

- COURSE CODE:** DZOLPT
- COURSE TITLE:** DB2 Large Partitioned Table Space Design & Performance
- AUDIENCE:** Application Developers, Database Administrators, Data Warehouse Specialists and Capacity Planners.
- PREREQUISITES:** A working knowledge of DB2 objects and architecture.
- DURATION:** 1 day
- SUMMARY:** This course places especial emphasis on the design, implementation and performance of large tables; our definition of a large table is one of 500MG or greater. However, the course discusses why smaller tables should be partitioned if they are to be joined with large tables. As parallelism is a complementary functions, it is discussed as an integral aspect of partitioning.
- OBJECTIVES:** Upon completion of this presentation, the participant should be able to design partition tables and related indexes to optimise performance. Additionally, the delegate should be able to use the DB2 EXPLAIN and accounting reports to determine if parallelism goals are being met.

## 1. TABLE DESIGN CONSIDERATIONS

- Size considerations
- Normalisation/denormalisation
- What is a large table?
- Application processes in relation to table design
- Parallelism

## 2. SQL QUERY ASSESSMENT

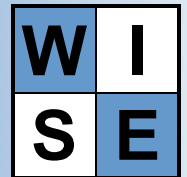
- I/O intensive?
- CP intensive?
- Limited partition scans

## 3. PARTITION TABLE -- LOGICAL DESIGN

- When to partition
- Some typical applications
- Advantages/disadvantages
- How to size partition
- How to choose partitioning key
- How to determine number of partitions
- How to decide locking and concurrency
- How to choose limit key
- Partitioning alternatives (e.g., Linear, single partition, ascending sequence, etc.)
- Free space considerations
- How to design for growth
- Backup/recovery

## 4. PARTITION TABLE -- PHYSICAL DESIGN

- CREATE TABLESPACE (per partitioning)  
NUMPARTS...  
PARTn USING STOGROUP...  
MEMBER CLUSTER...  
LOCKPART
- CREATE INDEX (per partitioning)  
CLUSTER  
PARTn VALUES...
- ALTER INDEX...(limitkey)  
PARTn...
- BIND/REBIND (DEGREE = )



## 5. PARALLELISM

- Sequential processing
- Parallel I/O
- CP parallelism
- Sysplex parallelism
- Degree of parallelism
- CP and I/O configurations
- How to encourage parallelism

## 6. PLAN\_TABLE

- PARALLELISM\_MODE
- ACCESS\_DEGREE
- JOIN\_DEGREE
- ACCESS\_PGROUP\_ID
- JOIN\_PGROUP\_ID
- SORTN\_PGROUP\_ID
- SORTC\_PGROUP\_ID

## 7. MONITORING PARALLELISM

- BIND/REBIND time
- Execution time
- -DISPLAY BUFFERPOOL
- -DISPLAY THREAD
- Accounting trace

## 8. UTILITY ELAPSED TIME & PARALLELISM

- LOAD
- RUNSTATS
- RECOVER
- COPY
- REORG