



@server

iSeries

Database Troubleshoot

*Version 5 Release 3*







@server

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*Version 5 Release 3*

**Note**

Before using this information and the product it supports, be sure to read the information in "Notices," on page 13.

**Second Edition (August 2005)**

This edition applies to version 5, release 3, modification 0 of IBM Operating System/400 (5722-SS1) and to all subsequent releases and modifications until otherwise indicated in new editions. This version does not run on all reduced instruction set computer (RISC) models nor does it run on CISC models.

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## Troubleshoot

If you are having difficulties with your DB2<sup>(R)</sup> for iSeries<sup>(TM)</sup> database, you have come to the right place. See the topics below for solutions to many common questions and problems:

### **“Print this topic”**

View and print a PDF version of the Troubleshooting topic.

### **“Before you call service”**

Follow this checklist before you call for service. It includes instructions for solving the most common problems so can avoid a service call. In the event that calling for service is necessary, the checklist will help you gather the information that a service person will need in order to better help you.

### **“iSeries Database Frequently Asked Questions” on page 3**

Check the Database FAQ for answers to your DB2 and SQL questions. Topics in the FAQ include finding informative database resources, data sharing and migration, and several query topics.

### **“Monitor database file errors” on page 12**

Learn how to recognize and repair database file errors.

### **SQL messages and codes**

See the this topic to identify the causes of error messages returned by SQL.

**Note:** Read the “Code disclaimer information” on page 16 for important legal information.



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## Print this topic




To view or download the PDF version of this document, select Database troubleshoot (about 150 KB).

### **Saving PDF files**

To save a PDF on your workstation for viewing or printing:

1. Right-click the PDF in your browser (right-click the link above).
2.  Click **Save Target As...** if you are using Internet Explorer. Click **Save Link As...** if you are using Netscape Communicator. 
3. Navigate to the directory in which you would like to save the PDF.
4. Click **Save**.

### **Downloading Adobe Acrobat Reader**








 You need Adobe Acrobat Reader to view or print these PDFs. You can download a copy from the Adobe Web site ([www.adobe.com/products/acrobat/readstep.html](http://www.adobe.com/products/acrobat/readstep.html))  .

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## Before you call service

This page is designed to help you solve problems with your DB2 UDB for iSeries database. Proceed through the following sequential steps until you reach a solution or determine that you need to call for service:

1. Check the online help and documentation in the iSeries Information Center. You may find these Database Information Center resources particularly helpful:

- “Troubleshoot,” on page 1
  - “iSeries Database Frequently Asked Questions” on page 3
2. Search for a possible match to your problem from the Support Line Knowledge Base . The Knowledge Base is maintained by the iSeries Support Center, and contains information about known problems and answers to frequently asked customer questions.
  3. Determine if there is a program temporary fix (PTF), also called a fix, related to your problem. To find fixes to apply, check the iSeries Support Fixes  page for information about obtaining fixes. Also see the PTF Cover Letter Database  to see a list of cover letters sorted by release, by date, or by fix number. A PTF cover letter provides information about the specific PTF, releases affected, prerequisite and corequisite PTFs, and so forth.  
If you find the PTF that you need, you can obtain the fix by following the instructions in the iSeries and AS/400<sup>(R)</sup> PTF Ordering  information. You can order PTFs over the Internet, on Media, through Program Services, or using telephone Voice Support.
  4. Debug your program and determine if the problem is in software supplied by companies other than IBM. If you suspect that the problem is within the non-IBM software, contact the software vendor directly.
  5. Check the level of your database fix pack using the Display Data Area command, **DSPDTAARA SA99vrm**, where *v* is the version, *r* is the release, and *m* is the modification.
    - If the data area is not found, order and apply the appropriate group PTF, which can be found at Preventive Service Planning information - Group PTFs .
    - If the data area is found, and your problem is not urgent, order and apply the Group PTF .
    - If the data area is not found, and your problem is urgent, proceed to the next step.
  6. If you were unable to solve the problem in the previous steps, contact service. You can report your problem online at the Problem Reporting  page. Be prepared to give the following information:
    - PTF level
    - Job log with details. To obtain this, run the query in DEBUG mode and check JOBLOG. Also save the system settings, SQL packages, and DB monitor data.
    - Details on the action that caused the problem.
    - Resources and work management:
      - QQRYDEGREE and CHGQRYA
      - Memory and MAX ACTIVE settings
      - List of other jobs and programs that are running
    - File statistics:
      - Size of objects
      - Number of rows
      - Number of indexes
    - History of the problem:
      - Performance of application or query before the problem occurred
      - Reproducibility of problem
      - Fixes applied
      - Last upgrade
    - Details on how the problem impacts to your business



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## iSeries Database Frequently Asked Questions

### DB2 UDB for iSeries fundamentals

- “DB2 UDB for iSeries fundamentals” on page 4
- What are the new DB2 UDB for iSeries functions this release?
- Is the iSeries server part of the DB2 family? (page 4)
- How does DB2 UDB for iSeries relate to other DB2 products? (page 4)
- What level of DB2 do I have? (page 4)
- Does iSeries provide any sample databases? (page 5)
- How do I install DB2? (page 5)
- How do I authorize users to DB2? (page 5)
- How do I administer DB2 UDB for iSeries? (page 5)
- Can I assign my own long and short names to tables and columns? (page 5)

### Database resources in the Information Center

- “Database resources in the Information Center” on page 5
- I’m having trouble printing a PDF. What should I do? (page 5)
- What other resources exist to help me use the Information Center? (page 6)

### Data sharing and database migration

- “Data sharing and database migration” on page 6
- How do I access data in other databases? (page 6)
- Can I store XML data in DB2 UDB for iSeries? (page 6)
- » Can I connect to a DB2 database that is on a non-iSeries server from my iSeries server? (page 6)
- «

### Query for iSeries

- “Query for iSeries” on page 6
- Does IBM provide any graphical query interfaces for the iSeries server? (page 7)

### SQL-based queries

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- How can I run SQL statements from a text file? (page 8)
- How can I write an SQL query that lists a set of detail records with a total at the bottom? (page 8)
- How can I select rows based on the current date in numeric or character fields? (page 8)
- Why is my query performing poorly after an upgrade to a newer release of OS/400? (page 8)

### SQL messages

- “SQL messages” on page 9
- What does SQL0901 message code mean? (page 10)
- Where can I find a listing of SQL messages and SQL codes? (page 10)

### SQL packages

- “SQL packages” on page 10
- What are the advantages of using SQL packages? (page 10)
- What data is stored in an SQL package? (page 10)
- How can I tell what statements are in an SQL package? (page 10)
- How can I tell if the SQL package is being used? (page 11)

### Stored procedures

- How can I view the contents of a result set and the output parameters from a stored procedure call? (page 11)
- Can existing RPG or COBOL programs be used as stored procedures? (page 11)
- I do a CREATE PROCEDURE that contains SQL statements that reference user defined functions. Before calling the procedure I do a SET PATH so the functions are found. Why aren’t the functions found when I call the procedure? (page 11)

## Triggers

“Triggers” on page 11

Why won't my trigger program work after upgrading OS/400? (page 12)

If you have a question that is not included in this page, contact IBM by clicking the feedback image above.

## DB2 UDB for iSeries fundamentals

### What is DB2 UDB for iSeries?

DB2 Universal Database<sup>(TM)</sup> (UDB) for iSeries is the relational database manager that is fully integrated on your iSeries server. Because it is integrated, DB2 UDB for iSeries is easy to use and manage. DB2 UDB for iSeries also provides functions such as triggers, stored procedures, and dynamic bitmapped indexing that serve a wide variety of application types. These applications range from traditional host-based applications to client/server solutions to business intelligence applications.

The history of DB2 UDB for iSeries began in the late 1980s with the integration of a fully relational, though nameless, database on the first AS/400 systems. In 1995, this database joined the DB2 brand, adopting the name DB2/400. In 1999, the DB2 UDB branding was added.

As an interface to DB2 UDB for iSeries, the DB2 Query Manager and SQL Development Kit for iSeries adds an interactive query and report writing interface, as well as precompilers and tools to assist in writing SQL application programs in high-level programming languages. Conforming to the industry standard Structured Query Language (SQL), the SQL implementation for OS/400 allows you to define, manipulate, query, and control access to your iSeries data. It works equally well with OS/400 files and SQL tables.

“iSeries Database Frequently Asked Questions” on page 3




### Is the iSeries server part of the DB2 family?

Yes. DB2 UDB for iSeries is the newest member of the DB2 UDB product line, which also includes DB2 UDB and DB2 UDB for zSeries<sup>(TM)</sup>. DB2 UDB, the founding member of the product line, is the single product available across all UNIX<sup>(R)</sup>, Windows NT<sup>(R)</sup>, and OS/2<sup>(R)</sup> platforms.

“iSeries Database Frequently Asked Questions” on page 3

### How does DB2 UDB for iSeries relate to other DB2 products?

Each member of the DB2 UDB product line has its own unique code-base, functions, and different SQL syntax. There is, however, technology sharing across the DB2 UDB brand members. To learn about the relationships between the DB2 UDB products, see the following:

- The DB2 UDB Family Common Features Matrix  contains information about the SQL features available on the DB2 UDB platforms.
- What Does DB2 UDB on the iSeries Really Mean?  explains the position of DB2 UDB for iSeries in the DB2 family with details on functionality.
- The DB2 UDB for iSeries Porting Information  provides guides to help you move data between DB2 UDB platforms. The porting guides also provide a brief history of the DB2 UDB brand.

“iSeries Database Frequently Asked Questions” on page 3

### What level of DB2 do I have?

If you are using an iSeries server, you have DB2 UDB for iSeries. The level of DB2 UDB for iSeries is based on the OS/400<sup>(R)</sup> operating system, and is independent of the DB2 versioning scheme. Because DB2 UDB for iSeries is shipped with the OS/400 operating system, the version, release, and modification level of DB2 is the same as that of your operating system. This is typically expressed as VxRyMz, where x is

the version, y is the release, and m is the modification. If you do not know what version, release, and modification of OS/400 you have, use the following steps:

1. In iSeries Navigator, right click on your server.
2. Select **Properties**.
3. If it is not already selected, click the **General** tab.

“iSeries Database Frequently Asked Questions” on page 3

### **Does the iSeries server provide any sample databases?**

Yes. You can find the sample tables and the system-provided stored procedure to create them in Appendix A. DB2 UDB for iSeries Sample Tables of the SQL Programming Concepts topic.

“iSeries Database Frequently Asked Questions” on page 3

### **How do I install DB2?**

You don't need to install DB2. It is shipped as a part of OS/400 at every release.

“iSeries Database Frequently Asked Questions” on page 3

### **How do I authorize users to DB2?**

DB2 object access can be controlled using SQL GRANT and REVOKE statements along with OS/400 security interfaces. See the Securing a database topic in the Database Programming topic. iSeries Navigator can also be used to authorize users. For more information, see Authorizing a user or group using iSeries Navigator.

“iSeries Database Frequently Asked Questions” on page 3


### **How do I administer DB2 UDB for iSeries?**

You can administer DB2 UDB for iSeries using iSeries Navigator. Within iSeries Navigator there is a tool for working with databases. You can work either from a traditional tree view of you database, or from a visual representation of the database objects called Database Navigator. For details on using Database Navigator, see Mapping your database using Database Navigator in the SQL Programming Concepts topic.

You can also use the limited support for iSeries provided by the DB2 Control Center .

“iSeries Database Frequently Asked Questions” on page 3

### **Can I assign my own long and short names to tables and columns?**

Yes. See Co-existing with long SQL table and column names  for instructions.

“iSeries Database Frequently Asked Questions” on page 3

## **Database resources in the Information Center**

### **Where are the DB2 manuals located?**

The Softcopy Library was integrated into the iSeries Information Center in V5R1. You can find database manuals by following the DB2 Universal Database for iSeries Printable PDFs link in the Information Center navigation bar under the **Database** topic.

“iSeries Database Frequently Asked Questions” on page 3

### **I'm having trouble printing a PDF. What should I do?**

It is recommended that you save PDF files locally for ease in viewing and printing. To save the PDF, follow these steps:

1. Right-click the PDF in your browser.
2. Click **Save Target As...**
3. Navigate to the directory in which to save the PDF.
4. Click **Save**.

“iSeries Database Frequently Asked Questions” on page 3

### **What other resources exist to help me use the Information Center?**

See the Frequently asked questions about the Information Center. This FAQ contains tips that make using the Information Center easier. You can also find help by clicking the help button in the upper right of your screen.

“iSeries Database Frequently Asked Questions” on page 3


## **Data sharing and database migration**

### **How do I move data between DB2 and other systems?**

You can use the Copy From Import File (CPYFRMIMPF) and Copy To Import File (CPYTOIMPF) commands to import (load) or export (unload) data from and to the iSeries server. See the Import and export data between systems topic for instructions.


“iSeries Database Frequently Asked Questions” on page 3

### **How do I migrate existing databases to DB2 UDB for iSeries?**

IBM provides several guides to help you move data into DB2 UDB for iSeries from other databases, such as Oracle and SQL Server. See the DB2 UDB for iSeries Porting Information  to read the guides.

“iSeries Database Frequently Asked Questions” on page 3

### **Can I store XML data in DB2 UDB for iSeries?**

Yes. See the DB2 UDB Extenders for iSeries: XML Extender Administration and Programming  manual for tutorials on how to set up a database using provided sample data, how to map SQL data to an XML document, how to store XML documents in the database, and how to search and extract data from the XML documents.

“iSeries Database Frequently Asked Questions” on page 3



### **Can I connect to a DB2 database that is on a non-iSeries server from my iSeries server?**

Yes. You can learn more in the Cross-platform access using DRDA article of the Distributed database programming topic. 

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## **Query for iSeries**

### **How can I find all the the queries that accessed a specific file?**



You can use the following steps to produce a report of all the queries containing the file name:

1. Use the code in “Example: Finding the queries that accessed a specific file” on page 7, replacing &LIBRARY and &FILE with your library and file names.
2. Create the command FFINQ using the Create Command (CRTCMD) command.
3. Specify GETQRYPRM as the program to process command.

“iSeries Database Frequently Asked Questions” on page 3

**Note:** Read the “Code disclaimer information” on page 16 for important legal information.

### Does IBM provide any graphical query interfaces for the iSeries server?

The graphical query interface software provided for iSeries includes Query Management Facility (QMF)<sup>(TM)</sup> for Windows  and the DB2 Web Query Tool .

“iSeries Database Frequently Asked Questions” on page 3

### Code example disclaimer

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### Example: Finding the queries that accessed a specific file

This example illustrates how to find queries that accessed a specified file.

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```
GETQRY
      PGM          PARM(&LIBRARY &FILE)
      DCL          VAR(&LIBRARY) TYPE(*CHAR) LEN(10)
      DCL          VAR(&FILE) TYPE(*CHAR) LEN(10)
      DCLF         FILE(QTEMP/QRYOBS)
      DLTF         FILE(QTEMP/QRYOBS)
      MONMSG      CPF0000
      DLTF         FILE(QTEMP/&LIBRARY)
      MONMSG      CPF0000
CRTSRCPF FILE(QTEMP/&LIBRARY)
DSPOBJD OBJ(&LIBRARY/*ALL) OBJTYPE(*QRYDFN) +
        DETAIL(*FULL) OUTPUT(*OUTFILE) +
        OUTFILE(QTEMP/QRYOBS)
      BEGIN: RCVF          /* GET QUERY NAME AND LIBRARY NAME */
              /* IF END OF FILE REACHED, EXIT LOOP          */
              MONMSG CPF0864 EXEC(GOTO EOF)
RTVQMQRV QMQRV(&ODLBNM/&ODOBNM) +
        SRCFILE(QTEMP/&LIBRARY) ALWQRYDFN(*ONLY)
      GOTO      CMDLBL(BEGIN)
EOF:  FNDSTRPDM STRING(&FILE) FILE(QTEMP/&LIBRARY)
MBR(*ALL) OPTION(*NONE) PRMTBRLIST(*YES)
      ENDPGM
```

### Note:

To create an output file in QTEMP, use the **DSPOBJD** command. While in programming development manager (PDM), press **CMD18** to change defaults, and change the *Compile in Batch* option to **N**. Compile GETQRY. Then set the compile option default back to **Y**.

```

GETQRYPRM
      PGM          PARM(&LIBRARY &FILE)
      DCL          VAR(&LIBRARY) TYPE(*CHAR) LEN(10)
      DCL          VAR(&FILE) TYPE(*CHAR) LEN(10)
      SBMJOB      CMD(CALL PGM(GETQRY) PARM(&LIBRARY &FILE))
      ENDPGM

```

Compile program GETQRYPRM.

“iSeries Database Frequently Asked Questions” on page 3

**Note:** Read the “Code disclaimer information” on page 16 for important legal information.

## SQL-based queries

### How can I join two members of the same table?

You can join two members of the same table by creating an alias for one of the members and joining them using the alias. To create an alias using SQL, use the CREATE ALIAS statement or Create an alias using iSeries Navigator.

“iSeries Database Frequently Asked Questions” on page 3

### How can I run SQL statements from a text file?

You can run SQL statements from a text file using RUNSQLSTM. Or, you can use Run SQL Scripts from iSeries Navigator to run a text file on your PC or in the Integrated File System. See Querying your database using Run SQL Scripts.

“iSeries Database Frequently Asked Questions” on page 3

### How can I write an SQL query that shows a set of detail rows with a total at the bottom?

You can use a UNION operation to append the total as a row at the end of the list of items, as illustrated in the following example:

```

SELECT 'ITEM' AS ROWTYPE, PARTID, PRICE
  FROM PART
UNION
SELECT 'TOTAL' AS ROWTYPE, 0 AS PARTID, SUM( PRICE ) AS PRICE
  FROM PART
ORDER BY ROWTYPE, PARTID

```

To be sure the total row is at the end of the result set, you must include the Order By clause.

**Note:** Read the “Code disclaimer information” on page 16 for important legal information.


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### How can I select rows based on the current date in numeric or character columns?

The SQL CurDate function returns a date value, which cannot be directly compared to a number or an unformatted character value. You must do some conversion before the comparison. Use SQL functions to get the year, month, and day of the date as integers, and then create a numeric date in the form YYYYMMDD. See “Example: Selecting records based on the current date” on page 9.

“iSeries Database Frequently Asked Questions” on page 3

### Why is my query performing poorly after an upgrade to a newer release of OS/400?

There can be some query performance problems if you recently upgraded from V4R4 to a newer release or version. See the DB2 UDB Query Performance Behavior Changes Since R440  IBM Support Line technical document for a possible solution.

“iSeries Database Frequently Asked Questions” on page 3

### Code example disclaimer

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### Example: Selecting records based on the current date

“iSeries Database Frequently Asked Questions” on page 3

This example illustrates how to select records from a table based on the current date.

```
Create Table TestDate (
  PKCol    Int           Primary Key,
  DecDate  Decimal( 9,0 ),
  CharDate Char( 8 ) )
```

```
Insert Into TestDate Values ( 1, 20010711, '20010711' )
```

Use this SQL statement to compare against the numeric field:

```
Select *
  From TestDate
  Where DecDate =
    100 * ( 100 * Year( CurDate() ) + Month( CurDate() ) ) +
    Day( CurDate() )
```

Using a Cast expression, you can convert this 8-digit number to a character value, as in the following example:

```
Select *
  From TestDate
  Where CharDate = Cast(
    100 * ( 100 * Year( CurDate() ) + Month( CurDate() ) ) +
    Day( CurDate() ) As Char( 8 ) )
```

Use care when converting a Month() or Day() return value to a character with Cast. If you do not explicitly handle values less than 10, there may be spaces instead of zeros in the result.

“iSeries Database Frequently Asked Questions” on page 3

**Note:** Read the “Code disclaimer information” on page 16 for important legal information.

## SQL messages

### When are SQL messages displayed?

SQL messages are displayed when a DB2 UDB for iSeries returns an error or code to the application that uses it. The message text is displayed or logged at run-time.

“iSeries Database Frequently Asked Questions” on page 3

### **What does the SQL0901 message mean?**

SQL0901: An SQL system error has occurred. This is the general message for all errors. For more information about SQL0901, see the SQL messages and codes topic.

“iSeries Database Frequently Asked Questions” on page 3

### **Where can I find a list of SQL messages and SQL codes?**

You can find a complete list of SQL messages and codes in the SQL Messages and Codes book. Or, use the SQL message finder.

An application can also send the SQL message corresponding to any SQLCODE to the job log by specifying the message ID and the replacement text on the CL commands Retrieve Message (RTVMSG), Send Program Message (SNDPGMMMSG), and Send User Message (SNDUSRMSG).

“iSeries Database Frequently Asked Questions” on page 3

## **SQL packages**

### **What are SQL packages?**

SQL packages are permanent objects that are used to store information related to prepared SQL statements. They are used by open database connectivity (ODBC) support when the **Extended Dynamic** box is checked on a data source. They are also used by applications that use an API.

“iSeries Database Frequently Asked Questions” on page 3

### **What are the advantages of using SQL packages?**

Because SQL packages are a shared resource, when a statement is prepared, the information is available to all the users of the package. This saves processing time, especially in an environment when many users are using the same or similar statements. Because SQL packages are permanent, this information is also saved across job initiation and end, and is also saved across system restarts. In fact, SQL packages can be saved and restored on other systems. By comparison, dynamic SQL requires that each user go through the preparatory processing for a particular statement, and this must be done every time the user starts the application.

SQL packages also allow the system to accumulate statistical information about the SQL statements that result in better decisions about how long to keep cursors open internally and how to best process the data needed for the query. This information is shared across users and retained for future use. In the case of dynamic SQL, this information must be done by every job and every user.

“iSeries Database Frequently Asked Questions” on page 3

### **What data is stored in an SQL package?**

The SQL package contains all the necessary information to run the prepared statement. This includes registry of the statement name, the statement text, the internal parse tree for the statement, definitions of all the tables and fields involved in the statement, and the query access plan needed to access the tables at run time.

“iSeries Database Frequently Asked Questions” on page 3

### **How can I tell what statements are in an SQL package?**

Use the Print Structured Query Language Information (PRTSQLINF) command to produce a formatted report that shows the SQL statement and information about the access plan used to access the data.

“iSeries Database Frequently Asked Questions” on page 3




### How can I tell if the SQL package is being used?

Use the database monitor to log information about SQL processing on the system. It includes the name of the package in the SQL summary records. The following statement shows the package, the SQL operation, and the statement text:

```
SELECT qqc103, qqc21, qq1000 from <db monitor file>
```

For ODBC, you can also look in the job log for the message Extended Dynamic has been disabled to determine if ODBC was unable to use an SQL package.

For more SQL package FAQs, see the IBM DB2 Web site  .

“iSeries Database Frequently Asked Questions” on page 3

## Stored procedures

### How can I view the contents of a result set and the output parameters from a stored procedure call?

Use Run SQL Scripts to run the procedure in iSeries Navigator. First, open the Run SQL Scripts window. Then, call the stored procedure using the CALL statement, pass the parameters to the statement, and then run the procedure. The parameters are returned to the Result Set tab, and the output parameters are returned to the Messages tab.

“iSeries Database Frequently Asked Questions” on page 3

### Can existing RPG or COBOL programs be used as stored procedures?

Yes. DB2 UDB for iSeries supports external stored procedures, which allow existing high-level programs to be called as stored procedures. The CREATE PROCEDURE statement is used to register these programs as stored procedures.

“iSeries Database Frequently Asked Questions” on page 3

### I do a CREATE PROCEDURE that contains SQL statements that reference user defined functions. Before calling the procedure I do a SET PATH so the functions are found. Why aren't the functions found when I call the procedure?

The SET PATH must be done before the CREATE PROCEDURE. The path for static statements in a precompiled program is determined when the program is created. In the case of CREATE PROCEDURE, we create an SQL C program. Dynamic statements in the procedure will use the current path, but the static statements in the procedure will use the path that was used at the time of the create. This is also true for CREATE FUNCTION.

“iSeries Database Frequently Asked Questions” on page 3

## Triggers

### What is a trigger?

A trigger is a set of actions that are run automatically when a specified change or read operation is performed on a specified table or on a specified physical database file. For more information, see Triggering automatic events in your database.

Beginning in V5R1, you can also use SQL triggers. The SQL CREATE TRIGGER statement provides a way for the database management system to actively control, monitor, and manage a group of tables whenever an insert, update, or delete operation is performed. The statements specified in the SQL trigger are run each time an SQL insert, update, or delete operation is performed. An SQL trigger may call stored procedures or user-defined functions to perform additional processing when the trigger is run. For more information, see SQL Triggers.

“iSeries Database Frequently Asked Questions” on page 3

### **Why won't my trigger program work after upgrading OS/400?**

The offset of your record may have changed. For several releases in the past, the offset did not change. It did, however, change for V5R1 and may change in subsequent releases. The easiest solution is to always code your trigger programs to use the offsets and lengths passed in the trigger buffer. For more information, and to see a summary of fields in the trigger buffer, see Trigger buffer field descriptions.

“iSeries Database Frequently Asked Questions” on page 3

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## **Monitor database file errors**

As your database applications perform actions on your database files, you should monitor messages about file errors that the program detected so that you can take actions to correct the errors.

One or more of the following events occurs when error conditions are detected during processing of a database file:

- Messages can be sent to the program message queue for the program processing the file.
- An inquiry message can be sent to the system operator message queue.
- File errors and diagnostic information can appear to your program as return codes and status information in the file feedback area.

For more information about monitoring and correcting database file errors, see Monitoring database file errors in a program in the Database Programming topic.

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