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Updating and Maintaining a Database

Accurate data today. Better decisions tomorrow.

EDIT EXISTING RECORDS
Find a record and change the information that needs to be updated.

ADD NEW RECORDS
Enter new information quickly and easily using data-entry forms.

UPDATE MANY RECORDS
Use update queries or replace functions to change many records at once.

IMPORT DATA
Bring in data from Excel, CSV, text files, and other sources.

Good data powers every business.

PROCEED WITH CAUTION
Bulk updates are powerful—and risky. A wrong change can affect hundreds or even thousands of records.

- ✓ Always make a backup before major updates.
- ✓ Test on a small group of records first.

BACKUP YOUR DATABASE
A FEW MINUTES NOW CAN SAVE HOURS LATER.

ACCURATE DATA RELIABLE RESULTS

ID	Name	Phone	Email	City	Status
1001	Smith, John	555-123-4567	jsmith@email.com	Atlanta	Active
1002	Jones, Mary	555-234-5678	mjones@email.com	Dallas	Active
1003	Brown, David	555-345-6789	dbrown@email.com	Chicago	Active
1004	Davis, Linda	555-456-7890	ldavis@email.com	Denver	Active
1005	Wilson, Mark	555-567-8901	mwilson@email.com	Miami	Inactive
1006	Taylor, Susan	555-678-9012	staylor@email.com	Seattle	Active

Accurate **Reliable** **Valuable**

**GOOD DATA
GOOD DECISIONS
BETTER BUSINESS**

Updating and Maintaining a Database

By Curtis Jerry Smothers

A database is only as useful as the information it contains. Whether you're managing customer records, inventory, student grades, or employee files, the data must remain accurate and current. Database software makes this surprisingly easy by allowing users to edit existing information, add new records, delete obsolete records, or update hundreds—or even thousands—of records at once.

The discussion in this article focuses on end-user database applications such as **Microsoft Access** and **FileMaker Pro**. Although enterprise databases are often much larger and more sophisticated, they rely on many of the same basic principles.

Tables, Fields, and Records

Before information can be updated, a database must first be organized. A database table consists of **fields** (the columns) and **records** (the rows). Each record represents one item—a customer,

product, employee, or student—while each field stores one piece of information about that item, such as a name, address, telephone number, or date.

Once the table structure has been created, users usually interact with the database through **forms** rather than directly through the tables. A form presents the information in a clean, easy-to-read layout that resembles a paper form. The data itself remains stored in the table, but forms make entering and editing information much simpler.

Editing Existing Records

The most common type of database maintenance is changing information that already exists. A customer may move to a new address, an employee may receive a new phone number, or a student may change majors. The user simply locates the desired record and edits the appropriate field.

Most databases include search features that make finding records quick and easy. Instead of scrolling through thousands of rows, users can search by name, account number, ZIP code, or almost any other field.

Adding New Records

Databases constantly grow as new information is added. New customers, products, employees, or students are simply entered as additional records. Most database applications provide a blank data-entry form that guides the user through the process.

Database designers can also establish **validation rules** that help prevent common mistakes. For example, a date field can require a valid date, a telephone field can enforce a specific format, and a required field cannot be left blank. These rules greatly improve data quality, although they cannot prevent every possible error. As the old computer saying goes, "**Garbage in, garbage out.**"

Updating Many Records at Once

Sometimes a single change affects hundreds or even thousands of records. A company might assign customers in one ZIP code to a different sales representative, or increase prices for every product in a particular category.

Making those changes one record at a time would be slow and error-prone. Instead, database software provides tools for **bulk updates**. Microsoft Access uses **Update Queries**, while FileMaker Pro offers similar capabilities through its **Replace Field Contents** command and scripted operations. These tools can modify large groups of records in just a few seconds.

The same power that makes bulk updates so useful also makes them potentially dangerous. An incorrect search criterion or an unintended replacement can instantly change hundreds—or even thousands—of records. In the worst case, a careless update can seriously damage the integrity of the database, requiring hours of repair or even a complete restoration from backup.

For that reason, experienced database users follow a simple rule: **always make a backup before performing a large-scale update.** Spending a few minutes creating a backup can save countless hours of frustration if something goes wrong. Whenever possible, test the update on a small group of records first, verify the results carefully, and only then apply the change to the entire database.

Importing Data

Another common way to update a database is by importing information from another source. Both Microsoft Access and FileMaker Pro can import data from Microsoft Excel spreadsheets, comma-separated value (CSV) files, tab-delimited text files, and many other formats.

When importing data into an existing table, the imported columns must correspond to the appropriate database fields. Modern database programs often allow users to map incoming columns to existing fields when the names differ, making the import process both flexible and reliable.

Keeping Information Accurate

A database is never truly finished. Businesses and organizations constantly add new information, correct outdated records, and remove obsolete data. Regular maintenance keeps the database accurate, reliable, and useful for everyone who depends on it.

The good news is that modern database software handles these tasks with remarkable efficiency. Whether you're changing a single telephone number or updating thousands of records at once, today's database programs make maintaining accurate information faster and easier than ever.

In our next article, we'll take a closer look at FileMaker Pro and see how these database concepts come together in one of the easiest and most versatile database programs available.