

# SQL PRIMARY KEY Constraint

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## SQL PRIMARY KEY Constraint

The **PRIMARY KEY** constraint uniquely identifies each record in a table.

Primary keys must contain UNIQUE values, and cannot contain NULL values.

A table can have only ONE primary key; and in the table, this primary key can consist of single or multiple columns (fields).

## SQL PRIMARY KEY on CREATE TABLE

The following SQL creates a **PRIMARY KEY** on the "ID" column when the "Persons" table is created:

### MySQL:

```
CREATE TABLE Persons (  
    ID int NOT NULL,  
    LastName varchar(255) NOT NULL,  
    FirstName varchar(255),  
    Age int,  
    PRIMARY KEY (ID)  
);
```

### SQL Server / Oracle / MS Access:

```
CREATE TABLE Persons (  
    ID int NOT NULL PRIMARY KEY,  
    LastName varchar(255) NOT NULL,  
    FirstName varchar(255),  
    Age int  
);
```

To allow naming of a **PRIMARY KEY** constraint, and for defining a **PRIMARY KEY** constraint on multiple columns, use the following SQL syntax:

**MySQL / SQL Server / Oracle / MS Access:**

```
CREATE TABLE Persons (  
    ID int NOT NULL,  
    LastName varchar(255) NOT NULL,  
    FirstName varchar(255),  
    Age int,  
    CONSTRAINT PK_Person PRIMARY KEY (ID,LastName)  
);
```

**Note:** In the example above there is only ONE **PRIMARY KEY** (PK\_Person). However, the VALUE of the primary key is made up of TWO COLUMNS (ID + LastName).

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## SQL PRIMARY KEY on ALTER TABLE

To create a **PRIMARY KEY** constraint on the "ID" column when the table is already created, use the following SQL:

**MySQL / SQL Server / Oracle / MS Access:**

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

To allow naming of a **PRIMARY KEY** constraint, and for defining a **PRIMARY KEY** constraint on multiple columns, use the following SQL syntax:

**MySQL / SQL Server / Oracle / MS Access:**

```
ALTER TABLE Persons  
ADD CONSTRAINT PK_Person PRIMARY KEY (ID, LastName);
```

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

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## DROP a PRIMARY KEY Constraint

To drop a **PRIMARY KEY** constraint, use the following SQL:

**MySQL:**

```
ALTER TABLE Persons  
DROP PRIMARY KEY;
```

**SQL Server / Oracle / MS Access:**

```
ALTER TABLE Persons  
DROP CONSTRAINT PK_Person;
```

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