

SQL - PRIMARY KEY

A primary key is a field in a table which uniquely identifies the each rows/records in a database table. Primary keys must contain unique values. A primary key column cannot have NULL values.

A table can have only one primary key which may consist of single or multiple fields. When multiple fields are used as a primary key, they are called a **composite key**.

If a table has a primary key defined on any field(s) then you can not have two records having the same value of that field(s).

Note: You would use these concepts while creating database tables.

Create Primary Key:

Here is the syntax to define ID attribute as a primary key in a CUSTOMERS table.

```
CREATE TABLE CUSTOMERS (  
    ID INT NOT NULL,  
    NAME VARCHAR (20) NOT NULL,  
    AGE INT NOT NULL,  
    ADDRESS CHAR (25) ,  
    SALARY DECIMAL (18, 2),  
    PRIMARY KEY (ID)  
);
```

To create a PRIMARY KEY constraint on the "ID" column when CUSTOMERS table already exists, use the following SQL syntax:

```
ALTER TABLE CUSTOMER ADD PRIMARY KEY (ID);
```

NOTE: If you use the ALTER TABLE statement to add a primary key, the primary key column(s) must already have been declared to not contain NULL values (when the table was first created).

For defining a PRIMARY KEY constraint on multiple columns, use the following SQL syntax:

```
CREATE TABLE CUSTOMERS (  
    ID INT NOT NULL,  
    NAME VARCHAR (20) NOT NULL,  
    AGE INT NOT NULL,  
    ADDRESS CHAR (25) ,  
    SALARY DECIMAL (18, 2),  
    PRIMARY KEY (ID, NAME)  
);
```

To create a PRIMARY KEY constraint on the "ID" and "NAMES" columns when CUSTOMERS table already exists, use the following SQL syntax:

```
ALTER TABLE CUSTOMERS  
ADD CONSTRAINT PK_CUSTID PRIMARY KEY (ID, NAME);
```

Delete Primary Key:

You can clear the primary key constraints from the table, Use Syntax:

```
ALTER TABLE CUSTOMERS DROP PRIMARY KEY ;
```

