

# DB2 12 FOR Z/OS SQL PERFORMANCE AND TUNING

Course Code: 100302

Learn how to improve the performance of existing SQL.

Learn how to prevent SQL performance problems and how to improve the performance of existing SQL.

## What You'll Learn

After completing this course, you will be able to:

- Understand and design better indexes
- Determine how to work with the optimizer (avoid pitfalls, provide guidance)
- Optimize multi-table access
- Work with subqueries
- Avoid locking problems
- Use accounting traces and other tools to locate performance problems in existing SQL

## Prerequisites

Familiarity with SQL, Db2 12 for z/OS, and application programming

# DB2 12 FOR Z/OS SQL PERFORMANCE AND TUNING

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CLASSROOM LIVE

\$3,705 CAD

3 Day

## Classroom Live Outline

### Introduction to SQL performance and tuning

- Performance issues
- Simple example
- Visualizing the problem
- Summary

### Performance analysis tools

- Components of response time
- Time estimates with VQUBE3
- SQL EXPLAIN
- The accounting trace
- The bubble chart
- Performance thresholds

### Index basics

- Indexes
- Index structure
- Estimating index I/Os
- Clustering index
- Index page splits

### Access paths

- Classification
- Matching versus Screening
- Variations
- Hash access

- Prefetch
- Caveat

#### More on indexes

- Include index
- Index on expression
- Random index
- Partitioned and partitioning, NPSI and DPSI
- Page range screening
- Features and limitations

#### Tuning methodology and index cost

- Methodology
- Index cost: Disk space
- Index cost: Maintenance
- Utilities and indexes
- Modifying and creating indexes
- Avoiding sorts

#### Index design

- Approach
- Designing indexes

#### Advanced access paths

- Prefetch
- List prefetch
- Multiple index access
- Runtime adaptive index

#### Multiple table access

- Join methods
- Join types
- Designing indexes for joins
- Predicting table order

#### Subqueries

- Correlated subqueries
- Non-correlated subqueries
- ORDER BY and FETCH FIRST with subqueries

- Global query optimization
- Virtual tables
- Explain for subqueries

### Set operations

- UNION, EXCEPT, and INTERSECT
- Rules
- More about the set operators
- UNION ALL performance improvements

### Table design

- Number of tables
- Clustering sequence
- Denormalization
- Materialized query tables (MQTs)
- Temporal tables
- Archive enabled tables

### Working with the optimizer

- Indexable versus non-indexable predicates
- Boolean versus non-Boolean predicates
- Stage 1 versus stage 2
- Filter factors
- Helping the optimizer
- Pagination

### Locking issues

- The ACID test
- Reasons for serialization
- Serialization mechanisms
- Transaction locking
- Lock promotion, escalation, and avoidance

### More locking issues

- Skip locked data
- Currently committed data
- Optimistic locking
- Hot spots
- Application design
- Analyzing lock waits

## Massive batch

- Batch performance issues
- Buffer pool operations
- Improving performance
- Benefit analysis
- Massive deletes

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VIRTUAL CLASSROOM LIVE

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May 4 - 6, 2026 | 9:30 AM - 5:30 PM EDT

Jun 22 - 24, 2026 | 9:30 AM - 5:30 PM EDT

Oct 13 - 15, 2026 | 9:30 AM - 5:30 PM EST



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PRIVATE GROUP TRAINING

3 Day

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