Db2 for LUW System Performance & Tuning

Course Summary

Description

This course covers all aspects of Db2 performance & tuning. Over four days, we cover system monitoring and tuning, buffer pool and memory allocation, keys to indexing, table design and monitor application performance. This class uses hands-on and paper exercises to reinforce the topics covered. This class is current to Db2 11.1 and new fix packs.

Topics

- Object Management
- Key System Parameters
- Buffer Pool Optimization Techniques
- Database and Db2 System monitoring
- Table Space Design
- Locking and concurrency
- Index Design
- Access Path Selection
- Evaluating SQL Performance

Audience

This course is designed for Database administrators, systems personnel and senior development staff.

Prerequisites

This is not an introductory Db2 class. Students should be senior enough to be Db2 DBAs or senior application staff, or have experience with another DBMS.

Duration

Four Days

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Course Outline

I. Object Management
   A. Db2 Architecture Types of objects and their relationships
   B. Table types

II. Key System Parameters
    A. Heaps, Servers, and Thresholds
    B. Database config
    C. Database manager config
    D. Registry
    E. Workload Manager

III. Buffer Pool Optimization Techniques
     A. Types of physical I/O
     B. A buffer pool tuning methodology
     C. Number and size of buffer pools
     D. Object placement in BPs
     E. Tuning sorts

IV. Database and Db2 System monitoring
    A. DB and DBM snapshot monitors
    B. Event Monitors
    C. Techniques to save and develop performance history
    D. Building a performance database

V. Table Space Design
    A. DMS, SMS & Automatic storage
    B. Table design
    C. Data compression
    D. RUNSTATS
    E. Reorganizing tables and indexes
    F. Utility performance

VI. Locking and concurrency
    A. Understanding locking
    B. Lock choices in various environments
    C. Monitoring locks

VII. Index Design
     A. Index structure and MDC indexes
     B. When to use indexes
     C. Index redesign

VIII. Access Path Selection
      A. Types of access paths
      B. Range delimiting and sargable predicates
      C. Factors used in access path selection
      D. Db2 catalog statistics used
      E. Join methods and subselects

IX. Evaluating SQL Performance
    A. Explain tables, db2expln, db2exfmt
    B. Monitoring using Db2 catalog information
    C. Design Advisor

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