

# Testing and refining the database solution

Testing is the essential final step in developing a database. It is important to ensure your database works as it should. Testing links back to the design stage when you should have created a test plan (see page 65).

## What do I need to test?

There are a variety of different aspects to your database which you need to test.

**1** The data that is input to a table

**2** The functionality of forms, queries and reports

Your test plans for these parts of your database need to include tests of all the features and functions of each form, query or report.

**3** Referential integrity

If you have used this option in your table relationships (see page 70), test that it works as expected. Make sure you cannot create records at the 'many' end of a relationship that don't have corresponding records at the 'one' end.

**4** Security options such as user passwords.

**Links** To revise data testing, see page 65.

**Links** To revise security measures, see page 76.

## Test documentation checklist

When testing each part of your database you need to complete the test documentation properly.

✓ Use the original test plans and complete the actual **outcomes**.

✓ If the expected and the actual outcomes don't match, record this as an error.

✓ Document what action you took to correct the error.

The development and testing process should be **iterative**. This means that you use the testing outcomes that you record to **improve** and **refine** your database solution in order to ensure an error-free, high-quality product.

## Testing a form

Here's an example of a simple data entry form design.

There is no need to test the validation on the input fields, as this should be done in your data testing of the table, but you should test that the buttons work as expected.

**Add a Car**

Make	<input style="width: 90%;" type="text" value="Make"/>
Model	<input style="width: 90%;" type="text" value="Model"/>
Doors	<input style="width: 90%;" type="text" value="No_of_doors"/>
Engine Size	<input style="width: 90%;" type="text" value="Engine_size"/>
MPG	<input style="width: 90%;" type="text" value="MPG"/>
Top Speed	<input style="width: 90%;" type="text" value="Top_speed"/>

Here are the test plan entries for testing the buttons.

Include a 'Comments and action taken' column so you can explain any tests that need it, and add how you solved errors that you spotted during testing (providing evidence of the iterative process).

Test no.	Table, form	Input data	Expected outcome	Actual outcome	Comments & action taken
1	Cars, Add a car	Click Save button	Record saved, blank form redisplayed		
2	Cars, Add a car	Click Cancel button	Form closed, returned to menu form		

## Now try this

- 1 What are the different aspects of a database that you can test?
- 2 What test documentation do you need to complete as you do your testing?
- 3 If you find an error when testing, what should you do?
- 4 What is the overall purpose of testing?