Beginning SharePoint® 2007:
Building Team Solutions with MOSS 2007

Chapter 6: Working with Content Types

ISBN-10: 0-470-12449-0
ISBN-13: 978-0-470-12449-9

Copyright of Wiley Publishing, Inc.
Posted with Permission

6

Working with Content Types

Thus far, this book has discussed components that can help you organize information in a SharePoint site. You should now know how to create lists and libraries, and assign metadata values to content items. You should also know how to associate business processes with lists and libraries so that you can track, review, and approve items in a consistent and automatic manner. Using this functionality in your work environment means that you spend more time doing actual work, rather than searching in disorganized filing systems.

This chapter takes the concepts discussed thus far and brings them together to create an information management package that ties to your content. It covers topics including:

- What a content type is and why it is such an important part of SharePoint 2007
- The various content types you can create
- Hands-on examples of creating the major content types
- Best practices for creating and managing content types for your organization

After reading this chapter, you should feel comfortable creating content types suitable for efficiently managing the information that is vital to your organization.

Content Types Overview

A *content type* represents a group of informational items in your organization that share common properties. You can define these properties, which include name, description, a grouping category, to meet your business needs. In addition, you can adjust the properties associated with templates, workflow, site columns, and policy management as well as the settings for the document information panel. You can change these properties at any time and optionally apply those changes to your entire environment.

> *For more on the various content properties and what they do, see the section "The Anatomy of a Content Type."*

Excerpted from Beginning SharePoint(R) 2007: Building Team Solutions with MOSS 2007
Wrox Press, www.wrox.com

SharePoint offers several content types that provide solid foundations for all future content types. You can select one of these content types and use it to create your content type in the central gallery, where you can then apply it to multiple lists and libraries throughout a site collection. By creating new content types, you can apply rules and properties to customize information and tie it to your business activities. Once you define your content type, you can create a new item by selecting the appropriate template from a drop-down menu presented by the New command on your library toolbar (see Figure 6-1). This chapter discusses the various elements of a content type as well as some of the configuration and customization alternatives of the most common content types.

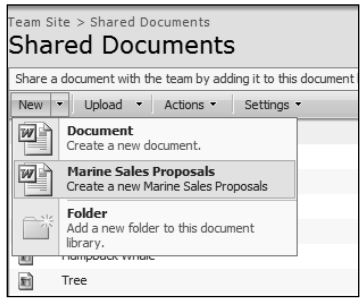


Figure 6-1

Storing Custom Content Type

It's important where you store a custom content type in the site hierarchy. If you use it throughout your organization in many sites, you should store it in the content type gallery of the top-level site. For more specialized content, you might create content that will apply to a specific site and its subsites.

Most organizations have company rules for storing documents that ensure that documents adhere to the corporate culture and procedures. Such practices are becoming more and more commonplace with initiatives related to new regulatory requirements such as the Sarbanes-Oxley Act that requires a greater level of accountability regarding information and auditing.

When you create a content type, you must select a parent, from which it will automatically inherit any existing settings for a template, workflow, or metadata columns. You should consider the content types you need for your organization and then identify any relations they may have with each other or inheritances that they share so that you can place similar content types into groups. Using the same parent for each of these content types means you can filter based on the parent and include information from all child content types. For example, to manage your workflow, you company may need a general leave request form that reflects each division. You can create a standard leave request content type and then create each divisional content type using it as the template. All metadata and the form template become automatically associated with each divisional content type; however, you can define a unique workflow process for each child content type to allow different departmental managers to approve requests. You can easily update the form; because each divisional content type is based on the same parent, edits to the parent copy down into each child.

In Chapter 7, you review how certain Web Parts support filtering based on content type.

Excerpted from Beginning SharePoint(R) 2007: Building Team Solutions with MOSS 2007
Wrox Press, www.wrox.com

To show you how to use content types, this section presents two Try It Outs. In the first, you see how to create a new content type, and in the second, you see how to edit one of the content types that SharePoint has to offer to suit your needs.

Try It Out — Create a New Content Type

You need to manage your company's sales proposals in a more organized fashion as well as provide more automated support to the sales team during the proposal creation stage. This includes giving them access to a standard proposal template as well as an automated review and approval workflow process. To reach your goal, you must first create the initial shell of the content type, which you can later modify to include elements such as templates, standard metadata, and workflow processes. In this example, you create a financial report content type based on the document parent content type, and place it in a group.

1. From the top level of your site collection, select Site Actions ➪ Site Settings. A Site Settings window appears. If the top-level site is a publishing site such as a collaboration portal, you may also have to select Modify All Settings.
2. Under the Galleries section, select Site Content Types.
3. Click the Create button. The New Site Content Type screen appears, as shown in Figure 6-2.

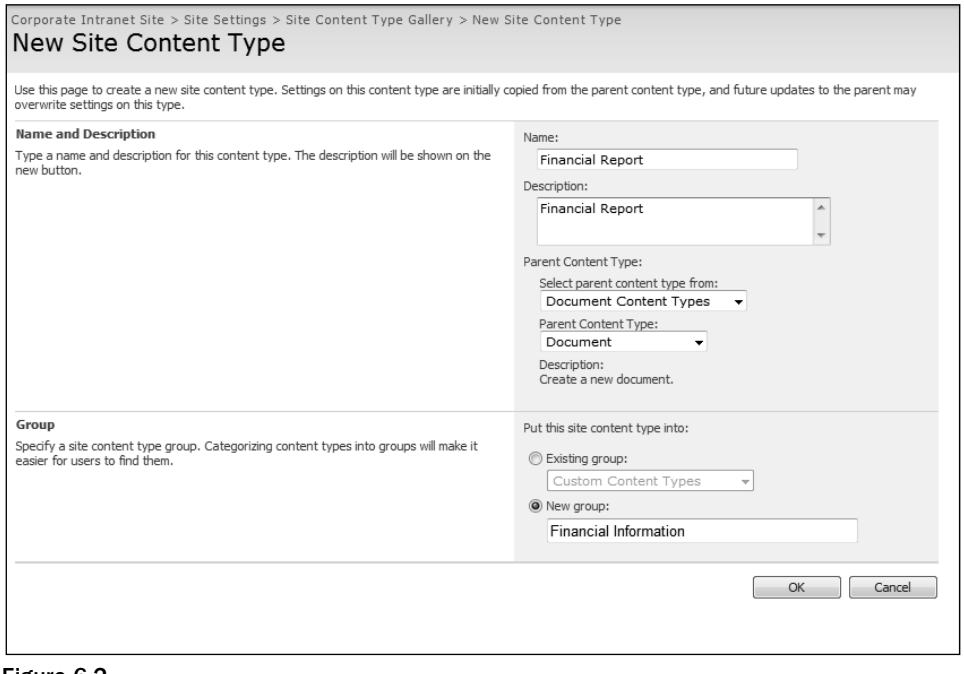


Figure 6-2

4. In the Name field, type a name for the content type. For this example, use **Financial Report**.

5. In the Description field, type a description for the content type. For this example, use **Financial Report (Spreadsheet)**.
6. From the Select Parent Content Type From drop-down menu, select the group name for the content type on which you are basing your new content type. For this example, select Document Content Types.
7. From the Parent Content Type drop-down menu, select the name of the content type on which you are basing your content type. All new content types must have a parent, so typically you will select a parent that contains a similar template, a similar workflow process, or similar metadata columns to the item you are creating. For this example, use the Document content type.
8. From the Put This Site Content Type Into section, select either an Existing Group or create a New Group. In this example, use a new group name called **Financial Information.**
9. Click the OK button to create the custom content type.

How It Works

Site content types allow you to manage multiple document types and templates from a single location. Once you have created a content type and associated it with a group, it becomes available in your list of site content types, which can then be associated with a particular library. Your content type is then accessible via your library's New drop-down menu (see Figure 6-1).

Try It Out — Edit an Existing Content Type

SharePoint offers many site content types that are preconfigured to support a variety of business situations. To save time, you can use one of these existing content types as a starting point and edit it to suit your own particular organizational needs. Editing an existing content type is easy. Just follow these steps:

> *In steps 6 through 14, you are creating a column to add to your content type. For more on creating columns in SharePoint, see Chapter 4.*

1. From the top level of your site collection, select Site Actions ➪ Site Settings.
2. Under the Galleries section, select Site Content Types.
3. From the Financial Information Types section, select Financial Report.
4. Select Add from new site column. The New Site Column window appears, as shown in Figure 6-3.
5. In the Column Name field, type **Owner**.
6. From the Type of Information in This Column section, select Person or Group.
7. Create a new group for site columns called "Standard Classifications."
8. Select Yes for Require That This Column Contains Information.

9. In the Update All Content Types Inheriting from This Type, leave the default value of Yes selected. This ensures that any list or library to which you've added your content type will update automatically.
10. Click the OK button to update the content type.

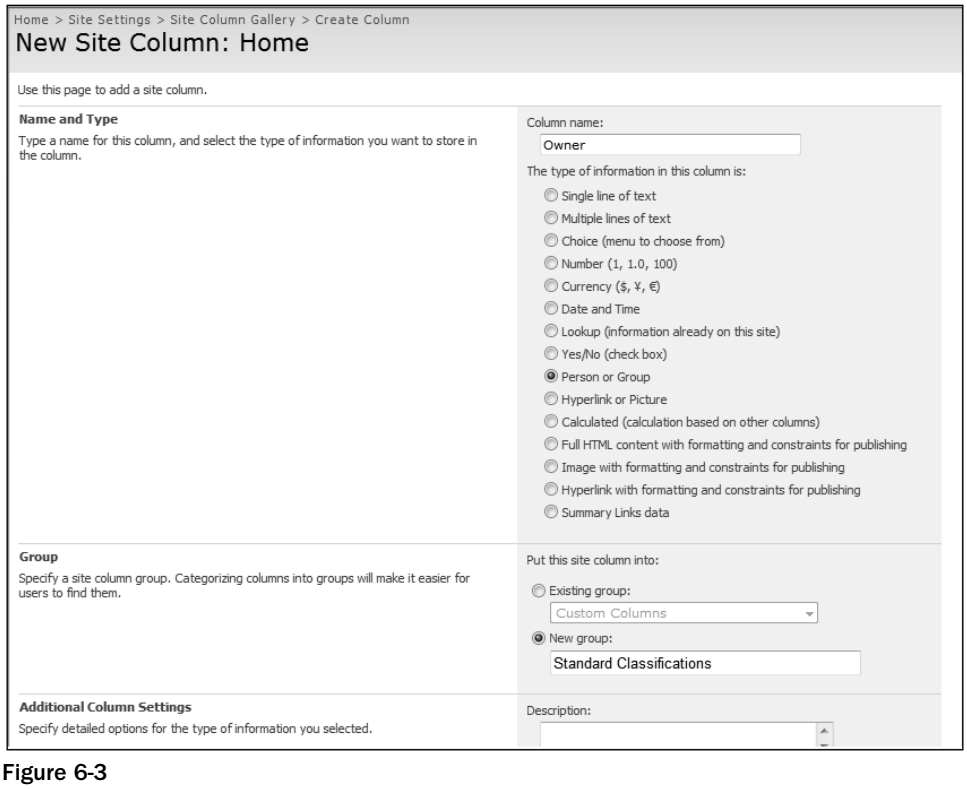


Figure 6-3

How It Works

For step 4, in the Columns section you will notice there is only one piece of metadata: Title. Most companies require you to supply a document owner. Note that when you select Yes in step 9 and create a new metadata column for this site content type, SharePoint automatically updates all lists and libraries already using the content type (provided the option is selected). This is a fast and effective way enforcing simple rules across multiple lists or libraries.

Base Content Types

SharePoint offers a repertoire of content types that address the basic business needs. These are organized into groups according to their purpose. This section details each of these built-in content groups and types.

Business Intelligence Content Types

SharePoint 2007 introduces powerful features that organize, track, and display data from a variety of sources so you can monitor the status of your business. This section discusses the business intelligence content types, and Chapter 11 describes the useful set of business reporting tools included in this latest version of SharePoint. The content types in the following table are available as part of the Business Intelligence group. The indicator types contain columns that collect business intelligence information from a data source so it can be presented as a key performance indicator (KPI) or in a report. By creating a new content type based on one of these base content types, you can augment the information that is gathered by default. You can also customize the dashboard and report types to meet your needs.

Content Type	Description
Dashboard	A special type of web page geared toward the display of business intelligence reports. This content type can be created from a Reports library.
Indicator using data in Excel workbook	A key performance indicator based on information stored within an Excel workbook. This type of indicator can be created from a KPI list.
Indicator using data in SQL Server 2005 Analysis Services	A key performance indicator based on information stored within SQL Server 2005 Analysis Services. This type of indicator can be created from a KPI list.
Indicator using data in SharePoint list	A key performance indicator based on information stored within a SharePoint list. This type of indicator can be created from a KPI list.
Indicator using manually entered information	A key performance indicator based on information entered directly into an item in a KPI list.
Report	An Excel document page for the browser-based display of spreadsheet information. Content authors create content in this type by uploading a spreadsheet to a reports library or creating a new spreadsheet from the library.

Document Content Types

You'll probably use the document types frequently in your SharePoint sites because the typical site functions as a document repository and viewing system for your team. The following document types are built into SharePoint, some of which will be explored throughout this book:

Content Type	Description
Basic Page	A very simple web page containing a single rich text editor.
Document	The parent content type for many other collaborative content types including basic page, Dublin core columns, form, and picture. Possibly one of the most common and popular content types.

Excerpted from Beginning SharePoint(R) 2007: Building Team Solutions with MOSS 2007
Wrox Press, www.wrox.com

Content Type	Description
Dublin Core Columns	Based on the Document content type but contains many standard columns to conform with the requirements for the popular classification system known as *Dublin Core*.
Form	Based on the Document content type and is specifically designed to support the use of InfoPath. See Chapter 10 for more on forms.
Link to a Document	In some cases, a document may be stored in one location and linked from another library. This content type helps support such scenarios by creating a record or row in a document library that references the document located in the other location.
Picture	Based on the document content type and is the primary content type associated with a Picture library.
Web Part Page	A web page with a number of Web Part zones for the use of Web Parts. These web pages can come in a variety of layouts and templates.

Folder Content Types

You use this type for folders and discussion boards in SharePoint. Because individual discussions in SharePoint are stored within folders, it is appropriate that the base content type is affiliated with the Folder Content Types group.

The following base content types are available as part of the Folder Content Types group:

Content Type	Description
Folder	Expanded in SharePoint 2007 to support columns and metadata like any other element stored within a list or library. Unlike other content types, the folder does not support workflow or information management policies.
Discussion	Based on the folder content type, supports workflow and information management policy settings as well as custom metadata. This type of content type is associated with a Discussion list, which was discussed in Chapter 2.

List Content Types

An important SharePoint 2007 feature is easily creating and storing information in lists. Lists can hold any information from a simple To-Do list, to a more complex resource tracking list. You can now take full advantage of content types by creating a base content type for each primary list template. Each content type in turn has a set of associated metadata columns that represent the information that will be stored in the list.

The following base content types are what SharePoint has to offer as part of the List Content Types group. This section also presents two Try It Outs that show how to create a new content type based on

the SharePoint Issues content type. You basically tweak this content type so you can use it in your company. In the second Try It Out, you see what happens when you add a column to a parent content type.

You can apply the processes illustrated in this section to virtually every other content type in the chapter to make your own custom content types.

Content Type	Description
Announcement	Based on the Item content type, is used for tracking simple news updates for a team. This content type is associated with an Announcements list, which was covered in Chapter 2.
Contact	Based on an Item content type and contains the columns required to share contact information. This content type is associated with the Contacts list, which was covered in Chapter 2.
Far East Contact	Very similar to the Contact content type but contains special columns related to Phonetic information. We do not cover this content type in this book.
Issues	Contains columns for tracking problems that may arise within a collaborative or work environment. This content type is associated with the Issues list, which was covered in Chapter 2.
Item	A parent content type of the Document content type and many list items. It is created by default with a single column for Title.
Message	Contains common columns required for content similar to that used in a discussion list item such as message subject, body, and email sender.
Task	Based on an Item content type and contains the columns required to share task information. This content type is associated with the Tasks list, which was covered in Chapter 2.

Try It Out — Create a New Content Type Based on Issue Content Type

Imagine that you work for a software company. The Issues content type contains many of the settings that you want to track bugs or problems in your software applications. However, each team has slightly different workflow processes to manage and respond to the issues that users report on the various software applications. To accommodate this, you create content types based on the Issue content type and customize the workflow processes associated with each to match the team.

In the following steps, you create a content type that has all the settings as an Issue content type. You accomplish this by setting the Issue content type as the parent type.

1. From the main page of your site, select Site Actions ➪ Site Settings.
2. Under the Galleries section, select Site Content Types.
3. Click the Create button from the toolbar.
4. In the Name field, type **Technology Issues**.
5. In the Description field, type **Issues related to technology**.

Excerpted from Beginning SharePoint(R) 2007: Building Team Solutions with MOSS 2007
Wrox Press, www.wrox.com

6. From the Select Parent Content Type From drop-down menu, select List Content Types.
7. From the Parent Content Type drop-down menu, select Issues.
8. From the Put This Site Content Type Into section, select New Group.
9. In the New Group field, type **Divisional Issue Tracking**.
10. Click the OK button to complete the creation of your new content type.

Try It Out — Add a Column to a Parent Content Type

Whenever you select a content type as a parent of a new content type, all site columns are automatically added to the new content type. Similarly, if you add a new custom column to the base Issues content type, you can optionally add that column to all content types inheriting from that type. For example, if you add a new column to the Issues content type for cost so that you can track what the expected costs of responding to the issue might be, you can also add that column to your Technology Issues content types. In this example, you create a new column on the base issue content type called Billing Information.

1. From the main page of your site, select Site Actions ➪ Site Settings.
2. Under the Galleries section, select Site Content Types.
3. From the List Content Types group, select Issues.
4. From the Columns section, select Add from Existing Site Columns. The Add Columns to Site Content Type window appears, as shown in Figure 6-4.
5. From the Select Columns From drop-down menu, select Core Task and Issues Columns.

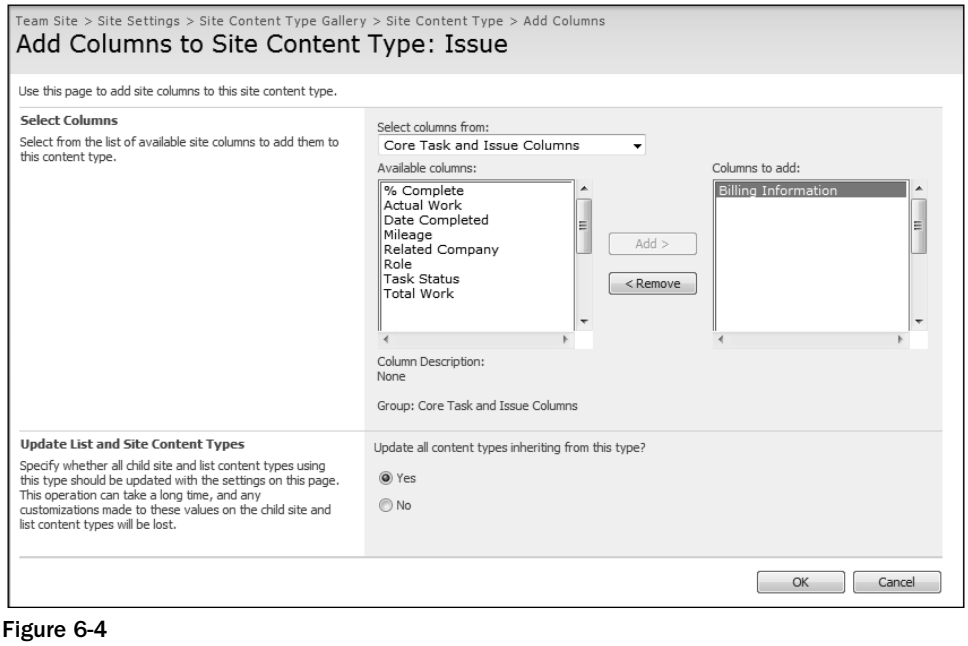


Figure 6-4

6. Select the Billing Information column from the Available columns field and click the Add button.
7. Ensure that Yes is selected for the Update All Content Types Inheriting from This Type value.
8. Click the OK button to complete the addition of the new column.

How It Works

The Technologies Issues content type that you create in the "Create a New Content Type Based on Issue Content Type" Try It Out, updates to include the Billing Information field.

Page Layout Content Types

One of the most significant advancements of SharePoint 2007 is the integration of Microsoft Content Management Server into the platform under the name *Web Content Management* (WCM). This great functionality allows users to create content for a site directly from the browser without having any special web development knowledge or skills.

Most sites have unique types of pages in them. For example, you might have a main page, a generic subpage, and a newsletter page. Each page type, in turn, has specific content elements that make them unique to the site. For example, the Newsletter page likely has a Title, Newsletter Body, and Published Date. A Page Layout content type defines these unique content elements by attaching site columns to your content type. You can later use this content type to create a *Page Layout*, which is a special type of template page that users can use to create new pages in a site. Figure 6-5 shows some of the default page templates that exist as choices when creating a new page from a Page Layout.

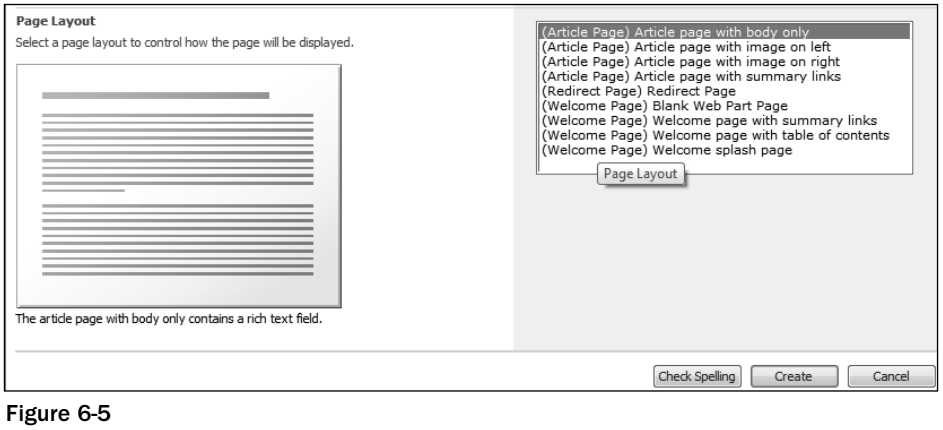


Figure 6-5

In essence, a Page Layout content type has the same relationship to a page in a site that a Document content type has to a document in a document library. It is a template combined with site columns and rules.

The following base content types are available as part of the Page Layout Content Types group:

Content Type	Description
Article Page	Contains many of the common properties that a page should have, including elements used for publishing such as scheduling date and others that are used for content display such as page content. As shown in Figure 6-5, several page layouts exist based on the Article Page template.
Redirect Page	A page layout that is intended for the creation of pages that will redirect visitors and readers to another location.
Welcome Page	Contains a number of columns for the display and publishing of content.

Chapter 13 discusses Page Layout content types in much greater detail, including how to make and manage these special components.

Publishing Content Types

Besides offering a feature for content approval, WCM lets you publish information both automatically via workflow and manually. Another WCM-related content type group in SharePoint 2007 is *Publishing content types*. The base publishing content types provide the structure for all major web publishing components. The following base content types are available as part of the Publishing Content Types group:

- **Page:** A system parent content type uses the page layout content types (see the section "Page Layout Content Types") as a parent. This content type contains many columns related to the creation of publishing content.
- **Page Layout:** A system parent content type used for publishing content in the site collection.
- **Publishing Master Page:** A system content type used for publishing content in the site collection.

Page layouts are template pages that are explored in Chapter 13, as are Master pages. Because Publishing content types are the key to creating websites using SharePoint 2007, Chapter 13 discusses them in much greater detail.

Special Content Types

The content type group called *Special content types* allows users to upload documents regardless of content type to a library. It offers no special customization characteristics and is intended for use in situations where the content type is unknown or not important.

The Anatomy of a Content Type

The magic of SharePoint is making its various pieces fit your business situation, and nowhere is that more evident than in content types. Content types all have properties, the basic ones being the name, description, and grouping category. In addition, you have properties associated with templates, workflow, site columns, and policy management as well as settings for the document information panel. You

can define and redefine these properties to fit your business situations, but to do that, you need an understanding of how to work with them. For example, you can change a content type name to reflect a change in process, but it's important for you to make the name consistent and intuitive when you redefine it. In this section, you learn about the various content type properties and how to work with them.

Name and Description

Because the name displays on all the buttons and labels associated with the content, you should assign a clear and descriptive name. For example, users should intuitively know what name to select when they click the button for creating a new item in a document library. You should consider who will work with this content type and make sure that they understand exactly what they are creating when they select a name. This is especially critical when you work with the automated workflows, templates, and policies. For example, if your company sells multiple product lines related to aerospace and transportation, and you create a content type that contains the proposal template, approval process, and metadata related to a specific marine product line, consider using a name that clearly defines. Naming it "sales document" or "marine product documents" would not be as appropriate as "marine sales proposal."

As with all other SharePoint content elements, a good description helps communicate the purpose and intended use of a content type. By concisely stating what the content type is, users will more easily fill in information, modify settings, or select a content type for inclusion with a list or library.

Parent Content Type

To easily change properties, you can define hierarchical relationships between two content types. In SharePoint, the *parent content type* defines the properties for a child content type, which, in turn, inherits all the parent's properties. For example, going back to the marine sales proposals scenario, you can create a new content type called "Marine Documents," which has specific site columns and metadata that you want to apply to all marine-related documents. By making Marine Documents as the parent content type for the Marine Sales Proposals content type, all content types associated with the "Marine Documents" content will automatically inherit all the parent content type's columns. Likewise, if you later need to add a new site column to all marine content types, you simply add columns to the Marine Documents parent content type to automatically have them added to the children of the content type. Figure 6-6 shows how you assign a parent content type during the creation process. Parent content types create better consistency across all common content types as well as improve design efficiency and individual component maintenance.

Group

You can organize your various customized content types by grouping them. As you create or edit a content type, you must specify a group name — either an existing group name or a custom group. Instituting some standards for groups provides a solid base for expanding and organizing content types as you create them. For example, using the Marine Sales Proposals as an example, it may be appropriate to associate the content type with a custom group called "Marine Sales Documents" that can store all content types related to the marine product line.

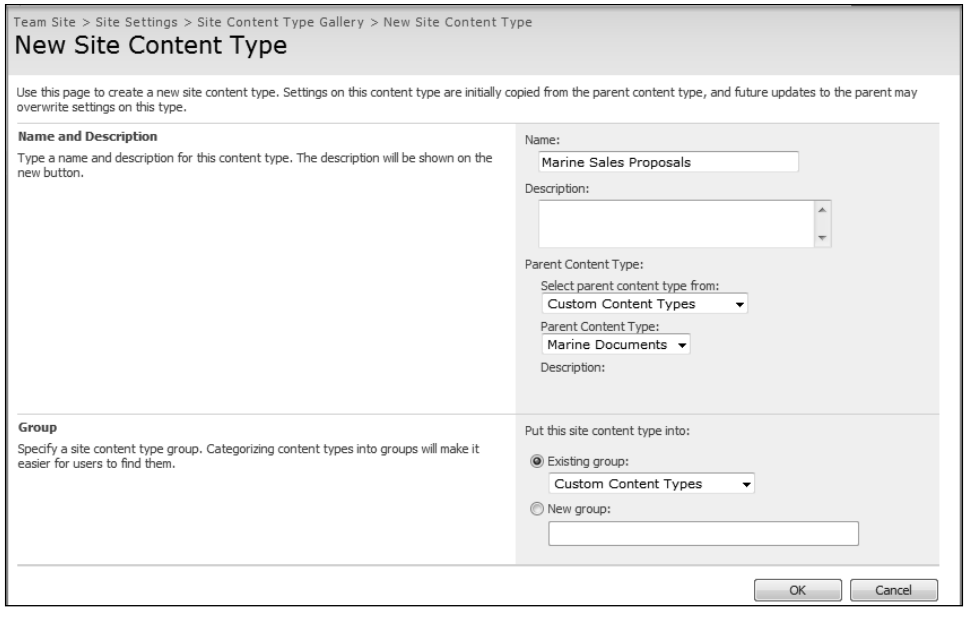


Figure 6-6

Template

When you associate document templates with a content type, you can better control the quality of the data that you collect. You can base the template on a variety of file formats including Word documents, Excel spreadsheets, InfoPath forms, and custom web pages. You can either upload a custom template to the content type, or you can point to a template stored at another location. If you want to point to an existing template, be sure that all members using the content type can access the location of the template. For example, if you create a sales proposal content type and a document template for sales proposals already exists on the sales team site, make sure that the people who create content based on your newly created content type have access to that sales team site.

For Microsoft Office files, such as Word and Excel, updating or changing the document template associated with a content type has no effect on items that users have already created and that are stored in the document library. This is because of the way these files relate to a template. In Word, a document template is primarily only relevant for the initial creation of the document. However, for content types based on InfoPath or publishing templates such as page layouts, changing the template associated with the content type updates the existing documents to display the information as detailed in the template. This will become clearer when you explore those content types in greater detail later in this book.

Chapter 4 discussed how you can associate custom document templates with a document library. This association means that users can automatically generate documents based on that template by clicking the New Item button for a document library, a feature available in the previous version of SharePoint. With SharePoint 2007's introduction of content types, you now have more than one item in the New Item menu (see Figure 6-1), which gives you a single document repository to store several different types

of information and simplify how people access materials. To do this with your process, see the following Try It Out.

Try It Out Upload a Custom Template to a Content Type

In this example, you go to the properties of an existing content type and upload a custom template. Users can then select this template using the New Item button from a document library that has the content type associated with it.

1. From the main page of your site, select Site Actions ➪ Site Settings.
2. Under the Galleries section, select Site content types.

   If your content type was created on a top-level site, you need to go to the top-level site settings to edit the content type directly.

3. Select your content type from the list. Use the Group Selection box on the right-hand side of the toolbar to display only the group of which your content type is a member. This is helpful if you have a large number of content types on your site. In this example, you select the Financial Report content type that is part of the Financial Information group. The Site Content Type page for the content appears, as shown in Figure 6-7.

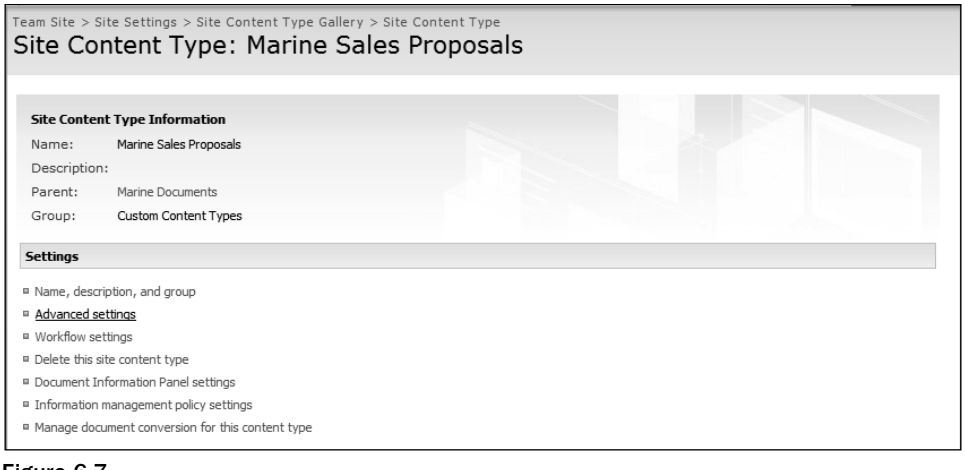


Figure 6-7

4. Select Advanced Settings from the Settings group.
5. Select Upload a New Document Template, and click the Browse button to locate your custom template. Please note that it is not necessary to have your document saved as a template file (.dotx or .dot).
6. When you have the appropriate file selected, click the Open button.
7. Click the OK button to complete the operation.

Workflow

Creating important documents often requires the creator to follow an equally important business process. This process ensures that everyone involved in the collaboration activity is doing their part and communicating properly. When people follow processes without the aid of automated tools, they often encounter or create roadblocks because of distractions and other duties. For example, if a sales manager completes an important sales proposal and sends it to a colleague or supervisor for feedback with an email notification, that colleague may not immediately respond because of another task or emergency and as a result, the request gets buried into an inbox or lost in the shuffle. This is a common situation because many people struggle to keep up with email and daily responsibilities. Unfortunately, this means missed deadlines, frustration between team members, missed opportunities, and it may ultimately impact the overall operations of the company.

By assigning a workflow template with a content type, you can define a realistic series of tasks with built-in reminders for a specific business activity so that workers can focus on duties. For example, in the previous scenario, whenever a salesperson creates a sales proposal, he can send it to the sales team or a supervisor for feedback with tasks and deadlines automatically created so that the request for feedback is less likely to be lost. Even if the sales team supervisor does forget the task, the system will send reminder messages to the supervisor until the task is complete. This means that the salesperson doesn't have to follow up on the task.

Depending on the parent content type you select when you define your custom content type, you may already have workflows enabled. If these workflow processes do not apply, you can remove them, but be careful not to remove a workflow that is important to the operations of a specific content type. By updating the workflow settings of a parent, you can optionally update any content types that are inherited from that content type.

Adding a custom workflow to a content type is a fairly simple process and similar to adding a workflow to a document library or list as described in Chapter 5. The advantage here, however, is that you typically have to define the process only once and it is applied to multiple document libraries that utilize that content type. If you add multiple content types to a single library, each content type can have its own unique workflow or set of processes that are independent of the others.

Try It Out — Define a Custom Workflow for a Content Type

Assigning a custom workflow with a content type is very similar to assigning a workflow to a document library. In the following example, you associate an approval workflow with an existing content type.

1. From the main page of your site, select Site Actions ➪ Site Settings.
2. Under the Galleries section, select Site Content Types.

   If your content type was created on a top-level site, you need to go to the top-level site settings to edit the content type directly.

3. Select your content type from the list. Use the Group Selection box on the right-hand side of the toolbar to filter the list to display only the group containing your content type. This is a helpful tip if you have a large number of content types on your site. In this example, use the Financial Report content type that is part of the Financial Information group. The Site Content Type window appears.

4. Under the Settings section, select Workflow settings.
5. Select the Add a Workflow link. The available templates for a workflow are listed in the Workflow Templates box, as shown in Figure 6-8.

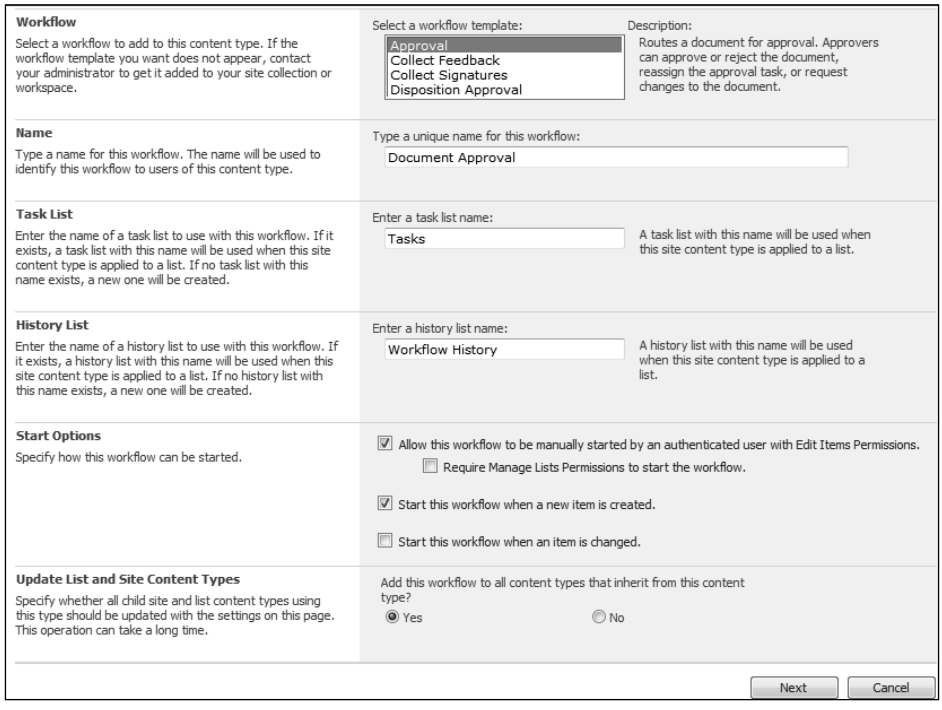


Figure 6-8

6. Select the Approval template.
7. Specify a name for the workflow such as **Document Approval**.
8. Because you can associate workflow processes with a tasks list to help manage the assignment information and duties, the next step is to select which task list to use. By default, a task list is suggested. However, you can specify a name for a new task list, and SharePoint will create one for you if this name hasn't already been used. For this example, use the default value of **Tasks**.
9. The workflow activities can be associated and tracked in a history list. By default, a name of "Workflow History" is selected.
10. For Start Option, you want the workflow to launch whenever you create a new item. Select Start This Workflow When a New Item Is Created check box.
11. Click Next to continue. A window similar to Figure 6-9 appears.

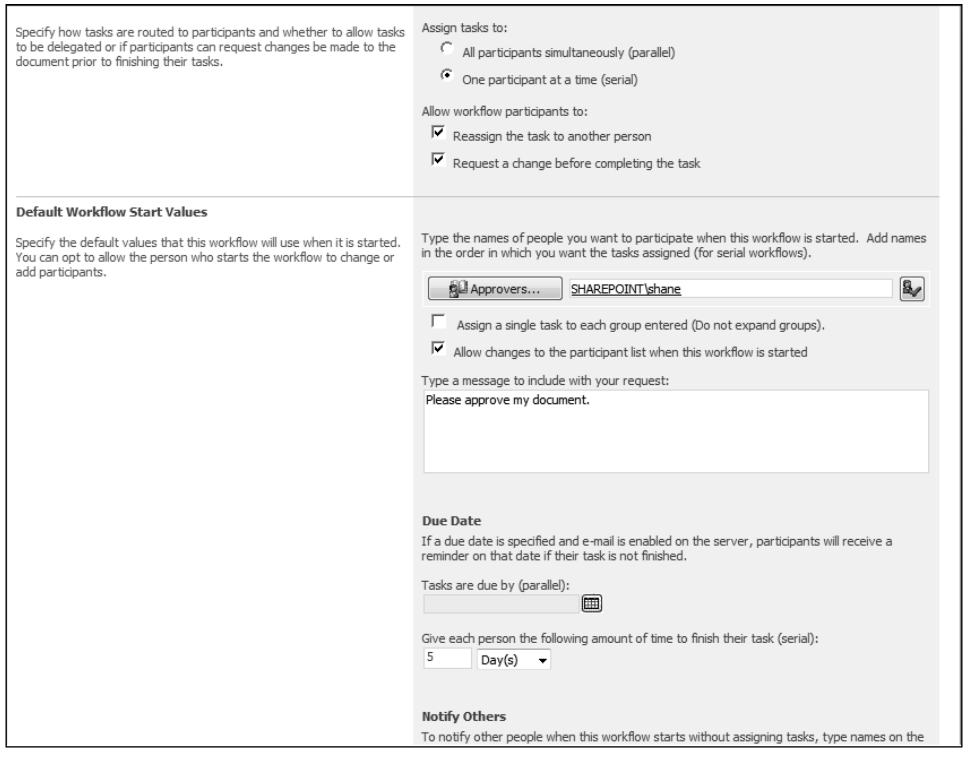


Figure 6-9

12. In the Workflow Tasks section, select to assign tasks to one participant at a time.
13. Click the Approvers button. The Add recipients window appears.
14. Enter your first name, and click the magnifying glass button. A listing of results is displayed. Select your own name from the list of results, and click the Add button.
15. Click the OK button to close the Add recipients window.
16. Enter **5** in the text box for number of days to complete task.
17. In the Complete the Workflow section, unselect the Document Is Rejected check box.
18. Click the OK button to save your changes.

How It Works

The workflow activity you created will launch whenever a new item is created based on that content type, and a task will be created for you because you selected your own name as an approver for the serial workflow. The due date for the task will be five days from the point the document is created. If you do not complete the task by the assigned date, you will receive a reminder.

Site Columns

In Chapter 4, you learned the importance of site columns when creating standard metadata properties for lists and libraries. To recap, site columns are stored in a central gallery on each site, and any list or library can use them on the same site or any site below it. Site columns provide standardization and ease of use when you want to share important information across multiple lists, libraries, or sites.

Site columns are also very important in content types. Because content types are created and stored in a central gallery, all associated components must be centralized as well. Therefore, you can only associate site columns with a content type. When you add a content type to a library, the required site columns are automatically associated with that library for use by the content type. You can create custom views on the columns, and Web Parts, such as the content query Web Part, and you can apply advanced filtering.

Web Parts are explained in Chapter 7.

Remember the following when working with site columns:

- When defining metadata for a content type, you can use existing site columns or create new site columns directly from the content type Settings page. When you use existing site columns, you are redirected to a site column selection page.
- By using the Group Selection drop-down menu, you can filter the list of site columns to a more manageable size. This is why group names are very important, and why you should make them intuitive when you create site columns (see the section "Name and Description" earlier in the chapter).
- Once you select the site columns you want, you click the Add button to move them from the left-hand list box to the right-hand list box.
- You can remove an item you may have added accidentally by selecting it from the box on the right and clicking the Remove button.
- You can update all content types that inherit from the current content type with the new columns you selected. For example, if you have a content type "Human Resources Document" that is the parent to the other content types "Policies and Procedures" and "Leave Request Form," by selecting the Yes option in the Update List and Site Content Types section, a site column for "Division" that is added to the Human Resources Document is also added to Policies and Procedures and Leave Request Form content types.

You can also create a new site column as you create a content type. Even though you're creating the site column from the administration interface of the specific content type, SharePoint still adds it to the central gallery of the site, making it available to other content types, lists and libraries on the current site, and sites below.

Document Information Panel Settings

Whenever you associate a document with a document library or content type, columns appear when the document is first saved or checked in. This is the *document information panel*, which asks you to complete metadata, as shown in Figure 6-10, and which is the subject of the next Try It Out.

For more on the Check In/Check Out process, see Chapter 3.

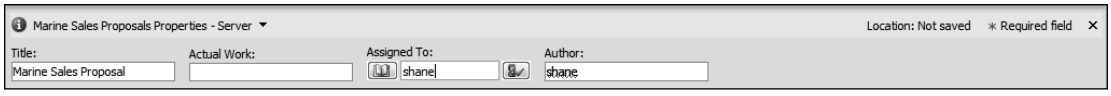


Figure 6-10

To manage the Document Information Panel settings of a content type, you must do the following:

1. Select Document Information Panel Settings from the content type Administration page.
2. You can then change the template associated with the panel or have the document information panel always display for the user whenever the document is opened or initially saved.

It's advantageous to display the panel when a user opens the document when you consider the metadata associated with a document is critical and/or when it is subject to change throughout the lifecycle of the document — for example, project lead, percentage complete, schedule, and budget status. It is up to the document owners to maintain the relevance and accuracy of this information. By presenting users with the document information panel each time they open the document, they are far more likely to update any column values.

Try It Out — Create a Custom Document Information Panel

A custom document information panel is useful when you need to attract attention to specific elements or add custom text to guide users in the completion of important metadata related to an item. You can customize the document information panel directly from the content type administration area using InfoPath. Although InfoPath is covered in greater detail in Chapter 10, the following walk-through does not require a great deal of familiarity with the tool.

These steps require that you download the logo.jpg file from `www.wrox.com`.

1. From the main page of your site, select Site Actions ➪ Site Settings.
2. Under the Galleries section, select Site Content Types.

   If your content type was created on a top-level site, you need to go to the top-level site settings to edit the content type directly.

3. Select your Financial Report content type from the list. Use the Group Selection box on the right-hand side of the toolbar to filter the list to display only the Financial Information group. This is helpful if you have a large number of content types on your site. A Site Content Type window appears, as previously shown in Figure 6-7.
4. Select Document Information Panel Settings.
5. From the Document Information Panel Template Settings section, select Create a New Custom Template.
6. The InfoPath client application opens on your system and displays a Data Source Wizard, as shown in Figure 6-11. Click the Finish button. An InfoPath form appears in Design view, as shown in Figure 6-12.

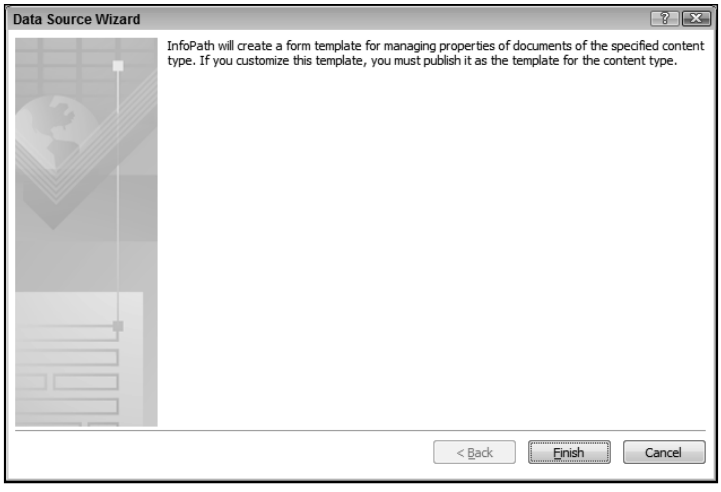


Figure 6-11

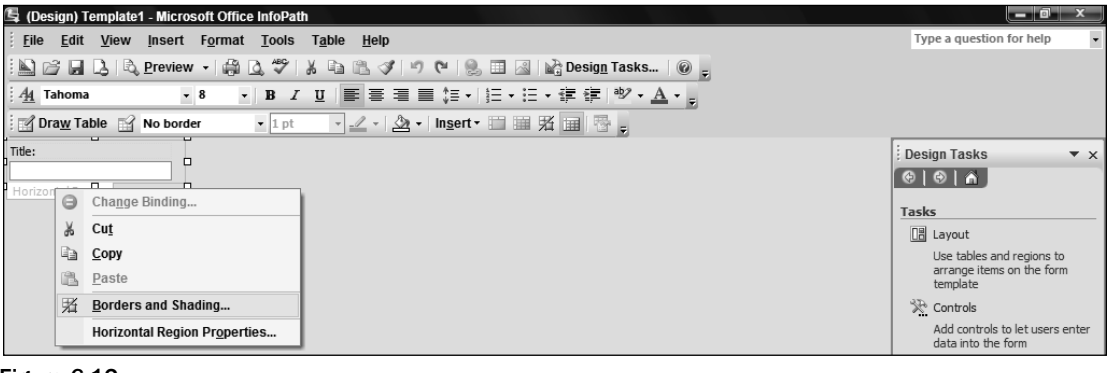


Figure 6-12

7. Click on the words `Horizontal Region` to select each entire form field.
8. Right-click and select Borders and Shading (shown in Figure 6-14).
9. Select the Shading tab, and select the color yellow from the list.
10. Click the OK button.
11. After you have adjusted the background color for each form field, you should add a line break below the form fields. To do this, select the words `Horizontal Region` for the last field, press the right arrow button on your keyboard and then press Return. From the menu, select Insert ➪ Picture ➪ From File.
12. From the resources folder for this chapter that you downloaded from the Wrox website, select logo.jpg and click the Insert button. Your image should now display within your custom panel as shown in Figure 6-13.

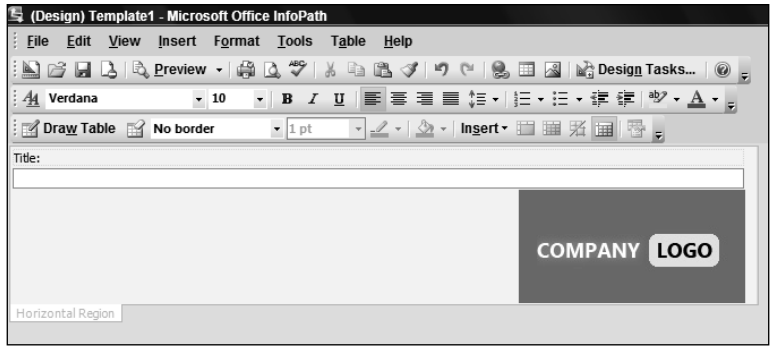


Figure 6-13

13. Select your image and click the right-hand justification icon to align your image.
14. Click the Save button.
15. You may receive a reminder message telling you to publish the form when you finish your edits. Click the OK button to continue.
16. Save your custom template to a location either on your computer or within your network.
17. Click File, and then Publish. The Publishing Wizard appears, as shown in Figure 6-14, with the document information panel item selected by default.

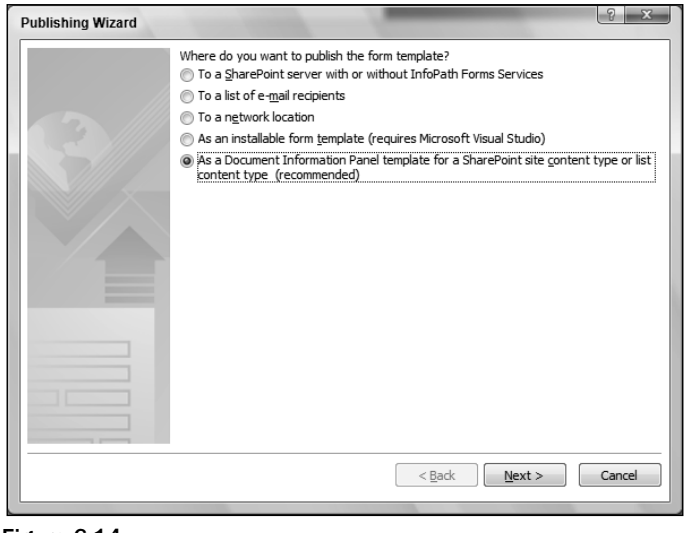


Figure 6-14

18. Click the Next button. All the required settings will be automatically detected by the wizard.
19. A final screen displays with the URL of the site and content type name. Click the Publish button to complete the process.

20. Click the Close button on the publishing window and close the InfoPath application. You can click the Go Back to the Document Information Panel Settings Page link to return to your settings page.
21. Select the check box for Always Show Document Information Panel on Document Open and Initial Save for This Content Type.
22. Click the OK button to save your changes.

How It Works

In the previous example, you created a custom information panel for your content type that displays a unique color background and custom logo. While it may not be considered best practice to implement bright colors into your user interface, his example demonstrated how easy it is to use InfoPath to customize your organization's document information panels. Once you create a single custom panel, you can reuse it for other content types by pointing to it from the Document Information Panel settings of your other content types. You would do this by selecting Use Existing Custom Template (URL, UNC, or URN) from the Document Information Panel settings instead of creating a new template as you did previously.

You enabled a check box in Step 21 on your content type so that the document information panel always appears whenever your content type is opened within a Microsoft Office application such as Word or Excel. By displaying the panel whenever the document is opened, users treat the panel as a form that they must update before closing the document. If an item is required, it will have to be completed or added before the document is closed. However, if a required column is already specified but outdated, having the values front and center while someone is working on the document should help reduce the probability of them closing the document without updating the latest information. There is no way to force someone to update a column if a value already exists, so communicating the importance of keeping information up-to-date to your team is still important.

Policy Management

Another great feature of content types is how they define certain policies and behaviors around how they are managed. Because content of a specific type quite often has the same requirements for retention and management, it is beneficial to define a set of policies around a content type and have those inherited by all documents that are created from it.

You can configure the items in relation to a content type's information policies:

Policy Item	Description
Administrative Description	Provide some background information to users who are responsible for managing the policies related to the content type.
Policy Statement	A customizable message that appears when users open documents associated with the content type. A message bar appears at the top of the document in an Information Management Policy box. Users can click a Details button to view all the details related to the policy message. By using a policy statement, content type owners can ensure that users have all the information they need concerning the important policies related to specific content.

Policy Item	Description
Labels	Ensures that important properties or messages are printed with documents related to a specific content type, such as confidential or a specific non-calculated document property. Content type owners can customize the presentation of the label by choosing font formatting and size.
Auditing	By enabling auditing on a content type, the following activities related to documents associated with the content type are tracked: ❑ Opening or downloading documents, viewing items in lists, or viewing item properties ❑ Editing items ❑ Checking out or checking in items ❑ Moving or copying items to another location in the site ❑ Deleting or restoring items
Expiration	Allows you to control the life span of specific types of content. You can configure content types to automatically be deleted after a certain time period based on a document property. Alternatively, you can launch a workflow that gives the user a final chance to review the document before it is archived or deleted. This method is recommended in situations where you have no formal requirement for deleting content automatically because it provides the greatest level of flexibility.
Barcodes	This automatically inserts an auto-generated barcode into documents of a specific content type. You can also prompt users to insert barcodes when they use specific Microsoft Office client applications.

Try It Out — Configure an Expiration Policy on a Content Type

Configuring a policy is a fairly intuitive process as you will see in the following example, where you create an Expiration policy. You can only have a single expiration policy per individual content type. Once you complete your configuration, individual documents that are created related to that content type will expire two years after their last modification date. If someone modifies the document, the timer resets, and the document has another two years before it expires.

1. From the main page of your site, select Site Actions ➪ Site Settings.
2. Under the Galleries section, select Site Content Types.

   If your content type was created on a top-level site, you need to go to the to- level site settings to edit the content type directly.

3. Select your content type from the list.
4. Select the Workflow Settings link. A listing of all workflow templates associated with the content type displays. The Change Workflow Settings window appears, as shown in Figure 6-15.

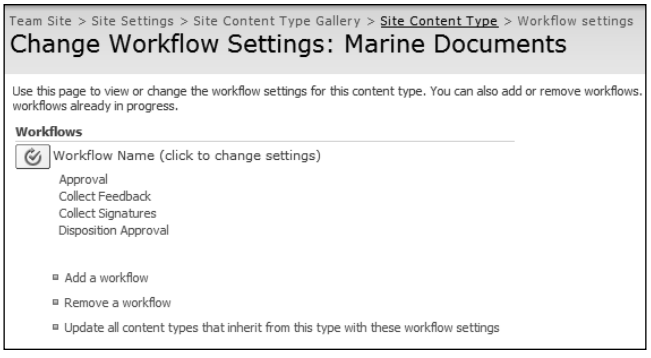


Figure 6-15

5. If the Disposition approval workflow is not listed, select Add a Workflow. Select the disposition approval workflow from the template list; enter **Disposition Approval** for the unique workflow name. Scroll to bottom of page and click the OK button.
6. Select Site Content Type from the navigation trail over the title of the page (see Figure 6-15) to return to the Site Content Type window, shown in Figure 6-16.

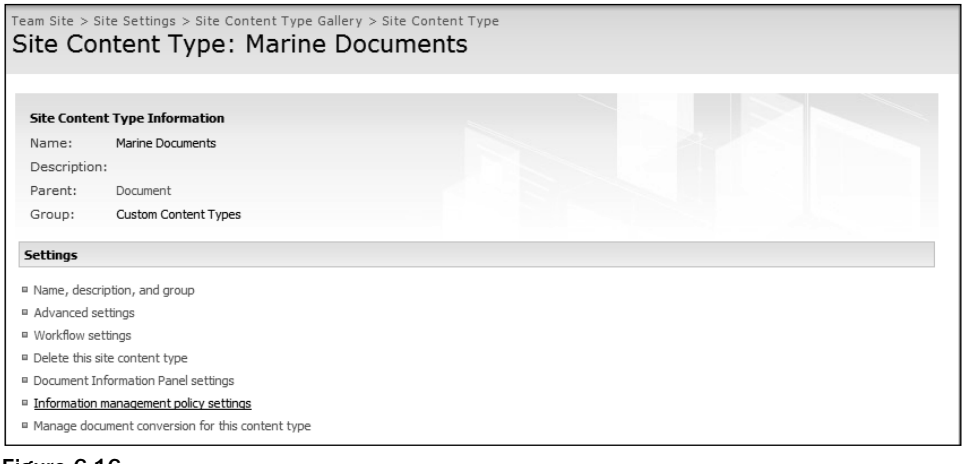


Figure 6-16

7. Under the Settings section, select Information Management Policy Settings.
8. Select Define a Policy and click the OK button. The Edit Policy window appears, as shown in Figure 6-17.
9. Select the check box for Enable Expiration.
10. Select the option for the retention period being a time period based on the item's properties.
11. Select modified from the field drop-down box and enter **2** into the text field for years.

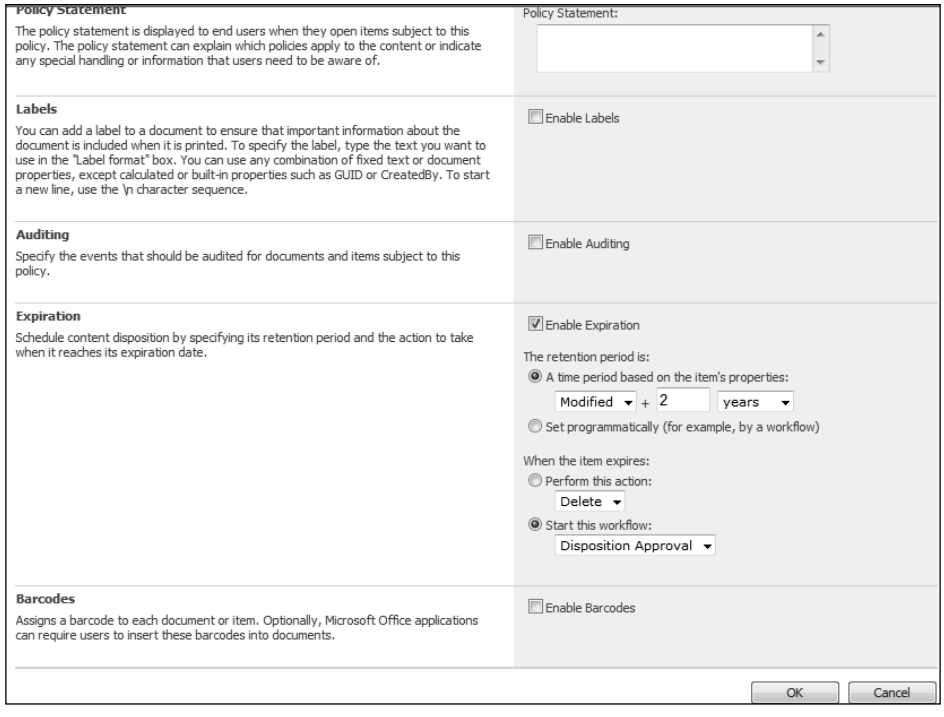


Figure 6-17

12. Select the Start This Workflow action and select the Disposition Approval workflow.
13. Click the OK button to complete the configuration of expiration settings.

How It Works

When a document reaches the time period for content expiration, you may not want your documents to be automatically deleted. Instead, for this example, you created a rule that triggers a workflow process. When you specify that a workflow process should start, you must reference a configured workflow activity. Because there was no content expiration type workflow associated with the content type already, you configured a disposition approval workflow on the content type before you started configuring the expiration policy. Only workflow activities that you have associated with the current content type display in the list of available templates when you are configuring an expiration rule.

Managing Content Types

An important aspect of managing a SharePoint site or environment is to understand how to combine and manage the information that a team or group shares. In this section, you discover some of the common management tasks that ensure that users in your organization can easily share and use your content types.

Enabling Content Type Management on a Library

While many things have changed in the 2007 version of SharePoint Products and Technologies, Microsoft has maintained a consistent experience for users moving from one version to another. For this reason, content types unavailable in previous versions are not enabled on a document library by default. Luckily, enabling content type management on a library is easy, as the next Try It Out demonstrates.

Try It Out — Enable Content Type Management on a Library

For this example, you enable content management on a previously created document library. Once you do so, you can manage multiple unique content types and their associated elements from the document library settings page. Until this feature is enabled on a document library, the functionality related to content type management are hidden.

1. Select the document library on which you want to enable Content Type Management.
2. From your document toolbar, select Settings ➪ Document Library Settings, as shown in Figure 6-18.

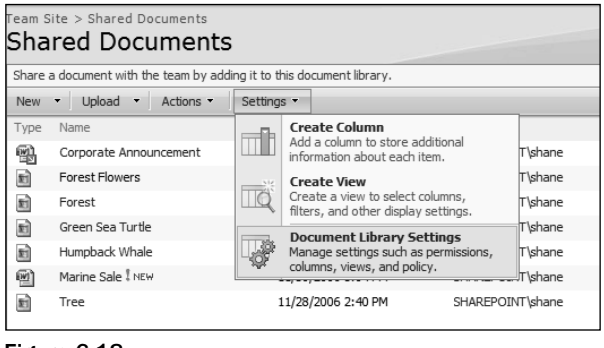


Figure 6-18

3. Select Advanced Settings from the General Settings section of the Customize page. The Advanced Settings window appears, as shown in Figure 6-19.

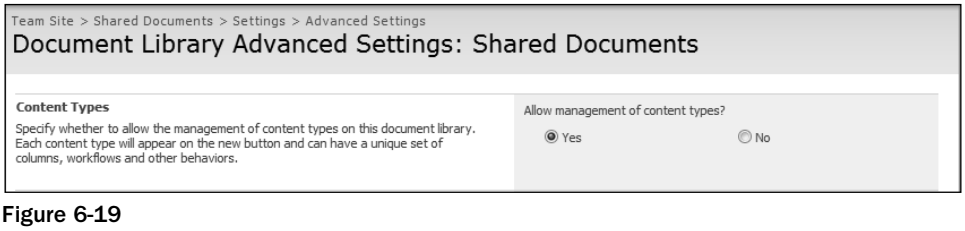
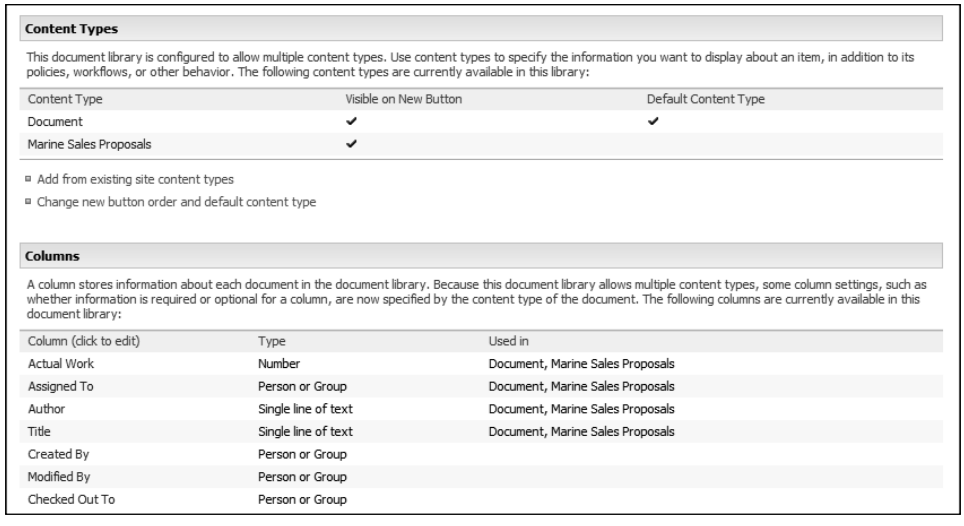


Figure 6-19

4. In the Allow Management of Content Types section, select the Yes option.
5. Click the OK button.

How It Works

SharePoint supplies several default content types based on common business patterns such as announcements, tasks, and issues. In addition, any Site content types that you have created on the current site or a parent site will also be available for you to add to your document library. See Figure 6-20 for a view of the administrative page of a document library after content types have been enabled and added to the library.



Content Types

This document library is configured to allow multiple content types. Use content types to specify the information you want to display about an item, in addition to its policies, workflows, or other behavior. The following content types are currently available in this library:

Content Type	Visible on New Button	Default Content Type
Document	✔	✔
Marine Sales Proposals	✔	

- Add from existing site content types
- Change new button order and default content type

Columns

A column stores information about each document in the document library. Because this document library allows multiple content types, some column settings, such as whether information is required or optional for a column, are now specified by the content type of the document. The following columns are currently available in this document library:

Column (click to edit)	Type	Used in
Actual Work	Number	Document, Marine Sales Proposals
Assigned To	Person or Group	Document, Marine Sales Proposals
Author	Single line of text	Document, Marine Sales Proposals
Title	Single line of text	Document, Marine Sales Proposals
Created By	Person or Group	
Modified By	Person or Group	
Checked Out To	Person or Group	

Figure 6-20

Managing Multiple Content Types in a Library

Today's technology requires working with various types of content, which means managing many document templates, business processes, and information policies. Previous versions of SharePoint Products and Technologies meant you could only associate a single document template with a document library, so you had to have a large number of document libraries just to accommodate unique document templates and classification requirements. By associating multiple content types with a document library in SharePoint 2007 (shown in the next Try It Out), however, you can freely manage all important information from a single location. These can be different types of templates using the same format, or completely different applications such as Excel, InfoPath, PowerPoint, or Word. This means you can save a tremendous amount of time because you can edit and share multiple types of documents from the same location.

Try It Out — Associate Multiple Content Types with a Library

You can set up multiple content types on a single library by following these steps:

1. From the document library on which you want to enable multiple content types, select Settings ➪ Document Library Settings.

2. From the Content Types section, select Add from Existing Site Content Types.
3. To make content types easier to locate and associate, SharePoint places them in groups. Select Document Content Types from the Select Parent Content Type From drop-down menu, as shown in Figure 6-21.

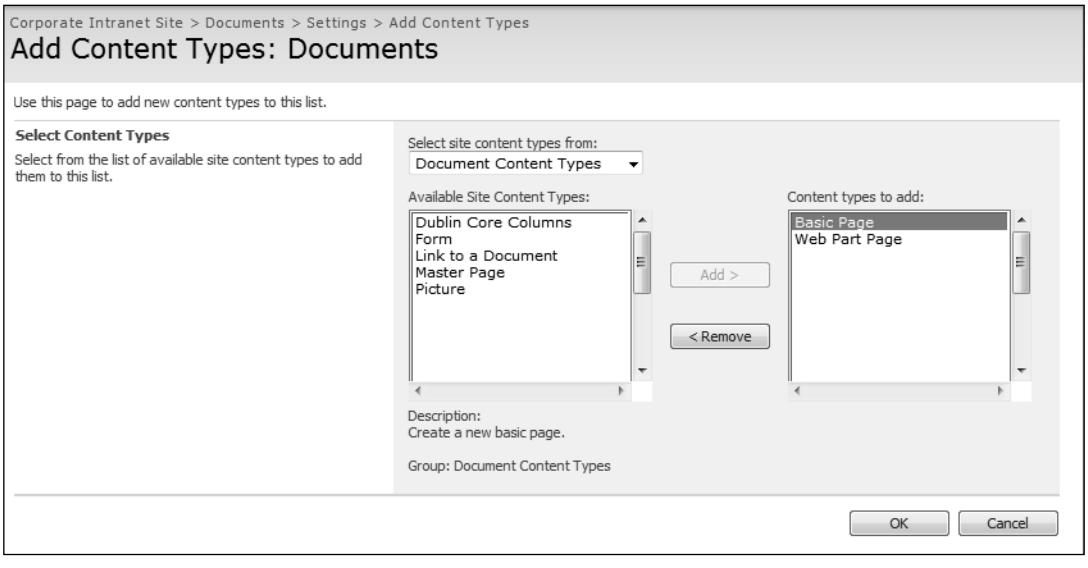


Figure 6-21

4. From Available Site Content Types, select Basic Page and Web Part Page and then click Add.

You can hold the Ctrl or Shift keys to make multiple selections.

5. Click the OK button to complete the process.

How It Works

When you associate multiple content types with a document library, they become available in the drop-down menu of the New item on your document library toolbar where you can select the type of document you want to create. For example, you might have a content type for Meeting Minutes associated with a Word template and a Financial Report content type associated with an Excel spreadsheet, as shown in Figure 6-22.

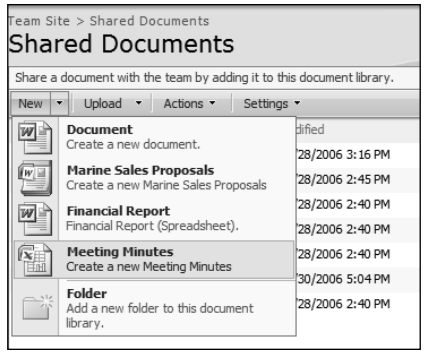


Figure 6-22

Customizing List or Library Views Based on Specific Content Types

Although managing and creating multiple types of content from a single list or library is a powerful feature, it can also make things difficult to manage. As information builds up in the library, you should identify what views and reports your users will require and create custom views that only display items from a specific content type. A *view* is a way of displaying a customized subset of items from a larger set of items in a list or library.

For example, a document library on a project management site might contain a variety of project artifacts such as project plans, scope documents, and status reports. Each of these categories represents unique content types. The following Try It Out shows how to configure a custom view.

Try It Out — Configure a Custom View Based on Content Type

One of the most powerful features of tagging items with metadata is creating custom views of content so that only a subset of the documents displays based on certain criteria being met. In this example, you create a custom view that only displays items from a specific content type.

1. Following the steps previously outlined in "Create a New Content Type" Try It Out at the beginning of the chapter, create a content type called Project Scope Document and associate a Word document as a template.
2. Associate your Project Scopes Document content type with a document library as discussed in the "Associate Multiple Content Types with a Library" Try It Out.
3. From the document library's toolbar, select Settings ➪ Create View, as shown in Figure 6-23.

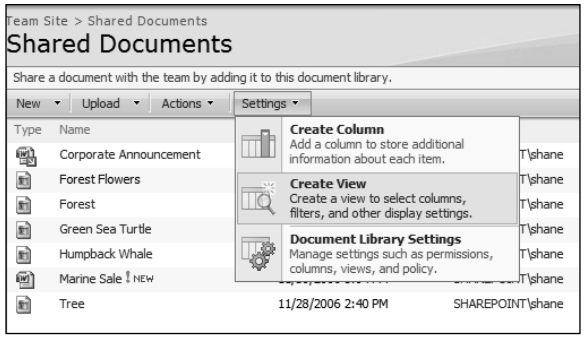


Figure 6-23

4. From Choose a View format, select Standard View.
5. In the View Name section, type **Project Scope Documents**.
6. Scroll down to the Filter section and select Content Type from the Show Items drop-down menu.
7. In the field below Is Equal To, select Project Scope Document as shown in Figure 6-24.

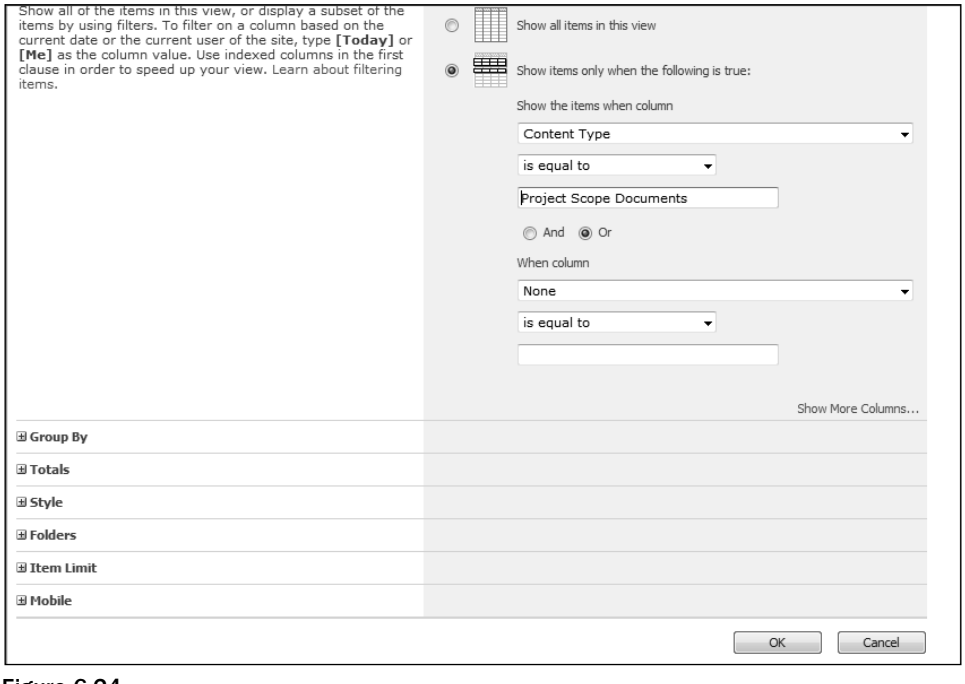


Figure 6-24

8. Scroll to the bottom and click the OK button.

How It Works

After creating a view, it becomes available in the View drop-down menu on your document library toolbar. Selecting the Project Scope Documents view will show only the items created using the Project Scope Documents content type. See Figure 6-25.

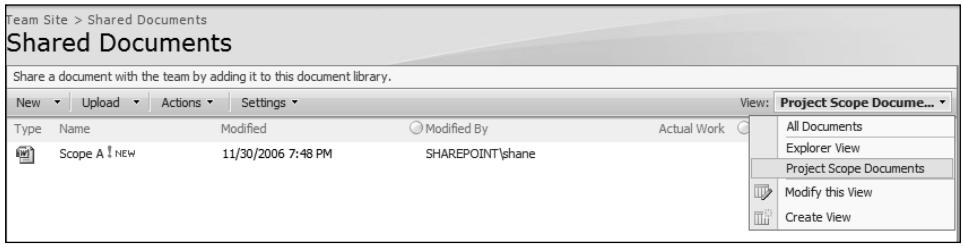


Figure 6-25

Summary

This chapter discussed the very important SharePoint 2007 feature known as content types. *Content types* allow you to package and manage elements such as templates, workflow processes, policies, and metadata columns into a single reusable component. You can then associate these components with lists and libraries throughout a site collection. Users can then make edits centrally to the site content type gallery, and changes can be updated in all existing content types. After reading this chapter, you should know the following:

- The default groups of content types include: Business Intelligence, Document content types, Folder content types, List content types, Page Layout content types, Publishing content types, and Special content types
- Every new content type must have a parent content type from which it inherits its settings. You can extend the parent content type to suit your business requirements.
- You can associate a content type with a custom template, workflow processes, and site columns. You can also create information management policies to control what information display when an item is opened or printed. You can also configure rules to determine when it must expire.
- Some content types are very basic in nature and do not require configuration. However, other content types may be more heavily regulated and controlled.
- A single document library or list can host multiple content types. This allows users to work from a single repository for related content. However, when managing multiple content types and large amounts of data within a single library, consider using custom views to maintain an acceptable level of usability for users. Information should always be well organized and easy to find.

Exercises

1. True or False. You can only associate one document template with a document library.
2. Imagine you are responsible for ensuring that all documents created and printed within your organization have the words Private and Confidential on them. What are your options for making this happen, and which would provide the best results?
3. People in your company have complained that recent job postings are being published on the corporate intranet website with typos and grammatical errors. Your management team demands a certain level of professionalism in any content that division posts. What are some steps you can take to ensure that future job postings are reviewed prior to publishing?