

Difference Between Clustered and Non-Clustered Index

The difference between Clustered and a Non-clustered index is based on various factors such as speed, memory space required, storage, etc. When you use clustered indexing in a table, it only sorts within that table. In contrast, in a non-clustered index, data is kept in one location, while the index is kept in another.

Key Differences Between Clustered and Non-Clustered Index

Clustered Index	Non-clustered Index
The table's primary keys are clustered indexes by default.	When combined with the table's unique constraints, the composite key acts as a non-clustered index.
A Clustered index is a type of index that physically reorders table records to match the index.	A Non-Clustered index is a type of index in which the logical order of the index does not correspond to the physical stored order of the rows on the file.
The clustered index has a large size.	The non-clustered index has a smaller size.
Clustered indexes store pointers to blocks rather than data.	Non-clustered indexes store both the value and a pointer to the actual row containing the data.
The index is the primary data in a clustered index.	The index in a Non-Clustered index is a copy of the data.
A clustered index is more efficient.	The Unclustered index is slower.
For operations, a clustered index requires less memory.	For operations, a non-clustered index requires more memory.

Clustered and Non-Clustered Index

Clustered and Non-Clustered Index are the two types of indexes used in SQL Server databases to index tables. Out of the two, a clustered index is faster than a non-clustered index. Let us learn about them in detail.

What is Clustered Index?

The clustered index is only created if both of the following conditions are met. The data or file moved into secondary memory should be in sequential or sorted order, and there should be a key value, which means no repeated values.

Like a primary key, a clustered index can only be created once in a table. A clustered index is similar to a dictionary because the data is organized alphabetically.

What is a Non-Clustered Index?

The non-clustered Index is similar to a book's index. The book's index contains a chapter name and a page number; if you want to read a specific topic or chapter, you can go directly to that page by using the book's index. There is no need to read a book from cover to cover.

Because the data and non-clustered index are stored separately, a table can contain multiple non-clustered indexes.

