What is SQL Transaction

SQL Transaction is helpful in executing one more statement as a set. If a transaction is successful, all the changes made in that transaction will apply to the table. If any single statement inside the transaction encounters an error, then changes made in that transaction will be erased or rolled back.

Let me show you the list of various examples that can explain the Transaction. They are BEGIN TRANSACTION, COMMIT TRANSACTION, ROLLBACK TRANSACTION, named transactions, Transactions inside the IF ELSE, and SQL Server Transactions inside the TRY CATCH block. List of things to remember while working on the Transactions.

SQL Server Transaction Example

In the example of this transaction, we will place an INSERT INTO SELECT statement inside the BEGIN and COMMIT transaction. As you can see, it will select the top four records from the Employee table and store them in the Employee Records table.

What is SQL Transaction

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What is a Stored Procedure?

A **stored procedure** is a **saved collection of SQL statements** that you can run whenever you need.

- Like a function in programming.
- Can accept **parameters**.
- Can perform multiple actions in one call.

- Helps **reusability, security, and performance**.

Advantages of using stored procedures

Why are stored procedures so popular in modern SQL development?
Here are some key benefits:

Performance: Once compiled, they run faster and optimize execution plans.
Security: Helps enforce controlled access to data.
Modularity: Encapsulate logic in blocks to support modular programming.
Maintainability: Easy to update business logic in one place.
Consistency: Promote data integrity across all transactions.

“Stored procedures help your database become smarter, leaner, and more reliable.”

stored procedure is a set of Structured Query Language (SQL) statements that multiple programs can reuse and share to perform specific tasks.

Stored procedures are stored as a group in a relational database management system, or RDBMS. They can access or modify data in a database, but are not tied to a specific database or object.

There are three main types of stored procedures in SQL:

- **System procedures.** Also known as system-stored procedures, they start with the prefix *sp_* and are physically stored in an internal, hidden-resource database. These procedures typically support SQL Server functions and can perform many types of tasks. They appear in the sys schema of each system and in a user-defined database.
- **User-defined procedures.** They are re-created in a user-defined database or all system databases, except when a read-only or resource database is used. They are developed in Transact-SQL (T-SQL) or are a reference to Microsoft. It's important not to use the prefix *sp_* for user-defined procedures since this prefix is only used for system procedures.
- **Temporary procedures.** They are stored in tempdb, and there are two types: local and global. Local procedures are only visible to the current user connection, while global procedures are visible to any user after they are created. Additionally, local procedures are deleted when the connection is closed, while global stored procedures are deleted when the last session using that procedure ends.