

- COURSE CODE:** DWHTCA
- COURSE TITLE:** Data Warehousing (DW) Terms, Concepts & Architecture
- PLATFORM:** Multi-platform: DB2 UDB for z/OS & OS/390, DB2 UDB for Linux/UNIX/Windows, Oracle and SQL Server.
- AUDIENCE:** IT developers, database administrators or anyone responsible for a data warehouse or related discipline.
- PREREQUISITES:** At least six (6) months of IT developer and/or technical experience.
- DURATION:** 1 day
- SUMMARY:** This DW terminologies and concepts course addresses the following topics:
- What is data warehousing?
 - What is a data mart?
 - What are the data modelling options?
 - What are the terms and concepts specific to data warehousing and OLAP design?
 - What are some common statistics, analytic and OLAP SQL queries?
- OBJECTIVES:** Upon completion of this course, the participant should be conversant with terms and concepts as these relate to a data warehouse using both star and snowflake schemas. And the delegate should understand the implication of such terms as cubes, dimensions, attributes, joins, hierarchies, measures, etc.

1. DATA WAREHOUSE OVERVIEW

- Overview
- Typical uses
- Architecture

2. DEFINITION, ARCHITECTURE AND CONCEPTS

- Enterprise Data Model
- Operational vs. historical data
- Extract Transform Load (ETL)
- Metadata
- Data warehouse vs. data mart
- Data mining
- OLAP vs. OLTP
- Logical design vs. physical design
- Normalization vs. denormalization
- Referential constraints

3. DATA MODELLING OPTIONS & OVERVIEW

- Entity model
- Star schema
- Snowflake schema

4. MULTIDIMENSIONAL DESIGN

- Overview
- Metadata properties
- Star schema
- Snowflake schema
- Cube
- Measures and facts
- Attributes and relationships
- Dimension
- Hierarchies
- Joins
- Summary tables and aggregation (i.e., materialized views)

5. IMPLEMENTATION OPTIONS

- Overview
- Top down
- Bottom up
- Sizing
- Cleaning
- Populating the data warehouse

6. PHYSICAL DESIGN CONSIDERATIONS

- Denormalization
- Index choices
- Data placement
- Free space
- Summary tables
- Data compression

7. DATA WAREHOUSE PERFORMANCE DESIGN

- Large concurrent reports
- Short running queries
- Long running queries
- On-line utilities
- Partitioning and parallelism (e.g., LOADs)
- Table spaces and buffer pools

8. INTRODUCTION TO STATISTICS, ANALYTIC AND OLAP SQL QUERIES

- AVG
- CORRELATION
- COUNT
- COUNT_BIG
- CONVARIANCE
- MAX
- RAND
- SUM
- VARIANCE
- Regression function
- GROUPING, ROLLUP & CUBE

9. INTRODUCTION TO DW GUI TOOLS