

## MySQL ALTER TABLE

MySQL ALTER statement is used when you want to change the name of your table or any table field. It is also used to add or delete an existing column in a table.

The ALTER statement is always used with "ADD", "DROP" and "MODIFY" commands according to the situation.

### 1) ADD a column in the table

**Syntax:**

**ALTER TABLE** table\_name

**ADD** new\_column\_name column\_definition [ **FIRST** | **AFTER** column\_name ];

Example:      `mysql> ALTER TABLE employee_table ADD Roll_no int not null FIRST;`

**Output:**

```
mysql> alter table employee_table add Roll_no int not null FIRST;
Query OK, 0 rows affected (2.22 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> desc employee_table;
+-----+-----+-----+-----+-----+-----+
| Field      | Type          | Null | Key | Default | Extra          |
+-----+-----+-----+-----+-----+-----+
| Roll_no    | int           | NO   |     | NULL    |                |
| id         | int           | NO   | PRI | NULL    | auto_increment |
| name       | varchar(45)   | NO   |     | NULL    |                |
| occupation | varchar(35)   | NO   |     | NULL    |                |
| age        | int           | NO   |     | NULL    |                |
+-----+-----+-----+-----+-----+-----+
5 rows in set (0.05 sec)
```

Add column  
Roll\_No at the  
beginning.

Example:      `mysql> ALTER TABLE employee_table ADD Roll_no int not null FIRST;`

**Output:**

```
mysql> alter table employee_table add address varchar(200) AFTER occupation;
Query OK, 0 rows affected (0.16 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> desc employee_table;
+-----+-----+-----+-----+-----+-----+
| Field      | Type          | Null | Key | Default | Extra          |
+-----+-----+-----+-----+-----+-----+
| Roll_no    | int           | NO   |     | NULL    |                |
| id         | int           | NO   | PRI | NULL    | auto_increment |
| name       | varchar(45)   | NO   |     | NULL    |                |
| occupation | varchar(35)   | NO   |     | NULL    |                |
| address    | varchar(200)  | YES  |     | NULL    |                |
| age        | int           | NO   |     | NULL    |                |
+-----+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)
```

Add column  
Roll\_No after  
OCCUPATION  
column Database

## 2) Add multiple columns in the table

### Syntax:

```
ALTER TABLE table_name
ADD new_column_name column_definition [ FIRST | AFTER column_name ],
ADD new_column_name column_definition [ FIRST | AFTER column_name ],
... ;
```

Example: `mysql> ALTER TABLE employee_table ADD Roll_no int not null FIRST;`

### Output:

```
mysql> ALTER TABLE employee_table
-> ADD lname varchar(100) NOT NULL
-> AFTER name,
-> ADD Pin int(100) NOT NULL
-> AFTER address ;
Query OK, 0 rows affected, 1 warning (0.43 sec)
Records: 0 Duplicates: 0 Warnings: 1
```

```
mysql> desc employee_table;
```

Field	Type	Null	Key	D
Roll_no	int	NO		NULL
id	int	NO	PRI	NULL
name	varchar(45)	NO		M
lname	varchar(100)	NO		
occupation	varchar(35)	NO		
address	varchar(200)	YES		
Pin	int	NO		
age	int	NO		

8 rows in set (0.00 sec)

```
mysql> _
```

In this example, we add two new columns "**lname**", and **Pin** in the existing table "**employee\_table**". **lname** is added after **name** column and **Pin** is added after **address** column.

## 3) MODIFY column in the table

The MODIFY command is used to change the column definition of the table.

### Syntax:

```
ALTER TABLE table_name
MODIFY column_name column_definition [ FIRST | AFTER column_name ];
... ;
```

### Example:

`mysql> ALTER TABLE employee_table MODIFY name varchar(200) AFTER occupation;`

Output:

```
mysql> desc employee_table;
```

Field	Type	Null	Key	Default	Extra
Roll_no	int	NO		NULL	
id	int	NO	PRI	NULL	auto_increment
name	varchar(45)	NO		NULL	
lname	varchar(100)	NO		NULL	
occupation	varchar(35)	NO		NULL	
address	varchar(200)	YES		NULL	
Pin	int	NO		NULL	
age	int	NO		NULL	

```
8 rows in set (0.00 sec)
```

```
mysql> alter table employee_table modify name varchar(200) after occupation;
```

Query OK, 0 rows affected (4.26 sec)  
Records: 0 Duplicates: 0 Warnings: 0

```
mysql> desc employee_table;
```

Field	Type	Null	Key	Default	Extra
Roll_no	int	NO		NULL	
id	int	NO	PRI	NULL	auto_increment
lname	varchar(100)	NO		NULL	
occupation	varchar(35)	NO		NULL	
name	varchar(200)	YES		NULL	
address	varchar(200)	YES		NULL	
Pin	int	NO		NULL	
age	int	NO		NULL	

```
8 rows in set (3.09 sec)
```

In this example, the definition of column **name** is changed to **varchar(200)** from **varchar(45)**, constraint changed from NOT NULL NULL and also moved this column to be after *occupation*

#### 4) DROP a column in the table

The MODIFY command is used to change the column definition of the table.

**Syntax:**

```
ALTER TABLE table_name DROP COLUMN column_name; ... ;
```

**Example:**

```
mysql> alter table employee_table drop Pin;
```

Output:

```
mysql> desc employee_table;
```

Field	Type	Null	Key	Default	Extra
Roll_no	int	NO		NULL	
id	int	NO	PRI	NULL	auto_increment
lname	varchar(100)	NO		NULL	
occupation	varchar(35)	NO		NULL	
name	varchar(200)	YES		NULL	
address	varchar(200)	YES		NULL	
Pin	int	NO		NULL	
age	int	NO		NULL	

```
8 rows in set (0.00 sec)
```

```
mysql> alter table employee_table drop Pin;
```

Query OK, 0 rows affected (0.56 sec)  
Records: 0 Duplicates: 0 Warnings: 0

```
mysql> desc employee_table;
```

Field	Type	Null	Key	Default	Extra
Roll_no	int	NO		NULL	
id	int	NO	PRI	NULL	auto_increment
lname	varchar(100)	NO		NULL	
occupation	varchar(35)	NO		NULL	
name	varchar(200)	YES		NULL	
address	varchar(200)	YES		NULL	
age	int	NO		NULL	

```
7 rows in set (0.09 sec)
```

Delete the *Pin* column from the employee\_table;

## 5) RENAME a column in the table

The MODIFY command is used to change the column definition of the table.

### Syntax:

```
mysql> ALTER TABLE table_name CHANGE COLUMN old_name new_name
        column_definition [ FIRST | AFTER column_name ] ... ;
```

### Example:

```
mysql> ALTER TABLE employee_table CHANGE COLUMN Roll_no RNo int;
```

### Output:

```
mysql> desc employee_table;
```

Field	Type	Null	Key	Default	Extra
Roll_No	int	YES		NULL	
id	int	NO	PRI	NULL	auto_increment
lname	varchar(100)	NO		NULL	
occupation	varchar(35)	NO		NULL	
name	varchar(200)	YES		NULL	
address	varchar(200)	YES		NULL	
age	int	NO		NULL	

```
7 rows in set (0.00 sec)

mysql> ALTER TABLE employee_table CHANGE COLUMN Roll_no RNo int;
Query OK, 0 rows affected (0.05 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> desc employee_table;
```

Field	Type	Null	Key	Default	Extra
RNo	int	YES		NULL	
id	int	NO	PRI	NULL	auto_increment
lname	varchar(100)	NO		NULL	
occupation	varchar(35)	NO		NULL	
name	varchar(200)	YES		NULL	
address	varchar(200)	YES		NULL	
age	int	NO		NULL	

```
7 rows in set (0.00 sec)
```

Change the column name *Roll\_No* to *RNo*

**N.B.**

**Try this command:**

```
ALTER TABLE employee_table CHANGE name fname varchar(200) AFTER id;
```

## 6) RENAME a table

This command will change the name of the table.

**Syntax:**

```
mysql> ALTER TABLE table_name RENAME TO new_table_name;
```

**Example:**

```
mysql> ALTER TABLE employee_table RENAME to emp_table;
```

**Output:**

```
mysql> ALTER TABLE employee_table RENAME to emp_table;  
Query OK, 0 rows affected (0.29 sec)
```

```
mysql> show tables;
```

```
+-----+  
| Tables_in_university |  
+-----+  
| emp_table             |  
+-----+  
1 row in set (0.25 sec)
```

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