

SQL Keys

1. Introduction to SQL Keys

In SQL, keys are a fundamental concept used to uniquely identify records in a table and establish relationships between tables. They ensure data integrity and consistency.

2. Primary Key

Definition

A primary key is a column or a set of columns in a table that uniquely identifies each row in that table. It cannot contain NULL values and must contain unique values.

Characteristics

- **Uniqueness:** Each value in the primary key column must be unique.
- **Non-null:** Primary keys cannot have NULL values.
- **Single Column or Composite:** A primary key can consist of a single column or multiple columns (composite primary key).
- **Immutable:** The values of primary key columns should not change over time.

How to Define a Primary Key

You can define a primary key when creating a table or by altering an existing table.

Defining a primary key when creating a table:

```
CREATE TABLE Students (  
    StudentID INT PRIMARY KEY,  
    FirstName VARCHAR(50),  
    LastName VARCHAR(50),  
    BirthDate DATE  
);
```