



Chapter 7

SHARING WORKBOOKS

In This Chapter

- Using OLE with Excel
- Sharing Workbook Files
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- Retrieving External Data with Excel

One of Excel 2000's distinguishing new features relates to sharing information—both between programs and within a workgroup. Excel now fully recognizes that many users—you may be one—use several programs in their work and use Excel in a workgroup environment. This chapter describes the tools and features that Excel provides for sharing data among users and between programs.

Using OLE with Excel

Microsoft Windows itself provides a powerful and easy-to-use tool for sharing data known as OLE, or Object Linking and Embedding. With OLE, you can transfer data between Excel and other Windows' programs, as described in the paragraphs that follow.

How OLE Works

In order to make sense of OLE, it's helpful both to understand the basic operation of the Windows clipboard and the terminology of OLE. The following paragraphs provide this background information.



Anytime you use the Copy or Cut command, Windows stores your copy of the copied or cut selection using the Clipboard. When you later choose the Paste command, the Windows program—this might be Excel—retrieves what is stored on the Clipboard and pastes it into the worksheet at the location of the cell marker or insertion bar.

While you most often use the Clipboard to move and copy data within a program like Excel, you can also use the Clipboard data between programs because the contents of the Clipboard are stored until you exit Windows.

NOTE *Microsoft Office programs store multiple selections on the Clipboard. When you choose the Paste command and the Clipboard holds multiple copied or cut selections, you can choose which selection gets pasted.*

OLE is simply the name that Microsoft has given to this Clipboard-based method of sharing document data. With OLE you can use a chart from an Excel workbook in a Microsoft Word document. In this case, and using the terminology of OLE, Excel is the server application, the Excel workbook is the source, Word is the client application, and the Word document is the container.

OLE objects can be either static, or embedded, which means that what gets stored in the container document is simply a copy. And OLE objects can also be dynamic, or linked, which means that the client application actually retrieves a picture of the actual data from the server application. With a linked object, this “picture” changes as the data changes.

NOTE *You choose between embedded objects and linked objects on the basis of whether you want the object to change. If you don't want the object to change—perhaps because the container document shouldn't be revised—you embed. If you want the object to change—because you automate updating of the container document—you link.*

Although OLE provides you with powerful opportunities to share data between programs, you'll find it easy to use. You create an OLE connection by copying and pasting the data you want to share. Windows hides the complexity from you and takes care of the actual work of data sharing.

Creating an Embedded OLE Object

As an example of how to create an embedded OLE object, suppose that you do want to use an Excel chart created in a Word document. To easily create such an embedded OLE object, follow these steps:

1. Open both the source and destination documents.



To most easily create embedded OLE objects, start both the server application and the client application. You should also open both the source document and the container document. If you're working with brand-new, as-yet unsaved documents, first save them.

NOTE *To easily create OLE connections, you need to run more than one program at the same time, which is called multitasking. The Windows Taskbar lets you easily run multiple programs at once. To start a second program, for example, use the Start button to start the program in the usual way. To switch between running programs, use the task buttons on the Taskbar.*

2. Select the chart object.

To select an object, simply click it. For example, to select the chart object shown in Figure 7-1, simply click the chart.

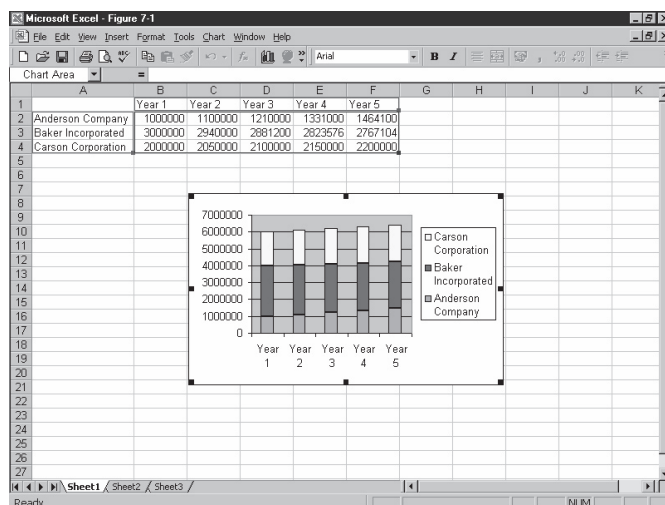


Figure 7-1 An Excel chart such as you might use for an OLE source document.

3. Copy the object to the clipboard.

You can copy and object to the clipboard by clicking the Copy toolbar button. Or you can choose the Edit menu's Copy command.

4. Display the source document.

You could do this by clicking the document's button on the Taskbar. If you wanted to copy the object to a Word document named Report, you would click the Report taskbar button.

5. Position the insertion point at the location where you want to paste the object.

You can typically position the insertion point by clicking the point in the document where you want to place the object. For example, if you wanted to paste a chart object after the first paragraph, as shown in Figure 7-2, you would click on the line following the first paragraph.

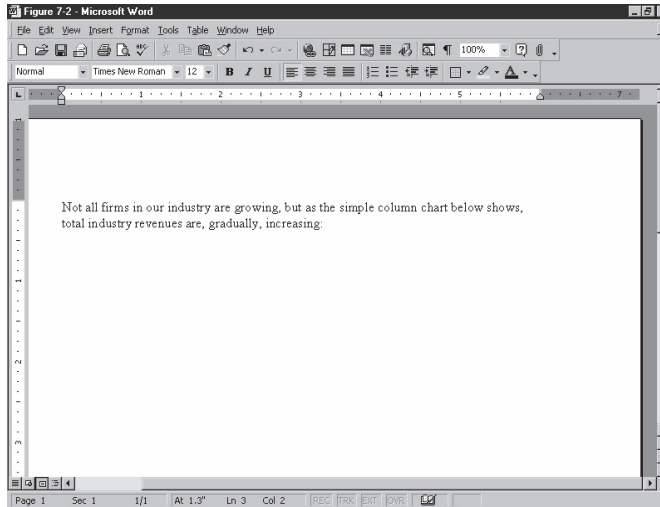


Figure 7-2 A Word document such as you might use for an OLE destination document.

6. Paste the chart object into the client application's container document.

You can paste an object to the clipboard by clicking the Paste toolbar button. You can also choose the Edit menu's Paste command. When you do, the client application (with Windows' help) creates an embedded object that looks as much like the source document object as the server application, Windows, and the client application allow. In other words, Windows and Windows programs use the richest format available for the pasted object. Figure 7-3 shows the Excel chart from Figure 7-1 embedded in the Word document from Figure 7-2.

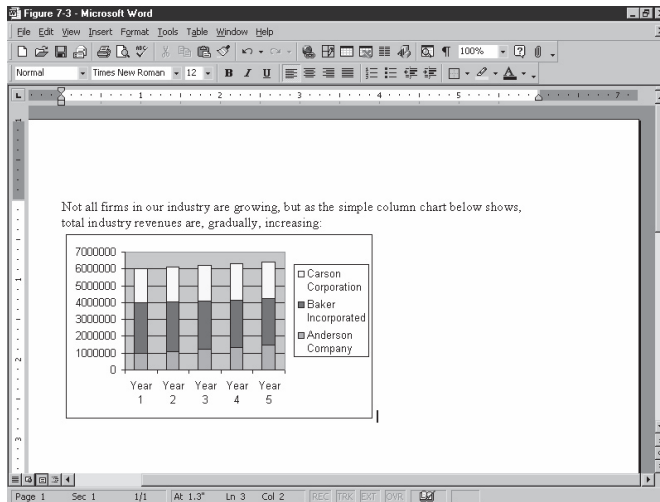


Figure 7-3 The Word document after adding the Excel chart object.



Creating a Linked OLE Object

You create a linked OLE object in almost the same way as you create an embedded OLE object. There's just one minor twist. You use the Edit menu's Paste Special command because it lets you indicate you want to create a linked object. For example, to create a linked OLE object using the same Excel chart shown in Figure 7-1 and the same Word document shown in Figure 7-2, follow these steps:

- 1. Open both the source and container documents.**

Again, to easily create embedded OLE objects, both the server application and the client application must be running and both the source document and container document should be open.

- 2. Select the chart object.**

As mentioned earlier, to select an object you simply click it.

- 3. Copy the object to the clipboard.**

You can copy an object to the clipboard by clicking the Copy toolbar button or by choosing the Edit menu's Copy command.

- 4. Display the source document.**

You could do this by clicking the document's button on the Taskbar.

- 5. Position the insertion point at the location where you want to paste the object.**

You can typically position the insertion point by clicking the point in the document where you want to place the object.

- 6. Paste the chart object into the client application's container.**

This is the only step that works differently from pasting an embedded object. When you paste a linked object, you need to use the Edit menu's Paste Special command. When you choose this command, the client program displays a Paste Special dialog box. (Figure 7-4 shows Microsoft Word's version of the Paste Special dialog box, but other program's Paste Special dialog boxes look almost the same and work in the same basic way.) When the client program displays its Paste Special dialog box, click the Paste Link option button and click OK. Optionally, you can also select a format for the object from the As list box.

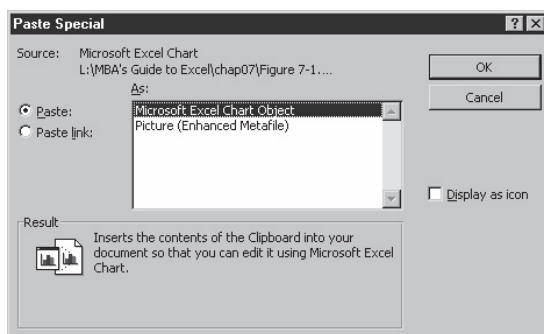


Figure 7-4 The Paste Special dialog box.

When you open a document into which you've placed linked OLE objects, the program asks whether you want to update the links. If you do, click Yes, and the client application retrieves updated information from the source document.

NOTE *If you don't want the client application to automatically update links, you can tell it not to do so. To make this specification, in Excel, for example, choose the Tools menu's Options command, click the Calculation tab, and then clear the Update Remote References check box.*

By the way, it's possible to inadvertently break a link. For example, this may happen if the same source document is moved or renamed while the client application and container document are closed. In this case, you need to reestablish the link by repeating the steps you took to originally establish the link.

Editing OLE Objects

You can easily modify linked and embedded objects. To change an object, double-click it. The client application starts the server application and opens the appropriate source document. Once the server application is running and displaying the source, you can make your changes.

Inserting OLE Objects in Excel Workbooks

The object sharing method described in the preceding paragraphs works well in situations in which you want to share data between programs and display that shared data in the container document. You should also know, however, that Excel's Insert menu provides an Object command, which you can use to place icons in a workbook that point to source documents.

To use the Insert menu's Object command to point to new OLE objects, choose the Insert menu's Object command. When Excel displays the Object dialog box (see Figure 7-5), click the Create New tab, select the program necessary to create the object, and then click OK. Excel starts the server application, and you use it to create the new object. When you finish creating the object, click outside the object—such as on a worksheet cell—to return to Excel. Use the Display As Icon check box to indicate whether you want to see a picture of the object or simply a clickable icon you can use to access the object.

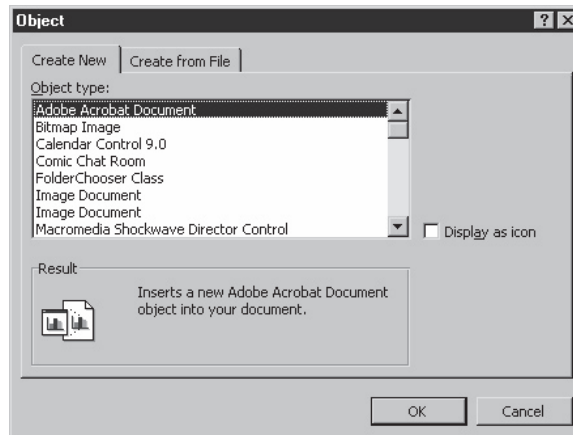


Figure 7-5 The Create New tab of the Object dialog box.

To use the Insert menu's Object command to point to an existing document, you also choose the Insert menu's Object command. When Excel displays the Object dialog box, however, you click the Create From File tab and then identify the file you want to use to create the object (see Figure 7-6). To identify the file, enter the complete pathname in the Name box or use the Browse button to display a dialog box you can use to search disks and folders for the file. Select the Link To File check box if you want to create a linked object. Select the Display As Icon check box to indicate whether you want to see a picture of the object or simply a clickable icon you can use to access the object.

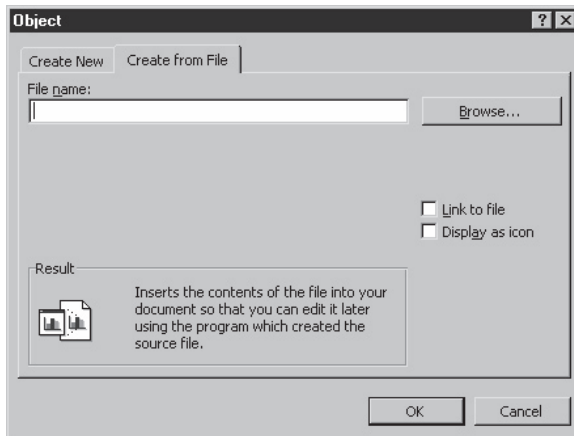


Figure 7-6 The Create From File tab of the Object dialog box.

Sharing Workbook Files

Excel provides several useful tools for sharing your actual workbooks, rather than just the information they contain. You can tell Excel to save or open workbooks in formats acceptable to other spreadsheet programs. You can direct Excel to save your workbooks on a network drive and then make the workbook simultaneously available to multiple users. And you can use electronic mail as a means of passing a workbook to other users.

NOTE *Excel also provides tools for publishing Excel workbooks to web sites as web pages, or HTML documents, and for placing interactive Excel objects into web pages. At the end of this section, I'll discuss these tools and explain why you will probably never want to use them.*

Sharing Excel Workbooks with Other Programs

You can rather easily share an Excel workbook with other spreadsheet programs. You can, for example, export an Excel workbook so someone using Lotus 1-2-3, another popular spreadsheet program, can open and work with the workbook. And you can also easily import spreadsheet documents created by other programs into Excel. For example, you can import a Quattro Pro workbook into Excel.

Exporting a Workbook

To export a workbook, you use the File menu's Save As command. When Excel displays the Save As dialog box, save the workbook file in the usual way—except use the Save As Type drop-down list to specify the file format as one acceptable to the other program (see

Figure 7-7). For example, if you want to export an Excel workbook to Lotus 1-2-3, choose the appropriate 1-2-3 file format.

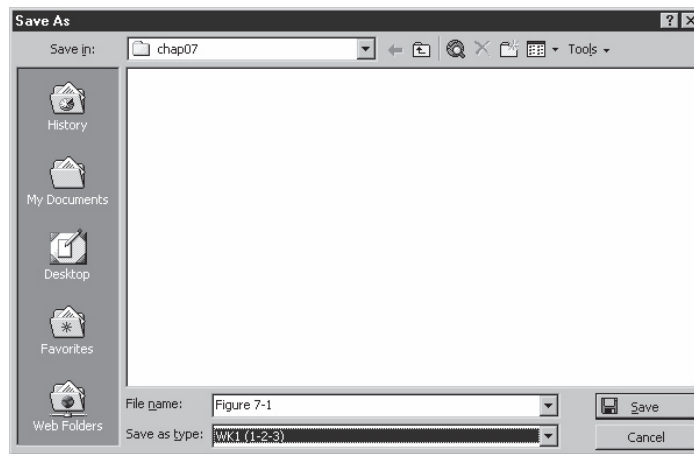


Figure 7-7 The Save As dialog box set to use the Lotus 1-2-3 format.

NOTE You may need to determine the precise file format acceptable to the program that will later import the workbook you're exporting. Different versions of Lotus 1-2-3, for example, use different flavors of the standard 1-2-3 file format. Usually, if you know the file extension the spreadsheet program uses, you'll have enough information to select the appropriate format.

If you can't determine the appropriate file format for the exported workbook file, you can try one of two tactics: You can use a simple standard spreadsheet format such as the tab-delimited format or the CSV (or comma separated value) format, which all spreadsheet programs understand. Or you can use a popular spreadsheet format, such as the Excel 95 file format or the Lotus 1-2-3 version 3 file format, which almost all spreadsheet programs understand.

NOTE If you have questions about how to work with the other options on the Save As dialog box, refer to Chapter 2.

Importing a Spreadsheet Document

To import a spreadsheet document, you use the File menu's Open command. When Excel displays the Open dialog box, you open the to-be-imported document in the usual way—except you use the Files of Type drop-down list to specify the file format of the document you want to import (see Figure 7-8). For example, to import a Lotus 1-2-3 spreadsheet document, select Lotus 1-2-3 Files from the list.

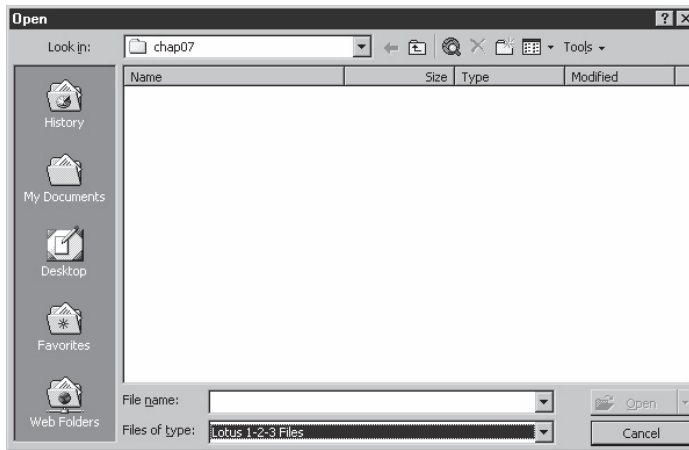


Figure 7-8 The Open dialog box with the Files OfType list box indicating the Lotus 1-2-3 Files will be opened.

It's unlikely but not impossible that Excel won't recognize the other spreadsheet program's file format. In this case, before you save the spreadsheet document using this other spreadsheet program, you may need to choose a file format that Excel understands such as any version of Excel, any version of Lotus 1-2-3, or a standard simple format such as CSV or Tab-delimited

NOTE *If you have questions about how to work with the other options on the Open dialog box, refer to Chapter 2.*

Sharing Excel Workbooks Over a Network

You can share an Excel workbook with other Excel users over a network. In a nutshell, all you have to do is save the workbook in some accessible location, such as on a network drive or a shared local drive. With a workbook located on a network or shared local drive, network users with the appropriate level of authority and the requisite permissions can open, edit, and save the workbook.

NOTE *To view or open a network or shared local drive, you need to first map to the drive. You can map to a drive by clicking the Command and Settings buttons in the Open or Save As dialog boxes, choosing the Map Network Drive command, and then entering the full pathname for the drive. If you have questions about the network pathname, ask your network administrator.*

If you do share a workbook over a network, you should be aware of a couple of points. First, and in general, if one user opens a workbook, other people can't open that same workbook except as a read-only document. What that means is that the person can't save the workbook using the same, original filename. The user can, however, save the workbook using a new filename or in a new location.

Excel tells you when you attempt to open a workbook that it's already being used. It then gives you the option of opening the workbook in read-only mode (see Figure 7-9). You also have the option of asking Windows to notify you when the workbook document is fully available.

The second point you need to know about sharing a workbook over a network is that you have the option of telling Excel it's okay for multiple users to open and make changes to the same workbook. I can't emphasize enough that this option is extremely difficult to successfully use in a real-life work setting. You can just imagine all the trouble that can occur if people start making the same sorts of changes to the same parts of a workbook. If you want to do this, however, choose the Tools menu's Share Workbook command. When Excel displays the Share Workbook dialog box (see Figure 7-9), select the Allow Changes By More Than One User At The Same Time check box.

NOTE *The Share Workbook dialog box, as shown in Figure 7-9, also lists the names of the users who've opened a workbook.*

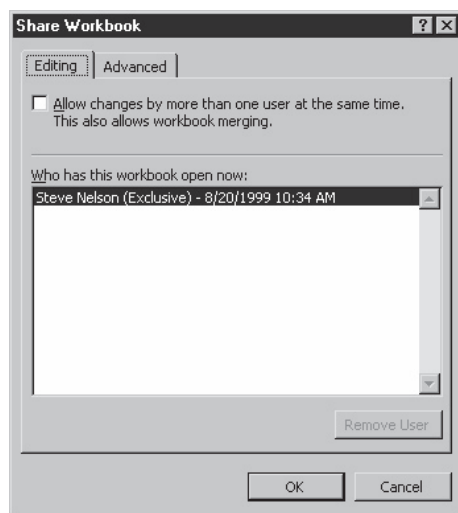


Figure 7-9 The Editing tab of the Share Workbook dialog box.

You can control many aspects of Excel's workbook sharing by using the Advanced tab of the Share Workbook dialog box (see Figure 7-10). The Track Changes options, for example, let you tell Excel that it should keep a list of the changes made to a shared workbook and for how long this list should be kept. The Update Changes options let you specify when and how the shared workbook is updated for the changes that people make. Finally, the Conflicting Changes Between Users options let you specify what should happen when changes from different users are in conflict.

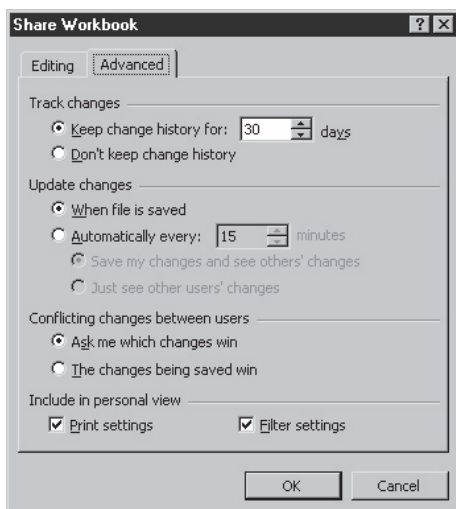


Figure 7-10 The Advanced tab of the Share Workbook dialog box.

Excel does attempt to resolve any conflicts that arise from workbook sharing. When a user saves a workbook, Excel looks for conflicts—such as the same cell being changed by different users. If Excel sees such a conflict, it displays the Resolve Conflicts dialog box (see Figure 7-11) and asks how the conflict should be resolved. One important aspect of this conflict resolution, however, is that the person who saves the workbook and, therefore, sees the Resolve Conflicts dialog box, determines which changes should be saved and which should be discarded.

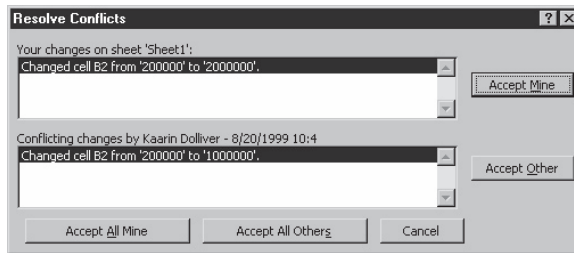


Figure 7-11 The Resolve Conflicts dialog box.

NOTE If you choose to work with shared workbooks, you probably want to create a formal, perhaps written, policy to document how conflicts should be resolved. You may also want to plan for workbook sharing when you build the workbook. For example, you might build a workbook so different users would always be making changes to separate worksheets. This would prevent most conflicts.

Sharing Excel Workbooks with E-Mail

Excel's File menu provides several commands, which you can use to share workbooks using electronic mail. When you share workbooks in this manner, you simply attach the workbook to an e-mail message and then send the message and its attachment, the workbook, to another person.

NOTE If you can't e-mail someone a workbook, save the workbook to a floppy disk and deliver the disk.

Sending a Workbook via E-Mail

If you regularly use e-mail, you'll find it very easy to share workbooks using mail. You simply send e-mail messages laden with Excel workbooks.

To e-mail the open Excel workbook, follow these steps:

1. Choose the File menu's Send To command.

Excel displays the Send To submenu, which lists commands for sharing workbooks using electronic mail and, in some cases, other e-mail-like services, such as Microsoft's Exchange Server.



2. Choose the Send To menu's Mail Recipient (As Attachment) command.

Excel opens your default e-mail client, opens a new message, and attaches the workbook. Figure 7-12 shows how the Outlook Express e-mail client looks, but your e-mail client will probably look very similar even if you use one of the other popular e-mail programs.

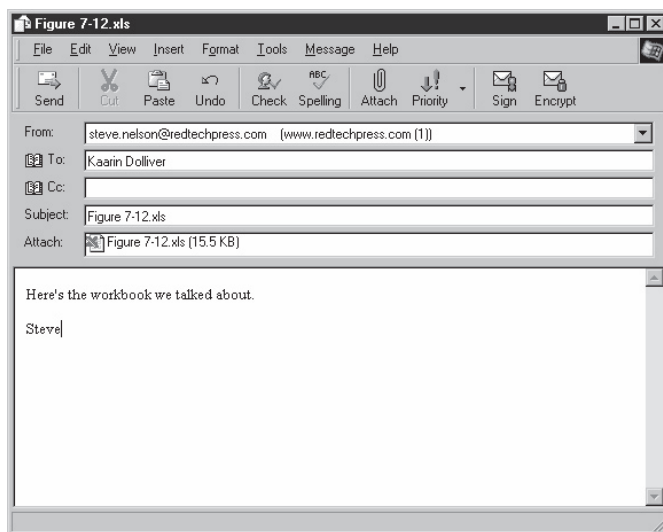


Figure 7-12 The Outlook Express message window with an Excel workbook attachment.

3. Complete and deliver the e-mail message in the usual way.

You complete your e-mail message in the usual way. For example, you need to provide the recipient's e-mail name or alias. And you probably want to provide a message subject and perhaps some message text to explain the message and your attachment. When you finish, send the message in the usual way.

NOTE *Some mail servers limit the size of the attachments they will accept. Some organizations discourage and even prohibit e-mail attachments because the attachments can contain viruses. Before you send an e-mail attachment, make sure that your recipient can accept an e-mail message with an attachment.*

Receiving a Workbook via E-Mail

You can also easily receive e-mail messages that contain Excel workbook attachments.

To receive and use an e-mailed Excel workbook, follow these steps:

1. Start your e-mail program and retrieve your messages in the usual way.

Figure 7-13 shows the Outlook Express program window with the Inbox folder displayed. Other e-mail programs typically show your incoming messages in a similar way. The first message includes a paperclip icon in front of it to indicate that a file is “attached.”

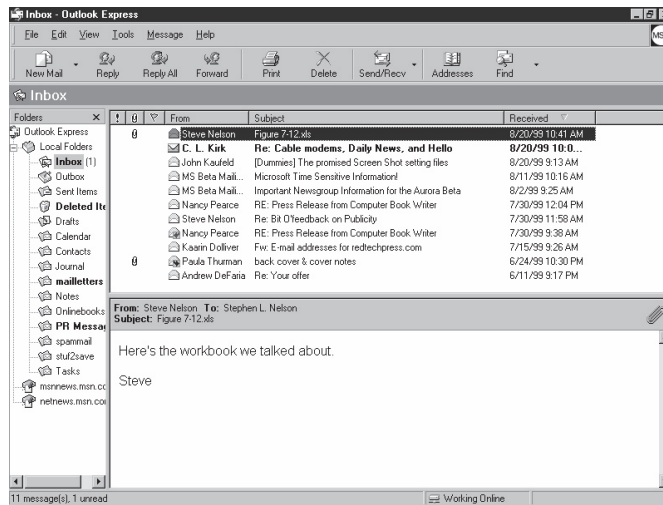


Figure 7-13 The Outlook Express Inbox folder showing incoming messages.

2. Open the e-mail message with the attachment.

Figure 7-14 shows the Outlook Express message window displaying a sample message with an Excel workbook attachment. Again, your e-mail client will probably look very similar even if you use another program.

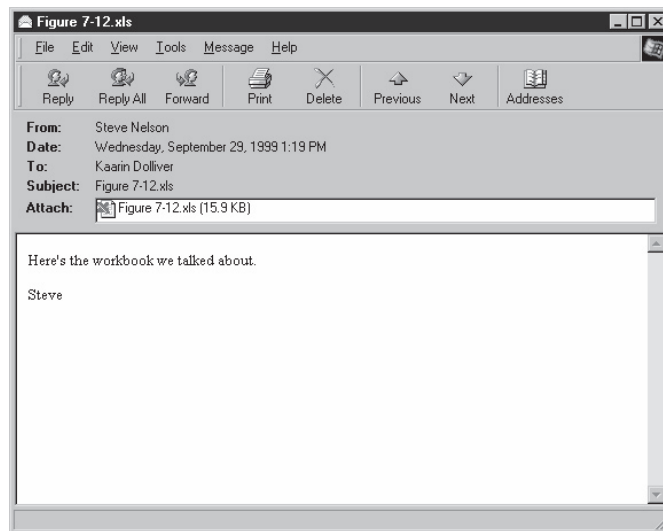


Figure 7-14 The Outlook Express message window with an Excel workbook attachment.

3. Save the attachment.



You can typically do this by right-clicking the attachment icon and then choosing the Save As command from the shortcut menu. The e-mail client then displays a Save As dialog box, and you use it to indicate where you want to save the workbook.

4. Open the workbook.

You open the workbook in any of the usual ways. For example, you can start Excel and then use the File menu's Open command.

Avoiding E-Mail Attachment Problems

E-mail attachment problems may be occurring more infrequently these days as the e-mail clients and the mail servers get smarter. Nevertheless, you should be aware that two problems are commonly encountered when sending attachments over the Internet: problems with attachment size and problems with attachment format.

Problems with attachment size stem from the fact that some mail servers limit attachment size. For example, a mail server may limit attachment size to less than one megabyte, and that may mean your largest Excel workbooks are too big to be attachments.

Problems with attachment format stem from the fact that an attachment can actually be included in a message in either of two formats: Uuencode or MIME. Some e-mail programs accept only one format or may by default assume that attachments use one of the formats. For example, an e-mail client may assume that attachments are Uuencode attachments and then become confused when trying to handle a MIME attachment.

While both problems are frustrating, fortunately neither problem is typically difficult to solve. If you encounter the first problem of attachment size, consult with the mail server administrators—and ask to have the attachment size limit changed. If you encounter the second problem of incompatible attachments, consult the e-mail client documentation to determine how to specify which format is used or assumed—and then make sure that both the sender's and recipient's e-mail clients use the same format.

Workbook Sharing with E-Mail

In the earlier chapter section, "Sharing Excel Workbooks Over a Network," I noted that if you enable workbook sharing, Excel will allow multiple users to simultaneously open a workbook. Then when these users attempt to save their changes, Excel looks for conflicts and attempts to help users resolve conflicting changes.

It turns out that you can have Excel also perform this same conflict resolution with workbooks you've shared, such as through e-mail or by physically delivering the workbook on a floppy disk. To use Excel's Workbook Sharing feature in these special cases, follow these steps:

- 1. Turn on Workbook Sharing.**

In order to merge workbooks, you need to first turn on the Workbook Sharing in the workbook by using the Tools menu's Share Workbooks command. This is described in the previously referenced chapter section.

- 2. Create identical copies of the same workbook.**

You can create an identical copy by using the File menu's Save As command. Simply save the workbook using a new name.

- 3. Distribute separate copies of the workbook you want to share.**

You can do this by e-mailing the workbook, as described in the earlier chapter section, "Sending a Workbook via E-Mail."

- 4. Collect the workbooks once changes are made.**

Once people have made their changes, collect the workbooks. Save them in the same folder location.

- 5. Open your master workbook.**

The master workbook is the workbook in which you'll collect all of the changes, and it's probably the same workbook you used to create the workbook copies you distributed.

- 6. Choose the Tools menu's Merge workbooks command.**

Excel displays the Select Files To Merge Into Current Workbook dialog box (see Figure 7-15).

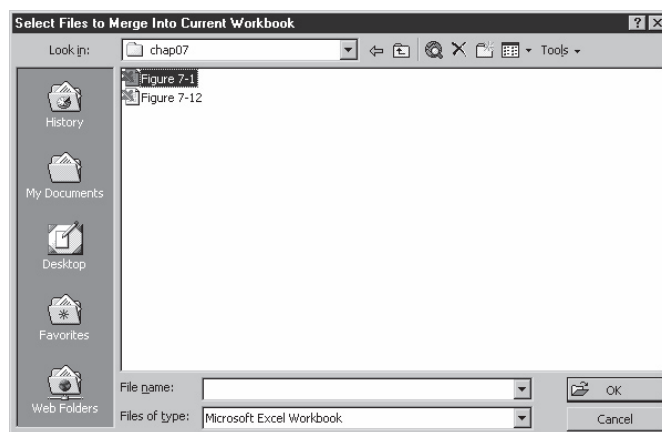


Figure 7-15 The Select Files To Merge Into Current Workbook dialog box.

- 7. Select the workbooks you want to merge.**

The Select Files To Merge Into Current Workbook dialog box works in the same basic way as the Save As and Open dialog boxes. You use the Look In drop-down list box to select the drive and folder you want to open. The main box of the dialog box lists the Excel workbooks in the open folder. To select a workbook, click it. To select multiple workbooks, hold down the Ctrl key and then click each work. Then click OK. Excel begins merging the changes from the selected workbooks into the master workbook.

Using E-Mail Routing Slips

If you choose the File menu's Send To command, you'll also notice a Routing Recipient command. The Routing Recipient command lets you build a list of e-mail addresses to which an Excel workbook can be sequentially routed, and then send the workbook to the first person on the list. When one recipient finishes with the workbook, Excel automatically routes, or sends, the workbook along to the next person on the list.

NOTE *The Routing Recipient command lets you have a group of people make workbook changes sequentially, which means that you avoid the sorts of conflicts described in the earlier discussions of workbook sharing and merging workbooks.*

Sending a Workbook Using Routing Slips

To use the Routing Recipient command, open the workbook you want to share and then follow these steps:

1. Choose the Routing Recipient command.

Excel displays the Routing Slip dialog box (see Figure 7-16).

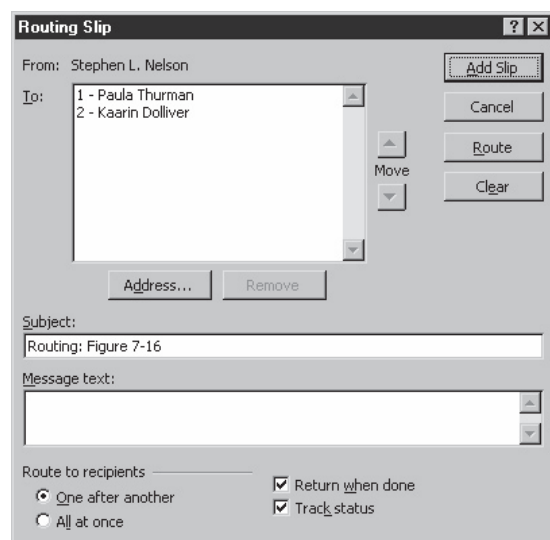


Figure 7-16 The Routing Slip dialog box you use to create a routing recipients list.



2. Build your list of recipients.

Click the Address button to display the Address Book. To add a name, click it and then click the To button. If you want to send the workbook to someone not yet in your Address Book, first add his or her name to your Address Book. You should add names in the same order as you want to route the workbook, but if you don't, note that you can use the Move buttons to move a selected name up or down the routing list.

3. Optionally, provide a message subject and message text.

You can use the Subject and Message Text boxes to provide the e-mail message subject and message text. Each recipient sees this information.

4. Indicate you want to use sequential routing.

Click the One After Another option button to indicate that you want to use sequential routing. You don't have to use sequential routing, but sequential routing is often desirable. Sequential routing eliminates the need to resolve conflicting edits to a workbook. (What happens, of course, is that recipients will effectively resolve conflicts as they review the previous recipient's work and make further changes.)

NOTE *If you want the workbook returned after the last person on the list finishes, select the Return When Done check box. If you want to receive notification each time the workbook is routed to the next recipient, select the Track Status check box.*

5. Route the workbook to the first routing recipient.

You can begin routing the workbook in two ways: immediately or later. If you want to immediately begin routing the workbook, click the Route button; Excel sends the workbook to the first routing recipient on your list. If you want to make more changes or postpone routing, click the Add Slip button; Excel then saves your routing information. When you later want to send the workbook to the first routing recipient, choose the File menu's Send To command and then choose the Send To submenu's Next Routing command.

NOTE *When a routing slip is attached to a workbook, Excel replaces the Send To submenu's Mail Recipient command with the Next Routing command.*

Receiving a Routed Workbook

You receive a routed workbook in the same manner as you receive other e-mail attachments, as described in the earlier section, "Receiving a Workbook via E-Mail." When you finish with the workbook, however, choose the File menu's Send To command and choose the Send To submenu's Next Routing command to send the workbook to the next routing recipient.

Note *Excel provides these same instructions at the end of the e-mail message that goes along with your routed workbook.*

When you choose the Next Routing command, Excel displays the Routing Slip dialog box (see Figure 7-17.) Click the Route Document To option button, and then OK to send the workbook to the next recipient.

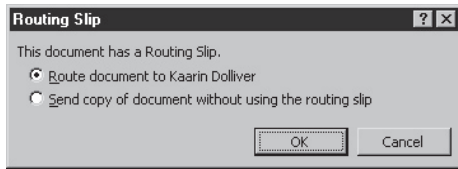


Figure 7-17 The Routing Slip dialog box you use to pass the workbook to the next recipient.

NOTE *If you click the Send Copy Of Document Without Using The Routing Slip option button, Excel lets you send the workbook as an attachment to somebody besides the next person on the routing list and without a routing slip. This option is equivalent, then, to the Mail Recipient command, which appears on the Send To submenu when a workbook doesn't have a routing slip.*

Sharing Excel Data Over the Web

Excel 2000 provides a special command—the File menu's Save As Web Page command—for creating a web page version of an Excel workbook. You can also use the Save As Web Page command for creating interactive spreadsheet components for web pages. The paragraphs that follow describe how you do both of these things—and also explain why you will rarely want to do either.

Creating a Web Page Version of an Excel Workbook

Excel lets you use HTML as the format for your Excel workbooks. What this means is that you can create Excel workbooks that can both be opened and edited by Excel in almost the usual way and viewed using your web browser. (If an Excel workbook is viewed with a web browser, you can't edit the workbook data except in very limited circumstances, as described later in the section “Creating an Interactive Spreadsheet Component.”)

Before I describe the steps for saving an Excel workbook using the web page, HTML format, let me say that you don't want to use HTML as the default format for your workbooks. Much workbook information is lost and much workbook functionality is sacrificed when you use the HTML file format.

NOTE You may be able to get a more complete list of the lost functionality that stems from using HTML as the Excel workbook file format from the Office Assistant. But know for starters that with HTML you lose the following items: the 1904 data system, arrays, cell comments, conditional formatting, custom views, data validation, external link references, formatting (including cell-level fonts, dashed and dotted borders, pattern fills, rotated and indented text), nested functions, password protection, precision-as-displayed options, range names, and scenarios.

To create a web page version of an Excel workbook, follow these steps:

1. Choose the File menu's Save As Web Page command.

Excel displays the Save As dialog box (see Figure 7-18).

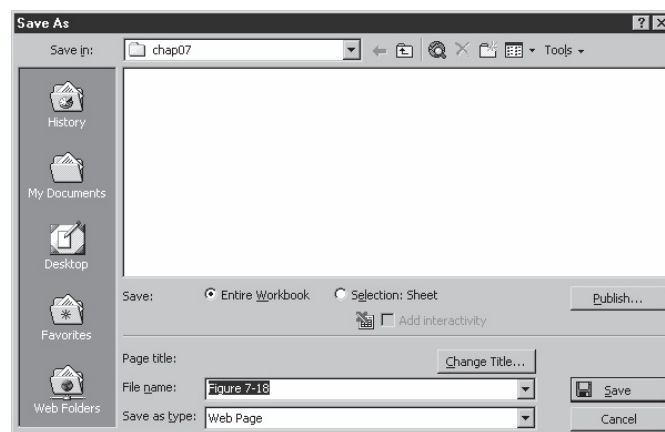


Figure 7-18 The Save As dialog box.

2. Name the web page.

Click the File Name box, and enter the filename you want to use for the web page.

3. Verify that the Save As Type box indicates the file format is Web Page, or HTML.

Excel lets you use either its standard binary file format, indicated by the .xls file extension, or its new web page format, indicated by the .htm file extension. When you save a workbook as a web page, predictably, you use the web page format.

4. Specify where you want the web page saved.

Use the navigation bar's clickable icons to open the folder location where you want to save the web page. Most often, you click the My Documents icon so that Excel opens your My Documents folder. You can also click the Web Folders icon so that Excel displays a list of web folders to which you can add files.



NOTE *If you don't see any web folders listed when you click the Web Folder icon, click Create New Folder. When Excel displays the Add Web Folder dialog box, type the web folder URL in the box provided. Or, click the Browse button, and then use your web browser to open the web folder location.*

5. Click Publish to create the web page.

When you click Publish, Excel creates an HTML, or web page version, of the workbook in the specified location.

Once you create the web page, you can view it using your web browser. Or, you can open the web page using Excel and then make the same general changes you make to any Excel workbook.

NOTE *If you do create web page versions of Excel workbook, you may want to develop proficiency in using the Insert menu's Hyperlink command. This command lets you add hyperlinks to a workbook—essentially by selecting the item you want to turn into a hyperlink, choosing the command, and then providing the Internet URL.*

Creating an Interactive Spreadsheet Component

Excel also lets you take Excel worksheets or worksheet ranges and convert them into miniature spreadsheet objects that can be placed in web pages. These interactive spreadsheet components allow people to view the web page with their web browser. Figure 7-19, for example, shows a simple mortgage calculator workbook. Figure 7-20 shows a web page with a simple interactive spreadsheet component, which is actually the worksheet range A1:B5 from the workbook shown in Figure 7-19.

	A	B	C
1	Mortgage Payment Calculator		
2	Loan Balance	150000	
3	Repayment Term	360	
4	Annual Interest Rate	0.08	
5	Monthly Payment	(\$1,100.65)	
6			

Figure 7-19 A simple workbook such as might be used to create an interactive spreadsheet component.

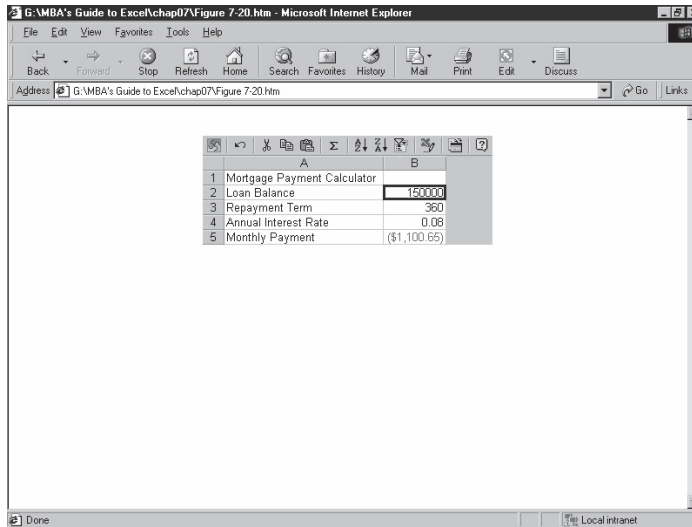


Figure 7-20 A web page with a simple interactive spreadsheet component.

The unique feature of an interactive spreadsheet component is that when you view the component using Microsoft Internet Explorer version 4.1 (or a later version), you can make modest changes. In Figure 7-20, for example, if you enter a new interest rate, the interactive spreadsheet component calculates a new monthly mortgage payment.

In general, interactive spreadsheet components resemble Excel workbooks in their mechanics. Note, however, that someone familiar with Excel will need to experiment a bit in order to become proficient with interactive spreadsheet components.

As with Excel web pages, however, interactive spreadsheet components allow for only a subset of Excel's functionality. And, in fact, by using interactive spreadsheet components, you get only a very modest portion of Excel's functionality. What's more, for someone to use interactive spreadsheet components, the person must already have installed the Standard, Professional, or Premium version of Microsoft Office 2000 and the Office Web Components.

Accordingly, one has to wonder when interactive spreadsheet components would ever be the preferred method for sharing Excel data. Any time you can successfully share data using an interactive spreadsheet component, you've always got a superior solution that the recipient presumably already knows how to use: Excel.

Nevertheless, creating interactive spreadsheet components is easy. To create an interactive spreadsheet component, first select the worksheet range that you want to use as an interactive spreadsheet component. Then follow these steps:

1. Choose the File menu's Save As Web Page command.

Excel displays the Save As dialog box (see Figure 7-21).

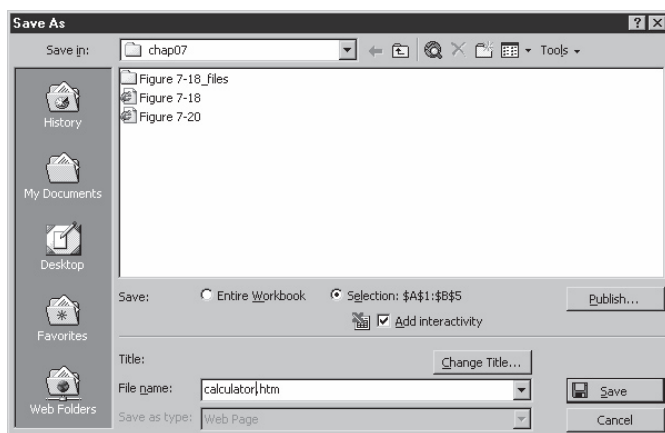


Figure 7-21 The Save As dialog box filled out to create an interactive spreadsheet component.

2. Click the Selection option button.

This tells Excel you want to create a web component for the selected portion of the workbook.

3. Select the Add Interactivity check box.

This tells Excel you want to create an interactive web component for the selected portion of the workbook.

4. Name the web page.

Click the File Name box, and enter the filename you want to use for the web page.

5. Specify where you want the web page saved.

Use the navigation bar's clickable icons to open the folder location where you want to save the web page. Most often, you click the My Documents icon so that Excel opens your My Documents folder. You can also click the Web Folders icon so that Excel displays a list of web folders to which you can add files.

NOTE If you don't see any web folders listed when you click the Web Folder icon, click *Create New Folder*. When Excel displays the *Add Web Folder* dialog box, type the web folder URL in the box provided. Or, click the *Browse* button, and then use your web browser to open the web folder location.

6. Optionally, give the web page a name.

If you click the Change Title button, Excel displays a dialog box you can use to name the web page. This web page name appears on the title bar of the web browser.

7. Click Publish to create the web page.

When you click Publish, Excel displays the Publish As Web Page dialog box (see Figure 7-22).

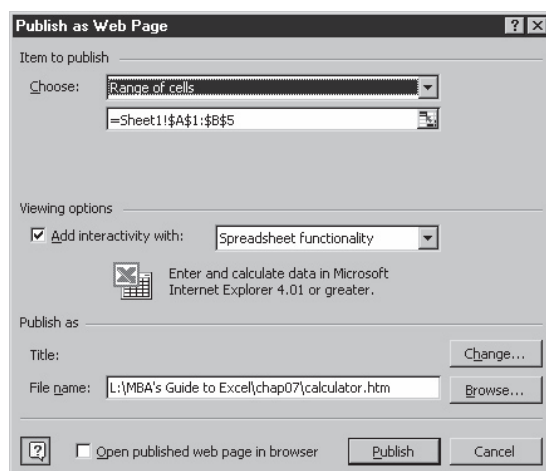


Figure 7-22 The Publish As Web Page dialog box.

8. Verify the worksheet selection.

Review the Choose boxes to confirm that these correctly identify the worksheet selection you want to publish as an interactive spreadsheet component. Edit the contents if needed.

9. Verify the form of interactivity.

Confirm that the Add Interactivity With check box shows the correct form of interactivity. For example, if you're creating an interactive spreadsheet component, the list box should show Spreadsheet Functionality.

10. Verify the filename.

Confirm that the file pathname shows in the File Name box. If the correct file pathname doesn't show in the File Name box, edit the contents as needed.

11. Publish the interactive spreadsheet component.

Click the Publish button.

Retrieving External Data with Excel

Most of the earlier sections of this chapter presuppose you use Excel to create data you then pass along to other programs and people. While many people are very likely to use Excel in this way, you may use Excel to retrieve data created or stored by some other program.

In the final pages of this chapter, then, I'll briefly explain how to use Excel to collect external data so you can exploit Excel's analytical power to examine the data. Specifically, the chapter discusses two tools: Excel's Import Wizard and its Get External Data commands.

Importing Textual Data into Excel

Excel lets you easily import textual data into an Excel workbook. This capacity may not sound interesting, but it means that anything you can get as a text file—such as a financial report generated by the mainframe accounting system—can be imported into Excel and then examined.

To import a text file into Excel, follow these steps:

1. Open the text file.

Using the File menu's Open command, tell Excel that you want to open the text file. When Excel displays the Open dialog box, select the All Files item or the Text File items in the List Files Of Type box so that your text file is listed. Once you find the file, click it and then click the Open button. Excel displays the first Text Import Wizard dialog box (see Figure 7-23).

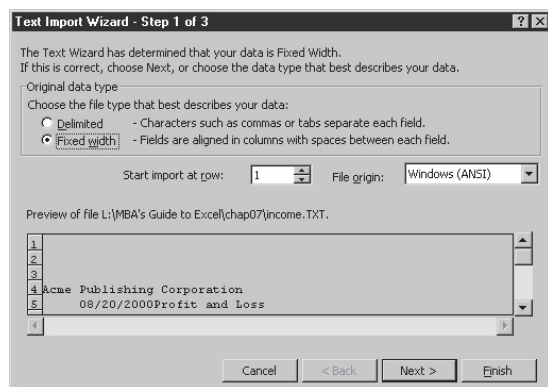


Figure 7-23 The first Text Import Wizard dialog box.

2. Indicate whether the file uses the fixed-width format or delimiting characters.

Use the Original Data Type option buttons—Fixed Width or Delimited—to indicate whether the file uses a fixed-width format, which is the same thing as a straight text file, or uses delimiting characters. Excel can usually guess correctly about which format your text file uses, by the way, so if you're not sure which option to select, accept Excel's default suggestion.

3. Indicate the first row that should be imported.

Use the Start Import At Row box to indicate which row of the text file is the first row you want to have imported. For example, you might not want to import reader header and title information, and might instead want only to begin importing the first row with the data.

4. Identify the file origin.

Use the File Origin box to identify the source of the file. If you're importing data created by another Windows program, select the Windows (ANSI) entry from the File Origin box. If you're importing data from a mainframe, select the MS-DOS (PC-8) entry from the File Origin box.

NOTE You can use the Preview box to see how Excel interprets your to-be-imported data.

5. Verify the fixed-width assumptions or delimited character assumptions made by Excel.

Once you finish with the first Text Import Wizard dialog box, you click Next. Excel then displays the second Text Import Wizard dialog box. If you're importing a fixed-width file, Excel displays the dialog box shown in Figure 7-24. You use this dialog box to verify how Excel breaks the text file into columns. You can create new break lines by clicking. You can remove an existing break line by double-clicking. You can also move an existing break line by dragging.

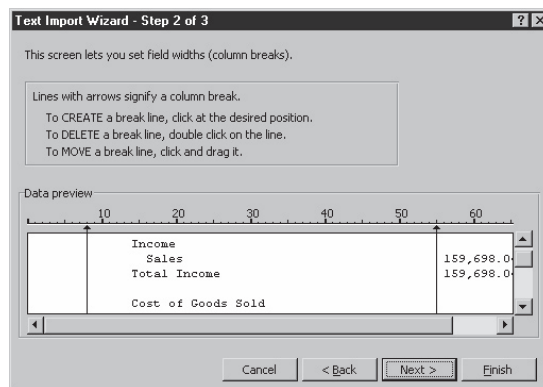


Figure 7-24 The second Text Import Wizard dialog box if you're importing a fixed-width file.

If you're importing a delimited character file, Excel displays the dialog box shown in Figure 7-25. You use this dialog box principally to verify that Excel has correctly identified the delimiter: The checked Delimiters box should identify the delimiter. You can also indicate if the text file uses a character (such as a quotation mark) to identify text. Note that you can tell whether Excel's delimiter assumptions correctly describe the text file because the preview box shows how your data look given the delimiter specifications.

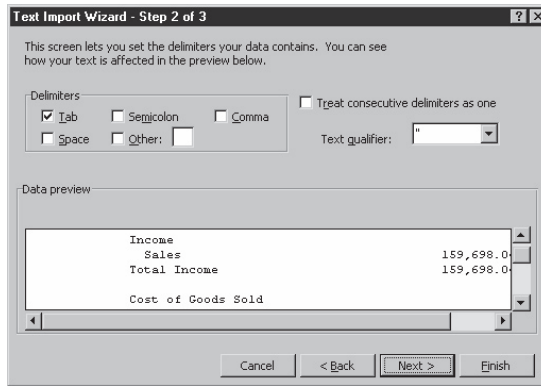


Figure 7-25 The second Text Import Wizard dialog box if you're importing a delimited character file.

6. Select formatting for each column.

After you've verified the fixed-width or delimited character assumptions of Excel—and fixed any incorrect assumptions—click Next. Excel displays the third Text Import Wizard (see Figure 7-26). You use this dialog box to specify the formatting assumptions Excel should make about the to-be-imported text file.

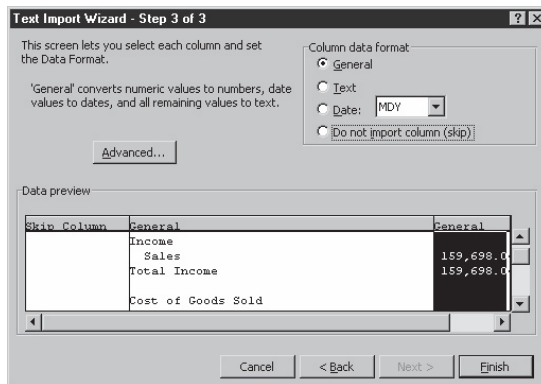


Figure 7-26 The third Text Import Wizard dialog box.



Excel also guesses about the default formatting that it should use for each column of the text file you import. You should verify that each column uses the best default formatting. To change a column's format, click the column header and then the appropriate Column Data Format button. If you don't want to import a column, click it and then click the Do Not Import Column option button.

7. Click Finish when you're finished.

Excel imports the text file into a new, blank, open workbook. At this point, you're ready to begin cleaning up the data so you can start working with it.

Using the Get External Data Commands

Excel, through the commands on the Get External Data submenu, provides tools that you can use to retrieve data from external data sources, such as from a database. Some of these tools are quite easy to use. And others require you to be proficient in the language and structure of databases. I'm not going to describe how to use all of these tools in detail here. I will, however, describe how you use the most common of these tools, including the Query Wizard. And I'll also discuss each of the tools so you know just what Excel is capable of and about features you may want to explore in more detail.

Importing Text Files

If you choose the Data menu's Get External Data command and then choose the Get External Data submenu's Import Text File command, Excel lets you identify a text file you want to import. Once you've identified this text file, Excel starts the same Text Import Wizard described in the previous section, "Importing Textual Data into Excel."

When you use the Import Text File command, however, Excel does one thing differently from starting the Text Import Wizard from the File menu's Open command. When you use the Import Text File command, Excel maintains a link to the original text file by using external references. This means that if you want to re-import the text file—perhaps because the data has changed—you can easily do so. To re-import the data, click the Refresh All toolbar button on the External Data toolbar.

NOTE *If you don't see the External Data toolbar, right-click on another toolbar and choose the External Data command when Excel displays the shortcut menu.*

Using the Query Wizard

Excel's Get External Data submenu provides access to the Query Wizard, which is the tool you'll most often use to retrieve external data. The Query Wizard, in effect, provides an interface you use from inside Excel to query an external database.

The Query Wizard works with most common databases. Excel provides database drivers for connecting to most (perhaps all) of the popular database engines, including the Microsoft Access 2000, Excel, FoxPro, and SQL Server products; and the third-party database products dBase, Oracle and Paradox.

If you want to retrieve information from an external database that isn't on the list contained in the preceding paragraph, you can still retrieve data from the database. For example, almost surely, you can use the database program to create a text file that holds the information you want to query. And you may also be able to create database files, or tables, that use a format that mimics one of the databases listed.

NOTE *To import a text file, you use the Text Import Wizard. As noted in the preceding paragraphs, you can start the Text Import Wizard indirectly by choosing the File menu's Open command and then attempting to open the text file. Or you can start the Text Import Wizard directly by choosing the Data menu's Get External Data command and then choosing the Get External Data submenu's Import Text File command.*

To use the Query Wizard, follow these steps:

1. Open a blank workbook.

Excel places the external data you retrieve in the open workbook. This means you'll probably want to start with a blank open workbook. If you want to place the data in an existing workbook, make sure you've got an empty worksheet on which to store the data.

2. Start the Query Wizard.

To start the Query Wizard, first choose the Data menu's Get External Data command. When Excel displays the Get External Data submenu, choose the New Database Query command. Excel displays the Choose Data Source dialog box (see Figure 7-27).

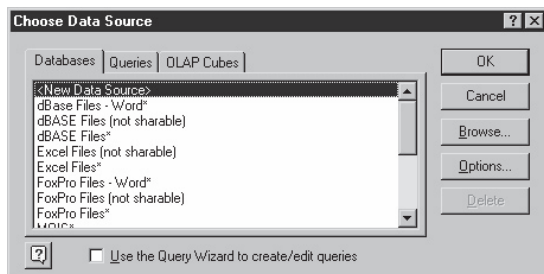


Figure 7-27 The Choose Data Source dialog box.

3. Indicate you want to use the Query Wizard.

Check the Use The Query Wizard To Create/Edit Queries box to indicate you'll use the Query Wizard.

4. Indicate the data source from which you'll retrieve the data.

To select the data source from which you want to retrieve data, first click the Databases tab. Then select the type of database from which you'll retrieve data. For example, if you're retrieving data from a nonshareable dBase database, click the dBase (not sharable) entry in the list box. Click OK after you've selected your data source. The Query Wizard displays the Choose Columns dialog box (see Figure 7-28).

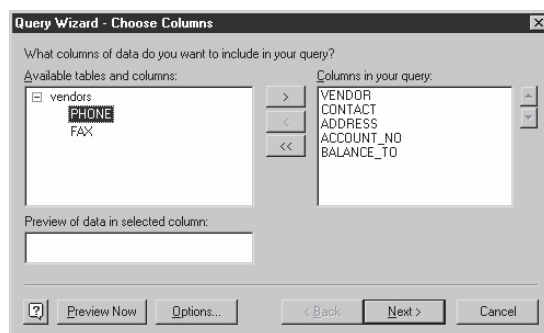


Figure 7-28 The Choose Columns dialog box.

NOTE If you want to rerun an existing query, click the Queries tab to see a list of defined queries you can use to get external data. You can also click the OLAP Cubes tab to see a list of OLAP data sources that may be available.

5. Select the table or tables that you want to query.

When Excel displays the Choose Columns dialog box, use the Available Tables And Columns list box to select the tables and columns, or fields, that you want to import. To see the columns that a table uses, click the plus symbol next to the table name.

6. Select the columns that you want to retrieve.

Using the Choose Columns dialog box, select the columns you want to retrieve. To select a column, click the column and then click the Add button. The Add button shows a single arrow pointing to the Columns In Your Query list box. To remove a column from the Columns In Your Query list box, click the column and then click the Remove button, which shows a single arrow pointing to the Available Tables And Columns List box. To start over, click the Remove All button, which shows a double arrow pointing to the Available Tables And Columns List box. When you finish selecting the columns you want to retrieve, click the Next button. The Query Wizard displays the Filter Data dialog box (see Figure 7-29).

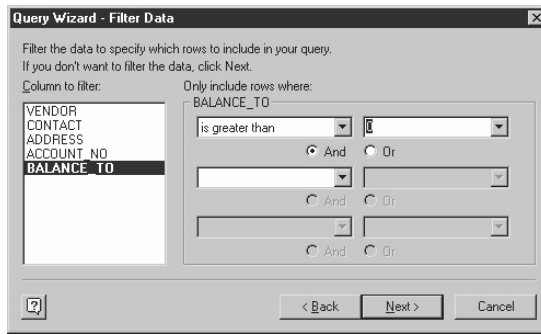


Figure 7-29 The Filter Data dialog box.

7. Describe the data the Query Wizard should retrieve.

To describe the data you want to retrieve, use filters based on the columns, or fields, that you're querying. To create a filter, select the column you want the query to examine. Then use the Only Include Rows Where boxes and buttons to indicate how this column is examined. Figure 7-29, for example, shows a filter that looks at the BALANCE_TO column to see whether this value is greater than or equal to 0. The first drop-down list box in the Only Include Rows Where area provides other logical operators you can also use. If you want to create a filter based on more than one comparison of the same column, use the And and Or option buttons and the next row of boxes. If you want to create a filter based on another column, select the column from the Columns To Filter list box and then repeat the preceding steps. When you finish specifying the filters you want to use, click Next. The Query Wizard displays the Sort Order dialog box (see Figure 7-30).

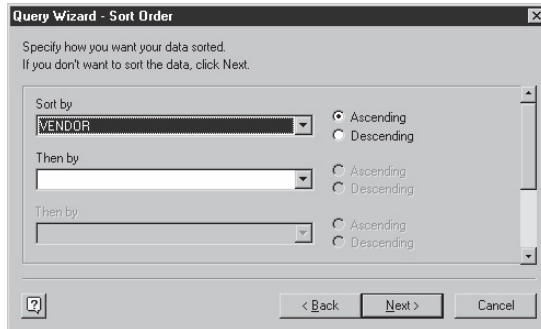


Figure 7-30 The Sort Order dialog box.

8. Select a sort order for the retrieved data.

When Excel displays the Sort Order dialog box, use the Sort By box and the Ascending and Descending option buttons to indicate how the retrieved data should be arranged in your worksheet. If some of the records, or rows, will use the same first sort key—this is what you specified using the Sort By box—you can provide a second sort key using the first Then By box and buttons. You can also provide additional sort keys using the other Then By box and buttons. When you finish specifying the sort order, click the Next button. The Query Wizard displays the Finish dialog box (see Figure 7-31).

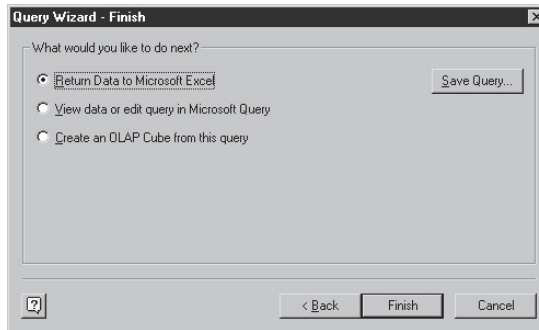


Figure 7-31 The Finish dialog box.

9. Tell the Query Wizard where you want to place the data that the query returns.

When the Query Wizard displays the Finish dialog box, use the What Would You Like To Do Next option buttons to select a location for the data. Presumably, you want to place the retrieved data in an Excel worksheet so you can use Excel's analytical tools to examine the data in ways that the database program doesn't allow. To do this, click the Return Data To Microsoft Excel button. Then click Finish. Excel runs the query and asks where the retrieved data should be stored using the Returning External Data To Microsoft Excel dialog box (see Figure 7-32).

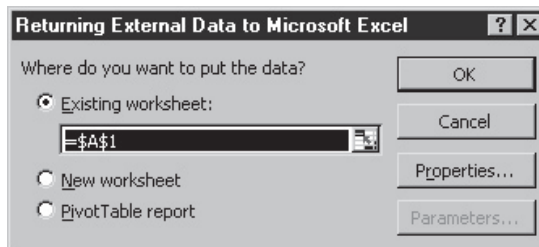


Figure 7-32 The Returning External Data To Microsoft Excel dialog box.



NOTE *If you want to save the query so you can use it again, click the Finish dialog box's Save button. Then when Excel displays the Save As dialog box, use the File Name box to give the query a name. Once you've done this, click Save to save the query for future use.*

10. Select a location for the retrieved data.

When Excel asks where the retrieved data should be placed, use the Where Do You Want To Put The Data option buttons to select a location for the data: in the open workbook at the location of the cell selector, in a new workbook, or in a PivotTable report. Then click OK. Excel places the data in the indicated location.

After you place the retrieved data in an Excel workbook, you can begin to work with the data using Excel's features. You can use statistical functions to look closely at the data's characteristics, for example. And you can use charts to view and present the data visually.

The External Data toolbar, which Excel will probably display, provides several toolbar buttons you'll find useful, too. The Edit Query button, for example, restarts the Query Wizard so you can change the query. The Data Range Properties button displays the External Data Range Properties dialog box, which you can use to change the way that Excel handles the data it retrieves in the query. The Query Parameters button lets you describe how any query parameters are handled in the query. The Refresh Data button reruns the query to retrieve any new data. The Cancel Refresh button stops a refresh you might have started. The Refresh All button reruns all the queries in a workbook. Finally, the Refresh Status button displays a dialog box that reports information such as how long a refresh operation took.

NOTE *A query parameter is a value that you've said you will supply to the query before or as it runs. The Query Wizard doesn't let you create query parameters. If you create from-scratch queries using Microsoft Query, which is discussed briefly in the later section "Using Microsoft Query," you can use query parameters.*

Running a Web Query

The Get External Data submenu provides a Web Query tool that you can use to retrieve tabular data from a web page. To run a simple web query, open a blank workbook, choose the Data menu's Get External Data command, and then choose the Get External Data submenu's New Web Query command.

NOTE *Excel also comes with several web queries already set up and saved, which you can run by choosing the Data menu's Get External Data command and then choosing the Get External Data submenu's Run Saved Query command. When you do this, Excel displays the Run Query dialog box, which lists the saved queries. Excel places a small globe icon in front of the saved web queries. To run one of the saved web queries, click it and then click the Get Data button.*

If you choose the New Web Query command, Excel displays the New Web Query dialog box (see Figure 7-33). To use the New Web Query dialog box, click the Browse button and then open the web page with the table from which you want to retrieve information. Once you've displayed this web page, return to Excel by clicking the Excel taskbar button. As this point, you can click OK and Excel will retrieve the table data. When Excel asks where the data should be placed using the Returning External Data To Microsoft Excel dialog box (see Figure 7-32), indicate the appropriate location.

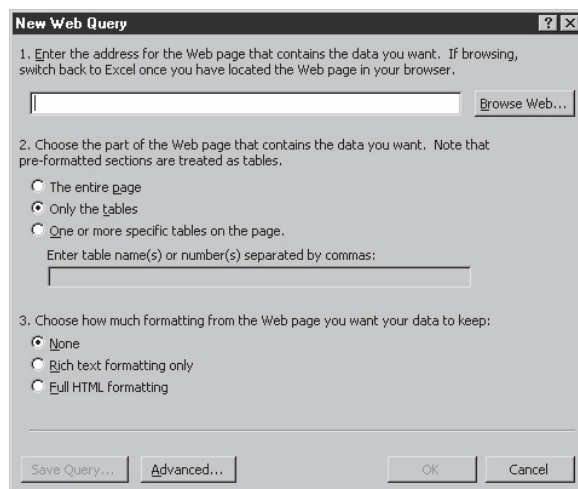


Figure 7-33 The New Web Query dialog box.

You can use the other option buttons in the New Web Query dialog box to attempt to control what data the Web Query tool retrieves and how this data is formatted as Excel places it in your workbook. Your best bet in working with these options is probably just to experiment and see which option settings produce the best results.

NOTE *The more you know about HTML, the more you can do with the Web Query tool. If you know HTML well, for example, you can use the New Web Query dialog box to specify that only specific tables should be retrieved from a web page.*

Using Microsoft Query

The Query Wizard, described in the earlier chapter section “Using the Query Wizard,” provides you with a simple way to access external data. You should know, however, that the Query Wizard is a tool you use to tell another program, Microsoft Query, how you want to query an external database. While the Query Wizard works well in most simple situations, you don't get access to all of Microsoft Query's power when you work through the wizard.



When you want more control over how a query operates, you can work directly with Microsoft Query. To work directly with Query, you also start by choosing the Data menu's Get External Data command and then choosing the Get External Data submenu's New Database Query command. As with a query performed using the Query Wizard, when Excel displays the Choose Data Source dialog box (see Figure 7-27), you select the database source.

To work directly with Query, however, you clear the Use The Query Wizard To Create/Edit Queries check box. When you click OK, Excel starts Microsoft Query.

NOTE *For more information on using the Choose Data Source dialog box, refer to the earlier section "Using the Query Wizard."*

To use Query, you follow a process similar to that used with the Query Wizard. For example, you start by identifying which tables you want to query, which columns, (or fields) you want to retrieve, how you want to filter, and how the data you retrieve should be sorted. Although Query provides less handholding than that of the Query Wizard, it offers you greater flexibility.

A more detailed discussion of Query is beyond the scope of this book, but let me make two final observations: First, before you attempt to develop expertise or fluency with Query, make sure that you won't get further faster simply by learning how to use the external data source's query capabilities. For example, Access is easier to learn (in part because it's better documented) and more useful than Query. It may not be a good use of your time, to learn Query so that you can then query an Access database. Instead, you might be better off learning Access.

Second, the Excel Help file provides detailed information about how to use Microsoft Query. To access this information, ask the Office Assistant a question such as, "How do I work with Microsoft Query?" Then explore the help topics that the Office Assistant provides.