



*System  
Administrator Kit*

*AS/400  
File Transfer  
Guide*

*RUMBA 8.0*



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# 1 RUMBA AS/400 File Transfer

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This guide provides a general overview of the RUMBA AS/400 File Transfer program, along with reference information to help you serve as a resource for your organization's RUMBA users.

The RUMBA AS/400 File Transfer program sends data between the host and the PC. Users can run the AS/400 file transfer program to send host files or selected host data to the PC, work with the data in a PC application, and then run the file transfer program to send the modified PC data back to the AS/400.

In addition to the AS/400 file transfer program, you can also transfer files using Mainframe Passthrough.

## ► For more information

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*Help topic: Transferring files > AS/400 file transfer > The AS/400 File Transfer application*

RUMBA AS/400 File Transfer program topics:

- [AS/400 file transfer features](#)
- [Installation](#)
- [Planning an administrative strategy](#)
- [User files](#)

## AS/400 file transfer features

The RUMBA AS/400 File Transfer program provides multiple options for transferring data between the AS/400 host and the PC. You can:

- Create, open, and save file transfer settings in a profile
- Run individual or multiple (batch) file transfers
- Transfer text or database files from the PC to the AS/400
- Use the drag-and-drop feature to transfer host data to the PC display, the printer, or to a PC file
- Transfer complete host files to the PC or use SQL to transfer only the information you need
- Display libraries you can access on the host, and add libraries for the current file transfer session
- Specify decimal, date, and time formats for the transferred data
- Remove End of File character from host file before sending to PC
- Specify transfer options such as Run minimized, Monitor percent complete, Notify when complete, Close when complete, Truncate records, Truncate spaces, and Auto Run.
- Forward host files to an email address

### For more information

*Help topic: Transferring files > AS/400 file transfer > The AS/400 File Transfer application*

## Installation

The RUMBA AS/400 File Transfer program is included in the default installation for RUMBA AS/400 Edition. When performing a custom installation for the AS/400 edition of RUMBA you can select or deselect the AS/400 File Transfer option.

After installing the AS/400 file transfer program at the workstation, you can create and distribute customized file transfer profiles that your users can run with the click of a button.

## Planning an administrative strategy

You can simplify the file transfer process for your end users by creating and distributing profiles for all data transfers that need to be run on a regular basis. For example, many users may need to create weekly reports or spreadsheets based on host data. You can automate the file transfer program by following this sequence of steps:

1. Analyze the problem.

Which users transfer data to and from the host on a frequent or regular basis? What kinds of transferred data do they need? How would they best benefit from an automated file transfer procedure?

2. Design individual file transfer profiles.

Based on your analysis, create customized file transfer profiles to meet the individual needs of your users. This includes configuring:

- The default communications interface for the AS/400 File Transfer program
- Transfer options such as Run minimized, Notify when complete, and Monitor percent complete
- The location and format of the data files on the PC and the host

### ► For more information

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*Help topic: Transferring files > AS/400 file transfer > The AS/400 File Transfer application > Basic transfer procedures > To save settings in a transfer profile*

3. Use SQL (Structured Query Language) statements if appropriate.

When sending AS/400 data to the PC, you can use SQL statements to transfer only the AS/400 data that users need, instead of transferring complete files. You can also sort, group, summarize, and perform mathematical calculations on the transferred data.

### ► For more information

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*Help topic: Transferring files > AS/400 file transfer > The AS/400 File Transfer application > Querying host data*

4. Create batch transfers that run multiple file transfers in a single step.

You can group individual file transfer profiles in a batch profile so users can run the specified transfers in a single step. Batch transfers can also be scheduled to run once, or on a daily, weekly, or monthly basis.

### ► For more information

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*Transferring files > AS/400 file transfer > The AS/400 File Transfer application > Using batch file transfers*

5. Use the Auto Run option to run file transfers from the Windows Desktop.

When you save individual or batch transfer profiles with the Auto Run option, users can run their file transfer profile by simply double-clicking a shortcut on the Windows Desktop.

### ► For more information

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*Help topic: Transferring files > AS/400 file transfer > The AS/400 File Transfer application > Basic transfer procedures > To create an auto run transfer*  
*Help topic: Transferring files > AS/400 file transfer > The AS/400 File Transfer application > Using batch file transfers > To configure batch options*

## User files

There are several different types of user files that are associated with RUMBA AS/400 File Transfer and stored on the workstation in the user's private directory. The following table summarizes these files.

Description	
.btf	Batch transfer profile for multiple file transfers
.fdf	File description file (required when sending database files from the PC to the AS/400)
.rto	Transfer profile for a single file transfer
.tfr	PC Support/Client Access file transfer profile (upload)
.tto	PC Support/Client Access file transfer profile (download)

*Table 1-1 RUMBA AS/400 File Transfer file types*



► **For more information**

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*Help topic: Transferring files > AS/400 file transfer > The AS/400 File Transfer application > Introducing RUMBA AS/400 File Transfer > What is a PC description file?*



# 2 Configuration Procedures

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The RUMBA online help contains detailed information on configuring individual and batch file transfers. This chapter describes additional procedures that you as a system administrator may need to set up the AS/400 file transfer program for your users. Topics include:

- [Changing the library list on the AS/400 host](#)
- [Creating a PC description file](#)

## Changing the library list on the AS/400 host

When you initially open the AS/400 file transfer program, RUMBA software reads the QDFTJOB (default job description) file on the AS/400 and displays the list of libraries included in this file. To display other host libraries which your users have access to, you must change the QDFTJOB file. You can change the QDFTJOB file for the entire system or for a single user. The following procedures tell you how to change the QDFTJOB file.

- To change the QDFTJOB file of a single user, follow all the steps below. In summary, you must:
  1. Copy the QDFTJOB file into a new host library.
  2. Change the library list as needed in the copied QDFTJOB file.
  3. Update the user profile to reflect the new QDFTJOB file.  
(Generally, the host uses the QDFTJOB file in the QGPL library by default.)
- To change the QDFTJOB file for the entire system, follow only the instructions under “To change the library list in the QDFTJOB file.”

If you need to change the QDFTJOB file during a file transfer session, click  or choose Request Libraries from the File Transfer Session menu to update the current library list.

### To copy the QDFTJOB file

1. At the AS/400 command line, type WRKJOB, then press F4.  
This displays the Work with Job Descriptions screen.
2. At “Job Description,” type QDFTJOB; at “Library,” type QGPL, and then press Enter.
3. Under “Opt,” type 3 to copy the file, and then press Enter.  
This displays the Create Duplicate Object screen.
4. At “To Library,” type the new library name for the copied file, and press Enter.

## To change the library list in the QDFTJOBDB file

1. At the AS/400 command line, type WRKJOBDB, then press F4. This displays the Work with Job Descriptions screen.
2. At “Job Description,” type QDFTJOBDB; at “Library,” type the name of the new library containing the copied QDFTJOBDB file, and then press Enter.
3. Under “Opt,” type 2 to make changes to the file, and then press Enter.

This displays the Change Job Description screen.

4. Press F10 and Page Down.
5. Under “Initial Library List,” at “+ for more values,” enter the plus sign [+] and type the names of the host libraries you want to list.
6. Press Enter twice.

## To update the user profile

1. At the AS/400 command line, type CHGUSRPRF then press Enter.
2. At “User Profile,” type the name of the profile to change.
3. Press F10, then press Page Down twice.
4. Under “Job Description,” at “Library,” type the name of the library containing the new QDFTJOBDB file, and then press Enter.

## Creating a PC description file

When sending a PC database file to the AS/400, file and field descriptions for both the AS/400 system and the PC file are required. The host uses this information to correctly identify and interpret the field data. The PC description file (**.fdf**) contains information describing the PC database file. It is a text file that identifies the file data type (such as text or DIF), and contains field data information including the name, data type, and length of each field in the transferred file.

## ► For more information

*Help topic: Transferring files > AS/400 file transfer > the AS/400 file transfer application > Introducing AS/400 File Transfer > What is a PC description file?*

When transferring data from the AS/400, you can create a PC description file automatically by checking the Save description file box.

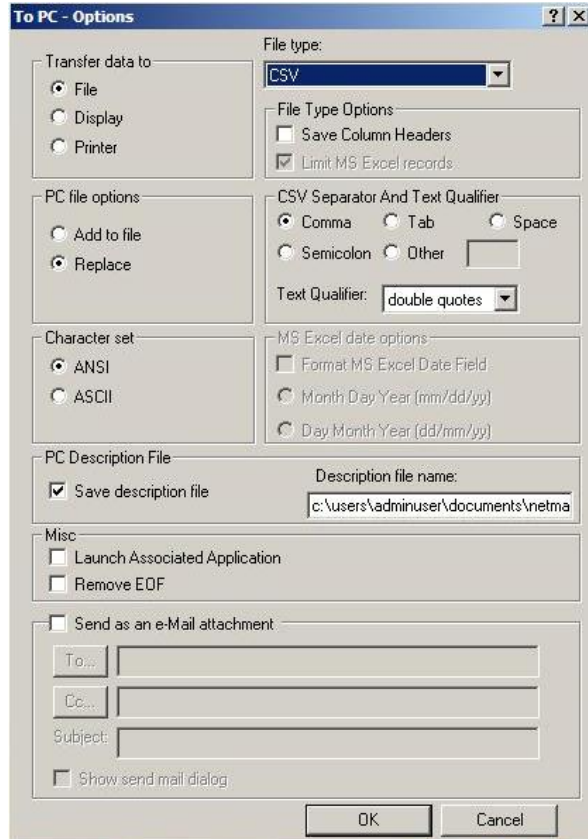


Figure 2-1 The Save description file check box

## ► For more information

*Help topic: Transferring files > AS/400 file transfer > the AS/400 file transfer application > Receiving AS/400 data*

Conversely, the PC description file is required when sending a PC database file to the host. If necessary, you can use any text editor to create a PC description file following these conventions:

- Use ASCII format.
- Use a carriage return and line feed to end each record.
- Tab characters can be used, but they will be treated as spaces.
- Place an end of file (EOF) character at the end of the file.
- Recommended naming convention: Use the same name as the PC database file you are transferring, but with an **.fdf** extension.

### For more information

*Transferring files > AS/400 file transfer > the AS/400 file transfer application > Sending PC files to the AS/400 > To create a PC description file?*

## Structure of the PC description file

The PC description file contains four types of information that describe the PC database file:

- PCFDF
- PCFT file type
- PCFO (optional time, date, and decimal formats)
- PCFL entries (field name, data type, length) for each database field

These information types are described in the table below.

PC DESCRIPTION FILE		
Item	Description	
PCFDF	Identifies this file as a description file.	
PCFT file type	Identifies the file type of the PC database file.	
	Indicator	File type

*Table 2-1 Structure of the PC description file*

PC DESCRIPTION FILE				
PCFO	1	ASCII text		
	3	BASIC sequential (CSV)		
	5	DIF (Data Interchange Format)		
	6	No-conversion file		
	7	Reserved (DBCS version only)		
	8	DOS random type 2		
	9	BIFF (Binary Interchange Format)		
	10	Tab-delimited text		
	PCFO	Optional PC time, date, and decimal format entries.		
		Indicator	Time format name	Time format
PCFO	1	HMS	hh:mm:ss	
	2	ISO (International Standards Organization)	hh.mm.ss	
	3	USA (USA standard)	hh:mm AM or PM	
	4	EUR (European)	hh.mm.ss	
	5	JIS (Japan Industrial Standard, Christian Era)	hh.mm.ss	
	6	DDS	format given by AS/400 file attributes	
	7	DFT	host job default	
	*	Unspecified	host job default	
		Indicator	Time separator	
	1	Colon (:)		
	2	Period (.)		
	3	Comma (,)		
	4	Blank ( )		
	5	Null (N)		
	6	Default (D) (host)		
	*	Unspecified (host job default)		

Table 2-1 Structure of the PC description file, (continued)



PC DESCRIPTION FILE			
	Indicator	Date format name	Date format
	1	MDY	mm/dd/yy
	2	DMY	dd/mm/yy
	3	YMD	yy/mm/dd
	4	Julian	yy/ddd
	5	ISO	yyyy-mm-dd
	6	USA	mm/dd/yyyy
	7	EUR	dd.mm.yyyy
	8	JIS	yyyy-mm-dd
	9	DDS	format given by AS/400 file attribute
	10	DFT	host job default
	*	Unspecified	host job default
	Indicator	Date separator	
		1	Slash (/)
2		Dash (--)	
3		Period (.)	
4		Comma (,)	
5		Blank ( )	
6		Null (N)	
7		Default (D) (host)	
*		Unspecified (host job default)	
Indicator		Decimal separator	
1		Period (.)	
2		Comma (,)	
3		Default (D) (PC country default)	
*		Unspecified (PC default used)	
PCFL entries		Describes the database fields; include one PCFL entry for each field in the database. Each entry consists of: <ul style="list-style-type: none"><li>• PCFL (Personal Computer Field Length)</li><li>• The field name (maximum 10 characters)</li><li>• A number designating the data type</li><li>• The field length in characters</li><li>• PCFL entries</li></ul>	

Table 2-1 Structure of the PC description file, (continued)

PC DESCRIPTION FILE		
	Indicator	Data Type
	1	ASCII
	2	ASCII numeric
	3	Hexadecimal
	4	Binary
	5	Zoned
	6	Packed
	Indicator	Data Type
PCFL entries	7	BASIC integer
	8	BASIC single-precision floating point
	9	BASIC double-precision floating point
	10	EBCDIC
	11	EBCDIC zoned
	12	EBCDIC packed

*Table 2-1 Structure of the PC description file, (continued)*

## Sample PC description file

Here is a sample PC description file with commentary:

SAMPLE PC DESCRIPTION FILE	
File entry	Comment
PCFDF	PC description file
PCFT 9	PC file in BIFF format
PCFO 7,6,10,7,* Option Settings	Host default date and time formats
PCFL BINARY 9 7/2	The first field, BINARY, is double-precision floating point and 7 characters in length, precise to 2 decimal places.

*Table 2-2 Sample PC description file*

SAMPLE PC DESCRIPTION FILE	
File entry	Comment
PCFL CHAR 1 10	The second field, CHAR, is an ASCII field and has a length of 10 characters.
PCFL ZONED 9 8/4	(The other fields in the database are interpreted as above.)
PCFL PACKED 9 11/2	
PCFL HEX 3 10	
PCFL DATE 1 8	
PCFL TIME 1 8	

*Table 2-2 Sample PC description file, (continued)*



# 3 Working with SQL

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When transferring data from the AS/400 host to the PC, you can use the system default to transfer complete files, or you can use SQL (Structured Query Language) to send specific AS/400 data. SQL is a standardized query language for requesting information from a host database. You can use SQL to transfer data from specified fields and records in one or more host files, sort the transferred data, and perform simple calculations on the transferred data. This chapter contains three short SQL tutorials to help you get started. For more information on using SQL, consult your AS/400 host documentation, along with any SQL reference manual.

Topics in this chapter include:

- [Lesson 1: Using SELECT, WHERE, and ORDER BY](#)
- [Lesson 2: Querying multiple files with JOIN BY](#)
- [Lesson 3: Summarizing records with GROUP BY](#)

# Introduction to the query tutorials

The SQL tutorials demonstrate various query keywords using sample data from an imaginary grocery store. There are three sample queries:

- Lesson 1 is a simple query using SELECT, WHERE, and ORDER BY
- Lesson 2 selects data from three files using JOIN BY
- Lesson 3 transfers summary records using GROUP BY and HAVING

To build a query, you must first specify the AS/400 data file(s) in the Lib/File(Member) box on the main AS/400 File Transfer screen. These lessons use three sample AS/400 files named PRODUCT, SUPPLIER, and SUPPROD in a library named GROCERY. The first few records of each file are listed in the following tables.

ProdCat	ProdID	ProdDesc	ProdName	ProdQuant
100570265	129930113	Wild Berry	Summerbrook Wild Berry Seltzer	84
100570265	129930513	Apple-Cran	Summerbrook Apple-Cran Seltzer	-9
100570265	129935223	Black Currant	Olympia Black Currant Seltzer	125
100570267	129935423	Sparkling Lemonade	Olympia Sparkling Lemonade	7
100570262	761837634	Cherry Lime	Olympia Cherry Lime Soda	54
100570263	761831637	Cranberry Ice Tea	Crystal Falls Cranberry Ice Tea	302
100570263	761831635	Diet Peach Ice Tea	Crystal Falls Diet Peach Tea	79
100570263	761831636	Diet Rasp Ice Tea	Crystal Falls Diet Rasp Ice Tea	110
100570263	761831638	Lemon Ice Tea	Crystal Falls Lemon Ice Tea	218
100570100	165712111	Mineral Water	Whisper Rain Mineral Water	22
100570262	165712115	Mango Passion soda	Dave’s Mango Passion soda	-22

Table 3-1 Product database file

ProdID	SupID	ProdCost
129831040	50500	6.30
129930113	50500	12.50
129935423	40230	13.50
129935223	40230	10.80
129930513	50500	13.50
129930613	50500	11.50
754030150	30250	5.20
754030220	30250	6.50
754030330	30250	5.80
165712115	10455	3.00
165712111	10455	3.00
165712113	10455	7.20
165712115	50750	2.90
76183163	50750	6.00
761831635	50500	5.00
761831636	50500	5.00
761831637	50500	5.00
761831638	50500	5.00
165712115	40230	2.85
761837634	5500	10.20
129935223	5500	11.00
129935423	5500	10.50

*Table 3-2 Supprod database file*

SupId	SupName	SupCity	SupZip	SupState
50500	Moore's Fine Foods	Kirkland	98801	WA
10455	Kolb Bros.	Tumwater	98502	WA
30250	Laura's French Bakery	Seattle	98124	WA
40230	Silves Wholesale	Blaine	98009	WA
50750	D&C Distributors	Cashmere	98801	WA

*Table 3-3 Supplier database file*


The following lessons describe the process of using the Overview tab of the From AS/400 - Options dialog box to build SQL statements. However, you can also build each SQL statement by specifying the necessary data on the appropriate keyword tabs.

### ► For more information

*Help topic: Transferring files > AS/400 file transfer > the AS/400 file transfer application > Querying host data*

## Lesson 1: Using SELECT, WHERE, and ORDER BY

To transfer a list of all available types of tea drinks sorted alphabetically:

1. Specify the GROCERY/PRODUCT file in the Lib/File(Member) box on the main file transfer screen, then click  to open the From AS/400 - Options dialog box.



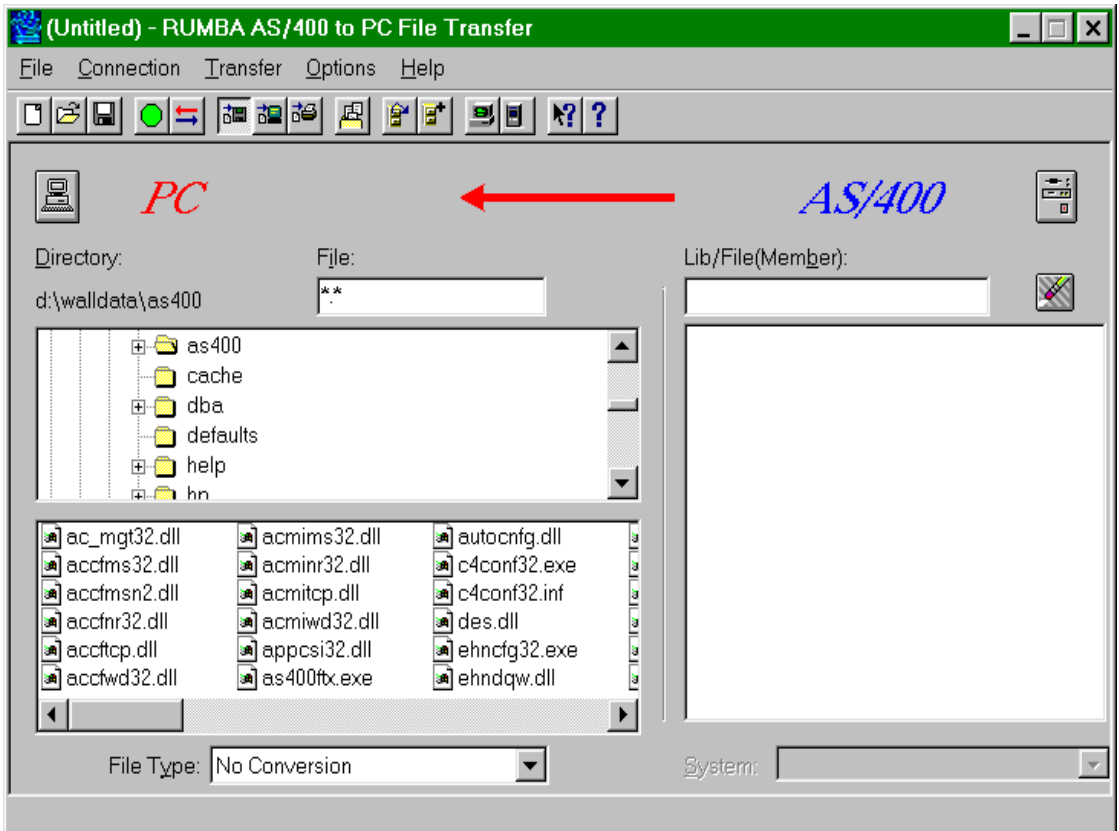


Figure 3-1 The main file transfer screen

2. Verify that the Select field on the Overview tab has an \* in it. This indicates that all fields in the PRODUCT file will be transferred.
3. To transfer all records containing the string “Tea,” type this string in the Where field:

```
PRODNAME LIKE '%Tea%'
```

The % character is a wildcard indicating any number of characters.

The screenshot shows the 'From AS/400 - Options' dialog box with the 'Overview' tab selected. The main text area contains the SQL query: `SELECT * FROM grocery/product`. Below this, there are several input fields: 'File:' with 'grocery/product', 'Join by:', 'Group By:', 'Select:' with '\*', 'Having:', 'Where:' with 'PRODNAME LIKE '%Tea%', and 'Order By:'. At the bottom are 'OK', 'Cancel', and 'Apply' buttons.

*Figure 3-2 Overview tab, From AS/400 - Options dialog box*

4. To sort the data in ascending order by the type of drink, type this string in the Order By field:

PRODDESC

5. Click Apply to update the query fields.

The Query box at the top of the Overview tab displays the complete query statement:

```
SELECT *
FROM grocery/product
WHERE (PRODNAME LIKE '%Tea%')
ORDER BY PRODDESC
```

The resulting records are:

	ProdID	ProdDesc	ProdName	ProdQuant
100570263	761831637	Cranberry Ice Tea	Crystal Falls Cranberry Ice Tea	302
100570263	761831635	Diet Peach Ice Tea	Crystal Falls Diet Peach Tea	79
100570263	761831636	Diet Rasp Ice Tea	Crystal Falls Diet Rasp Ice Tea	110
100570263	761831638	Lemon Ice Tea	Crystal Falls Lemon Ice Tea	218

Table 3-4 Using the *SELECT*, *WHERE*, and *ORDER BY* keywords

## Lesson 2: Querying multiple files with JOIN BY

This query finds the suppliers and prices for a given product. Multiple files are joined so they can be queried as if they were one file. This is necessary because the GROCERY library stores data in separate files linked by common fields rather than using one large file: The PRODUCT and SUPPROD files share the ProdID field, and SUPPROD and SUPPLIER files share the SupID field.

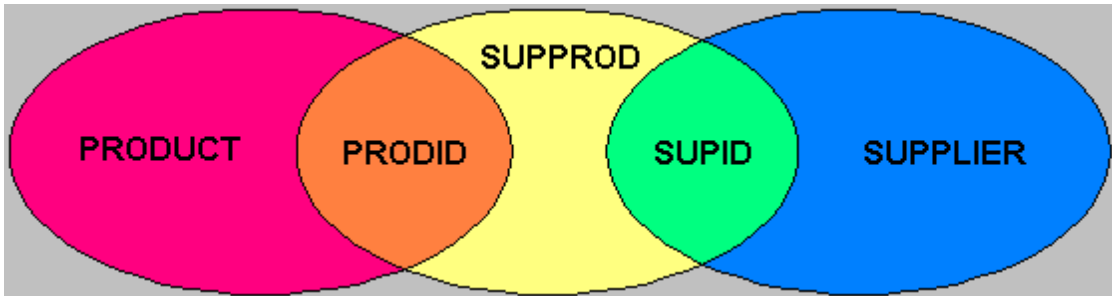



Figure 3-3 Joining multiple files

With JOIN BY, the relationships between files become part of the query. Without joining the files, you would need three queries to get the same result: one for product ID, one for product cost, and one for supplier name.

To find the suppliers and prices for Dave's Mango Passion soda:

1. Specify the GROCERY/PRODUCT, GROCERY/SUPPROD, and GROCERY/SUPPLIER files in the Lib/File(Member) box on the main file transfer screen, then click  to open the From AS/400 - Options dialog box.
2. To transfer only the product name, product cost, and supplier name fields, type this string in the Select field on the Overview tab:

```
T1.ProdName, T2.ProdCost, T3.SupName
```

3. To join records in the three files by the product ID and supplier ID, type this string in the Join By field:

```
T1.PRODID = T2.PRODID AND T2.SUPID = T3.SUPID
```

4. To search all records with the string "Mango Passion", type this string in the Where field:

```
T1.PRODNAME = 'Dave's Mango Passion soda'
```

5. Click Apply to update the query fields.

The Query box at the top of the Overview tab displays the complete query statement:

```
SELECT T1.ProdName, T2.ProdCost, T3.SupName
FROM grocery/product, grocery/supprod, grocery/supplier
WHERE (T1.PRODID=T2.PRODID AND T2.SUPID=T3.SUPID)
AND (T1.PRODNAME='Dave's Mango Passion soda')
```

The resulting records are:

	ProdCost	SupName
Dave's Mango Passion soda	3.00	Kolb Bros.
Dave's Mango Passion soda	2.90	D & C Distributors
Dave's Mango Passion soda	2.85	Silves Wholesale


Table 3-5 Using JOIN BY to query multiple files

## Lesson 3: Summarizing records with GROUP BY

What is the least expensive mineral water product? To answer this question, you must obtain the product costs from multiple suppliers for all mineral water products in each vendor's product line, then average the costs, group the data by vendor, and sort the data by cost.

With SQL, you can use summary records to obtain the answer by running a single query. The PRODUCT file includes a ProdCat (product category) field in which all mineral water products are identified by the value 100570100. The ProdName field contains the vendor name.

To transfer a summary record for each product name:

1. Specify the GROCERY/PRODUCT, GROCERY/SUPPROD, and GROCERY/SUPPLIER files in the Lib/File(Member) box on the main file transfer screen, then click  to open the From AS/400 - Options dialog box.
2. To transfer a summary record of the average cost and the product name field, type this string in the Select field on the Overview tab:

```
AVG (T2 . PRODCOST) , T1 . PRODNAME
```

3. To join records by product ID and supplier ID, type this string in the Join By field:

```
T1 . PRODID = T2 . PRODID AND T2 . SUPID = T3 . SUPID
```

4. To search records that are mineral water products, type this string in the Where field:

```
T1 . PRODCAT =100570100
```

5. To perform summary calculations on records of the same ProdName, type this string in the Group By box:

```
T1 . PRODNAME
```

6. To sort the results from lowest to highest product cost, type this string in the Order By box:

```
AVG (T2 . PRODCOST)
```

7. Click Apply to update the query fields.

The Query box at the top of the Overview tab displays the complete query statement:

```
SELECT AVG(T2.PRODCOST), T1.PRODNAME
FROM grocery/product, grocery/supprod, grocery/supplier
WHERE (T1.PRODID=T2.PRODID AND T2.SUPID=T3.SUPID)
AND (T1.PRODCAT='100570100')
GROUP BY T1.PRODNAME
ORDER BY AVG(T2.PRODCOST)
```

The resulting records are:

	ProdCost
Whisper Rain Mineral Water	3.00
Maple Falls Mineral Water	3.17
Mt. Baker Sparkling Water	3.35
Panda Mineral Water	3.62
Panda Sparkling Lemon Essence	3.81
Panda Sparkling Lime Essence	3.81

*Table 3-6 Using the GROUP BY keyword*

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