



Integration Feature

Sharing Data Among Applications

Item Id	Description	Units On Hand	Cost	Selling Price	Supplier
1663	Antistatic Wipes	30	\$0.15	\$0.25	ER
1683	CD Wallet	8	\$3.45	\$4.00	HI
2563	Desktop Holder	4	\$3.85	\$4.75	FR
2593	Disks	145	\$0.20	\$0.75	HI
3923	Disk Cases	12	\$2.20	\$2.75	HI
3953	Case Holder	10	\$0.80	\$1.00	MT
4343	Case Pad-Plain	16	\$2.25	\$3.00	MT
5810	Case Pad-Logo	25	\$3.45	\$5.00	MT
6140	Disk/Wallet	3	\$11.90	\$14.00	HI

Objectives

You will have mastered the material in this Integration Feature when you can:

- Import from or link to an Excel worksheet
- Import from or link to an Access database
- Import from or link to a text file
- Export data to Excel, Word, and text files
- Publish a report
- Export and import XML data

Integration Feature Introduction

It is not uncommon for people to use an application for some specific purpose, only to find later that another application may be better suited. For example, an organization initially might use Excel to maintain data on inventory only to discover later that the data would be better maintained in an Access database. This feature shows how to use data from other applications in Access. It also shows how to make Access data available to other applications.

Project — Sharing Data Among Applications

Camashaly specializes in sales of used computers and computer equipment. Employees have been using Microsoft Excel to automate a variety of tasks for several years. When determining to keep track of prices, item descriptions, serial numbers, and other data on the items for sale, the administrators originally decided to maintain the data as an Excel worksheet. Employees recently completed Microsoft Office training and now have decided they need to maintain the data in an Access database. They have two choices. They can **import** the data, which means to make a copy of the data as a table in the Access database. In this case, any changes made to the data in Access would not be reflected in the Excel worksheet. The other option is to **link** to the data in the worksheet. When data is linked, the data appears as a table in the Access database, but is, in fact, maintained in its original form in Excel. Any changes to the Excel data are thus automatically reflected when the linked table is viewed in Access. In this arrangement, Access would typically be used as a vehicle for viewing and querying the data, with actual updates being made in Excel.

Figure 1 illustrates the conversion process. The type of worksheet that can be converted is one in which the data is stored as a **list**, that is, a collection of rows and columns in which all the entries in a column represent the same type of data. In this type of list, the first row contains column headings rather than data. In the worksheet in Figure 1a, the first row contains the labels, which are entries indicating the type of data found in the column. The entry in the first column, for example, is Item Id, indicating that all the other values in the column are Item Ids. The entry in the second column is Description, indicating that all the other values in the column are descriptions. Other than the first row, which contains the labels, all the rows contain precisely the same type of data shown in the Access database in Figure 1b: an item Id in the first column, a description in the second column, the number of units on hand in the third column, and so on.

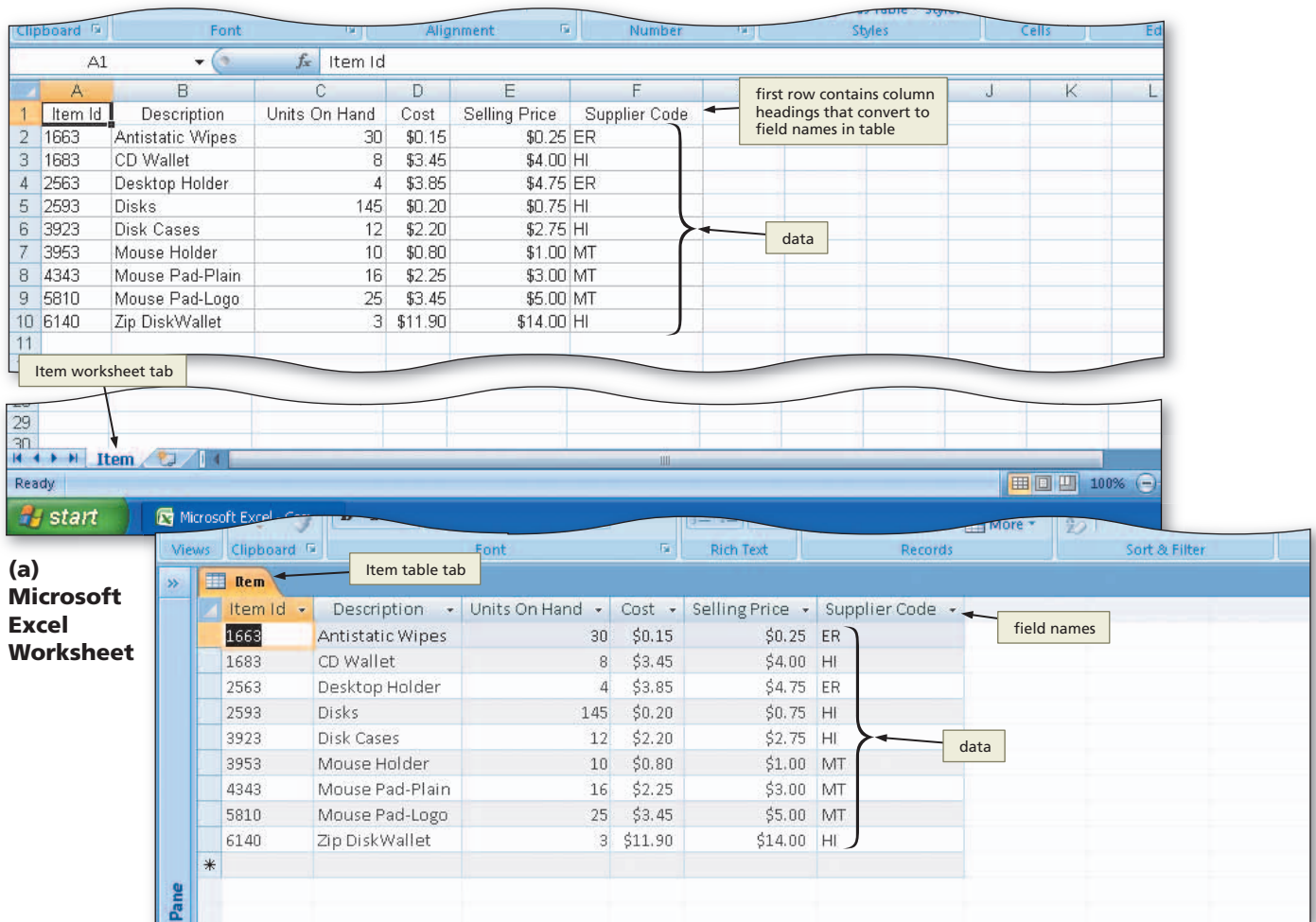


Figure 1

As the figures illustrate, the worksheet, shown in Figure 1a, is copied to an Access table, shown in Figure 1b. The columns in the worksheet become the fields. The column headings in the first row of the worksheet become the field names. The rows of the worksheet, other than the first row, which contains the labels, become the records in the table. In the process, each field will be assigned the data type that seems the most reasonable, given the data currently in the worksheet.

Organizations that currently use Access for their data needs often find that they need to export the data to other applications. JSP Recruiters has determined that it needs to make some of the data in its database available to other applications. Some users need the data in Excel; others want it placed in a Microsoft Word document. Still others want the ability to receive a report by e-mail.

You can **export** (copy) data from an Access database so that another application (for example, Excel) can use the data. Figure 2a on the next page shows the Recruiter-Client query exported to Excel and Figure 2b on the next page shows the same query exported to Word.

At times you may want to send a report to a user by e-mail. It would be prohibitive to send the whole database to the other user, just so the user could print or view the report. In addition, doing so would require the other user to have Microsoft Access installed. A

better way is to publish the report as either a PDF or XPS (XML Paper Specification) file. A user with the appropriate software then can view and print the file. In Figure 2c, the report appears in the XML Paper Specification viewer. It looks just as it does in Access.

Recruiter Number	Last Name	First Name	Client Number	Client Name
21	Kerry	Alyssa	AC34	Alys Clinic
21	Kerry	Alyssa	FD89	Ferb Dentistry
21	Kerry	Alyssa	PR11	Peel Radiology
24	Reeves	Camden	BH72	Berls Hospital
24	Reeves	Camden	FH22	Family Health
24	Reeves	Camden	MH56	Munn Hospital
24	Reeves	Camden	WL56	West Labs
27	Fernandez	Jaime	RM32	Roz Medical
27	Fernandez	Jaime	TC37	Tarleton Clinic
34	Lee	Jan		

(a) Recruiter-Client Query Worksheet

Recruiter Number	Last Name	First Name	Client Number	Client Name
21	Kerry	Alyssa	AC34	Alys Clinic
21	Kerry	Alyssa	FD89	Ferb Dentistry
21	Kerry	Alyssa	PR11	Peel Radiology
24	Reeves	Camden	BH72	Berls Hospital
24	Reeves	Camden	FH22	Family Health
24	Reeves	Camden	MH56	Munn Hospital
24	Reeves	Camden	WL56	West Labs
27	Fernandez	Jaime	RM32	Roz Medical
27	Fernandez	Jaime	TC37	Tarleton Clinic
34	Lee	Jan		

(b) Recruiter-Client Query Table in Word

Recruiter Number	Last Name	First Name	Rate	Commission
21	Kerry	Alyssa	0.10	\$17,600.00
24	Reeves	Camden	0.10	\$19,900.00
27	Fernandez	Jaime	0.09	\$9,450.00
34	Lee	Jan	0.08	\$0.00

(c) XPS Version of Recruiter Financial Report

Figure 2

JSP Recruiters also would like to export the Client and Recruiter tables in such a way that they can be imported easily to a database used by a related organization, JSP Consulting, that handles various accounting functions for JSP Recruiters. The users have learned that the easiest way to do this is to use XML (Extensible Markup Language), which is a language that defines data records on a page, allowing for exchange of data

between dissimilar applications. The XML format allows you to export and import both data and structure of multiple related tables in a single operation.

Overview

As you read through this feature, you will learn how to share data among applications by performing these general tasks:

- Import an Excel worksheet into an Access table
- Export a query to Excel
- Export a query to Word
- Publish a report as an XPS file
- Export multiple tables to an XML file
- Import multiple tables from an XML file

BTW

PDF and XPS Formats

Before you export to PDF and XPS formats, check to make sure you have the PDF or XPS button in the Export group on the External Data tab. If not, you must first install a free add-in program. To learn more about installing the add-in, type PDF in the Access Help window and follow the instructions. If you are using a computer in a school or work setting, check with your instructor or IT staff before installing any add-in program.

Guidelines for Sharing Data Among Applications

1. **Identify sources of external data for the database.** Does data already exist that you should incorporate into your database? Determine whether the data is in an Excel worksheet, another database, a text file, or some other application.
2. **Determine whether the data you have identified is in an appropriate format.** Is it a collection of rows and columns in which all the entries in a column represent the same type of data? Does the first row contain column headings rather than data? Is the data separated by tabs or by commas?
3. **Determine whether changes made to the data in the original data source should be reflected in the Access table.** If so, linking to the data source is the appropriate action. If not, importing the data would be appropriate.
4. **If the source of data is an Access database, determine whether, in addition to the tables, there are other objects to be imported.** If you import tables, you also can import queries, forms, and reports based on those tables. If, for example, the other database contained a report based on a table you are importing, you can import the report as well, thus saving you the effort of having to recreate the report.
5. **For data in your database that you want to make available to others, determine whether exporting the data is appropriate.** If you export the data, any changes that others make to the data will not be reflected in your database. If it is acceptable that these changes are not reflected, then exporting is appropriate. If not, the data will need to be linked. Linking must take place within the other application.
6. **If data is to be exported, determine the destination application.** The application that will receive the data determines the export process to be used. Common choices are Excel and Word. You also can export to text files in a variety of formats. For applications to which you cannot directly export data, you often can export an appropriately formatted text file that the other application can import. To make reports available to others, rather than exporting the report, you can publish the report, which is the process of making the report available to others on the Web. You can publish the report in either PDF or XPS format, so you would need to determine which is appropriate for the person who wants to be able to view the report.

When necessary, more specific details concerning the above decisions and/or actions are presented at appropriate points in the feature. The feature also will identify the use of these guidelines in sharing data as shown in Figures 1 and 2 on pages AC 207 and AC 208.

Plan Ahead

Starting Access

If you are using a computer to step through the project in this chapter and you want your screen to match the figures in this book, you should change your screen's resolution to 1024×768 . For information about how to change a computer's resolution, read Appendix E.

To Start Access

The following steps, which assume Windows is running, start Access.

- 1 Click the Start button on the Windows taskbar to display the Start menu.
 - 2 Point to All Programs on the Start menu to display the All Programs submenu and then point to Microsoft Office on the All Programs submenu to display the Microsoft Office submenu.
 - 3 Click Microsoft Office Access 2007 on the Microsoft Office submenu to start Access and display the Getting Started with Microsoft Office Access window.
 - 4 If the Access window is not maximized, click the Maximize button on its title bar to maximize the window.
-

To Create a New Database

Before importing data from another application to an Access database, you must ensure that a database exists. If there is no database, then you need to create one. The following steps create a database on a USB flash drive that will store the items for Camashaly.

- 1 With a USB flash drive connected to one of the computer's USB ports, click Blank Database in the Getting Started with Microsoft Office Access screen to create a new blank database.
 - 2 Type `Camashaly` in the File Name text box and then click the 'Browse for a location to put your database' button to display the File New Database dialog box.
 - 3 Click the Save in box arrow to display a list of available drives and folders and then click UDISK 2.0 (E:) (your letter may be different) in the Save in list to select the USB flash drive as the new save location.
 - 4 Click the OK button to select the USB flash drive as the location for the database and to return to the Getting Started with Microsoft Office Access screen.
 - 5 Click the Create button to create the database on the USB flash drive with the file name, Camashaly.
-

Importing or Linking Data From Other Applications to Access

The process of importing or linking an Access database uses a wizard. Specifically, if the data is imported from an Excel worksheet, the process will use the **Import Spreadsheet Wizard**; if the data is linked to an Excel worksheet, the process will use the **Link Spreadsheet Wizard**. The wizard takes you through some basic steps, asking a few simple questions. After you have answered the questions, the wizard will import or link the data.

Identify sources of external data for the database: Excel worksheet.

You need to decide whether it is appropriate for data you currently keep in an Excel worksheet to be kept in a database instead. The following are some common reasons for using a database instead of a worksheet:

1. The worksheet contains a great deal of redundant data. As discussed in Chapter 1 on pages AC 10 and AC 12, databases can be designed to eliminate redundant data.
2. The data to be maintained consists of multiple interrelated items. For example, the JSP Recruiters database maintains data on two items, clients and recruiters, and these items are interrelated. A client has a single recruiter and each recruiter is responsible for several clients. The JSP Recruiters database is a very simple one. Databases easily can contain many separate, but interrelated, items.
3. You want to use the powerful query and report capabilities of Microsoft Access.

Plan Ahead

Determine whether the data you have identified is in an appropriate format: Excel worksheet.

Before importing or linking the Excel worksheet you have identified, you need to make sure it is in an appropriate format. The following are some of the actions you should take to ensure correct format:

1. Make sure the data is in the form of a list, a collection of rows and columns in which all the entries in a column represent the same type of data.
2. Make sure that there are no blank rows within the list. If there are, remove them prior to importing or linking.
3. Make sure there are no blank columns within the list. If there are, remove them prior to importing or linking.
4. Determine whether the first row contains column headings that will make appropriate field names in the resulting table. If not, you might consider adding such a row. In general, the process is simpler if the first row in the worksheet contains appropriate column headings.

Plan Ahead

To Import an Excel Worksheet

After Camashaly managers identified that a worksheet named Computer Items contains data that should be in a table in the database, they would import the data. You import a worksheet by using the Import Spreadsheet Wizard. In the process, you will indicate that the first row in the Computer Items worksheet contains the column headings. These column headings then will become the field names in the Access table. In addition, you will indicate the primary key for the table. As part of the process, you could, if appropriate, choose not to include all the fields from the worksheet in the resulting table.

The following steps import the Computer Items Excel worksheet.

1

- Click External Data on the Ribbon to display the External Data tab (Figure 3).

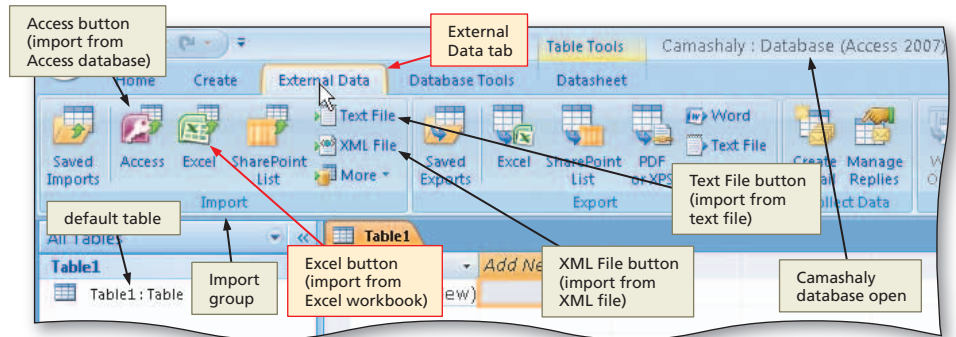


Figure 3

2

- Click the Excel button in the Import group on the External Data tab to display the Get External Data – Excel Spreadsheet dialog box.
- Click the Browse button in the Get External Data – Excel Spreadsheet dialog box.
- If necessary, click the Look in box arrow and then click UDISK 2.0 (E:) to select the USB flash drive in the Look in list as the new open location. (Your drive letter might be different.)
- Click the Computer Items workbook, and then click the Open button to select the workbook (Figure 4).

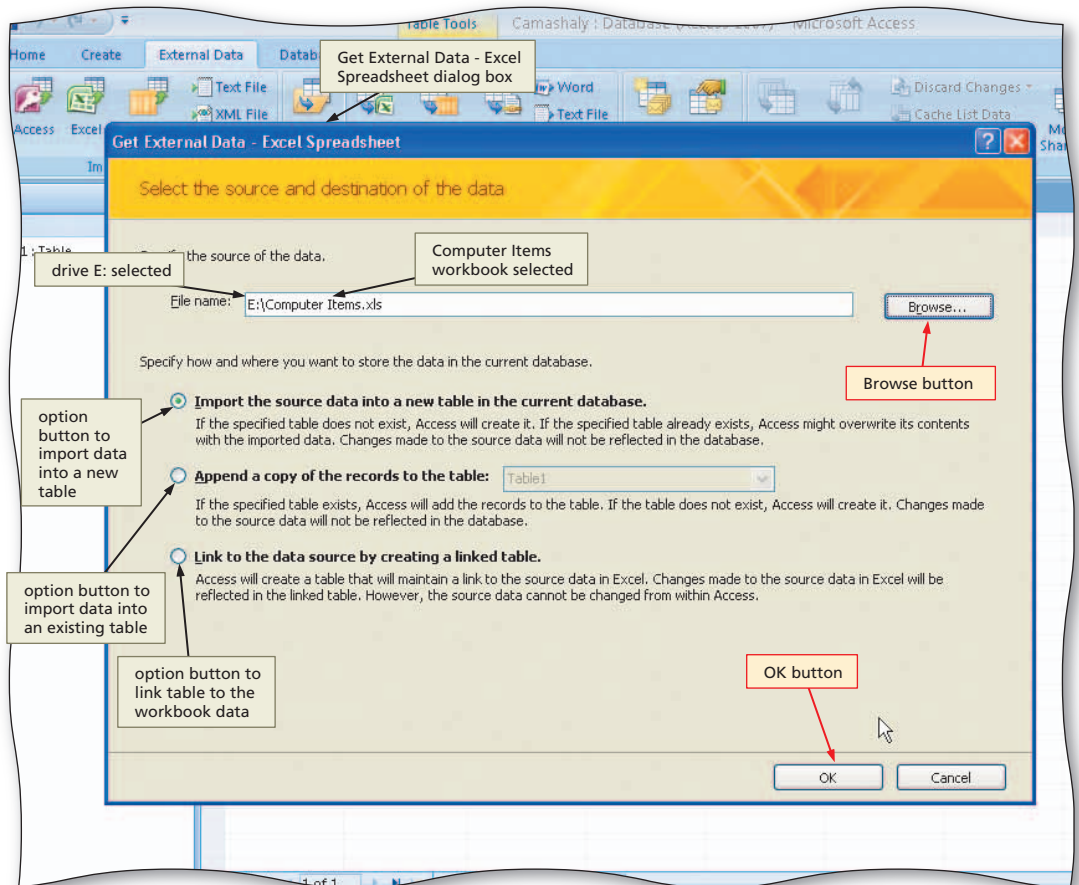


Figure 4

- 3**
- With the option button to import the data to a new table selected, click the OK button to display the Import Spreadsheet Wizard dialog box (Figure 5).

Q&A What happens if I select the option button to append records to an existing table?

Instead of the records being placed in a new table, they will be added to the existing table, provided the value in the primary key field does not duplicate that on an existing record.

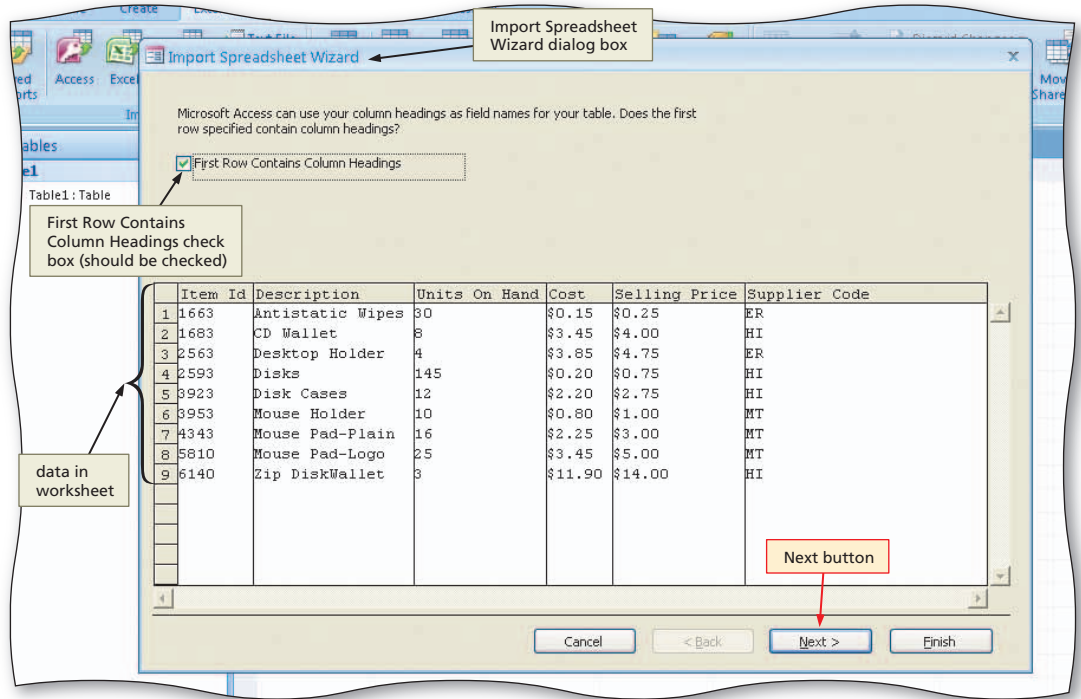


Figure 5

- 4**
- If necessary, click First Row Contains Column Headings to select it.
 - Click the Next button (Figure 6).

Q&A When would I use the options on this screen?

You would use these options if you wanted to change properties for one or more fields. You can change the name, the data type, and whether the field is indexed. You also can indicate that some fields are not to be imported.

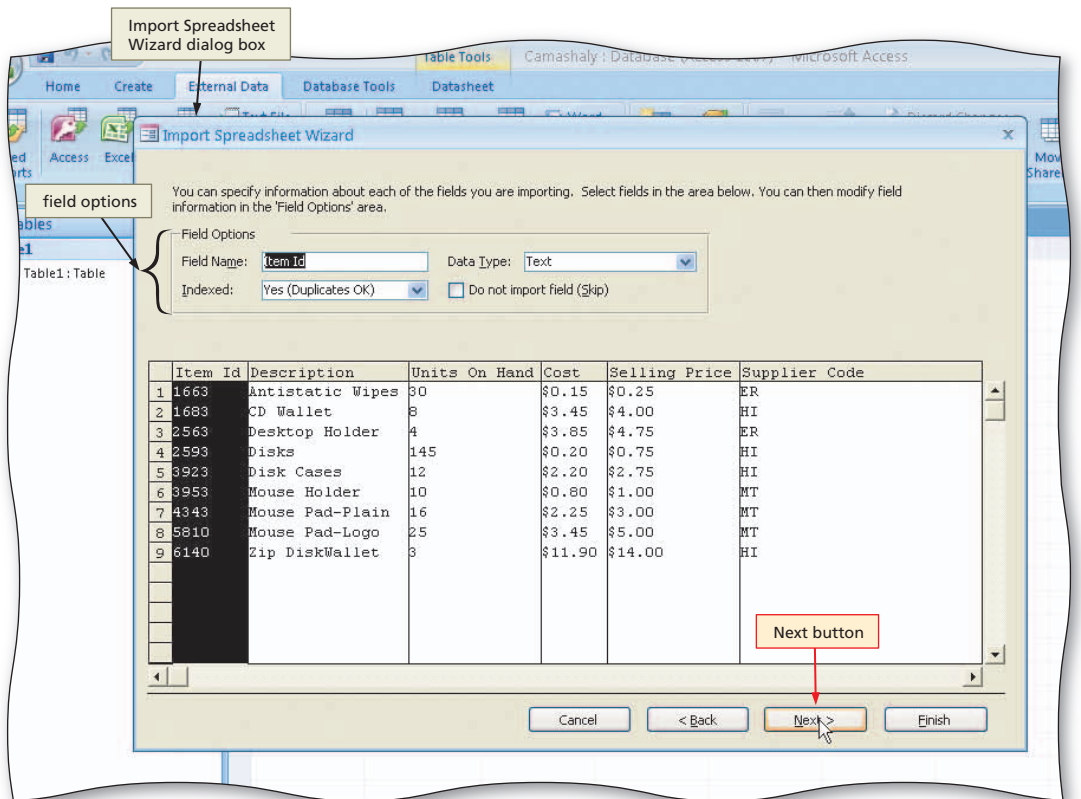


Figure 6

5

- Because the Field Options need not be specified, click the Next button (Figure 7).

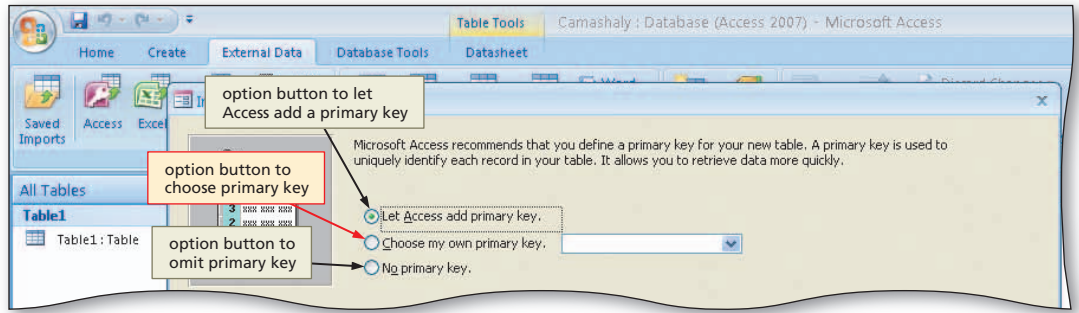


Figure 7

6

- Click the 'Choose my own primary key.' option button (Figure 8).

Q&A

How do I decide which option button to select?

If one of the fields is an appropriate primary key, choose your own primary key from the list of fields. If you are sure you do not want a primary key, choose No primary key. Otherwise, let Access add the primary key.

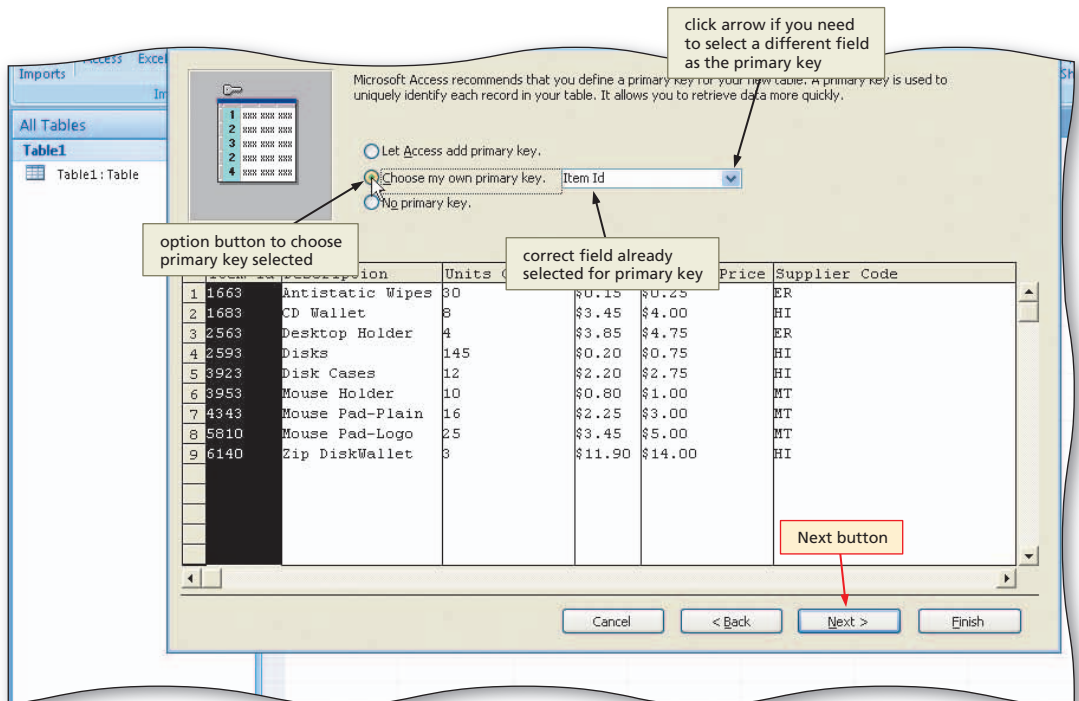


Figure 8

7

- Because the Item Id field, which is the correct field, is already selected as the primary key, click the Next button.
- Be sure Item appears in the Import to Table text box.
- Click the Finish button to import the data (Figure 9).

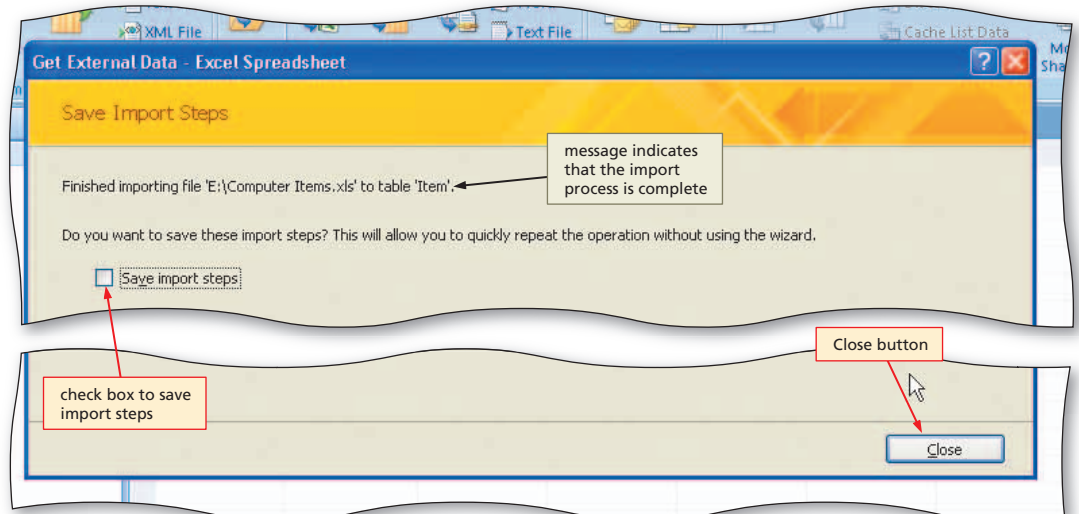


Figure 9

8

- Click the Save import steps check box to display the Save import steps options.
- If necessary, type Import-Computer Items in the Save as text box.
- Type Import data from Computer Items workbook into Item table in the Description text box (Figure 10).

Q&A

When would I create an Outlook task?

If the import operation is one you will repeat on a regular basis, you can create and schedule the import process just as you can schedule any other Outlook task.

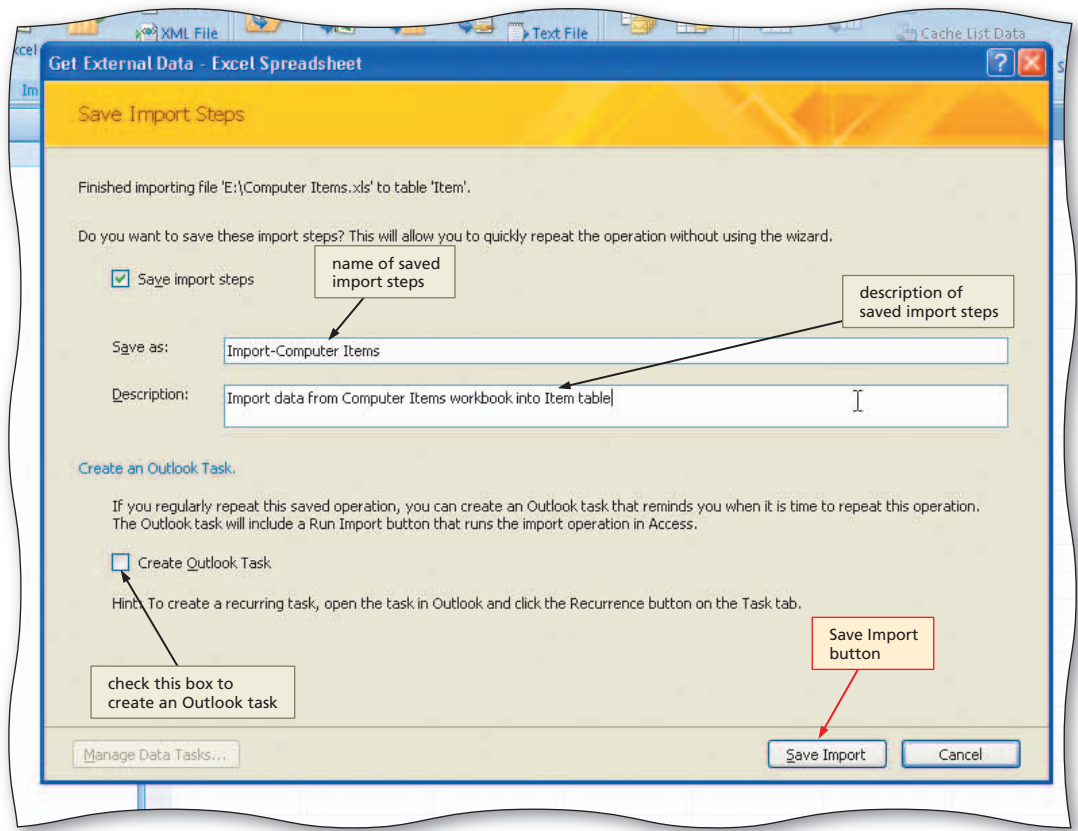


Figure 10

9

- Click the Save Import button to save the import steps (Figure 11).

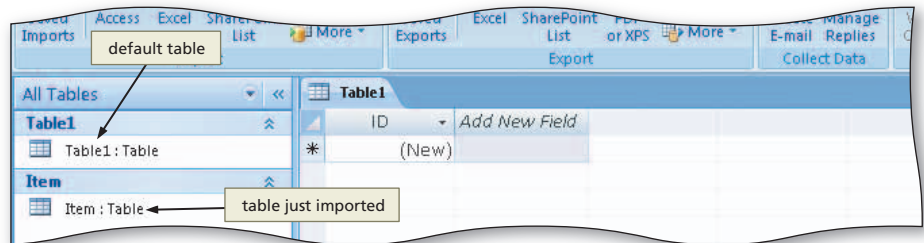


Figure 11

Other Ways

1. Right-click Table1 : Table in Navigation pane, point to Import, click appropriate file format

Using the Access Table

After the Access version of the table has been created, you can use it as you would any other table. You can open the table in Datasheet view (Figure 1b on page AC 207). You can make changes to the data. You can create queries or reports that use the data in the table.

By clicking Design View on the table's shortcut menu, you can view the table's structure and make any necessary changes to the structure. The changes may include changing field sizes and types (for those that may not be correct), creating indexes, specifying the primary key, or adding additional fields. If you have imported multiple tables that are to be related, you will need to relate the tables. To accomplish any of these tasks, use the same steps you used in Chapter 3.

BTW **Saving Import Steps**
When you save the steps that import data from a Microsoft Office Excel 2007 workbook, Access stores the name of the Excel workbook, the name of the destination database, and other details, including whether the data was appended to a table or added to a new table, primary key information, field names, and so on.

Linking versus Importing

When an external table or worksheet is imported, or converted, into an Access database, a copy of the data is placed as a table in the database. The original data still exists, just as it did before, but no further connection exists between it and the data in the database. Changes to the original data do not affect the data in the database. Likewise, changes in the database do not affect the original data.

It also is possible to link data stored in a variety of formats to Access databases by selecting the ‘Link to the data source by creating a linked table’ option button on the Get External Data - Excel Spreadsheet dialog box rather than the ‘Import the source data into a new table in the current database’ option button (Figure 4 on page AC 212). With linking, the connection is maintained.

When an Excel worksheet is linked, for example, the worksheet is not stored in the database. Instead Access simply establishes a connection to the worksheet so you can view the data in either Access or Excel. Any change made in the worksheet will be visible immediately in the table. For example, if you change an address in Excel and then view the table in Access, you would see the new address. If you add a new row in Excel and then view the table in Access, the row would appear as a new record. You cannot make changes to the table in Access. If you want to add, change, or delete data, you must make the changes in the worksheet because the data is stored in an Excel workbook.

To identify that a table is linked to other data, Access places an arrow in front of the table (Figure 12). In addition, the Excel icon in front of the name indicates that the data is linked to an Excel worksheet.

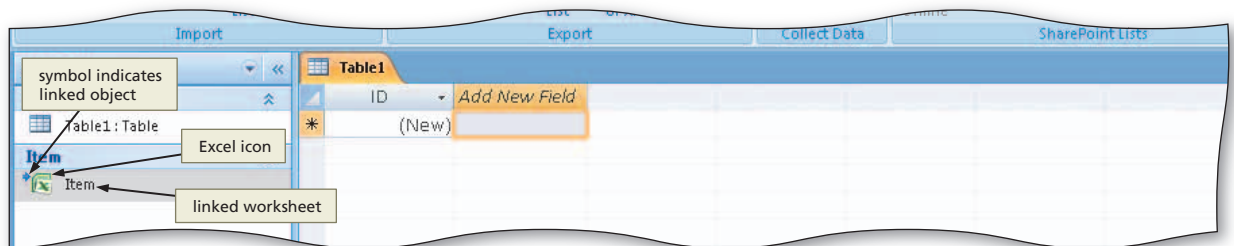


Figure 12

The Linked Table Manager

After you link tables between a worksheet and a database or between two databases, you can modify many of the linked table's features. For example, you can rename the linked table, set view properties, and set links between tables in queries. If you move, rename, or modify linked tables, you can use the **Linked Table Manager** to update the links. To do so, click Database Tools on the Ribbon to display the Database Tools tab. Then click the Linked Table Manager button on the Database Tools tab. The Linked Table Manager dialog box that appears includes instructions on how to update the links.

To Close a Database

The following steps show how to close the database.

- 1 Click the Office Button to display the Office Button menu.
- 2 Click Close Database on the Office Button menu.

Importing from or Linking to Data in Another Access Database

Just as you can import data from an Excel worksheet, you can import data from another Access database. Similarly, just as you can link to data in an Excel worksheet, you can link to data in another Access database.

Identify sources of external data for the database: Access database.

You need to decide whether it is appropriate for you to import or link data in another Access database. The following are some common reasons for importing from or linking to another database:

1. You want to combine two databases into one. By importing, you can copy all objects (tables, queries, forms, reports, and so on) from one database to the other.
2. You want to create tables that are similar to tables in another database. When importing, you can choose to copy the table structure without the data. The table created in the process will have all the fields and field properties of the original, but will be empty.
3. You want to copy a collection of related objects from another database. In one operation you could, for example, copy a table along with all queries, forms, and reports that are based on that table.
4. You have several databases, but data in some tables is the same, for example, the Client table must be shared between some of the databases. By linking, any updates to the table in the source database are immediately available to anyone using any of the other databases.

Plan Ahead

TO IMPORT DATA FROM ANOTHER ACCESS DATABASE

The following steps would import data from another Access database into the database that is currently open.

1. Click the Access button in the Import group on the External Data tab.
2. Select the database containing the data to be imported.
3. Be sure the 'Import tables, queries, forms, reports, macros, and modules into the current database' option button is selected and click the OK button.
4. In the Import Objects dialog box, select the tables, queries, forms, reports, macros, and/or modules you wish to import and then click the OK button.
5. Decide if you wish to save the import steps.

TO LINK TO DATA IN ANOTHER ACCESS DATABASE

The following steps would link tables in another Access database into the database that is currently open.

1. Click the Access button in the Import group on the External Data tab.
2. Select the database containing the tables to be linked.
3. Click the 'Link to the data source by creating a linked table' option button to link and then click the OK button.
4. In the Link tables dialog box, select the tables you wish to link and then click the OK button.

Text Files

Text files contain unformatted characters including both readable characters, such as numbers and letters, and some special characters, such as tabs, carriage returns, and line feeds. Typical extensions for text files that can be imported or linked into Access databases are txt, csv, asc, and tab.

To be able to use a text file for importing or linking, it must be organized into records (rows) and fields (columns). Records and fields can be organized in two ways: delimited files and fixed-width files.

In **delimited files**, each record is on a separate line and the fields are separated by a special character, called the **delimiter**. Common delimiters are tabs, semicolon, commas, and spaces. You also can choose any other value that does not appear within the field contents. The csv (comma separated values) file often used in Excel is an example of a delimited file.

In **fixed-width files**, the width of any field is the same on every record. For example, if the width of the first field on the first record is 12 characters, the width of the first field on every other record also must be 12 characters.

Plan Ahead

Identify sources of external data for the database: text file.

You need to decide whether it is appropriate for you to use external data stored in a text file. The following are some common reasons for using a text file for this purpose:

1. Data that you want to import is not available in a format that Access recognizes. You first would export the data from the original application to a text file and then import that text file into Access.
2. You manage data in Access but regularly receive data in text files from other users that needs to be incorporated into your database.

Plan Ahead

Determine whether the data you have identified is in an appropriate format: text file.

Before importing or linking the text file you have identified, you need to make sure it is in an appropriate format. The following are some of the actions you should take to ensure correct format:

1. Make sure the data in the text file consistently follows one of the available formats (delimited or fixed width). If the file is delimited, identify the delimiter and make sure the same one is used throughout. If the file is fixed-width, make sure each field on each record is the same width.
2. Make sure that there are no blank records within the file. If there are, remove them prior to importing or linking.
3. Make sure there are no blank fields within the list. If there are, remove them prior to importing or linking.
4. For each field, make sure the entries in each record represent the same type of data.
5. If it is a delimited file, determine whether the first row contains column headings that will make appropriate field names in the resulting table. If not, you should add such a row. In general, the process is simpler if the first row in a delimited file contains appropriate column headings.
6. Make sure there are no extra paragraph (carriage) returns at the end of the file. If there are, remove them prior to importing or linking.

To Import Data From Or Link Data To A Text File

To import data from or link data to a text file, you would use the following steps.

1. Click the Text File button in the Import group on the External Data tab.
2. Select the text file containing the data to be imported.
3. Be sure the 'Import the source into a new table in the current database' option button is selected if you wish to create a new table. Click the 'Append a copy of the records to the table' option button if you wish to add to an existing table, and then select the table. Click the 'Link to the data source by creating a linked table' option button if you wish to link the data. Once you have selected the correct option button, click the OK button.
4. Select the Delimited option button for a delimited file or the Fixed Width option button for a fixed-width file, and then click the Next button.
- 5a. For a delimited file, select the character that delimits the field values. If you know the file uses a text qualifier, which is a symbol used to enclose character values, select either the double quotation mark (") or the single quotation mark ('). If the first row contains field names, click the First Row contains Field Names check box. Once you have made your selections, click the Next button.
- 5b. For a fixed-width file, review the structure that Access recommends. If the recommended structure is not appropriate, follow the directions on the screen to add, remove, or adjust the lines. Once you have finished, click the Next button.
6. You can use the next screen if you need to change properties of one or more fields. When finished, click the Next button.
7. If you are importing, select the appropriate primary key, and then click the Next button. If you are linking, you will not have an opportunity to select a primary key.
8. Be sure the table name is correct, and then click the Finish button to import or link the data. Decide if you wish to save the import steps.

Using Saved Import Steps

You can use a set of saved import steps from within Access by clicking the Saved Imports button on the External Data tab. You then will see the Manage Data Tasks dialog box, as shown in Figure 13 on the next page. Select the set of saved import steps you want to repeat. (In this case only the import named Import-Computer Items exists.) Click the Run button to repeat the import steps you saved earlier. If you have created an Outlook task, you can schedule the import operation just as you schedule any other Outlook task.

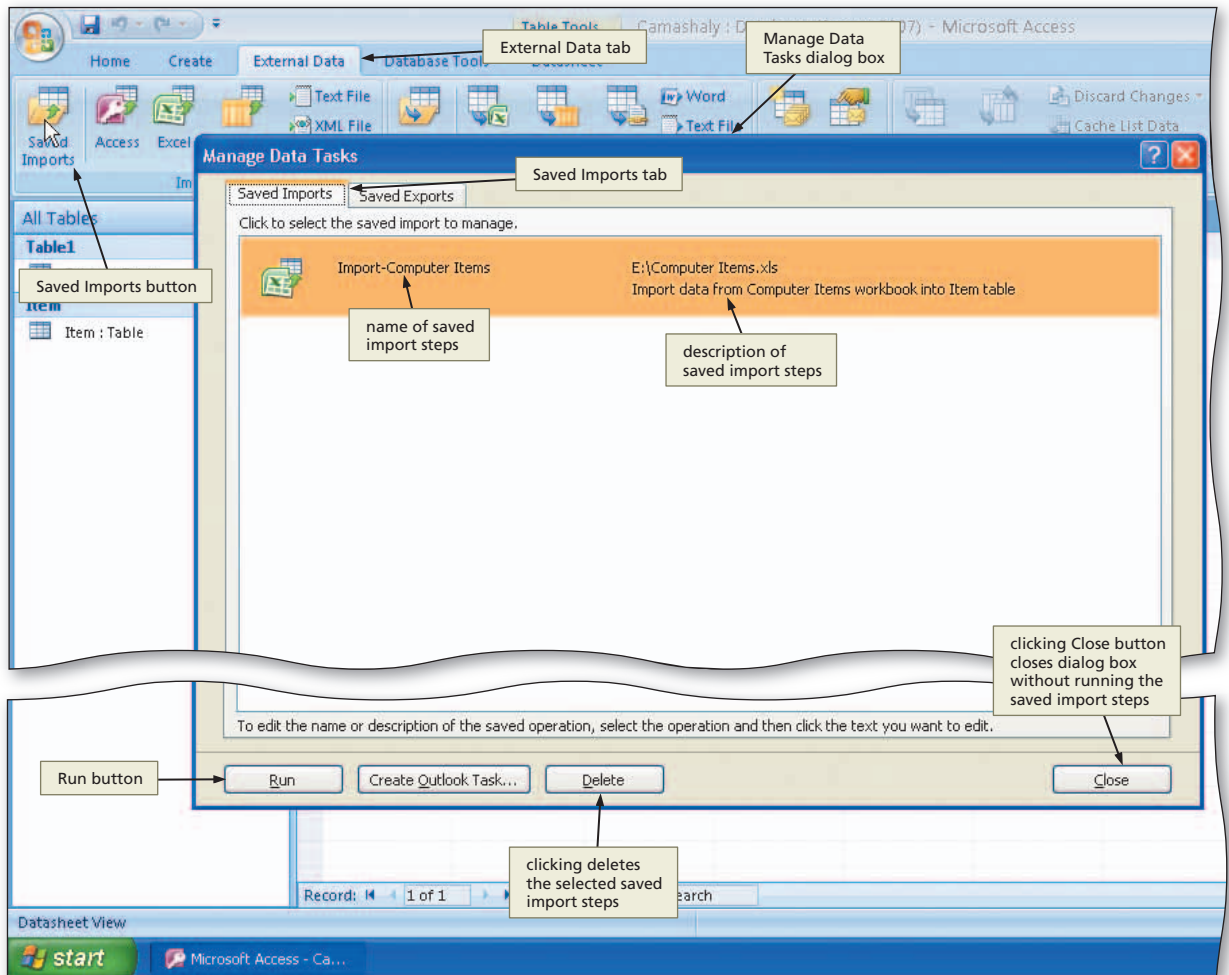


Figure 13

Exporting Data From Access to Other Applications

Exporting is the process of copying database objects to another database, to a worksheet, or to some other format so another application (for example, Excel) can use the data. Businesses need the flexibility of using the same data in different applications. For example, numerical data in a table exported to Excel could be analyzed using Excel's powerful statistical functions. Data also could be exported as an RTF file for use in marketing brochures.

To Open a Database

Before exporting the JSP Recruiters data, you first must open the database. The following steps open the database.

- 1 With your USB flash drive connected to one of the computer's USB ports, click the More button to display the Open dialog box.
- 2 If necessary, click the Look in box arrow and then click UDISK 2.0 (E:) to select the USB flash drive in the Look in list as the new open location. (Your drive letter might be different.)
- 3 Click JSP Recruiters to select the file name.

- 4 Click the Open button to open the database.
- 5 If a Security Warning appears, click the Options button to display the Microsoft Office Security Options dialog box.
- 6 Click the 'Enable this content' option button and then click the OK button to enable the content.

To Export Data to Excel

Once JSP Recruiters has decided to make the Recruiter-Client Query available to Excel users, it needs to export the data. To export data to Excel, select the table or query to be exported, and then click the Excel button in the Export group on the External Data tab. The following steps export the Client-Recruiter Query to Excel and save the export steps.

- 1
 - Click the Recruiter-Client Query in the Navigation pane to select it.
 - Click External Data on the Ribbon to display the External Data tab (Figure 14).

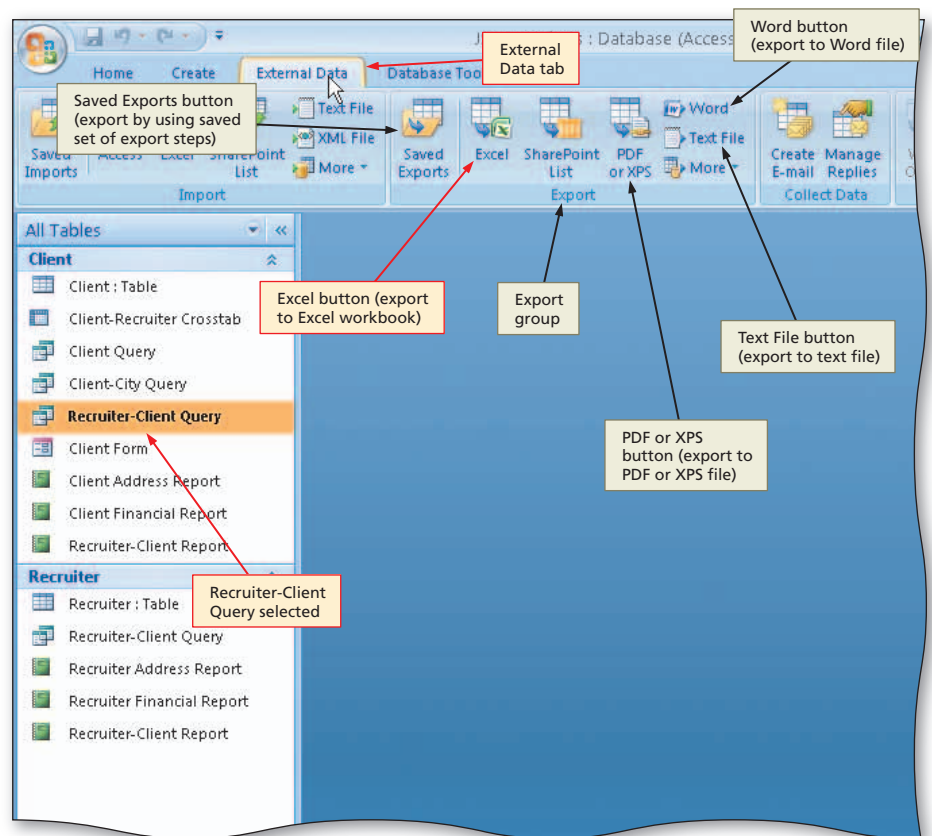


Figure 14

2

- Click the Excel button in the Export group on the External Data tab to display the Export – Excel Spreadsheet dialog box.
- Click the Browse button and select your USB flash drive as the file location.
- Be sure the file name is Recruiter-Client Query and then click the Save button (Figure 15).

Q&A Did I need to browse?

No. You could type the appropriate file location.

Q&A Could I change the name of the file?

You could change it. Simply replace the current file name with the one you want.

Q&A What if the file I want to export already exists?

Access will indicate that the file already exists and ask if you want to replace it. If you click the Yes button, the file you export will replace the old file. If you click the No button, you must either change the name of the export file or cancel the process.

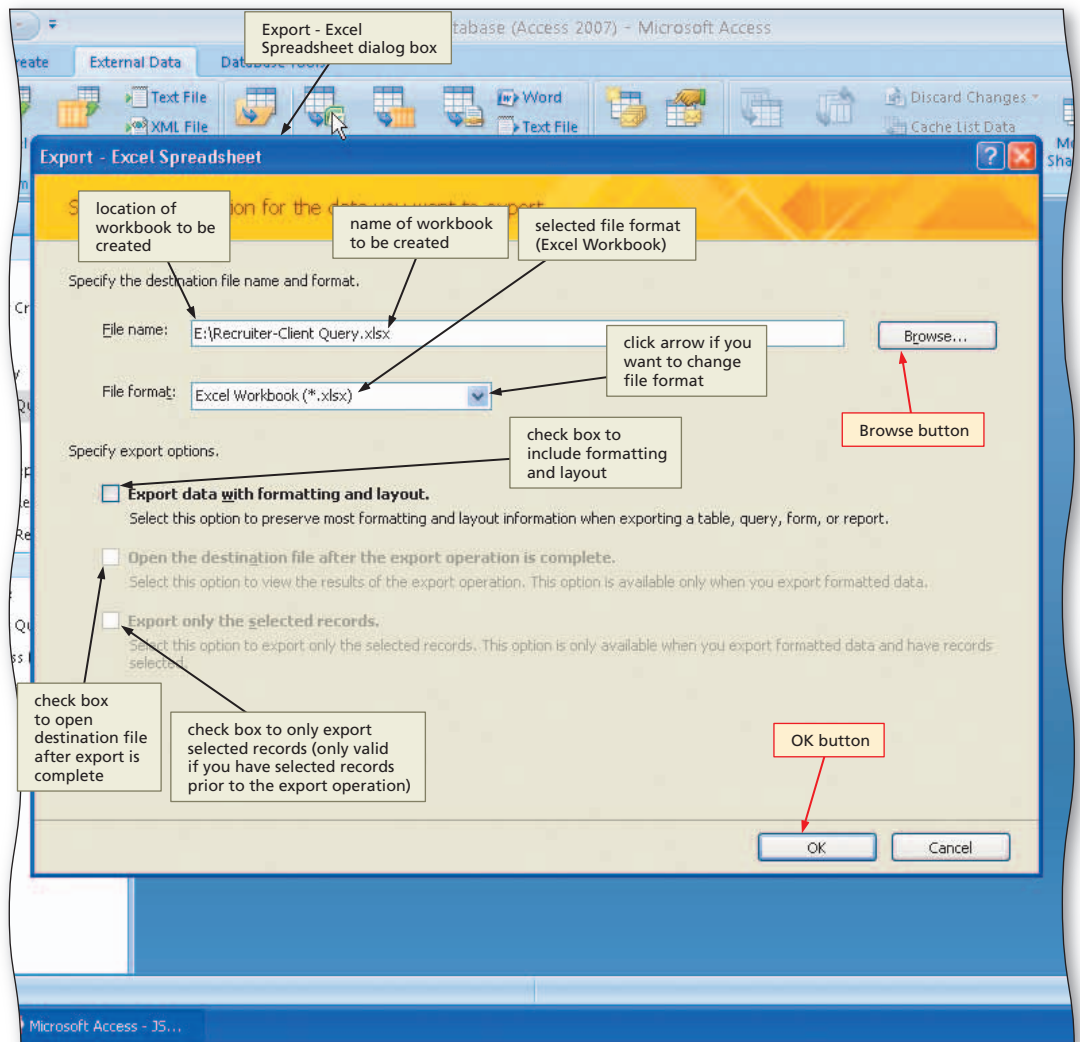


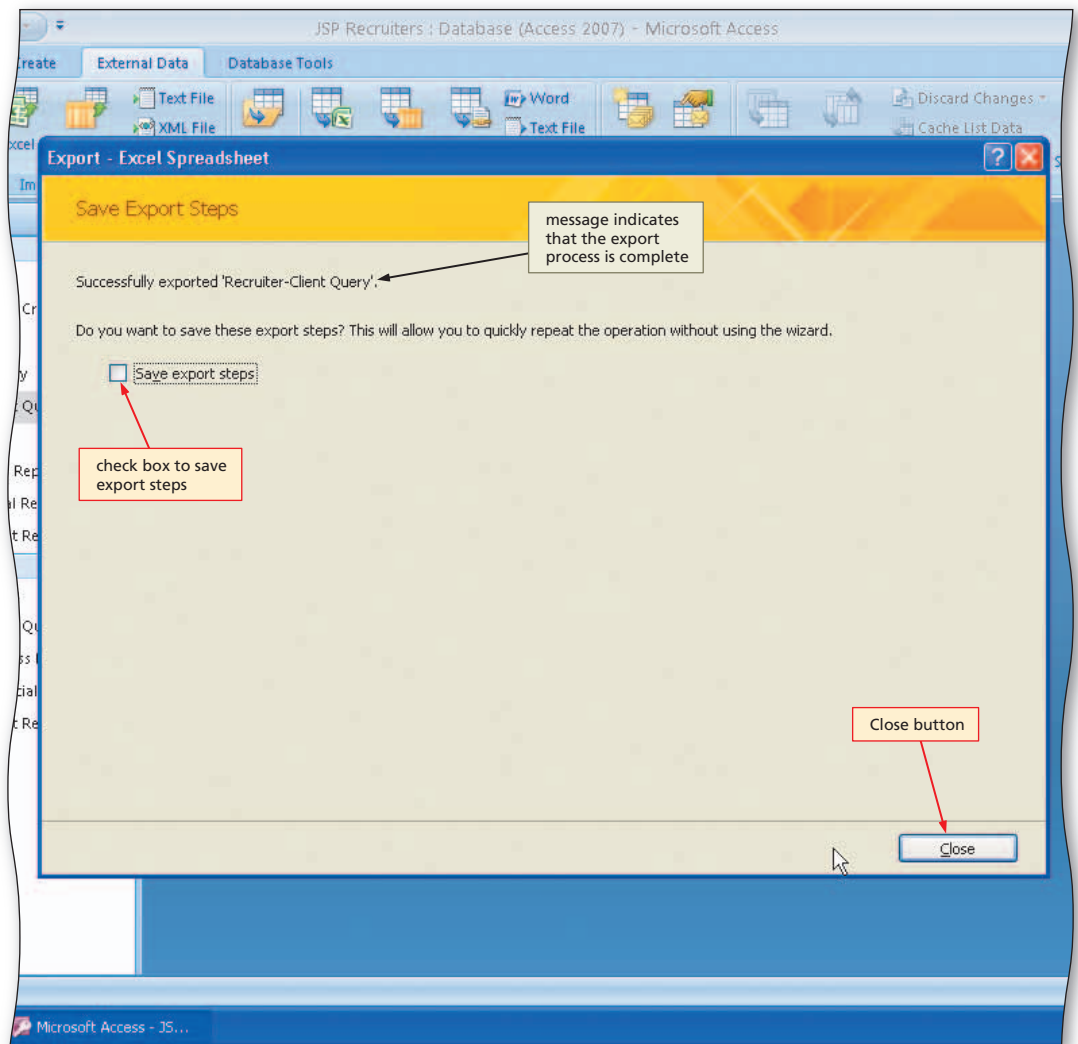
Figure 15

3

- Click the OK button to export the data (Figure 16).

4

- Click the Save export steps check box to display the Save export steps options.
- If necessary, type Export-Recruiter-Client Query in the Save as text box.
- Type Export the Recruiter-Client Query without formatting in the Description text box.
- Click the Save Export button to save the export steps.

**Figure 16****Other Ways**

- Right-click database object in Navigation pane, point to Export, click appropriate file format

To Export Data to Word

Once JSP Recruiters has decided to also make the Recruiter-Client Query available to Word, it needs to export the data. There is a problem, however. It is not possible to export data to the standard Word format. It is possible, however to export the data as an RTF (rich text file), which Word can access. The following steps export the data to an RTF file. They do not save the export steps.

- With the Recruiter-Client Query selected in the Navigation pane and the External Data tab appearing on the screen, click the Word button in the Export group on the External Data tab to display the Export - RTF file dialog box.
- Select your USB drive as the file location and make sure that Recruiter-Client Query is the file name.

- 3 If necessary, click the Save button and then click the OK button to export the data.
- 4 Because you will not save the export steps, click the Close button to close the Export - RTF File dialog box.

BTW**XPS Format**

To view a file in XPS format, you need a viewer. You or the recipient of your file can download a free viewer from the Downloads section of Microsoft Office Online.

BTW**PDF Format**

To view a PDF file, you must have a PDF reader installed on your computer. One such reader is the Acrobat Reader, available for free from Adobe Systems.

To EXPORT DATA TO A TEXT FILE

When exporting data to a text file, you can choose to export the data with formatting and layout. This option preserves much of the formatting and layout in tables, queries, forms, and reports. For forms and reports, this is the only option.

If you do not need to preserve the formatting, you can choose either delimited or fixed-width as the format for the exported file. The most common option, especially if formatting is not an issue, is delimited. You can choose the delimiter and also whether to include field names on the first row. In many cases, delimiting with a comma and including the field names is a good choice.

To export data from a table or query to a comma delimited file in which the first row contains the column headings, you would use the following steps.

1. With the object to be exported selected in the Navigation pane and the External Data tab appearing on the Ribbon, click the Text File button in the Export group on the External Data tab to display the Export - Text File dialog box.
2. Select the name and location for the file to be created.
3. If you need to preserve formatting and layout, be sure the 'Export data with formatting and layout' check box is checked. If you do not need to preserve formatting and layout, make sure the check box is not checked. Once you have made your selection, click the OK button in the Export - Text File dialog box.
4. To create a delimited file, be sure the Delimited option button is selected. To create a fixed-width file, be sure the Fixed Width option button is selected. Once you have made your selection, click the Next button.
- 5a. If you are exporting to a delimited file, choose the delimiter that you want to separate your fields, such as a comma. Decide whether to include field names on the first row and, if so, click the Include Field Names on First Row check box. If you want to select a text qualifier, select it in the Text Qualifier list. When you have made your selections, click the Next button.
- 5b. If you are exporting to a fixed-width file, review the position of the vertical lines that separate your fields. If any lines are not positioned correctly, follow the directions on the screen to reposition them. When you have finished, click the Next button.
6. Click the Finish button to export the data.
7. Save the export steps if you wish, or simply click the Close button in the Export - Text File dialog box to close the dialog box without saving the export steps.

To Publish a Report

At JSP Recruiters, the staff would like to make the Recruiter Financial Report available through e-mail, which they can do by publishing the report as either a PDF or XPS file. The following steps publish the Recruiter Financial Report as an XPS file.

- 1
 - Click the Recruiter Financial Report in the Navigation pane to select it.
 - Click the 'PDF or XPS' button in the Export group on the External Data tab (see Figure 14 on page AC 221) to display the Publish as PDF or XPS dialog box.
 - Select your USB drive as the file location. Make sure that Recruiter Financial Report is the file name and that XPS Document is the file type. If necessary, remove the check mark in the 'Open file after publishing' check box.

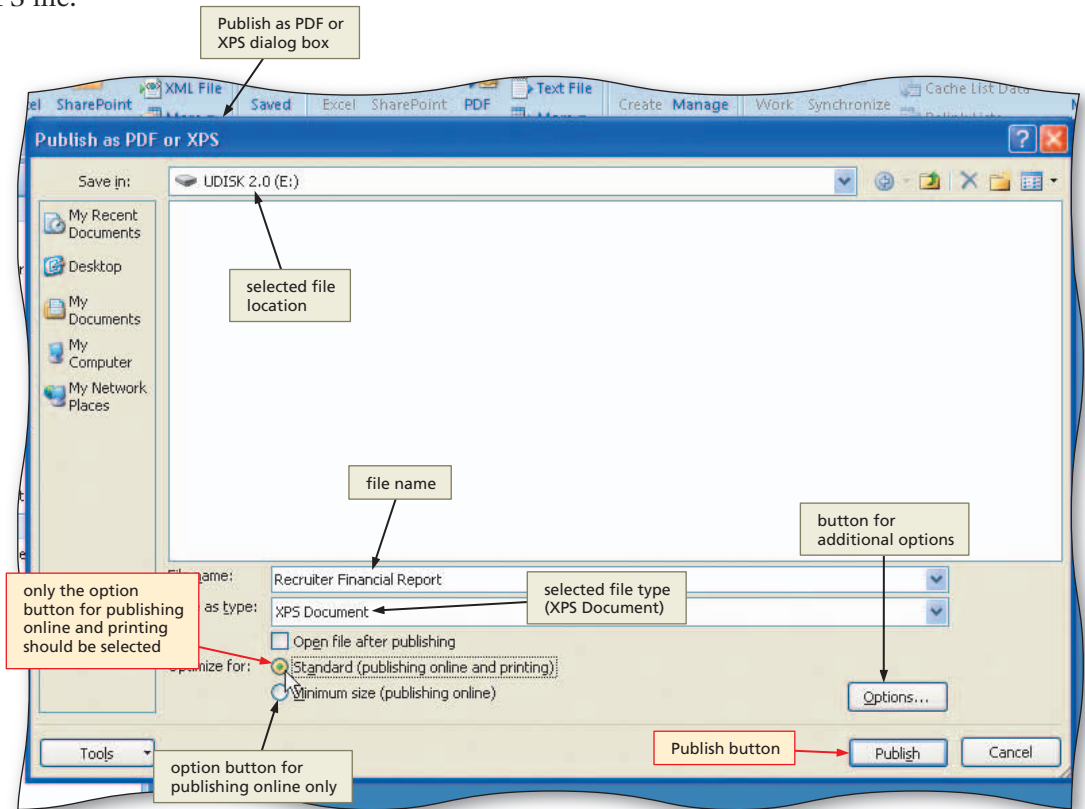


Figure 17

- Click the 'Standard (publishing online and printing)' option button to create a file that is appropriate for both publishing online and printing (Figure 17).

Q&A How do I publish as PDF?

Change XPS Document to PDF in the Save as type box.

- 2
 - Click the Publish button to publish the report as an XPS file.
 - Because you will not save the export steps, click the Close button to close the Export - XPS dialog box.

Using Saved Export Steps

You can use a set of saved Export steps from within Access by clicking the Saved Exports button on the External Data tab. You then select the set of saved export steps you want to repeat and click the Run button in the Manage Data Tasks dialog box. If you have created an Outlook task, you can schedule the export operation just as you can schedule any other Outlook task.

BTW Viewing or Printing the Report

To view or print the report stored in the XPS file, use the XML Paper Specification Viewer. If the XML Paper Specification Viewer is not installed on your system, you can obtain it from Microsoft. If you are unable to view or print XPS files, you alternatively can publish the report as a PDF. To do so, change the Save as type from XPS Document to PDF before clicking the Publish button.

BTW Saving Export Steps

When you save the steps that export formatted data to Microsoft Office Excel or Word 2007, the current filter and column settings of the source object in Access are saved. If the source object (table, query, form, or report) is open when you run the export steps, Access exports only the data that is currently displayed in the view.

XML

Just as Hypertext Markup Language (HTML) is the standard language for creating and displaying Web pages, **Extensible Markup Language (XML)** is the standard language for describing and delivering data on the Web. Another way of viewing the difference is that HTML handles the *appearance* of data within a Web page, whereas XML handles the *meaning* of data. XML is a data interchange standard that allows you to exchange data between dissimilar systems or applications. With XML, you can describe both the data and the structure (**schema**) of the data. You can export tables, queries, forms, or reports.

When exporting XML data, you can choose to export multiple related tables in a single operation to a single XML file. If you later import this XML data to another database, you will import all the tables in a single operation. Thus, the new database would contain each of the tables. All the fields would have the correct data types and sizes and the primary keys would be correct.

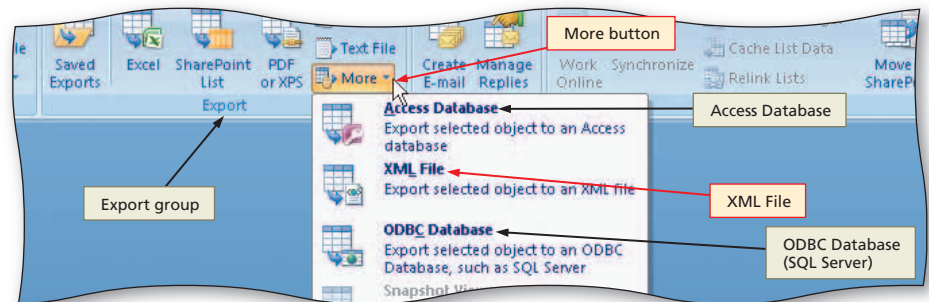
To Export XML Data

In exporting XML data, you indicate whether to just save the data or to save both the data and the schema (that is, the structure). If you have made changes to the appearance of the data, such as changing the font, and want these changes saved as well, you save what is known as the **presentation**. The data is saved in a file with the XML extension, the schema is saved in a file with the XSD extension, and the presentation is saved in a file with the XSL extension. The default choice, which usually is appropriate, is to save both the data and schema, but not the presentation. If multiple tables are related, such as the Client and Recruiter tables in the JSP Recruiters data, you can export both tables to a single file.

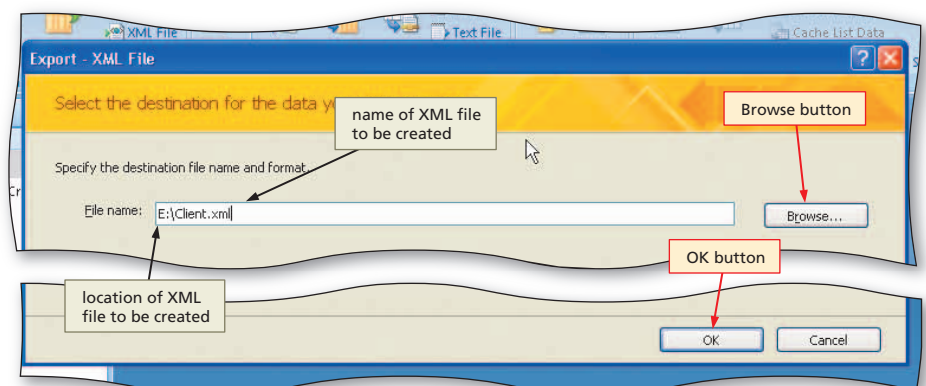
The following steps export both the Client and Recruiter tables to a single XML file called Client. The steps save the data and the schema, but do not save the presentation.

1

- Click the Client table in the Navigation pane to select it.
- Click the More button in the Export group on the External Data tab to display the More button menu with additional export options (Figure 18).

**Figure 18****2**

- Click XML File on the More button menu to display the Export - XML File dialog box.
- Select your USB drive as the file location and make sure that Client is the file name (Figure 19).

**Figure 19**

3

- Click the OK button to display the Export XML dialog box (Figure 20).

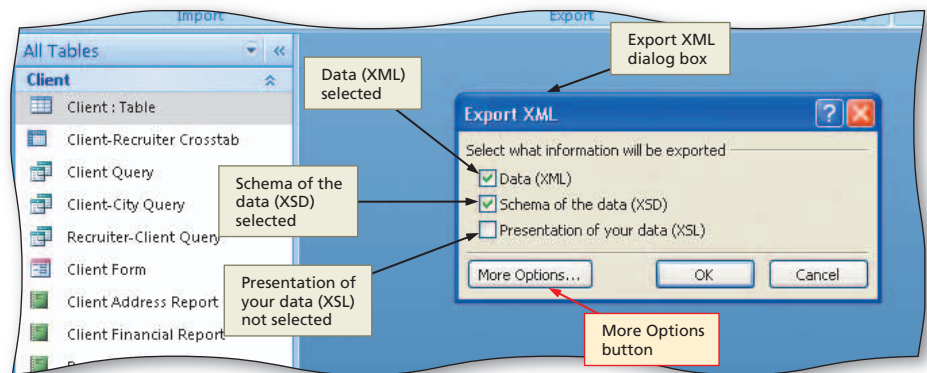


Figure 20

4

- Click the More Options button to specify additional options (Figure 21).

Q&A

What is the purpose of the other tabs in this dialog box?

You can use the Schema tab to indicate whether you want primary key, index information, table properties, and field properties included (normally they are) and whether the schema information is to be stored in a separate file (normally it is). If you want to export the presentation, you can use the Presentation tab to indicate this fact and also specify options concerning how the Presentation will be exported.

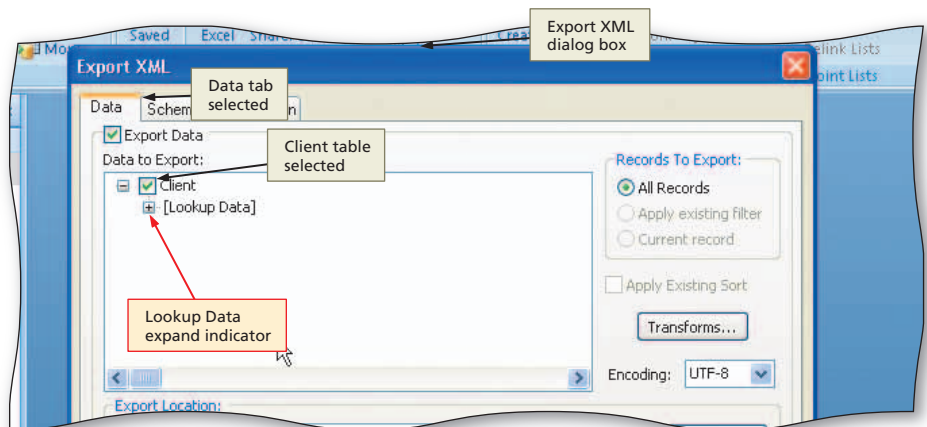


Figure 21

5

- Click the expand indicator (the plus sign) to the left of [Lookup Data], and then click the Recruiter check box to select the Recruiter table (Figure 22).

6

- Click the OK button to export the data.
- Because you will not save the export steps, click the Close button to close the Export - XML File dialog box.
- Click the Close Database command on the Office Button menu.

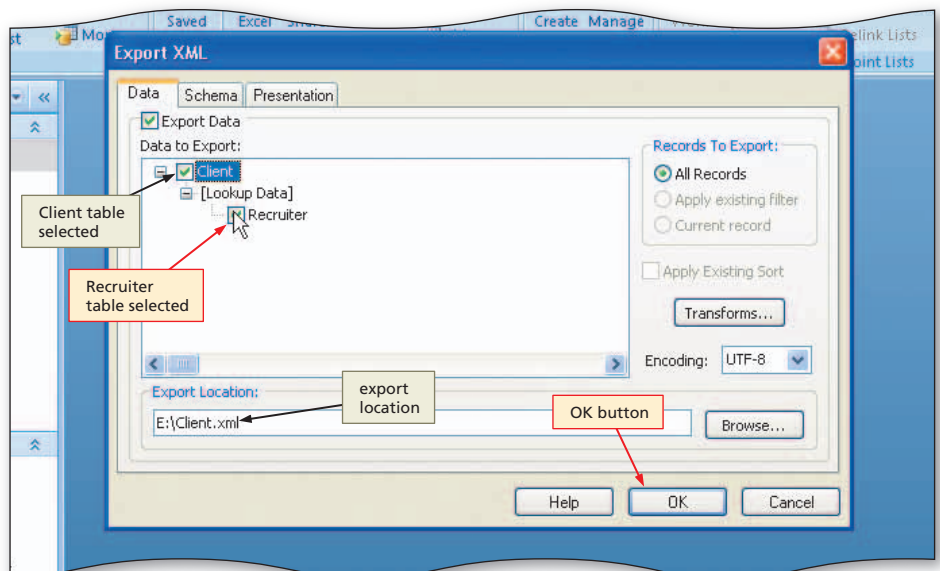


Figure 22

To Create a New Database

BTW Quick Reference
 For a table that lists how to complete the tasks covered in this book using the mouse, Ribbon, shortcut menu, and keyboard, see the Quick Reference Summary at the back of this book, or visit the Access 2007 Quick Reference Web page (scsite.com/ac2007/qr).

- 1 With a USB flash drive connected to one of the computer's USB ports, click Blank Database in the Getting Started with Microsoft Office Access screen to create a new blank database.
- 2 Type `JSP Consulting` in the File Name text box and then click the 'Browse for a location to put your database' button to display the File New Database dialog box.
- 3 Click the Save in box arrow to display a list of available drives and folders and then click UDISK 2.0 (E:) (your letter may be different) in the Save in list to select the USB flash drive as the new save location.
- 4 Click the OK button to select the USB flash drive as the location for the database and to return to the Getting Started with Microsoft Office Access screen.
- 5 Click the Create button to create the database on the USB flash drive with the file name, JSP Consulting.

To Import XML Data

The following steps import both the Client and Recruiter tables stored in the XML file called Client. In addition to having the same data, the fields in both tables will have precisely the same data types and sizes as in the original database. Also, the same fields will have been designated primary keys.

- 1
 - With the JSP Consulting database open, click External Data on the Ribbon to display the External Data tab.
 - Click the XML File button in the Import group on the External Data tab to display the Get External Data - XML File dialog box.
 - Click the Browse button in the Get External Data - XML File dialog box to display the File Open dialog box.
 - If necessary, select UDISK 2.0 (E:) in the Look in list.
 - Click the Client file to select it (Figure 23).

Q&A Should I click the xsd version?
 No. If you do, you will import both tables, but none of the data. That is, the tables will be empty.

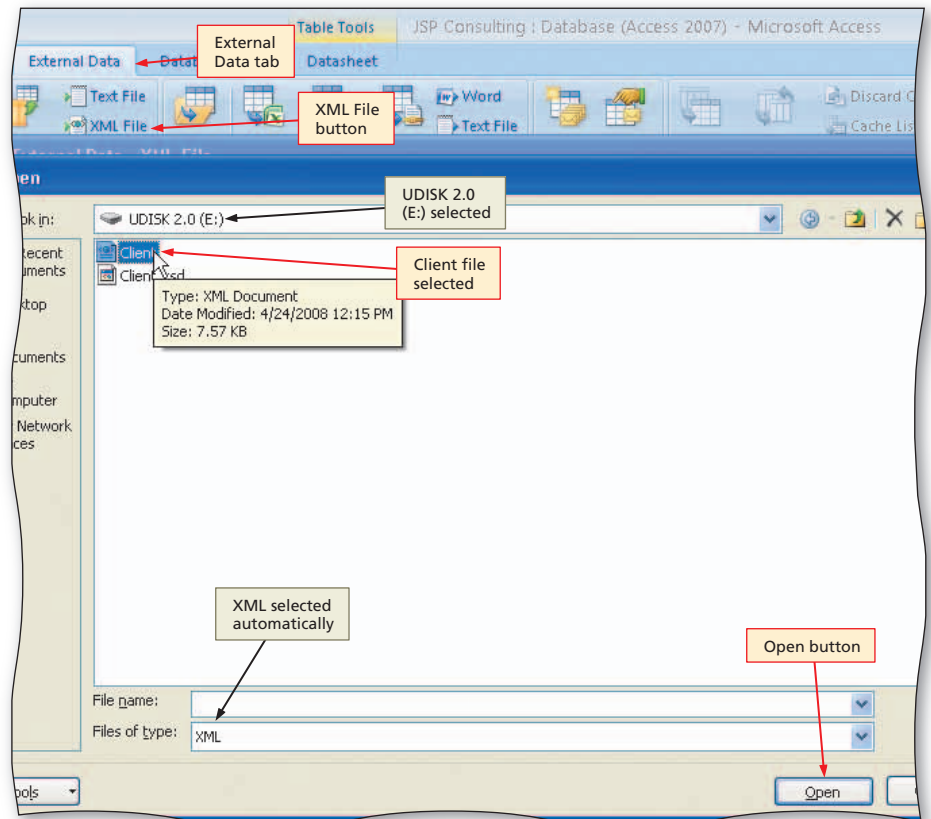


Figure 23

2

- Click the Open button to return to the Get External Data - XML File dialog box (Figure 24).

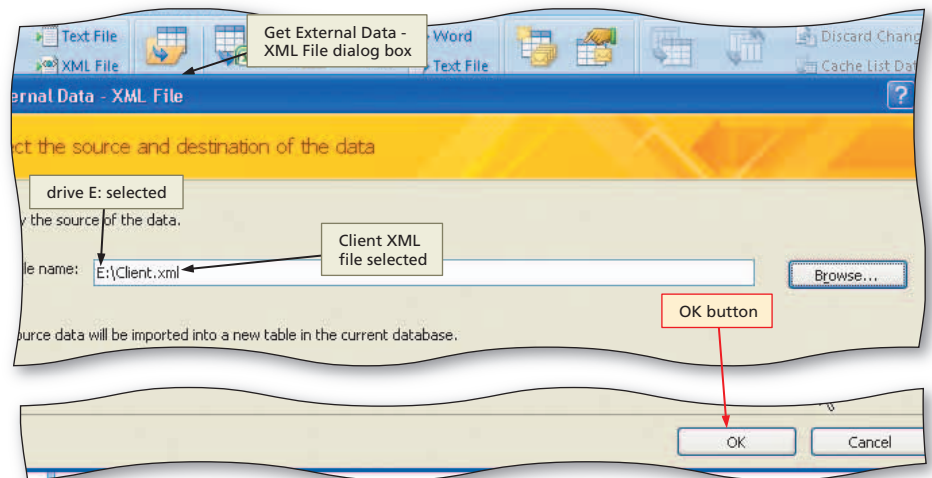


Figure 24

3

- Click the OK button to display the Import XML dialog box (Figure 25).

4

- Be sure the Structure and Data option button is selected and then click the OK button to import the data.
- Because you will not save the import steps, click the Close button to close the Get External Data - XML File dialog box.

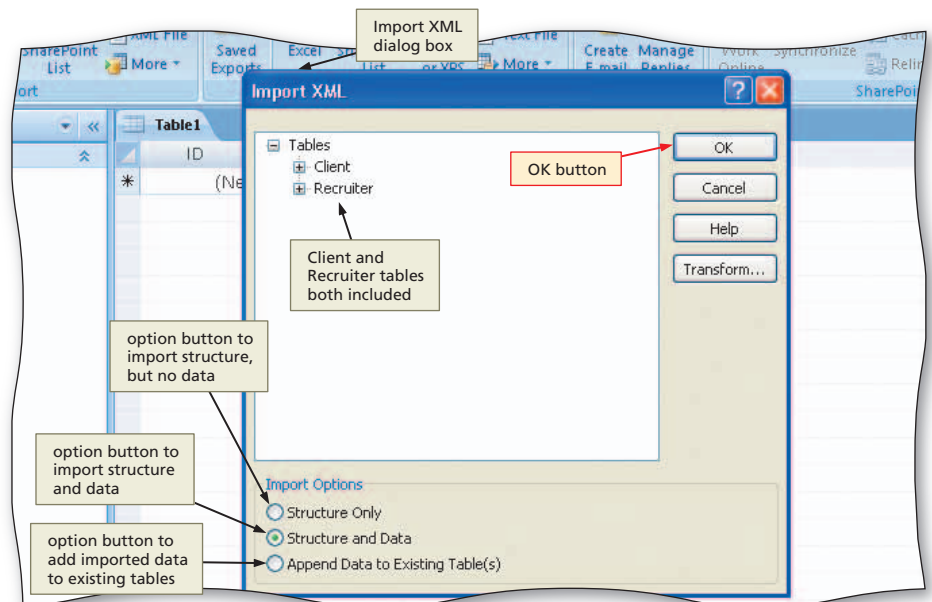


Figure 25

To Quit Access

You are ready to quit Access. The following step quits Access.

1

- Click the Close button on the right side of the Access title bar to quit Access.

BTW

Certification

The Microsoft Certified Application Specialist (MCAS) program provides an opportunity for you to obtain a valuable industry credential—proof that you have the Access 2007 skills required by employers. For more information, see Appendix F or visit the Access 2007 Certification Web page (scsite.com/ac2007/cert).

Feature Summary

In this feature you have learned to import from and link to data in Excel worksheets, other Access databases, and text files; export data to Excel worksheets, Word documents, and text files; publish reports; and export and import XML data. The items listed below include all the new Access skills you have learned in this chapter.

1. Import an Excel Worksheet (AC 212)
2. Import Data from Another Access Database (AC 217)
3. Link to Data in Another Access Database (AC 217)
4. Import Data from or Link Data to a Text File (AC 219)
5. Export Data to Excel (AC 221)
6. Export Data to Word (AC 223)
7. Export Data to a Text File (AC 224)
8. Publish a Report (AC 225)
9. Export XML Data (AC 226)
10. Import XML Data (AC 228)



If you have a SAM user profile, you may have access to hands-on instruction, practice, and assessment. Log in to your SAM account (<http://sam2007.course.com>) to launch any assigned training activities or exams that relate to the skills covered in this chapter.

In The Lab

Design, create, modify, and/or use a database following the guidelines, concepts, and skills presented in this feature. Labs are listed in order of increasing difficulty.

Lab 1: Importing Data to an Access Database

Problem: TAL Woodworks sells custom wood accessories for the home. TAL uses worksheets to keep track of inventory and customers. TAL realizes that customer data would be better handled if maintained in an Access database. The company wants to maintain the products inventory in Excel but also would like to be able to use the query and report features of Access.

Instructions: For this assignment, you will need two files: Customer.csv and Product.xlsx. See the inside back cover of this book for instructions for downloading the Data Files for Students, or see your instructor for information on accessing the files required in this book. Perform the following tasks:

1. Start Access and create a new database in which to store all the objects for TAL Woodworks. Call the database TAL Woodworks.
2. Import the Customer worksheet shown in Figure 26 into Access. The worksheet is saved as a .csv file.

	A	B	C	D	E	F	G	H	I	J	K
1	Customer Number	Name	Address	City	State	Balance					
2	AD23	Adson Gifts	407 Mallory	Tourin	CO	\$ 205.00					
3	AR75	Arthur's Interiors	200 Mimbberly	Denton	CO	\$ 180.00					
4	BE28	Becker Design	224 Harbor Oak	Charleston	CO	\$ 170.00					
5	CR66	Casa Grande	506 Mallory	Tourin	CO	\$ 0.00					
6	DL60	Dee's Things	123 Village	Denton	CO	\$ 235.00					
7	GR36	Grande Casa	1345 Fern	Charleston	CO	\$ 204.00					
8	HA09	Hal's Gifts	568 Denmer	Berridge	CO	\$ 245.00					
9	ME17	My House	879 Vinca	Berls	CO	\$ 268.00					
10	RO44	Royal Interiors	677 Liatris	Berridge	CO	\$ 0.00					
11	ST22	Steedman's	889 Lantana	Berls	CO	\$ 123.00					
12											
13											
14											

Figure 26

3. Use Customer as the name of the table and Customer Number as the primary key.
4. Save the import steps. Be sure to enter a description for the saved steps.
5. Link the Product worksheet shown in Figure 27 to the database.

	A	B	C	D	E	F	G	H	I	J	K	L
1	Product Code	Description	On Hand	Cost	Selling Price							
2	101	Candy Dish	10	\$4.00	\$6.00							
3	103	Letter Opener	15	\$2.00	\$3.00							
4	104	Tray	5	\$10.00	\$15.00							
5	106	Salad Tongs	20	\$3.00	\$5.00							
6	110	Lazy Susan	8	\$16.00	\$20.00							
7	112	Spoon Set	21	\$12.00	\$14.00							
8	113	Salad Bowl	9	\$18.00	\$25.00							
9	115	Desk Organizer	8	\$22.00	\$30.00							
10	120	Book Ends	4	\$27.00	\$34.00							
11	121	Mobile	7	\$34.00	\$40.00							
12												
13												
14												

Figure 27

6. Rename the linked Product table as Inventory. Then, use the Linked Table Manager to update the link between the Excel worksheet and the Access table.
7. Import the Sales Rep table from the Ada Beauty Supply database that you modified in In the Lab 3 in Chapter 3 on page AC 201. (If you did not complete this exercise, see your instructor for a copy of the modified database.) Sales reps of Ada often sell gift items to salons.
8. Change the database properties, as specified by your instructor. Submit the database in the format specified by your instructor.

In The Lab

Lab 2: Exporting Data to Other Applications

Problem: JMS TechWizards wants to be able to export some of the data in its Access database to other applications. JMS wants to export the City-Technician Crosstab query for further processing in Excel. It also wants to use the Technician table in a Word document as well as e-mail the Salary Report to the company's accounting firm. The company has decided to branch out and offer consulting services. It wants to export the Client and Technician tables as a single XML file and then import it to a new database.

Instructions: Start Access. Open the JMS TechWizards database that you modified in In the Lab 1 in Chapter 3 on page AC 199. (If you did not complete this exercise, see your instructor for a copy of the modified database.) Perform the following tasks:

1. Export the City-Technician Crosstab query to Excel as shown in Figure 28. Save the export steps. Be sure to include a description.

	A	B	C	D	E	F	G	H	I	J
1	City	Total Of Paid	22	23	29	32				
2	Anderson	\$1,005.00	\$255.00		\$750.00	\$0.00				
3	Kingston	\$548.50	\$548.50	\$0.00						
4	Liberty Corner	\$565.00		\$565.00						
5										
6										

Figure 28

2. Export the Technician table to a Word document. Do not save the export steps.
3. Publish the Salary Report as an XPS file.
4. Export both the Client and Technician tables in XML format. Be sure that both tables are exported to the same file. Do not save the export steps.
5. Create a new database called JMS TechConsultants.
6. Import the Client XML file containing both the Client and Technician tables to the JMS TechConsultants database.
7. Submit the Excel workbook, Word document, XPS file, and JMS TechConsultants database in the format specified by your instructor.