

Michael Noel  
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# Microsoft® SharePoint 2010

**UNLEASHED**



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800 East 96th Street, Indianapolis, Indiana 46240 USA



## Microsoft® SharePoint 2010 Unleashed

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# Introduction

When we sat down to write the original *SharePoint 2003 Unleashed* book, we had a hunch that the technology would be popular but did not anticipate how quickly the product would take off, and how much interest the IT industry would end up taking in SharePoint products and technologies. In the interim years, as we worked with implementing the product in companies of all sizes, we learned what the product did well and what it didn't do so well, and further refined our knowledge of SharePoint best practice design, deployment, and administration.

Our exposure to the latest version of SharePoint started well over a year before its release, in the pre-beta stages when SharePoint v14 was still being developed. We developed experience through our company, Convergent Computing (CCO), deploying it for early adopters through our close relationship with Microsoft as a Gold Partner. In addition, we also collaborated with and provided input to the SharePoint development team and the broader SharePoint community through Microsoft's Most Valuable Professional (MVP) program. The richness of features and the capabilities of what became the SharePoint 2010 version became evident to us during this time, and we used our hands-on experience with the beta stages of the product to begin designing this book, which provides a comprehensive look at SharePoint 2010 functionality, administration, and infrastructure.

A major challenge of this book was trying to identify and cover the most important tools, topics, practices, and skills that the range of our readers will find valuable in their interactions with SharePoint 2010. To do this, we drew upon our experiences over the last decade with hundreds of different organizations and distilled out the most common requirements in the areas of design, architecture, integration, and customization.

We endeavored to provide value to readers who may never have used SharePoint products before and those who are well versed with the products and may currently be using SharePoint 2010. You might be IT managers, IT architects, SharePoint administrators, SharePoint power users and, of course, SharePoint end users. Therefore, we carefully crafted the book to cover what we felt would add the most value to our audience. A key piece of this strategy is to expand beyond the out-of-the-box features of SharePoint 2010 and share our experience on some of the most common integration points of SharePoint 2010, such as SQL Server, Exchange Server, antivirus, Edge Security products, and tools such as SharePoint Designer 2010 and Visual Studio 2010. In this way, the book becomes more than a treatise on what SharePoint 2010 can do in a vacuum, but what it can do in a complex technology ecosystem.

This book is the result of our experience and the experiences of our colleagues at Convergent Computing and our clients in working with SharePoint 2010 products and technologies, both in the beta stages and in production deployments. We wrote this book to be topical so that you can quickly browse to a particular section and follow easy-to-understand, step-by-step scenarios. These exercises, instead of just giving simple examples of a feature, are designed to give examples of real-world applications of the technologies and tools that provide you with business value. In addition, if you need a good overview on SharePoint 2010, the book can be read in sequence to give you a solid understanding of the higher levels of security and functionality SharePoint can provide. Topics in the book are divided into four sections, each with topics in similar categories.

## How This Book Is Organized

This book is organized into the following sections:

- ▶ Part I, “Planning for and Deploying SharePoint Server 2010,” provides an introduction to the products in the SharePoint 2010 stack and includes prescriptive advice for how to architect and implement them. In addition, it covers upgrade advice from legacy versions of SharePoint and also details advanced installation scenarios with SharePoint 2010.
- ▶ Part II, “Administering and Maintaining SharePoint Server 2010,” focuses on the day-to-day administration and monitoring required for a SharePoint backend environment. It details how to use new tools, including Windows PowerShell, for SharePoint 2010 Administration and covers backup and restore. It also focuses in particular detail on how to administer and maintain the SQL databases used by SharePoint.
- ▶ Part III, “Securing, Protecting, and Optimizing SharePoint Architecture,” covers security concepts in detail that focuses on edge, transport, and content security. Topics such as SQL Transparent Data Encryption, SSL Certificates, IPsec encryption, Active Directory Rights Management Services, antivirus, and more are detailed. In addition, this section also includes information on how to virtualize a SharePoint 2010 farm using server virtualization technology.

- ▶ Part IV, “Using SharePoint 2010 Technologies for Collaboration and Document Management,” starts with a comparison of SharePoint Foundation and SharePoint Server 2010 and then moves to the tools and capabilities provided by libraries and lists, to cover customization of libraries and lists, and then to managing the sites and pages that house these components. One chapter is dedicated to metadata and content types, another chapter discusses social networking tools, and another covers the process of SharePoint 2010 governance.
- ▶ Part V, “Leveraging Office Applications with SharePoint,” focuses on the Office 2010 applications most used with SharePoint 2010 products, including Word 2010, SharePoint Workspace 2010, and Outlook 2010 and key collaboration tools that can be leveraged with SharePoint 2010. Next, topics including Excel Services, Access Services, Visio Graphics Services, Office Web Apps, and out-of-the-box as well as SharePoint Designer 2010 workflows are covered.
- ▶ Part VI, “Extending the SharePoint Environment,” dedicates one chapter to the topic of application development with SharePoint Designer 2010 and Visual Studio 2010, one chapter to PerformancePoint Services, and one chapter to Business Connectivity Services.

If you, like many out there, were recently tasked with administering a SharePoint environment, or are looking for ways to bring document management and collaboration to the next level and need to understand how SharePoint 2010 can fit into your IT ecosystem, this book is for you. We hope you enjoy reading it as much as we’ve enjoyed creating it and working with the product.

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## CHAPTER 3

# Installing a Simple SharePoint Server 2010 Farm

After SharePoint architecture has been established, the actual SharePoint infrastructure must be installed and servers must be deployed. For the most part, installation of SharePoint 2010 is straightforward, particularly with the free SharePoint Foundation Server. The full Microsoft SharePoint Server 2010 product, on the other hand, requires more thought and involves the installation of more components.

This chapter covers the specifics of how SharePoint 2010 is installed for a simple, single server farm. Although these examples outline a simple farm, the concepts can be extended to multiserver farm deployments. After reviewing this chapter, it is highly recommended to review the subsequent chapter (Chapter 4, “Advanced SharePoint 2010 Installation and Scalability”) for more complex farm configurations.

It is recommended to review the design chapter (Chapter 2, “Architecting a SharePoint 2010 Deployment”) before beginning installation of a production environment. However, installation of a SharePoint server for testing can be easily performed with only this chapter as a guide.

## Examining SharePoint Installation Prerequisites

Before installing SharePoint 2010, several prerequisites must first be satisfied, including both hardware and software prerequisites.

### IN THIS CHAPTER

- ▶ Examining SharePoint Installation Prerequisites
- ▶ Installing the SharePoint Server Operating System
- ▶ Installing SQL Server 2008 R2
- ▶ Installing Microsoft SharePoint Server 2010

## Defining Hardware Prerequisites for SharePoint 2010

A server that will be running all SharePoint roles, including the database role, should have the following minimum requirements:

- ▶ 64-bit four core (minimum) processor
- ▶ 8GB to 16GB of RAM (8GB for evaluation or testing, 16GB for production)
- ▶ 80GB of drive space for the system drive (plus twice as much space as the amount of RAM in the system)

### NOTE

The move toward virtualization of servers has been gaining strength in recent years, and SharePoint server roles can all be virtualized within certain guidelines. Refer to Chapter 12, “Virtualizing SharePoint Components,” for specific guidance on designing and deploying SharePoint using server virtualization technologies.

The server that holds the SharePoint database, whether on the same box (an all-in-one server) or on a dedicated server or existing SQL implementation, should generally be designed toward the high level on the hardware scale, because some of the more intensive activity is centralized on that server role.

As a rule of thumb, it is always recommended to deploy SharePoint on multiple servers, and at a minimum to deploy SharePoint on at least two servers: one for the database and one for the other SharePoint-specific roles. For more information on supported farm topologies, refer to Chapter 2.

## Examining Software Requirements for SharePoint 2010

SharePoint 2010 requires either Windows Server 2008 SP2 or Windows Server 2008 R2. More specifically, the following Windows OS editions are supported:

- ▶ Windows Server 2008 R2 (x64) Standard, Enterprise, Datacenter, or Web Server Editions
- ▶ Windows Server 2008 SP2 (x64) Standard, Enterprise, Datacenter, or Web Server Editions

In nearly all scenarios, it is recommended to use the latest version of the Windows Server operating system (in this case, the R2 edition), though in the future, it is highly likely that SharePoint will use newer editions as well. For most deployments, the Standard edition of Windows Server is sufficient, except in certain scenarios when the Enterprise Edition is required for running SQL Server Enterprise Edition. The Datacenter edition, while supported, is not required, and the Web Server edition, while supported, is not recommended.

## Service Account Requirements

It is strongly recommended that you create multiple service accounts for SharePoint. Although doing so might seem tedious, SharePoint will not be secure unless multiple service accounts are used. And in any situation, do NOT use a domain admin account for any SharePoint service.

The following provides a recommended list of service accounts that should be created. This should not be considered to be an exhaustive list; more might be needed depending on the requirements of the individual deployment:

- ▶ **SQL admin account**—SQL Server should be administered with a separate set of credentials than those used for SharePoint.
- ▶ **Installation account**—Used to install the SharePoint binaries on the SharePoint role servers. This account requires local admin rights on each SharePoint server and DBCreator and SecurityAdmin rights on the SQL Server.
- ▶ **SharePoint farm admins**—Used to administer the farm; should be configured. Typically, one account for each physical admin is created.
- ▶ **Application pool identity accounts**—Needed for each app pool. Generally speaking, it is good practice to have a separate app pool for each application. These accounts must be separate from farm admin accounts.
- ▶ **Default content access account**—The default account used to crawl SharePoint and other content. It must not be a farm admin, or the search results will include unpublished data in the results. There may be additional content access accounts created for other data sources that are crawled as well.
- ▶ **Search service application account**—This account is used to run the search service application.
- ▶ **Additional service application accounts as needed**—May require a separate service application account in certain scenarios.

## Outlining Additional Prerequisites

In addition to the base Operating System, SharePoint also requires the hotfixes referenced in KB articles 976462 and 979917. These hotfixes are installed automatically when using the SharePoint installer. The SharePoint installer also installs the following server roles:

- ▶ Web Server (IIS) role
- ▶ Application server role
- ▶ 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
- ▶ SQL Server 2008 Analysis Services ADOMD.NET
- ▶ ADO.NET data services update for .NET Framework 3.5 SP1
- ▶ Windows Identity Foundation (WIF)

## Database Role Prerequisites

For the database role, it is recommended to deploy the latest version of SQL Server, SQL 2008 R2. The following versions of SQL Server are directly supported:

- ▶ SQL Server 2008 R2 x64, Standard or Enterprise Editions
- ▶ SQL Server 2008 x64 (x86 cannot be used) with SP1 and Cumulative Update 2 or CU5 (or later than CU5—CU3 and CU4 are not recommended), Standard or Enterprise Editions
- ▶ SQL Server 2005 with SP3 x64 (x86 cannot be used) and CU3

In addition, depending on whether advanced SQL functionality is required, the following components may also be needed:

- ▶ SQL Server 2008 R2, if working with PowerPivot workbooks.
- ▶ SQL Server 2008 R2 Reporting Services add-in for Microsoft SharePoint Technologies 2010 (SSRS) to use Access Services for SharePoint 2010.
- ▶ Microsoft Server Speech Platform for phonetic name matching to work correctly for SharePoint Search 2010.
- ▶ If using the standalone server install option (not recommended), SQL Server 2008 Express with SP1, which is installed automatically.

## FAST Search Requirements

If a FAST Search server for advanced SharePoint Search is required, different installation procedures and prerequisites apply. For more information on this topic, refer to Chapter 8, “Leveraging and Optimizing Search in SharePoint 2010.”

## Installing the SharePoint Server Operating System

After the edition of the server OS has been chosen, it must be installed on the SharePoint server. As previously mentioned, this step by step assumes that a single all-in-one SharePoint server will be set up and deployed.

The Windows Server 2008 R2 operating system encompasses a myriad of new technologies and functionality, more than can be covered in this book. If additional reading on the capabilities of the operating system is wanted, the recommended reference is *Windows Server 2008 R2 Edition Unleashed*, from Sams Publishing.

**NOTE**

It is highly recommended to install SharePoint 2010 on a clean, freshly built operating system on a reformatted hard drive. If the server used for SharePoint were previously running in a different capacity, the most secure and robust solution would be to completely reinstall the operating system using the procedure outlined in this section.

---

3

## Installing Windows Server 2008 R2

This chapter assumes installation of SharePoint on the latest version of Windows Server, the 2008 R2 version. Installation of Windows Server 2008 R2 is extremely straightforward and takes approximately 30 minutes to 1 hour to complete. Microsoft has built the installation process to be nearly touch-free. Simply accept the defaults for any SharePoint server—there is no need to choose any custom installation settings. The high-level steps involved are as follows:

- ▶ Install Windows Server 2008 R2 with the defaults.
- ▶ Activate the server.
- ▶ Install any server-specific tools required.
- ▶ Patch and update the operating system.
- ▶ Add the server to an Active Directory domain.
- ▶ Copy the SharePoint 2010 binaries local to the server (recommended).
- ▶ Copy the SQL Server 2008 R2 binaries local (if installing the database role).

## Installing SQL Server 2008 R2

The SharePoint databases need to reside in a SQL Server implementation. The version of SQL must be either SQL Server 2008 or higher, or SQL Server 2005. The SQL server component can either reside on a separate server or installed on the SharePoint server itself, for smaller, single server deployments.

**NOTE**

For testing or development, the Express version of SQL Server can be used, which is included in a standalone installation option of SharePoint. The standalone version of SharePoint and the Express version of SQL are NOT recommended for production environments.

---

This chapter assumes that the full SQL Server 2008 R2 product will be installed on a single SharePoint all-in-one server. Installation steps are subsequently illustrated for this scenario. The same concepts can be used for installing a two-server farm as well, with SQL Server on a single server and all SharePoint roles on another server. For more advanced installation scenarios, including scenarios where SharePoint is installed from PowerShell, refer to Chapter 4.

## Installing SQL Server 2008 R2

From the SQL 2008 R2 binaries, perform the following steps to install:

1. Run setup.exe from the SQL binaries.
2. SQL Server 2008 R2 requires the .NET Framework; click OK to install it.
3. From the SQL installation center, shown in Figure 3.1, click on the installation link in the navigation bar, and choose the link for new installation or add features to an existing installation.



FIGURE 3.1 Starting a SQL Server 2008 R2 install.

4. Click OK on the Setup Support Rules dialog box.

5. From the dialog box specifying the edition to install, enter a valid product key, and click Next to continue.
6. Check the box to accept the license terms, and click Next to continue.
7. Click Install to install the Setup Support Files.
8. Review the warnings, as shown in Figure 3.2, and click Next to continue.

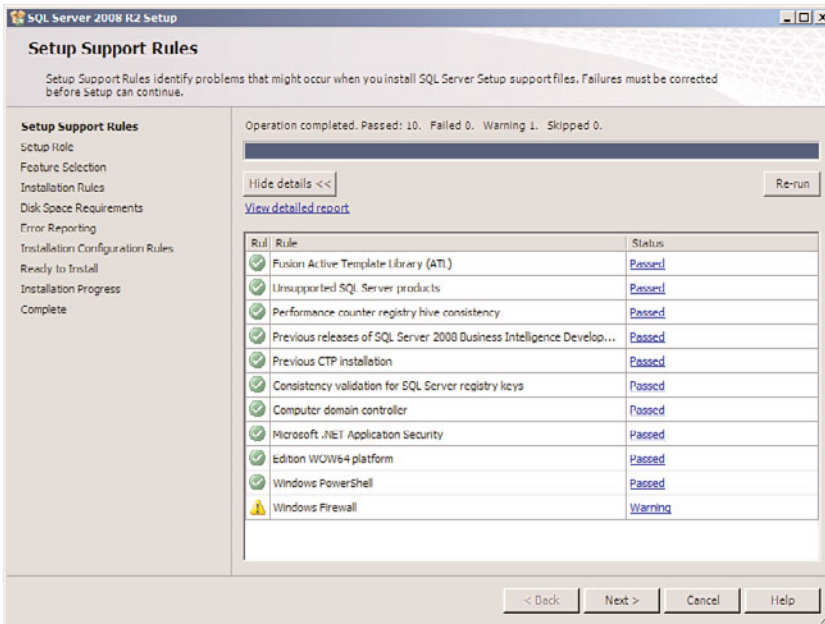


FIGURE 3.2 Reviewing setup warnings from SQL Server.

9. Select SQL Server Feature Installation from the Setup Role dialog box; then click Next to continue.
10. From the Feature Selection dialog box, click the Select All button, and click Next to continue. In a distributed environment, some SQL services may run on separate servers, but for a single SQL Server environment, all services may be installed.
11. Click Next at the Installation Rules dialog box.
12. Choose to install the Default instance, and click Next to continue.
13. Review disk space requirements, and click Next to continue.
14. From the Server Configuration dialog box, choose Service Accounts for each service. In most cases, you'll want to use the NT AUTHORITY\SYSTEM accounts for each service, as shown in Figure 3.3. In certain other cases, you may need to specify service accounts. After setting the service accounts, click Next to continue.

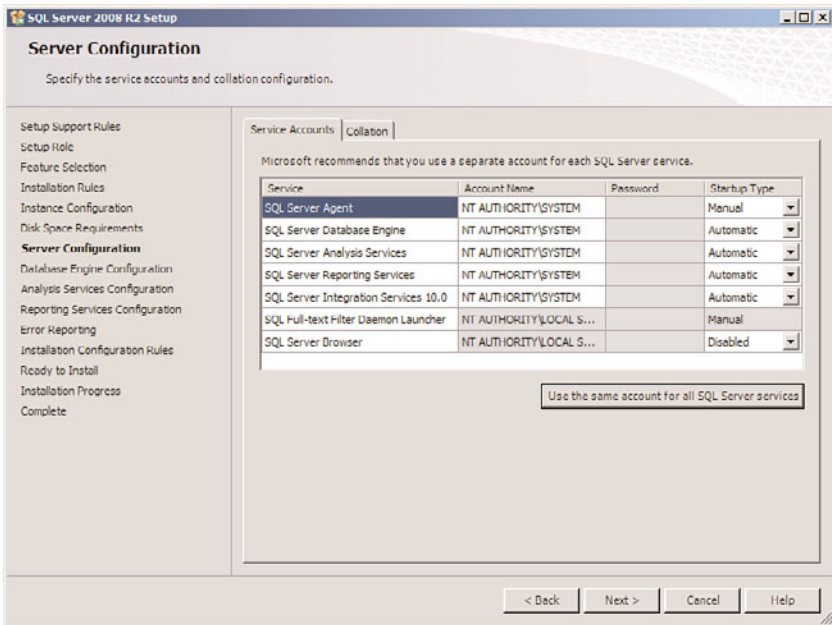


FIGURE 3.3 Setting SQL Service Accounts.

15. Under the Database Engine Configuration, choose Windows authentication mode. Click the Add Current User button to add the installation account as a SQL Administrator. (Or add an account that will be logged in later.)
16. Click the Data Directories tab, and choose default installation directories for logs, database files, and backup files. It is recommended to do this in advance and to separate SQL Logs from the databases from the beginning. Click Next to continue.
17. For Analysis Services configuration, add the Current User as an Administrator, and click the Data Directories tab. Select directory locations for data and logs, separating them on separate drive spindles when possible. Click Next to continue.
18. For the Reporting Services integration, select to install the SharePoint integrated mode default configuration, as shown in Figure 3.4. This enables Reporting Services to be integrated with SharePoint 2010. Click Next to continue.
19. Accept the defaults for Error Reporting, and click Next to continue.
20. After the installation configuration rules have run, click Next to continue.
21. At the summary page, review the settings and click Install.
22. When the install is complete, review the summary log file and click Close to finish.

Post-installation tasks should be conducted after SQL Server has been installed. Some of these post-installation tasks will validate whether the installation was successful, whereas other tasks are required to ensure that the server is secure and operational. The post-installation tasks include the following:

1. Review installation logs.

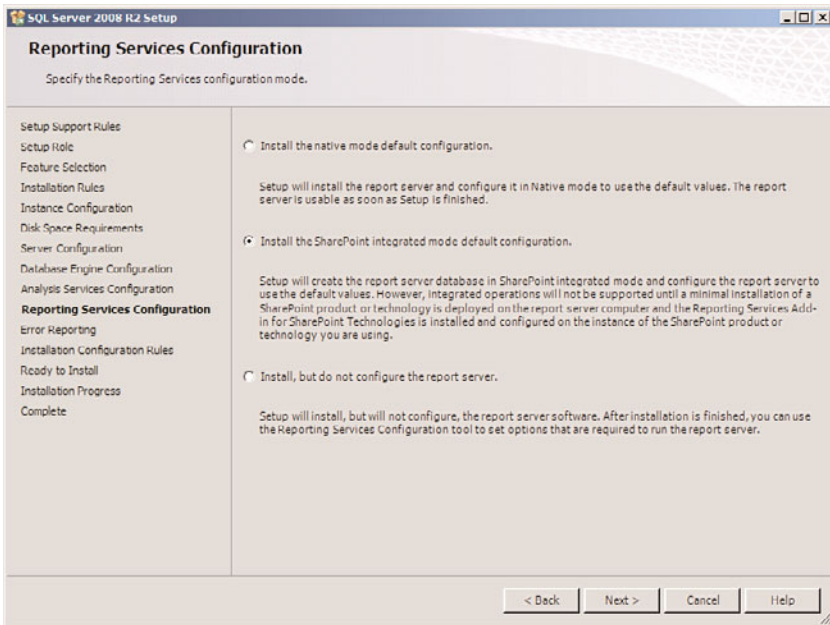


FIGURE 3.4 Installing SQL Reporting Services in SharePoint integrated mode.

2. Review event logs.
3. Obtain and apply the latest SQL Server service packs and critical updates.
4. Verify the server components that were installed.

It is also critical to rerun Microsoft Update to apply any necessary SQL Server patches. Running Microsoft Update will display the patches necessary for SQL.

## NOTE

Remember to use Microsoft Update, and not the default Windows Update, because only Microsoft Update can detect the non-Windows patches, including SQL Server and SharePoint patches.

## Creating a Windows Firewall Port Exception for SQL Server

The Windows firewall is highly recommended for security reasons, and it is not recommended to simply turn it off. By default, however, to get SQL services to run, you must create a manual Windows firewall port rule that enables port 1433, the SQL port, to be

open on the server, as shown in Figure 3.5. If this port is not open, SharePoint cannot connect to the SQL server if it is installed on a separate server from the SharePoint server.

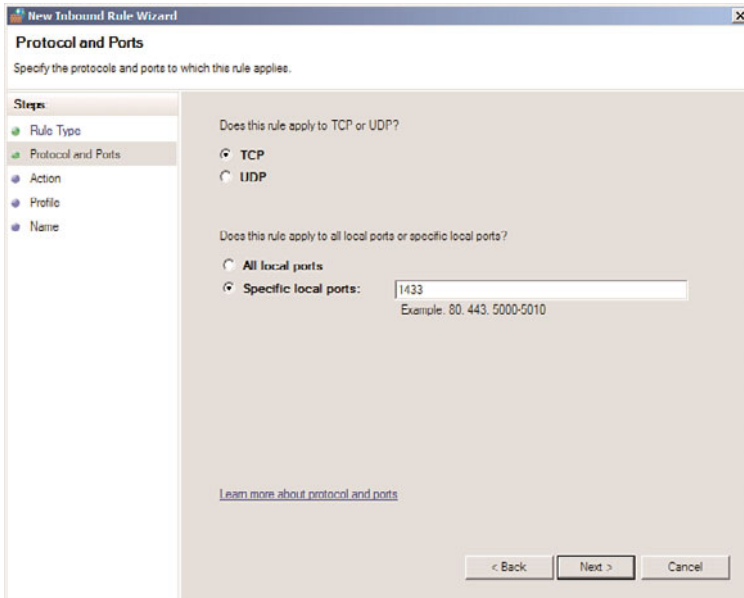


FIGURE 3.5 Creating a SQL port exception for the Windows firewall.

## Enabling TCP/IP in SQL Configuration Manager

By default, some SQL Server installations do not have TCP/IP enabled for remote access. This is required for use by a remote SharePoint server. To enable TCP/IP, simply open SQL Server Configuration Manager (Start, All Programs, Microsoft SQL Server 2008 R2 – Configuration Tools, SQL Server Configuration Manager) and navigate to SQL Server Network Configuration, Protocols for <INSTANCENAME>. Change the TCP/IP to Enabled, as shown in Figure 3.6. If this is not done, SharePoint cannot connect to the SQL Server.

## Installing Microsoft SharePoint Server 2010

Installation of SharePoint 2010 is deceptively simple, but be sure you understand the process.

### Running the Prerequisite Check for SharePoint 2010

The SharePoint team at Microsoft has done an excellent job in creating a prerequisite check and installation utility that can be run in advance of a SharePoint installation to turn on all server roles required and install all prerequisites automatically. Simply by running a wizard, SharePoint administrators can automate the installation of the SharePoint binaries and position the server to be ready to join or create a new farm.

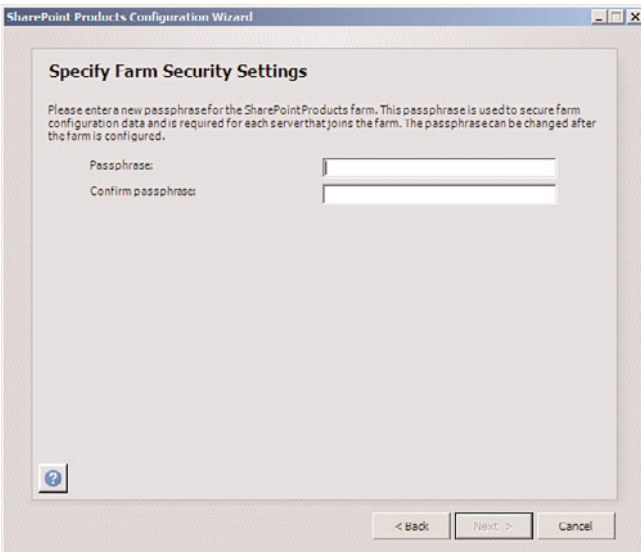


FIGURE 3.6 Enabling TCP/IP support in SQL Configuration Manager.

The Prerequisite check can be run directly from the splash screen, shown in Figure 3.7, displayed when running the setup from the SharePoint binaries. Click Install Software prerequisites, accept the license terms, and follow the prompts to install all necessary components.



FIGURE 3.7 Starting the SharePoint 2010 installation process.



When done and the roles and hotfixes required are installed, as shown in Figure 3.8, click Finish to reboot the server. The server is now ready for installation of the SharePoint 2010 binaries.

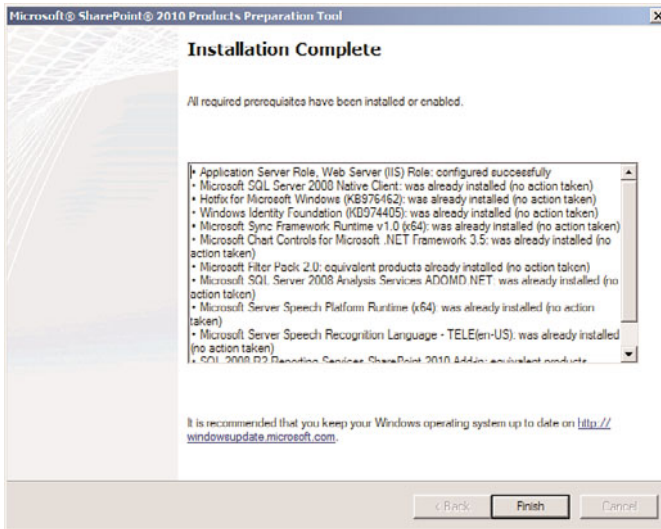


FIGURE 3.8 Reviewing the results of the prerequisite check and component installer.

## Installing the SharePoint 2010 Binaries

The following steps are used to install the SharePoint 2010 binaries after the prerequisite checks have been run and all necessary software components have been installed:

1. While logged in as the Install account, run Setup.exe, and from the splash screen, click Install SharePoint Server.
2. Enter a valid SharePoint 2010 License Key. Note that the Standard and Enterprise edition license keys are separate, and installing a Standard license key only turns on Standard edition services.
3. Accept the license terms and click Continue.
4. From the Installation type dialog box, as shown in Figure 3.9, choose Server Farm as the type of installation. DO NOT SELECT Standalone, unless the server is only used as a demo box. The Standalone version installs a copy of SQL Server Express and should not be used in production.
5. From the Server Type dialog box, choose Complete. DO NOT SELECT Standalone because this has the same effect as selecting Standalone in the previous dialog box—it will install a single server with SQL Express Edition. Always select Complete.
6. Select the File location tab and specify a location for index files, as shown in Figure 3.10. Ideally, these files will be stored on a separate drive than the OS and SharePoint binaries. If you choose this option now, you won't have to go through the complex process of moving the index later. Click Install Now to start the installation process.

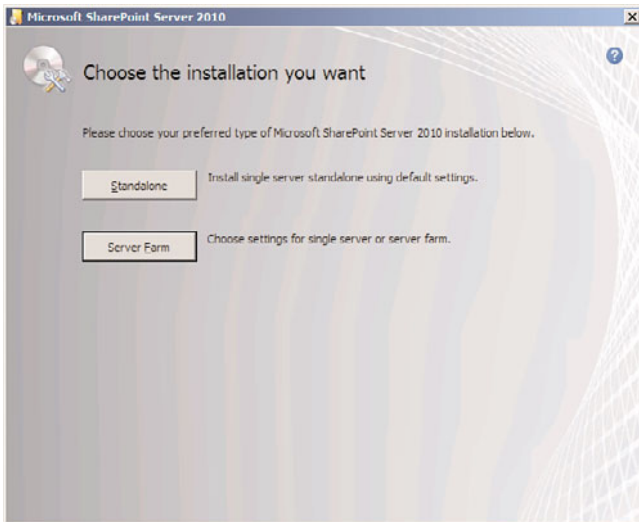


FIGURE 3.9 Installing SharePoint 2010 using the Server Farm option.

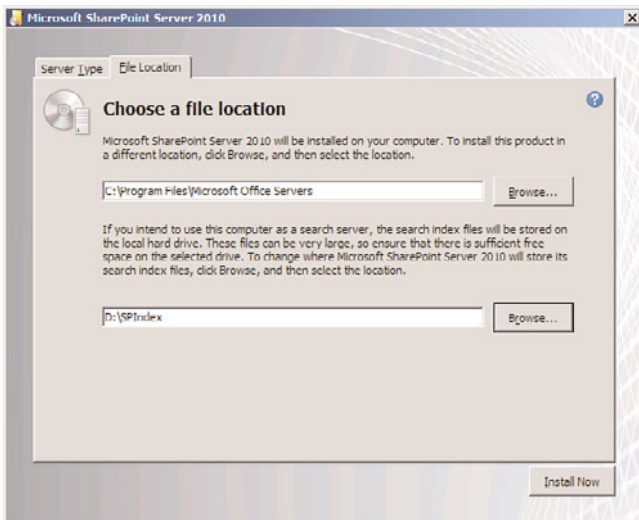


FIGURE 3.10 Specifying the location of the index files during a SharePoint 2010 install.

7. After the installation has completed, you can choose to run the Configuration Wizard now or later. It is recommended to not run the Configuration Wizard immediately but to first exit the application and check for any updates or patches before proceeding.

Patch SharePoint 2010 with any necessary patches, bearing in mind that there may be cumulative updates that are not reflected in Microsoft Update. It is important to install any service packs and cumulative updates first before continuing with the SharePoint installation, because it is much easier to patch now rather than when farm components are already configured.

#### NOTE

This point in the installation process, after the binaries have been installed and the system patched, is an ideal spot to create server templates from, for use in virtual server environments. These templates can be used to quickly provision SharePoint farm members, allowing for the creation of new SharePoint farms in a matter of minutes. For more information on this concept, see Chapter 12, “Virtualizing SharePoint Components.”

## Running the SharePoint 2010 Configuration Wizard

The SharePoint 2010 Configuration Wizard is the component that enables a server to either be added to an existing SharePoint 2010 farm or to create a new SharePoint farm from scratch.

#### NOTE

You can use Windows PowerShell to run the Configuration Wizard. Indeed, PowerShell is the only supported method of provisioning SharePoint with custom database names, so it is recommended for many scenarios. Installation using PowerShell is covered in Chapter 4.

In this example, we create a new farm using the following steps:

1. Start the Configuration Wizard (Start, All Programs, Microsoft SharePoint 2010 Products, SharePoint 2010 Configuration Wizard).
2. Click Next at the Welcome screen, and click Yes to acknowledge that IIS will be reset during the process.
3. Select to Create a New Server Farm, and click Next to continue.
4. For the Configuration Database settings, enter the name of the database server and select a name for the Config database. Consider the use of a SQL alias for the database server name so that it can be easily changed in the future. If the database server is the same as the one that is used for SharePoint, enter the local server name. Enter a Database Access Account that has DBCreator and Securityadmin rights on the SQL Instance. Click Next to continue.
5. Enter a farm passphrase into the subsequent dialog box, shown in Figure 3.11. Keep this passphrase in a safe place; it is needed to add any additional servers to the farm in the future. Click Next to continue.

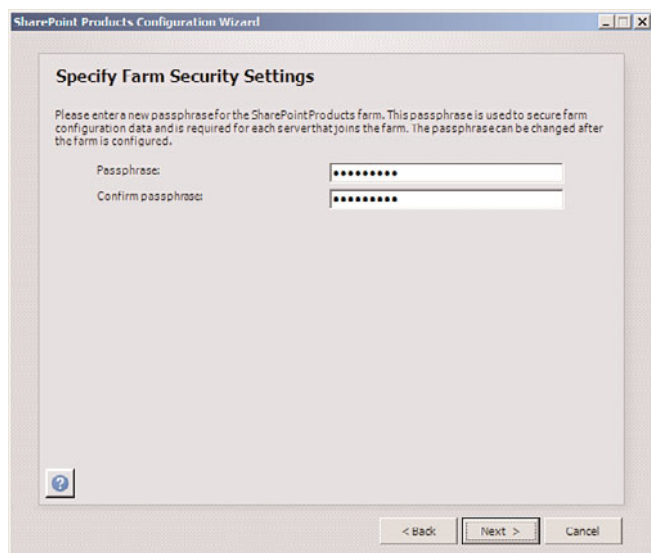


FIGURE 3.11 Entering a farm passphrase.

6. Specify a port for the SharePoint Central Admin Web Application. It is recommended to choose an easily remembered port name initially. You also have the opportunity to choose NTLM or Kerberos. Kerberos is the recommended setting for the long term, but for the initial installation, choose NTLM to ensure that you can gain access initially. For long-term production support, however, Kerberos, SSL, and a default port of 443 are highly recommended for the SharePoint central web application. More information on changing to Kerberos and configuring SSL and a default port for the central web application can be found in Chapter 4. Click Next to continue.
7. Review the settings and click Next to start the Configuration Wizard.
8. Click Finish when the wizard is complete.

## Running the Initial Farm Configuration Wizard

After the Configuration Wizard has run, the newly provisioned SharePoint central web application will start automatically. You may need to provide credentials to the site; use the farm installation credentials to start the application.

By default, SharePoint is configured to run the Initial Farm Configuration Wizard upon the first time using the central admin web application. This wizard will complete all other farm tasks, including installing and configuring service applications. For simpler environments, this farm can be used to get SharePoint to a condition where it is more or less ready for use. For more complex provisioning scenarios, see Chapter 4.

Use the following steps to run the Initial Farm Configuration Wizard:

1. Select whether to join the Customer Experience Improvement Program from the initial dialog box and click OK.

2. From the wizard introduction screen, as shown in Figure 3.12, select whether to run the wizard. If it is not run, you need to manually configure each service application component and manually provision web applications and site collections. In this scenario, we use the wizard to provision the components. Click Start the Wizard.

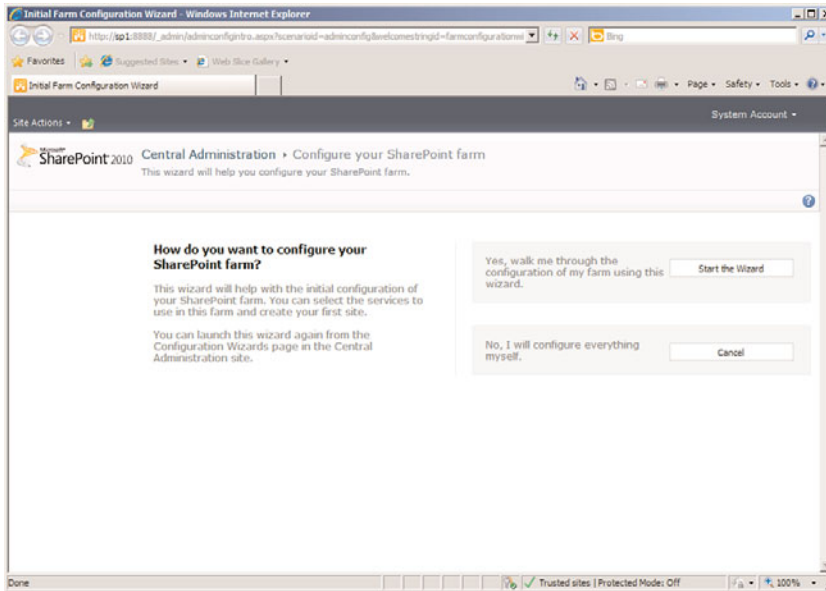


FIGURE 3.12 Choosing whether to run the Initial Farm Configuration Wizard.

3. From the subsequent screen, enter a service account that will become a managed service account for the farm. This should be different than the farm account.
4. Check the service applications that will be installed, from the list shown in Figure 3.13. Only install those service applications that supply required functionality for the site, because each service application uses a significant amount of resources on the server.
5. After selecting which service applications to install, click Next to start the provisioning process. This process may take a while to complete, depending on the resources of the server.
6. After the service application provisioning process has completed, the wizard will prompt you to create a web application and root site collection as the main site collection for the portal. You can skip this step or have the wizard provision it for you. Enter a title and choose a template, as shown in Figure 3.14. Click OK to continue.
7. Click Finish to close the wizard. You now should have a fully provisioned SharePoint 2010 environment.

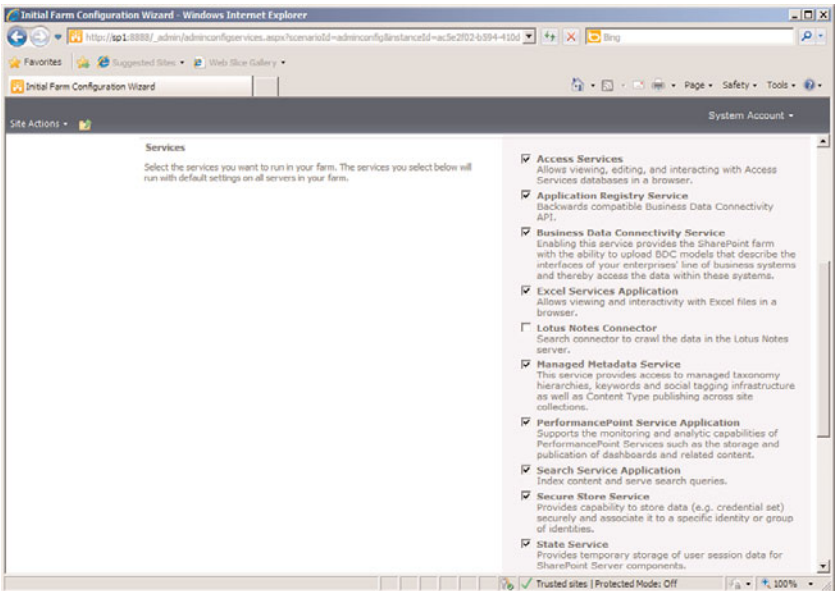


FIGURE 3.13 Selecting service applications to install.

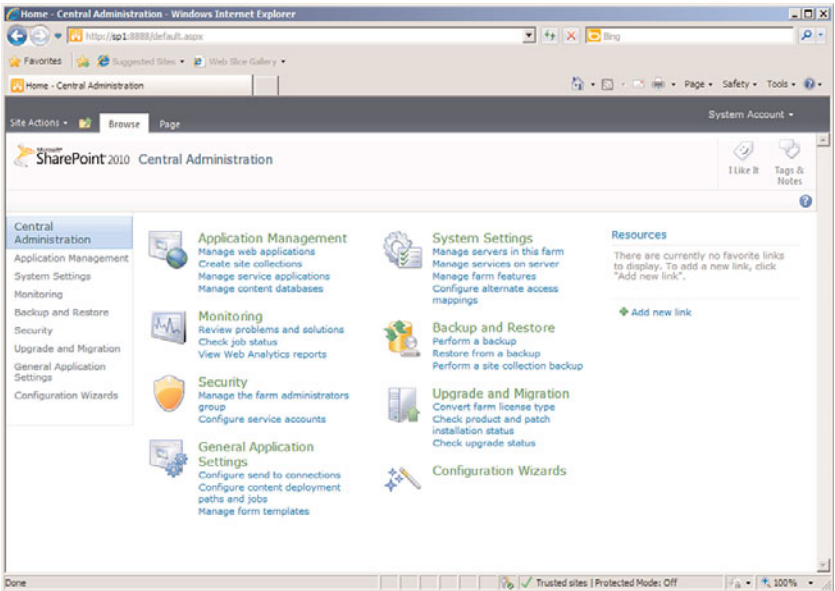


FIGURE 3.14 Provisioning a site collection for the root web application using the wizard.

SharePoint central administration, as shown in Figure 3.15, will open and allow for additional configuration. For more information on additional configuration and how to administer a SharePoint farm using SharePoint central administration, refer to Chapter 6, “Managing and Administering SharePoint 2010 Infrastructure.”

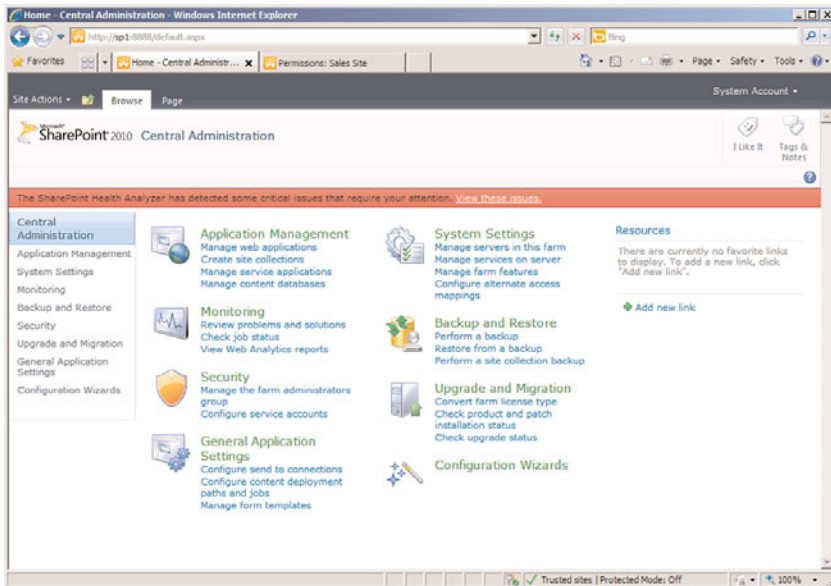


FIGURE 3.15 Running SharePoint central administration for the first time.

## Summary

Installation of SharePoint 2010 products and technologies has been streamlined and is fairly straightforward, as long as necessary prerequisites are met and attention to detail is observed. With the proper precautions in place and the scenarios in this chapter followed, administrators can immediately take advantage of the advanced feature set available in SharePoint 2010.

## Best Practices

- ▶ Review Chapter 2 before installing SharePoint 2010 into a production environment.
- ▶ Create multiple service accounts for use by SharePoint. Do not use a single service account, and do not use any domain admin accounts for SharePoint.
- ▶ Do not use any of the standalone installation options for a production environment.
- ▶ Use the latest version of Windows Server and SQL Server whenever possible. At the time of publishing, this included Windows Server 2008 R2 and SQL Server 2008 R2.

- ▶ Seriously consider deploying SQL Server on a separate server from SharePoint. Review the supported farm topologies from Chapter 2.
- ▶ Patch the operating system with all critical updates before installing SharePoint.
- ▶ Patch SharePoint 2010 with all the latest service packs and cumulative update patches before running the configuration wizard.
- ▶ Enable only those service applications that supply required functionality for the farm.
- ▶ Review Chapter 4 for more complex installation scenarios, including scenarios involving provisioning using PowerShell.



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