

TechMentors Ghost Tracker: Quick Start Guide

What's in the download?

Ghost Tracker scans a Microsoft Access database and reports the relationship problems that let bad data in. It only reports: it never changes, deletes, or fixes anything.

File	What it does
modGhostTracker.bas	The Ghost Tracker scan. You import it into an Access database and run it.
modBuildGhostSample.bas	Builds a small, deliberately haunted sample database (Hollow Creek Costume Co.) so you can practice first.
Hollow Creek Costume Co.accdb	The haunted sample, already built, for a quick start.
TechMentors Ghost Tracker Quick Start Guide.docx	Step-by-step instructions.

Ghost Tracker looks for three kinds of ghosts:

- **Unenforced relationships:** a relationship exists but Enforce Referential Integrity is turned off.
- **Hidden relationships:** a field looks like a foreign key (its name matches another table's primary key), but no relationship was ever defined. It also flags fields whose data type or size doesn't match the primary key.
- **Orphan records:** child records that point to a parent record that doesn't exist.

Before you start

You need Microsoft Access 2016 or later, including Access in Microsoft 365. No add-ins or extra references are required.

- **Unblock the zip file.** Windows blocks macros in Access files downloaded from the internet. Before extracting, right-click the downloaded zip file, choose **Properties**, check **Unblock** at the bottom of the General tab, and click **OK**. Every file you extract will then be unblocked too.
- **Extract the files.** Right-click the zip file, choose **Extract All**, pick a folder that's easy to find (such as Documents), and click **Extract**. Don't open the database from inside the zip; otherwise, Windows gives you a temporary read-only copy, and Ghost Tracker can't save its results.
- **Back up your database.** Ghost Tracker only reads your data, but backups are always a good habit, especially before you fix anything it finds.
- **Enable content.** If a yellow Security Warning bar appears when you open a database, click **Enable Content**. Ghost Tracker is VBA code and can't run until content is enabled.

If a red bar says macros have been blocked, close Access, right-click the database file in the extracted folder, choose **Properties**, check **Unblock**, and click **OK**.

Try it first on the haunted sample

Practice on the sample before scanning a real database. It takes about five minutes and shows you exactly what the results look like.

Short on time? Open the included **Hollow Creek Costume Co.accdb**, which is already built, press **Alt F11**, and start at step 7. If the Project pane already lists **modGhostTracker**, start at step 8.

1. Open Access and create a new, blank database. Name it something like *Hollow Creek Costume Co.accdb*.
2. Press **Alt F11** to open the VBA editor.
3. Choose **File > Import File**, select **modBuildGhostSample.bas**, and click **Open**.
4. In the VBA editor's Project pane on the left, expand the Modules folder if necessary.
5. In the Project pane on the left, double-click **modBuildGhostSample** to open it.
6. In the code window, scroll down to and click anywhere inside the **BuildGhostSample** procedure, then press **F5**. Click **OK** to confirm. Six tables are created and filled with sample data.
7. Then in the VBA editor, choose **File > Import File** again and import **modGhostTracker.bas**.
8. Double-click **modGhostTracker**, scroll down to and click inside the **GhostTracker** procedure, and press **F5**.
9. A summary message appears. Click **OK**, and the results table opens. Resize the columns and rows to your liking.

If everything worked, the summary shows these counts:

Count	Expected
Databases scanned	1
Enforced relationships (healthy)	1
Unenforced relationships	1
Hidden relationships	3
Orphan records found	11

Each result was planted on purpose:

- **Customer to Order** is a healthy, enforced relationship.
- **Order to Order Detail** exists but isn't enforced, and 3 order details point to orders that don't exist.
- **Employee to Order** has no relationship, and 2 orders point to employees who don't exist.
- **Product to Order Detail** has no relationship. The detail's ProductCode holds 6 characters, but the product's holds 10, so long codes were cut off and 6 details no longer match a product.
- **Supplier to Product** has no relationship. SupplierID is a number in one table and text in the other, so the orphans can't even be counted until the data types match.

Scan your own database

Work on a copy of your database file, so your everyday copy stays exactly as it is.

1. Make a copy of the database and open the copy.
2. Press **Alt F11**, choose **File > Import File**, and import **modGhostTracker.bas**.
3. Double-click **modGhostTracker**, click inside the **GhostTracker** procedure, and press **F5**.
4. Read the summary message, click **OK**, and review the results table.

Split databases. If your forms live in a front-end file and your tables in a back-end file, import Ghost Tracker into the front end. When it finds linked tables, it asks whether to scan the back-end file:

- **Yes** scans the back end. Choose this for a complete report, because the relationships for linked tables are stored there.
- **No** skips that back end and notes it in the results.
- **Cancel** stops checking for more back ends.

The back end is opened read-only, so other people can keep working in it while you scan. If it has a database password saved in the link, Ghost Tracker uses it automatically.

Reading the results

Results go into a table named **tblGhostTrackerResult**, which opens when the scan finishes. Each run replaces the previous results. Healthy, enforced relationships are counted in the summary but not listed in the table.

Column	What it tells you
ScanDate	When the scan ran
DatabaseFile	The file that was scanned (useful for split databases)
CheckType	Unenforced relationship, Hidden relationship, or Not scanned
ParentTable, ParentField	The table and field holding the primary key
ChildTable, ChildField	The table and field that point to it (the foreign key)
OrphanCount	How many child records have no matching parent; blank if they couldn't be counted
Notes	What was found and what to do about it, including data type or size mismatches

To sort or filter the results, click the arrow at the top of any column, just as you would in Excel.

Busting the ghosts you find

Ghost Tracker tells you what's wrong; the fixing is up to you. Work through the results in this order, in the back-end file if your database is split.

1. **Get everyone out and make a backup.** Table changes require that you have the database to yourself, and cleanup is hard to undo.
2. **Clean up the orphans.** Use **Create > Query Wizard > Find Unmatched Query Wizard** to list them, then reconnect, archive, or delete each one. Access won't enforce referential integrity while orphans exist.
3. **Match the fields.** A primary key and every field that points to it need the same data type and field size. An AutoNumber key pairs with a Number (Long Integer) field.
4. **Create the relationships.** On the **Database Tools** tab, click **Relationships**. Drag each primary key onto its matching field, check **Enforce Referential Integrity** and click **Create**.
5. **Run Ghost Tracker again** to confirm the ghosts are gone.

TechMentors also recommends two habits:

- **Don't allow blanks in a foreign key.** In the child table's Design View, set the field's **Required** property to **Yes**.
- **Keep Cascade Update and Cascade Delete turned off.** When a key must change or records must be deleted, get everyone out, back up, turn the option on, make the change, and turn it back off.

For the full story, read [Orphan Records: The Ghosts Hiding in Your Database](#) and [Busting the Ghosts in a College's Access Database](#).

Good to know

Limitations

- Hidden relationships are found by matching field names to single-field primary keys. A foreign key with a different name than its primary key (for example, *SalesRepID* pointing to *EmployeeID*) won't be detected.
- Fields named simply **ID** are skipped, because that name is too generic to match reliably. A primary key name used by more than one table is also skipped.
- Only Access tables are scanned. Tables linked to SQL Server, Excel, or other sources are not.

Removing Ghost Tracker when you're done

1. In the VBA editor, right-click **modGhostTracker** in the Project pane, choose **Remove modGhostTracker**, and click **No** when asked to export it.
2. In Access, delete the **tblGhostTrackerResult** table.

Need help?

Found more ghosts than you expected? [Reach out to TechMentors](#) and we'd be glad to help you clean things up safely.

Coming this December: a point-and-click version of the Ghost Tracker, with buttons to scan, review, print, and export your results.

Terms of use

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