DB2 UDB for z/OS:
DB2 Locking & Concurrency for Developers

WISE LTD.

COURSE CODE:	DZOLC1
COURSE TITLE:	DB2 Locking & Concurrency for Developers
ENVIRONMENT:	Non-data sharing
AUDIENCE:	Application Developers (Designers and Programmers), Database Administrators, System Administrators and Capacity Planners.
PREREQUISITES:	At least one (1) year of application development experience.
DURATION:	1 day
SUMMARY:	Designed especially for Application Developers, this presentation's main focus is on how to design application processes that maximise concurrency while minimising locking overhead or CPU cycles in a non-data sharing environment.
OBJECTIVES:	Upon completion of this presentation, the delegate should be able to make application-based locking choices that maximise currency and control deadlock/timeouts and 'hot spots'.

DB2 Locking & Concurrency for Developers
Core Topics

WISE LTD.

1. **INTRODUCTION**
   - Locking Concepts
   - Why locks are necessary
   - Unit-of-work Concepts
   - Two-phase COMMIT concepts
   - Transaction locks
   - Latches
   - Claims/drains

2. **LOCKING EFFECTS**
   - Suspensions
   - Timeouts
   - Deadlocks

3. **APPLICATION DESIGN, GENERAL**
   - Data access patterns
   - Commit frequency
   - Retry logic
   - When to open/close cursors
   - BIND: ACQUIRE/RELEASE
   - BIND: CURRENTDATA
   - BIND: ISOLATION options
   - Lock escalation
   - Lock avoidance
   - How to monitor locks

4. **ONLINE (e.g., CICS)**
   - How to control ‘hot spots’
   - Row vs. Page locks
   - Sequential number generation
   - High volume inserts
   - How to control 911s and 913s

5. **BATCH DESIGN**
   - COMMIT frequency
   - WITH HOLD
   - FOR UPDATE

6. **HOW TO MONITOR LOCKS**
   - EXPLAIN
   - Traces (accounting reports)
   - -DISPLAY DATABASE...

7. **SOME USEFUL LOCKING DESIGN GUIDELINES**