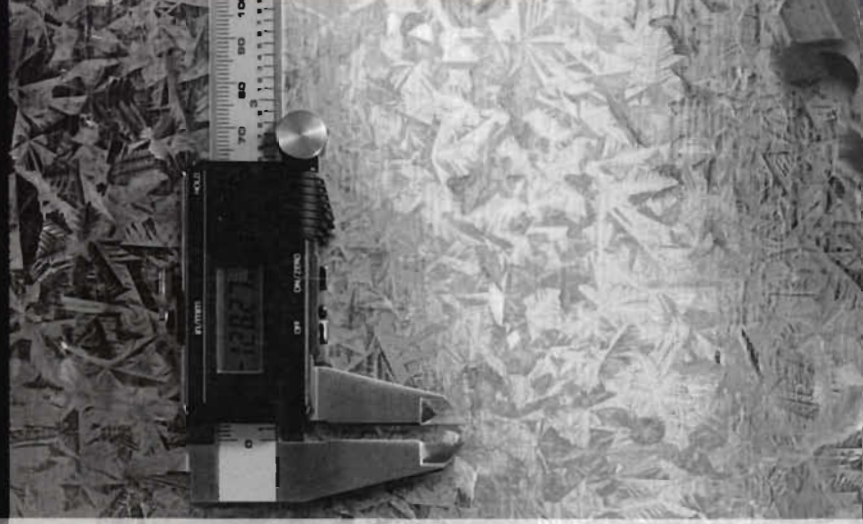

INFORMIX®

The Informix Guide to SQL

Reference
Version 4.1

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Preface

The Informix Guide to SQL: Reference is intended to be used as a companion volume to *The Informix Guide to SQL: Tutorial*. Like *The Informix Guide to SQL: Tutorial*, this book is written for people who already know how to use computers and who rely on them in their daily work.

Whereas *The Informix Guide to SQL: Tutorial* explains the philosophy and concepts behind relational databases, this volume is a reference source that you can use on a daily basis after you have finished reading and experimenting with *The Informix Guide to SQL: Tutorial*.

Summary of Chapters

The Informix Guide to SQL: Reference includes the following chapters:

- Chapter 1, "The **stores2** Database," describes the structure and contents of the demonstration database named **stores2** that is installed with every Informix application development tool. It includes a map of the eight tables in the database, illustrates the columns on which they join, and displays the data in them.
- Chapter 2, "System Catalog," provides details of the Informix system catalog, which is the collection of 11 system catalog tables that describe the structure of the **stores2** database. It explains how to access and update statistics in the system catalog, shows its structure, and lists the name and data type for each column in each table.
- Chapter 3, "Data Types," defines the column data types supported by Informix products, tells how to convert between different data types, and describes how to use specific values in arithmetic and relational expressions.

- Chapter 4, "Environment Variables," describes the various environment variables that you can or should set to properly use your Informix product(s). These variables identify your terminal, specify the location of your software, and define other parameters of your product environment.
- The database engine returns a result code to the SQL Communications Area whenever it executes an SQL statement. Chapter 5, "Error Handling with SQLCA," explains how errors are handled and tells how you can check the contents of the SQLCA structure when you use **INFORMIX-4GL**, **INFORMIX-ESQL/C**, **INFORMIX-ESQL/COBOL**, **INFORMIX-ESQL/Ada**, or **INFORMIX-ESQL/FORTRAN**.
- Chapter 6, "Syntax," is the heart of the book. Its 300+ pages explain the workings of all the SQL statements supported by Informix products. Detailed diagrams walk you through every clause of each of the 49 SQL statements. Thorough usage instructions, pertinent examples, and references to related material complete the SQL picture.
- A glossary of common database terms follows the chapters, and a comprehensive index directs you to areas of particular interest.

The Demonstration Database

Version 4.1 of **INFORMIX-SQL**, **INFORMIX-4GL**, and **INFORMIX-ESQL/C** includes an enhanced demonstration database called **stores2** that contains information about a fictitious wholesale sporting-goods distributor. The **stores2** database is supplied in addition to the **stores** database, which is included with 4.1 and earlier versions of Informix application development tools.

Most of the examples in this manual are based on the **stores2** demonstration database. The **stores2** database is described in detail and its contents are listed in Chapter 1 of this manual.

The script you use to install the demonstration database is called **sqldemo** for **INFORMIX-SQL** and **INFORMIX-4GL** and **esqldemo2** for **INFORMIX-ESQL/C**. The script is located in the **$INFORMIXDIR/bin** directory. (If you are using *4GL by Example*, see that book for further information on how to use the **sqldemo** script.) The database name that you supply is the name given to the demonstration database. If you do not supply a database name, the name defaults to **stores2**. Follow these rules for naming your database:

- Names for databases can be up to 10 characters long.
- The first character of a name must be a letter.

- You can use letters, characters, and underscores (_) for the rest of the name.
- Your Informix product software makes no distinction between uppercase and lowercase letters.
- The database name should be unique and should not be a reserved word.

When you run the appropriate script for your product, you are, as creator of the database, the owner and Database Administrator (DBA) of that database.

If you installed your Informix product software according to the installation instructions, the files that make up the demonstration database are protected so that you cannot make any changes to the original database. You can run the installation script again whenever you want a fresh demonstration database to work with.

Creating the Demonstration Database on INFORMIX-OnLine

Use the following steps to create and populate the demonstration database in the **INFORMIX-OnLine** environment:

1. Set the INFORMIXDIR environment so that it contains the name of the directory in which your Informix products are installed. Set SQLEXEC to SQLTURBO. (For a full description of environment variables, see Chapter 4 of this manual.)
2. Create the demonstration database by entering the appropriate script for your Informix product. For example, for **INFORMIX-SQL** you would enter

   ```
   sqldemo dbname
   ```

   The data for the database is put into the root dbspace.

To give someone else the SQL privileges to access the data, use the GRANT and REVOKE statements. The GRANT and REVOKE statements are described in Chapter 6 of this manual.

To use the command files that have been copied to your directory, you must have UNIX READ and EXECUTE permissions for each directory in the pathname of the directory from which you ran the installation script. To give someone else the permissions to access the command files in your directory, use the UNIX **chmod** command.

Creating the Demonstration Database on INFORMIX-SE

Use the following steps to create and populate the demonstration database in the **INFORMIX-SE** environment:

1. Set the INFORMIXDIR environment so that it contains the name of the directory in which your Informix products are installed. Set SQLEXEC to SQLEXEC. (For a full description of environment variables, see Chapter 4 of this manual.)
2. Create a new directory for the demonstration database by entering

   ```
   mkdir dirname
   ```

3. Make the new directory the current directory by entering

   ```
   cd dirname
   ```

4. Create the demonstration database by entering the appropriate script for your Informix product. For example, for **INFORMIX-SQL** you would enter

   ```
   sqldemo dbname
   ```

When you run the installation script, it creates a subdirectory called *dbname*.**dbs** in your current directory and places the **stores2** database files there. You will see both data and index files in the *dbname*.**dbs** directory.

To use the database and the command files that have been copied to your directory, you must have UNIX READ and EXECUTE permissions for each directory in the pathname of the directory from which you ran the installation script. To give someone else the permissions to access the command files in your directory, use the UNIX **chmod** command. Check with your system administrator for more information about operating system file and directory permissions. UNIX permissions are discussed in the manual for your application development tool. To give someone else access to the database that you have created, grant them the appropriate privileges using the GRANT statement in your Informix product software. To remove privileges, use the REVOKE statement. The GRANT and REVOKE statements are described in Chapter 6 of this manual.