SQL SERVER GUIDELINES-SQLINFO

A Quick reference for the Best Practices

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About this Document:

SQL Server Guidelines document primarily focuses to help the Database developers Programmers/DBA's to implement the database Best Practices. A SQL Server Best practice is a very huge topic, so to cover the entire topic is difficult. I tried to cover major best practices in database development.

        Here I am trying to categorize best practices into two one is Database Design and other is T-SQL Development.

Database Design:

Database Design – Important Recommendations:

Database design is the critical part of any application. Developing software without a proper database design is similar to building a Multi-storied building with no proper foundation. Multi-storied building will collapse once it is occupied or some floors are added to the existing building. The same scenario will happen here also. So database design need to be done by database experts who have relevant experience desired database server. This is because Oracle and MS SQL Server has different architectures internally. Here I am discussing about OLTP database.

Database Design – Best Practices:

- Database should be normalized to minimum 3rd level normal form. Please do de-normalization if required.

- Choose Right Data types for the columns.

- Enforce foreign key constraints.

- Each table should at least contain a clustered key.

Database Design - Naming Conventions:

- **Tables/Procedures/views:** Use Pascal Notations for SQL Server objects like Tables, Procedures and views. For e.g.: EmployeeDetails.

- **Primary Key** : Use Pk_<table_name> for Primary key. Eg: PK_ EmployeeDetails.

- **Non Clustered Index:** Create IX_<table_name>_<column1>_...<column**N**>, where column1 to column N are columns used in the index.

- **Default:** Example: DF_<table_name>_<column_name>

T-SQL Development:

T-SQL Development – Important Recommendations:

IF you write bad SQL Code, be ready to face the performance issues. So SQL Code should be written by dedicated sql programmers. Good experienced sql developers can write very good sql code, which will definitely improve the performance of the database. So write your SQL code with SQL Experts.

T-SQL Development – Best Practices:

- Don't use *select * from tablename* instead write selected column names.

    Example: Select col1, col2 from tablename

- Use comments for each block of code.

- Don't use SP_ while naming your Procedure (Learn From here)

- Use **CTE** Common table Expression instead of temporary tables. CTE scope is limited to the next statement in the query. (Learn From here)

- Use **SET NOCOUNT ON** in the procedures. This will really improve the performance.

- Avoid using **cursors** in Procedures, rather use case statement or while loop.

- Don't use **Recompile** option in stored procedure.

- While working with complicated logics use parenthesis to improve the readability.

- Try to avoid cross joins.

- Use **IF Exists** rather than **count (*) for** data existence in table.

- Don't query data from Application side, instead use stored procedures.

- Don't use store Images in the database, rather use File streams.

- Try to avoid dynamic SQL, since it is slower than Static SQL.

- Always use column names in insert statement.

- Use **Union** only if required otherwise use **Union all.**

- Use **Except** and **Not Exists** Instead of **Left join** and **Not in**

- Use sp_executesql instead of Exec(@str) for the execution of dynamic sql.

- Design Indexes effectively and make sure that created indexes are used by the queries. Don't make too much indexes in a table.

- Use Merge operator for multiple DML operations Insert,update,Delete. (Learn From here)

- Use policy management to enforce for configuring and managing SQL Server across the organization.

- Use Try Catch for Error handling.

T-SQL Development – Naming Conventions and Format

- T-SQL Code has a format with indents. You can use the below website to format your queries.

    http://www.dpriver.com/pp/sqlformat.htm

- Avoid using spaces in the sql server objects

        Example: [EmployeeDetails]

      Don't use: [Employee Details]

- Use usp_ prefix for stored procedures.

- Specify the schema name in table names. Ex: *Select * from dbo.Employeedetails.*

MY SINCERE THANKS....!

Ashish joshi:

Ashish joshi is senior project manager in Orion Systems Integrators. Recently he asked me to prepare a document regarding SQL Server Guidelines for the entire organization. I thank Ashish for giving me an opportunity for writing this wonderful topic. I hope this will meet the current organization requirements.

Ajit Smile:

Ajit smile is leading our project. I thank Ajit for giving me the support and allocate time for preparing the document under the tight Project deadlines. I really thank Ajit for all the support.

Thank you....!