Course : IBM Db2 12 for z/OS SQL Performance and Tuning

prevent SQL performance problems

Practical course - 3d - 21h00 - Ref. IBZ
Price : 2730 € E.T.

Nouvelle édition

This course will give you the knowledge you need to prevent SQL performance problems and optimize the performance of existing SQL queries.

Teaching objectives

At the end of the training, the participant will be able to:

- Understanding and designing better indexes
- Determine how to work with the optimizer (avoid pitfalls, provide tips)
- Optimizing multi-table access
- Working with subqueries
- Avoid locking problems
- Use accounting trails and other tools to locate performance problems in existing SQL

Intended audience

Développeurs d'applications Db2 12 z/OS, administrateurs de bases de données Db2 12 for z/OS, toute personne responsable des performances et du réglage SQL dans un environnement Db2 12 for z/OS.

Prerequisites

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

Certification

Official course without certification.
Comment passer votre examen ?

Practical details

Teaching methods

Training in French. Official course material in digital format and in English. Good understanding of written English.

Course schedule

(1) Introduction to SQL performance and tuning

- Performance problems.
- A simple example.
- Visualize the problem.
- Summary.

(2) Performance analysis tools

- Response time components.
- Time estimates with VQUBE3.
- SQL EXPLAIN.
- Accounting trace.
- Bubble chart.
- Performance thresholds.

(3) Index basics

- Indexes.
- Index structure.
- I/O index estimation.
- Clustering index.
- Index page splits.

(4) Access roads

- Classification.
- Matching versus screening.
- Variations.
- Hash access.
- Prior research.

(5) More about indexes

- Include an index.
- Index on an expression.
- Random index.
- Partitioned and partitioning.
- NPSI and DPSI.
- Page range selection.
- Features and limitations.

6   Setting methodology and index cost

- Methodology.
- Index cost: disk space.
- Cost of index: maintenance.
- Utilities and index.
- Index creation and modification.
- Avoid sorting.

7   Index design

- Approach.
- Index design.

8   Advanced access paths

- Preloading.
- Picking by list.
- Access to multiple indexes.
- Adaptive execution index.

9   Access to multiple tables

- Joining methods.
- Joint types.
- Conception d'index pour les jointures.
- Table order prediction.

10   Subqueries

- Correlated sub-surveys.
- Uncorrelated sub-surveys.
- Order by and Fetch First with subqueries.
- Global query optimization.
- Virtual tables.
- Explanation of subqueries

11   Define operations (optional)

- Union, Except and Intersect.
- Rules.
- Find out more about overall operators.
- Improving Union All's performance.

12   Table design (optional)

- Clustering sequence.
- Time tables.
- Denormalization.
- Archived tables.
- Materialized Query Tables (MQT).

(13) Working with the optimizer

- Indexable and non-indexable predicates.
- Boolean and non-Boolean predicates.
- Step 1 vs. step 2.
- Filter factors.
- Help the optimizer.
- Pagination.

(14) Locking problems

- The ACID test.
- Reasons for serialization.
- Serialization mechanisms.
- Transaction locking.

(15) Other locking problems (optional)

- Ignore locked data.
- Data currently validated.
- Optimized locking.
- Application design.
- Analysis of locking expectations.

(16) Solid lot (optional)

- Batch performance problems.
- Buffer pool operations.
- Improved performance.
- Benefits analysis.
- Massive cuts.

Dates and locations

REMOTE CLASS
2026 : 24 Mar., 2 June, 15 Sep., 17 Nov.

PARIS LA DÉFENSE
2026 : 24 Mar., 2 June, 15 Sep., 17 Nov.