

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

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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,
```

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```
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 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).

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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