SNS COLLEGE OF TECHNOLOGY

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Department of MCA

DBMS Schema Change Statements in SQL

Course Name : 23CAT603 - DATA BASE MANAGEMENT SYSTEM

Class : I Year / I Semester

Unit IV – Schema Change Statements in SQL

Schema Change Statements in SQL

Create, Alter and Drop schema in MS SQL Server

Schema management in MS SQL Server involves **creating, altering, and dropping database schema** elements such as tables, views, stored procedures, and indexes. It ensures that the database structure is optimized for data storage and retrieval.

In this article, we will be discussing schema and **how to create, alter, and drop the schema.**

What is Schema?

A **schema** is usually a collection of objects. The objects can be tables, triggers, views, procedures, etc. A database may have one or more schemas. SQL Server provides a feature of pre-defined schemas. The names of pre-defined schemas are very similar to those of built-in schemas. A user can create a schema using the syntax mentioned below.

```
CREATE SCHEMA [schema_name] [AUTHORIZATION owner_name]
[DEFAULT CHARACTER SET char_set_name]
[PATH schema_name[, ...]]
[ ANSI CREATE statements [...] ]
[ ANSI GRANT statements [...] ];
```

Schema Change Statements in SQL

Example

Create Schema in MS SQL Server

To create a schema in MS SQL Server, use the **CREATE SCHEMA statement**. This statement allows you to create a new schema in the current database and define its elements, such as tables, views, and permissions.

Syntax

```
CREATE schema schema_name
[AUTHORIZATION owner_name];
```

schema_name: The name of the new schema.

AUTHORIZATION owner_name: Assigns ownership of the schema to the specified user. The owner has control over the resources and can provide security for the schema.

For better understanding, an example is mentioned below –

Example: Create a schema in MS SQL Server

Query:

```
CREATE SCHEMA student
GO
```

Output:

The GO command executes the statement and a new schema is created

Schema Change Statements in SQL

Example: Alter schema in MS SQL Server

A table named university has two schemas:

```
'student' and 'lecturer'
```

If suppose, the marks of the students has to be transferred to the lecturer schema, the query is as follows.

Query:

```
ALTER SCHEMA lecturer TRANSFER student.marks;
```

This way, the marks are transferred to the lecturer schema.

Drop Schema in MS SQL Server

To drop a schema in MS SQL Server, use the DROP SCHEMA statement.

It completely deletes the schema and its related objects including its definition. Drop schema is used when the schema and its related objects has to be completely banished from the database including its definition.

Syntax

```
DROP SCHEMA [IF EXISTS] schema_name
```

IF EXISTS (optional): If a user wants to check whether a schema actually exists in database or not.

schema_name: The name of the schema in the database.

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Example: Drop schema in MS SQL Server
To drop the student schema from the database, use the following query.

Query:
```
DROP SCHEMA [IF EXISTS] student
```

- **Student** is a schema that is actually present in the university database.
- The schema is dropped from the database along with its definition.

This **removes the student** schema from the database along with its definition.

Schemas in MS SQL Server are crucial for organizing and managing database objects within a logical framework. By creating schemas, you can segregate different segments of your database for better clarity and security. Altering schemas allows you to modify their ownership, ensuring the right permissions and controls.
Dropping schemas removes them from the database, but this should be done with caution to avoid accidental loss of important objects. Proper use of schemas enhances database management, improves security, and provides a structured approach to handling database objects.

SQL Schema

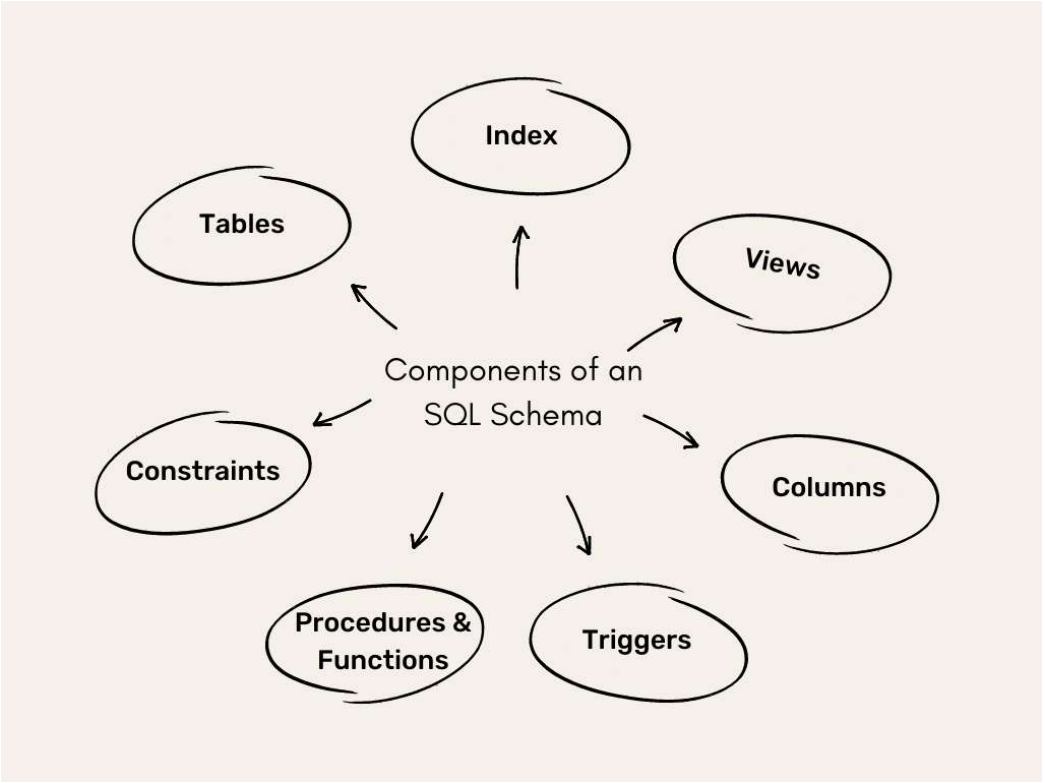
A SQL schema is a logical representation of a database, which means it is a logical container that keeps database objects such as tables, triggers, views, indexes, constraints, stored procedures, etc. It provides a way to arrange the database objects on the basis of their relationships and objectives.

Introduction:

In SQL, a schema is a collection of database objects such as tables, stored procedures, indexes, views, and other entities that define the structure and organization of a database. It is essential to organize data for reliability, ease of use, and efficiency. SQL schema is the fundamental concept in database management that helps organize data objects and makes the data easier to manage and maintain.

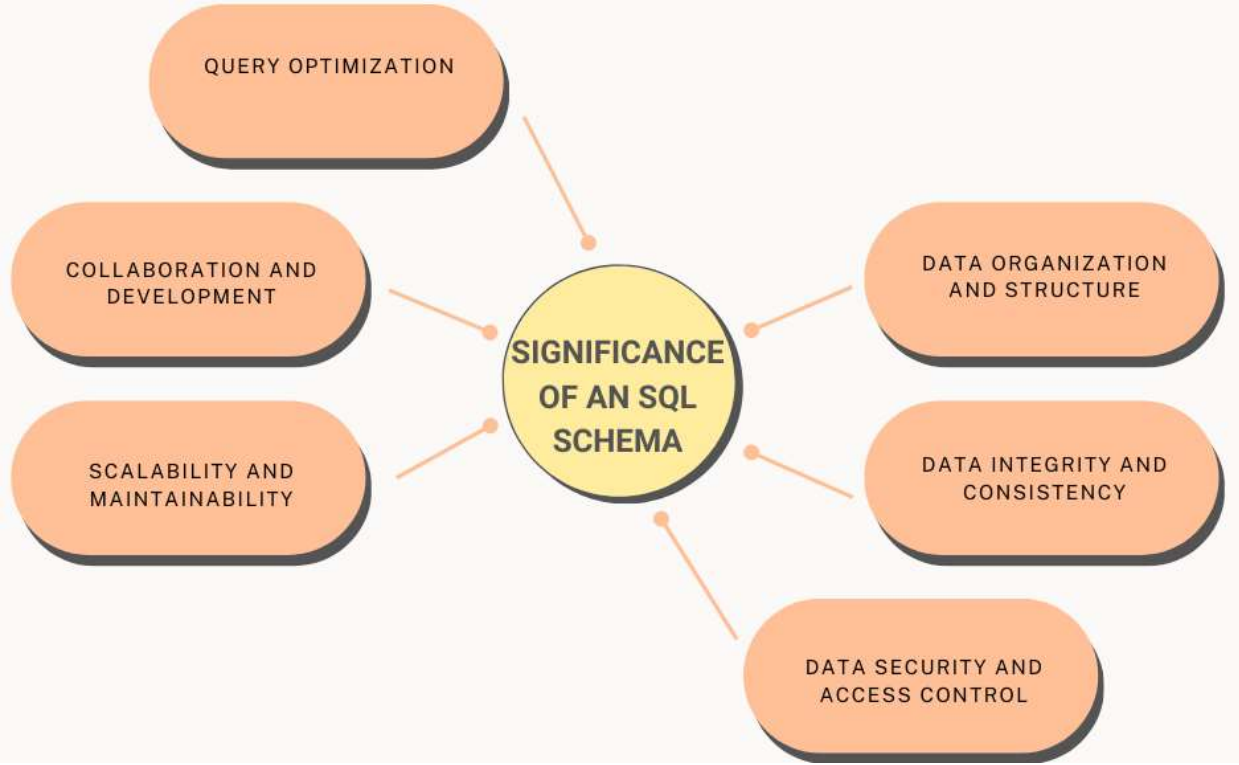
SQL Schema

Components of an SQL Schema



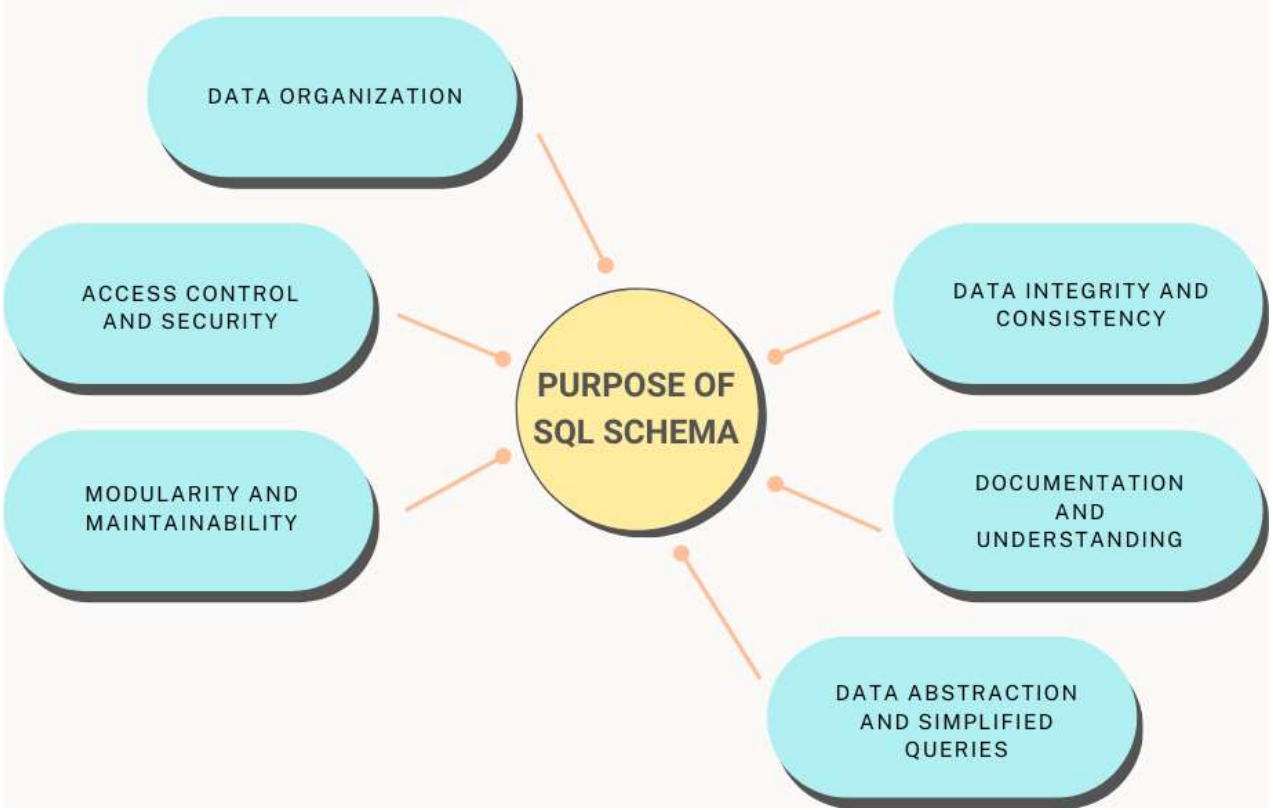
SQL Schema

Significance of an SQL Schema



SQL Schema

Purpose of SQL Schema



References

1. https://www.javatpoint.com/sql-schema
2. https://www.brainkart.com/article/Schema-Change-Statements-in-SQL_11418/
3. https://www.geeksforgeeks.org/create-alter-and-drop-schema-in-ms-sql-server/