

DB2 9 for z/OS Application Performance and Tuning (CV96GB)

Format	Classroom
Duration	5.0 Day(s)
Description	<p>This course is designed to teach you how to prevent application performance problems and to improve the performance of existing applications.</p> <p>CV96 was previously known as CF96. CV96 is an updated and enhanced version of CF96.</p>
Audience	<p>Whilst CV96 is written for a DB2 9 for z/OS audience, it is also suitable for students working with an earlier release of DB2 for z/OS.</p> <ul style="list-style-type: none">- DB2 for z/OS application developers- DB2 for z/OS DBAs
Prerequisites	Familiarity with DB2 application programming
Objectives	<p>After completing this course, you should be able to:</p> <ul style="list-style-type: none">- Design better indexes- Determine how to live with the optimizer (avoid pitfalls, help when necessary)- Avoid locking problems- Use accounting traces to find significant performance problems in an operational application
Contents	<p>Overview of application performance issues and performance management methods</p> <p>Towards better indexes</p> <ul style="list-style-type: none">- From data model to database version 0- Detecting inadequate indexing with VQUBE- Three-star index: deriving the best possible index for a SELECT- Estimating the cost of an index- Restrictions and limitations <p>Towards better tables</p> <ul style="list-style-type: none">- Clustering- Denormalization <p>Learning to live with the optimizer</p> <ul style="list-style-type: none">- Predicting index matching and screening- Indexable predicates- Boolean term predicates- REOPT(ALWAYS) and the alternatives- Joins- Subqueries- Union, Except, Intersect <p>Unpredictable transactions</p> <ul style="list-style-type: none">- Unpredictable predicates- Many criteria, few provided- Star join- Materialized query tables (MQTs) <p>Massive batch</p> <ul style="list-style-type: none">- Random disk I/O- Estimating and minimizing disk I/O time- Manual and automatic parallelism- Massive deletes <p>CPU time estimates</p> <ul style="list-style-type: none">- Worksheet for rough CPU time estimates

Preventing long lock waits

- Lock life cycle
- Recommendations

Tuning operational applications

- Analyzing slow transactions with accounting traces
- Detecting inadequate indexing
- Detecting optimizer problems
- Detecting long lock waits
- Detecting tables which should be denormalized

Optimizer Service Center (OSC) and Optimizer Expert (OE)

**Practical
work**

- 8 real-world, desk-checking exercises using the VQUBE (Very Quick Upper Bound Estimate) technique

- 5 hands-on machine exercises using DB2 9 for z/OS