**SQL Clustered and Non-clustered Index:**

Indexing in MySQL is a process that helps us to return the requested data from the table very fast. If the table does not have an index, it scans the whole table for the requested data. [MySQL](https://www.javatpoint.com/mysql-tutorial) allows two different types of Indexing:

1. Clustered Index
2. Non-Clustered Index

Both indexes have the same physical structure and are stored as a BTREE structure in the MySQL server database. In this section, we are going to explain the most popular differences between them.

1. Clustered Index

MySQL allows you to create a clustered index named **PRIMARY** based on that specific column.

Characteristics

Following are the essential characteristics of a clustered index:

* It enables us to store data and indexes together.
* It stores data in only one way based on the key values.
* Key lookup.
* It support index scan and index seek data operations.
* Clustered index always use one or more column for creating an index.

#Clustered Index

create table demo2(id int not null,name varchar(50) not null, constraint pk\_id primary key(id));

select \* from demo2;

Alter table demo2 add MailId varchar(100) constraint pk\_const\_email primary key(id,MailId);

use ems;

create table demo3(id int not null,name varchar(50) not null, constraint pk\_id primary key(id,name));

select \* from demo3;

1. **Non-Clustered Index**

The indexes other than PRIMARY indexes (clustered indexes) called a non-clustered index. The non-clustered indexes are also known as secondary indexes. The non-clustered index and table data are both stored in different places. It is not able to sort (ordering) the table data. The non-clustered indexing is the same as a book where the content is written in one place, and the index is at a different place. MySQL allows a table to store one or more than one non-clustered index. The non-clustered indexing improves the performance of the queries which uses keys without assigning primary key.

**Syntax:**

//It will **create** non-clustered **index**

**CREATE** NonClustered **INDEX** index\_name **ON** table\_name (column\_name **ASC**);

Characteristics

Following are the essential characteristics of a non-clustered index:

* It stores only key values.
* It allows accessing secondary data that has pointers to the physical rows.
* It helps in the operation of an index scan and seeks.
* A table can contain one or more than one non-clustered index.
* The non-clustered index row stores the value of a non-clustered key and row locator.

create table demo4(id int not null,name varchar(50) not null);

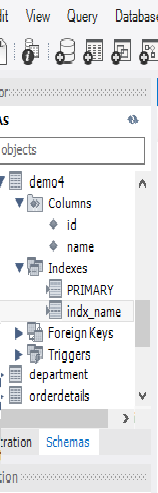
Alter table demo4 add constraint pk\_id primary key(id);

**#Non-clustered Index**

select \* from demo4;

create Index indx\_name on demo4(name asc);

**Partial output:** It shows both the clustered and non-clustered Indexes in the schemas window.



**Views:**

The CREATE VIEW statement creates a new view in the database. Here is the basic syntax of the CREATE VIEW statement:

CREATE [OR REPLACE] VIEW [db\_name.]view\_name [(column\_list)]

AS

select-statement;

1. **Create View:**

CREATE VIEW salePerOrder

AS

SELECT

oId,

SUM(qty\* price) total

FROM

orderDetails

ORDER BY total DESC;

#To view the data

select \* from salePerOrder;

**Update a View:**

**Syntax:**

Create or Replace View <viewname>

As

Select statement;

**Example:**

CREATE OR REPLACE VIEW salePerOrder

AS

Select \* from orderdetails;

Delete View:

Syntax:

Drop view <viewname>

Example:

Drop view saleperorder;