

DB206 DB2 Database & Application Performance

- Course description** This course focuses on the development of a logical data model into an efficient DB2 physical design, and in doing so, provides a formal physical design methodology in order to optimise that process. An extensive case study is progressed throughout all stages of the course, leading to a final optimised physical database design. This case study includes sample documentation tools for future use.
- Who Should Attend** Database/System designers, database administrators or application developers who intend developing, maintaining or tuning DB2 physical database designs.
- Pre-Requisites** The introduction to DB2 course (DB201) or equivalent is assumed. An understanding of some logical database design methodology will be of great benefit.
- Duration** 3 Days

DB2 Review

DB2 Objects
Databases
Tablespaces
Storage Groups
Tables / Views
Indexes
Foreign / Primary Keys

Basic Translation Rules

Notation
1st Cut Translation Rules

Further Column Design

DB2 Data Types
Data Type Selection
Usage Of Nulls

Tablespace Sizing

Page Structure
Free Space
Determination
Cardinality
Sizing Algorithms

Index Design

Index Structure
Index Scan(s)
Clustering
Partitioning
Index Cardinality
Column Sequence
Freespace
Determination
Sizing Algorithms

Referential Integrity

R.I Concepts
Implementing R.I Structures
R.I Restrictions
R.I Utilities
DBMS vs Non-DBMS R.I

Major Transaction Performance & Estimation

Local Response Times
VQUBE
Major Transaction Criteria
Performance Objectives
Process Cost
Estimates
Estimation
Methodology
Performance Solutions

Concurrency & Locking

Locking Overview
Lock Attributes
Isolation Levels
Lock Compatibility
Lock Size
Determination
Lock Escalation

Further Table Design

Table Denormalization
Partitioning
Code Tables
Next Number Tables
ID Columns

Further Tablespace Design

Tablespace Types
Tables per Tablespace
DASD Allocation
Lock-size Specification
Erase / Close Options

Specific Design Scenarios

Common Problems
Empty Tables
'Hot-Spots'
Aggregated Tables
Code / Next Number Tables

DB2 Utilities

Design Issues
Load
Reorg
Copy / Recover
Check
Runstats

Version 6 Enhancements

Utility Enhancements
New Page Sizes
Large Tablespaces
Alter Column
SQL Enhancements