

# MYSQL PRIMARY KEY

## MySQL Primary Key

MySQL primary key is a single or combination of the field, which is used to identify each record in a table uniquely. If the column contains primary key constraints, then it cannot be null or empty.

When you insert a new row into the table, the primary key column can also use the **AUTO\_INCREMENT** attribute to generate a sequential number for that row automatically.

We can create a primary key in two ways:

- **CREATE TABLE** Statement
- **ALTER TABLE** Statement

### 1) Primary Key Using CREATE TABLE Statement (Single Column Primary Key)

If we want to create only one primary key column into the table, use the below syntax:

```
CREATE TABLE table_name(  
    col1 datatype PRIMARY KEY,  
    col2 datatype,  
    ...  
);
```

#### Example:

```
Mysql> CREATE TABLE Login(  
    login_id INT AUTO_INCREMENT PRIMARY KEY,  
    username VARCHAR(40),  
    password VARCHAR(55),  
    email VARCHAR(55)  
);
```

### 2) Primary Key Using CREATE TABLE Statement (Multiple Column Primary Key)

If we want to create more than one primary key column into the table, use the below syntax:

```
CREATE TABLE table_name  
(  
    col1 col_definition,  
    col2 col_definition,  
    ...  
  
    CONSTRAINT [constraint_name]
```

```
PRIMARY KEY (column_name(s))  
);
```

**Example:**

```
mysql> CREATE TABLE Students (  
    Student_ID int,  
    Roll_No int,  
    Name varchar(45) NOT NULL,  
    Age int,  
    City varchar(25),  
    Primary Key(Student_ID, Roll_No)  
);
```

### 3) Primary Key Using ALTER TABLE Statement

This statement allows us to do the modification into the existing table. When the table does not have a primary key, this statement is used to add the primary key to the column of an existing table. Syntax:

```
ALTER TABLE table_name ADD PRIMARY KEY(column_list);
```

**Example:**

The following statement creates a table "Persons" that have no primary key column into the table definition.

```
mysql> CREATE TABLE Persons (  
    Person_ID int NOT NULL,  
    Name varchar(45),  
    Age int,  
    City varchar(25)  
);
```

After creating a table, if we want to add a primary key to this table, we need to execute the ALTER TABLE statement as below:

```
mysql> ALTER TABLE Persons ADD PRIMARY KEY(Person_ID);
```

### 4) DROP a Primary Key

The ALTER TABLE statement also allows us to drop the primary key from the table. The following syntax is used to drop the primary key:

```
ALTER TABLE table_name DROP PRIMARY KEY;
```