**SQL Introduction – 3**

**DDL (Data Definition Language)**

## The SQL INSERT INTO Statement

The INSERT INTO statement is used to insert new records in a table.

### SQL INSERT INTO Syntax

It is possible to write the INSERT INTO statement in two forms.

The first form does not specify the column names where the data will be inserted, only their values:

INSERT INTO table\_name
VALUES (value1,value2,value3,...);

The second form specifies both the column names and the values to be inserted:

INSERT INTO table\_name (column1,column2,column3,...)
VALUES (value1,value2,value3,...);

## Demo Database

In this tutorial we will use the well-known Northwind sample database.

Below is a selection from the "Customers" table:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **CustomerID** | **CustomerName** | **ContactName** | **Address** | **City** | **PostalCode** | **Country** |
| 87 | Wartian Herkku | Pirkko Koskitalo | Torikatu 38 | Oulu | 90110 | Finland |
| 88 | Wellington Importadora | Paula Parente | Rua do Mercado, 12 | Resende | 08737-363 | Brazil |
| 89 | White Clover Markets | Karl Jablonski | 305 - 14th Ave. S. Suite 3B | Seattle | 98128 | USA |
| 90 | Wilman Kala | Matti Karttunen | Keskuskatu 45 | Helsinki | 21240 | Finland |
| 91 | Wolski | Zbyszek | ul. Filtrowa 68 | Walla | 01-012 | Poland |

## INSERT INTO Example

Assume we wish to insert a new row in the "Customers" table.

We can use the following SQL statement:

## Example

INSERT INTO Customers (CustomerName, ContactName, Address, City, PostalCode, Country)
VALUES ('Cardinal','Tom B. Erichsen','Skagen 21','Stavanger','4006','Norway');

## Insert Data Only in Specified Columns

It is also possible to only insert data in specific columns.

The following SQL statement will insert a new row, but only insert data in the "CustomerName", "City", and "Country" columns (and the CustomerID field will of course also be updated automatically):

## Example

INSERT INTO Customers (CustomerName, City, Country)
VALUES ('Cardinal', 'Stavanger', 'Norway');

## The SQL UPDATE Statement

The UPDATE statement is used to update existing records in a table.

### SQL UPDATE Syntax

UPDATE table\_name
SET column1=value1,column2=value2,...
WHERE some\_column=some\_value;

|  |  |
| --- | --- |
| **Note** | **Notice the WHERE clause in the SQL UPDATE statement!**The WHERE clause specifies which record or records that should be updated. If you omit the WHERE clause, all records will be updated! |

## Demo Database

In this tutorial we will use the well-known Northwind sample database.

Below is a selection from the "Customers" table:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **CustomerID** | **CustomerName** | **ContactName** | **Address** | **City** | **PostalCode** | **Country** |
| 1 | Alfreds Futterkiste | Maria Anders | Obere Str. 57 | Berlin | 12209 | Germany |
| 2 | Ana Trujillo Emparedados y helados | Ana Trujillo | Avda. de la Constitución 2222 | México D.F. | 05021 | Mexico |
| 3 | Antonio Moreno Taquería | Antonio Moreno | Mataderos 2312 | México D.F. | 05023 | Mexico |
| 4 | Around the Horn | Thomas Hardy | 120 Hanover Sq. | London | WA1 1DP | UK |
| 5 | Berglunds snabbköp | Christina Berglund | Berguvsvägen 8 | Luleå | S-958 22 | Sweden |

## SQL UPDATE Example

Assume we wish to update the customer "Alfreds Futterkiste" with a new contact person and city.

We use the following SQL statement:

## Example

UPDATE Customers
SET ContactName='Alfred Schmidt', City='Hamburg'
WHERE CustomerName='Alfreds Futterkiste';

## The SQL DELETE Statement

The DELETE statement is used to delete rows in a table.

### SQL DELETE Syntax

DELETE FROM table\_name
WHERE some\_column=some\_value;

|  |  |
| --- | --- |
| **Note** | **Notice the WHERE clause in the SQL DELETE statement!**The WHERE clause specifies which record or records that should be deleted. If you omit the WHERE clause, all records will be deleted! |

## Demo Database

In this tutorial we will use the well-known Northwind sample database.

Below is a selection from the "Customers" table:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **CustomerID** | **CustomerName** | **ContactName** | **Address** | **City** | **PostalCode** | **Country** |
| 1 | Alfreds Futterkiste | Maria Anders | Obere Str. 57 | Berlin | 12209 | Germany |
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| 5 | Berglunds snabbköp | Christina Berglund | Berguvsvägen 8 | Luleå | S-958 22 | Sweden |

## SQL DELETE Example

Assume we wish to delete the customer "Alfreds Futterkiste" from the "Customers" table.

We use the following SQL statement:

## Example

DELETE FROM Customers
WHERE CustomerName='Alfreds Futterkiste' AND ContactName='Maria Anders';

## Delete All Data

It is possible to delete all rows in a table without deleting the table. This means that the table structure, attributes, and indexes will be intact:

DELETE FROM table\_name;

or

DELETE \* FROM table\_name;