

- COURSE CODE:** DZOLC3
- COURSE TITLE:** DB2 Locking & Concurrency in a Data Sharing Environment
- ENVIRONMENT:** Data sharing
- AUDIENCE:** System Administrators, Database Administrators and Capacity Planners.
- PREREQUISITES:** A working knowledge of data sharing in a z/OS environment.
- DURATION:** 2 days
- SUMMARY:** The, mainly, locking performance and tuning course begins by recounting:
- What is a sysplex?
 - What is DB2 data sharing?
- Approximately 70-percent of the course focuses on DB2 locking and performance in a data sharing environment. Performance tools such as the following are used:
- -DISPLAY GROUPBUFFERPOOL
 - -DISPLAY GROUP
 - Statistics reports
 - Accounting reports
 - And the like.
- OBJECTIVES:** Upon completion of this presentation, the participant should be able to understand:
- The DB2 data sharing environment
 - DB2 locking in a data sharing environment
 - How to use performance tools such as a DB2 PM and -DISPLAY commands to monitor and tune locking in a DB2 data sharing environment.

1. SYSPLEX TERMS & CONCEPTS

- What is a sysplex?
- Advantages of a sysplex
- Uni-processor vs. multiprocessors
- Base vs. parallel sysplex

2. INTRODUCTION TO PARALLEL SYSPLEX

- Single system image concepts
- Cross-system-coupling (XCF) concepts
- Sysplex communication concepts
- Group-and-member concepts
- The coupling facility's function
- Coupling facility components
- Coupling facility exploiters
- Coupling facility data set (CDS)
- The sysplex timer's function
- The sysplex consoles

3. REVIEW OF DATA SHARING TERMS & CONCEPTS

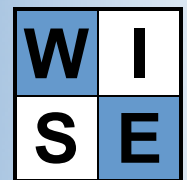
- What is data sharing?
- Reasons to use data sharing
- How DB2 uses the coupling facility
- How DB2 uses the Group Buffer Pool
- What is cross-invalidation
- Cross-invalidation & cache coherency
- GETPAGE logic
- Group Buffer Pool thresholds management

4. SUMMARY OF LOCKING IN A NON-DATA SHARING ENVIRONMENT

- Transaction locks
- Latches
- Claims/drains
- Lock duration
- Lock modes
- Lockable objects
- IRLM's role
- BIND/REBIND option
- ISOLATION levels

5. GLOBAL LOCKING

- Logical locks
- Physical locks



6. LOCK STRUCTURE

- Lock table
- Modified Resource List (MRL)
- Lock structure size

7. CONTENTION

- False contention
- XES (Cross-system Extended Services)
- Real Contention
- Resolving contentions
- Suspensions

8. LOCK DURATION

9. LOCK AVOIDANCE

- Defined
- Recommendations

10. GLOBAL LOCK FLOWS

- No inter-DB2 read-write interest
- Inter-DB2 read-write interest
- Unlock request

11. TUNING OBJECTS

- Lock structure
- Group Buffer Pool
- Shared Communication Area (SCA)

12. TUNING TOOLS AND REPORTS

- -DISPLAY command
- Statistics reports
- Accounting reports