



## **Test Lab Guide: Configure SharePoint Server 2010 in a Three-Tier Farm**

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# Test Lab Guide: Configure SharePoint Server 2010 in a Three-Tier Farm

Joe Davies  
 Microsoft Corporation  
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**Applies to:** SharePoint Server 2010

**Summary:** This paper contains a brief introduction to SharePoint Server 2010 and step-by-step instructions for creating a test lab containing a three-tier SharePoint farm. The farm is based on the [Base Configuration test lab guide](#) and the [SQL Server 2008 R2 test lab guide](#). The paper also demonstrates the facilities of a default team site.

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## Introduction

Microsoft® SharePoint® Server 2010 makes it easy for people to work together. Using SharePoint Server 2010, you and your employees can set up Web sites to share information with others, manage documents from start to finish, and publish reports to help everyone make better decisions.

SharePoint Server 2010 has the following capabilities:

- **Sites** Provides a single infrastructure for all your business Web sites. Share documents with colleagues, manage projects with partners, and publish information to customers.

- **Communities** Delivers great collaboration tools—and a single platform to manage them. Make it easy for people to share ideas and work together the way they want.
- **Composites** Offers tools and components for creating do-it-yourself business solutions. Build no-code solutions to rapidly respond to business needs.
- **Content** Makes content management easy. Set up compliance measures “behind the scenes”—with features like document types, retention policies, and automatic content sorting—and then let people work naturally in Microsoft Office.
- **Insights** Gives everyone access to the information in databases, reports, and business applications. Help people locate the information they need to make good decisions.
- **Search** Cuts through the clutter. A unique combination of relevance, refinement, and social cues helps people find the information and contacts they need to get their jobs done.

For more information about Microsoft SharePoint Server 2010, see the [SharePoint Product Information site](#).

## In this guide

This paper contains instructions for setting up a test lab based on the [Base Configuration test lab guide](#) and the [SQL Server 2008 R2 test lab guide](#) and configuring SharePoint Server 2010 using four server computers and one client computer. The resulting SharePoint Server 2010 test lab demonstrates the default configuration of SharePoint Server 2010 in a three-tier farm as described in [Multiple servers for a three-tier farm \(SharePoint Server 2010\)](#) and [Add a Web or application server to the farm \(SharePoint Server 2010\)](#).

### Important

The following instructions are for configuring a SharePoint Server 2010 test lab by using the minimum number of computers. Individual computers are needed to separate the services provided on the network and to clearly show the desired functionality. This configuration is neither designed to reflect best practices nor does it reflect a desired or recommended configuration for a production network. The configuration, including IP addresses and all other configuration parameters, is designed only to work on a separate test lab network. Attempting to adapt this test lab configuration to a pilot or production deployment can result in configuration or functionality issues. For detailed design and planning information, see [Planning and architecture for SharePoint Server 2010](#).

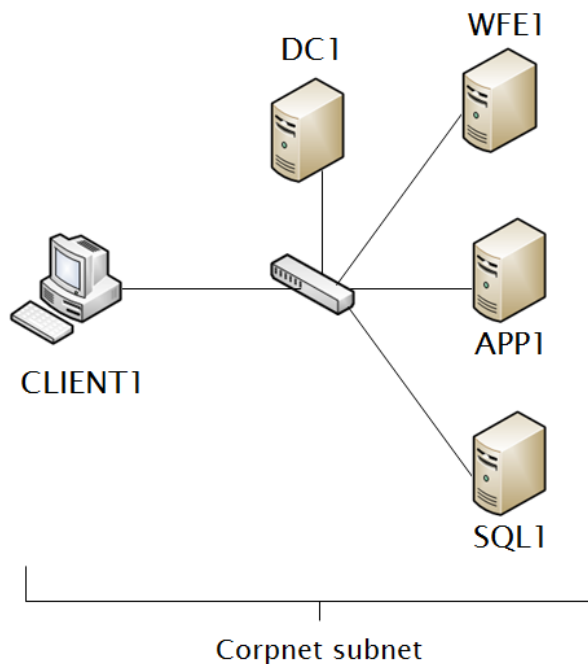
## Test lab overview

In this test lab, SharePoint Server 2010 functionality in a three-tier farm is deployed with:

- One computer, named DC1, that runs Windows® Server® 2008 R2 Enterprise Edition and that is configured as an intranet domain controller, Domain Name System (DNS) server, DHCP server, and enterprise root certification authority (CA).
- One intranet member server, named SQL1, that runs Windows Server 2008 R2 Enterprise Edition and is configured as a SQL database server.

- One intranet member server, named APP1, that runs Windows Server 2008 R2 Enterprise Edition and is configured as the SharePoint Server 2010 application server.
- One intranet member server, named WFE1, that runs Windows Server 2008 R2 Enterprise Edition and is configured as the SharePoint Web front-end server.
- One member client computer, named CLIENT1, that runs Windows 7 Enterprise or Ultimate.

The SharePoint Server 2010 test lab consists of a single subnet named Corpnet (10.0.0.0/24) that simulates a private intranet. Computers on the Corpnet subnet connect by using a hub or switch. See the following figure.



## Hardware and software requirements

The following are required components of the test lab:

- The product disc or files for Windows Server 2008 R2.  
  
For an evaluation copy of Windows Server 2008 R2 Enterprise Edition in download and virtual hard disk (VHD) form, see [Windows Server 2008 R2 Evaluation Free 180-Day Trial](http://go.microsoft.com/fwlink/?LinkID=102582) (<http://go.microsoft.com/fwlink/?LinkID=102582>).
- The product disc or files for Windows 7.
- The product disc or files for Microsoft SQL Server 2008 R2. See [SQL Server 2008 R2 Trial](#) for a trial version of Microsoft SQL Server 2008 R2.
- The product disc or files for SharePoint Server 2010. See [Download SharePoint 2010 Trial](#) for a trial version of SharePoint Server 2010 (for example, choose the **SharePoint Server**

**2010 Enterprise Client Access License features** version on the **Download Microsoft SharePoint Server 2010** web page).

- Four computers that meet the minimum hardware requirements for Windows Server 2008 R2 Enterprise Edition. For more information, see [Windows Server 2008 System Requirements](#).
- One computer that meets the minimum hardware requirements for Windows 7 Enterprise or Ultimate. For more information, see [Windows 7 system requirements](#).

## Steps for Configuring the SharePoint Server 2010 Three-Tier Test Lab

There are seven steps to follow when setting up the SharePoint Server 2010 three-tier test lab.

1. Set up the Base Configuration test lab.
2. Install and configure a new server named SQL1.
3. Install SQL Server 2008 R2 on SQL1.
4. Install SharePoint Server 2010 on APP1.
5. Install and configure a new server named WFE1.
6. Install SharePoint Server 2010 on WFE1.
7. Demonstrate the facilities of the default Contoso team site.



### Note

You must be logged on as a member of the Domain Admins group or a member of the Administrators group on each computer to complete the tasks described in this guide. If you cannot complete a task while you are logged on with an account that is a member of the Administrators group, try performing the task while you are logged on with an account that is a member of the Domain Admins group.

The following sections provide details about how to perform these steps.

## Step 1: Set up the Base Configuration Test Lab

Set up the Base Configuration test lab for the Corpnet subnet by using the procedures in the “Steps for Configuring the Corpnet Subnet” section of the [Test Lab Guide: Base Configuration](#).

## Step 2: Install and configure a new server named SQL1

In this procedure, you install the Windows Server 2008 R2 operating system and the latest updates on a new server named SQL1.

### ► To install Windows Server 2008 R2 on SQL1

1. Start the installation of Windows Server 2008 R2.
2. Follow the instructions to complete the installation, specifying Windows Server 2008 R2 Enterprise Edition (full installation), the computer name SQL1, and a strong password for the local Administrator account.

3. After the installation completes, log on using the local Administrator account.
4. Connect SQL1 to a network that has Internet access and run Windows Update to install the latest updates for Windows Server 2008 R2, including Windows Server 2008 R2 Service Pack 1.
5. After the updates are complete, restart SQL1 and log on as the local Administrator.
6. Connect SQL1 to the Corpnet subnet.

In this procedure, you configure the TCP/IP properties on SQL1 so that it can join the corp.contoso.com domain.

▶ **To configure the TCP/IP properties on SQL1**

1. In **Initial Configuration Tasks**, click **Configure networking**.
2. In the **Network Connections** window, right-click **Local Area Connection**, and then click **Properties**.
3. Click **Internet Protocol Version 4 (TCP/IPv4)**, and then click **Properties**.
4. Select **Use the following IP address**. In **IP address**, type **10.0.0.4**. In **Subnet mask**, type **255.255.255.0**. In **Default Gateway**, type **10.0.0.1**. In **Preferred DNS server**, type **10.0.0.1**.
5. Click **Advanced**, and then click the **DNS** tab. In **DNS suffix for this connection**, type **corp.contoso.com**, click **OK** twice, and then click **Close**.
6. Close the **Network Connections** window and leave the **Initial Configuration Tasks** window open.
7. To check name resolution and network communication between SQL1 and DC1, click **Start**, click **All Programs**, click **Accessories**, and then click **Command Prompt**.
8. In the Command Prompt window, type **ping dc1.corp.contoso.com**.
9. Verify that there are four replies from 10.0.0.1.
10. Close the Command Prompt window.

In this procedure, you join SQL1 to the corp.contoso.com domain.

▶ **To join SQL1 to the corp.contoso.com domain**

1. In **Initial Configuration Tasks**, click **Provide Computer Name and Domain**.
2. In the **System Properties** dialog box, on the **Computer Name** tab, click **Change**.
3. In **Member of**, click **Domain**, type **corp.contoso.com**, and then click **OK**.
4. When you are prompted for a user name and password, type **User1** and its password, and then click **OK**.
5. When you see a dialog box welcoming you to the corp.contoso.com domain, click **OK**.
6. When you are prompted that you must restart the computer, click **OK**.
7. On the **System Properties** dialog box, click **Close**.
8. When you are prompted to restart the computer, click **Restart Now**.
9. After the computer restarts, click **Switch User**, and then click **Other User** and log on to the CORP domain with the User1 account.

10. In **Initial Configuration Tasks**, click **Do not show this window at logon**, and then click **Close**.

## Step 3: Install SQL Server 2008 R2 on SQL1

Install and configure SQL Server 2008 R2 on SQL1 as described in Steps 2, 3, and 4 of the [SQL Server 2008 R2 Test Lab Guide](#), substituting SQL1 for APP1 in the instructions.

In this procedure, you configure an inbound rule in Windows Firewall with Advanced Security to allow incoming traffic to the SQL Server service.

### ► To configure the Windows Firewall for an inbound rule

1. On SQL1, log on using the User1 user account.
2. From the desktop, click **Start**, point to **Administrative Tools**, and then click **Windows Firewall with Advanced Security**.
3. In the tree pane, right-click **Inbound Rules**, and then click **New Rule**.
4. On the Rule Type page, click **Port**, and then click **Next**.
5. On the Protocols and Ports page, type **1433-1434** in **Specific local ports**, and then click **OK**.
6. On the Action page, click **Next**.
7. On the Profile page, click **Next**.
8. On the Name page, type **SQL Server TCP ports** in **Name**, and then click **Finish**.

## Step 4: Install SharePoint Server 2010 on APP1

In this procedure, you install the prerequisite software components for SharePoint Server 2010 on APP1.

### ► To install the SharePoint Server 2010 prerequisite software

1. On APP1, log on using the User1 user account.
2. Connect APP1 to a network that has Internet access and configure the TCP/IP protocol on the Local Area Connection as needed. The SharePoint Server 2010 prerequisite installer must download and install components from the Microsoft Download Center. For example, if the network that has access to the Internet uses DHCP, configure the Internet Protocol version 4 (TCP/IPv4) component from the properties of the Local Area Connection in the Network Connections folder to use automatic addressing and to automatically configure a DNS server.
3. On APP1, navigate to the location that contains the SharePoint Server 2010 installation files and double-click **SharePointServer.exe** (for the downloaded evaluation version) or **default.hta** on the SharePoint Server 2010 product media.
4. On the SharePoint Server 2010 Start page, click **Install software prerequisites**.
5. On the Welcome to the Microsoft SharePoint Products Preparation Tool page, click **Next**.
6. On the License Terms for software product page, review the terms, select the **I accept the terms of the License Agreement(s)** check box, and then click **Next**.
7. On the Installation Complete page, click **Finish**.

In this procedure, you install SharePoint Server 2010 on APP1.

► **To install SharePoint Server 2010**

1. On DC1, click **Start**, point to **Administrative Tools**, and then click **Active Directory Users and Computers**.
2. In the console tree, open **corp.contoso.com**, right-click **Users**, point to **New**, and then click **User**.
3. In the **New Object - User** dialog box, in **Full name**, type **SPFarmAdmin**, and in **User logon name**, type **SPFarmAdmin**.
4. Click **Next**.
5. In **Password** and in **Confirm password**, type **P@ssword1**.
6. Clear **User must change password at next logon**.
7. Click **Next**, and then click **Finish**.
8. On SQL1, log on with the User1 account.
9. Click **Start**, click **All Programs**, click **Microsoft SQL Server 2008 R2**, and then click **SQL Server Management Studio**.
10. In **Connect to Server**, click **Connect**.
11. In **SQL Server Management Studio**, in the tree pane, open **Security**.
12. Right-click **Logins**, and click **New Login**.
13. In **Login - New**, type **CORP\SPFarmAdmin** in **Login name**.
14. In the **Select a page** pane, click **Server Roles**.
15. In the **Server Roles** pane, select **dbcreator**, and then click **OK**.
16. Close **SQL Server Management Studio**.
17. Connect APP1 to the Corpnet subnet and configure the TCP/IP protocol on the Local Area Connection as needed. For example, configure the Internet Protocol version 4 (TCP/IPv4) component from the properties of the Local Area Connection in the Network Connections folder to use the address 10.0.0.3 with a subnet mask of 255.255.255.0 and the preferred DNS server of 10.0.0.1.
18. On the SharePoint Server 2010 Start page, click **Install SharePoint Server**.
19. On the Enter Your Product Key page, enter your product key as needed, and then click **Continue**.
20. On the Read the Microsoft Software License Terms page, review the terms, select the **I accept the terms of this agreement** check box, and then click **Continue**.
21. On the Choose the installation you want page, click **Server farm**.
22. On the **Server Type** tab, click **Complete**, and then click **Install Now**.
23. When Setup finishes, a dialog box prompts you to complete the configuration of your server. Ensure that the **Run the SharePoint Products and Technologies Configuration Wizard now** check box is selected.
24. Click **Close** to start the configuration wizard.
25. On the Welcome to SharePoint Products page, click **Next**.
26. In the dialog box that notifies you that some services might need to be restarted during configuration, click **Yes**.



27. On the Connect to a server farm page, click **Create a new server farm**, and then click **Next**.
28. On the Specify Configuration Database Settings page, type **SQL1** in **Database server**, type **CORP\SPFarmAdmin** in **User name**, type **P@ssword1** in **Password**, and then click **Next**.
29. On the Specify Farm Security Settings page, type **P@ssphrase** in both **Passphrase** and **Confirm passphrase**, and then click **Next**.
30. On the Configure SharePoint Central Administration Web Application page, click **Next**.
31. On the Completing the SharePoint Products Configuration Wizard page, click **Next**.
32. On the Configuration Successful page, click **Finish**. Internet Explorer launches with a tab named Initial Farm Configuration Wizard.
33. In the **Help Make SharePoint Better** dialog box, click **No, I don't wish to participate**, and then click **OK**.
34. For **How do you want to configure your SharePoint farm?**, click **Start the Wizard**.
35. On the Configure your SharePoint farm page, in **Service account**, click **Use existing managed account**, and then click **Next**.
36. On the Create Site Collection page, click **Skip**.
37. On the This completes the Farm Configuration Wizard page, click **Finish**. The Internet Explorer tab shows the SharePoint 2010 Central Administration site, from which you can configure and manage the SharePoint server. Leave Internet Explorer open.

## Step 5: Install and configure a new server named WFE1

In this procedure, you install the Windows Server 2008 R2 operating system and the latest updates on a new server named WFE1.

### ▶ To install Windows Server 2008 R2 on WFE1

1. Start the installation of Windows Server 2008 R2.
2. Follow the instructions to complete the installation, specifying Windows Server 2008 R2 Enterprise Edition (full installation), the computer name WFE1, and a strong password for the local Administrator account.
3. Once the installation completes, log on using the local Administrator account.
4. Connect WFE1 to a network that has Internet access and run Windows Update to install the latest updates for Windows Server 2008 R2, including Windows Server 2008 R2 Service Pack 1.
5. After the updates are complete, restart WFE1 and log on as the local Administrator.
6. Connect WFE1 to the Corpnet subnet.

In this procedure, you configure the TCP/IP properties on WFE1 so that it can join the corp.contoso.com domain.

### ▶ To configure the TCP/IP properties on WFE1

1. In **Initial Configuration Tasks**, click **Configure networking**.

2. In the **Network Connections** window, right-click **Local Area Connection**, and then click **Properties**.
3. Click **Internet Protocol Version 4 (TCP/IPv4)**, and then click **Properties**.
4. Select **Use the following IP address**. In **IP address**, type **10.0.0.5**. In **Subnet mask**, type **255.255.255.0**. In **Default Gateway**, type **10.0.0.1**. In **Preferred DNS server**, type **10.0.0.1**.
5. Click **Advanced**, and then click the **DNS** tab. In **DNS suffix for this connection**, type **corp.contoso.com**, click **OK** twice, and then click **Close**.
6. Close the **Network Connections** window and leave the **Initial Configuration Tasks** window open.
7. To check name resolution and network communication between WFE1 and DC1, click **Start**, click **All Programs**, click **Accessories**, and then click **Command Prompt**.
8. In the Command Prompt window, type **ping dc1.corp.contoso.com**.
9. Verify that there are four replies from 10.0.0.1.
10. Close the Command Prompt window.

In this procedure, you join WFE1 to the corp.contoso.com domain.

#### ▶ To join WFE1 to the corp.contoso.com domain

1. In **Initial Configuration Tasks**, click **Provide Computer Name and Domain**.
2. In the **System Properties** dialog box, on the **Computer Name** tab, click **Change**.
3. In **Member of**, click **Domain**, type **corp.contoso.com**, and then click **OK**.
4. When you are prompted for a user name and password, type **User1** and its password, and then click **OK**.
5. When you see a dialog box welcoming you to the corp.contoso.com domain, click **OK**.
6. When you are prompted that you must restart the computer, click **OK**.
7. On the **System Properties** dialog box, click **Close**.
8. When you are prompted to restart the computer, click **Restart Now**.
9. After the computer restarts, click **Switch User**, and then click **Other User** and log on to the CORP domain with the User1 account.
10. In **Initial Configuration Tasks**, click **Do not show this window at logon**, and then click **Close**.

In this procedure, you install the Web Server (IIS) server role on WFE1.

#### ▶ To install the Web Server (IIS) server role on WFE1

1. In the console tree of Server Manager, click **Roles**. In the details pane, click **Add Roles**, and then click **Next**.
2. On the Select Server Roles page, select **Web Server (IIS)**, and then click **Next** three times.
3. Click **Install**.
4. Verify that the installation was successful, and then click **Close**.

## Step 6: Install SharePoint Server 2010 on WFE1

In this procedure, you install the prerequisite software components for SharePoint Server 2010 on WFE1.

### ► To install the SharePoint Server 2010 prerequisite software

1. On WFE1, log on using the User1 user account.
2. Connect WFE1 to a network that has Internet access and configure the TCP/IP protocol on the Local Area Connection as needed. The SharePoint Server 2010 prerequisite installer must download and install components from the Microsoft Download Center. For example, if the network that has access to the Internet uses DHCP, configure the Internet Protocol version 4 (TCP/IPv4) component from the properties of the Local Area Connection in the Network Connections folder to use automatic addressing and to automatically configure a DNS server.
3. On WFE1, navigate to the drive or folder that contains the SharePoint Server 2010 installation files and double-click **SharePointServer.exe** (for the evaluation version) or **default.hta** (from the SharePoint Server 2010 product media).
4. On the SharePoint Server 2010 Start page, click **Install software prerequisites**.
5. On the Welcome to the Microsoft SharePoint Products Preparation Tool page, click **Next**.
6. On the License Terms for software product page, review the terms, select the **I accept the terms of the License Agreement(s)** check box, and then click **Next**.
7. On the Installation Complete page, click **Finish**.

In this procedure, you install SharePoint Server 2010 on WFE1 and join the existing SharePoint farm.

### ► To install SharePoint Server 2010

1. Connect WFE1 to the Corpnet subnet and configure the TCP/IP protocol on the Local Area Connection as needed. For example, configure the Internet Protocol version 4 (TCP/IPv4) component from the properties of the Local Area Connection in the Network Connections folder to use the address 10.0.0.5 with a subnet mask of 255.255.255.0 and the preferred DNS server of 10.0.0.1.
2. On the SharePoint Server 2010 Start page, click **Install SharePoint Server**.
3. On the Enter Your Product Key page, enter your product key as needed, and then click **Continue**.
4. On the Read the Microsoft Software License Terms page, review the terms, select the **I accept the terms of this agreement** check box, and then click **Continue**.
5. On the Connect to a server farm page, click **Connect to an existing server farm**, and then click **Next**.
6. On the Choose the installation you want page, click **Server farm**.
7. On the **Server Type** tab, click **Complete**, and then click **Install Now**.
8. On the Run Configuration Wizard page, ensure that the **Run the SharePoint Products and Technologies Configuration Wizard now** check box is selected, and then click **Close**.
9. On the Welcome to SharePoint Products page, click **Next**.

10. In the dialog box that notifies you that some services might need to be restarted during configuration, click **Yes**.
11. On the Connect to a server farm page, click **Connect to an existing server farm**, and then click **Next**.
12. On the Specify Configuration Database Settings page, type **SQL1** in **Database server**, and then click **Retrieve Database Names**.
13. Click **SharePoint\_Config** in the **Database name** list, and then click **Next**.
14. On the Specify Farm Security Settings page, type **P@ssphrase** in **Passphrase**, and then click **Next**.
15. On the Completing the SharePoint Products Configuration Wizard page, click **Next**.
16. On the Configuration Successful page, click **Finish**. The Internet Explorer tab shows the SharePoint 2010 Central Administration site. Leave Internet Explorer open.
17. On APP1, in the Internet Explorer window for SharePoint Central Administration, in **System Settings**, click **Manage servers in this farm** and verify that WFE1 is part of the farm.
18. On WFE1, from Internet Explorer and the Central Administration tab, click **Configuration Wizards**, and then click the **Launch the Farm Configuration Wizard**.
19. For **How do you want to configure your SharePoint farm?**, click **Start the Wizard**.
20. On the Configure your SharePoint farm page, click **Next**.
21. On the Create Site Collection page, in **Title and description**, type **Contoso Corporation** in **Title**, and then click **OK**. This step creates a team site at the URL <http://wfe1>.
22. On the This completes the Farm Configuration Wizard page, click **Finish**. The Internet Explorer tab shows the SharePoint 2010 Central Administration site, from which you can configure and manage the SharePoint server.

## Step 7: Demonstrate the Facilities of the Default Contoso Team Site

In this procedure, you click through the default SharePoint facilities and resources for the Contoso Corporation team site at <http://wfe1/>.

### To see the facilities of the default Contoso Corporation team site

1. Attach CLIENT1 to the CorpNet subnet, and then log on with the User1 account.
2. Run Internet Explorer on CLIENT1.
3. In the Address bar, type **<http://wfe1/>** and then press ENTER.  
You should see a SharePoint team site for the Contoso Corporation.
4. Under **Libraries**, click **Site Pages**.  
These Web pages can act as a team wiki library to share information and ideas and collaborate among the members of your team. You can click **Add new page** to create a new site page. Click **How To Use This Library** to show the Wiki page that tells you how to use this wiki library.
5. Under **Libraries**, click **Shared Documents**.

This is a list of shared documents that you can work on together. Each document can be worked on by multiple people in a central location, which makes document collaboration much easier than sending files around in email. You can click **Add document** to add a new document to the list of shared documents.

6. Under **Lists**, click **Calendar**.

This is a shared team calendar that can be used to manage and share events across your team. You can point to a day and then click **Add** to add a calendar event.

7. Under **Lists**, click **Tasks**.

This is a simple task list from which you can add and edit tasks and track progress. You can click **Add new item** to add a new task to this list.

8. Under **Discussions**, click **Team Discussion**.

This is a simple newsgroup-style team discussion forum from which you can ask questions and share information for issues and topics important to your team. You can click **Add new discussion** to add a new topic for discussion.

9. Click **Home** to return to the home page of the Contoso Corporation team site.

## Snapshot the Configuration

This completes the SharePoint Server 2010 three-tier test lab. To save this configuration so that you can quickly return to a working configuration from which you can test other SharePoint TLGs or test lab extensions or for your own experimentation and learning, do the following:

1. On all physical computers or virtual machines in the test lab, close all windows and then perform a graceful shutdown.
2. If your lab is based on virtual machines, save a snapshot of each virtual machine and name the snapshots **SP2010ThreeTier**. If your lab uses physical computers, create disk images to save the SharePoint Server 2010 three-tier test lab configuration.

## Additional Resources

For more information about SharePoint Server 2010, see the [SharePoint 2010 product information web page](#).

To submit your questions about this test lab or SharePoint Server 2010, see the [Setup, Upgrade, Administration and Operation SharePoint 2010 Forum](#).

To provide the authors of this guide with feedback or suggestions for improvement, send an email message to [itspdocs@microsoft.com](mailto:itspdocs@microsoft.com).

For a list of TLGs related to this test lab or extensions to demonstrate additional functionality, see [SharePoint Server 2010 Test Lab](#) in the TechNet Wiki.

Microsoft strongly encourages you to develop and publish your own TLG content for SharePoint Server 2010, either in the TechNet Wiki (example: [Test Lab Guide: Demonstrate Remote Access VPNs](#)) or in your own publishing forum (example: [Test Lab Guide \(Part 1\) - Demonstrate TMG PPTP, L2TP/IPsec and SSTP Remote Access VPN Server](#)). If you want to publish your TLG content in the TechNet wiki, see the [How to contribute series of TLG blog posts](#) for information about the types of content you can create and for links to templates and guidance.

For a list of additional Microsoft TLGs, see [Test Lab Guides](#) in the TechNet Wiki.