

# Understanding the Importance of Auto Create Statistics

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## Understanding the Importance of Auto Create Statistics in SQL Server

Auto create statistics is a critical setting in SQL Server that greatly influences the efficiency and performance of your queries. This feature, when enabled, empowers SQL Server to automatically generate statistics on columns used in predicates, such as in a WHERE clause. These statistics are vital for the Query Optimizer to formulate the most efficient execution plan for queries.

### Key Benefits of Auto Create Statistics

1. **Improved Query Performance:** Statistics are essential for providing information about the data distribution within your tables. The Query Optimizer utilizes this data to estimate the number of rows affected by query operations. With precise statistics, it can select the best query plan, opting for the most efficient indexes and operations, which accelerates the query execution process.
2. **Automatic Maintenance:** Without auto create statistics, the onus of manually creating statistics for each pertinent column falls on the database administrators. This feature ensures that statistics are automatically generated and updated as needed, eliminating manual overhead and reducing the chance of human error.
3. **Adaptability to Data Changes:** As your database evolves with added, updated, or deleted data, auto create statistics helps SQL Server adapt by automatically updating statistics to reflect new data patterns. This dynamic adjustment helps maintain optimal query performance over time.
4. **Reduced Risk of Suboptimal Execution Plans:** Outdated or missing statistics can lead the Query Optimizer to make inefficient decisions, such as opting for a full table scan when an index seek would be more appropriate. Enabling auto create statistics minimizes the likelihood of these suboptimal plans.
5. **Simplicity and Focus:** With this setting enabled, database administrators and developers can concentrate on other performance tuning and database design aspects, trusting that SQL Server is efficiently managing this aspect of query optimization.

### Considerations and Further Learning

While auto create statistics generally enhances performance, it's important to consider the overall context of your database environment. In very large databases, for instance, the creation of statistics might temporarily impact performance. In such cases, a more controlled approach might be necessary. Despite this, for most environments, the benefits of having auto create statistics enabled far outweigh the potential downsides.

To gain a deeper understanding of SQL Server performance and to enhance your skills, consider enrolling in [Stedman's SQL School classes](#). Moreover, leverage tools like Database Health Monitor for insights into server health, performance, backups, disk space, and query efficiency. This will provide you with a comprehensive view of your SQL Server's performance and help you make informed decisions.

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