

# When to Check for Open Databases



Hot New  
Q&A Utility  
on page 13

ALEC MULVEY

Check out this convenient way for system administrators to determine if any databases are open before running exclusive-mode procedures or scheduled backups.



If your company shares Q&A databases on a network, chances are there are times when you need *exclusive-mode* access to them. Why? Because if someone has a database open—even if they're not doing anything with it—you can't run exclusive-mode procedures on it, such as a Mass Update, Batch Post, Recovery, or the like. (See "When Q&A Locks Databases" in the September 1996 issue, page 4, for a list of the operations that can be performed only in single-user exclusive mode.)

As you prepare to leave the office for the night, the last thing you need is a workstation somewhere in the building with a Q&A record on screen. (Some users switch off their monitors, thinking they've "shut down" for the night, and newer monitors can go into "suspend mode.") An open database is an invitation to corruption caused by a power glitch. Worse yet, perhaps, is that it won't be included in a scheduled backup since backup programs don't back up open files.

What you need to prevent situations like these is a way to "do the rounds" of your Q&A databases *beforehand*, to check whether or not they're in use. The technique I'll show you does precisely that, displaying an "OK" or "locked" status of all the databases you want to check.

## Origins of the routine

Not long ago, I upgraded a new client from a one-PC Q&A installation to a four-PC network. One of his existing applications batch posted sales to an inventory database. Shortly after installing the network, he called to report a major problem. The macro that performed the batch post had bombed—and in a dramatic way!

The batch post had failed because the target (inventory) database was open on another workstation. (Batch posting is an *exclusive-mode* operation.) As a result, the macro had bashed away at the menus and reached the File / Design menu. One of its subsequent actions included the number 2, followed later by an *Enter* command. Well, that 2 had selected the second menu item—Redesign—and the *Enter* had activated it. An *F10* later in the macro saved the "redesign," but not before the first field in the database had been obliterated. And what was in that first field? The invoice number, of course—the primary key field—which made the database useless. One could scarcely imagine a more serious outcome of a macro gone berserk.

Since I hadn't been involved in developing the application or automating the posting routine, some "first aid" was needed to prevent this from recurring until the system could be properly doctored. (The disaster also demonstrated what can happen when a macro "types" variables rather than selecting saved Specs by name).

My earlier suggestion to check with other users before running such a procedure had obviously gone unheeded. We needed a more effective way to ensure it was safe to run the posting macro. A couple of hours later my

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The Independent Guide to Q&A Expertise

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*database-in-use* checking routine was in place. I'll show you how to build the same safeguard into your own system.

## Implementing the process

To create a *databases-in-use* procedure, you'll first need to list all the databases you want to check—particularly those that are the target of macro-driven exclusive-mode procedures and those you can't afford to have miss a scheduled backup. If you list your database directory in date order, you'll quickly spot the most active databases. Jot down their names.

Next you'll need to create a new

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# A Toast to a Q&A Pioneer

TOM MARCELLUS

**W**ITTY, easy-going, shameless Q&A enthusiast, *The Quick Answer's* publisher for the last three years, Michael Bell, is leaving Marble Publications for those proverbial greener pastures.

Mike's other business interests have expanded during the past year to the point where they now demand his full time and attention. So along with serving as *The Quick Answer's* editor, yours truly will be wearing the publisher's hat from now on, too.

In addition to a stretch as President of the National Q&A Users Group, and numerous tips and articles published in *The Quick Answer* over the years, Mike authored the Q&A 4.0 KISS Utilities Pack, whose many innovative features became the templates for Q&A 5.0.

We're gonna miss this guy. Probably not for long, though, as we expect him to "surface" at future National Q&A User Group Bashes and *Quick Answer* Masters Seminars wherever they might be.

Mike will remain available as a consultant to Marble Publications, and will continue to work in Q&A – the database that figured prominently in the expansion of his business "empire."

Good luck, Mike! And thanks for all your efforts on behalf of the worldwide Q&A user community. We'll be seeing you!



Mike Bell

# The Quick Answer™

Editor / Publisher  
Tom Marcellus

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## Quick Tip Auto-Copy a Key Value as a Variable

Application in  
**ONLINE Edition**



You might need to temporarily store a unique value from a record to use as a retrieval parameter for a related task. For example, after completing a new customer record, you might want to quick-print a personalized "Thank You" merge letter. In a case like this, you need to capture a unique value from the completed record to use in the Retrieve Spec for the merge letter. Here's how to do it.

Suppose you want to capture the **Customer ID** number. In the last field you normally fill, place a statement like this in the Program or Navigation Spec:

```
> @Macro("Print ThankYou Letter"); Goto Customer ID
```

When this program executes, Q&A will move to the Customer ID field (from whatever field contains the @Macro command) and copy it to the Clipboard. (Q&A executes the Goto before the @Macro.) The first part of your *Print ThankYou Letter* macro will look like this:

```
<begdef><nokey><name>"ThankYou<sp>Letter"<vidon><f11>
```

The rest of the macro will consist of the commands to retrieve the merge document, and paste (F12) the customer

ID number into the proper field at the Retrieve Spec.

You can even have your program decide which field to capture depending on whether or not it contains a value. Such a program might look like this:

```
< @Macro("Add Transaction Record");  
If Company <> "" then goto  
Company else goto FullName
```

With this technique, you don't need the @Macro command in the captured field, you don't have to manually move to the target field first, and you don't need an extra field in the database just so you can temporarily store the value in order to copy it. The sample database that accompanies this month's Online Edition demonstrates some of these features.

### How to Reach Us

Phone 800-780-5474 714-722-9127  
Fax 714-722-9127  
Email mailbox@quickanswer.com  
Web <http://www.quickanswer.com>  
Mail Marble Publications  
The Quick Answer  
1927A Harbor Blvd.  
Costa Mesa, CA 92627

TOM MARCELLUS

database. Name it **OK.dtf**. Design the form with a row of fields for each database to be checked. In the database shown in Figure 1, I've made provisions for six databases.

In the Figure 1 database, the first field (AA) begins at column 9, the AB field starts at column 22, and the AC field extends from column 46 to column 74. Format all the fields for Text *except* the following:

Last Check performed: Date (D)  
 At: Hours (H)  
 Record Number: Number (N)  
 Done?: Yes/No Uppercase (YU)

Make the first column of fields (AA, AD, and so forth) uppercase text (TU), and assign the field names to them (File / Design / Program / Set Field Names) as shown in Figure 2.

### Add the single record to OK.dtf

OK.dtf will always contain just one record. The first column in the record will list the filenames of the databases to be tested, and the Record Number field will contain a key value. Once you've done this, you can make these fields Read-only.

Go ahead and add the one record. Enter the names of the databases (without the .dtf file extension), then type 999 in the Record Number field, using Figure 3 on page 4 as your guide. When you're done, print the record (press F2, then press F10) for future reference.

### Make the fields Read-only

At the Read-Only Spec (on the Programming menu) set all the fields in OK.dtf to Read-only *except* the middle column of fields (AB, AE, AH, and so forth) and Done.

### Programming OK.dtf

Next, go to the Program Spec, and program the fields as follows:

```
DTFName1:
#5: If DTF1 = "Clear" Then {
  Clear (DTF1..DTF6) ;
```

```
Clear (Msg1..Msg6) ;
Clear (DONE) ;
Clear (LastDate, LastTime, LastUserID) }
```

```
DTF1:
#10:
If DTF1 = "Database 1" Then DTF1 = DTFName1 + " is OK" ;
If DTF2 = "Database 2" Then DTF2 = DTFName2 + " is OK" ;
If DTF3 = "Database 3" Then DTF3 = DTFName3 + " is OK" ;
If DTF4 = "Database 4" Then DTF4 = DTFName4 + " is OK" ;
If DTF5 = "Database 5" Then DTF5 = DTFName5 + " is OK" ;
If DTF6 = "Database 6" Then DTF6 = DTFName6 + " is OK"
```

```
DONE:
>#200 : IF DONE = "Y" THEN { clear(Msg1..Msg6);
IF DTFName1<>" AND DTF1="" then Msg1 = DTFName1 + " is
LOCKED!" ;
IF DTFName2<>" AND DTF2="" then Msg2 = DTFName2 + " is
LOCKED!" ;
IF DTFName3<>" AND DTF3="" then Msg3 = DTFName3 + " is
LOCKED!" ;
IF DTFName4<>" AND DTF4="" then Msg4 = DTFName4 + " is
LOCKED!" ;
IF DTFName5<>" AND DTF5="" then Msg5 = DTFName5 + " is
LOCKED!" ;
IF DTFName6<>" AND DTF6="" then Msg6 = DTFName6 + " is
LOCKED!" ;
IF Msg1 = "" AND Msg2 = "" AND Msg3 = "" AND Msg4 = ""
AND Msg5 = "" ANDMsg6 = "" THEN {
  Msg4 = "*****" ;
  Msg5 = "* ALL DATABASES ARE OK *" ;
  Msg6 = "*****" ; } ;
Clear (DONE);
LastDate = @Date; LastTime = @Time;
LastUserID = @txt(@UserID<>"", "by ") + @UserID }
```

In the program for the Done field, the message is shown surrounded by asterisks. Instead, you can use Line Draw (F8 / Line Draw) to enclose the message in a box.

The program includes lots of repetition. To save time, you can use the F5 / Shift- F7 technique to copy and paste all rows after the first, then change the number 1 to 2, 3, 4, and so forth. In Q&A 5.0, you can use the F11 / F12 keys to copy and paste.

### Set the program's Calc Mode

Retrieve the single database record using Search/Update, press Shift-F8, and set calculation mode to *Automatic*. Press Shift-F10 to save and exit.

### Creating a Retrieve Spec

Next, you'll need to create and save a simple Retrieve Spec for OK.dtf. Display the Retrieve Spec, and type 999

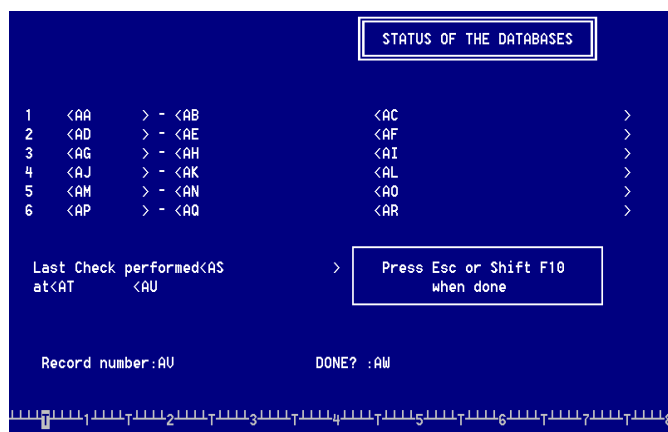


Figure 1. OK.dtf's form design.

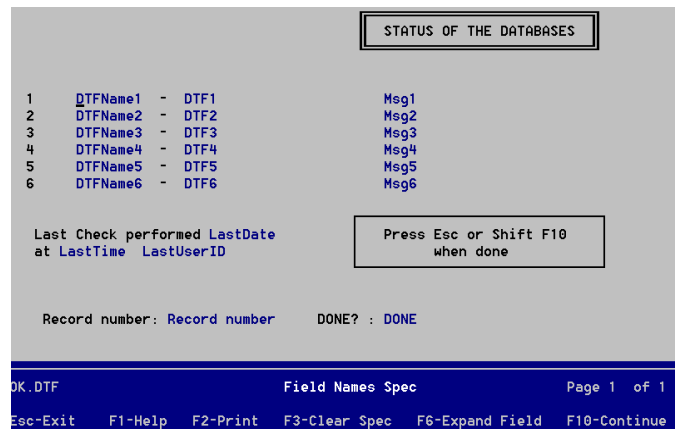


Figure 2. Assign these field names to OK.dtf at the Field Names Spec.

in the Record Number field. Press Shift-F8, and save the Spec to the name 999.

## Mass Update Specs

The final step for OK.dtf is a series of Mass Update Specs. You'll create and save one for each database to be checked—a total of six for our sample database.

Select File / Mass Update for OK.dtf. Press F10 to continue to the Update spec. Move to the DTF1 field (first row, second column) and type the following:

```
#1 = "Database 1"
```

Save this Update Spec (Shift-F8) to the name *MU1* (for *Mass Update 1*).

Don't run the update. Clear the Spec (F3), go to the DTF2 field (second row, second column) and type this:

```
#1 = "Database 2"
```

Save and name this Spec *MU2*.

Continue in this manner until you've created and saved an Update Spec for each database (*MU1* to *MU6* in our example).

That completes the preparation of OK.dtf, which will store and display the results of your *database-in-use* checks.

## Writing the macro

You'll need a macro to perform the check on the databases and to report the results in OK.dtf. The macro will first prepare OK.dtf for a new series of checks, then perform the same procedure on each database, in turn. Finally, it will retrieve the single OK.dtf record and enter a "Y" in the Done? field, activating the programming that shows the results on all the databases. The sample macro below assumes that all the databases listed in OK.dtf are in the default data directory as set in Utilities / Set Global Options. Here's the macro, formatted for readability. (See the *QuickTip* on page 12):

```
<begdef><AltC><name>"Check<sp>Databases"<vidoff><esc><esc><esc>
FS<capsf4>OK<enter><altf8>999<enter><f10><capsf4>CLEAR<capsf10><esc>

FM
CLIENT
<enter><esc>MOK<enter><altf8>999<enter><f10><altf8>
MU1
<enter><f10>N<esc><esc><esc>
FM
HISTORY
<enter><esc>MOK<enter><altf8>999<enter><f10><altf8>
MU2
<enter><f10>N<esc><esc><esc>
FM
INVENTORY
<enter><esc>MOK<enter><altf8>999<enter><f10><altf8>
MU3
<enter><f10>N<esc><esc><esc>
FM
SALESORD
<enter><esc>MOK<enter><altf8>999<enter><f10><altf8>
MU4
<enter><f10>N<esc><esc><esc>
FM
EXCHRATE
<enter><esc>MOK<enter><altf8>999<enter><f10><altf8>
MU5
<enter><f10>N<esc><esc><esc>
FM
QUOTE
<enter><esc>MOK<enter><altf8>999<enter><f10><altf8>
MU6
<enter><f10>N<esc><esc><esc>

FS OK <enter> <altf8>999<enter><f10><end><end><end> Y <f10>
<ctrlpgu><enddef>
```

This macro is invoked by the Alt-C key combination, so you can add it to your Main menu as an Alternate Program. To do this, select Utilities / Set Alternate Programs, and fill in a menu slot. If you're using the second menu slot, your entries might look like this:

```
Alternate Program No 2: altc
Menu Selection.....: In Use
```

This way, all you'll have to do to activate the checking routine is press *I* (The first letter of *In Use*) at the Main menu. (See the precautions below.)

## Checking the databases

The database-checking procedure is fully automatic—all you have to do is run the macro. When you do, *Macro working...* will appear on the status line, and after an interval (between a few seconds and up to 45 seconds for 12 databases on a typical aging Novell network) you'll see the results displayed in OK.dtf as shown in Figure 4 or Figure 5 on the next page.

## So, a database is locked—what now?

The routine doesn't tell you who's using an open database. To find this out, you can try to perform an exclusive-mode operation (such as Mass Update) on that database. You'll receive a message that says *This file is being used by [User ID]*, where *User ID* is the name in the Network ID field at the Utilities / Set Global Options screen. If the database is being used by more than one user, Q&A will show all the names.

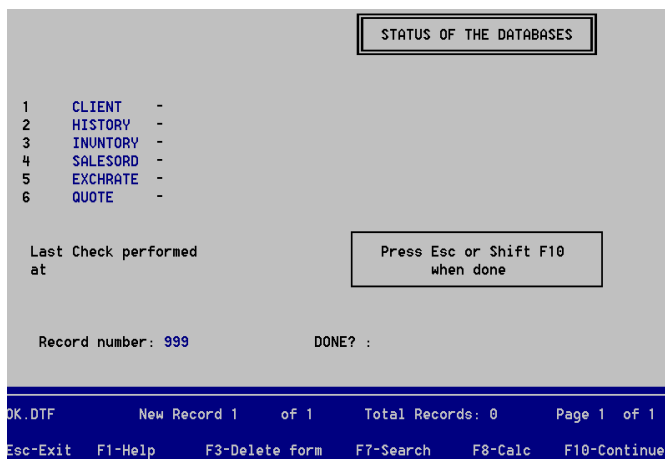


Figure 3. The database filenames entered in record 999, the only record in OK.dtf.

## How the routine works

The technique isn't all that sophisticated. It depends on one simple fact: The macro attempts to perform a Mass Update on each database (*FM database<enter><esc>*). The *<esc>* leaves Q&A at the *File* menu if the database is free, and at the *Main* menu if the database is in use. After each such attempt, the macro then attempts to Mass Update OK.dtf (*MOK* in the macro), which will be successful only if invoked at the *File* menu. Accordingly, OK.dtf gets Mass Updated only if the preceding target database can accept a Mass Update.

## Precautions

- You can't have an Alternate Program on the Main menu that's activated by *M*, *O*, or *K*. The routine depends on the OK.dtf Mass Update failing when attempted at the Main menu, and any alternate program activated by one of these letters would be run.
- The routine only checks whether the database specified in the macro is in use—it doesn't verify that it exists. If you rename or move a database, OK.dtf will report an "all clear" for that database.
- Take care to specify the correct database filenames in the macro and make sure they correspond with the filenames in the OK.dtf record. The best check is to perform tests with all the specified databases in use (though not necessarily at the same time).

## A step further

If you're using QA 5.0, you can take advantage of field colors to make OK.dtf's messages really stand out. You

can add further sophistication by performing a preliminary check to ensure each database to be checked is where it's supposed to be. (See Tom Marcellus' tip, "Does that File Exist?" in the October 1997 issue.)

## Alternate approach

I must mention another way of checking for in-use databases. John Dow has added a new feature to the latest release of his invaluable DTFDOCTR utility. It's an *In Use* option which, when run from the command line, tells you which users are in the specified database or databases. John's utility is faster than this macro technique, it can be run from a batch file, and it returns a count of how many users are in a database. Users of earlier versions of DTFDOCTR can upgrade at a modest cost.

## Conclusion

The *database-in-use* approach can help you avoid costly mistakes caused by macros being run at inappropriate times. A system administrator can use it to make sure all databases are closed before running exclusive-mode or backup operations, without having to trek around the building to visually check all the PCs. I've described only a basic implementation. You can expand on and further customize it to suit your needs. Although the initial set-up might take you a few hours, you'll enjoy convenient one-step, on-demand checking of all your key databases for as long as you're running Q&A on the network.

Alec Mulvey is a Symantec Approved Consultant and Microsoft Certified Trainer. He runs Keyword Training & Consultancy based in Ascot, near London, England (five hours ahead of EST). +44 1344-884-962, Fax +44 1344-884-111, amulvey@compuserve.com

```
STATUS OF THE DATABASES

1 CLIENT - CLIENT is OK
2 HISTORY - HISTORY is LOCKED !
3 INUNTRY - INUNTRY is OK
4 SALESORD - SALESORD is OK
5 EXCHRATE - EXCHRATE is LOCKED !
6 QUOTE - QUOTE is OK

Last Check performed 16 Feb 1998
at 10:02 am by ALEC

Record number: 999      DONE? :
```

Figure 4. In-use results when two databases are in use.

```
STATUS OF THE DATABASES

1 CLIENT - CLIENT is OK
2 HISTORY - HISTORY is OK
3 INUNTRY - INUNTRY is OK
4 SALESORD - SALESORD is OK
5 EXCHRATE - EXCHRATE is OK
6 QUOTE - QUOTE is OK

ALL DATABASES ARE OK

Last Check performed 16 Feb 1998
at 10:02 am by ALEC

Record number: 999      DONE? :
```

Figure 5. In-use results when all the databases are closed and free.



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# Here Comes the Year 2000!

DAVID DVORIN



When the turn-of-the-century time bomb goes off, will your data be left stranded in the past?

**T**HE year 2000 (Y2K) presents unique issues for the database world. *ComputerWorld's* July 14, 1997 issue (page 60) reports that these issues could create "a \$600 billion market ensuring that information systems can recognize the year 2000."

In this article, we'll look at year 2000 issues as they relate to your Q&A applications. If any of your databases are affected, I'll give you some tips on what you can do now to avoid having to spend your share of that "\$600 billion" when your PC's system clock turns the corner at 12 midnight on December 31, 1999.

## Why is Y2K a problem?

The core of the Y2K problem is the fact that many computer programs store and use only the last two digits of the year. Such programs might store dates in an abbreviated format such as *MMDDYY* (031598, for example), have a two-character field for the year, or contain programming or report specifications that use just the last two digits of the year. Even though Q&A stores dates with the four-digit year, *customized* Q&A applications might not be immune. Here's an example of a looming Y2K problem in a simple Q&A report:

Year	Month	Name
95	Jan	David Dvorin
	Aug	Tom Marcellus
96	Feb	Kate Smith
	Nov	John McGuire
97	Jan	Jeff Niles
	Mar	Robert Danza

Notice how the sort is year-dependent. If the year is only two digits, when the year 2000 arrives, the year will be "00," and the same report will sort like this:

Year	Month	Name
00	Feb	Sharon Kimbels
	May	Eric Walker
97	Jan	Jeff Niles
	Mar	Robert Danza
98	Jan	David Dvorin
	Aug	Tom Marcellus
99	Feb	Kate Smith
	Apr	Dolores Green
	Nov	John McGuire

The year 2000 entries are at the wrong end of the list. If the sort order is changed to a descending sort, year 2000 entries will still be in the wrong place—this time at the end of the report instead of at the top.

Although this example might be simplistic, what if you have a database operation that archives older records based on a date which, in turn, is based on a two-digit year? In the year 2000, Q&A will archive what it *thinks* are the oldest records when they're actually the most recent.

I could give other examples, such as programs or expressions that perform date math using the last two digits of the year, but the point should be obvious—the year 2000 presents a potential risk to your Q&A data.

## How to identify a Y2K problem

How do you know if you have a Y2K problem? Unfortunately, there's no recipe that can tell you the precise ingredients. But your databases have properties you can examine to determine if the potential is real.

Begin by looking at your database's fields. Are there any that store just the year? If so, then you need to determine how that year field is being used after data entry. Is it involved in any sorting operations? Find out by checking any saved Sort and Report Specs, including report derived columns.

Also check for any programming that operates on year or date fields. You might have some programming that uses only the last two digits of the year. See, for example, if there are any *@Mid(date field, 3, 2)* expressions anywhere in your Program Spec. (See the Sidebar, "Viewing a Program Spec.") In this expression, *date field* represents either a date field or the *@Date* function. If any of your programming contains such as expression, then for you the Y2K problem is real.

## Get Smart on Q&A and Y2K ...

For more on Q&A dates and the 21st century, review these articles and tips in past issues of *The Quick Answer*:

**Q&A Dates and the 21st Century** (November 96, p. 5),

**Flexibility when Entering the Current Date** (April 93, p. 6),

**Shortcut Date Entry** (May 1997, p. 6),

**Enter 21st Century Dates the Easy Way** (December 97, p. 2)

**At the Turn of the Century** (page 8 in this issue)

Internally, Q&A stores date field entries in a very smart YYYY/MM/DD format, which means that stored dates are in chronological, numeric, and even text order with the full four-digit year. `@Mid(date field, 3, 2)` is a programming expression that extracts the last two digits of year from the stored date.

Even if your database has no date fields, you might have some programming that extracts the last two digits of the current year (`@Mid(@Date, 3, 2)`) for special operations. If you don't have any such expressions in your Program Spec, then check all saved Sort Specs, Report Specs, and derived columns. They are also candidates for such expressions.

If you find such an expression, determine how it's being utilized to see if it represents a potential Y2K problem. For example, if it's used in a way that "00" after "99" in a sort order will work appropriately, then it's all right. If not, then the Y2K problem is real.

### How to resolve a Y2K problem

Okay, you've ransacked your databases and found that you do have a field that contains a two-digit year, or you've discovered an `@Mid(date field, 3, 2)` expression whose result is being used in such a way that a year 2000 date will adversely affect the application's functionality. What can you do about it?

If you're dealing with a field where the year is entered in a two-digit field, you can redesign the database and increase the width of the field to store four digits. But before you do so, consider the ramifications. Is there a picklist that needs to be updated? Is there field programming that must take the value's longer length into account? Will any sorts or reports be affected by the change? The answers to these questions will tell you the amount of follow-up work you'll need to perform once you've changed the field's length.

Once you've increased the year field from two to four digits, consider Mass Updating the records in the affected database. Chances are that the values in the redesigned field will be inconsistent with earlier values. For example, an up-to-date year entry of "1998" was previously entered as "98." A Mass Update that tacks "19" onto the existing two-digit years is needed to ensure consistency in the database.

You could use a Mass Update Spec statement like this to do the job:

```
#1: If @Len(Year field) = 2 then Year field = ("19") +  
@Str(Year field)
```

If you're dealing with a potential Y2K problem that stems from programming containing something like `@Mid(date field, 3, 2)`, then the solution is more complex and each instance must be examined on its own merits.

### Retrieve Specs

Any saved Retrieve Specs and retrieval expressions that use dates or date ranges must also be checked for proper

Y2K compliance. For example, if you're using a two-digit-year date display format in a database (set at the databases Global Format Options screen), and someone enters a date like 2/15/00, Q&A will display it as 2/15/00 but will store it as 1900/02/15. If you then run a search for records with a date greater than, say, "12/31/99" (or "12/31/1999"), Q&A will report no records found.

In such a case, you'd be wise to change the date display format *now* to a four-digit year (resizing the field if necessary), and let Q&A update your records accordingly. This way, if someone enters 2/15/00 and it isn't grandpa's birthdate, hopefully it'll strike them as odd that the field contains 2/15/1900.

You can always safely test for these things by copying the database design to another filename, entering some records with various dates in the current and next century, then running your saved Retrieve and other Specs that contain date-related functions. The results should point you to the kinds of changes you'll need to make to avoid any Y2K problems.

January 1, 2000 is less than two years away. Don't wait until December 1999 to find out if your applications are Y2K compliant, particularly if they store future dates, such as a warranty or lease expiration date.

David Dvorin owns Phoenix Solutions of Hillborough, New Jersey, which specializes in tailoring off-the-shelf software for a broad range of business needs. 908-281-7984, [dvorin@bms.com](mailto:dvorin@bms.com).

## Checking Program Specs for Potential Y2K Problems

Viewing a Program Spec as a whole can make it easier to spot code that might represent a Y2K time-bomb.

Open the Program Spec for the database in question, and press F2 for the Print Options screen. At the bottom of the screen, make sure *Print Expanded Fields* is set to Yes. Tell Q&A where you want to print the Spec—to paper, screen or a disk file. One advantage of printing it to Disk is that you can display it in Write, and use Write's Search Options to find occurrences of suspect expressions.

To search for occurrences of `@Mid` or `@Date`, for example, press F7 for Search Options, type `\@Mid` or `\@Date` on the *Search for* line, and run a *Manual* search. If you had a field named *Yr*, and you wanted to review all occurrences of it in the file, you could simply search for *Yr*.

After you've reviewed the program and made notes on any potential Y2K problems, you can return to the Program Spec to make your changes.

Don't forget to thoroughly test any changes to ensure they don't adversely affect output or other operations involving the database, as well as any linked databases involved in XLookup, XUserselect, or XPost operations.



## Q&A Won't Run on New PC



We've been trying to install Q&A for DOS on a new Compaq Pentium II PC running Windows 95. When we start Q&A, we receive various error messages. Since we have many years invested in Q&A, we must find a solution to this problem. We've called tech support at Symantec, Compaq, Microsoft and Intel, but nobody has any idea where the problem is.

Steven Skaggs, Anderson, Indiana

Lately, many Q&A users have experienced some variation of the problem you've seen, so let's cover some old ground concerning installations involving Q&A for DOS on Pentium and Pentium II PCs running Windows 95.

DOS and Windows 3.x programs — as well as most 16-bit programs that claim to be Windows 95-compatible — won't run properly from a hard drive partition that's larger than 1.88G. (That could be anywhere from 1.8G to 2G depending on how you measure a gigabyte). If the computer manufacturer didn't supply your PC with a 2G partition, you can use a program called Partition Magic (800-379-2566, <http://www.powerquest.com>) to non-destructively resize your partitions, even after they contain data.

Most newer systems come with Windows 95 OEM SR2 (Service Release 2) preinstalled. The best way to install Q&A on such a system is to boot the machine to a DOS prompt in MS-DOS mode (one of the options on Windows 95's *Start / Shut Down* menu), install Q&A as you normally would, then restart Windows and create a Q&A shortcut with the following properties:

Comd Line: C:\QA5\QA.Com (specify your own path)  
Close on exit: On (checked)  
Memory: Conventional—Auto  
Initial Environment—Auto  
Expanded Memory—1024  
Extended Memory—1024  
MS-DOS Memory—Auto  
Misc: Allow Screen Saver—Off (unchecked)  
Fast Pasting—Off (unchecked)

The Expanded memory is crucial to Q&A 5.0. If an Expanded memory option doesn't appear in the Properties / Memory tab on your PC, add the following lines to your CONFIG.SYS file, reboot the machine, and everything should be fine:

```
DEVICE=C:\WINDOWS\HIMEM.SYS  
DEVICE=C:\WINDOWS\EMM386.EXE RAM  
DOS=HIGH,UMB
```

Unlike Q&A 4.0, Q&A 5.0 is sensitive to machine type and processor speed. It doesn't readily recognize a Pentium II processor running faster than 180MHz, so you have to slow down the session in which Q&A 5.0 is running. A utility to do this (Moslow.com, plus a readme file) is available from *The Quick Answer's* Web site as *Mo'Slo* in the "Freebies" section. Use it to slow down a Q&A session approximately 25%, for example, for a 233MHz PC.

If you're running Q&A in DOS on one of these fast PCs, you could start Q&A with a batch file (QA.BAT, for example) containing a command like this to slow the processor to 75% of its rated speed:

```
c:\moslow.com /75 c:\qa5\qa.com
```

If you're running Q&A in Windows 95, you can add the following to the command line (*Cmd line*) in your Q&A shortcut's Properties / Program tab. (Specify your actual paths, of course):

```
c:\qa5\tools\moslow.com /75 c:\qa5\qa.com
```

Moslow won't affect your PC's system clock. And when you exit the program started with Moslow (Q&A in this case), Moslow will unload itself, so it won't affect your PC's overall speed or any other Windows operation or application.

If you're using Q&A 4.0, you don't need to be concerned with processor speed. If you have a "plain" Pentium (not a Pentium II or MMX) running at up to 233MHz, both Q&A 4.0 and 5.0 should run just fine on it without having to retard the processor.

## At the Turn of the Century



### Is Q&A Year 2000 Compliant?

Bob McNamara, Wayne, Pennsylvania

The answer depends on how you define *Year 2000* (Y2K) compliance. Here's the trick: Always use one of the thirteen date formats that include the four-digit year. At the Global Format Options screen (which appears when you save a database redesign), select one of the following date formats: 1, 2, 5, 6, 9, 10, 11, 12, 14, 16, 18, 19, or 20. This will solve most Y2K issues.

Once we're in the new century (and your PC's system clock agrees), and you have Q&A auto enter the date via a program or @Date Initial Value, Q&A will return the correct 21st century year.



If you enter a date as 2/1, 2.1, 2-1, or the like, Q&A will use your PC's system date and add 20XX as the year.

If you manually enter a date such as 2/1/2000, 2.1.2000, 2-1-2000, Q&A will likewise store it properly.

The one area in which you must be careful is when you enter a whole date manually. Q&A will interpret 2/1/00 as *February 2, 1900*, and 3-10-11 as *March 10, 1911*, even after the turn of the century. Entering 2/1/2000 or 2/11/2011 will take care of the problem.

So, is Q&A Y2K compliant? We think so.

[You can program Q&A to let you enter 2/1/00, for example, and get 2/1/2000 as the full date. See the QuickTip on page 2 of the December 1997 issue. Also, see "Here Comes the Year 2000" in this issue, and "Q&A Dates and the 21st Century" in the November 1996 issue. — Ed.]

## How to Restrict Your Picklists



Application in  
ONLINE Edition

I'm having trouble retrieving information from an external database. What I need is a picklist of all the styles that begin with 170, so that when I select one, Q&A will retrieve information on that item. I know I should be using the command that lets you control the range of records on the picklist, but I don't know how the *Start* and *End* parameters work. Currently, we use an XLookup, which forces us to enter the entire exact style name such as 170 *Natural* or 170 *White*. Our Styles database contains 6,000 records.

Al Weiner, Pittsburgh Pennsylvania

You're on the right track with XUserselectR. There are too many records in your external database to remember all the styles or have Q&A display all of them. You must tell Q&A to restrict the style that appears on the list.

Here's how. In your external Styles database, you'll need a Speedy field for the full style name. (Let's call it field #10, and assume that the other information you want to retrieve is in fields #20, #30, and #40). In the database where you want to display the selection list, you'll use both the Navigation and Program Specs for a complete solution. At the Navigation Spec, place this statement in the field where you want the selection list to appear (and to receive your selection). Let's say that field is #100 in both Specs:

```
<#100: If #100 = "" Then @Msgbox("Style",  
"Enter 3 digits of desired style",  
"to display a selection list")
```

Next, in the same field in the Program Spec, enter this statement:



# Stumped?

Send your Q&A questions to @Help, The Quick Answer, Marble Publications, Inc., 1927A Harbor Blvd, Costa Mesa, CA 92627 or email to [mailbox@quickanswer.com](mailto:mailbox@quickanswer.com). Include your name, address, phone, and your Q&A version number (and whether DOS or Windows) and a detailed description of the problem. We'll publish those questions we feel are of general reader interest; individual responses aren't possible.

```
> #100: If @Len(#100) < 4 Then  
{Xusr("Styles", "X#10", "X#10", #100, #100, #100);  
XLu("Styles", #100, "X#10", "X#20", #200, "X#30",  
#300, "X#40", #400)}
```

In this example, fields #200, #300, and #400 are where you want to place the lookup data. When you enter 170 in the programmed field, your pop-up list will look like this:

```
SELECTION  
-----  
170 Cyan  
170 Green  
170 Natural  
170 Red  
170 White
```

When you choose one, Q&A will perform the XLookup to retrieve the other data you want.

With the Xusr (XUserselectR) command, you're telling Q&A to open the Styles database, look in the Style field, and create a pop-up list containing all the values that begin strictly with the number you typed. (For example, all the styles that begin with 170.) The Navigation Spec statement reminds you of what you're expected to enter to restrict the picklist. You can optionally include in the program a condition that prevents it from executing if you don't enter at least three initial digits. This way, you won't accidentally tell Q&A to attempt to compile a picklist with 6,000 items on it!

The two databases (*Orders* and *Styles*) programmed as above are included with this month's Online Edition of *The Quick Answer*.

## Manipulating Lookup Table Data



How can I extract or print out the data in a Lookup Table?

Al Weiner, Pittsburgh, Pennsylvania

To extract the data from a Q&A database's Lookup Table and optionally print it out, you can use the Q4LOOK.EXE utility available on *The Quick Answer's* Web site in the "Freebies" section. The utility works with Q&A 3.0, 4.0, and 5.0 databases. You simply type the command at the DOS prompt, followed by the path and name of the Q&A database, and the utility prompts for the type of output you want. You can output the Lookup Table's data to your printer, to an ASCII file you can then import into a database, or to a special macro file format that allows you import the table into another database's Lookup Table.

Bill Halpern and Gordon Meigs own Professional Computer Technology Associates in Newtown, Pennsylvania, specializing in data management and supporting services. 215-598-8440, 71023.356@compuserve.com.

# Designing a Custom Report Interface, Part 2

JEFF NITKA



If your Ad hoc reports—particularly crosstabs—are taking too much time and effort to create, here's how you can *really* simplify the process



**L**AST month, in Part 1 of this series, I presented an approach to providing an interface that greatly simplifies the process of designing and running crosstab reports. We ended with the design of the form. This month, we'll look at the programming that makes the interface work. In next month's final installment, we'll look at the report designs and macros that round out the application.

## Form design revisited

As a reminder, **Figure 1** shows the form design we developed last month, with the field types displayed.

Notice that I've changed all the database field types to Text. This is necessary because you want to give the user the ability to type search parameters such as *> 500* or *1.6* in what would normally be numeric fields. (Numeric fields permit only valid numeric data as input.)

## Programming considerations

Before you begin programming, you must decide which fields the user can select for the *Row*, for the *Column*, and be used for specifying search criteria. Considering these details allows you to write programming that will make the form behave intelligently.

Crosstab reports are at their best when analyzing data in fields that appear only once in a database. For

example, the customer name appears only once, so it's a field you can use. But there are three *Item* fields, so these won't be included.

For this example, you'll give the user the ability to analyze data on the following fields, all of which only appear once in the form: *Customer Name*, *City*, *State*, *Month*, and *Year*.

## Which fields can be searched?

Generally, you can allow the user to search any fields in the database. For the sake of simplicity, we'll allow search criteria in the following fields (field names): *Mon*, *Day*, *Yr*, *CustName*, *City*, *St*, *TotQty*, and *TotPrc*. To disallow access to all other fields (such as those for the lineitems), simply make them read-only.

## Ready for programming

The programming is minimal, except for the code in the *Check* field. Here it is, followed by an explanation:

```
Start:
< Clear(Row,Col,Summary,Output);
  @Color(Summary,0,7); @Color(Col,0,7);
  @Color(Row,0,7);

Start = @Lt( @Us("1- Prepare Report,2- Exit"),1);

if Start = "" then Goto Start else
if Start = 1 then Goto Row else
if @AskUser("You really want to quit?","","")
then @Macro("Escape")
else { Start = ""; Goto Start }

Row:
< @Color(Row,14,6); @Color(Col,0,7);

Row = @Us("1- Name,2- City,3- State," +
"4- Month,5- Year");

if Row = "" then Goto Start else
Row = @Rt( Row, @Len(Row)-3 ); Goto Col

Col:
< @Color(Col,14,6); @Color(Row,0,7);

Col = @Us("1- Name,2- City,3- State," +
"4- Month,5- Year" );

if Col = "" then Goto Start else
Col = @Rt( Col, @Len(Col)-3 ); Goto Summary

Summary:
< if Row = "" or Col = "" then Goto Start;

@Color(Summary,14,6); @Color(Col,0,7);
@Color(Row,0,7);
```

**Figure 1.** Form design (at the Format Spec) for the Crosstab interface.

```

Start = @Lt(@Us("1- Qty Shipped,2- Total Sales,"
+ "3- Cancel"),1);

if Start = "" or Start = 3 then Goto Start else
if Start = 2
then Summary = "SALES"
else Summary = "QUANTITY"; Goto Output

Output:
< if Row = "" or Col = "" or Summary = ""
then Goto Start;

@Color(Summary,0,7); @Color(Col,0,7);
@Color(Row,0,7);

Start = @Lt(@Us("1- To Print,2- To Screen," +
"3- Cancel"),1);

if Start = "" or Start = 3 then Goto Start else
if Start = 2
then Output = "Screen"
else Output = "Print"; Goto Mon

Mon: < @Msg("Enter search criteria here.");

Check:
< if Check = "Quit" then @Macro("Escape") else
{ Check =
@Lt(@Us("1- Run Report,2- Change Criteria," +
"3- Change Row,4- Change Column," +
"5- Change Summary,6- Change Output," +
"7- Exit"), 1 );

if Check = "" then Goto Check else
if Check = 7
then if @AskUser("You want to quit?","","")
then { Check = "Quit"; @Macro("Escape") }
else Goto Check
else
if Check = 6 then Goto Output else
if Check = 5 then Goto Summary else
if Check = 4 then Goto Col else
if Check = 3 then Goto Row else
if Check = 2 then Goto Mon else
if @AskUser("Ready to run report according",
"to selected criteria.,""Should I begin?")
then {
Rem "A carriage return is needed at the
end of each line in the following code."

Check =
Mon + "
" + Day + "
" + Yr + "
" + CustName + "
" + City + "
" + St + "
" + TotQty + "
" + TotPrc ;

Check = Check + "
" + @Txt(Row = "Month" and Col = Row, "Row,Col") +
@Txt(Row = "Month" and Col <> Row,"Row") +
@Txt(Col = "Month" and Col <> Row,"Col");

Check = Check + "
" + @Txt(Row = "Year" and Col = Row, "Row,Col") +
@Txt(Row = "Year" and Col <> Row,"Row") +
@Txt(Col = "Year" and Col <> Row,"Col");

Check = Check + "
" + @Txt(Row = "Name" and Col = Row, "Row,Col") +
@Txt(Row = "Name" and Col <> Row,"Row") +
@Txt(Col = "Name" and Col <> Row,"Col");

Check = Check + "
" + @Txt(Row = "City" and Col = Row, "Row,Col") +
@Txt(Row = "City" and Col <> Row,"Row") +
@Txt(Col = "City" and Col <> Row,"Col");

Check = Check + "
" + @Txt(Row = "State" and Col = Row, "Row,Col") +
@Txt(Row = "State" and Col <> Row,"Row") +
@Txt(Col = "State" and Col <> Row,"Col");

```

```

Check = Check + "
" + @Txt(Summary = "Quantity", "SUM");

Check = Check + "
" + @Txt(Summary = "Sales", "SUM");

Run = "Cross Tab to " + Output; @Macro(Run) }
else Goto Check }

```

## Programming explained

The programming in most of the fields simply prompts the user for input, such as the choice of *Row*, *Column*, and *Summary* fields, and type of *Output*.

Most of the work occurs in the *Check* field. Its program first allows the user to make any changes to any of the specified criteria. When the user chooses to run the report, the program constructs a "list" of all the criteria displayed on the screen. This list, which will be used by a macro to process the report, holds information about the eight fields that can contain search criteria, the five fields that can be used as Row or Column fields, plus the two fields that can be summarized. This is a total of 15 pieces of information. The program keeps them separate by placing a carriage return between each piece of data.

Accordingly, the list will have the following format:

Description	Example
Search criteria for Mon	> 6
Search criteria for Day	
Search criteria for Yr	1995..1998
Search criteria for CustName	
Search criteria for City	Center City
Search criteria for St	
Search criteria for TotQty	
Search criteria for TotPrc	
Row or Column status for Mon	
Row or Column status for Yr	Col
Row or Column status for Custname	Row
Row or Column status for City	
Row or Column status for St	
Summary Status for TotQty	
Summary Status for TotPrc	Sum

## About the report design and macros

A report design must be saved before you can put the whole thing together. But you must save two versions of it—one to be printed, the other to display on screen.

Because one of two reports can be run, a macro for each is needed—they're identical, except for the specific report that each one calls. To make things easy, you can name the macro to mimic the name of the report.

For example, to print the report to screen, the program runs a macro named *Cross tab to Screen*. It prints a saved report also named *Cross tab to Screen*. However, before the macro prints the report, it will make temporary changes to the Retrieve and Cross tab Specs, based on the information in the *list* constructed earlier. Exactly how this is done is next month's topic.

Jeff Nitka develops Microsoft Access and Q&A applications for Epoch Software (E-Mail: 105020.2215@compuserve.com). Jeff is the author of the Program Evaluator (a Q&A program debugging utility), SurfDrive (a Q&A disk drive reader), and FaxMan (a Q&A faxing database), all of which are available from Marble Publications.

## Quick Tip

# When Writing a Macro is Easier

DOS

Sometimes writing a macro is easier than recording it. A good example is the macro shown in the "Check for

Open Databases" article in this issue, where an operation is repeated over and over again with the only the filename changing. When typing a macro in Write, you can group steps that belong together, put the changeable information (filenames, for example) on a separate line, and use Q&A's copy and paste features to duplicate repeated elements. Do this with care, though, because a space inserted after the **F**(ile) **M**(ass update) command, for example, will clear the filename!

The one drawback to formatting macros this way is that if you later *record* a macro and save it to the same file, Q&A will "recompile" the file and strip out any custom formatting, reverting to the default macro file structure of a continuous stream of keystrokes. If you want to retain your custom format, you'll have to write—not record—all subsequent macros.

Remember to resave an edited macro file to ASCII format by pressing Ctrl-F8 (*not* Shift-F8), and reload it into memory by Pressing Shift-F2 and selecting *Get Macros*.

ALEC MULVEY

## Quick Tip

# No Foreign Keyboard?

DOS

More people the world over are purchasing new PCs with Windows 95 preinstalled. For users outside the

US this can introduce keyboard problems, such as no Pound sign for the UK. Regional settings, including the keyboard, are set in Windows 95, which controls the behavior of all Windows programs. Q&A for DOS, being a DOS program, needs the following line in the AUTOEXEC.BAT file in the PC's C:\ directory:

```
KEYB UK , , C:\WINDOWS\COMMAND\KEYBOARD.SYS
```

Note the space between KEYB and UK, followed by two commas. PCs are often supplied with no AUTOEXEC.BAT file, but they work fine when running just Windows programs.

ALEC MULVEY

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# Copying Your Q&A Data to Windows Programs Just Got a Whole Lot Easier



If you use—or plan to use—Windows programs along with Q&A, you need a way to copy data from your Q&A databases to whatever Windows programs you're using. *What does it take now?*

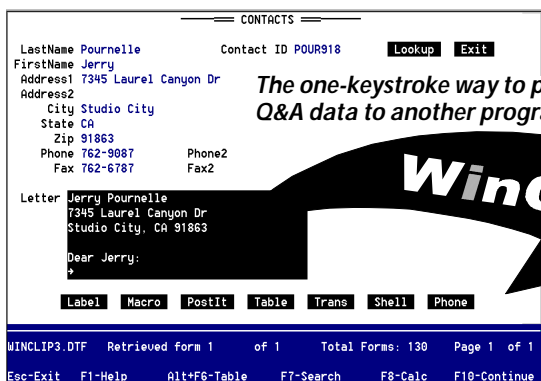
First, you have to put Q&A in a window.

Next, you have to click the Mark icon on the toolbar.

Then you have to carefully drag the mouse over just the data you want to copy, click the Copy icon to copy it to the Windows Clipboard, then press Alt-Enter again to return to full screen.

That's **5 steps**—and you're still not done! Now you have to start the other program where you want to use the data.

**What if you could do all this with just one keystroke? Now you can!**



The one-keystroke way to pass Q&A data to another program

**WinClip**

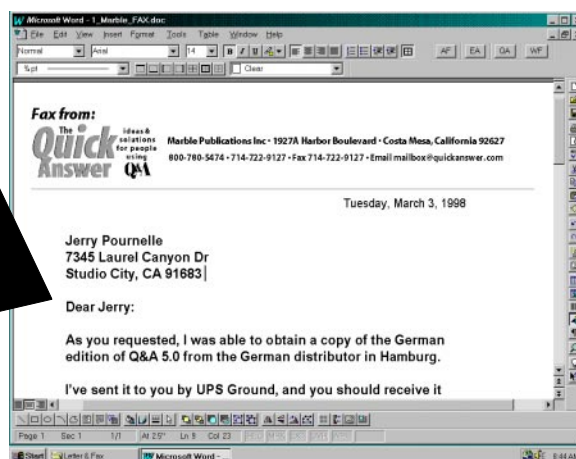
**WinClip**—a new Q&A add-on from *The Quick Answer*—lets you *instantly* copy any database field to Windows' Clipboard!

You simply press *Ctrl-C* (or the hotkey of your choice) and **BINGO!**—the field's contents (a data value, a name and address, even an *entire multi-page letter*) are in the Windows Clipboard, ready to paste wherever you need!

But that's not all. You can have **WinClip** then start your Windows program so you can immediately paste the data into it (*Ctrl-V*) and finish the task!

When you quit the external program, you're back in Q&A!

**WinClip makes working between Q&A and Windows programs amazingly easy!**



- **WinClip** works with **Q&A 4.0** and **Q&A 5.0** running in full screen or window mode in Windows 95. **WinClip** works in any database as-is—it requires no extra fields or programming.
- **WinClip** is not a TSR—it takes no memory away from Q&A.
- **WinClip** handles more data than Q&A 5.0's own clipboard, and lets you effortlessly pass it to any Windows program or any windowed DOS program—including Q&A itself!
- **WinClip** creates a text file of the data it copies to the Clipboard. You can insert this file in any Q&A database field, display it in Write, or use it in any program that accepts ASCII files.
- **WinClip** retains the formatting of your Q&A data. What you copy is what you paste. (WYCIWYP)
- **WinClip** comes with a demonstration database you can use to try out various WinClip options.
- **WinClip** is a snap to install, and the documentation includes a variety of configuration and usage examples.

**Get WinClip today, and find out how incredibly easy it is to share your Q&A data with your other programs!**

**Yes, rush me** \_\_\_ copies of **WinClip** at \$49\* so I can copy Q&A data to other programs  Q&A 5.0\*\*  Q&A 4.0\*\*

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