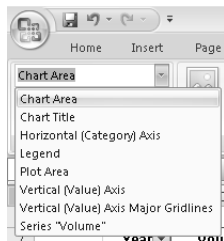


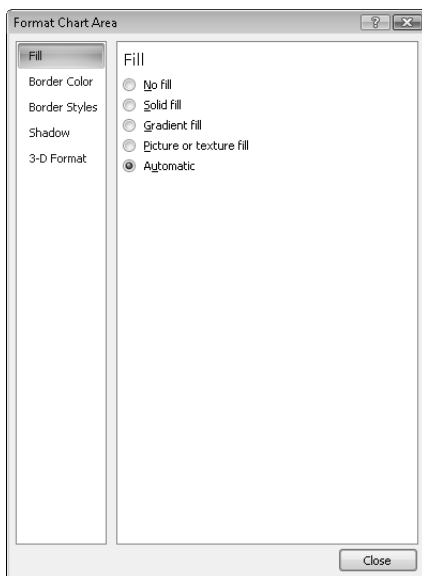
In the Axes group, clicking Gridlines enables you to determine whether the chart displays horizontal and vertical gridlines and, if it does, at what value intervals they should appear.

In addition to changing your chart's layout, you can control the appearance of each element within the chart. To select a chart element to format, click that element. For example, if you want to change the formatting of the data series named Volume in the column chart shown in the previous graphic, clicking any column in the series selects the entire series. Any formatting changes you make now apply to every point in the entire series. If you want to change a single data point, select the entire series and then click the chart element (for example, a column) that represents the data point you want to change. For example, you can highlight the column representing the year 2005 in the chart shown in the previous graphic.

You can display a list of the selectable chart elements by selecting the chart and then, on the Format tab, in the Current Selection group, clicking the Chart Elements control down arrow. Just click the desired chart element to select it.



After you select the chart element, you can drag one of the elements' handles to resize the chart or drag the element to another location within the chart. To change the chart element's format, use the tools and dialog expanders in the Shape Styles, Word Art Styles, Arrange, and Size groups to change the element's appearance. You can also select the chart element and then, on the Format tab, in the Current Selection group, click Format Selection to display a Format dialog box that enables you to change the chart element's fill, line, line style, shadow, 3-D format, and alignment.



If you think you want to apply the same set of changes to charts you'll create in the future, you can save your chart as a chart template. When you select the data you want to summarize visually and apply the chart template, you'll create consistently formatted charts in a minimum of steps. To save a chart as a chart template, select the chart you want to use as a template and then, on the Design tab, in the Type group, click Save Template. Use the controls in the dialog box that appears to name and save your template. Then, to create a chart based on that template, select the data you want to summarize and then, on the Insert tab, in the Charts group, click any chart type, and then click All Chart Types to display the Create Charts dialog box. Under Choose a Chart Type, click Templates, and then click the template you want to use.

Tip You can apply a template to an existing chart by selecting the chart and then, on the Design tab, in the Type group, clicking Change Chart Type to display the Change Chart Type dialog box. Click Templates and then click the template you want to use.

In this exercise, you'll change a chart's layout, apply a new Chart Style, reposition the chart's legend, change the number format of the values on the vertical axis, and save the chart as a chart template.

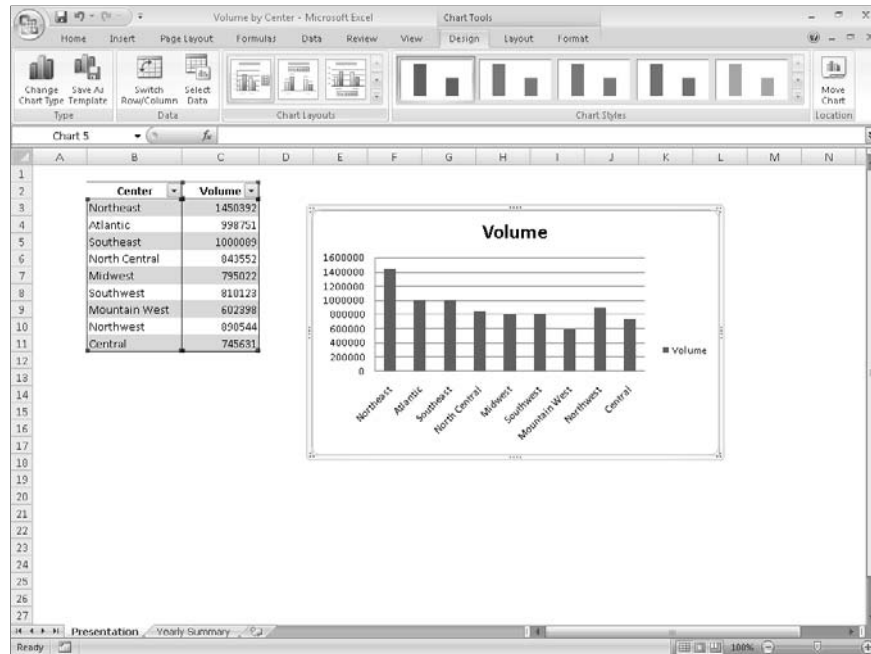


USE the *Volume by Center* workbook in the practice file folder for this topic. This practice file is located in the *My Documents\Microsoft Press\Excel SBS\Charting* folder.

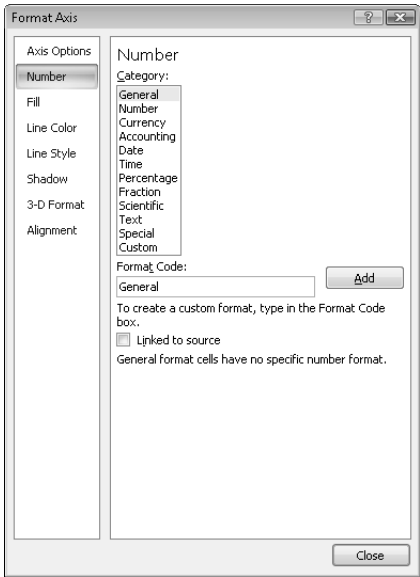
OPEN the *Volume by Center* workbook.

1. On the **Presentation** worksheet, select the chart.
2. On the **Design** tab, in the **Chart Layouts** group, click the first chart layout (its screen tip says the layout name is Layout 1).

Excel 2007 changes the chart's layout.

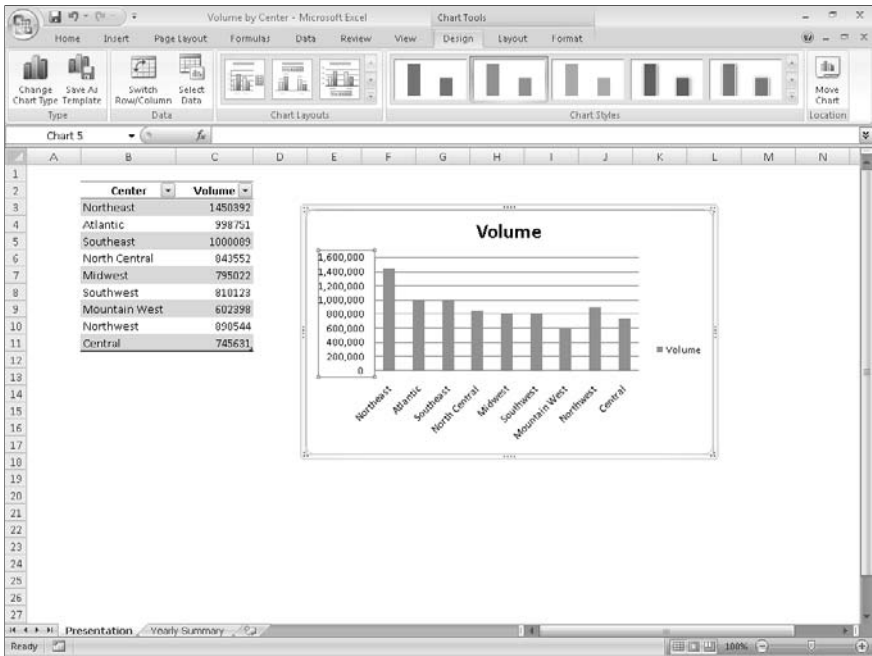


3. On the **Design** contextual tab, in the **Chart Styles** group, click the **More** button.
The **Chart Styles** gallery expands.
4. Click Style 7 (it's the next-to-last style on the top row of the gallery).
Excel 2007 changes the chart's style.
5. Right-click the values on the vertical axis and then click **Format Axis**.
The **Format Axis** dialog box appears.
6. In the left pane, click **Number**.
The **Format Axis** dialog box displays the **Number** tab.
7. In the **Category** list, click **Number**.
The **Format Axis** dialog box displays the **Number** style's controls.

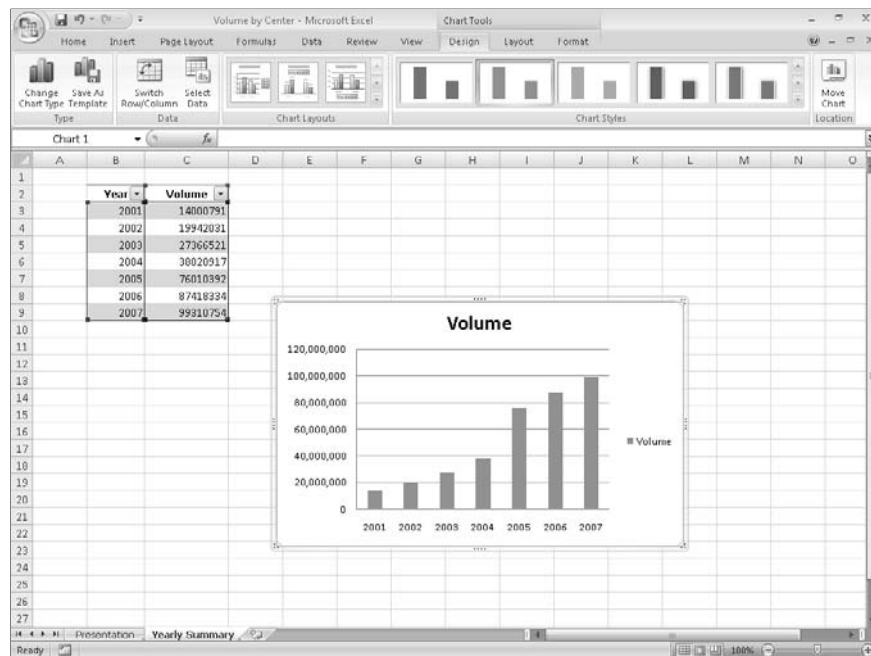


- 8. In the **Decimal places** field, type **0**.
- 9. Select the **Use 1000 Separator (,)** check box.
- 10. Click **Close**.

Excel 2007 changes the format of the values on the vertical axis.



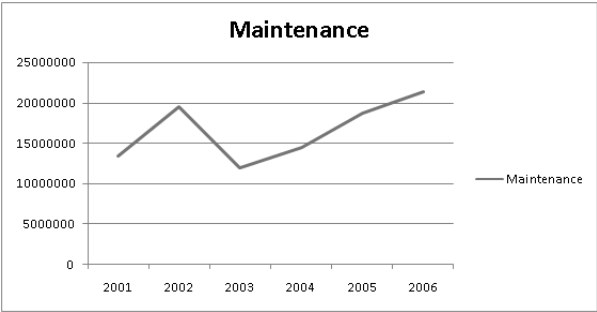
11. On the **Design** contextual tab, in the **Type** group, click **Save As Template**.
The **Save Chart Template** dialog box appears.
12. In the **File name** field, type **Cool Blue**.
13. Click **Save**.
Excel 2007 saves your template.
14. On the tab bar, click the **Yearly Summary** sheet tab.
The **Yearly Summary** worksheet appears.
15. Select the chart and then, on the **Design** tab, in the **Type** group, click **Change Chart Type**.
The **Change Chart Type** dialog box appears.
16. Click **Templates**.
The **My Templates** list appears.
17. Click the **Cool Blue** custom template and then click **OK**.
Excel 2007 applies the template to your chart.



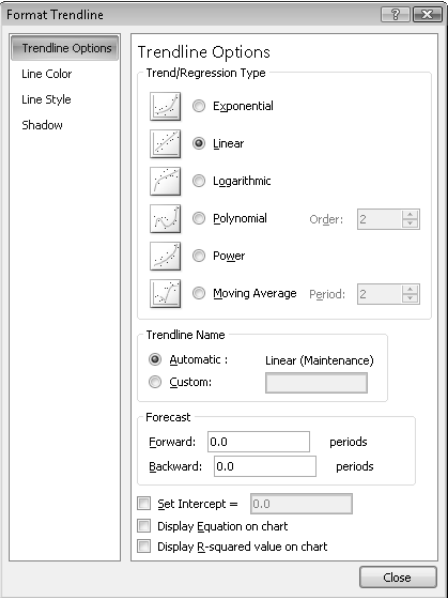
CLOSE the *Volume by Center* workbook.

Finding Trends in Your Data

You can use the data in Excel 2007 workbooks to discover how your business has performed in the past, but you can also have Excel 2007 make its best guess as to future shipping revenues if the current trend continues. As an example, consider the following graph for Consolidated Messenger.



This graph shows the fleet maintenance costs for the years 2001 through 2006. The total has increased from 2001 to 2006, but the growth hasn't been uniform, so guessing how much maintenance costs would increase if the overall trend continued would require difficult mathematical computations. Fortunately, Excel 2007 knows that math. To have Excel 2007 project future values in the maintenance costs data series, click the chart and then, on the Layout tab, in the Analysis group, click Trendline. Click More Trendline Options to display the Format Trendline dialog box.



The Trendline Options tab page of the Format Trendline dialog box enables you to choose the data distribution that Excel 2007 should expect when it makes its projection. The right choice for most business data is Linear—the other distributions (such as Exponential, Logarithmic, and Polynomial) are used for scientific and operations research applications.

Tip If you don't know which distribution to choose, try Linear first.

After you pick the distribution type, you need to tell Excel 2007 how far ahead to project the data trend. The horizontal axis of the chart used in this example shows revenues by year from 2001 to 2006. To tell Excel 2007 how far in the future to look, type a number in the Forecast section's Forward box. In this case, to look ahead one year, type **1** in the Forward box and then click OK to add the trend line to the chart.

Tip When you click the Trendline button in the Analysis group, one of the options Excel 2007 displays is Linear Forecast Trendline, which adds a trend line with a two-period forecast.

As with other chart elements, you can double-click the trend line to open a formatting dialog box and change the line's appearance.

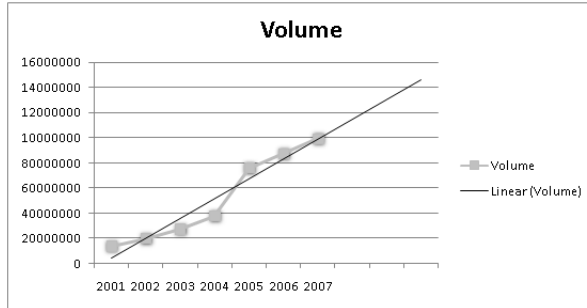
In this exercise, you'll add a trend line to a chart.

 **USE** the *Future Volumes* workbook in the practice file folder for this topic. This practice file is located in the *My Documents\Microsoft Press\Excel SBS\Charting* folder.

OPEN the *Future Volumes* workbook.

1. Select the chart.
2. On the **Layout** contextual tab, in the **Analysis** group, click **Trendline** and then click **More Trendline Options**.
The **Format Trendline** dialog box appears.
3. In the **Trend/Regression Type** area, select the **Linear** option button.
4. In the **Forecast** area, in the **Forward** field, type **3**.
5. Click **Close**.

Excel 2007 adds the trend line to the chart.

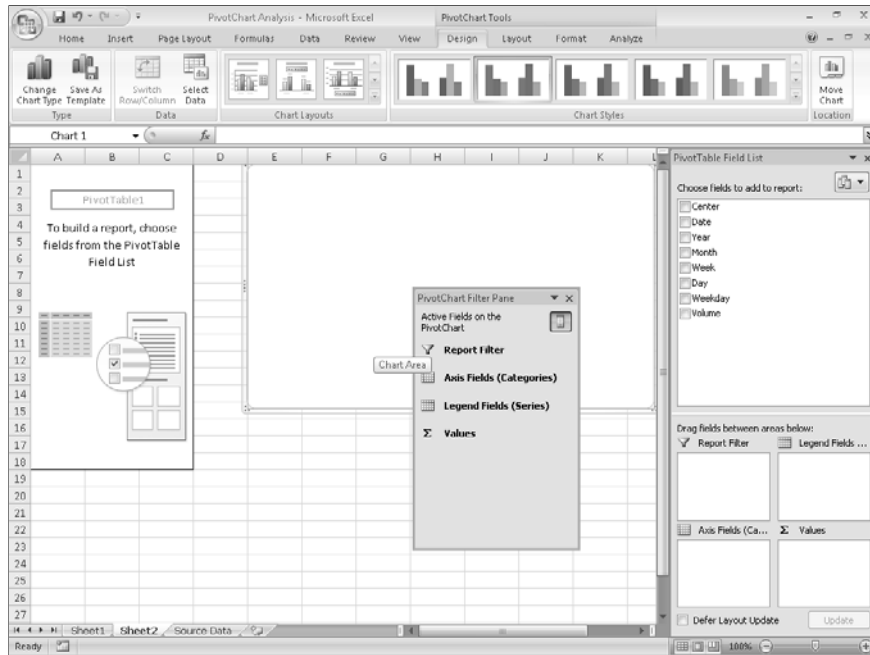


CLOSE the *Future Volumes* workbook.

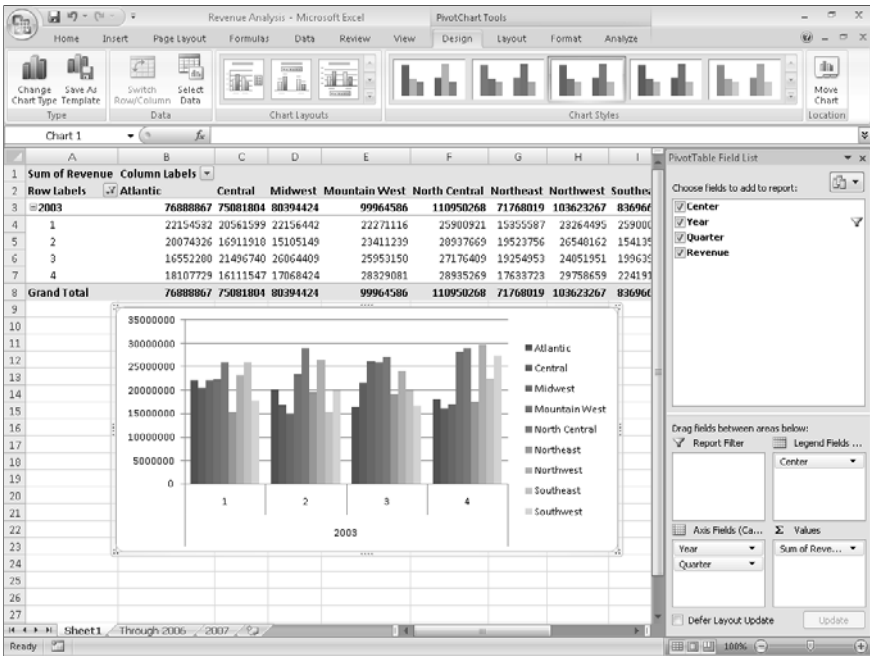
Creating Dynamic Charts Using PivotCharts

Just as you can create tables that you can reorganize on the fly to emphasize different aspects of the data in a list, you can also create dynamic charts, or PivotCharts, to reflect the contents and organization of a PivotTable.

Creating a PivotChart is fairly straightforward. Just click any cell in a list or data table you would use to create a PivotTable, and then click the Insert tab. In the Tables group, click the PivotTable button down arrow and then click PivotChart. In a worksheet with an existing PivotTable, click a cell in the PivotTable, display the Insert tab, and then, in the Charts group, click the type of chart you want to create.



Any changes to the PivotTable on which the PivotChart is based are reflected in the PivotChart. For example, if the data in an underlying data list changes, clicking the Refresh Data button on the Options contextual tab, in the Data group, will change the PivotChart to reflect the new data. Also, you can filter the contents of the PivotTable shown here by clicking the Year down arrow, clicking 2003 from the list that appears, and then clicking OK. The PivotTable then shows revenues from 2003. The PivotChart also reflects the filter.



See Also For more information on manipulating PivotTables, see “Creating Dynamic Lists with PivotTables” in Chapter 10.

The PivotChart has controls with which you can filter the data in the PivotChart and PivotTable. Clicking the Weekday down arrow, clicking (All) from the list that appears, and then clicking OK will restore the PivotChart to its original configuration.

If you ever want to change the chart type of an existing chart, you can do so by selecting the chart and then, on the Design tab, in the Type group, clicking Change Chart Type to display the Change Chart Type dialog box. When you select the desired type and click OK, Excel 2007 re-creates your chart.

Important If your data is the wrong type to be represented by the chart type you select, Excel 2007 displays an error message.

In this exercise, you create a PivotTable and associated PivotChart, change the underlying data and update the PivotChart to reflect that change, and then change the PivotChart’s type.

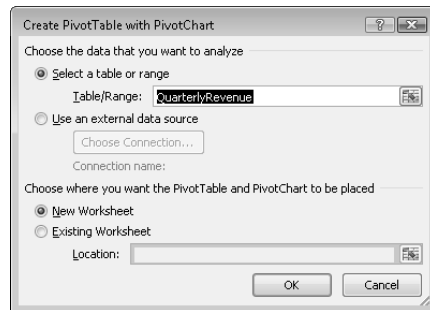


USE the *Revenue Analysis* workbook in the practice file folder for this topic. This practice file is located in the *My Documents\Microsoft Press\Excel SBS\Charting* folder.

OPEN the *Revenue Analysis* workbook.

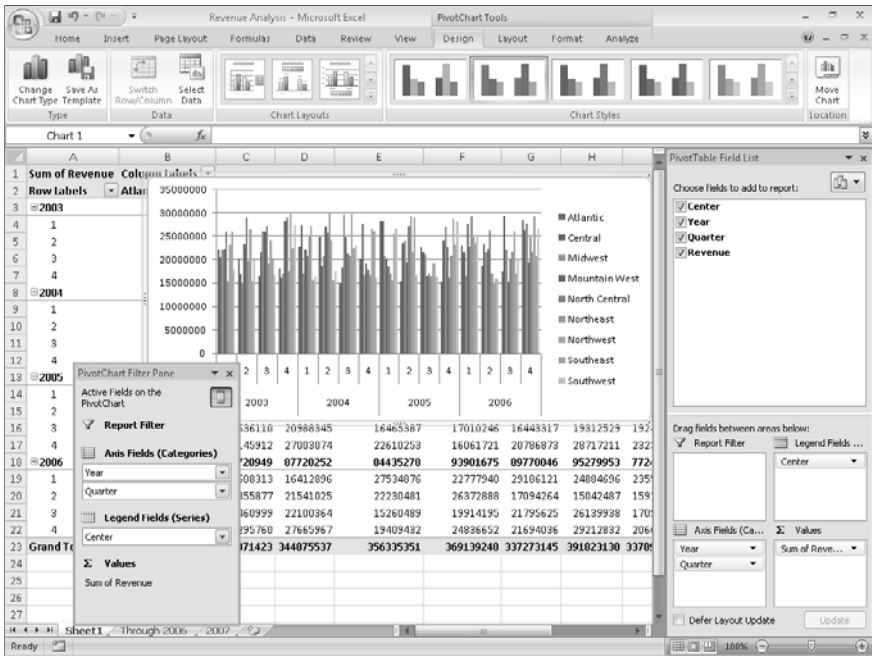
1. On the **Through 2006** worksheet, click any cell in the data table.
2. On the **Insert** tab, in the **Tables** group, click the **PivotTable** button down arrow and then click **PivotChart**.

The **Create PivotTable with PivotChart** dialog box appears.

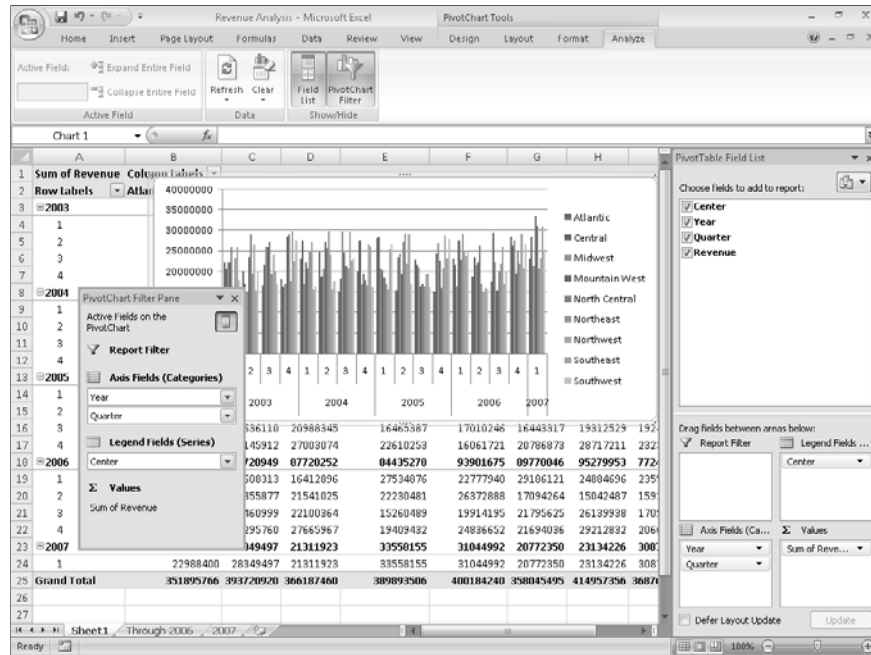


3. Verify that the **QuarterlyRevenue** table appears in the **Table/Range** field and that the **New Worksheet** option button is selected.
4. Click **OK**.
Excel 2007 creates the PivotTable and associated PivotChart.
5. In the **PivotTable Field List** task pane, drag the **Center** field header from the **Choose fields to add to report** area to the **Legend Fields** area.
6. In the **PivotTable Field List** task pane, drag the **Year** field header from the **Choose fields to add to report** pane to the **Axis Fields** area.
7. In the **PivotTable Field List** task pane, drag the **Quarter** field header from the **Choose fields to add to report** area to the **Axis Fields** area, positioning it below the **Year** field header.
8. In the **PivotTable Field List** task pane, drag the **Revenue** field header from the **Choose fields to add to report** area to the **Values** area.

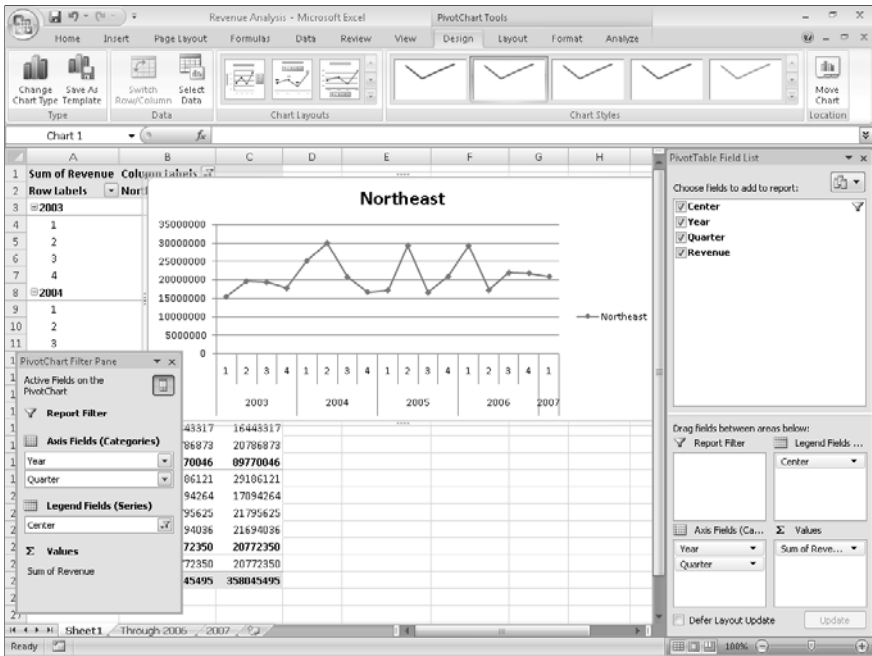
Excel 2007 updates the PivotChart to reflect the field placements.



9. On the tab bar, click the **2007** sheet tab.
The **2007** worksheet appears.
10. Select the data in cells B2:E10 and then press **Ctrl + C**.
Excel 2007 copies the data to the Clipboard.
11. On the tab bar, click the **Through 2006** sheet tab.
The **Through 2006** sheet tab appears.
12. Select cell B147 and then press **Ctrl + V**.
Excel 2007 pastes the data into the worksheet and includes it in the table.
13. On the tab bar, click the tab of the worksheet that contains the PivotChart.
The PivotChart appears.
14. Select the PivotChart and then, on the **Analyze** contextual tab, in the **Data** group, click **Refresh**.
Excel 2007 adds the new table data to your PivotChart.



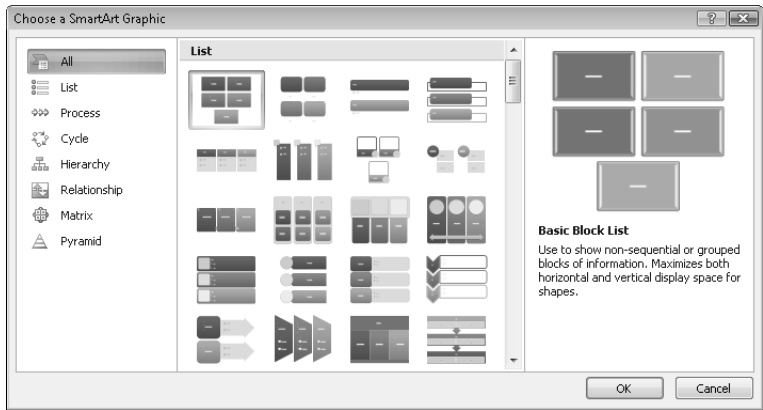
15. On the **Design** contextual tab, in the **Type** group, click **Change Chart Type**.
The **Change Chart Type** dialog box appears.
16. Click **Line** and then click the second Line chart subtype.
17. Click **OK**.
Excel 2007 changes your PivotChart to a line chart.
18. In the **PivotTable Field List**, in the **Choose fields to add to report** area, click the **Center** field header.
19. Click the down arrow that appears and then, in the menu that appears, clear the **Select All** check box.
Excel 2007 removes the check boxes from the filter list items.
20. Select the **Northeast** check box and then click **OK**.
Excel 2007 filters the PivotChart.



X CLOSE the *Revenue Analysis* workbook.

Creating Diagrams by Using SmartArt

As an international delivery company, Consolidated Messenger’s business processes are quite complex. Many times, chief operating officer Jenny Lysaker summarizes the company’s processes for the board of directors by creating diagrams. Excel 2007 has just the tool she needs to create those diagrams: SmartArt. To create a SmartArt graphic, on the Insert tab, in the Illustrations group, click SmartArt to display the Choose a SmartArt Graphic dialog box.



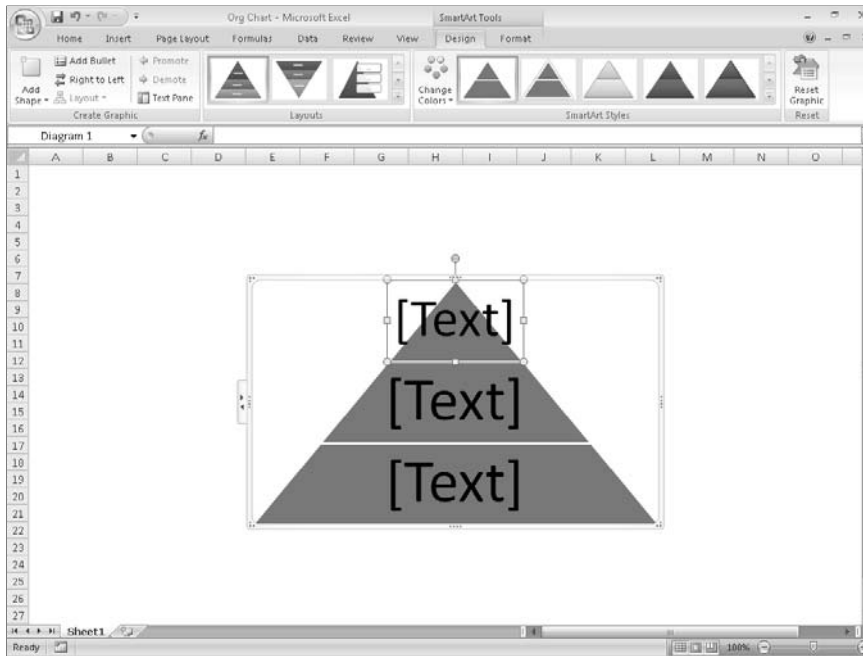
See Also For more information on adding pictures from existing files to your worksheets, see [“Adding Images to a Document” in Chapter 5](#).

Clicking one of the buttons in the Choose a SmartArt Graphic dialog box selects the type of diagram the button represents and causes a description of the diagram type to appear in the rightmost pane of the dialog box. Clicking All displays every available SmartArt graphic type. The following table lists the seven types of diagrams you can create by using the Choose a SmartArt Graphic dialog box.

Tip Some of the diagram types can be used to illustrate several types of relationships. Be sure to examine all your options when you decide on the type of diagram to use to illustrate your point.

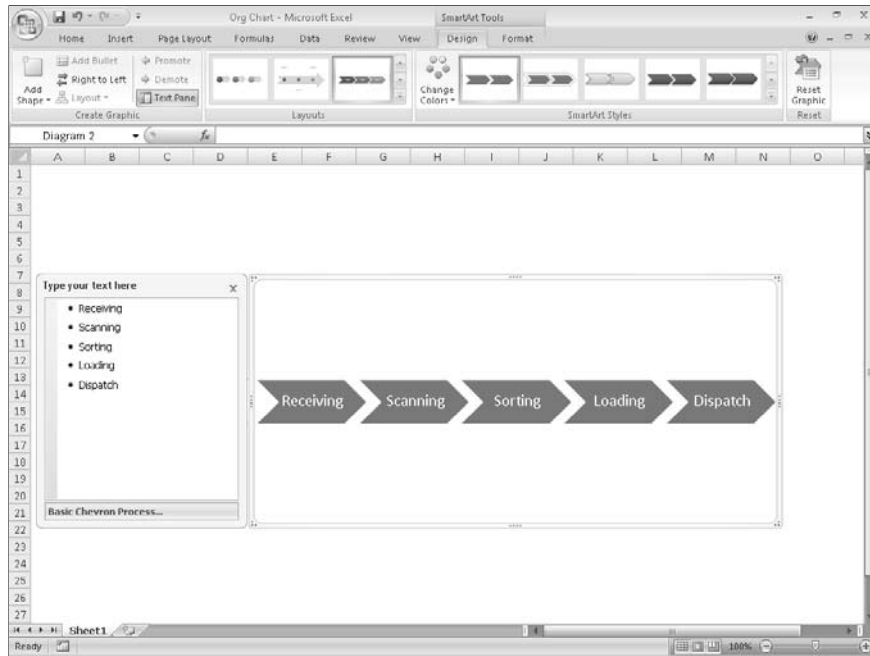
Diagram	Description
List	Shows a series of items that typically require a large amount of text to explain.
Process	Shows a progression of sequential steps through a task, process, or workflow.
Hierarchy	Shows hierarchical relationships, such as those within a company.
Cycle	Shows a process with a continuous cycle or to show relationships of a core element.
Relationship	Shows the relationships between two or more items.
Pyramid diagram	Shows proportional, foundation-based, or hierarchical relationships such as a series of skills.
Matrix diagram	Shows the relationship of components to a whole by using quadrants.

After you click the button representing the type of diagram you want to create, clicking OK adds the diagram to your worksheet.



While the diagram is selected, Excel 2007 displays the SmartArt Tools contextual tabs named Design and Format. You can use the tools on the Design contextual tab to change the graphic's layout, style, or color scheme. The Design contextual tab also contains the Create Graphic group, which is home to tools you can use to add a shape to the SmartArt graphic, add text to the graphic, and promote or demote shapes within the graphic.

As an example, consider a process diagram that describes how Consolidated Messenger handles a package within one of the company's regional distribution centers.



The Text Pane, located to the left of the SmartArt graphic, enables you to add text to a shape without having to click and type within the shape. If you enter the process steps in the wrong order, you can move a shape by right-clicking the shape you want to move and then clicking Cut from the shortcut menu that appears. To paste the shape back into the graphic, right-click the shape to the left of where you want the pasted shape to appear and then click Paste. For example, if you have a five-step process and accidentally switch the second and third steps, you can move the third step to the second position by right-clicking the third step and then clicking Cut. Then right-click the first shape and click Paste.

If you want to add a shape to a SmartArt graphic, such as add a step to a process, click a shape next to the position you want the new shape to occupy and then, on the Design contextual tab, in the Create Graphic group, click Add Shape, and then click the option that represents where you want the new shape to appear in relation to the selected shape.

Note The options that appear when you click Add Shape depend on the type of SmartArt graphic you created and which graphic element is selected. For an organizational chart, the options are Add Shape After, Add Shape Before, Add Shape Above, Add Shape Below, and Add Assistant.

You can edit the graphic's elements by using the controls on the Formatting contextual tab as well as by right-clicking the shape and then clicking **Format Shape** to display the **Format Shape** dialog box. If you have selected the text in a shape, you can use the tools in the **Home** tab's **Font** group to change the text's appearance.

Tip The controls in the **Format Shape** dialog box enable you to change the shape's fill color, borders, shadow, 3-D appearance, and text box properties.

In this exercise, you create an organization chart, fill in the shapes, delete a shape, add a shape, change the layout of the diagram without changing the information it embodies, and change the formatting of one of the diagram elements.

USE the *Org Chart* workbook in the practice file folder for this topic. This practice file is located in the *My Documents\Microsoft Press\Excel SBS\Charting* folder.

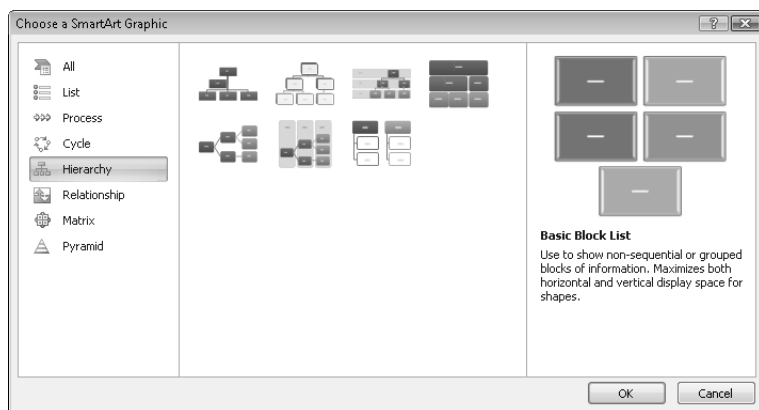
OPEN the *Org Chart* workbook.

1. On the **Insert** tab, in the **Illustrations** group, click **SmartArt**.

The **Choose a SmartArt Graphic** dialog box appears.

2. Click **Hierarchy**.

The **Hierarchy** graphic subtypes appear.



3. Click the first subtype (**Organization Chart**) and then click **OK**.

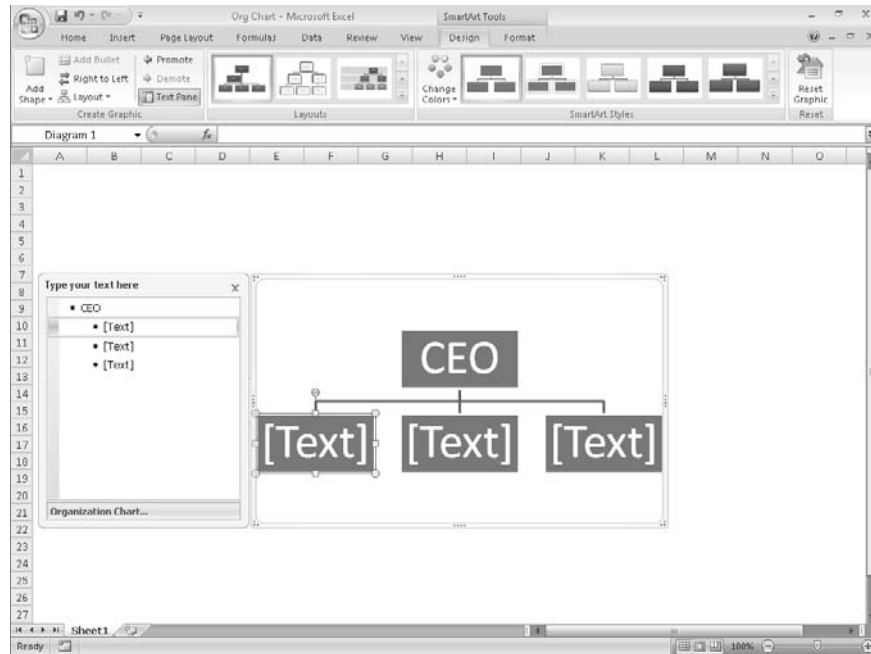
Excel 2007 creates the organization chart graphic.

4. In the **Type your text here** pane, in the first text box, type **CEO** and then press the down arrow key.

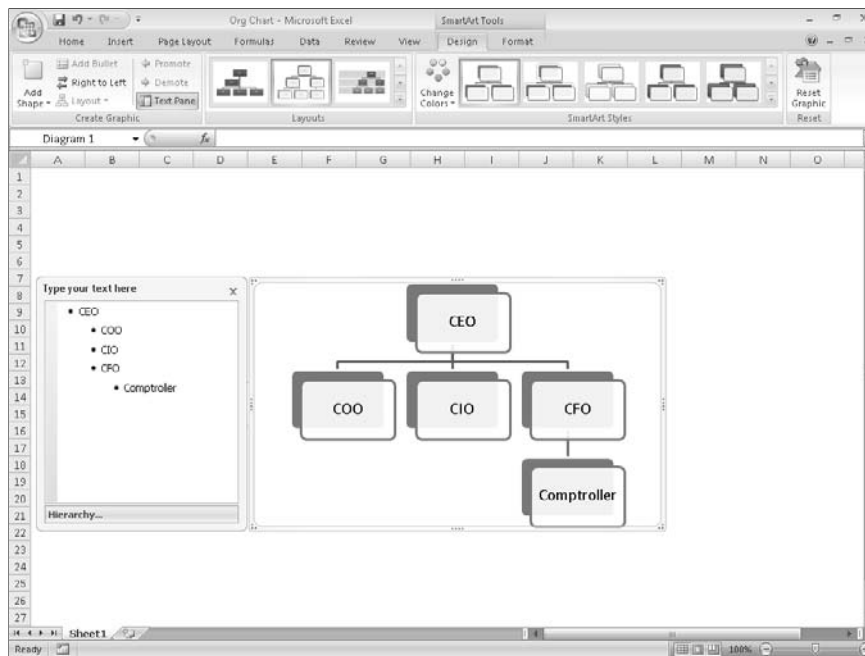
The value **CEO** appears in the shape at the top level of the organization chart.

5. In the SmartArt diagram, right-click the assistant box, located below the CEO shape, and then click **Cut**.

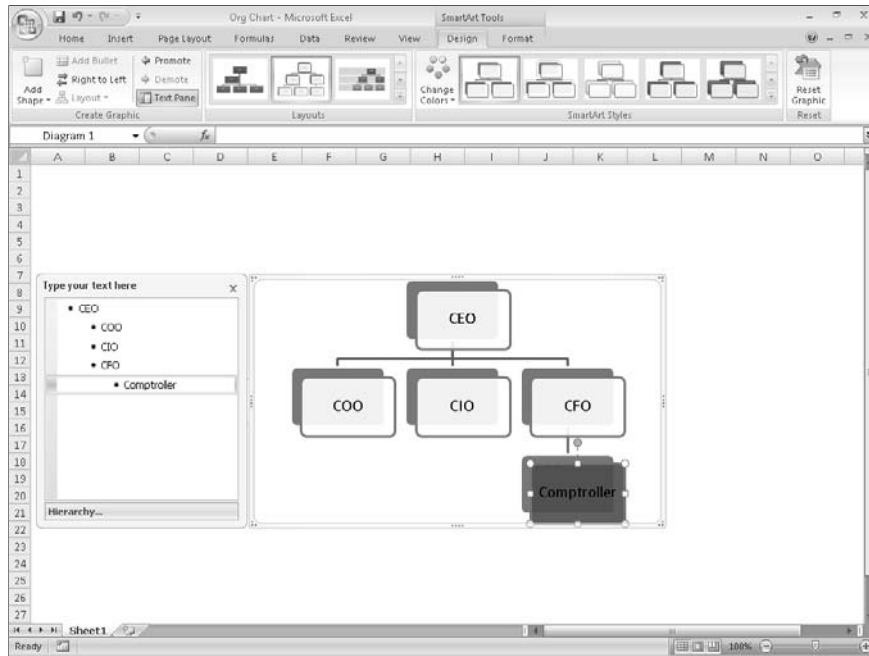
Excel 2007 removes the shape and moves the shapes on the third level of the organization chart to the second level.



6. Click the leftmost shape on the second level of the organization chart and then type **COO**.
7. Click the middle shape on the second level of the organization chart and then type **CIO**.
8. Click the rightmost shape on the second level of the organization chart and then type **CFO**.
9. Click the CFO shape, and then, on the **Design** contextual tab, in the **Create Graphic** group, click the **Add Shape** button down arrow and then click **Add Shape Below**.
A new shape appears below the CFO shape.
10. In the new shape, type **Comptroller**.
11. On the **Design** contextual tab, in the **Layouts** group, click the second layout.
Excel 2007 applies the new layout to your organization chart.



12. Right-click the Comptroller shape and then click **Format Shape**.
The **Format Shape** dialog box appears.
13. If necessary, click the **Fill** category.
Excel 2007 displays the fill controls.
14. Verify that the **Solid fill** option button is selected, click the **Color** control, and then, in the **Standard** color area of the color picker, click the red square.
15. Click **Close**.
Excel 2007 changes the shape's fill to red.



CLOSE the *Org Chart* workbook.

CLOSE Excel 2007.

Key Points

- You can use charts to summarize large sets of data in an easy-to-follow visual format.
- You're not stuck with the chart you create; if you want to change it, you can.
- If you format a lot of your charts the same way, creating a chart template can save you a lot of work in the future.
- Adding chart labels and a legend makes your chart much easier to follow.
- If your chart data represents a series of events over time (such as monthly or yearly sales), you can use trend line analysis to extrapolate future events based on the past data.
- A PivotChart enables you to rearrange your chart on the fly, emphasizing different aspects of the same data without having to create a new chart for each view.
- Excel 2007 enables you to quickly create and modify common business and organizational diagrams, such as organization charts and process diagrams.

Chapter at a Glance

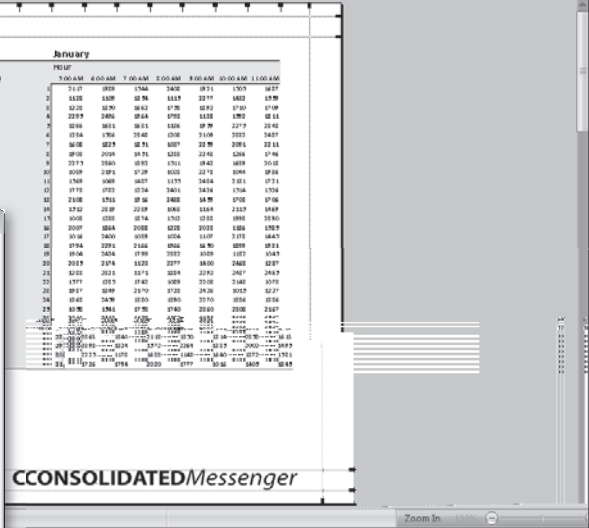
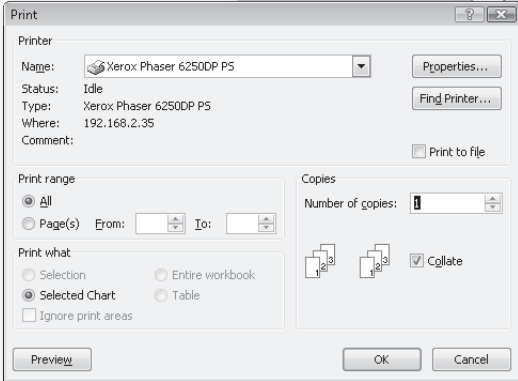
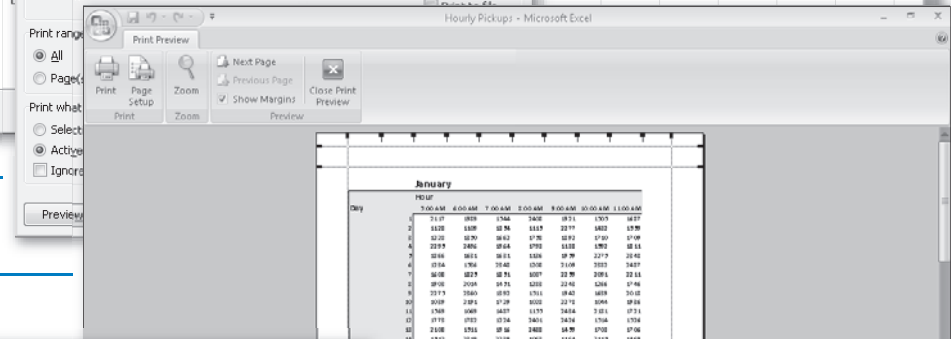
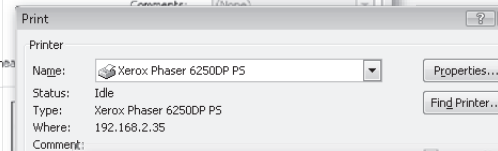
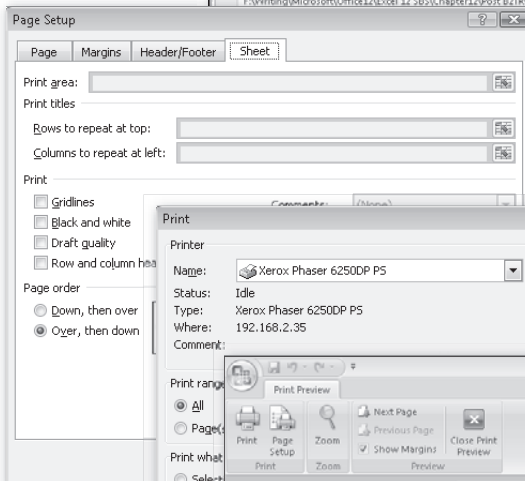
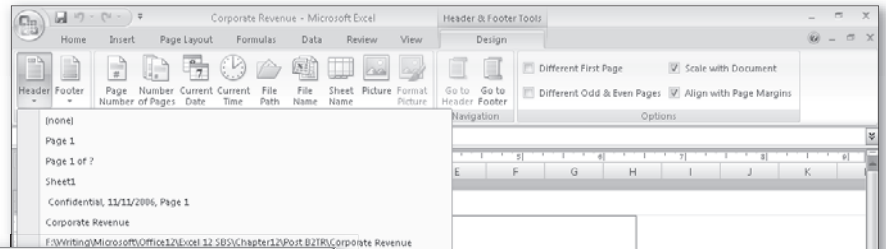
Add headers and footers
to the printed page,
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Prepare a
worksheet
for printing,
page 272

Print data lists,
page 281

Print parts of a data list,
page 283

Print
charts,
page 288



12 Printing

In this chapter, you will learn to:

- ✓ Add headers and footers to printed pages.
 - ✓ Prepare worksheets for printing.
 - ✓ Print data lists.
 - ✓ Print parts of data lists.
 - ✓ Print charts.
-

Microsoft® Office Excel® 2007 gives you a wide range of tools to create and manipulate your data lists. By using filters, by sorting, and by creating PivotTables and charts, you can change your worksheets so that they convey the greatest possible amount of information. After you configure your worksheet so that it shows your data to best advantage, you can print your Office Excel 2007 documents to use in a presentation or include in a report. You can choose to print all or part of any of your worksheets, change how your data and charts appear on the printed page, and even suppress any error messages that might appear in your worksheets.

In this chapter, you'll learn how to print all or part of a data list, how to print charts, and how to add headers and footers to your worksheets.

See Also Do you need only a quick refresher on the topics in this chapter? See the Quick Reference entries on pages xxvii–lxiii.

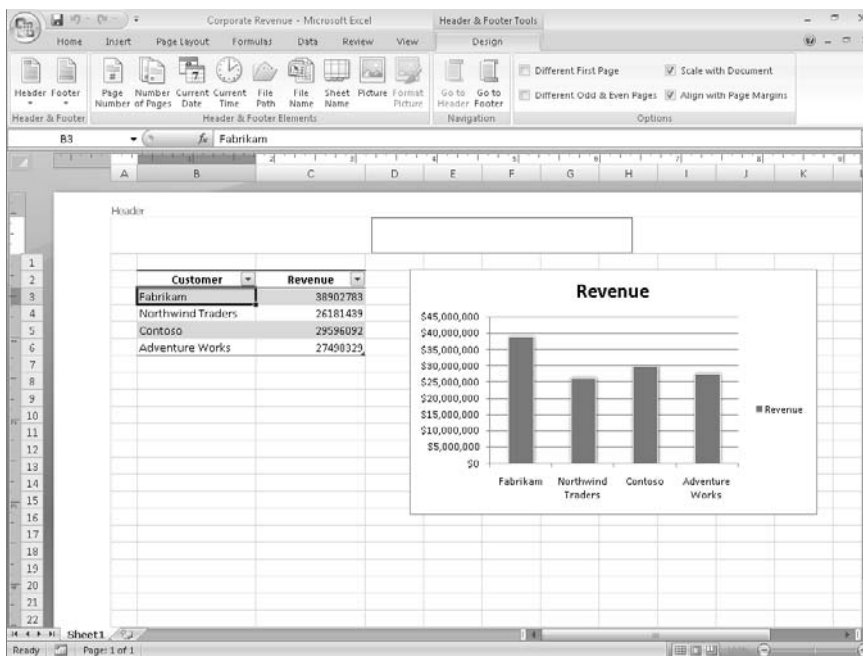


Important Before you can use the practice sites provided for this chapter, you need to install them from the book's companion CD to their default location. See "Using the Book's CD" on page xiii for more information.

Adding Headers and Footers to Printed Pages

Changing how your data appears in the body of your worksheets can make your information much easier to understand, but it doesn't communicate when the worksheet was last opened or to whom it belongs. You could always add that information to the top of every printed page, but you would need to change the current date every time you opened the document. And if you wanted the same information to appear at the top of every printed page, any changes to the body of your worksheets could mean that you would need to edit your workbook so that the information appeared in the proper place.

If you want to ensure that the same information appears at the top or bottom of every printed page, you can do so by using headers or footers. (A header is a section that appears at the top of every printed page; a footer is a section that appears at the bottom of every printed page.) To create a header or footer in Excel 2007, you display the Insert tab and then, in the Text group, click Header & Footer to display the Header & Footer Tools Design contextual tab.



When you display your workbook's headers and footers, Excel 2007 displays the workbook in Page Layout view, which is new in Excel 2007. The Excel 2007 product team's goal in creating Page Layout view was to show you exactly how your workbook will look when printed while still enabling you to edit your file, a capability not provided by Print

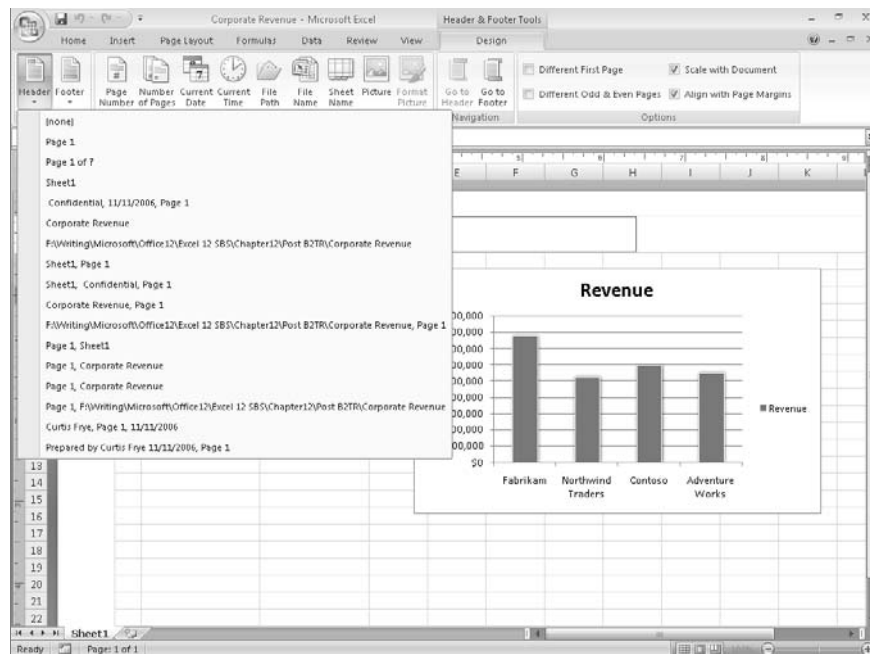
Preview. You can also switch to Page Layout view quickly by displaying the View tab and then, in the Workbook Views group, clicking Page Layout.

See Also For more information on editing your workbook in Print Preview mode, see the section titled “Previewing Worksheets Before Printing” later in this chapter.

Excel 2007 divides its headers and footers into left, middle, and right sections. When you move your mouse pointer over an editable header or footer section, Excel 2007 highlights the section to indicate that clicking the left mouse button will open that header or footer section for editing.

Important If you have a chart selected when you click the Header & Footer button on the Insert tab, Excel 2007 displays the Header/Footer page of the Page Setup dialog box instead of opening a header or footer section for editing.

When you click a header or footer section, Excel 2007 adds the Design contextual tab to the ribbon. The Design contextual tab holds a number of standard headers and footers, such as page numbers by themselves or followed by the name of the workbook. To add an Auto Header to your workbook, display the Design contextual tab and then, in the Auto Header & Footer group, click Auto Header and then click the Auto Header you want to apply.



You can also create custom headers by typing your own text or by using the controls in the Header & Footer Elements group to insert a date, time, worksheet name, or page number. Beginning with Excel 2002, you have had the option of adding a graphic to a header or footer. Adding a graphic such as a company logo to a worksheet enables you to identify the worksheet as referring to your company and helps reinforce your company's identity if you include the worksheet in a printed report distributed outside your company. After you insert a graphic into a header or footer, the Format Picture button in the Header & Footer Elements group will become available. Clicking that button opens a dialog box with tools to edit your graphic.

In this exercise, you will create a custom header for a workbook. You will add a graphic to the footer and then edit the graphic using the Format Picture dialog box.

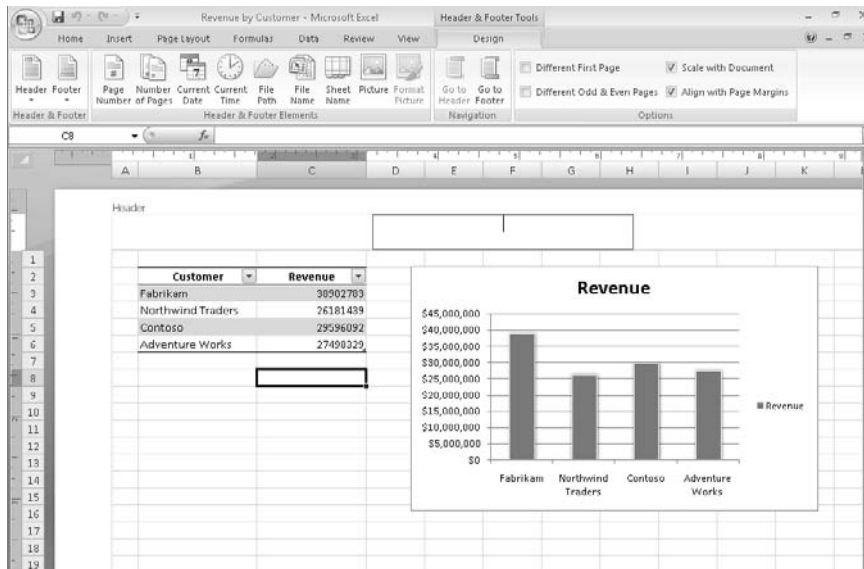


USE the *Revenue by Customer* workbook in the practice file folder for this topic. This practice file is located in the *My Documents\Microsoft Press\Excel SBS\Printing* folder.

BE SURE TO start Excel 2007 before starting this exercise.

OPEN the *Revenue by Customer* workbook.

1. On the **View** tab, in the **Workbook Views** group, click **Page Layout**.
Excel 2007 displays your workbook in Page Layout view.
2. At the top of the worksheet, click **Click to add header**.
Excel 2007 opens the middle header section for editing.

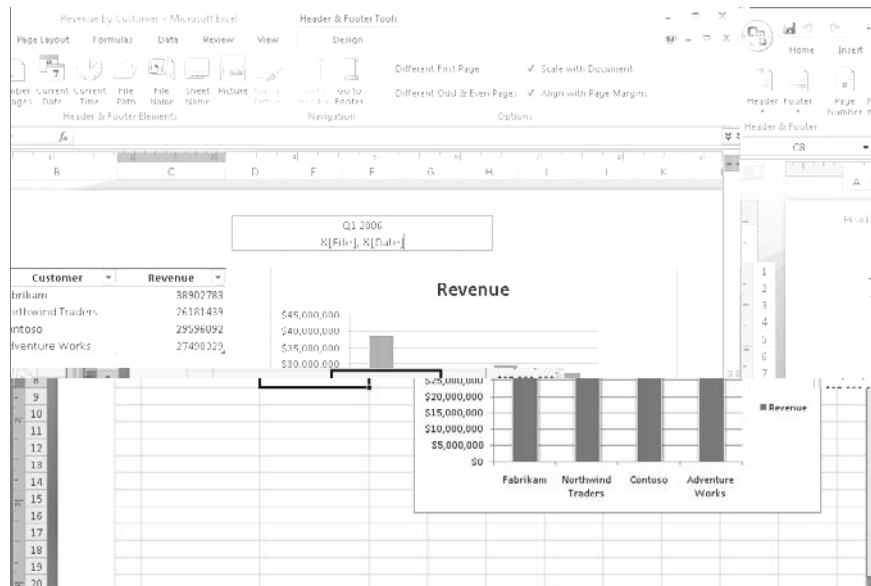


3. In the middle header section, type **Q1 2006** and then press **Enter**.
4. On the **Design** contextual tab, in the **Header & Footer Elements** group, click **File Name**.

Excel 2007 adds the **&[File]** code to the header.

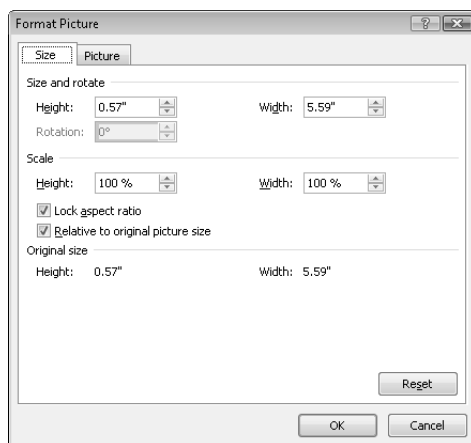
5. To the right of the **&[File]** code, type a comma and then press **Space**.
6. On the **Design** contextual tab, in the **Header & Footer Elements** group, click **Current Date**.

Excel 2007 changes the contents of the middle header section to **&[File], &[Date]**.



7. Press **Tab**.
- Excel 2007 highlights the right header section; the workbook name and current date appear in the middle header section.
8. On the **Design** contextual tab, in the **Navigation** group, click **Go to Footer**.
- Excel 2007 highlights the right footer section.
9. Click the middle footer section.
 10. On the **Design** contextual tab, in the **Header & Footer Elements** group, click **Picture**.
- The **Insert Picture** dialog box appears.

11. Browse to the *My Documents\Microsoft Press\Excel SBS\Printing* folder and then double-click *ConsolidatedMessenger.png*.
The code `&[Picture]` appears in the middle footer section.
12. Click any worksheet cell above the footer.
Excel 2007 displays the worksheet as it will be printed.
13. Click the image in the footer and then, on the **Design** contextual tab, click **Format Picture**.
The **Format Picture** dialog box appears.



14. If necessary, click the **Size** tab to display the **Size** tab page.
15. In the **Height** field, type **80%** and then press **Enter**.
The **Format Picture** dialog box disappears.
16. Click any worksheet cell above the footer.
Excel 2007 displays the newly formatted picture.

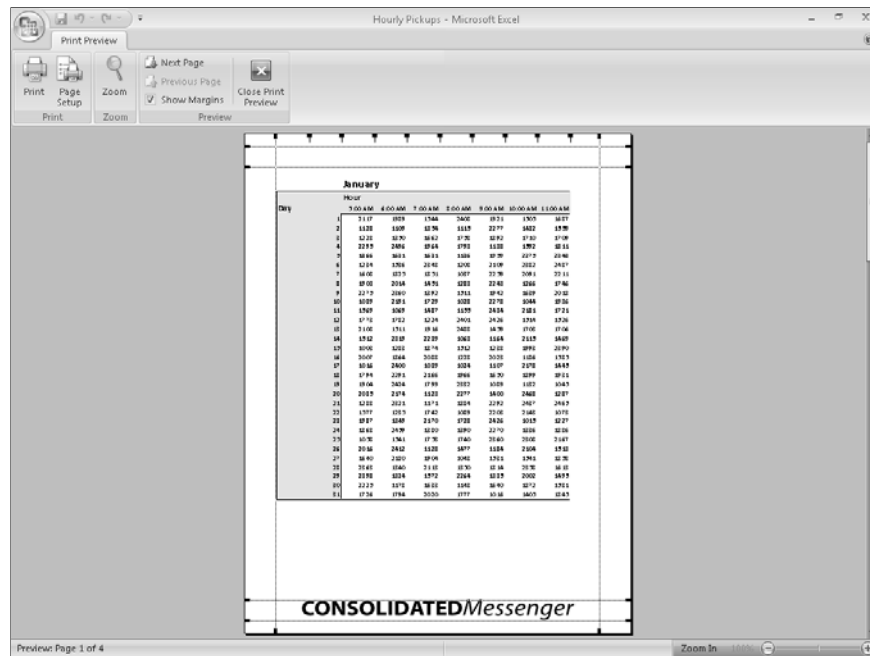


CLOSE the *Revenue by Customer* workbook.

Preparing Worksheets for Printing

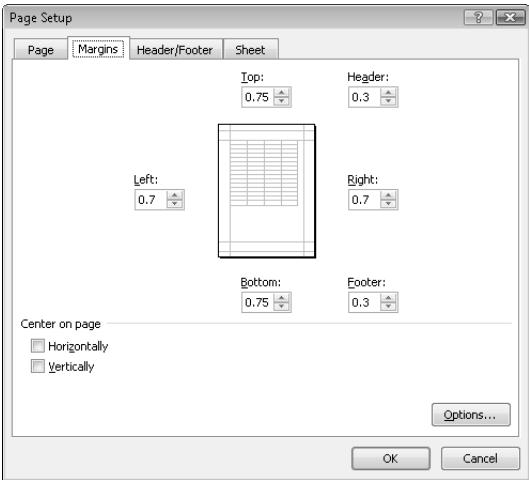
After you have your data and any headers or footers in your workbook, you can change your workbook properties to ensure that your worksheets display all your information and that printing is centered on the page.

One of the workbook properties you can change is its margins, or the boundaries between different sections of the printed page. You can view a document's margins and where the contents of the header, footer, and body appear in relation to those margins in the Print Preview window.

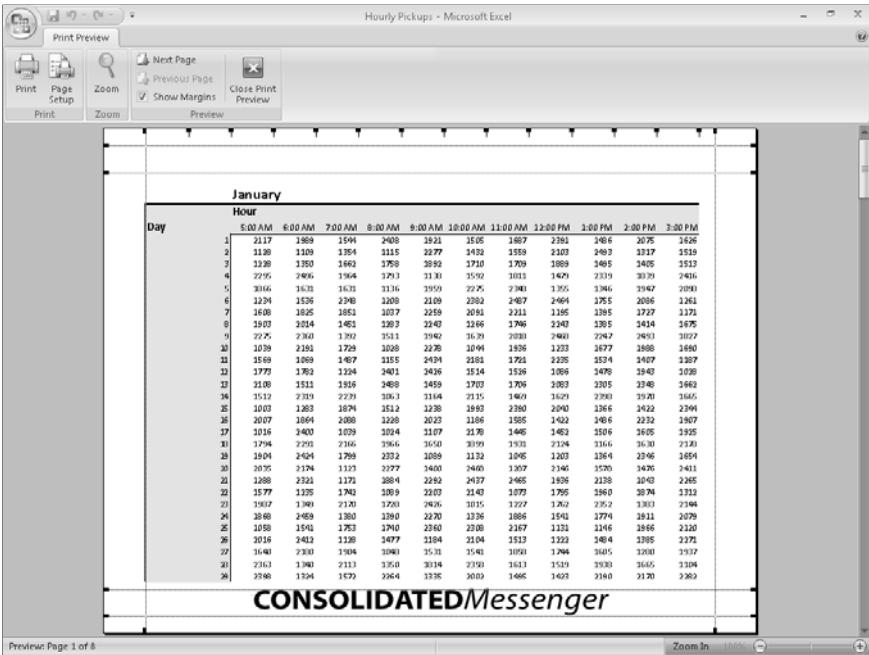


You can drag each margin line to change the corresponding margin's position, increasing or decreasing the amount of space allocated to each worksheet section. Do bear in mind that increasing the size of the header or footer reduces the size of the worksheet body, meaning that fewer rows can be printed on a page.

Excel 2007 comes with three margin settings: Normal, Wide, and Narrow. Excel 2007 applies the Normal setting by default, but you can select any of the three options by displaying the Page Layout tab and then, in the Page Setup group, by clicking Margins. If you want finer control over your margins, click Custom Margins to display the Margins tab of the Page Setup dialog box.



Another issue with printing worksheets is that the data in worksheets tends to be wider horizontally than a standard sheet of paper. For example, the data in the worksheet in the previous graphic is several columns wider than a standard piece of paper. You can use the controls on the Page Layout tab to change the alignment of the rows and columns on the page. When the columns follow the long edge of a piece of paper, the page is laid out in *portrait mode*; when the columns follow the short edge of a piece of paper, it is in *landscape mode*. The following graphic displays the contents of the previous worksheet laid out in landscape mode.



This arrangement is a better fit, but not all the data fits on the printed page. This is where the tools in the Scale to Fit group on the Page Layout tab come to the rescue. You can use the tools in that group to have Excel 2007 reduce the size of the worksheet's contents until the entire worksheet can be printed on a single page. You can make the same changes (and more) by using the controls in the Page Setup dialog box. To display the Page Setup dialog box, click the Page Layout tab and then click the Page Setup group dialog box launcher.

Previewing Worksheets Before Printing

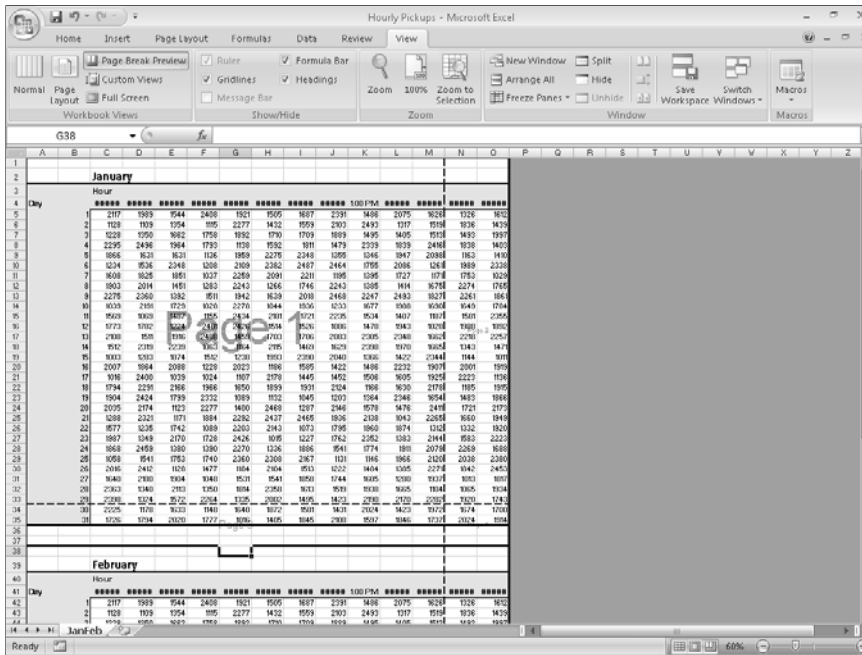
You can view your Excel 2007 worksheet as it will be printed by clicking the Microsoft Office Button, pointing to Print, and then clicking Print Preview. When you do, Excel 2007 displays the active worksheet in the Print Preview window.

When the Print Preview window opens, it shows the active worksheet as it will be printed with its current settings. In the lower-left corner of the Print Preview window, Excel 2007 indicates how many pages the worksheet will require when printed and the number of the page you are viewing.

Tip You can view the next printed page by pressing the  key; to move to the previous page, press the  key.

Changing Page Breaks in a Worksheet

Another way to change how your worksheet will appear on the printed page is to change where Excel 2007 assigns its page breaks or the point where Excel 2007 prints all subsequent data on a new sheet of paper. You can do that indirectly by changing a worksheet's margins, but you can do it directly by displaying your document in Page Break Preview mode. To display your worksheet in Page Break Preview mode, on the View tab, in the Workbook Views group, click Page Break Preview.



The blue lines in the window represent the page breaks. If you want to set a page break manually, you can do so by displaying your worksheet in Page Break Preview mode and then right-clicking the row header of the row below where you want the new page to start. In other words, if you right-click the row header of row 15 and click Insert Page Break, row 14 will be the last row on the first printed page, and row 15 will be the first row on the second printed page. The same technique applies to columns: if you right-click the column H column header and click Insert Page Break, column G will be the last column on the first printed page, and column H will be the first column on the second printed page.

You can also add page breaks without displaying your workbook in Page Break Preview mode. To add a page break while your workbook is open in Normal view, click a row or column header and then, on the Page Layout tab, in the Page Setup area, click Breaks and then click Insert Page Break. The Breaks button menu also enables you to delete a page break or to reset all of your worksheet's page breaks.

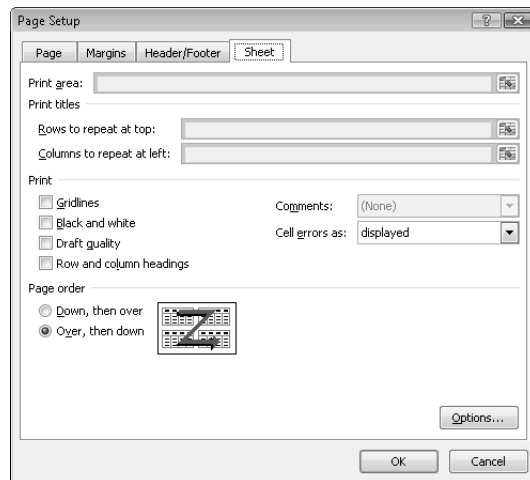
Important Be sure to right-click a row header or column header when you want to insert a single page break. If you view a workbook in Page Break Preview mode, right-click a cell within the body of a worksheet, and then choose Insert Page Break, Excel 2007 creates both a vertical page break above the selected cell and a horizontal page break below the selected cell.

To move a page break, drag the line representing the break to its new position. Excel 2007 will change the worksheet's properties so that the area you defined will be printed on a single page.

Tip If you prefer not to display your workbook in Page Break Preview mode, you can insert a page break by clicking a cell, row header, or column header. Then, on the Page Layout tab, in the Page Setup group, click Breaks and click Insert Page Break.

Changing the Page Printing Order for Worksheets

When you view a document in Page Break Preview mode, Excel 2007 indicates the order in which the pages will be printed with light gray words on the worksheet pages. (These indicators appear only in Page Break Preview mode; they don't show up when the document is printed.) You can change the order in which the pages are printed by displaying the Page Layout tab, clicking the Page Setup group's dialog box launcher to display the Page Setup dialog box, and displaying the dialog box's Sheet tab.



On the Sheet tab, selecting the Over, Then Down option changes the order in which the worksheets will be printed from the default Down, Then Over. You might want to change the printing order to keep certain information together on consecutive printed pages. For example, suppose you have a worksheet that holds hourly package pickup information; the columns represent hours of the day, and the rows represent days of the month. If you want to print out consecutive days for each hour, you use Down, Then Over, as shown in the following graphic. Pages 1 and 2 enable you to see the 5:00 a.m. to 11:00 a.m. pickups for the months of January and February, pages 3 and 4 enable you to see the 12:00 p.m. to 5:00 p.m. pickups for the months, and so on.

Hourly Pickups - Microsoft Excel

Page 1

Page 3

As the next graphic shows, changing the print order to Over, Then Down prints consecutive hours for each day. Pages 1 and 2 enable you to see the 5:00 a.m. to 5:00 p.m. pickups for January, and pages 3 and 4 enable you to see the same pickups for February.

Hourly Pickups - Microsoft Excel

Page 1

Page 2

In this exercise, you will preview a worksheet before printing, change a worksheet's margins, change a worksheet's orientation, reduce a worksheet's size, add a page break, and change the page printing order.



USE the *Pickups by Hour* workbook in the practice file folder for this topic. This practice file is located in the *My Documents\Microsoft Press\Excel SBS\Printing* folder.

OPEN the *Pickups by Hour* workbook.

1. While displaying the **JanFeb** worksheet, click the **Microsoft Office Button**, point to **Print**, and then click **Print Preview**.

The workbook appears in **Print Preview** mode.

2. On the **Print Preview** tab, in the **Preview** group, click **Close Print Preview**.

The workbook appears in **Normal** view.

3. On the **Page Layout** tab, in the **Page Setup** group, click **Orientation** and then click **Landscape**.

Excel 2007 reorients the worksheet.

4. On the **Page Layout** tab, in the **Scale to Fit** group, in the **Scale** field, type **80%** and then press .

Excel 2007 resizes your worksheet.

5. Click the row header for row 38.

Excel 2007 highlights row 38.

6. On the **Page Layout** tab, in the **Page Setup** group, click **Breaks** and then click **Insert Page Break**.

Excel 2007 sets a horizontal page break above row 38.

Pickups by Hour - Microsoft Excel

Home Insert Page Layout Formulas Data Review View

Themes Colors - Fonts - Effects - Margins Orientation Size Print Area - Breaks Background Print Titles Width: Automatic Height: Automatic Scale: 80% Scale to Fit Gridlines View Print Selection Pane Arrange

Page Setup

Day	Hour	5:00 AM	6:00 AM	7:00 AM	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM
1		2117	1989	1544	2408	1921	1505	1687	2391	1486	2075	1626	1326	
2		1129	1109	1354	1115	2277	1492	1559	2109	2499	1317	1519	1896	
3		1228	1350	1662	1758	1892	1710	1709	1889	1495	1405	1513	1493	
4		2295	2496	1964	1793	1130	1592	1011	1479	2339	1039	2416	1030	
5		1866	1631	1631	1136	1959	2275	2348	1355	1346	1947	2098	1163	
6		1234	1536	2348	1208	2109	2382	2487	2464	1755	2086	1261	1989	
7		1608	1825	1851	1037	2259	2091	2211	1195	1395	1727	1371	1753	
8		1903	2014	1451	1203	2243	1266	1746	2243	1305	1414	1675	2274	

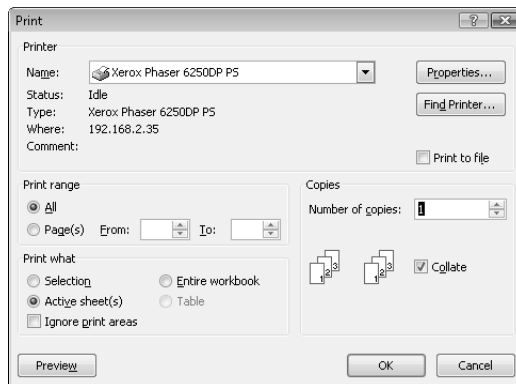
7. On the tab bar, click the **MarJun** sheet tab.
The **MarJun** worksheet appears.
8. On the **Page Layout** tab, in the **Page Setup** group, click **Margins** and then click **Wide**.
Excel 2007 applies wide margins to the worksheet.
9. On the **Page Layout** tab, click the **Page Setup** group's dialog box launcher.
The **Page Setup** dialog box appears.
10. If necessary, click the **Sheet** tab.
The **Sheet** tab page appears.
11. In the **Page order** section, select the **Over, then down** option button.
12. Click **OK**.
13. If desired, click the **Microsoft Office Button** and then click **Print**.
Excel 2007 prints your worksheet.



CLOSE the *Pickups by Hour* workbook.

Printing Data Lists

When you're ready to print a worksheet, all you have to do is click the Microsoft Office Button, point to Print, and then click Quick Print. If you want a little more say in how Excel 2007 prints your worksheet, you can use the controls in the Print dialog box to determine how Excel 2007 prints your worksheet. For example, you can choose the printer to which you want to send this job, print multiple copies of the worksheet, and select whether the copies are collated (all pages of a document together) or not (multiple copies of the same page are printed together).



Important The exact version of the Print dialog box that Excel 2007 presents depends on the printer you select, so your Print dialog box might differ from the one shown in the preceding graphic.

If you want to print more than one worksheet from the active workbook, but not every worksheet in the workbook, you can select the worksheets to print from the tab bar. To select the worksheets to print, hold down the **Ctrl** key while you click the sheet tabs of the worksheets you want to print. Then click the Microsoft Office Button, point to Print, and click Quick Print.

Note The worksheets you select for printing do not need to be next to one another in the workbook.

A helpful option on the Sheet tab page of the Page Setup dialog box is the Cell Errors As box, which enables you to select how Excel 2007 will print any errors in your worksheet. You can print an error as it normally appears in the worksheet, print a blank cell in place of the error, or choose one of two other indicators that are not standard error messages.

After you prepare your worksheet for printing, you can print it by opening the Print dialog box. To print every page in the worksheet, select the All option button in the Print range section and then click OK. To print every worksheet in the active workbook, select the Entire Workbook option button in the Print What section.

In this exercise, you'll print nonadjacent worksheets in your workbook and suppress errors in the printed worksheet.

USE the *Summary by Customer* workbook in the practice file folder for this topic. This practice file is located in the *My Documents\Microsoft Press\Excel SBS\Printing* folder.

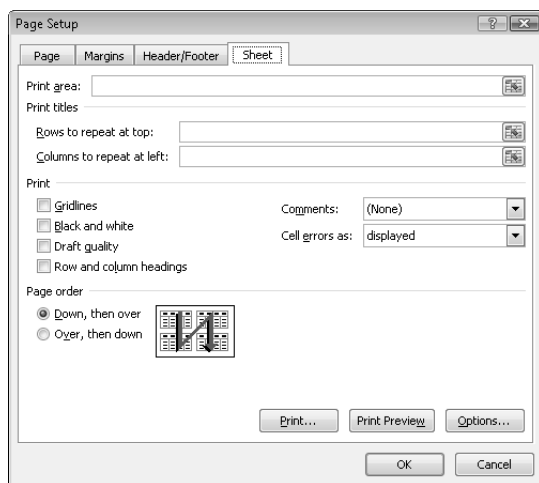
OPEN the *Summary by Customer* workbook.

1. If necessary, display the **Summary** worksheet.
2. On the **Page Layout** tab, in the **Page Setup** group, click the group's dialog box launcher.

The **Page Setup** dialog box appears.

3. Click the **Sheet** tab.

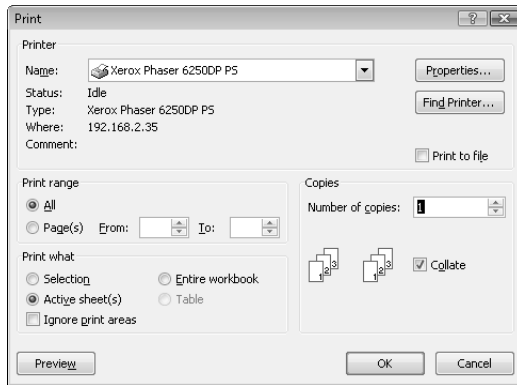
The **Sheet** tab appears.



4. Click the **Cell errors as** field down arrow and then click **<blank>**.
5. Click **OK**.
6. Hold down the **Ctrl** key and then, on the tab bar, click the **Northwind** sheet tab.
Excel 2007 selects the **Summary** and **Northwind** worksheets.
7. Click the **Microsoft Office Button** and then click **Print**.

The **Print** dialog box appears.

8. In the **Print what** area, verify that the **Active sheet(s)** option button is selected.



9. Click **Cancel** (you can click **OK** if you want to print the worksheets).



CLOSE the *Summary by Customer* workbook.

Printing Parts of Data Lists

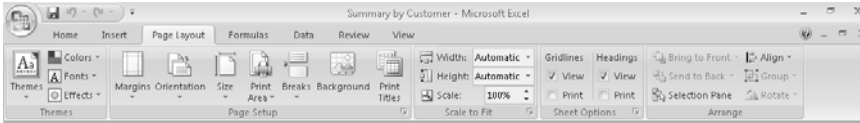
Excel 2007 gives you a great deal of control over what your worksheets look like when you print them, but you also have a lot of control over which parts of your worksheets will be printed. For example, you can use the Print dialog box to choose which pages of a multipage worksheet you want to print.

Selecting the **Page(s)** option button in the **Print Range** section of the dialog box enables you to fill in the page numbers you want to print in the **From** and **To** boxes.

Tip You can use the **Page Break Preview** window to determine which pages you want to print, and if the pages aren't in an order you like, you can use the controls on the **Sheet** tab page of the **Page Setup** dialog box to change the order in which they will be printed.

Another way you can modify how a worksheet will be printed is to have Excel 2007 fit the entire worksheet on a specified number of pages. For example, you can have Excel 2007 resize a worksheet so that it will fit on a single printed page. Fitting a worksheet onto a single page is a handy tool when you need to add a sales or other summary to a report and don't want to spread important information across more than one page.

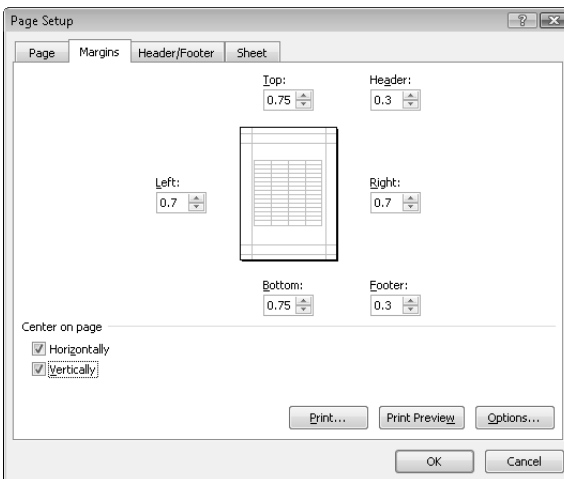
To have Excel 2007 fit a worksheet on a set number of pages, display the Page Layout tab and use the controls in the Scale to Fit group. When you click the Width and Height control down arrows, you can select how many pages wide or tall you want your print-out to be.



If you want to print a portion of a worksheet instead of the entire worksheet, you can define the area or areas you want to have printed. To identify the area of the worksheet you want to print, select the cells with the data you want to print, and on the Page Layout tab, in the Page Setup group, click Print Area and then click Set Print Area. Excel 2007 marks the area with a dotted line around the border of the selected cells and prints only the cells you selected. To remove the selection, click Print Area and then click Clear Print Area.

Tip You can include noncontiguous groups of cells in the area to be printed by holding down the **Ctrl** key as you select the cells.

After you define a print area, you can use the Page Setup dialog box to position the print area on the page. Specifically, you can have Excel 2007 center the print area on the page by selecting the Horizontally and Vertically check boxes on the Margins tab page.



If the contents of a worksheet will take up more than one printed page, you can have Excel 2007 repeat one or more rows at the top of the page or columns at the left of the page. For example, if you want to print a lengthy data list containing the mailing addresses of customers signed up to receive your company's monthly newsletter, you could repeat the column headings Name, Address, City, and so forth at the top of the page. To repeat rows at the top of each printed page, on the Page Layout tab, in the Page Setup group, click Print Titles. Excel 2007 will display the Page Setup dialog box Sheet tab page.

On the Sheet tab of the Page Setup dialog box, you can use the controls in the Print Titles section of the dialog box to select the rows or columns to repeat. To choose rows to repeat at the top of the page, click the Collapse Dialog button next to the Rows To Repeat At Top box, select the rows, and then click the Expand Dialog button. The rows you selected appear in the Rows To Repeat At Top box.

Similarly, to have a set of columns appear at the left of every printed page, click the Collapse Dialog button next to the Columns To Repeat At Left box, select the columns, and then click the Expand Dialog button. When you're done, click OK to accept the settings.

A final feature that comes in handy when you print Excel 2007 worksheets is Intelliprint, which was introduced in Excel 2003. Intelliprint prevents Excel 2007 from printing any blank pages at the end of a document. The end result is that you don't need to set a print area manually unless you want to print a subset of the data in your worksheet or if you do want to print blank pages after the rest of your data.

In this exercise, you will select certain pages of a worksheet to print, have Excel 2007 fit your printed worksheet on a set number of pages, define a multiregion print area, center the printed material on the page, and repeat columns at the left edge of each printed page.



USE the *HourlyPickups* workbook in the practice file folder for this topic. This practice file is located in the *My Documents\Microsoft Press\Excel SBS\Printing* folder.

OPEN the *Hourly Pickups* workbook.

1. On the **Page Layout** tab, in the **Page Setup** group, click **Print Titles**.
The **Page Setup** dialog box appears, opened to the **Sheet** tab.
2. At the right edge of the **Columns to repeat at left** field, click the **Collapse Dialog** button.
The dialog box collapses.

- 3. Select the column header of column A and drag to select the column header of column B, too.

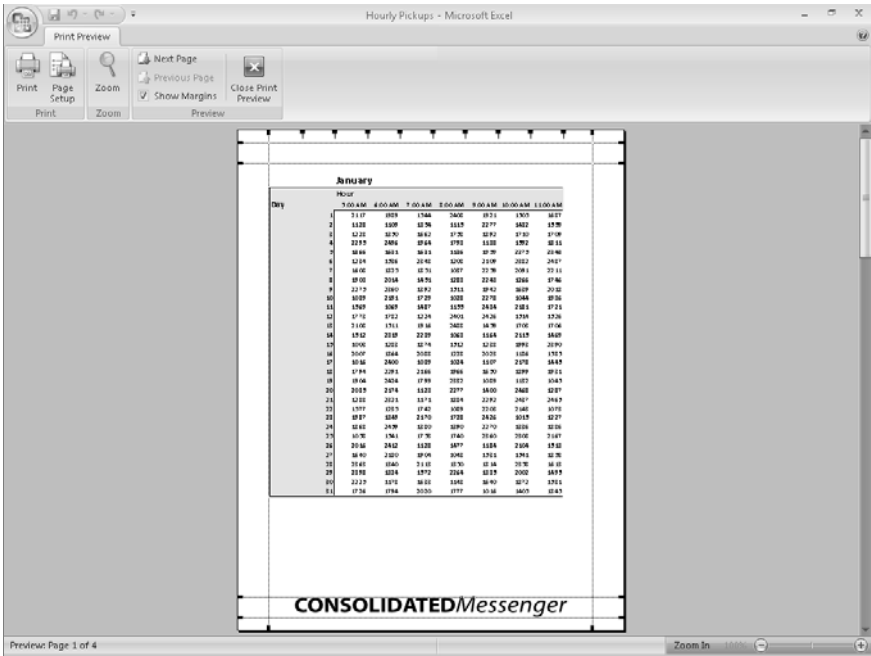
The reference `$A:$B` appears in the **Columns to repeat at left** field.

- 4. At the right edge of the **Columns to repeat at left** field, click the **Expand Dialog** button.

The dialog box expands.

- 5. Click **Print Preview**.

Excel 2007 displays your worksheet as it will appear when printed.



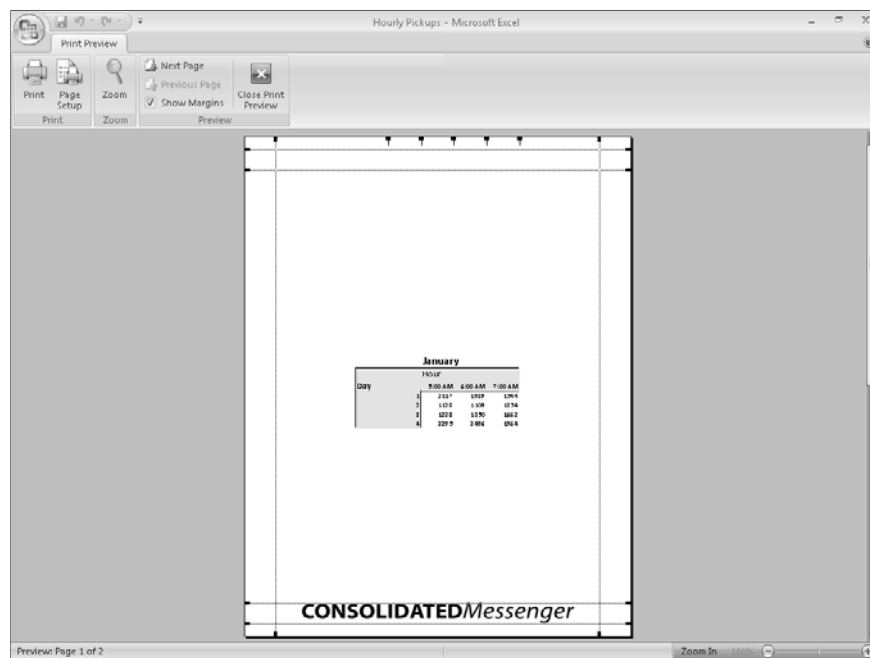
- 6. Click **Close Print Preview**.
Excel 2007 displays your worksheet in **Normal** view.
- 7. Click the **Microsoft Office Button** and then click **Print**.
The **Print** dialog box appears.
- 8. Select the **Page(s)** option button.
- 9. In the **From** field, type **1**; in the **To** field, type **2**.
- 10. Click **Cancel** (or click **OK** to print the selected pages).
The **Print** dialog box disappears.

11. On the **Page Layout** tab, in the **Scale to Fit** group, click the **Width** control down arrow and then click **1 page**.
12. On the **Page Layout** tab, in the **Scale to Fit** group, click the **Height** control down arrow and then click **2 pages**.

Excel 2007 resizes your worksheet so that it will fit on two printed pages. The new scaling and size values appear in the **Scale to Fit** group on the **Page Layout** tab.

13. Select the cell range **A1:E8**, hold down the **Ctrl** key, and then select the cell range **A38:E45**.
14. On the **Page Layout** tab, in the **Page Setup** group, click **Print Area** and then click **Set Print Area**.
15. On the **Page Layout** tab, click the **Page Setup** group's dialog box launcher.
The **Page Setup** dialog box appears.
16. On the **Margins** page of the dialog box, select the **Horizontally** and **Vertically** check boxes.
17. Click **Print Preview**.

Excel 2007 displays your worksheet as it will appear when printed.



18. Click **Close Print Preview**.

Excel 2007 displays your worksheet in **Normal** view.

19. On the **Page Layout** tab, in the **Page Setup** group, click **Print Area** and then click **Clear Print Area**.

Excel 2007 removes the print areas defined for the **JanFeb** worksheet.



CLOSE the *Hourly Pickups* workbook.

Printing Charts

Charts, which are graphic representations of your Excel 2007 data, enable you to communicate lots of information with a picture. Depending on your data and the type of chart you make, you can show trends across time, indicate the revenue share for various departments in a company for a month, or project future sales using trend line analysis. After you create a chart, you can print it to include in a report or use in a presentation.

If you embed a chart in a worksheet, however, the chart will probably obscure some of your data unless you move the chart to a second page in the worksheet. That's one way to handle printing a chart or the underlying worksheet, but there are other ways that don't involve changing the layout of your worksheets.

To print a chart, click the chart, click the Microsoft Office Button, point to Print, and then click Print to display the Print dialog box. In the Print What section, the Selected Chart option button is the only one available. If you click anywhere on the worksheet outside the chart, the Print What section appears with the Active Sheet(s) option button selected, meaning that the chart and underlying worksheet are printed as they appear on the screen.

In this exercise, you will print a chart.

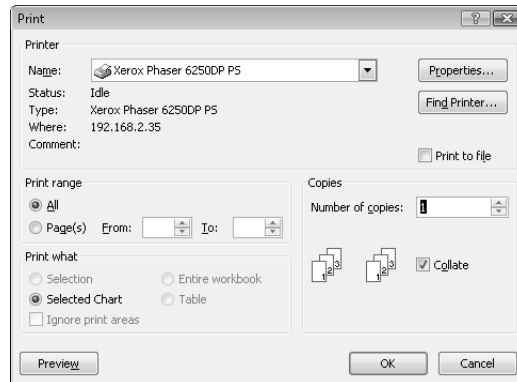


USE the *Corporate Revenue* workbook in the practice file folder for this topic. This practice file is located in the *My Documents\Microsoft Press\Excel SBS\Printing* folder.

OPEN the *Corporate Revenue* workbook.

1. Select the chart.
2. Click the **Microsoft Office Button** and then click **Print**.

The **Print** dialog box appears.



3. Verify that the **Selected Chart** option button is selected and then click **OK** (or click **Cancel** if you don't want to print the chart).



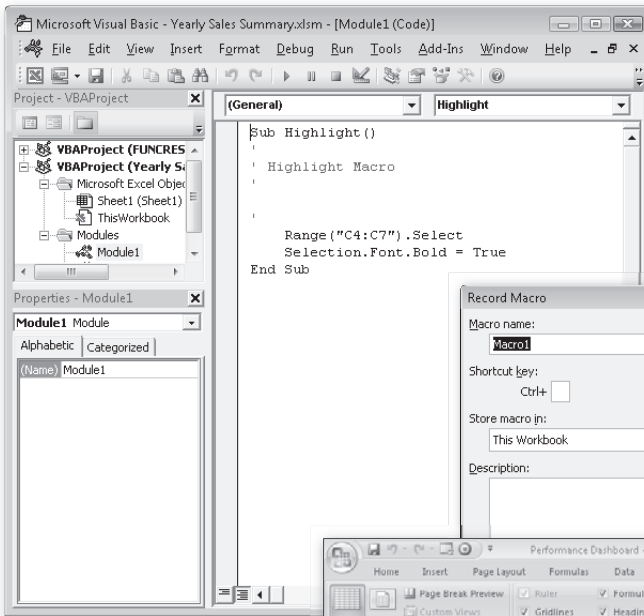
CLOSE the *Corporate Revenue* workbook.

CLOSE Excel 2007.

Key Points

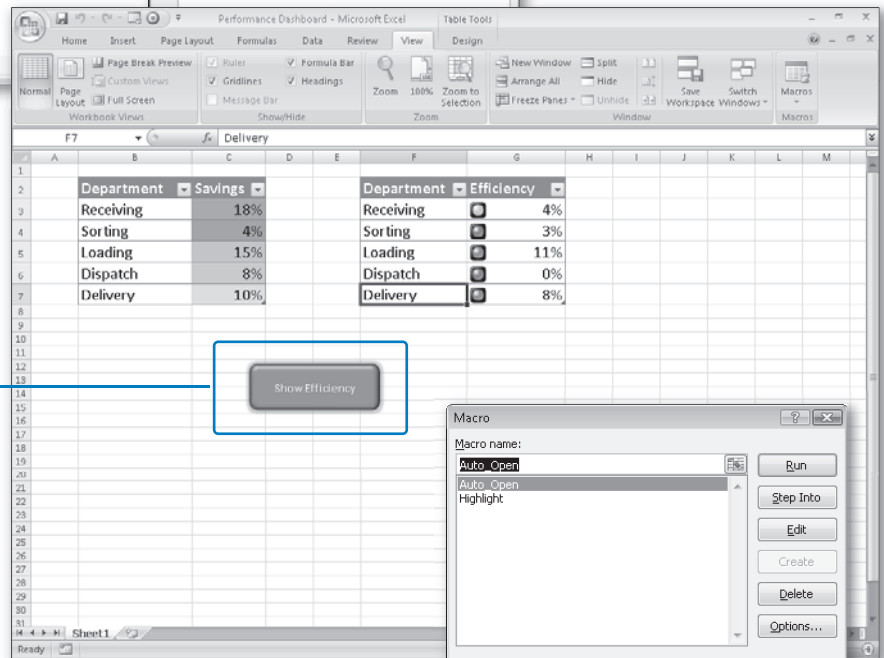
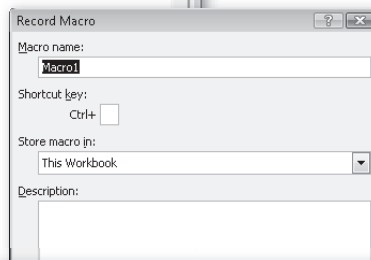
- Excel 2007 gives you complete control over how your worksheets appear on the printed page. Don't be afraid to experiment until you find a look you like.
- Use Print Preview to see what your worksheet will look like on paper before you print, especially if you're using an expensive color printer.
- You can preview where the page breaks will fall when you print a worksheet and change them if you so desire.
- Don't forget that you can have Excel 2007 avoid printing error codes! Be sure to use your power wisely.
- You can repeat rows or columns in a printed worksheet.
- If you want to print a chart without printing the rest of the accompanying worksheet, be sure to select the chart before you open the Print dialog box.

Chapter at a Glance



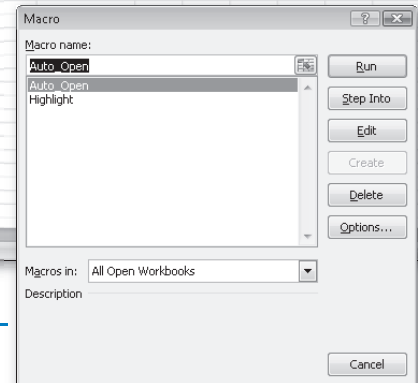
— Describe and examine macros,
page 292

— Create and modify macros,
page 299



Run a macro when
a button is clicked,
page 303

Run a macro when a
workbook is opened,
page 308



13 Automating Repetitive Tasks with Macros

In this chapter, you will learn to:

- ✓ Describe and examine macros.
 - ✓ Create and modify macros.
 - ✓ Run macros when a button is clicked.
 - ✓ Run macros when a workbook is opened.
-

Many tasks you perform in Microsoft® Office Excel® 2007 (for example, entering sales data for a particular day or adding formulas to a worksheet) are done once or (for example, changing the format of a cell range) can be repeated quickly using available tools in Office Excel 2007. However, you will often perform one or two tasks frequently that require a lot of steps to accomplish. For example, you might have a number of cells in a worksheet that contain important data you use quite often in presentations to your colleagues. Instead of going through a lengthy series of steps to highlight the cells with the important information, you can create a macro, or a recorded series of actions, to perform the steps for you. After you have created a macro, you can run, edit, or delete it as needed.

In Excel 2007, you run and edit macros using the items available in the View tab's Macros group. You can make your macros easier to access by creating new buttons on the Quick Access Toolbar, to which you can assign your macros. If you run a macro to highlight specific cells in a worksheet every time you show that worksheet to a colleague, you can save time by adding a Quick Access Toolbar button that runs a macro to highlight the cells for you.

Another handy feature of Excel 2007 macros is that you can create macros that run when a workbook is opened. For example, you might want to ensure that no cells in a worksheet are highlighted when the worksheet opens. You can create a macro that removes any special formatting from your worksheet cells when its workbook opens, enabling you to emphasize the data you want as you present the information to your colleagues.

In this chapter, you'll learn how to open, run, create, and modify macros; create Quick Access Toolbar buttons and shapes that enable you to run macros with a single mouse click; define macro security settings; and run a macro when a workbook is opened.

See Also Do you need only a quick refresher on the topics in this chapter? See the Quick Reference entries on pages xxvii–lxiii.



Important Before you can use the practice sites provided for this chapter, you need to install them from the book's companion CD to their default location. See "Using the Book's CD" on page xiii for more information.

Introducing Macros

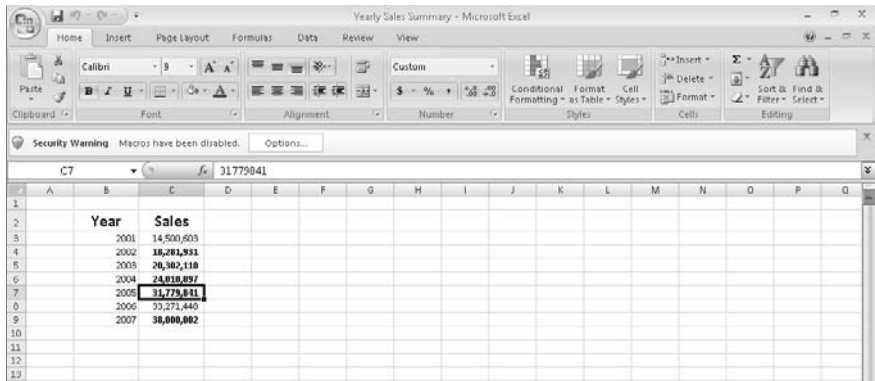
After you have worked with your Excel 2007 documents for awhile, you will probably discover some series of actions you perform repeatedly. Although many of these actions (such as saving your changes and printing) can be accomplished quickly, some sequences involve many steps and take time to accomplish by hand. For example, you might want to highlight a number of cells in a worksheet to emphasize an aspect of your data. Instead of highlighting the cells by hand every time you present your findings, you can create a *macro*, or series of automated actions, to do the highlighting for you.

Macro Security in Excel 2007

It's possible for unscrupulous programmers to write viruses and other harmful programs using the Microsoft Visual Basic for Applications (VBA) programming language, so you need to be sure that you don't run macros from unknown sources. In versions of Office Excel prior to Excel 2007, you could define macro security levels to determine which macros, if any, your workbooks would be allowed to run, but there was no workbook type in which all macros were disallowed. Excel 2007 has several file types you can use to control whether the workbook will allow macros to be run. The following table summarizes the macro-related file types.

Extension	Description
.xlsx	Regular Excel 2007 workbook; macros are <i>disabled</i>
.xlsm	Regular Excel 2007 workbook; macros are <i>enabled</i>
.xltx	Excel 2007 template workbook; macros are <i>disabled</i>
.xltxm	Excel 2007 template workbook; macros are <i>enabled</i>

When you open a macro-enabled workbook, the Excel 2007 program-level security settings might prevent the workbook from running the macro code. When that happens, Excel 2007 displays a security warning on the Message Bar.



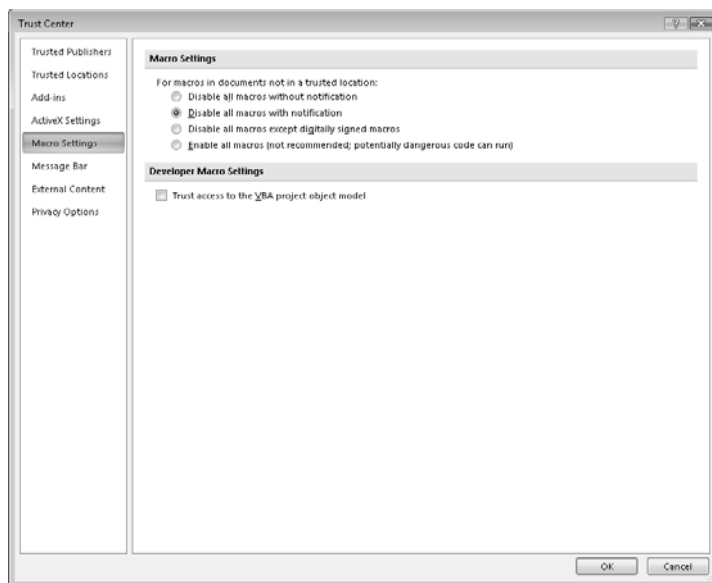
Clicking the Options button displays the Microsoft Office Security Options dialog box.



If you are expecting a workbook that contains macros and recognize the source of the workbook, you can select the Enable This Content option button and then click OK to

enable the workbook macros. Please take the time to verify the workbook's source and whether you expected the workbook to contain macros before enabling the content.

You can change your program-level security settings to make them more or less restrictive; to do so, click the Microsoft Office Button, click the Excel Options button, and then, in the Excel Options dialog box, click the Trust Center category. On the page that appears, click the Trust Center Settings button to display a dialog box of the same name.



The Excel 2007 default macro security level is Disable All Macros With Notification, which means that Excel 2007 displays a warning on the Message Bar, but you can enable the macros by clicking the Options button and selecting the Enable This Content option button. Selecting the Disable All Macros Without Notification option does exactly what the label says. If Consolidated Messenger's company policy is to disallow all macros in all Excel 2007 workbooks, you would select the Disable All Macros Without Notification option.

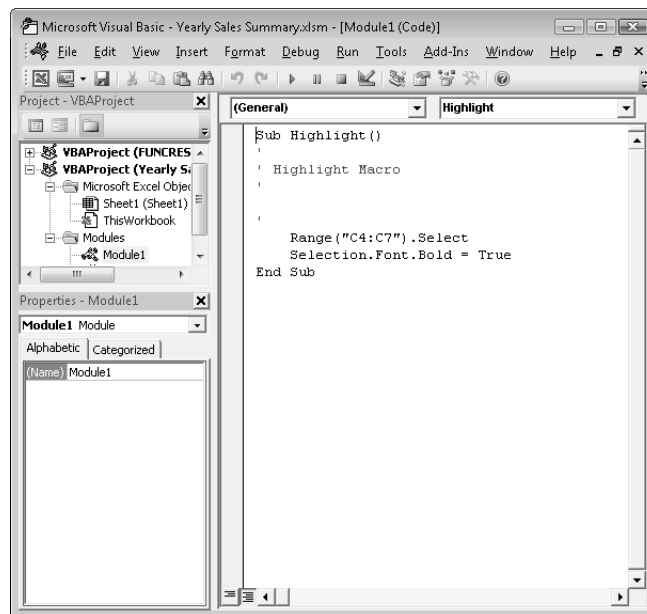
Warning Because it is possible to write macros that act as viruses, potentially causing harm to your computer and spreading copies of themselves to other computers, you should never choose the Enable All Macros security setting, even if you have virus-checking software installed on your computer.

Examining Macros

The best way to get an idea of how macros work is to examine an existing macro. To do that, display the View tab. In the Macros group, click the Macros button and then click View Macros.

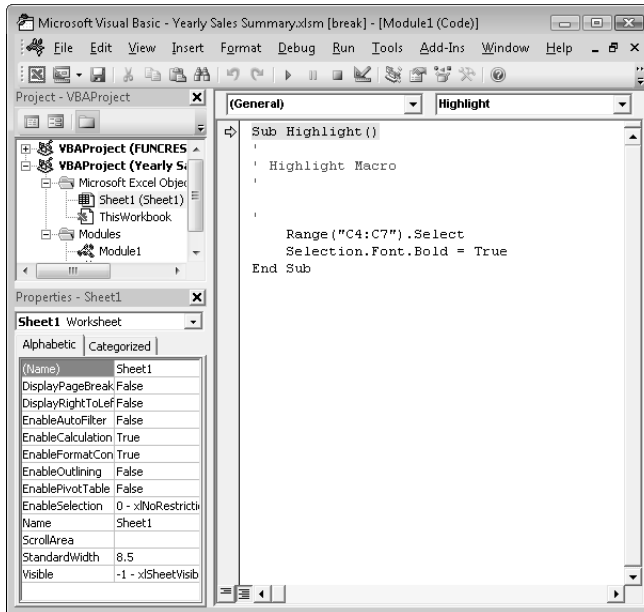
Note In the Macro dialog box, you can display the macros available in other workbooks by clicking the Macros In box and selecting a workbook by name or by selecting All Open Workbooks to display every macro in any open workbook. If you select either of those choices, the macro names displayed include the name of the workbook in which the macro is stored. Clicking This Workbook displays the macros in the active workbook.

The Macro dialog box has a list of macros in your workbook. To view the code behind a macro, you click the macro's name and then click Edit to open the Microsoft Visual Basic Editor.



Excel 2007 macros are recorded using VBA. The preceding graphic shows the code for a macro that highlights the cell range C4:C7 and changes the cells' formatting to bold. After introductory information about the macro (its name and when it was created), the first line of the macro identifies the cell range to be selected (in this case, cells C4:C7). After the macros selects the cells, the next line of the macro changes the formatting of the selected cells to bold, which has the same result as clicking a cell and then clicking the Bold button in the Font group on the Home tab.

To see how the macro works, you can open the Macro dialog box, click the name of the macro you want to examine, and then click Step Into. The Microsoft Visual Basic Editor appears, with a highlight around the instruction that will be executed next.



To execute an instruction, press F8. The highlight moves to the next instruction, and your worksheet then changes to reflect the action that resulted from executing the preceding instruction.

You can run a macro without stopping after each instruction by opening the Macro dialog box, clicking the macro to run, and then clicking Run. You'll usually run the macro this way; after all, the point of using macros is to save time.

In this exercise, you examine a macro in the Visual Basic Editor, move through the first part of the macro one step at a time, and then run the entire macro without stopping.



USE the *VolumeHighlights* workbook in the practice file folder for this topic. This practice file is located in the *My Documents\Microsoft Press\Excel SBS\Macros* folder.

BE SURE TO start Excel 2007 before beginning this exercise.

OPEN the *VolumeHighlights* workbook.

1. On the **Message Bar**, click **Options**.

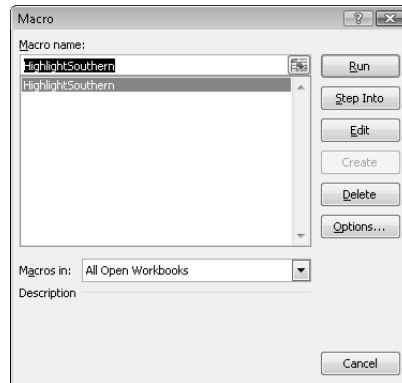
The **Microsoft Office Security Options** dialog box appears.

2. Select the **Enable this content** option button.
3. Click **OK**.

The security warning disappears, and macros are enabled.

4. On the **View** tab, in the **Macros** group, click the **Macros** button down arrow and then click **View Macros**.

The **Macro** dialog box appears.



5. Click the **HighlightSouthern** macro and then click **Edit**.

The Visual Basic Editor opens, with the code for the **HighlightSouthern** macro displayed in the **Module1 (Code)** window.

6. Click the Visual Basic Editor **Close** button.

The Visual Basic Editor closes, and *VolumeHighlights.xlsm* reappears.

7. On the **View** tab, in the **Macros** group, click the **Macros** button down arrow and then click **View Macros**.

The **Macro** dialog box appears.

8. Click the **HighlightSouthern** macro and then click **Step Into**.

The macro appears in the Visual Basic Editor, with the first macro instruction highlighted.

9. Press the **F8** key.

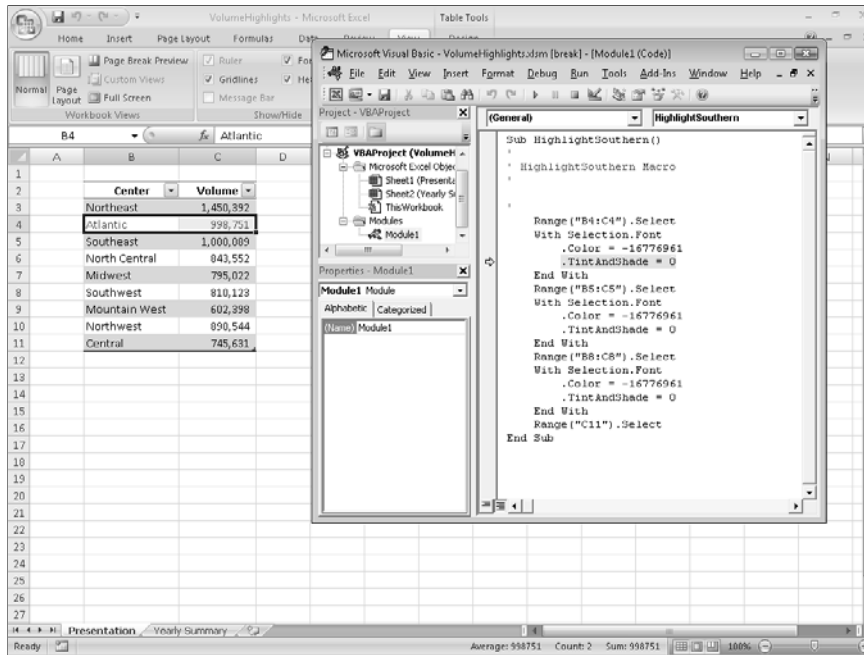
Excel 2007 highlights the next instruction.

10. Press the **F8** key.

The macro selects the Atlantic row in the table.

11. Press the **F8** key twice.

The macro changes the Atlantic row's text color to red.



12. Click the Visual Basic Editor **Close** button.

A warning dialog box appears, indicating that closing the Visual Basic Editor will stop the debugger.

13. Click **OK**.

The Visual Basic Editor closes.

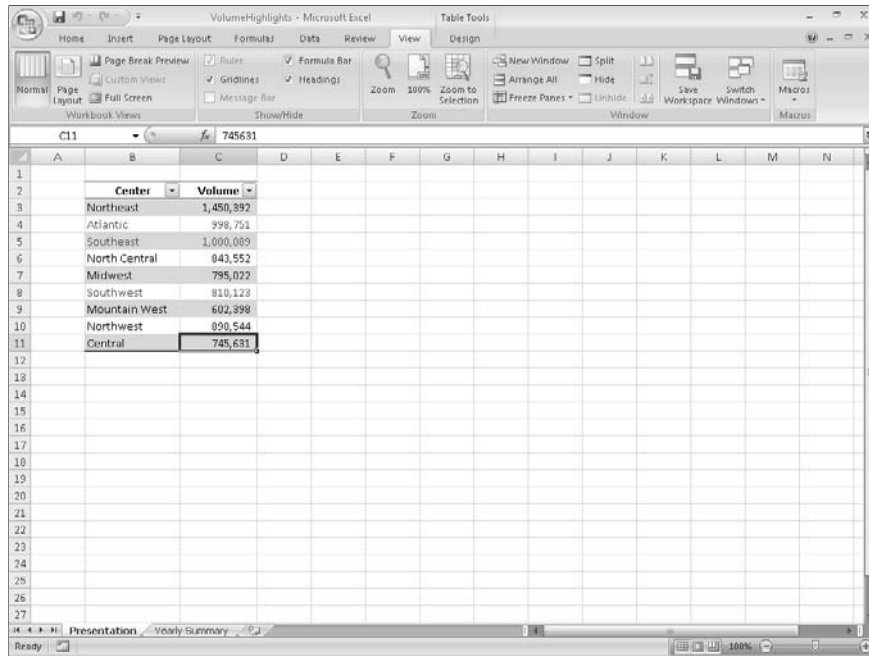
14. On the **View** tab, in the **Macros** group, click the **Macros** button down arrow and then click **View Macros**.

The **Macro** dialog box appears.

15. Click the **HighlightSouthern** macro.

16. Click **Run**.

The **Macro** dialog box disappears, and Excel 2007 runs the entire macro.



17. On the Quick Access Toolbar, click the **Save** button.

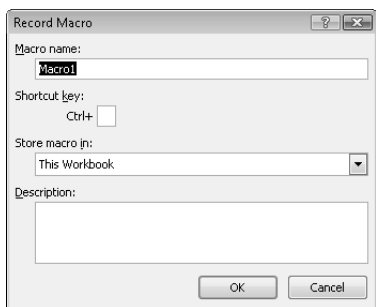
Excel 2007 saves your work.



CLOSE the *VolumeHighlights* workbook.

Creating and Modifying Macros

The first step of creating a macro is to plan the process you want to automate. Computers today are quite fast, so adding an extra step that doesn't affect the outcome of a process doesn't slow you down noticeably, but leaving out a step means you will need to rerecord your macro. After you plan your process, you can create a macro by clicking the View tab and then, in the Macros group, clicking the Macros button down arrow. From the list that appears, click Record Macro. When you do, the Record Macro dialog box appears.



After you type the name of your macro in the Macro Name box, click OK. You can now perform the actions you want Excel 2007 to repeat later; when you're done, click the View tab and then, in the Macros group, click the Macros button down arrow. From the list that appears, click Stop Recording to add your macro to the list of macros available in your workbook.

To modify an existing macro, you can simply delete the macro and rerecord it. Or if you just need to make a quick change, you can open it in the Visual Basic Editor and add to or change the macro's instructions. To delete a macro, open the Macro dialog box, click the macro you want to delete, and then click Delete.

In this exercise, you record a macro that removes the bold formatting from four cells, modify the macro to remove the bold formatting from a fifth cell, and then save the file.



USE the *Yearly Sales Summary* workbook in the practice file folder for this topic. This practice file is located in the *My Documents\Microsoft Press\Excel SBS\Macros* folder.

OPEN the *Yearly Sales Summary* workbook.

1. If necessary, on the **Message Bar**, click **Options**.

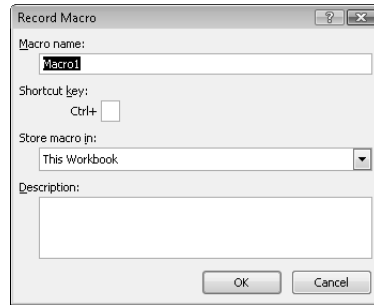
The **Microsoft Office Security Options** dialog box appears.

2. Select the **Enable this content** option button.
3. Click **OK**.

The security warning disappears, and macros are enabled.

4. On the **View** tab, in the **Macros** group, click the **Macros** button down arrow and then click **Record Macro**.

The **Record Macro** dialog box appears.



5. In the **Macro name** box, delete the existing name, and then type **RemoveHighlight**.
6. Click **OK**.
7. Select the cell range C4:C7, and then, on the **Home** tab, in the **Font** group, click the **Bold** button.
8. On the **View** tab, in the **Macros** group, click the **Macros** button down arrow and then click **Stop Recording**.

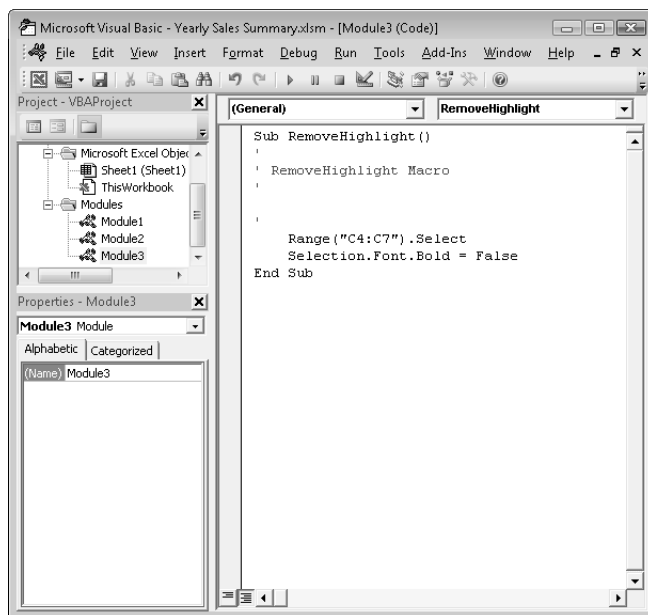
Excel 2007 stops recording the macro.

9. On the **View** tab, in the **Macros** group, click the **Macros** button down arrow and then click **View Macros**.

The **Macro** dialog box appears.

10. In the **Macro name** section, click **RemoveHighlight** and then click **Edit**.

The Visual Basic Editor appears.



11. Click at the end of the line just above `End Sub`, press , and type `Range("C9").Select`, and press .

This macro statement selects cell C9.

12. Type `Selection.Font.Bold = False` and then press .

This macro statement removes bold formatting from the selected cell (C9).

13. On the **Standard** toolbar of the Visual Basic Editor, click the **Save** button to save your change.
14. Click the **Close** button of the **Microsoft Visual Basic Editor** window.

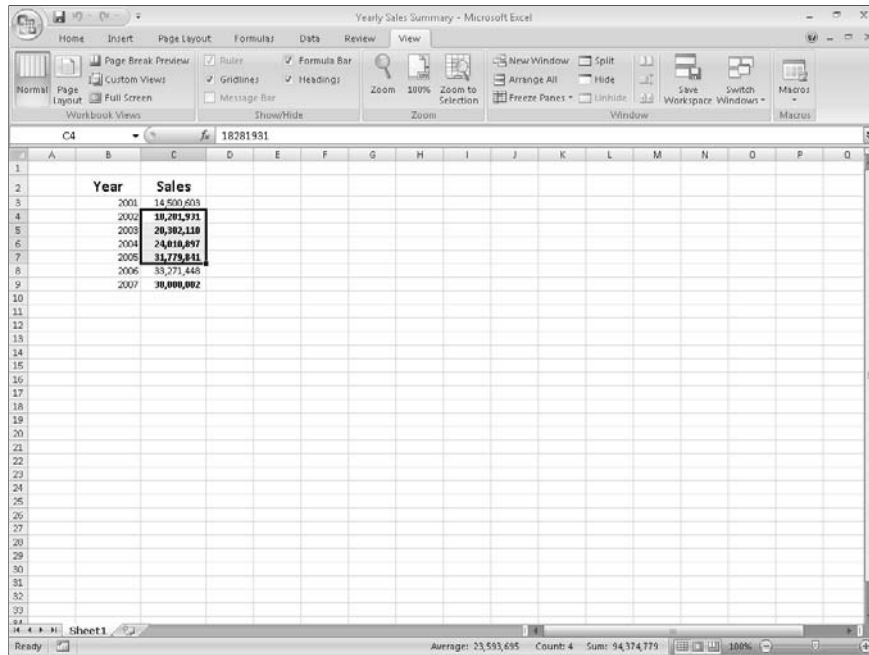
The Visual Basic Editor disappears.

15. On the **View** tab, in the **Macros** group, click the **Macros** button down arrow and then click **View Macros**.

The **Macro** dialog box appears.

16. Click **Highlight** and then click **Run**.

The contents of cells C4, C5, C6, C7, and C9 appear in bold type.



- 17.** On the **View** tab, in the **Macros** group, click the **Macros** button down arrow and then click **View Macros**.

The **Macro** dialog box appears.

- 18.** Click **RemoveHighlight** and then click **Run**.

The contents of cells C4, C5, C6, C7, and C9 appear in regular type.

- 19.** On the **Quick Access Toolbar**, click the **Save** button.

Excel 2007 saves your workbook.

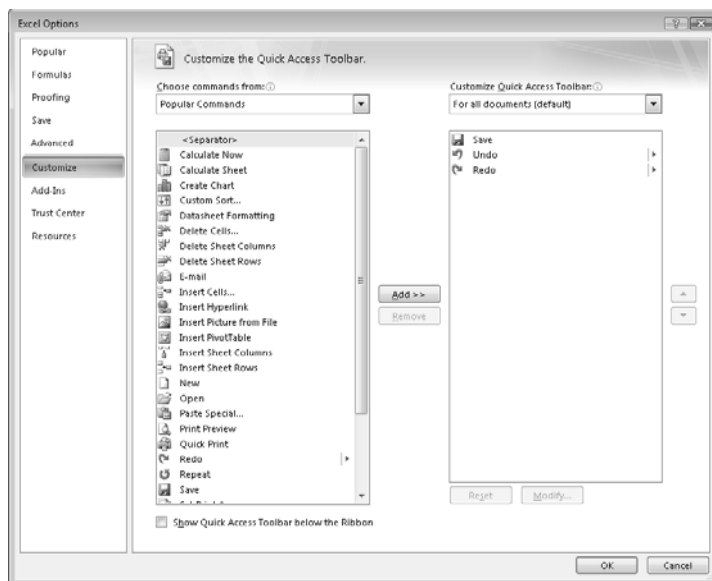


CLOSE the *Yearly Sales Summary* workbook.

Running Macros When a Button Is Clicked

The new ribbon user interface enables you to discover the commands built into Excel 2007 quickly, but it can take a few seconds to display the View tab, open the Macro dialog box, select the macro you want to run, and click the Run button. When you're in the middle of a presentation, taking even those few seconds can reduce your momentum and force you to regain your audience's attention. Excel 2007 offers several ways for you to make your macros more accessible.

If you want to display the Macro dialog box quickly, you can add the View Macros button to the Quick Access Toolbar. To do so, click the Customize Quick Access Toolbar button at the right edge of the Quick Access Toolbar and then click More Commands to display the Customize tab of the Excel Options dialog box.

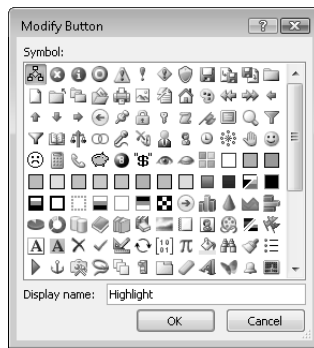


See Also For more information on customizing the Quick Access Toolbar, see Chapter 2, “Setting Up a Workbook.”

When you display the Popular Commands command group, you’ll see that the last item in the command pane is View Macros. When you click the View Macros item, click the Add button, and then click OK, Excel 2007 adds the command to the Quick Access Toolbar and closes the Excel Options dialog box. Clicking the View Macros button on the Quick Access Toolbar displays the Macro dialog box without having to display the View tab and move the mouse to the far right edge of the ribbon, saving you a significant amount of time.

If you prefer to run a macro without having to display the Macro dialog box, you can do so by adding a button representing the macro to the Quick Access Toolbar. Clicking that button runs the macro immediately, which is very handy when you create a macro for a task you perform frequently. To add a button representing a macro to the Quick Access Toolbar, click the Customize Quick Access Toolbar button at the right edge of the Quick Access Toolbar and then click More Commands to display the Customize tab of the Excel Options dialog box. From there, click the Choose Commands From box down arrow and click Macros. Click the macro you want represented on the Quick Access Toolbar, click Add, and then click OK.

If you add more than one macro button to the Quick Access Toolbar or if you want to change the button that represents your macro on the Quick Access Toolbar, you can select a new button from more than 160 options. To assign a new button to your macro, click the macro item in the Customize Quick Access Toolbar pane and click the Modify button to display your choices. Click the Modify button to display your choices. Click the button you want, type a new text value to appear when a user's mouse pointer hovers over the button, and then click OK twice (the first time to close the Modify Button dialog box and the second to close the Excel Options dialog box).



Finally, you can have Excel 2007 run a macro when you click a shape in your workbook. Assigning macros to shapes enables you to create “buttons” that are graphically richer than those available on the Quick Access Toolbar. If you're so inclined, you can even create custom button layouts that represent other objects, such as a remote control. To run a macro when you click a shape, right-click the shape and then click Assign Macro from the shortcut menu that appears. In the Assign Macro dialog box, click the macro you want to run when you click the shape and then click OK.

Warning When you assign a macro to run when you click a shape, don't change the name of the macro that appears in the Assign Macro dialog box. The name that appears refers to the object and what the object should do when it is clicked; changing the macro name breaks that connection and prevents Excel 2007 from running the macro.

In this exercise, you will add the View Macros button to the Quick Access Toolbar, add a macro button to the Quick Access Toolbar, assign a macro to a workbook shape, and then run the macros.

USE the *Performance Dashboard* workbook in the practice file folder for this topic. This practice file is located in the *My Documents\Microsoft Press\Excel SBS\Macros* folder.

OPEN the *Performance Dashboard* workbook.

1. On the **Quick Access Toolbar**, click the **Customize Quick Access Toolbar** button and then click **More Commands**.

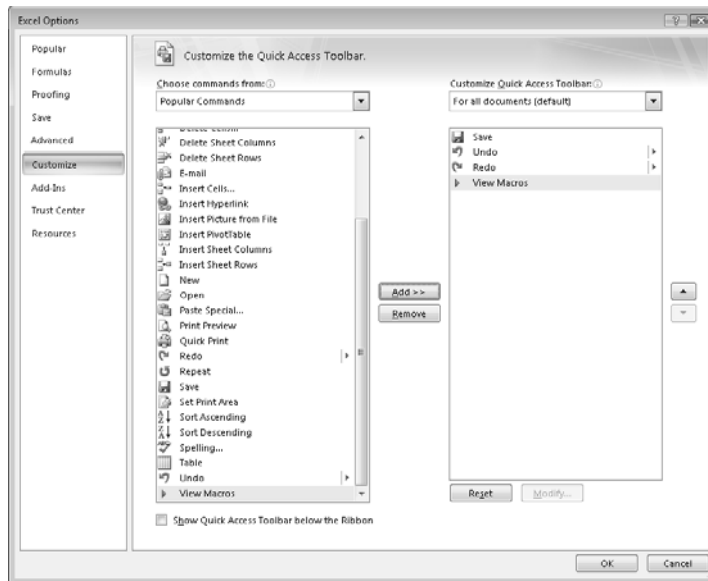
The **Customize** page of the **Excel Options** dialog box appears.

2. If necessary, click the **Choose commands from** down arrow and then click **Popular Commands**.

The commands in the **Popular Commands** category appear.

3. In the **Commands** panel, click **View Macros**.
4. Click **Add**.

The **View Macros** command appears in the **Customize Quick Access Toolbar** command panel.



5. Click the **Choose commands from** box down arrow and then click **Macros**.
The available macros appear.
6. In the **Commands** panel, click **SavingsHighlight**.
7. Click **Add**.

The **SavingsHighlight** macro appears in the **Customize Quick Access Toolbar** command panel.

8. In the **Customize Quick Access Toolbar** command panel, click the **SavingsHighlight** command.

9. Click **Modify**.

The **Modify Button** dialog box appears.

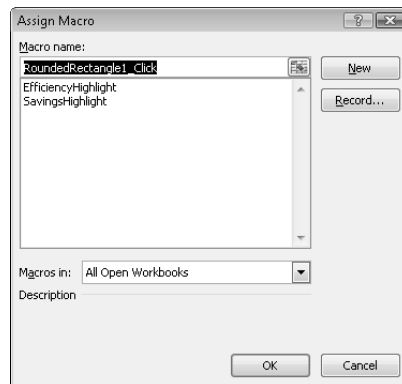
10. Click the blue button with the white circle inside it (the fourth button from the left on the top row).

11. Click **OK** twice to close the **Modify Button** dialog box and the **Excel Options** dialog box.

The **Excel Options** dialog box disappears, and the **View Macros** and **SavingsHighlight** buttons appear on the **Quick Access Toolbar**.

12. Right-click the **Show Efficiency** shape and then click **Assign Macro**.

The **Assign Macro** dialog box appears.



13. Click **EfficiencyHighlight** and then click **OK**.

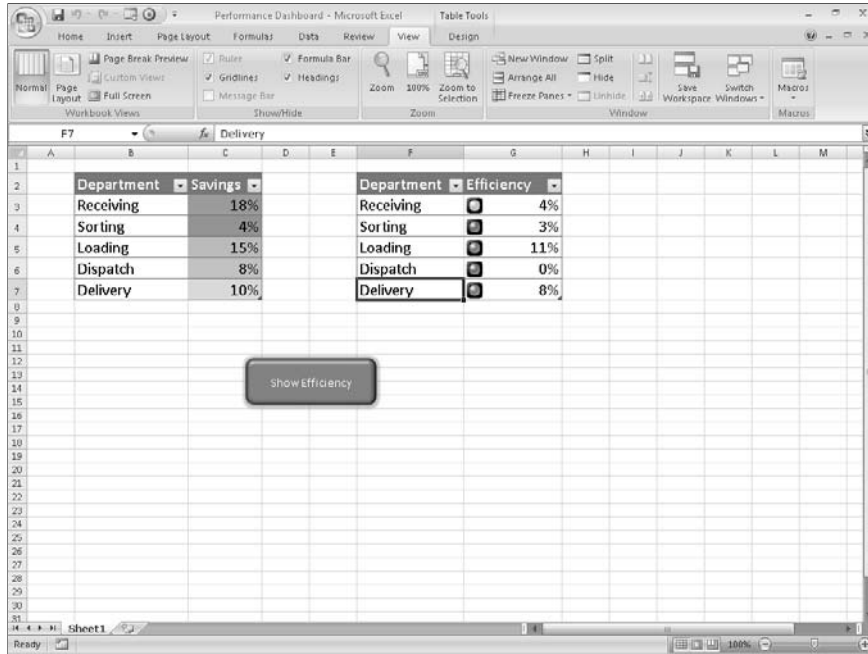
The **Assign Macro** dialog box disappears.

14. On the **Quick Access Toolbar**, click the **SavingsHighlight** button.

Excel 2007 runs the macro, which applies a conditional format to the values in the **Savings** column of the left-hand table.

15. Click the **Show Efficiency** shape.

Excel 2007 runs the macro, which applies a conditional format to the values in the **Efficiency** column of the right-hand table.



16. On the **Quick Access Toolbar**, click the **Save** button to save your work.



CLOSE the *Performance Dashboard* workbook.

Running Macros When a Workbook Is Opened

One advantage of writing Excel 2007 macros in VBA is that you can have Excel 2007 run a macro whenever a workbook is opened. For example, if you use a worksheet for presentations, you can create macros that render the contents of selected cells in bold type, italic, or different typefaces to set the data apart from data in neighboring cells. If you close a workbook without removing that formatting, however, the contents of your workbook will have highlights when you open it. Although this is not a catastrophe, returning the workbook to its original formatting might take a few seconds to accomplish.

Instead of running a macro by hand, or even from a toolbar button or a menu, you can have Excel 2007 run a macro whenever a workbook is opened. The trick of making that happen is in the name you give the macro. Whenever Excel 2007 finds a macro with the name `Auto_Open`, it runs the macro when the workbook to which it is attached is opened.

Note If you have your macro security set to the Disable with Notification level, clicking the Options button that appears on the Message Bar, selecting the Enable this Content option button, and then clicking OK allows the Auto_Open macro to run.

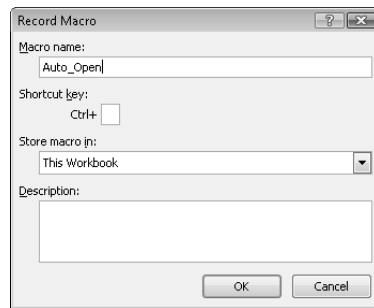
In this exercise, you will create a macro to run whenever someone opens the workbook to which it is attached.



USE the *RunOnOpen* workbook in the practice file folder for this topic. This practice file is located in the *My Documents\Microsoft Press\Excel SBS\Macros* folder.

OPEN the *RunOnOpen* workbook.

1. If necessary, click the **Options** button that appears on the **Message Bar**.
The **Microsoft Office Security Options** dialog box appears.
2. Select the **Enable this content** option button and then click **OK**.
The **Microsoft Office Security Options** dialog box disappears.
3. On the **View** tab, in the **Macros** group, click the **Macros** button down arrow and then click **Record Macro**.
The **Record Macro** dialog box appears.
4. In the **Macro name** box, delete the existing name and then type **Auto_Open**.



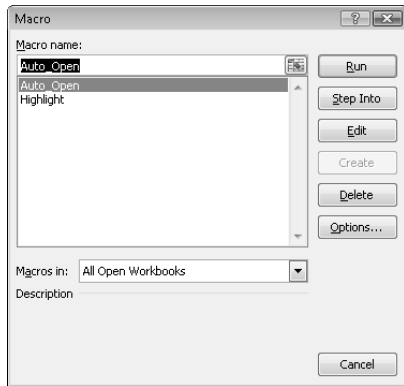
5. Click **OK**.
The **Record Macro** dialog box disappears.
6. Select the cell range B3:C11.
7. On the **Home** tab, in the **Font** group, click the **Bold** button twice.
The first click of the **Bold** button formats all the selected cells in bold; the second click removes the bold formatting from all the selected cells.

8. On the **View** tab, in the **Macros** group, click the **Macros** button down arrow and click **Stop Recording**.

Excel 2007 stops recording your macro.

9. On the **View** tab, in the **Macros** group, click the **Macros** button down arrow and then click **View Macros**.

The **Macro** dialog box appears.

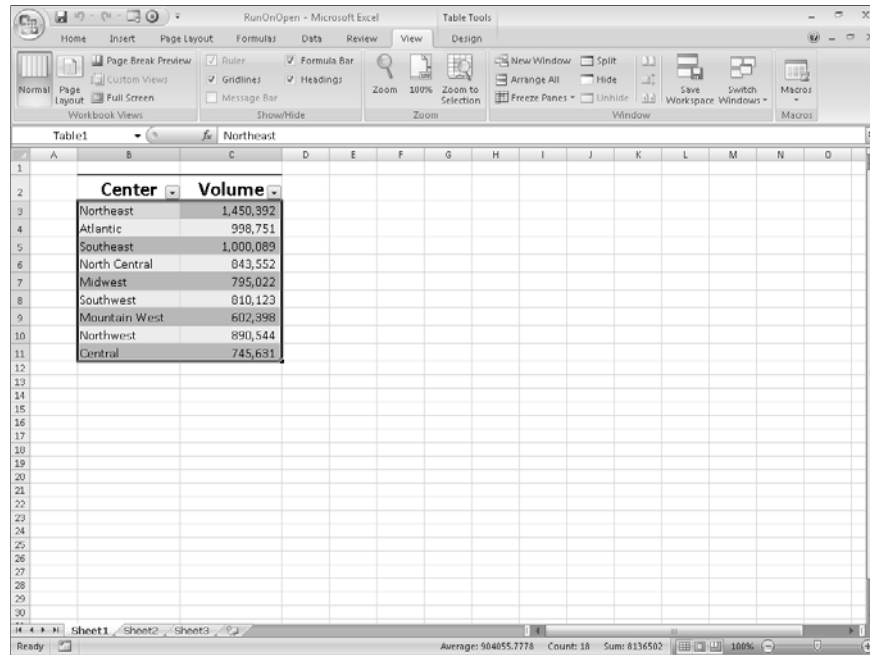


10. Click **Highlight** and then click **Run**.

The contents of cells C4, C6, and C10 appear in bold type.

11. On the **Quick Access Toolbar**, click the **Save** button to save your work.
12. Click the **Close** button to close *RunOnOpen.xls*.
13. Click the **Microsoft Office** button and then click **RunOnOpen.xlsx**.

If a warning appears, click **Options**, select the **Enable this content** option button, and then click **OK** to enable macros. *RunOnOpen.xls* opens, with the contents of cells C4, C6, and C10 changing immediately to regular type.



14. On the Quick Access Toolbar, click the **Save** button to save your work.



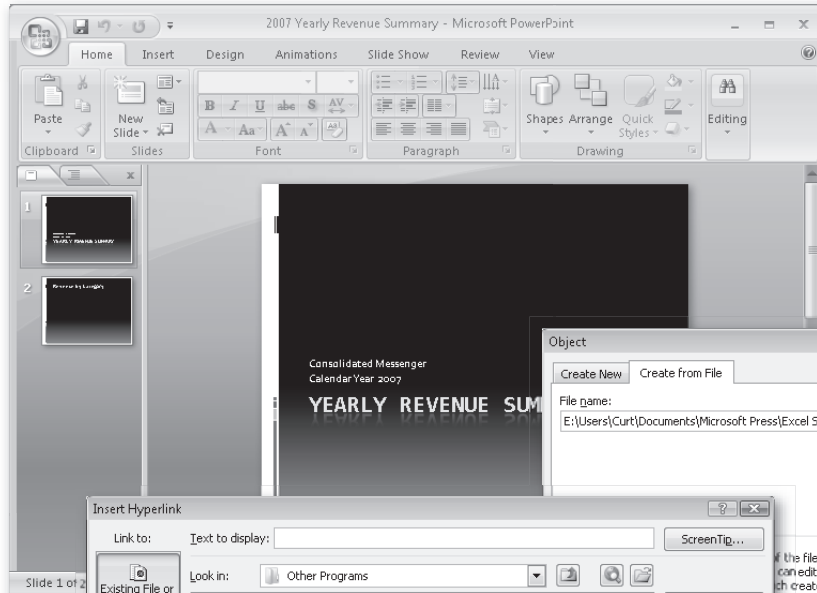
CLOSE the *RunOnOpen* workbook.

CLOSE Excel.

Key Points

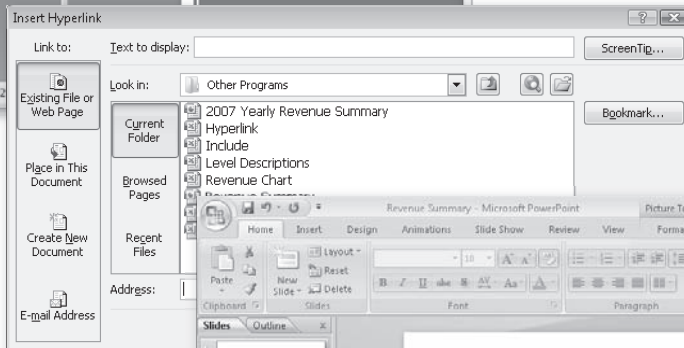
- Macros are handy tools you can use to perform repetitive tasks quickly, such as inserting blocks of text.
- You don't have to be a programmer to use macros; you can record your actions and have Excel 2007 save them as a macro.
- Excel 2007 uses macro-enabled workbook types, which have the file extensions .xlsx (a macro-enabled workbook) and .xltx (a macro-enabled template workbook).
- If you're curious about what a macro looks like, you can display it in the Visual Basic Editor. If you know a little VBA, or if you just want to experiment, feel free to modify the macro code and see what happens.
- You can create Quick Access Toolbar buttons and shapes that, when clicked, run a macro.

Chapter at a Glance

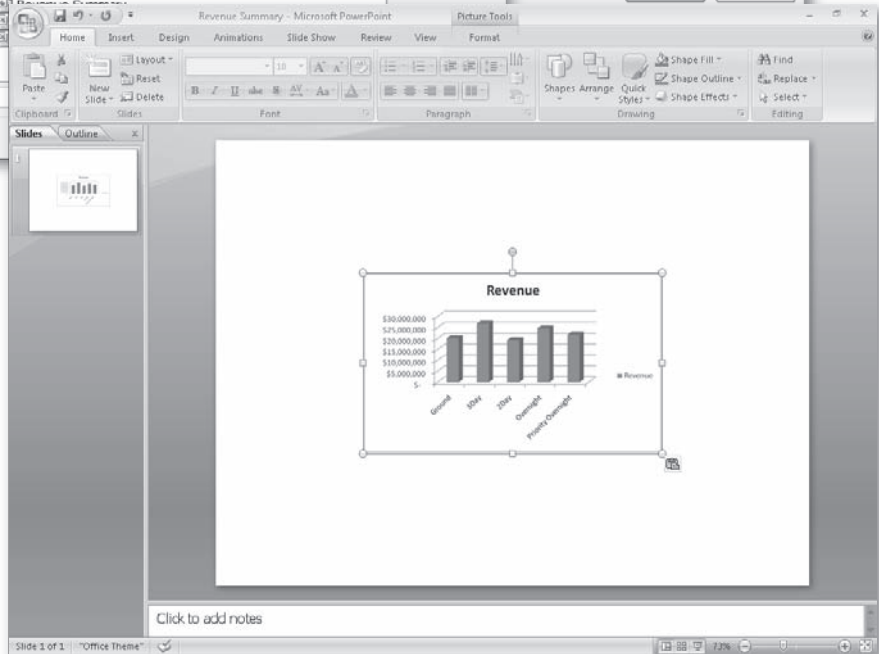
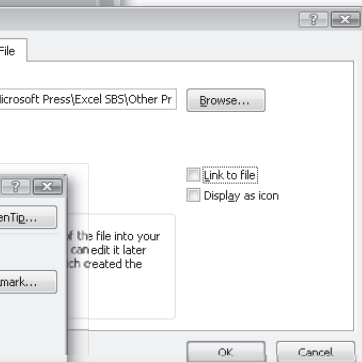


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— Store an Excel 2007 document as part of another Microsoft Office system document, page 317



— Create a hyperlink, page 320



— Paste an Excel 2007 chart into another document, page 325

14 Working with Other Microsoft Office System Programs

In this chapter you will learn to:

- ✓ Include Microsoft Office system documents in worksheets.
 - ✓ Store Excel 2007 documents in other Microsoft Office system documents.
 - ✓ Create hyperlinks.
 - ✓ Paste Excel 2007 charts into other documents.
-

By itself, Microsoft® Office Excel® 2007 provides a broad range of tools so that you can store, present, and summarize your financial data. Other 2007 Microsoft Office system programs extend your capabilities even further, enabling you to create databases, presentations, written reports, and custom Web pages through which you can organize and communicate your data in print and over networks.

All the Microsoft Office system programs interact in many useful ways. For example, you can include a file created with another Microsoft Office system program in an Excel 2007 worksheet. If you use Microsoft Office Word 2007 to write a quick note about why a customer's shipping expenditures decreased significantly in January, you can include the report in your workbook. Similarly, you can include your Excel 2007 workbooks in documents created with other Microsoft Office system programs. If you want to copy only part of a workbook, such as a chart, to another Microsoft Office system document, you can do that as well.

Excel 2007 integrates well with the Web. If you know of a Web-based resource that would be useful to someone who is viewing a document, you can create a [hyperlink](#), or connection from a document to a place in the same file or to another file anywhere on a network or the Internet that the user's computer can reach.

In this chapter, you will learn how to include a Microsoft Office system document in a worksheet, store an Excel 2007 workbook as part of another Microsoft Office system document, create hyperlinks, and paste an Excel 2007 chart into another document.

See Also Do you need only a quick refresher on the topics in this chapter? See the Quick Reference entries on pages xxvii–lxiii.



Important Before you can use the practice sites provided for this chapter, you need to install them from the book's companion CD to their default location. See "Using the Book's CD" on page xiii for more information.

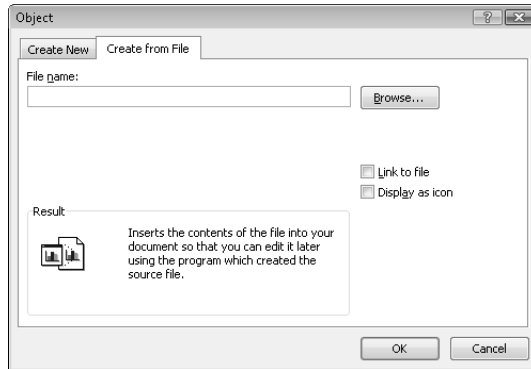
Including Microsoft Office System Documents in Excel 2007 Worksheets

A benefit of working with Excel 2007 is that because it is part of the Microsoft Office system, it is possible to combine data from Excel 2007 and other Microsoft Office system programs to create informative documents and presentations. Just like combining data from more than one Excel 2007 document, combining information from other Microsoft Office system files with an Excel 2007 workbook entails either pasting another Microsoft Office system document into an Excel 2007 workbook or creating a link between a workbook and the other document.

There are two advantages of creating a link between your Excel 2007 workbook and another file. The first benefit is that linking to the other file, as opposed to copying the entire file into your workbook, keeps your Excel 2007 workbook small. If the workbook is copied to another drive or computer, you can maintain the link by copying the linked file along with the Excel 2007 workbook, re-creating the link if the linked file is on the same network as the Excel 2007 workbook. It is also possible to use the workbook without the linked file. The second benefit of linking to another file is that any changes in the file to which you link are reflected in your Excel 2007 workbook.

Tip You usually have to close and reopen a workbook for any changes in the linked document to appear in your workbook. The exception to this rule occurs when you open the file for editing from within your Excel 2007 workbook (as discussed later in this chapter).

You create a link between an Excel 2007 workbook and another Microsoft Office system document by clicking the Insert tab and then, in the Text group, clicking Object to display the Object dialog box. In the Object dialog box, click the Create from File tab.



Clicking the Browse button on the Create from File tab opens the Browse dialog box, from which you can browse to the folder with the file you want to link to Excel 2007. After you locate the file, double-clicking it closes the Browse dialog box and adds the file's name and path to the File name box of the Object dialog box. To create a link to the file, select the Link to file check box and click OK. When you do, the file appears in your workbook.

If you want to link a file to your workbook but don't want the file image to take up much space on the screen, you can also select the Display as icon check box. After you select the file and click OK, the file will be represented by the same icon used to represent it in Microsoft Windows®.

After you have linked a file to your Excel 2007 workbook—for example, a Microsoft Office PowerPoint® 2007 file—you can edit the file by right-clicking its image in your workbook and then, from the shortcut menu that appears, pointing to the appropriate Object command and clicking Edit. For an Office PowerPoint file, you point to Presentation Object. The file will open in its native application. When you finish editing the file, your changes appear in your workbook.

Note The specific menu item you point to changes to reflect the program used to create the file to which you want to link. For an Office Word 2007 document, for example, the menu item you point to is Document Object.

In this exercise, you link a PowerPoint 2007 presentation showing a yearly business summary to an Excel 2007 workbook and then edit the presentation from within Excel 2007.

Important You must have PowerPoint 2007 installed on your computer to complete this exercise.



USE the *Summary Presentation* workbook and the *2007 Yearly Revenue Summary* presentation in the practice file folder for this topic. This practice file is located in the *My Documents\Microsoft Press\Excel SBS\Other Programs* folder.

BE SURE TO start Excel 2007 before beginning this exercise.

BE SURE TO start PowerPoint 2007 before beginning this exercise.

OPEN the *Summary Presentations* workbook.

1. On the **Insert** tab, in the **Text** group, click **Object**.

The **Object** dialog box appears.

2. Click the **Create from File** tab.

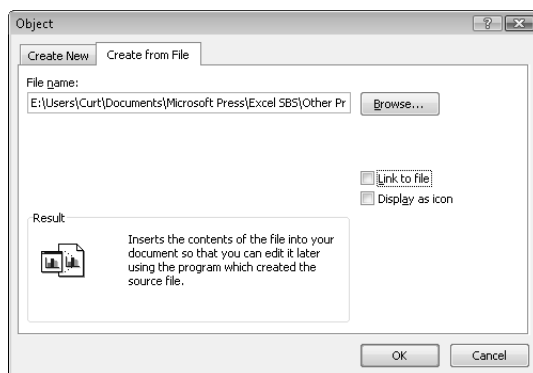
The **Create from File** tab page appears.

3. Click **Browse**.

The **Browse** dialog box appears.

4. Browse to the *My Documents\Microsoft Press\Excel SBS\Other Programs* folder, click *2007 Yearly Revenue Summary.pptx*, and then click **Insert**.

The **Browse** dialog box disappears, and the full file path of the *2007 Yearly Revenue Summary* presentation appears in the **File name** box.

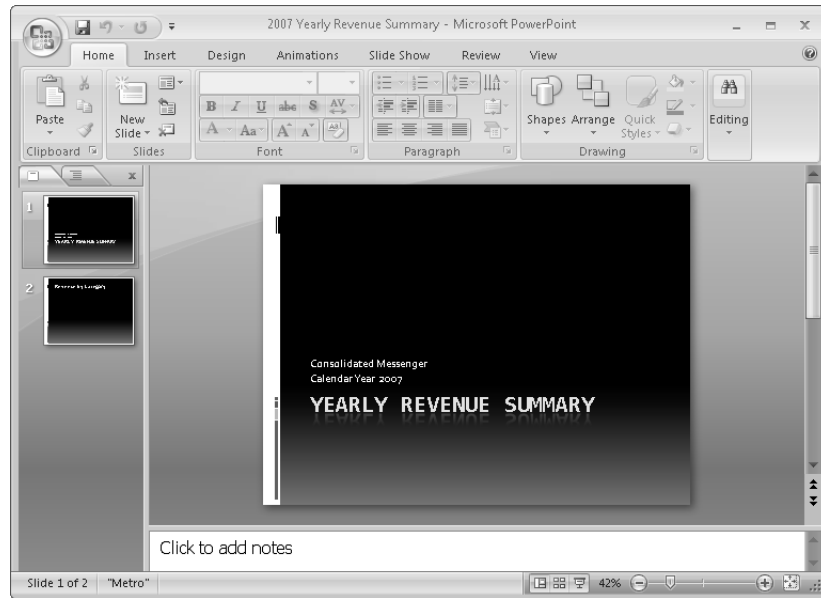


5. Select the **Link to file** check box and then click **OK**.

Excel 2007 creates a link from your workbook to the presentation.

6. Right-click the presentation, and then, from the shortcut menu that appears, point to **Presentation Object** and then click **Edit**.

The presentation opens in a PowerPoint 2007 window.



7. Click Consolidated Messenger FY2007.

The text box containing **Consolidated Messenger FY2007** is activated.

8. Select the FY2007 text and then type Calendar Year 2007.

9. In PowerPoint 2007, on the Quick Access Toolbar, click the Save button.

PowerPoint 2007 saves your changes, and Excel 2007 updates the linked object's appearance to reflect the new text.

10. Click the Microsoft Office Button and then click Save.



CLOSE the *Summary Presentation* workbook.

CLOSE the *2007 Yearly Revenue Summary* presentation.

CLOSE PowerPoint 2007.

Storing Excel 2007 Documents as Parts of Other Microsoft Office System Documents

In this chapter's preceding section, you learned how to link to another file from within your Excel 2007 workbook. The advantages of linking to a second file are that the size of your workbook is kept small and any changes in the second document will be reflected in your workbook. The disadvantage is that the second document must be copied along

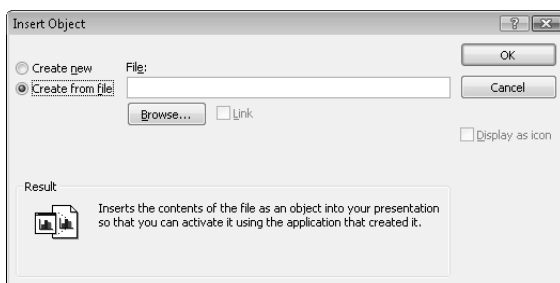
with the workbook—or at least be on a network-accessible computer. If Excel 2007 can't find or access the second file where the link says it is located, Excel 2007 can't display it. You can still open your workbook, but you won't see the linked file's contents.

If file size isn't an issue, and you want to ensure that the second document is always available, you can **embed** the file in your workbook. Embedding another file in an Excel 2007 workbook means that the entirety of the other file is saved as part of your workbook. Wherever your workbook goes, the embedded file goes along with it. Of course, the embedded version of the file is no longer connected to the original file, so changes in one aren't reflected in the other.

Important To view the embedded file, you need to have the program used to create it installed on the computer where you open the workbook.

You can embed a file in an Excel 2007 workbook by following the procedure described in the preceding section, except that the Link to file check box should not be selected.

It is also possible to embed your Excel 2007 workbooks in other Microsoft Office system documents. In PowerPoint 2007, for example, you can embed an Excel 2007 file in a presentation by displaying the Insert tab in PowerPoint and then clicking Object to display the Object dialog box. When the Object dialog box appears, select the Create from file option button. When the Object dialog box appears, select the Create from file option button.



To identify the file you want to embed, click the Browse button and then, in the Browse dialog box that appears, navigate to the folder where the file is stored and double-click the file. The Browse dialog box disappears, and the file appears in the File name box. Click OK to embed your workbook in the presentation.

If you want to embed a workbook in a file created with another program, but you don't want the worksheet to take up much space on the screen, select the Display as icon check box. After you select the file to embed and click OK, the file is represented

by the same icon used to represent it in Windows. Double-clicking the icon opens the embedded document in its original application.

To edit the embedded Excel 2007 workbook, right-click the workbook (or the icon representing it) and then, from the shortcut menu that appears, point to Worksheet Object and click Edit. The workbook opens for editing. After you finish making your changes, you can click anywhere outside the workbook to return to the presentation.

In this exercise, you embed an Excel 2007 workbook containing sales data in a PowerPoint 2007 presentation and then change the formatting of the workbook from within PowerPoint 2007.

Important You must have PowerPoint 2007 installed on your computer to complete this exercise.

➔ **USE** the *2007 Yearly Revenue Summary* presentation and the *RevenueByServiceLevel* workbook in the practice file folder for this topic. This practice file is located in the *My Documents\Microsoft Press\Excel SBS\Other Programs* folder.

BE SURE TO start Office PowerPoint 2007 before beginning this exercise.

OPEN the *2007 Yearly Revenue Summary* presentation.

1. In the **Slides** panel of the presentation window, click the second slide.

The second slide appears.

2. On the **Insert** tab, in the **Text** group, click **Object**.

The **Insert Object** dialog box appears.

3. Select the **Create from file** option button.

The controls in the **Insert Object** dialog box change to show a box in which you can enter a file name.



4. Click **Browse**.

The **Browse** dialog box appears.

5. Browse to the *My Documents\Microsoft Press\Excel SBS\Other Programs* folder and then double-click the *RevenueByServiceLevel* workbook.

The **Browse** dialog box disappears, and the file's full path appears in the **File name** box.

6. Click **OK**.

The workbook appears in your presentation.



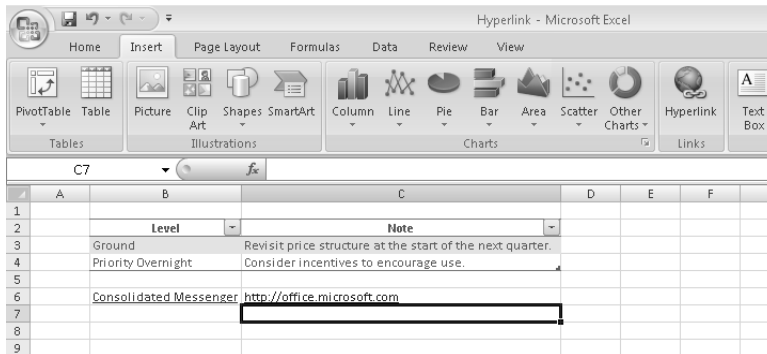
CLOSE the *RevenueByServiceLevel* workbook.

CLOSE the *2007 Yearly Revenue Summary* presentation.

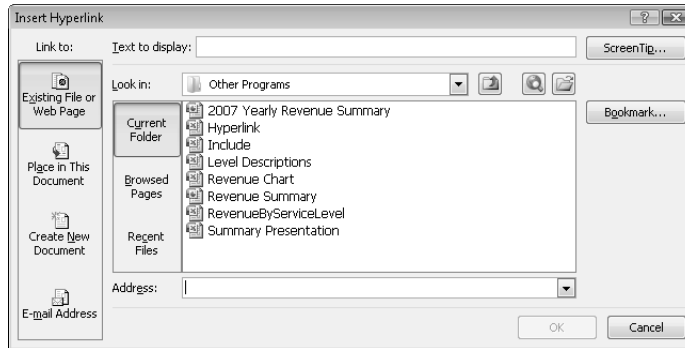
CLOSE PowerPoint 2007.

Creating Hyperlinks

One of the hallmarks of the Web is that documents published on Web pages can have references, or hyperlinks, to locations in the same document or to other Web documents. A hyperlink functions much like a link between two cells or between two files, but hyperlinks can reach any computer on the Web, not just those on a corporate network. Hyperlinks that haven't been clicked usually appear as underlined blue text, and followed hyperlinks appear as underlined purple text, but those settings can be changed.



To create a hyperlink, click the cell in which you want to insert the hyperlink and then, on the **Insert** tab, click **Hyperlink**. The **Insert Hyperlink** dialog box appears.



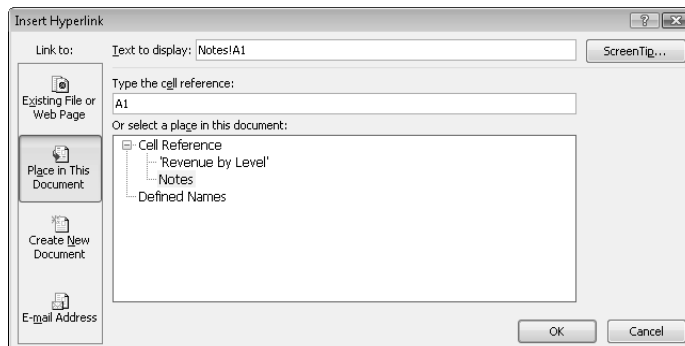
Tip You can also open the Insert Hyperlink dialog box by pressing **Ctrl+K**.

You can choose one of four types of targets, or destinations, for your hyperlink: an existing file or Web page, a place in the current document, a new document you create on the spot, or an e-mail address.

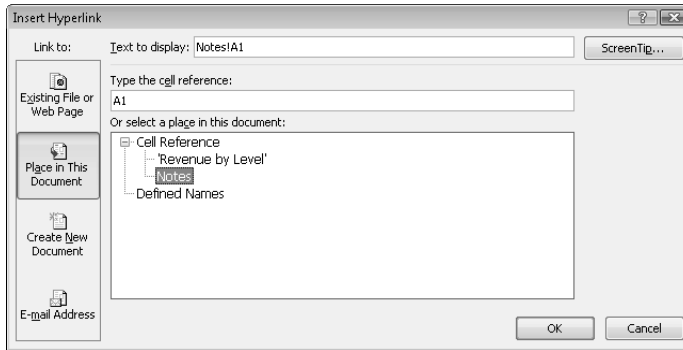
Note By default, the Insert Hyperlink dialog box displays the tools to connect to an existing file or Web page.

To create a hyperlink to another file or Web page, you can use the Look in box navigation tool to locate the file. If you recently opened the file or Web page to which you want to link, you can click either the Browsed Pages or the Recent Files button to display the Web pages or files in your History list.

If you want to create a hyperlink to another place in the current Excel 2007 workbook, you click the Place in This Document button to display a list of available targets in the current workbook.

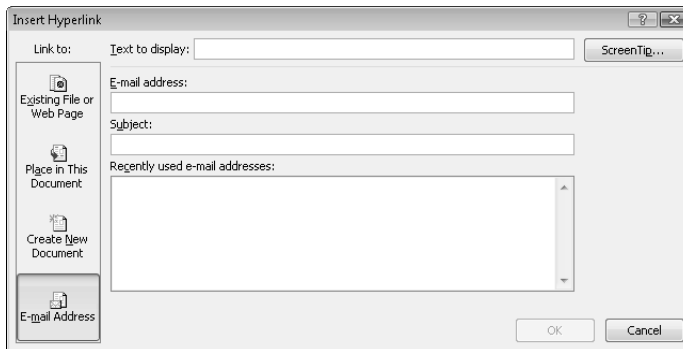


To select the worksheet to which you want to refer, you click the worksheet name in the Or Select A Place In This Document box. When you do, a 3-D reference with the name of the worksheet and cell A1 on that worksheet appears in the Text to display box.



If you want to refer to a specific cell on a worksheet, click the worksheet name in the Or Select A Place In This Document box and then change the cell reference in the Type the cell reference box.

You can also create hyperlinks that generate e-mail messages to an address of your choice. To create this type of hyperlink, which is called a [mailto](#) hyperlink, click the E-mail Address button.



In the dialog box that appears, you can type the recipient's e-mail address in the E-mail address box and the subject line for messages sent via this hyperlink in the Subject box.

Tip If you use Windows Mail, Microsoft Office Outlook®, or Microsoft Office Outlook Express as your e-mail program, a list of recently used addresses will appear in the Recently used e-mail addresses box. You can insert any of those addresses in the E-mail address box by clicking the address.

Clicking a mailto hyperlink causes the user's default e-mail program to open and create a new e-mail. The e-mail message is addressed to the address you entered in the E-mail address box, and the subject is set to the text you typed in the Subject box.

Regardless of the type of hyperlink you create, you can specify the text you want to represent the hyperlink in your worksheet. You type that text in the Text to display box. When you click OK, the text you type there appears in your worksheet, formatted as a hyperlink.

Tip If you leave the Text to display box empty, the actual link will appear in your worksheet.

To edit an existing hyperlink, click the cell containing the hyperlink and then, from the shortcut menu that appears, click Edit Hyperlink. You can also click Open Hyperlink to go to the target document or create a new e-mail message, or click Remove Hyperlink to delete the hyperlink.

Tip If you delete a hyperlink from a cell, the text from the Text to display box remains in the cell, but it no longer functions as a hyperlink.

In this exercise, you create a hyperlink to another document and then a second hyperlink to a different location in the current workbook.



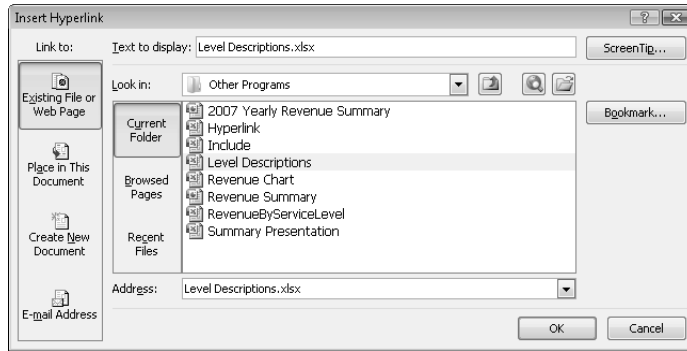
USE the *Hyperlink* and *Level Descriptions* workbooks in the practice file folder for this topic. This practice file is located in the *My Documents\Microsoft Press\Excel SBS\Other Programs* folder.

OPEN the *Hyperlink* workbook.

1. On the **Revenue by Level** worksheet, click cell B9.
2. On the **Insert** tab, in the **Links** group, click **Hyperlink**.
The **Insert Hyperlink** dialog box appears.
3. If necessary, click the **Existing File or Web Page** button.
4. If necessary, use the controls in the **Look in** box to navigate to the *My Documents\Microsoft Press\Excel SBS\Other Programs* folder.
The files in the target folder appear in the **Insert Hyperlink** dialog box.
5. In the file list, click the **Level Descriptions** workbook.

Excel 2007 highlights the workbook, and the workbook's full path appears in the **Text to display** box.

6. In the **Text to display** box, edit the value so that it reads **Level Descriptions**.



7. Click **OK**.

8. Click the hyperlink in cell B9.

The *Level Descriptions* workbook appears.

9. In the *Level Descriptions* workbook, click the **Microsoft Office Button** and then click **Close**.

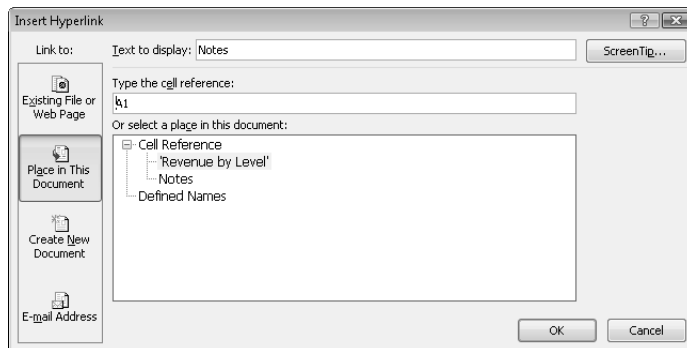
The *Level Descriptions* workbook disappears.

10. Right-click cell B11 and then click **Hyperlink**.

The **Insert Hyperlink** dialog box appears.

11. In the **Link to** pane, click **Place in This Document**.

The document elements to which you can link appear in the dialog box.



12. In the **Or select a place in this document** pane, click **Notes**.

13. Click **OK**.

The **Insert Hyperlink** dialog box disappears, and Excel 2007 creates a hyperlink in cell B11.

14. Right-click cell B11 and then click **Edit Hyperlink**.

The **Edit Hyperlink** dialog box appears.

15. Edit the **Text to display** box's value so it reads **Revenue Notes**.**16.** Click **OK**.

The **Edit Hyperlink** dialog box disappears, and the text in cell B11 changes to *Revenue Notes*.

17. On the **Quick Access Toolbar**, click the **Save** button to save your work.

CLOSE the *Hyperlink* and *Level Descriptions* workbooks.

Pasting Charts into Other Documents

A final way to include objects from one workbook in another workbook is to copy the object you want to share and then paste it into its new location. Copying Excel 2007 charts to Word 2007 documents and PowerPoint 2007 presentations enables you to reuse your data without inserting a worksheet into the file and re-creating your chart in that new location.

When you want to copy the image of the chart in its current form to another document, you just right-click the chart, click **Copy** from the shortcut menu that appears, and then paste the image into the other document. After the other Microsoft Office system program completes the paste operation, it displays the **Paste Options** button. Clicking the **Paste Options** button enables you to choose whether to paste the chart as a chart that remains linked to the worksheet that provides its data, to paste the entire workbook, or to paste an image of the chart in its current state.

Note In previous versions of Microsoft Office, the default option was to paste an image of the chart. In the 2007 release, the programs assume that you want to paste the chart and retain its connection to the source workbook.

In this exercise, you copy a chart containing sales information to the Clipboard and paste an image of the chart into a PowerPoint 2007 presentation.

Important You must have PowerPoint 2007 installed on your computer to complete this exercise.

➔ **USE** the *Revenue Chart* workbook and the *Revenue Summary* presentation in the practice file folder for this topic. This practice file is located in the *My Documents\Microsoft Press\Excel SBS\Other Programs* folder.

BE SURE TO start PowerPoint 2007 before beginning this exercise.

OPEN the *Revenue Chart* workbook and the *Revenue Summary* presentation.

1. In the *Revenue Chart* workbook, right-click the chart and then click **Copy**.

Excel 2007 copies the workbook to the Clipboard.

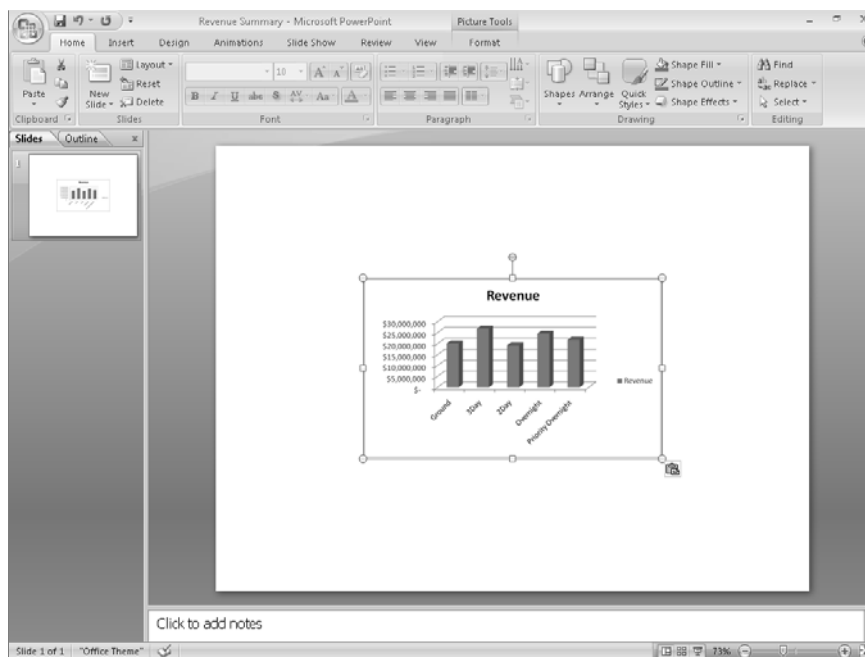
2. Display the *Revenue Summary* presentation.

3. Right-click a blank spot in the visible slide and click **Paste**.

The chart appears in the presentation, and PowerPoint 2007 displays a **Paste Options** button.

4. Click the **Paste Options** button and then, from the options that appear, click **Paste as Picture**.

The chart appears as a static image.





CLOSE the *Revenue Chart* workbook.

CLOSE the *Revenue Summary* presentation.

CLOSE PowerPoint 2007.

CLOSE Excel 2007.

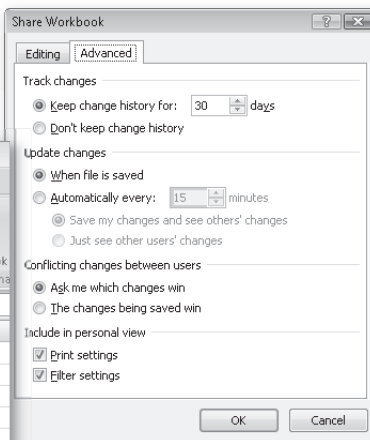
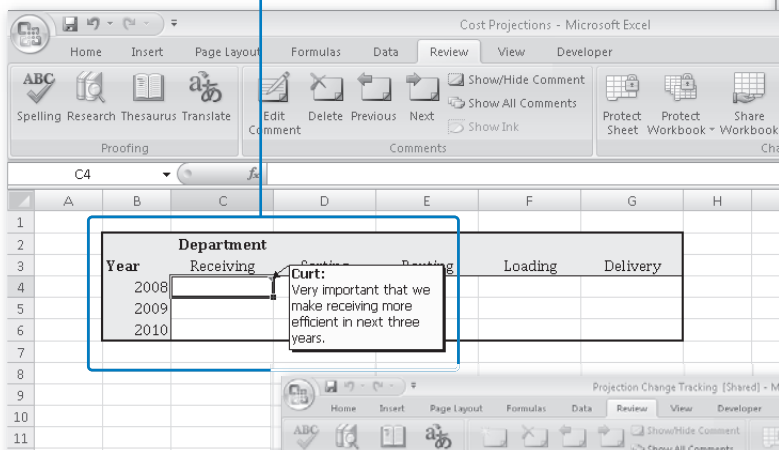
Key Points

- Excel 2007 is a versatile program. You can exchange data between Excel 2007 and quite a few other programs in just a few steps.
- One benefit of Excel 2007 being part of the Microsoft Office system is that you can embed Excel 2007 worksheets in other Microsoft Office system documents and embed other Microsoft Office system documents (such as PowerPoint 2007 presentations) in Excel 2007 workbooks.
- Excel 2007 works smoothly with the Web; adding hyperlinks to Web pages, other documents, or specific locations in the current workbook is possible through the Insert Hyperlink dialog box.
- After you create a hyperlink, you can change any part of it.
- Excel 2007 is the easiest Microsoft Office system program in which to create charts. After you create a chart in Excel 2007, you can paste it directly into another Microsoft Office system document.

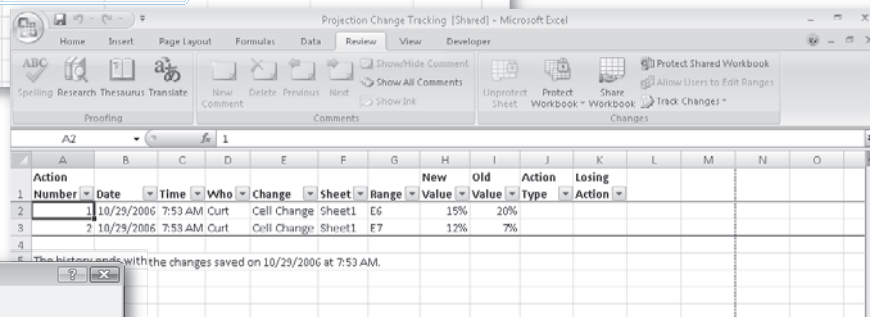
Chapter at a Glance

Share data lists,
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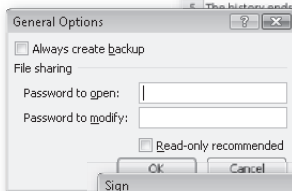
Manage comments,
page 333



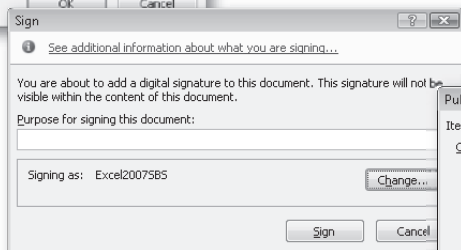
Track and manage
colleagues' changes,
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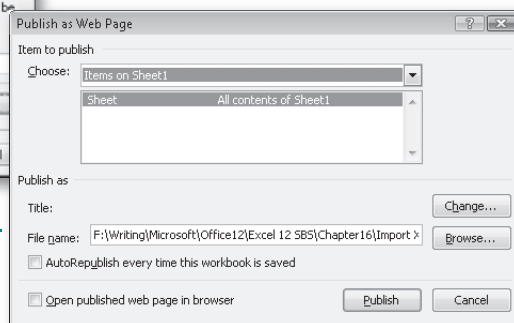
Protect workbooks and worksheets,
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Authenticate
workbooks,
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Save workbooks for the Web,
page 347



15 Collaborating with Colleagues

In this chapter you will learn to:

- ✓ Share data lists.
 - ✓ Manage comments.
 - ✓ Track and manage colleagues' changes.
 - ✓ Protect workbooks and worksheets.
 - ✓ Authenticate workbooks.
 - ✓ Save workbooks for the Web.
-

Even though a single individual might be tasked with managing a company's financial data and related information, many people have input when making future revenue projections. You and your colleagues can enhance the workbook data you share by adding comments that offer insight into the information the data represents, such as why revenue was so strong during a particular month or whether a service level might be discontinued. If the workbook in which those projections and comments will be stored is available on a network or an intranet, you can allow more than one user to access the workbook at a time by turning on workbook sharing. After a workbook has been shared with your colleagues, you can have the workbook mark and record any changes made to it. After all changes have been made, the workbook's administrator can decide which changes to keep and which to reject.

If you prefer to limit the number of colleagues who can view and edit your workbooks, you can add password protection to a workbook, worksheet, cell range, or even an individual cell. By adding password protection, you can prevent changes to critical elements of your workbooks. You can also hide formulas used to calculate values.

If you work in an environment in which you and colleagues, both inside and outside your organization, exchange files frequently, you can use a digital signature to help verify that your workbooks and any macros they contain are from a trusted source.

Finally, if you want to display information on a Web site, you can do so by saving a workbook as a Web page. Your colleagues won't be able to edit the information, but they will be able to view it, and comment by e-mail or phone.

In this chapter, you'll learn how to share a data list, manage comments to workbook cells, track and manage changes made by colleagues, protect workbooks and worksheets, and digitally sign your workbooks.

See Also Do you need only a quick refresher on the topics in this chapter? See the Quick Reference entries on pages xxvii–lxiii.

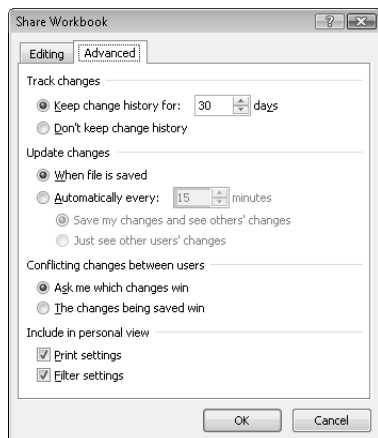


Important Before you can use the practice sites provided for this chapter, you need to install them from the book's companion CD to their default location. See "Using the Book's CD" on page xiii for more information.

Sharing Data Lists

To enable several users to edit a workbook simultaneously, you must turn on workbook sharing. Enabling more than one user to edit a workbook simultaneously is perfect for an enterprise such as Consolidated Messenger, whose employees need to look up customer information, shipment numbers, and details on mistaken deliveries.

To turn on workbook sharing, on the Review tab, in the Changes group, click Share Workbook. In the Share Workbook dialog box that appears, turn on workbook sharing by selecting the Allow Changes By More Than One User At The Same Time check box. You can then set the sharing options for the active workbook by clicking the Advanced tab.



Warning You can't share a workbook that contains a data table. To share the workbook, convert the table to a regular cell range by clicking the table, clicking the Design tab, and then, in the Tools group, clicking Convert to Range. Click Yes in the dialog box that appears to confirm the change.

On the Advanced tab of the Share Workbook dialog box, two settings are of particular interest. The first determines whether Microsoft® Office Excel® 2007 should maintain a history of changes made to the workbook and, if so, for how many days it should keep the changes. The default setting is to retain a record of all changes made in the past 30 days, but you can enter any number of days you like. Unless it's critical that you keep all changes made to a workbook, you should probably stay with the default setting of 30 days so the list doesn't become too large and unwieldy.

The other important setting on this tab deals with how Office Excel 2007 decides which of two conflicting changes in a cell should be applied. For example, a service level's price might change, and two of your colleagues might type in what they think the new price should be. Selecting the Ask Me Which Changes Win option button enables you to decide which price to keep.

Another way to share a workbook is to send a copy of it to your colleagues via e-mail. Although the specific command to attach a file to an e-mail message is different in every program, the most common method of attaching a file is to create a new e-mail message and then click the Attach button, as in Microsoft Office Outlook® 2007.

In this exercise, you turn on workbook sharing and then attach the file to an Office Outlook 2007 e-mail message.

Note You must have Outlook 2007 installed on your computer to follow this procedure exactly.



USE the *Cost Projections* workbook in the practice file folder for this topic. This practice file is located in the *My Documents\Microsoft Press\Excel SBS\Sharing* folder.

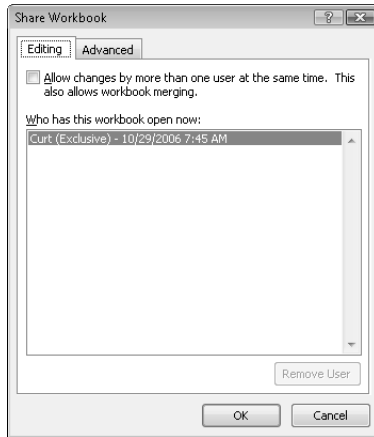
BE SURE TO start Excel 2007 before beginning this exercise.

BE SURE TO start Outlook 2007 before beginning this exercise.

OPEN the *Cost Projections* workbook.

1. On the **Review** tab, in the **Changes** group, click **Share Workbook**.

The **Share Workbook** dialog box appears.



2. Select the **Allow changes by more than one user at the same time. This also allows workbook merging** check box.

3. Click **OK**.

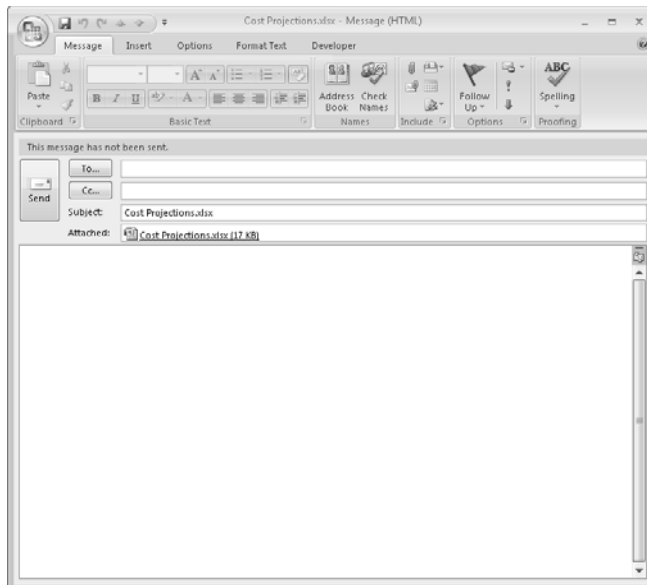
A dialog box appears, indicating that you must save the workbook for the action to take effect.

4. Click **OK**.

Excel 2007 saves and shares the workbook.

5. Click the **Microsoft Office Button**, point to **Send**, and then click **E-mail**.

A new e-mail message opens with the *Cost Projections* workbook attached.



6. Type an address in the **To** box.
7. Click **Send**.

Your e-mail program sends the message. If Excel 2007 had to open your e-mail program to send the message, the program closes.

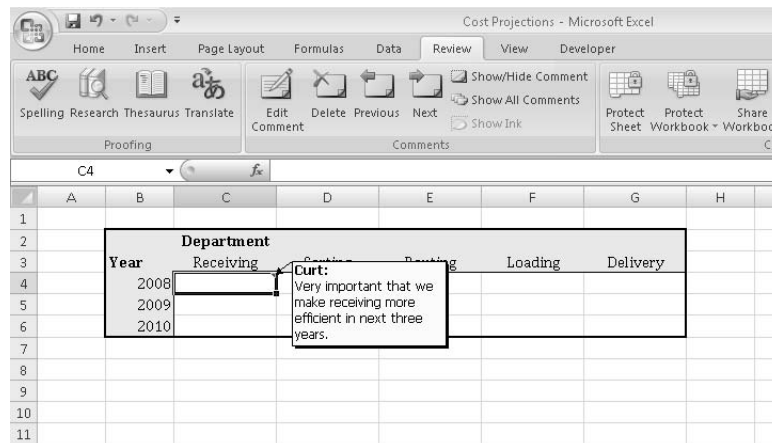


CLOSE the *Cost Projections* workbook.

Managing Comments

Excel 2007 makes it easy for you and your colleagues to insert comments in workbook cells, adding insights that go beyond the cell data. For example, if a regional processing center's package volume is exceptionally high on a particular day, the center's manager can add a comment to the cell in which shipments are recorded for that day, noting that two exceptionally large bulk shipments accounted for the disparity.

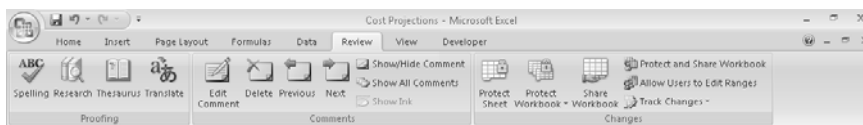
When you add a comment to a cell, a flag appears in the upper-right corner of the cell. When the mouse pointer hovers over a cell with a comment, the comment appears in a box next to the cell, along with the name of the user logged on to the computer at the time the comment was created.



Important Note that the name attributed to a comment might not be the same as the person who actually created it. Enforcing access controls, such as requiring users to enter account names and passwords when they access a computer, can help track the person who made a comment or change.

You can add a comment to a cell by clicking the cell, clicking the Review tab, and then clicking New Comment. When you do, the comment flag appears in the cell, and a comment box appears next to the cell. You can type the comment in the box and, when you're done, click another cell to close the box for editing. When you move the mouse pointer onto the cell that contains the comment, the comment appears next to the cell.

If you want a comment to be shown the entire time the workbook is open, click the cell that contains the comment, click the Review tab, and then, in the Comments group, click Show/Hide Comment. You can hide the comment by clicking the same button when the comment appears in the workbook, delete the comment by clicking the Review tab, and then, in the Comments group, by clicking Delete. Or you can open the comment for editing by clicking Edit Comment from the same group on the Ribbon.



Important When someone other than the original user edits a comment, that person's input is marked with the new user's name and is added to the original comment.

If you want to select every cell that contains a comment, you can do so by using the Go To Special dialog box. To display the Go To Special dialog box, display the Home tab, and then, in the Editing group, click Find & Select and click Go To Special. In the Go To Special dialog box, select the Comments option button and click OK. Excel 2007 then selects every cell that contains a comment.

In this exercise, you add comments to two cells. You then highlight the cells that contain comments, review a comment, and delete that comment.

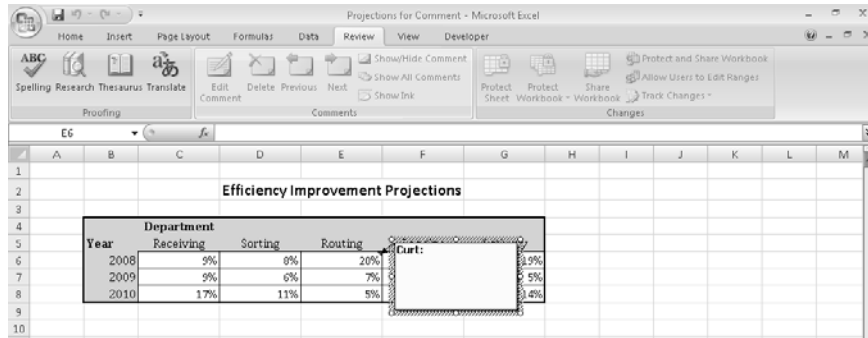


USE the *Projections for Comment* workbook in the practice file folder for this topic. This practice file is located in the *My Documents\Microsoft Press\Excel SBS\Sharing* folder.

OPEN the *Projections for Comment* workbook.

1. Click cell E6.
2. On the **Review** tab, in the **Comments** group, click **New Comment**.

A red comment flag appears in cell E6, and a comment box appears next to the cell.



3. In the comment box, type **Seems optimistic; move some improvement to the next year?**
4. Click any cell outside the comment box.
The comment box disappears.
5. Click cell G7.
6. On the **Review** tab, in the **Comments** group, click **New Comment**.
A red comment flag appears in cell G7, and a comment box appears next to the cell.
7. In the comment box, type **Should see more increase as we integrate new processes.**
8. Click any cell outside the comment box.
The comment box disappears.
9. On the **Home** tab, in the **Editing** group, click **Find & Select** and then click **Go To Special**.
The **Go To Special** dialog box appears.



10. Select the **Comments** option button and then click **OK**.
Excel 2007 selects all cells that contain comments.
11. Click any unselected cell.
Excel 2007 removes the previous selection.
12. Click cell G7.
13. On the **Review** tab, in the **Comments** group, click **Delete**.
Excel 2007 deletes the comment.



CLOSE the *Projections for Comment* workbook.

Tracking and Managing Colleagues' Changes

Whenever you collaborate with a number of your colleagues to produce or edit a document, you should consider tracking the changes each user makes. When you turn on change tracking, any changes made to the workbook are highlighted in a color assigned to the user who made the changes. One benefit of tracking changes is that if you have a question about a change, you can quickly identify who made the change and verify that it is correct. In Excel 2007, you can turn on change tracking in a workbook by clicking the **Review** tab and then, in the **Changes** group, clicking **Track Changes** and then clicking **Highlight Changes**.

In the **Highlight Changes** dialog box that appears, select the **Track Changes While Editing** check box. Selecting this check box saves your workbook, turns on change tracking, and also shares your workbook, enabling more than one user to access the workbook simultaneously.



You can use the controls in the **Highlight Changes** dialog box to choose which changes to track, but clearing the **When**, **Who**, and **Where** check boxes makes Excel 2007 track all changes. Now, whenever anyone makes a change to the workbook, the change is

attributed to the user logged in to the computer from which the change was made. Each user's changes are displayed in a unique color. As with a comment, when you move the mouse pointer onto a change, the date and time when the change was made and the name of the user who made it appear as a ScreenTip.

After you and your colleagues finish modifying a workbook, you can decide which changes to accept and which changes to reject. To start the process, click the Review tab. In the Changes group, click Track Changes and then click Accept Or Reject Changes. After you clear the message box that indicates Excel 2007 will save your workbook, the Select Changes To Accept Or Reject dialog box appears. You can use the When down arrow to choose which changes to review. The default choice is Not Yet Reviewed, but you can also click Since Date to open a dialog box, into which you can enter the starting date of changes you want to review. To review all changes in your workbook, clear the When, Who, and Where check boxes.

When you are ready to accept or reject changes, click OK. The Accept or Reject Changes dialog box appears, with the first change described in the body of the dialog box. Clicking the Accept button institutes the change; whereas clicking the Reject button removes the change, restores the cell to its previous value, and erases any record of the change. Clicking Accept All or Reject All implements all changes or restores all cells to their original values, but you should choose one of those options only if you are absolutely certain you are doing the right thing.

If you want an itemized record of all changes you have made since the last time you saved the workbook, you can add a History worksheet to your workbook. To add a History worksheet, click Track Changes in the Changes group and then click Highlight Changes to open the Highlight Changes dialog box. Select the List Changes On A New Sheet check box. When you click OK, a new worksheet named History appears in your workbook. The next time you save your workbook, Excel 2007 will delete the History worksheet.

In this exercise, you turn on change tracking in a workbook, make changes to the workbook, accept or reject changes, and create a History worksheet.



USE the *Projection Change Tracking* workbook in the practice file folder for this topic. This practice file is located in the *My Documents\Microsoft Press\Excel SBS\Sharing* folder.

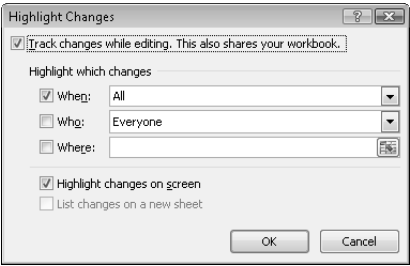
OPEN the *Projection Change Tracking* workbook.

1. On the **Review** tab, in the **Changes** group, click **Track Changes** and then click **Highlight Changes**.

The **Highlight Changes** dialog box appears.

2. Select the **Track changes while editing. This also shares your workbook** check box.

The **Highlight which changes** area controls become active.



3. Click **OK**.

A dialog box appears, indicating that Excel 2007 will save the workbook.

4. Click **OK**.

The dialog box disappears. Excel 2007 saves the workbook and begins tracking changes.

5. In cell E6, type **15%** and then press **Enter**.

A blue flag appears in the upper-left corner of cell E6.

6. In cell E7, type **12%** and then press **Enter**.

A blue flag appears in the upper-left corner of cell E7.

	A	B	C	D	E	F	G	H
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								

7. On the **Quick Access Toolbar**, click the **Save** button to save your work.
8. On the **Review** tab, in the **Changes** group, click **Track Changes** and then click **Highlight Changes**.

The **Highlight Changes** dialog box appears.

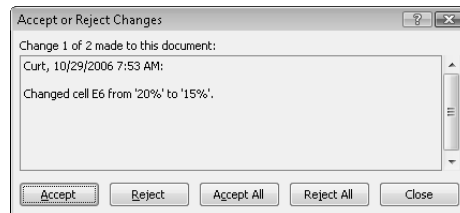
9. Select the **List changes on a new sheet** check box and then click **OK**.

Excel 2007 creates and displays a worksheet named *History*, which contains a list of all changes made since the last time a user accepted or rejected changes.

Action Number	Date	Time	Who	Change	Sheet	Range	New Value	Old Value	Type	Action
1	10/29/2006	7:53 AM	Curt	Cell Change	Sheet1	E6	15%	20%		
2	10/29/2006	7:53 AM	Curt	Cell Change	Sheet1	E7	12%	7%		

The history ends with the changes saved on 10/29/2006 at 7:53 AM.

10. Click the **Sheet1** sheet tab.
The *Sheet1* worksheet appears.
11. On the **Review** tab, in the **Changes** group, click **Track Changes** and then click **Accept/Reject Changes**.
The **Select Changes to Accept or Reject** dialog box appears.
12. Click **OK**.
The **Select Changes to Accept or Reject** dialog box displays the first change.



13. Click **Accept**.
Excel 2007 keeps the change and then displays the next change.
14. Click **Accept**.
Excel 2007 keeps the change and deletes the *History* worksheet. The **Accept or Reject Changes** dialog box disappears.



CLOSE the *Projection Change Tracking* workbook.

Protecting Workbooks and Worksheets

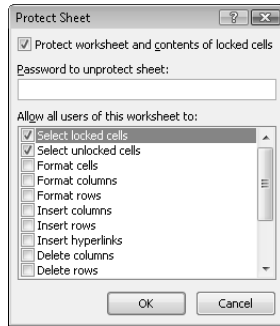
Excel 2007 gives you the ability to share your workbooks over the Web, over a corporate intranet, or by copying files for other users to take on business trips. An important part of sharing files, however, is ensuring that only those users you want to have access to the files can open or modify them. For example, Consolidated Messenger might have a series of computers available in a processing center so supervisors can look up package volumes and handling efficiency information. Although those computers are vital tools for managing the business process, it doesn't help the company to have unauthorized personnel, even those with good intentions, accessing critical workbooks.

You can limit access to your workbooks or elements within workbooks by setting passwords. Setting a password for an Excel 2007 workbook means that any users who want to access the protected workbook must enter the workbook's password in a dialog box that appears when they try to open the file. If users don't know the password, they cannot open the workbook.

To set a password for a workbook, open the workbook to be protected, click the Microsoft Office Button, and then click Save As. The Save As dialog box appears, with the name of the open workbook in the File name box. At the lower-left corner of the dialog box, click the Tools button and then click General Options to open the Save Options dialog box. In the Save Options dialog box, you can require users to enter one password to open the workbook and another to modify it. After you click OK, a Confirm Password dialog box appears so that you can verify the passwords required to access and modify the workbook. After you have confirmed the passwords, click Save in the Save As dialog box to finish adding password protection to the workbook. To later remove the passwords from a workbook, repeat these steps, but delete the passwords from the Save Options dialog box and save the file.

Tip The best passwords are random strings of characters, but random characters are hard to remember. One good method of creating hard-to-guess passwords is to combine elements of two words with a number in between. For example, you might have a password wbk15pro, which could be read as "workbook, Chapter 15, protection." In any event, avoid dictionary words in English or any other language, as they can be found easily by password-guessing programs available on the Internet.

If you want to allow anyone to open a workbook but want to prevent unauthorized users from editing a worksheet, you can protect a worksheet by displaying that worksheet, clicking the Review tab, and then, in the Changes group, clicking Protect Sheet to open the Protect Sheet dialog box.



In the Protect Sheet dialog box, you select the Protect Worksheet And Contents Of Locked Cells check box to protect the sheet. You can also set a password that a user must type in before protection can be turned off again and choose which elements of the worksheet a user can change while protection is turned on. To enable a user to change a worksheet element without entering the password, select the check box next to that element's name.

The check box at the top of the worksheet mentions locked cells. A locked cell is a cell that can't be changed when worksheet protection is turned on. You can lock or unlock a cell by right-clicking the cell and choosing Format Cells from the shortcut menu that appears. In the Format Cells dialog box, you click the Protection tab to display the Protection tab page and select the Locked check box.

When worksheet protection is turned on, selecting the Locked check box prevents unauthorized users from changing the contents or formatting of the locked cell, whereas selecting the Hidden check box hides the formulas in the cell. You might want to hide the formula in a cell if you draw sensitive data, such as customer contact information, from another workbook and don't want casual users to see the name of the workbook in a formula.

Finally, you can password-protect a cell range. For example, you might want to let users enter values in most worksheet cells but also want to protect the cells with formulas that perform calculations based on those values. To password-protect a range of cells, select the cells to protect, click the Review tab, and then, in the Changes group, click Allow Users to Edit Ranges. The Allow Users to Edit Ranges dialog box appears.



To create a protected range, click the **New** button to display the **New Range** dialog box. Type a name for the range in the **Title** box and then type a password in the **Range password** box. When you click **OK**, Excel 2007 asks you to confirm the password; after you do, click **OK** in the **Confirm Password** dialog box and again in the **Allow Users to Edit Ranges** dialog box to protect the range. Now, whenever users try to edit a cell in the protected range, they are prompted for a password.

Tip Remember that a range of cells can mean just one cell!

In this exercise, you password-protect a workbook, a worksheet, and a range of cells and then hide the formula in a cell.



USE the *SecureInfo* workbook in the practice file folder for this topic. This practice file is located in the *My Documents\Microsoft Press\Excel SBS\Sharing* folder.

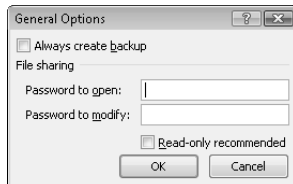
OPEN the *SecureInfo* workbook.

1. Click the **Microsoft Office Button** and then click **Save As**.

The **Save As** dialog box appears.

2. Click the **Tools** button and then click **General Options**.

The **General Options** dialog box appears.



3. Type **work15pro** in the **Password to open** box.
4. Type **pro15work** in the **Password to modify** box.

5. Click **OK**.

The **Confirm Password** dialog box appears.

6. In the **Reenter password to proceed** box, type **work15pro**.

7. Click **OK**.

The **Confirm Password** dialog box changes to ask you to reenter the password to modify the workbook.

8. In the **Reenter password to modify** box, type **pro15work**.

9. Click **OK**.

The **Confirm Password** dialog box disappears.

10. Click **Save**.

Excel 2007 saves the workbook.

11. If necessary, click the **Performance** sheet tab.

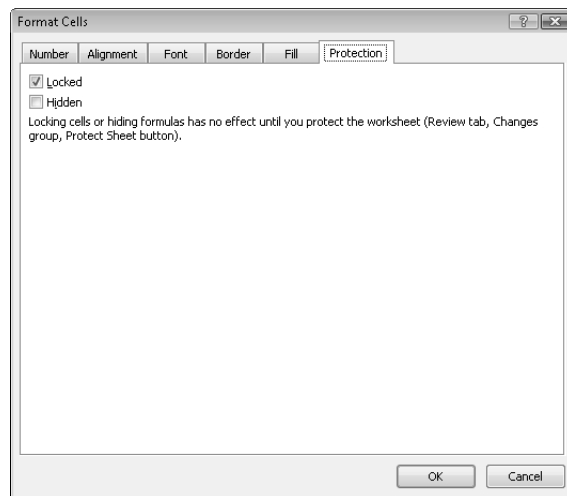
The *Performance* worksheet appears.

12. Right-click cell B8 and then click **Format Cells**.

The **Format Cells** dialog box appears.

13. Click the **Protection** tab.

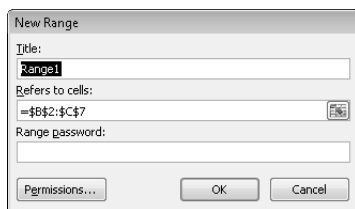
The **Protection** tab appears.



14. Select the **Hidden** check box and then click **OK**.

Excel 2007 formats cell B8 so that it won't display its formula after you protect the worksheet.

15. On the **Review** tab, in the **Changes** group, click **Protect Sheet**.
The **Protect Sheet** dialog box appears.
16. In the **Password to unprotect sheet** box, type **prot300pswd**.
17. Clear the **Select locked cells** and **Select unlocked cells** check boxes; then click **OK**.
The **Confirm Password** dialog box appears.
18. In the **Reenter password to proceed** box, type **prot300pswd** and then click **OK**.
The **Confirm Password** dialog box disappears.
19. Click the **Weights** sheet tab.
The *Weights* worksheet appears.
20. Select the cell range B2:C7.
21. On the **Review** tab, in the **Changes** group, click **Allow Users to Edit Ranges**.
The **Allow Users to Edit Ranges** dialog box appears.
22. Click **New**.
The **New Range** dialog box appears, with the range B2:C7 called out in the **Refers to cells** box.



23. In the **Title** box, type **AllWeights**.
24. In the **Range password** box, type **work15pro** and then click **OK**.
25. In the **Confirm Password** dialog box, reenter the password **work15pro**.
The range appears in the **Allow Users to Edit Ranges** box.
26. Click **Protect Sheet**.
The **Protect Sheet** dialog box appears.
27. In the **Password to unprotect sheet** box, type **work15pro** and then click **OK**.
The **Protect Sheet** dialog box disappears.
28. In the **Confirm Password** dialog box, reenter the password **work15pro**.
29. Click **OK**.
30. On the **Quick Access Toolbar**, click the **Save** button to save your changes.



CLOSE the *SecureInfo* workbook.

Authenticating Workbooks

The unfortunate reality of exchanging files over networks, especially over the Internet, is that you need to be sure you know the origin of the files you're working with. One way an organization can guard against files with viruses or substitute data is to authenticate every workbook using a digital signature. A *digital signature* is a value created by combining a user's unique secret digital signature file mathematically with the contents of the workbook, which programs such as Excel 2007 can recognize and use to verify the identity of the user who signed the file. A good analog for a digital signature is a wax seal, which was used for thousands of years to verify the integrity and origin of a document.

Note The technical details of and procedure for managing digital certificates are beyond the scope of this book, but your network administrator should be able to create a digital certificate for you. You can also directly purchase a digital signature from a third party, which can usually be renewed annually for a small fee. For the purposes of this book, you'll use the selfcert.exe Microsoft Office system accessory program to generate a certificate with which to perform the exercise at the end of the chapter. This type of certificate is useful for certifying a document on your own computer, but it is not a valid certificate to verify yourself to others across your network or on the Internet.

To create a digital certificate you can use as a demonstration, open the Start menu, click All Programs, click Microsoft Office, click Microsoft Office Tools, and then click Digital Certificate for VBA Projects. In the Create Digital Certificate dialog box, type a name for your certificate and click OK to have the program create your trial certificate. Then, in Excel 2007, click the Microsoft Office Button, click Prepare, and click Add a Digital Signature. In the Sign dialog box, type your purpose for signing the document and then click Sign to sign your workbook.

Note After you click Add a Digital Signature, Excel 2007 displays a dialog box, indicating that you can buy digital signatures from third-party providers. To get information about those services, click the Signature Services from the Office Marketplace button. To bypass the message, click OK; to prevent the dialog box from appearing again, select the Don't Show This Message Again check box and then click OK.

If you have several certificates from which to choose, and the desired certificate doesn't appear in the Sign dialog box, you can click Change to display the Select Certificate

dialog box. In the Select Certificate dialog box, click the certificate with which you want to sign the workbook and then click OK. The Select Certificate dialog box disappears, and the certificate with which you signed the workbook appears in the Sign dialog box. As before, click Sign to sign your document using the digital certificate.

In this exercise, you create a digital certificate and digitally sign a workbook using the certificate.



USE the *Projections Signed* workbook in the practice file folder for this topic. This practice file is located in the *My Documents\Microsoft Press\Excel SBS\Sharing* folder.

OPEN the *Projections Signed* workbook.

1. Click the **Start** button, click **All Programs**, click **Microsoft Office**, click **Microsoft Office Tools**, and then click **Digital Certificate for VBA Projects**.

The **Create Digital Certificate** dialog box appears.

2. In the **Your certificate's name** box, type **Excel2007SBS** and then click **OK**.

A message box indicates that the program created your certificate successfully.

3. Click **OK**.

The message box disappears.

4. Click the **Microsoft Office Button**, click **Prepare**, and then click **Add a Digital Signature**.

A dialog box appears, offering the opportunity to view signature services on Office Marketplace.

5. Click **OK**.

The dialog box disappears, and the **Sign** dialog box appears.



6. In the **Purpose for signing this document** box, type **Testing**.

7. Verify that the *Excel2007SBS* certificate appears in the **Signing as** area of the dialog box and then click **Sign**.

The **Signature Confirmation** dialog box appears.

8. Click **OK**.

The **Signatures** task pane appears.



CLOSE the *Projections Signed* workbook.

Saving Workbooks for the Web

Excel 2007 enables you to save Excel 2007 workbooks as Web documents, so you and your colleagues can view workbooks over the Internet or a corporate intranet. For a document to be viewed on the Web, the document must be saved as a Hypertext Markup Language (HTML) file. HTML files, which end with either the *.htm* or the *.html* extension, include tags that tell a Web browser such as Microsoft Internet Explorer® how to display the contents of the file.

For example, you might want to set the data labels in a workbook apart from the rest of the data by having the labels displayed with bold text. The coding in an HTML file that indicates text to be displayed as bold text is `<B>...</B>`, where the ellipsis points between the tags are replaced by the text to be displayed. So the following HTML fragment would be displayed as **Excel**:

```
<B>Excel</B>
```

You can create HTML files in Excel 2007 by clicking the Microsoft Office Button and clicking **Save As** to display the **Save As** dialog box. To save a workbook as an HTML file, select the **Entire Workbook** option button, type a name for the file in the **File name** box, click the **Save as Type** down arrow, and click **Web Page (*.htm; *.html)**. With the file type set to **Web Page**, you can then click **Save** to have Excel 2007 create an HTML document for each sheet in the workbook.

Note If your workbook contains data only on the sheet displayed when you save the workbook as a Web page, only that worksheet is saved as a Web page.

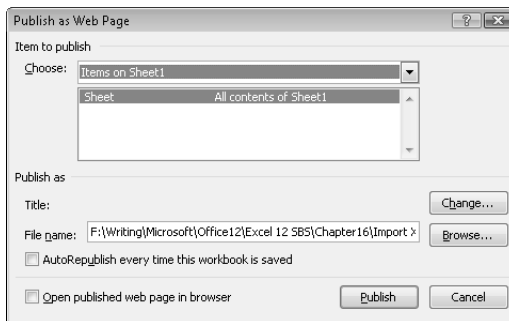
After you save an Excel 2007 workbook as a series of HTML documents, you can open it in your Web browser. To open the Excel 2007 file, start Internet Explorer, open the **File** menu, and then click **Open** to display the **Open** dialog box. In the **Open** dialog box, click

the Browse button to open the Microsoft Internet Explorer dialog box. You can use the controls in that dialog box to identify the file you want to open.

When you double-click the file to open, the Microsoft Internet Explorer dialog box disappears and the file's name and path appear in the Open box. To display the Excel 2007 workbook, click OK, and the workbook appears in Internet Explorer. You can move among the workbook's worksheets by clicking the sheet tabs at the lower-left corner of the page.

Saving a workbook to an organization's intranet enables you to share data with your colleagues. For example, Consolidated Messenger's chief operating officer, Jenny Lysaker, could save a daily report on package misdeliveries to her team's intranet so that everyone could examine what happened, where the problem occurred, and how to fix the problem. It's also possible to save a workbook as a Web file that retains a link to the original workbook. Whenever someone updates the workbook, Excel 2007 updates the Web files to reflect the new content.

To publish a workbook to the Web, click the Microsoft Office Button, click Save As, click the Save as Type down arrow, and click Web Page (*.htm; *.html). When you do, Excel 2007 displays the Publish button; clicking the Publish button displays the Publish as Web Page dialog box.



The controls in the Publish as Web Page dialog box enable you to select which elements of your workbook you want to publish to the Web. Clicking the Choose down arrow displays a list of publishable items, including the option to publish the entire workbook, items on specific sheets, a PivotTable® dynamic view, or a range of cells. To have Excel 2007 update the Web page whenever someone updates the source workbook, select the AutoRepublish Every Time This Workbook Is Saved check box. You can also specify which text appears on the Web page's title bar. To do so, click the Change button, type the page title in the Set Title dialog box, and click OK. When you save a workbook that has AutoRepublish turned on, Excel 2007 displays a dialog box indicating that the changes will update the associated Web file.

Important When you save a PivotTable to the Web, the PivotTable doesn't retain its interactivity. Instead, Excel 2007 publishes a static image of the PivotTable's current configuration.

In this exercise, you save a workbook as a Web page and then publish a worksheet's PivotTable to the Web.

USE the *Shipment Summary* workbook in the practice file folder for this topic. This practice file is located in the *My Documents\Microsoft Press\Excel SBS\Web* folder.

OPEN the *Shipment Summary* workbook.

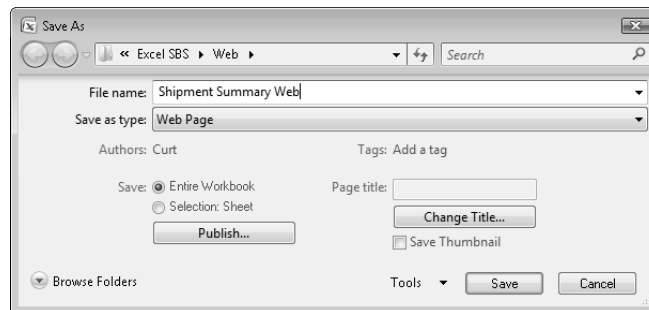
1. Click the **Microsoft Office Button** and then click **Save As**.

The **Save As** dialog box appears.

2. In the **File name** box, type **Shipment Summary Web**.

3. Click the **Save as type** down arrow and then click **Web Page**.

The **Save As** dialog box changes to reflect the **Web Page** file type.



4. Click **Save**.

A warning dialog box appears, indicating that the workbook might contain elements that can't be saved in a Web page.

5. Click **Yes** to save the workbook as a Web file.

The dialog box disappears, and Excel 2007 saves the workbook as a Web page.

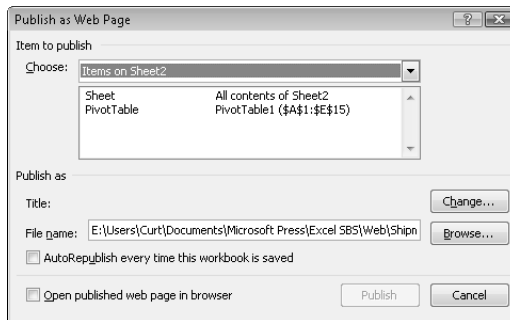
6. Click the **Microsoft Office Button** and then click **Close**.

The *Shipment Summary Web* file disappears.

7. Click the **Microsoft Office Button**, and then, in the list of recently viewed files, click **Shipment Summary**.

The *Shipment Summary* workbook appears.

8. Click the **Microsoft Office Button** and then click **Save As**.
The **Save As** dialog box appears.
9. In the **File name** box, type **Shipment Summary Publish**.
10. Click the **Save as type** down arrow and then click **Web Page**.
The **Save As** dialog box changes to reflect the **Web Page** file type.
11. Click **Publish**.
The **Publish as Web Page** dialog box appears.
12. Click the **Choose** box's down arrow and then click **Items on Sheet 2**.
The available items on Sheet2 appear.



13. In the **Item to Publish** list, click **PivotTable**.
14. Select the **AutoRepublish every time this workbook is saved** check box.
15. Click **Publish**.

Excel 2007 publishes the PivotTable to a Web page. Excel 2007 will update the contents of the Web page whenever a user saves the *Shipment Summary* workbook.



CLOSE the *Shipment Summary* workbook.

CLOSE Excel 2007.

Key Points

- Sharing a workbook enables more than one user to view and edit the data at one time, which is useful in group projects in which each member has a distinct area of responsibility.
- Sending files by e-mail is a very efficient means of collaborating with colleagues.
- Adding comments to cells is a quick way to let your colleagues know what you're thinking without taking up valuable space in a cell.
- Use the Go To Special dialog box to find cells with special contents, such as comments, constants, or formulas.
- Tracking changes is vital when you share responsibility for a workbook with several other people.
- When your workbook's data is too important to leave lying around in the open, use passwords to protect all or part of the file!
- Authenticating workbooks with digital signatures helps to identify the source of your files, so you won't have to guess about the origins of that next attachment in your e-mail inbox.
- Saving a workbook as a Web-accessible HTML document is as easy as saving it as a regular Excel 2007 file, and opening a workbook saved for the Web is just as easy as opening any other Web page.
- Use the AutoRepublish facility to update Excel 2007 files on the Web. Whenever anyone changes the original workbook, Excel 2007 writes the edits to the HTML version of the file.

Glossary

3-D reference A pattern for referring to the workbook, worksheet, and cell from which a value should be read

active cell The cell that is currently selected and open for editing

Add-In A supplemental program that can be used to extend Excel's functions

alignment The manner in which a cell's contents are arranged within that cell (for example, centered)

arguments The specific data a function requires to calculate a value

aspect ratio The relationship between a graphic's height and width

auditing The process of examining a worksheet for errors

AutoComplete The ability to complete data entry for a cell based on similar values in other cells in the same column

AutoFill The ability to extend a series of values based on the contents of a single cell

AutoFilter A Microsoft Excel tool you can use to create filters

AutoRepublish An Excel technology that maintains a link between a Web document and the worksheet on which the Web document is based and updates the Web document whenever the original worksheet is saved

browser A program that lets users view Web documents

cell The box at the intersection of a row and a column

cell range A group of cells

cell reference The letter and number combination, such as C16, that identifies the row and column intersection of a cell

charts Visual summaries of worksheet data, also called graphs

columns Cells that are on the same vertical line in a worksheet

conditional formats Formats that are applied only when cell contents meet certain criteria

conditional formula A formula that calculates a value using one of two different expressions, depending on whether a third expression is true or false

data consolidation Summarizing data from a set of similar cell ranges

data list One or more columns of data depicting multiple instances of a single thing (such as an order)

data table A new Microsoft Office Excel 2007 object that enables you to store and refer to data based on the name of the table and the names of its columns and rows

dependents The cells with formulas that use the value from a particular cell

driver A program that controls access to a file or device

dynamic-link library A file with programming code that can be called by a worksheet function

embed To save a file as part of another file, as opposed to linking one file to another

error code A brief message that appears in a worksheet cell, describing a problem with a formula or a function

Extensible Markup Language (XML) A content-marking system that lets you store data about the contents of a document in that document

field A column in a data list

fill handle The square at the lower right corner of a cell you drag to indicate other cells that should hold values in the series defined by the active cell

Fill Series The ability to extend a series of values based on the contents of two cells, where the first cell has the starting value for the series and the second cell shows the increment

filter A rule that Excel uses to determine which worksheet rows to display

formats Predefined sets of characteristics that can be applied to cell contents

formula An expression used to calculate a value

Formula AutoComplete The ability to enter a formula quickly by selecting functions, named ranges, and table references that appear when you begin to type the formula into a cell

freeze To assign cells that will remain at the top of a worksheet regardless of how far down the worksheet a user scrolls

function A predefined formula

Goal Seek An analysis tool that finds the value for a selected cell that would produce a given result from a calculation

graphs Visual summaries of worksheet data, also called charts

hyperlink A reference to a file on the Web

Hypertext Markup Language (HTML) A document-formatting system that tells a Web browser such as Internet Explorer how to display the contents of a file

landscape mode A display and printing mode whereby columns run parallel to the short edge of a sheet of paper

link A formula that has a cell show the value from another cell

locked cells Cells that cannot be modified if their worksheet is protected

macro A series of recorded automated actions that can be replayed

mailto A special type of hyperlink that lets a user create an e-mail message to a particular e-mail address

Merge and Center An operation, initiated by clicking the Merge and Center toolbar button, that combines a contiguous group of cells into a single cell. Selecting a merged cell and clicking the Merge and Center toolbar button splits the merged cells into the original group of separate cells.

metadata Data that describes the contents of a file

named range A group of related cells defined by a single name

Open DataBase Connectivity (ODBC) A protocol that facilitates data transfer between databases and related programs

Paste Options A button, which appears after you paste an item from the Clipboard into your workbook, that lets you control how the item appears in the workbook

Pick from List The ability to enter a value into a cell by choosing the value from the set of values already entered into cells in the same column

pivot To reorganize the contents of a PivotTable

PivotChart A chart that is linked to a PivotTable and that can be reorganized dynamically to emphasize different aspects of the underlying data

PivotTable A dynamic worksheet that can be reorganized by a user

portrait mode A display and printing mode whereby columns run parallel to the long edge of a sheet of paper

precedents The cells that are used in a formula

primary key A field or group of fields with values that distinguish a row in a data list from all other rows in the list

property A file detail, such as an author name or project code, that helps identify the file

query A statement that locates records in a database

range A group of related cells

refresh To update the contents of one document when the contents of another document are changed

relative reference A cell reference in a formula, such as =B3, that refers to a cell that is a specific distance away from the cell that contains the formula. For example, if the formula =B3 were in cell C3, copying the formula to cell C4 would cause the formula to change to =B4.

report A special document with links to one or more worksheets from the same workbook

rows Cells that are on the same horizontal line in a worksheet

scenarios Alternative data sets that let you view the impact of specific changes on your worksheet

schema A document that defines the structure of a set of XML files

sharing Making a workbook available for more than one user to open and modify simultaneously

sheet tab The indicator for selecting a worksheet, located in the lower left corner of the workbook window

smart tags A Microsoft Office technology that recognizes values in a spreadsheet and finds related information on the Web

sort To reorder the contents of a worksheet based on a criterion

split bar A line that defines which cells have been frozen at the top of a worksheet

subtotals Partial totals for related data in a worksheet

tables Data lists in a database

tags Marks used to indicate display properties or to communicate data about the contents of a document

template A workbook used as a pattern for creating other workbooks

theme A predefined format that can be applied to a worksheet

trend line A projection of future data (such as sales) based on past performance

validation rule A test that data must pass to be entered into a cell without generating a warning message

what-if analysis Analysis of the contents of a worksheet to determine the impact that specific changes have on your calculations

workbook The basic Excel document, consisting of one or more worksheets

worksheet A page in an Excel workbook

workspace An Excel file type (.xlw) that allows you to open several files at once

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