with in a graphic user interface (GUI), and also specify the Web application authentication technique.

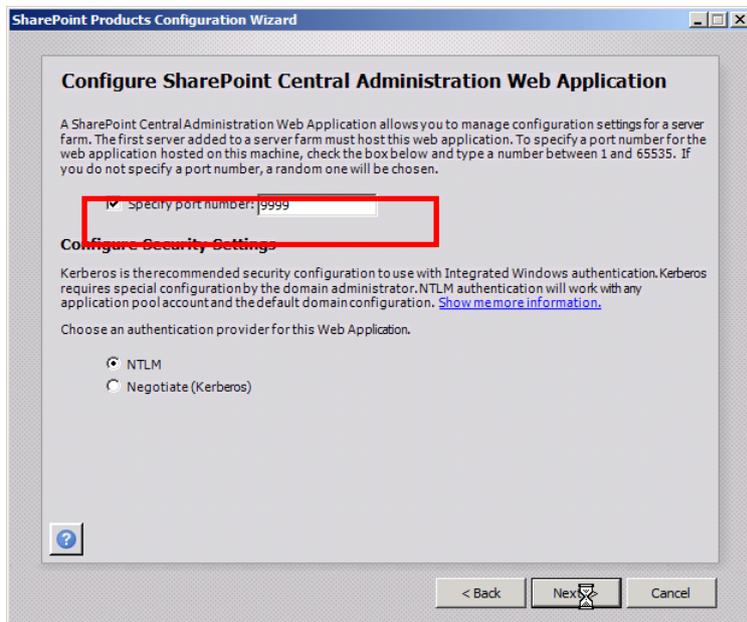
By default, an arbitrary value is automatically assigned as a port number, but you can specify any port that you can easily recognize by selecting the **Specify port number** check box.

In this self-study guide, the following settings are used.

Specify port number	9999
Authentication provider	NTLM

NOTE:

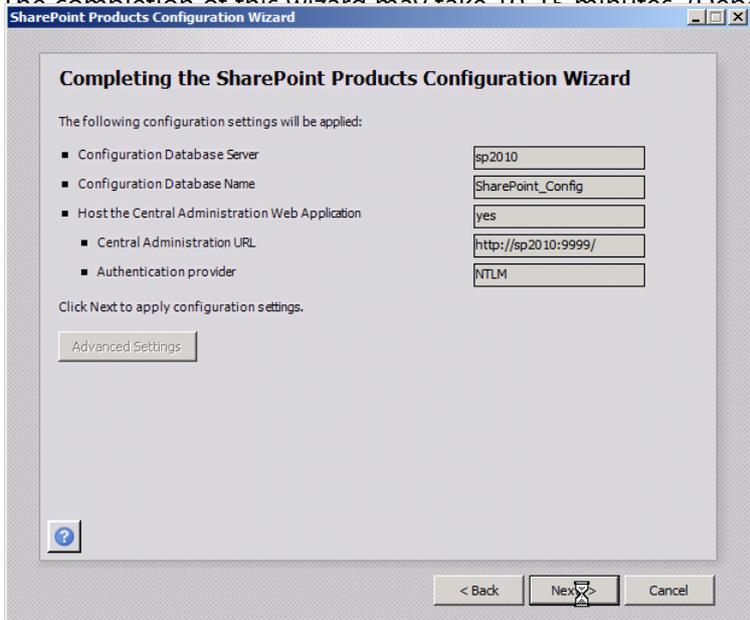
Although you can assign any port, you need to check that the port is "free."



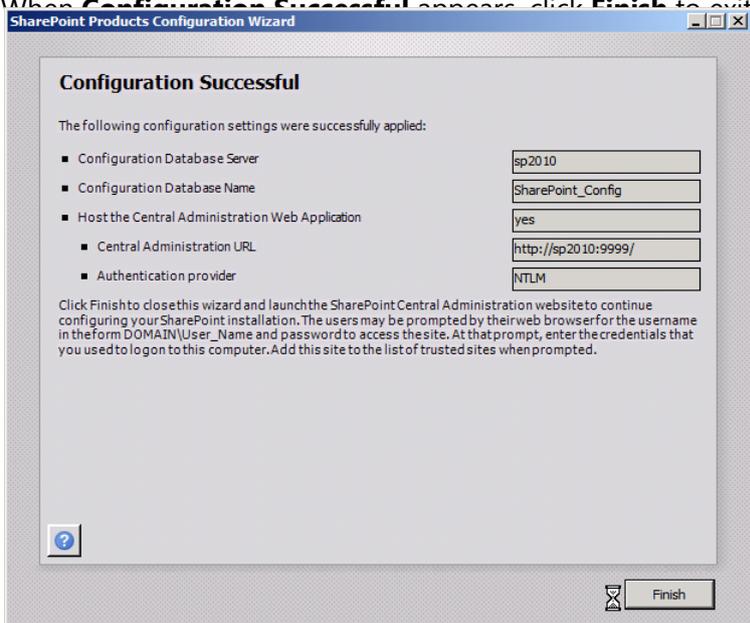
Click **Next**.

- 6. After checking the configuration settings, click **Next** to run the **SharePoint Products Configuration Wizard**.

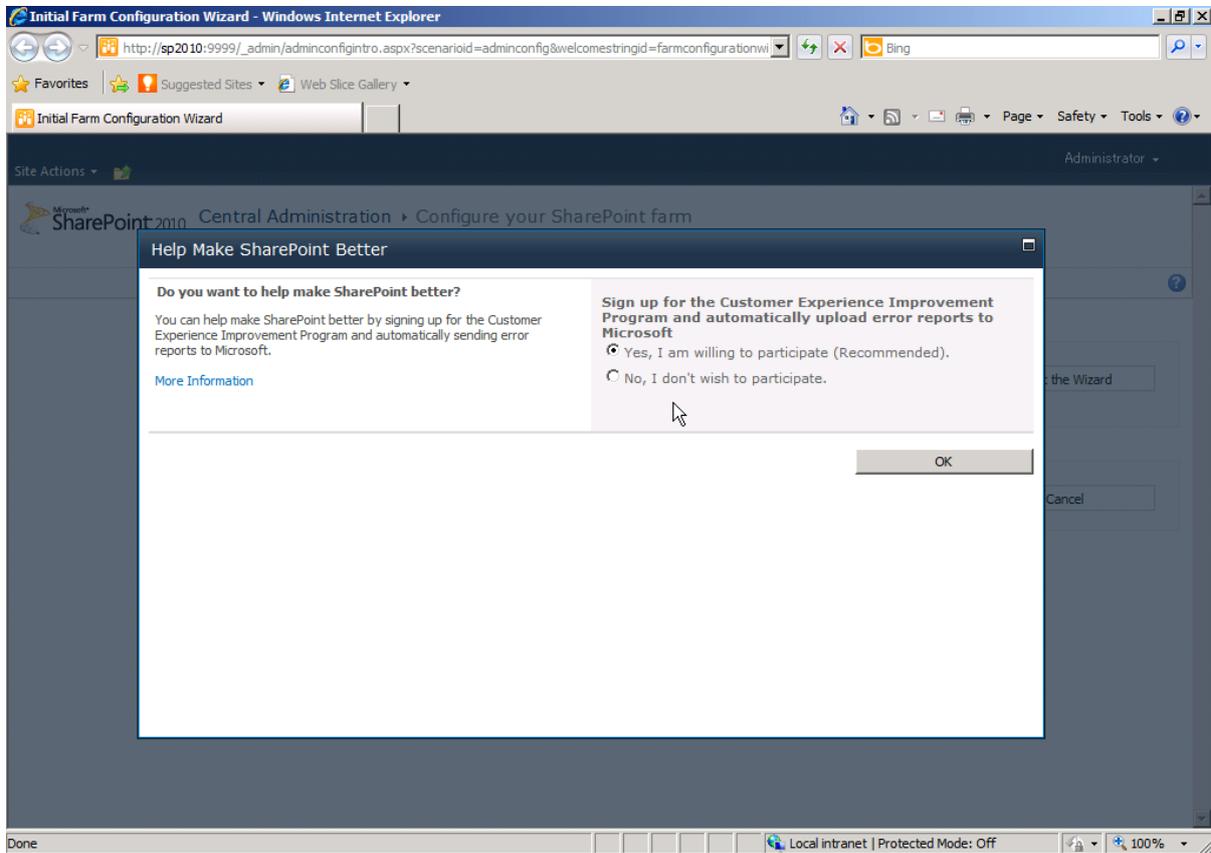
The completion of this wizard may take 10-15 minutes. (Depending on server specifications)



When **Configuration Successful** appears, click **Finish** to exit the wizard.



7. After the configuration wizard ends, the **Initial Farm Configuration Wizard** window is launched. In the **Help Make SharePoint Better** dialog, you will be prompted to **Sign up for the Customer Experience Improvement Program and automatically upload error reports to Microsoft**. Select **Yes, I am willing to participate (Recommended)**, and click **OK**.



2.4 Initializing the SharePoint Farm

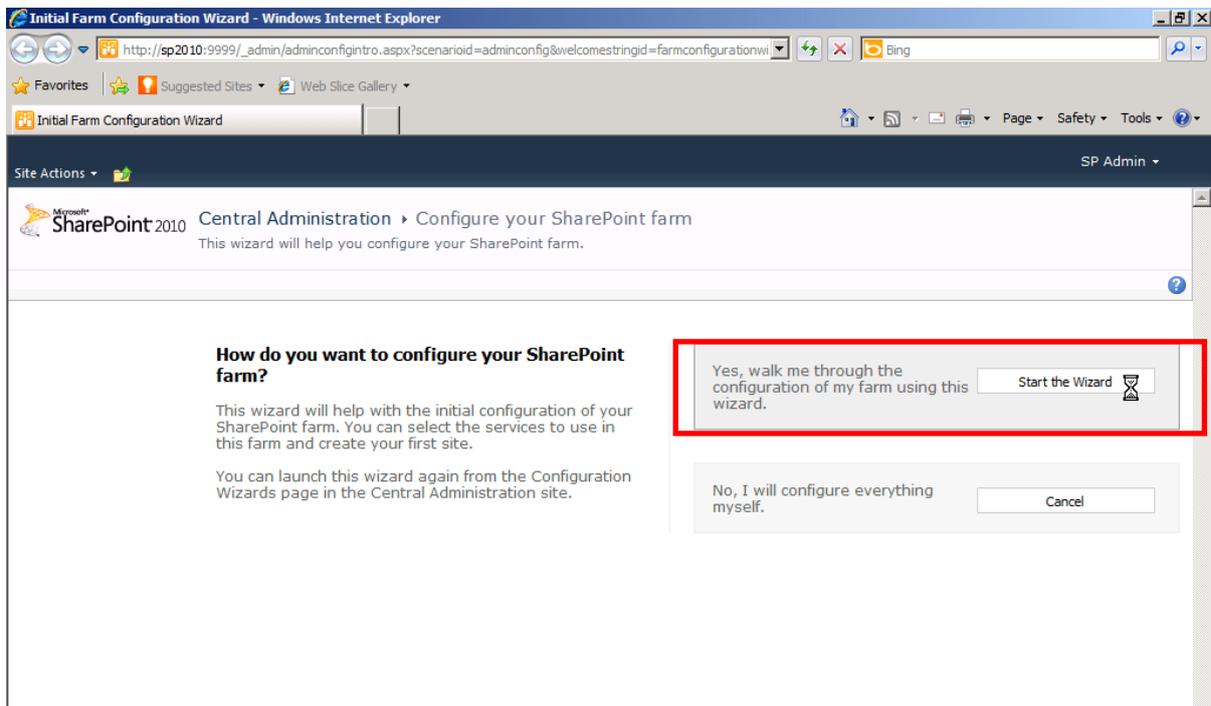
When you have finished the installation of SharePoint Server 2010 and have run the configuration wizard, configure the farm initialization. In the initial configuration, specify what "roles" (services) the installed servers play in the farm.

You can run the **Initial Farm Configuration Wizard** as a normal wizard or perform the wizard process manually. The choice points are as follows:

- By using the wizard for the first server in the farm, you can configure the minimum required environment to proceed with farm configuration.
- The wizard not only launches each service, but also sets the default service applications and the service application proxy. (The wizard also automatically creates the necessary databases and site collections with the default values.)
- Services that you want to configure by yourself can be specified as services excluded from the automatic configuration wizard by deselecting their check boxes.
(Example: User Profile Service: When you start this service using the wizard, a personal site is created on the default Web application. If you are planning to create and operate another Web application, you can deselect the check box and configure the service by yourself later on.)

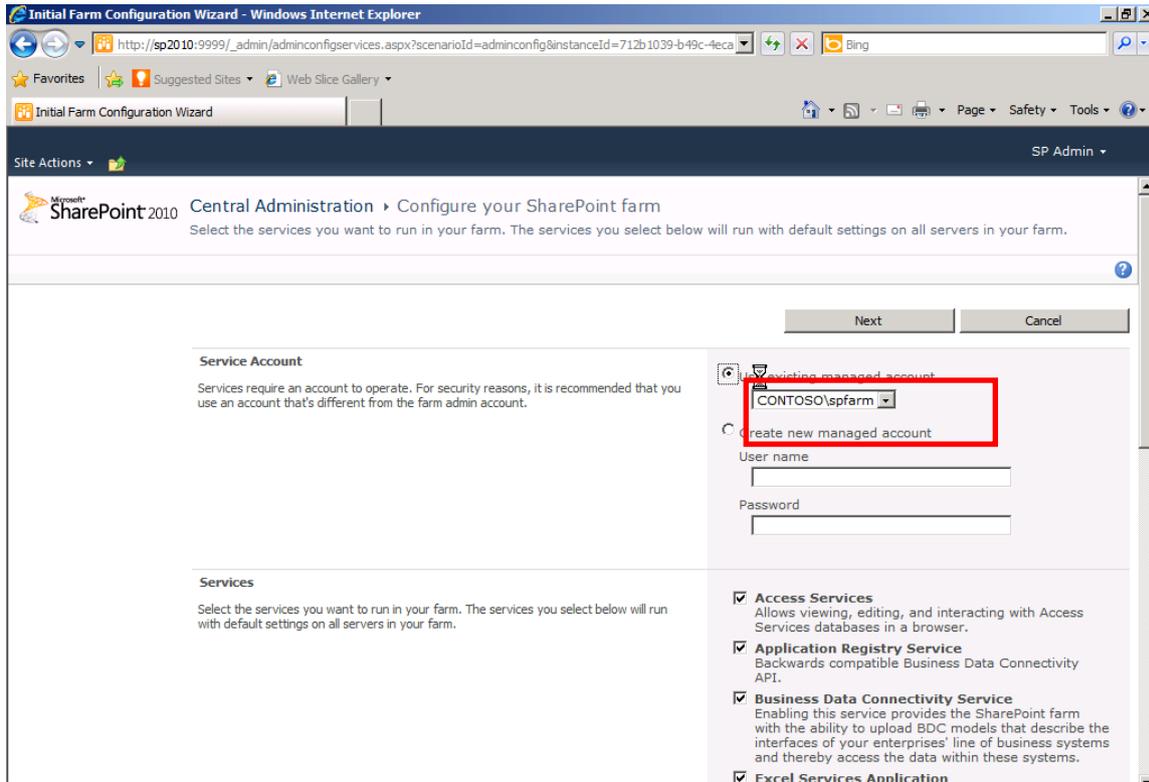
1. Configure the SharePoint farm. If you select **Cancel**, the **SharePoint 2010 Server Central Administration** opens immediately. In this self-study guide, the wizard is used for configuration.

Select **Yes, walk me through the configuration of my farm using this wizard** and click **Start the Wizard**.

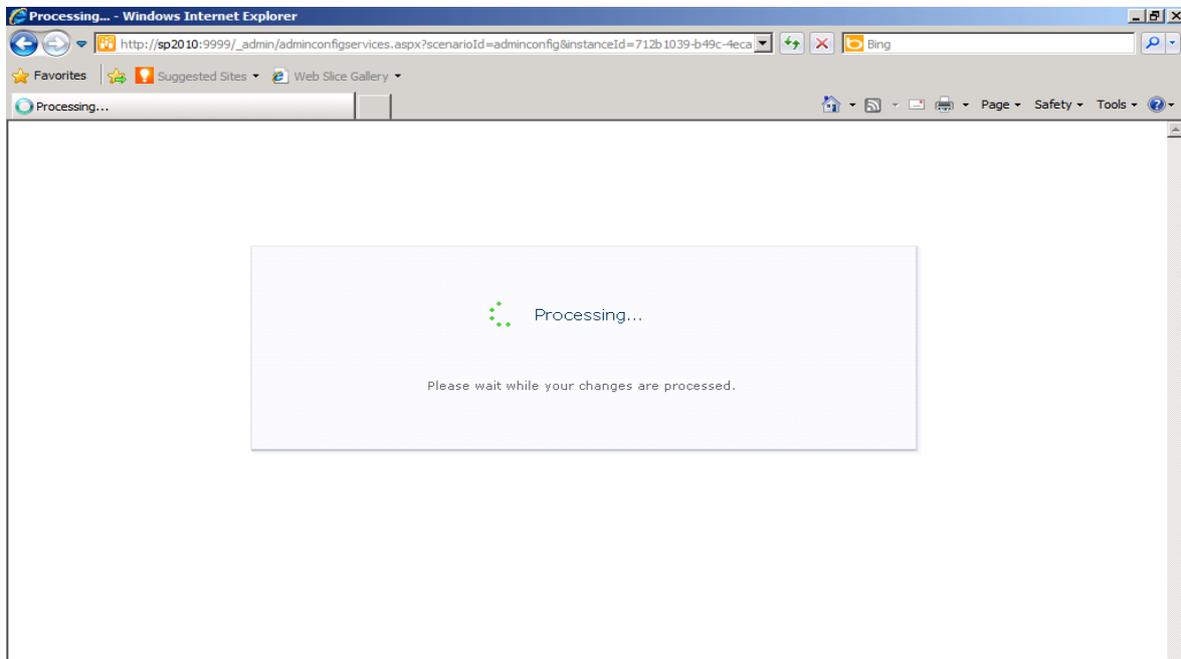


2. Configure the service account. Select **Use existing managed account**.

Click **Next**.



Various services are launched. (This may take some time depending on the server specifications.)

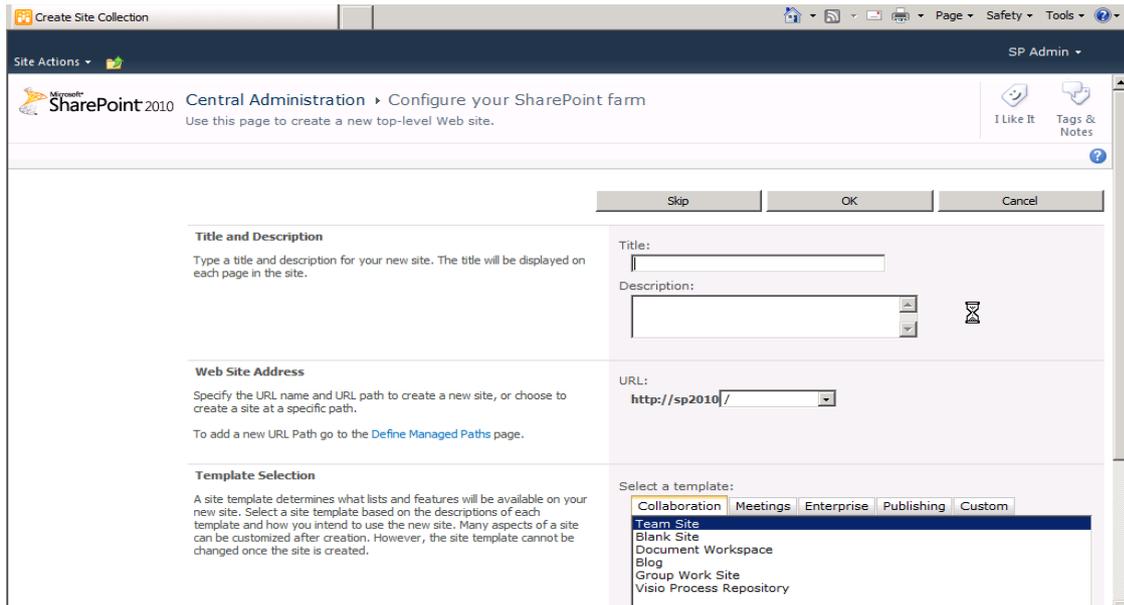


The window that creates the first site collection appears.

Establish settings as follows.

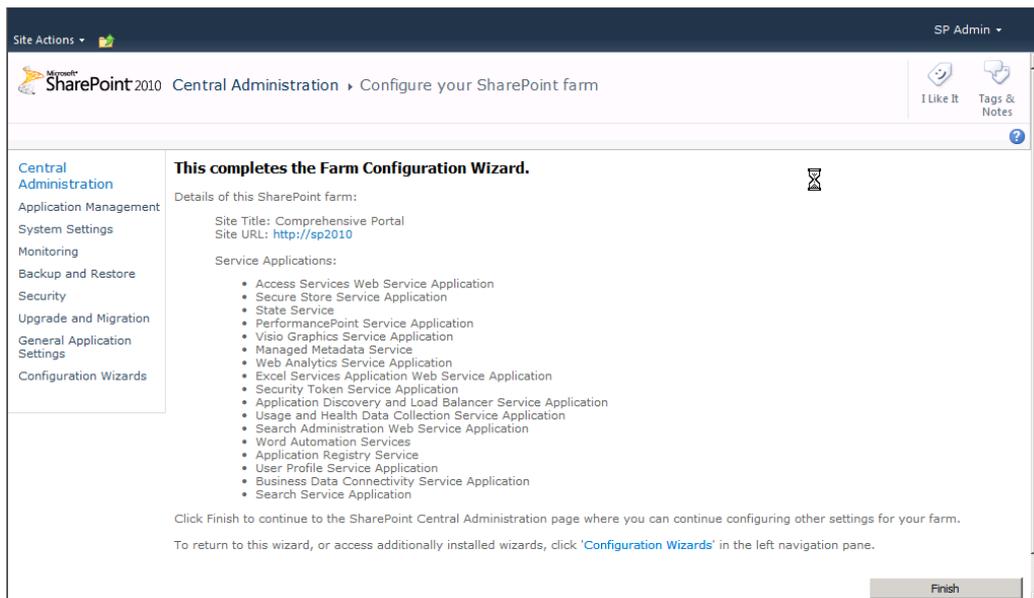
Title and Description	Central portal
Description	Empty
Web Site Address	http://server name (SP2010)/ keep default values
Template Selection	Team Site in Collaboration

After entering the value, click **OK**.

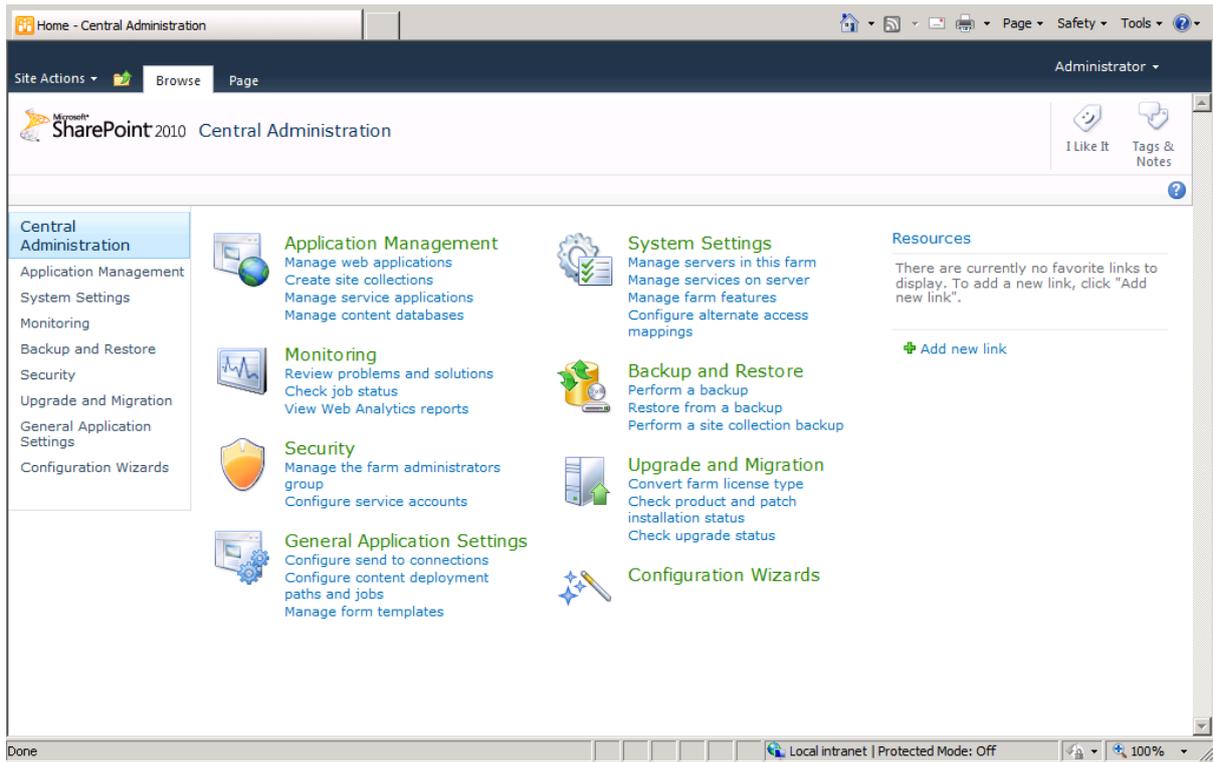


The farm configuration contents appear. The created site collection, URL, and launched services are displayed.

Click **Finish**.



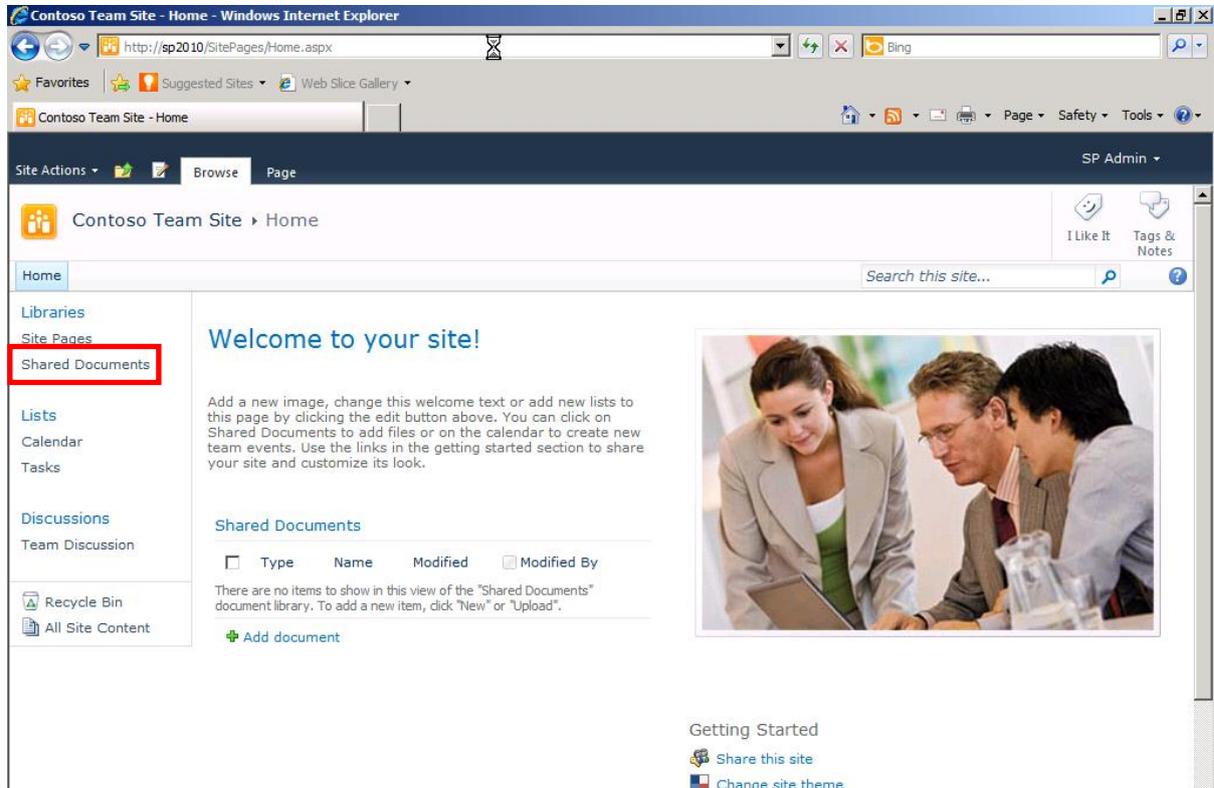
You will return to the server's **Central Administration** screen.



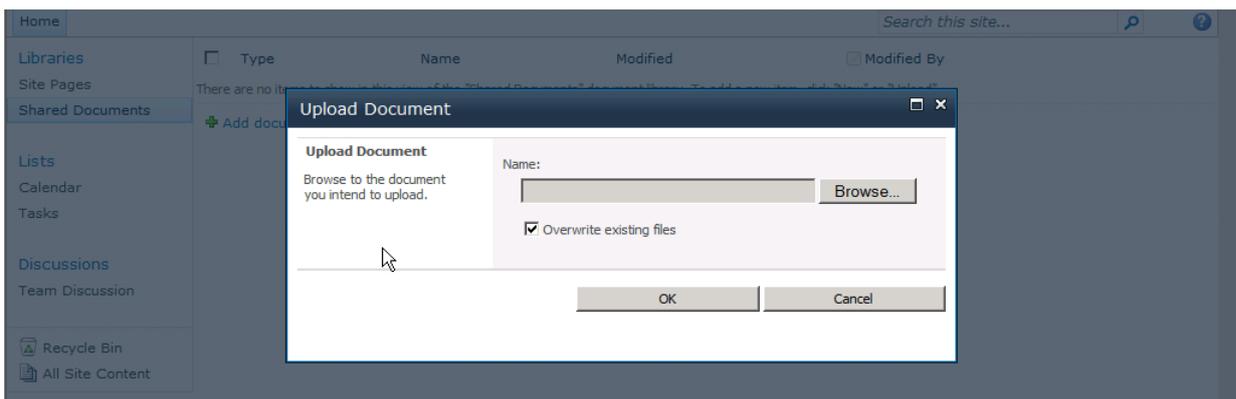
2.5 Checking SharePoint Server 2010 Site Features

In this section, you launch and verify the site created by the wizard, and you add a test user.

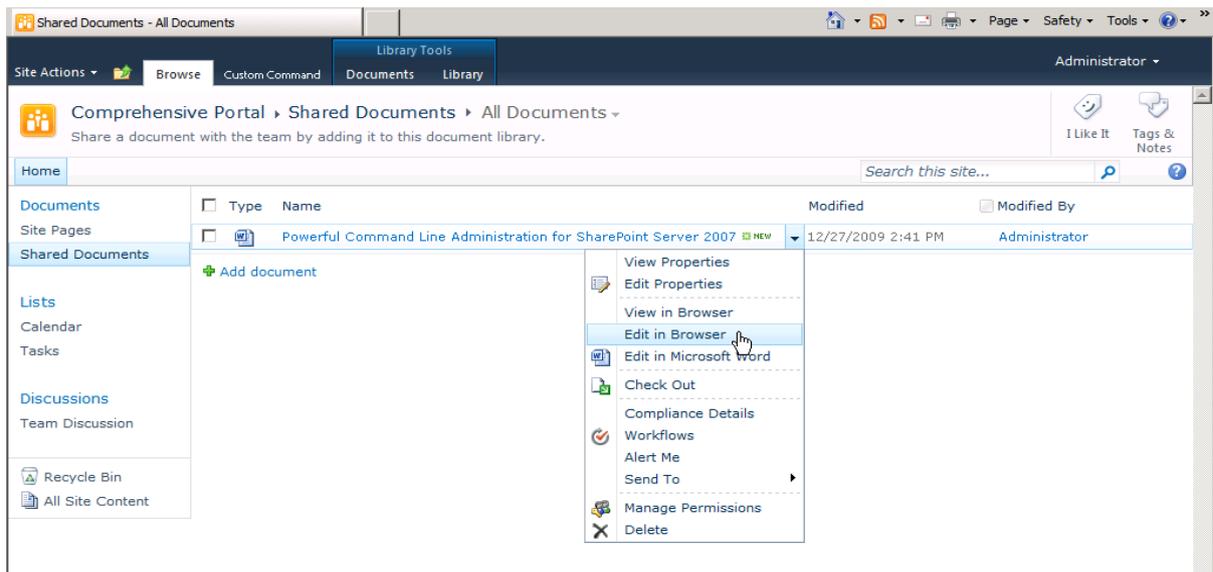
1. Enter <http://sp2010/> in the browser address bar. The **Team Site** page appears.



2. From the left navigation menu, select **Shared Documents**. Click **Add document**. The **Upload Document** dialog box appears.

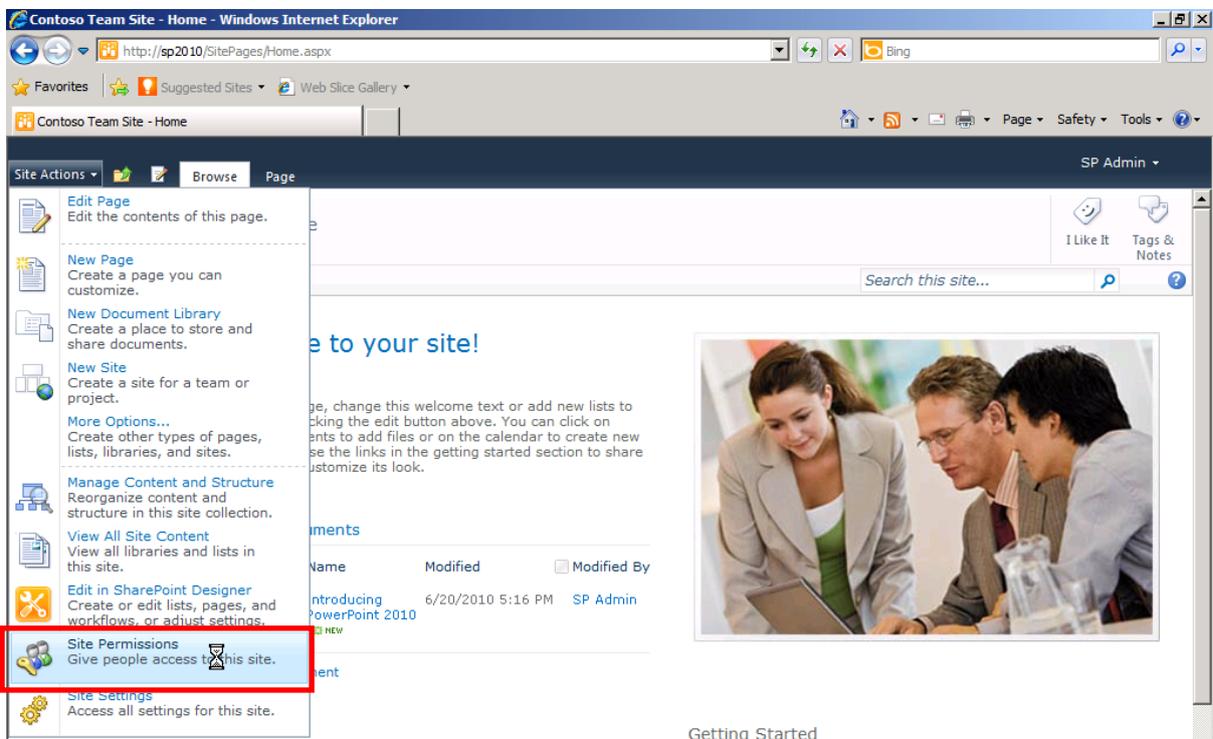


Click **Browse**, specify the file, and then click **OK**.

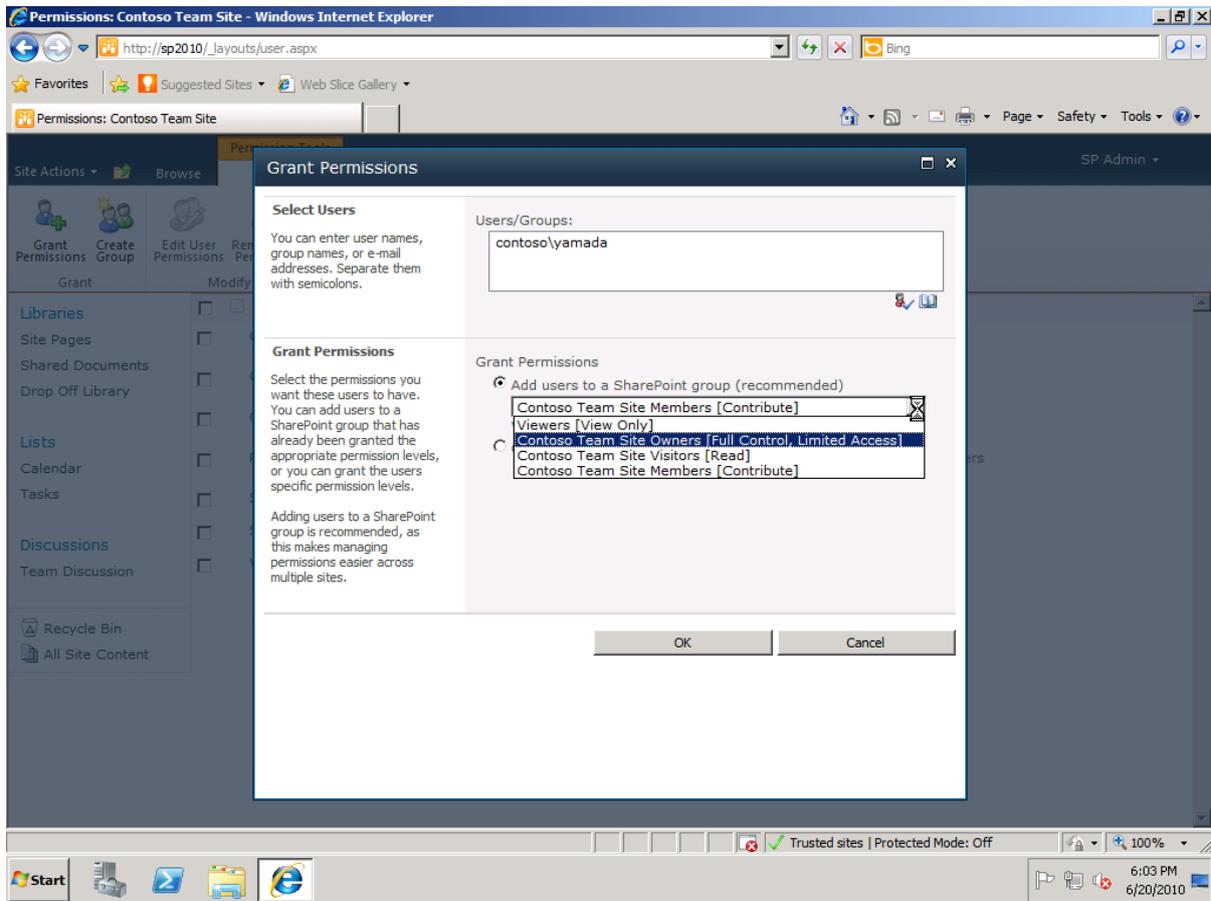


Confirm that the file has been uploaded as appropriate.

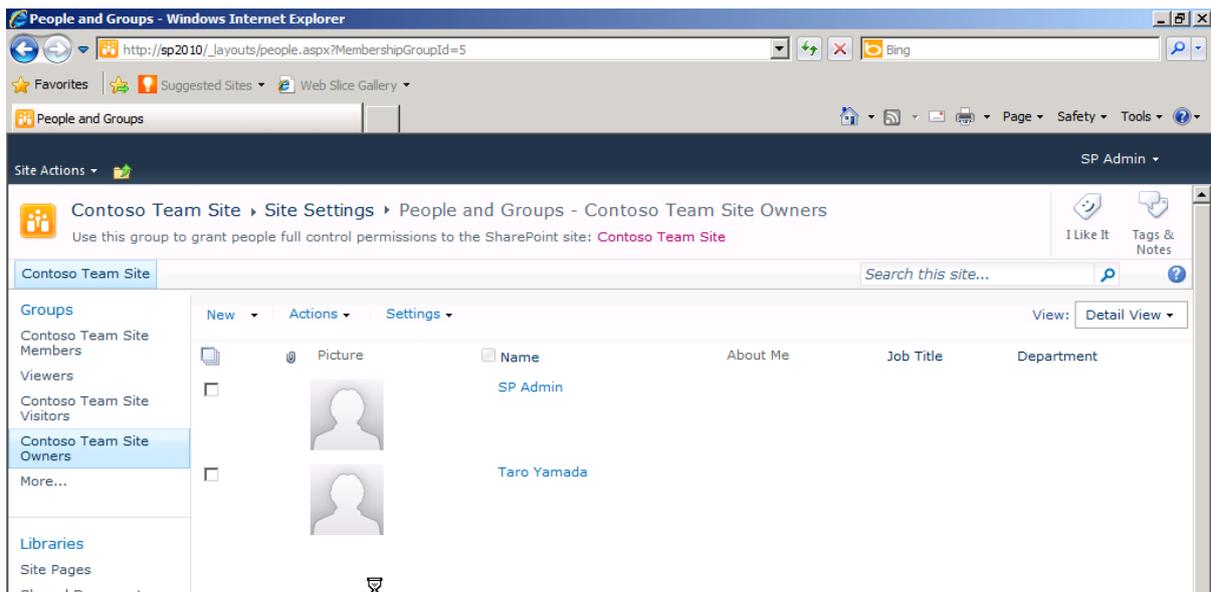
3. Give the test user "Taro Yamada (Contoso\Yamada)" access to this site. From this, you can test the behavior of the SharePoint site with multiple accounts by switching from one account to another. If necessary, you can add more users or Active Directory security groups by using the same techniques. Go to <http://sp2010>. Select **Site Actions** and click **Site Permissions**.



- Click **Grant Permissions** in the ribbon tab. Enter "contoso\yamada" in **Users/Groups**. In **Grant Permissions**, select **Contoso Team Site Owners**. Click **OK**.



- Confirm that Taro Yamada has been added to the **Owners** group.



2.6 At the End of Installation

After the configuration is complete, you may find a warning from the Health Analyzer on the server's **Central Administration** page.

One of the warnings says, "The farm account is registered as a local Administrators group account." After you install SharePoint Server 2010, it is necessary to perform some tasks that require the local Administrators group permissions from the initial configuration of your SharePoint farm.

Once all configurations are complete and actual operations have commenced, you can remove your farm account from the local Administrators group.

Chapter 3. Appendix (Additional Tasks)

Up to this point, you have completed the installation of SharePoint Server 2010. From here on, you will perform some additional tasks that are required to meet the needs of your organization. This self-study guide focuses on installation techniques. For various settings that you need to configure after the installation of SharePoint Server 2010, we will introduce some techniques that can be applied to any environment.

Add two or more servers for farm configuration

Install and enable Office Web Apps

Install Office 2010 Professional Plus

Configure service account for search service

Configure outgoing E-mail

Configure incoming E-mail

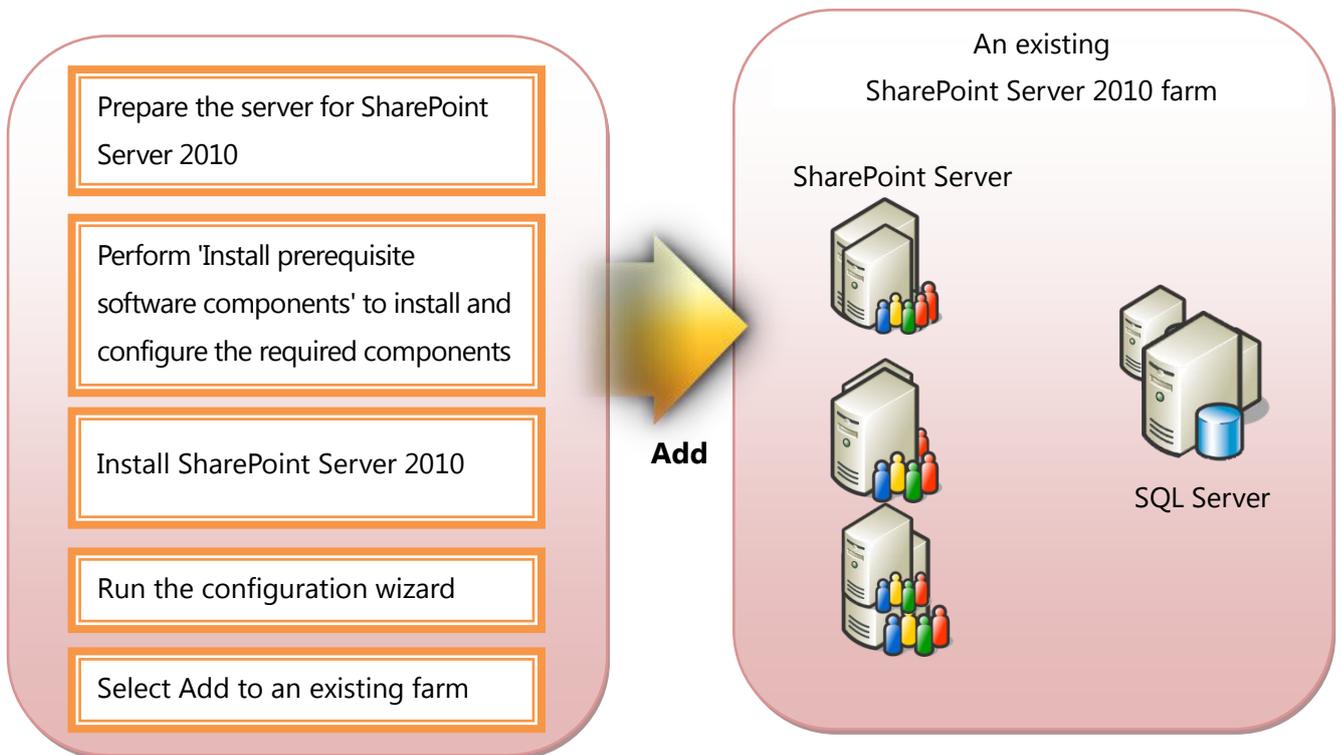
Configure User Profile Service and User Profile Sync

3.1 Adding Two or More Servers for Farm Configuration

A configuration in which the SharePoint Server installation consists of multiple servers for the purpose of increasing redundancy and availability is called a "farm configuration."

To build a farm configuration, create an environment for the newly installed SharePoint Server 2010 and then add this environment to an existing SharePoint Server 2010 farm.

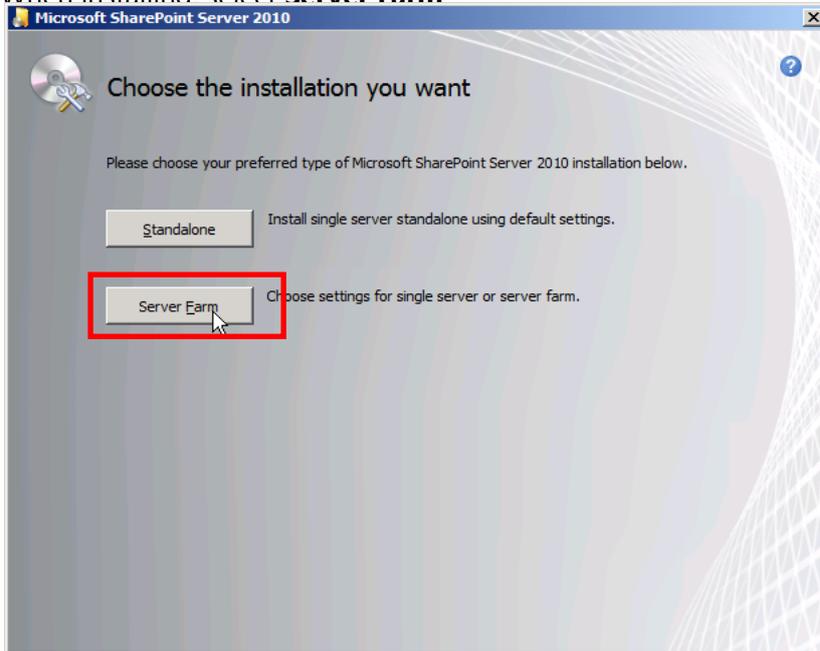
An outline of the procedure is as follows.



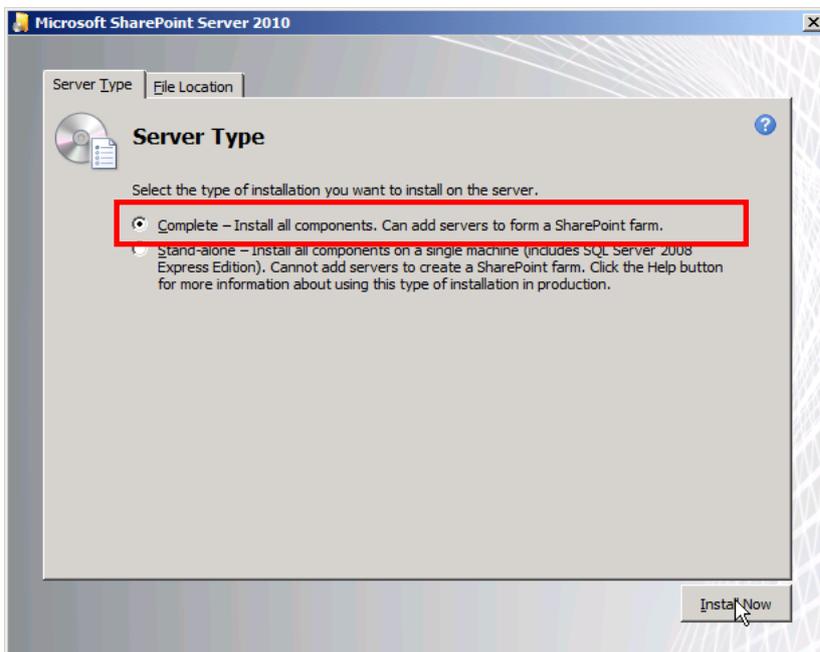
After adding the server, either assign a service application role or configure network load balancing (NLB) and the increased redundancy of front-end Web servers.

1. Prepare an environment that can accept SharePoint Server 2010 installation, and then install SharePoint Server 2010.

When installing, select **Server Farm**

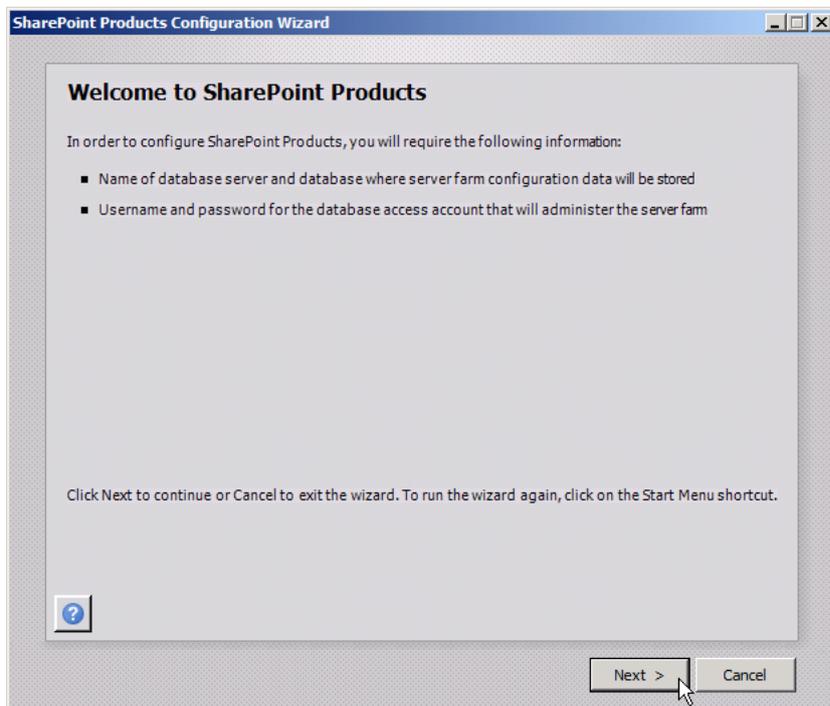
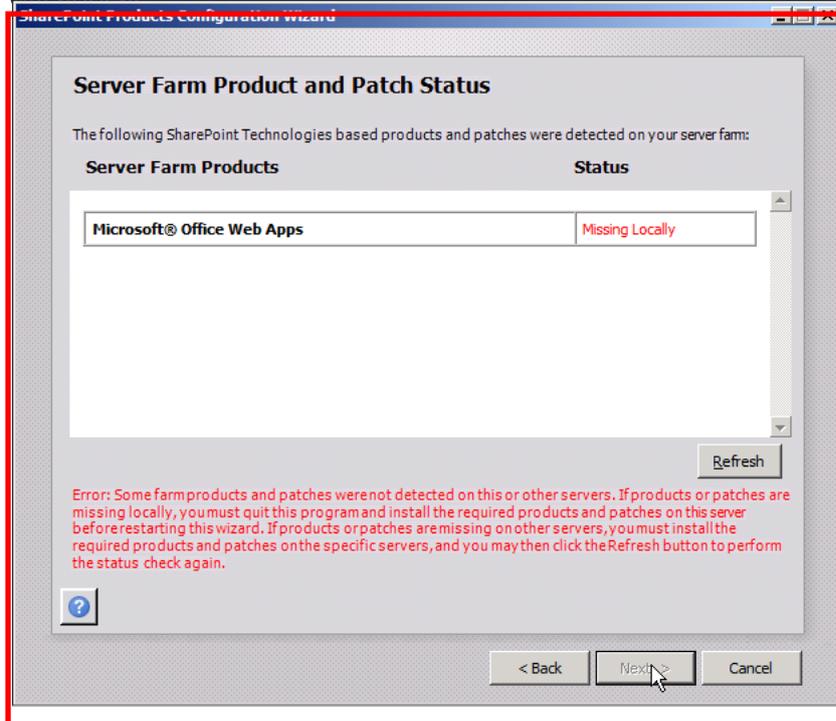


2. Select **Complete** for the server type.

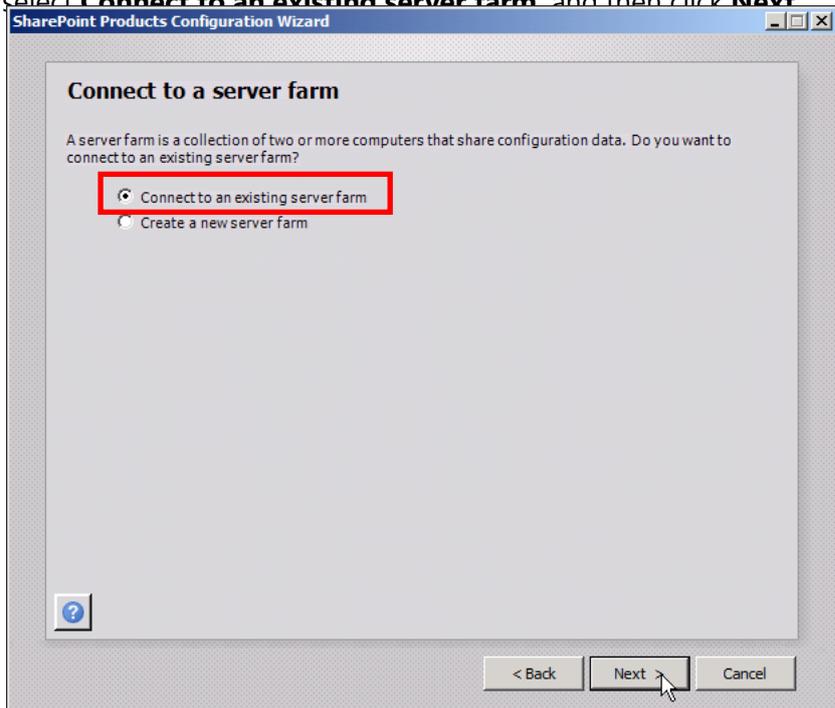


3. After the installation, run the **Configuration Wizard**.

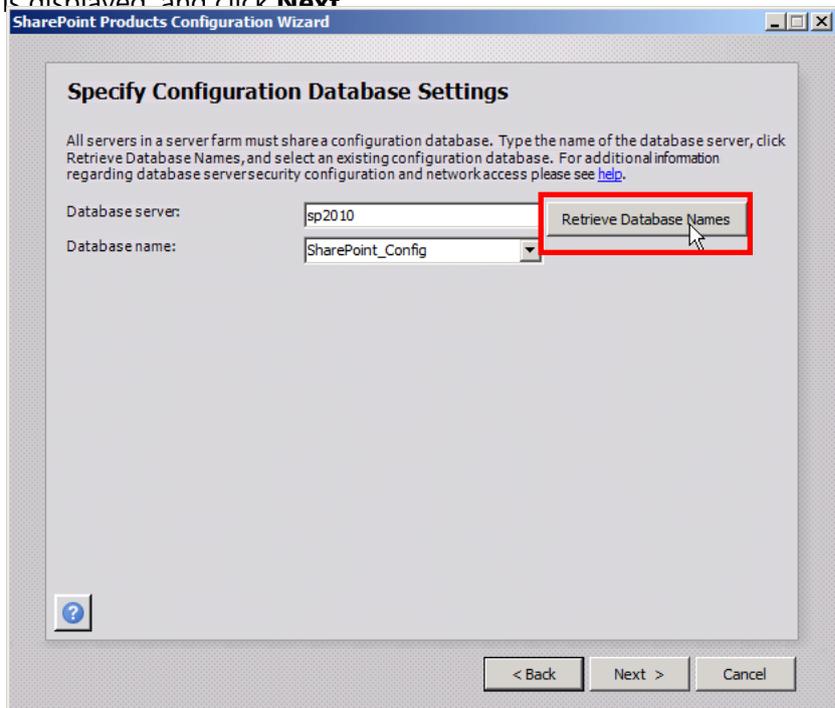
***NOTE:** If Office Web Apps is already installed in the existing SharePoint farm, install Office Web Apps before running the configuration wizard. The basic requirement for farm servers is that all the servers have common conditions and environments. In the farm in which Office Web Apps is installed, if you run the configuration wizard on the server when installation is not complete, the following warning will appear



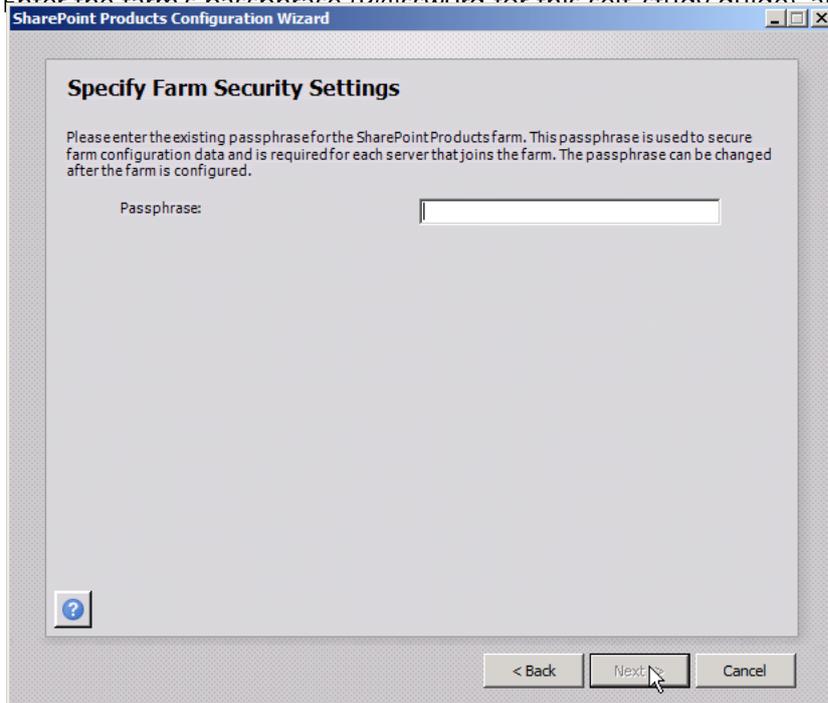
- 4. Select how to connect to the server farm. Because you will add this server to the existing server farm, select **Connect to an existing server farm** and then click **Next**



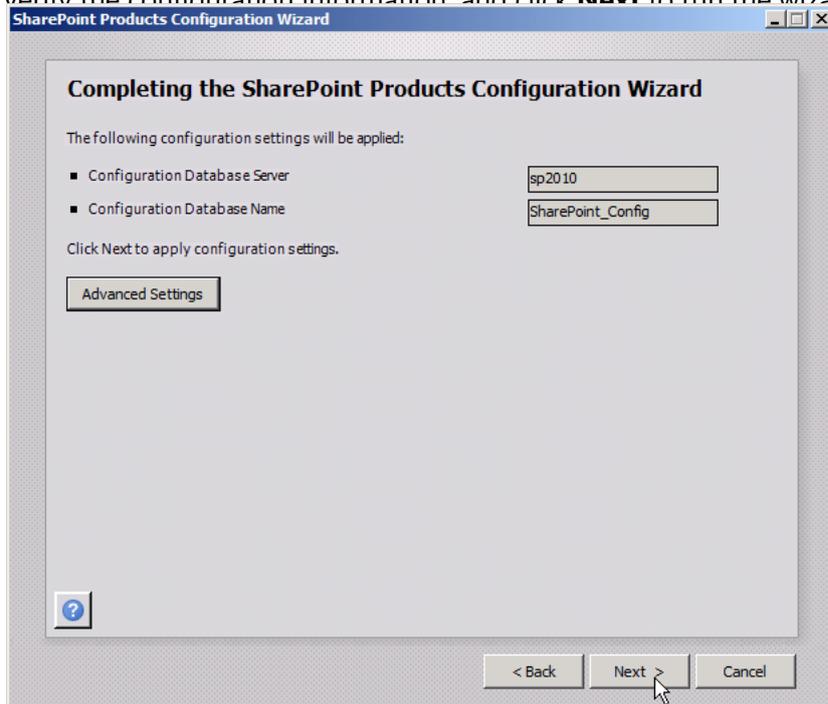
Share the configuration database for the existing farm. Enter the database server name and click **Retrieve Database Names**. Make sure that the configuration database (Default: **SharePoint_Config**) is displayed, and click **Next**



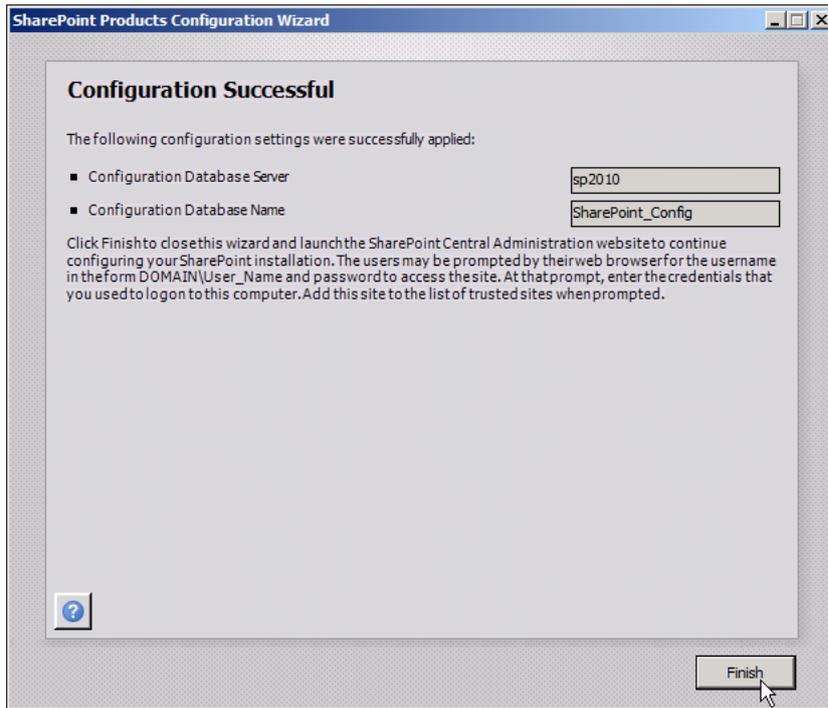
5. Enter the farm's passphrase (P@ssw0rd for this self-study guide) and then click **Next**.



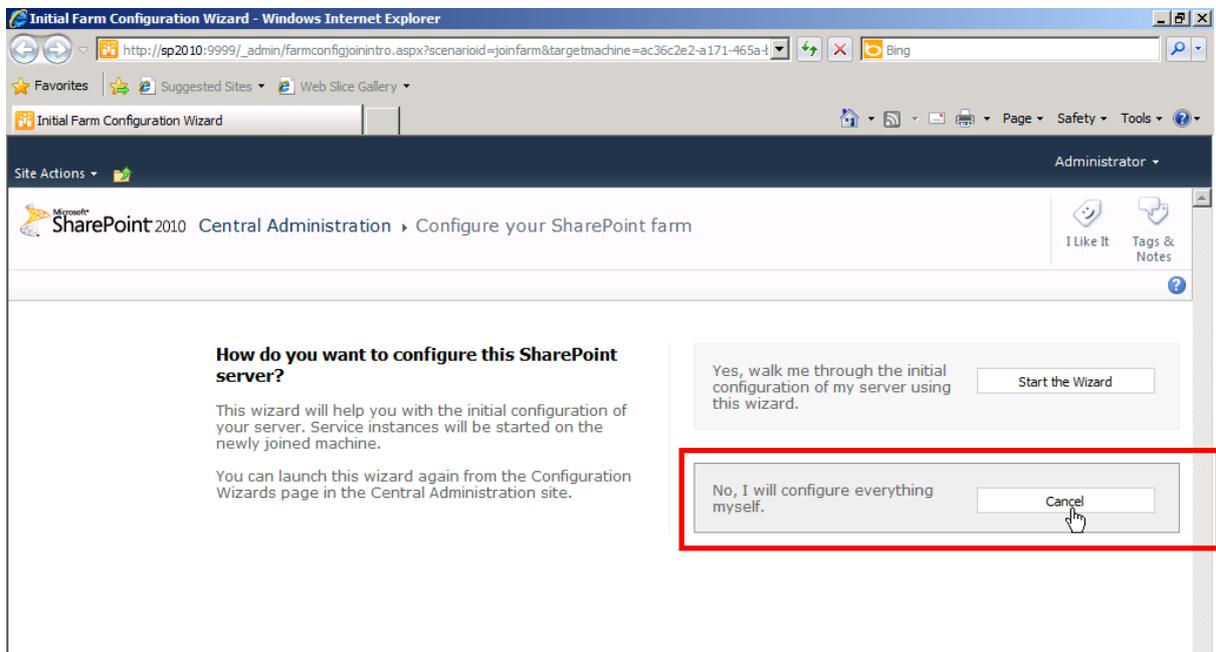
- Verify the configuration information and click **Next** to run the wizard.



6. After the configuration has been successful, click **Finish**.

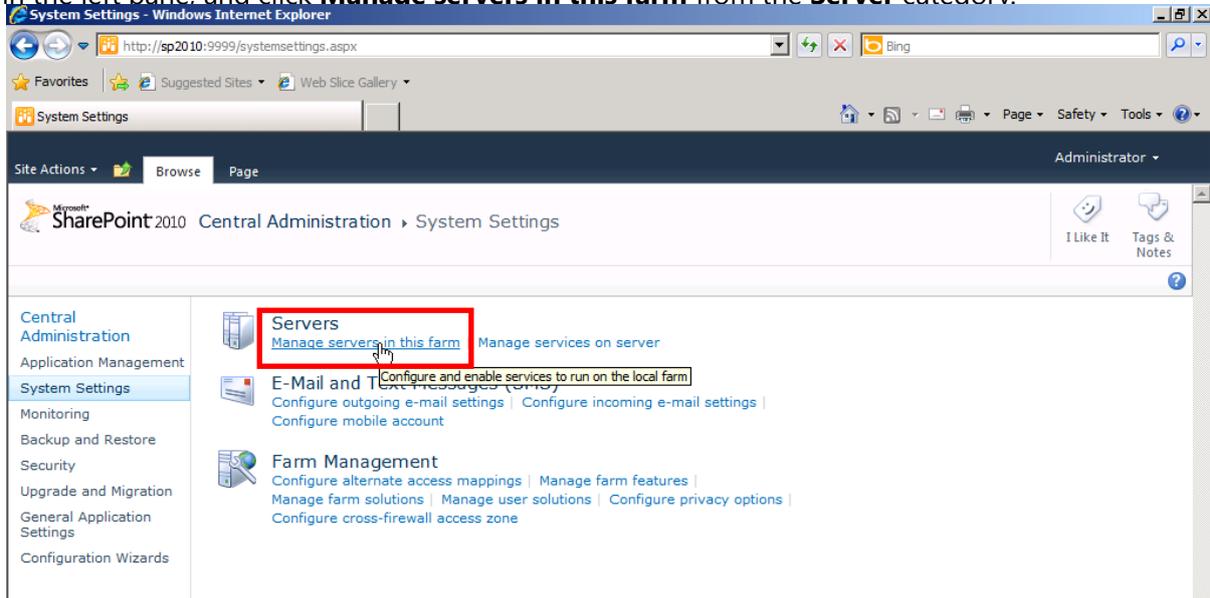


After completion, the **Initial Farm Configuration Wizard** starts. At this point, make sure that the **Central Administration** site "<http://sp2010:9999>" that you installed at the beginning is open.

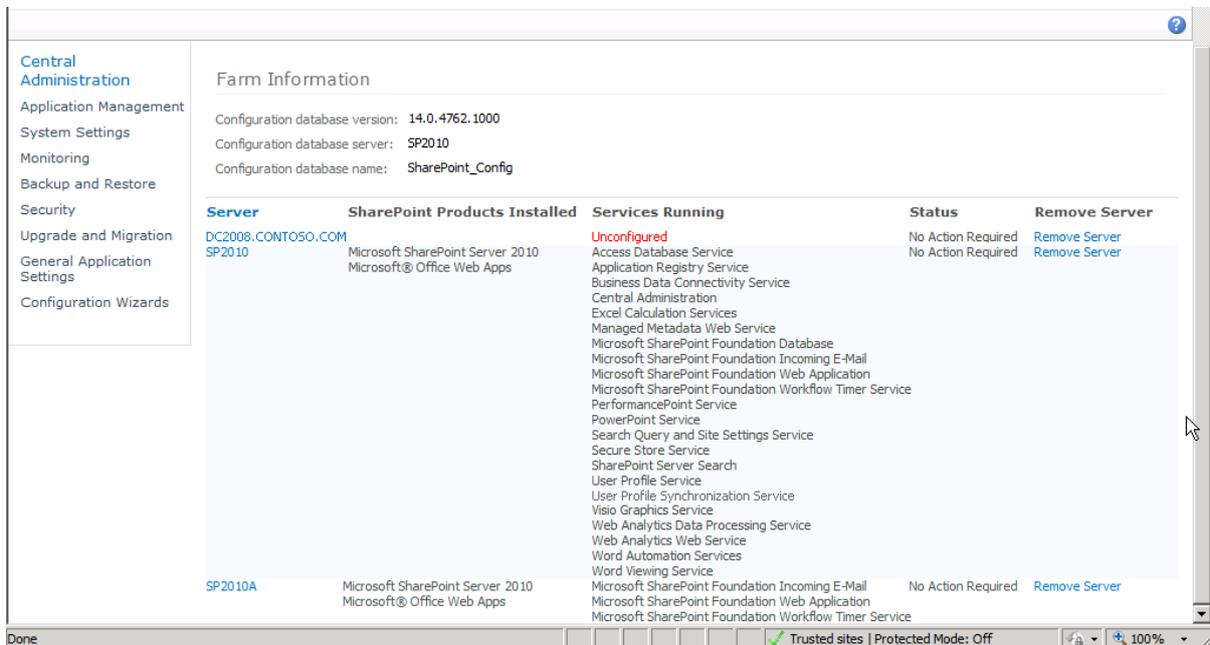


7. Select **Cancel** to configure everything yourself, and then exit the wizard.
Next, perform configuration as necessary for the role of the added server.

To see the roles of servers in the farm, on the **Central Administration** page, select **System Settings** in the left pane, and click **Manage servers in this farm** from the **Server** category.



All servers in the farm are displayed. Click the name of the server that you want to set up, and configure the role as necessary.



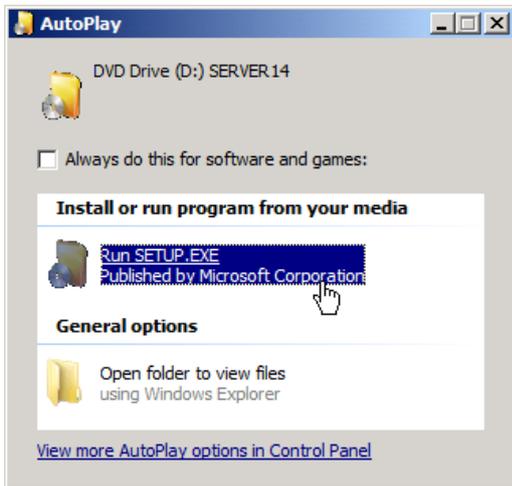
Repeat the above steps to continue configuring the SharePoint Server 2010 farms.

3.2 Installing and Enabling Office Web Apps

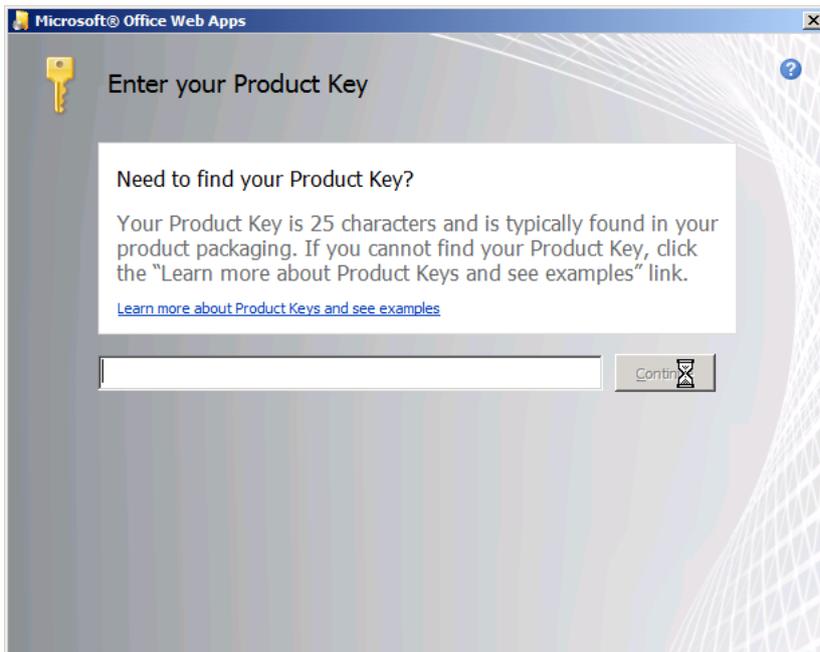
Installing Office Web Apps enables you to edit documents in the Web browser.

Office Web Apps can easily be installed with the wizard. For successful installation, you should enable the Farm Configuration Wizard and features after completing the configuration wizard.

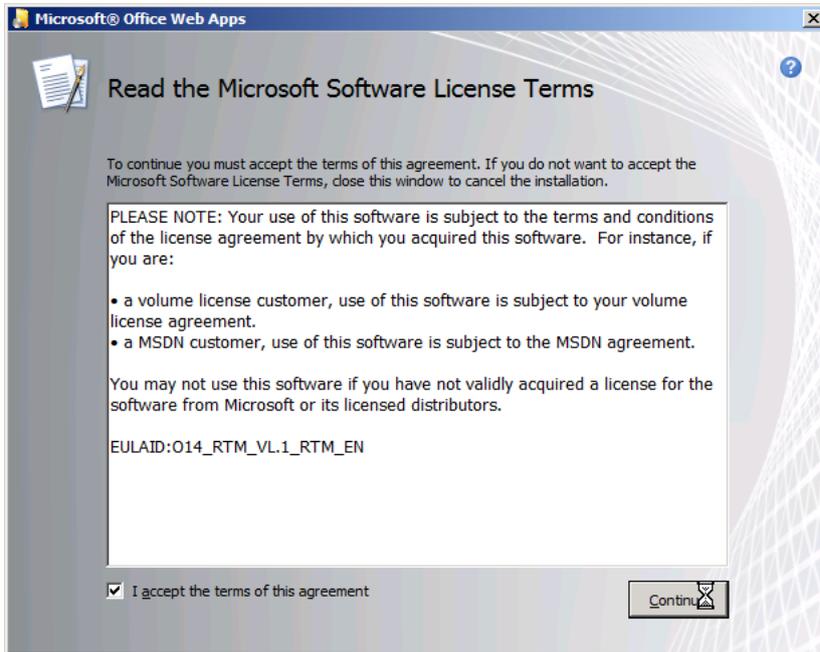
1. Insert the Office Web Apps installation media. Select **Run SETUP.EXE**.



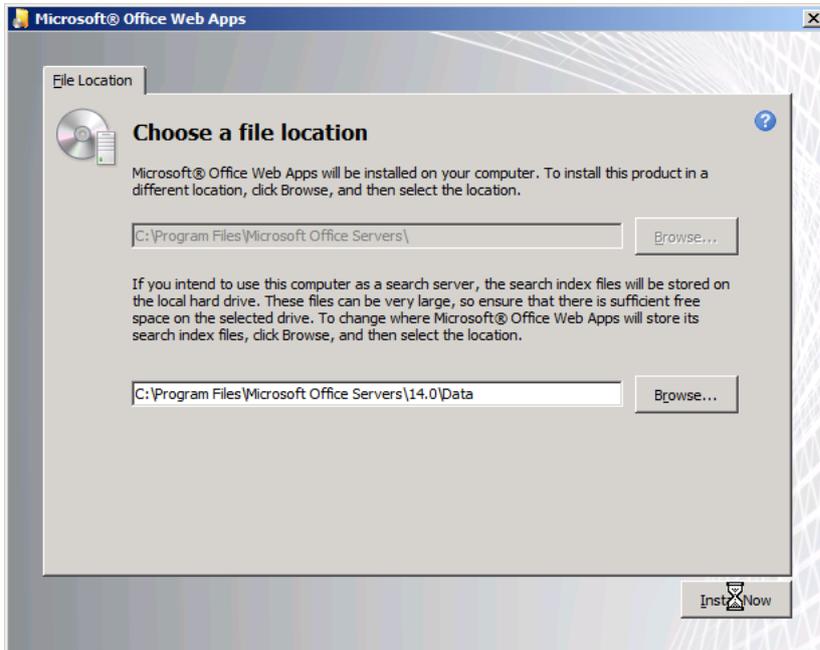
2. Enter the product key of the full version, and then click **Continue**.



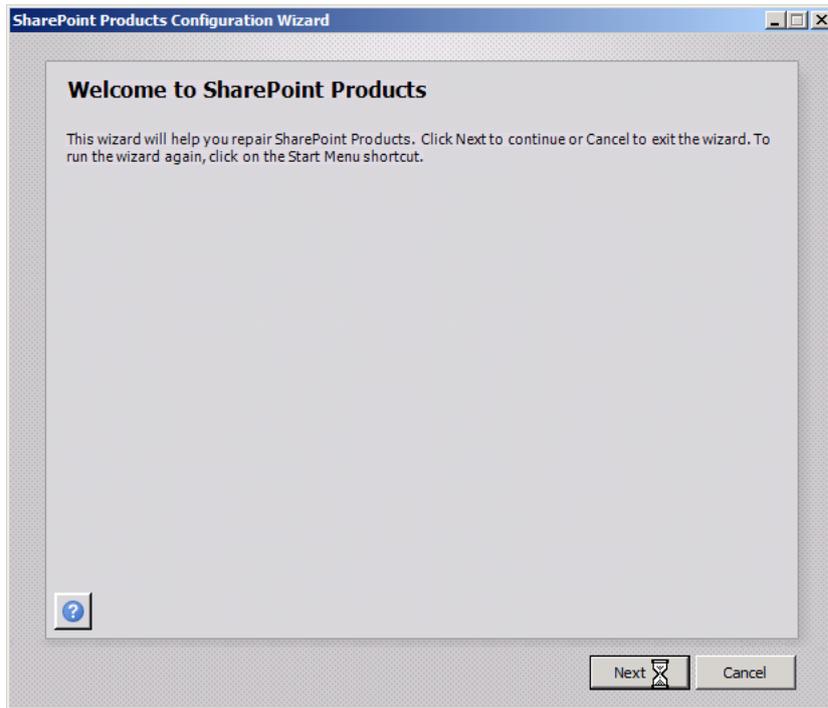
3. Agree to the license terms. Select the **I accept the terms of this agreement** check box, and then click **Continue**.



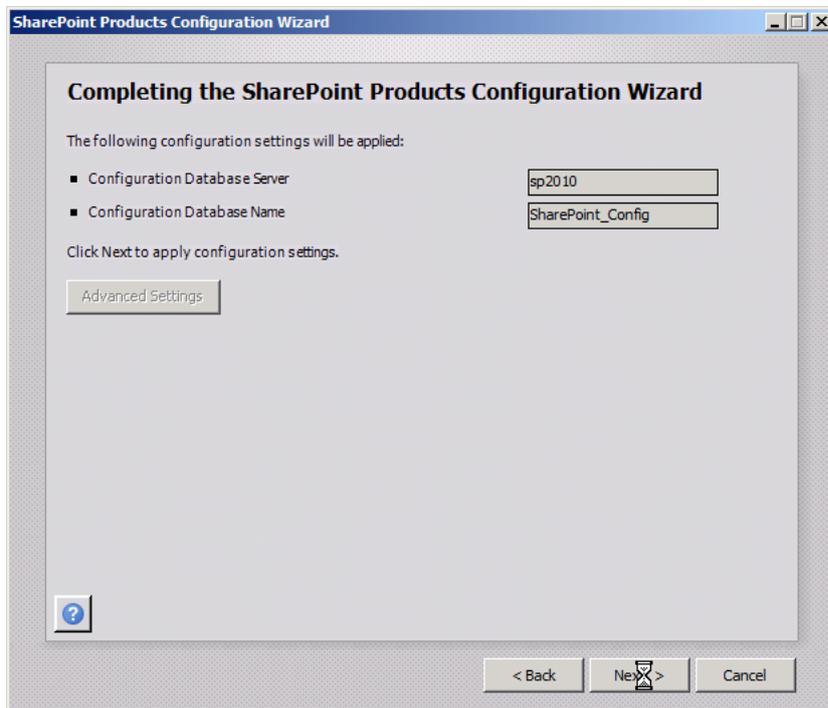
4. To start the installation, click **Install Now**.



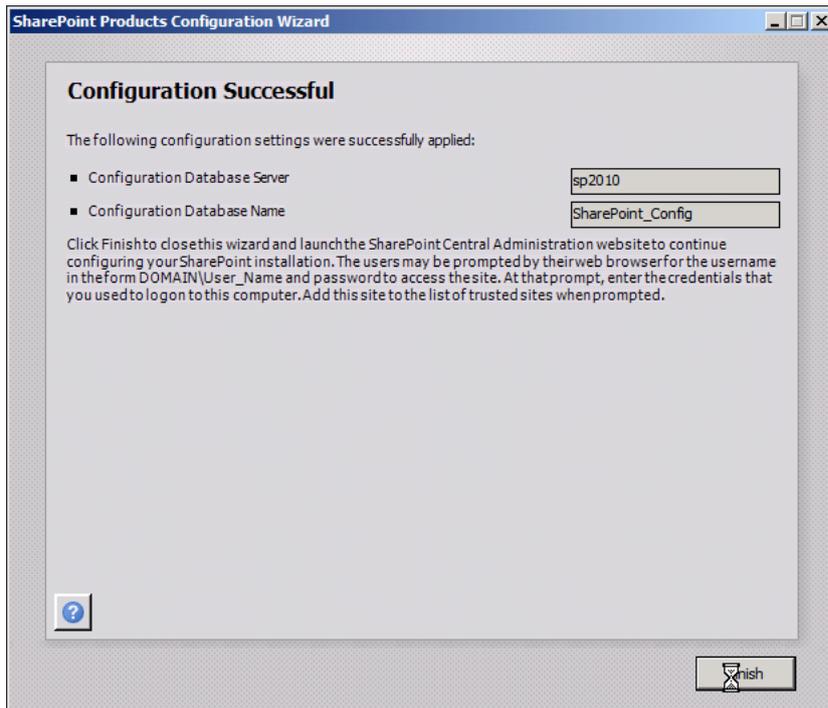
5. After the installation, run the **Configuration Wizard**.



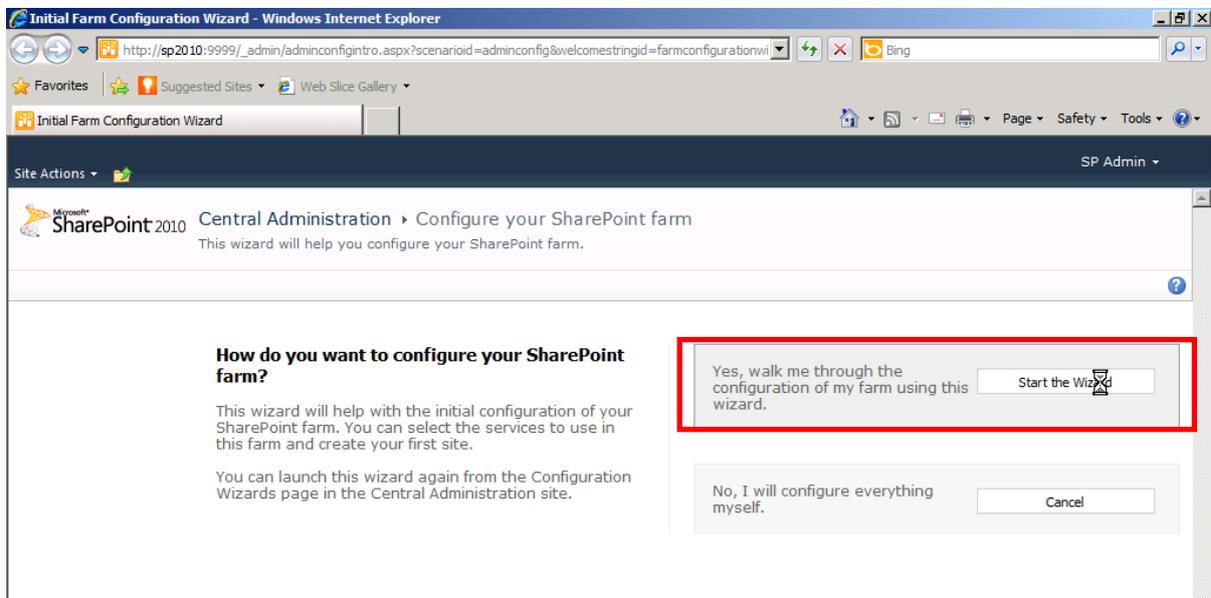
6. Make sure that the Configuration Database for the farm is correct, and proceed.



7. Run the **Configuration Wizard** and confirm that it has been successfully completed.



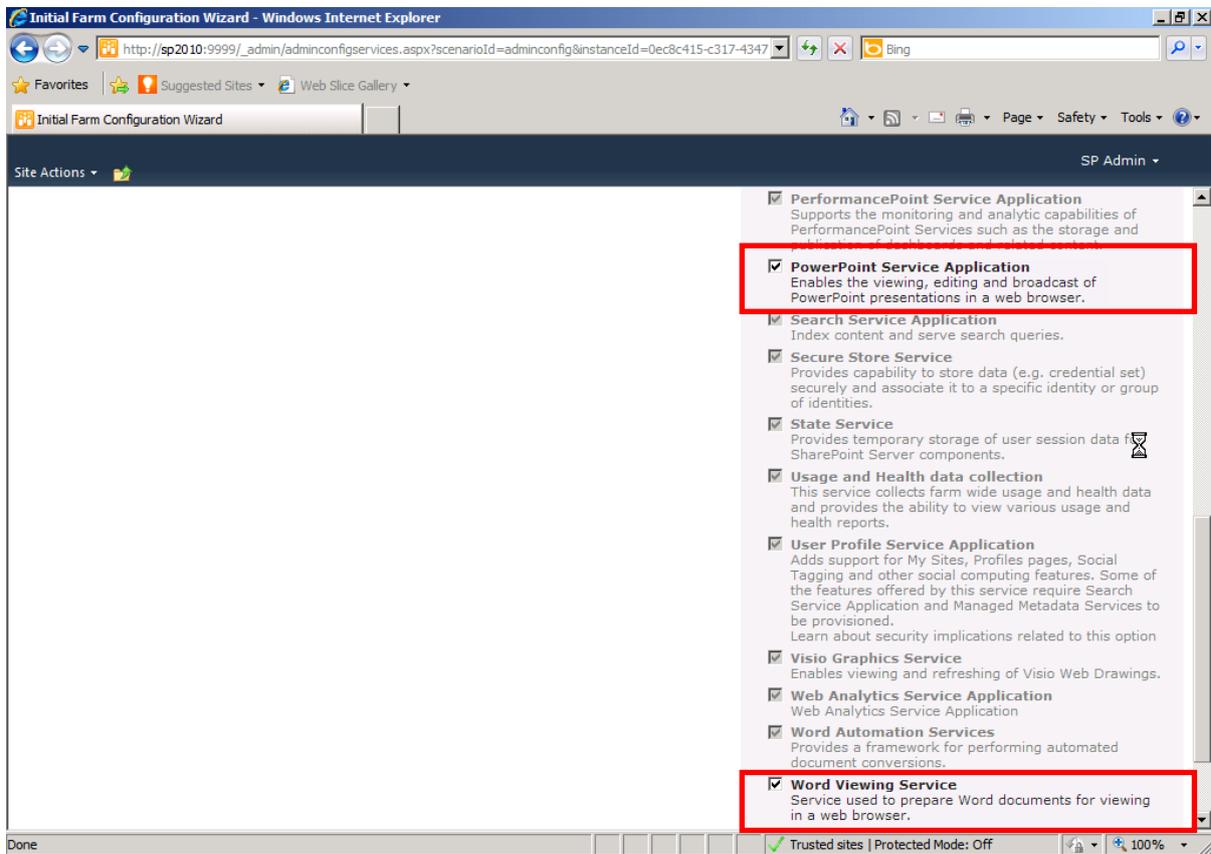
8. Run the Initial Farm Configuration Wizard. Here, select **Yes, walk me through the configuration of my farm using this wizard** to start the wizard.



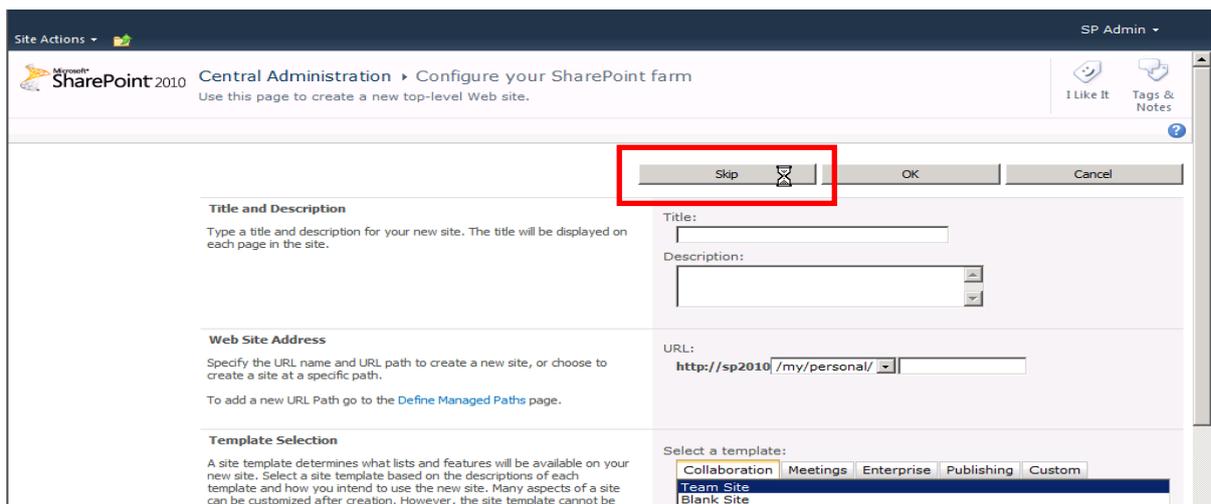
9. In the wizard, make sure that the following two service check boxes are selected, and then proceed.

- **PowerPoint Services Application**

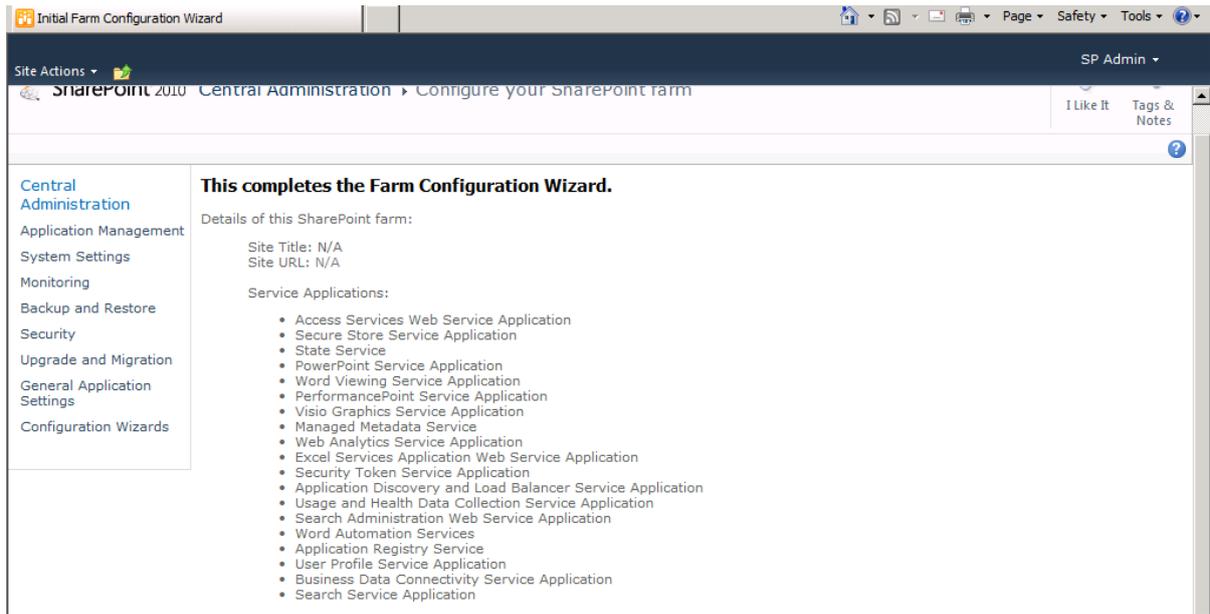
- **Word Viewing Service**



10. For the creation of a new Web Site, select **Skip**.



11. Exit the Farm Configuration Wizard.

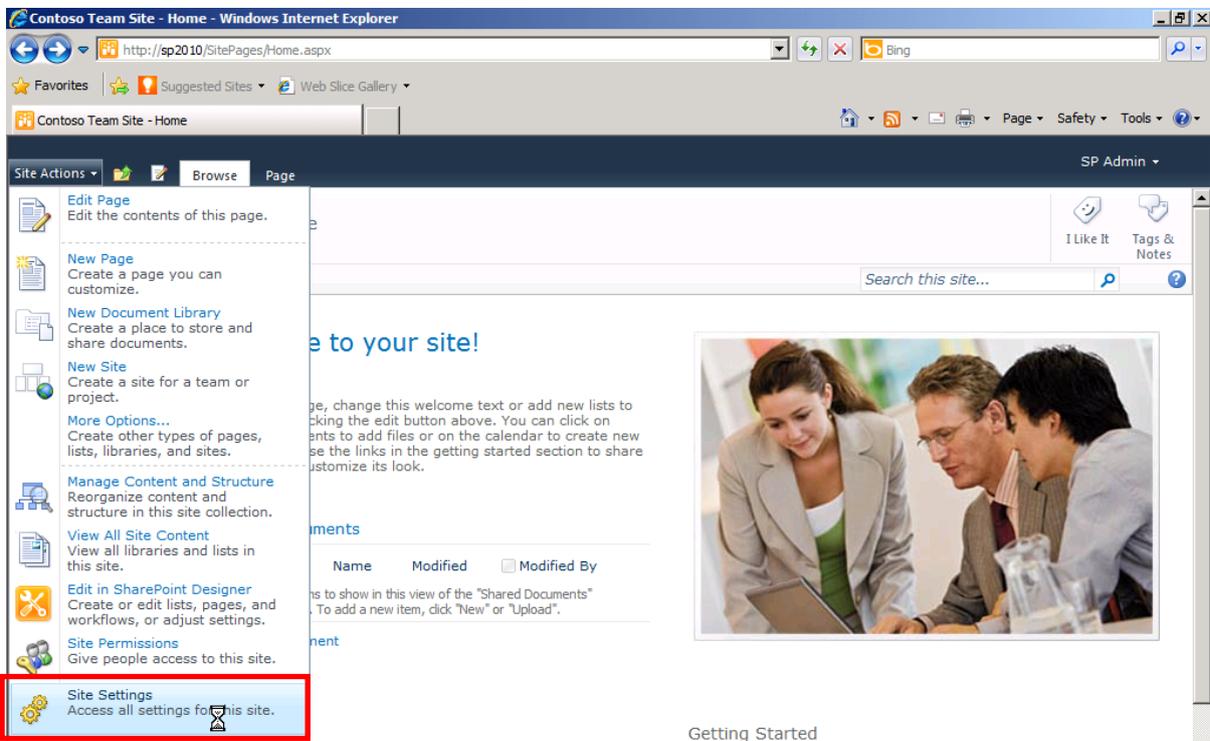


12. Enable Office Web Apps. (Activate the features)

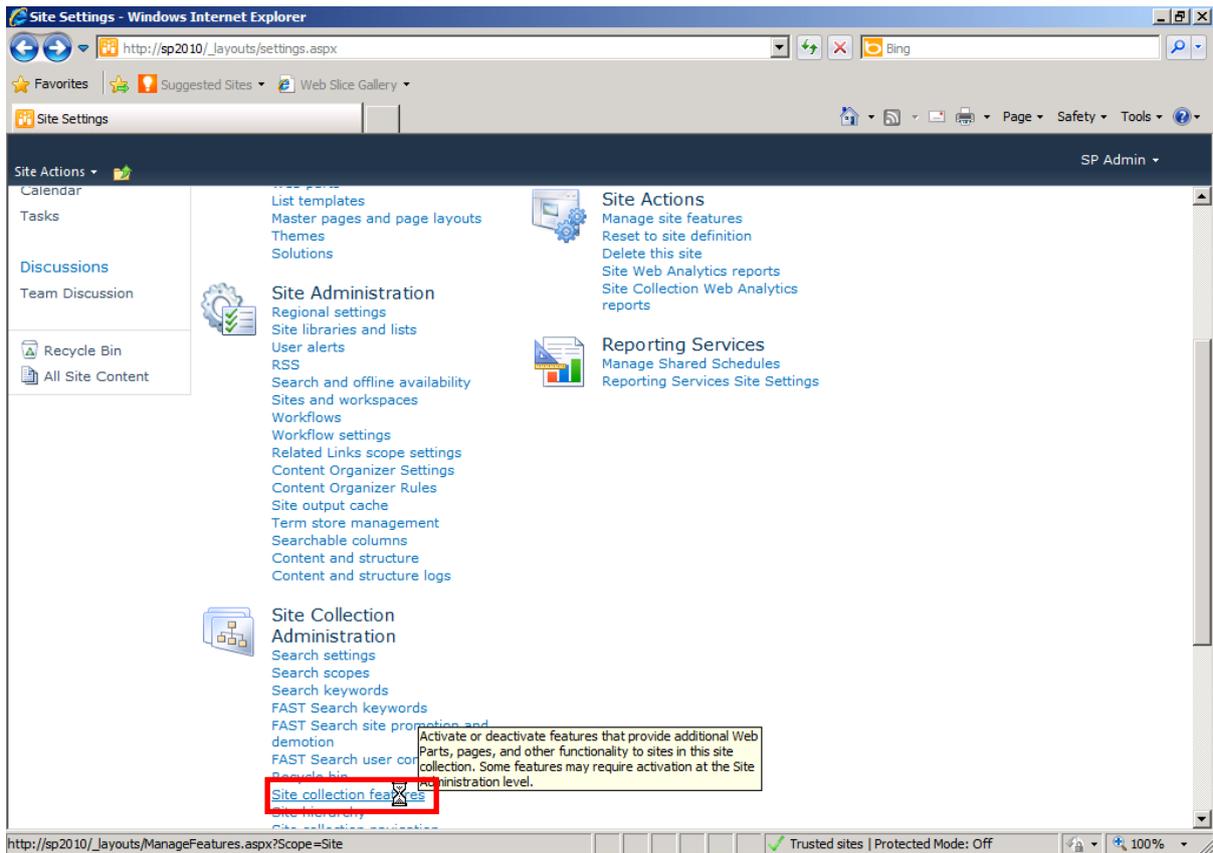
Simply installing Office Web Apps does not make it available for use.

You must activate features at the site collection level.

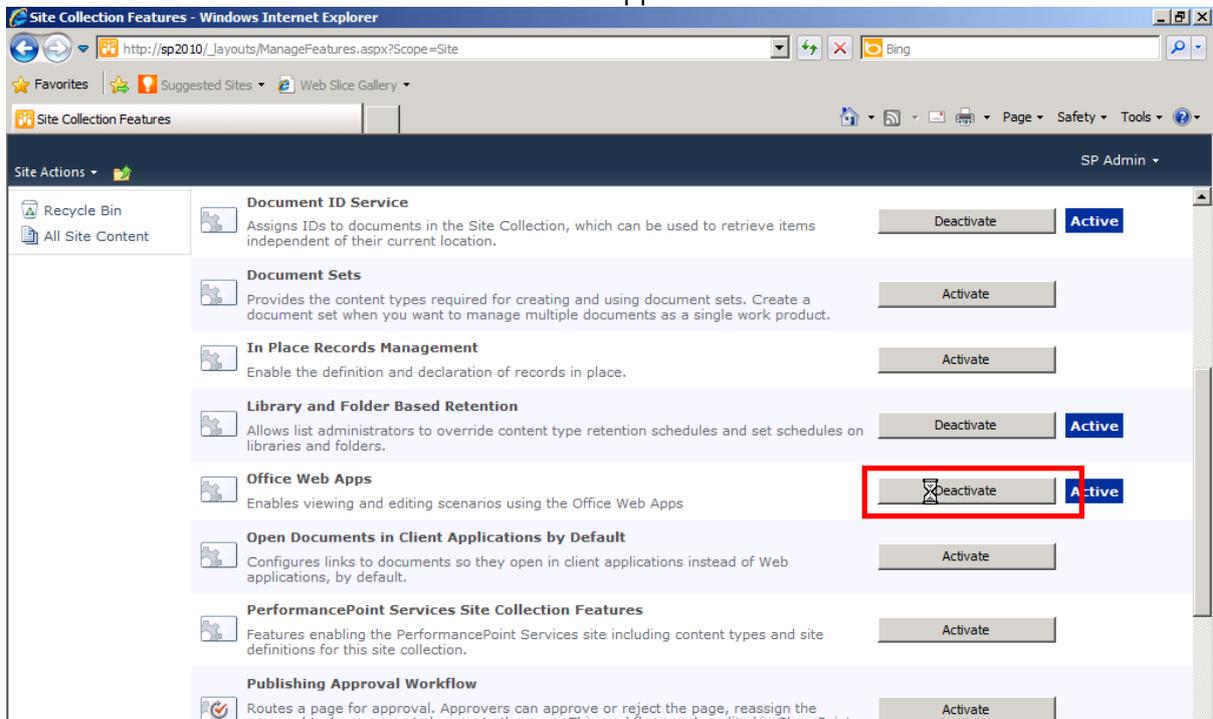
Access <http://sp2010>, and then click **Site Actions**. From the menu list, select **Site Settings**.



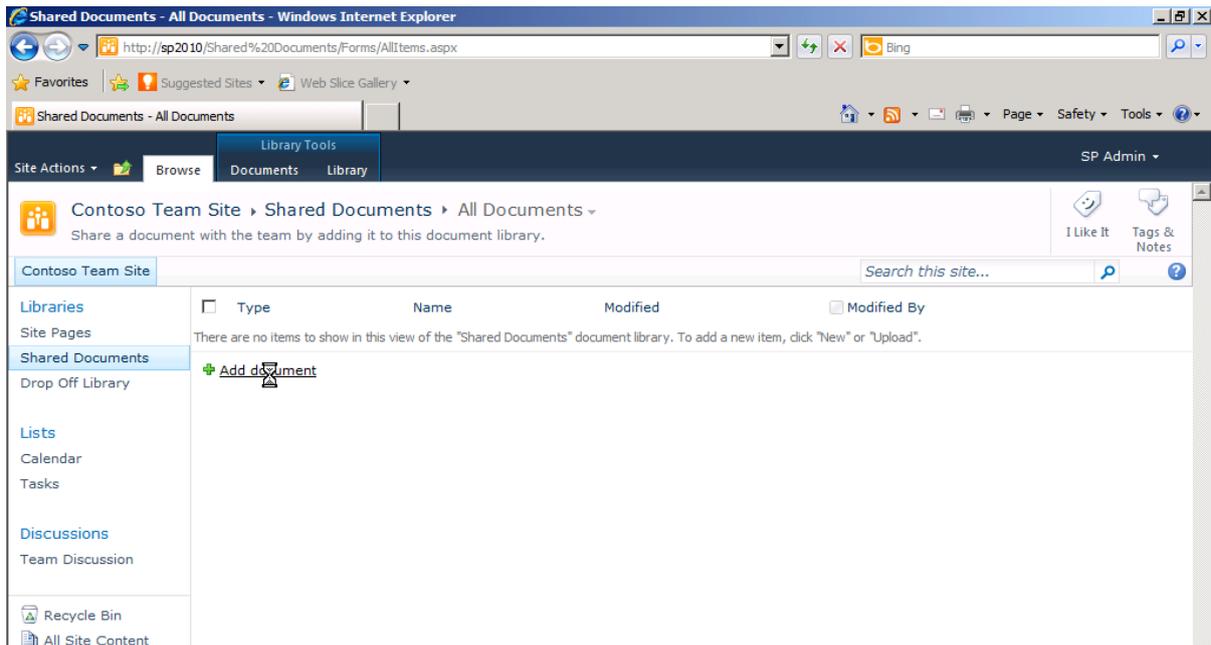
13. From the **Site Collection Administration** section, select **Site collection features**.



14. Click the **Activate** button to activate Office Web Apps.



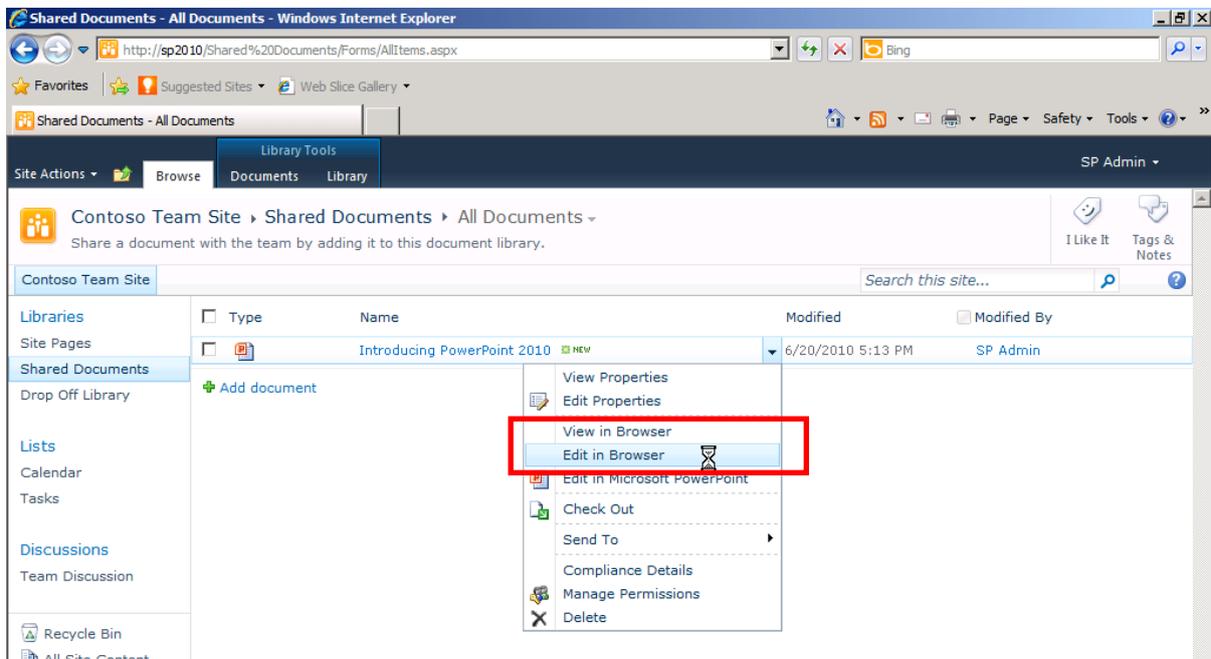
15. Verify that Office Web Apps works. Go to <http://sp2010>. Open the Shared Document library.



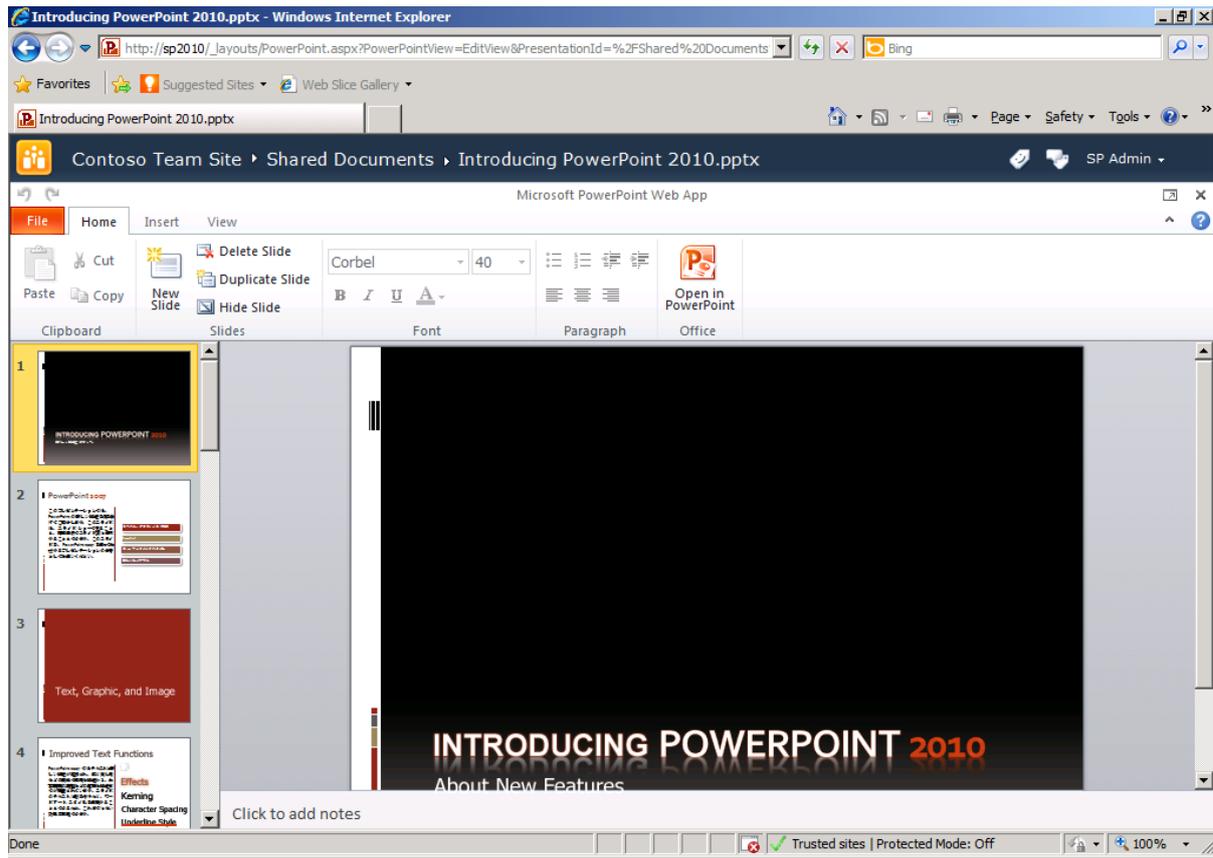
Click **Add document** to upload your document.

*NOTE: Office Web Apps supports only the Open XML format files created and saved in Office 2007 or Office 2010.

After the upload, confirm that the **Edit in Browser**, **View in Browser** menu is displayed on the dropdown menu.



16. Make sure that you can open a file in the Web browser with Office Web Apps.



Tips: The PowerPoint service application is configured with default settings by running the Farm Configuration Wizard after the installation of Office Web Apps is complete. At the same time, the wizard also automatically configures a broadcast service and creates a broadcast site, both of which are needed for the use of the new "Broadcast Slide Show" feature of PowerPoint 2010.

3.3 Installing Office 2010 Professional Plus

Microsoft Office Professional Plus 2010 is a client application product. You can install it either on the SharePoint Server 2010 installation server to verify its operation, or on other client operating systems (such as Windows 7) to verify its interaction with SharePoint Server 2010 from the client OS side.

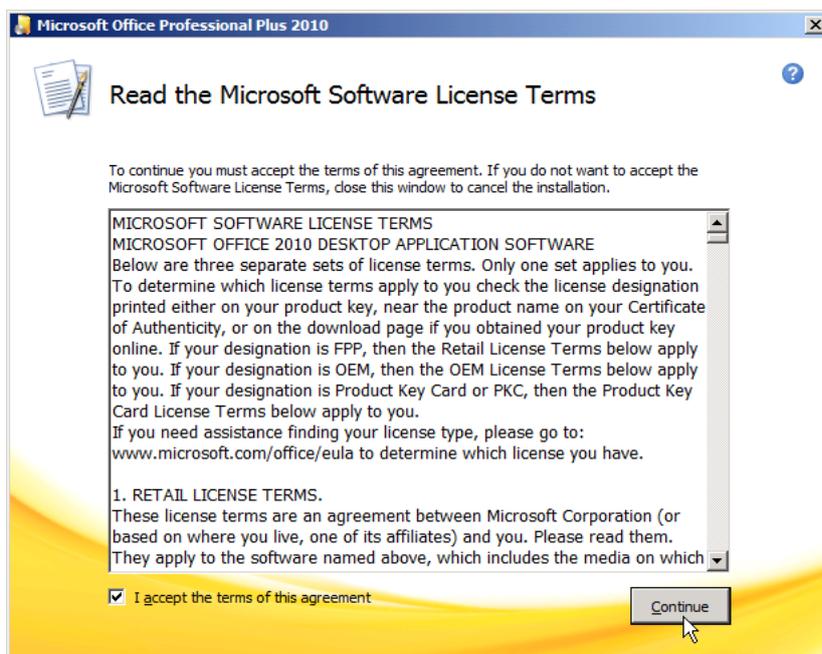
If you install Office 2010 on the SharePoint Server 2010 installation server, you need to add in advance the Desktop Experience that is a feature of Windows Server 2008.

(In the procedures used in this self-study guide, we assume that it this has already been installed in the environment.)

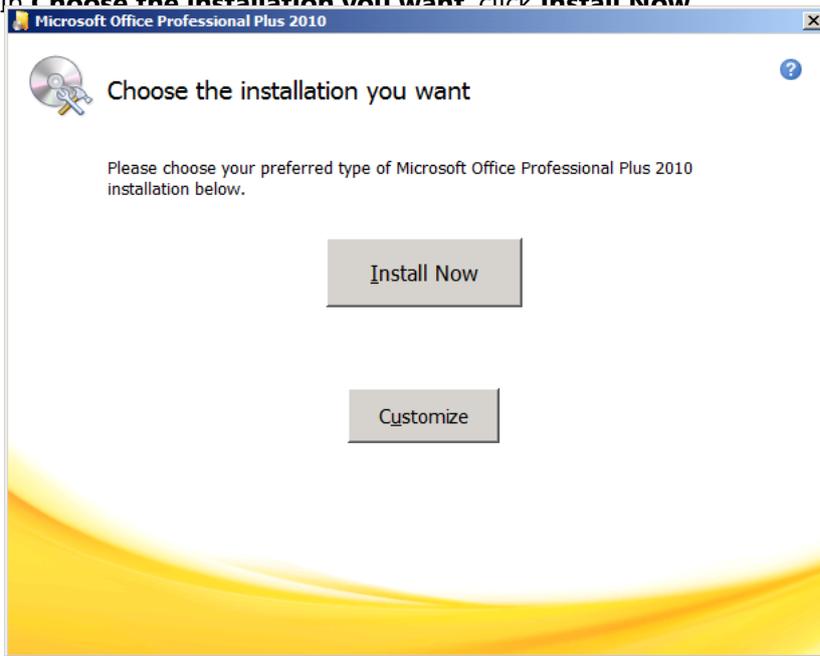
For Office 2010 or later, both a 32-bit version and a 64-bit version are available. The following TechNet materials will help you decide which version is more suitable for your organization.

<http://technet.microsoft.com/en-us/library/ee681792.aspx>

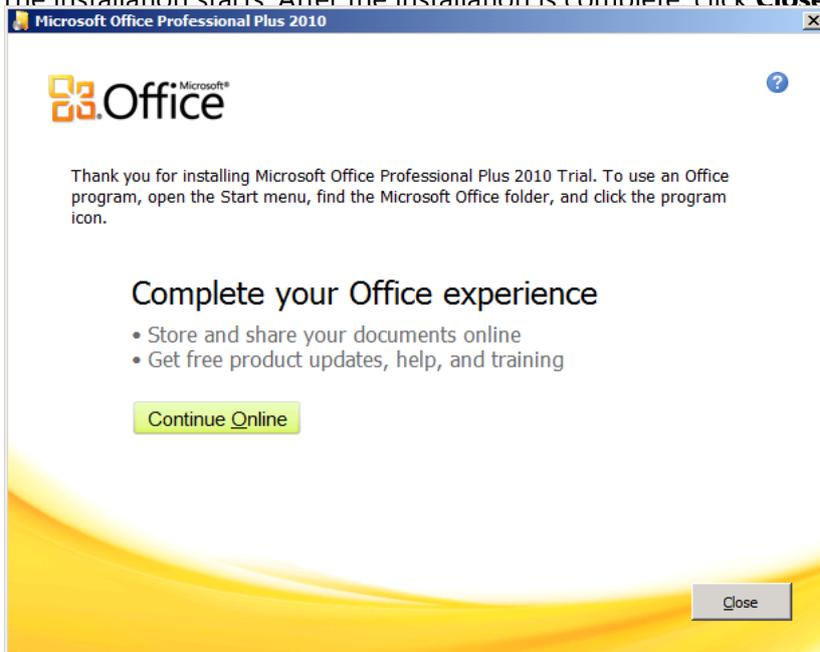
1. Insert the Office Professional Plus 2010 installation media. Run **Setup.exe**. Enter the product key of the full version on the product key input screen.



2. In **Choose the installation you want**, click **Install Now**.



The installation starts. After the installation is complete, click **Close**.



3. Make sure that Office Professional Plus 2010 has been successfully installed.



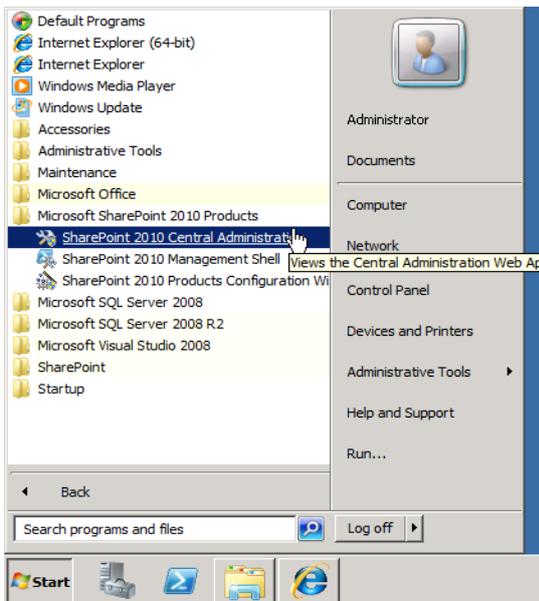
Also install Microsoft Office Visio 2010 and SharePoint Designer 2010 in the same way.

3.4 Configuring the Service Account for Search Service

For a moment immediately after the installation, the search service account will remain as a farm account. Change the default account into the service account prepared for search services, and start a crawl.

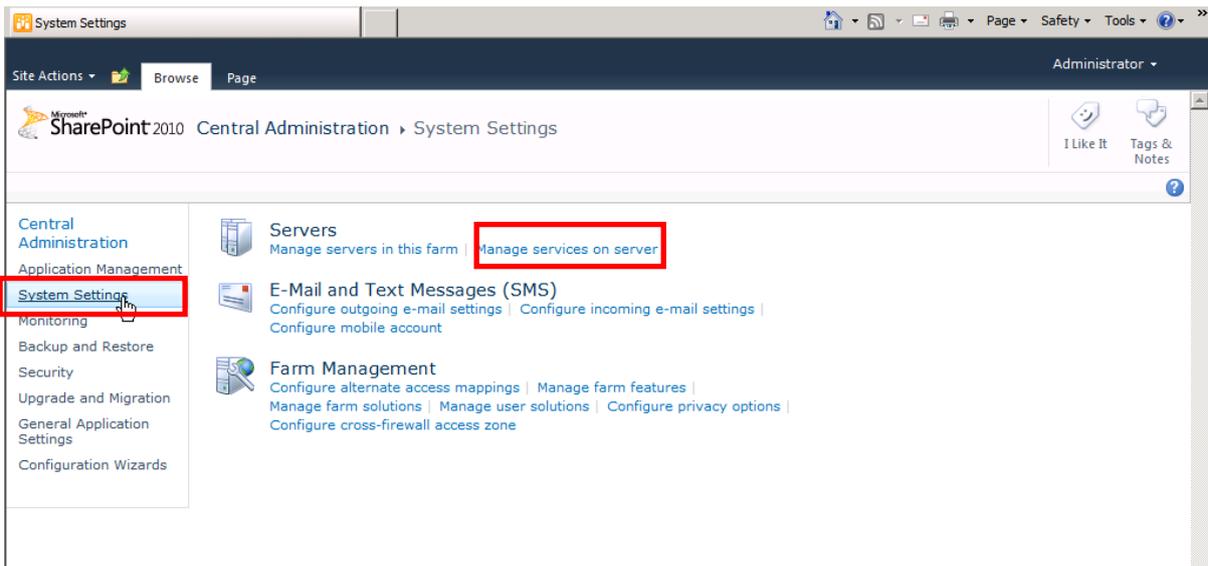
1. First, configure the search service account settings.

From the **Start** menu, click **SharePoint 2010 Server Central Administration**.



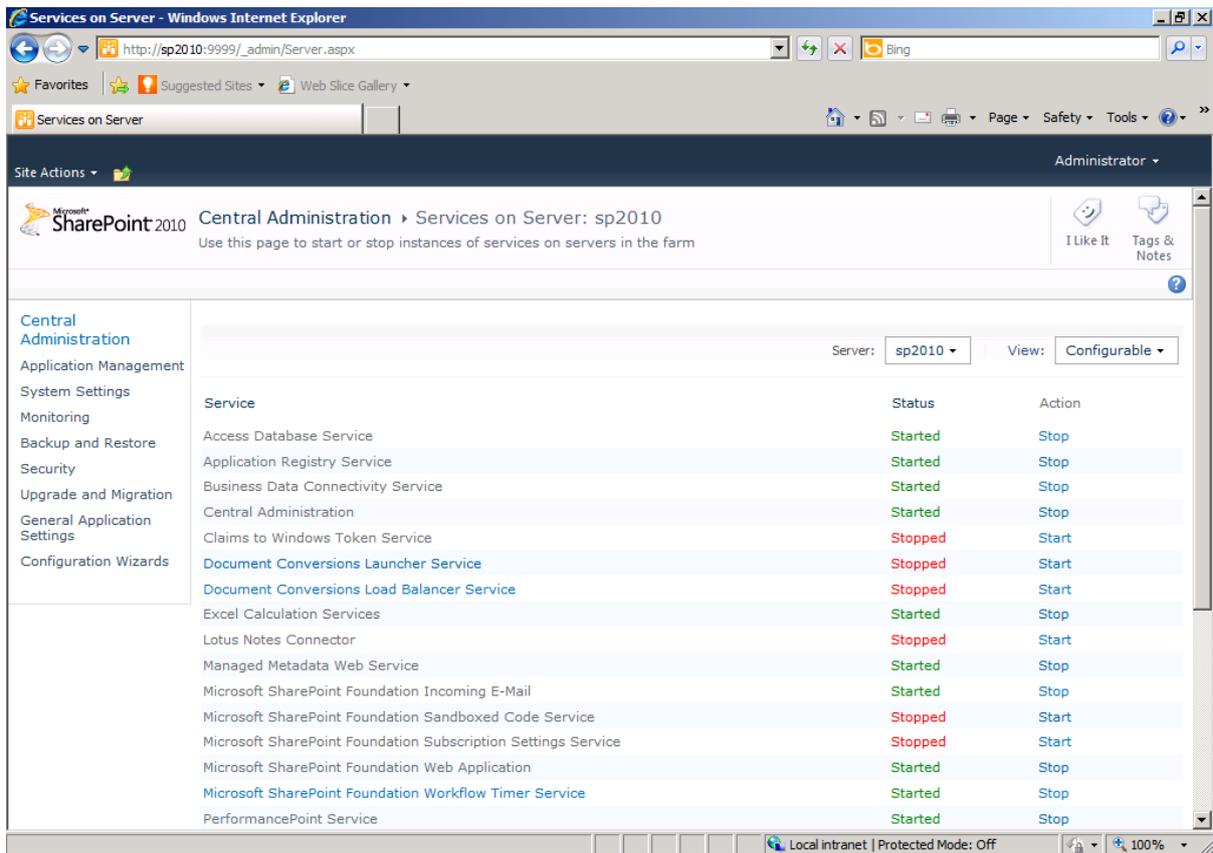
From the side link bar in the Central Administration of the SharePoint Server 2010 server, click **System Settings**.

In the **Servers** category, click **Manage services on server**.



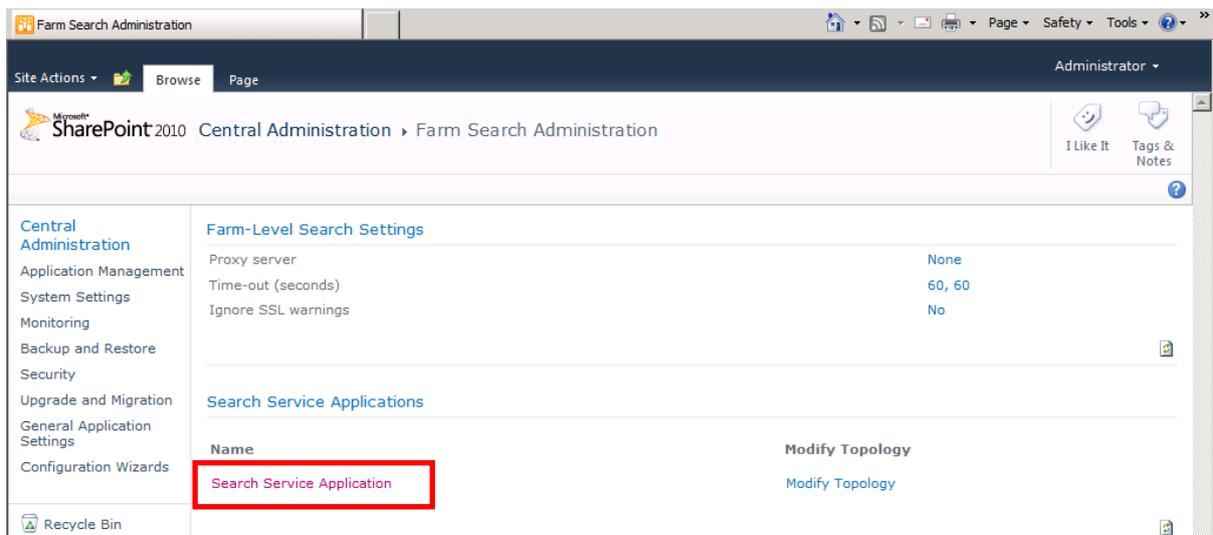
The **Services on Server** window opens.

The configurable services are displayed in the form of blue hyperlinks.

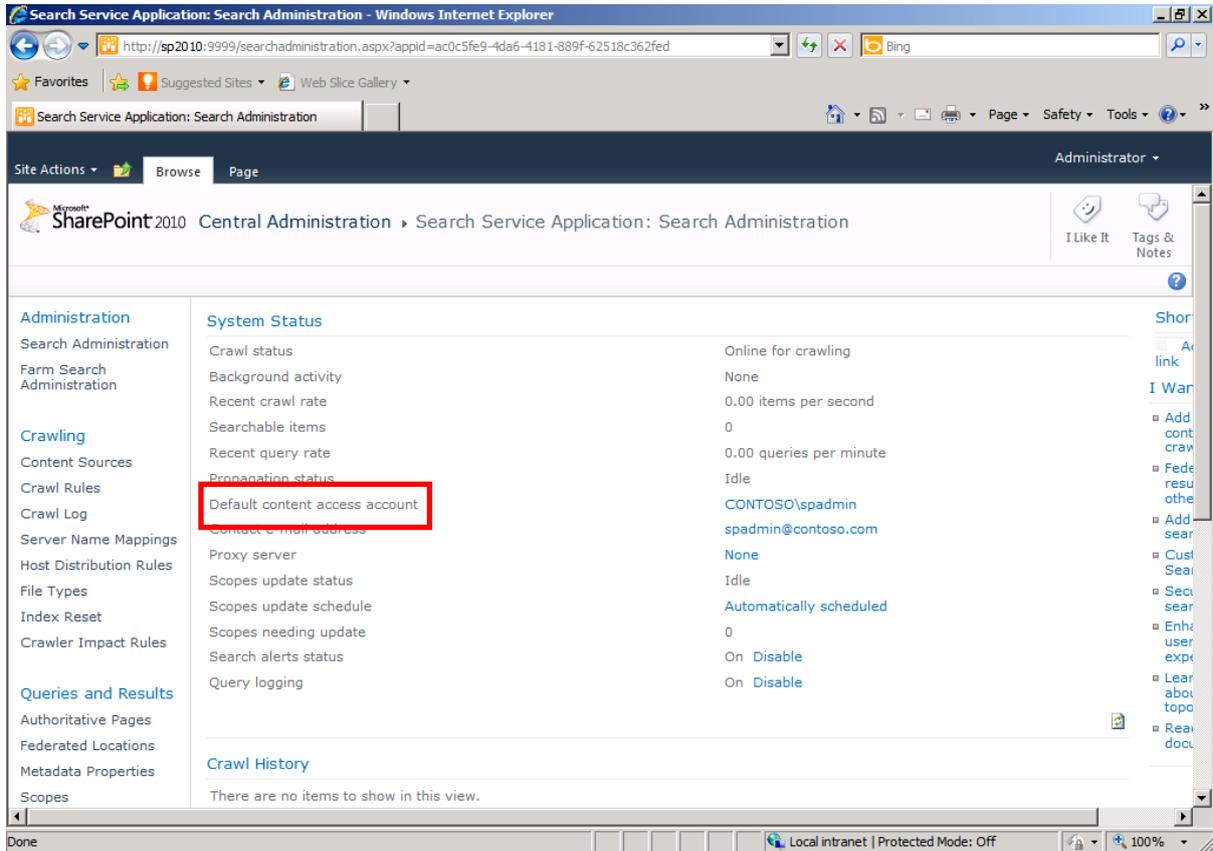


- From the list of services, click **SharePoint Search Service**. The **Farm Search Administration** page opens.

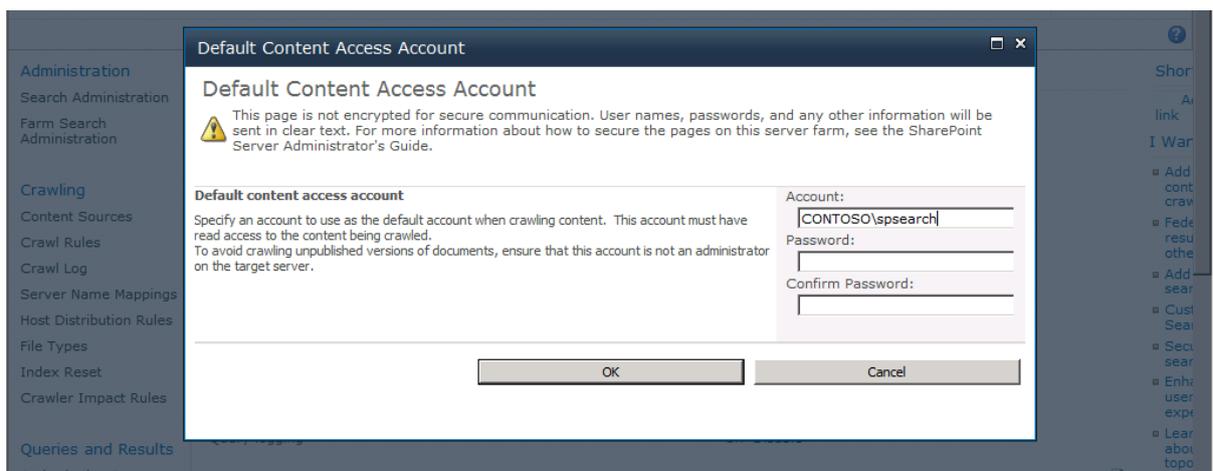
After that, click **Search Service Application**.



3. Search Service Application: The Search Administration page opens. Click **Default content access account.**



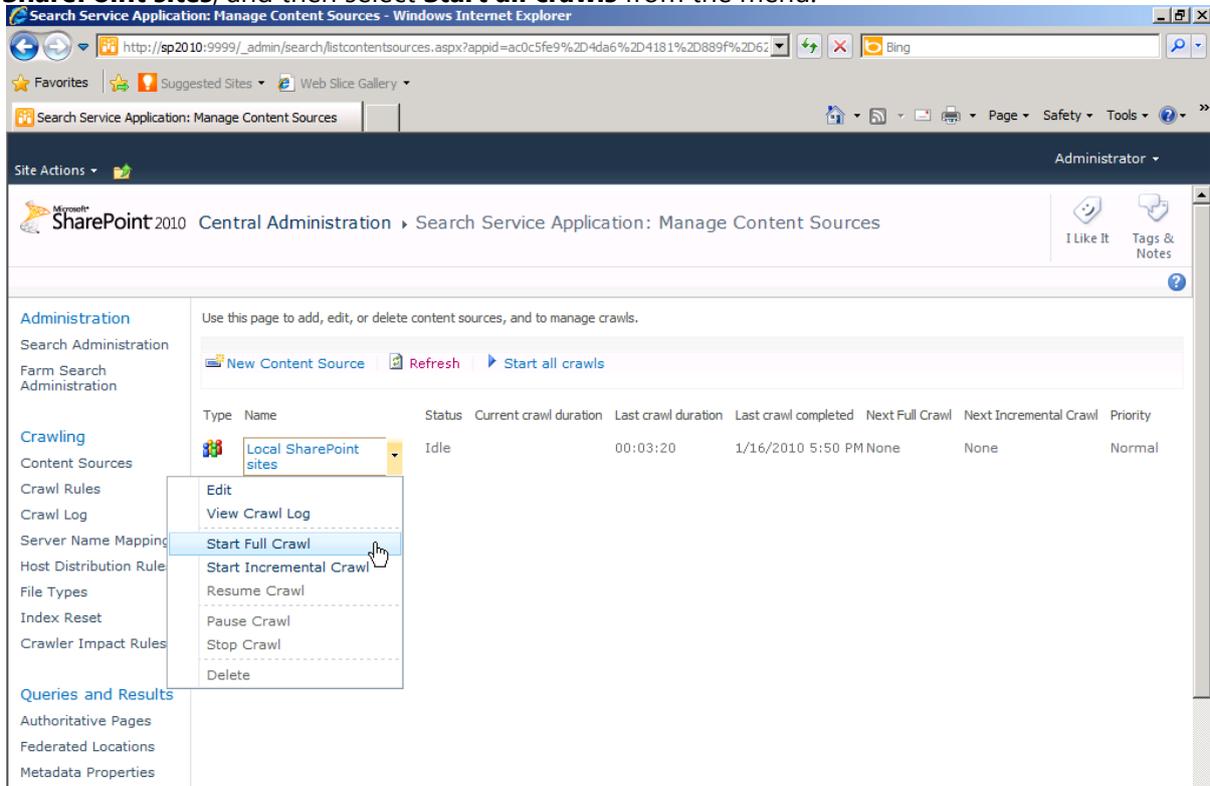
4. Enter the search service account. In this self-study guide, we use "CONTOSO\spsearch" and "P@ssw0rd".



5. Start crawling the content.

Select **Content Sources** from the side link bar.

On the **Manage Content Sources** page, click ▼ shown on the right side of the default **Local SharePoint sites**, and then select **Start all crawls** from the menu.



Now you can search the default content within the SharePoint site.

However, because you have changed the search service account, you need to perform additional procedures to enable a crawl of your personal site.

<http://technet.microsoft.com/en-us/library/ee808863.aspx>

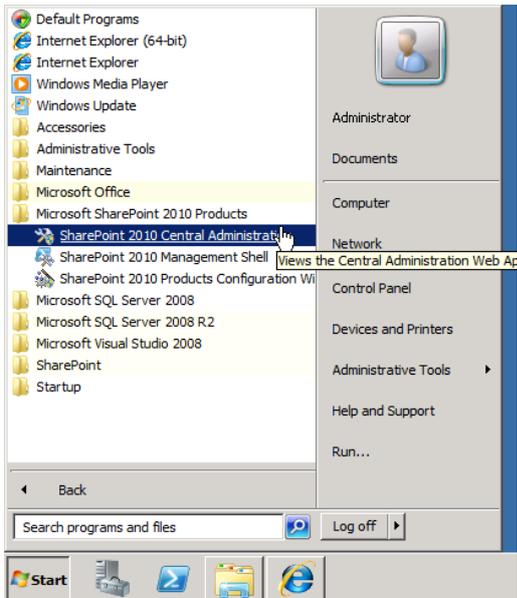
3.5 Configuring Outgoing E-mail

You can deliver various notifications to users via e-mail by enabling the outgoing e-mail feature.

SharePoint Server 2010 supports general-purpose Simple Mail Transfer Protocol (SMTP) servers including Microsoft Exchange Server.

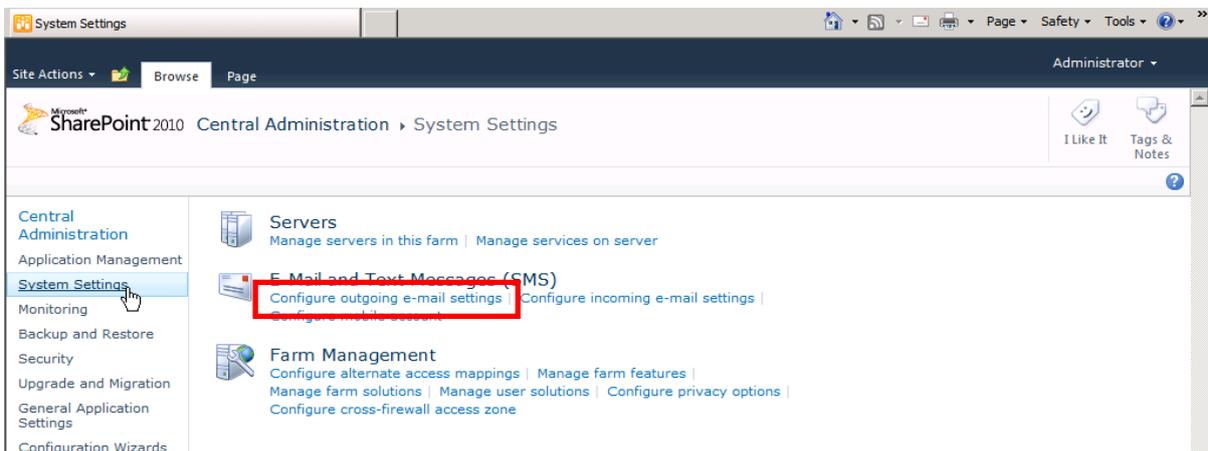
This section introduces the configuration on the SharePoint Server side and then describes the additional configurations to be applied when you use Microsoft Exchange Server 2007 or Exchange Server 2010.

1. From the **Start** menu, click **SharePoint 2010 Server Central Administration**.



From the side link bar in **Central Administration**, click **System Settings**.

In the **E-Mail and Text Message (SMS)** category, click **Configure outgoing e-mail settings**.

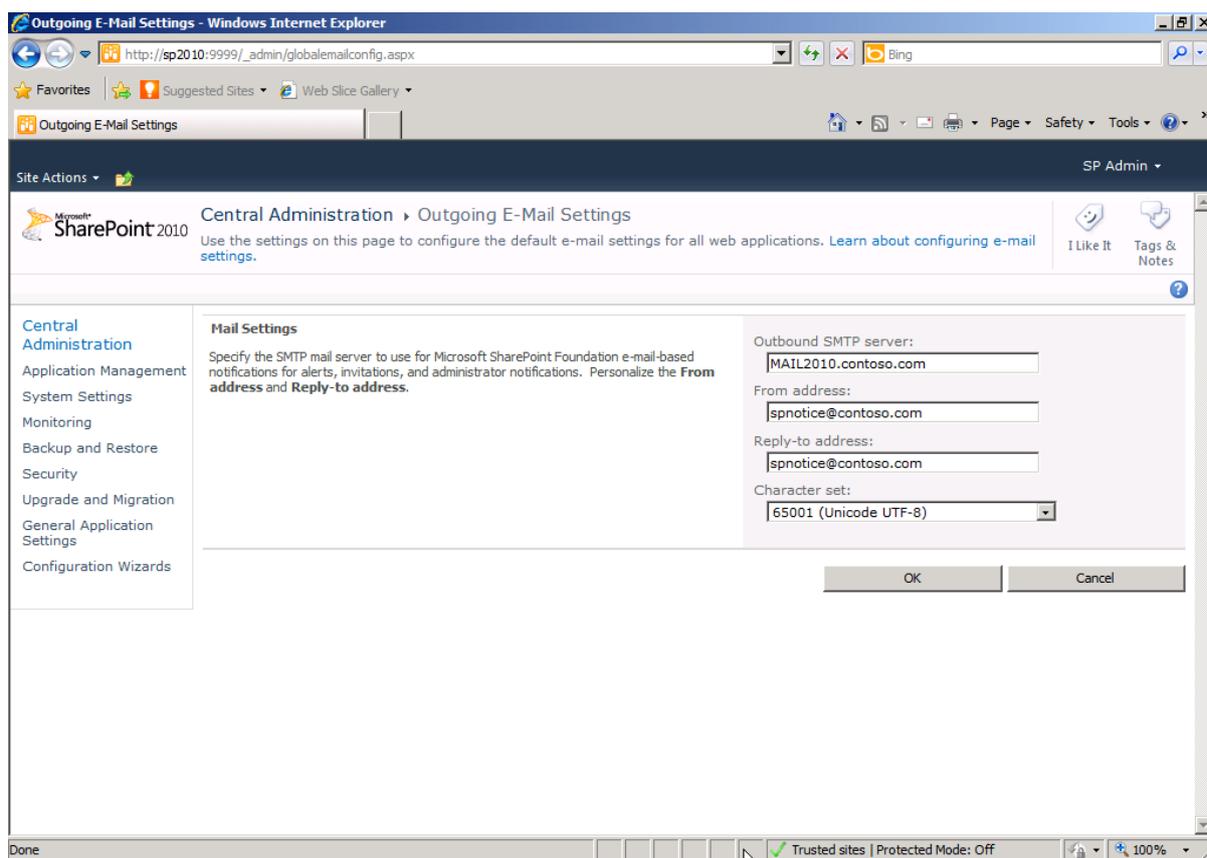


2. The **Mail Settings** window opens.

Specify the **Outbound SMTP server**. For this outgoing mail server, you can specify a general-purpose SMTP mail server such as Exchange Server.

Specify a **From address** and a **Reply-to address**. You can specify an e-mail address that the

administrator can monitor and reply to. Use the default character set.



Click **OK** to exit.

3. From here on, we will explain procedures for additional settings to enable sending outgoing e-mails with Exchange Server 2007 or Exchange Server 2010. From Exchange Server 2007, set a clear "role" for each Exchange Server in the Microsoft Exchange organization.

There are several types of servers, including "Edge Transport Server," which is deployed in perimeter networks; "Hub Transport Server," which works as a contact point to the Exchange organization; "Mailbox Server," which manages e-mails; and "Client Access Server," which enables all types of protocol access from outside, except for the Messaging Application Programming Interface (MAPI), and provides features such as Active Sync. With the default installation of Exchange Server, you can exchange e-mails inside the Exchange organization but you cannot communicate with servers outside the organization because there is no "connector" to enable communication with external servers.

*If you want to know about the "Exchange organization" in greater details, see the information on TechNet. A correct understanding of the term "Exchange organization" will make it easier for you to perform configurations and troubleshooting (for both Exchange Server 2007 and Exchange Server 2010).

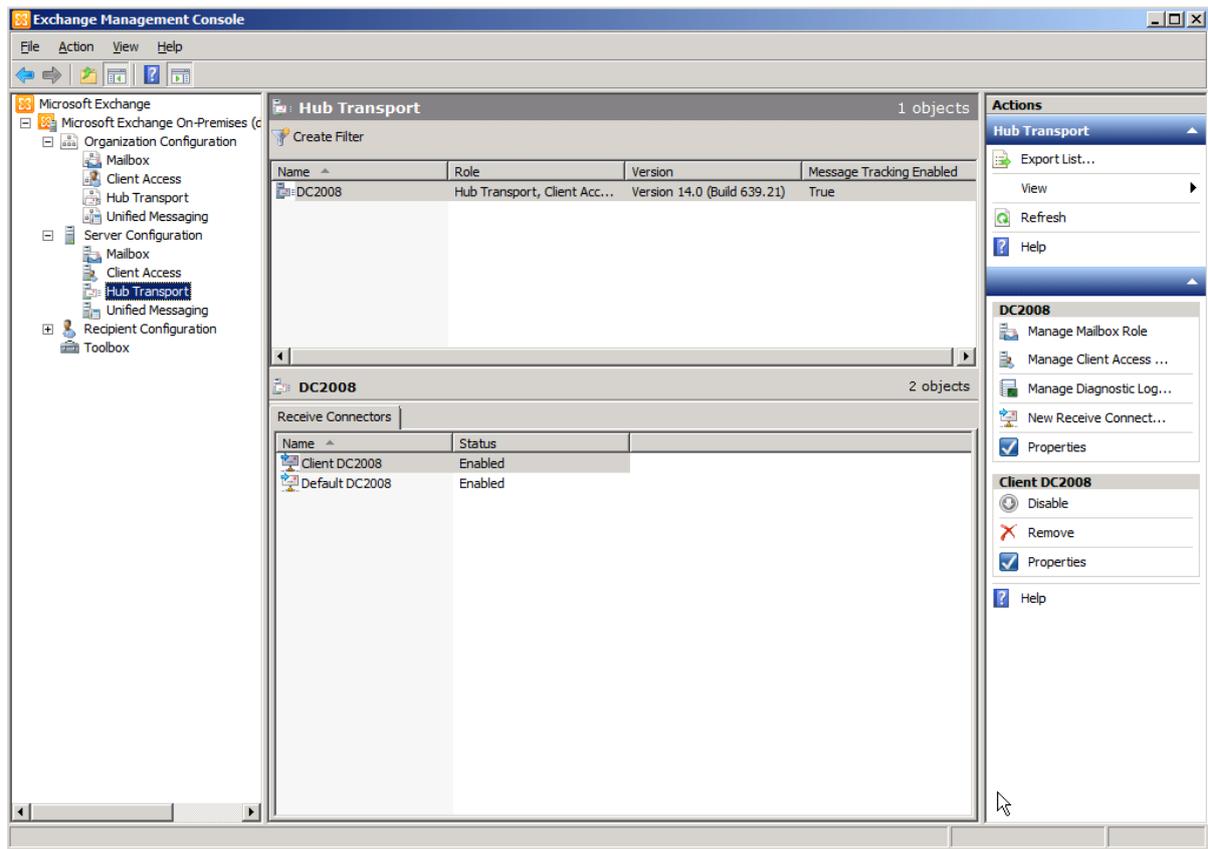
[http://technet.microsoft.com/en-us/library/aa998891\(EXCHG.80\).aspx](http://technet.microsoft.com/en-us/library/aa998891(EXCHG.80).aspx)

4. Create a Receive connector.

Click **Start**, point to **All Programs**, open **Microsoft Exchange Server 2010**, and then click **Exchange Management Console**. The **Exchange Management Console** opens.

From the **Server Configuration** in the left pane, select **Hub Transport**.

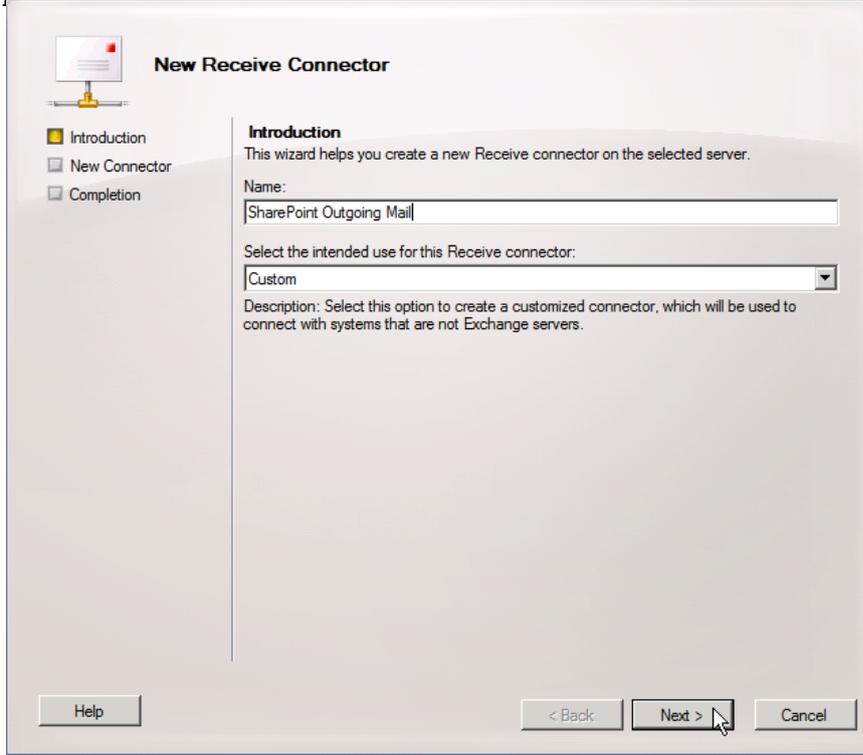
From the **Actions** pane on the right side, perform **New Receive Connect**.



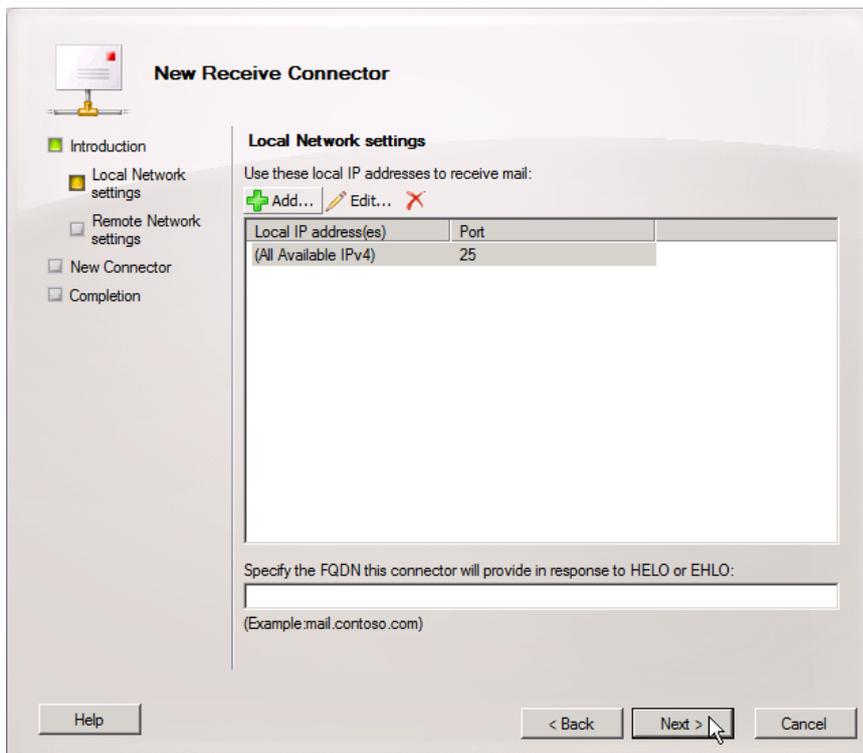
5. Configure the Receive connector.

In the **New Receive Connector** dialog box, enter the required items in each box. Enter an optional name.

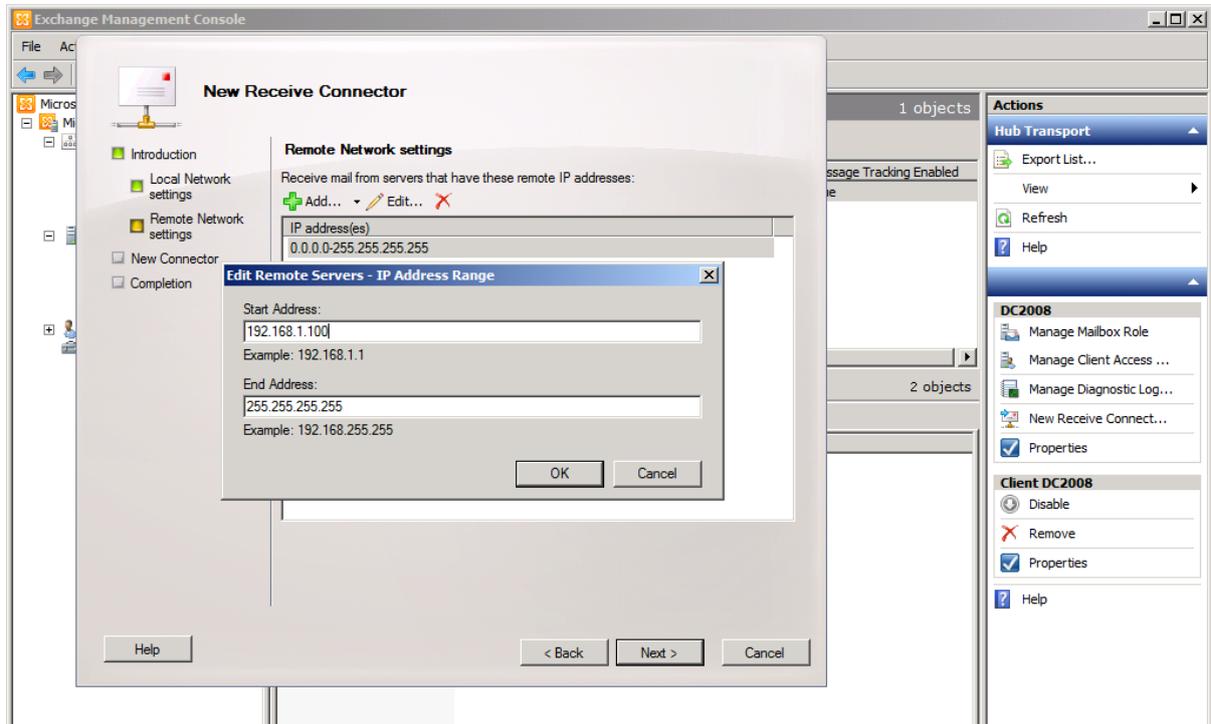
In **Select the intended use for this Receive connector**, select **Custom**.



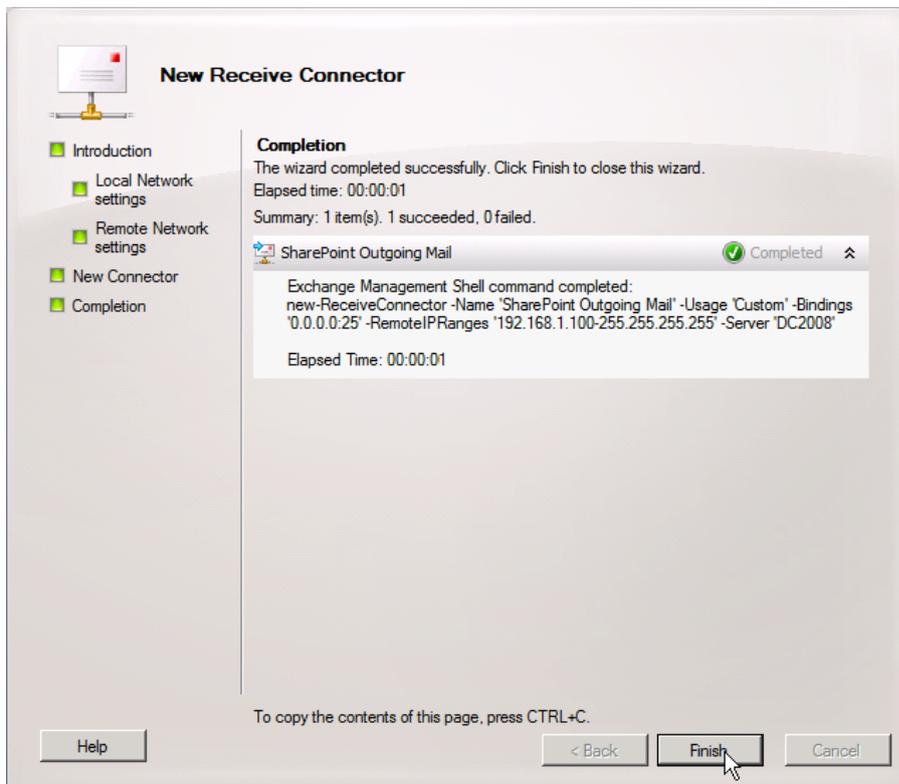
6. Configure the local network. Leave the default setting as port 25 on the local Internet Protocol (IP) addresses (all available IPv4 addresses). Click **Next**.



- Configure a remote network. Click **Edit**, and set the IP address range.
(*This self-study guide uses 192.168.1.100)

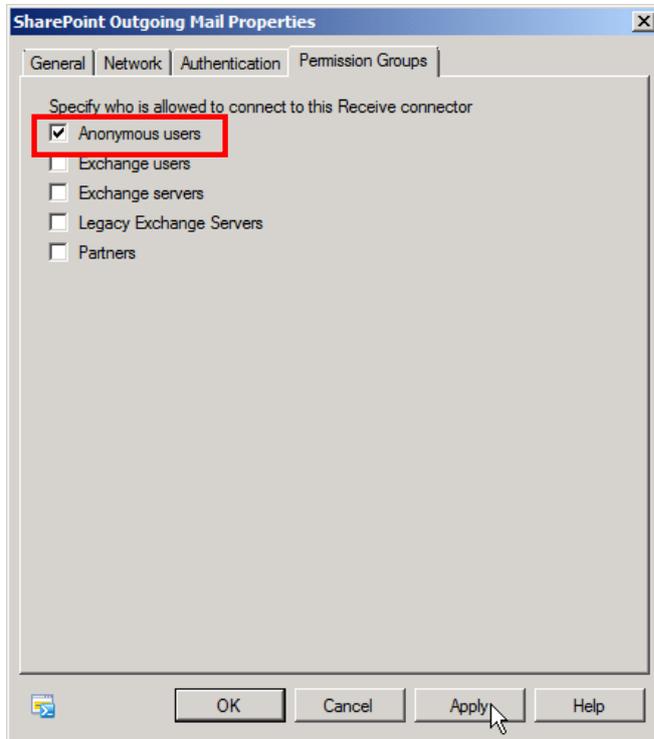


- The Receive connector has now been created.



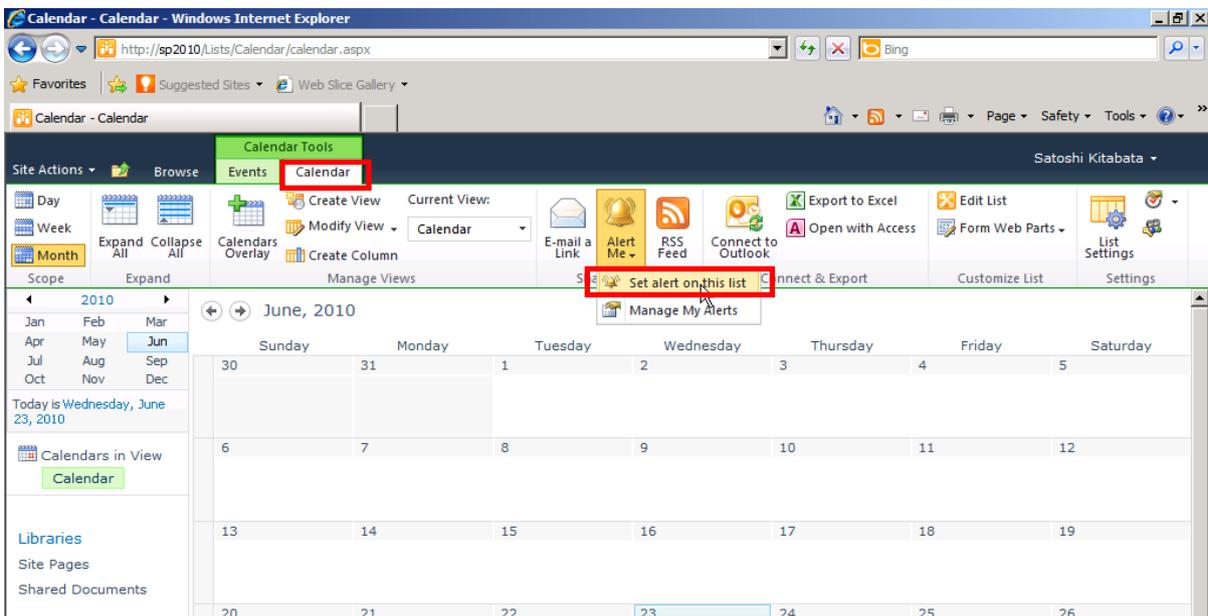
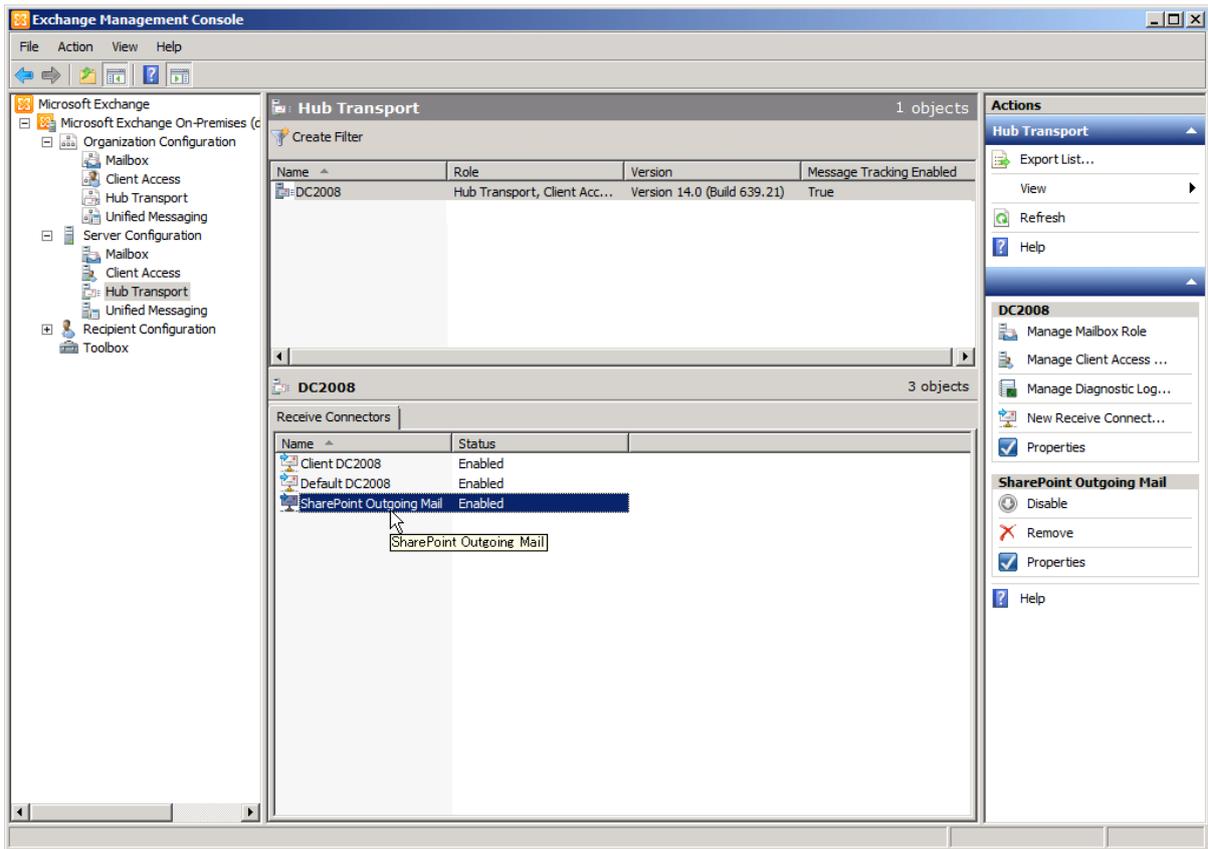
9. Configure access permissions. Double-click to open the receive connector that you have created for SharePoint Server.

10. Open the **Permission Groups** tab. Select the **Anonymous users** check box, and click **OK**.

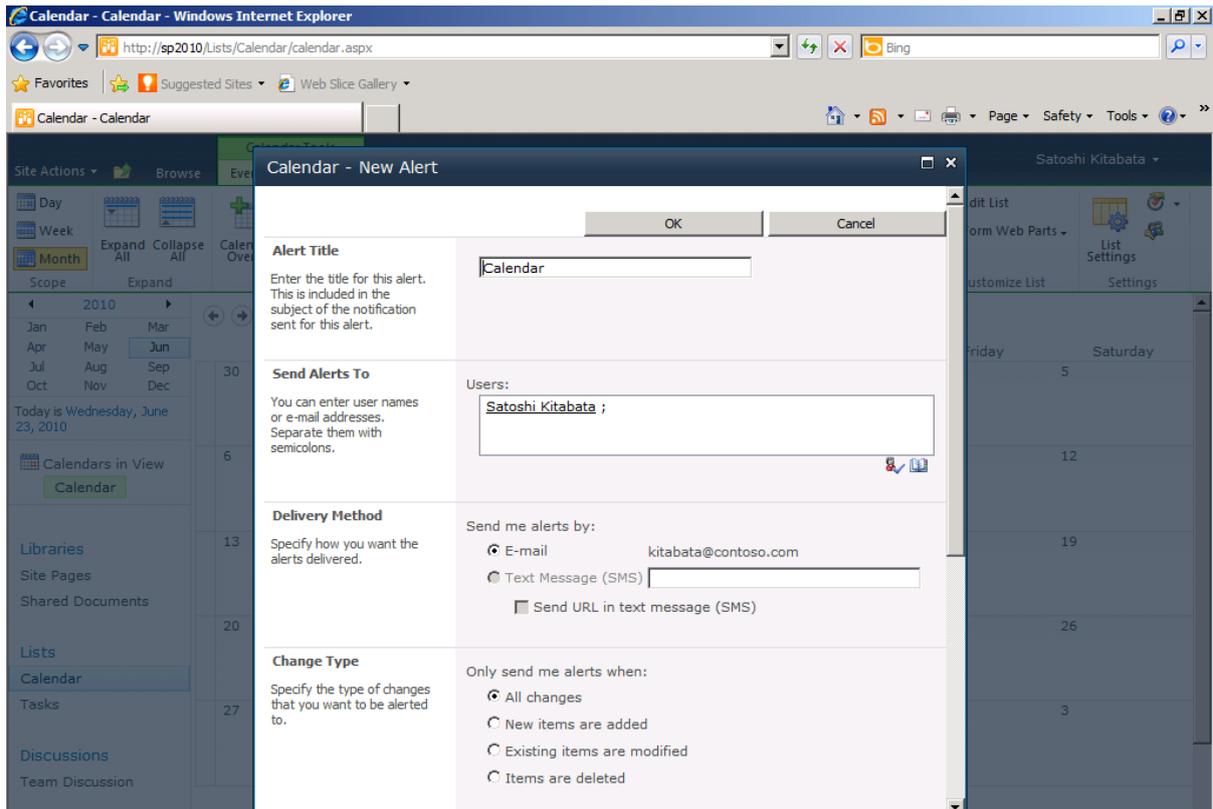


11. Verify settings in SharePoint Server. For example, set an alert on the Calendar list and confirm whether you can send an e-mail. Open the **Calendar**, and from the **Calendar Tools** ribbon tab, open the **Calendar** tab. From **Alert Me**, select **Set alert on this list**.

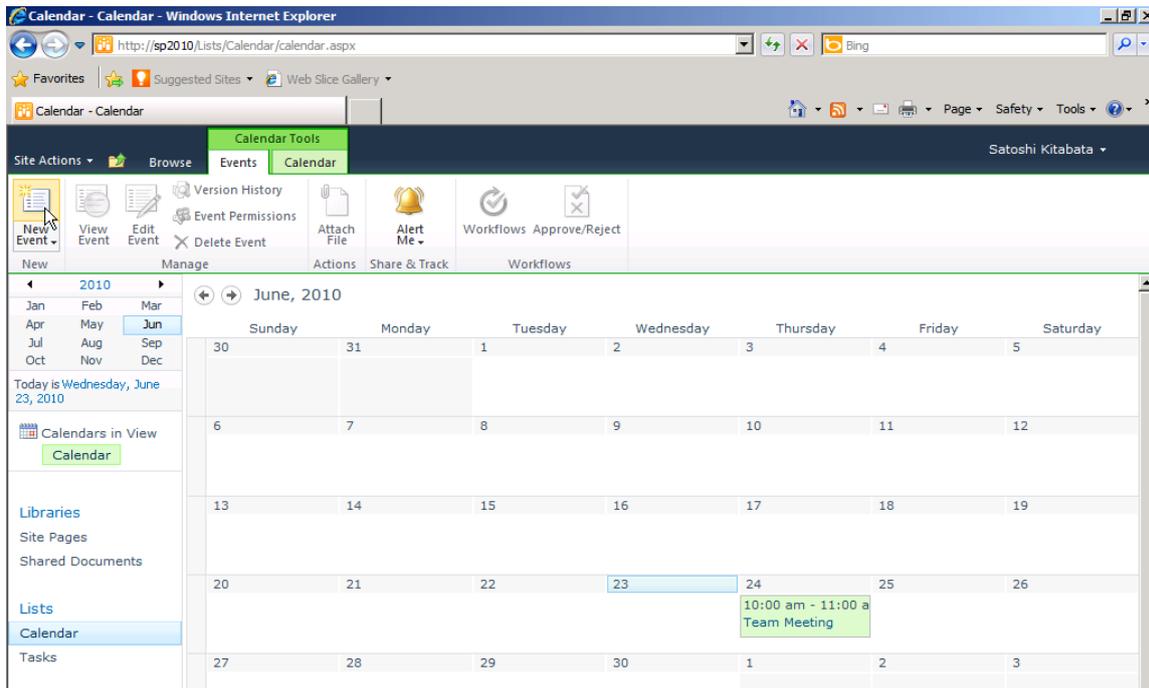
SharePoint Server 2010 Self-study Installation Guide (RTM Version)



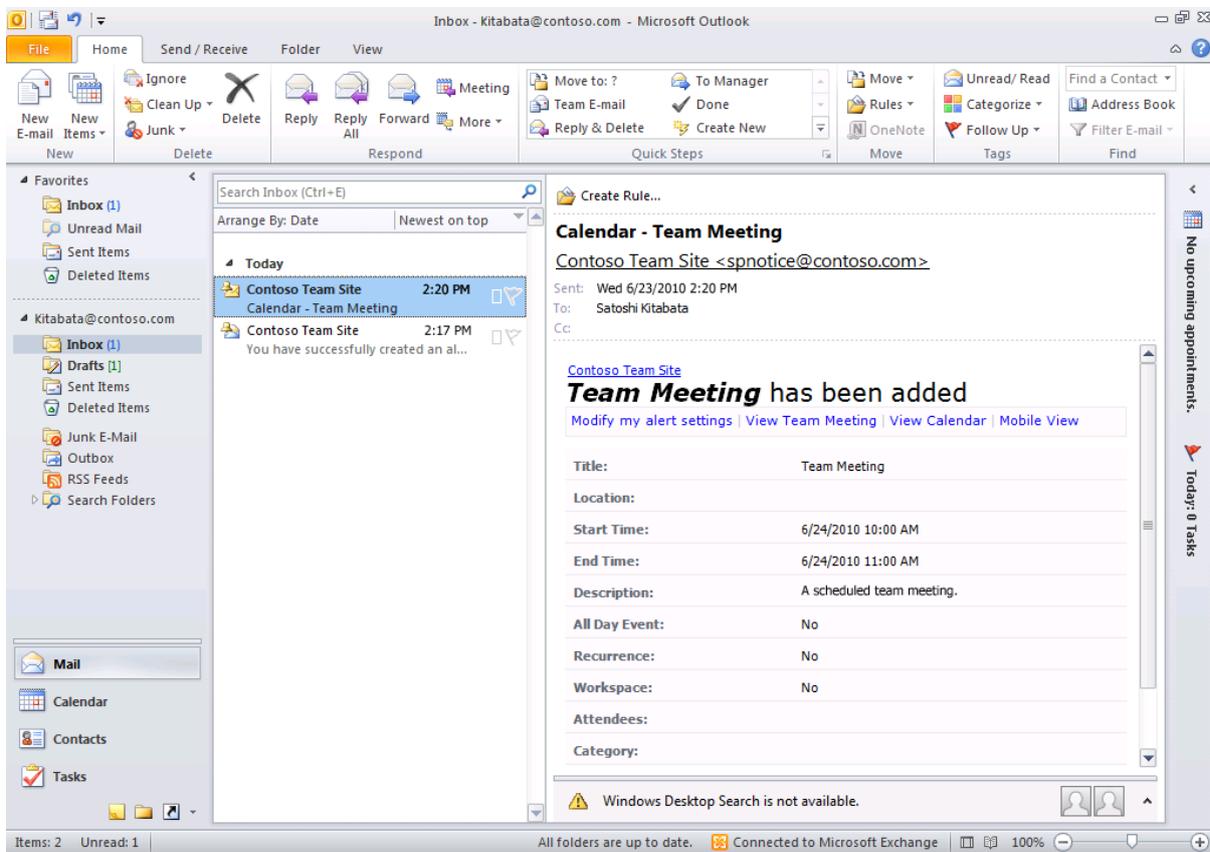
12. Select the users that you want to alert, and click **OK**.



13. Create an item in the **Calendar**, and verify that it has been delivered. From the **Calendar Tools** ribbon tab, open the **Events** tab. Click **New Event**, and create an event for the test.



14. Launch Outlook 2010, and confirm whether the notification has been delivered.

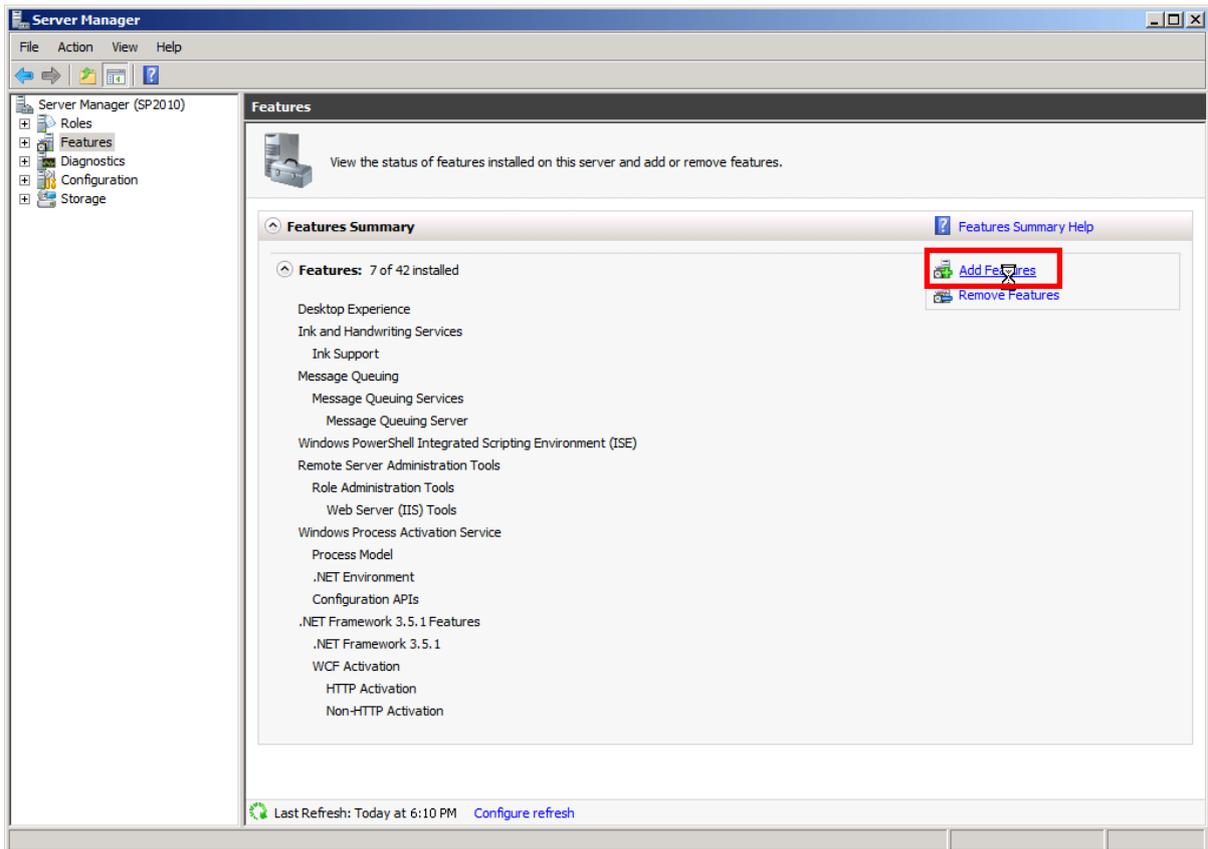


3.6 Configuring Incoming E-mail

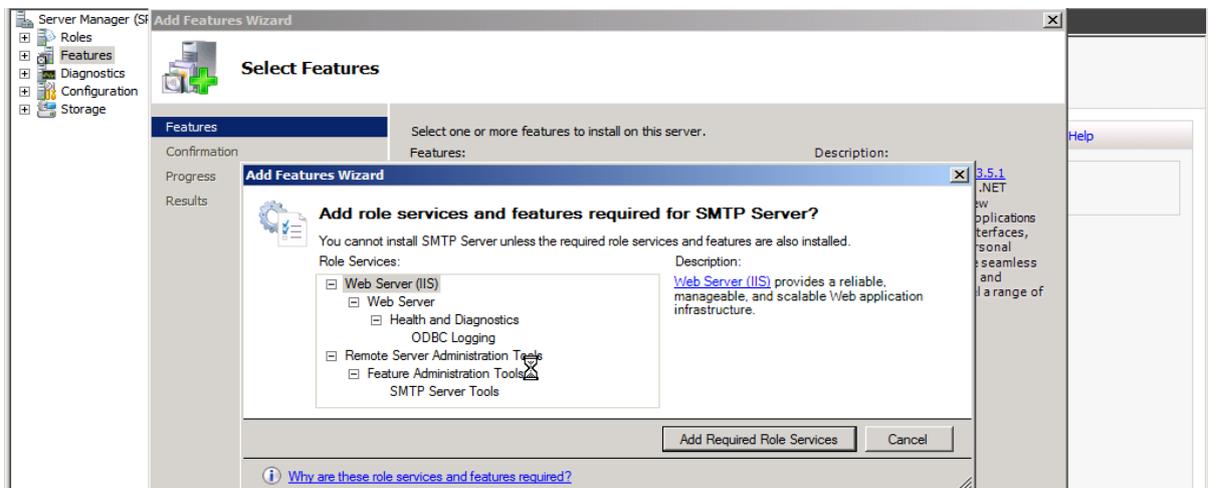
In SharePoint Server 2010, there is a feature that enables you to create and post an item in e-mail for specific libraries and lists by using the Incoming E-mail feature. In order to use this feature, **the SMTP Server feature must be added** to the front-end Web server for SharePoint Server.

1. Add the SMTP Server feature to SharePoint Server.

Open **Server Manager**. From the left pane select **Features**, and then click **Add Features**.



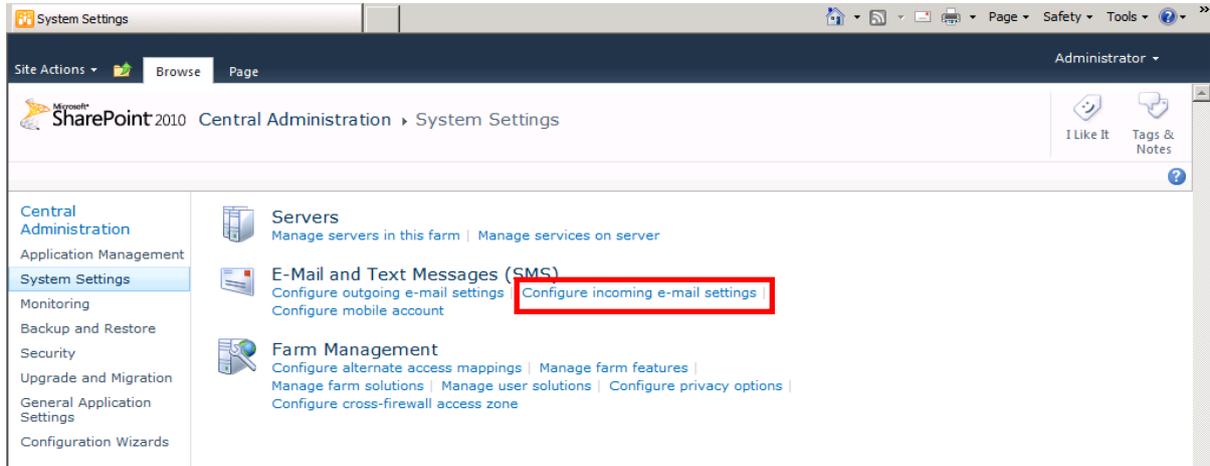
2. Select the **SMTP Server** check box to add features.



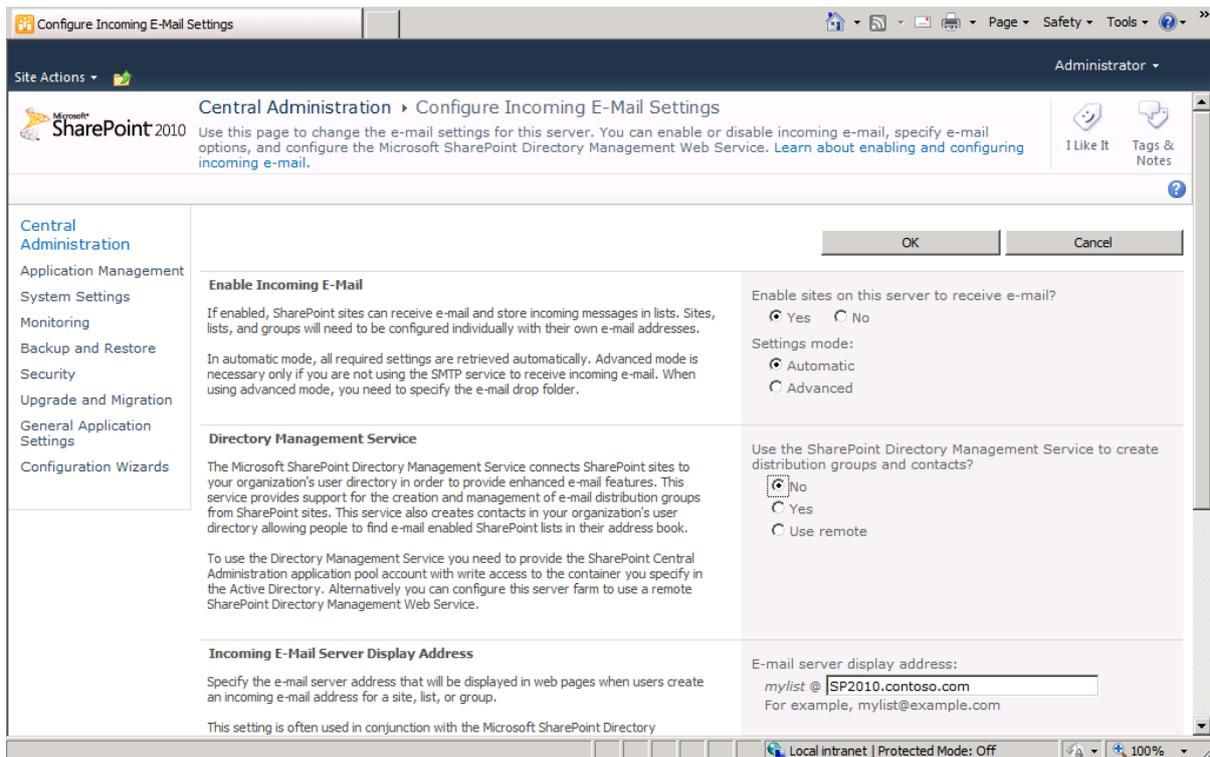
3. Configure the incoming e-mail.

From the side link bar, click **System Settings**.

In the **E-Mail and Text Messages (SMS)** category, click **Configure incoming e-mail settings**.



In the **Enable Incoming E-Mail** section, select **Yes** for **Enable sites on this server to receive e-mail?** Click **OK**.



Tips: Some environments call for additional settings for Incoming E-mail. By default, the SMTP server stores items in %Systemroot%\inetpub\mailroot\dropbox, but you can change the location in advanced settings.

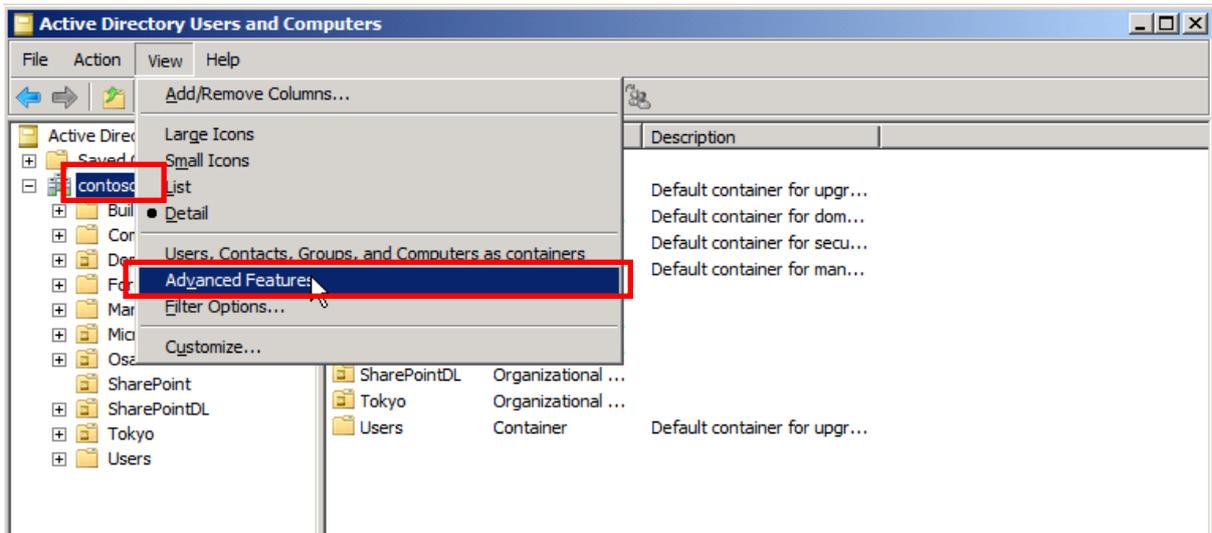
Also, if you use **Directory Management Service** and your environment is an Active Directory environment, you need to set the account.

See <http://technet.microsoft.com/en-us/library/cc262947.aspx>.

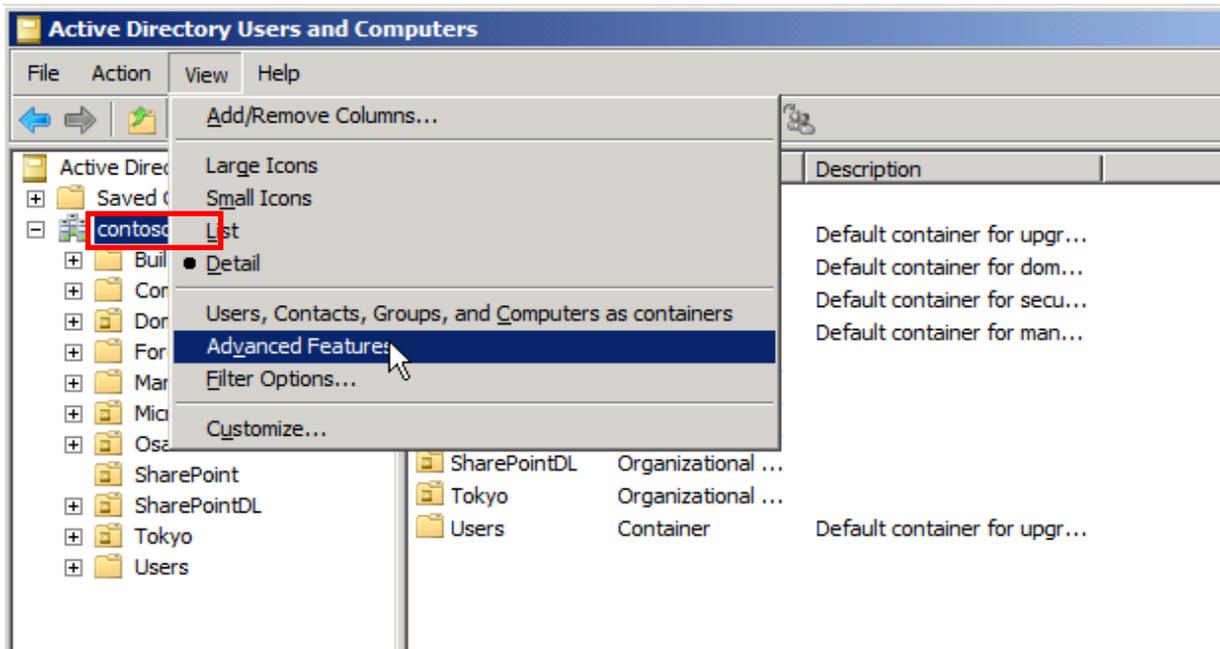
3.7 Configuring User Profile Service and User Profile Sync

By launching User Profile Service and configuring User Profile Sync, you can synchronize profile information with LDAP-compliant databases and retrieve user information. Interaction with Active Directory is set by default, but you can change the synchronization source later.

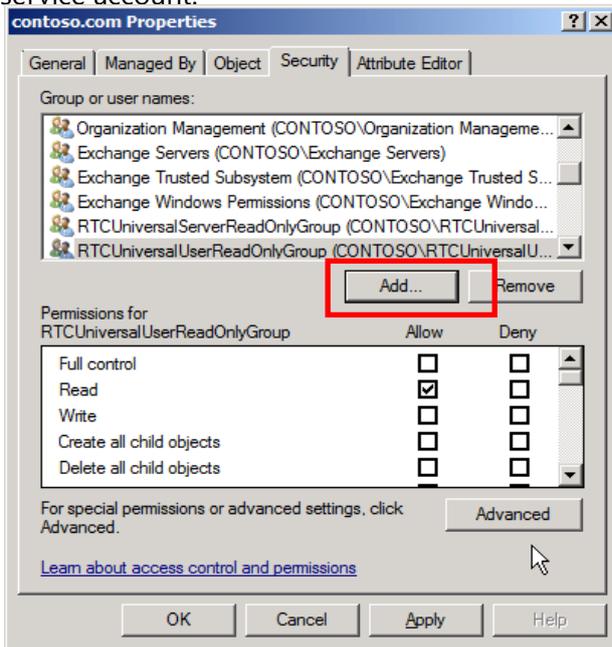
1. Configure a service account for synchronization. In the domain controller, open **Active Directory Users and Computers**. From the **View** menu, click **Advanced Features** to display the details.



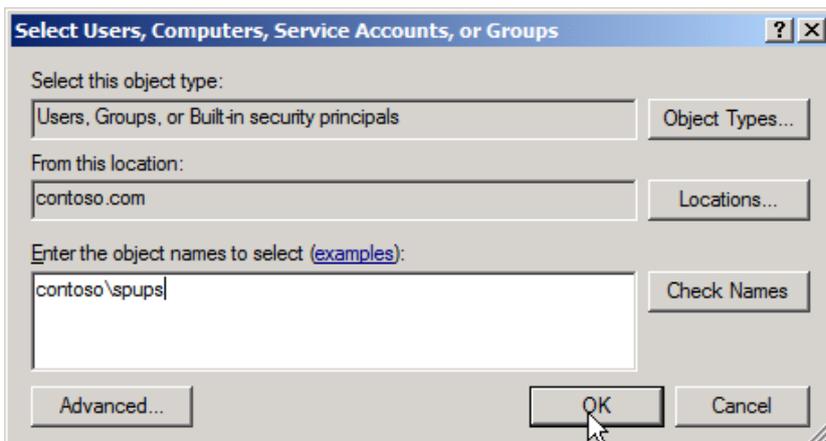
2. Right-click the domain. (contoso.com) Select **Properties**.



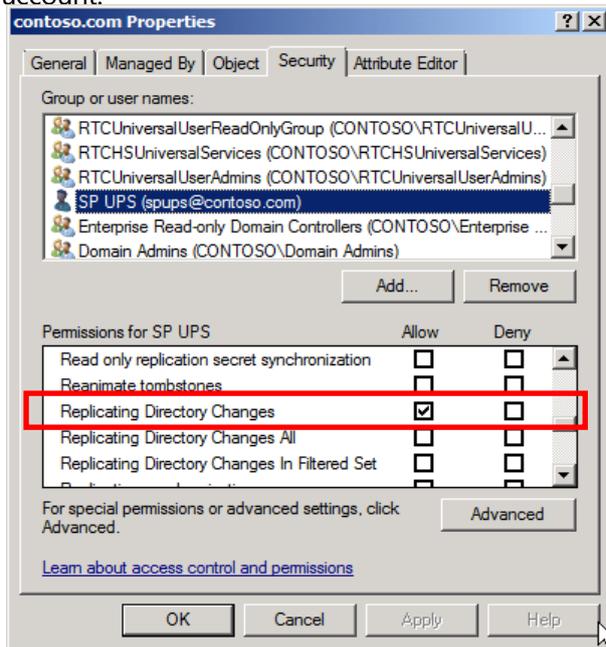
3. Add the service account prepared for synchronization. Open the **Security** tab. Click **Add** to add the service account.



4. Add contoso\spups.



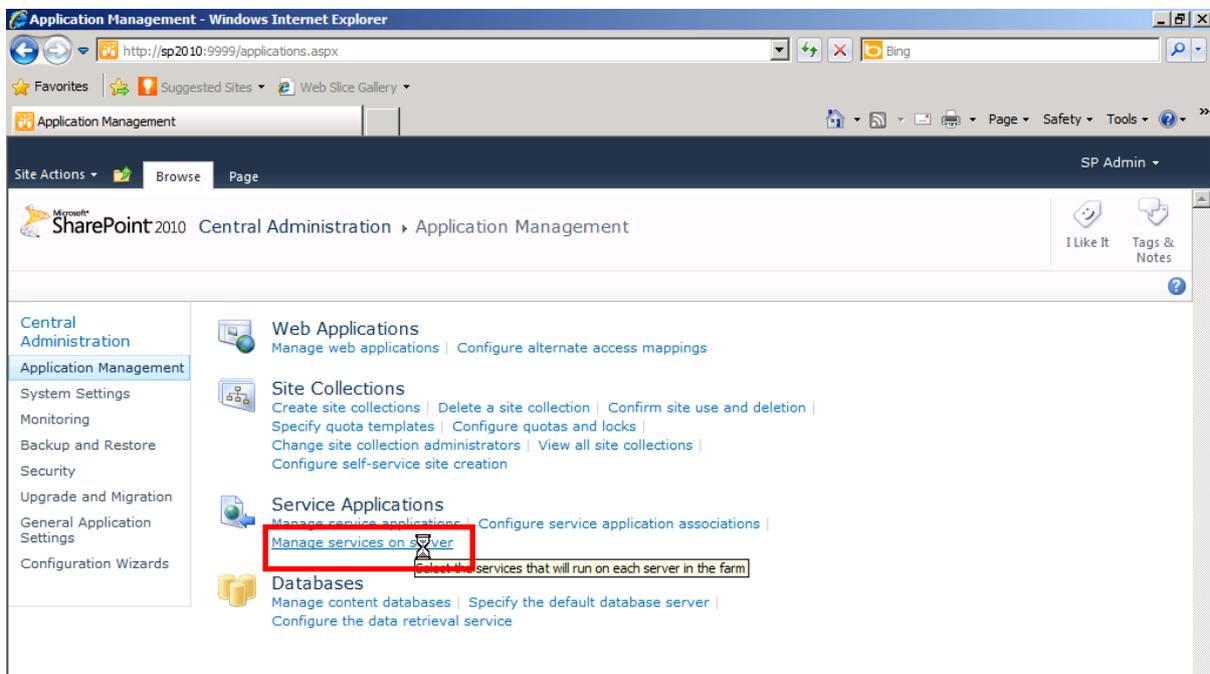
5. Check that the **Replicating Directory Changes** permission is granted to the added Contoso\spups account.



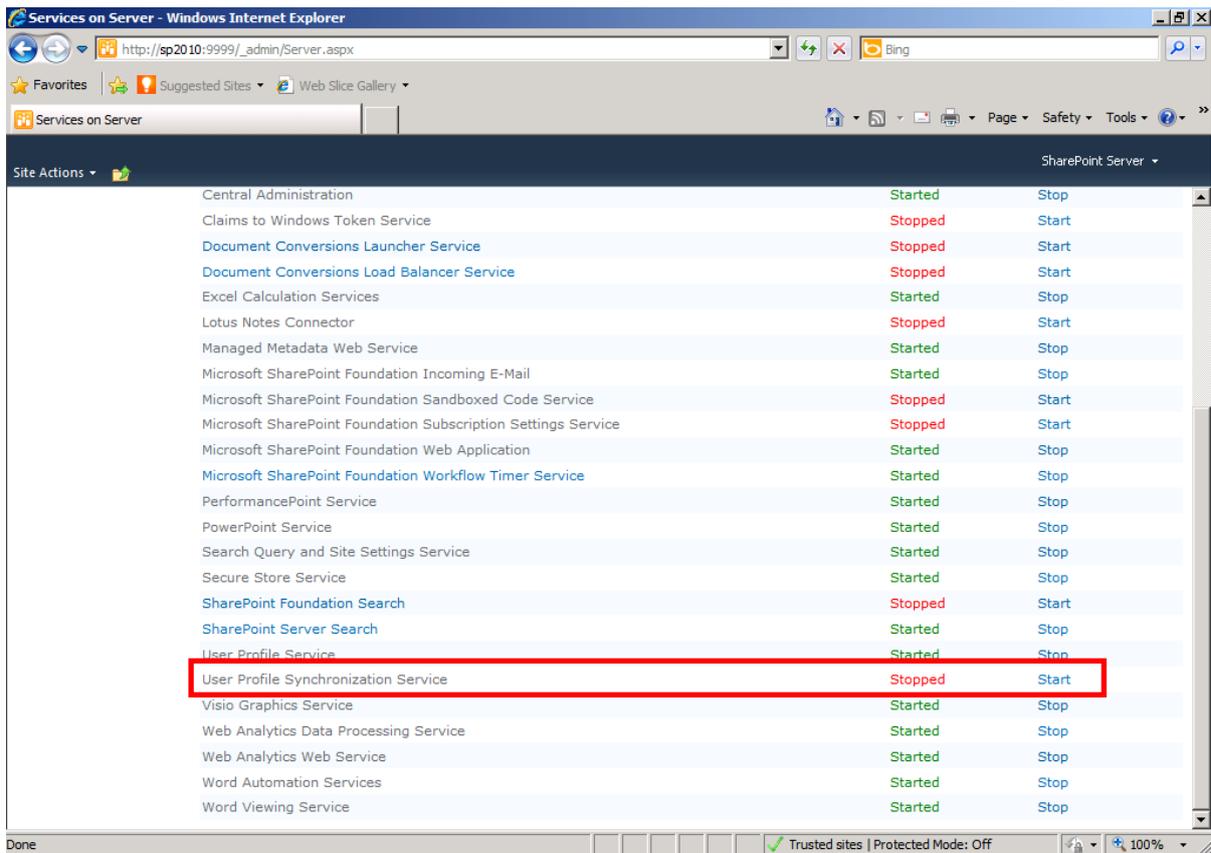
The configuration of the service account for synchronization is now complete.

<http://64.4.11.252/en-us/library/ff182925.aspx#section3>

6. Open **Central Administration**. From **Application Management** in the left navigation bar, select **Manage services on server** in the **Service Applications** section.

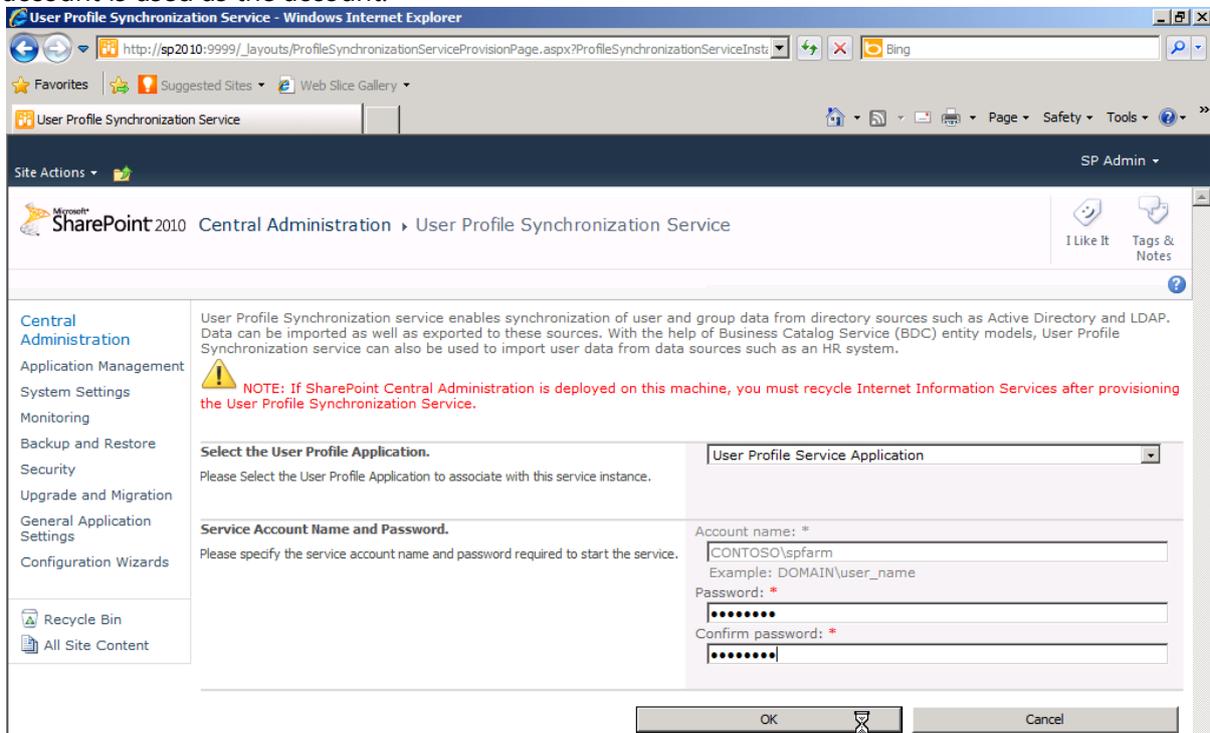


7. From the list of services, select **Start** for **User Profile Synchronization Service (Stopped)**.

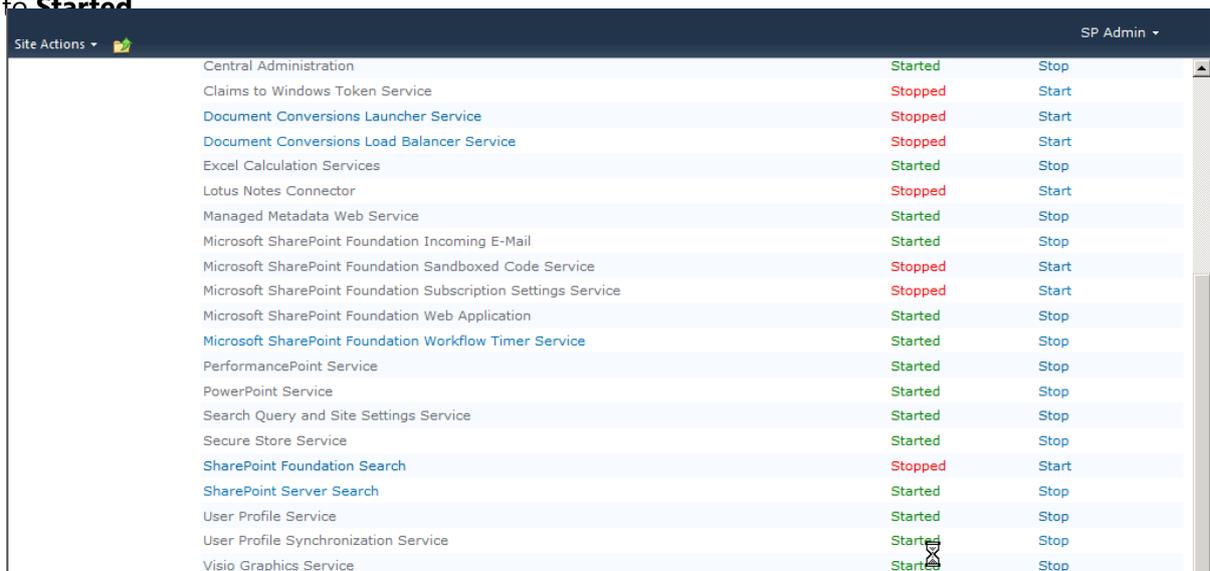


- For the User Profile application, select the **User Profile Service Application** created by the Initial Farm Configuration Wizard and enter the password. (P@ssw0rd)

Tip: If the User Profile Service is configured by the Initial Farm Configuration Wizard, the farm account is used as the account.



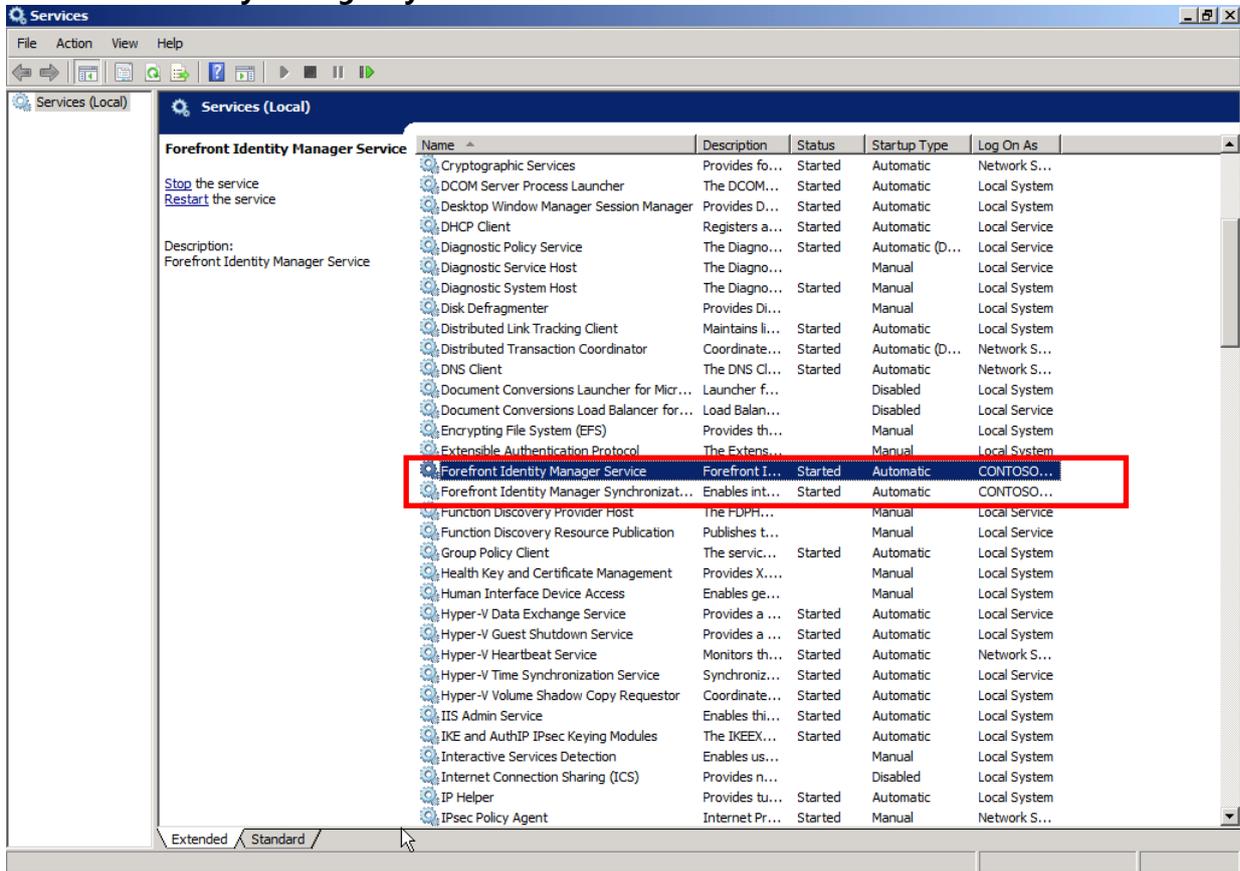
Clicking **OK** prepares the service to be started. It may take some time for this service to start. Refresh the browser (F5), and wait without performing any further operation until the status changes to **Started**



Make sure that the service has started.

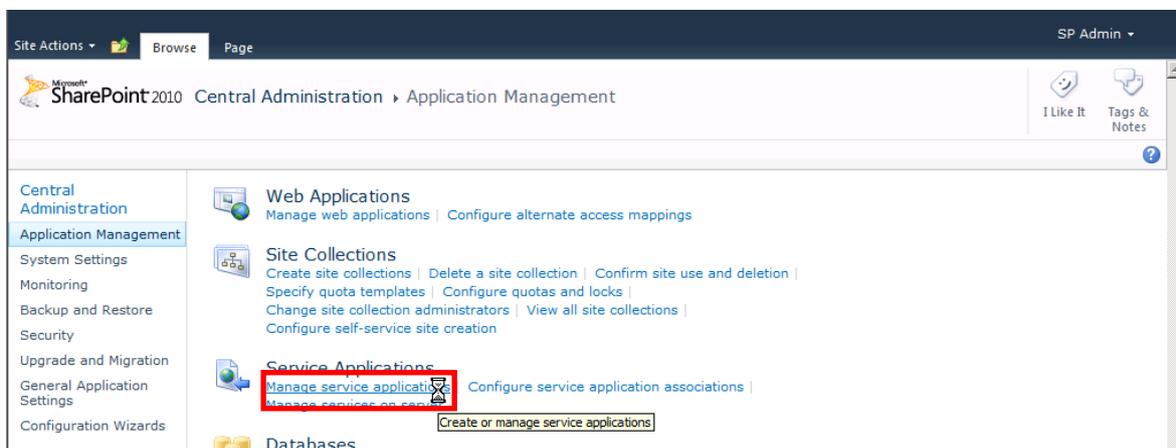
9. Once the service is under way, **be sure to restart the server**. After the restart, verify whether the related services have started successfully. From the **Start** menu, open **Administrative Tools**, and click **Services**. Check the following two services:

- **Forefront Identity Manager Service**
- **Forefront Identity Manager Synchronization Service**

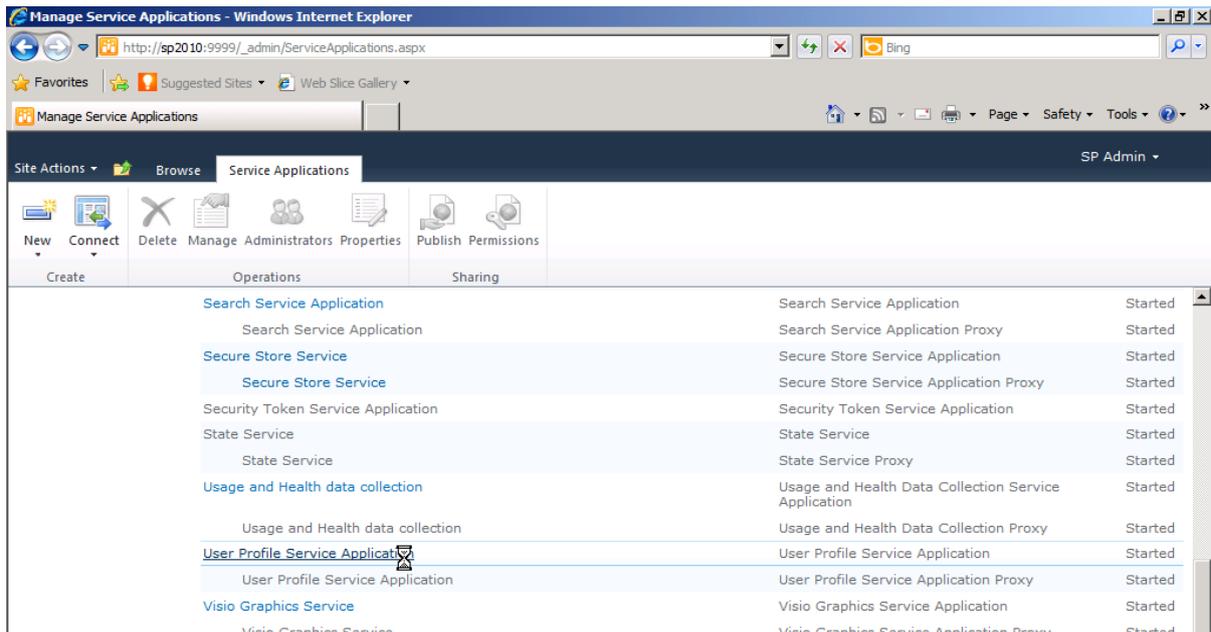


Both of these are autostart services, but they might not automatically start at the restart. If they are not started, launch them manually.

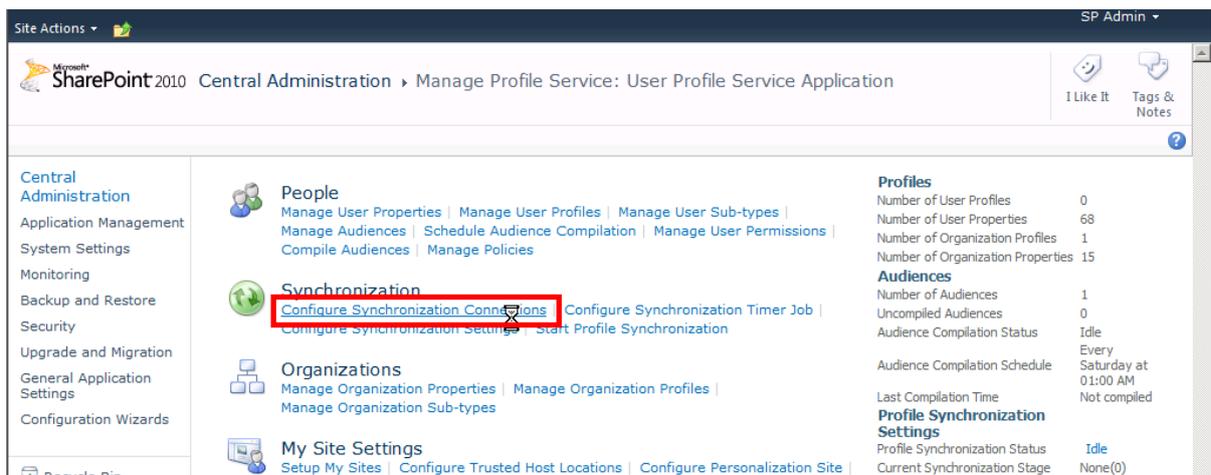
10. From the **Start** menu, open **Central Administration**. Click **Application Management**, and select **Manage service applications**.



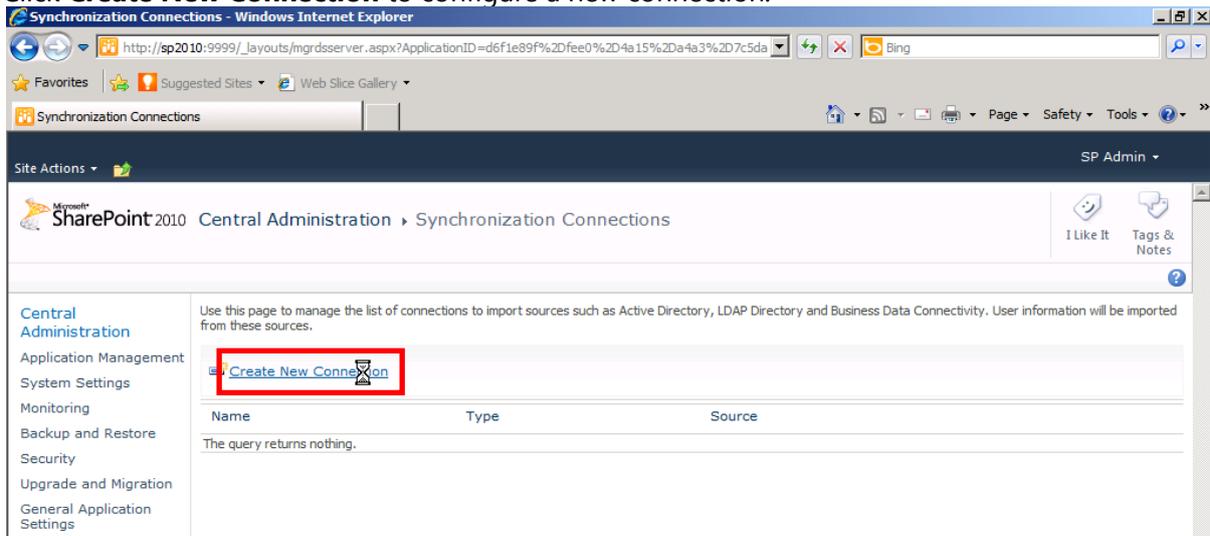
11. Click User Profile Service Application.



12. From the Synchronization category, select Configure Synchronization Connections.



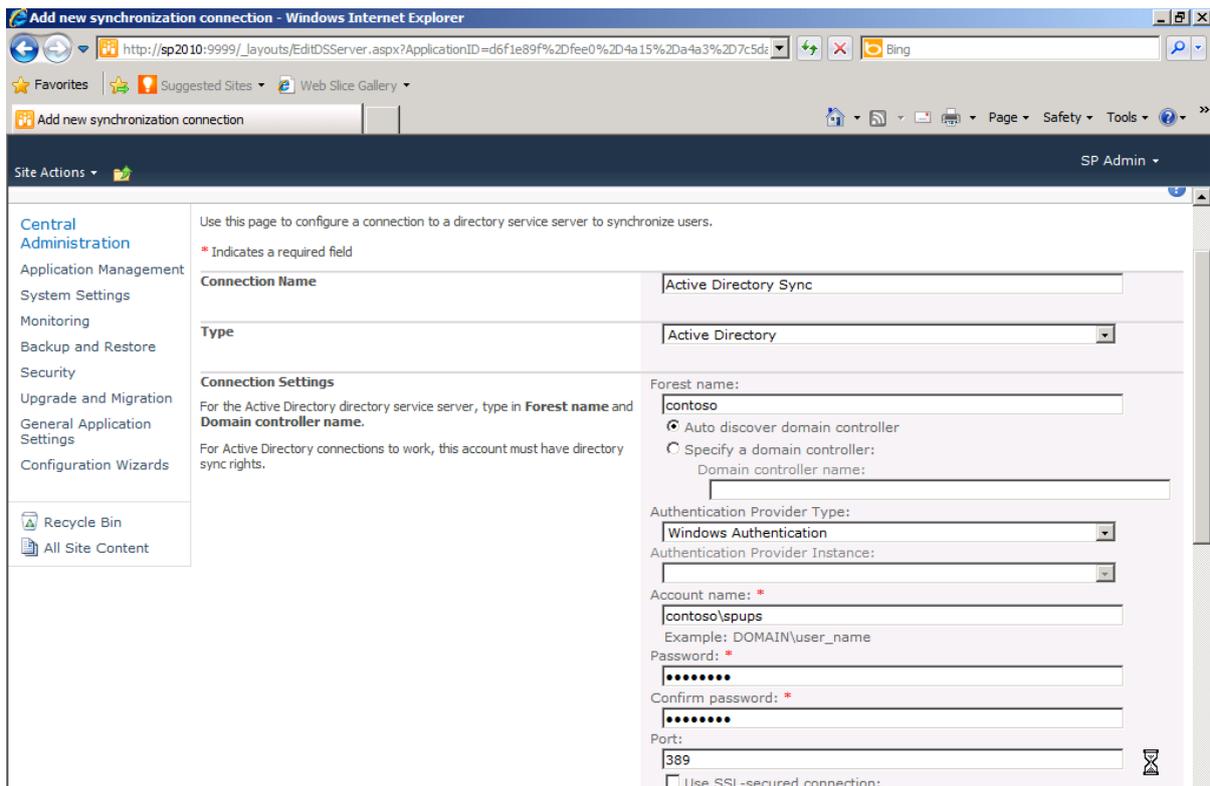
13. Click **Create New Connection** to configure a new connection.



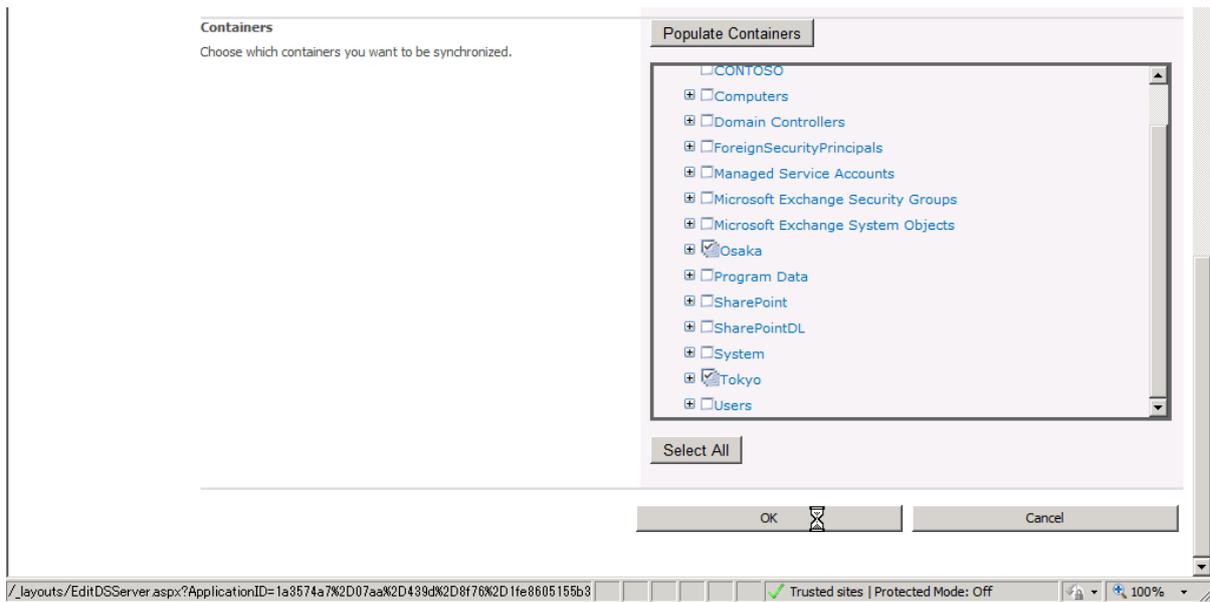
14. Name the connection. You can use any name.

For the **Forest name**, enter "contoso."

For the **Account name**, enter "contoso\spups", and for the **Password**, enter "P@ssw0rd".

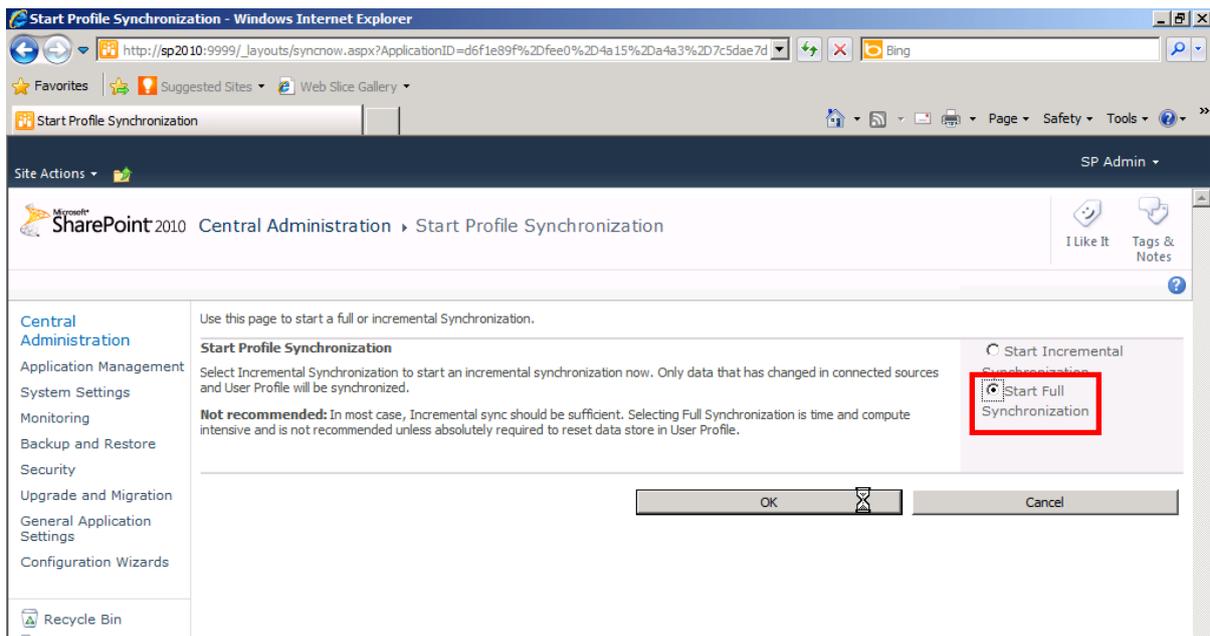


Click **Populate Containers**. Select the OU with which you wish to synchronize.



After making the selection, click **OK**. Confirm that the definition of the connection has been created.

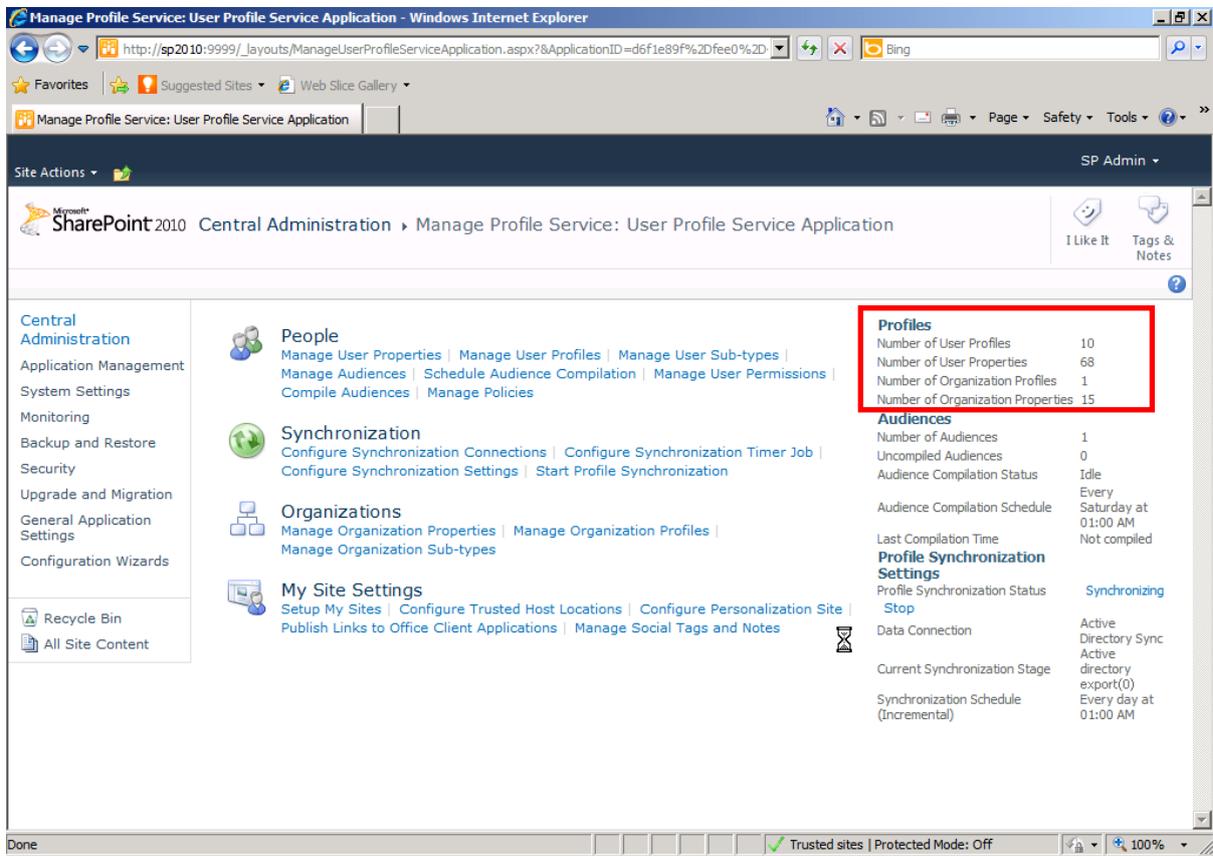
15. Go back to the most recent configuration page and select **Start Profile Synchronization**.



Select **Start Full Synchronization**, and click **OK**.

Synchronization with the LDAP source (Active Directory) will now commence.

The synchronization takes time to finish. Synchronization results can be verified from the User Profile Services application.



16. After the synchronization is complete, confirm whether you can create an audience and whether your peers can be viewed in your personal site.