# **SQL ALTER TABLE**

**SQL ALTER TABLE:**

1. The ALTER TABLE statement is used to add, delete, or modify columns in an existing table.
2. The ALTER TABLE statement is also used to add and drop various constraints on an existing table.

**ALTER TABLE - ADD Column**

1. To add a column in a table, use the following syntax:

|  |
| --- |
| ALTER TABLE table\_name  ADD column\_name datatype; |

1. The following SQL adds an "Email" column to the "Customers" table:

|  |
| --- |
| ALTER TABLE Customers  ADD Email varchar(255); |

**ALTER TABLE - DROP COLUMN**

1. To delete a column in a table, use the following syntax (notice that some database systems don't allow deleting a column):

|  |
| --- |
| ALTER TABLE table\_name  DROP COLUMN column\_name; |

1. The following SQL deletes the "Email" column from the "Customers" table:

|  |
| --- |
| ALTER TABLE Customers  DROP COLUMN Email; |

**ALTER TABLE - RENAME COLUMN**

1. To rename a column in a table, use the following syntax:

|  |
| --- |
| ALTER TABLE table\_name  RENAME COLUMN old\_name to new\_name; |

**ALTER TABLE - ALTER/MODIFY DATATYPE**

1. To change the data type of a column in a table, use the following syntax:  
   SQL Server / MS Access:

|  |
| --- |
| ALTER TABLE table\_name  ALTER COLUMN column\_name datatype; |

My SQL / Oracle (prior version 10G):

|  |
| --- |
| ALTER TABLE table\_name  MODIFY COLUMN column\_name datatype; |

Oracle 10G and later:

|  |
| --- |
| ALTER TABLE table\_name  MODIFY column\_name datatype; |

**SQL ALTER TABLE Example**

1. Look at the "Persons" table:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **ID** | **LastName** | **FirstName** | **Address** | **City** |
| 1 | Hansen | Ola | Timoteivn 10 | Sandnes |
| 2 | Svendson | Tove | Borgvn 23 | Sandnes |
| 3 | Pettersen | Kari | Storgt 20 | Stavanger |

1. Now we want to add a column named "DateOfBirth" in the "Persons" table.We use the following SQL statement:

|  |
| --- |
| ALTER TABLE Persons  ADD DateOfBirth date; |

1. The "Persons" table will now look like this:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **ID** | **LastName** | **FirstName** | **Address** | **City** | **DateOfBirth** |
| 1 | Hansen | Ola | Timoteivn 10 | Sandnes |  |
| 2 | Svendson | Tove | Borgvn 23 | Sandnes |  |
| 3 | Pettersen | Kari | Storgt 20 | Stavanger |  |

**Change Data Type Example:**

1. Now we want to change the data type of the column named "DateOfBirth" in the "Persons" table.  
   We use the following SQL statement:

|  |
| --- |
| ALTER TABLE Persons  ALTER COLUMN DateOfBirth year; |

1. Notice that the "DateOfBirth" column is now of type year and is going to hold a year in a two- or four-digit format.

**DROP COLUMN Example:**

1. Next, we want to delete the column named "DateOfBirth" in the "Persons" table.
2. We use the following SQL statement:

|  |
| --- |
| ALTER TABLE Persons  DROP COLUMN DateOfBirth; |

1. The "Persons" table will now look like this:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **ID** | **LastName** | **FirstName** | **Address** | **City** |
| 1 | Hansen | Ola | Timoteivn 10 | Sandnes |
| 2 | Svendson | Tove | Borgvn 23 | Sandnes |
| 3 | Pettersen | Kari | Storgt 20 | Stavanger |