

## SQL Server Index Internals Query - Plan - Reuse

This seminar will cover two of the most important issues in maximizing the performance potential of your SQL Server applications: index usage and plan cache management.

Creating good indexes can increase a query's performance by orders of magnitude, so the first half of this seminar will describe how SQL Server organizes indexes internally so you can understand which indexes work better for which queries and why SQL Server chooses the plans that it does.

In the second half of the seminar, we'll look at when and how SQL Server decides to reuse an existing plan, and when it will decide to recompile and come up with a new plan. We'll see that reuse of plans can sometimes be a good thing, but sometimes, because of the indexes used in a plan, the reuse of the same plan with different parameters can drastically hurt performance.



**Author & Facilitator:** Author of the best selling books Inside SQL Server 2000, Inside SQL Server 2005 - The Storage Engine, Inside SQL Server 2005 - Query Tuning and Optimization and SQL Server 2008 Internals. Kalen has been a columnist for SQL Server Magazine since the first issue as well as writing for MSDN and TechNet magazines. Kalen's SQL Server seminars have been delivered internally for Microsoft events and as recommended training for premier Microsoft partners around the world.

## Part 1: Index Structures and Index Tuning

- Heaps and B-Trees
- Clustered indexes
- Nonclustered indexes
- Index internals
- Covering indexes and included columns
- Index metadata
- Fragmentation
- · Rebuilding indexes
- Filtered indexes

## Part 2: Plan Caching and Recompilation

- Query processing overview
- Plan management and reuse
- Causes of recompilation
- Forcing recompilation
- Optimization and compilation hints
- Optimizer metadata



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Call 1300 927 394 to register for this course today as places are strictly limited.