Exam
Manual

LearnSmart

Microsoft SharePoint

All-In-One (70-630)/(70-631)

This LearnSmart exam manual provides the most important information you need for understanding and mastering SharePoint. By studying this manual, you will become familiar with an array of SharePoint material, including:

- The major components of SharePoint
- The features and capabilities of SharePoint
- Lists and list views
- And more!

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Microsoft SharePoint LearnSmart Exam Manual

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Abstract

SharePoint is one of the most popular and sought after technologies currently in the modern information technology marketplace. Through the use of SharePoint, corporations and users can collaborate on projects, hosts web portals, blogs, and other media designed to facilitate the flow of information within a corporation. Currently, the demand for SharePoint has skyrocketed and the need for informed and certified professionals is at its most high. By reading and understanding this product, you will take a very important step toward being a SharePoint professional.

Your Product

This SharePoint Exam Manual has been designed from the ground up with you, the student, in mind. It is lean, strong, and specifically targeted toward the understanding of SharePoint, over simply passing an exam. Unlike many other SharePoint products, the LearnSmart SharePoint Exam Manual does not waste time with excessive explanations. Instead, it is packed full of valuable techniques, priceless information, and brief, but precisely worded, explanations. While we do not recommend using only this product to pass the exam, but rather a combination of LearnSmart Audio Training, Practice Exams, and Video Training, we have designed the product so that it and it alone can be used to pass the exam.

LearnSmart Exam Manual: Microsoft SharePoint-Document Scope and Intended Audience

Hello and welcome to this LearnSmart Exam Manual on Microsoft SharePoint products and technologies. Because SharePoint is an enormous subject and covering it all in under 120 pages is an unreasonable task, let's define the scope of this document.

The goal of this Exam Manual is to familiarize the reader with what SharePoint is and how it can be used to build dynamic, secure, and user-friendly collaboration Web portals. As of this writing, two current versions of SharePoint exist:

- ***Windows SharePoint Services (WSS) 3.0:*** The free add-on to Windows Server 2003 and Windows Server 2008
- ***Microsoft Office SharePoint Server (MOSS) 2007:*** The retail, enterprise version of SharePoint; consider this to be a superset of WSS 3.0 features

This document will cover features that are shared by both SharePoint products. Where important differences require highlighting, I shall do so.

About SharePoint Certification

Beginning in 2007, Microsoft began revising its Microsoft Certified Professional (MCP) program in a significant manner. For instance, whereas in the old program you might earn your Microsoft Certified Database Developer (MCDBA) credential in Microsoft SQL Server 2000, nowadays you can earn your Microsoft Certified IT Professional (MCITP) title in any of three SQL Server 2005 specializations:

- MCITP: SQL Server 2005 Database Administrator
- MCITP: SQL Server 2005 Database Developer
- MCITP: SQL Server 2005 Business Intelligence Developer

As of this writing, there is no MCITP title for SharePoint; however, Microsoft's new entry-level title, the Microsoft Certified Technology Specialist (MCTS), does offer the following certifications for SharePoint professionals:

- MCTS: Windows SharePoint Services 3.0, Configuring
- MCTS: Microsoft Office SharePoint Server 2007, Configuring
- MCTS: Microsoft Windows SharePoint Services 3.0—Application Development
- MCTS: Microsoft Office SharePoint Server 2007—Application Development

Do you see the pattern? There are two Technology Specialist titles for WSS/MOSS administration, and two titles for WSS/MOSS application development. Here are the exam requirements for each certification:

Certification Title	Exam Requirement
MCTS: Windows SharePoint Services 3.0, Configuring	Exam 70-631 TS: Windows SharePoint Services 3.0, Configuring
MCTS: Microsoft Office SharePoint Server 2007, Configuring	Exam 70-630 TS: Microsoft Office SharePoint Server 2007, Configuring
MCTS: Microsoft Windows SharePoint Services 3.0—Application Development	Exam 70-541 TS: Microsoft Windows SharePoint Services 3.0—Application Development
MCTS: Microsoft Office SharePoint Server 2007—Application Development	Exam 70-542 TS: Microsoft Office SharePoint Server 2007—Application Development

Exam Metadata

In all likelihood you probably want to know a bit more about the SharePoint certification exams. Because this document covers only the administration track, let's take a look at the following table:

Exam Number	# of Questions	Passing Score	Registration Fee
70-630	51	700/1,000	$125
70-631	41	700/1,000	$125

The SharePoint administration exams are all extremely basic in their structure. All items are straight-up multiple choice, with no simulations or other interactive elements.

Now let's turn to the "meat and potatoes" of the course—the basic mechanics of SharePoint products and technologies.

What Is SharePoint?

First, a question that is on every SharePoint newcomer's mind: "Exactly what IS SharePoint, anyway?" Microsoft SharePoint is a multi-tier Web-based collaboration and document management software program. The first thing to understand is that the current generation of SharePoint comes in two "flavors":

- ***Windows SharePoint Services 3.0:*** Free add-on to Windows Server 2003 SP1; often called WSS 3.0
- ***Microsoft Office SharePoint Server (MOSS) 2007:*** Retail enterprise product; essentially a superset of WSS 3.0

The idea behind SharePoint is that an administrator can easily provision one or several related Web sites to support a business's intranet collaboration needs. The term "SharePoint portal" denotes the fact that a single page in SharePoint can display pointers to several different types of content, including:

- Announcement lists
- Discussion forums
- Document libraries
- Form libraries
- Picture libraries
- PowerPoint slide libraries
- Weblogs (blogs)
- Wikis

SharePoint has an interesting product history. Although I won't belabor this history in this document, it is instructive to have at least a cursory idea of where WSS 3.0 and MOSS 2007 come from in terms of product lineage:

- ***SharePoint Team Services (STS):*** Released in 2001 as an optional component of FrontPage in the Office XP product suite
- ***SharePoint Portal Server (SPS) 2001:*** Released in early 2001; retail product that built upon features offered in the free STS product
- ***Windows SharePoint Services 2.0:*** Totally revamped upgrade of STS; available natively in Windows Server 2003 R2 or as a free download from Microsoft.com
- ***SharePoint Portal Server 2003:*** Released in...well...2003; retail product intended as a major upgrade from SPS 2001
- ***Windows SharePoint Services 3.0:*** Released on November 16, 2006, as part of the 2007 Office System launch; available as a free download from Microsoft.com
- ***Microsoft Office SharePoint Server 2007:*** Released in 2007 as the next-gen successor to SPS 2003

The following image is helpful for differentiating between WSS 3.0 and MOSS 2007:

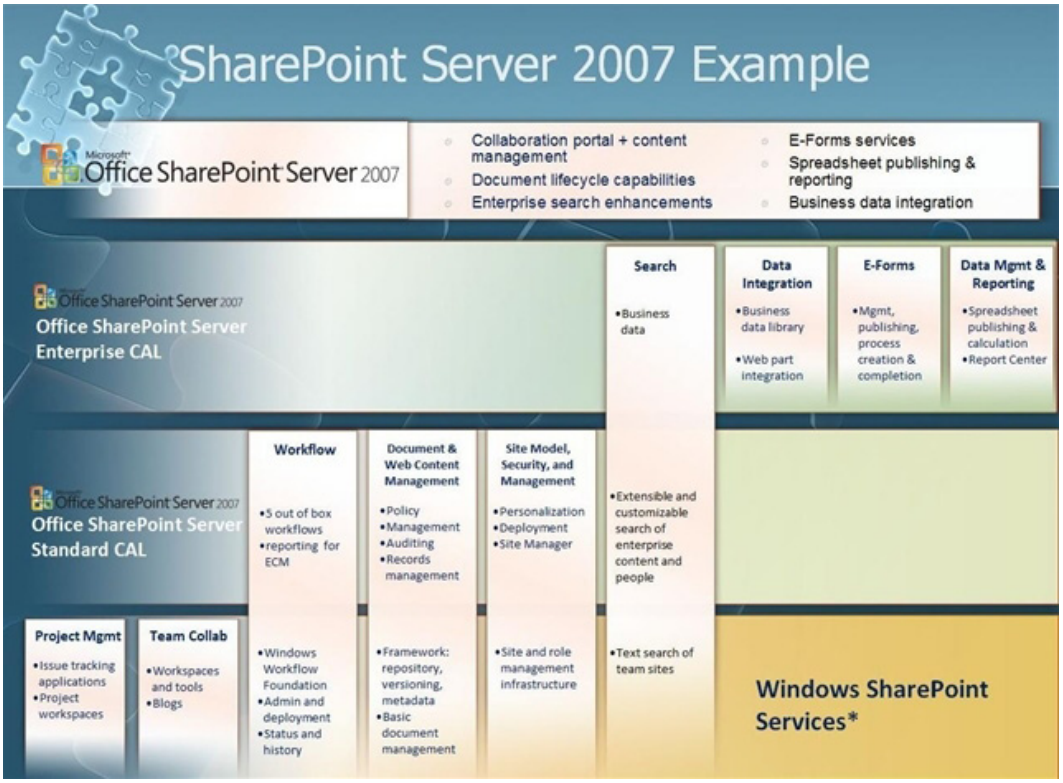


Figure 1: WSS/MOSS Feature Comparison

What you should notice first is the lower third of the diagram: these are the core features offered by the "freebie" WSS 3.0 product. Working your way upward you will see that MOSS 2007 ships in two editions: Standard and Enterprise.

Many businesses will want to pony up the extra money for the Enterprise edition of MOSS to take advantage of the following enterprise-only features:

- ***Much more robust searching:*** Your content sources can include data both internal and external to SharePoint.
- ***InfoPath Forms Services:*** You can deploy browser-based InfoPath forms and route them by using workflow.
- ***Excel Services:*** You can deploy browser-based Excel content to users. (Users don't need to have Excel installed locally on their computers to interact with the spreadsheet content.)
- ***Business Data Catalog (BDC):*** This service allows you to tap into external data (say, from an Oracle PeopleSoft database) and present that data meaningfully and securely to your users through SharePoint.

How can businesses leverage SharePoint (any edition) to solve collaboration challenges? Let us count the ways:

- Document libraries solve document versioning problems introduced by traditional file-sharing environments.
- Lists and libraries record document/item workflow. (Stuff doesn't get lost or slip through the cracks like it does when users employ e-mail to share data.)
- Announcements and calendars help keep employees "in the know" regarding goings-on in the company.
- Document security allows companies to adhere to compliance schemes such as Sarbanes-Oxley (SOX) or the Health Insurance Portability and Accountability Act (HIPAA).
- IT departments save licensing costs by deploying browser-based content instead of having to perform local installation on all users' workstations.
- Users can build their own personal sites in a MySpace-type fashion, increasing employee "ownership" in the intranet portal and enhancing collaboration.
- Data are stored securely and version-controlled; therefore, document archiving is a breeze.

Planning and Installing SharePoint

Perhaps more so than with other Microsoft enterprise products, prior planning is key to a successful SharePoint implementation. After all, managing a SharePoint site involves skill in many different systems management areas:

- Microsoft SQL Server for back-end data storage
- Internet Information Services (IIS) for hosting and presenting the SharePoint ASP.NET 2.0 Web application(s)
- Windows Server 2003 know-how (security, performance tuning, disaster recovery, et al.)
- Business analysis skills (to create a meaningful taxonomy of data in the SharePoint sites)
- Web design/development expertise (customizing SharePoint sites is not a trivial matter, with or without .NET programming skills)

In its literature Microsoft divides SharePoint administration into three discreet job roles:

- ***Tier 1 Administrators*** are concerned with Windows Server management. These folks back up SharePoint, IIS, SQL Server databases, and the like, and make sure the server hosting the Share-Point services is humming along properly.
- ***Tier 2 Administrators*** are primarily SharePoint farm administrators/business analysts. These individuals concern themselves with farm-wide feature implementation and management.
- ***Tier 3 Administrators*** are site-level administrators. As you will learn shortly, a SharePoint farm consists of one or more Web applications, which in turn are composed of site collections, Web sites, and subsites. There is much work to perform at this level; SharePoint site administrators work closely with the SharePoint site members and visitors in order to maximize their efficiency in using the sites.

Planning Farm Topology

The term "topology" refers to the physical arrangement of servers in a SharePoint farm, as well as the distribution of services among those server computers. SharePoint farms can be built in one of three sizes:

- ***Small farm***: All SharePoint services (and SQL Server) running on a single box. Alternatively, you can separate the back-end data storage by setting up a separate SQL Server computer and placing all other SharePoint services on the second computer.
- ***Medium farm***: Two or more SharePoint Web front-end (WFE) servers using Microsoft Network Load Balancing (NLB); SQL Server running on separate hardware.
- ***Large farm***: Two or more SQL Servers arranged as a Windows Clustering Service (WCS) cluster group; SharePoint application services distributed on separate hardware; multiple NLB-enabled WFEs.

To illustrate the division of services that occurs when you scale out a SharePoint farm, consider the following exhibit, which depicts a typical large-farm implementation (http://naveedullah.files.wordpress.com/2007/04/six-server-farm.jpg):

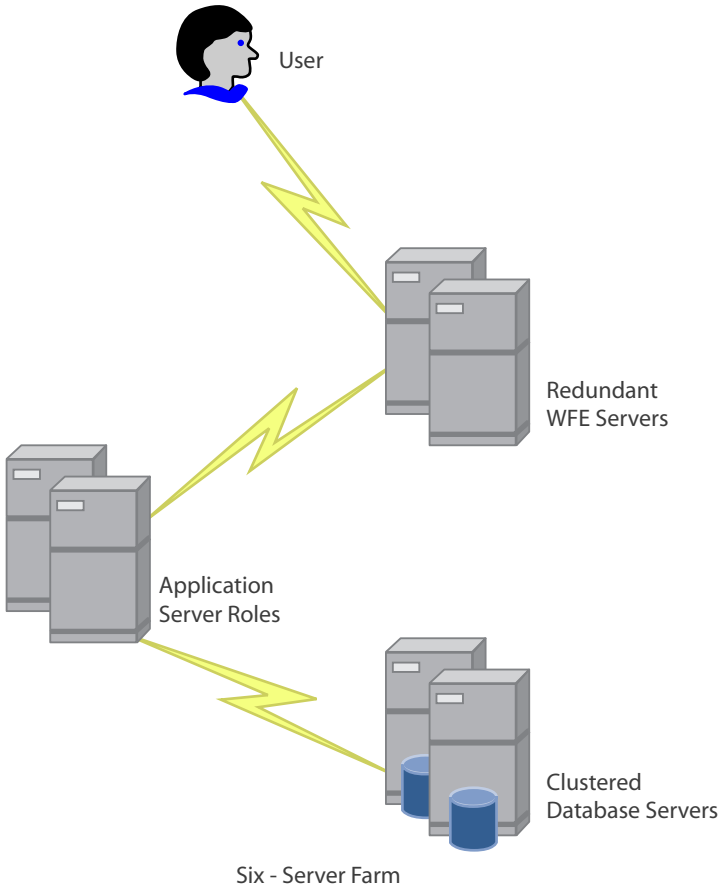


Figure 2: SharePoint Farm Topology

Installing SharePoint

Regardless of whether you are installing WSS 3.0 or MOSS 2007, you need to ensure that your server(s) meet the minimum system requirements. The minimum hardware and software requirements for installing SharePoint are as follows:

- CPU of at least 2.5 GHz
- RAM of at least 2 GB
- At least 100 Mbps available network bandwidth for deployment
- At least 5 GB available hard disk space (for binaries and user data)
- Microsoft Windows Server 2003 Service Pack 1, x64 or Small Business Server
- .NET Framework 3.0 (includes ASP.NET 2.0)
- Internet Information Services (IIS) 6.0 with Common Files, WWW service, and SMTP service
- Web browser: Internet Explorer 6.0 or higher for full fidelity; Mozilla Firefox for low fidelity with SharePoint site content

WSS 3.0 and MOSS 2007 installation share the same basic two steps:

1. Running the initial setup, which lays down the program binaries and creates content folders
2. Running the SharePoint Products and Technologies Configuration Wizard, which provisions the Central Administration application

From there, you have more work to do:

1. Provision the Shared Services Provider (SSP) Web application (MOSS only)
2. Provision the MySite Web application (MOSS only)
3. Provision the Port 80 Web application (both WSS and MOSS)
4. Attach a top-level site collection to all new Web applications (WSS and MOSS)

In this example (and for the rest of this tutorial) we will perform a single-server installation of MOSS 2007. I will note any differences in functionality between MOSS and WSS wherever appropriate.

Installation Phase 1: Installing the Binaries

After you launch the SharePoint Server installation executable, you will be required to agree to the end user license agreement (EULA) and enter your 25-character product key. Next, you will need to make the most important choice of the entire installation: the installation type.

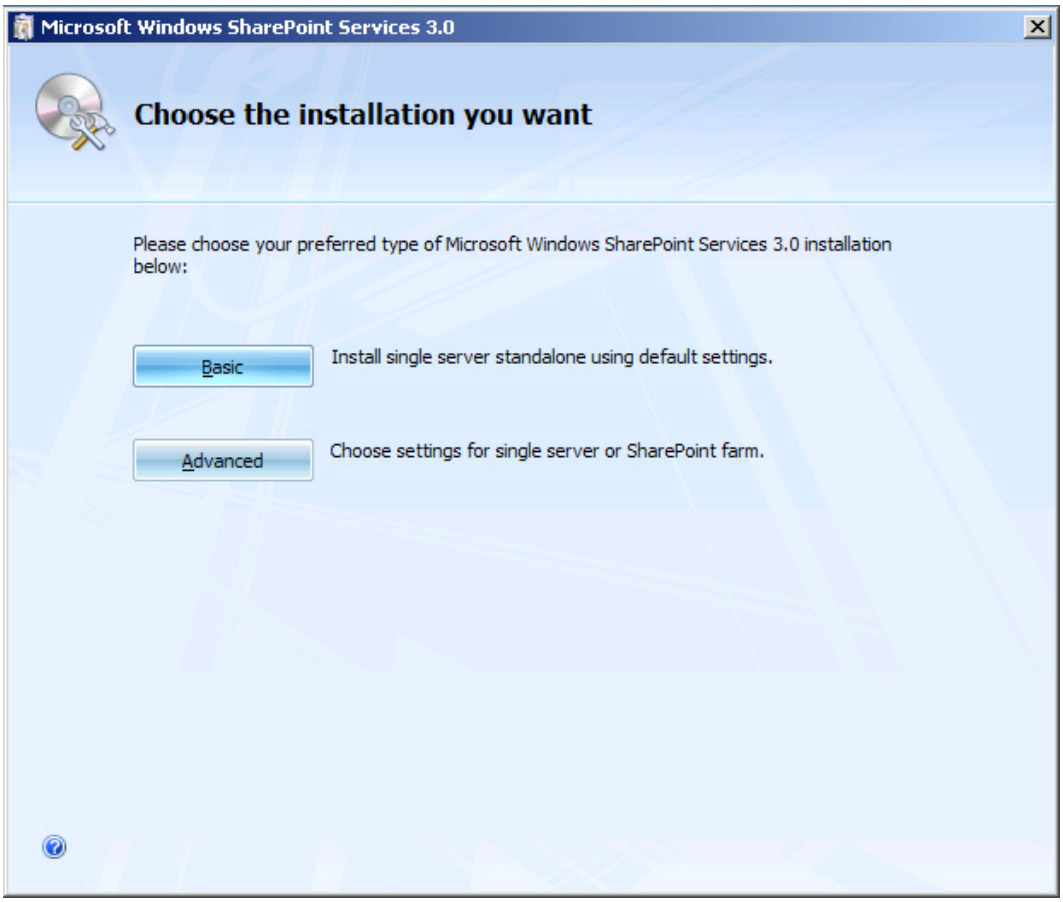


Figure 3: Choosing a WSS 3.0 Installation

We want to select the **Advanced** option every day and twice on Sunday, people. The **Basic** type is the same thing as the Stand-alone option that you'll see in just a minute under the Advanced installation type. Because we want to allow the farm to grow in the future, we must go Advanced.

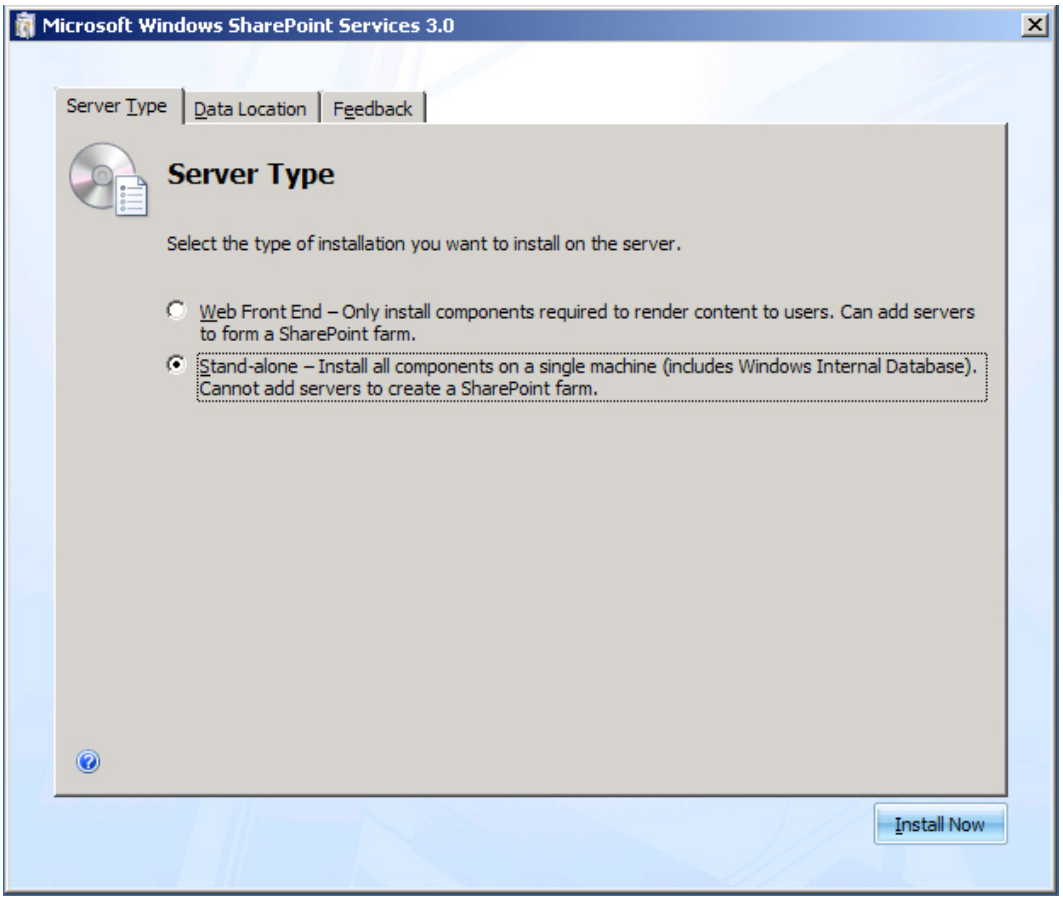


Figure 4: SharePoint Server Type Dialog Box

As you see in the above graphic, SharePoint supports two installation types called Server Types:

- ***Web Front End:*** This choice installs all services (including the Windows Internal Database, a variant of SQL Server 2005 Express Edition), and allows you to expand the farm in the future.
- ***Stand-alone:*** Be careful of performing this installation type. The stand-alone installation installs all services and the Windows Internal Database on the local box; however, you must remove and reinstall the entire farm (using the WFE server type) in order to expand the farm.

Best practice here is always to use the Web Front End installation type, as this provides you with maximum flexibility going forward.

Installation Phase 2: Running the Config Wizard

After you complete the first phase of setup, it is time to run the SharePoint Products and Technologies Configuration Wizard. You can find this option in your **Administrative Tools** folder on your server.

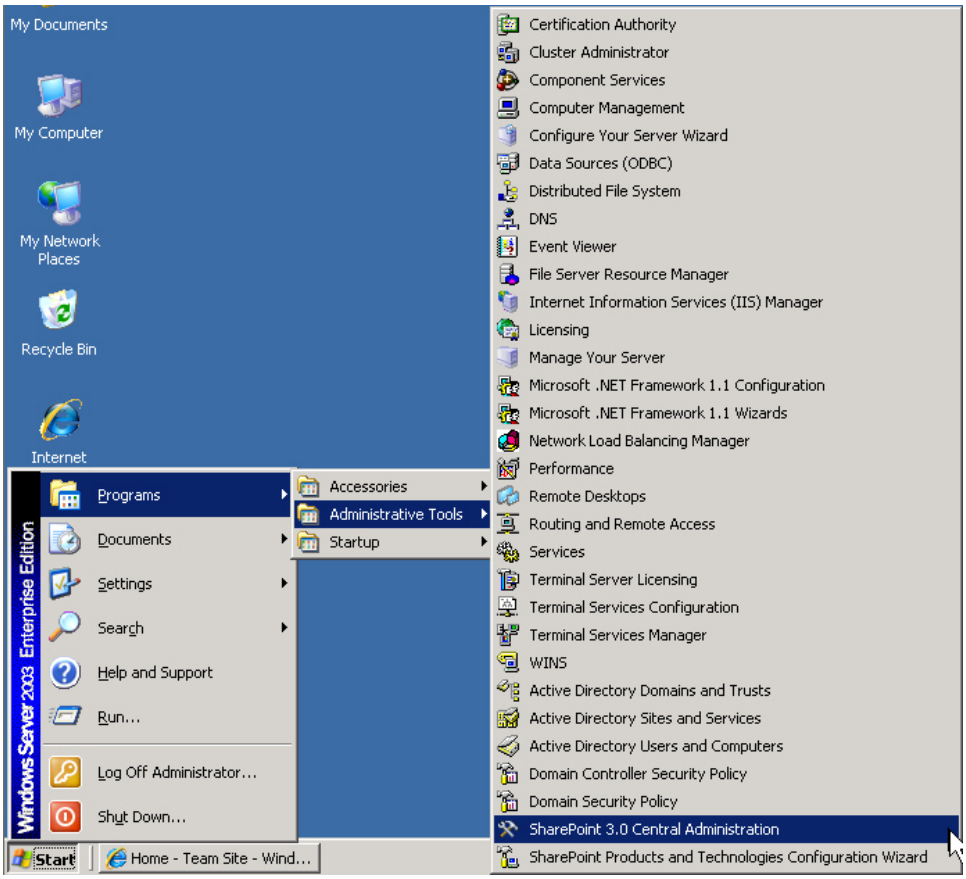


Figure 5: Locating the SharePoint Administrative Shortcuts in the Start Menu

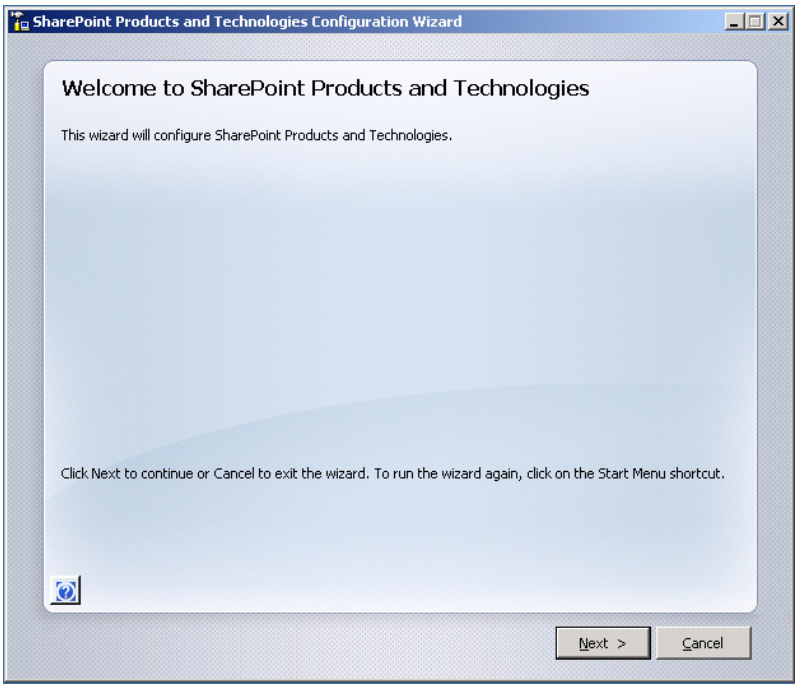


Figure 6: The SharePoint Products and Technologies Configuration Wizard

Assuming that you selected Web Front End as your server type, you will be asked to provide the following information to the wizard:

- Database server name
- Farm configuration database name
- SharePoint service account identity

If you selected the **Basic** or **Standalone** installation types, then the Config Wizard asks you no questions and just barrels forward, making all of these decisions for you.

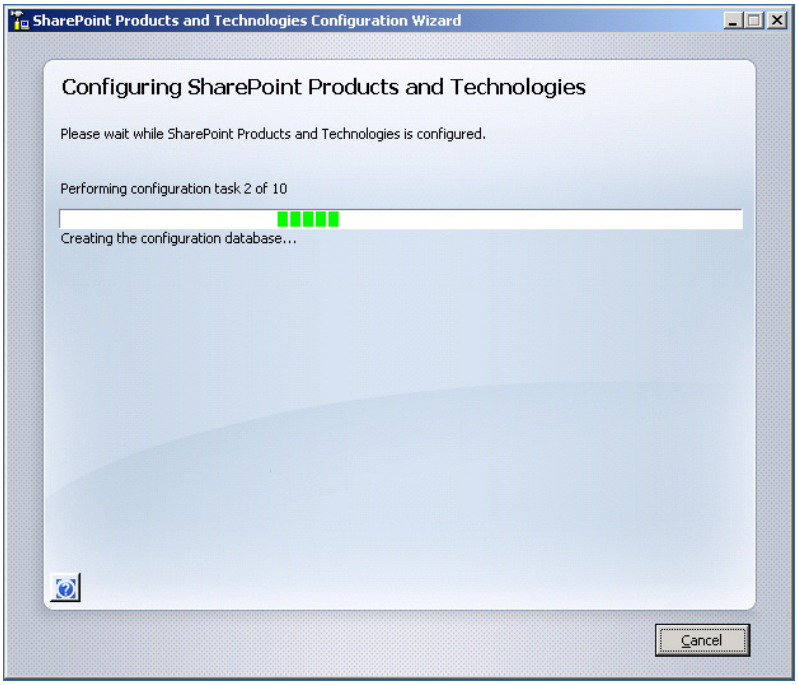


Figure 7: Running the Config Wizard

Once the Config Wizard is finished, you have the primary skeleton of your farm set up.

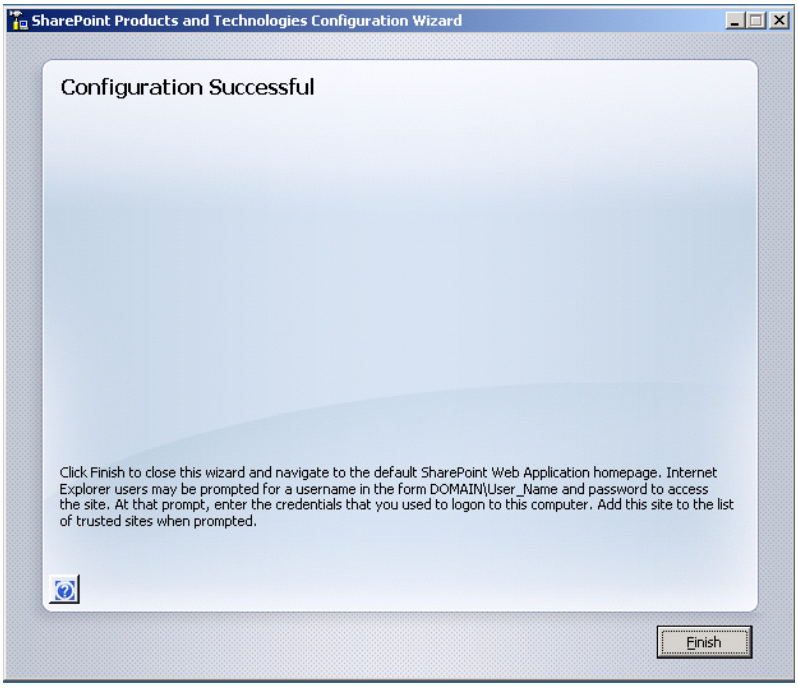


Figure 8: Config Wizard Is Finished

Post-Installation Tasks

Let's summarize the chief post-installation tasks that a SharePoint administrator must undertake in setting up his or her server farm:

- Configure e-mail settings
- Configure services
- Configure diagnostic log settings
- Configure antivirus settings
- Create Web applications/Web sites

To do all this we need to access the SharePoint Central Administration Web application. But before we do, let's define our terms.

In SharePoint nomenclature, a *Web application* is nothing more than an Internet Information Services (IIS) Web site. The "application" piece refers to the fact that SharePoint is indeed an ASP.NET Web application. Your Web application (remember: IIS Web site) is identifiable on your SharePoint server by a unique combination of the following three IDs:

- Host name
- IP address
- TCP port number

To open the Central Administration Web site, you can click **Start > All Programs > Administrative Tools > SharePoint Central Administration 3.0**.

NOTE: MOSS 2007 creates a separate program group in the Start menu for these shortcuts. With WSS, you must use your Web browser's Favorites or the Administrative Tools folder from the Start menu.

Note that the Uniform Resource Locator (URL) for the Central Admin site uses an "off" port number that you specified when you ran the SharePoint Products and Technologies Configuration Wizard.

You should also note that the Central Admin Web site is itself a SharePoint site.

Configure E-Mail Settings

To configure SharePoint to send and/or receive Simple Mail Transfer Protocol (SMTP) e-mail, log onto Central Administration, navigate to the **Operations** subsite, and click the **Outgoing e-mail settings** and **Incoming e-mail settings** from the **Topology and Services** area.

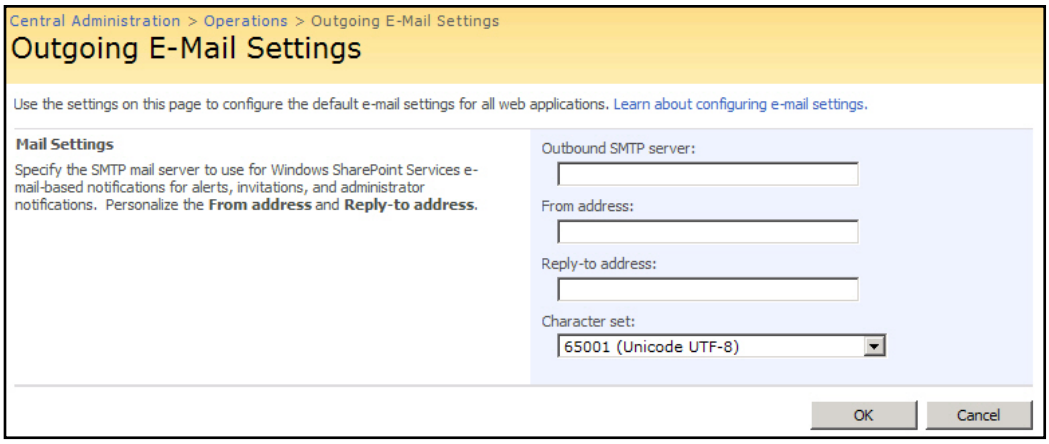


Figure 9: Configuring Outgoing E-Mail Settings

Note that while you get optimal integration when your company uses Microsoft Exchange Server for e-mail, SharePoint can send mail through the SMTP server built into IIS 6.0, or it can use a third-party SMTP server.

Configure Services

Before we do anything else in SharePoint, we need to verify that the proper services are running. From the **Operations** subsite in Central Administration, click **Services on server** from the **Topology and Services** area.

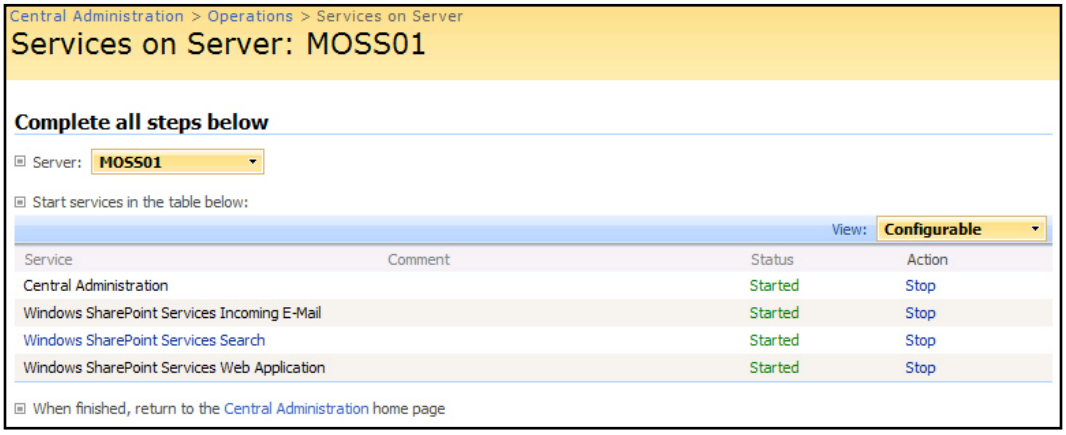


Figure 10: Verifying Services on a SharePoint Server

At the very least, you need to configure the Windows SharePoint Services Search service. Doing so requires that you complete an additional Web form specifying the following information:

- Search database server and database name
- Search service accounts

Configure Diagnostic Log Settings

From **Central Administration > Operations** you can configure diagnostic logging and/or usage analysis processing.

Figure 11: Logging and Reporting Options

Diagnostic logging allows you to choose to collect error reports and send them anonymously to Microsoft, to set event throttling (which determines the verbosity of SharePoint in your Windows Event logs), and to specify where the trace log will be stored on the server.

Usage analysis processing allows SharePoint administrators to gather site usage statistics for their SharePoint portals. Although Central Administration represents the "master switch" for turning this feature on and off, you must visit the **Site Settings** page for the target site collection in order to view the site usage reports.

Configure Antivirus Settings

You can configure global antivirus settings in SharePoint from **Central Administration > Operations > Antivirus**. One thing you should be aware of, however, is that SharePoint does *not* include built-in antivirus/antimalware scanning for SharePoint content.

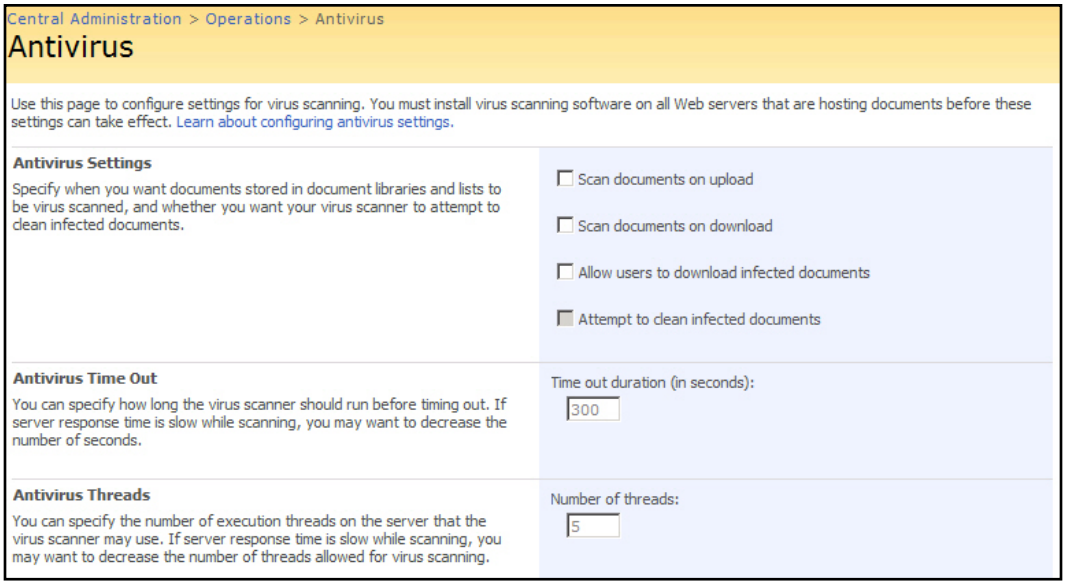


Figure 12: Configuring General Antivirus Settings

Creating Web Applications and Sites

If you performed a Basic or Standalone installation of SharePoint, then the installer performed most of the initial farm setup for you. However, if you elected to do a Web Front-End installation, then the only thing the SharePoint Products and Technologies Configuration Wizard builds for you is Central Administration. Let's pause for a moment and define our terms:

- ***Web Application:*** An IIS Web site.
- ***Site Collection:*** A container object; all Web applications have a top-level site collection, although administrators can attach more than one site collection to a Web application.
- ***Site:*** Each site collection has a top-level site template. Optionally, you can build one or more subsites beneath the top-level site in the site collection.
- ***Subsite:*** A child site in a single site collection. Typically subsites inherit navigation and permissions from the top-level site.

An important distinction, then, is between the site collection and the subsite. In a nutshell, SharePoint administrators build additional site collections in a single Web application when they need to delegate administration to others and they want a separate navigational structure.

On the other hand, if you want to provide consistent navigation and security throughout the site collection, then you should build subsites.

Creating Web Applications

One neat thing about SharePoint is that although Web applications involve the creation of IIS Web sites and SQL Server databases, you shouldn't have to visit the IIS Manager or SQL Server Management Studio tools to provision your new sites and databases.

To create a new Web application, visit Central Administration, navigate to the **Application Management** subsite, and click **Create or extend Web application** from the **SharePoint Web Application Management** section.

NOTE: The **Web application list** link from this same section is very helpful in allowing you to see at a glance how many Web apps you currently have created in your SharePoint farm.

The process asks you if you want to (a) create a new Web application, or (b) extend an existing Web application. In a nutshell, extending a Web application involves cloning the IIS Web site to another computer while at the same time sharing the same content database between the two sites.

This is helpful, for instance, when you have an intranet SharePoint site that you want to share in a secure way in an extranet scenario.

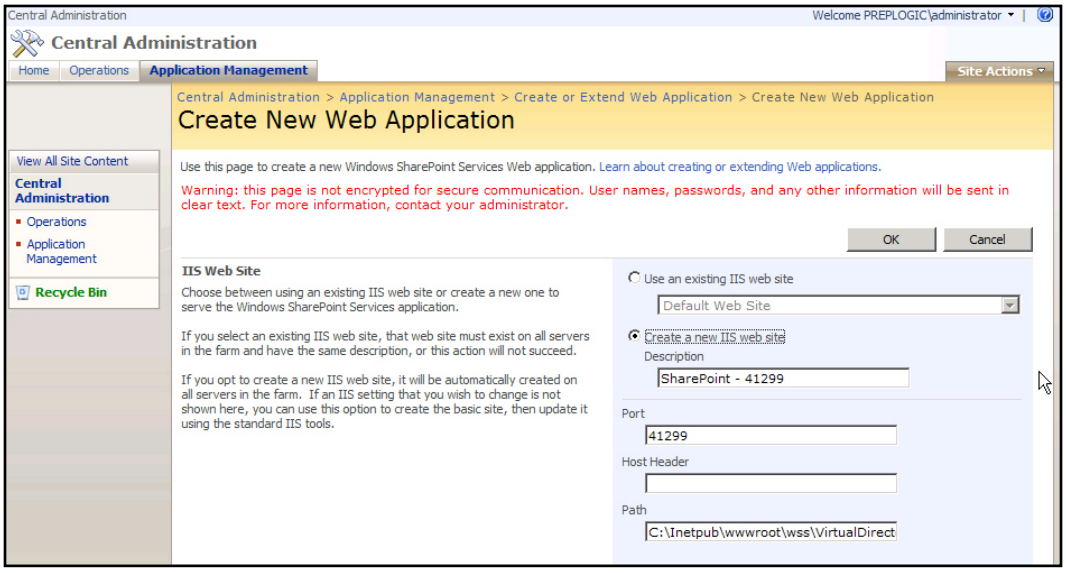


Figure 13: Creating a New SharePoint Web Application

Creating a new Web application requires that you specify the following information:

- IIS Web site name, port number, file path location, and/or host header name
- Authentication provider (Kerberos or NTLM)
- Whether to allow anonymous access
- Whether to specify Secure Sockets Layer (SSL)
- Your desired IIS Application Pool settings (Application pools are an IIS 6.0 technology that allows Web applications to run in their own protected memory space)
- Target database server and content database name
- Target SharePoint search server

You should be aware of two points here: Number one, you can target each Web application at a specific SharePoint search server. This is helpful for offloading search/index processing. Number two, notice that we are creating another database. By the time you have your Central Administration site and your SharePoint 80 site up and running, you will have the following SQL databases created and (it is hoped) humming along nicely:

- Farm configuration database (only one per farm; stores farm-level metadata)
- Search content database (remember that the SharePoint Search service consumes its own DB)
- Content database for each additional Web application

If you are using MOSS instead of WSS, then you will have an additional Web application and content database for the Shared Services Provider (SSP).

Creating Top-Level Site Collections

In SharePoint, a Web application is nothing more than a Web service that listens on a particular IP address, port number, and protocol. You need to attach a top-level site collection container to that Web application in order to populate it with content.

From **Central Administration > Application Management > SharePoint Site Management**, click **Create site collection**.

Figure 14: Creating a Site Collection in SharePoint

Here are the basic decisions that you need to make when you create a new top-level site collection:

- What is the target Web application to which you are linking the site collection?
- What are the title and (optional) description of the site collection?
- What is the Web site address? By default, new site collections get "tucked" under the managed path **/sites**. However, you can visit **Application Management > Define Managed Paths** to create additional logical namespaces to organize your site collections.
- Which site template best suits your needs? As reason dictates, you get far more choices with MOSS than you do with WSS (retail vs. free product, remember?).
- Who are the site collection administrators? Site collection administrators are the owners of the site collection, and have full control permissions over all objects within the collection by default.
- Are you using a quota template? Quota templates define how much SQL database disk space a site collection is allowed to consume. You can configure quota templates by visiting **Application Management > SharePoint Site Management > Quota templates**.

A Tour of a SharePoint Team Site

Let's have a look at a WSS 3.0 team site, shall we?

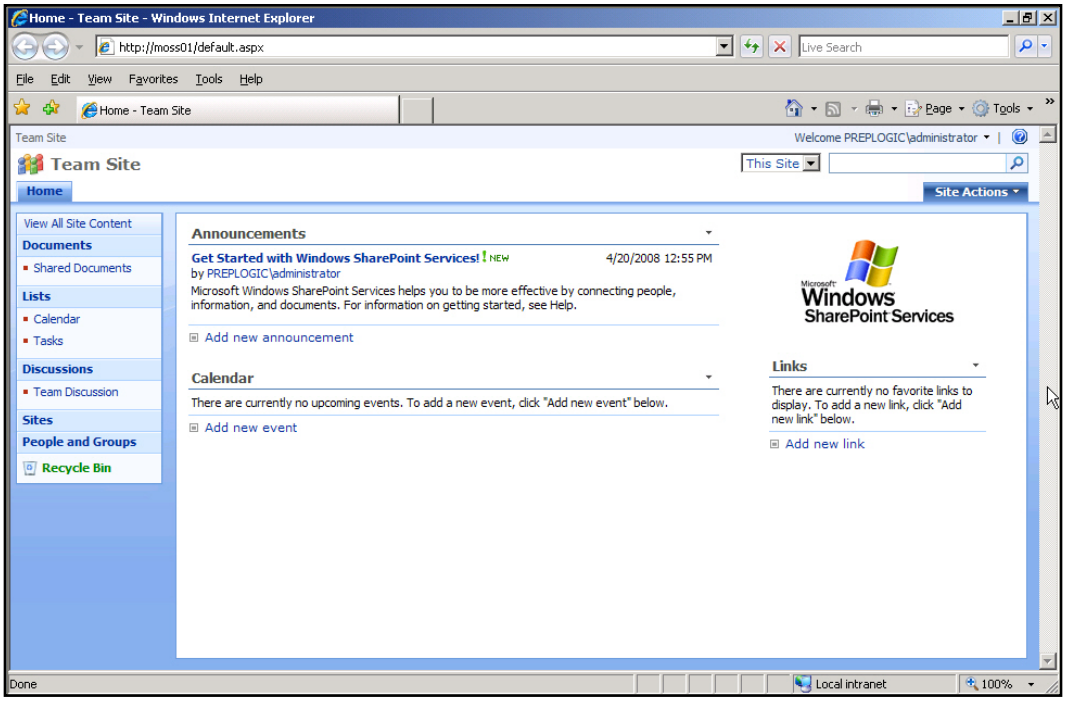


Figure 15: WSS 3.0 Team Site

The Welcome Menu

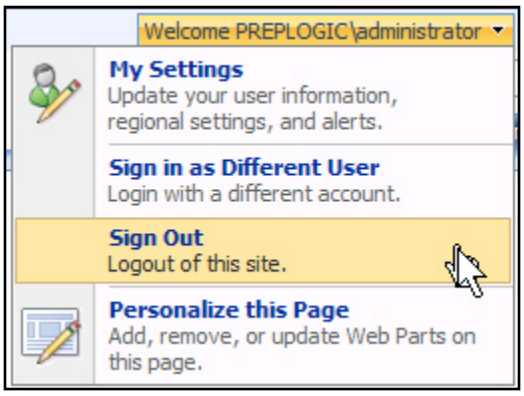


Figure 16: The Welcome Menu in WSS 3.0

Consider the Welcome menu to be a sort of "anchor point" for the currently logged on SharePoint user. From it you can access your user profile settings, sign in as a different user, sign out of the site, or create a personal view of the current Web content page.

Incidentally, MOSS provides much more robust flexibility for the Welcome menu. For one thing, user profile data is much more richly populated in MOSS. For another, users can store Web links in their Welcome menu.

The Site Actions Menu

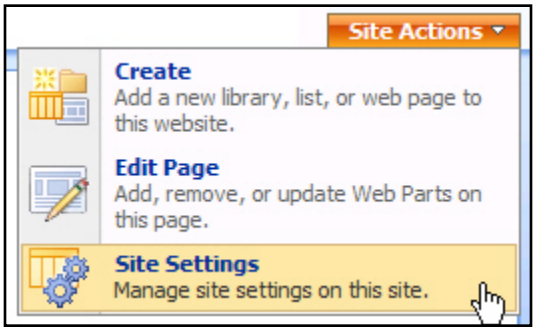


Figure 17: The Site Actions Menu in WSS 3.0

The Site Actions menu is available only to site owners or designers; ordinary team site members or site visitors never see the Site Actions menu. This feature is called *security trimming*, and it means that if you don't have the privilege to see a particular user interface element, then that element is not visible in the interface.

The Top Link Bar

Figure 18: The WSS 3.0 Top Link Bar

The Top Link bar appears as part of what is called the master page template in SharePoint. In MOSS we refer to the Top Link bar as the Global Navigation bar.

The term "global" is key here, because no matter where you go within the site collection, you can view the Top Link bar and its global collection of links (so long as the site designer configured navigation that way). For instance, Figure 18 shows the following site collection structure:

- A top-level site named Home
- Three subsites: Wiki, Blog, and Meeting Workspace

The Quick Launch Bar

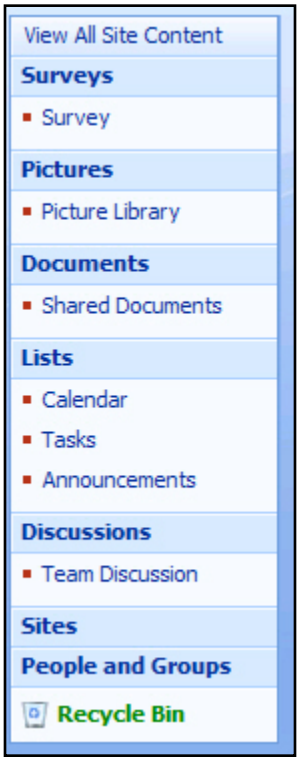


Figure 19: The Quick Launch Bar

Whereas the Top Link bar represents the global navigation structure in SharePoint, the Quick Launch bar denotes site-specific navigation. That is to say, you will find links to lists and libraries that are contained within the current site or subsite in the Quick Launch.

Of course, a SharePoint administrator can place any other types of links in the Quick Launch bar as well.

The View All Site Content Link

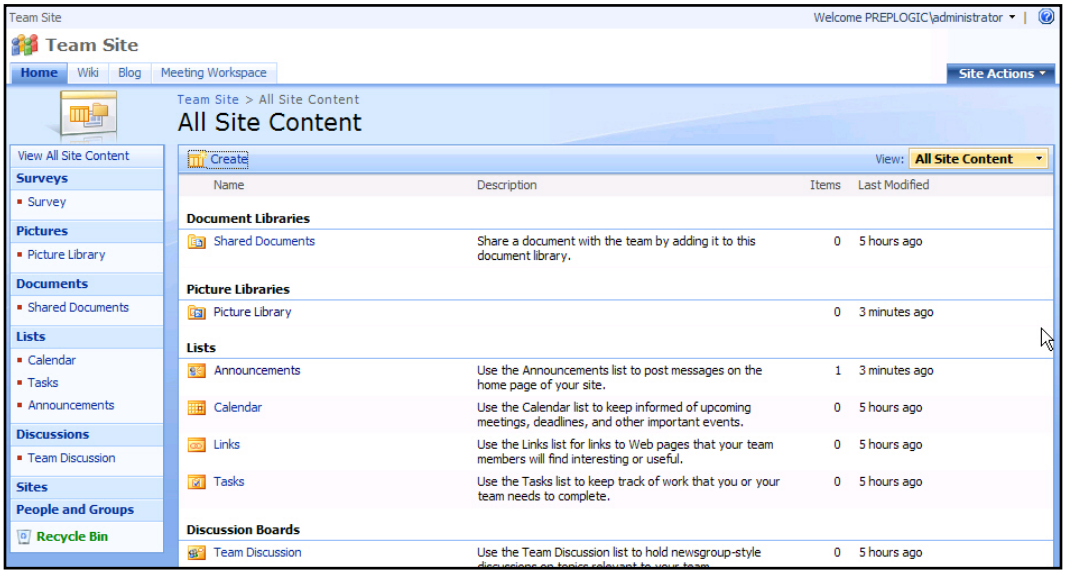


Figure 20: The All Site Content Page in WSS 3.0

Whenever you are presented with a new SharePoint site to analyze, first click the **View All Site Content** link on the site's Quick Launch bar.

The **All Site Content** page provides you with a one-page summary of all the objects contained in the current site collection. These objects include one or more of the following:

- Document Libraries
- Picture Libraries
- Lists
- Discussion Boards
- Surveys
- Sites and Workspaces
- Recycle Bin

The Site Settings Page

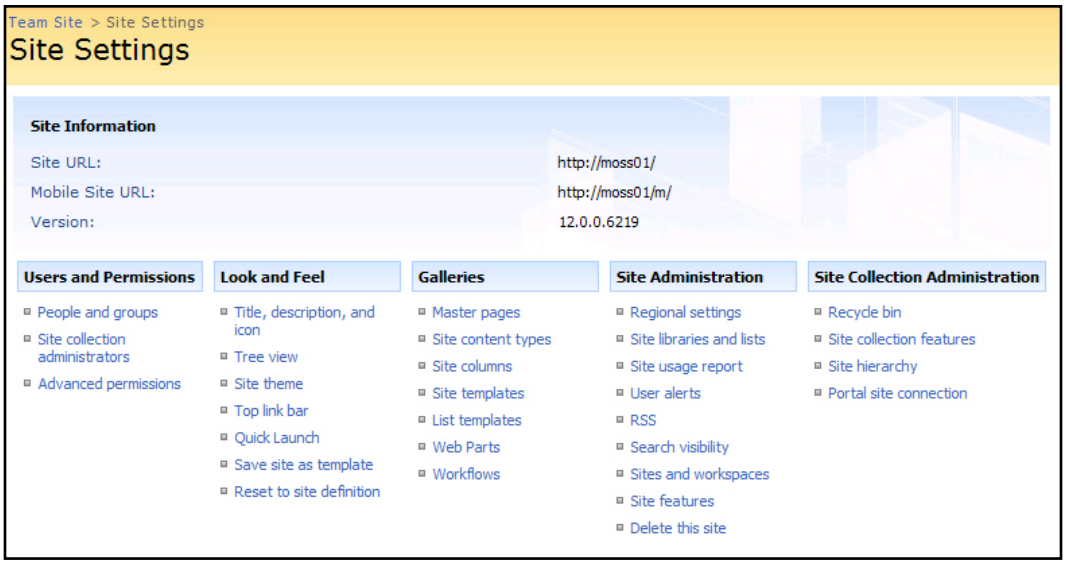


Figure 21: The Site Settings Page for a Site Collection

From the home page of any site or subsite in a site collection, open the Site Actions menu and choose **Site Settings**. (For MOSS sites in which the Publishing feature is enabled, you will have more options within the Site Settings menu.) The Site Settings page is an important configuration page for the site collection administrator. In it you can configure the following SharePoint objects:

- Users and Permissions
- Look and Feel
- Galleries (storage repository for reusable objects such as templates, metadata columns, and workflows)
- Site Administration (changes made here affect only the current site or subsite)
- Site Collection Administration (changes made here affect all sites contained in the site collection)

NOTE: You can see the Site Collection Administration links only if you are in the top-level site in a site collection. If perchance you visit the Site Settings page for a subsite, this is what you see:

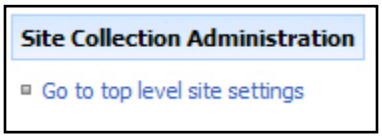


Figure 22: Site Collection Administration Link in a Subsite

Editing a Page

From any SharePoint page, open the Site Actions menu and choose Edit Page. Assuming that you are a designer or site owner, you can edit the Shared version of the page.

Figure 23: Page Editing Banner

It is crucial to understand the anatomy of a SharePoint ASPX page. The Top Link area and the Quick Launch bar make up what is called the master page, and the page itself (with or without Web Part zones) is called a content page.

You can use a tool such as Microsoft Office SharePoint Designer 2007 to customize or create new master pages as well as content pages.

By contrast, if an ordinary site member opens his or her Welcome menu and clicks Personalize this Page, then the user sees a personal view of the page. Therefore, a user can remove and possible add page elements, such as Web Parts, that affect only that particular user's experience in the SharePoint site.

Web Parts and Web Part Zones

Web Parts are ASP.NET 2.0 controls that can be added to SharePoint as reusable objects. .NET programmers can build and deploy new Web Parts by using the Microsoft Visual Studio 2005 toolset.

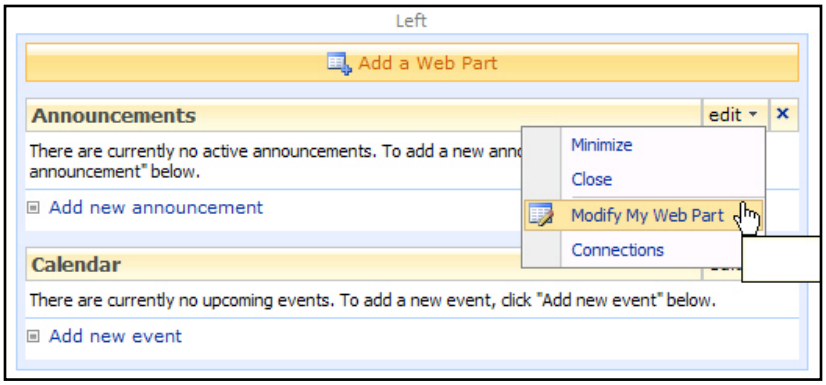


Figure 24: Modifying the Properties of a Web Part

Essentially, Web Parts are "gadgets," "widgets," or "doodads" that add some element of functionality to the SharePoint content page. As can be expected, you receive far more out-of-the-box Web Parts with MOSS than you do with WSS.

Once you are editing either the Personal or Shared view of a Web Part page, you expose the Web Part zone(s) on that page. Note that you can open the Web Part's **edit** menu and select **Modify My Web Part** to set configuration properties. These properties are accessed by using what is called the tool pane.

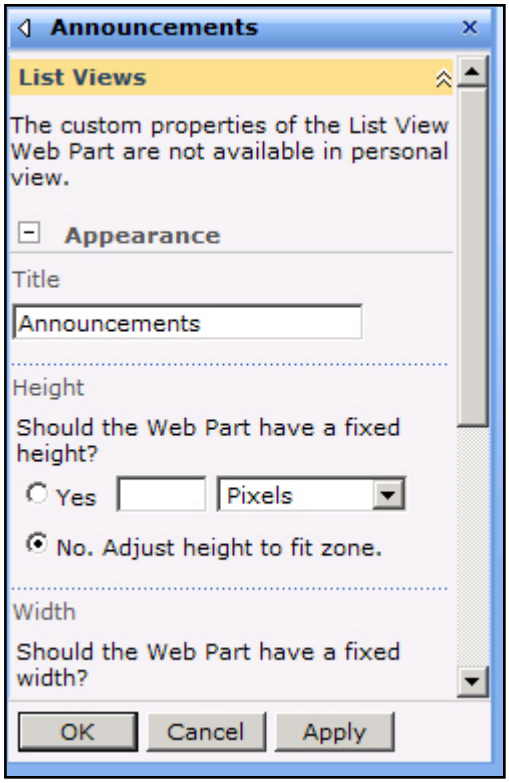


Figure 25: A Web Part Tool Pane

The out-of-the-box (OOB) Web Parts that ship standard with WSS 3.0 are as follows:

- ***Lists and Libraries*** (from current site): You can create a Web Part that acts as a sort of "window" into site content objects.
- ***Content Editor:*** Displays any rich text.
- ***Form:*** Displays simple forms and form controls.
- ***Image:*** Displays photos.
- ***Page Viewer:*** Renders linked content in a Web Part.
- ***Relevant Documents:*** Displays documents that are relevant to the current user.
- ***Site Users:*** Displays site users and their permissions.
- ***User Tasks:*** Displays tasks assigned to the currently logged-on user.
- ***XML Web Part:*** Renders XML and/or XSL data.

Configuring Security in SharePoint

Consider the following graphic I created, which neatly illustrates how the SharePoint security model works:

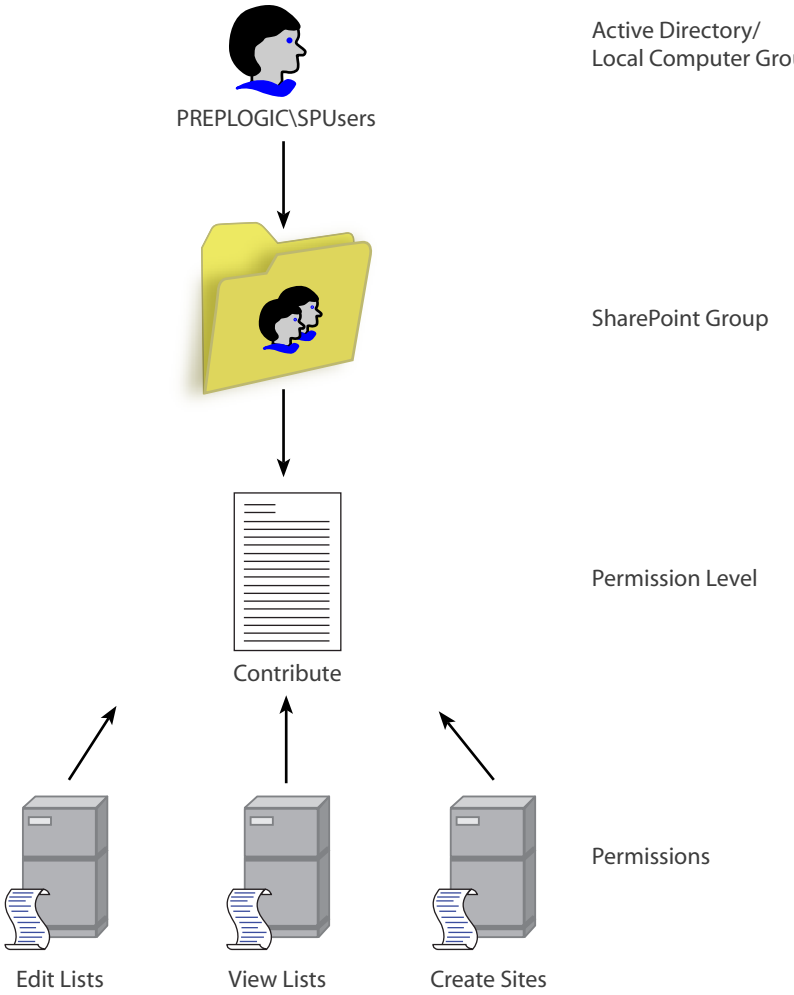


Figure 26: The SharePoint Security Model

Here's how the security model works:

- You aggregate user accounts with similar resource requirements in SharePoint into one or more Active Directory domain groups or local computer groups.
- You create SharePoint groups, or tweak the three built-in ones, to contain the permission level(s) your users require.
- You populate the Active Directory/Local Computer groups into an associated SharePoint group.
- Each SharePoint group is associated with one or more permission levels. Permission levels, in turn, are collections of granular permissions.

Globally Enabling/Disabling Permissions

Visit Central Administration and click **Application Management > Application Security > User permissions for Web application**.

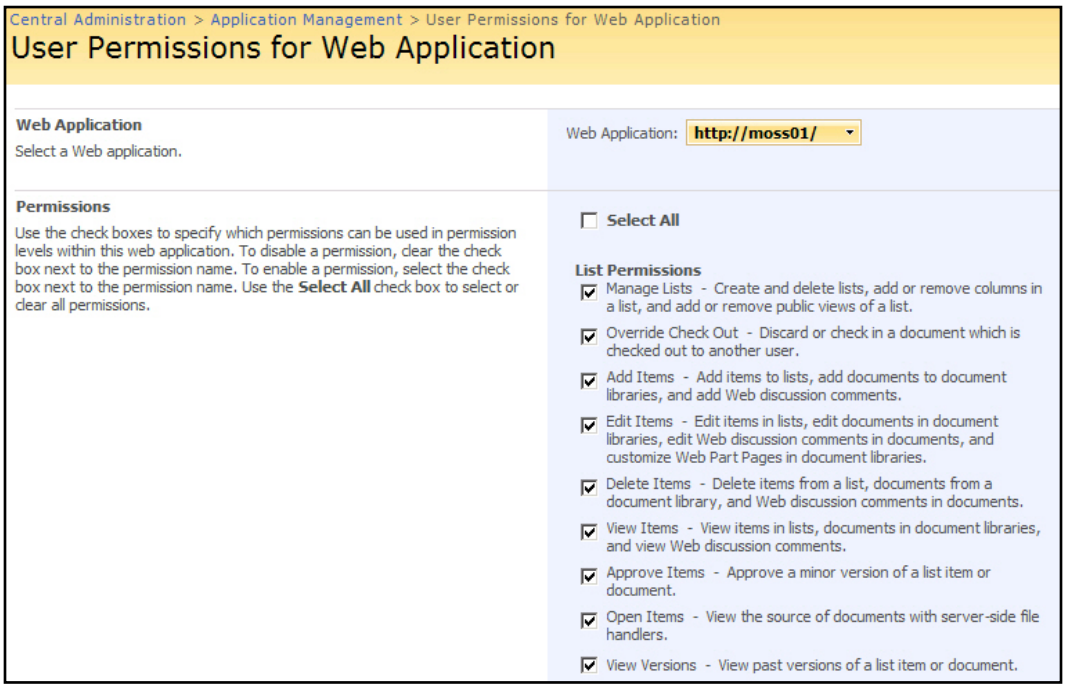


Figure 27: Viewing Web Application User Permissions

What you are doing here is (a) selecting a target Web application, and (b) deciding which permissions you want to make available for that Web application. Following is the breakdown of permission categories from which you can choose:

- List Permissions
- Site Permissions
- Personal Permissions

Setting Permissions in a WSS 3.0 Team Site

From the Team Site, click **Site Actions > Site Settings**, and on the **Site Settings** page, click **Users and Permissions > People and groups**.

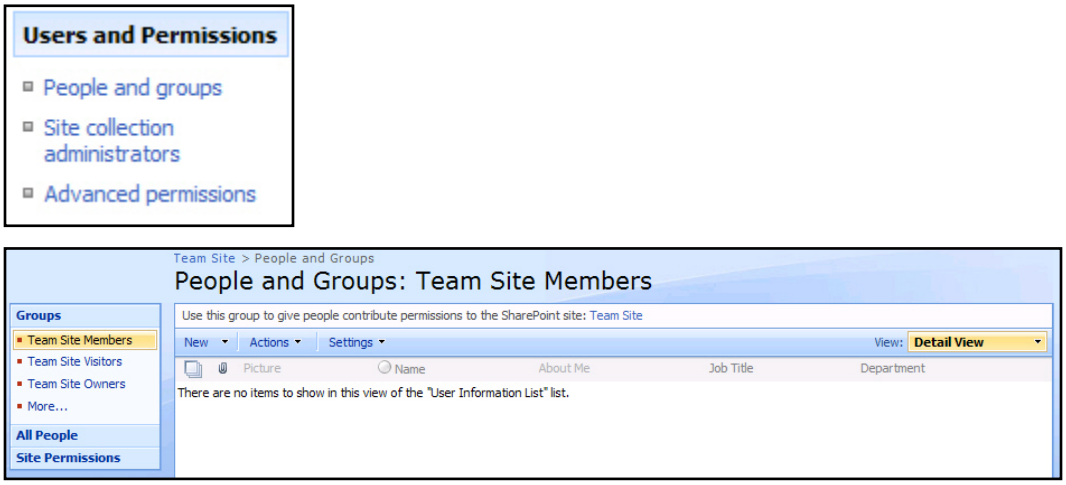


Figure 28: Displaying SharePoint Users

You can use the Quick Launch bar (**Groups** category) to view the current membership of each SharePoint group.

WSS 3.0 includes three built-in groups:

- ***Members:*** Have the Contribute permission level by default
- ***Visitors:*** Have the Read permission level by default
- ***Owners:*** Have the Full Control permission level by default

MOSS 2007, as expected, provides a handful of additional built-in SharePoint groups (including Approvers and Designers).

Click **Site Permissions** from the Quick Launch bar to review the permission levels associated with each SharePoint group.

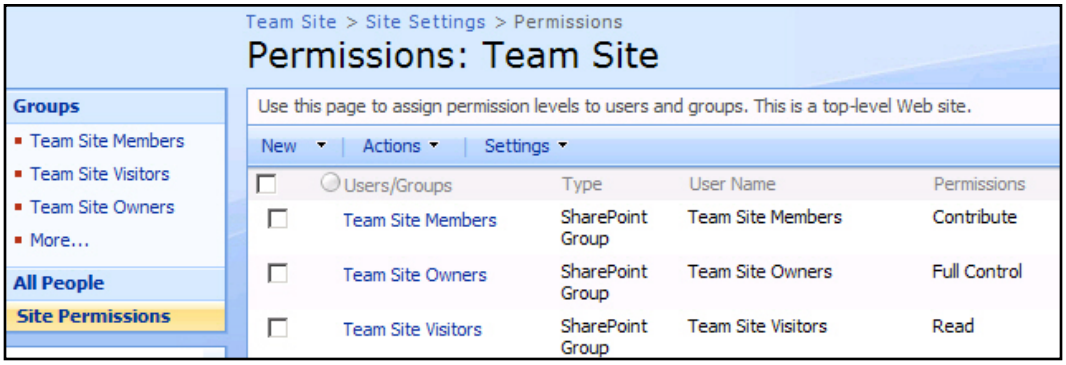


Figure 29: Viewing Site-Level Permissions

To create a new SharePoint group, simply open the **New** menu and select **New Group**. To view and modify the permission levels (Incidentally, in SharePoint a permissions level is simply a collection of the granular permissions that are allowed in the current Web application and set in Central Administration.)

Figure 30: Accessing Permission Levels

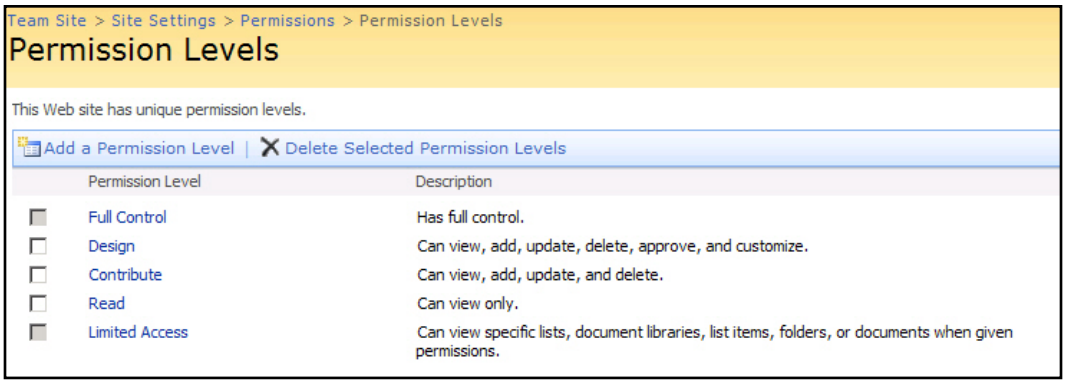


Figure 31: Viewing Available Permission Levels

In the Permission Levels Web form, you can add new permission levels, delete them, or, by clicking an already existing permission level, modify the permissions that are associated with each.

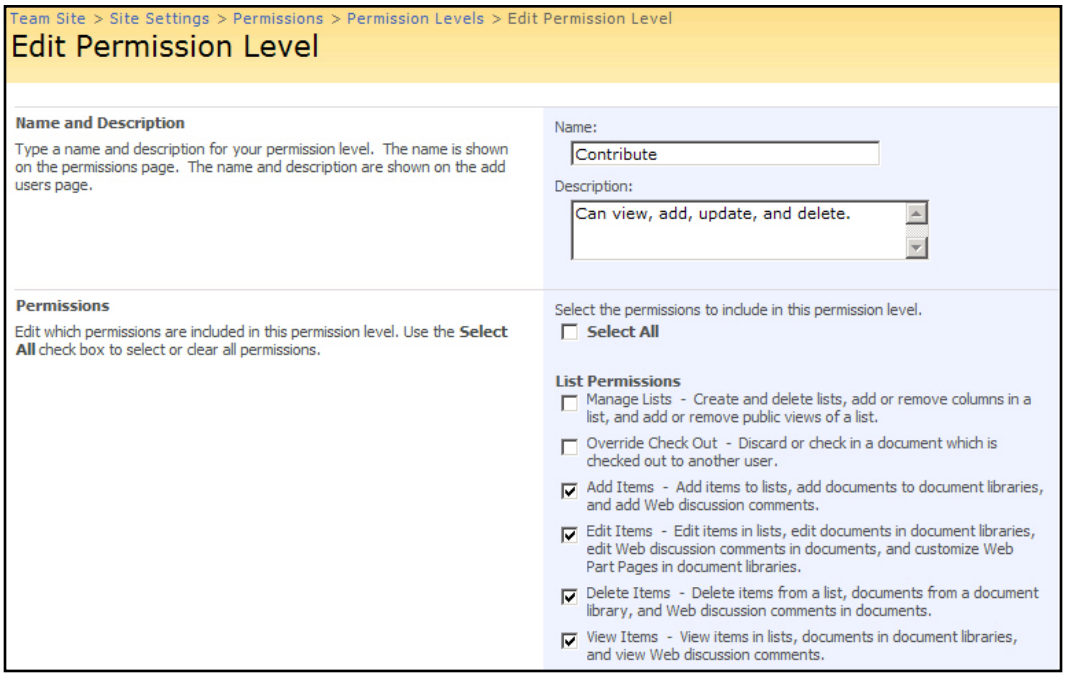


Figure 32: Editing a Permission Level

Creating Lists in SharePoint

A list in SharePoint is very much analogous to a table of data that you might store in, say, Microsoft Excel. However, we can do some nifty things with lists in SharePoint, as you will see shortly.

To create a list, you must first have proper permissions to do so. Obviously site owners have those permissions. You can either:

- Click **Site Actions > Create**.
- Click **View All Site Content** from the Quick Launch bar and click **Create** in the **All Site Content** form.

Figure 33: The Create Web Form in SharePoint

We want to focus on the list templates presented in the **Communications**, **Tracking**, and **Custom Lists** headings.

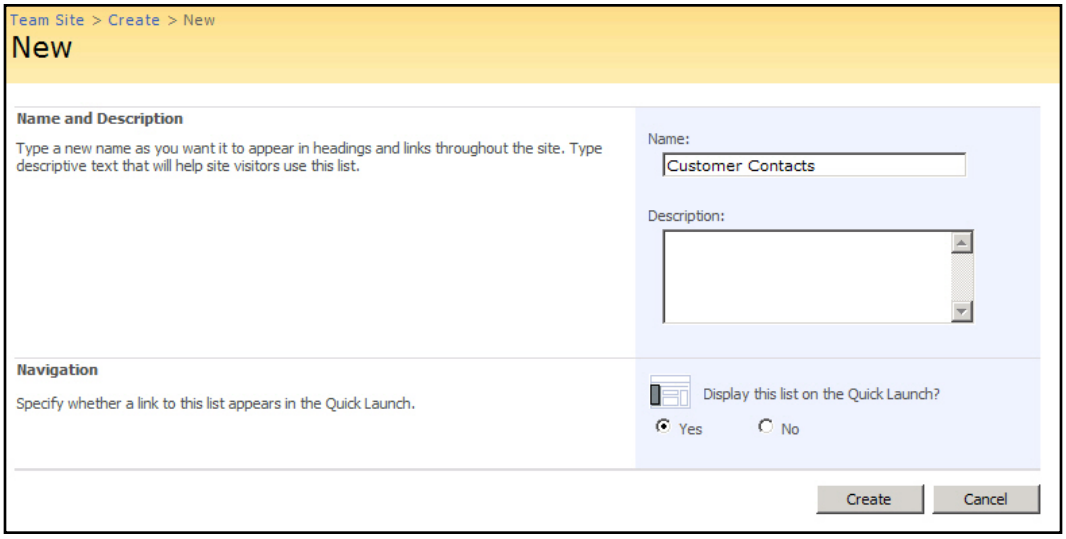


Figure 34: Creating a New SharePoint List

Creating a new list doesn't require much; you simply specify a name, optional description, and whether you want the list displayed in the Quick Launch bar. (I will cover customizing the Quick Launch bar later in this Exam Manual.)

Click **New** > **New Item** to add a new item to your list.

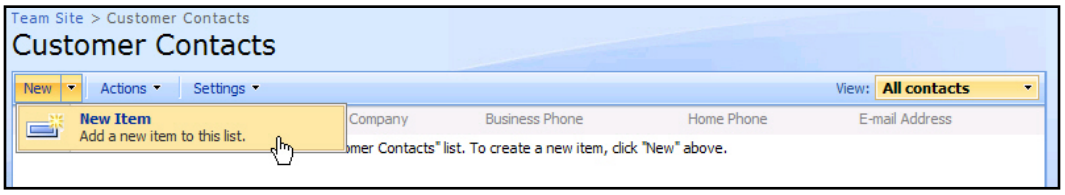


Figure 35: Adding an Item to a List

The specific fields (also called metadata columns) that you see when you add a new item to a list depend, of course, on the type of list you are adding to.

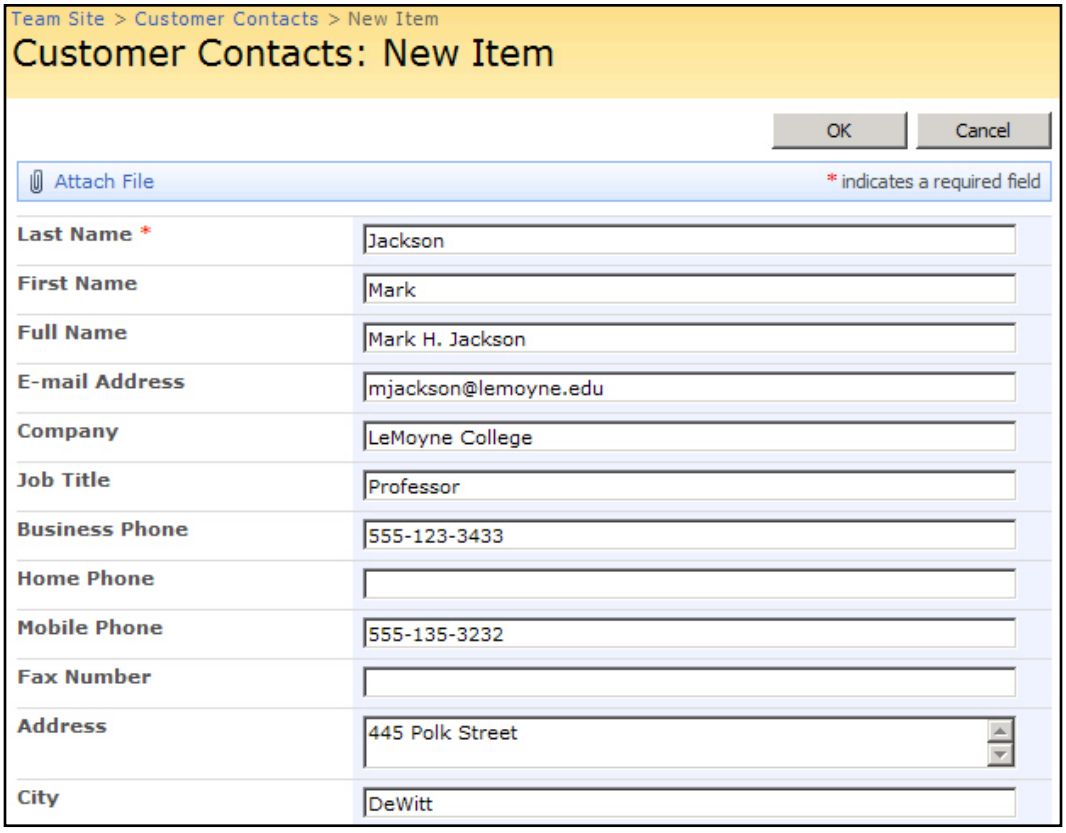


Figure 36: Creating a Contact

Using Access Web Datasheet View

As long as you have Microsoft Office Access 2007 installed on your computer, you can edit list contents by using an Access-like table grid. This can *greatly* speed up data entry in a list, trust me! You access the Access Web Datasheet view through the Actions menu in the list.

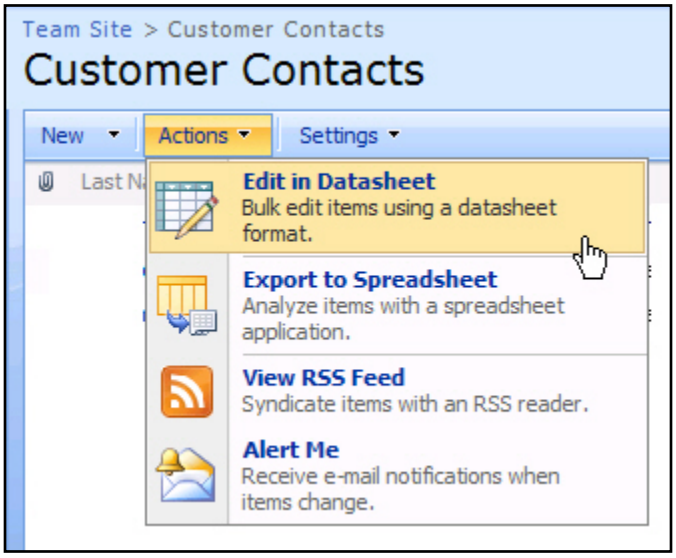


Figure 37: Accessing Access Web Datasheet View

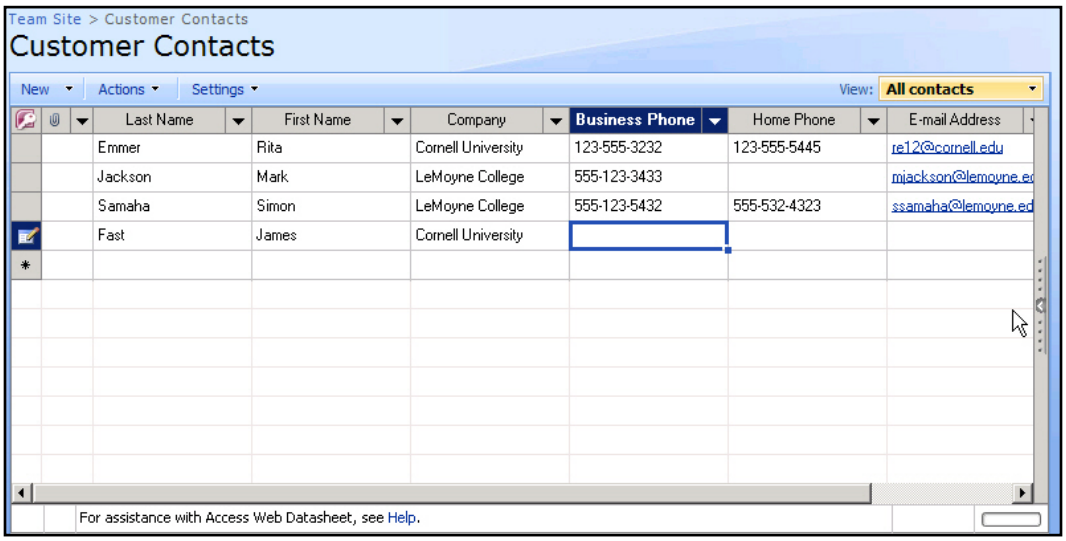


Figure 38: Access Web Datasheet View

Click **Actions > Show in Standard View** to exit Access Web Datasheet view and return to the traditional columnar view.

About Metadata Columns

The data columns that you see when you create a list are defined by the settings for that list template. In turn, a list template has one or more content types attached to it. A content type is a combination of the following three items:

- A document or list form template
- Metadata column(s)
- Workflow

You can view all available list templates, columns, and content types by navigating to the top-level site in the site collection, clicking **Site Actions** > **Site Settings**, and then viewing the items in the Galleries section.

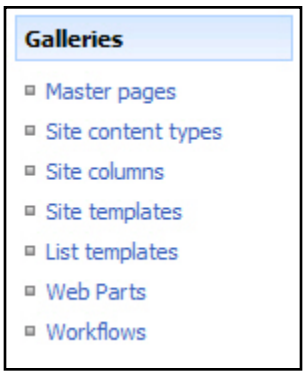


Figure 39: SharePoint Galleries Administrative Links

Alternatively, you can modify or create new metadata columns only in the current list. To do this, click **Settings** > **List Settings** in the target list, and then viewing the **Columns** information.

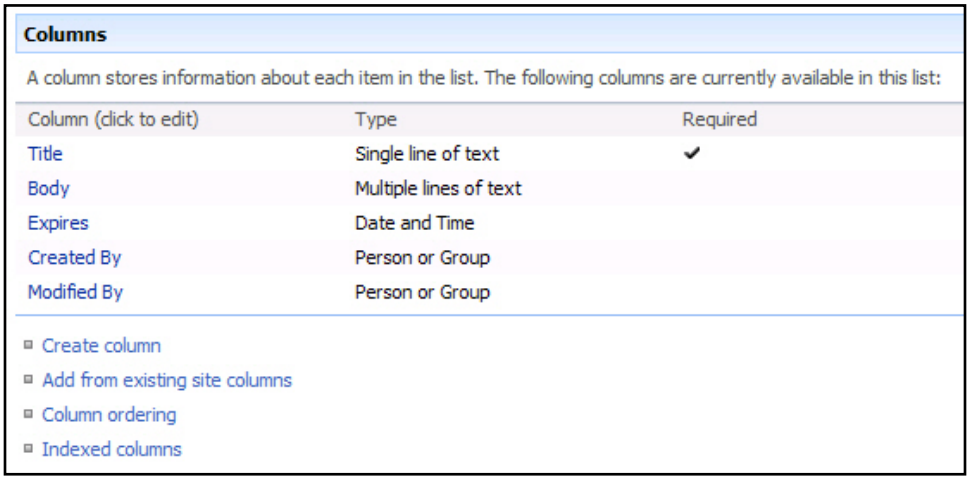


Figure 40: Viewing List Column Properties

It's important to realize that a metadata column contains three chief properties:

- A "friendly" name that identifies the column in the list
- The data type associated with the column
- Whether or not that metadata column is required

Note also that you can (a) create a new column from "scratch" and/or (b) add a new column to a list from the existing site columns that reside in the top-level site of the site collection. The take-home message here is that SharePoint best practice dictates that you store columns, content types, and templates in the Galleries area of the site collection for maximum reusability.

You can also add a column to a list on the fly by clicking **Settings > Create Column** in the list in question.

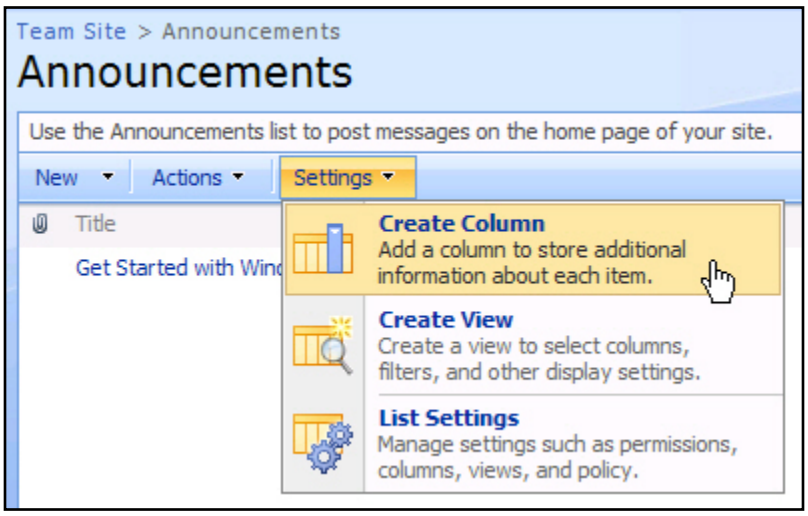


Figure 41: Creating a List Column on the Fly

Column Data Types

Have you ever designed a table for a database system? If so, then you understand how important it is that you select the proper data type for each column in a table.

The same principle holds true for SharePoint. A new list column can be associated with any of the following built-in data types:

- Single line of text
- Multiple lines of text
- Choice (menu to choose from)
- Number
- Currency
- Date and Time
- Lookup (information that already exists in the site)
- Yes/No (check box)
- Person or Group
- Hyperlink or Picture
- Calculated (calculation based on other columns)

Working with Metadata Columns

Once you have established your required and optional columns for a list, you can either add the column data upon list item creation or retroactively edit the properties for a list item by opening that list item's drop-down menu and choosing **Edit Item** from the menu.

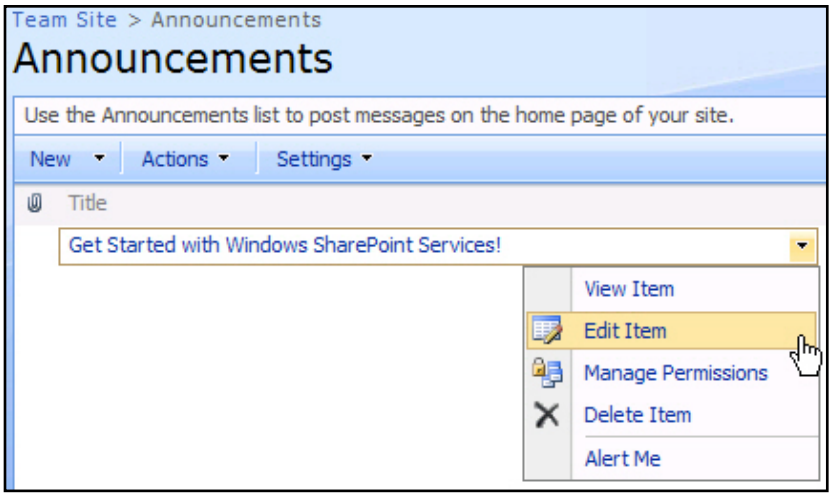


Figure 42: Editing a List Item

The following figure shows a custom required column that I created by specifying the Choice data type, which is really useful when you want to present the SharePoint user with a list of options to choose from.

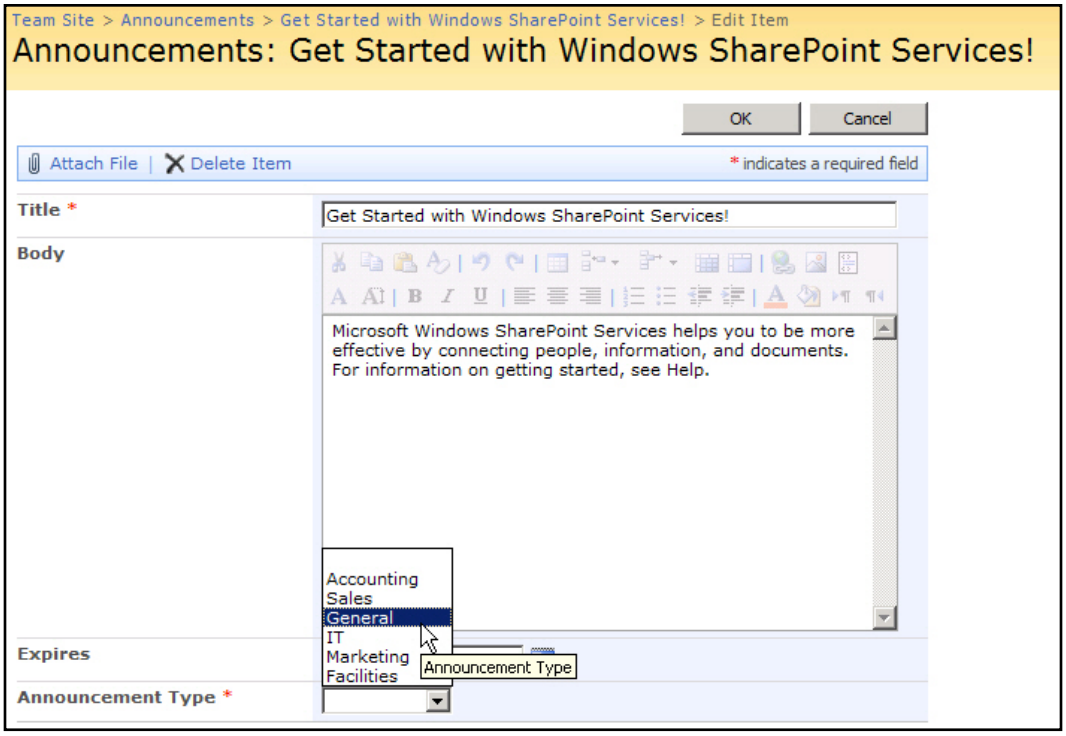


Figure 43: Editing a Required Field

If you try to submit a list item to the library without filling in a required field, you receive the following error message:

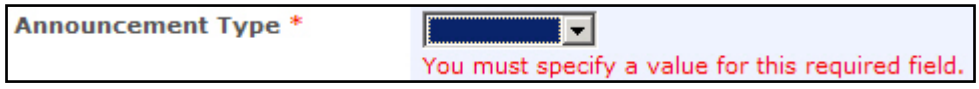


Figure 44: A Required Field in a SharePoint List

Using Views

In SharePoint, a view is nothing more than a saved view filter. For instance, you might have a list that includes items targeted for one of several categories. Wouldn't it be nice to be able to filter the list to see only those items that are associated with a specific category?

Public and Personal Views

Fundamentally, list or library views take one of two forms:

- Public view
- Personal view

SharePoint administrators and list owners can create Public views, which are visible and accessible to anyone with Read permissions on the list.

A Personal view can be created by any SharePoint user who is allowed to use the SharePoint personalization feature. Obviously, a Personal view is visible and accessible only to that particular SharePoint user.

View Formats

At design time, a view creator selects the format in which the view displays data in a list. The following are the available view formats in WSS 3.0 and MOSS 2007:

- ***Standard view:*** Traditional SharePoint list view.
- ***Calendar view:*** Presents a monthly calendar table view; ought to be familiar to users of Microsoft Outlook.
- ***Access view:*** Remember the Microsoft Access Web Datasheet View that we looked at earlier in this Exam Manual? That's what this view type uses for display.
- ***Datasheet view:*** This presents an Access-like grid view for customers who don't have Microsoft Access 2007 installed on their computers.
- ***Gantt view:*** Presents a textual/graphical view format that ought to be familiar to anyone who has used Microsoft Project in the past. This view is good for showing task durations.

Creating a View

To create a view, you can either open the list's **View** menu and select **Create View**, or you can simply click **Settings > Create View** from the list.

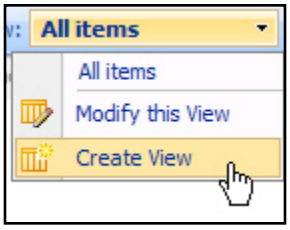


Figure 45: The View Drop-Down Menu

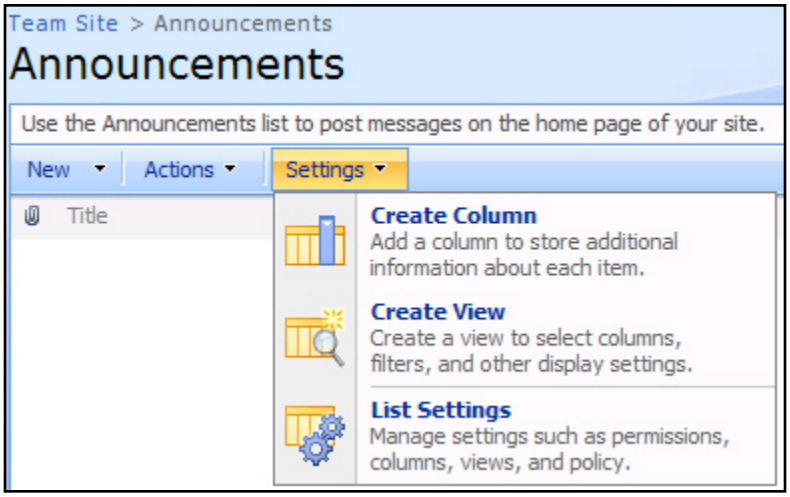


Figure 46: Creating a View from a SharePoint List

Take a look at the following screen capture to get a feel for the depth of configuration that is available to you when you define a view:

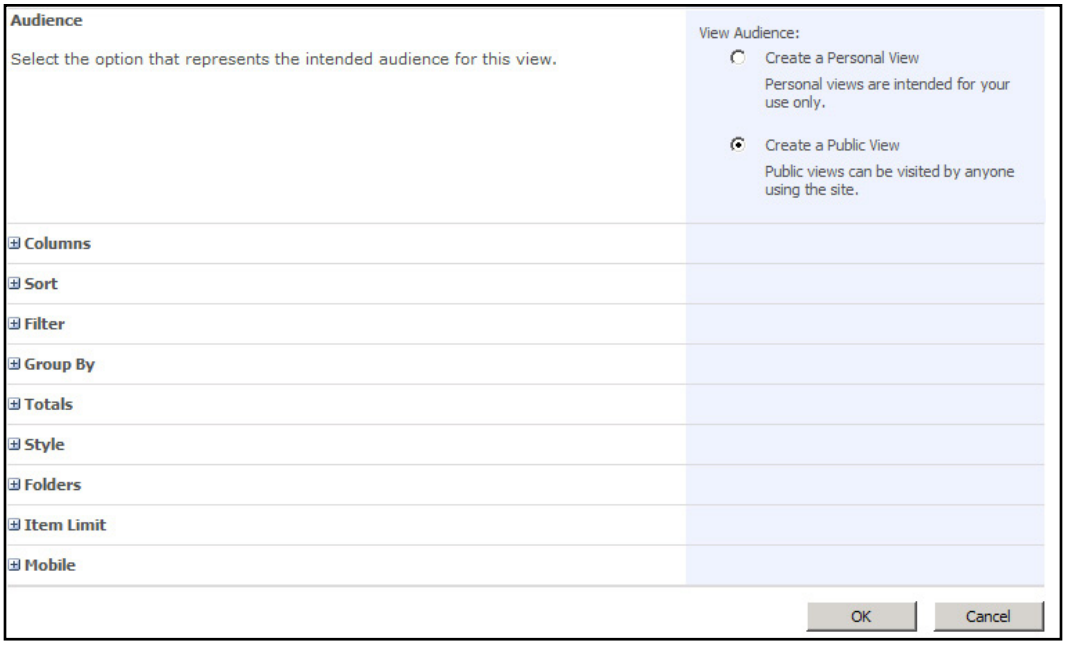


Figure 47: View Options

In essence, when you define a view for a SharePoint list or library, you are creating a simple to complicated query on the list or library data. For instance, the following image shows a view I created for a Contacts list that displays only those contacts from Cornell University:

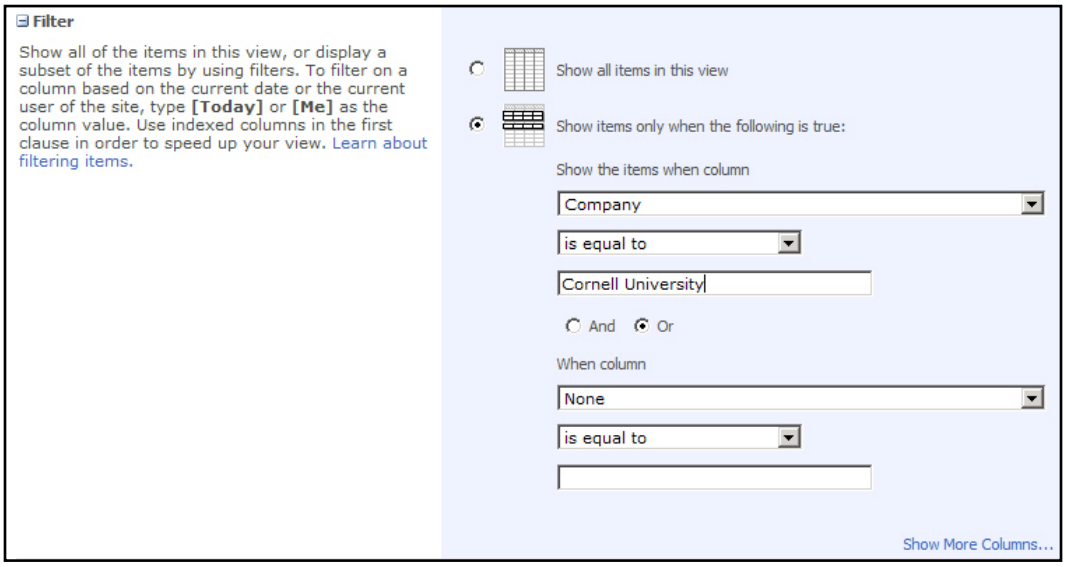


Figure 48: View Filtering Options

Using a View

Using a Personal or Public view is simple—just open the Views drop-down list in the target list and choose your view from the list.

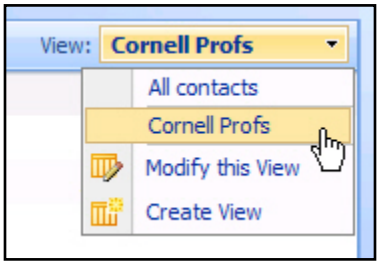


Figure 49: Selecting a View

The view you see initially in a list or library is known as the default view. The default view can be configured for a list by clicking **Settings > List Settings** and examining the **Views** area of the Settings Web form.

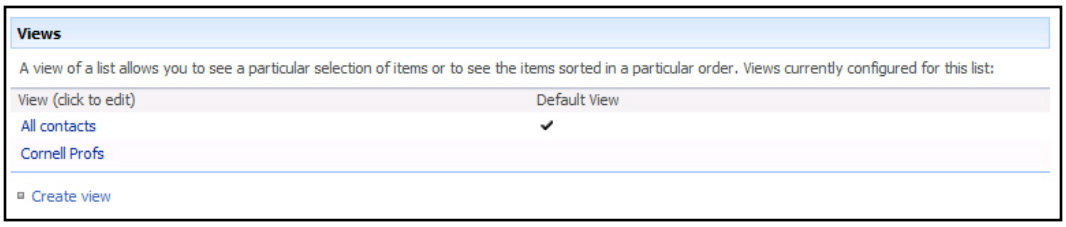


Figure 50: Configuring View Defaults

Subscribing to a List

SharePoint users can "subscribe" to a list by using one of two methods:

- Connecting to Outlook
- Really Simple Syndication (RSS)

Connecting a List to Outlook

You can have bidirectional access to SharePoint lists by using the Connect to Outlook feature. Note that you must have Outlook 2007 installed on your computer.

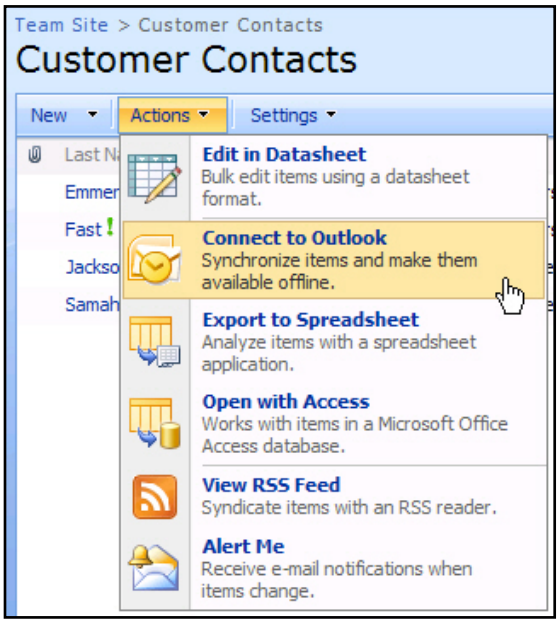


Figure 51: Connecting a List to Outlook 2007

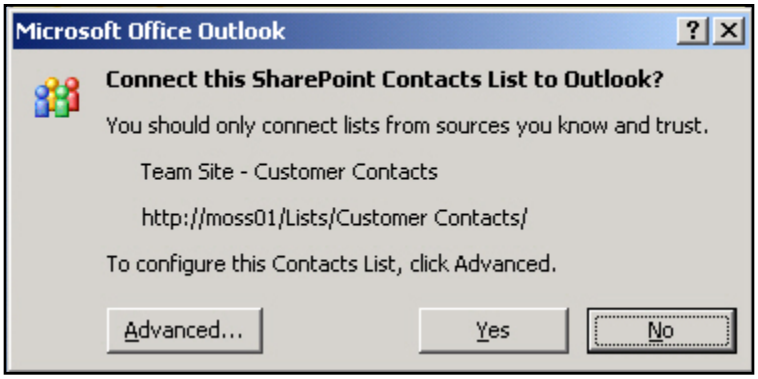


Figure 52: Outlook 2007 Confirmation

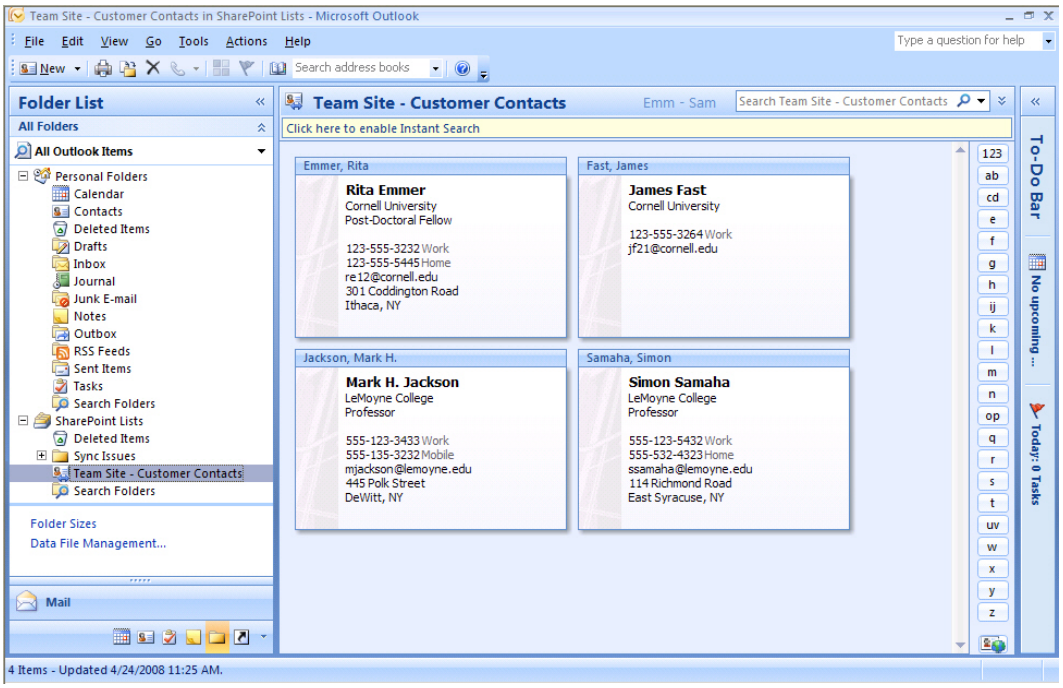


Figure 53: A List Synchronized with Outlook 2007

Note that Outlook 2007 creates a SharePoint Lists item in your mailbox folder list. Note also that you can copy contacts to and from (bidirectionally) the SharePoint contacts list and your Outlook personal contacts list.

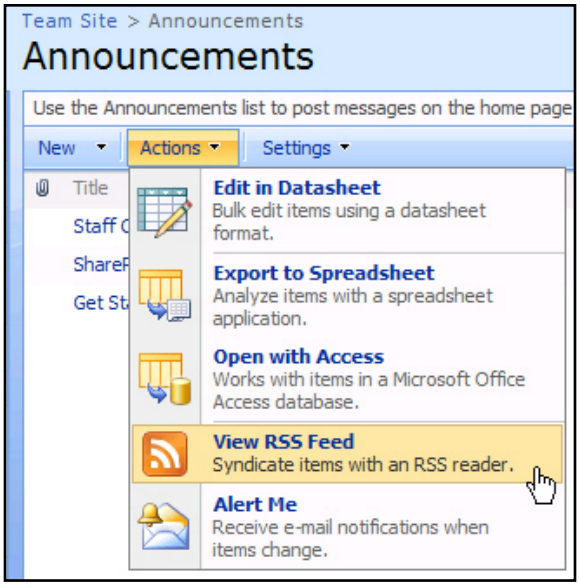
Subscribing to a List by Using RSS

RSS is a wonderful technology that allows Web site users to subscribe to online content. By default, all SharePoint lists and libraries are RSS-enabled. To use RSS you must know two things:

- The RSS feed URL
- What program you will use as your RSS feed reader

Both Microsoft Internet Explorer 7 and Microsoft Office Outlook 2007 have built-in support for RSS subscriptions.

In the list, open the **Actions** menu and select **ViewRSS Feed**.



You are presented with the following Web dialog:

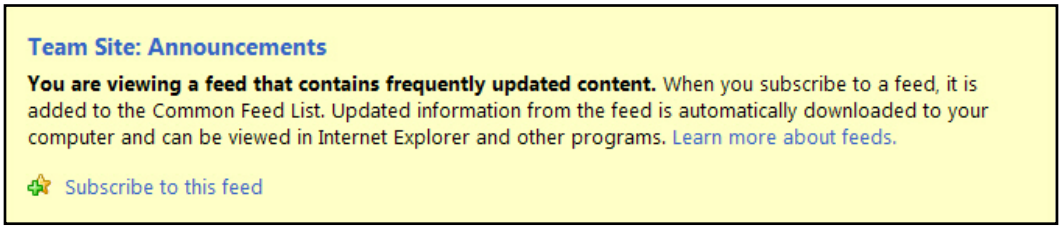


Figure 54: Viewing an RSS Feed URL in IE 7

To subscribe to the SharePoint list or library by using Internet Explorer 7, click **Subscribe to this feed**. To subscribe to the site by using Outlook 2007 or another RSS reader, right-click the Uniform Resource Locator (URL) in the browser Address bar, copy it to your Windows clipboard, and paste the URL into Outlook 2007.

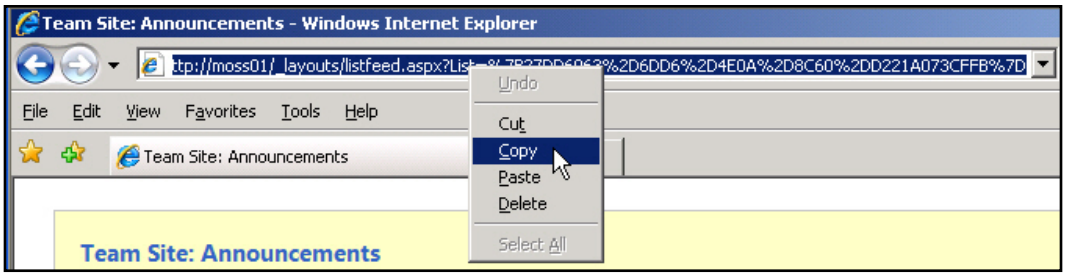


Figure 55: Copying a SharePoint RSS URL to the Clipboard

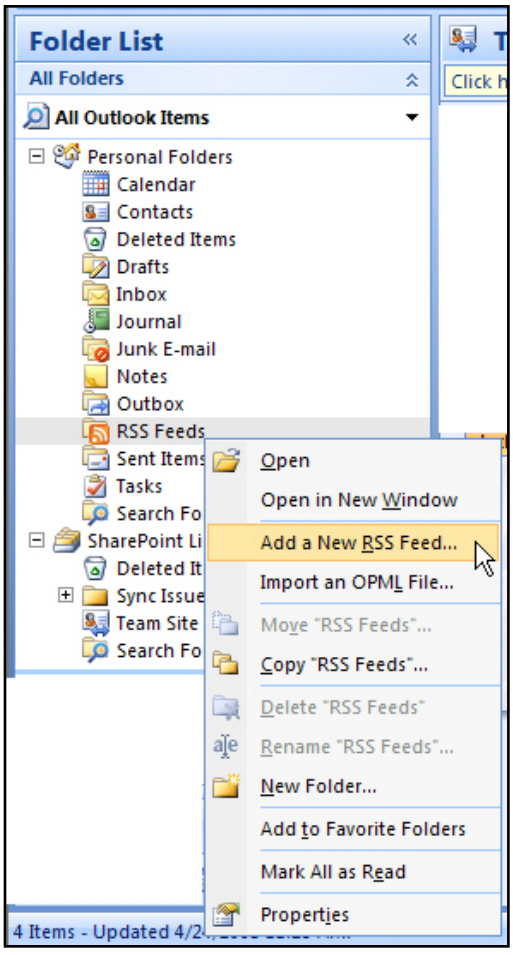


Figure 56: Adding a SharePoint RSS Feed to Outlook 2007

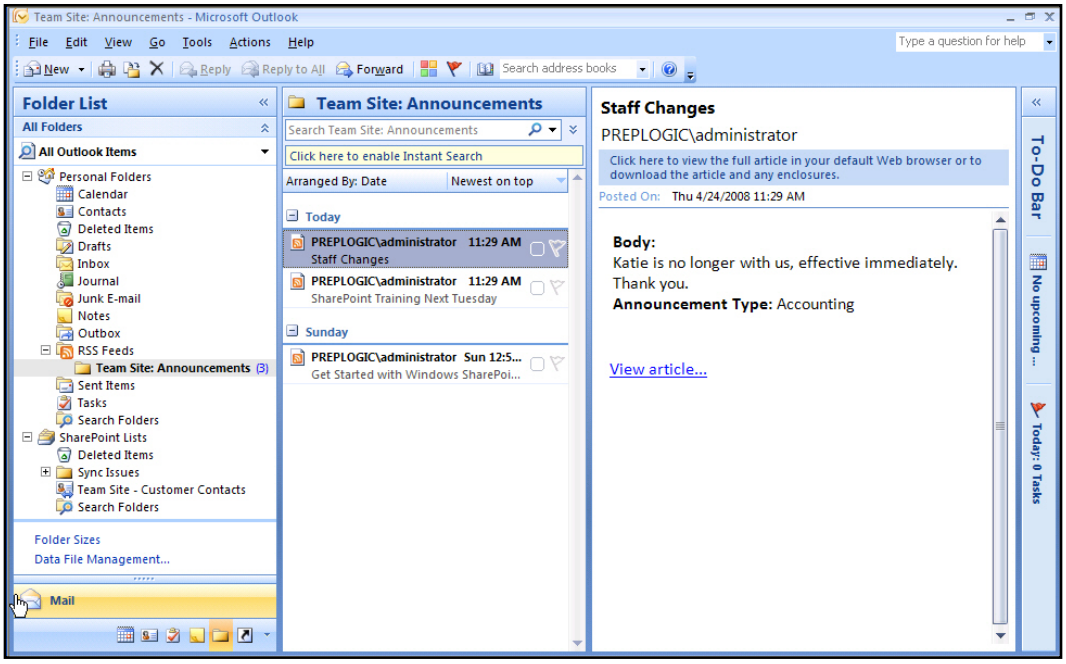


Figure 57: Viewing RSS Content in Outlook 2007

Administering RSS Settings

As a SharePoint administrator, you can customize the RSS functionality of lists and libraries within your SharePoint portal structure. To globally disable or enable RSS, navigate to the top-level site in the site collection and access the **Site Settings** page by clicking **Site Actions > Site Settings**. In the **Site Settings** dialog box, click **Site Administration > RSS**.

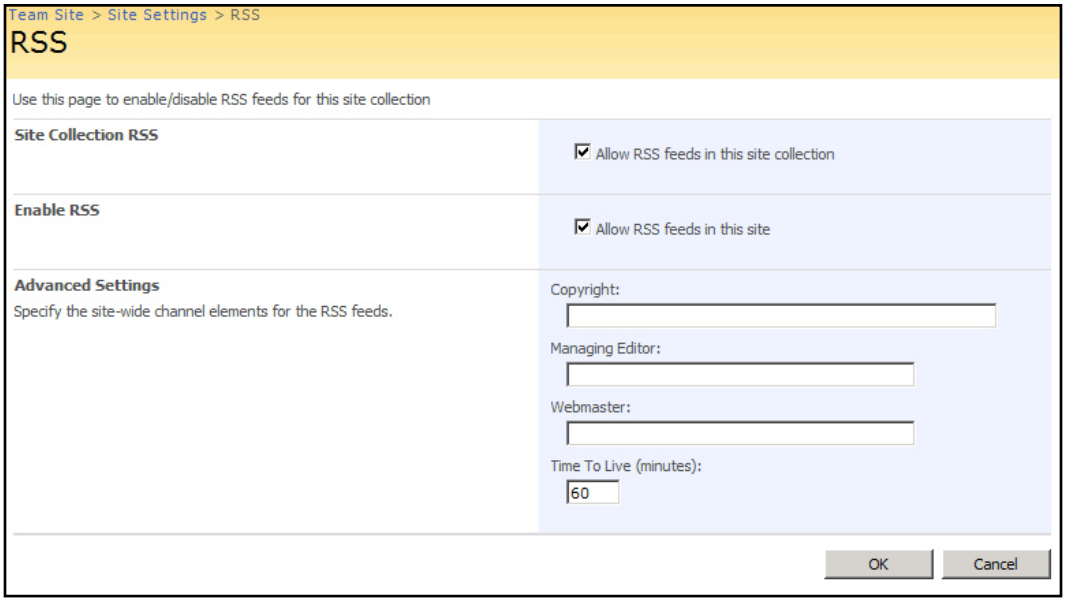


Figure 58: Configuring Site-Level RSS Settings

To tweak RSS settings within a particular list or library, navigate to that list or library, click **Settings > List Settings**, and then click **Communications > RSS settings** in the **Settings** dialog.

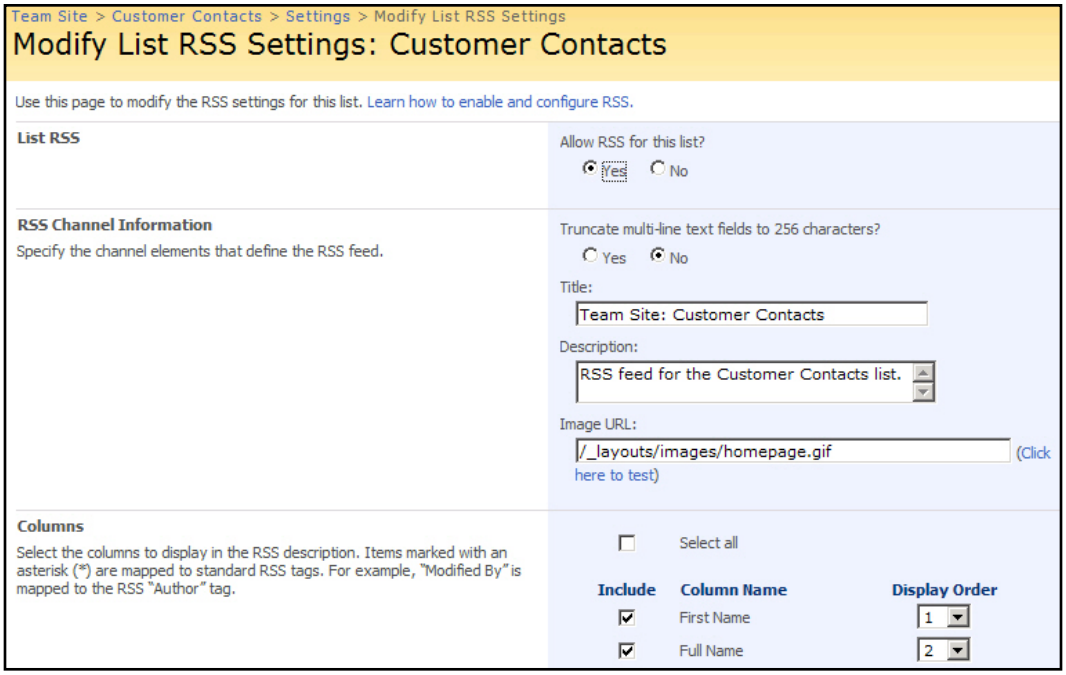


Figure 59: Configuring List-Level RSS Settings

Configuring Alerts

SharePoint alerts provide you with a way to be notified via Simple Mail Transfer Protocol (SMTP) e-mail whenever something changes within the SharePoint portal. For instance, you might configure alerts to notify you via e-mail when:

- A new announcement is added to an Announcements list
- A contact is modified or deleted in a Contacts list

Ordinary SharePoint users can configure alerts on (a) the list or library level, or (b) the item level. That is to say, you could set one alert to be notified whenever something changes in an entire list, and you could set another alert to be notified whenever a single list item is modified in some manner.

Before alerts will work in SharePoint, the SharePoint server must be configured to support outbound e-mail. This can be done by navigating to **Central Administration > Operations > Outgoing E-mail Settings**.

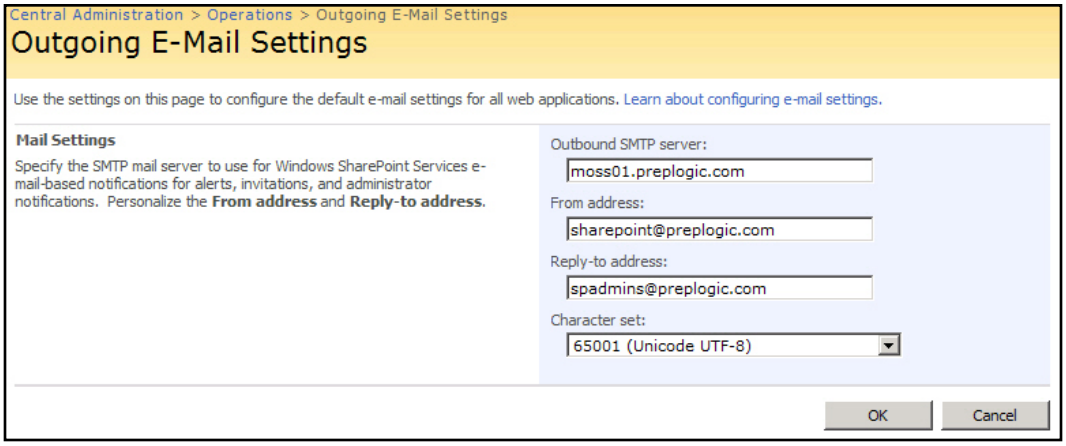


Figure 60: Configuring Outbound E-mail in WSS 3.0

Creating a List-Level Alert

To create a list-level alert, navigate to the list in question and then click **Actions > Alert Me**.

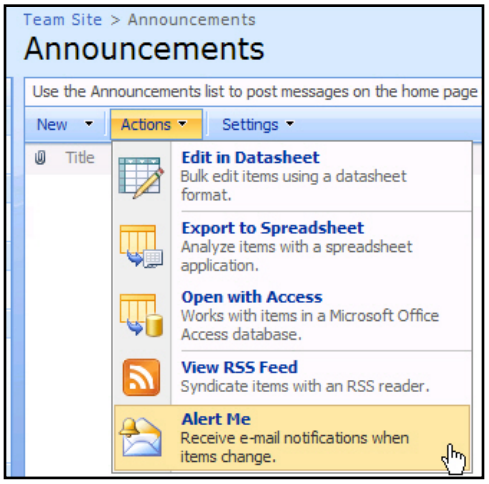


Figure 61: Generating a List-Level Alert

In the New Alert Web form, you name the alert, specify the user or users who will be the recipient of your alert (only SharePoint administrators can set alerts for other SharePoint users), and make the following configuration changes:

Only send alerts when:

- All changes
- New items are added
- Existing items are modified
- Items are deleted

Send an alert when:

- Anything changes
- Someone else changes an item
- Someone else changes an item created by me
- Someone else changes an item last modified by me
- An item with an expiration date is added or changed

When to send alerts:

- Send e-mail immediately
- Send a daily summary e-mail message
- Send a weekly summary e-mail message

Creating an Item-Level Alert

To configure an item-level alert, hover your mouse pointer over the item to expose its drop-down menu. Next, select **Alert Me** from the menu.

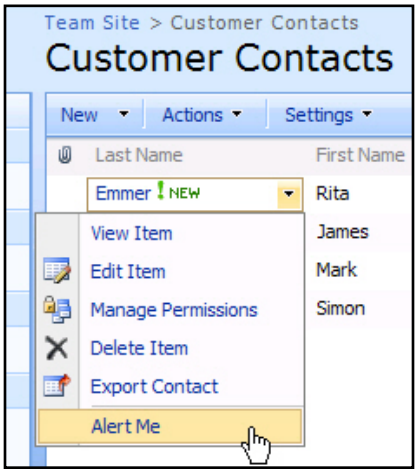


Figure 62: Generating an Item-Level Alert

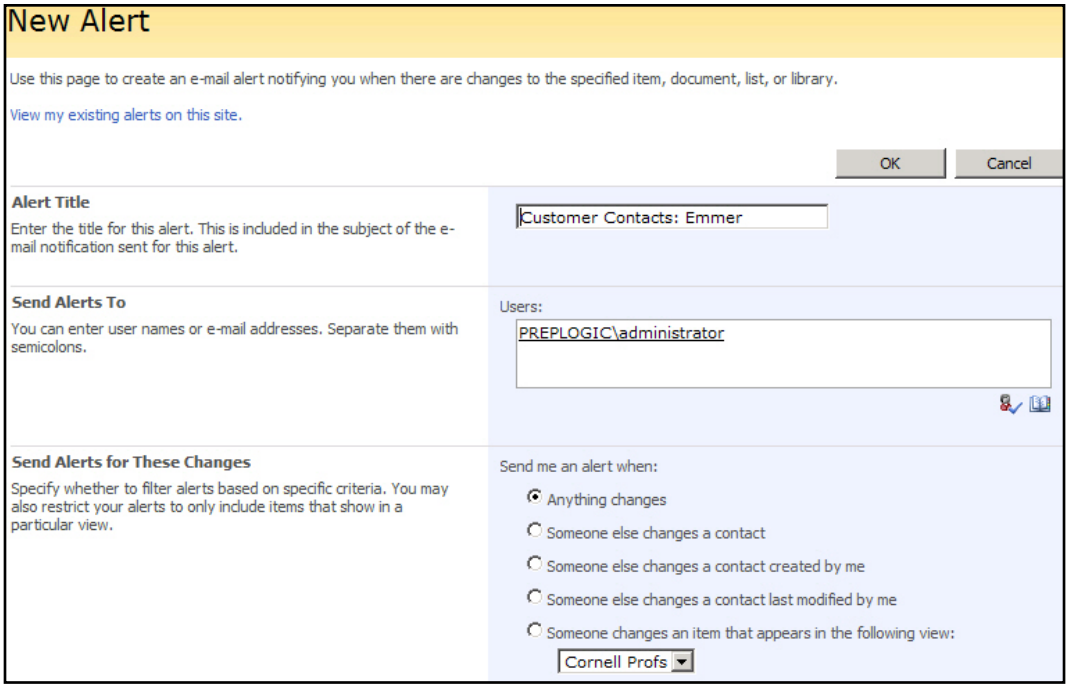


Figure 63: Setting Alert Properties

Note that you have essentially the same alert settings at the item level as you do at the list level.

Managing Your Alerts

To manage all of your SharePoint user account's alerts, open your **Welcome** menu and select **My Settings**. In the **User Information** form, click **My Alerts**.

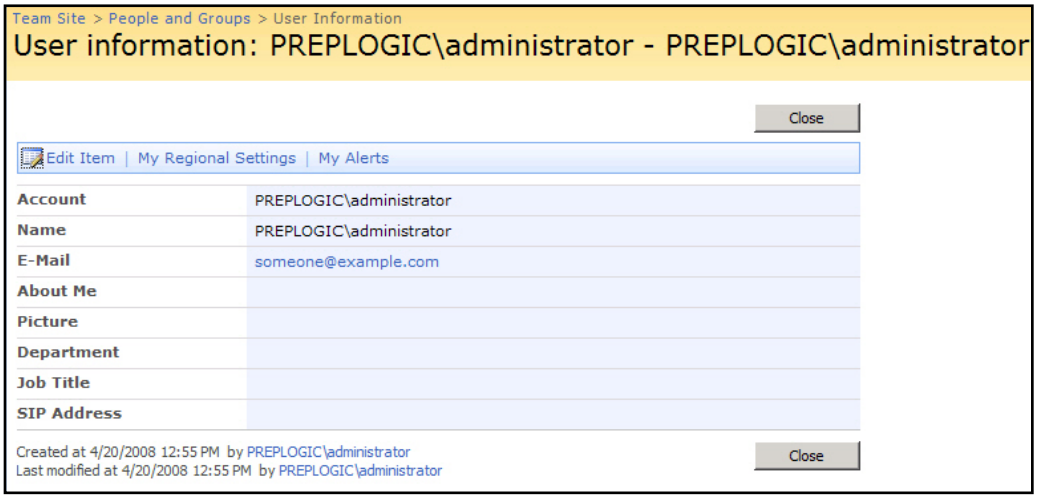


Figure 64: Viewing User Properties

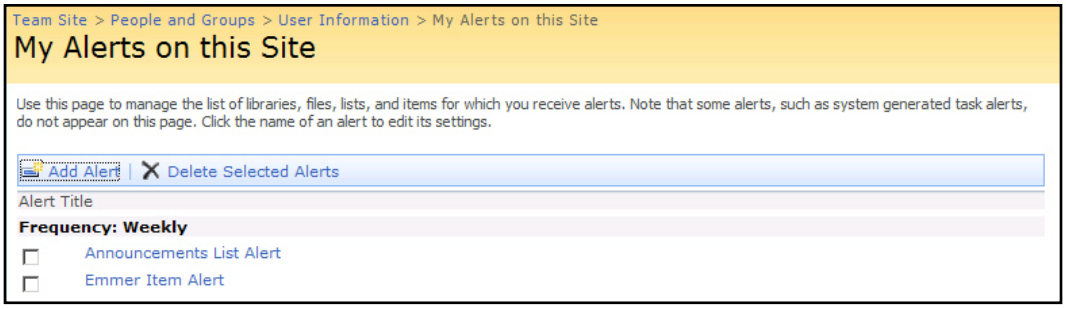


Figure 65: Viewing User Alerts

Observe that you can add, modify, and/or delete your alerts from the My Alerts Web form.

NOTE: Alerts are created on a per-site basis. Therefore, if a site collection consists of a top-level site and 10 subsites, you could theoretically have 11 places to go to configure your alerts. Not very efficient. To address this problem, SharePoint Solutions sells a nifty SharePoint add-on called Alert Manager.

Managing List Permissions

Earlier in this Exam Manual we examined how we can set access permissions at the site and site collection levels. You also need to understand that you can override permissions inheritance and set permissions at the list and item level.

Setting List Permissions at the List Level

To set custom access permissions for an entire SharePoint list or library, navigate to the list and click **Settings > List Settings**. In the **Settings** dialog, click **Permissions and Management > Permissions for this list**.

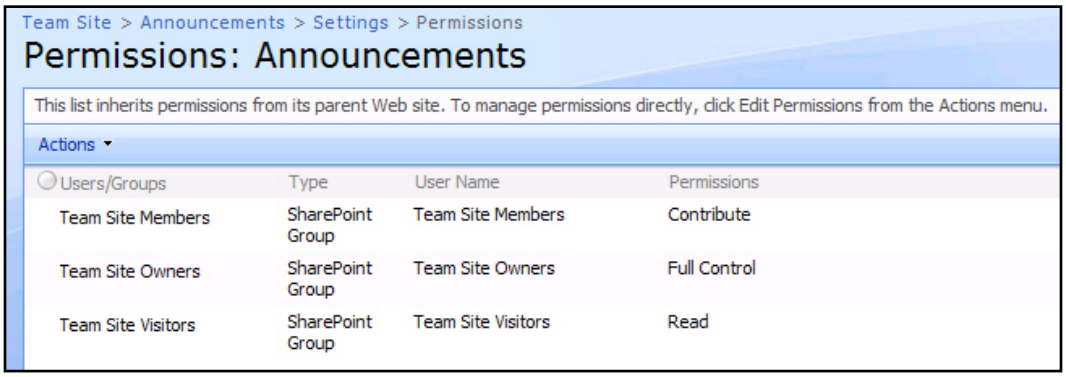


Figure 66: Viewing List-Level Permissions

Note the explanatory text in the **Permissions** dialog; it says "*This list inherits permissions from its parent Web site. To manage permissions directly, click Edit Permissions from the Actions menu.*"

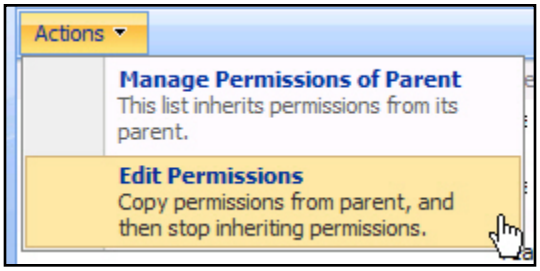
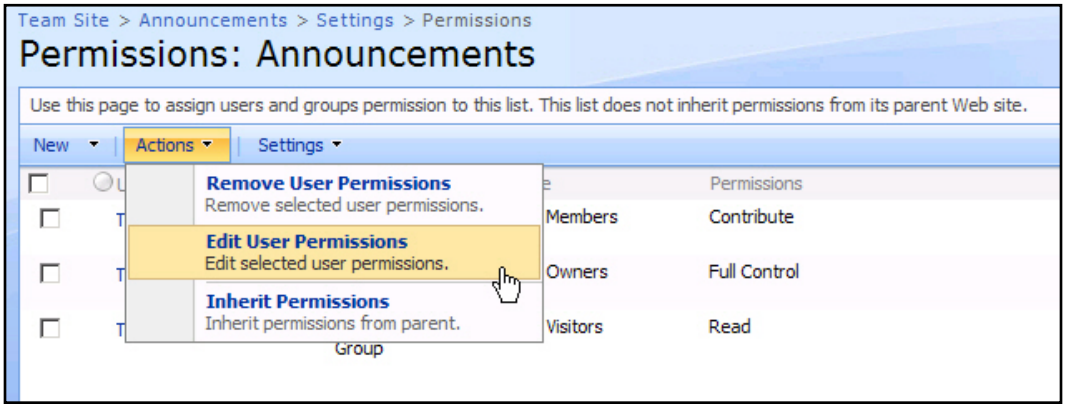


Figure 67: Breaking Permissions Inheritance

Note the **Manage Permissions of Parent** option in the **Actions** menu. Once we break permissions inheritance from the parent site level, we could choose this option to discard our custom permissions and re-inherit the site defaults.



We now have full control over the access control list (ACL) for the list.

Setting List Permissions at the Item Level

To set access permissions at the list item level, open that item's drop-down list and click **Manage Permissions**.

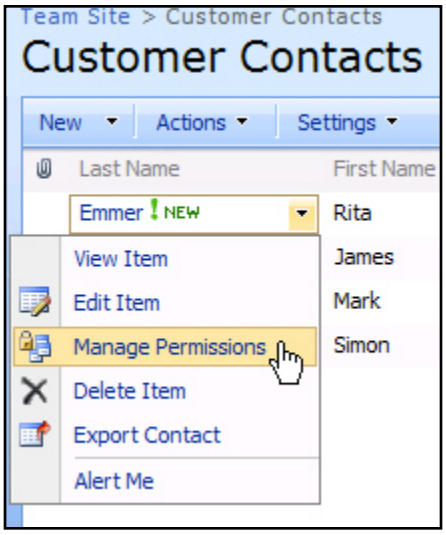


Figure 68: Managing Item-Level Permissions

Permissions inheritance can then be broken and the ACL re-created in the same manner as you learned earlier.

Saving List Templates

Let's say you spend time creating a custom Announcement list that includes:

- Custom content types (more on what these are and how they work later)
- Custom metadata columns
- Custom views

Now imagine that you need to define 15 more Announcement lists exactly like your first one. You don't want to have to reinvent the wheel every time. To this end, you can save your list as a template. SharePoint template files have the .STP extension. In the list, click **Settings > List Settings > Permissions and Management > Save list as template**.

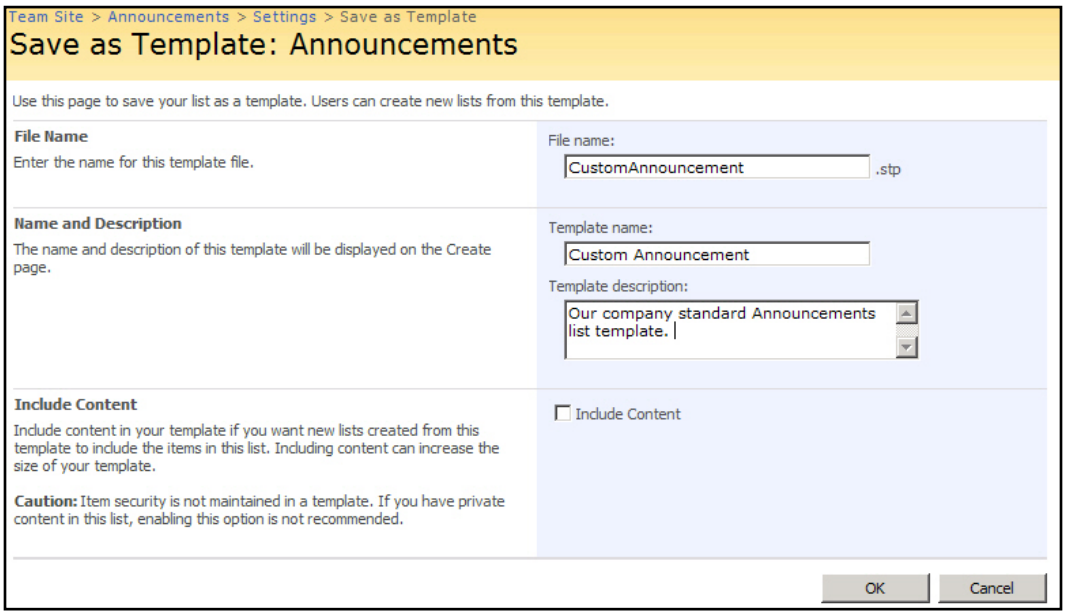


Figure 69: Saving a SharePoint List as a Template

Note that you can optionally include the content in addition to storing the structure and metadata of the list. Note also that list templates do *not* carry permissions with the .STP file. Also, this file is stored in an SQL database and not in the file system.

Viewing List Templates

Once you have saved a list template, it is accessible anywhere in the site collection (top-level site and all subsites). You can navigate to the top-level site in the site collection and then click **Site Actions > Site Settings > Galleries > List templates** to view the list template gallery.

Figure 70: List Template Gallery

Are you seeing the pattern here? Namely, these galleries are nothing more than SharePoint lists in themselves! That is, you can create custom views, add metadata columns, and so on, to any of these gallery lists as you would to any user-defined list.

The List Template Gallery is cool because you can export a template to an external .STP file and then re-import it into another SharePoint site collection.

Creating a List Based on a Saved Template

From any SharePoint site, click **Site Actions > Create** to open the Create Web form. You should see any saved list templates in the...well...*list*.

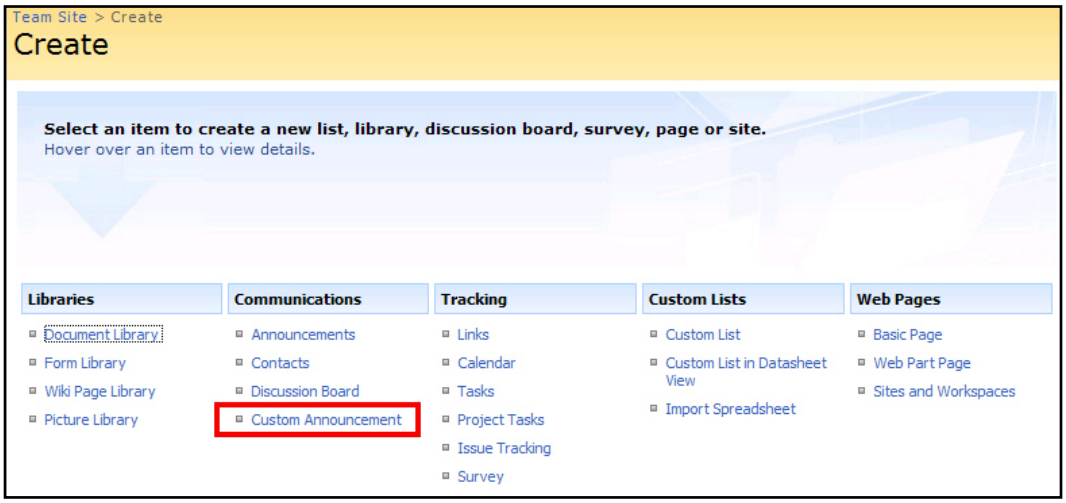


Figure 71: Accessing a Saved List Template

Creating Libraries in SharePoint

Besides the list, the other object that you will doubtless spend most of your time creating and maintaining is the library. A SharePoint library is a secure repository for data. Like lists, library data are stored not in the Windows file system directly but in an SQL database (specifically, the content database for its associated Web application).

WSS 3.0 supports the creation of the following types of libraries:

- ***Document library:*** Intended to store Microsoft Office or other document types
- ***Form library:*** Intended to store Microsoft Office InfoPath 2007 forms
- ***Wiki Page library:*** Intended to store quickly editable Wiki pages
- ***Picture library:*** Intended to store graphic images and illustrations

MOSS 2007 includes support for additional library types, such as PowerPoint slide libraries and Translation Management libraries for document language translation projects.

Provisioning a New Library

To create a new library, visit the Create page for the target site and simply make a choice from the Libraries section.

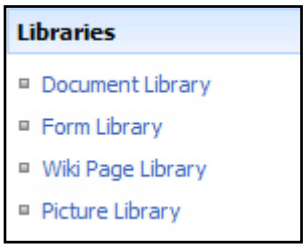


Figure 72: Creating a Library

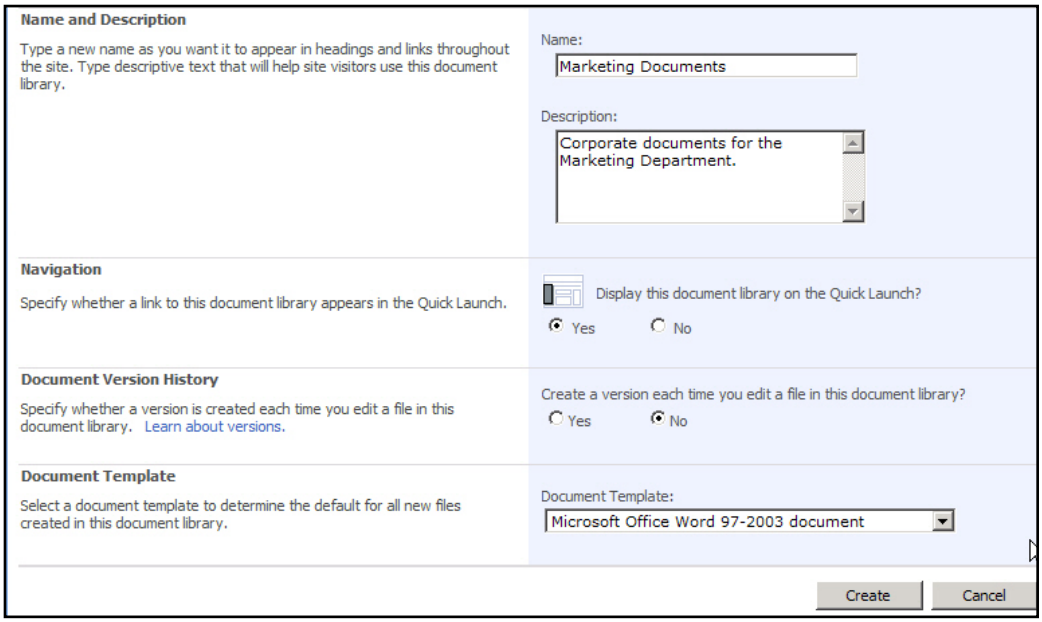


Figure 73: Specifying Initial Settings for a Library

When you create a library, the New dialog asks you to specify the following information:

- Name and optional description
- Whether to display a link to the library on the site Quick Launch bar
- Whether to enable document versioning (more on this concept later)
- What type of document template to use

The document template choice is interesting because this defines the type of new document that can be created by opening the **New** menu in the library. In WSS 3.0, the user must have the associated application (for instance, Word 2007 or Excel 2007) in order to use the **New** menu and create a new document directly from the library.

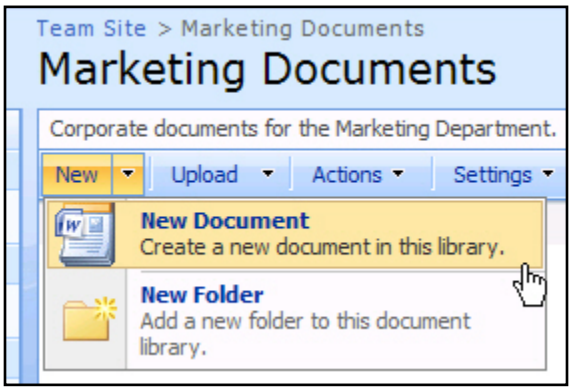


Figure 74: Starting a New Document from within a SharePoint Library

Adding Documents to a Document Library

SharePoint users can add new documents to a document library in one of three ways:

- The **New** menu in the library
- The Upload function in the library
- The SharePoint e-mail-enabled library feature

Adding Documents Via the New Menu

When a user accesses the **New** menu in a SharePoint document library to create a new document directly from the server, they see the following dialog box:

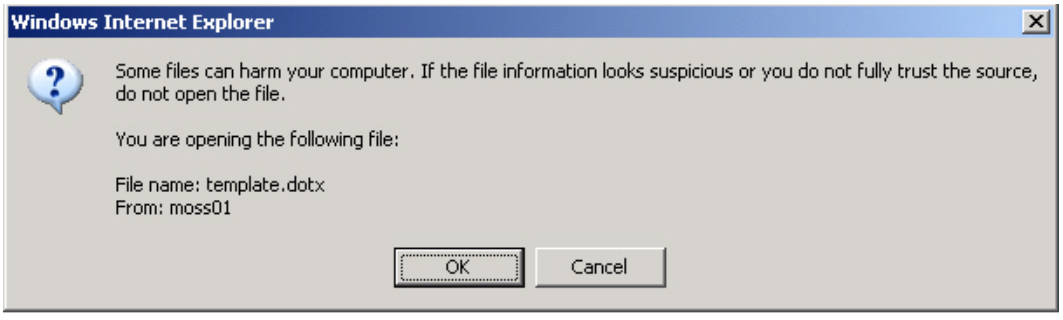


Figure 75: Confirmation Message

Of course, the specific template indicated in this dialog depends on the document template associated with the **New** menu of the document library.

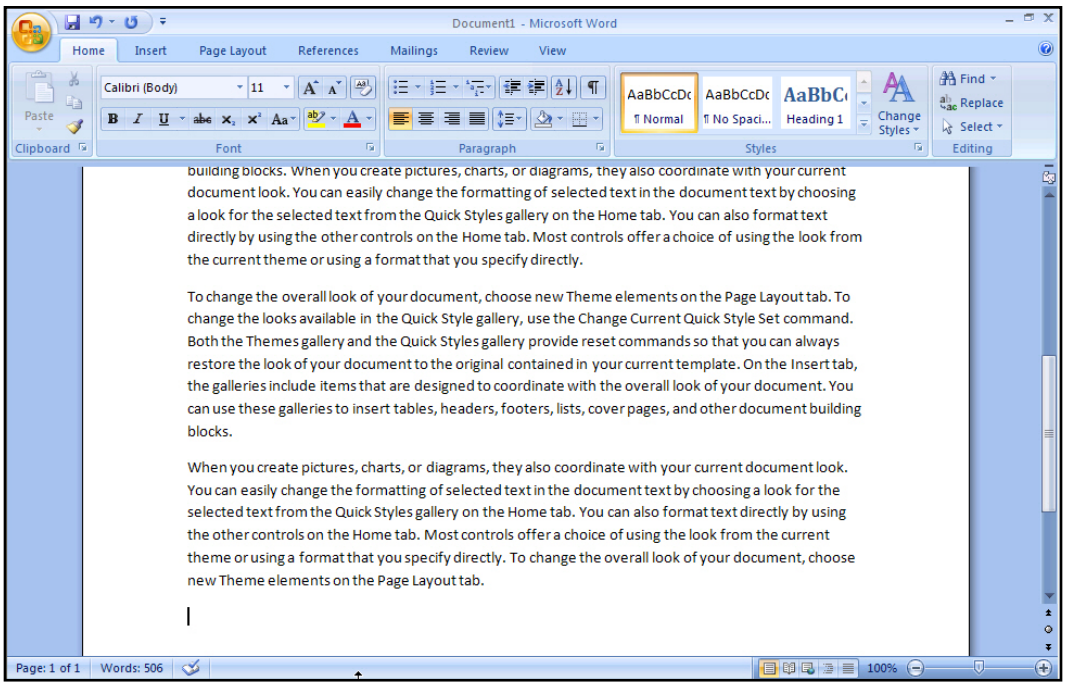


Figure 76: A Server-Based Document open in Word 2007

When you click Save in your end-user application, notice the save location: it is, by default, the document library in SharePoint!

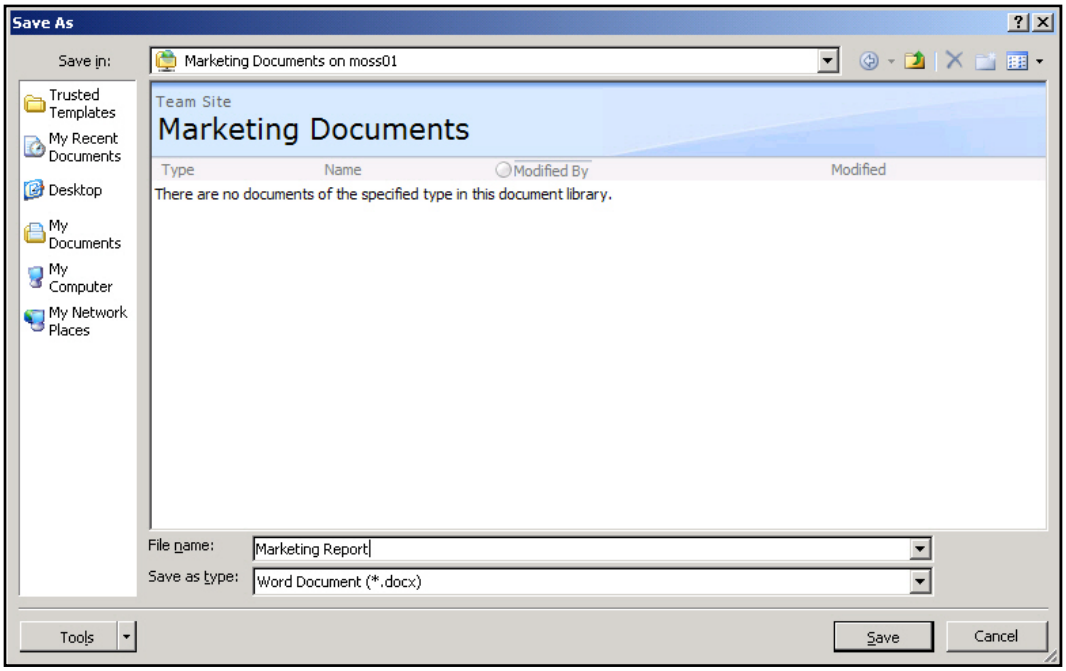


Figure 77: Saving a Document to the SharePoint Server

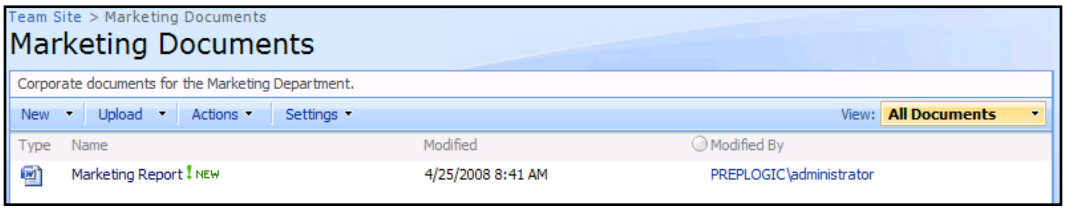


Figure 78: The library Post Document Upload

Adding Documents Via the Upload Function

If you have already-existing documents that you want to add to a SharePoint library, click **Upload > Upload Document** in the document library.

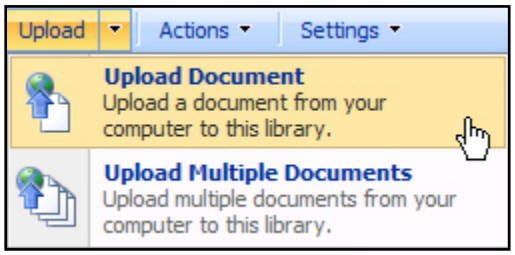


Figure 79: Uploading a single document

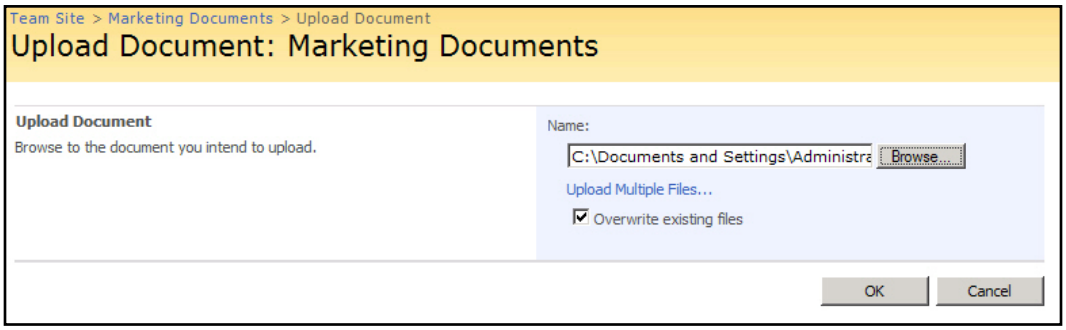


Figure 80: Uploading a single document

In the Upload Document Web form, click **Browse** to locate your target file, specify whether to overwrite an existent copy of the file in the library, and then click OK.

Do you see the **Upload Multiple Files...** hyperlink? That link is handy if you decide at this point that you have more than one file to upload to the library. Alternatively, you can navigate back to the document library and click **Upload > Upload Multiple Documents**.

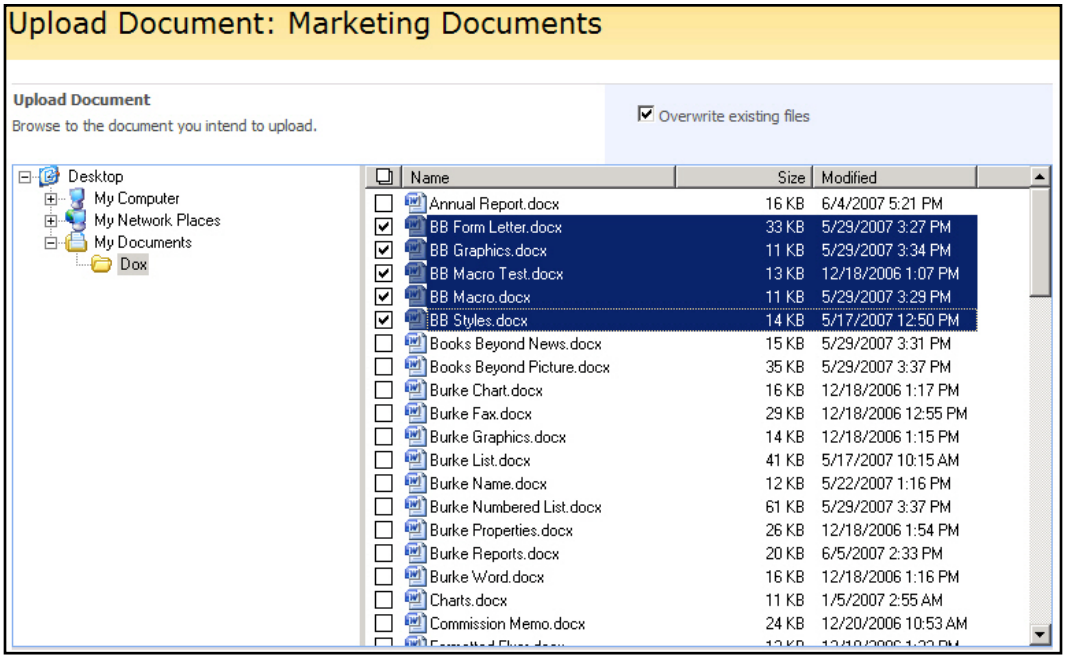


Figure 81: Uploading Multiple Documents

In this case, click or Shift-click to select your target files and then click **OK**.

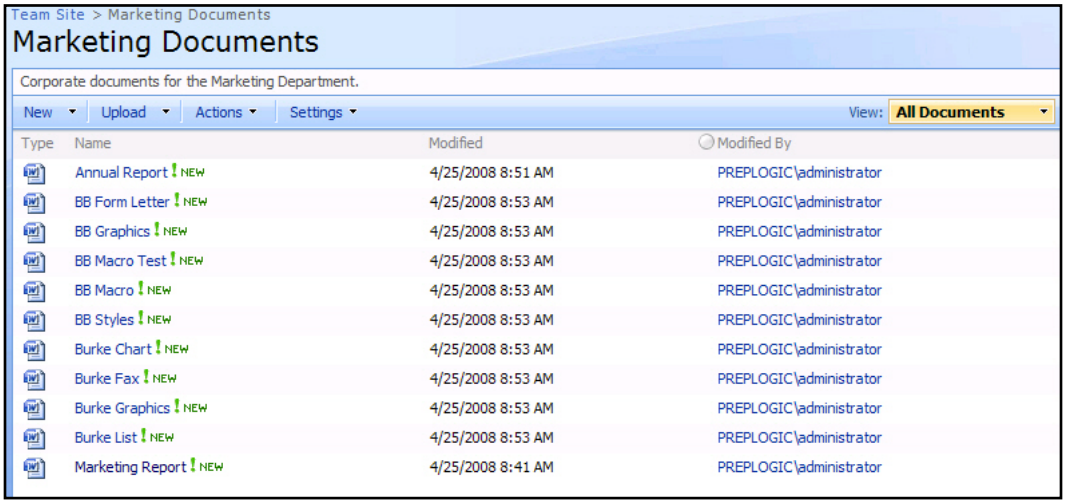


Figure 82: A SharePoint Library Containing Multiple Files

Adding Documents Via the E-mail-Enabled Library Feature

As long as your SharePoint server is configured to accept incoming SMTP e-mail, you can e-mail-enable lists and libraries. This means that a user, from anywhere in the world, can attach a document to an e-mail message, address the library itself, and add content. Pretty convenient!

As I just said, step one is to configure inbound e-mail on the SharePoint server. Visit Central Administration and click **Operations > Incoming E-mail Settings**.

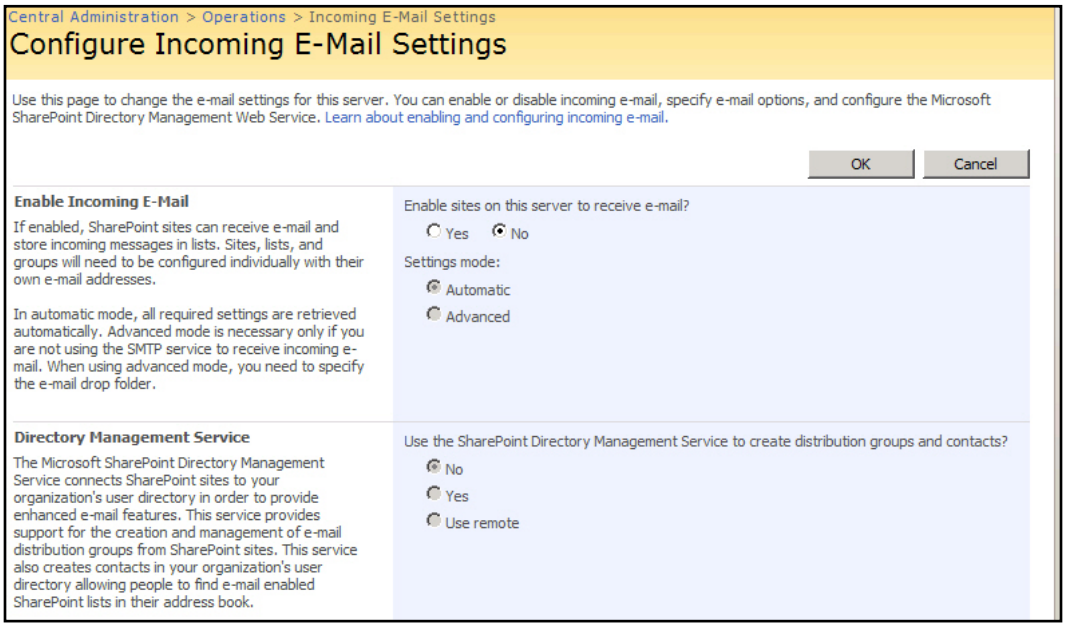


Figure 83: Configuring Incoming E-mail Settings

The biggest question here is whether to use the Directory Management Service (called DirMan for short). DirMan can automatically create contact accounts in Active Directory for you on the fly when you assign an e-mail address to a list or library.

Although the DirMan service makes e-mail-enabling lists and libraries more automated, many Active Directory administrators do not want to give SharePoint that much power to monkey around with AD. Therefore, your other option is not to use DirMan but to manually create AD contact accounts for all of your e-mail-enabled lists and libraries.

The second step in configuration is to assign an SMTP e-mail address to the library in question. Navigate to that library and click **Settings > Document Library Settings > Communications > Incoming e-mail settings**.

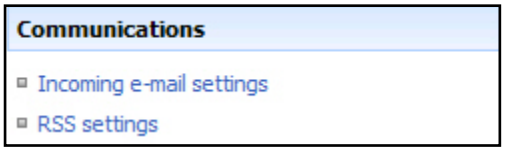


Figure 84: The Incoming E-mail Settings Administrative Hyperlink

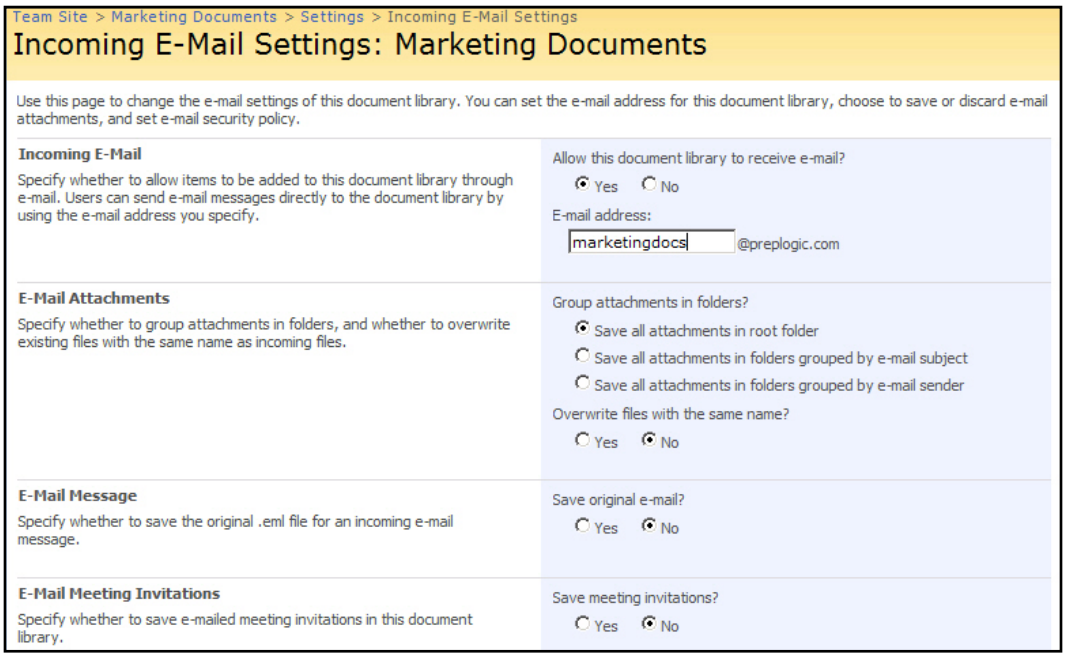


Figure 85: Configuring List-Level E-mail Settings

Besides associating an e-mail destination address for the SharePoint list or library, you manage how you want the attached documents to be handled (whether to store them in the library directly or in folders, whether to delete the original e-mail, and so on).

Editing Library Items

Once you have a document stored in a SharePoint document library, what can you do with it? Well, for starters, hover your mouse over the document and open its drop-down menu.

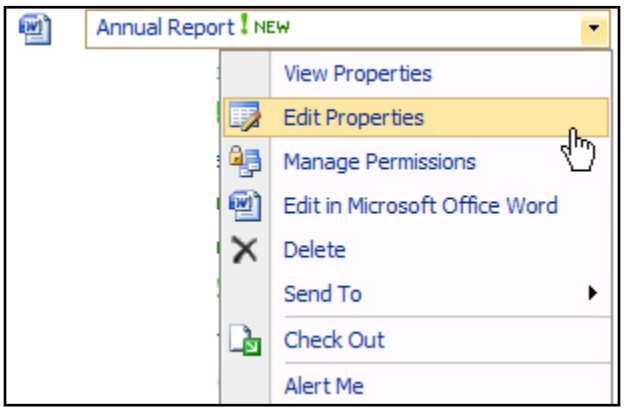


Figure 86: Configuring Item-Level Properties in a Document Library

Here are your options:

- ***View Properties:*** Read metadata column data for the document
- ***Edit Properties:*** Modify metadata column data for the document
- ***Manage Permissions:*** Set item-level access permissions
- ***Edit in <<application name>>:*** Open the document in its associated application (requires that you have that program installed on your computer)
- ***Delete:*** Send the document to the first-stage Recycle Bin (more on this later)
- ***Send To:*** Route the document to another location within the site
- ***Check Out:*** Gain exclusive read/write access to the file (all other SharePoint users are unable to access a document while it is checked out)
- ***Alert Me:*** Generate an alert targeted to this document only

The following screen capture shows the result of clicking Edit Properties for a document in my sample document library:

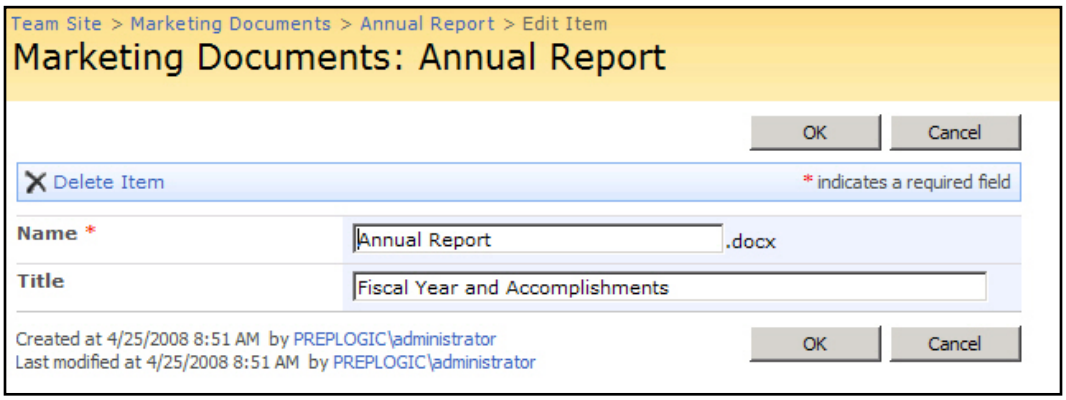


Figure 87: Editing Document Properties (columns)

Recall that these properties are manifested as metadata columns; you learned how to manage columns when we looked at SharePoint lists. In point of fact, you can apply all the knowledge you picked up on SharePoint lists and apply that knowledge to SharePoint libraries; all of the concepts are the same.

Managing Document Libraries

Let's consider some common administrative scenarios for document libraries:

- Document versioning
- Document check out
- Document content approval

Configuring Document Versioning

Document versioning enables SharePoint users to save incremental changes to a document in a SharePoint Document Library. You can view previous versions of a particular file and, with sufficient access permissions, replace the current version of a document with a previous version.

Note that versioning never actually deletes document versions; a current version document that is replaced with an earlier version simply creates a new version containing older content.

You should also be aware that document versioning can involve significant hard disk space considerations on the SharePoint server. Each version of a stored document is "full-fidelity"; in other words, SharePoint stores entire copies of versioned files.

Versioning is configured at the list or library level in SharePoint.

Version Types

SharePoint recognizes both major and minor versions of a document for which versioning is enabled. Typically, major versions, which are denoted by a positive integer value (1.0, 2.0, and so on), denote milestones in a document's lifecycle. Major versions are also known as published versions.

Minor versions, which are represented by decimal values (1.1, 1.2, and so on), are used for maintaining draft versions of documents. Minor versions are also used for content approval processes.

To configure document versioning for a SharePoint document library, navigate to the library in question and click **Settings > Document Library Settings > General Settings > Versioning settings**.

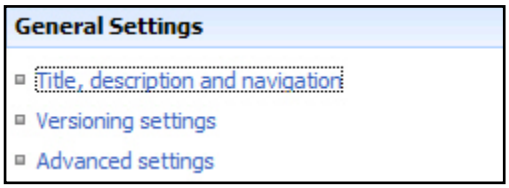


Figure 88: The Versioning Settings Administrative Hyperlink

Figure 89: Configuring Document Versioning Settings

A SharePoint library administrator can control what kinds of versioning are enabled for the library, how many major and/or minor versions to save, and who should see draft (minor) version documents in the library.

Document Versioning and Content Approval

Document versioning in SharePoint is integrated tightly with another feature in SharePoint called content approval. Content approval requires approver intervention before a document is published into a document library. If content approval is enabled for a document library, then a major version of the file must be published before SharePoint changes its approval state from Draft to Pending.

Once an administrator or document approver takes action on that pending file, the document's status becomes either Draft, Rejected, or Approved.

More on content approval in just a bit.

Accessing Previous Versions
To access a document's version history, hover your mouse pointer over the document in question, open the drop-down menu, and select **Version History**.

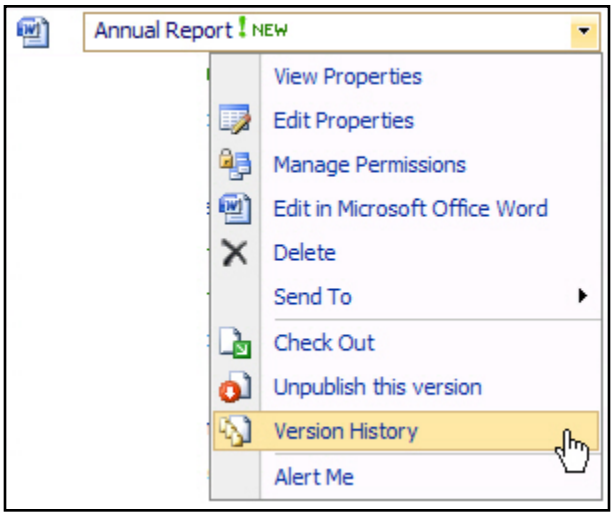


Figure 90: Accessing Document Versions

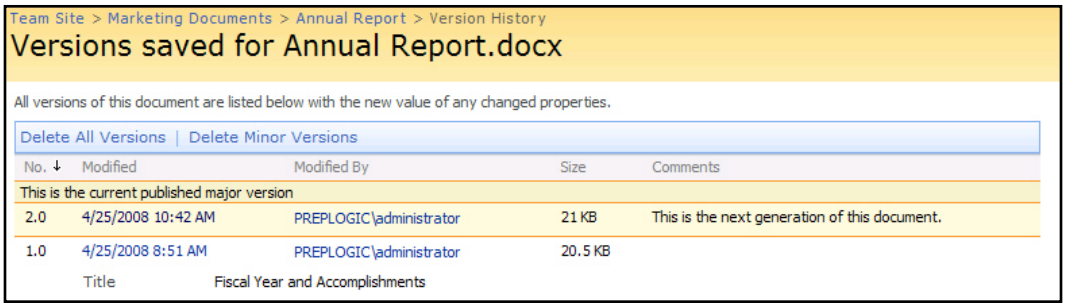


Figure 91: Viewing Document Version History

The Versions Saved page displays the full version history for the document in question, including the following information:

- The current published major version
- The approval status for all documents in the version history list
- The time and date of the version
- The author responsible for each version

Document Versioning and Document Check Out
If you check out files before working on them, then you can designate which type of version you are checking in:

- Minor (draft) version
- Major (published) version, perhaps submitted for content approval

The check out feature in SharePoint is intended to prevent more than one user from attempting to change the contents of a single file. Document check out ensures that only one user has read/write control over a file at a time. We will take a look at document check out shortly.

If you delete the current published major version of a document from a document library, then all versions that are associated with that file are deleted as well.

When you delete a previous version of a document, the individual version file is sent to the user's personal Recycle Bin where it can be restored to its original location if need be. The previous version is not immediately deleted permanently.

Configuring Document Check Out

Administrators of SharePoint document libraries can enforce document check out. Checking out files prevents other SharePoint users from modifying a file while another user has exclusive read/write access to it.

Document check out is a feature in SharePoint that helps prevent inadvertent overwrites to file content. In a traditional business scenario, multiple users access documents from shared folders stored on network servers.

In a file-sharing scenario, contention may exist for exclusive access to a particular file. For instance, one user might work off the server-based copy, while another user may make a local copy of the file and edit the file from his or her local computer. When the second user uploads the local copy to the server, the server-based copy will be overwritten and those changes made by the first user would be lost.

SharePoint clearly delineates graphically when a file is checked out from a document library (note the arrow in the green box).

Figure 92: A Checked Out File

The Local Drafts Folder

When a document is checked out from a SharePoint document library (either by administrator policy enforcement or by the user's choice), SharePoint offers the user an option as to where to maintain the checked out document.

Figure 93: SharePoint Confirmation Message

If a user does not need to take a copy of the document file offline, then deselecting the Use my local drafts folder option in the Microsoft Internet Explorer dialog box is appropriate.

On the other hand, if a user needs to take a copy of a SharePoint document offline to edit while he or she is away from the corporate network, then storing the file in the user's SharePoint Drafts folder is a good idea.

The location of the SharePoint Drafts folder varies somewhat depending on whether the user is running Windows XP or Windows Vista. In Windows XP, the **SharePoint Drafts** folder is stored in **My Documents**. In Windows Vista, it is stored in the user's **Documents** folder.

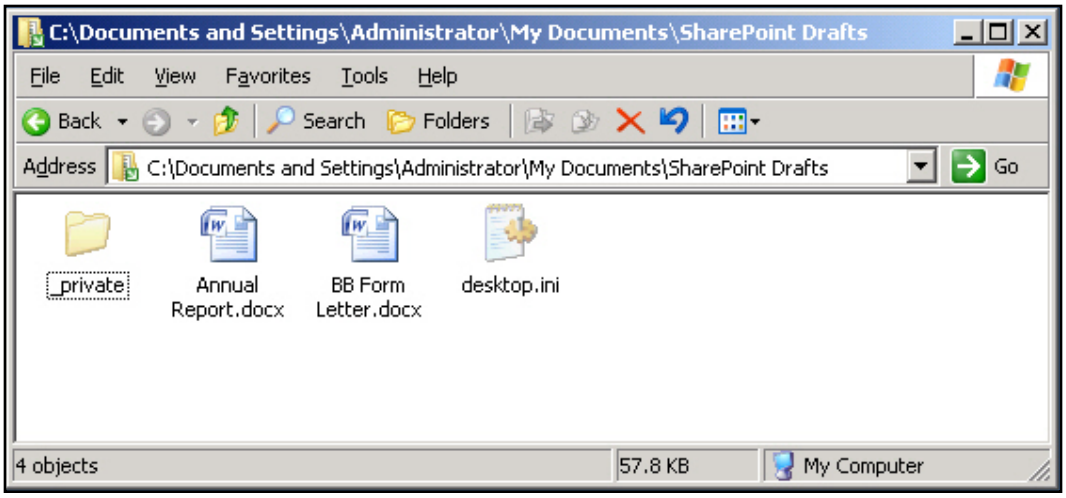


Figure 94: The SharePoint Drafts Folder

After the user has finished editing the offline version of the document and has reconnected to the corporate network, he or she can check in this document back to its original location in the document library. As can be reasonably expected, you get maximum integration with SharePoint document servers when you use the 2007 Office System applications.

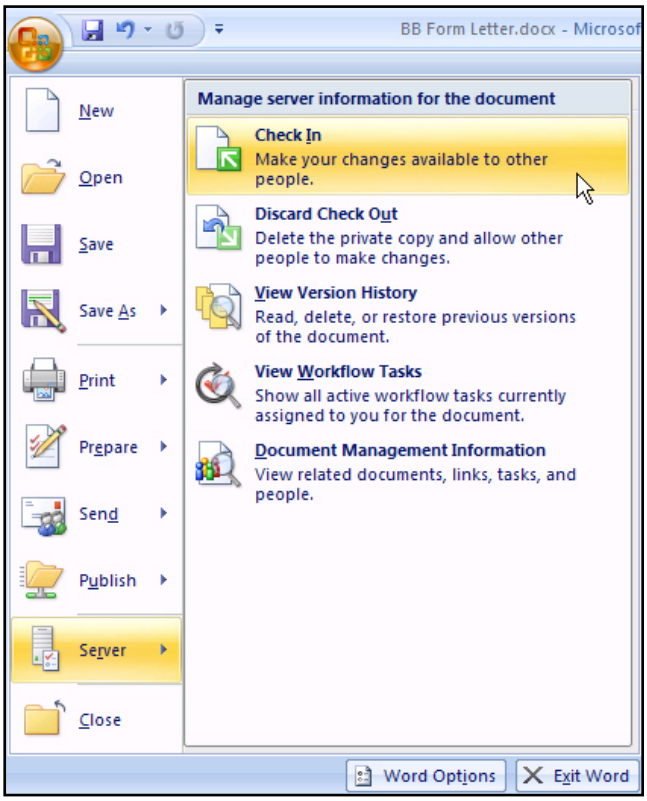


Figure 95: Checking in a Document to SharePoint from Word 2007

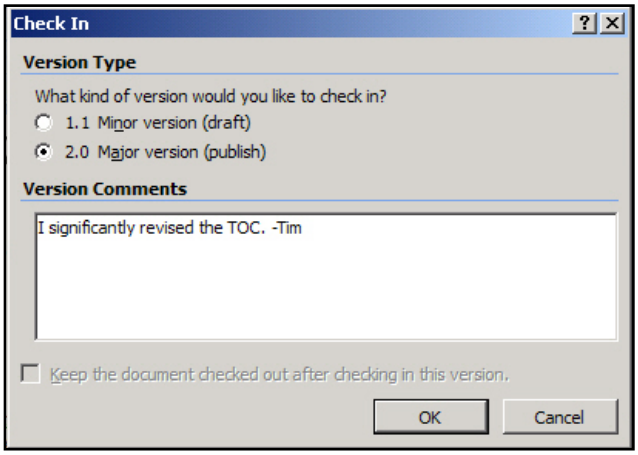


Figure 96: Specifying the Document Version from Word 2007

Discarding a Check Out

If a user checks out a document and then, say, goes on vacation, a SharePoint administrator might be forced to discard the check out in order to make the document accessible to other users.

Discarding a check out breaks the link between the user's offline copy of the file and the online copy. The user can still upload his or her changed document back to the document library at a later time.

To force a check in (or discard a check out, however you want to look at it), open the checked out document's drop-down menu and select **Discard Check Out**.

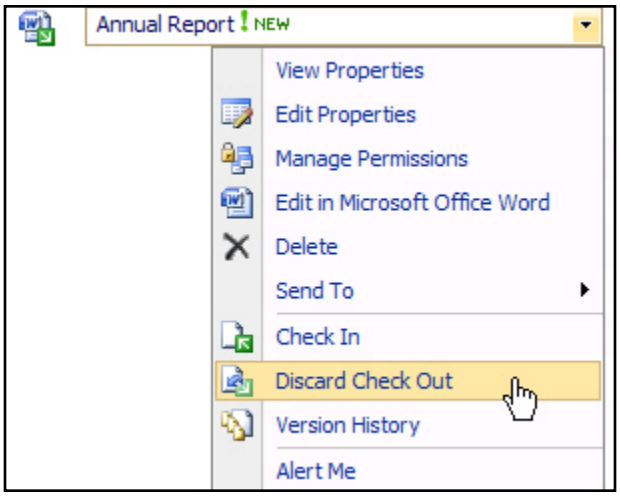


Figure 97: Discarding a Check Out

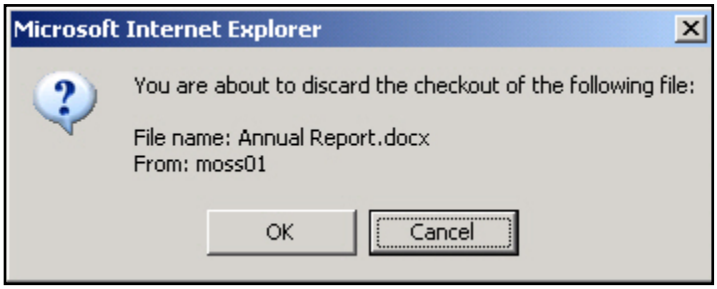


Figure 98: Confirming a Forced Check In

Configuring Content Approval

Content approval can be thought of as content moderation. That is to say, when content approval is enabled for a SharePoint library or list, items submitted to that list or library must be approved by another SharePoint user with appropriate permissions.

You turn on content approval by navigating to the document library in question and clicking **Settings > Document Library Settings > General Settings > Versioning Settings**.

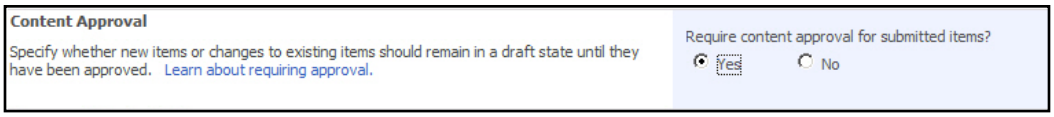


Figure 99: Enabling Content Approval

Content approval works particularly well with minor version (draft) documents. Draft documents aren't submitted for approval until a major version is published for the document.

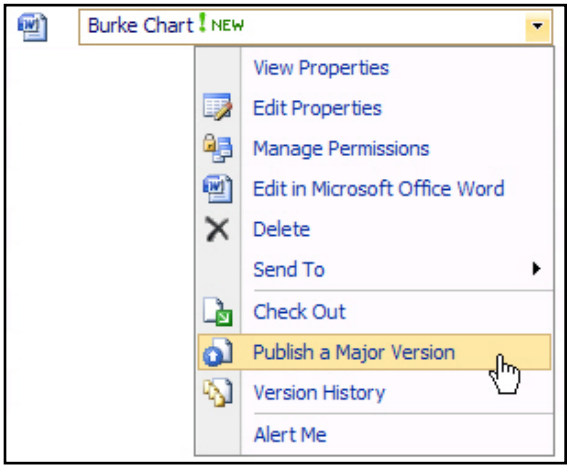


Figure 100: Publishing a Major Version

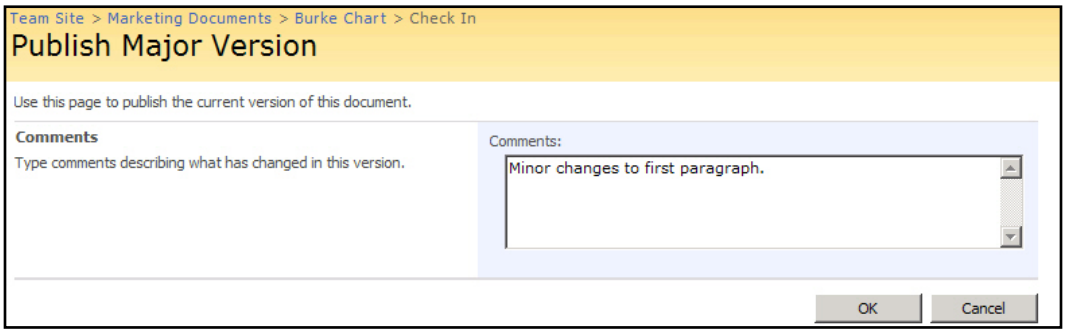


Figure 101: Adding Comments to a Major Version

To approve a major-version document that currently exists in the Pending state, open that document's drop-down menu and select **Approve/reject**.

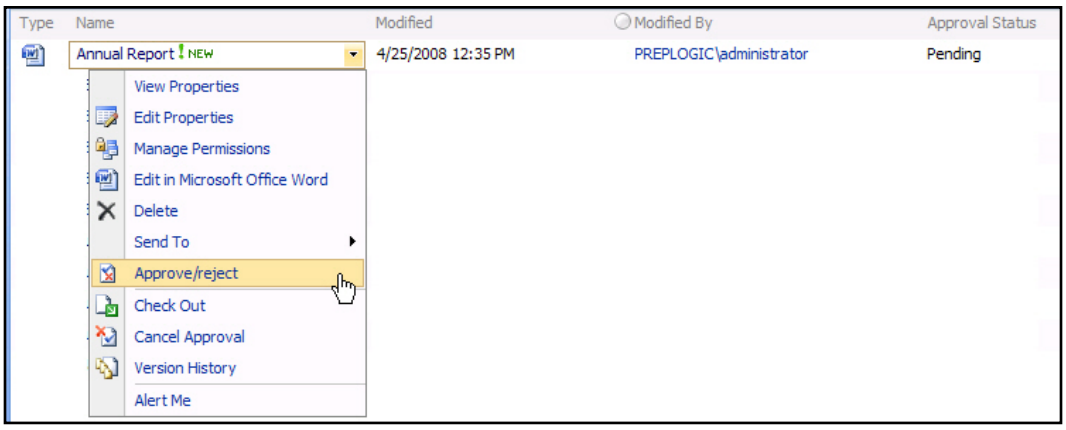


Figure 102: Approving or Rejecting a Document

As long as you have the Approve permission for that document, you can approve or reject the file.

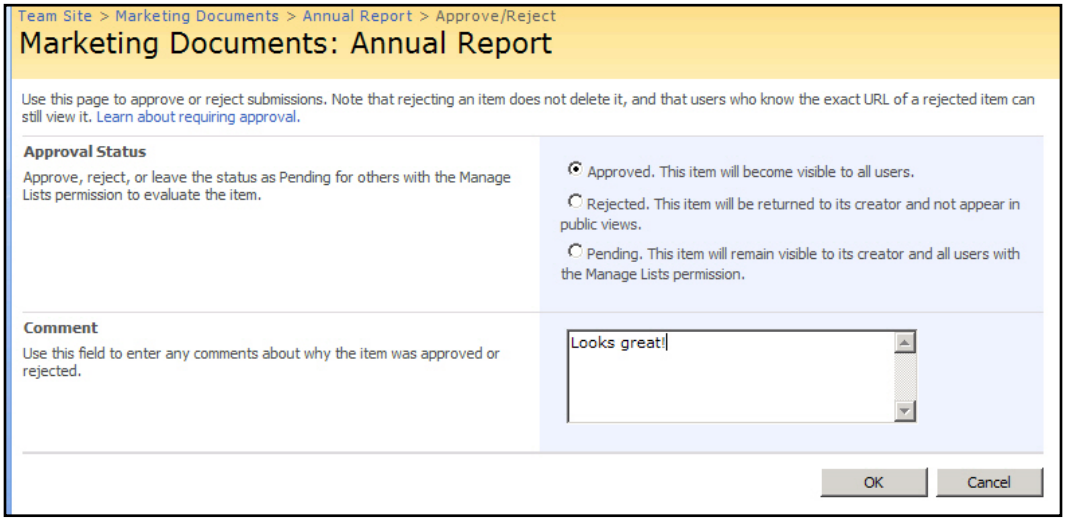


Figure 103: Configuring Approval Status for a Document

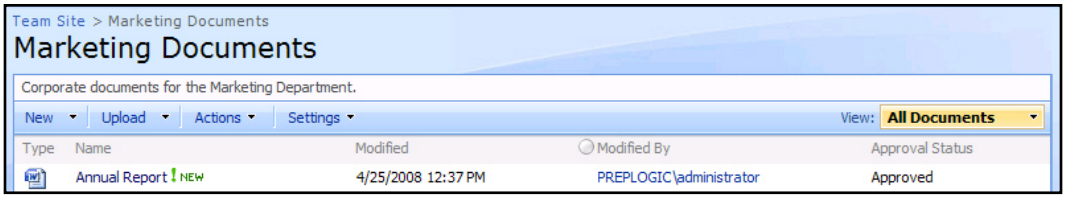


Figure 104: Verifying Document Approval in a SharePoint Document Library

Using Content Types

We're finally at the much-vaunted concept of SharePoint content types. A content type can be defined as... well...a type of content that we want to reuse in our site collection.

Let's say, for instance, that we want to make a corporate spreadsheet available to one or more document libraries in our SharePoint portal. By attaching the Microsoft Excel template file to a content type, we not only have reusability at our disposal, but we also can employ:

- Metadata columns
- Views
- Workflows

Viewing Site Content Types

To view the currently available content types for a site collection, navigate to the top-level site in that site collection and click **Site Actions > Site Settings > Galleries > Site content types**.

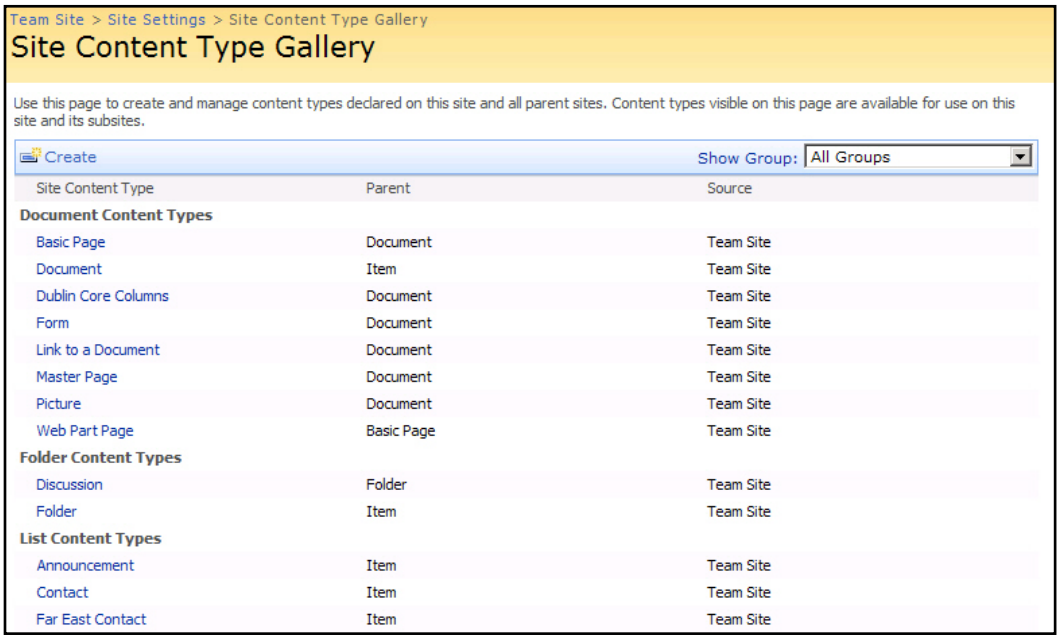


Figure 105: SharePoint Site Content Type Gallery

The Site Content Type Gallery includes the following built-in content type sections:

- Document Content Types
- Folder Content Types
- List Content Types
- Special Content Types

I know I am beginning to sound like a proverbial broken record in this regard, but purchasing MOSS gives you more built-in content types to choose from. You can also create your own categories.

If you click any content type in the list you will see that you can manage the following properties:

- The template in use
- Metadata columns
- Workflow settings

Creating a New Content Type

For this example, let's say we have a Microsoft Excel 2007 workbook template called InventoryTemplate.xlsx that we want our employees to use to create inventory reports. Let's also assume that we want to track two custom items of metadata (incidentally, metadata is typically defined as "data about data"):

- Store
- Vendor

From the Site Content Type Gallery, we can click **Create** to begin the process of defining a new content type.

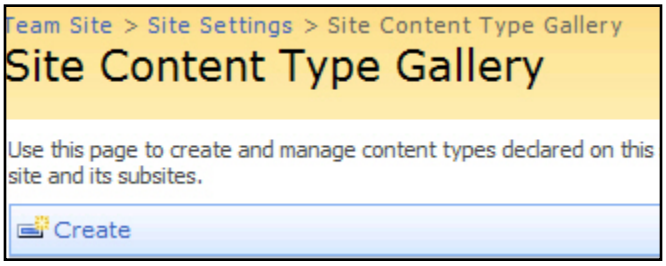


Figure 106: Adding to the Site Content Type Gallery

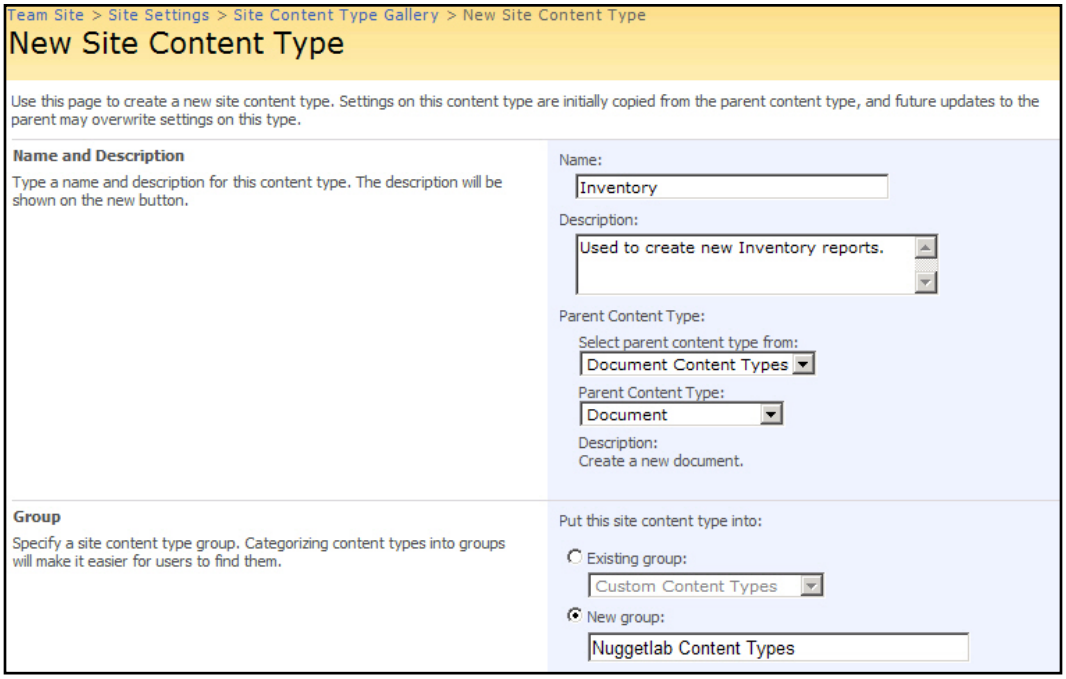


Figure 107: Defining a New Site-Level Content Type

In the New Site Content Type dialog, we must specify the following information:

- A friendly name and description for the content type
- Which parent content type the new content type inherits its default settings from (in most cases you will select **Document Content Types > Document**)
- Which group in which to store the new custom content type

Once you click OK you have completed the initial creation of the content type. However, right now the content type is identical to the built-in Document content type. Our next task is to tweak the custom Inventory content type to suit our needs.

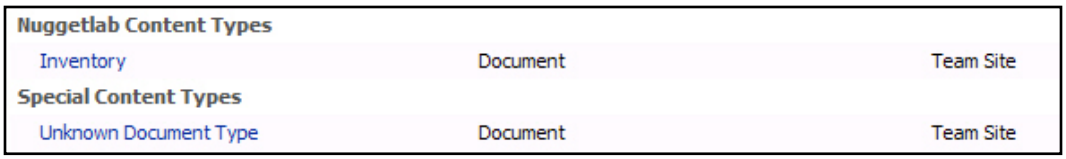


Figure 108: Viewing the New Site Content Type in the Gallery

Once you click your new custom content type, you can use the administrative links in the following manner:

- ***Name, description, and group:*** Rename the content type (the text that appears in the Name and Description columns appears in the New menu of the target document library).
- ***Advanced Settings:*** Upload the template from the server's file system.
- ***Columns:*** Click **Add from new site column** to add custom columns; if you already have custom columns defined in the Gallery, click **Add from existing site columns**.

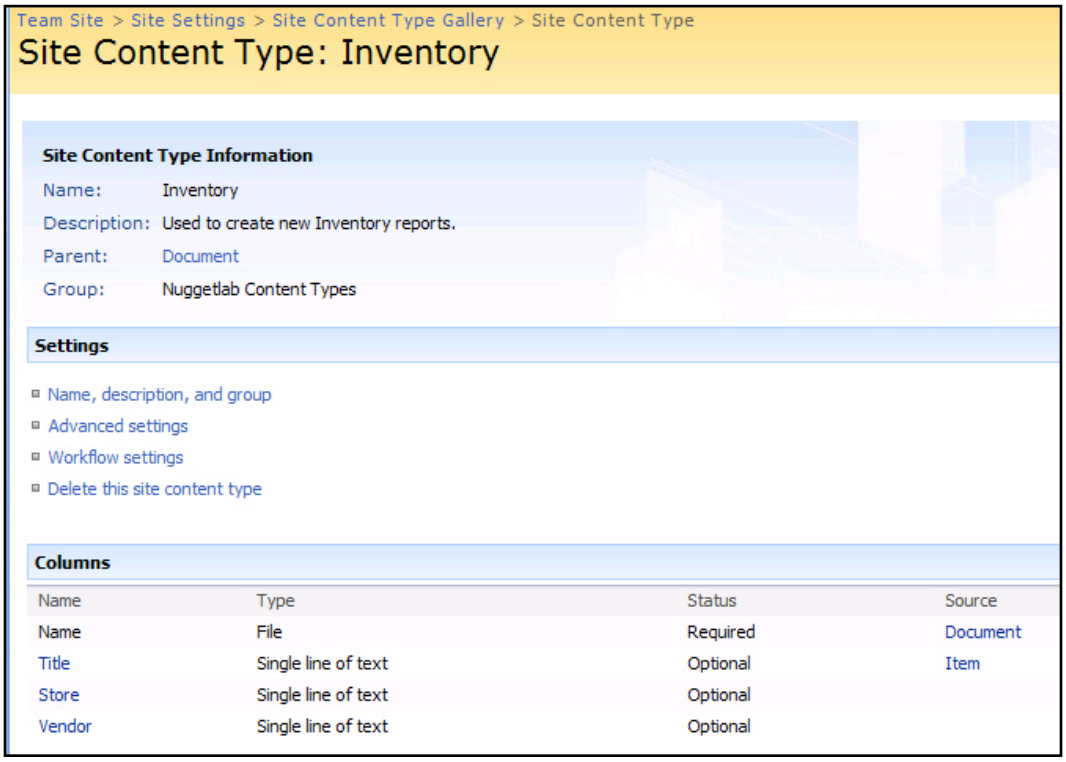


Figure 109: Content Type Properties

Once your site-level content type is all tweaked and tuned, it is time to deploy an instance of the new site content type to a particular document library.

Deploying the New Content Type to a Document Library

Because we wisely defined this content type in the site collection content type gallery, our Inventory content type is available for use anywhere in the site collection.

Next we will create a document library entitled Inventory Reports by using the out-of-the-box document library template. Recall that when we create a new document library SharePoint forces us to choose a default content type; it doesn't matter which template we choose here because we are going to replace it with our custom site-level content type.

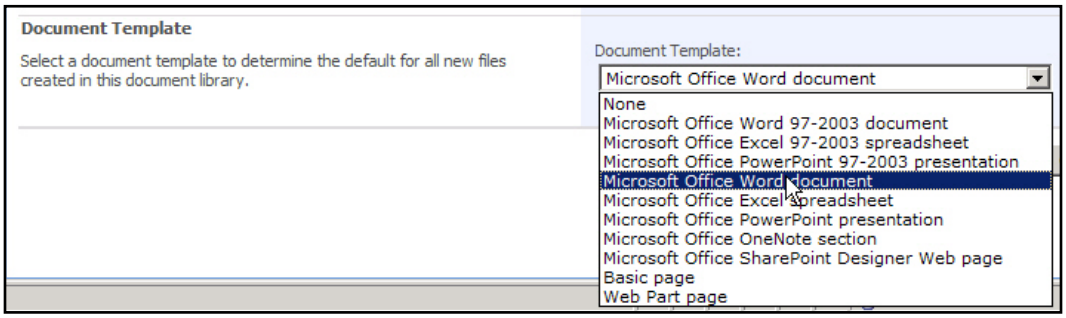


Figure 110: Selecting a Document Template for a Content Type

For some reason I've never understood, SharePoint (both WSS 3.0 and MOSS 2007) hide the content type controls from administrators by default. Therefore, our next task is to enable the management of library-level content types. Click **Settings > Document Library Settings > General Setings > Advanced Settings** and set **Allow management of content types?** to **Yes**.

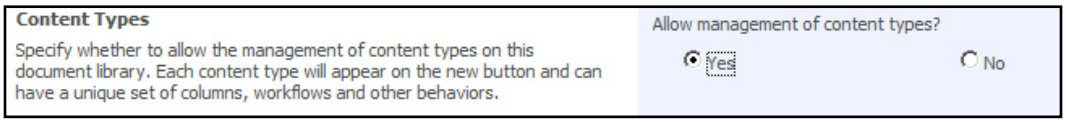


Figure 111: Enabling Management of Content Types

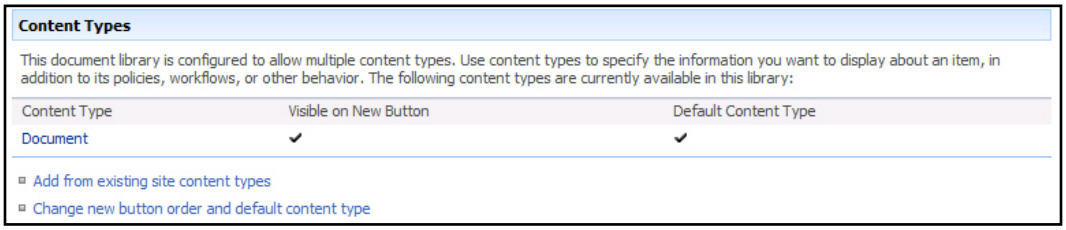


Figure 112: Administering Library-Level Content Types

From the Settings dialog, you can click **Content Types > Add from existing site content types**, browse to our new Inventory content type, and load it on up.

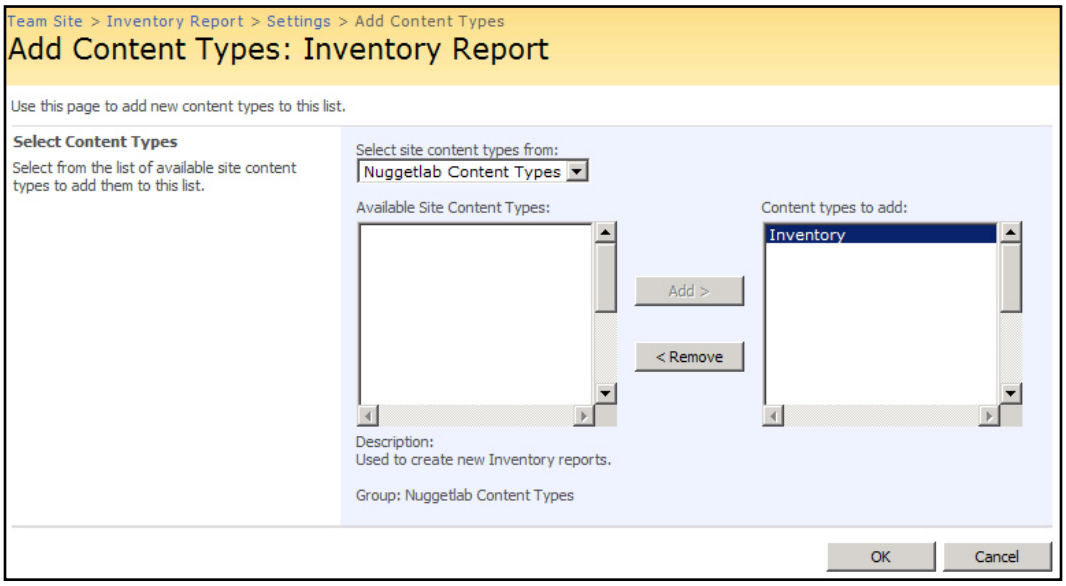


Figure 113: Adding a Content Type to a Library

You can click **Settings > Content Types > Change new button order and default content type** to remove any unwanted content types from the document library's **New** menu.

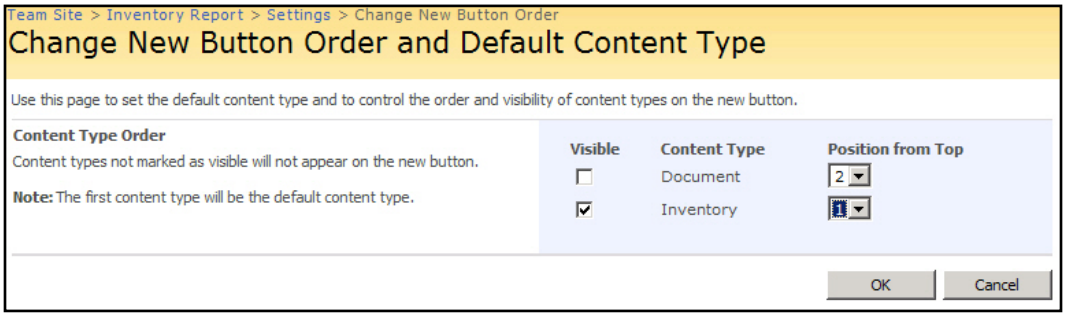


Figure 114: Tweaking the New Menu for a SharePoint Document Library

You can test your new custom content type by opening the **New** menu in the document library.

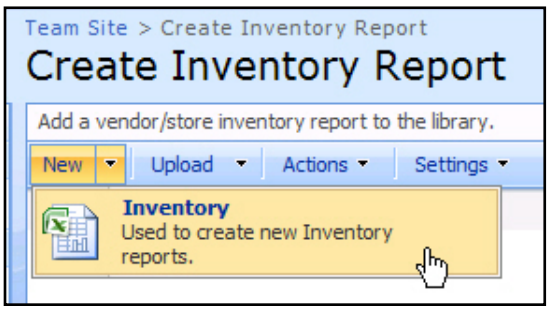


Figure 115: Using a New Custom Content Type

When you define custom columns, they show up in the Document Information Panel (DIP) in Office 2007 system applications.

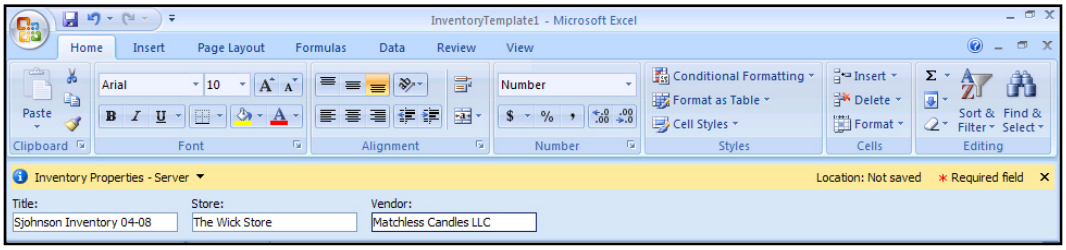


Figure 116: Document Information Panel (DIP) in Office 2007

Remember that you can view and/or edit metadata (column) properties by opening the document's drop-down menu and selecting either **View Properties** or **Edit Properties**.

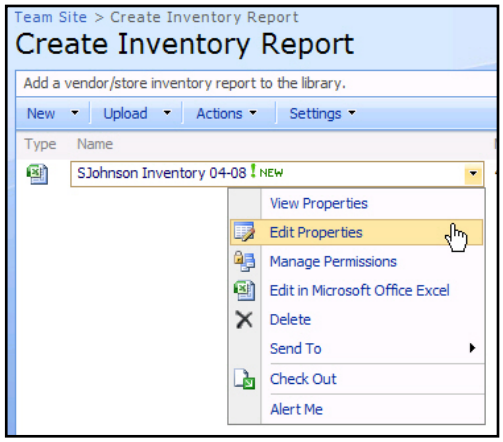


Figure 117: Editing the Properties of a Document

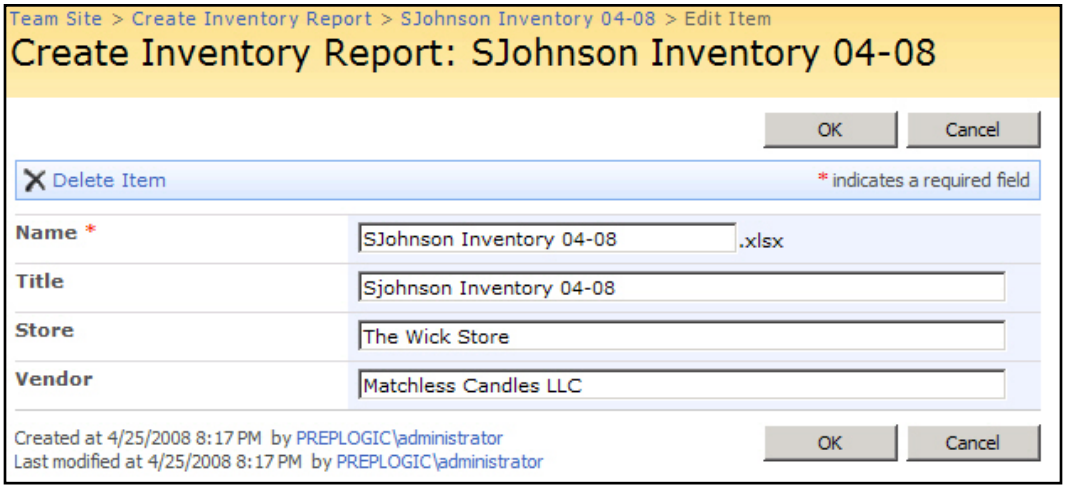


Figure 118: Editing Document Properties

Using the SharePoint Recycle Bin

One element of functionality that was absent in previous versions of SharePoint that we can use to great effect with the current versions is a true Recycle Bin. Although the SharePoint Recycle Bin should never take the place of regular backups (we will address SharePoint backup and restore a bit later on in this Exam Manual), the Recycle Bin nonetheless provides an intuitive, easy way to recover deleted list and library items.

Understanding the Recycle Bin

We need to understand that SharePoint offers a two-stage Recycle Bin:

- ***First-Stage Bin:*** This is also called the User Recycle Bin. It is used to store a SharePoint user's own documents; that is, SharePoint user Joe isn't able to see SharePoint user Jane's recycled items in the first-stage Recycle Bin, and vice versa
- ***Second-Stage (Site Collection) Bin:*** The second-stage Recycle Bin exists in the top-level site of the site collection, and is accessible only to site collection administrators. Items that users delete from their first-stage Bins goes to the site collection Bin until either (a) the Web application-level retention period expires, or (b) the administrator deletes or restores the file.

Configuring the Recycle Bin

The Recycle Bin is configured administratively by the SharePoint farm administrator in the Central Administration Web application. The Bin is also configured at the Web application level. This is an important distinction, because remember that a single Web application can have many site collections, and that each site collection can include many sites.

Visit CA and then click **Application Management > Web Application General Settings**.

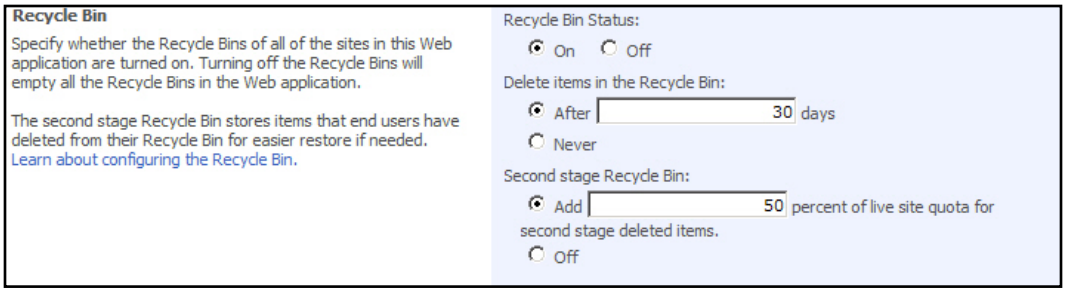


Figure 119: Configuring Web Application Recycle Bin Settings

Notice that, by default, the Recycle Bin is enabled for a Web application, the deleted item retention period is 30 days, and the second-stage Recycle Bin can consume up to 50 percent of any site quota that is configured for the Web application.

The **Delete items in the Recycle Bin After** setting is particularly important. The default value of 30 days means that any items (in either of the two Recycle Bins) older than 30 days are permanently purged from the SQL database. Be aware of the ramifications of this setting!

Using the First-Stage Recycle Bin

To delete an item from a SharePoint list or library, open that list or library item's drop-down menu and choose Delete. You are prompted to confirm your choice.

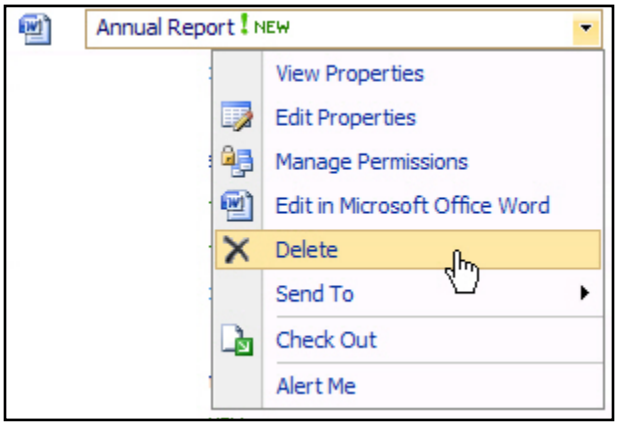


Figure 120: Deleting a Document from a Document Library

Figure 121: First-Level Delete Confirmation

Please be aware that Recycle Bins exist on a *per-site* level. That is to say, SharePoint user Dave's documents that he deleted from a top-level site won't appear in the Recycle Bin for a subsite.

Accordingly, you can access that site's Recycle Bin by using the Quick Launch navigation bar.

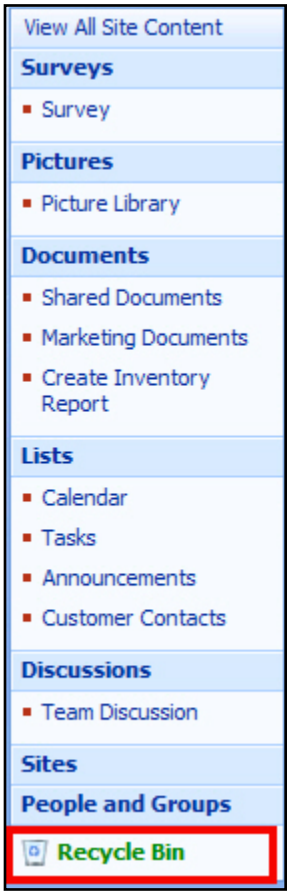


Figure 122: Locating the Recycle Bin on the Quick Launch Bar

In the first-stage Recycle Bin Web form, a user can restore or delete items. Again, remember that each user is provisioned his or her own "personal" Recycle Bin for each site in a site collection.

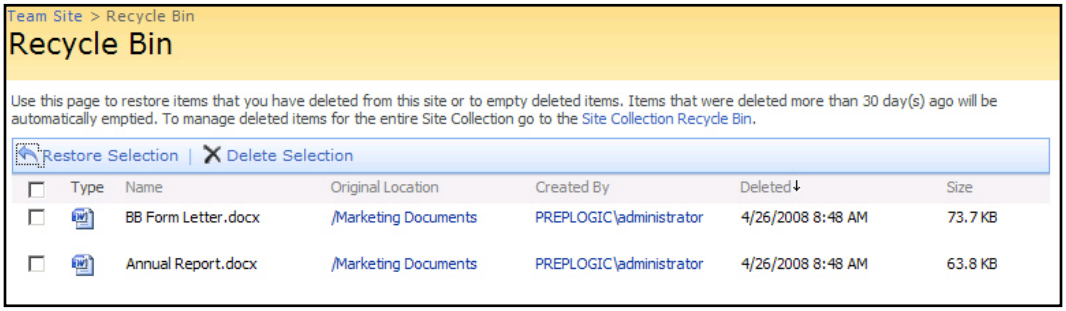


Figure 123: Accessing the Site-Level Recycle Bin

If you delete an item or items from the first-stage (user) Recycle Bin, you are prompted to confirm your choice:

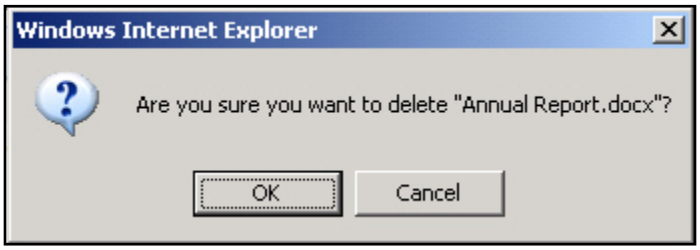


Figure 124: Confirmation of Deletion from the First-Stage Recycle Bin

Using the Second-Stage Recycle Bin

As previously stated, site collection administrators can navigate to the top-level site in a site collection and click **Site Actions > Site Settings > Site Collection Administration > Recycle Bin** to access the second-stage Bin.

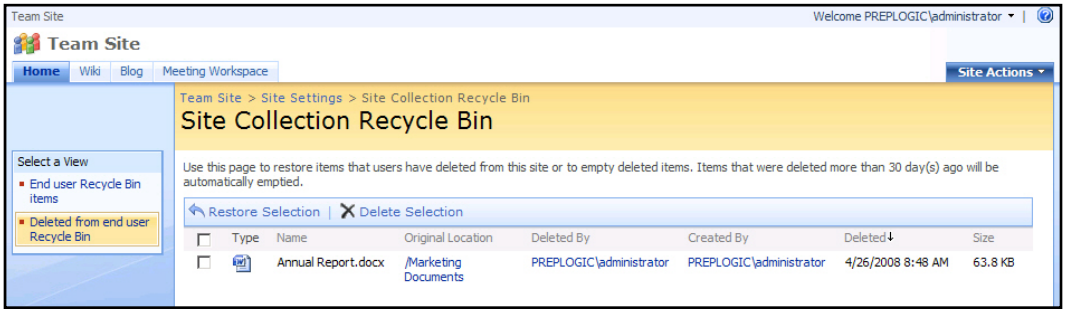


Figure 125: Viewing the Site Collection Recycle Bin

You will see something a little bit different in the Site Collection Recycle Bin; namely, two special view filters to help site collection administrators wade through what could become hundreds or thousands of deleted items:

- ***End user Recycle Bin items:*** This view displays all items that currently exist in all users' first-stage Recycle Bins throughout the site collection.
- ***Deleted from end user Recycle Bin:*** This view displays only those items that have been deleted from users' first-stage Recycle Bins.

Should you choose to select one or more deleted items and restore them, the items are restored to their original location (that is, the location where the item or file existed before it was originally deleted by the user).

Using Workflow

In general terms, a workflow can be thought of as an ordered sequence of tasks that produces a specific outcome. With respect to SharePoint, a workflow represents the passage of a document or list item through a business process.

Workflows allow companies to automate tasks that would otherwise be difficult to manage. By default, Windows SharePoint Services 3.0 ships with only one workflow: the Three-State workflow. On the other hand, MOSS 2007 includes six additional out-of-the-box workflows besides the Three-State workflow that it shares with WSS 3.0. These six workflows are:

- Approval
- Collect Feedback
- Collect Signatures
- Disposition Approval
- Group Approval
- Translation Management

In SharePoint terminology, workflows are feature modules that can be installed at the following levels:

- Content type
- Library
- List
- Site collection

Therefore, the availability of a workflow depends on where the feature is activated in the SharePoint infrastructure.

Incidentally, features are enabled and disabled at the site collection level:

- ***Site Collection Level:*** **Settings > Site Collection Administration > Site collection features**
- ***Site Level:*** **Settings > Site Administration > Site features**

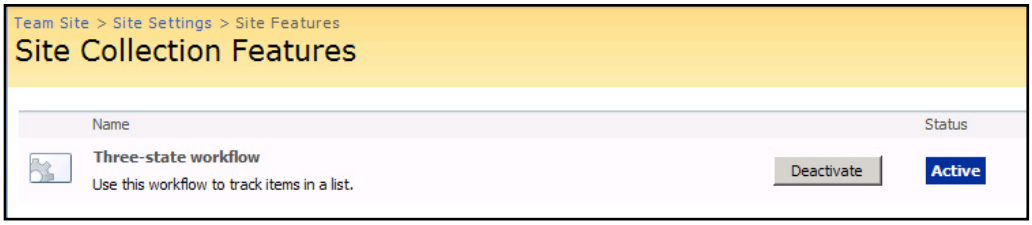


Figure 126: Managing Site-Level Features

Examining Workflow Availability

In WSS 3.0, the Three-State workflow is available by default in most list and library templates. Simply navigate to the appropriate list or library, and click **Settings > List Settings > Permissions and Management > Workflow Settings** to view the SSS Web form.

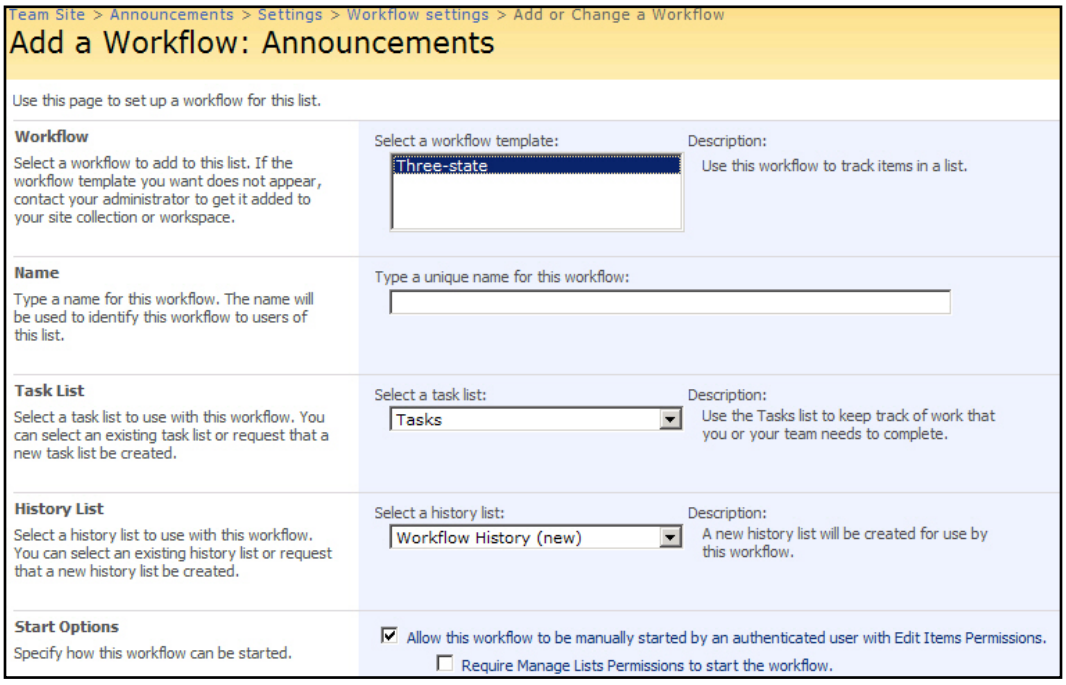


Figure 127: Creating a Workflow

How the Three-State Workflow Works

The Three-State workflow is optimized for use in situations where a business needs to track a large volume of issues or incidents. For instance, a SharePoint administrator could deploy a Three-State workflow to help a corporate IT help desk department to track support incidents from users.

The Three-State workflow is intended for use with the built-in SharePoint Issue Tracking list. However, a SharePoint information worker could use a Three-State workflow with any list that includes a Choice column data type with three possible choice values.

Alternatively, a Three-State workflow could work with SharePoint document libraries for any Choice-based metadata column.

When the workflow is initiated, SharePoint creates a task for the assigned workflow participant. At task completion, the workflow participant updates the status of the task and potentially assigned to another workflow participant.

Moreover, SharePoint supports e-mail notification to all workflow participants to denote the current status of the workflow item.

Initiating a Workflow

Once a workflow has been linked to a SharePoint list or library, the workflow can be started either manually or automatically, depending on how the SharePoint administrator created the workflow.

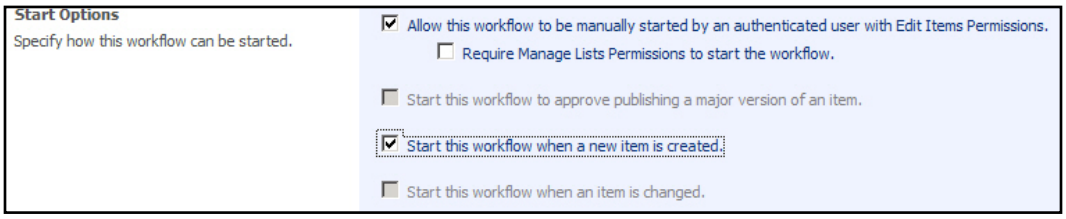


Figure 128: Specifying Workflow Start Parameters

To start a workflow manually, simply open the list or library item's drop-down menu and select **Workflows**.

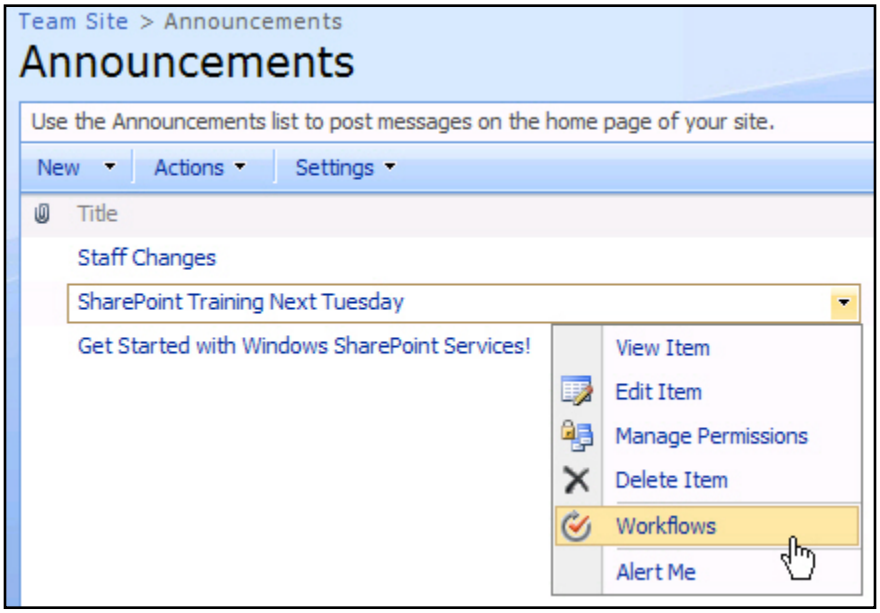


Figure 129: Initiating a Workflow

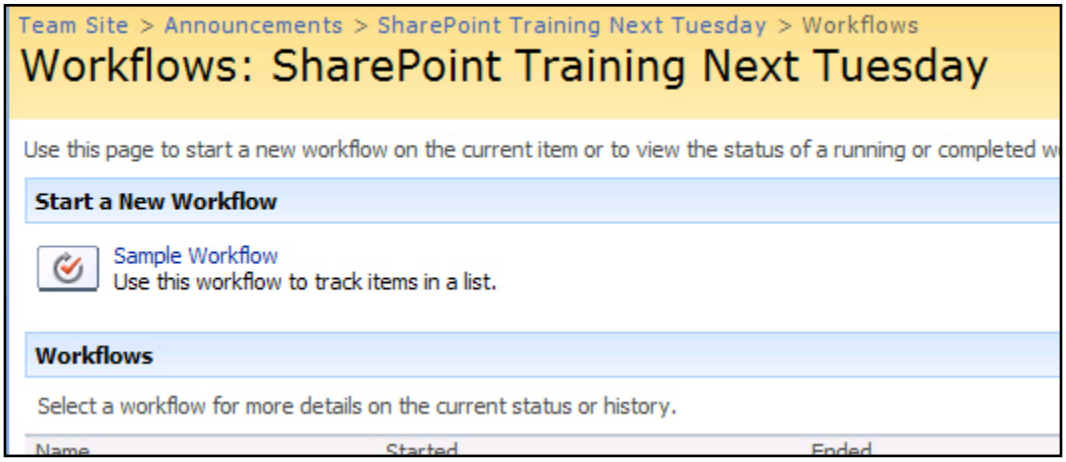


Figure 130: Setting Workflow Properties

Creating Custom Workflows

The implementation of Microsoft Windows Workflow Foundation (WF) in the .NET Framework 3.0 means that SharePoint workflow is extensible. That is to say, site administrators or information workers have the ability to build custom workflows that extend built-in workflows' functionality or replace them outright.

Visual Studio 2005 Workflows

Those who develop Web applications by using .NET programming languages such as Visual Basic and Visual C# can use the Visual Studio 2005 tools to create workflows and install them as features at the site collection level. This approach to workflow creation requires that developers install the Microsoft Visual Studio 2005 Extensions for Windows Workflow Foundation in their development environments.

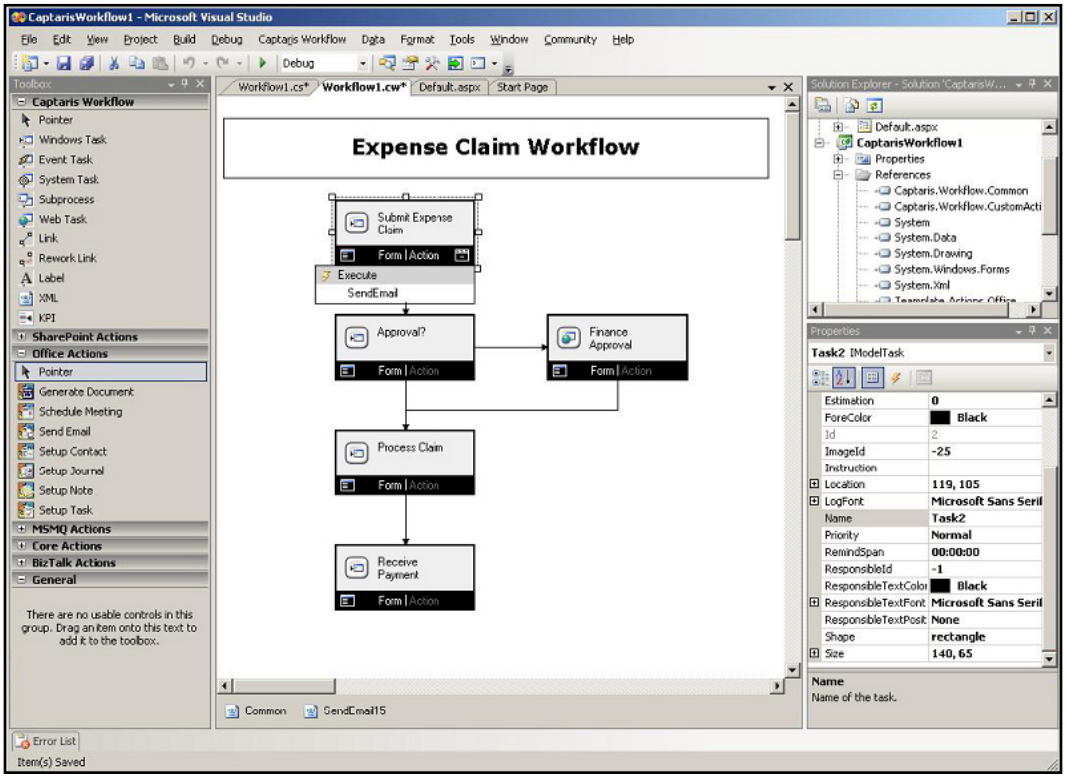


Figure 131: Creating a Custom Workflow in Visual Studio 2005

SharePoint Designer Workflows

Information workers can use Microsoft Office SharePoint Designer 2007 to build workflows that require no .NET coding knowledge. However, building workflows by using SharePoint Designer 2007 does have an Achilles heel, namely, SharePoint Designer workflow templates have the following limitations:

- SharePoint Designer workflows can be attached only to lists or libraries directly; attaching the SharePoint Designer workflow to a content type or directly to the Site Collection Workflow Gallery is not supported.
- SharePoint Designer workflows include a default list of workflow activities; these activities can be customized but not deleted. Moreover, new activities cannot be added to the default activities list.

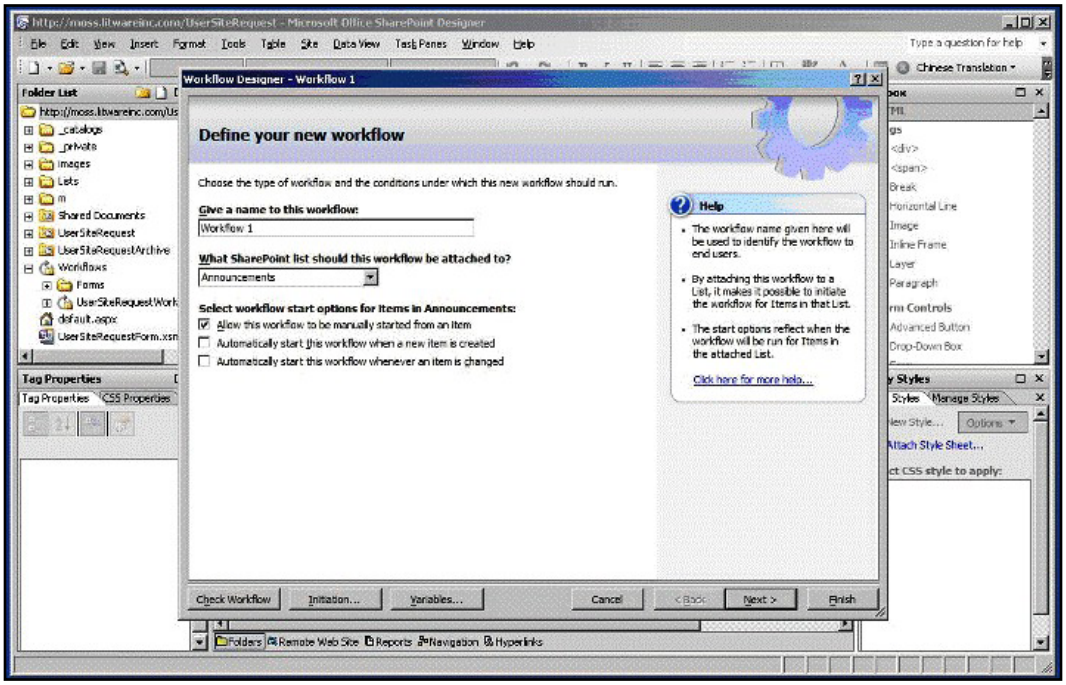


Figure 132: Creating a Custom Workflow in SharePoint Designer 2007

Branding a WSS 3.0 Site

In SharePoint nomenclature, branding refers to customizing the "look and feel" of a portal site to conform to corporate logos, colors, fonts, and graphics. The good news is that SharePoint provides administrators with a great deal of flexibility in branding our sites. The bad news is that customizing the pages themselves is tricky as all get out.

Changing the Site Title and Icon

First the easy stuff. We should talk for a moment about the so-called "12 Hive." This is the affectionate term for the following (default) directory path on your SharePoint server: **C:\Program Files\Common Files\Microsoft Shared\Web Server Extensions\12**.

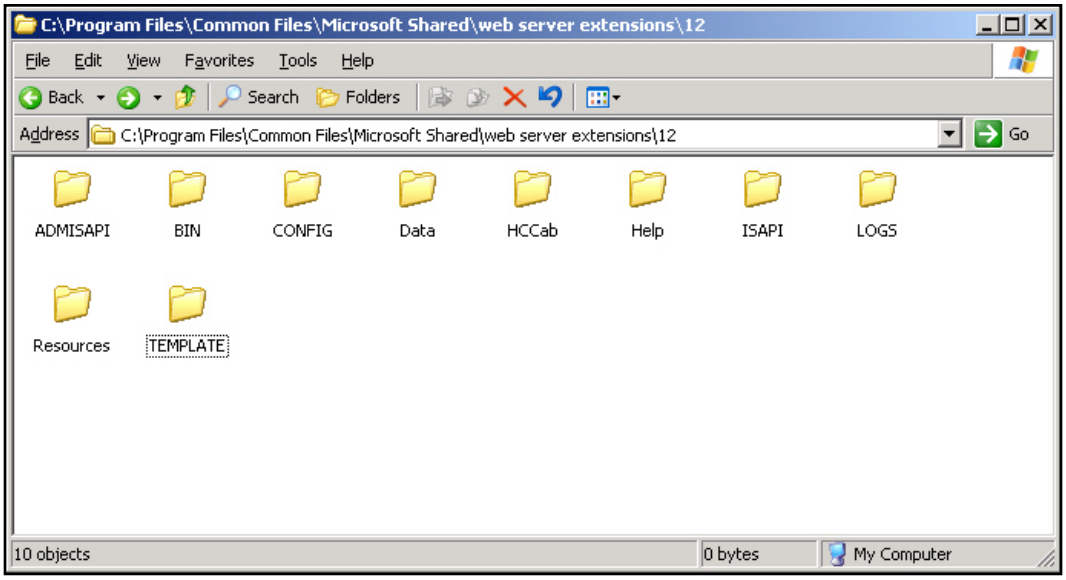


Figure 133: The SharePoint "12 Hive"

You would be well-advised to create a desktop shortcut to the 12 Hive, because you will access it frequently whenever you customize your sites. Among other things, the 12 Hive contains your out-of-the-box template files and all graphic image assets in your site.

You should manually copy custom logo files and the like to the **12\Template\Images** folder for later use. The default site title and icon are pretty darned "vanilla," wouldn't you agree?

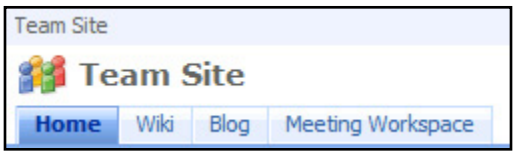


Figure 134: SharePoint Site Title, Icon, and Top Link Bar

Let's spice things up a bit. From the top-level site in your site collection, click **Site Actions > Site Settings > Look and Feel > Title, description, and icon**.

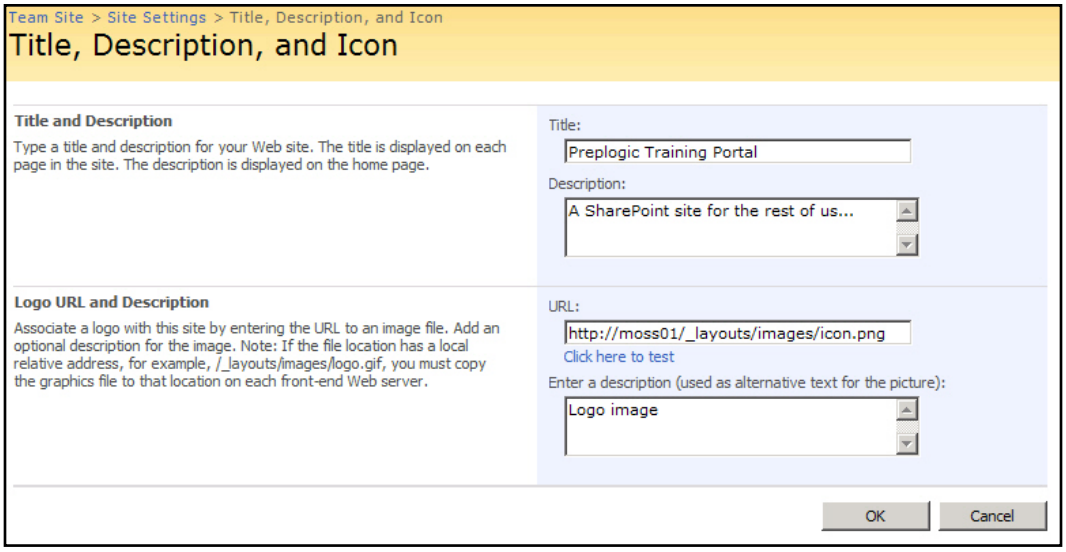


Figure 135: Setting a Site Title and Icon

The "biggie" here is to determine the proper URL to your logo image. If you stowed the custom logo image in the 12\Templates\Images folder, then your URL path will be **http://servername/_layouts/images/imagename.ext**.

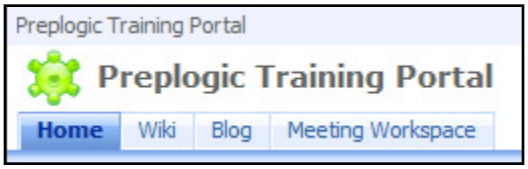


Figure 136: The Customized Global Navigation

Applying Themes

Themes are "one-click" color customizations for your SharePoint sites. Note that themes must be applied on a per-site basis, not a per-site collection basis. Note also that it is challenging (to say the least) to build and deploy your own from-scratch themes.

To apply a theme to a SharePoint site, click collection, and select **Site Actions > Site Settings > Look and Feel > Site theme**.

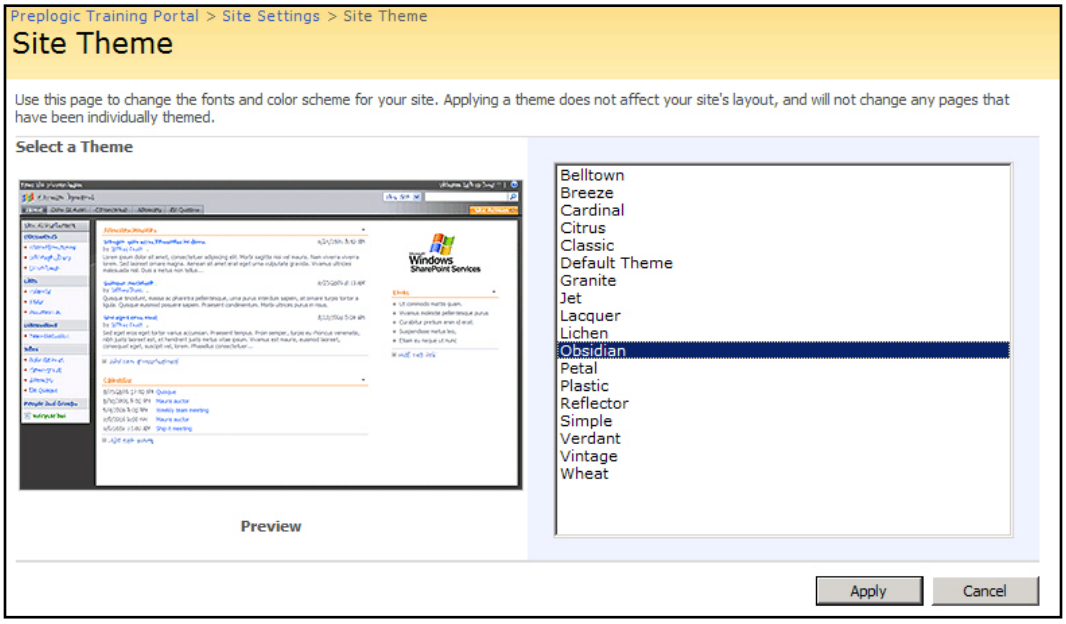


Figure 137: Changing the Theme of a SharePoint Site

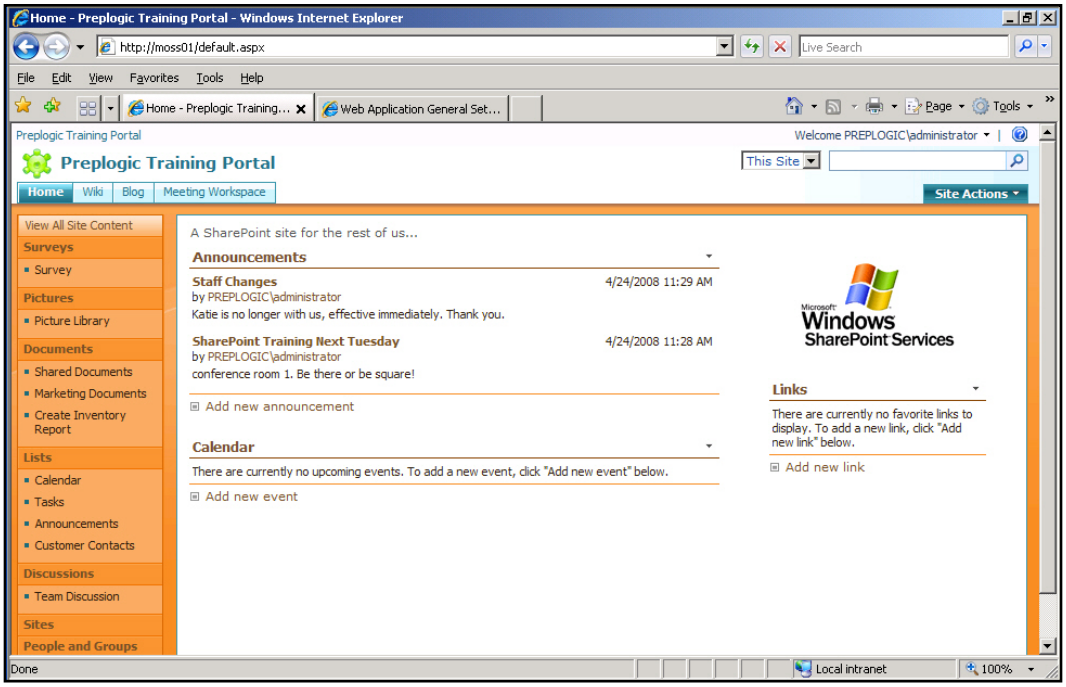


Figure 138: A Themed SharePoint Site

Looking good! Incidentally, if you decide you want to revert a site's theme to factory-default settings, revisit the **Site Theme** Web form and select the **Default Theme** theme.

Customizing the Top Link Bar

Recall that the Top Link bar provides global navigation for all sites within a site collection. To customize the Top Link bar, click **Site Actions** > **Site Settings** > **Look and Feel** > **Top link bar**.

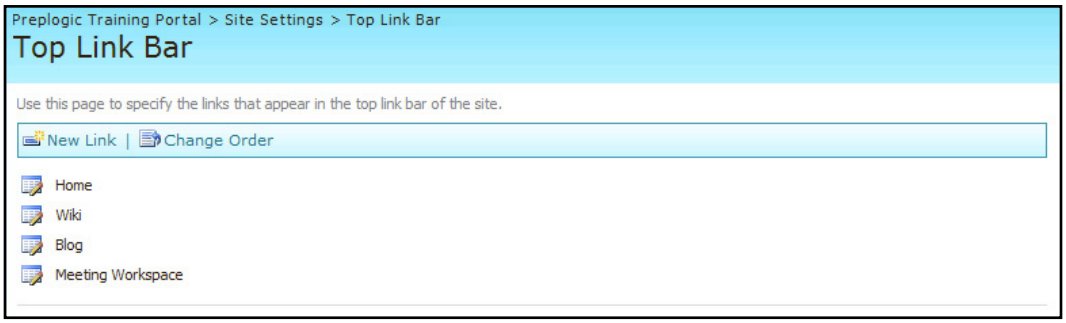


Figure 139: Customizing the Top Link Bar

Customizing the Top Link bar in WSS 3.0 is much more straightforward than it is in MOSS 2007. The downside is that MOSS offers us much greater control over the links in the Top Link bar. In MOSS, for example, we can make the Top Link bar links drop-down menus in order to better organize global navigation and to save screen real estate.

Customizing the Quick Launch Bar

From the **Look and Feel** section of **Site Settings**, click **Quick Launch** to customize the section titles and links on the site's Quick Launch bar.

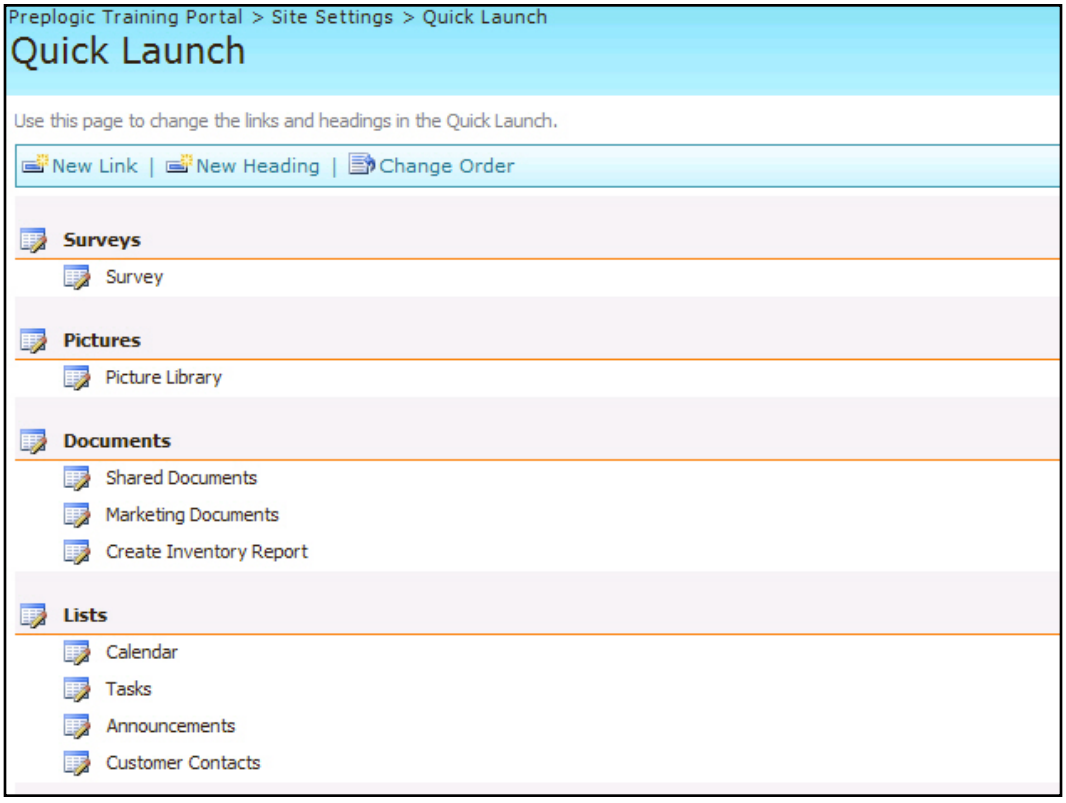


Figure 140: Customizing the Quick Launch Bar

Again, the headings here denote the section titles in the Quick Launch, and the links refer to the hyperlinks that exist underneath each heading. Note that you can link to any resource from the Quick Launch bar, be it a SharePoint resource, Internet resource, or something else.

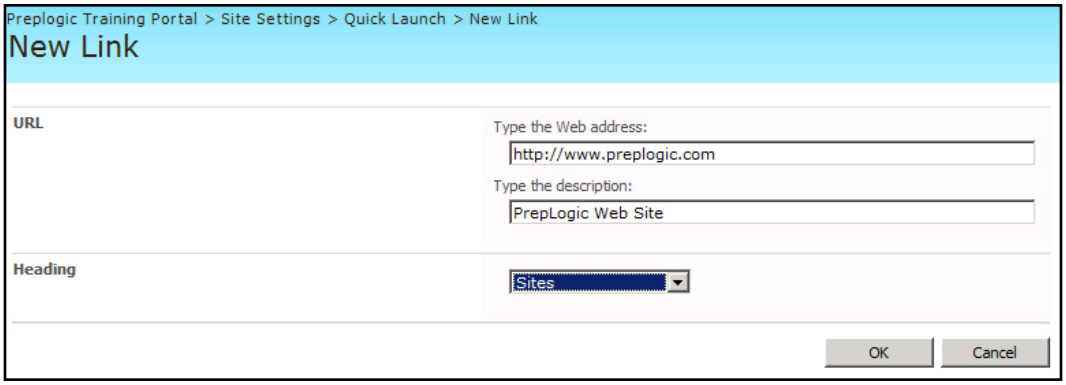


Figure 141: Adding a Link to the Quick Launch Bar

Customizing Master Pages and Content Pages

This is where the SharePoint customization can get really complex. Recall that the Top Link bar and Quick Launch bar comprise what is called the master page; a master page can be thought of as (largely) static content.

The main part of a page (where the action takes place) is more dynamic; this is referred to as a content page. A Web Part page is an example of a content page.

You can use Microsoft Office SharePoint Designer 2007 to customize master pages and content pages. In a nutshell, master page customization works like this: unless you customize a master page, you are working from the factory default.master page stored in the path **12\Template\Global**. If you do customize your master page, then the customized default.master page gets stowed in the SQL database and the factory default remains in the file system. Are you with me so far?

The good news with this regime is that you can always revert your master page to the OOB default if you mess something up.

The Master Page Gallery

Click **Site Settings > Galleries > Master pages** to view the Master Page Gallery for the site collection. So long as you have SharePoint Designer (SPD) 2007 installed on your system, you will see an **Edit in Microsoft Office SharePoint Designer** option in the master page's drop-down menu.

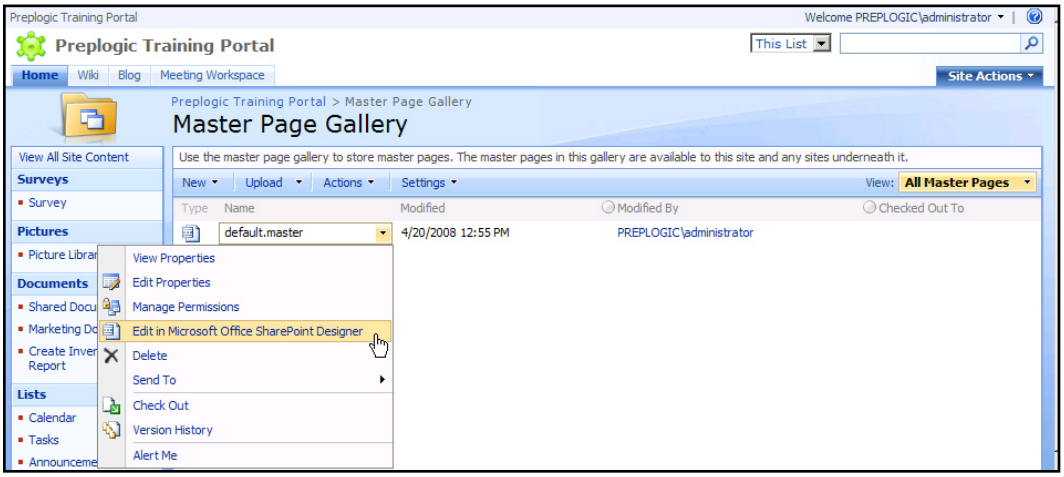


Figure 142: The Master Page Gallery

Customizing Master Pages with SPD 2007

Believe me, master page customization is a *huge* topic. It is far outside the scope of this Exam Manual to do anything beyond getting you started with the bare essentials.

Once you have opened a master page from inside SharePoint, or have connected to the site from within SharePoint Designer by using the **File > Open Site** command, you need to get your bearings in the application.

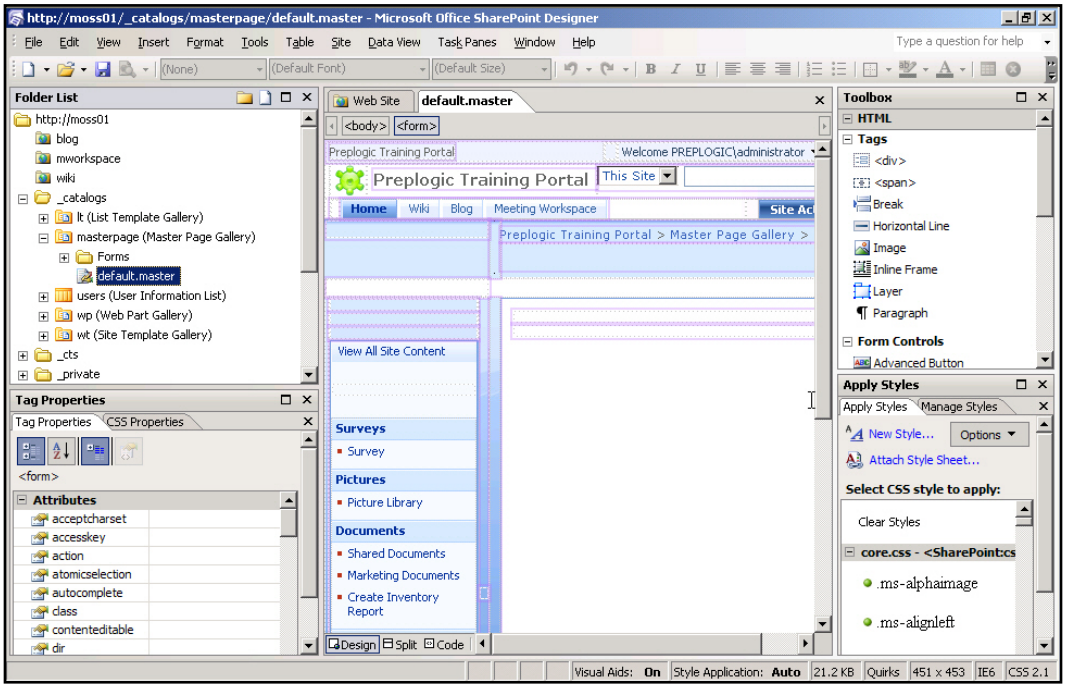


Figure 143: The SPD 2007 Interface

The first thing I want you to examine is the Folder List pane. The default.master master page (as well as any additional master pages you might have deployed) can be found in the folder list under **_catalogs\masterpage**:

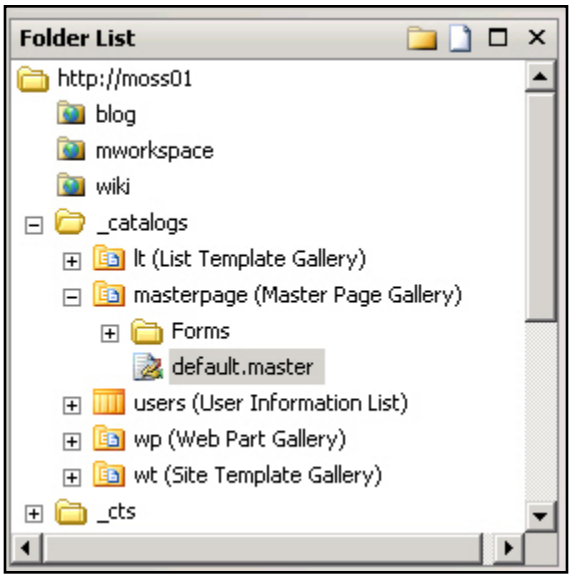


Figure 144: Locating a Master Page

The next thing I would like you to do is expose the Master Page toolbar by clicking **View > Toolbars > Master Page**. The Master Page toolbar allows you one-click access to all of the content placeholder on the master page.

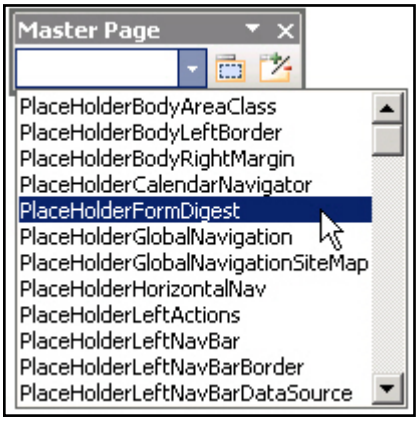


Figure 145: Finding Content Placeholders

Finally, right-click anywhere in the master page and select **Manage Microsoft ASP.NET Content Regions**.

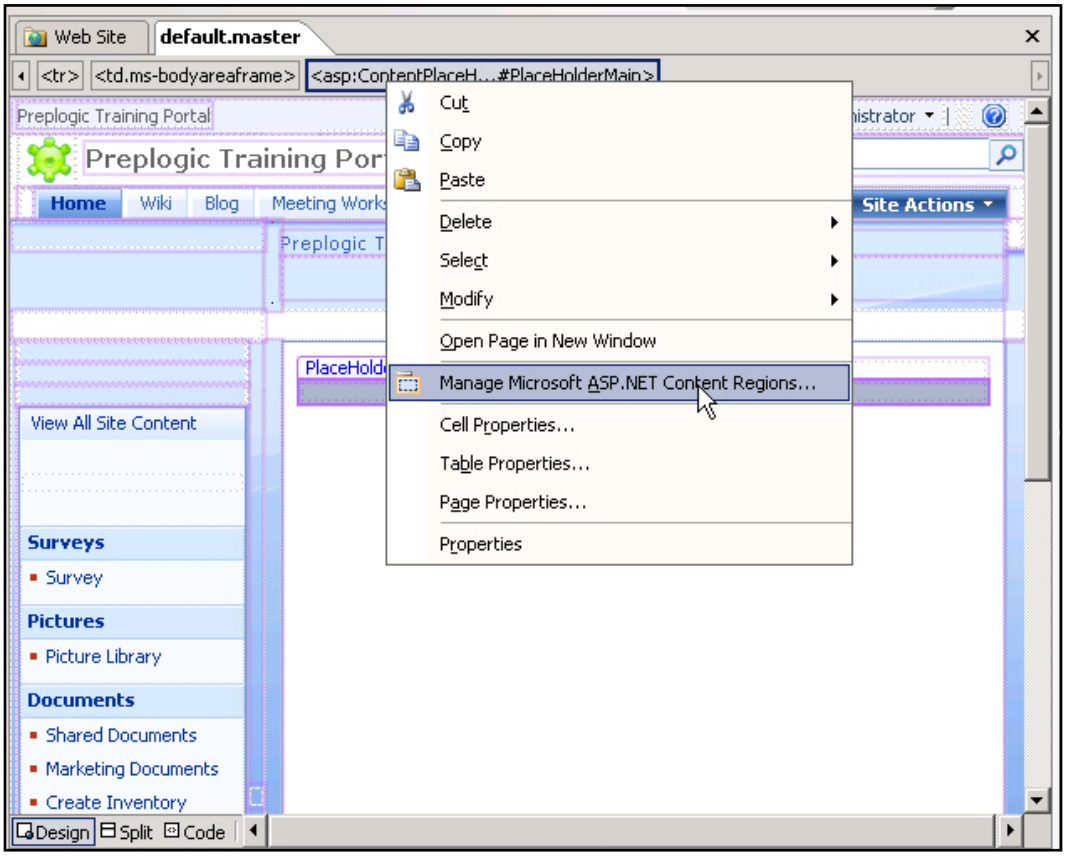


Figure 146: Accessing Content Regions

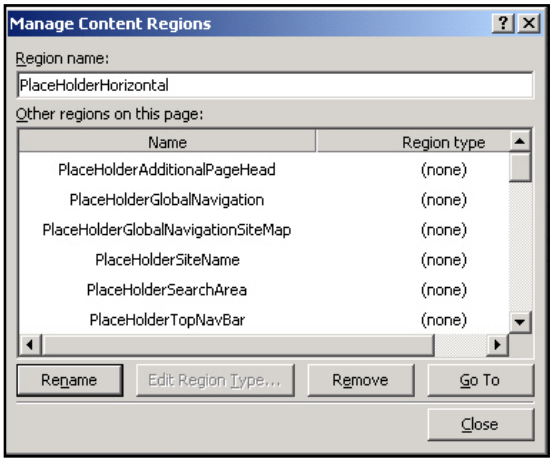


Figure 147: Navigating to Master Page Content Regions

Knowing which content region (placeholder) you want to modify is essential to successful SharePoint master page customization. You should also know a thing or two about Cascading Style Sheets (CSS) because CSS is how formats are stored and applied in SharePoint.

The final thing we will look at with regard to SharePoint master page customization is how to revert a customized master page back to its original site definition.

Once you have saved at least one change to the master page, recall that the file is now stored in the SQL database instead of in the 12 Hive. SharePoint Designer displays customized files differently from those that have not been customized:

Figure 148: A Customized Master Page

Right-click the customized page and select Reset to Site Definition from the context menu to discard your customizations and overwrite the file with the factory-default copy from the 12 Hive.

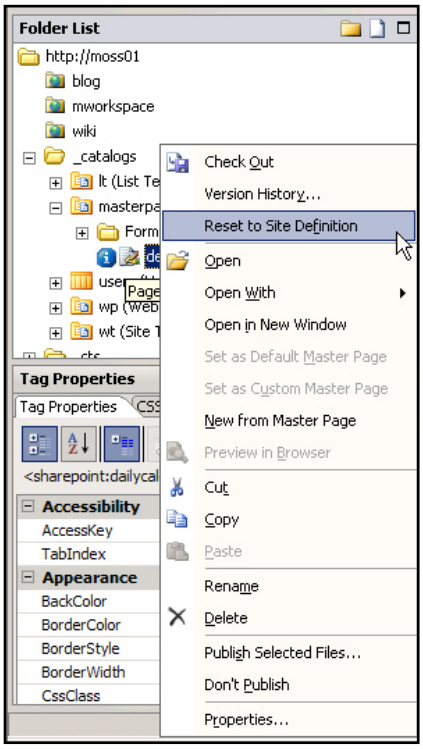


Figure 149: Resetting the Master Page

Figure 150: Confirming the Master Page Reset

Managing WSS 3.0 Backup and Restore

The good news is that WSS 3.0 and MOSS 2007 have a built-in backup tool that allows you to back up your SharePoint data seamlessly. The bad news is that the OOB solution isn't that flexible.

Remember that SharePoint stores data in many different places: SQL Server, the file system, and the IIS metabase being three chief locations. The built-in backup tool allows farm administrators to back up all or part of a farm without forcing you to perform manual backups of your SQL databases and keeping all of those dependencies straight.

The "bad news" I am referring to is that (a) you cannot back up and restore individual objects, such as document libraries, and (b) there is no built-in scheduling capability in the built-in backup tools.

Taking a SharePoint Backup

To take a backup, visit Central Administration and navigate to **Operations > Backup and Restore > Perform a backup**.

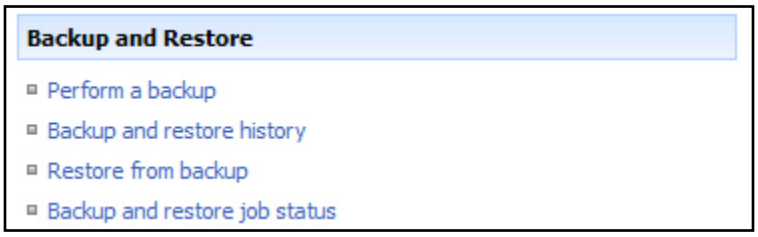


Figure 151: Backup and Restore Administrative Links

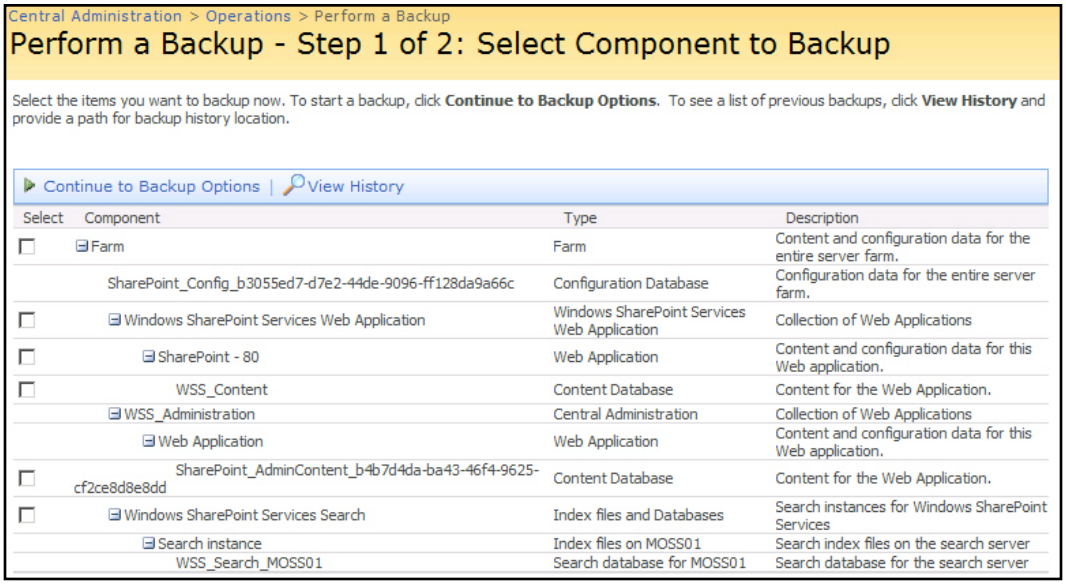


Figure 152: Performing a SharePoint Backup

In the **Perform a Backup – Step 1 of 2: Select Component to Backup** dialog, you can simply check which components you want to manually back up. Note that you can only back up to the Web application level; that is, the SharePoint native backup tool will not let you back up a single site collection or an individual list or library.

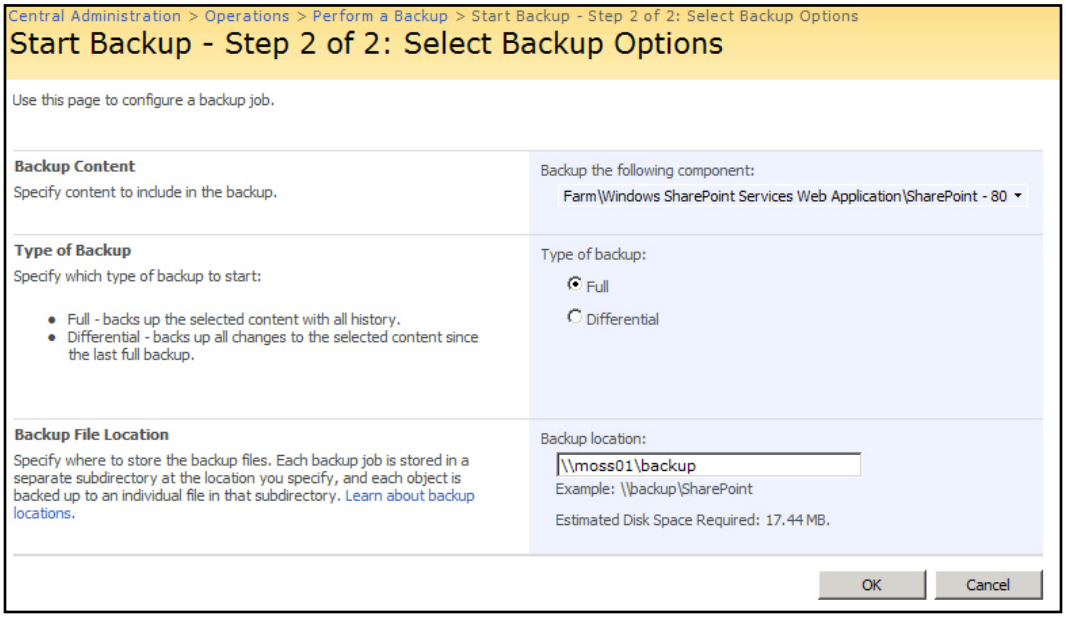


Figure 153: Performing a SharePoint Backup

SharePoint native backup supports two backup types:

- ***Full:*** Backs up all selected components
- ***Differential:*** Backs up all selected components that have been modified since the last full backup

In order for your SharePoint backups to be as accessible as possible, be sure to specify a Universal Naming Convention (UNC) path in the **Backup location:** text box.

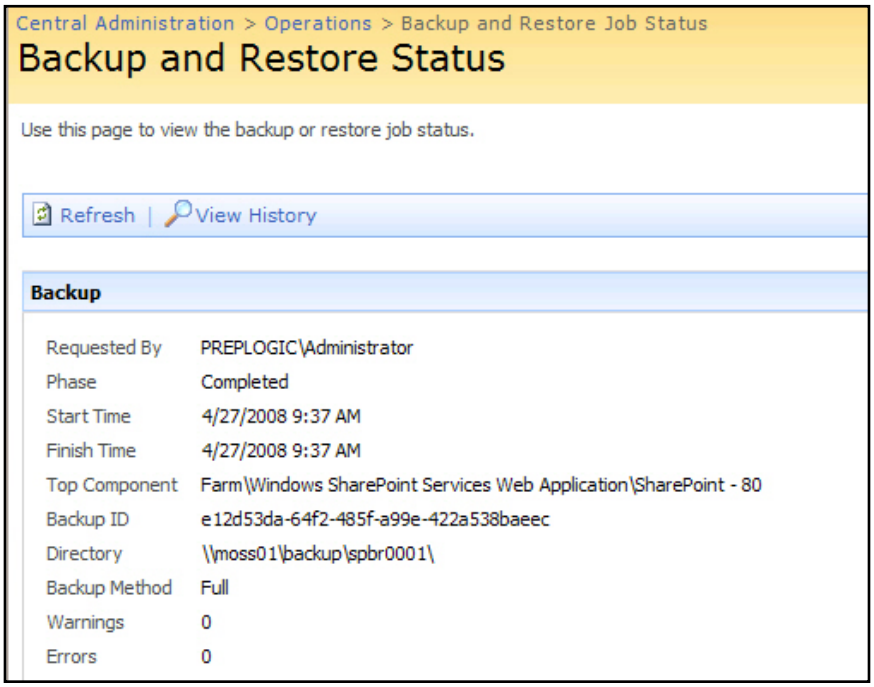


Figure 154: Checking the Status of a Backup Job

SharePoint backups run under the auspices of the SharePoint Timer service. The service account that you have associated with the Timer service should be chosen carefully for security reasons.

You can always check on Timer jobs by navigating in CA to **Operations > Global Configuration > Timer job status**.

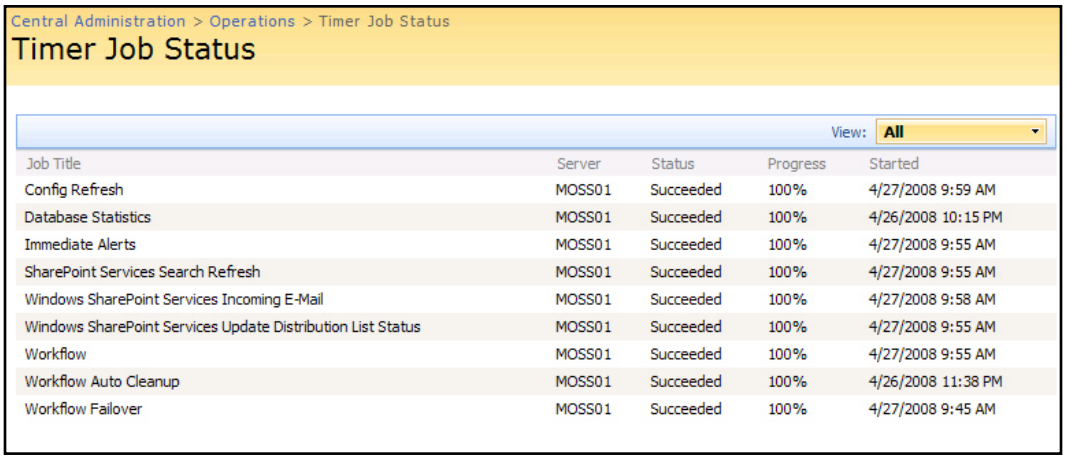


Figure 155: Viewing Timer Job Status in Central Administration

Performing a Restore

As the systems administration adage states, "A good backup is only as good as its ability to be successfully restored." Let's view our backup history and then perform a trial restore in SharePoint.

To view backup history data, navigate to **Operations > Backup and Restore > Backup and restore history** in Central Administration.

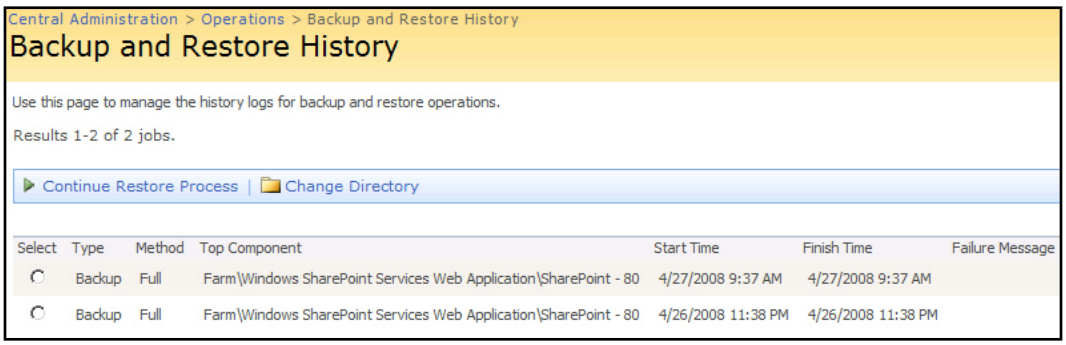


Figure 156: Viewing Backup and Restore History

Note that we can initiate a restore process directly from the **Backup and Restore History** dialog by selecting a backup set from the list and then clicking **Continue Restore Process**.

Alternatively, we could just click **Operations > Backup and Restore > Restore from Backup** in CA to restore some or all of our SharePoint farm.

When we restore, we first point to where our backup sets are stored:

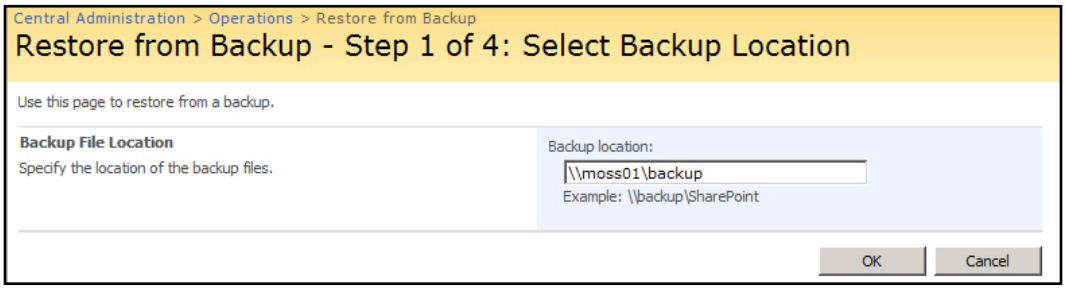


Figure 157: Initiating a Restore Operation

Next, we select a backup set to restore.

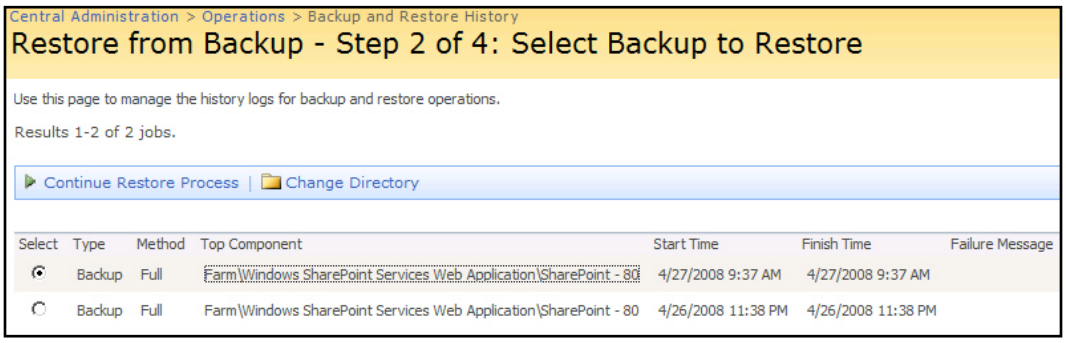


Figure 158: Selecting a Backup Set

In Step 3 we select which portion(s) of the backup package we want to restore.

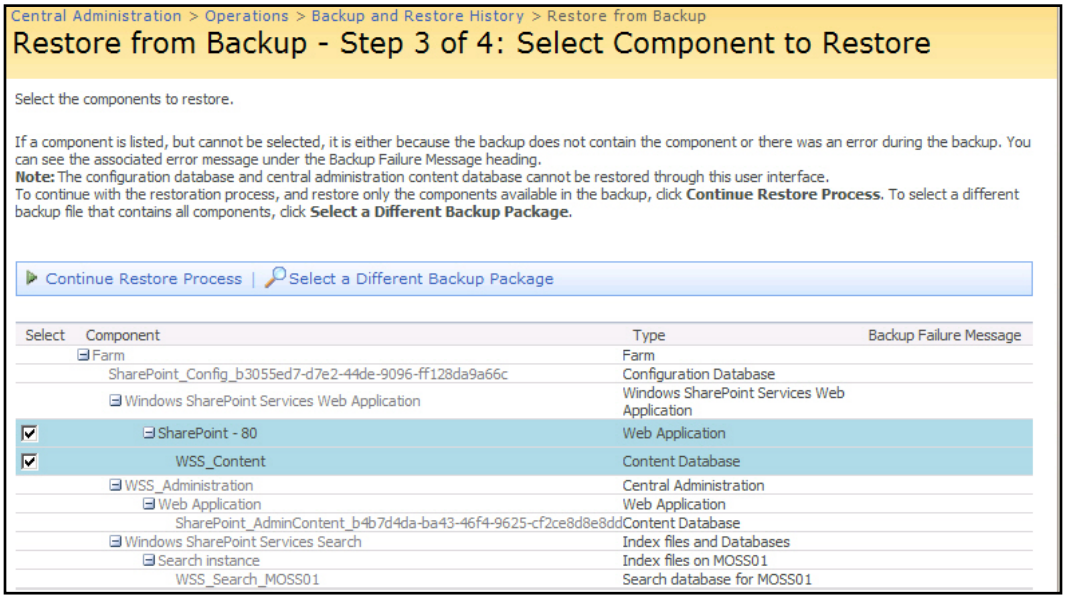


Figure 159: Performing a SharePoint Restore

In my opinion, Step 4 is the most important step in the SharePoint restore process.

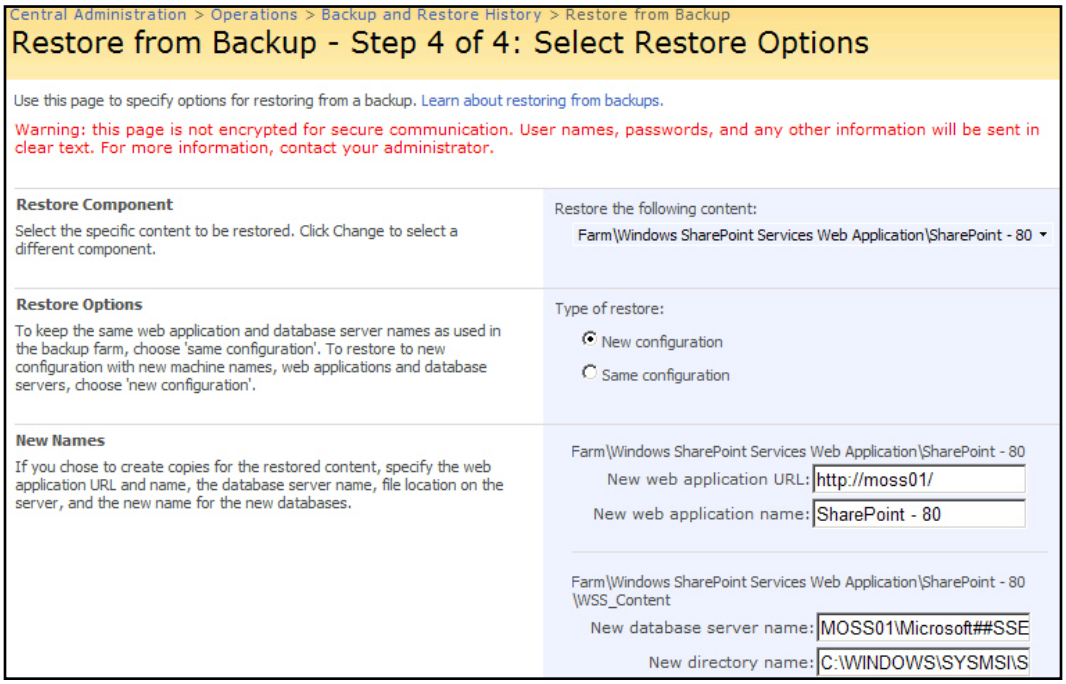


Figure 160: Performing a SharePoint Restore

In particular, the **Type of restore** choice asks whether we are restoring to the component's original location (overwriting the data that already exists on the server) or to a new configuration. Restoring to a new configuration means we restore to an alternate, perhaps a Q/A or development environment. This is really the only way to go to restore, say, an individual file that was permanently deleted from a document library. A solid third-party SharePoint backup and restore solution that does give you lots of flexibility is DocAve.

Automating SharePoint Backup

As I said earlier, the Central Administration interface offers no automation with regard to performing regular SharePoint backups. However, we can leverage the following two tools in order to configure automated backups anyway:

- ***STSADM.EXE:*** This is the command-line interface for SharePoint.
- ***Windows Task Scheduler:*** This is an OS-level service that is used to automate processes.

One additional thing about using **STSADM.EXE** that's cool is that you can back up a site collection with it; recall that you can only back up to the Web application level using the CA backup tool. **STSADM.EXE** is located in your 12 Hive under **12\BIN**:

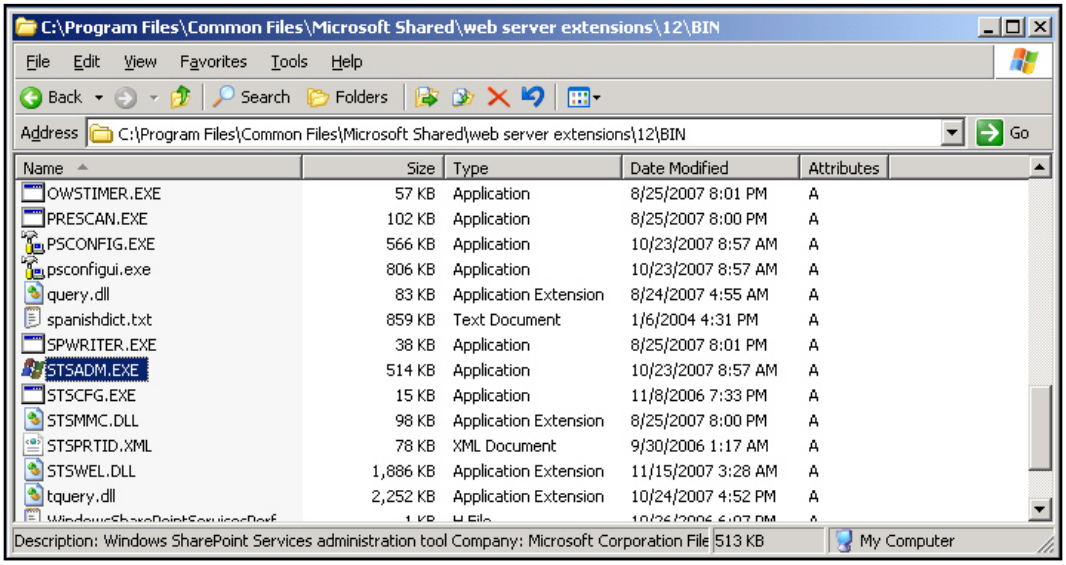


Figure 161: Locating the STSADM.EXE Tool

Therefore, unless you have added the 12 Hive to your search path (a good idea), you have to navigate to the appropriate file path every time you want to run **STSADM.EXE**, whether you do so interactively or in a shell script.

Consult SharePoint online help for information on **STSADM.EXE** syntax; the syntax is pretty straightforward.

To schedule SharePoint backups, here is the two-step process:

1. Create a DOS shell script in which you list one or more **STSADM.EXE** statements to perform your backup(s). (Use the **.CMD** extension instead of the **.BAT** extension to ensure that the script is run by the 32-bit **CMD.EXE** instead of the 16-bit **COMMAND.COM** program.)
2. Create a recurring task by using the Windows Task Scheduler on your target server to run the shell script on a schedule.

Figure 162: Creating a Scheduled Task to Automate SharePoint Backup

Monitoring Windows SharePoint Services 3.0

Let's look at how we can leverage Windows and SharePoint built-in tools for tuning and troubleshooting SharePoint.

Using Windows Performance Monitor

Windows Performance Monitor, or Perfmon as it is sometimes called, is an excellent tool for both real-time and logged system performance analysis. On SharePoint servers, Perfmon offers excellent objects and counters that we can leverage to "put our fingers on the pulse" of our SharePoint server computers. We can open Performance Monitor in Windows Server 2003 from the Administrative Tools folder.

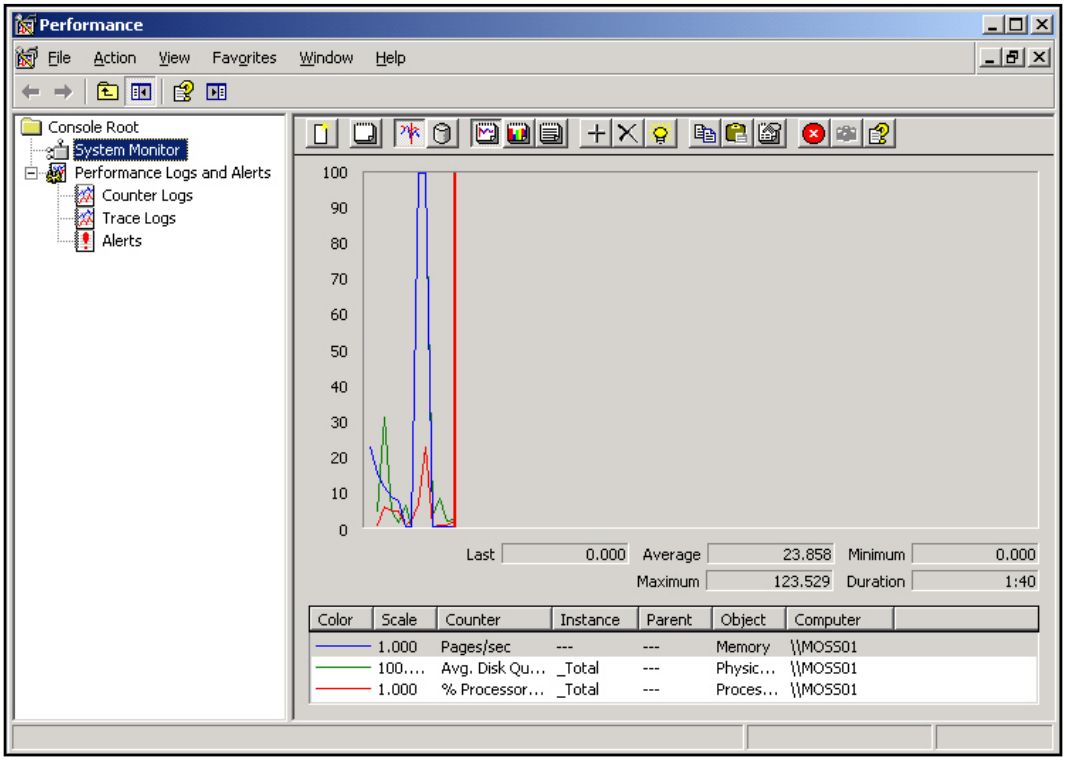


Figure 163: Using Windows Performance Monitor

Performance Monitor allows us to examine non-logged data in real time, as well as to load previously recorded log files. The Counter Logs feature enables us to record activity over time and then analyze that data by using either Perfmon or another tool such as Microsoft Excel.

Click the **Add** button  to load some performance counters.

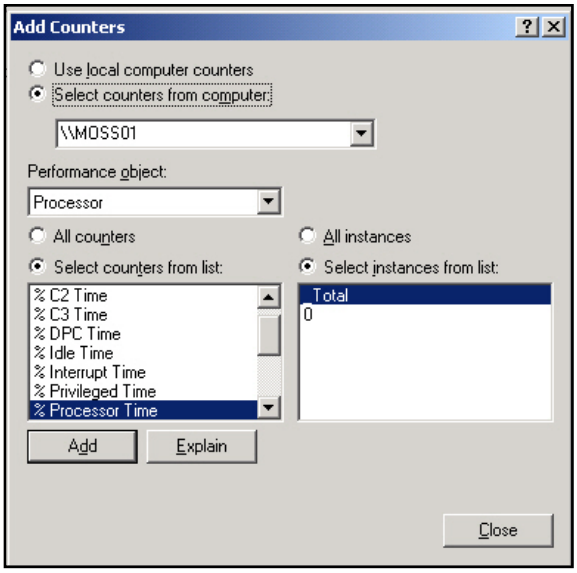


Figure 164: Adding Performance Counters

So as not to skew data on the target SharePoint server, best practice dictates that we run the performance logging from a remote system. (Use the **Select counters from computer** option and specify the UNC path to the target server.)

When you load performance counters, you should first understand what the relevant terminology is:

- ***Object:*** A collection of counters specific to a particular subsystem
- ***Counter:*** An individual meter
- ***Instance:*** Allows counters to be focused further (on a specific CPU or logical disk partition, for instance)

Diagnostic Logging

To configure diagnostic logging in SharePoint, log into Central Administration and navigate to **Operations > Logging and Reporting > Diagnostic logging**.

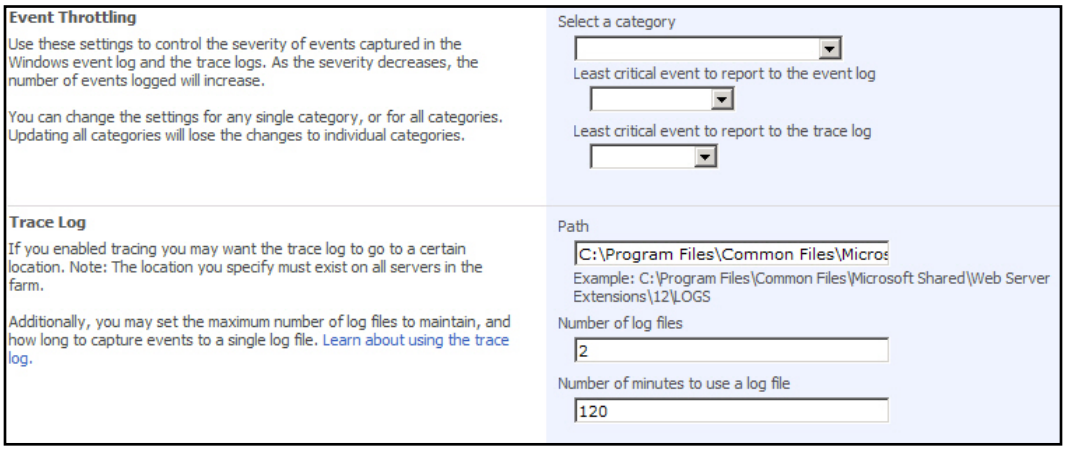


Figure 165: Configuring SharePoint Logging

The Event Throttling feature determines SharePoint's verbosity in your Windows event logs. The Trace Log option enables you to specify a path for the trace log, as well as how many logs you want to keep on the server. (Note: These files can consume a large amount of disk space over time, so set your retention values accordingly.)

The default location of your SharePoint trace logs is in the 12 Hive; specifically, **C:\Program Files\Common Files\Microsoft Shared\Web Server Extensions\12\Logs**.

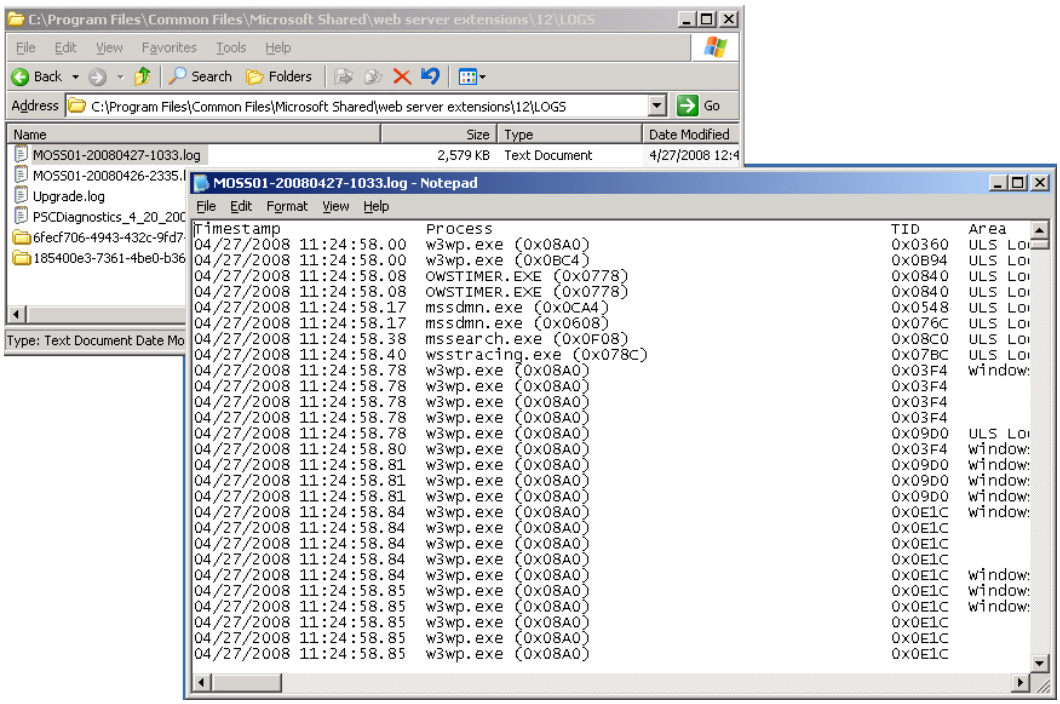


Figure 166: Viewing a SharePoint Trace Log

You will doubtless notice that the SharePoint trace logs are saved in a delimited format, making it easy for you to analyze the results in Microsoft Excel.

Examining the Event Logs

SharePoint, SQL Server, and Internet Information Services (IIS) all record informational, warning, and error events to the Windows Application log. You can open the Event Viewer tool on your SharePoint server from the **Administrative Tools** folder off the **Start** menu.

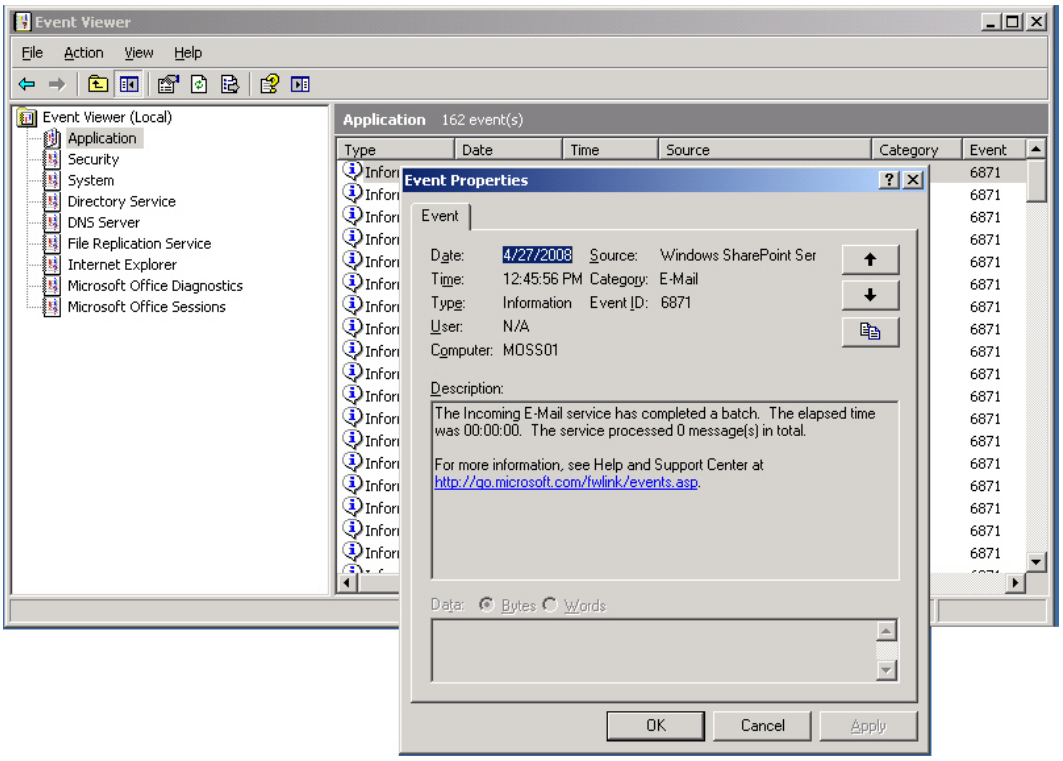


Figure 167: Examining Events with Event Viewer

The biggest question server administrators have when analyzing Event Log entries is, "How can I understand the often-cryptic messages?" To this end, I would encourage you to check out the following two helpful Web sites:

- EventID.net
- Microsoft TechNet Events and Errors Message Center

IIS Logging

Please don't forget to periodically analyze your IIS Web server log files. To configure IIS logging, open the IIS Manager tool from **Administrative Tools**, right click the **Web Sites** node, and then choose **Properties** from the context menu.

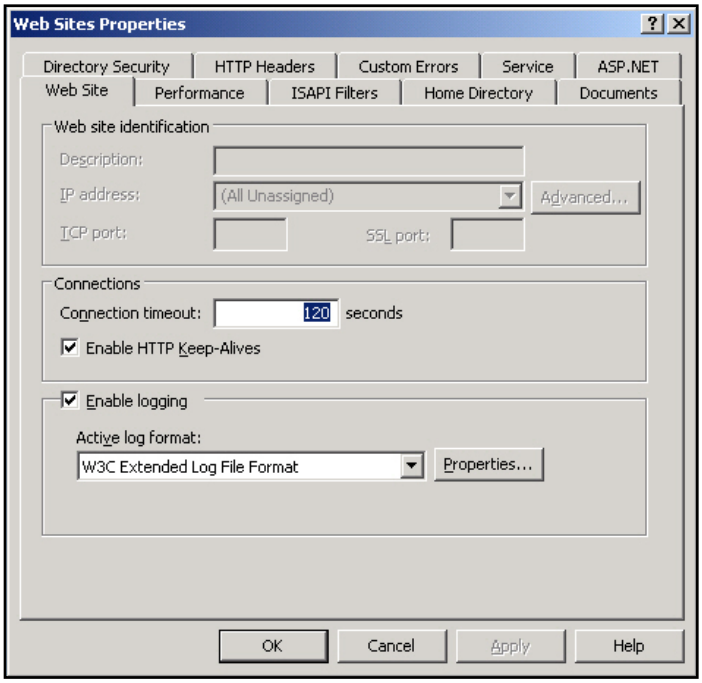


Figure 168: Configuring IIS Logging

Microsoft best practice states that you get the most flexibility by using the default **W3C Extended Log File Format**. Click **Properties** to configure logging options.

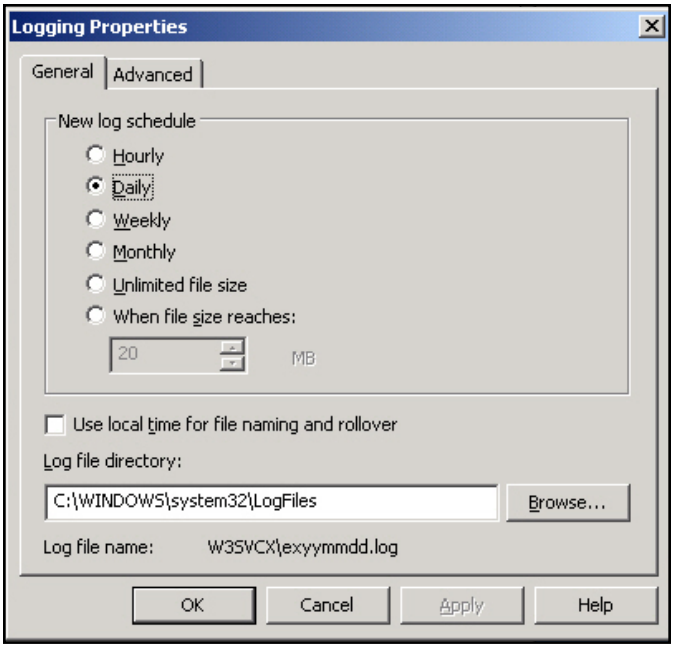


Figure 169: Specifying IIS Log Properties

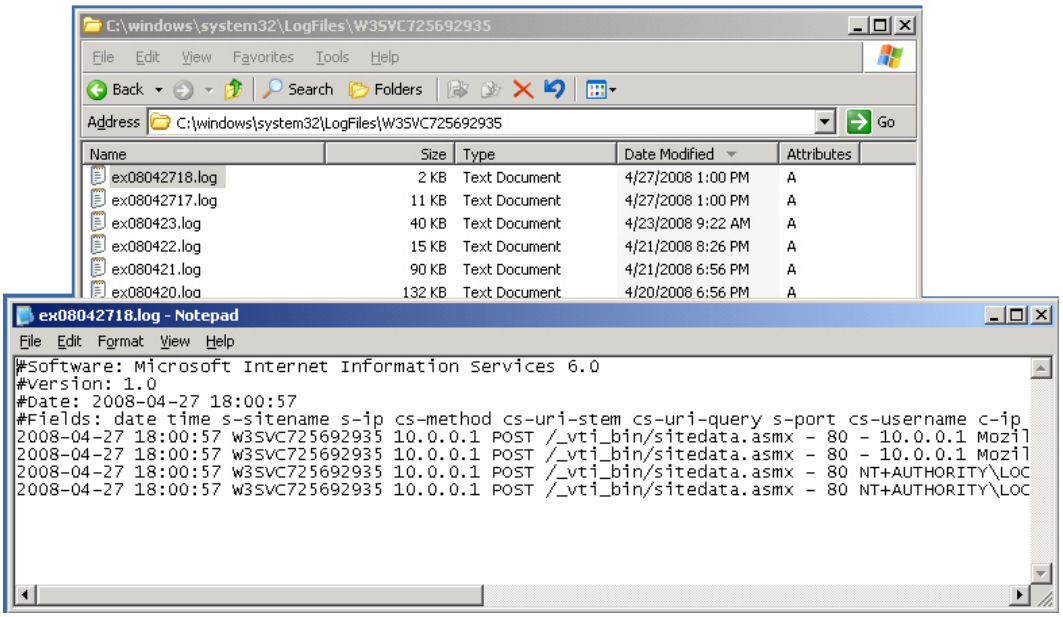


Figure 170: Viewing the IIS Log

Once again, a delimited file format allows for easy analysis by using Microsoft Excel, Access, Visio, and the like.

Enterprise Log Management Tools

I think you can see that keeping track of all of these log and trace files is tough enough on a single SharePoint server. But what if your farm includes dozens of servers?

Microsoft addresses this problem by publishing two products that enable administrators to aggregate log data from multiple servers and interact with this data meaningfully:

- Microsoft Operations Manager (MOM) 2005
- System Center Operations Manager (SCOM) 2007

SCOM is the successor to MOM 2005. Although SCOM includes in-box SharePoint interoperability, you need to download the SharePoint Management Pack for MOM 2005 in order to enable MOM to monitor your SharePoint farm servers.

Creating and Managing Wikis and Blogs

Wikis and blogs represent two nifty Web 2.0 features in WSS 3.0 and SharePoint Server 2007. They provide ways for companies to share information and collaborate in an intuitive manner. Let's take a look at how to use these functions in WSS 3.0.

Creating a Wiki

First of all, what is a wiki? A wiki (pronounced WICK-ee or WEE-KEE) is a quickly editable database; a page library. Have you used Wikipedia.org? If so, then you are familiar with what a wiki is.

Wikis are great because they (a) provide a mechanism for many people to add and edit content, and (b) are easy to add to or make updates to.

Although you can implement a wiki in SharePoint by defining either a subsite/site collection or a page library within a site, I personally recommend deploying wikis as subsites wherever possible.

From the top-level site in your site collection, click **Site Actions** > **Create**.

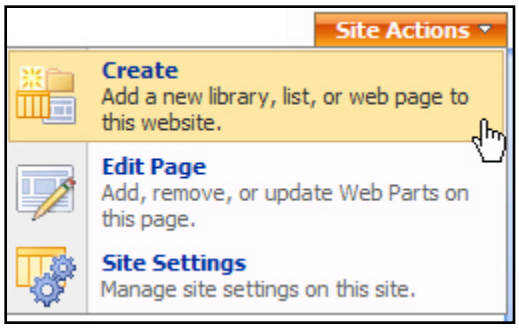


Figure 171: Choosing to Create in SharePoint

In the **Create** Web form, click **Sites and Workspaces**.

Figure 172: Creating a Subsite

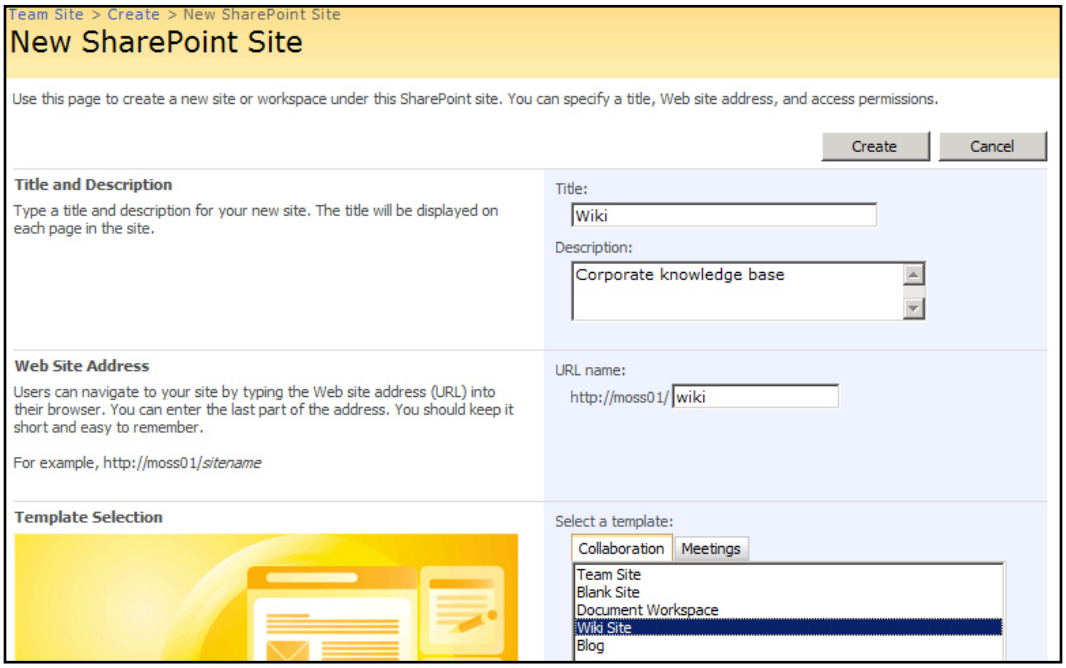


Figure 173: Defining a New Wiki Site

The most important step when completing the **New SharePoint Site** dialog is to be sure that you select the **Wiki Site** template from the **Template Selection** area.

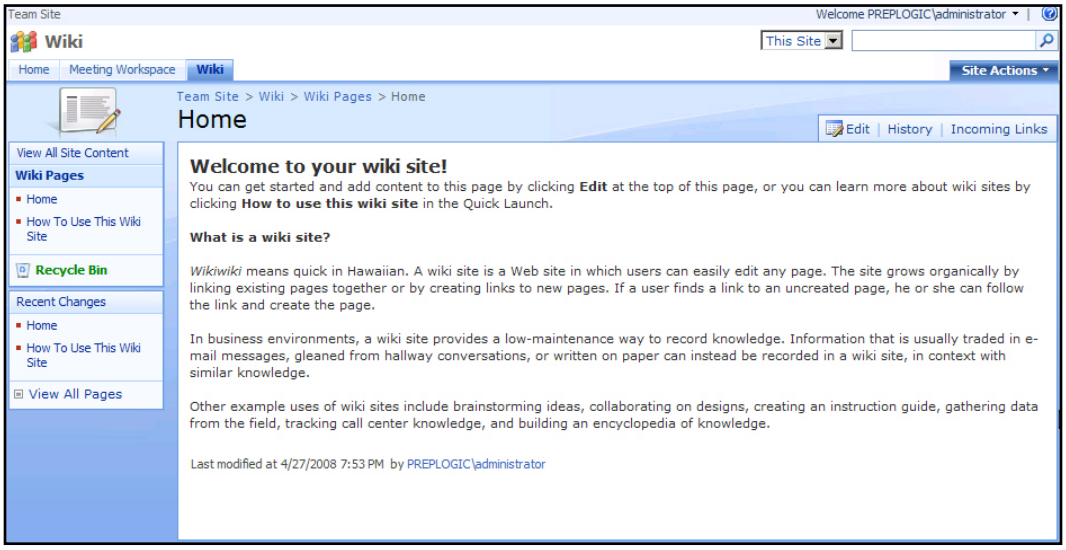


Figure 174: The Default Wiki Site Template

The most important navigational elements for a SharePoint wiki author are the toolbar and the Wiki Pages link.

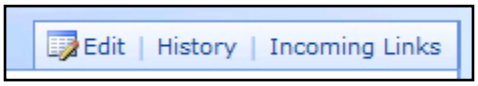


Figure 175: The Wiki Toolbar

Here is a brief explanation of the toolbar buttons:

- ***Edit:*** Allows a SharePoint user with appropriate permissions to edit the current page.
- ***History:*** Shows the version history of the current page.
- ***Incoming Links:*** Displays other wiki pages that link to the current page. This button comes in handy when you are thinking of deleting a page and want to know which other pages in the library refer to it.

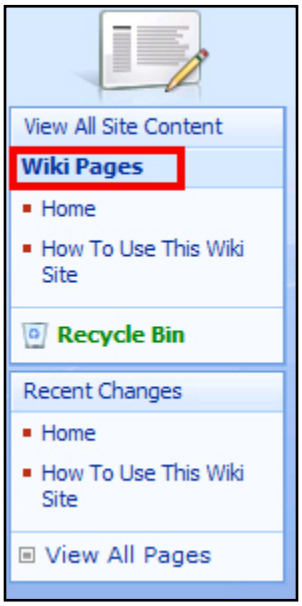


Figure 176: The Wiki Pages Link in the Quick Launch Bar

The **Wiki Pages** link in the wiki Quick Launch is key because it provides direct control over the pages in the wiki page library. After all, the wiki page library is, at its most fundamental level, just another plain old, garden variety SharePoint document library!

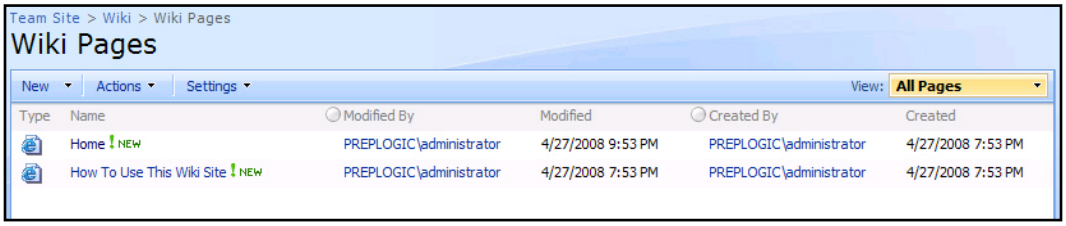


Figure 177: The Wiki Page Library

Editing a Wiki Page

To get started editing a wiki page, simply click **Edit** on the toolbar. You'll notice that SharePoint wikis provide you with what you see is what you get (WYSIWYG) rich text formatting controls.

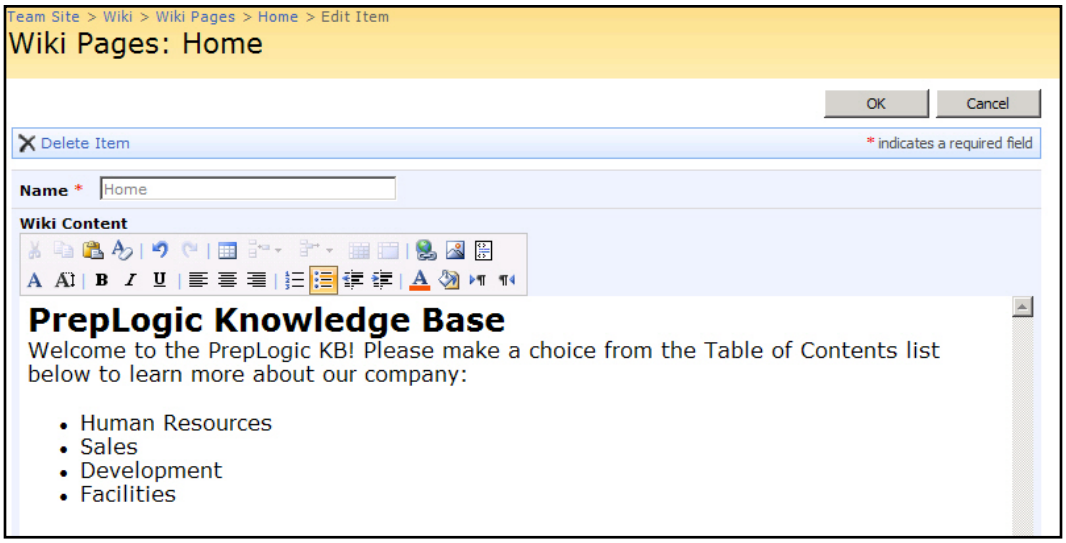


Figure 178: Editing a Wiki Page

Creating hyperlinks is really quite fun. What's especially interesting about wiki page links is that you can forward-link; that is to say, you can link to a page that doesn't yet exist. To create a forward link, simply enclose the hyperlink text with double square brackets:

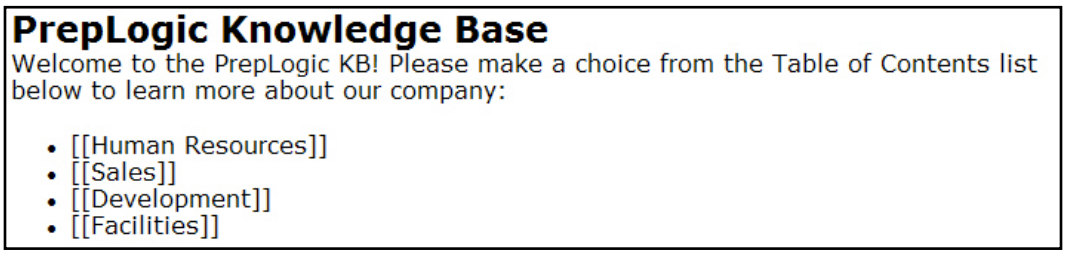


Figure 179: Examining Wiki Syntax

Wiki syntax is really easy. Click OK to commit your changes and then click one of your forward links. Shazzam!

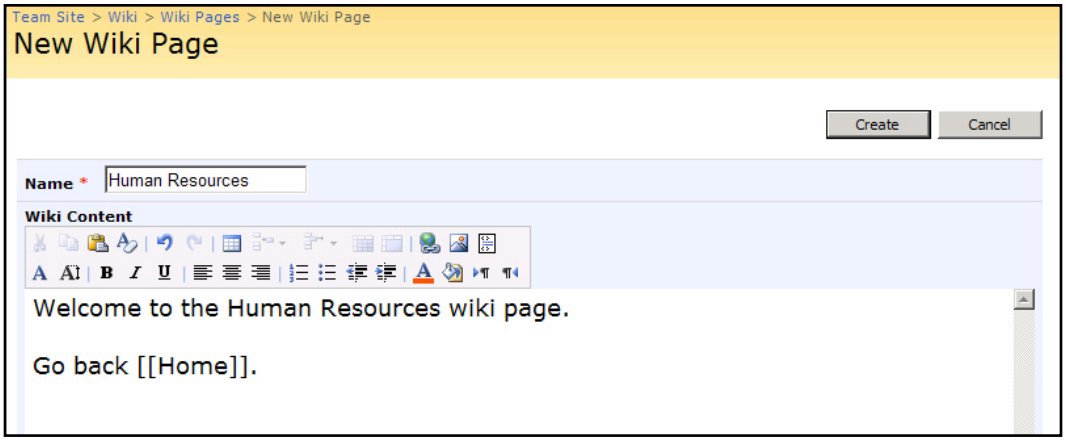


Figure 180: Creating Wiki Page Links

Navigate back to the Home page and then click History on the wiki toolbar.

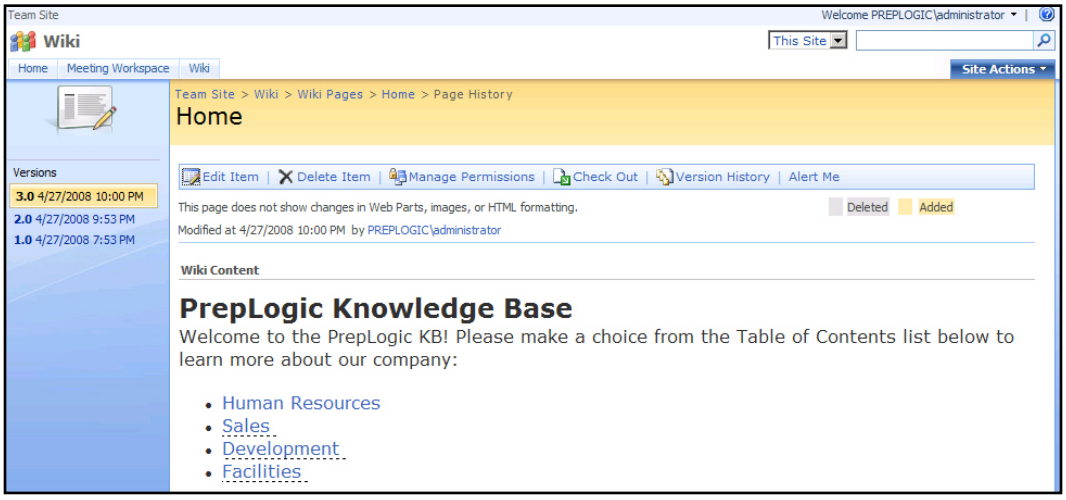


Figure 181: Accessing Wiki Page Version History

If you look on the left side of the screen, you will see that you can view the evolution of a wiki page over time. Should you wish (and your SharePoint user account has proper permissions) you can replace the current version of a wiki page with a previous version.

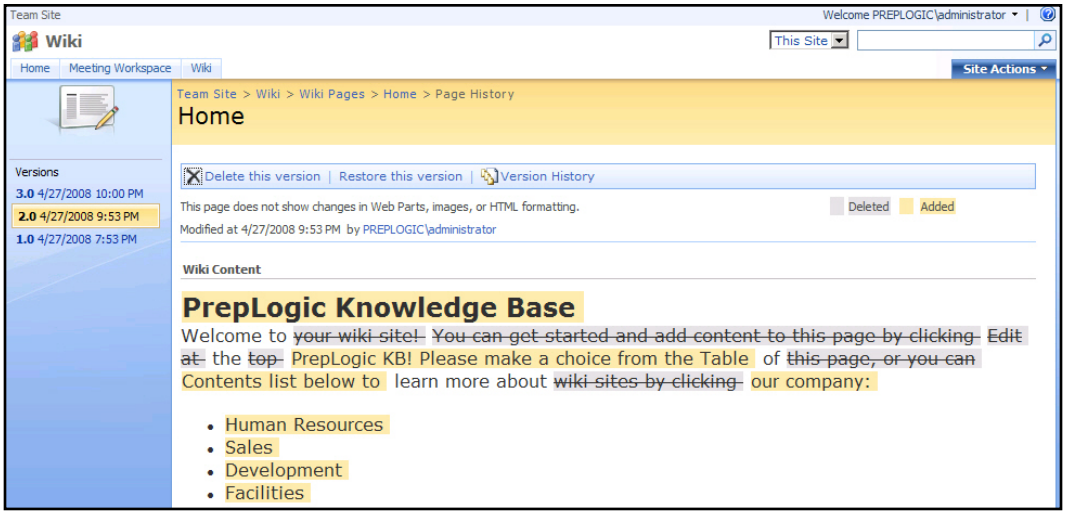


Figure 182: Accessing Wiki Page Version History

Creating a Blog

A blog (short for "weblog") is a regularly updated Web site that lists its articles in reverse chronological order. In other words, the most recent article appears at the top of the page, and so forth.

Blogs are not used just for vanity. SharePoint blogs have useful business purposes as well. For instance, a company's CEO can update his or her employees about corporate goings-on via his or her blog.

Create a blog as a subsite by using the same technique you learned a few moments ago when we created a wiki. Just be sure to select the **Blog** site definition template.

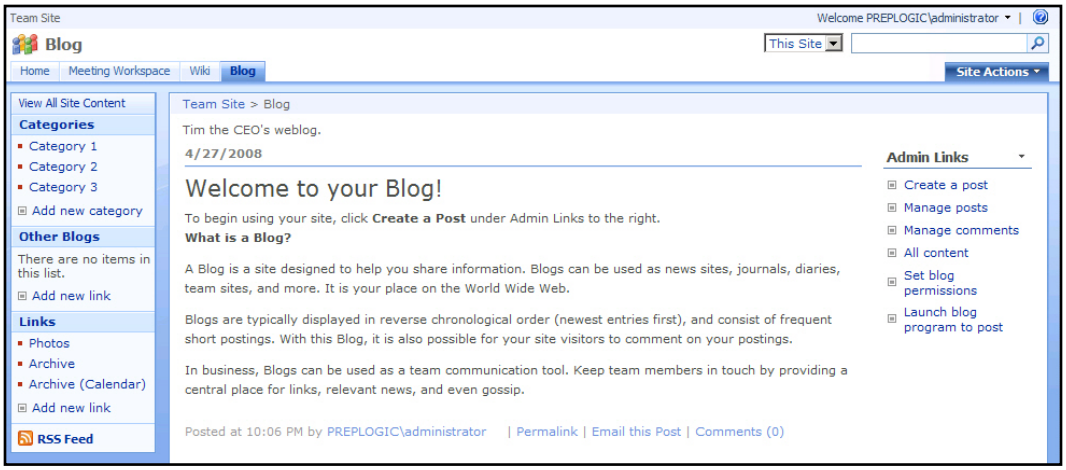


Figure 183: A SharePoint Blog

The **Admin Links** menu is available only to blog owners; here is a brief explanation of the commands:

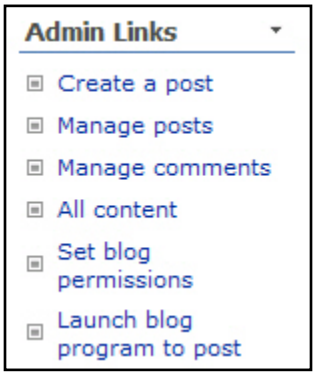


Figure 184: SharePoint blog Admin Links

- ***Create a post:*** Author a new blog post directly from your Web browser.
- ***Manage posts:*** Change the publication status, edit, or delete blog posts.
- ***Manage comments:*** Edit or delete user comments on your blog posts.
- ***All content:*** Access the All Site Content form.
- ***Set blog permissions:*** Specify who has access to your blog, and what level of access they have to it.
- ***Launch blog program to post:*** Author SharePoint blog posts from Microsoft Office Word 2007 or Windows Live Writer

Author a New Blog Post

Click the **Create a post** button on the **Admin Links** bar to develop a new blog post from within SharePoint.

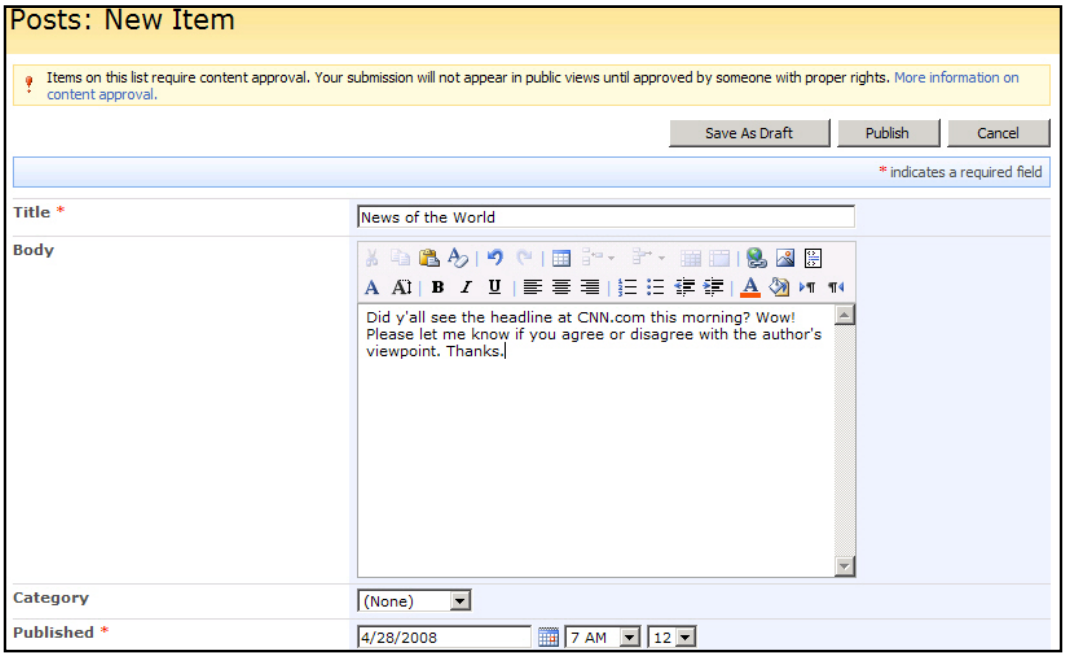


Figure 185: Creating a New Post

Note that, by default, content approval is enabled for blog posts; this enables a blog owner to allow others to create articles, but to force the candidate articles through an approval process before they are available on the site.

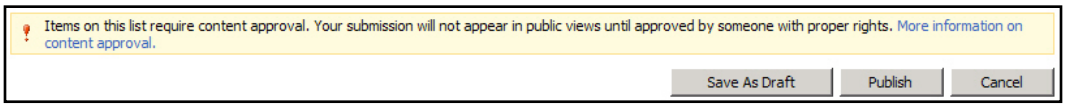


Figure 186: Content Approval Notification

Creating Categories

Blog categories are very useful to your readers, because they can filter your posts based on a simple taxonomy. To build categories, click Categories on the Quick Launch toolbar.

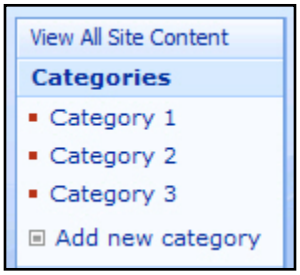


Figure 187: Viewing Blog Categories

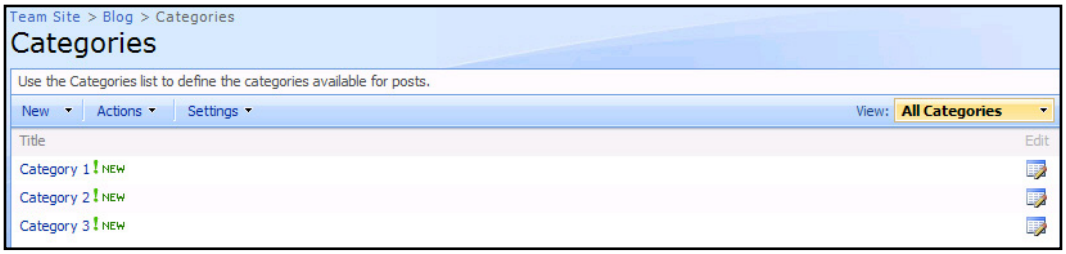


Figure 188: Customizing Blog Categories

Note that the Categories list is a standard SharePoint list, with all of its attendant features. Click the **Edit** button for each default category to rename; click **New > New Item** to build new categories.

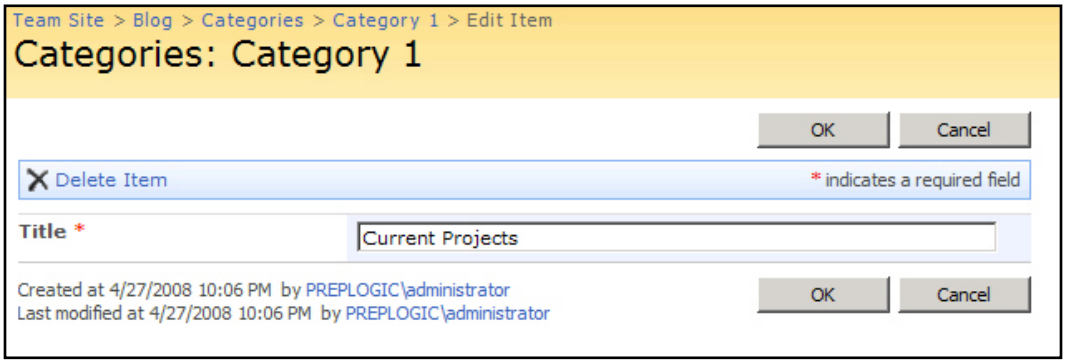


Figure 189: Defining a New Blog Category

Figure 190: Viewing Blog Categories in List View

Now return to your blog home page and click **Manage posts** from the **Admin Links** bar. We need to retroactively associate a new category with our new post. Once you are in the **Posts** link, click **Edit** for the target post.

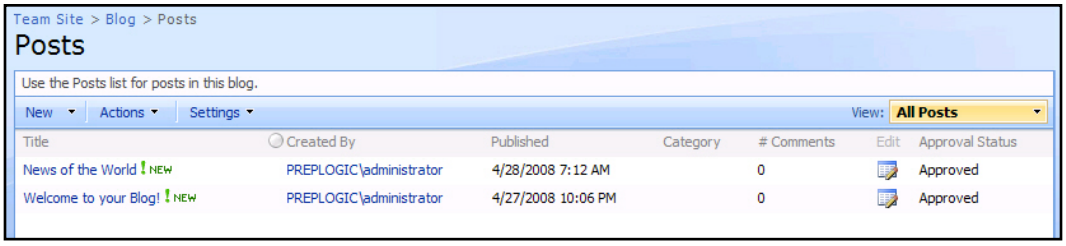


Figure 191: Viewing Blog Posts in List View

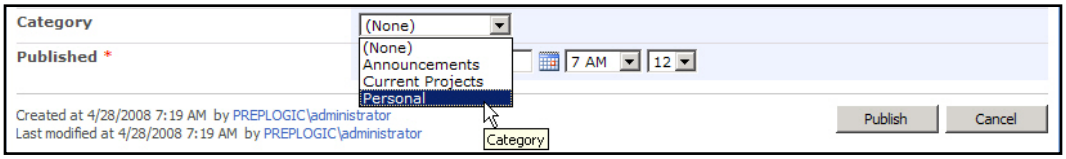


Figure 192: Associating a Blog Post with a Category

Authoring Posts from Microsoft Office Word 2007

If you have Word 2007 installed on your computer, you can use the tool to author blog posts by clicking **Launch blog program to post** from the **Admin Links** toolbar.

You are prompted to register a new SharePoint blog account from within Word 2007. Verify the blog URL and then click OK to get started.

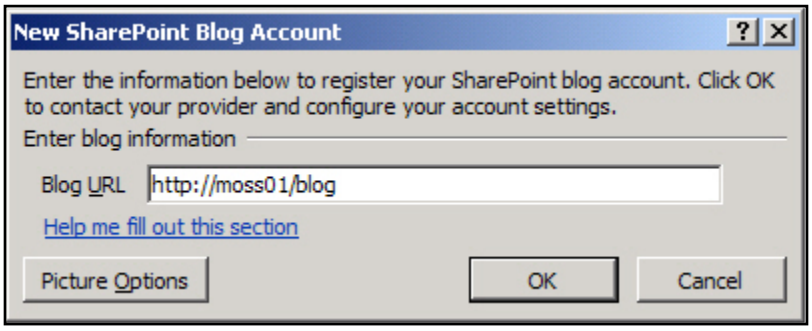


Figure 193: Registering a SharePoint Blog Account from Word 2007

Figure 194: Blog Registration Successful Message

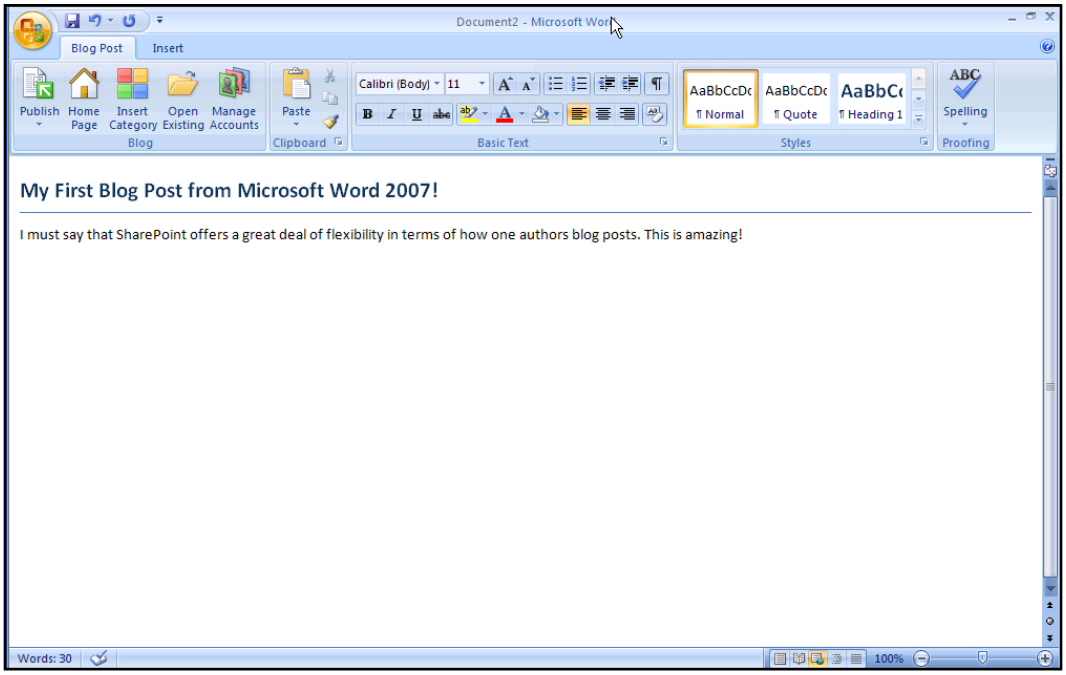


Figure 195: Authoring a Blog Post from Word 2007

The **Blog** section of the **Blog Post** ribbon tab in Word 2007 provides easy access to all of your blogging tools:

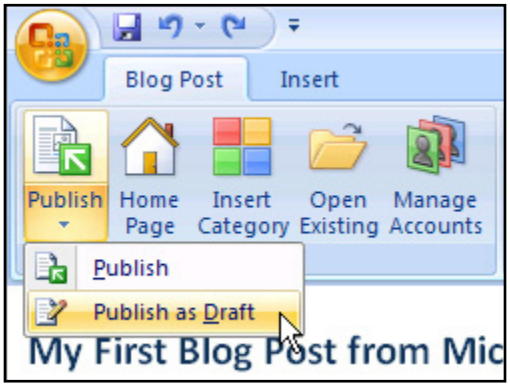


Figure 196: Publishing a Blog Post

Practice Questions

Chapter 1

1. You plan to migrate the content databases from your company's existing Windows SharePoint Services (WSS) 2.0 server to new hardware hosting a fresh installation of Microsoft Office Share Point Server (MOSS) 2007. You need to ensure that you trap any migration errors prior to actually performing the database migration. What action should you perform?

   - ❍ A. Download and run the CMS Assessment Tool.
   - ❍ B. Ensure that WSS 2.0 has Service Pack 1 installed.
   - ❍ C. Run the Pre-Upgrad Scan Utility (prescan.exe) on the WSS 2.0 server.
   - ❍ D. Run the Pre-Upgrade Scan Utility (prescan.exe) on the MOSS server.

2. Your company is migrating from Novell NetWare to Microsoft Active Directory, and will use Microsoft Office SharePoint Server (MOSS) 2007 as its content management and collaboration platform. You want to leverage the user profile attributes that already exist in the NetWare directory database to populate user profile data in SharePoint. What action should you perform?

   - ❍ A. On the NetWare server, configure profile export by specifying the Business Data Catalog option.
   - ❍ B. On the MOSS server, configure profile import by specifying the Business Data Catalog option.
   - ❍ C. On the NetWare server, configure profile export by specifying the LDAP Directory option.
   - ❍ D. On the MOSS server, configure profile import by specifying the LDAP Directory option.

3. You recently installed and configured a MOSS 2007 for your company. You want to leverage user account properties that are stored in a proprietary, non-LDAP directory database for use in SharePoint user profiles. Your solution must involve the least amount of administrative effort. What action should you perform?

   - ❍ A. Configure user profile import by specifying the Active Directory Resource option.
   - ❍ B. Configure user profile import by specifying the Business Data Catalog (BDC).
   - ❍ C. Install and confiure Microsoft BizTalk Server 2006.
   - ❍ D. Configure a Trusted File Location in the Shared Services Provider (SSP).

4. You have installed the Spanish and French language packs on your MOSS 2007 server so that your employees can provision My Site Web sites that render text in their native tongues. However, you learn that the My Sites created by your Spanish- and French-speaking employees still use English as the display language. What action should you perform?

   - ❍ A. Start the Translation Management workflow in the top-level site of the portal site collection.
   - ❍ B. Install the appropriate 2007 Office System language pack on each users' computer.
   - ❍ C. In My Site Settings, select the Enable My Site to support global deployments option.
   - ❍ D. In My Site Settings, select the Allow user to choose the language of their personal site.

5. You have added a subsite to your top-level SharePoint site collection. However, you discover that the subsite's top link bar does not match that of the top-level site. In order to ensure consistent navigation, you want the top link bar in the subsite to match the top link bar of the top-level site. What action should you perform?

   - ❍ A. From Site Settings of the top-level site, force the global navigation to propagte to all subsites in the site collection.
   - ❍ B. From the Site Settings of the top-level site. Configure the top link bar to display subsites.
   - ❍ C. From the Site Settings of the subsite, configure the global navigation settings to inherit links from its parent site.
   - ❍ D. From the Site Settings of the subsite, configure the current navigation settings to inherit links from the parent site.

Chapter 2

1. You are a SharePoint administrator for your company. You recently detached and reattached the content database for your primary SharePoint Web application to perform some offline maintenance. You now notice that the SharePoint Server search service is stopped on your search server. What action should you perform?

   - ❍ A. Issue the command stsadm -o enumcontentdbs on your SharePoint search server.
   - ❍ B. Issue the command stsadm -o databaserepair on your SharePoint search server.
   - ❍ C. Issue the command stsadm -o activatefeature on your SharePoint search server.
   - ❍ D. Issue the command stsadm -o osearch on your SharePoint search server.

2. You are a SharePoint administrator for your company. You want to determine the most commonly issued search terms in your portal so that you can improve navigation for your users. What action should you perform? (Select two choices. Each correct choice represents an independent solution.)

- ❍ A. Analyze the search usage reports in the SSP.
- ❍ B. Analyze the crawl logs in the SSP.
- ❍ C. Analyze the usage analysis processing logs in Central Administration.
- ❍ D. Analyze the site collection usage reports in the top-level site in your public site collection.

3. You are the SharePoint administrator for your company. You have added the Search Center site to your company's intranet collaboration portal. You have created a custom search page and navigation tab to the default page in the Search Center site. You need to ensure that the tab allows users to focus their searches on a particular content source.
What action should you perform?

- ❍ A. Associate a search scope with the appropriate tab in the Search Center.
- ❍ B. Create a new display group and associate this display group with the appropriate tab in the Search Center.
- ❍ C. Add an Advanced Search Box Web Part to the Default.aspx page in the Search Center.
- ❍ D. In the Site Settings of the top-level site in the site collection, specify a custom location for the Search Center.

4. You are the SharePoint administrator for your company.Because you have deployed a wiki page library that provides end-user assistance for navigating your organization's SharePoint, you want to ensure that users' site search queries do not return content from the SharePoint Server Help content. What action should you perform?

- ❍ A. Stop the Windows SharePoint Services Search service.
- ❍ B. Stop the Office SharePoint Server Search service.
- ❍ C. Reset all crawled content in theSSP.
- ❍ D. Configure search result removal behavior in the SSP.

Chapter 3

1. You are a SharePoint administrator for your company. Your network consists of a single Windows Server 2008-based Active Directory domain with one server configured for Active Directory Rights Management Services. You have enabled IRM in Central Administration on your MOSS 2007 server. However, you are unable to configure IRM policies for lists and libraries within the portal sites. What action should you perform?

   - ❍ A. Enable Information Management Policies in Central Administration.
   - ❍ B. Ensure that all client computers have IRM-aware applications installed.
   - ❍ C. Install MOSS 2007 on your Windows Server 2008 IRM server.
   - ❍ D. Install the Rights Management Client on all SharePoint Web Front End (WFE) servers.

2. You have deployed a new subsite in your company's SharePoint Server 2007 intranet portal that uses the Records Center site template. You have created a document library named Archive. You need to configure the site such that certain documents are automatically stored in the Archive document library. What action should you perform?

   - ❍ A. Add a new item to the Holds list.
   - ❍ B. Add a new item to the Record Routing list.
   - ❍ C. Add a new item to the Tasks list.
   - ❍ D. Add a new item to the Unclassified Records document library.

3. You are a SharePoint administrator for your company. All employees and managers use the 2007 Office System applications. You create a site-level content type and attach the content type to several document libraries. You need to configure the content type such that barcodes are automatically attached to new documents that users create by using the content type. Your solution must involve the least amount of administrative effort.
   What action should you perform?

   - ❍ A. Edit the workflow settings for the new content type.
   - ❍ B. Edit the Document Information Panel settings for the new content type.
   - ❍ C. Edit the information management policy settings for the new content type.
   - ❍ D. Edit the document conversion settings for the new content type.

4. You are a SharePoint administrator for your organization. You need to define a new metadata column that (a) will be available in many different lists and libraries; and (b) that users can perform site searchs across the entire portal that reference the new column. What actions should you perform? (Select two choices. Each choice represents part of a single solution.)

   - ❍ A. Use Visual Studio tools to build a workflow that adds a new metadata column to SharePoint lists and libraries.
   - ❍ B. Add a new column to the site column gallery in your SharePoint portal.
   - ❍ C. Customize the crawler impact rules in Central Administration.
   - ❍ D. Map the new column as a managed property in the Shared Servies Provider search settings.

5. You are a SharePoint administrator for your organization. Your site uses a Records Center site to route, store, and dispose of important business data. Due to pending litigation, you need to configure the Records Center site such that certain documents are not affected by any information management policies that may be in effect in the site. What action should you perform?

- ❍ A. Create document routing records in the Record Routing list in the Records Center site.
- ❍ B. Configure a Hold on the affected documents.
- ❍ C. Configure audience targeting for the Records Center site.
- ❍ D. Initiate a Disposition Approval workflow on all affected documents in the Records Center site.

Chapter 4

1. You are a SharePoint developer for your organization. You have deployed InfoPath Forms Services and Web Services to support browser-enabled forms and automation. You now need to configure the service such that users are not prompted multiple times for credentials when they complete and submit their online forms. What action should you perform?

- ❍ A. Configure the Web service proxy in Central Administration.
- ❍ B. Deactivate and then reactivate the appropriate form templates to its target site collection.
- ❍ C. Enable Embedded SQL Authentication for the appropriate form templates.
- ❍ D. Enable Form Session State for the appropriate form templates.

2. You have created a Forms library named Business Forms in your company's SharePoint Server 2007 Enterprise Edition intranet portal. A user named Dennis complains that he is unable to add a form he just finished creating to the library. Dennis exclaims that he has been able to upload form templates successfully in the past. The form template uses the Full Trust trust level. What action should you perform?

- ❍ A. While logged onto the portal site collection as a farm administrator, upload the form to the Business Forms forms library.
- ❍ B. Activate the form template to the public site collection from Central Administration.
- ❍ C. Upload the form to the Master Page Gallery in the root site of the public site collection.
- ❍ D. Upload the form through the Central Administration interface.

3. You are a SharePoint administrator for your company. You want to implement browser-based InfoPath forms in your organization's SharePoint Server intranet portal. However, you discover that InfoPath Forms Services (IFS)-related options are unavailable in your public site collection. What action should you perform?

   - ❍ A. Activate the Office SharePoint Server Publishing Infrastructure feature in the public site collection.
   - ❍ B. Quiesce the SharePoint Server farm.
   - ❍ C. Start the Document Conversions Launcher Service.
   - ❍ D. Activate the Office SharePoint Server Enterprise Site Collection feature in the public site collection.

Chapter 5

1. You are a SharePoint administrator for your company. You have created and deployed a custom Web Part that accesses an external line-of-business (LOB) database. You now want to enable users to use the Web Part to access the remote LOB data without specifying additional credentials. What action should you perform?

   - ❍ A. Create an SSO application.
   - ❍ B. Create a BDC application definition file.
   - ❍ C. Deploy an additional SSP.
   - ❍ D. Add the SharePoint service account to the Farm Administrators group.

2. You are a SharePoint administrator for your organization. You have deployed a Business Data Catalog (BDC) application and have populated a SharePoint content page with a custom Web Part that accesses the BDC data in a user-friendly fashion. You now want to place an instance of this new Web Part on several other pages throughout the portal. Your solution must involve the least amount of administrative effort. What action should you perform?

   - ❍ A. Export the Web Part as a DWP file.
   - ❍ B. Use the stsadm tool to redeploy the Web Part to the new pages.
   - ❍ C. Export the Web Part from a Quick Add group in the Web Part Gallery.
   - ❍ D. Create a new Quick Add group in the Web Part Gallery.

Chapter 6

1. You are a SharePoint administrator for your company. You are planning a gradual upgrade from SharePoint Portal Server (SPS) 2003 to Microsoft Office SharePoint Server (MOSS) 2007. You need to ensure that users can access the SPS 2003 site while the gradual content migration is undertaken. What action should you perform?

   - ❍ A. Create a temporary domain URL to map to the SPS 2003 installation.
   - ❍ B. Create a temporary domain URL for the MOSS 2007 installation.
   - ❍ C. Remove the resource records that map to the SPS 2003 installation from DNS.
   - ❍ D. Create two IPv6 resource records in DNS: one for the SPS 2003 installation, and one for the MOSS 2007 installation.

2. You need to share some of your company's SharePoint Server data with a business partner. You extend your intranet Web application to your DMZ. The business partner must access the SharePoint content by using HTTPS, while internal users will connect by using HTTP. What action should you perform?

   - ❍ A. Create a publishing rule for SharePoint in ISA Server 2004.
   - ❍ B. Map a public URL to the Extranet zone.
   - ❍ C. Install an SSL digital certificate on all Web front end (WFE) servers.
   - ❍ D. Back up the internal SharePoint Web application and restore it to the Web front end server on the DMZ.

3. You want to view site usage reports in your company's SharePoint Server collaboration portal. What actions should you perform? (Select two choices. Each correct choice represents part of a single solution.)

   - ❍ A. Enable diagnostic logging in Central Administration.
   - ❍ B. Enable usage analysis processing in Central Administration.
   - ❍ C. Enable advanced usage analysis processing in the SSP.
   - ❍ D. Activate the Office SharePoint Server Enterprise Site Collection feature in the top-level site of the public site collection.

4. You have enabled self-service site creation for your company's SharePoint server implementation. You have discovered that three users have customized the look and feel of their sites such that they no longer adhere to corporate design standards. You need to rectify this situation immediately and with the least amount of administrative effort. What action should you perform?

   - ❍ A. Delete the three offending SharePoint sites.
   - ❍ B. Reset the site definition for the three offending sites.
   - ❍ C. Use SharePoint Designer 2007 to reapply the corporate standard elements to the three offending sites.
   - ❍ D. Change the site theme for the three offending sites.

Chapter 7

1. You are a SharePoint administrator for your organization. You need to expose some of your SharePoint Web application to a business partner in an extranet scenario. What actions should you perform? (Select two choices. Each correct choice represents a part of a single solution.)

   - ❍ A. Extend the source Web application.
   - ❍ B. Create a new SSP.
   - ❍ C. Create a new managed path.
   - ❍ D. Create a new alternate access mapping.

2. You are a SharePoint administrator for your organization. You are planning to perform a gradual upgrade from a SharePoint Portal Server (SPS) 2003 farm to a Microsoft Office SharePoint Server (MOSS) 2007 farm. Your manager wants to know the chief disadvantage of using the gradual upgrade approach. What should you tell your manager?

   - ❍ A. With a gradual upgrade, there is no rollback.
   - ❍ B. With a gradual upgrade, site URLs might be different during the upgrade process.
   - ❍ C. With a gradual upgrade, sites are offline during the upgrade.
   - ❍ D. With a gradual upgrade, new hardware must be provisioned and purchased.

Answers & Explanations

Chapter 1

1. Answer: C

Explanation A. Incorrect. The CMS Assessment Tool is a free download from Microsoft. However, this tool is used to trap data migration errors from Microsoft Content Management Server (MCMS) 2002 to SharePoint Server 2007.

Explanation B. Incorrect. You must have at least Service Pack 2 installed on the WSS 2.0 server to ensure a seamless migration to MOSS 2007.

Explanation C. Correct. The prescan.exe tool can help you identify any structural problems in the old SharePoint infrastructure that might hang up a successful upgrade or migration to MOSS 2007.

Explanation D. Incorrect. You don't need to run prescan.exe on the MOSS server unless that computer hosts the previous vesion of SharePoint in addition to the current version.

2. Answer: D

Explanation A. Incorrect. Number one, we want to configure import on the MOSS server (we don't need to do anything on the NetWare server). Number two, there is no provision for BDC in Novell NetWare.

Explanation B. Incorrect. While you can use the BDC to gather user profile information, in this case we should use the LDAP Directory option because Novell NetWare uses an LDAP directory services database.

Explanation C. Incorrect. You want to configure profile import from the MOSS server, not export from the NetWare server.

Explanation D. Correct. You can connect to a Novell NetWare, Apple Open Directory, Active Directory Application Mode (ADAM), or any other LDAP-compatible directory database by specifying the LDAP Directory option in the SharePoint SSP.

3.Answer: B

Explanation A. Incorrect. As stated in the item stem, the source database is not LDAP-compliant, nor is it Active Directory proper.

Explanation B. Correct. In this case we could create a BDC connection from SharePoint to the non-LDAP directory database, map those user account properties to SharePoint user profile properties, and then perform a full import of the data.

Explanation C. Incorrect. While BizTalk could make short work of exporting and preparing the data from the non-LDAP store for use with SharePoint, this action would not meet the scenario requirement of least administrative effort.

Explanation D. Incorrect. The Trusted File Location feature in the SSP pertains to Excel Services, not user profile import.

4. Answer: D

Explanation A. Incorrect. This choice is a complete "red herring." The Translation Management workflow has nothing whatsoever to do with language availability in MOSS. You must install the language pack(s) on the Web Front End (WFE) servers to make alternate languages available to your users.

Explanation B. Incorrect. While installing a localized language pack on each user's computer is a great way to present 2007 Office System application data in an alternate language, this action has no effect on display language in your SharePoint portal in general and the My Site host in particular.

Explanation C. Incorrect. This option simply allows users to create their My Site site collection on a different Shared Services Provider (SSP). Here we are concerned with language availability, which is tied to the deployment of language packs.

Explanation D. Correct. This option, which is found in the Shared Services Provider, works with installed language packs to support multi-language SharePoint implementations.

5. Answer: C

Explanation A. Incorrect. SharePoint has no "push" methodology that works like this. Instead, you can specify at the subsite level that the subsite inherit global navigation (top link bar) links from its parent site.

Explanation B. Incorrect. The issue here isn't the appearance of the global navigation bar in the top-level site. Instead, we want the subsite to inherit the top link bar links from the parent site.

Explanation C. Correct. We want to inherit the top link bar items from the top-level site in the site collection. This can be done either at subsite creation, or after the fact from the Site Settings area.

Explanation D. Incorrect. In SharePoint terminology, "current navigation" refers to th Quick Launch bar, not the top link bar. The Quick Launch bar typically contains links only to the current site's content, not the entire portal's content.

Chapter 2

1. Answer: D

Explanation A. Incorrect. The enumcontentdb stsadm operation enumerates, or lists, all content databases for a given URL. In this case we simply want to force a start of the SharePoint Server Search service.

Explanation B. Incorrect. The databaserepair stsadm operation detects and removes orphaned items from SharePoint content databases. In this item we simply want to start the SharePoint Server Search service.

Explanation C. Incorrect. The activatefeature stsadm operation is used with the installfeature operation to install and activate new features that SharePoint administrators add into their SharePoint implementations.

Explanation D. Correct. The osearch operation of the stsadm command-line utility can be used to start or stop the SharePoint Server Search service.

2. Answers: A, D

Explanation A. Correct. You can view SQL Server 2005 Reporting Services-based search usage reports (also called the "query log" in some Microsoft literature) by visiting the search usage reports area in the SSP.

Explanation B. Incorrect. The crawl logs simply allow you to view the content that has been crawled (indexed) by the SharePoint Server Search service.

Explanation C. Incorrect. First, the usage analysis processing area in Central Administration simply allows you to enable, disable, and configure the service for your Web applications. Second, the logs themselves, while useful in their own right, do not contain search string data.

Explanation D. Correct. The site collection usage reports provide a detailed look at how users are accessing your SharePoint portal. Some reports deal specifically with search query data.

3. Answer: B

Explanation A. Incorrect. This is a fine point, but a valid one nonetheless: you can only assign a search tab to a display group (which is attached to one or more scopes), not to a scope itself.

Explanation B. Correct. In the Site Settings of the top-level site in your site collection, you should create a new display group that is associated with the search scope in question. Next, you should modify the Web Part properties of the search box in the Search Center site to associate the new tab with the display group.

Explanation C. Incorrect. The Advanced Search Box Web Part does not relate directly to the idea of associating a display group (search scope) with a navigation tab in the Search Center default page.

Explanation D. Incorrect. In this case we do not want to change the location of the Search Center subsite itself. Rather, we want to customize the navigational behavior of the present Search Center.

4. Answer: A

Explanation A. Correct. The Windows SharePoint Services Search service, which is sometimes referred to as the Windows SharePoint Services Help Search service, is used in MOSS installations to search only online help. If you disable this service, then no online help-related content is returned in user searches.

Explanation B. Incorrect. You must have this service enabled in order for the MOSS site search functionality to work.

Explanation C. Incorrect. This command drops the SharePoint search index file, which effectively will make it impossible for users to search your portal at all. You only want to perform this action when you suspect that the index file is corrupted or otherwise in a problem state.

Explanation D. Incorrect. This functionality allows you to "hard code" URLs that should be excluded from user search queries in your public Web applications. There is a far, far easier way to suppress online help content from being displayed in query results; namely, stopping the SharePoint Services Help Search service on your search server.

Chapter 3

1. Answer: D

Explanation A. Incorrect. Information Management Policies are a separate, although tangentially related, technology from IRM. You can configure these services independently from one another.

Explanation B. Incorrect. While it is true that for IRM to work, the client-side applications must be compatible with IRM (Office 2003 and Office 2007 are examples of IRM-aware applications). However, in this scenario we simply want to start the IRM service on the server. We are not yet concerned with client-side use of the service.

Explanation C. Incorrect. You do not need to (nor should you as a best practice) install SharePoin on an Active Directory server.

Explanation D. Correct. In order to IRM-enable your SharePoint Web applications, you must install the free Rights Management Client software on all of your WFE servers.

2. Answer: B

Explanation A. Incorrect. The Holds list is a system-generated list in the SharePoint Records Center template that is used to store documents whose disposition (final outcome) has not yet been determined.

Explanation B. Correct. In a Records Center site, there exists a system list in which you can create records that control automatic routing of documents that are added to the site's libraries and lists.

Explanation C. Incorrect. There is actually nothing at all that is special concerning the built-in Tasks list in a SharePoint Records Center site template. It is just a garden-variety list.

Explanation D. Incorrect. This system-generated document library stores documents whose metadata/contents do not match any predefined document routing rule in the Records Center site template.

3. Answer: C

Explanation A. Incorrect. Theoretically, you could define a custom workflow by using Visual Studio tools that adds the barcode. However, one purpose of the information management policy feature in SharePoint is to configure things like barcodes, auditing, and document expiration in an easy way.

Explanation B. Incorrect. The Document Information Panel is the Office 2007 equivalent to the Document Properties dialog in Office 2003. These settings control which SharePoint metadata columns are visible in 2007 Office System applications. The DIP settings do not control barcodes directly, although information management policy does employ the DIP feature in its implementation.

Explanation C. Correct. The information management policy settings allows you to configure elements such as document expiration, auditing, and barcodes to documents. When you add this policy to a content type it makes it easier to manage and deploy information management policy.

Explanation D. Incorrect. While SharePoint does have the built-in capability of converting certain file types to and from HTML, this function is unrelated to the situation defined in this item.

4. Answers: B, D

Explanation A. Incorrect. This solution presupposes that the SharePoint administrator is also a .NET developer. Moreover, this solution involves far, far too much work to be feasible.

Explanation B. Correct. You want to make the column available to multiple libraries; therefore, you need to store the new column in the column gallery in the top-level site in the public site collection.

Explanation C. Incorrect. The crawler impact rules feature in Central Administration allows you to customize how often SharePoint queries remote content sources for new content. Needless to say, this choice represents a "red herring" and is not related directly to the situation at hand.

Explanation D. Correct. You can include additional metadata columns to the SharePoint search engine. Remember that enterprise search in MOSS 2007 is performed at the SSP level, not the Central Administration level.

5. Answer: B

Explanation A. Incorrect. Record routing is all well and good; however, in this case we need to "freeze" some documents such that they remain untouched from options such as expiration, workflow, and so forth. The Holds list accomplishes this goal for us.

Explanation B. Correct. The Records Center SharePoint site template includes a system list named Holds where you can store documents that you want temporarily or permanently excluded from information management policy, workflow, etc.

Explanation C. Incorrect. Audience targeting is concerned with showing or hiding Web Parts, navigation components, or list/library items to users based upon their SharePoint or Windows group memberships; this feature has nothing to do with configuring document holds in a Records Center site.

Explanation D. Incorrect. In this case we want to do just the opposite; that is, temporarily or permanently exclude documents from workflow participation and/or information management policies.

Chapter 4

1. Answer: A

Explanation A. Correct. In Central Administration, you can configure what is known as the Web service proxy. Among other things, this option supports single sign-on (SSO) so that users are not prompted multiple times for credentials when their actions interact with Web service applications running in conjunction or in parallel with SharePoint.

Explanation B. Incorrect. Performing this action will have no effect on authentication and single sign-on unless you have configured the Web service proxy for user forms option in Central Administration.

Explanation C. Incorrect. In this scenario we are linking our InfoPath forms to XML-based Web services, not a SQL relational database.

Explanation D. Incorrect. Session state simply configures timeout thresholds for idle connections.

2. Answer: D

Explanation A. Incorrect. Even a farm administrator will not be able to upload an administrator-level form through the document library itself. Instead, the farm administrator must upload the form by using Central Administration or the stsadm utility.

Explanation B. Incorrect. Well, this choice is halfway correct; that is to say, after we upload an administrator-approved form to SharePoint in Central Administration, we must activate the template to make it available elsewhere in the farm. However, we must upload the form first!

Explanation C. Incorrect. Master pages and layout content pages are completely separate items from InfoPath forms.

Explanation D. Correct. In this case, Dennis created what is known as an administrator form; forms that use the Full Trust trust level or contain .NET managed code must be added to the farm by a SharePoint administrator by using the Central Administration Web application.

3. Answer: D

Explanation A. Incorrect. The Publishing feature enables you to control the publication of content within the site collection. Because IFS is an Enterprise-licensed feature, you must have the appropriate feature activated in the site collection.

Explanation B. Incorrect. The Queisce Farm command on the Operations page in Central Administration allows an administrator to take the farm gradually offline for maintenance.

Explanation C. Incorrect. This service simply allows you to convert certain Microsoft file types to and from HTML.

Explanation D. Correct. IFS, like Excel Services, is a feature that is only available in the Enterprise license version of Microsoft Office SharePoint Server (MOSS) 2007.

Chapter 5

1. Answer: A

Explanation A. Correct. The SharePoint Single Sign-On (SSO) service enables transparent and secure access to remote data stores.

Explanation B. Incorrect. Single Sign-On provides only a secure "pipeline" to your external data source. By contrast, a Business Data Catalog (BDC) application defines specifically which data we want to make available from our external data source to our SharePoint users.

Explanation C. Incorrect. SharePoint can indeed support multiple Shared Services Provider (SSP) Web applications if, for instance, you want to spread farm-level services to different hardware or isolate search scopes. However, this is irrelevant in this case.

Explanation D. Incorrect. Performing this action (a) violates the IT security principle of least privilege; and (b) is not relevant to the situation at hand in this item.

2. Answer: A

Explanation A. Correct. SharePoint makes it easy to redeploy Web Parts. Simply open the Web Part menu from a deployed, active Web Part on a content page and select Export. You can then import the Web Part to a Web Part Zone on another content page.

Explanation B. It is true that you can deploy a Web Part by using the stsadm -addsolution and stsadm -deploysolution commands. However, this involves too much administrative effort as opposed to simply running an in-place export and import within the SharePoint portal.

Explanation C. Incorrect. Actually, we would want to do the opposite here; by adding a Web Part to a Quick Add group, you make it easier to add a Web Part to a content page. The Quick Add group appear first in the Add a Web Part dialog box.

Explanation D. Incorrect. As previously stated, Quick Add groups make it easier to deploy Web Parts to content pages. However, you must also associate the target Web Parts with the Quick Add groups.

Chapter 6

1. Answer: A

Explanation A. Correct. In a gradual upgrade, MOSS 2007 will take over the original site URLs. Therefore, it is imperative that you create a separate domain URL to host the previous version's site structure.

Explanation B. Incorrect. The MOSS installation will consume the existing URL paths; therefore, you need to create a new domain URL only for benefit of accessing the SPS 2003 installation.

Explanation C. Incorrect. We definitely do not want to delete DNS records without first making sure that users can acces both the old SPS 2003 installation as well as the new MOSS 2007 installation.

Explanation D. Incorrect. There is nothing in the scenario that would lead us to believe that Internet Protocol Version 6 (IPv6) is being used in this environment.

2. Answer: B

Explanation A. Incorrect. The scenario does not reference Microsoft Internet Security and Acceleration (ISA) Server 2004.

Explanation B. Correct. Alternate access mappings enable SharePoint to (a) respond to requests from users specifying different URLS; and (b) rewrite those URLs throughout the portal sites. We need an Extranet URL that uses HTTPS, and an internal URL that uses HTTP.

Explanation C. Incorrect. We only need the SSL certificate on the Web server that resides on the DMZ.

Explanation D. Incorrect. The process of extending a Web application allows us to present the same content in two different networking environments.

3. Answers: B, C

Explanation A. Incorrect. Diagnostic logging is a different function from usage analysis processing.

Explanation B. Correct. You must enable usage analysis processing in Central Administration to create the usage reports in your public site collections.

Explanation C. Correct. In order to "turn on" usage analysis processing in Central Administration, you must first enable advanced usage analysis processing in the Shared Services Provider (SSP).

Explanation D. Incorrect. Usage analysis processing is a standard license SharePoint feature, not an enterprise license feature.

4. Answer: B

Explanation A. Incorrect. This option is much too harsh; what if the users stored important corporate data in their sites?

Explanation B. Correct. You can use the Reset to Site Definition option in each site's Site Settings page to revert the structure of the sites back to their defaults.

Explanation C. Incorrect. This solution involves far too much administrative overhead than is required.

Explanation D. Incorrect. Because the scenario does not go into detail as to how much each of the three users changed their site definitions from the corporate standard, we don't have enough information to conclude that simply reapplying a theme will solve the problem.

Chapter 7

1. Answers: A, D

Explanation A. Correct. Extending a Web application means "cloning" the Web site to another environment, such as a screened subnet segment. You can then configure different authentication and security for the extended Web application.

Explanation B. Incorrect. To define an extranet, we don't necessarily need to create a new Shared Services Provider (SSP). Instead, we can extend the intranet Web application to the DMZ segment and define an alternate access mapping namespace to differentiate it from the internal Web application.

Explanation C. Incorrect. A managed path is a URL namespace that "informs" SharePoint which namespaces it has authority over. We don't need to create a managed path for an extranet scenario.

Explanation D. Correct. Alternate access mappings are different URL namespaces that you can map to a Web application. These are handy ways to "alia" Web applications, as well as method to use different security and authentication (for instance, the intranet site uses HTTP, and the extranet site uses HTTPS, etc.)

2. Answer: B

Explanation A. Incorrect. One of the advantages of a gradual upgrade, in point of fact, is that you can always revert to the old installation if testing fails under the new SharePoint version.

Explanation B. Correct. Because the gradual upgrade approach involves installing MOSS side-by-side with SPS, you will have to "juggle" URLs to differentiate the two farm environments.

Explanation C. Incorrect. The gradual upgrade approach keeps the old sites online; this can be helpful during upgrade testing.

Explanation D. Incorrect. The database migration scenario involves new hardware, not the gradual upgrade scenario.