ORACLE
Academy

Database Programming with SQL

19-1

Testing

ORACLE
Academy

Copyright © 2020, Oracle and/or its affiliates. All rights reserved.

Objectives

- This lesson covers the following objectives:
  - Develop and apply a strategy for testing that a database functions as designed

Copyright © 2020, Oracle and/or its affiliates. All rights reserved.

Purpose

- Most people, when they buy a car, wish to know that it is reliable and will not break down
- So the manufacturers will put the car through a number of tests before it is available to be sold
- The same is true of a database; before it is sold to a customer, it is tested to verify that it meets the business requirements

Copyright © 2020, Oracle and/or its affiliates. All rights reserved.

Unit Testing

- If two things are tested at once and the test fails, it is difficult or impossible to work out what has caused the failure
- So it is important to test only one thing at a time
- This is commonly referred to as unit testing

Copyright © 2020, Oracle and/or its affiliates. All rights reserved.

What Could Be Tested?

- When testing a database, a variety of things need to be tested
- For example:
  - Columns should be tested that they contain the correct data type
  - Columns should be tested that they can accommodate the largest amount of data that might be entered
  - Constraints should be checked that they only constrain or limit data that they are supposed to—no more and no less

Copyright © 2020, Oracle and/or its affiliates. All rights reserved.

What Should Be Tested?

- It is frequently unrealistic to test every column and every constraint in every table in a database if it is a large database
- A random spread of tests, that check some columns and some constraints, should be carried out

Copyright © 2020, Oracle and/or its affiliates. All rights reserved.

Designing Tests

- Before you carry out a test, you should have a good idea of what result you expect to see if the database is working as expected
- This should be documented before you carry out the test in a table similar to the one shown:

Test Number	Date	Test Description	Input	Expected Output	Result/ Discrepancy	Action
22	19-Aug-2006	Confirm NOT NULL constraint on JOB_TITLE in JOBS table	INSERT INTO jobs (job_id, job_title, min_salary, max_salary) VALUES (222,NULL,100, 200)	Cannot insert NULL…		

Copyright © 2020, Oracle and/or its affiliates. All rights reserved.

Running Tests

- Once you have designed your test, you can run it and record your results

Test Number	Date	Test Description	Input	Expected Output	Result/ Discrepancy	Action
22	19-Aug-2006	Confirm NOT NULL constraint on JOB_TITLE in JOBS table	INSERT INTO jobs (job_id, job_title, min_salary, max_salary) VALUES (222,NULL,100, 200)	Cannot insert NULL…	Cannot insert NULL…	None

Copyright © 2020, Oracle and/or its affiliates. All rights reserved.

Terminology

- Key terms used in this lesson included:
  - Testing
  - Unit Testing

Copyright © 2020, Oracle and/or its affiliates. All rights reserved.

Summary

- In this lesson, you should have learned how to:
  - Develop and apply a strategy for testing that a database functions as designed

Copyright © 2020, Oracle and/or its affiliates. All rights reserved.

ORACLE
Academy