Database performance tuning and query optimization

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Abstract

Today, IT professionals are challenged with the task of ongoing improvements to achieve goals of businesses. Unfortunately, some factor/Resources, skill environment does not dynamically grow as fast as business needs. That sequence of events creates major obstacles for DB infrastructure, deployment, administration and maintenance. This paper discusses the performance issues, different bottlenecks such as CPU bottlenecks, Memory structures, Input output capacity issue, Database Design issues and Indexing issues. Also this paper address Tuning stages and how SQL queries can be optimized for better performance. In this paper we are focusing on query tuning tips & tricks which can be applied to gain immediate performance gain by creating Query Execution Flow Chart. We demonstrate the application of this technique in an Employee Biometric Attendance Management System.