**Research On Scheme**

A Schema in [SQL](https://www.edureka.co/blog/sql-basics/) is a collection of database objects associated with a [database](https://www.edureka.co/blog/what-is-a-database/). The username of a database is called a Schema owner (owner of logically grouped structures of data). Schema always belong to a single database whereas a database can have single or multiple schemas. Also, it is also very similar to separate namespaces or containers, which stores database objects. It includes various database objects including your tables,  views, procedures, index, etc.

## [Advantages of using Schema](https://www.edureka.co/sql-essentials-training" \t "_blank)

* [You can apply security permissions for separating and protecting database objects based on user access rights.](https://www.edureka.co/sql-essentials-training" \t "_blank)
* [A logical group of database objects can be managed within a database. Schemas play an important role in allowing the database objects to be organized into these logical groups.](https://www.edureka.co/sql-essentials-training" \t "_blank)
* [The schema also helps in situations where the database object name is the same. But these objects fall under different logical groups.](https://www.edureka.co/sql-essentials-training" \t "_blank)
* [A single schema can be used in multiple databases.](https://www.edureka.co/sql-essentials-training" \t "_blank)
* [The schema also helps in adding security.](https://www.edureka.co/sql-essentials-training" \t "_blank)
* [It helps in manipulating and accessing the objects which otherwise is a complex method.](https://www.edureka.co/sql-essentials-training" \t "_blank)
* [You can also transfer the ownership of several schemas.](https://www.edureka.co/sql-essentials-training" \t "_blank)
* [The objects created in the database can be moved among schemas.](https://www.edureka.co/sql-essentials-training" \t "_blank)

[These were few advantages, now the next topic is the method to create a schema.](https://www.edureka.co/sql-essentials-training" \t "_blank)

## ****[How to create a Schema?](https://www.edureka.co/sql-essentials-training" \t "_blank)****

**[Syntax to create SQL:](https://www.edureka.co/sql-essentials-training" \t "_blank)**

|  |  |
| --- | --- |
| [1](https://www.edureka.co/sql-essentials-training" \t "_blank)  [2](https://www.edureka.co/sql-essentials-training" \t "_blank)  [3](https://www.edureka.co/sql-essentials-training" \t "_blank)  [4](https://www.edureka.co/sql-essentials-training" \t "_blank)  [5](https://www.edureka.co/sql-essentials-training" \t "_blank) | [CREATE SCHEMA [schema\_name] [AUTHORIZATION owner\_name]](https://www.edureka.co/sql-essentials-training" \t "_blank)  [[DEFAULT CHARACTER SET char\_set\_name]](https://www.edureka.co/sql-essentials-training" \t "_blank)  [[PATH schema\_name[, ...]]](https://www.edureka.co/sql-essentials-training" \t "_blank)  [[ ANSI CREATE statements [...] ]](https://www.edureka.co/sql-essentials-training" \t "_blank)  [[ ANSI GRANT statements [...] ];](https://www.edureka.co/sql-essentials-training" \t "_blank) |

## [You can create a schema using SQL server management studio. Follow the mentioned steps! SQL Server CREATE SCHEMA statement overview](https://www.edureka.co/sql-essentials-training" \t "_blank)

[The CREATE SCHEMA statement allows you to create a new schema in the current database.](https://www.edureka.co/sql-essentials-training" \t "_blank)

[The following illustrates the simplified version of the CREATE SCHEMA statement:](https://www.edureka.co/sql-essentials-training" \t "_blank)

[CREATE SCHEMA schema\_name](https://www.edureka.co/sql-essentials-training" \t "_blank)

[[AUTHORIZATION owner\_name]](https://www.edureka.co/sql-essentials-training" \t "_blank)

[Code language: SQL (Structured Query Language) (sql)](https://www.edureka.co/sql-essentials-training" \t "_blank)

[In this syntax,](https://www.edureka.co/sql-essentials-training" \t "_blank)

* [First, specify the name of the schema that you want to create in the CREATE SCHEMA clause.](https://www.edureka.co/sql-essentials-training" \t "_blank)
* [Second, specify the owner of the schema after the AUTHORIZATION keyword.](https://www.edureka.co/sql-essentials-training" \t "_blank)

[SQL Server CREATE SCHEMA statement example](https://www.edureka.co/sql-essentials-training" \t "_blank)

[The following example shows how to use the CREATE SCHEMA statement to create the customer\_services schema:](https://www.edureka.co/sql-essentials-training" \t "_blank)

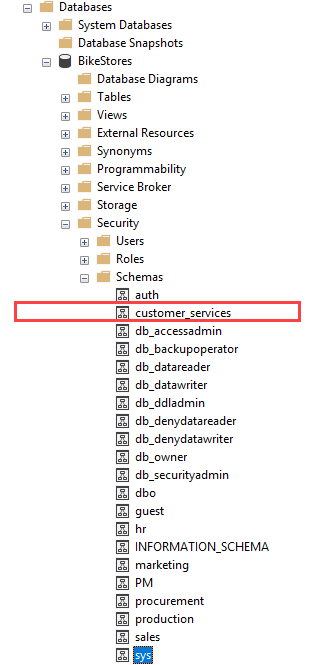
[CREATE SCHEMA customer\_services;](https://www.edureka.co/sql-essentials-training" \t "_blank)

[GO](https://www.edureka.co/sql-essentials-training" \t "_blank)

[Code language: SQL (Structured Query Language) (sql)](https://www.edureka.co/sql-essentials-training" \t "_blank)

[Note that GO command instructs the SQL Server Management Studio to send the SQL statements up to the GO statement to the server to be executed.](https://www.edureka.co/sql-essentials-training" \t "_blank)

[Once you execute the statement, you can find the newly created schema under the](https://www.edureka.co/sql-essentials-training" \t "_blank)**[Security > Schemas](https://www.edureka.co/sql-essentials-training" \t "_blank)**[of the database name.](https://www.edureka.co/sql-essentials-training" \t "_blank)

[](https://www.edureka.co/sql-essentials-training" \t "_blank)

[If you want to list all schemas in the current database, you can query schemas from the sys.schemas as shown in the following query:](https://www.edureka.co/sql-essentials-training" \t "_blank)

[SELECT](https://www.edureka.co/sql-essentials-training" \t "_blank)

[s.name AS schema\_name,](https://www.edureka.co/sql-essentials-training" \t "_blank)

[u.name AS schema\_owner](https://www.edureka.co/sql-essentials-training" \t "_blank)

[FROM](https://www.edureka.co/sql-essentials-training" \t "_blank)

[sys.schemas s](https://www.edureka.co/sql-essentials-training" \t "_blank)

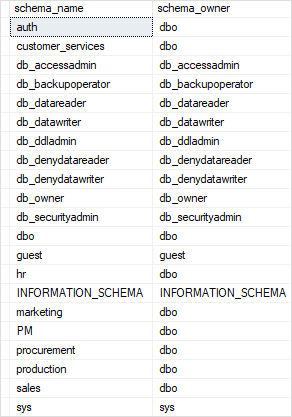
[INNER JOIN sys.sysusers u ON u.uid = s.principal\_id](https://www.edureka.co/sql-essentials-training" \t "_blank)

[ORDER BY](https://www.edureka.co/sql-essentials-training" \t "_blank)

[s.name;](https://www.edureka.co/sql-essentials-training" \t "_blank)

[Code language: SQL (Structured Query Language) (sql)](https://www.edureka.co/sql-essentials-training" \t "_blank)

[Here is the output:](https://www.edureka.co/sql-essentials-training" \t "_blank)

[](https://www.edureka.co/sql-essentials-training" \t "_blank)

[After having the customer\_services schema, you can create objects for the schema. For example, the following statement](https://www.edureka.co/sql-essentials-training" \t "_blank)[[creates a new table](https://www.edureka.co/sql-essentials-training" \t "_blank)](https://www.sqlservertutorial.net/sql-server-basics/sql-server-create-table/)[named jobs in the customer\_services schema:](https://www.edureka.co/sql-essentials-training" \t "_blank)

[CREATE TABLE customer\_services.jobs(](https://www.edureka.co/sql-essentials-training" \t "_blank)

[job\_id INT PRIMARY KEY IDENTITY,](https://www.edureka.co/sql-essentials-training" \t "_blank)

[customer\_id INT NOT NULL,](https://www.edureka.co/sql-essentials-training" \t "_blank)

[description VARCHAR(200),](https://www.edureka.co/sql-essentials-training" \t "_blank)

[created\_at DATETIME2 NOT NULL](https://www.edureka.co/sql-essentials-training" \t "_blank)

[);](https://www.edureka.co/sql-essentials-training" \t "_blank)

[Code language: SQL (Structured Query Language) (sql)](https://www.edureka.co/sql-essentials-training" \t "_blank)

[In this tutorial, you have learned how to use the SQL Server CREATE SCHEMA statement to create a new schema in the current database.](https://www.edureka.co/sql-essentials-training" \t "_blank)

### **[Using SQL Server Management Studio](https://www.edureka.co/sql-essentials-training" \t "_blank)**

[Follow the steps in order to create a schema.](https://www.edureka.co/sql-essentials-training" \t "_blank)

* [In object explorer, click on the databases folder.](https://www.edureka.co/sql-essentials-training" \t "_blank)
* [Create the New database schema under](https://www.edureka.co/sql-essentials-training" \t "_blank)[[database](https://www.edureka.co/sql-essentials-training" \t "_blank)](https://www.edureka.co/blog/what-is-a-database/)[.](https://www.edureka.co/sql-essentials-training" \t "_blank)
* [Right click Security folder, click New, select Schema.](https://www.edureka.co/sql-essentials-training" \t "_blank)
* [Go on Schema-New dialog box, enter a specific name that you want to create for your new schema.](https://www.edureka.co/sql-essentials-training" \t "_blank)
* [In the schema owner box, enter the name of the database user in order to own the schema. Click search, to open the Search Roles and User dialogue box.](https://www.edureka.co/sql-essentials-training" \t "_blank)
* [Click OK.](https://www.edureka.co/sql-essentials-training" \t "_blank)

[This is how a schema is created. Now let us see how a schema is altered.](https://www.edureka.co/sql-essentials-training" \t "_blank)

## What is a schema in SQL Server

A schema is a collection of database objects including tables, [views](https://www.sqlservertutorial.net/sql-server-views/), [triggers](https://www.sqlservertutorial.net/sql-server-triggers/), [stored procedures](https://www.sqlservertutorial.net/sql-server-stored-procedures/), [indexes](https://www.sqlservertutorial.net/sql-server-indexes/), etc. A schema is associated with a username which is known as the schema owner, who is the owner of the logically related database objects.

A schema always belongs to one database. On the other hand, a database may have one or multiple schemas. For example, in our BikeStores [sample database](https://www.sqlservertutorial.net/sql-server-sample-database/), we have two schemas: sales and production. An object within a schema is qualified using the schema\_name.object\_name format like sales.orders. Two tables in two schemas can share the same name so you may have hr.employees and sales.employees.

### **Built-in schemas in SQL Server**

SQL Server provides us with some pre-defined schemas which have the same names as the built-in database users and roles, for example: dbo, guest, sys, and INFORMATION\_SCHEMA.

Note that SQL Server reserves the sys and INFORMATION\_SCHEMA schemas for system objects, therefore, you cannot [create](https://www.sqlservertutorial.net/sql-server-basics/sql-server-create-table/) or [drop](https://www.sqlservertutorial.net/sql-server-basics/sql-server-drop-table/) any objects in these schemas.

The default schema for a newly created database is dbo, which is owned by the dbo user account. By default, when you create a new user with the CREATE USER command, the user will take dbo as its default schema.