



## SQL Advanced Techniques

### What's included

Designed to expand beyond the learner's basic knowledge of SQL to leverage the functionality of their Oracle database and develop custom Argos applications. The learner will create custom functions and tables on the database using inserts, deletes and updates. Attendees will work on guided exercises throughout the class to apply the concepts in both SQL Developer and Argos.

### Topics

- Database concepts
- Alias and Data Dictionary
- Field security in Visual Designer
- Call an Oracle function in the select and where clause: upper, to\_date, to\_char, string, sysdate, between
- Call a Banner function in the SELECT and WHERE clause
- Use the Object Source DataBlock to find a function and use it correctly
- Identify when to use a case statement
- Case and decode
  - » Use a case in the SELECT, WHERE and ORDER BY clause
  - » Identify when to use a decode statement

### Course details

**Length:** 3 days

**Database requirements:** Oracle Banner 8 access to creating functions and doing table inserts on own database

**Argos knowledge requirements:** Completed DataBlock Designer training, or have similar familiarity with the tool (No requirement to use the Visual Designer) Ability to create DataBlocks with simple SQL independently.

**SQL knowledge:** Strong novice, with a good understanding of basic SELECT FROM WHERE statement and joins.

**Maximum class size:** 10

### Recommended audience

Employees with a good grounding in how to create basic SQL and are looking to expand their knowledge to optimize SQL and leverage Oracle functionality to create custom functions and tables. This class does not cover SELECT, FROM, WHERE.



- » Use a decode
- » List the differences between a case and a decode
- Use a case/decode order in a drop down box and required expression in the group band
- Use a column number in the order by clause
- Distinct – when to use.
- Max, min, average, count, sum
- Group by: Describe and use
- Create SQL for chart
- Describe and use the pivot function
- Unions
  - » Describe the 4 types of unions: union, union all, intersect and minus
  - » Describe when to use them
  - » Create and use a union operator
- Having
- Datasets in Banded and Extract reports
- Joins: inner, outer right, outer left
  - » Define
  - » Create in the visual designer
  - » Add to data dictionary
  - » Create with free type
- Subqueries
  - » Scalar
  - » Noncorrelated
  - » Correlated
  - » In line view
- Subqueries with in, not in, exist, not exist
- With clause
- Insert, update and delete
  - » How to write in Argos using SQL Variables
  - » How to use as a Banner letter generation replacement option
- SQL Tuning
- SQL Best Practices
- Change table order in Argos
- Explain Plan
- What is PL/SQL
- Creating functions on the database
- Calling PL/SQL functions within Argos
- Create tables and views
- Create cursors in anonymous blocks in Argos SQL variables
- Understand concepts of Oracle collections

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