



Db2 12 for z/OS SQL Performance and Tuning

Varighed: 3 Days Kursus Kode: CV964G

Beskrivelse:

This course is designed to teach the students how to prevent SQL performance problems and how to improve the performance of existing SQL.

Målgruppe:

This course is for Db2 12 for z/OS application developers, Db2 12 for z/OS DBAs, and anyone else with a responsibility for SQL performance and tuning in a Db2 12 for z/OS environment.

Agenda:

- After completing this course, students 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 and more
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Forudsætninger:

- Familiarity with SQL
 - Familiarity with Db2 12 for z/OS
 - Familiarity with Db2 12 for z/OS application programming
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Indhold:

- 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 (optional)
- UNION, EXCEPT, and INTERSECT
- Rules
- More about the set operators
- UNION ALL performance improvements
- Table design (optional)
- 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 (optional)
- Skip locked data
- Currently committed data
- Optimistic locking
- Hot spots
- Application design
- Analyzing lock waits Massive batch (optional)
- Batch performance issues
- Buffer pool operations
- Improving performance
- Benefit analysis
- Massive deletes

Flere Informationer:

For yderligere informationer eller booking af kursus, kontakt os på tlf.nr.: 44 88 18 00

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